ARCADIS Design & Consultancy for natural and built assets

US Army Corps of Engineers

Long-Term Monitoring 2018 Data Summary Report

Watervliet Arsenal

Watervliet, New York

March 2019

Long-Term Monitoring 2018
Data Summary Report

Watervliet Arsenal
Watervliet, New York



Andrew R. Vitolins, P.G.
Principal Scientist



Stefan Bagnato, P.G.
Senior Geologist



Jeremy Wyckoff
Project Geologist

Prepared for:
U.S. Army Corps of Engineers
Baltimore District
Baltimore, Maryland
Contract No. W912DR-12-D-0007

Prepared by:
Arcadis US, Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Our Ref.:
06261067.0000

Date:
March 13, 2019

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

Tables **v**

1. Introduction **1**

1.1 Purpose 1

1.2 Facility Description 1

1.3 Previous and Ongoing Studies 2

1.3.1 Main Manufacturing Area 2

1.3.2 Siberia Area 3

1.4 Generalized Site Geology and Hydrogeology 3

1.4.1 Main Manufacturing Area 3

1.4.2 Siberia Area 4

2. Groundwater Field Sampling **5**

2.1 Sampling Dates and Methods 5

2.2 Sampling Summary 6

3. Groundwater Sampling Results **6**

3.1 Main Manufacturing Area Analytical Results 6

3.1.1 VOCs 6

3.1.2 Data Trends 7

3.1.2.1 VOCs 7

3.1.2.2 Building 40 8

3.1.2.3 Building 25 8

3.1.2.4 Building 20 9

3.1.2.5 Building 114/121 9

3.2 Siberia Area Analytical Results 9

3.2.1 VOCs 9

3.2.2 Data Trends 9

3.2.2.1 Burn Pit 9

3.2.2.2 Boundary & Sewer 10

3.2.2.3 Reactive Wall 10

4. SSDS O&M 10

4.1 Building 20 11

4.2 Building 21 11

4.2.1 Type A SSDS 11

4.2.2 Type C SSDS 12

4.3 Building 22 12

4.4 Building 25 12

4.5 Building 114 12

4.6 Building 120 13

4.7 Building 121 13

4.8 Building 130 13

5. ICM Performance Monitoring - SSDS 13

5.1 Effluent Sampling 13

5.1.1 Sampling Procedures 13

5.1.2 Sampling Results 14

5.1.2.1 Building 20 14

5.1.2.2 Building 21 14

5.1.2.3 Building 25 14

5.1.2.4 Building 114 15

5.2 SSDS VOC Removal Mass 15

5.2.1 Building 20 15

5.2.2 Building 21 15

5.2.3 Building 25 15

5.2.4 Building 114 15

5.3 SSDS Performance Assessment 16

6. ICM Performance Monitoring - Indoor Air 16

6.1 Sampling Procedures 16

6.2 Sampling Results 16

7. ICM Summary 18

8. Siberia Water Line Replacement 18

9. Siberia Perimeter Lighting Work 19

10. Conclusions and Recommendations 19

10.1 Conclusions 19

10.2 LTM Modifications and Recommendations 20

Figures

1-1 Site Location
1-2 Site Map
2-1 MMA Groundwater Monitoring Locations
2-2 Siberia Area Groundwater Monitoring Locations
3-1 Main Manufacturing Area Groundwater Sample Exceedances (VOCs) (2018)
3-2 Trends in Total Chlorinated VOC Concentrations in Monitoring Well MW-82R
3-3 Trends in Total Chlorinated VOC Concentrations in Monitoring Well MW-83
3-4 Trends in Total Chlorinated VOC Concentrations in Monitoring Well MW-84R
3-5 Trends in Total Chlorinated VOC Concentrations in Monitoring Well MW-85R
3-6 Trends in Total Chlorinated VOC Concentrations in Monitoring Well MW-86R
3-7 Trends in Total Chlorinated VOC Concentrations, Building 25 Area
3-8 Trends in Total Chlorinated VOC Concentrations, Building 20 Area
3-9 Trends in Total Chlorinated VOC Concentrations, Building 114/121 Area
3-10 Siberia Area Groundwater Sample Exceedances (2018)
3-11 Trends in Total Chlorinated VOC Concentrations, Burn Pit Area
3-12 Trends in Total Chlorinated VOC Concentrations, Boundary & Sewer
3-13 Total Chlorinated Organic Compounds Up-gradient of Permeable Reactive Walls
6-1 Indoor Air VOC Concentrations – Building 15
6-2 Indoor Air VOC Concentrations – Building 20
6-3 Indoor Air VOC Concentrations – Building 21
6-4 Indoor Air VOC Concentrations – Building 22
6-5 Indoor Air VOC Concentrations – Building 25
6-6 Indoor Air VOC Concentrations – Building 114
6-7 Indoor Air VOC Concentrations – Building 120

6-8 Indoor Air VOC Concentrations – Building 121
6-9 Indoor Air VOC Concentrations – Building 130

Tables

1-1. Buildings Requiring Soil Vapor Interim Corrective Measures
2-1. Long-Term Monitoring Wells (Updated February 2018) – Main Manufacturing Area
2-2 Long-Term Monitoring Wells (Updated February 2018) – Siberia Area
2-3 Summary of Incomplete Sampling Locations – 2018 LTM
3-1 Main Manufacturing Area Groundwater Samples Exceedances (VOCs) (2018)
3-2 Siberia Area Groundwater Samples Exceedances (VOCs) (2018)
3-3 Summary of Baseline Groundwater Data and Trigger Values
4-1 Summary of 2018 SSDS Operational Parameters - Building 20
4-2 Summary of 2018 Type A SSDS Operational Parameters - Building 21
4-3 Summary of 2018 SSDS Operational Parameters - Building 22
4-4 Summary of 2018 SSDS Operational Parameters - Building 25
4-5 Summary of 2018 SSDS Operational Parameters - Building 114
4-6 Summary of 2018 SSDS Operational Parameters - Building 120
4-7 Summary of 2018 SSDS Operational Parameters - Building 121
4-8 Summary of 2018 SSDS Operational Parameters - Building 130
5-1 SSDS Effluent Sample Results – Buildings 20 and 25
5-2 SSDS Effluent Sample Results – Building 21
5-3 SSDS Effluent Sample Results – Building 114
5-4 VOC Mass Removal Summary – Building 20
5-5 VOC Mass Removal Summary – Building 21
5-6 VOC Mass Removal Summary – Building 25
5-7 VOC Mass Removal Summary – Building 114
6-1 Summary of Indoor Air Sampling Results

Appendices

A Purge Logs
B CD Containing Summary Tables and Analytical Laboratory Reporting Forms
C Operation and Maintenance Field Checklists
D Safety Data Sheets

E Siberia Water Line Replacement

F Siberia Perimeter Lighting Work

ACRONYMS

AGC	Annual Guideline Concentration
ASP	Analytical Services Protocol
cDCE	Cis-1,2, Dichloroethene
CMMP	Corrective Measures Monitoring Plan
CVOC	Chlorinated Volatile Organic Compound
DAR	Division of Air Resources
GAC	Granular Activated Carbon
HRC	Hydrogen-Release Compound
ICM	Interim Corrective Measures
LTM	Long Term Monitoring
MMA	Main Manufacturing Area
NAP	Natural Attenuation Parameters
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCE	Tetrachloroethene
PDB	Passive Diffusion Bag
RCRA	Resource Conservation and Recovery Act
RFI	Remedial Field Investigation
SA	Siberia Area
SGC	Short-Term Guideline Concentrations
SSDS	Sub-Slab Depressurization Systems
SVOC	Semi-Volatile Organic Compounds
TCA	1, 1, 1-Trichloroethane
TCE	Trichloroethylene
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
WVA	Watervliet Arsenal

1. Introduction

1.1 Purpose

Arcadis US, Inc. has been retained by the Baltimore District of the US Army Corps of Engineers (USACE) to implement the Long-Term Monitoring Plan (LTM Plan) and vapor intrusion Interim Corrective Measures (ICMs) for the Watervliet Arsenal (WVA) in Watervliet, New York. Long-term monitoring is being conducted at the WVA in support of groundwater investigations and corrective measures that have been conducted at the WVA under a United States Environmental Protection Agency (USEPA) Administrative Order on Consent (Docket No. II RCRA-3008(h)-93-0210). In accordance with the results and recommendations of the Vapor Intrusion Investigation Report, Watervliet Arsenal, Watervliet, New York (Malcolm Pirnie 2008), and subsequent discussions and agreements between the WVA, the New York State Department of Environmental Conservation (NYSDEC), and the New York State Department of Health (NYSDOH), the WVA also implemented ICMs in the form of sub-slab depressurization systems (SSDSs) to mitigate vapor intrusion impacts at eight buildings within the Main Manufacturing Area of the WVA. In accordance with the LTM Plan, its subsequent approved modifications, and the ICM Work Plan (Malcolm Pirnie, 2009), the purpose of this report is to summarize the data collected during the October 2018 LTM groundwater monitoring event and 2018 data for the vapor intrusion ICMs.

1.2 Facility Description

The WVA encompasses approximately 140 acres in and around the City of Watervliet, New York, approximately 3.5 miles northeast of the City of Albany (Figure 1-1). To the east of the WVA, Broadway Street and a six-lane interstate highway (I-787) separate the WVA from the Hudson River. To the west, the WVA extends beyond the limits of the City of Watervliet into the Town of Colonie. Residential areas border the WVA to the north and south.

The WVA consists of two primary areas: (1) The "Main Manufacturing Area" (MMA), where manufacturing and administrative operations occur, comprises about 125 acres, and, (2) The "Siberia Area" (SA), which is chiefly used for the storage of raw and hazardous materials, comprises about 15 acres. These areas are shown on Figure 1-2.

1.3 Previous and Ongoing Studies

1.3.1 Main Manufacturing Area

Several environmental studies have been conducted at the MMA of the WVA. The most comprehensive investigation, a Remedial Field Investigation (RFI), was conducted by Malcolm Pirnie, Inc. (Malcolm Pirnie) and Louis Berger & Associates, Inc. from 1995 to 1998. Previous investigations are summarized in the RFI. Two ICM studies involving in-situ groundwater remedial techniques were conducted at the MMA in the area of Buildings 25 and 40 between 2001 and 2003. Final corrective measures, in the form of in-situ chemical oxidation, were conducted at Building 40 from 2004 through 2007 in accordance with the Corrective Measures Work Plan – Building 40 Groundwater, dated July 2004 (Malcolm Pirnie, 2004). Monitoring of the wells in the Building 40 area (Building 40 Boundary Wells) was conducted separately under the Corrective Measures Monitoring Plan, Building 40 Groundwater, dated August 2004 (Malcolm Pirnie, 2004a) (CMMP) during that time, until they were added to the LTM Plan in 2009 with the approval of the New York State Department of Environmental Conservation (NYSDEC).

A vapor intrusion investigation was performed within, and adjacent to, the MMA, and adjacent to the Siberia Area of the WVA, in November 2007 and February 2008 to assess whether Chlorinated Volatile Organic Compounds (CVOCs) were present in the sub-slab soil vapor beneath, and the indoor air within, buildings located in the MMA, including those that once contained degreasing operations, as well as three off-site private residences along the southeastern WVA property boundary. The evaluation also assessed whether soil vapor at the WVA southern property boundary and northern property boundary adjacent to the Siberia Area contained CVOCs. A total of 25 buildings in the MMA were sampled during at least one of the two investigation phases. Based on the results of the investigations, no further action was required at the off-site residences, the WVA property boundary, and at WVA Buildings 9, 18, 19, 23, 24, 35, 38, 44, 108, 110, 112, 115, 124, and 126. Sub-slab VOC concentrations at Building 15 will require monitoring of the indoor air, but not corrective measures. VOCs detected in the sub-slab at Buildings 116 and 123 were also in the range where indoor air monitoring would be required. However, since Building 116 is not occupied and Building 123 is only periodically used for painting operations, no monitoring will be conducted at these buildings. Indoor air monitoring will be conducted at Buildings 116 and 123 if the use of either building changes in the future. The buildings that required interim corrective measures are summarized in Table 1-1 below.

Table 1-1 – Buildings Requiring Soil Vapor Interim Corrective Measures

Building	Impacted Media	Target Chlorinated VOCs
20	Sub-Slab Soil Vapor	PCE, TCE, TCA
21	Sub-Slab Soil Vapor	TCE
22	Sub-Slab Soil Vapor	TCE
25	Indoor Air, Sub-Slab Soil Vapor	TCE, TCA
114	Indoor Air, Sub-Slab Soil Vapor	PCE, TCE
120	Sub-Slab Soil Vapor	PCE, Carbon Tetrachloride
121	Sub-Slab Soil Vapor	TCE
130	Sub-Slab Soil Vapor	TCE

Notes:
PCE – Tetrachloroethene
TCE – Trichloroethene
TCA – 1,1,1-Trichloroethane

The construction, installation, and startup testing of the SSDSs were completed on September 3, 2010 and summarized in the Construction Certification Report (Malcolm Pirnie, 2010). Annual operation, maintenance, and monitoring of the MMA SSDSs was reported separately through 2011, and added to the annual LTM Report in 2012 with the approval of the NYSDEC.

1.3.2 Siberia Area

An RFI was conducted by Malcolm Pirnie at the Siberia Area from 1994 to 1995. Additional investigations and ICMs were completed by Malcolm Pirnie from 1996 to 2002. The CMS Report for Siberia was approved in August 2003. The CMS Certification Report was approved by the NYSDEC and USEPA in 2007. The ICMs are summarized in the CMS report. The Statement of Basis for the Siberia Area was issued in 2008.

1.4 Generalized Site Geology and Hydrogeology

1.4.1 Main Manufacturing Area

The major overburden unit identified in the MMA is fill, consisting of brown or dark gray silty sand with angular gravel. The fill material is the only unit consistently found throughout the site, with the thickest amount of fill being in the eastern portion of the MMA. Underlying the fill are the following native overburden units: a fine-grained alluvium, a coarser alluvium, and glacial till. These units are not present in all areas of the site.

The bedrock underlying the site is a black, medium-hard laminated shale, showing some characteristics of minor metamorphism. This shale is part of the Snake Hill Formation. The bedrock can be described in three ways based on the degree of weathering observed. The first is an extremely weathered zone approximately four feet thick. This extremely weathered bedrock unit was encountered at depths ranging from near ground surface to approximately 20 feet below ground surface (bgs). Beneath this extremely weathered bedrock is a zone of less weathered shale showing minimal competency. Competent bedrock is generally encountered at depths ranging from approximately 1.5 feet bgs to 18 feet bgs.

The majority of the MMA is relatively impervious to rainfall except at the residential and recreational areas of the northeastern portion of the WVA. Due to the shallow depth of bedrock and the limited amount of overburden in several areas of the WVA, groundwater is encountered within different geologic units (overburden, weathered bedrock, or bedrock) depending on the location. For instance, groundwater is encountered in the bedrock at the western end of WVA (topographic high and local recharge area); progressing eastward toward the Hudson River, groundwater is encountered in the weathered bedrock and then in the overburden deposits.

Groundwater flow in bedrock in the MMA is primarily controlled by the degree of fracturing within the bedrock itself and in the local recharge area, which is coincident with a topographic high along a bedrock ridge in the central portion of the facility. The most prominent feature on the potentiometric surface is a groundwater divide trending approximately north to south through Buildings 135 and 125. This feature appears to mirror the bedrock ridge. The primary discharge area for groundwater from the Main Manufacturing Area is the Hudson River, which is located to the east of WVA. For the area surrounding Building 25, groundwater in each of the hydrostratigraphic units flows from west to east towards the Hudson River, with a component of flow to the northeast. In the Building 40 area, groundwater in the bedrock unit flows to the east-southeast. West of the groundwater divide, shallow groundwater flow discharges toward the Kromma Kill.

1.4.2 Siberia Area

According to the "Surficial Geologic Map of New York - Hudson-Mohawk Sheet, 1987", a majority of the SA is underlain by recent alluvial deposits. These are defined as fine sand and gravel deposits overlain by silt. The SA, which is at a lower elevation than the MMA of the WVA located to the east, is generally underlain by a layer of fill (sand, shale fragments, slag, cinders, brick, wire, wood and concrete). Alluvium, lenses of peat, and lacustrine clay deposits were encountered beneath the layer of fill material. Bedrock

beneath the SA is also the Snake Hill shale. During the SA investigation, highly weathered shale was encountered from approximately 3.5 feet bgs to 31 feet bgs. In general, competent bedrock was encountered at approximately 12 feet bgs. The upper portion of the competent bedrock was found to be fissile and highly fractured with 45 to 60 degree bedding planes.

Groundwater flows generally to the north-northwest in the NE Quadrant of the SA, and generally to the west across the remainder of the SA. The water table responds quickly to recharge events, and during times of low precipitation the water table may be present in the shale bedrock over portions of the SA. However, on the average, the water table is encountered in the overburden. Surface water in the SA that does not infiltrate is generally directed into the existing storm sewers. The WVA storm sewers are connected to the City of Watervliet storm sewer network.

2. Groundwater Field Sampling

2.1 Sampling Dates and Methods

Monitoring was conducted from October 10 through October 31, 2018. Monitoring wells currently sampled as part of the LTM are listed in Tables 2-1 and 2-2 and shown on Figures 2-1 and 2-2. Groundwater sampling was conducted according to the USEPA protocol for Low Stress (Low Flow) Purging and Sampling (USEPA, 1998) using dedicated, permanent, bladder pumps installed in each of the wells included in the LTM Plan. In accordance with the USEPA letter dated September 20, 2002 (USEPA, 2002), the reactive wall monitoring wells were sampled using passive diffusion bag (PDB) samplers. Prior to sampling, water levels in each well were measured. Water levels were consistent with groundwater elevations from previous sampling events.

In accordance with the LTM Plan and subsequent approved modifications, groundwater samples were analyzed by Katahdin Analytical Services, a New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP)-certified laboratory, for volatile organic compounds (VOCs) Additional laboratory analyses, including RCRA-listed metals, were also performed at select locations listed in the LTM Plan. Analytes for each well are summarized in Tables 2-1 and 2-2. Field parameters, consisting of temperature, pH, specific conductivity, dissolved oxygen, oxidation-reduction potential, and turbidity were measured during purging using a Horiba U-52 water quality meter equipped with a flow-through cell. Sampling methods, specific analytical methods, and sampling locations are discussed in detail in the LTM Plan. Purge logs for the 2018

monitoring event are presented in Appendix A. Analytical laboratory reporting forms for 2018 monitoring event are presented in Appendix B.

2.2 Sampling Summary

In accordance with the LTM Plan, a total of 51 MMA wells (including all zones of the five Building 40 Boundary wells included in the LTM Plan) and 28 SA wells (including four sewer monitoring points) were scheduled for sampling during the 2018 monitoring event. However, some wells either were not sampled or were sampled for limited analytical parameters during the monitoring event. Table 2-3 summarizes the monitoring wells that were not sampled for all or some parameters during the 2018 monitoring event. As shown in Table 2-3, one monitoring well in the MMA and one monitoring well in the SA were not sampled during the 2018 monitoring event.

Sixteen sampling zones within six MMA wells (WVA-MW-79 and multi-level wells WVA-MW-82R through WVA-MW-86R) were added to the LTM Plan in 2009 and are sampled annually to monitor the bedrock groundwater quality in the vicinity of Building 40.

3. Groundwater Sampling Results

3.1 Main Manufacturing Area Analytical Results

Analytical results for MMA long-term monitoring groundwater samples are summarized on Figure 3-1 and in Table 3-1. Summary tables presenting results for each MMA well sampled during LTM are presented in Appendix B.

3.1.1 VOCs

Figure 3-1 and Table 3-1 summarize exceedances of NYSDEC Class GA standards for groundwater samples collected from the MMA LTM monitoring wells in the 2017 LTM sampling event. As listed on Figure 3-1 and in Table 3-1, NYSDEC Class GA standards for VOCs were exceeded in samples collected from 23 of the 51 MMA LTM monitoring wells (including all zones of the monitored Building 40 Boundary wells) sampled during the 2018 monitoring event. Consistent with results from previous monitoring events, VOC concentrations in MMA groundwater samples exceeded Class GA standards in four general areas:

- East of Building 40;

- East of Building 25;
- East of Building 20; and
- In the area of Buildings 121/114.

In addition, concentrations of tetrachloroethene (PCE) in the MMA groundwater samples to the east of Building 15 (94EM-MW-20 and 94EM-MW-21) exceeded the Class GA standard for the first time in 2018. PCE has not been detected in either of these wells during the last 10 sampling events. Before that time, the highest PCE detection was 4J ug/L. Based on these data, the PCE detections in the 2018 samples are anomalous and will be evaluated during the next sampling event in 2019.

3.1.2 Data Trends

Due to the spatial and geological separation between the areas of concern in the MMA long-term monitoring program, analysis of trends in concentrations of parameters over the entire MMA is not feasible. However, trends in total contaminant concentrations in samples collected from representative monitoring wells in the areas of concern discussed above have been utilized to evaluate variations in groundwater conditions.

3.1.2.1 VOCs

Figures 3-2 through 3-9 present trends in total CVOC concentrations in groundwater samples collected from the following representative LTM wells located in the listed areas of concern.

- **Building 40 Area**: MW-82R, MW-83, MW-84R, MW-85R, MW-86R.
- **Building 25 Area**: 83DM-SP-1, 86EM-SP-1A, 25-MW-2, 25-MW-3, 25-MW-6, and 25-MW-7.
- **Building 20 Area**: AW-MW-35 and AW-MW-36.
- **Building 114/121 Area**: AW-MW-52, AW-MW-64, and MW-121S.

3.1.2.2 Building 40

As shown on Figures 3-2 through 3-6, generally consistent trends in total chlorinated VOC concentrations are evident in samples collected from the multi-level boundary well network east of Building 40.

In accordance with the LTM Plan's contingency evaluation protocol, well-and contaminant-specific statistical "trigger" concentrations have been established that initiate a contingency evaluation in the event groundwater monitoring data indicate a potential change in site conditions. Table 3-3 presents a summary of the minimum, maximum, average, and standard deviation for each compound in each well, and lists the statistical trigger concentrations calculated from the data.

VOC concentrations in Building 40 groundwater samples from the 2018 sampling event exceeded the established trigger values for the following:

- PCE in MW-83-2;
- cis-1,2-dichloroethene (cDCE) in MW-84R-2 and MW-86R-2;
- vinyl chloride in MW-84R-3, MW-85R-2, and MW-86R-2.

The PCE concentration in MW-83-2 exceeded the trigger value after a decrease to less than the trigger value in 2017. Increases in cDCE and vinyl chloride have been generally coincident with decreases in PCE concentrations, indicating degradation of primary contaminant mass.

3.1.2.3 Building 25

As shown on Figure 3-7, generally decreasing overall trends in total chlorinated VOC concentrations are evident in samples collected from monitoring wells WVA-25-MW-2 and WVA-25-MW-6. These trends are likely associated with the Hydrogen-Release Compound (HRC©) ICM pilot study at Building 25. Trends in total chlorinated VOC concentrations in samples collected from monitoring well 86EM-SP-1A (stable) do not appear to have been affected by the HRC ICM pilot study. Data from monitoring well WVA-25-MW-3 show an overall downward trend in total chlorinated VOC concentrations, suggesting that the increase in concentration in 2017 was anomalous. As noted in Section 8, monitoring well WVA-25-MW-3 was replaced in 2017, which may explain the anomalous 2017 result. This location will continue to be evaluated in 2019. VOC

concentrations in Building 25 area groundwater samples from the 2018 sampling event did not exceed the established trigger values in Table 3-3.

3.1.2.4 Building 20

As shown on Figure 3-8, VOC concentrations in monitoring wells WVA-AW-MW-35 and WVA-AW-MW-36 are relatively stable.

3.1.2.5 Building 114/121

As shown on Figure 3-9, the generally stable or decreasing trends in total chlorinated VOC concentrations evident in the sample collected from monitoring wells WVA-AW-MW-52 and WVA-AW-MW-64 continued in 2018. Although punctuated by increases in 2007 and 2010, the overall trend in total chlorinated VOC concentrations in WVA-MW-121S appears to be stable. VOC concentrations in Building 114 groundwater samples from the 2018 sampling event did not exceed the established trigger values in Table 3-3.

3.2 Siberia Area Analytical Results

3.2.1 VOCs

Figure 3-10 and Table 3-2 summarize exceedances of NYSDEC Class GA standards for groundwater samples collected from SA monitoring wells during the 2018 LTM event. As shown on Figure 3-10 and in Table 3-2, NYSDEC Class GA standards for VOCs were exceeded in groundwater samples from 9 of the 23 SA LTM wells/locations sampled during the 2018 monitoring event, including four sewer samples. The number of samples containing VOCs at concentrations that exceed NYSDEC Class GA standards in the SA has been generally decreasing over time.

Consistent with results from previous monitoring events, VOC concentrations in SA groundwater samples generally exceeded Class GA standards only in the area of the former burn pit and in monitoring wells up-gradient of the reactive walls.

3.2.2 Data Trends

3.2.2.1 Burn Pit

Figure 3-11 presents total chlorinated VOC concentrations in wells in the area of the former burn pit up-gradient of reactive wall A with historic and/or current exceedances of NYSDEC Class GA Groundwater Standards. Despite fluctuations in chlorinated VOC

concentrations over time, wells in this area generally display stable or decreasing trends, indicating that ICMs at the former burn pit and the reactive wall are successfully reducing down-gradient total chlorinated VOC concentrations.

3.2.2.2 Boundary & Sewer

Figure 3-12 presents total chlorinated VOC concentrations in boundary wells and sewer points with historic and/or current exceedances of NYSDEC Class GA Groundwater Standards. Chlorinated VOCs in sanitary sewer SNS-6 show fluctuating concentrations over time, dominantly attributed to daughter products cDCE and vinyl chloride from the breakdown of PCE and/or TCE, with an overall decreasing trend. However, in 2018, the concentration of PCE at SNS-6 exceeded the GA Standard and therefore the total chlorinated VOC concentration at this location is elevated in comparison to previous results. These results will be evaluated during the next sampling event in 2019. Chlorinated VOCs in boundary monitoring well EA-6, dominated by TCE, show fluctuating but generally stable or decreasing concentrations over time.

3.2.2.3 Reactive Wall

As discussed in Section 2.1, the reactive wall monitoring wells (SA-MW-60 and SA-MW-70) were sampled using PDB samplers in accordance with the USEPA letter dated September 20, 2002 and analyzed for VOCs only.

Figure 3-13 presents total chlorinated VOC concentrations in wells up-gradient of reactive wall A. While chlorinated VOC concentrations have fluctuated since the beginning of long-term monitoring, there are definite downward trends for up-gradient wells. Further, total chlorinated VOCs in these wells are dominantly attributed to daughter products cDCE and vinyl chloride. These trends indicate that the ICMs at the former burn pit and the reactive wall are successfully reducing total chlorinated VOC concentrations up-gradient and down-gradient of the reactive wall, respectively.

4. SSDS O&M

As presented in the Construction Certification Report (Malcolm Pirnie, 2010), three types of SSDS units are used for corrective measures at the WVA.

- Type A SSDS - The Type A SSDS is used at Buildings 21 and 114. The Type A SSDSs use regenerative blowers. The effluent air from these systems was treated using vapor-phase granular activated carbon (GAC) until 2016 when it was vented directly to the atmosphere based on reduced CVOC concentrations.

- Type B SSDS - Building 20 and Building 25 use Type B SSDS. The Type B SSDS uses positive-displacement rotary-lobe blowers. These systems are used where multiple extraction wells are required to provide negative sub-slab pressures over large areas. The effluent air streams from the Type B SSDSs are combined and was treated using vapor-phase GAC until 2016 when it was vented directly to the atmosphere based on reduced CVOC concentrations.

- Type C SSDS - Buildings 21, 22, 120, 121, and 130 use Type C SSDS. The Type C SSDSs (with the exception of the Building 120 SSDS) use individual in-line fans for each extraction well. The Building 120 Type C SSDSs uses a high pressure fan system and is connected to two extraction wells. The effluent air from the Type C SSDSs vent directly to the atmosphere.

Operation and maintenance was performed on a monthly basis in accordance with the ICM Work Plan and as described below. A summary of the O&M data is provided in Tables 4-1 through 4-8 with field checklists provided in Appendix C.

4.1 Building 20

The system operated with minor interruptions, primarily due to blower alarms that stopped the system, for a total of approximately 8,280 hours during 2018. The average SSDS flow was 378 cubic feet per minute (cfm) with an average vacuum pressure of -86.5 inches of water ("H2O), which are consistent with startup parameters.

As discussed in Section 5.3 influent concentrations have decreased significantly to the point where GAC treatment is no longer necessary.

4.2 Building 21

The system operated with limited interruptions for a total of approximately 8,206 hours during 2018. As indicated in the Construction Certification Report (Malcolm Pirnie, 2010), Building 21 uses a Type A system to mitigate the basement area (EW-1). As described in Section 4.2.2, the Type C SSDS used to mitigate the western portion of the first floor (EW-2) was taken offline in 2014.

4.2.1 Type A SSDS

The average flow rate was approximately 46 cfm and average vacuum pressure of approximately -30" H_2O, consistent with startup parameters. The flow meter continues to

display false readings, which is suspected to be the result of high moisture in the effluent air stream. However, the false flow meter readings do not shut down or inhibit performance of the SSDS. To monitor performance of the SSDS, direct readings from the effluent air stream are measured monthly using a portable anemometer. As discussed in Section 5.3, influent concentrations have decreased significantly to the point where GAC treatment is no longer necessary.

4.2.2 Type C SSDS

Due to a diminished flow rate, likely caused by subsurface materials (known to contain high clay content) preventing communication between the extraction point and the subsurface, which was not improved with extraction point replacement, the system was turned off in April 2014. Indoor air sampling before and after the shutdown did not show negative effects of the shutdown and the NYSDEC approved termination of system operation. The system was dismantled in October 2014.

4.3 Building 22

The system for EW-1 ran without interruption during 2018. EW-2 operated continuously throughout the 2018 calendar year. The average flowrates were approximately 15 and 56 cfm and average vacuum pressures of -2.6 and -1.7" H_2O, for EW-1 and EW-2, respectively, consistent with startup parameters.

4.4 Building 25

The Building 25 SSDS operated with minor interruptions except for routine maintenance during 2018 for a total of approximately 8,260 hours. Influent concentrations have decreased significantly to the point where GAC treatment is no longer necessary. During 2018, the SSDS had an average flow of 458 cfm and average vacuum pressure of -25" H_2O, consistent with startup parameters.

4.5 Building 114

The system operated with limited interruptions for a total of approximately 7,980 hours during 2018. The average flow for the B114 system during 2018 was approximately 73 cfm with an average vacuum pressure of -6.9" H_2O, consistent with startup parameters. As discussed in Section 5.3, influent concentrations have decreased significantly to the point where GAC treatment is no longer necessary.

4.6 Building 120

The system operated continuously during 2018 without interruption with average flows of approximately 13 and 19 cfm, for EW-1 and EW-2, respectively, consistent with startup parameters. The average vacuum pressure for extraction points EW-1 and EW-2 was less than -10" H_2O.

4.7 Building 121

The system operated continuously during 2018 without interruption. Measurements were not recorded during the June 5, 2018 inspection due to lack of access to the building. The average flow was approximately 51 cfm and the average vacuum pressure was approximately -1.7" H_2O, consistent with startup parameters.

4.8 Building 130

The system operated continuously during 2018 without interruption. The average flow was approximately 49 cfm and the average vacuum pressure was approximately -1.9" H_2O, consistent with startup parameters.

5. ICM Performance Monitoring - SSDS

Performance monitoring was conducted in accordance with the approved ICM Work Plan (Malcolm Pirnie, 2009). Effluent air samples were collected from the Type A and B SSDSs on November 26, 2018. Indoor air sampling was conducted on November 27, 2017. The December 2018 indoor air results are summarized in Section 6.

5.1 Effluent Sampling

Effluent samples were collected on November 26, 2018 from the Type A (Building 21 and 114), and Type B (Building 20 and 25) SSDSs.

The purpose of the sampling was to evaluate VOC discharge mass and monitor the potential need to bring the GAC vessels back online.

5.1.1 Sampling Procedures

Effluent samples were collected from the SSDS sampling ports using 6-liter Summa Canisters equipped with thirty-minute flow-controllers. The samples were submitted to

Eurofins/Air Toxics, in Folsom, California, following chain-of-custody procedures for analysis of VOCs by United States Environmental Protection Agency (USEPA) Method TO-15. Analytical reporting forms are provided in Appendix B. A NYSDEC Division of Air Resources (DAR-1) model was performed and reported in the 2016 LTM Report, which confirmed that CVOCs are below the thresholds and GAC treatment was not be needed. Because the 2018 SSDS effluent sample results are less than or equal to the results from 2016, no additional DAR-1 modeling was conducted.

5.1.2 Sampling Results

Effluent sample results are summarized in Tables 5-1 through 5-3.

5.1.2.1 Building 20

1,1,1-trichloroethane (TCA), carbon tetrachloride, cDCE, trichloroethene (TCE) and PCE were detected in the November 2018 effluent sample. The CVOCs with the highest concentrations were TCE and PCE (35 µg/m^3 and 11 µg/m^3, respectively). cDCE, TCA, and carbon tetrachloride were detected at low levels in the November 2018 effluent sample. CVOC concentrations are less than the 2016 effluent sample concentrations. The Building 20 effluent sampling results are listed in Table 5-1.

5.1.2.2 Building 21

As shown in Table 5-2, the November 2018 effluent samples from the Building 21 SSDS contained vinyl chloride, trans-1,2-dichloroethene, cDCE, carbon tetrachloride, TCE and PCE. The highest concentrations of CVOCs were TCE and cDCE (44 and 23 µg/m^3, respectively). The cDCE result (23 µg/m^3) is higher than the 2016 effluent cDCE result (15 µg/m^3). The TCE result was lower than the 2016 TCE effluent sample. Total CVOC concentrations are less than the 2016 effluent sample results.

5.1.2.3 Building 25

As shown in Table 5-1, the November 2018 effluent samples contained cDCE, TCA, carbon tetrachloride, TCE, and PCE. The highest concentrations of CVOCs were TCE and PCE (170 and 21 µg/m^3, respectively). As shown in Table 5-1, the November 2018 total CVOC concentrations are lower than the 2016 effluent total CVOC concentrations.

5.1.2.4 Building 114

As shown in Table 5-3, the November 2018 Building 114 effluent air samples contained cDCE (22 µg/m^3), TCE (200 µg/m^3), and PCE (590 µg/m^3). Table 5-3 shows that the concentrations of these compounds are similar or lower than those of the 2016 sampling event.

5.2 SSDS VOC Removal Mass

Tables 5-4 through 5-7 provide a summary of the estimated VOC removal mass for the Type A and B SSDSs.

5.2.1 Building 20

As shown in Table 5-1, the total CVOC concentration in the effluent sample from the Building 20 SSDS was 48 µg/m^3 in November 2018. As shown in Table 5-4, based on a flow of 108 cfm in November 2018, the Type B SSDS was removing CVOCs at a rate of 0.17 pounds per year (lbs/year).

5.2.2 Building 21

As shown in Table 5-2, the total VOC concentration in the effluent sample from the Building 21 Type A SSDS was 76 µg/m^3 in November 2018. As shown in Table 5-5, based on a flow of approximately 11.9 cfm in November 2018, the Type A SSDS was removing CVOCs at a rate of 0.02 lbs/year.

5.2.3 Building 25

As shown in Table 5-1, the November 2018 effluent samples from the Building 25 SSDS contained total CVOC concentration of 202 µg/m^3. Table 5-6 shows that at a flow of 128 cfm in November 2018, and the system was removing 0.9 lbs/year.

5.2.4 Building 114

Table 5-3 shows that the November 2018 effluent samples from the Building 114 SSDS contained total CVOC concentrations of 812 µg/m^3. As shown in Table 5-7, based on a flow of 39.6 cfm in November 2018, the system was removing CVOCs at a rate of 1.0 lbs/year.

5.3 SSDS Performance Assessment

The Type A, B, and C SSDSs continue to operate at levels consistent with startup testing performance data. Effluent data from 2018 showed decreased CVOC concentrations compared to 2016 samples and are similar to 2015 CVOC concentrations. Based on these results, none of the constituents exceed the short-term guideline concentrations (SGCs) or annual guideline concentrations (AGCs) set forth in the NYSDEC DAR-1, Guidelines for Control of Toxic Ambient Air Contaminants. GAC treatment of system effluent is still not necessary for any of the systems.

6. ICM Performance Monitoring - Indoor Air

6.1 Sampling Procedures

Indoor air samples were collected on November 27, 2018. Samples were collected using 6-liter Summa Canisters in accordance with the ICM Work Plan (Malcolm Pirnie 2009). The samples were submitted to Eurofins/Air Toxics, Folsom, California, following chain-of-custody procedures for analysis of VOCs by USEPA Method TO-15. Analytical reporting forms are provided in Appendix B.

6.2 Sampling Results

Indoor air sample results are summarized in Table 6-1. Sample locations and sample results are shown on Figures 6-1 through 6-9. One duplicate sample (IA-DUP) was collected at the location of IA-B121-1. As listed in Table 6-1, the analytical results of the duplicate sample are consistent with the parent sample results.

TCE in the following samples was present at concentrations greater than the NYSDOH Air Guidance Value of 2 µg/m^3, requiring reasonable and practical actions to identify sources and reduce exposure:

<u>Building 25</u>
IA-B25-1 (2.3 µg/m^3)
IA-B25-3 (4.3 µg/m^3)
IA-B25-5 (7.3 µg/m^3)
IA-B25-2 (10 µg/m^3)

PCE in the following sample was present at concentrations greater than the NYSDOH Air Guidance Value of 30 µg/m^3, requiring reasonable and practical actions to identify sources and reduce exposure:

Building 120
IA-B120-2 (240 µg/m^3)

The chemical inventory for Building 25 was updated on November 27, 2018. A thorough review of Safety Data Sheets (SDSs) for Building 25 inventory was conducted in early January 2019. Based on the number of canisters identified during the inventory, two products, NS-125 Mold Release Silicone Spray, and White 2000 Mold Cleaner, appear to be used frequently within Building 25. The SDSs identify TCE as the main constituent in each product (up to 60% in NS-125 and up to 98% in White 2000). The use of these products is the likely cause of the elevated indoor air detections in Building 25. WVA is consulting with the tenant using these products to determine necessary action to remove the products or mitigate exposure. The SDSs for these products are included as Appendix D.

The chemical inventory for Building 120 was updated on January 11, 2019. A review of SDSs is ongoing by WVA. During review of SDSs, PCE was found listed in a product called “wrench ease” which was documented in the Building 120 inventory. This, as well as a brake cleaner product in Building 120 may be the cause of the elevated indoor air detections. WVA will complete the SDS review and consult with occupants to determine necessary action to remove products or mitigate exposure. The SDS for “wrench ease” included in Appendix D.

The 2016 air monitoring results from the sample from Building 121 contained an elevated concentration of trans-1,2-dichloroethene, which was confirmed by the duplicate sample. This compound has not been detected in this building previously, thus it was suspected that current building activity, rather than a sub-slab source, was the cause. WVA investigated current building activities and confirmed that this compound was identified in a degreaser being used for equipment cleaning in the building. WVA subsequently evaluated alternative products. No trans-1,2-dichloroethene was detected in the 2017 or 2018 air monitoring results at this building.

7. ICM Summary

The Type A (Building 21 and 114) and Type B (Building 20 and 25) SSDSs were inspected in accordance with the ICM Work Plan and generally performed consistent with startup test results.

Based on total run-time hours, the Building 21 and Building 114 SSDSs operated for approximately 93 percent and 91 percent, respectively, of the total available run-time for the year. High condensate levels in the Building 21 effluent air stream are the suspected cause of continued false flow meter readings. However, this does not impact system performance or operation. System flow is currently being monitored using an anemometer. The GAC vessels for Building 21 and 114 effluent are currently off line due to concentrations below SGCs and AGCs. No significant repairs were required to the Building 21 or 114 systems in 2018.

The Building 20 and Building 25 SSDSs each operated at approximately 94 percent of the total available run-time for the year. The GAC vessels are currently off line due to concentrations below SGCs and AGCs. No other significant issues were reported with these systems.

The Type C SSDSs (Buildings 21, 22, 120, 121, and 130) were generally inspected in accordance with the ICM Work Plan. None of the Type C SSDSs required significant repairs or had any interruptions in 2018.

Effluent samples were collected from the Type A and B SSDSs in November 2018. Based on the November 2018 sample results and SSDS flow measurements, the total annual VOC mass removed from the SSDSs ranged from 0.02 lbs/year from the Building 21 SSDS to 1.0 lbs/year from the Building 114 SSDS. GAC treatment of system remains unnecessary.

Indoor air sampling was conducted in accordance with the ICM Work Plan on November 27, 2018.

8. Siberia Water Line Replacement

Between mid-June 2018 and mid-July 2018, the WVA conducted a trench excavation in support of the replacement of water lines in Siberia as part of a larger effort throughout the installation. Trenches were excavated to approximately six feet below ground surface (bgs) and five feet in width. Groundwater was encountered in the bottom foot of the

excavation. This groundwater was removed from the excavations by the WVA subcontractor and contained in two frac tanks. One water sample was collected from each tank (Tanks 265764 and 254572) and submitted to Phoenix Environmental Laboratories for analysis of the following: Metals (EPA Method 6010C), polychlorinated biphenyls (EPA Method 8082A), volatile organic compounds (EPA Method 8260C), semi-volatile organic compounds (EPA Method 8270D), pesticides (EPA Method 8081B), herbicides (EPA Method 8151A), and reactive sulfide and cyanide (EPA Methods 846 and 7.3, respectively).

The groundwater sample collected from Frac Tank 254572 contained PCB-1254 at a concentration of 1.3 µg/L. The sample collected from Frac Tank 265764 contained barium at a concentration of 0.21 mg/L. The PCB result exceeded the NYSDEC Class GA Standards of 0.09 µg/L. With approval from the NYSDEC Water Group, the WVA treated this water in the IWTP. Soil was returned to the excavation and used to level adjacent areas. Groundcover was replaced in-kind with previously existing cover (asphalt, concrete, and gravel). Analytical results and a figure showing the location of the excavations is included in Appendix E.

9. Siberia Perimeter Lighting Work

In December 2018, the WVA conducted a trench excavation in support of the installation of new perimeter lighting in Siberia. Between December 9, 2018 and December 20, 2019, the WVA installed electrical conduit below grade in an approximately 600-feet long, by 1.5-feet wide, by 2-feet deep trench at the Lay-Down area in Siberia. A backhoe was used to excavate through gravel groundcover and stone. WVA installed matting and 1-1/4-inch PVC pipe and backfilled the trench to grade with existing and new stone. Groundcover was replaced in-kind with previously existing cover (asphalt, concrete, and gravel). New light poles were installed and are shown on the figure in Appendix F.

10. Conclusions and Recommendations

10.1 Conclusions

The following conclusions can be drawn based on the data generated during the 2018 LTM event.

1. Groundwater elevations in the MMA and SA are consistent with that documented during previous monitoring events.

2. In general, VOC concentrations in groundwater in the MMA are stable or decreasing.

3. VOC concentrations in groundwater in the area of the former burn pit and current permeable reactive walls in the SA are stable or decreasing.

4. Based on flow and pressure measurements, the SSDSs operated consistent with startup test parameters.

5. VOC mass removal in the Type A and B SSDSs ranged from 0.02 lbs/year (Building 21) to 1.0 lbs/year (Building 114).

6. 2018 CVOC concentrations in the SSDS effluent remain consistent with those observed in 2017. GAC treatment of Type A and B SSDS effluent remains unnecessary.

7. TCE in Building B25 was present at a concentration greater than the level requiring reasonable and practical actions to identify sources and reduce exposure. The chemical inventory for Building 25 was updated and products that are the likely cause of the elevated indoor air detections in Building 25 have been identified. WVA is consulting with the tenant using these products to determine necessary action to remove the products or mitigate exposure.

8. PCE in building B120 was present at a concentration greater than the level requiring reasonable and practical actions to identify sources and reduce exposure. The chemical inventory for Building 120 was updated and potential use of chlorinated solvents by building tenants will be evaluated by WVA.

10.2 LTM Modifications and Recommendations

The following modifications to the LTM program are recommended.

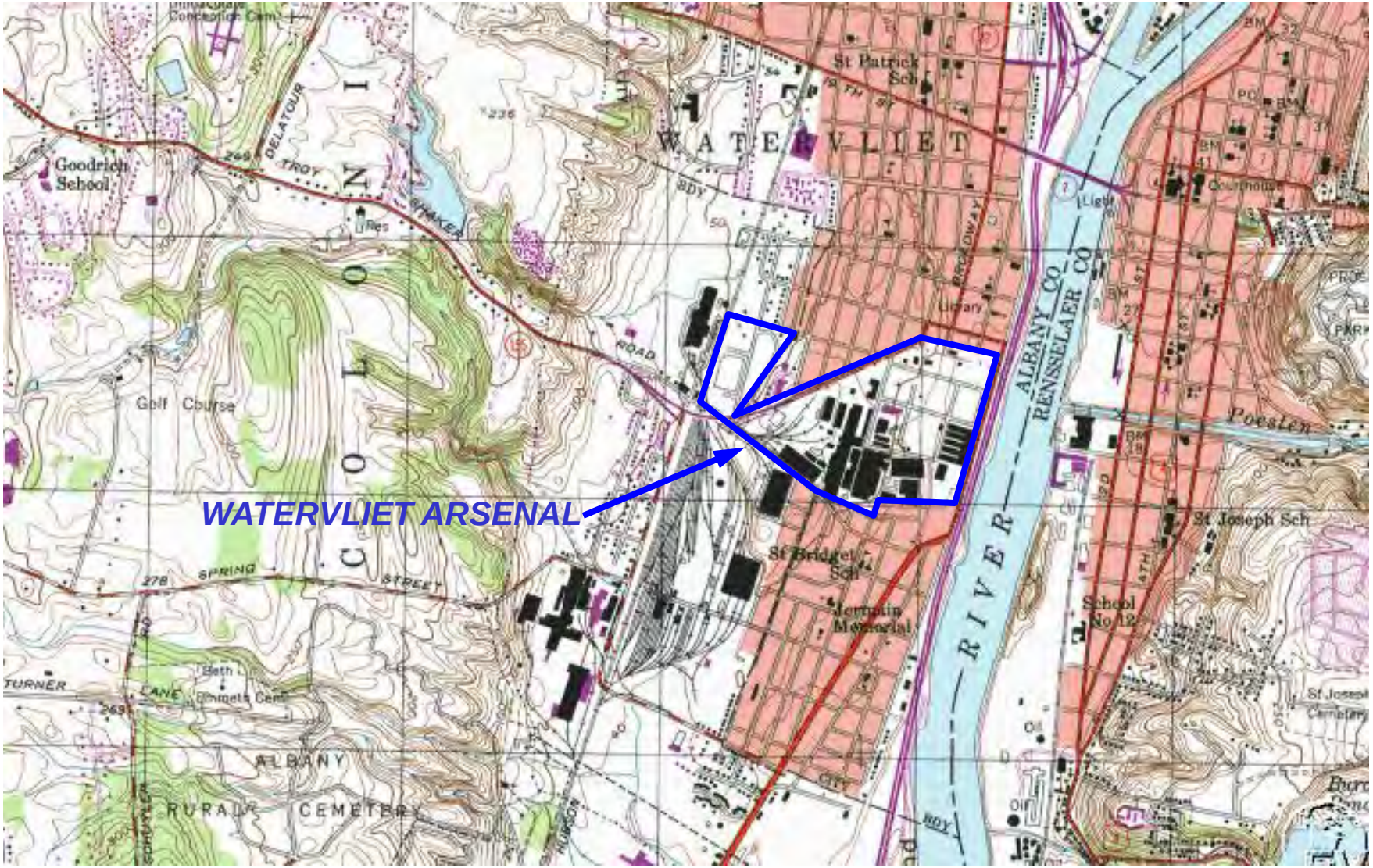
1. Continuous groundwater monitoring at the site since the late 1990s has documented the microbial breakdown of chlorinated VOCs at the site and relatively stable conditions. Further, many wells have been without groundwater exceedances for many years and no longer need to be regularly verified. All feasible remedial alternatives for WVA are already in place and functioning as designed, and changes in aquifer geochemistry are not expected. It is therefore recommended that the sampling frequency be

reduced from annual to every five years for monitoring wells WVA-AW-MW-35, WVA-AW-MW-36, MW-121N, MW-121S, 93EM-SP13, WVA-AW-MW-BLD-110, WVA-B35-PW-1, WVA-AW-MW-27, and WVA-AW-MW-32.

2. Continuous groundwater monitoring of wells in the Siberia area since the late 1990s indicate that the ICMs at the former burn pit and the reactive walls are successfully reducing total chlorinated VOC concentrations both up-gradient and down-gradient of the reactive walls. Up-gradient CVOC concentrations have been dramatically reduced following the ICMs and remaining CVOCs are dominantly attributed to daughter products cis-1,2 dichloroethene and vinyl chloride; indicative of ongoing degradation. Due to reduced contaminant concentrations and exposure risk that has been mitigated, it is recommended that monitoring of all Siberia sampling locations be removed from the Long-Term Monitoring Program.

3. Based on 2018 Type A and B SSDS operating data, continued O&M in accordance with the ICM Work Plan will provide effective monitoring of the SSDSs

FIGURES



SOURCE: U.S.G.S 7.5 MIN. TROY SOUTH QUADRANGLE

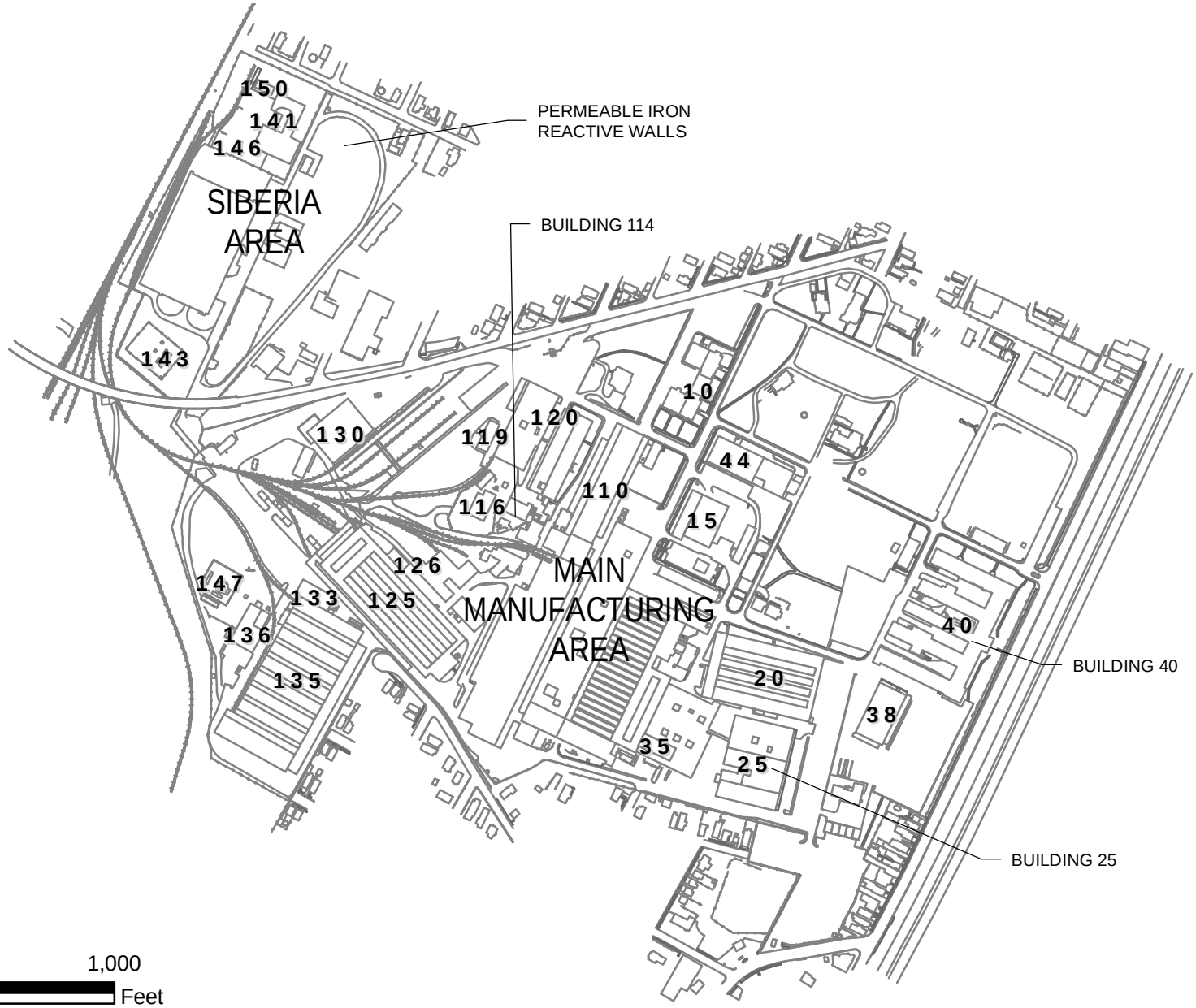
US Army Corps of Engineers
Baltimore District

WATERVLIET ARSENAL
WATERVLIET, NEW YORK

SITE LOCATION

FIGURE 1-1

G:\GISMOD\WatervlietArsenal\LTM\Figures\WVA Site Plan.mxd



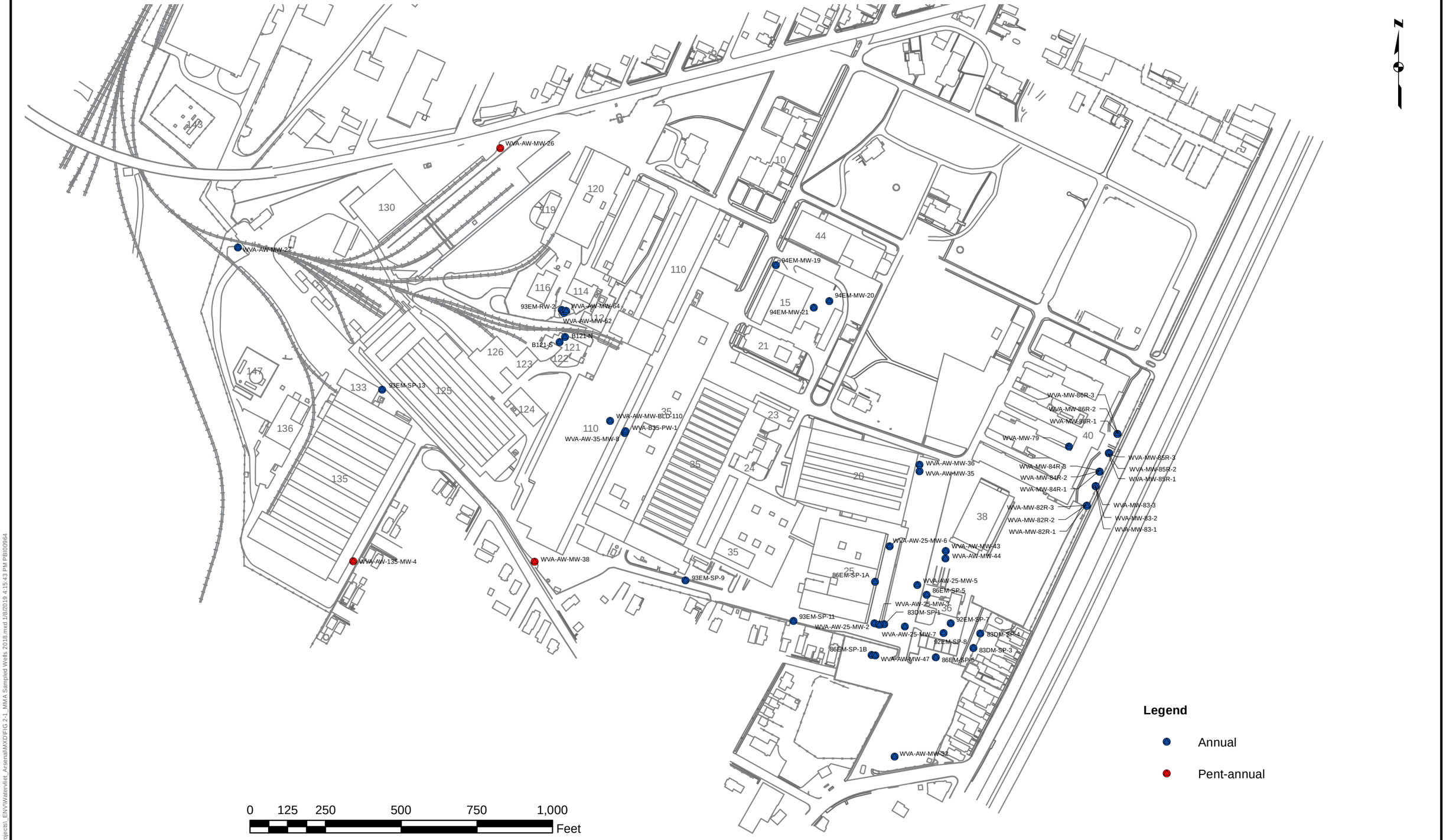
US Army Corps of Engineers

LONG-TERM MONITORING PROGRAM
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

SITE MAP

ARCADIS-MALCOLM PIRNIE

FIGURE 1-2



Z:\GIS Projects_ENV\Watervliet_Arsenal\MXD\FIG 2-1_MMA Sampled Wells 2018.mxd 1/8/2019 4:15:43 PM PBI00964

US Army Corps of Engineers

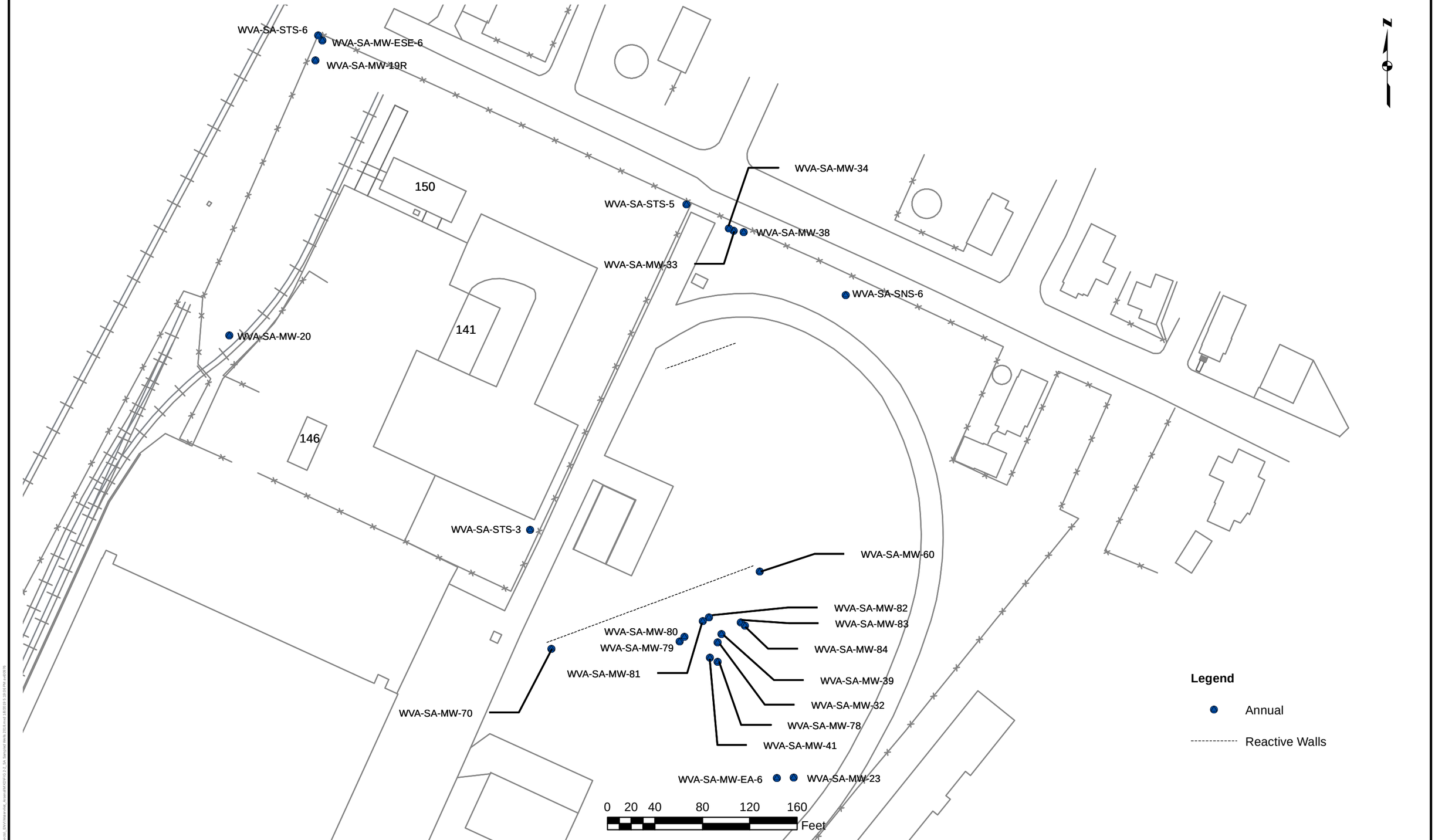
LONG-TERM MONITORING
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

MAIN MANUFACTURING AREA
GROUNDWATER MONITORING LOCATIONS

PIKA-MP JV

FEBRUARY 2018

FIGURE 2-1



US Army Corps of Engineers

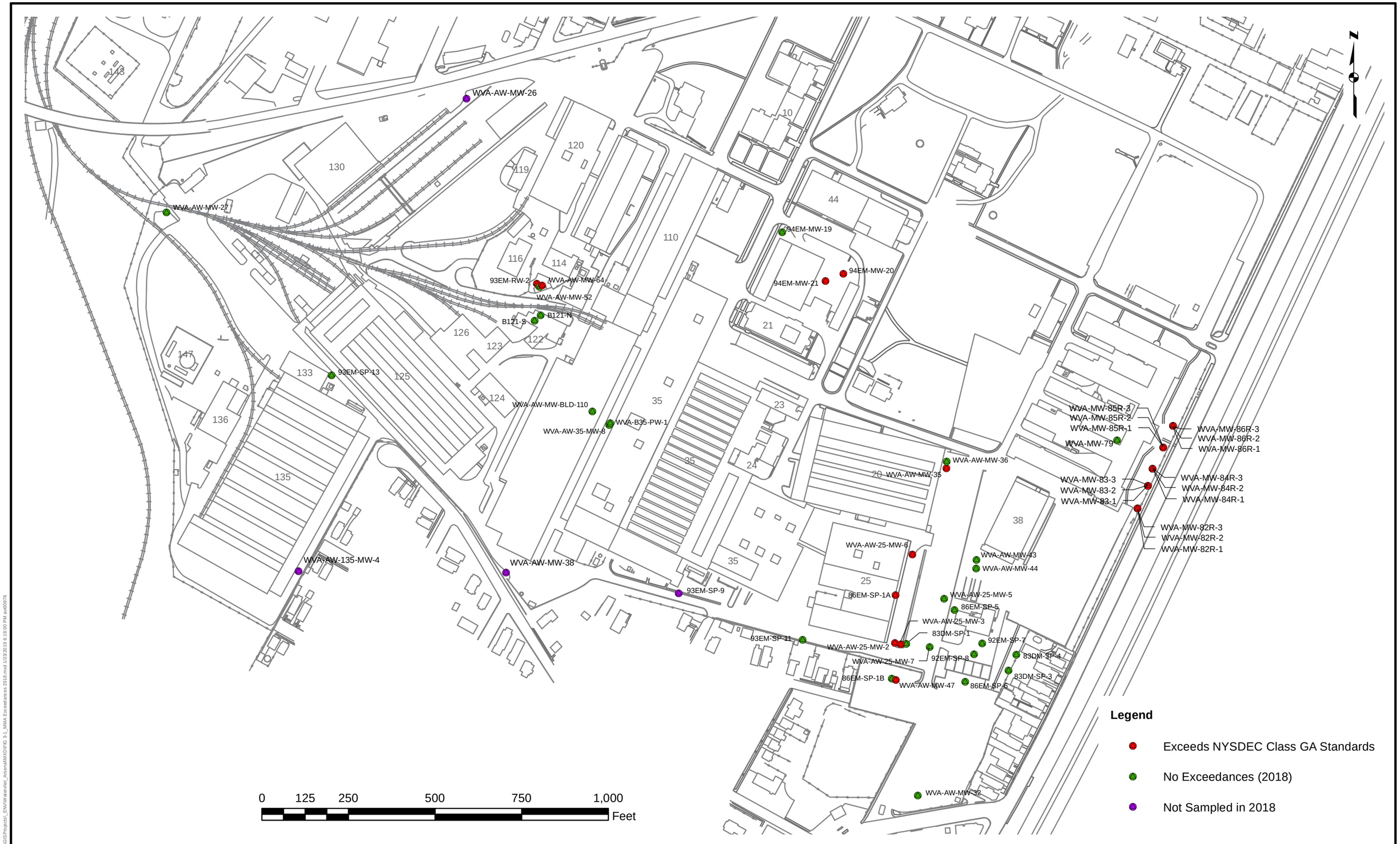
LONG-TERM MONITORING
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

SIBERIA AREA
GROUNDWATER MONITORING LOCATIONS

PIKA-MP JV

FEBRUARY 2018

FIGURE 2-2



Z:\GISProjects_ENV\Watervliet_Arsenal\MXD\FIG 3-1_MMA Exceedances 2018.mxd 1/23/2019 6:19:00 PM aw00976

US Army Corps of Engineers

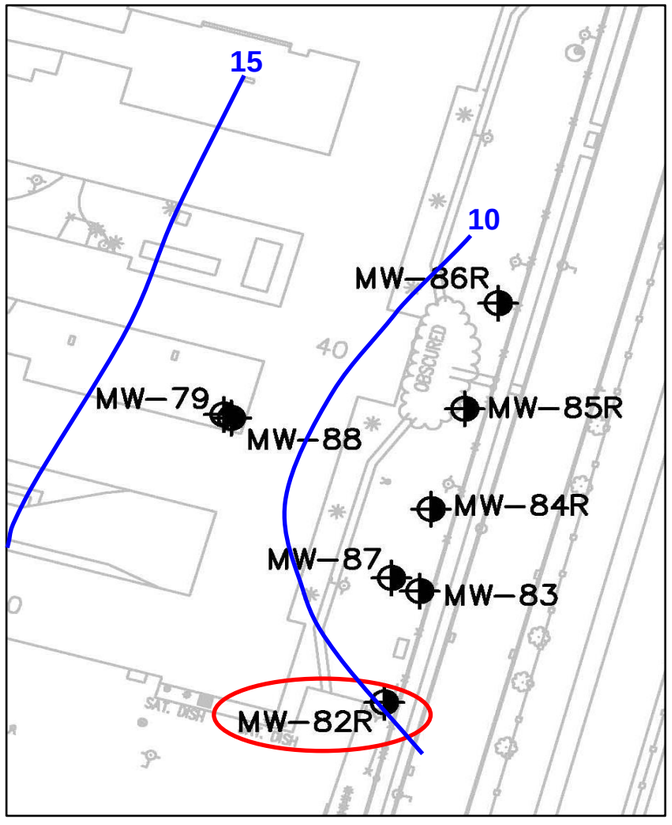
LONG-TERM MONITORING
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

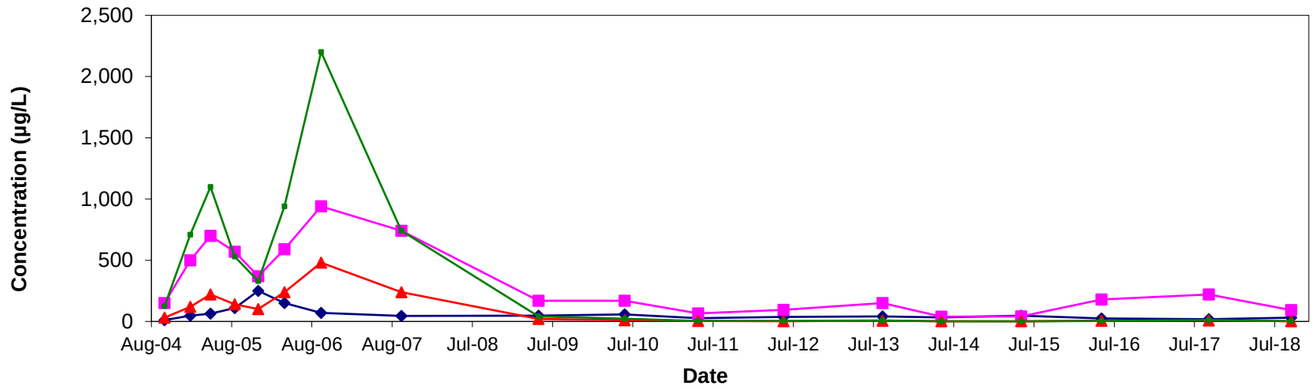
MAIN MANUFACTURING AREA
GROUNDWATER SAMPLE EXCEEDANCES (VOCs) - 2018

PIKA-MP JV

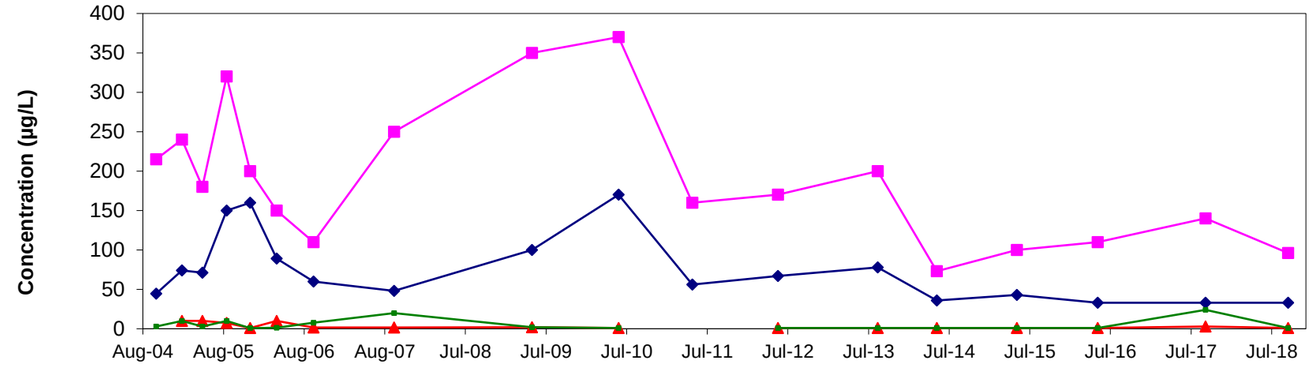
FEBRUARY 2019

FIGURE 3-1

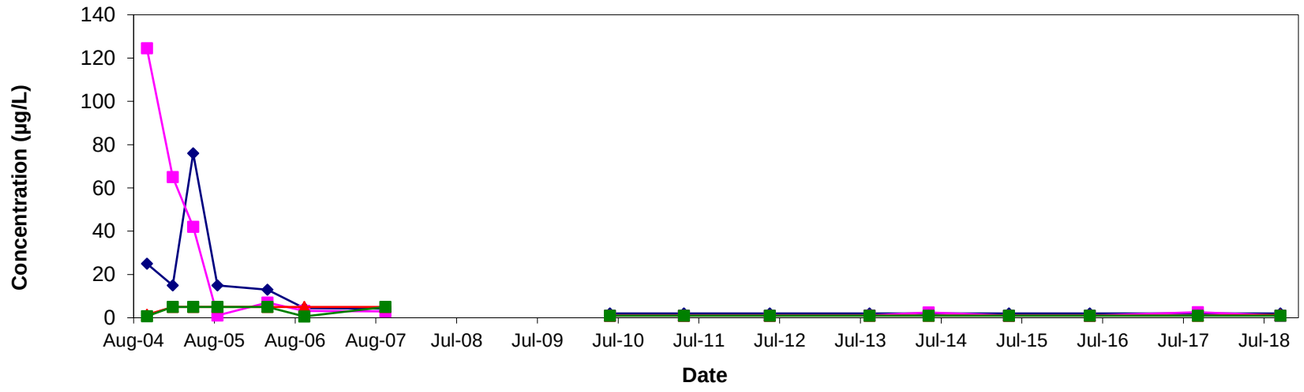




MW-82R-1



MW-82R-2



MW-82R-3

Note: Vertical scales are not the same.
Potentiometic contours based on May 2009 measurements.

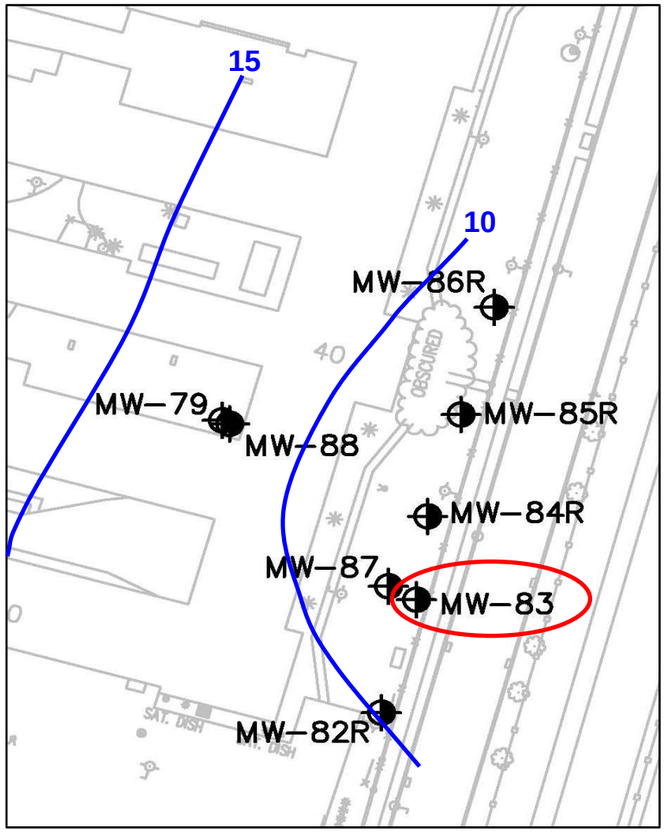
US Army Corps of Engineers
Baltimore District

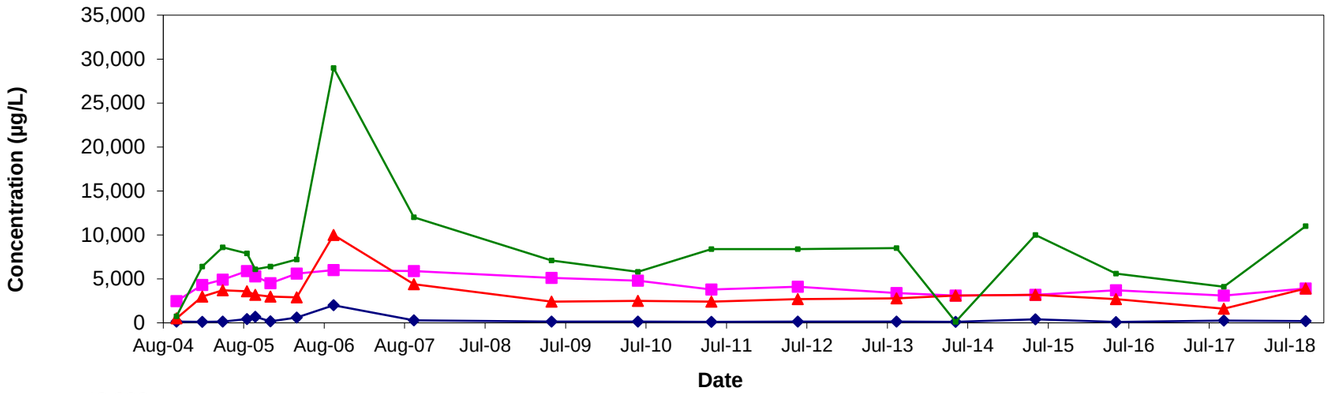
LONG-TERM MONITORING
BUILDING 40, WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CHLORINATED VOC CONCENTRATIONS IN MONITORING WELL MW-82R

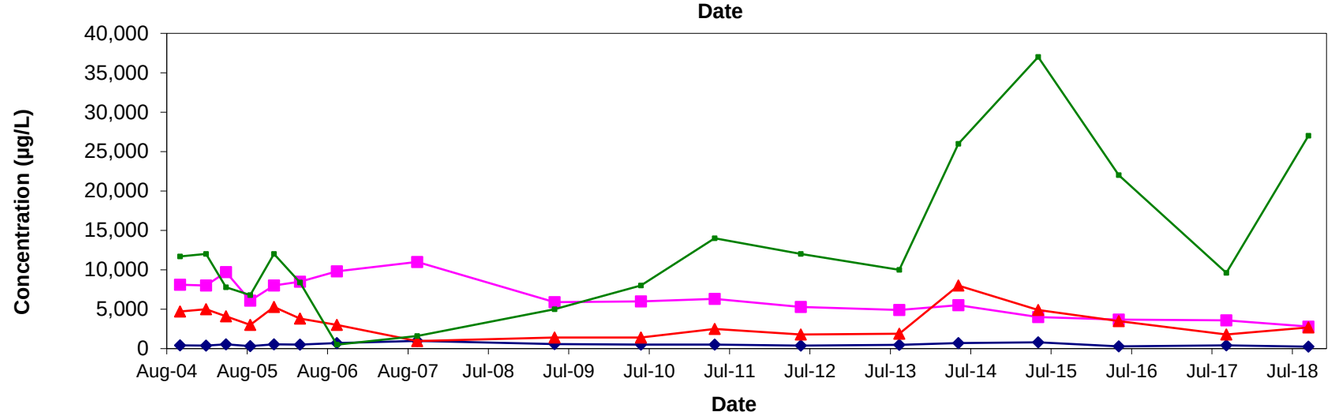
PIKA/ARCADIS
DECEMBER 2018

FIGURE 3-2

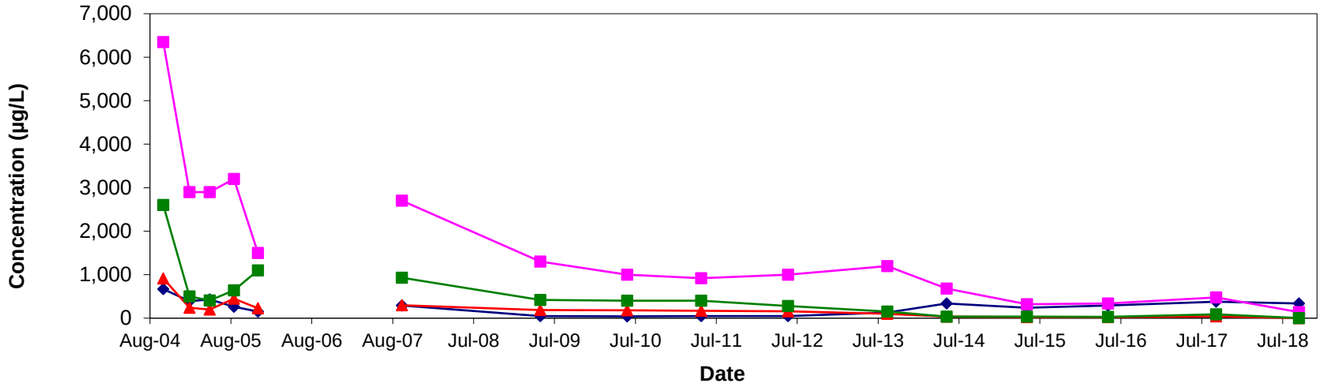




MW-83-1



MW-83-2



MW-83-3



Note: Vertical scales are not the same.
Potentiometic contours based on May 2009 measurements.

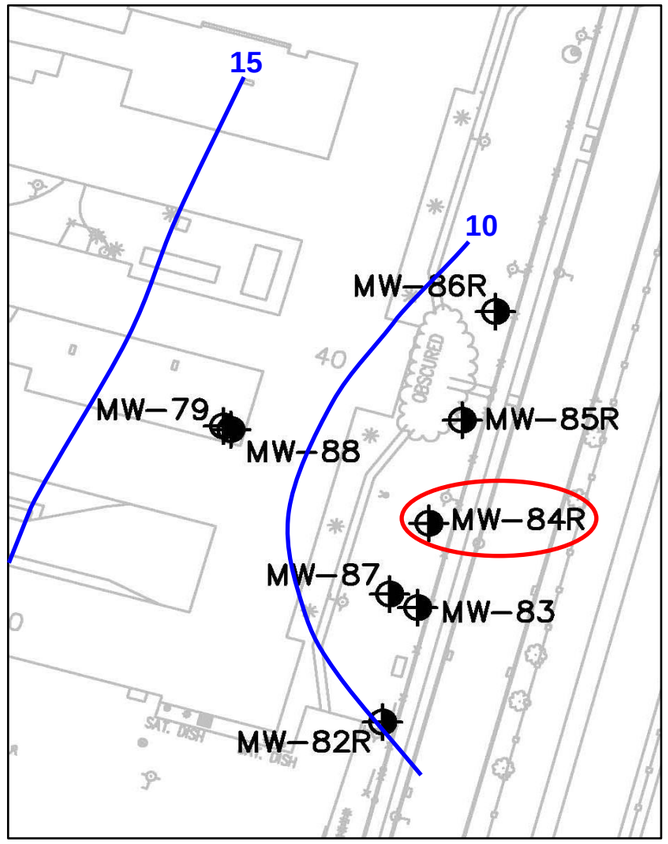
US Army Corps of Engineers
Baltimore District

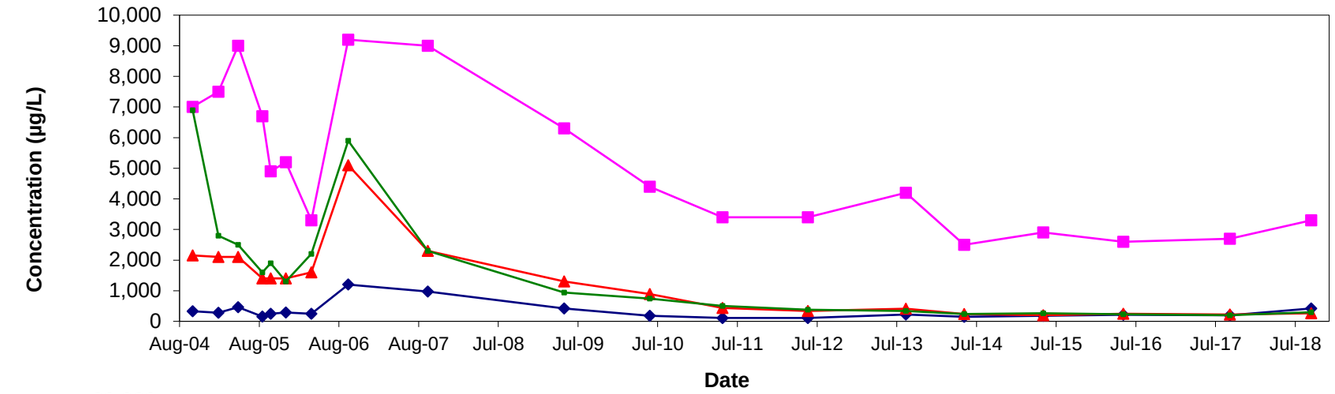
LONG-TERM MONITORING
BUILDING 40, WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CHLORINATED VOC CONCENTRATIONS IN MONITORING WELL MW-83

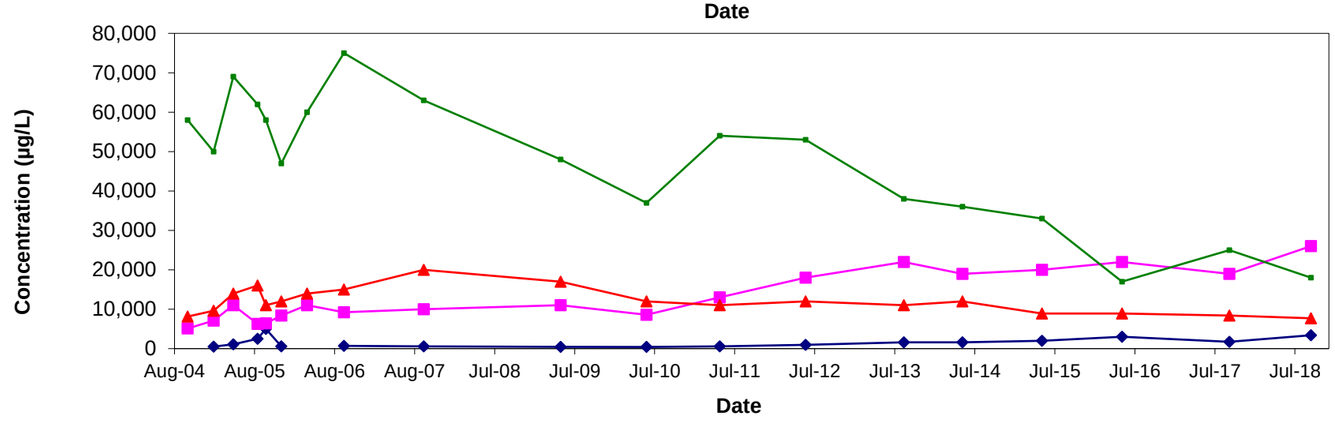
PIKA/ARCADIS
DECEMBER 2018

FIGURE 3-3

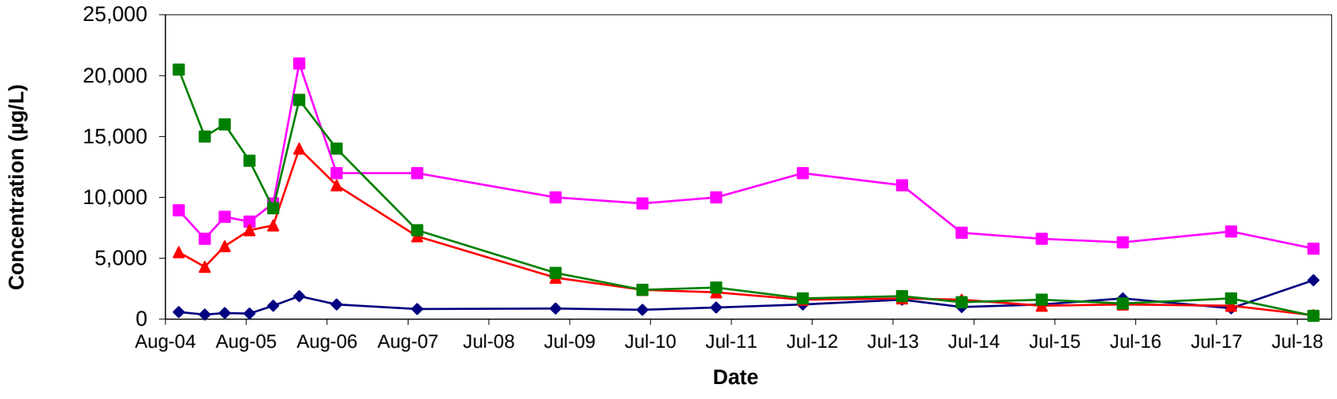




MW-84R-1



MW-84R-2



MW-84R-3



Note: Vertical scales are not the same.
Potentiometic contours based on May 2009 measurements.

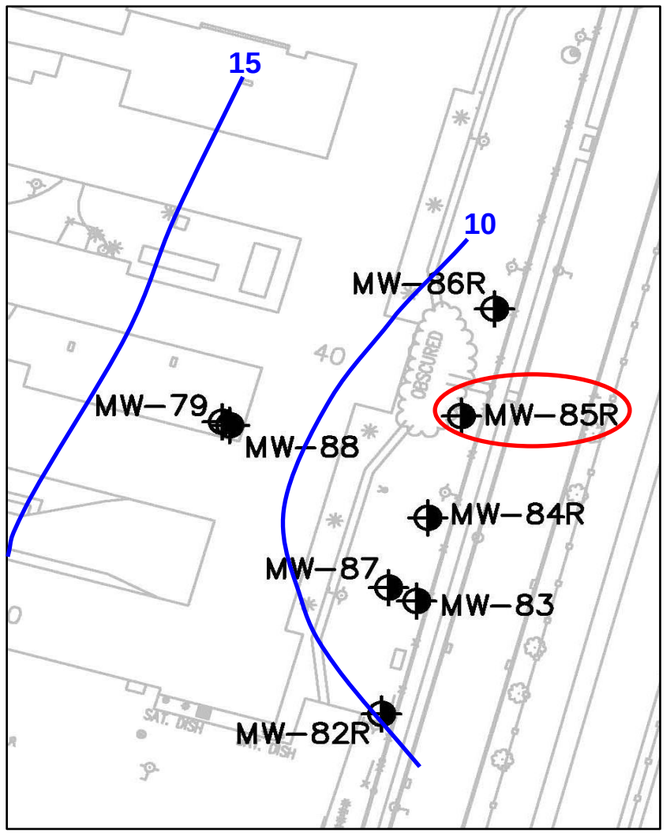
US Army Corps of Engineers
Baltimore District

LONG-TERM MONITORING
BUILDING 40, WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CHLORINATED VOC CONCENTRATIONS IN MONITORING WELL MW-84R

PIKA/ARCADIS
DECEMBER 2018

FIGURE 3-4





Vinyl Chloride
cis-1,2-Dichloroethene
Trichloroethene (TCE)
Tetrachloroethene (PCE)

Note: Vertical scales are not the same.
Potentiometic contours based on May 2009 measurements.

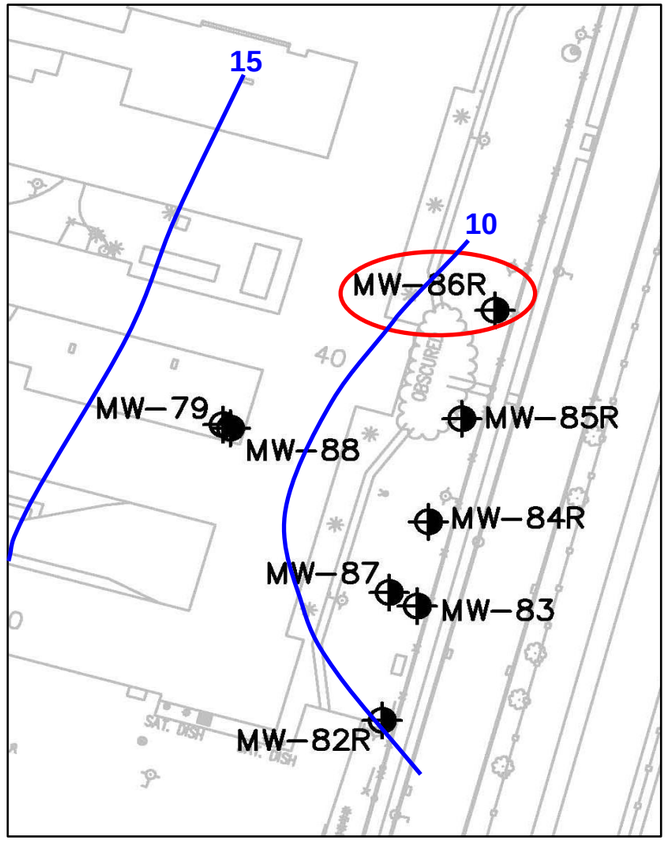
US Army Corps of Engineers
Baltimore District

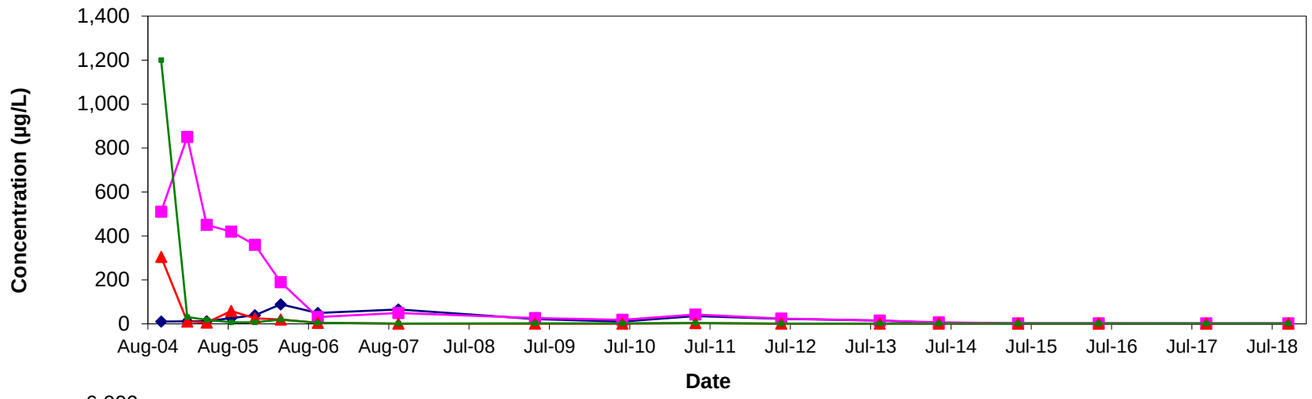
LONG-TERM MONITORING
BUILDING 40, WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CHLORINATED VOC CONCENTRATIONS IN MONITORING WELL MW-85R

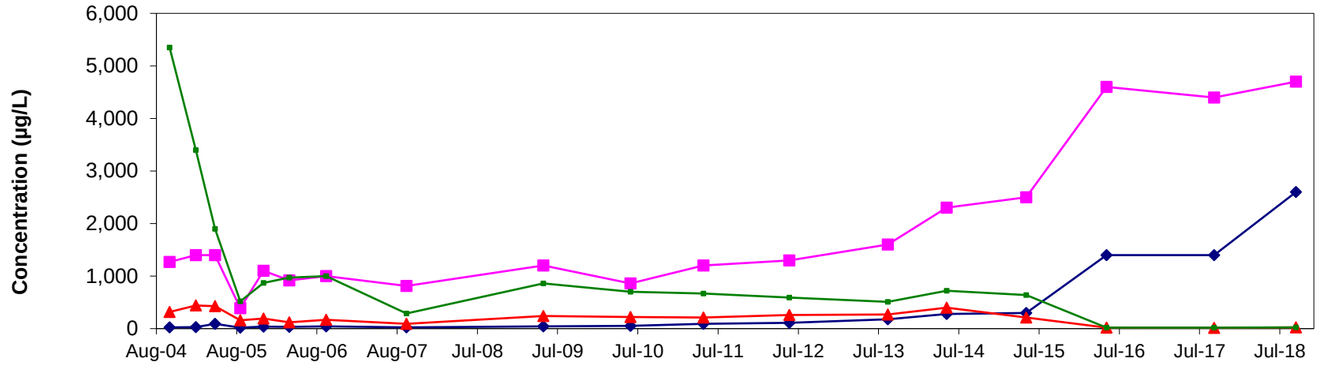
PIKA/ARCADIS
DECEMBER 2018

FIGURE 3-5

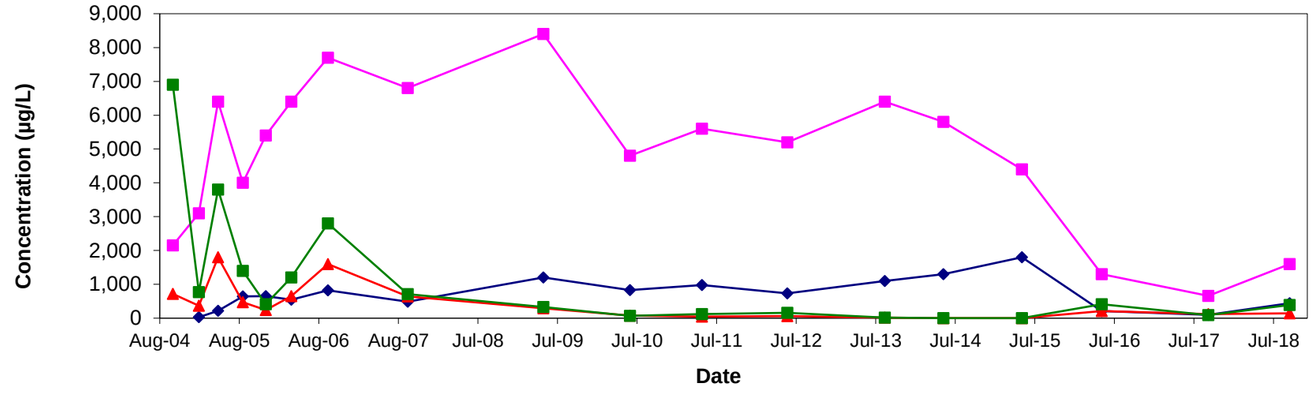




MW-86R-1



MW-86R-2



MW-86R-3



Note: Vertical scales are not the same.
Potentiometic contours based on May 2009 measurements.

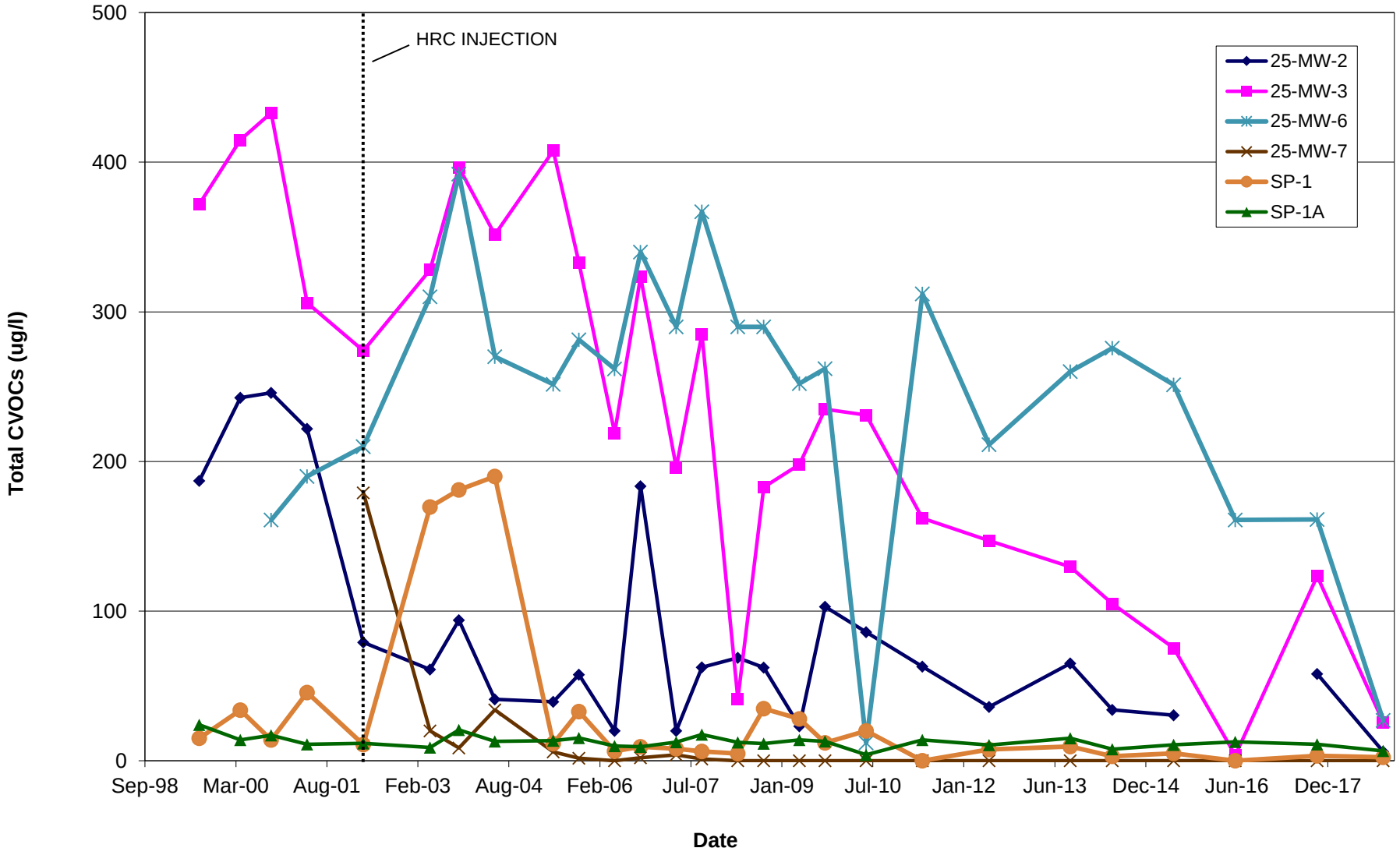
US Army Corps of Engineers
Baltimore District

LONG-TERM MONITORING
BUILDING 40, WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TARGET CHLORINATED ORGANIC COMPOUNDS AND INORGANICS IN MONITORING WELL MW-86R

PIKA/ARCADIS
DECEMBER 2018

FIGURE 3-6



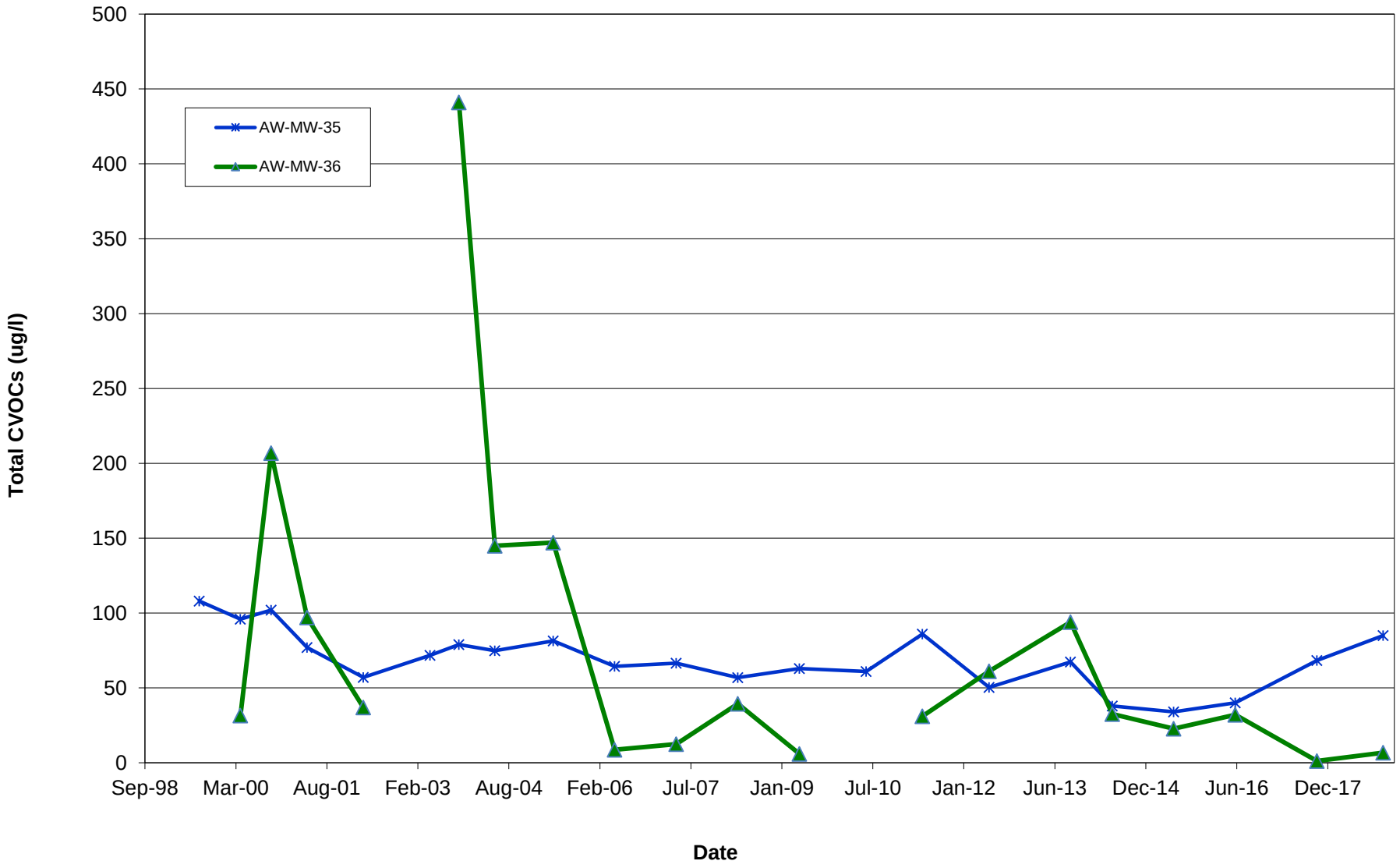
US Army Corps of Engineers
Baltimore District

LONG-TERM MONITORING
WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CVOC CONCENTRATIONS - BUILDING 25 AREA

PIKA/ARCADIS
DECEMBER 2018

FIGURE 3-7



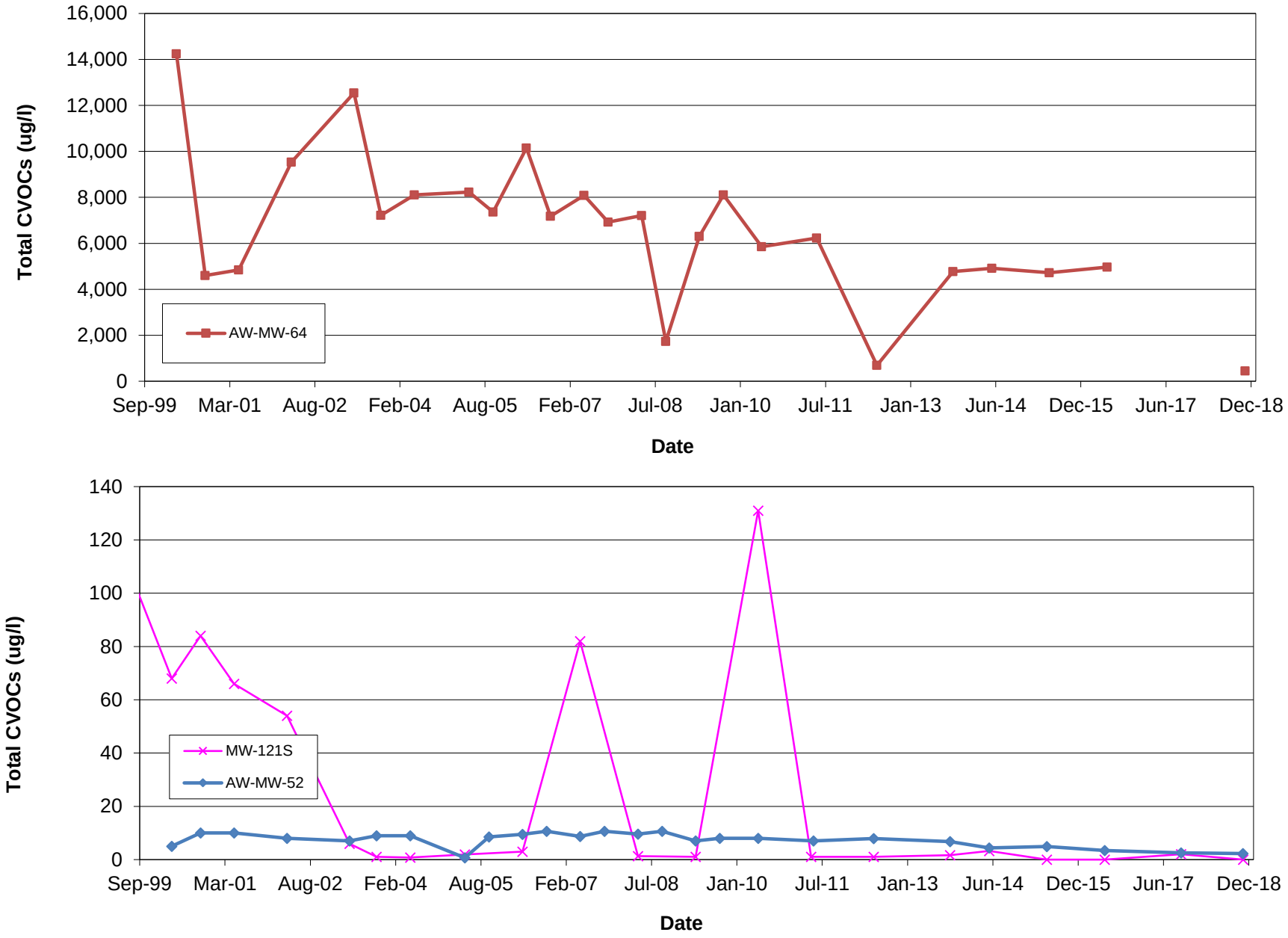
US Army Corps of Engineers
Baltimore District

LONG-TERM MONITORING
WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CVOC CONCENTRATIONS - BUILDING 20 AREA

PIKA/ARCADIS
DECEMBER 2018

FIGURE 3-8



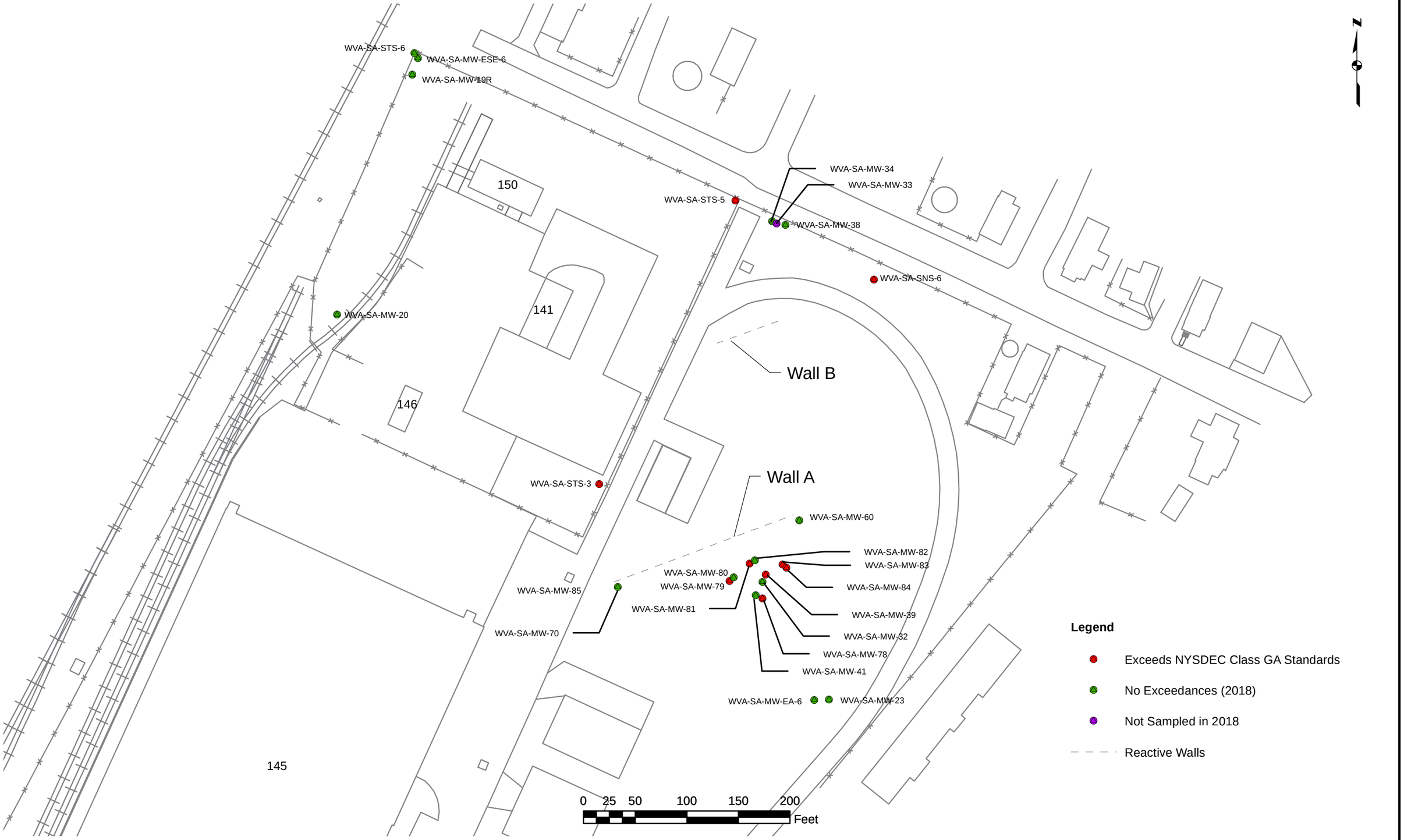
US Army Corps of Engineers
Baltimore District

LONG-TERM MONITORING
WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CVOC CONCENTRATIONS - BUILDING 114/121 AREA

PIKA/ARCADIS
DECEMBER 2018

FIGURE 3-9



Z:\GIS Projects_ENVW Watervliet_Arsenal\MXD\FIG 3-18_SA Exceedances 2018.mxd 1/23/2019 6:01:14 PM avi009.76

US Army Corps of Engineers

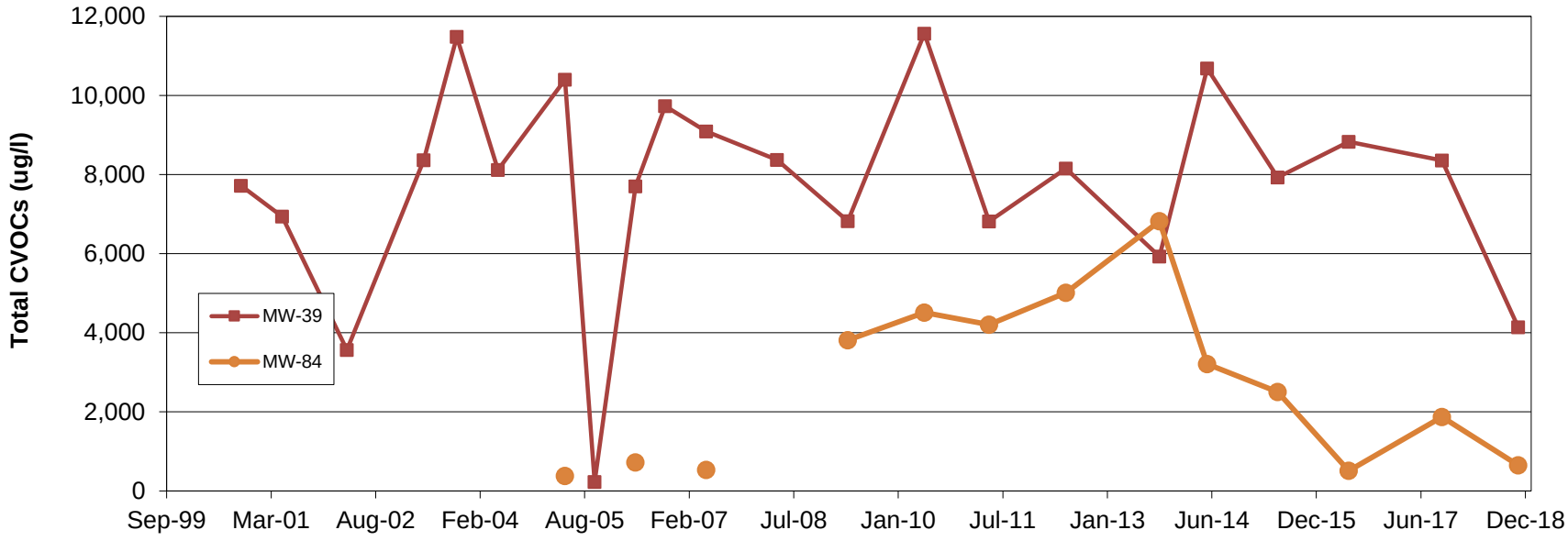
LONG-TERM MONITORING
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

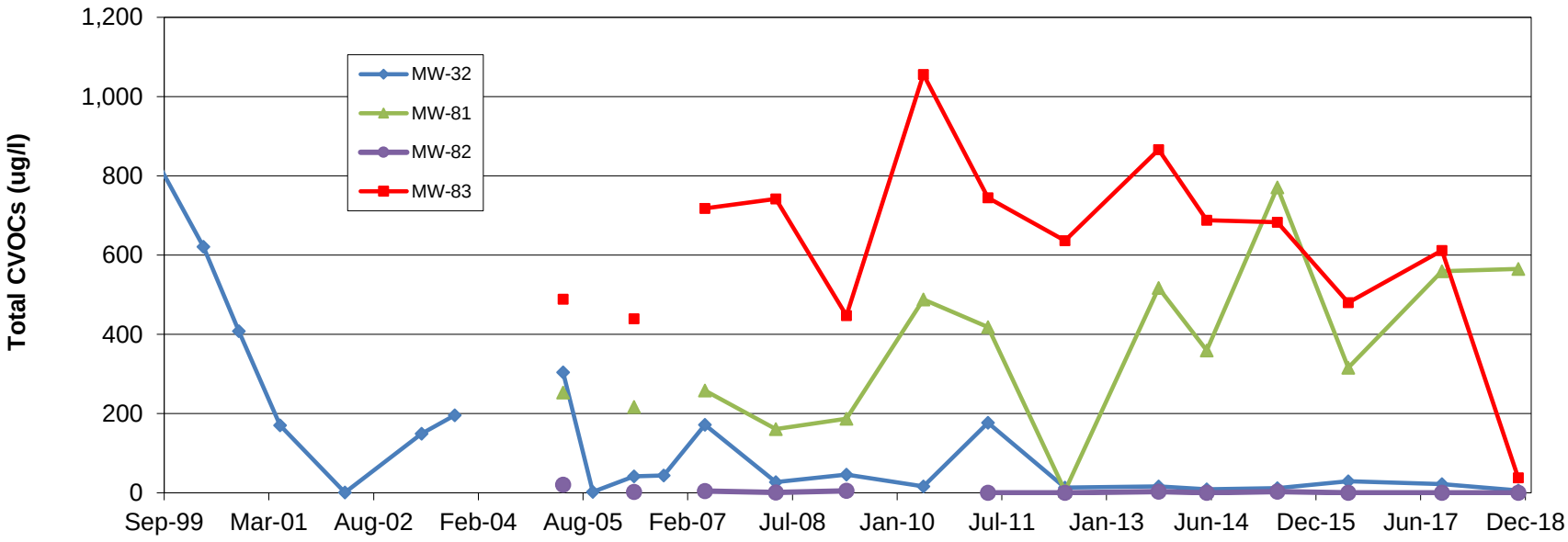
SIBERIA AREA
GROUNDWATER SAMPLE EXCEEDANCES (VOCs) - 2018

ARCADIS US, INC

FEBRUARY 2019

FIGURE 3-10





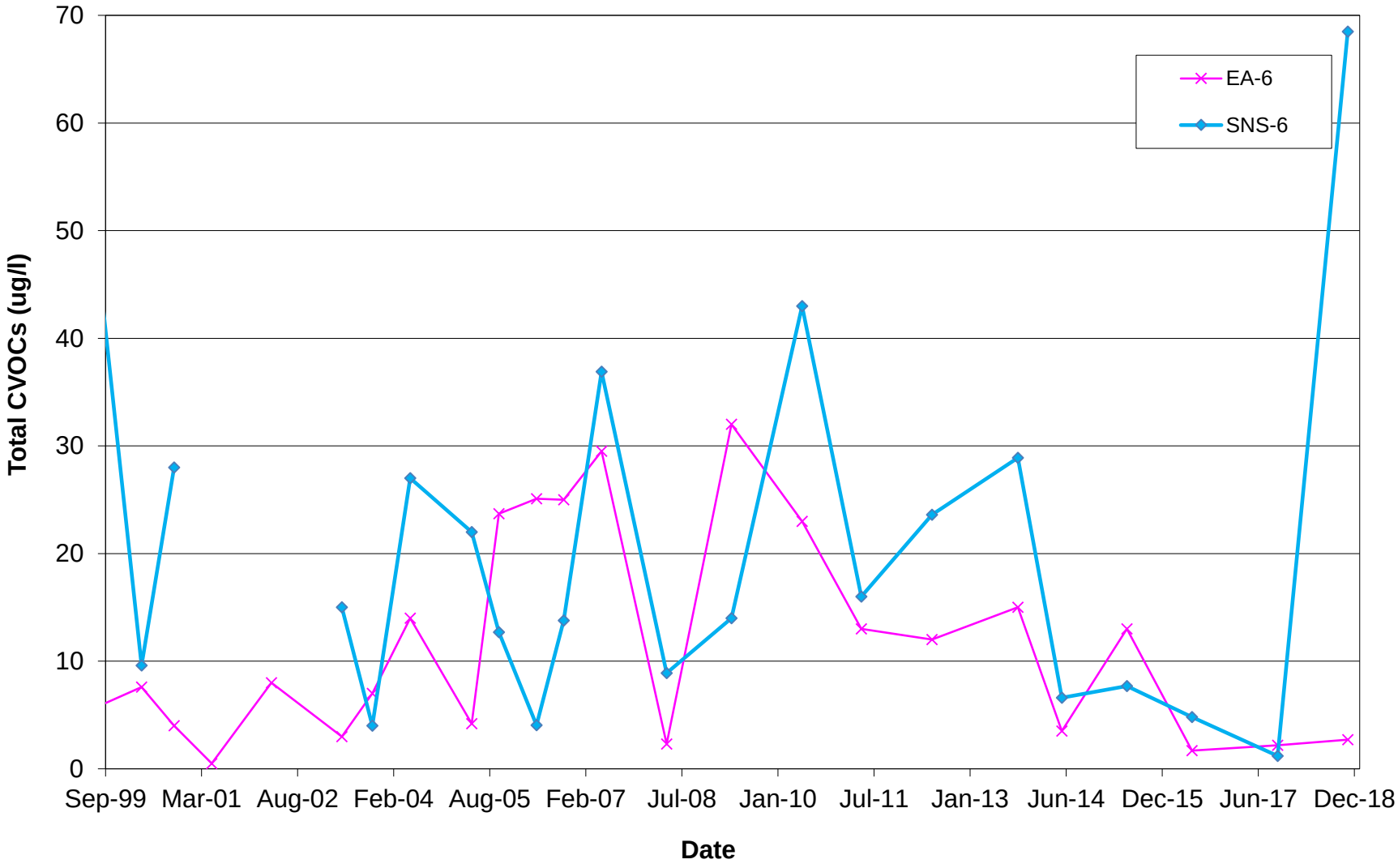
US Army Corps of Engineers
Baltimore District

LONG-TERM MONITORING
SIBERIA AREA, WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CVOC CONCENTRATIONS - BURN PIT AREA

ARCADIS
DECEMBER 2018

FIGURE 3-11



US Army Corps of Engineers
Baltimore District

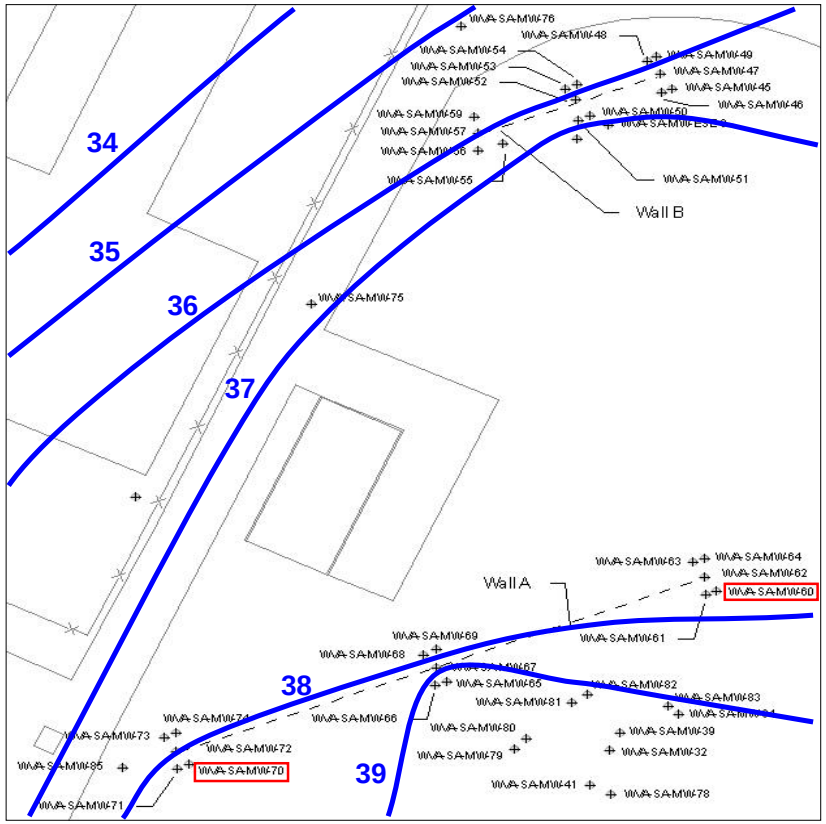
LONG-TERM MONITORING
SIBERIA AREA, WATERVLIET ARSENAL, WATERVLIET, NEW YORK

TRENDS IN TOTAL CVOC CONCENTRATIONS - BOUNDARY & SEWER

ARCADIS
DECEMBER 2018

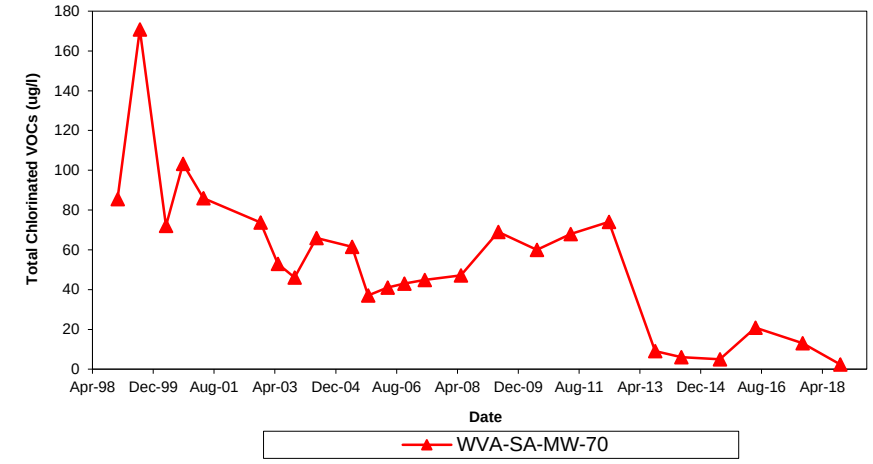
FIGURE 3-12

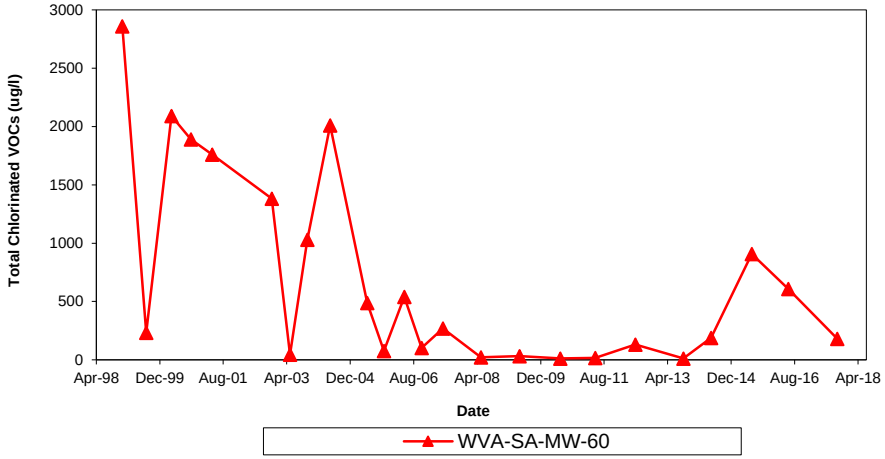
UP-GRADIENT



LEGEND

Weathered Bedrock Monitoring Well





Note: Vertical scales are not the same.
Potentiometric contours based on May 2009 measurements.

US Army Corps of Engineers
Baltimore District

LONG-TERM MONITORING
SIBERIA AREA, WATERVLIET ARSENAL, WATERVLIET, NEW YORK
TOTAL CHLORINATED ORGANIC COMPOUNDS
UPGRADIENT OF PERMEABLE REACTIVE WALLS

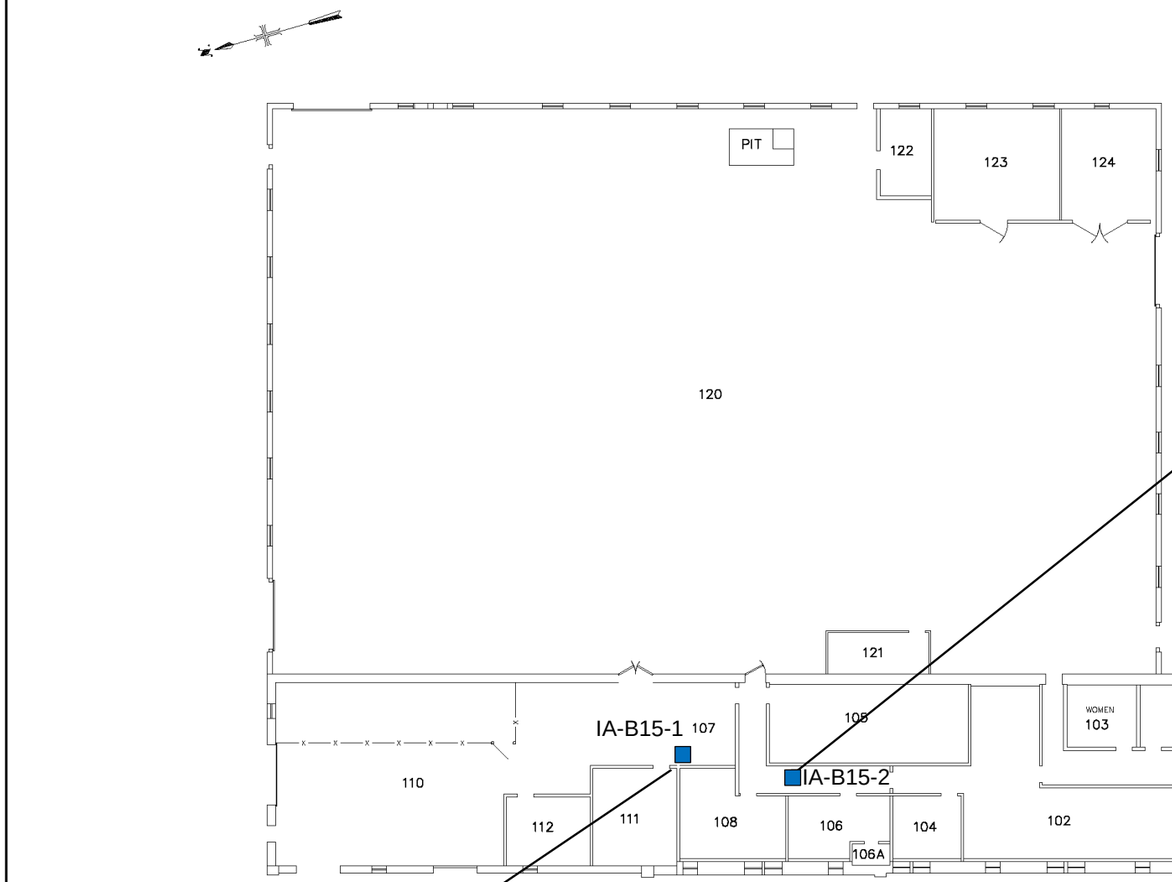
DECEMBER 2018

FIGURE 3-13

ARCADIS Design & Consultancy for natural and built assets

Figure 6-1
Indoor Air VOC Concentrations
Building 15 - No SSDS

Watervliet Arsenal
Watervliet, New York



Sample ID	IA-B15-2
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	0.93
Carbon Tetrachloride	0.52

Sample ID	IA-B15-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Tetrachloroethene	1.6
Carbon Tetrachloride	0.51

LEGEND:

DOOR
WINDOW
INTERIOR WALL
EXTERIOR WALL
STAIRS
HAND RAIL
CAGED AREA
COLUMNS

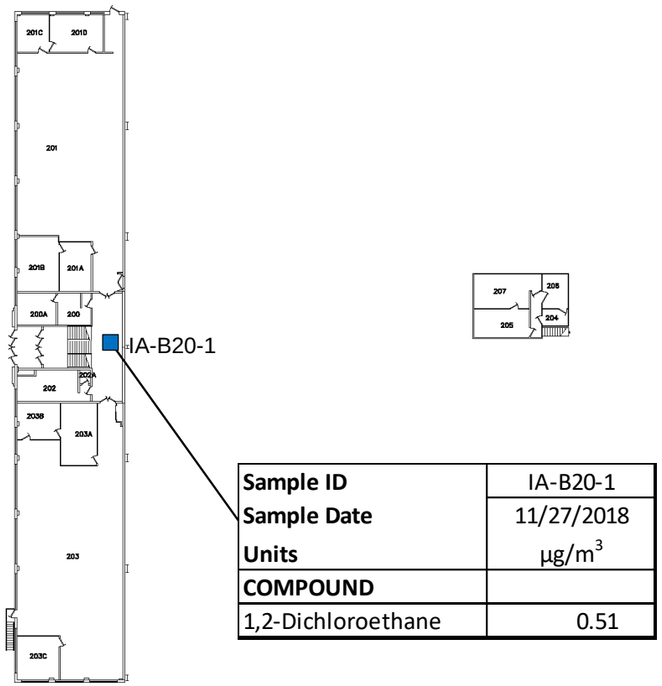
NOT TO SCALE

BUILDING 15

WATERVLIET ARSENAL
WATERVLIET, NEW YORK

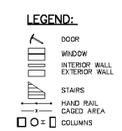
	Name	Date	Rev.	Date	Description
DRAWN	JJN	10/22/07			
CHECKED	–	–			
SUBMITTED	–	–			

Scale: 1/8"=1'-0"
Date: OCTOBER 2007
CHIEF ENGINEERING DIVISION
Drawing Number: 6016–15–1
Sheet: 1 OF 1
DIRECTOR, ENGINEERING & HOUSING



Sample ID	IA-B20-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
1,2-Dichloroethane	0.51





NOT TO SCALE

BUILDING 20 – SECOND FLOOR

WATERVLIET ARSENAL
WATERVLIET, NEW YORK

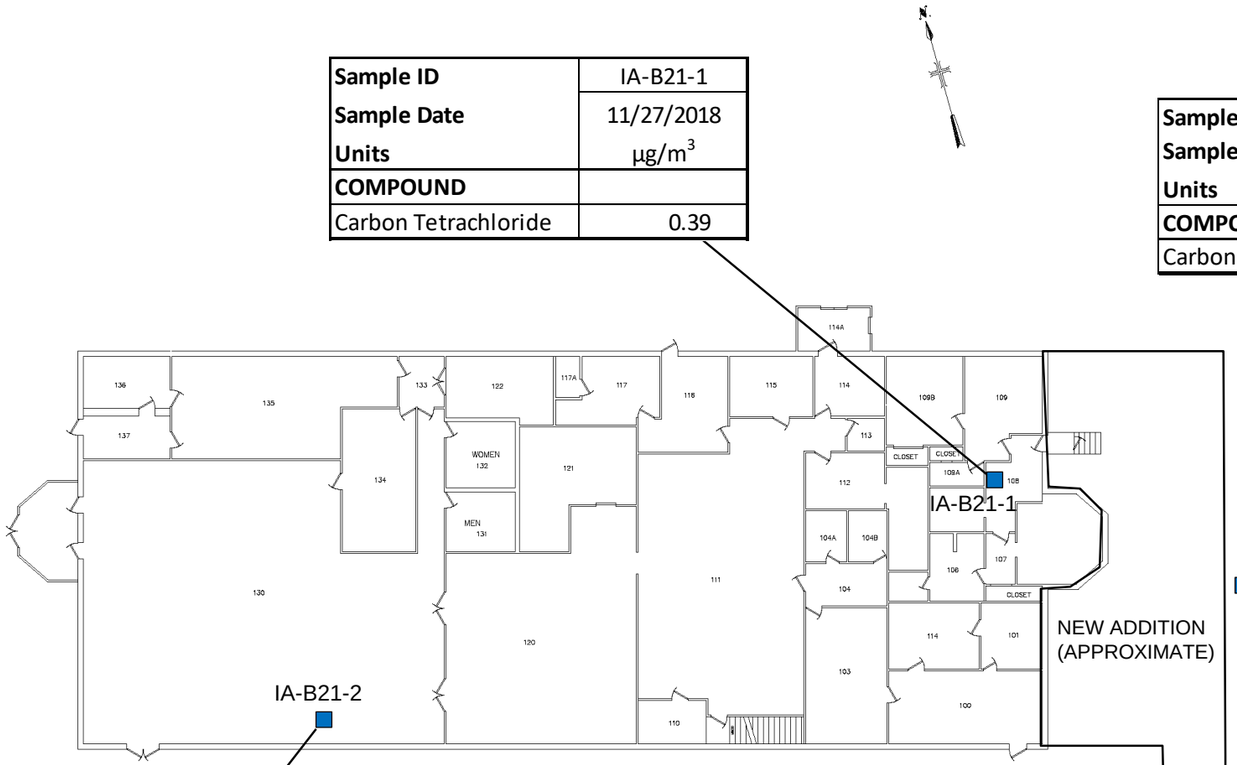
	Name	Date	Rev.	Date	Description
DRAWN	RNT	–			
CHECKED	EAG	6/22/07			
SUBMITTED	–	–	Scale: 1/18"=1'-0"		
			Date: APRIL 2007		
CHIEF ENGINEERING DIVISION			Drawing Number		Sheet
DIRECTOR, ENGINEERING & HOUSING			6017–20–2		2 OF 2

Figure 6-3
Indoor Air VOC Concentrations
Building 21 – Type A SSDS

Watervliet Arsenal
Watervliet, New York

Sample ID	IA-B21-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Carbon Tetrachloride	0.39

Sample ID	AA-B21-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Carbon Tetrachloride	0.39



Sample ID	IA-B21-2
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	0.19
Tetrachloroethene	0.34
Carbon Tetrachloride	0.4

LEGEND:

DOOR
WINDOW
INTERIOR WALL
EXTERIOR WALL
STAIRS
HAND RAIL
CAGED AREA
COLUMNS

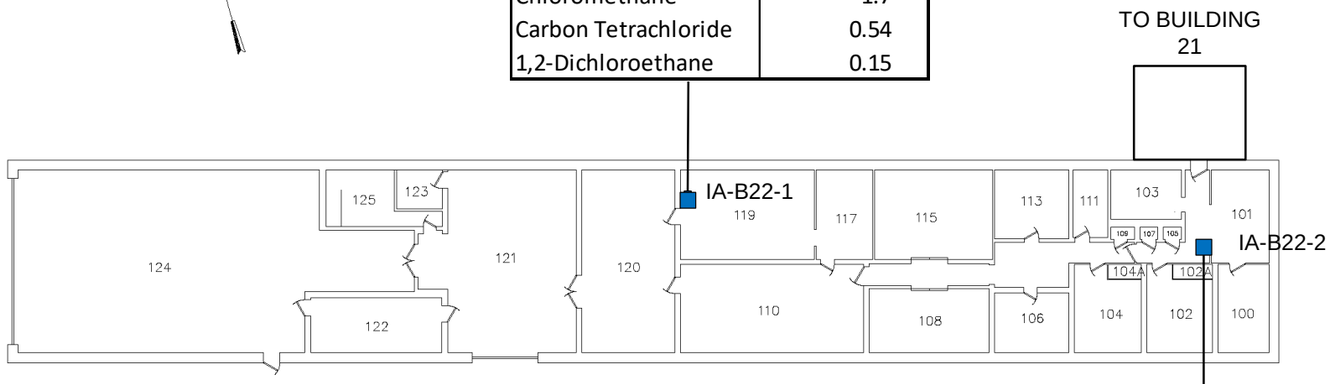
NOT TO SCALE

BUILDING 21

WATERVLIET ARSENAL
WATERVLIET, NEW YORK

	Name	Date	Rev.	Date	Description
DRAWN	TAL	–			
CHECKED	DAD	6/22/07			
SUBMITTED	–	–	Scale: 1/8"=1'-0"		
			Date: DECEMBER 2007		
CHIEF ENGINEERING DIVISION			Drawing Number		Sheet
DIRECTOR, ENGINEERING & HOUSING			6018-21-1		1 OF 1

Sample ID	IA-B22-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Tetrachloroethene	0.28
Chloromethane	1.7
Carbon Tetrachloride	0.54
1,2-Dichloroethane	0.15



Sample ID	IA-B22-2
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	0.2
Tetrachloroethene	0.59
Carbon Tetrachloride	0.53
1,2-Dichloroethane	0.29

LEGEND:

DOOR
WINDOW
INTERIOR WALL
EXTERIOR WALL
STAIRS
HAND RAIL
CAGED AREA
COLUMNS

NOT TO SCALE

BUILDING 22 – FIRE STATION

WATERVLIET ARSENAL
WATERVLIET, NEW YORK

	Name	Date	Rev.	Date	Description
DRAWN	TAL	–			
CHECKED	EAG	6/22/07			
SUBMITTED	–	–	Scale: 1/8"=1'-0"		
CHIEF ENGINEERING DIVISION			Date: DECEMBER 2007		
DIRECTOR, ENGINEERING & HOUSING			Drawing Number: 6019–22–1		Sheet: 1 OF 1

Figure 6-5
Indoor Air VOC Concentrations
Building 25 – Type B SSDS

Watervliet Arsenal
Watervliet, New York

Sample ID	IA-B25-5
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	7.3
Carbon Tetrachloride	0.53

Sample ID	IA-B25-2
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	10
Carbon Tetrachloride	0.52
1,2-Dichloroethane	0.14

Sample ID	IA-B25-4
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	0.49
Chloromethane	1.8
Carbon Tetrachloride	0.51

Sample ID	IA-B25-3
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	4.3
Carbon Tetrachloride	0.52

Sample ID	IA-B25-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	2.3
Carbon Tetrachloride	0.51
1,2-Dichloroethane	0.17



LEGEND:
DOOR
WINDOW
INTERIOR W
EXTERIOR
STAIRS
HAND RAIL
CAGED AR
COLUMNS

NOT TO SCALE

BUILDING 25 – THIRD FLOOR

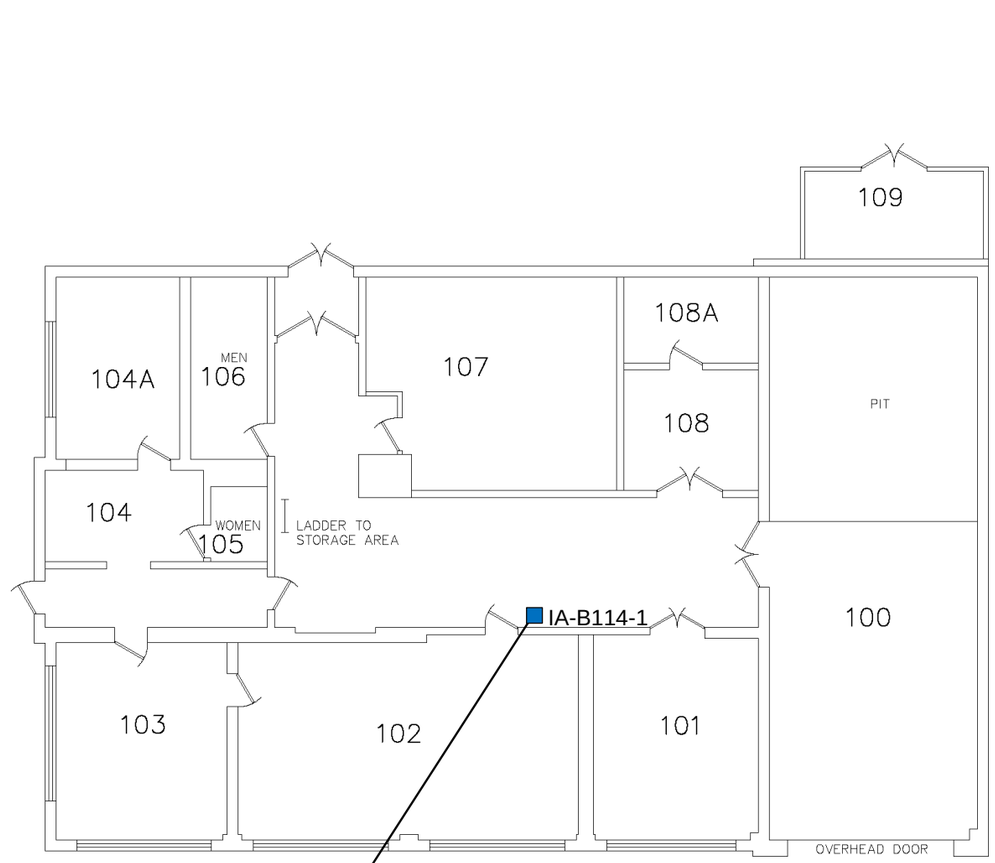
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

	Name	Date	Rev.	Date	Description
DRAWN	RNT	–			
CHECKED	EAG	6/23/07			
SUBMITTED	–	–	Scale: 3/32"=1'-0"		
CHIEF ENGINEERING DIVISION			Date: APRIL 2007		
DIRECTOR, ENGINEERING & HOUSING			Drawing Number		Sheet
			6003-25-3		3 OF 3

ARCADIS Design & Consultancy for natural and built assets

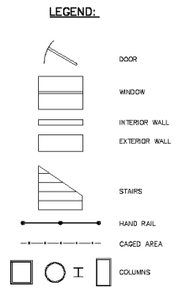
Figure 6-6
Indoor Air VOC Concentrations
Building 114 – Type A SSDS

Watervliet Arsenal
Watervliet, New York



Sample ID	IA-B114-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
1,1,1-Trichloroethane	0.65
Tetrachloroethene	0.48
Carbon Tetrachloride	0.37

NOT TO SCALE



BUILDING 114

WATERVLIET ARSENAL
WATERVLIET, NEW YORK

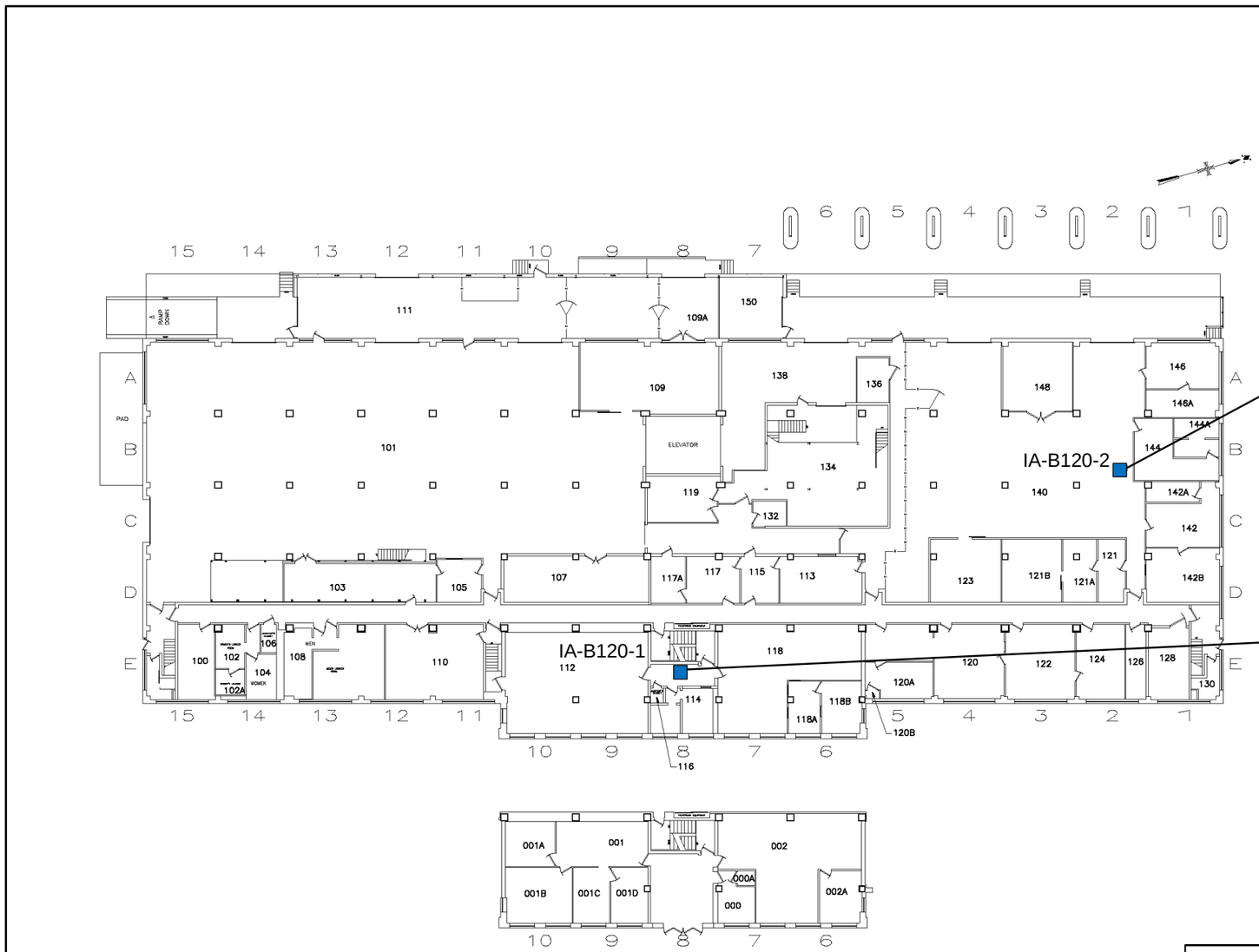
	Name	Date	Rev.	Date	Description
DRAWN	RNT	–			
CHECKED	EAG	6/22/07			
SUBMITTED	–	–	Scale: 1/4"=1'-0"		
			Date: APRIL 2007		
CHIEF ENGINEERING DIVISION			Drawing Number		Sheet
DIRECTOR, ENGINEERING & HOUSING			6010–114		1 OF 1

39675 WA2E3/None
User:Lewandowski Spec:PWRSE STANDARD File:\\ACAD\PROJ\ITSTV\WVA BLDGS\ BS-BUILT\DRAWINGS\3114-BY11.DWG Scale:1:1 Sheet:01/16/2008 Time:08:13 Layout:Layout1

ARCADIS Design & Consultancy for natural and built assets

Figure 6-7
Indoor Air VOC Concentrations
Building 120 Type C SSDS

Watervliet Arsenal
Watervliet, New York



BUILDING 120 – FIRST FLOOR "A"

Sample ID	IA-B120-2
Sample Date	11/27/2018
Units	µg/m³
COMPOUND	
Tetrachloroethene	240

Sample ID	IA-B120-1
Sample Date	11/27/2018
Units	µg/m³
COMPOUND	
Tetrachloroethene	9.6
Carbon Tetrachloride	0.37
1,2-Dichloroethane	0.23

LEGEND:
- DOOR
- WINDOW
- INTERIOR WALL
- EXTERIOR WALL
- STAIRS
- HAND RAIL
- CAGED AREA
- COLUMNS

NOT TO SCALE

BUILDING 120 – FIRST FLOOR

WATERVLIET ARSENAL
WATERVLIET, NEW YORK

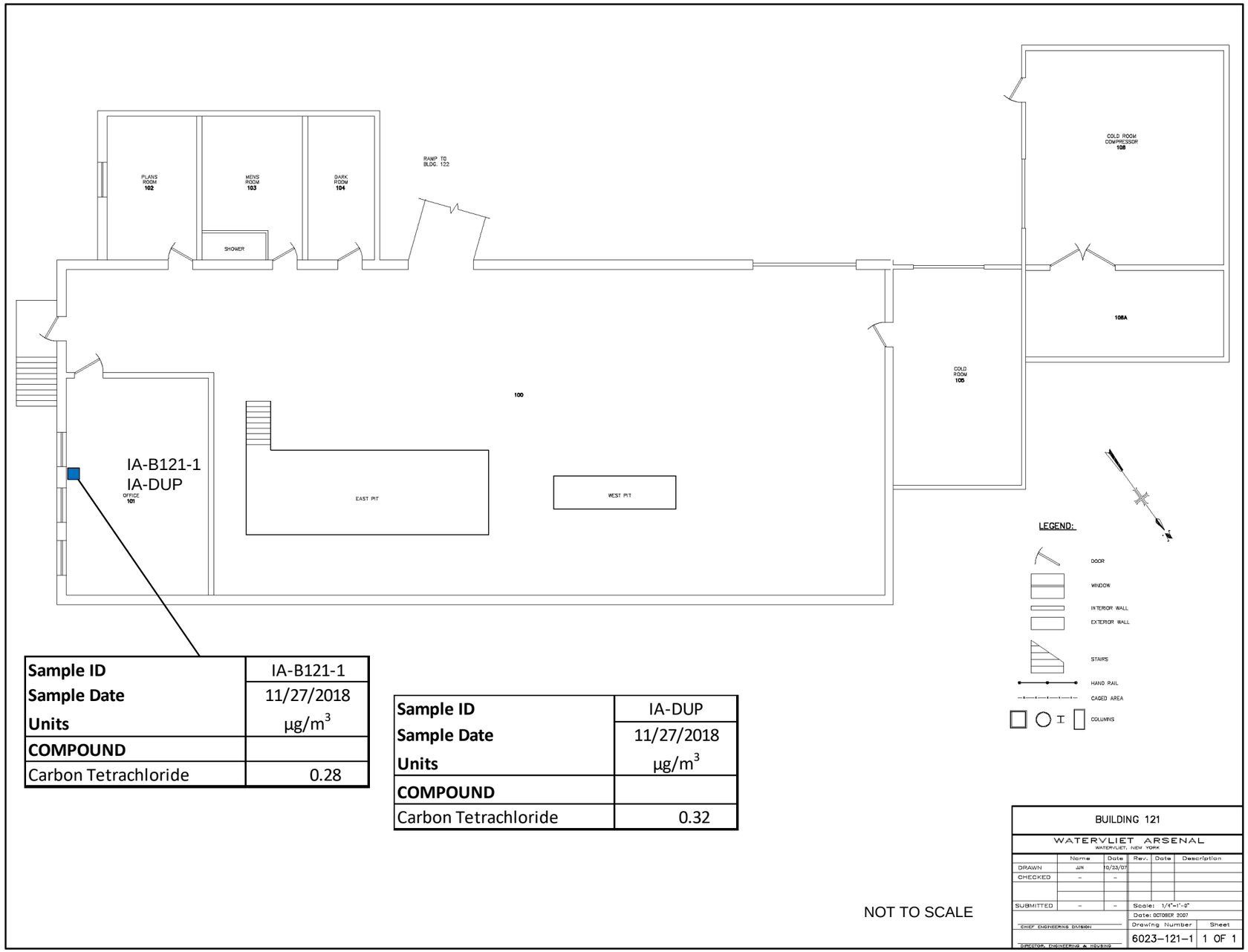
	Name	Date	Rev.	Date	Description
DRAWN	RMT	–			
CHECKED	EAG	6/22/07			
SUBMITTED	–	–	Scale: SCALE: 3/32"=1'-0"		
CHIEF, ENGINEERING DIVISION			Date: APRIL 2007		
DIRECTOR, ENGINEERING & HOUSING			Drawing Number: 6012-120-1		Sheet: 1 OF 3

XREFS: IMAGES.dwg
Users\emccowell Specified\BASE STANDARD Files\ACAD\FIRST\311FLWA BUILDING 40-BUILT\DRAWINGS\311B-B120-01.DWG Space:Tit Date:01/16/2008 Time:10:48 Layout:Layout2

ARCADIS Design & Consultancy for natural and built assets

Figure 6-8
Indoor Air VOC Concentrations
Building 121 – Type C SSDS

Watervliet Arsenal
Watervliet, New York



Sample ID	IA-B121-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Carbon Tetrachloride	0.28

Sample ID	IA-DUP
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Carbon Tetrachloride	0.32

NOT TO SCALE

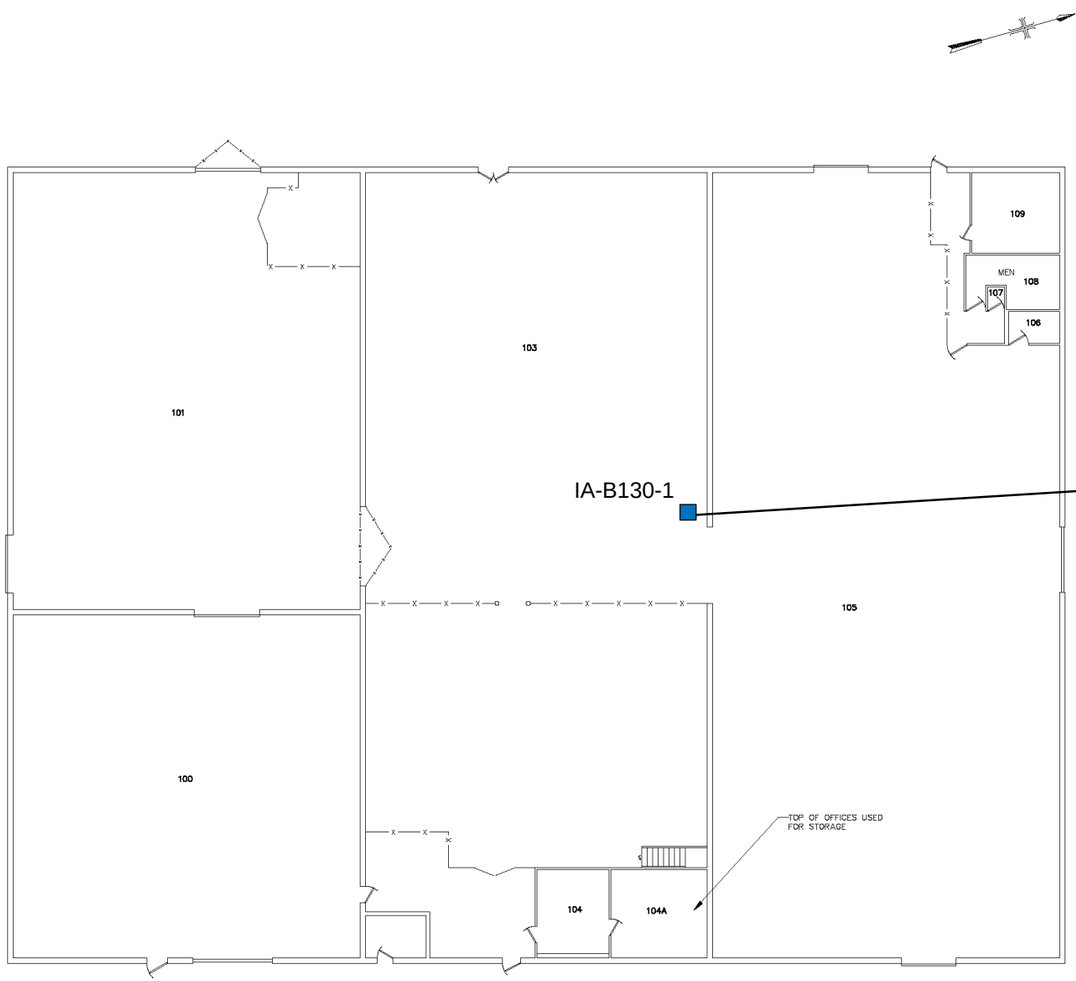
BUILDING 121
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

	Name	Date	Rev.	Date	Description
DRAWN	JJN	10/23/07			
CHECKED	–	–			
SUBMITTED	–	–	Scale: 1/4"=1'-0"		
			Date: OCTOBER 2007		
CHIEF ENGINEERING DIVISION			Drawing Number		Sheet
DIRECTOR, ENGINEERING & HOUSING			6023–121–1		1 OF 1

PRINTED: 10/23/07 by JJN
User: Lawrence.Spec.PWRE DRAWING File: \ACAD\PROJ\2197\WA BUILDING AS-BUILTS\DRAWINGS\2197B-B121.DWG Scale:1:1 Date:01/16/2008 Time:10:47 Layout:Layout1

Figure 6-9
Indoor Air VOC Concentrations
Building 130 – Type C SSDS

Watervliet Arsenal
Watervliet, New York



Sample ID	IA-B130-1
Sample Date	11/27/2018
Units	µg/m^3
COMPOUND	
Trichloroethene	0.25
Tetrachloroethene	0.56
Carbon Tetrachloride	0.34

LEGEND:

DOOR
WINDOW
INTERIOR WALL
EXTERIOR WALL
STAIRS
HAND RAIL
CAGED AREA
COLUMNS

NOT TO SCALE

BUILDING 130

WATERVLIET ARSENAL
WATERVLIET, NEW YORK

	Name	Date	Rev.	Date	Description
DRAWN	TAL	–			
CHECKED					
SUBMITTED	–	–	Scale: 1/8"=1'-0"		
			Date: DECEMBER 2007		
CHIEF ENGINEERING DIVISION			Drawing Number		Sheet
DIRECTOR, ENGINEERING & HOUSING			6026–130		1 OF 1

TABLES

Table 2-1
Long Term Monitoring Sampling Wells (Updated Feb 2018)
Main Manufacturing Area
Watervliet Arsenal, Watervliet, New York

Well	Area Monitored	Geologic Unit	VOCs	Metals	Frequency
83DM-SP-1	Building 25	Hybrid (a)	**X** (b)		
83DM-SP-3	WWTP	Bedrock	**X**	**X** (c)	
83DM-SP-4	WWTP	Bedrock	**X** (b)		
86EM-SP-1A	Building 25	Overburden	**X** (b)		
86EM-SP-1B	Building 25	Overburden	**X** (b)		
86EM-SP-5	Building 25	Overburden	**X** (b)		
86EM-SP-6	WWTP	Overburden	**X**	**X**	
92EM-SP-7	WWTP	Overburden	**X** (b)		
92EM-SP-8	WWTP	Overburden	**X** (b)		
93EM-SP-9	WVA boundary	Overburden	**X** (b)		
93EM-SP-11	Building 25	Overburden	**X** (b)		
93EM-SP-13	Building 135	Bedrock	**X** (b)		
94EM-MW-19	Building 15	Bedrock	**X**	**X**	
94EM-MW-20	Building 15	Bedrock	**X**	**X**	
94EM-MW-21	Building 15	Bedrock	**X**	**X**	
93EM-RW-2	Building 114	Bedrock	**X** (b)		
WVA-AW-25-MW-2	Building 25	Bedrock	**X** (b)		
WVA-AW-25-MW-3	Building 25	Overburden	**X** (b)		
WVA-AW-25-MW-5	Building 25	Hybrid (a)	**X** (b)		
WVA-AW-25-MW-6	Building 25	Overburden	**X** (b)		
WVA-AW-25-MW-7	Building 25	Bedrock	**X** (b)		
WVA-AW-35-MW-8	Building 35	Bedrock	**X** (b)		
WVA-AW-135-MW-4	Building 135	Bedrock			VOCs every 5 yrs. - Next in 2021
WVA-AW-MW-26	WVA boundary	Bedrock			VOCs every 5 yrs. - Next in 2021
WVA-AW-MW-27	WVA boundary	Overburden	**X** (b)		
WVA-AW-MW-32	WVA boundary	Weathered	**X** (b)		
WVA-AW-MW-35	Building 20	Bedrock	**X** (b)		
WVA-AW-MW-36	Building 20	Overburden	**X** (b)		
WVA-AW-MW-38	WVA boundary	Bedrock			VOCs every 5 yrs. - Next in 2021
WVA-AW-MW-43	Building 25	Overburden	**X** (b)		
WVA-AW-MW-44	Building 25	Overburden	**X** (b)		
WVA-AW-MW-47	WVA boundary	Weathered	**X** (b)		
WVA-AW-MW-52	Building 114	Bedrock	**X** (b)		
WVA-AW-MW-64	Building 114	Bedrock	**X** (b)		
B121-N	Building 121	Hybrid (a)	**X** (b)		
B121-S	Building 121	Hybrid (a)	**X** (b)		
WVA-AW-MW-BLD-110	Building 110	Bedrock	**X** (b)		
WVA-B35-PW-1	Building 110	Bedrock	**X** (b)		
WVA-MW-79	Building 40	Bedrock	**X** (b)		
WVA-MW-82R-1	Building 40	Bedrock	**X**		
WVA-MW-82R-2	Building 40	Bedrock	**X**		
WVA-MW-82R-3	Building 40	Bedrock	**X**		
WVA-MW-83-1	Building 40	Bedrock	**X**		
WVA-MW-83-2	Building 40	Bedrock	**X**		
WVA-MW-83-3	Building 40	Bedrock	**X**		
WVA-MW-84R-1	Building 40	Bedrock	**X**		
WVA-MW-84R-2	Building 40	Bedrock	**X**		
WVA-MW-84R-3	Building 40	Bedrock	**X**		
WVA-MW-85R-1	Building 40	Bedrock	**X**		
WVA-MW-85R-2	Building 40	Bedrock	**X**		
WVA-MW-85R-3	Building 40	Bedrock	**X**		
WVA-MW-86R-1	Building 40	Bedrock	**X**		
WVA-MW-86R-2	Building 40	Bedrock	**X**		
WVA-MW-86R-3	Building 40	Bedrock	**X**		

COMMENTS

Notes:
WWTP - Wastewater treatment plant.
(a) Overburden and weathered bedrock.
(b) Well sampled using passive diffusion bags.
(c) Chromium only.

Table 2-2
Long Term Monitoring Sampling Wells (updated Feb 2018)
Siberia Area
Watervliet Arsenal, Watervliet, New York

Well	Area Monitored	Geologic Unit	VOCs (b)
WVA-SA-MW-19R	WVA boundary	Overburden	**X** (b)
WVA-SA-MW-20	WVA boundary	Overburden	**X** (b)
WVA-SA-MW-23	WVA boundary	Bedrock	**X** (b)
WVA-SA-MW-32	Burn Pit	Overburden	**X** (b)
WVA-SA-MW-33	WVA boundary	Overburden	**X** (b)
WVA-SA-MW-34	WVA boundary	Bedrock	**X** (b)
WVA-SA-MW-38	WVA boundary	Weathered	**X** (b)
WVA-SA-MW-39	Burn Pit	Weathered	**X** (b)
WVA-SA-MW-41	Burn Pit	Bedrock	**X** (b)
WVA-SA-MW-60	Reactive Wall	Weathered	**X** (b)
WVA-SA-MW-70	Reactive Wall	Overburden	**X** (b)
WVA-SA-MW-78	Burn Pit	Bedrock	**X** (b)
WVA-SA-MW-79	Burn Pit	Bedrock	**X** (b)
WVA-SA-MW-80	Burn Pit	Bedrock	**X** (b)
WVA-SA-MW-81	Burn Pit	Bedrock	**X** (b)
WVA-SA-MW-82	Burn Pit	Bedrock	**X** (b)
WVA-SA-MW-83	Burn Pit	Bedrock	**X** (b)
WVA-SA-MW-84	Burn Pit	Bedrock	**X** (b)
WVA-SA-MW-EA-6	WVA boundary	Weathered	**X** (b)
WVA-SA-MW-ESE-6	WVA boundary	Overburden	**X** (b)
WVA-SA-STS-3	Sewer	Storm Sewer	**X**
WVA-SA-STS-5	Sewer	Storm Sewer	**X**
WVA-SA-STS-6	Sewer	Storm Sewer	**X**
WVA-SA-SNS-6	Sewer	Sanitary Sewer	**X**

COMMENTS

Notes:
(a) Overburden and weathered bedrock.
(b) Well sampled using passive diffusion bags.

Table 2-3
Summary of Incomplete Sampling Locations
2018 Long Term Monitoring
Watervliet Arsenal
Watervliet, New York

Monitoring Well	October 2018
Main Manufacturing Area	
93EM-SP-9	Well dry, no sample collected.
Siberia Area	
WVA-SA-MW-33	Well dry, no sample collected.

Table 3-1
Groundwater Sample Exceedances (VOCs) (2018)
Main Manufacturing Area
Watervliet Arsenal, Watervliet, New York

Well	Parameter	Result (µg/L)		NYSDEC GA Standard (µg/L)
86EM-SP-1A	Trichloroethene	6.6		5
93EM-RW-2	cis-1 2-Dichloroethene	65		5
	Tetrachloroethene	29		5
	Trichloroethene	58		5
94EM-MW-20	Tetrachloroethene	30		5
94EM-MW-21	Tetrachloroethene	44		5
WVA-AW-25-MW-2	1 1-Dichloroethane	9		5
	cis-1 2-Dichloroethene	6.1		5
WVA-AW-25-MW-3	cis-1 2-Dichloroethene	21		5
	Vinyl Chloride	4.8		2
WVA-AW-25-MW-6	Trichloroethene	27		5
WVA-AW-MW-35	cis-1 2-Dichloroethene	45		5
	Trichloroethene	40		5
WVA-AW-MW-47	cis-1 2-Dichloroethene	70		5
	Vinyl Chloride	3.8		2
WVA-AW-MW-64	cis-1 2-Dichloroethene	130		5
	Tetrachloroethene	200	D	5
	Trichloroethene	97		5
	Vinyl Chloride	23		2
WVA-MW-82R-1	cis-1 2-Dichloroethene	93		5
	Vinyl Chloride	31		2
WVA-MW-82R-2	cis-1 2-Dichloroethene	96		5
	Vinyl Chloride	33		2

Notes:

D - Dilution. Results obtained from analysis of a diluted sample.

E - Estimated. Concentration exceeds upper level of calibration range of instrument. For WVA-MW-84R-2, a dilution was run which resulted in a concentration of trans-1,2-Dichloroethene that was less than the new reporting limit. Therefore, the estimated (E) result is reported here.

Table 3-1
Groundwater Sample Exceedances (VOCs) (2018)
Main Manufacturing Area
Watervliet Arsenal, Watervliet, New York

Well	Parameter	Result (µg/L)		NYSDEC GA Standard (µg/L)
WVA-MW-83-1	1 1-Dichloroethene	10		5
	cis-1 2-Dichloroethene	3,900	D	5
	Tetrachloroethene	11,000	D	5
	trans-1 2-Dichloroethene	28		5
	Trichloroethene	3,900	D	5
	Vinyl Chloride	210		2
WVA-MW-83-2	cis-1 2-Dichloroethene	2,800		5
	Tetrachloroethene	27,000	D	5
	Trichloroethene	2,700		5
	Vinyl Chloride	250		2
WVA-MW-83-3	cis-1 2-Dichloroethene	140	D	5
	Vinyl Chloride	340	D	2
WVA-MW-84R-1	1 1-Dichloroethene	8.7		5
	cis-1 2-Dichloroethene	3,300	D	5
	Tetrachloroethene	300	D	5
	trans-1 2-Dichloroethene	24		5
	Trichloroethene	260	D	5
	Vinyl Chloride	420	D	2
WVA-MW-84R-2	1 1-Dichloroethene	72		5
	cis-1 2-Dichloroethene	26,000	D	5
	Tetrachloroethene	18,000	D	5
	trans-1 2-Dichloroethene	340	E	5
	Trichloroethene	7,700	D	5
	Vinyl Chloride	3,400	D	2
WVA-MW-84R-3	1 1-Dichloroethene	13		5
	cis-1 2-Dichloroethene	5,800	D	5
	Tetrachloroethene	270	D	5
	trans-1 2-Dichloroethene	75		5
	Trichloroethene	330	D	5
	Vinyl Chloride	3,200	D	2
WVA-MW-85R-1	Vinyl Chloride	3.4		2

Notes:

D - Dilution. Results obtained from analysis of a diluted sample.

E - Estimated. Concentration exceeds upper level of calibration range of instrument. For WVA-MW-84R-2, a dilution was run which resulted in a concentration of trans-1,2-Dichloroethene that was less than the new reporting limit. Therefore, the estimated (E) result is reported here.

Table 3-1
Groundwater Sample Exceedances (VOCs) (2018)
Main Manufacturing Area
Watervliet Arsenal, Watervliet, New York

Well	Parameter	Result (µg/L)		NYSDEC GA Standard (µg/L)
WVA-MW-85R-2	1 1-Dichloroethene	5.5		5
	cis-1 2-Dichloroethene	2,300	D	5
	Tetrachloroethene	1,600	D	5
	trans-1 2-Dichloroethene	19		5
	Trichloroethene	340	D	5
	Vinyl Chloride	580	D	2
WVA-MW-85R-3	1 1-Dichloroethene	6.9		5
	cis-1 2-Dichloroethene	2,400	D	5
	Tetrachloroethene	27,000	D	5
	trans-1 2-Dichloroethene	20		5
	Trichloroethene	1,300	D	5
	Vinyl Chloride	870	D	2
WVA-MW-86R-2	1 1-Dichloroethene	10		5
	cis-1 2-Dichloroethene	4,700	D	5
	Tetrachloroethene	26		5
	trans-1 2-Dichloroethene	54		5
	Trichloroethene	23		5
	Vinyl Chloride	2,600	D	2
WVA-MW-86R-3	cis-1 2-Dichloroethene	1,600	D	5
	Tetrachloroethene	390	D	5
	trans-1 2-Dichloroethene	34		5
	Trichloroethene	140	D	5
	Vinyl Chloride	440	D	2

Notes:

D - Dilution. Results obtained from analysis of a diluted sample.

E - Estimated. Concentration exceeds upper level of calibration range of instrument. For WVA-MW-84R-2, a dilution was run which resulted in a concentration of trans-1,2-Dichloroethene that was less than the new reporting limit. Therefore, the estimated (E) result is reported here.

Table 3-2
Groundwater Sample Exceedances (VOCs) (2018)
Siberia Area
Watervliet Arsenal, Watervliet, New York

Well	Parameter	Result (µg/L)	NYSDEC GA Standard (µg/L)
WVA-SA-MW-39	1 1-Dichloroethene	7.4	5
	Benzene	15	1
	cis-1 2-Dichloroethene	2,600 D	5
	Tetrachloroethene	140	5
	trans-1 2-Dichloroethene	17	5
	Trichloroethene	430	5
	Vinyl Chloride	940 D	2
WVA-SA-MW-78	Benzene	1.5	1
	cis-1 2-Dichloroethene	28	5
	Vinyl Chloride	39	2
WVA-SA-MW-79	Benzene	1.1	1
WVA-SA-MW-81	cis-1 2-Dichloroethene	28	5
	Vinyl Chloride	568 D	2
WVA-SA-MW-83	cis-1 2-Dichloroethene	5.8	5
	Vinyl Chloride	32	2
WVA-SA-MW-84	cis-1 2-Dichloroethene	340 D	5
	Vinyl Chloride	310 D	2
WVA-SA-SNS-6	Chloroform	18	7
	Tetrachloroethene	63	5
WVA-SA-STS-3	Tetrachloroethene	110	5
WVA-SA-STS-5	Tetrachloroethene	82	5

Table 3-3
Summary of Baseline Groundwater Data and Trigger Values
Long-Term Monitoring
Watervliet Arsenal, Watervliet, New York

Monitoring Well	Area Monitored	Contaminant	Baseline Data (a)				Trigger Concentration (b)
			Minimum Concentration (ug/l)	Maximum Concentration (ug/l)	Average Concentration (ug/)	Standard Deviation (ug/l)	(ug/l)
MW-82R-1	Building 40	Vinyl chloride	45	250	88	73	307
		cis-1,2 DCE	170	940	526	261	1,310
		TCE	20	480	177	141	599
		PCE	41	2,200	746	650	2,696
MW-82R-2	Building 40	Vinyl chloride	48	160	89	42	214
		cis-1,2 DCE	110	350	224	77	454
		TCE	1	10	4.7	4	17
		PCE	1	10	4.6	3.7	16
MW-82R-3	Building 40	Vinyl chloride	4.2	76	22	25	97
		cis-1,2 DCE	1.1	65	35	46	174
		TCE	2.5	2.5	2.3	0.4	4
		PCE	0.6	2.5	2.2	0.8	4
MW-83-1	Building 40	Vinyl chloride	120	1,000	396	307	1,318
		cis-1,2 DCE	4,300	6,000	5,278	626	7,156
		TCE	2,400	10,000	4,022	2,313	10,963
		PCE	6,100	29,000	10,078	7,320	32,039
MW-83-2	Building 40	Vinyl chloride	320	980	550	197	1,141
		cis-1,2 DCE	5,900	11,000	8,344	1,671	13,358
		TCE	960	5,300	3,473	1,530	8,064
		PCE	250	12,000	7,283	4,369	20,391
MW-83-3	Building 40	Vinyl chloride	49	670	320	203	928
		cis-1,2 DCE	1,300	6,350	2,979	1,659	7,955
		TCE	190	915	361	260	1,141
		PCE	410	2,600	943	776	3,272

Table 3-3
Summary of Baseline Groundwater Data and Trigger Values
Long-Term Monitoring
Watervliet Arsenal, Watervliet, New York

Monitoring Well	Area Monitored	Contaminant	Baseline Data (a)				Trigger Concentration (b)
			Minimum Concentration (ug/l)	Maximum Concentration (ug/l)	Average Concentration (ug/)	Standard Deviation (ug/l)	(ug/l)
MW-84R-1	Building 40	Vinyl chloride	125	1,200	436	365	1,530
		cis-1,2 DCE	3,300	9,200	6,810	1,962	12,696
		TCE	1,300	5,100	2,085	1,125	5,461
		PCE	940	6,900	2,834	1,974	8,756
MW-84R-2	Building 40	Vinyl chloride	440	5,000	1,560	1,527	6,141
		cis-1,2 DCE	5,100	11,000	8,550	2,217	15,202
		TCE	8,150	20,000	13,675	3,583	24,423
		PCE	47,000	75,000	59,000	9,006	86,019
MW-84R-3	Building 40	Vinyl chloride	380	1,900	872	480	2,311
		cis-1,2 DCE	6,600	21,000	10,717	4,240	23,438
		TCE	3,400	14,000	7,333	3,319	17,290
		PCE	3,800	20,500	12,967	5,334	28,968
MW-85R-1	Building 40	Vinyl chloride	4	130	53	41	175
		cis-1,2 DCE	2	1,400	346	466	1,743
		TCE	0.5	235	30	77	261
		PCE	0.5	950	109	315	1,055
MW-85R-2	Building 40	Vinyl chloride	3	230	125	92	399
		cis-1,2 DCE	88	3,500	2,261	1,025	5,335
		TCE	16	730	436	275	1,261
		PCE	43	2,600	1,451	979	4,388

Table 3-3
Summary of Baseline Groundwater Data and Trigger Values
Long-Term Monitoring
Watervliet Arsenal, Watervliet, New York

Monitoring Well	Area Monitored	Contaminant	Baseline Data (a)				Trigger Concentration (b)
			Minimum Concentration (ug/l)	Maximum Concentration (ug/l)	Average Concentration (ug/)	Standard Deviation (ug/l)	(ug/l)
MW-85R-3	Building 40	Vinyl chloride	510	1,900	834	439	2,150
		cis-1,2 DCE	120	4,100	2,719	1,136	6,126
		TCE	255	3,400	1,346	928	4,130
		PCE	100	32,000	23,200	11,366	57,299
MW-86R-1	Building 40	Vinyl chloride	11	89	36	27	118
		cis-1,2 DCE	26	850	321	275	1,146
		TCE	1	305	45	99	342
		PCE	1.1	1,200	142	397	1,333
MW-86R-2	Building 40	Vinyl chloride	19	91	39	21	102
		cis-1,2 DCE	390	1,400	1,054	322	2,021
		TCE	92	440	240	128	625
		PCE	290	5,350	1,684	1,660	6,665
MW-86R-3	Building 40	Vinyl chloride	28	1,200	575	357	1,647
		cis-1,2 DCE	2,150	8,400	5,594	2,113	11,934
		TCE	240	1,800	753	564	2,445
		PCE	330	6,900	2,036	2,161	8,520

Table 3-3
Summary of Baseline Groundwater Data and Trigger Values
Long-Term Monitoring
Watervliet Arsenal, Watervliet, New York

Monitoring Well	Area Monitored	Contaminant	Baseline Data (a)				Trigger Concentration (b)
			Minimum Concentration (ug/l)	Maximum Concentration (ug/l)	Average Concentration (ug/)	Standard Deviation (ug/l)	(ug/l)
83DM-SP-1	Building 25	Vinyl chloride	0.4	25	4.1	7.4	26
		cis-1,2 DCE	1.2	89	14.5	27.0	95
		TCE	3.6	76	16	21.7	81
		PCE	0.25	2.5	1.6	1.1	5
86EM-SP-1A	Building 25	Vinyl chloride	0.4	2.5	1.7	1.0	5
		cis-1,2 DCE	1.5	3.2	2.3	0.6	4
		TCE	8.2	15	11.5	2.2	18
		PCE	0.25	2.5	1.4	1.1	5
WVA-AW-25-MW-2	Building 25	Vinyl chloride	2.8	15	7.8	3.8	19
		cis-1,2 DCE	9.4	64	22.7	15.8	70
		TCE	6	75	21.8	20.7	84
		PCE	0.3	2.5	1.6	1.1	5
WVA-AW-25-MW-3	Building 25	Vinyl chloride	13	27	20.7	5	36
		cis-1,2 DCE	100	190	143	33	242
		TCE	16	170	81.9	52.4	239
		PCE	0.25	5	2.3	1.7	7
WVA-AW-25-MW-6	Building 25	Vinyl chloride	0.8	12.5	4.9	3.8	16
		cis-1,2 DCE	0.6	12.5	4.7	4.1	17
		TCE	250	360	287	37.4	399
		PCE	0.5	12.5	3.8	3.8	15
WVA-AW-25-MW-7	Building 25	Vinyl chloride	0.5	2.5	1.5	0.9	4
		cis-1,2 DCE	0.25	16	3	4.8	17
		TCE	0.25	4	1.8	1.3	6
		PCE	0.25	14	2.8	4.1	15

Table 3-3
Summary of Baseline Groundwater Data and Trigger Values
Long-Term Monitoring
Watervliet Arsenal, Watervliet, New York

Monitoring Well	Area Monitored	Contaminant	Baseline Data (a)				Trigger Concentration (b)
			Minimum Concentration (ug/l)	Maximum Concentration (ug/l)	Average Concentration (ug/)	Standard Deviation (ug/l)	(ug/l)
WVA-AW-MW-52	Building 114	Vinyl chloride	0.4	2.5	1.7	1	5
		cis-1,2 DCE	0.5	2	1.2	0.5	3
		TCE	2	3.1	2.4	0.4	4
		PCE	2.5	7.4	5.4	1.4	10
WVA-AW-MW-64	Building 114	Vinyl chloride	58	780	503.8	214.8	1,148
		cis-1,2 DCE	380	2,500	1,648	569.1	3,355
		TCE	300	2,200	1,350	464.9	2,745
		PCE	990	5,300	3,619	1,218.8	7,275

Notes:
(a) Building 40 Baseline data calculated from 10 monitoring events (August 2004 through May 2009).
Building 25 and 114 baseline data calculated from 10 monitoring events (May 2004 through June 2009).
(b) Proposed trigger set at the 99% confidence interval (average plus 3 times standard deviation).
ug/l - micrograms per liter
DCE - Dichloroethene
TCE - Trichloroethene
PCE - Tetrachloroethene

Table 4-1
Summary of 2018 SSDS Operational Parameters - Building 20
Watervliet Arsenal
Watervliet, New York

Date	Total Flow (cfm)	VFD Speed (%)	Vacuum (inches H_2O)	Run Time (hours)	Alarm	Pre-carbon PID (ppm)	Post-carbon PID (ppm)	Notes
1/24/2018	336	100	-85	63101.1	None	NM	NM	C2 Offline
2/15/2018	343	100	-85	63597.1	None	NM	NM	C2 Offline
3/21/2018	336	100	-85	64361.1	None	NM	NM	C2 Offline
4/12/2018	343	100	-86	64855.6	None	NM	NM	C2 Offline
5/22/2018	356	100	-86	64898.4	None	NM	NM	C2 Offline
6/5/2018	379	100	-86	65211.3	Yes	NM	NM	Blower Influent Flow High
7/9/2018	380	100	-85	65829.7	None	NM	NM	C2 Offline
8/8/2018	650	100	-86	65979.9	Yes	NM	NM	VFD at 44.7 on Arrival, Blower Influent Flow High High
9/26/2018	349	100	-89	67067.6	None	NM	NM	VFD at 44.6 on Arrival
11/26/2018	343	100	-90	68435.6	Yes	NM	NM	VFD at 44.6 on Arrival, Blower Influent Flow High High
12/20/2018	339	100	-89	68977.3	None	NM	NM	C2 offline

NM - Not Measured

Table 4-2
Summary of 2018 Type A SSDS Operational Parameters - Building 21
Watervliet Arsenal
Watervliet, New York

Date	Total Flow (cfm)	Vacuum (inches H_2O)	Run Time (hours)	Alarm	Pre-carbon PID (ppm)	Post-carbon PID (ppm)	Notes
1/24/2018	42	-29	57430	None	NM	NM	Carbon Bypassed
2/15/2018	41	-29	57925.9	None	NM	NM	Carbon Bypassed
3/21/2018	40	-30	58690	None	NM	NM	Carbon Bypassed
4/12/2018	42	-30	59184.5	None	NM	NM	Carbon Bypassed
5/22/2018	39	-30	60086	None	NM	NM	Carbon Bypassed
6/5/2018	40	-29	60398.4	None	NM	NM	At 44.9% on Arrival, Carbon Bypassed
7/9/2018	40	-30	61214.8	None	NM	NM	Carbon Bypassed
8/8/2018	39	-29	61837.1	Yes	NM	NM	At 44.9% on Arrival, Blower Influent Flow High HighCarbon Bypassed
9/26/2018	40	-30	62936.9	None	NM	NM	VFD at 44.8% on arrival, carbon bypassed
11/26/2018	105	-31	64310.9	None	NM	NM	Carbon Bypassed
12/20/2018	34	-35	64851.1	None	NM	NM	Carbon Bypassed

NM - Not Measured
(1) flow measured from extraction well

Table 4-3
Summary of 2018 SSDS Operational Parameters - Building 22
Watervliet Arsenal
Watervliet, New York

Date	Extraction Point	System On?	Vacuum (inches H_2O)	Total Flow (cfm)	Notes
1/24/2018	EW-1	Yes	-2.5	12.1	
	EW-2	Yes	-2	45.7	
2/15/2018	EW-1	Yes	-2.8	14.8	
	EW-2	Yes	-2	52.7	
3/21/2018	EW-1	Yes	-2.7	11.45	
	EW-2	Yes	-0.5	52.6	
4/12/2018	EW-1	Yes	-2.6	12.95	
	EW-2	Yes	-1.9	60.8	
5/22/2018	EW-1	Yes	-2.6	17.5	
	EW-2	Yes	-2	67.2	
6/5/2018	EW-1	Yes	-2.6	15.5	
	EW-2	Yes	-1.8	59.1	
7/9/2018	EW-1	Yes	-2.6	15.7	
	EW-2	Yes	-1.9	60.2	
8/8/2018	EW-1	Yes	-2.6	17.5	
	EW-2	Yes	-2	50.5	
9/26/2018	EW-1	Yes	-2.5	17.2	
	EW-2	Yes	-1.2	57.3	
11/26/2018	EW-1	Yes	-2.5	11.54	
	EW-2	Yes	-1.8	50.4	
12/20/2018	EW-1	Yes	-2.7	13.7	
	EW-2	Yes	-2.1	54.3	
	EW-1				
	EW-2				

NM - Not Measured

Table 4-4
Summary of 2018 SSDS Operational Parameters - Building 25
Watervliet Arsenal
Watervliet, New York

Date	Total Flow (cfm)	VFD Speed (%)	Vacuum (inches H_2O)	Run Time (hours)	Alarm	Pre-carbon PID (ppm)	Post-carbon PID (ppm)	Notes
1/24/2018	483	100	-24	61666.10	None	NM	NM	C2 Offline
2/15/2018	473	100	-24	62162.20	None	NM	NM	C2 Offline
3/21/2018	483	100	-25	62926.10	None	NM	NM	C2 Offline
4/12/2018	473	100	-26	63420.70	None	NM	NM	C2 Offline
5/22/2018	490	100	-24	63463.50	None	NM	NM	C2 Offline
6/5/2018	477	100	-24	63776.30	None	NM	NM	C2 Offline
7/9/2018	479	100	-24	64592.50	None	NM	NM	C2 Offline
8/8/2018	480	100	-24	65212.40	Yes	NM	NM	VFD at 46.1 on Arrival, Influent Flow Low, C2 Offline,
9/26/2018	483	100	-25	66300.10	Yes	NM	NM	VFD at 46.0 on Arrival, Influent Flow Low, C2 Offline,
11/26/2018	236	100	-26	67672.30	Yes	NM	NM	VFD at 46.0 on Arrival, Influent Flow Low, KO Tank High Level
12/20/2018	483	100	-27	68214.00	None	NM	NM	C2 Offline

NM - Not Measured

Table 4-5
Summary of 2018 SSDS Operational Parameters - Building 114
Watervliet Arsenal
Watervliet, New York

Date	Total Flow (cfm)	Vacuum (inches H_2O)	Run Time (hours)	Alarm	Pre-carbon PID (ppm)	Post-carbon PID (ppm)	Notes
1/14/2018	101	-7	56511	None	NM	NM	
2/15/2018	73	-7	57006.9	None	NM	NM	
3/21/2018	74	-7	57747.7	None	NM	NM	
4/12/2018	73	-7	58220.2	None	NM	NM	
5/22/2018	74	-7	58953.1	None	NM	NM	
6/5/2018	74	-7	59262.9	None	NM	NM	
7/9/2018	75	-7	60079.2	None	NM	NM	
8/8/2018	72	-7	60698.3	None	NM	NM	
9/26/2018	75	-7	61794.9	None	NM	NM	
11/26/2018	71	-6	63165.3	None	NM	NM	
12/20/2018	72	-6.5	63705.5	Yes	NM	NM	KO tank High Level Alarm - No water in KO Observed

NM - Not Measured
(1) Sum of flow measured at extraction wells

Table 4-6
Summary of 2018 SSDS Operational Parameters - Building 120
Watervliet Arsenal
Watervliet, New York

Date	Extraction Point	System On?	Vacuum (inches H_2O)	Total Flow (cfm)
1/24/2018	EW-1	Yes	<-10	8.93
	EW-2		<-10	20.2
2/15/2018	EW-1	Yes	<-10	6.57
	EW-2		<-10	21.4
3/21/2018	EW-1	Yes	<-10	4.96
	EW-2		<-10	19.6
4/12/2018	EW-1	Yes	<-10	33.9
	EW-2		<-10	20.1
5/22/2018	EW-1	Yes	<-10	10.4
	EW-2		<-10	20.9
6/5/2018	EW-1	Yes	<-10	9.03
	EW-2		<-10	19
7/9/2018	EW-1	Yes	<-10	9.35
	EW-2		<-10	20
8/8/2018	EW-1	Yes	<-10	22.3
	EW-2		<-10	16.7
9/25/2018	EW-1	Yes	<-10	19.6
	EW-2		<-10	16.3
11/26/2018	EW-1	Yes	<-10	8.1
	EW-2		<-10	13.5
12/20/2018	EW-1	Yes	<-10	8.64
	EW-2		<-10	15.8
	EW-1			
	EW-2			

NM - Not Measured, no anemometer

Table 4-7
Summary of 2018 SSDS Operational Parameters - Building 121
Watervliet Arsenal
Watervliet, New York

Date	System On?	Vacuum (inches H_2O)	Total Flow (cfm)	Notes
1/24/2018	Yes	-1.8	47.6	
2/15/2018	Yes	-1.8	53.4	
3/21/2018	Yes	-1.8	49.5	
4/12/2018	Yes	-1.7	50.4	
5/22/2018	Yes	-1.7	51.7	
6/5/2018	Yes	NM	NM	No Access
7/9/2018	Yes	-1.7	50.2	
8/8/2018	Yes	-1.6	53.4	
9/26/2018	Yes	-1.6	52.6	
11/26/2018	Yes	-1.8	52.7	
12/20/2018	Yes	-1.8	53.1	

NM - Not Measured

Table 4-8
Summary of 2018 SSDS Operational Parameters - Building 130
Watervliet Arsenal
Watervliet, New York

Date	System On?	Vacuum (inches H_2O)	Total Flow (cfm)	Notes
1/24/2018	Yes	-1.9	48.2	
2/15/2018	Yes	-1.8	52.9	
3/21/2018	Yes	-2	51.5	
4/12/2018	Yes	-1.9	53.8	
5/22/2018	Yes	-1.8	51.1	
6/5/2018	Yes	-1.8	44.9	
7/9/2018	Yes	-1.8	46.7	
8/8/2018	Yes	-1.8	50.6	
9/26/2018	Yes	-1.8	50.4	
11/26/2018	Yes	-2	46.3	
12/20/2018	Yes	-1.8	45.1	

NM - Not Measured

Table 5-1
SSDS Effluent Sample Results Summary
Buildings 20 and 25
Watervliet Arsenal
Watervliet, New York

Building	20								
Sample ID	B20-Pre-carbon Effluent	B20-Pre-carbon Effluent	B20-Pre-carbon Effluent	B20-Pre-carbon Effluent	B20-Pre-carbon Effluent	B20-Pre-carbon Effluent	B20-Pre-carbon Effluent	B20-Pre-carbon Effluent	B20-Pre-carbon Effluent
Sample Type									
Date	9/10/2010	3/30/2011	11/17/2011	10/4/2012	5/30/2013	12/16/2013	6/12/2014	10/30/2014	3/17/2015
Units	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3
VOCs (TO-15)									
Chloromethane	ND	ND	ND	ND	**0.32**	**0.21**	**0.27**	**0.44**	**0.35**
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	**0.053**	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	**0.24**	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	**0.47**	ND
cis-1,2-Dichloroethene	ND	ND	ND	**3.4**	**4.3**	**2.1**	**4.8**	**4.4**	**1.3**
1,1,1-Trichloroethane	**6.4**	ND	ND	ND	**2.2**	**1.6**	**1.9**	**37**	**0.83**
Carbon Tetrachloride	ND	ND	ND	ND	**0.63**	**0.82**	**0.63**	**0.38**	**0.57**
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**250**	**59**	**78**	**110**	**47**	**40**	**42**	**2.8**	**21**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**54**	**16**	**21**	**29**	**13**	**13**	**16**	ND	**7.1**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total CVOCs	**310**	**75**	**99**	**142**	**67**	**58**	**66**	**46**	**24**

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-1
SSDS Effluent Sample Results Summ
Buildings 20 and 25
Watervliet Arsenal
Watervliet, New York

Building	**20**		
Sample ID	**B20 Effluent**	**B20 Effluent**	**B20 Effluent**
Sample Type			
Date	**7/28/2016**	**12/14/2017**	**11/26/2018**
Units	**ug/m^3**	**ug/m^3**	**ug/m^3**
VOCs (TO-15)			
Chloromethane	ND	ND	ND
Vinyl Chloride	ND	ND	ND
Chloroethane	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND
cis-1,2-Dichloroethene	**3.3**	**1**	**0.78**
1,1,1-Trichloroethane	**2.2 J**	**0.86**	**0.89**
Carbon Tetrachloride	ND	**0.5**	**0.53**
1,2-Dichloroethane	ND	ND	ND
Trichloroethene	**77**	**27**	**35**
1,1,2-Trichloroethane	ND	ND	ND
Tetrachloroethene	**32**	**12**	**11**
Chlorobenzene	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Total CVOCs	**115**	**41**	**48**

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-1
SSDS Effluent Sample Results Summ
Buildings 20 and 25
Watervliet Arsenal
Watervliet, New York

Building	**25**								
Sample ID	**B25-Pre-carbon Effluent**	**B25-Pre-carbon Effluent**	**B25-Pre-carbon Effluent**	**B25-Pre-carbon Effluent**	**B25-Pre-carbon Effluent**	**B25-Pre-carbon Effluent**	**B25-Pre-carbon Effluent**	**B25-Pre-carbon Effluent**	**B25-Pre-carbon Effluent**
Sample Type									
Date	**8/12/2010**	**3/30/2011**	**11/17/2011**	**10/4/2012**	**5/30/2013**	**12/16/2013**	**6/12/2014**	**10/30/2014**	**3/17/2015**
Units	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**
VOCs (TO-15)									
Chloromethane	ND	ND	ND	ND	ND	**0.58**	**0.55**	**0.75**	**1.1**
Vinyl Chloride	ND	ND	ND	ND	ND	ND	**0.12**	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**23**	**23**	**4.2**	ND	**2.3**	**3**	**2.8**	**3**	**1.8**
1,1,1-Trichloroethane	**100**	**17**	**16**	**17**	**14**	**10**	**10**	**13**	**5.9**
Carbon Tetrachloride	ND	ND	ND	ND	ND	**0.96**	**0.67**	**0.79**	**0.6**
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**6,200**	**630**	**620**	**580**	**230**	**240**	**190**	**250**	**140**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**58**	**20**	**24**	**26**	**12**	**14**	**13**	**15**	**7.4**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total CVOCs	**6,381**	**690**	**664**	**623**	**258**	**269**	**217**	**283**	**157**

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-1
SSDS Effluent Sample Results Summ
Buildings 20 and 25
Watervliet Arsenal
Watervliet, New York

Building	**25**		
Sample ID	**B25 Effluent**	**B25 Effluent**	**B25 Effluent**
Sample Type			
Date	**7/28/2016**	**12/14/2017**	**11/26/2018**
Units	**ug/m^3**	**ug/m^3**	**ug/m^3**
VOCs (TO-15)			
Chloromethane	ND	ND	ND
Vinyl Chloride	ND	**0.067**	ND
Chloroethane	ND	ND	ND
1,1-Dichloroethene	ND	**0.17**	ND
trans-1,2-Dichloroethene	ND	ND	ND
1,1-Dichloroethane	ND	**0.25**	ND
cis-1,2-Dichloroethene	**6.1**	**6.5**	**3.1**
1,1,1-Trichloroethane	**14**	**6.8**	**7.1**
Carbon Tetrachloride	ND	**0.51**	**0.51**
1,2-Dichloroethane	ND	ND	ND
Trichloroethene	**330**	**140**	**170**
1,1,2-Trichloroethane	ND	ND	ND
Tetrachloroethene	**27**	**12**	**21**
Chlorobenzene	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Total CVOCs	**377**	**166**	**202**

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-1
SSDS Effluent Sample Results Summ
Buildings 20 and 25
Watervliet Arsenal
Watervliet, New York

Building	**20/25**								
Sample ID	**B25-Post-carbon Effluent**	**B20/25-Post-C Effluent**	**B20/25-Post-C Effluent**	**B25-Post-carbon Effluent**	**B25-Post-carbon Effluent**	**B25-Post-carbon Effluent**	**B20/B25-Post-carbon Effluent**	**B20/B25-Post-carbon Effluent**	**B20/B25-Post-carbon Effluent**
Sample Type									
Date	**8/12/2010**	**3/30/2011**	**11/17/2011**	**10/4/2012**	**5/30/2013**	**12/16/2013**	**6/12/2014**	**10/30/2014**	**3/17/2015**
Units	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**
VOCs (TO-15)									
Chloromethane	ND	ND	ND	ND	**7**	**0.37**	**0.65**	**0.23**	**0.62**
Vinyl Chloride	ND	ND	ND	ND	**0.21**	**0.063**	**0.064**	ND	ND
Chloroethane	ND	ND	ND	ND	**2.2**	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	**0.17**	**0.12**	**0.18**	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	**0.25**	**0.13**	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	**5.4**	ND	**4.6**	**3**	**2**	**2.2**	**1.8**
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	**8.7**	**11**	**1.8**	**0.44**
Carbon Tetrachloride	ND	ND	ND	ND	ND	**0.21**	ND	**0.44**	ND
1,2-Dichloroethane	ND	ND	ND	ND	**0.19**	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	**0.21**	**3**	**2.8**	**48**	**0.27**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	**1.2**	**17**	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND

Total CVOCs

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-2
SSDS Effluent Sample Results Summary
Building 21
Watervliet Arsenal
Watervliet, New York

Building	**21**						
Sample ID	**B21-Pre-carbon Effluent**	**B21-Pre-carbon Effluent**	**B21-Pre-carbon Effluent**	**B21-Pre-carbon Effluent**	**B21-Pre-carbon Effluent**	**B21-Pre-carbon Effluent**	**B21-Pre-carbon Effluent**
Sample Type							
Date	**8/12/2010**	**11/17/2011**	**10/4/2012**	**12/16/2013**	**6/12/2014**	**10/30/2014**	**3/17/2015**
Units	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**
VOCs (TO-15)							
Chloromethane	ND	ND	ND	**0.19**	**0.83**	**0.77**	**1.2**
Vinyl Chloride	ND	ND	ND	ND	**0.052**	**0.047**	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	**0.08**	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**44**	**17**	**44**	**19**	**27**	**15**	**0.4**
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	**0.71**	**0.61**	**0.42**	**0.49**
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**270**	**72**	**190**	**43**	**55**	**40**	**0.68**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**63**	**14**	**43**	**5.8**	**15**	**9.3**	**1**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Total CVOCs	**377**	**103**	**277**	**69**	**98**	**66**	**4**

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-2
SSDS Effluent Sample Results
Building 21
Watervliet Arsenal
Watervliet, New York

Building	**21**		
Sample ID	**B21**	**B21**	**B21**
Sample Type	**Effluent**	**Effluent**	**Effluent**
Date	**7/28/2016**	**12/14/2017**	
Units	**ug/m^3**	**ug/m^3**	**ug/m^3**
VOCs (TO-15)			
Chloromethane	ND	ND	ND
Vinyl Chloride	ND	ND	**0.042**
Chloroethane	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	**1**
1,1-Dichloroethane	ND	ND	ND
cis-1,2-Dichloroethene	**15**	**17**	**23**
1,1,1-Trichloroethane	ND	ND	ND
Carbon Tetrachloride	ND	**0.5**	**0.55**
1,2-Dichloroethane	ND	ND	ND
Trichloroethene	**49**	**30**	**44**
1,1,2-Trichloroethane	ND	ND	ND
Tetrachloroethene	**15**	**6.2**	**7.6**
Chlorobenzene	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Total CVOCs	**79**	**54**	**76**

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic me

Table 5-2
SSDS Effluent Sample Results
Building 21
Watervliet Arsenal
Watervliet, New York

Building	**21**					
Sample ID	**B21-Post-carbon**	**B21-Post-carbon**	**B21-Post-carbon**	**B21-Post-carbon**	**B21-Post-carbon**	**B21-Post-carbon**
Sample Type	**Effluent**	**Effluent**	**Effluent**	**Effluent**	**Effluent**	**Effluent**
Date	**8/12/2010**	**11/17/2011**	**10/4/2012**	**6/12/2014**	**10/30/2014**	**3/17/2015**
Units	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**
VOCs (TO-15)						
Chloromethane	**11**	ND	ND	**0.81**	**0.64**	**1**
Vinyl Chloride	ND	ND	ND	**0.064**	ND	**0.042**
Chloroethane	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	**0.1**	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	**8.2**	**34**	**16**	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	**0.52**
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	**1.2**
Chlorobenzene	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND
Total CVOCs						

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic me

Table 5-3
SSDS Effluent Sample Results Summary
Buildings 114
Watervliet Arsenal
Watervliet, New York

Building	**114**							
Sample ID	**B114-Pre-carbon Effluent**	**B114-Pre-carbon Effluent**	**B114-Pre-carbon Effluent**	**B114-Pre-carbon Effluent**	**B114-Pre-carbon Effluent**	**B114-Pre-carbon Effluent**	**B114-Pre-carbon Effluent**	**B114-Pre-carbon Effluent**
Sample Type								
Date	**8/12/2010**	**3/30/2011**	**11/17/2011**	**10/4/2012**	**5/30/2013**	**6/12/2014**	**10/30/2014**	**3/17/2015**
Units	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**	**ug/m^3**
VOCs (TO-15)								
Chloromethane	ND	ND	ND	ND	ND	ND	**0.38**	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	**1.1**
cis-1,2-Dichloroethene	ND	**49**	**38**	**47**	**41**	**45**	**27**	**26**
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	**1.2**	ND	**2.4**
Carbon Tetrachloride	ND	ND	ND	ND	**1.7**	**2**	ND	**1.2**
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	**6.3**
Trichloroethene	**6**	**580**	**620**	**560**	**370**	**340**	**290**	**180**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**7.1**	**1,700**	**1,800**	**1,700**	**1,000**	**1,200**	**810**	**500**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Total CVOCs	**13.1**	**2,329**	**2,458**	**2,307**	**1,411**	**1,588**	**1,127**	**717**

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-3
SSDS Effluent Sample Results Summary
Buildings 114
Watervliet Arsenal
Watervliet, New York

Building	**114**		
Sample ID	**B114**	**B114**	**B114**
Sample Type	**Effluent**	**Effluent**	**Effluent**
Date	**7/28/2016**	**12/14/2017**	**11/26/2018**
Units	**ug/m^3**	**ug/m^3**	**ug/m3**
VOCs (TO-15)			11/26/2018
Chloromethane	ND	ND	ND
Vinyl Chloride	ND	ND	ND
Chloroethane	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND
cis-1,2-Dichloroethene	**26**	**26**	**22**
1,1,1-Trichloroethane	**4.4**	ND	ND
Carbon Tetrachloride	**2.2 J**	**1.2**	ND
1,2-Dichloroethane	ND	ND	ND
Trichloroethene	**440**	**180**	**200**
1,1,2-Trichloroethane	ND	ND	ND
Tetrachloroethene	**1,400**	**600**	**590**
Chlorobenzene	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND
Total CVOCs	**1,873**	**807**	**812**

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-3
SSDS Effluent Sample Results Summary
Buildings 114
Watervliet Arsenal
Watervliet, New York

Building	114							
Sample ID	B114-Post-carbon Effluent	B114-Post-carbon Effluent	B114-Post-carbon Effluent	B114-Post-carbon Effluent	B114-Post-carbon Effluent	B114-Post-carbon Effluent	B114-Post-carbon Effluent	B114-Post-carbon Effluent
Sample Type								
Date	8/12/2010	3/30/2011	11/17/2011	10/4/2012	5/30/2013	6/12/2014	10/30/2014	3/17/2015
Units	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3
VOCs (TO-15)								
Chloromethane	ND	ND	ND	ND	**0.26**	ND	**0.38**	ND
Vinyl Chloride	ND	ND	ND	ND	**0.084**	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	**6.9**	ND	**53**	**16**	**2.3**	**22**	**37**
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	**0.96**
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	**6.4**
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	**4.1**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**6.6**	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Total CVOCs								

Notes:
ND - Compound not detected
ug/m^3 - micrograms per cubic meter

Table 5-4
VOC Mass Removal Summary - Building 20
Watervliet Arsenal
Watervliet, New York

Building 20 Flow Rates (cfm)

Date / **Extraction Well**	**9/10/10**	**3/30/11**	**11/17/11**	**10/4/12**	**5/30/13**	**12/16/13**	**6/12/14**	**10/30/14**	**3/17/15**	**7/28/16**	**12/14/17**	**11/26/18**
EW-1	185	177	160	168	177	180	156	150	172	172	160	159
EW-2	85	117	87	106	109	130	80	82	84	110.5	73.7	68
EW-3	84	90	89	92	98	93	90	87	92	97.2	89.1	96.9
Flow Rate for Mass Removal Calculation*	**118**	**128**	**112**	**122**	**128**	**134**	**109**	**106**	**116**	**127**	**108**	**108**

Building 20 Mass Removal (lb/year)**

Date / **SSDS Flow Rate (cfm)**	**9/10/10** **118**	**3/30/11** **128**	**11/17/11** **112**	**10/4/12** **122**	**5/30/13** **128**	**12/16/13** **134**	**6/12/14** **109**	**10/30/14** **106**	**3/17/15** **116**	**7/28/16** **127**	**12/14/17** **108**	**11/26/18** **108**
Chloromethane	ND	ND	ND	ND	**0.001**	**0.001**	**0.001**	**0.002**	**0.001**	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	**0.0002**	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	**0.001**	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	**0.002**	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	**0.01**	**0.018**	**0.009**	**0.017**	**0.016**	**0.005**	**0.012**	**0.004**	**0.003**
1,1,1-Trichloroethane	**0.025**	ND	ND	ND	**0.009**	**0.007**	**0.007**	**0.132**	**0.003**	**0.008**	**0.003**	**0.003**
Carbon Tetrachloride	ND	ND	ND	ND	**0.003**	**0.004**	**0.002**	**0.001**	**0.002**	ND	**0.002**	**0.002**
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**0.97**	**0.25**	**0.29**	**0.44**	**0.197**	**0.176**	**0.149**	**0.010**	**0.080**	**0.271**	**0.095**	**0.123**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**0.21**	**0.07**	**0.08**	**0.12**	**0.054**	**0.057**	**0.057**	ND	**0.03**	**0.113**	**0.042**	**0.039**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total CVOC Mass Removal	**1.20**	**0.31**	**0.36**	**0.57**	**0.28**	**0.25**	**0.23**	**0.16**	**0.12**	**0.40**	**0.15**	**0.17**

Notes:
* Per NYSDEC, calculated as sum of flow rates divided by the number of extraction wells
** Calculated based on pre-carbon effluent concentrations
SSDS - sub-slab depressurization system
ND - compound not detected
ug/m^3 - micrograms per cubic meter
lb/year- pounds per year
cfm - cubic feet per minute

Conversion Factors:
2.2 E-09 lb/ug
0.0283 m^3/ft^3
525,600 min/year

Table 5-5
VOC Mass Removal Summary - Building 21
Watervliet Arsenal
Watervliet, New York

Building 21 Flow Rates (cfm)

Date	**8/12/10**	**11/17/11**	**10/4/12**	**12/16/13**	**6/12/14**	**10/30/14**	**3/17/15**	**7/28/16**	**12/14/17**	**11/26/18**
Extraction Well										
EW-1	43	26	38	27	45	46	35	9.03	9.57	11.90
Flow Rate for Mass Removal Calculation*	**43**	**26**	**38**	**27**	**45**	**46**	**35**	**9.03**	**9.57**	**11.90**

Building 21 Mass Removal (lb/year)**

Date	**8/12/10**	**11/17/11**	**10/4/12**	**12/16/13**	**6/12/14**	**10/30/14**	**3/17/15**	**7/28/16**	**12/14/17**	**11/26/18**
SSDS Flow Rate (cfm)	**43**	**26**	**38**	**27**	**45**	**46**	**35**	**9.03**	**9.57**	**11.90**
Chloromethane	ND	ND	ND	**0.0002**	**0.0012**	**0.0011**	**0.0014**	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	**0.0001**	**0.0001**	ND	ND	ND	**0.0000**
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0003**
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**0.062**	**0.014**	**0.055**	**0.017**	**0.040**	**0.0221**	**0.0005**	**0.0044**	**0.0050**	**0.0068**
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	**0.001**	**0.001**	**0.0006**	**0.0006**	ND	ND	**0.0002**
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**0.380**	**0.061**	**0.236**	**0.038**	**0.081**	**0.0589**	**0.0008**	**0.0145**	**0.0089**	**0.0130**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**0.089**	**0.012**	**0.053**	**0.005**	**0.022**	**0.0137**	**0.0011**	**0.0044**	**0.0018**	**0.0022**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total CVOC Mass Removal	**0.53**	**0.09**	**0.34**	**0.06**	**0.14**	**0.10**	**0.0043**	**0.0233**	**0.0157**	**0.0225**

Notes:
* Per NYSDEC, calculated as sum of flow rates divided by the number of extraction wells
** Calculated based on pre-carbon effluent concentrations
SSDS - sub-slab depressurization system
ND - compound not detected
ug/m^3 - micrograms per cubic meter
lb/year- pounds per year
cfm - cubic feet per minute

Conversion Factors:
2.2 E-09 lb/ug
0.0283 m^3/ft^3
525,600 min/year

Table 5-6
VOC Mass Removal Summary - Building 25
Watervliet Arsenal
Watervliet, New York

Building 25 Flow Rates (cfm)

Date	**8/12/10**	**3/30/11**	**11/17/11**	**10/4/12**	**5/30/13**	**12/16/13**	**6/12/14**	**10/30/14**	**3/17/15**	**7/28/16**	**12/14/17**	**11/26/18**
Extraction Well												
EW-1	162	196	222	129	142	148	134	141	149	168.5	190	197.5
EW-2	117	125	86	149	150	174	160	159	173	185.5	219	235
EW-3	115	56	21	153	152	150	125	126	109	87.0	38.7	22.4
EW-4	148	177	186	114	126	110	100	102	105	98.5	68.8	58.8
Flow Rate for Mass Removal Calculation*	**136**	**139**	**129**	**136**	**143**	**146**	**130**	**132**	**134**	**135**	**129**	**128**

Building 25 Mass Removal (lb/year)**

Date	**8/12/10**	**3/30/11**	**11/17/11**	**10/4/12**	**5/30/13**	**12/16/13**	**6/12/14**	**10/30/14**	**3/17/15**	**7/28/16**	**12/14/17**	**11/26/18**
SSDS Flow Rate (cfm)	**136**	**139**	**129**	**136**	**143**	**146**	**130**	**132**	**134**	**135**	**129**	**128**
Chloromethane	ND	ND	ND	ND	ND	**0.003**	**0.002**	**0.003**	**0.005**	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	ND	**0.000**	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.001**	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.001**	ND
cis-1,2-Dichloroethene	**0.1**	**0.1**	**0.02**	ND	**0.011**	**0.014**	**0.012**	**0.013**	**0.008**	**0.029**	**0.027**	**0.013**
1,1,1-Trichloroethane	**0.4**	**0.1**	**0.1**	**0.1**	**0.065**	**0.048**	**0.042**	**0.055**	**0.026**	**0.030**	**0.029**	**0.030**
Carbon Tetrachloride	ND	ND	ND	ND	ND	**0.005**	**0.003**	**0.003**	**0.003**	ND	**0.002**	**0.002**
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**27.5**	**2.9**	**2.6**	**2.6**	**1.073**	**1.143**	**0.807**	**1.061**	**0.614**	**0.618**	**0.592**	**0.718**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**0.3**	**0.1**	**0.1**	**0.1**	**0.056**	**0.067**	**0.055**	**0.064**	**0.032**	**0.053**	**0.051**	**0.089**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total CVOC Mass Removal	**28.3**	**3.1**	**2.8**	**2.8**	**1.2**	**1.3**	**0.9**	**1.2**	**0.7**	**0.7**	**0.7**	**0.9**

Notes:
* Per NYSDEC, calculated as sum of flow rates divided by the number of extraction wells
** Calculated based on pre-carbon effluent concentrations
SSDS - sub-slab depressurization system
ND - compound not detected
ug/m^3 - micrograms per cubic meter
lb/year- pounds per year
cfm - cubic feet per minute

Conversion Factors:
2.2 E-09 lb/ug
0.0283 m^3/ft^3
525,600 min/year

Table 5-7
VOC Mass Removal Summary - Building 114
Watervliet Arsenal
Watervliet, New York

Building 114 Flow Rates (cfm)

Date	**8/12/10**	**3/30/11*** **	**11/17/11**	**10/4/12**	**5/30/13**	**6/12/14**	**10/30/14**	**3/17/15**	**7/28/16**	**12/14/17**	**11/26/18**
Extraction Well											
EW-1	69	64	58	65	60	32	48	55	43	55	58
EW-2	21	22	23	22	30	30	28	31	31	20	22
Flow Rate for Mass Removal Calculation*	**45**	**43**	**40.5**	**43.5**	**45**	**31**	**37.75**	**43**	**36.8**	**37.5**	**39.6**

Building 114 Mass Removal (lb/year)**

Date	**8/12/10**	**3/30/11**	**11/17/11**	**10/4/12**	**5/30/13**	**6/12/14**	**10/30/14**	**3/17/15**	**7/28/16**	**12/14/17**	**11/26/18**
SSDS Flow Rate (cfm)	**45**	**43**	**40.5**	**43.5**	**45**	**31**	**37.75**	**43**	**36.8**	**37.5**	**39.6**
Chloromethane	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	**0.002**	ND	ND	ND
cis-1,2-Dichloroethene	ND	**0.069**	**0.050**	**0.067**	**0.066**	**0.046**	**0.03**	**0.04**	**0.03**	**0.03**	**0.03**
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	**0.001**	ND	**0.003**	**0.01**	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	**0.003**	**0.002**	ND	**0.002**	**0.003**	**0.001**	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	**0.009**	ND	ND	ND
Trichloroethene	**0.009**	**0.816**	**0.822**	**0.797**	**0.545**	**0.345**	**0.358**	**0.253**	**0.53**	**0.22**	**0.24**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	**0.010**	**2.39**	**2.39**	**2.42**	**1.47**	**1.22**	**1.001**	**0.704**	**1.69**	**0.72**	**0.71**
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total CVOC Mass Removal	**0.02**	**3.3**	**3.3**	**3.3**	**2.1**	**1.6**	**1.4**	**1.0**	**2.3**	**1.0**	**1.0**

Notes:
* Per NYSDEC, calculated as sum of flow rates divided by the number of extraction wells
** Calculated based on pre-carbon effluent concentrations
*** No access to extraction wells - flow rates from 2/24/2011 site inspection.
****11/14/13 flow rates and 10/4/12 analytical used for calculations.
SSDS - sub-slab depressurization system
ND - compound not detected
ug/m^3 - micrograms per cubic meter
lb/year- pounds per year
cfm - cubic feet per minute

Conversion Factors:
2.2 E-09 lb/ug
0.0283 m^3/ft^3
525,600 min/year

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 25								
Sample ID	IA-B25-1	IA-B25-1	IA-B25-1	IA-B25-1	IA-B25-1	IA-B25-1	IA-B25-1	IA-B25-1	IA-B25-1
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	2.06	1.68	1.75	1.76	1.67	1.29	1.77	1.73	1.76
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.053 U	0.043 U	0.045 UJ	0.045 U	0.043 U	0.033 U	0.045 U	0.044 U	0.045 U
Trichloroethene	0.22 U	0.18 U	0.19 U	0.19 U	0.18 U	0.35	0.2	6.4	2.3
trans-1,2-Dichloroethene	0.82 U	0.67 U	0.69 U	0.7 U	0.66 U	0.51 U	0.7 U	0.68 U	0.7 U
Tetrachloroethene	0.28 U	0.31	0.24 U	0.24 U	0.23 U	0.59	0.24 U	0.23 U	0.24 U
cis-1,2-Dichloroethene	0.3	0.13 U	0.14 U	0.14 U	0.13 U	0.1 U	0.14 U	0.14 U	0.14 U
Chloromethane	1	0.93	0.97	0.98	1.4	0.95	0.95	1.8 U	1.8 U
Chloroethane	0.27 U	0.22 U	0.23 U	0.23 U	0.22 U	0.17 U	0.23 U	0.23 U	0.23 U
Chlorobenzene	0.19 U	0.15 U	0.16 U	0.16 U	0.15 U	0.12 U	0.16 U	0.16 U	0.81 U
Carbon Tetrachloride	0.42	0.44	0.62	0.47	0.44	0.42	0.42	0.38	0.51
1,2-Dichloroethane	0.17 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13	0.14 U	0.14 U	0.17
1,1-Dichloroethene	0.082 U	0.067 U	0.069 U	0.07 U	0.066 U	0.056	0.07 U	0.068 U	0.07 U
1,1-Dichloroethane	0.17 U	0.14 U	0.14 U	0.14 U	0.14 U	0.1 U	0.14 U	0.14 U	0.14 U
1,1,2-Trichloroethane	0.22 U	0.18 U	0.19 U	0.19 U	0.18 U	0.14 U	0.19 U	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	0.28 U	0.23 U	0.24 U	0.24 U	0.23 U	0.18 U	0.24 U	0.24 U	0.24 U
1,1,1-Trichloroethane	0.22 U	0.18 U	0.19 U	0.19 U	0.18 U	0.14 U	0.19 U	0.19 U	0.19 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 25								
Sample ID	IA-B25-2	IA-B25-2	IA-B25-2	IA-B25-2	IA-B25-2	IA-B25-2	IA-B25-2	IA-B25-2	IA-B25-2
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.79	1.68	1.79	1.65	1.79	1.41	1.67	1.53	1.67
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.046 U	0.043 U	0.046 UJ	0.042 U	0.046 U	0.036 U	0.043 U	0.039 U	0.043 U
Trichloroethene	0.25	0.18 U	0.19 U	2.7	0.25	0.54	0.59	0.45	10
trans-1,2-Dichloroethene	0.71 U	0.67 U	0.71 U	0.65 U	0.71 U	0.56 U	0.66 U	0.61 U	0.66 U
Tetrachloroethene	0.24 U	0.33	0.24 U	0.22 U	0.24 U	0.35	0.23 U	0.21 U	0.23 U
cis-1,2-Dichloroethene	0.14 U	0.13 U	0.14 U	0.13 U	0.14 U	0.11 U	0.13 U	0.12 U	0.13 U
Chloromethane	1.2	0.91	1.1	0.98	1.4	0.96	0.95	1.6 U	1.7 U
Chloroethane	0.24 U	0.22 U	0.24 U	0.22 U	0.24 U	0.19 U	0.22 U	0.2 U	0.22 U
Chlorobenzene	0.16 U	0.15 U	0.16 U	0.15 U	0.16 U	0.13 U	0.15 U	0.14 U	0.77 U
Carbon Tetrachloride	0.44	0.47	0.76	0.42	0.94	0.42	0.4	0.46	0.52
1,2-Dichloroethane	0.14 U	0.14 U	0.18	0.13 U	0.14 U	0.11 U	0.14 U	0.12 U	0.14
1,1-Dichloroethene	0.071 U	0.067 U	0.071 U	0.065 U	0.071 U	0.071	0.066 U	0.061 U	0.066 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.11 U	0.14 U	0.12 U	0.14 U
1,1,2-Trichloroethane	0.2 U	0.18 U	0.2 U	0.18 U	0.2 U	0.15 U	0.18 U	0.17 U	0.18 U
1,1,2,2-Tetrachloroethane	0.24 U	0.23 U	0.24 U	0.23 U	0.24 U	0.19 U	0.23 U	0.21 U	0.23 U
1,1,1-Trichloroethane	0.2 U	0.18 U	0.2 U	0.18 U	0.2 U	0.15 U	0.18 U	0.17 U	0.18 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 25								
Sample ID	IA-B25-3	IA-B25-3	IA-B25-3	IA-B25-3	IA-B25-3	IA-B25-3	IA-B25-3	IA-B25-3	IA-B25-3
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.68	1.75	1.79	1.66	1.77	1.31	1.59	1.72	1.68
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.043 U	0.045 U	0.046 UJ	0.042 U	0.045 U	0.033 U	0.041 U	0.044 U	0.043 U
Trichloroethene	0.22	0.19 U	0.19 U	0.83	0.2	0.44	0.36	0.28	4.3
trans-1,2-Dichloroethene	0.67 U	0.69 U	0.71 U	0.66 U	0.7 U	0.52 U	0.63 U	0.68 U	0.67 U
Tetrachloroethene	0.24	0.47	0.24 U	0.22 U	0.24 U	0.55	0.22 U	0.23 U	0.23 U
cis-1,2-Dichloroethene	0.13 U	0.14 U	0.14 U	0.13 U	0.14 U	0.1 U	0.13 U	0.14 U	0.13 U
Chloromethane	1.1	0.87	1	0.92	1.7	1.2	1	1.8 U	1.7 U
Chloroethane	0.22 U	0.23 U	0.24 U	0.22 U	0.23 U	0.17 U	0.21 U	0.23 U	0.22 U
Chlorobenzene	0.15 U	0.16 U	0.16 U	0.15 U	0.16 U	0.12 U	0.15 U	0.16 U	0.77 U
Carbon Tetrachloride	0.43	0.49	0.59	0.4	0.87	0.42	0.43	0.46	0.52
1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.11 U	0.13 U	0.14 U	0.14 U
1,1-Dichloroethene	0.067 U	0.069 U	0.071 U	0.066 U	0.07 U	0.076	0.063 U	0.068 U	0.067 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.11 U	0.13 U	0.14 U	0.14 U
1,1,2-Trichloroethane	0.18 U	0.19 U	0.2 U	0.18 U	0.19 U	0.14 U	0.17 U	0.19 U	0.18 U
1,1,2,2-Tetrachloroethane	0.23 U	0.24 U	0.24 U	0.23 U	0.24 U	0.18 U	0.22 U	0.24 U	0.23 U
1,1,1-Trichloroethane	0.18 U	0.19 U	0.2 U	0.18 U	0.19 U	0.14 U	0.17 U	0.19 U	0.18 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 25								
Sample ID	IA-B25-4	IA-B25-4	IA-B25-4	IA-B25-4	IA-B25-4	IA-B25-4	IA-B25-4	IA-B25-4	IA-B25-4
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.79	1.75	1.91	1.55	1.77	1.34	1.66	1.5	1.68
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.046 U	0.045 U	0.049 UJ	0.04 U	0.045 U	0.034 U	0.042 U	0.038 U	0.043 U
Trichloroethene	0.19 U	0.19 U	0.2 U	0.17 U	0.19 U	0.2	0.18 U	0.17	0.49
trans-1,2-Dichloroethene	0.71 U	0.69 U	0.76 U	0.61 U	0.7 U	0.53 U	0.66 U	0.59 U	0.67 U
Tetrachloroethene	0.24 U	0.32	0.26 U	0.21 U	0.24 U	0.4	0.22 U	0.2 U	0.23 U
cis-1,2-Dichloroethene	0.14 U	0.14 U	0.15 U	0.12 U	0.14 U	0.11 U	0.13 U	0.12 U	0.13 U
Chloromethane	1.2	0.91	1.2	0.88	1.2	0.95	1	1.5 U	1.8
Chloroethane	0.24 U	0.23 U	0.25 U	0.2 U	0.23 U	0.18 U	0.22 U	0.2 U	0.22 U
Chlorobenzene	0.16 U	0.16 U	0.18 U	0.14 U	0.16 U	0.12 U	0.15 U	0.14 U	0.77 U
Carbon Tetrachloride	0.45	0.5	0.64	0.49	0.27	0.34	0.4	0.45	0.51
1,2-Dichloroethane	0.14 U	0.14 U	0.15 U	0.12 U	0.14 U	0.11 U	0.13 U	0.12 U	0.14 U
1,1-Dichloroethene	0.071 U	0.069 U	0.076 U	0.061 U	0.07 U	0.054	0.066 U	0.059 U	0.067 U
1,1-Dichloroethane	0.14 U	0.14 U	0.15 U	0.12 U	0.14 U	0.11 U	0.13 U	0.12 U	0.14 U
1,1,2-Trichloroethane	0.2 U	0.19 U	0.21 U	0.17 U	0.19 U	0.15 U	0.18 U	0.16 U	0.18 U
1,1,2,2-Tetrachloroethane	0.24 U	0.24 U	0.26 U	0.21 U	0.24 U	0.18 U	0.23 U	0.2 U	0.23 U
1,1,1-Trichloroethane	0.2 U	0.19 U	0.21 U	0.17 U	0.19 U	0.15 U	0.18 U	0.16 U	0.18 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 25								
Sample ID	IA-B25-5	IA-B25-5	IA-B25-5	IA-B25-5	IA-B25-5	IA-B25-5	IA-B25-5	IA-B25-5	IA-B25-5
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.79	1.79	1.75	1.66	1.79	1.43	1.65	1.63	1.64
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.046 U	0.046 U	0.045 UJ	0.042 U	0.046 U	0.036 U	0.042 U	0.042 U	0.042 U
Trichloroethene	0.19 U	0.19 U	0.19 U	0.98	0.25	3.1	0.84	0.77	7.3
trans-1,2-Dichloroethene	0.71 U	0.71 U	0.69 U	0.66 U	0.71 U	0.57 U	0.65 U	0.65 U	0.65 U
Tetrachloroethene	0.24 U	0.43	0.24 U	0.22 U	1.3	0.29	0.22 U	0.22 U	0.22 U
cis-1,2-Dichloroethene	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.11 U	0.13 U	0.13 U	0.13 U
Chloromethane	1	0.85	0.99	0.98	1.2	0.94	0.96	1.7 U	1.7 U
Chloroethane	0.24 U	0.24 U	0.23 U	0.22 U	0.24 U	0.19 U	0.22 U	0.22 U	0.22 U
Chlorobenzene	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U	0.13 U	0.15 U	0.15 U	0.76 U
Carbon Tetrachloride	0.46	0.46	0.52	0.53	1.6	0.34	0.42	0.46	0.53
1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.12 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethene	0.071 U	0.071 U	0.069 U	0.066 U	0.071 U	0.075	0.065 U	0.065 U	0.065 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.12 U	0.13 U	0.13 U	0.13 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.19 U	0.18 U	0.2 U	0.16 U	0.18 U	0.18 U	0.18 U
1,1,2,2-Tetrachloroethane	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.2 U	0.23 U	0.22 U	0.22 U
1,1,1-Trichloroethane	0.2 U	0.2 U	0.19 U	0.18 U	0.2 U	0.16 U	0.18 U	0.18 U	0.18 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 20								
Sample ID	IA-B20-1	IA-B20-1	IA-B20-1	IA-B20-1	IA-B20-1	IA-B20-1	IA-B20-1	IA-B20-1	IA-B20-1
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.75	1.68	1.87	1.71	2.15	1.71	1.52	1.66	1.67
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.045 U	0.043 U	0.048 UJ	0.044 U	0.055 U	0.044 U	0.039 U	0.042 U	0.043 U
Trichloroethene	0.19 U	0.18 U	0.2 U	0.18 U	0.23 U	0.18 U	0.16 U	0.18 U	0.18 U
trans-1,2-Dichloroethene	0.69 U	0.67 U	0.74 U	0.68 U	0.85 U	0.68 U	0.6 U	0.66 U	0.66 U
Tetrachloroethene	0.24 U	0.23 U	0.25 U	0.23 U	0.29 U	0.24	0.21 U	0.22 U	0.23 U
cis-1,2-Dichloroethene	0.14 U	0.13 U	0.15 U	0.14 U	0.17 U	0.14 U	0.12 U	0.13 U	0.13 U
Chloromethane	1.1	0.89	0.96	1.2	1.5	1.0	0.98	1.7 U	1.7 U
Chloroethane	0.23 U	0.22 U	0.25 U	0.22 U	0.28 U	0.22 U	0.2 U	0.22 U	0.22 U
Chlorobenzene	0.16 U	0.15 U	0.17 U	0.16 U	0.2 U	0.16 U	0.14 U	0.15 U	0.77 U
Carbon Tetrachloride	0.41	0.35	0.28	0.43	0.54	0.37	0.43	0.46	0.51
1,2-Dichloroethane	0.14 U	0.14 U	0.15 U	0.14	0.17 U	0.14 U	0.12 U	0.13 U	0.14 U
1,1-Dichloroethene	0.069 U	0.067 U	0.074 U	0.068 U	0.085 U	0.078	0.06 U	0.066 U	0.066 U
1,1-Dichloroethane	0.14 U	0.14 U	0.15 U	0.14 U	0.17 U	0.14 U	0.12 U	0.13 U	0.14 U
1,1,2-Trichloroethane	0.19 U	0.18 U	0.2 U	0.19 U	0.23 U	0.19 U	0.16 U	0.18 U	0.18 U
1,1,2,2-Tetrachloroethane	0.24 U	0.23 U	0.26 U	0.23 U	0.3 U	0.23 U	0.21 U	0.23 U	0.23 U
1,1,1-Trichloroethane	0.19 U	0.18 U	0.2 U	0.19 U	0.23 U	0.19 U	0.16 U	0.18 U	0.18 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 22								
Sample ID	IA-B22-1	IA-B22-1	IA-B22-1	IA-B22-1	IA-B22-1	IA-B22-1	IA-B22-1	IA-B22-1	IA-B22-1
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.75	1.68	1.61	1.62	1.73	1.29	1.76	--	1.58
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.3	0.043 U	0.041 U	0.041 U	0.044 U	0.033 U	0.045 UJ	NS	0.04 U
Trichloroethene	0.19 U	0.18 U	0.17 U	0.17 U	0.18 U	0.14 U	0.19 UJ	NS	0.17 U
trans-1,2-Dichloroethene	0.69 U	0.67 U	0.64 U	0.64 U	0.68 U	0.51 U	0.7 UJ	NS	0.63 U
Tetrachloroethene	0.25	0.31	0.22 U	0.22	0.23 U	0.29	0.74 J	NS	0.28
cis-1,2-Dichloroethene	1.1	0.13 U	0.13 U	0.13 U	0.14 U	0.1 U	0.14 UJ	NS	0.12 U
Chloromethane	1.1	0.9	1.4	1.1	1.2	1.1	0.98 J	NS	1.7
Chloroethane	0.23 U	0.22 U	0.21 U	0.21 U	0.23 U	0.17 U	0.23 UJ	NS	0.21 U
Chlorobenzene	0.16 U	0.15 U	0.15 U	0.15 U	0.16 U	0.12 U	0.16 UJ	NS	0.73 U
Carbon Tetrachloride	0.4	0.47	0.62	0.46	0.46	0.42	0.43 J	NS	0.54
1,2-Dichloroethane	0.14 U	0.14 U	0.26	0.74	0.14 U	0.13	0.48 J	NS	0.15
1,1-Dichloroethene	0.069 U	0.067 U	0.064 U	0.064 U	0.068 U	0.051 U	0.07 UJ	NS	0.063 U
1,1-Dichloroethane	0.14 U	0.14 U	0.13 U	0.13 U	0.14 U	0.1 U	0.14 UJ	NS	0.13 U
1,1,2-Trichloroethane	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.14 U	0.19 UJ	NS	0.17 U
1,1,2,2-Tetrachloroethane	0.24 U	0.23 U	0.22 U	0.22 U	0.24 U	0.18 U	0.24 UJ	NS	0.22 U
1,1,1-Trichloroethane	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.14 U	0.19 UJ	NS	0.17 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 22								
Sample ID	IA-B22-2	IA-B22-2	IA-B22-2	IA-B22-2	IA-B22-2	IA-B22-2	IA-B22-2	IA-B22-2	IA-B22-2
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.75	1.71	1.68		1.73	1.37	1.62	--	1.67
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.045 U	0.044 U	0.043 U	0.042 U	0.044 U	0.035 U	0.041 U	NS	0.043 U
Trichloroethene	0.19 U	0.18 U	0.18 U	0.18 U	0.18 U	0.15 U	0.17 U	NS	0.20
trans-1,2-Dichloroethene	0.69 U	0.68 U	0.67 U	0.65 U	0.68 U	0.54 U	0.64 U	NS	0.66 U
Tetrachloroethene	0.3	0.23 U	0.23 U	0.22 U	0.27	0.4	0.22 U	NS	0.59
cis-1,2-Dichloroethene	0.14 U	0.14 U	0.13 U	0.13 U	0.14 U	0.11 U	0.13 U	NS	0.13 U
Chloromethane	1.1	0.82	1.2	1.7	1.4	1.0	1.1	NS	1.7 U
Chloroethane	0.23 U	0.22 U	0.22 U	0.22 U	0.23 U	0.18 U	0.21 U	NS	0.22 U
Chlorobenzene	0.16 U	0.16 U	0.15 U	0.15 U	0.16 U	0.13 U	0.15 U	NS	0.77 U
Carbon Tetrachloride	0.43	0.22 U	0.75	0.63	0.49	0.45	0.43	NS	0.53
1,2-Dichloroethane	0.14 U	0.14 U	0.49	0.27	0.36	0.25	0.13 U	NS	0.29
1,1-Dichloroethene	0.069 U	0.068 U	0.067 U	0.065 U	0.068 U	0.054 U	0.064 U	NS	0.066 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.11 U	0.13 U	NS	0.14 U
1,1,2-Trichloroethane	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.15 U	0.18 U	NS	0.18 U
1,1,2,2-Tetrachloroethane	0.24 U	0.23 U	0.23 U	0.23 U	0.24 U	0.19 U	0.22 U	NS	0.23 U
1,1,1-Trichloroethane	0.33	0.19 U	0.19	0.18 U	0.19 U	0.15 U	0.18 U	NS	0.18 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 15								
Sample ID	IA-B15-1	IA-B15-1	IA-B15-1	IA-B15-1	IA-B15-1	IA-B15-1	IA-B15-1	IA-B15-1	IA-B15-1
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	2.12	1.64	1.75	1.66	2.05	1.28	1.43	1.69	1.78
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.054 U	0.042 U	0.045 UJ	0.042 U	0.052 U	0.033 U	0.036 U	0.043 U	0.046 U
Trichloroethene	0.23 U	0.18 U	0.19 U	0.18 U	1.7	0.14 U	0.15 U	0.18 U	1.6
trans-1,2-Dichloroethene	0.84 U	0.65 U	0.69 U	0.66 U	0.81 U	0.51 U	0.57 U	0.67 U	0.7 U
Tetrachloroethene	0.29 U	0.22 U	0.24 U	0.59	1.4	7.4	0.27	0.25	0.24 U
cis-1,2-Dichloroethene	0.17 U	0.13 U	0.14 U	0.13 U	0.16 U	0.1 U	0.11 U	0.13 U	0.14 U
Chloromethane	1.8	0.86	0.98	1	1.2	0.94	0.88	1.7 U	1.8 U
Chloroethane	0.28 U	0.22 U	0.23 U	0.22 U	0.27 U	0.17 U	0.19 U	0.22 U	0.23 U
Chlorobenzene	0.2 U	0.15 U	0.16 U	0.15 U	0.19 U	0.12 U	0.13 U	0.16 U	0.82 U
Carbon Tetrachloride	0.43	0.5	0.81	0.43	0.5	0.41	0.39	0.35	0.51
1,2-Dichloroethane	0.17 U	0.13 U	0.14 U	0.13 U	0.16 U	0.1 U	0.12 U	0.14 U	0.14 U
1,1-Dichloroethene	0.084 U	0.065 U	0.069 U	0.066 U	0.081 U	0.055	0.057 U	0.067 U	0.07 U
1,1-Dichloroethane	0.17 U	0.13 U	0.14 U	0.13 U	0.16 U	0.1 U	0.12 U	0.14 U	0.14 U
1,1,2-Trichloroethane	0.23 U	0.18 U	0.19 U	0.18 U	0.22 U	0.14 U	0.16 U	0.18 U	0.19 U
1,1,2,2-Tetrachloroethane	0.29 U	0.22 U	0.24 U	0.23 U	0.28 U	0.18 U	0.2 U	0.23 U	0.24 U
1,1,1-Trichloroethane	0.23 U	0.18 U	0.19 U	0.18 U	0.31	0.14 U	0.16 U	0.18 U	0.19 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 15								
Sample ID	IA-B15-2	IA-B15-2	IA-B15-2	IA-B15-2	IA-B15-2	IA-B15-2	IA-B15-2	IA-B15-2	IA-B15-2
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.58	1.71	1.75	1.71	1.85	1.68	1.3	1.66	1.71
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.04 U	0.044 U	0.045 UJ	0.44 U	0.047 U	0.043 U	0.033 U	0.042 U	0.044 U
Trichloroethene	0.51	0.18 U	0.19 U	1.8 U	0.93	0.18 U	0.15	0.18 U	0.93
trans-1,2-Dichloroethene	0.63 U	0.68 U	0.69 U	6.8 U	0.73 U	0.67 U	0.52 U	0.66 U	0.68 U
Tetrachloroethene	16	0.23 U	0.24 U	2.3 U	0.47	70	0.23	0.22 U	0.23 U
cis-1,2-Dichloroethene	0.12 U	0.14 U	0.14 U	1.4 U	0.15 U	0.13 U	0.1 U	0.13 U	0.14 U
Chloromethane	1.6	0.92	1.2	1.8 U	1.2	1.1	0.87	1.7 U	1.8 U
Chloroethane	0.21 U	0.22 U	0.23 U	2.2 U	0.24 U	0.22 U	0.17 U	0.22 U	0.22 U
Chlorobenzene	0.14 U	0.16 U	0.16 U	1.6 U	0.17 U	0.15 U	0.12 U	0.46	0.79 U
Carbon Tetrachloride	0.42	0.48	0.78	2.2 U	0.41	0.4	0.41	0.41	0.52
1,2-Dichloroethane	0.14	0.14 U	0.14 U	1.4 U	0.15 U	0.14 U	0.1 U	0.13 U	0.14 U
1,1-Dichloroethene	0.063 U	0.068 U	0.069 U	0.68 U	0.073 U	0.066 J	0.052 U	0.066 U	0.068 U
1,1-Dichloroethane	0.13 U	0.14 U	0.14 U	1.4 U	0.15 U	0.14 U	0.1 U	0.13 U	0.14 U
1,1,2-Trichloroethane	0.17 U	0.19 U	0.19 U	1.9 U	0.2 U	0.18 U	0.14 U	0.18 U	0.19 U
1,1,2,2-Tetrachloroethane	0.22 U	0.23 U	0.24 U	2.3 U	0.25 U	0.23 U	0.18 U	0.23 U	0.23 U
1,1,1-Trichloroethane	0.17 U	0.19 U	0.19 U	1.9 U	0.2 U	0.18 U	0.14 U	0.18 U	0.19 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	**Building 21**						
Sample ID	IA-B21-1	IA-B21-1	IA-B21-1	IA-B21-1	IA-B21-1	IA-B21-1	IA-B21-1
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	12/16/2014	11/24/2015
Dilution	1.52	1.71	1.68	1.73	1.87	1.41	1.6
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND							
Vinyl Chloride	0.039 U	0.044 U	0.043 U	0.044 U	0.048 U	0.036 U	0.041 U
Trichloroethene	0.52	0.18 U	0.18 U	0.18 U	0.2 U	0.25	0.17 U
trans-1,2-Dichloroethene	0.6 U	0.68 U	0.67 U	0.68 U	0.74 U	0.56 U	0.63 U
Tetrachloroethene	0.31	0.23 U	0.23 U	0.23 U	0.25 U	0.22	0.83
cis-1,2-Dichloroethene	0.12 U	0.14 U	0.13 U	0.14 U	0.15 U	0.11 U	0.13 U
Chloromethane	1.5	0.78	0.93	1.1	1.7	1.2	0.96
Chloroethane	0.2 U	0.22 U	0.22 U	0.23 U	0.25 U	0.19 U	0.21 U
Chlorobenzene	0.14 U	0.16 U	0.15 U	0.16 U	0.17 U	0.13 U	0.15 U
Carbon Tetrachloride	0.43	0.43	0.55	0.43	0.55	0.52	0.44
1,2-Dichloroethane	0.12 U	0.14 U	0.14 U	0.14 U	0.15 U	0.15	0.13 U
1,1-Dichloroethene	0.06 U	0.068 U	0.067 U	0.068 U	0.074 U	0.056 U	0.072
1,1-Dichloroethane	0.12 U	0.14 U	0.14 U	0.14 U	0.15 U	0.11 U	0.13 U
1,1,2-Trichloroethane	0.16 U	0.19 U	0.18 U	0.19 U	0.2 U	0.15 U	0.17 U
1,1,2,2-Tetrachloroethane	0.21 U	0.23 U	0.23 U	0.24 U	0.26 U	0.19 U	0.22 U
1,1,1-Trichloroethane	0.16 U	0.19 U	0.18 U	0.19 U	0.2 U	0.15 U	0.17 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	**Building 21**					
Sample ID	IA-B21-1	IA-B21-1	AA-B21-1	AA-B21-1	AA-B21-1	AA-B21-1
Sample Date	12/15/2017	11/27/2018	12/16/2014	11/24/2015	12/15/2017	11/27/2018
Dilution	1.58	1.85	1.5	1.48	1.4	1.54
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND						
Vinyl Chloride	0.04 U	0.047 U	0.038 U	0.038 U	0.036 U	0.039 U
Trichloroethene	0.17 U	0.2 U	0.16	0.16 U	0.22	0.16 U
trans-1,2-Dichloroethene	0.63 U	0.73 U	0.59 U	0.59 U	0.56 U	0.61 U
Tetrachloroethene	0.28	0.25 U	0.2 U	0.62	0.27	0.21 U
cis-1,2-Dichloroethene	0.12 U	0.15 U	0.12 U	0.12 U	0.11 U	0.12 U
Chloromethane	1.6 U	1.9 U	1.5	1.0	1.4 U	1.6 U
Chloroethane	0.21 U	0.24 U	0.2 U	0.2 U	0.18 U	0.2 U
Chlorobenzene	0.14 U	0.85 U	0.14 U	0.14 U	0.13 U	0.71 U
Carbon Tetrachloride	0.45	0.39	0.56	0.38	0.46	0.39
1,2-Dichloroethane	0.13 U	0.15 U	0.12 U	0.12 U	0.14	0.12 U
1,1-Dichloroethene	0.063 U	0.073 U	0.059 U	0.059 U	0.056 U	0.061 U
1,1-Dichloroethane	0.13 U	0.15 U	0.12 U	0.12 U	0.11 U	0.12 U
1,1,2-Trichloroethane	0.17 U	0.2 U	0.16 U	0.16 U	0.15 U	0.17 U
1,1,2,2-Tetrachloroethane	0.22 U	0.25 U	0.2 U	0.2 U	0.19 U	0.21 U
1,1,1-Trichloroethane	0.17 U	0.2 U	0.16 U	0.16 U	0.15 U	0.17 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	**Building 21**							
Sample ID	IA-B21-2	IA-B21-2	IA-B21-2	IA-B21-2	IA-B21-2	*IA-B21-2 Duplicate*	IA-B21-2	*IA-B21-2 Duplicate*
Sample Date	3/31/2010	11/21/2011	12/6/2012	12/16/2013	3/25/2014	3/25/2014	4/2/2014	4/2/2014
Dilution	1.68	1.71	1.71	1.60	1.93	1.88	1.90	
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND								
Vinyl Chloride	0.043 U	0.044 U	0.044 UJ	0.041 U	0.049 U	0.048 U	0.048 U	0.046 U
Trichloroethene	0.18 U	0.18 U	0.18 U	0.17 U	0.21 U	0.2 U	0.2 U	0.19 U
trans-1,2-Dichloroethene	0.67 U	0.68 U	0.68 U	0.63 U	0.76 U	0.74 U	0.75 U	0.7 U
Tetrachloroethene	0.23 U	0.23 U	0.23 U	0.22 U	0.26 U	0.26 U	0.26 U	0.34
cis-1,2-Dichloroethene	0.13 U	0.14 U	0.14 U	0.13 U	0.15 U	0.15 U	0.15 U	0.14 U
Chloromethane	1.6	0.85	1.2	1	2.1	2.1	0.94	1.3
Chloroethane	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.25 U	0.25 U	0.23 U
Chlorobenzene	0.15 U	0.16 U	0.16 U	0.15 U	0.18 U	0.17 U	0.17 U	0.16 U
Carbon Tetrachloride	0.42	0.52	0.54	0.5	0.25	0.43	0.51	0.55
1,2-Dichloroethane	0.14 U	0.14 U	0.15	0.13 U	0.16 U	0.15 U	0.15 U	0.14 U
1,1-Dichloroethene	0.067 U	0.068 U	0.068 U	0.063 U	0.076 U	0.074 U	0.075 U	0.07 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.13 U	0.16 U	0.15 U	0.15 U	0.14 U
1,1,2-Trichloroethane	0.18 U	0.19 U	0.19 U	0.17 U	0.21 U	0.2 U	0.21 U	0.19 U
1,1,2,2-Tetrachloroethane	0.23 U	0.23 U	0.23 U	0.22 U	0.26 U	0.26 U	0.26 U	0.24 U
1,1,1-Trichloroethane	0.18 U	0.19 U	0.19 U	0.17 U	0.21 U	0.2 U	0.21 U	0.19 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	**Building 21**					
Sample ID	IA-B21-2	IA-B21-2	IA-B21-2	IA-B21-2	IA-B21-2	IA-B21-2
Sample Date	11/24/2014	12/16/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.73	1.68	1.73	1.68	1.50	1.82
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND						
Vinyl Chloride	0.044 U	0.043 U	0.044 U	0.043 U	0.038 U	0.046 U
Trichloroethene	0.18 U	0.18 U	0.22	0.18 U	0.16 U	0.19
trans-1,2-Dichloroethene	0.68 U	0.67 U	0.68 U	0.67 U	0.59 U	0.72 U
Tetrachloroethene	0.23 U	0.23 U	0.42	0.23 U	0.21	0.34
cis-1,2-Dichloroethene	0.14 U	0.13 U	0.14 U	0.13 U	0.12 U	0.14 U
Chloromethane	1.4	1.2	1.0	0.95	1.5 U	1.9 U
Chloroethane	0.23 U	0.22 U	0.23 U	0.22 U	0.2 U	0.24 U
Chlorobenzene	0.16 U	0.15 U	0.16 U	0.15 U	0.14 U	0.84 U
Carbon Tetrachloride	0.44	0.49	0.41	0.38	0.46	0.4
1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U	0.15 U
1,1-Dichloroethene	0.068 U	0.067 U	0.068 U	0.067 U	0.059 U	0.072 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U	0.15 U
1,1,2-Trichloroethane	0.19 U	0.18 U	0.19 U	0.18 U	0.16 U	0.2 U
1,1,2,2-Tetrachloroethane	0.24 U	0.23 U	0.24 U	0.23 U	0.2 U	0.25 U
1,1,1-Trichloroethane	0.19 U	0.18 U	0.19 U	0.18 U	0.16 U	0.2 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 120								
Sample ID	IA-B120-1	IA-B120-1	IA-B120-1	IA-B120-1	IA-B120-1	IA-B120-1	IA-B120-1	IA-B120-1	IA-B120-1
Sample Date	4/1/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.75	1.71	1.61	1.72	1.71	1.5	1.74	1.59	1.77
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.045 U	0.044 U	0.041 U	0.044 U	0.044 U	0.038 U	0.044 U	0.041 U	0.045 U
Trichloroethene	0.19 U	0.18 U	0.17 U	0.18 U	0.65	0.32	0.19 U	0.17 U	0.19 U
trans-1,2-Dichloroethene	0.69 U	0.68 U	0.64 U	0.68 U	14	0.59 U	0.69 U	0.63 U	0.7 U
Tetrachloroethene	0.24 U	0.23 U	0.22 U	0.23 U	1.6	0.53	0.24 U	3.7	9.6
cis-1,2-Dichloroethene	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.12 U	0.14 U	0.13 U	0.14 U
Chloromethane	1.7	0.86	1.2	1.2	1.4	0.96	0.99	1.6 U	1.8 U
Chloroethane	0.23 U	0.22 U	0.21 U	0.23 U	0.22 U	0.2 U	0.23 U	0.21 U	0.23 U
Chlorobenzene	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U	0.14 U	0.16 U	0.15 U	0.81 U
Carbon Tetrachloride	0.45	0.49	0.64	0.43	0.44	0.41	0.41	0.48	0.37
1,2-Dichloroethane	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.12 U	0.14 U	0.13 U	0.23
1,1-Dichloroethene	0.069 U	0.068 U	0.064 U	0.068 U	0.068 U	0.059 U	0.069 U	0.063 U	0.07 U
1,1-Dichloroethane	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.12 U	0.14 U	0.13 U	0.14 U
1,1,2-Trichloroethane	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.16 U	0.19 U	0.17 U	0.19 U
1,1,2,2-Tetrachloroethane	0.24 U	0.23 U	0.22 U	0.24 U	0.23 U	0.2 U	0.24 U	0.22 U	0.24 U
1,1,1-Trichloroethane	0.19 U	0.21	0.18 U	0.19 U	0.6	8.1	0.19 U	0.17 J	0.19 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 120								
Sample ID	IA-B120-2	IA-B120-2	IA-B120-2	IA-B120-2	IA-B120-2	IA-B120-2	IA-B120-2	IA-B120-2	IA-B120-2
Sample Date	4/1/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.75	1.64	1.68	1.72	1.8	1.5	1.75	1.68	3.56
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.045 U	0.042 U	0.043 U	0.044 U	0.046 U	0.038 U	0.045 U	0.043 U	0.091 U
Trichloroethene	0.19 U	0.42	0.77	0.44	0.19 U	0.79	0.51	0.18 U	0.38 U
trans-1,2-Dichloroethene	0.69 U	0.65 U	0.67 U	0.68 U	0.71 U	0.59 U	0.69 U	0.67 U	1.4 U
Tetrachloroethene	1.1	0.25	0.48	0.23	0.24 U	0.5	0.51	13	240
cis-1,2-Dichloroethene	0.14 U	0.13 U	0.13 U	0.14 U	0.14 U	0.12 U	0.14 U	0.13 U	0.28 U
Chloromethane	1.5	0.83	1.2	1.1	1.2	1.0	0.91	1.7 U	3.7 U
Chloroethane	0.23 U	0.22 U	0.22 U	0.22 U	0.24 U	0.2 U	0.23 U	0.22 U	0.47 U
Chlorobenzene	0.16 U	0.15 U	0.15 U	0.16 U	0.16 U	0.14 U	0.16 U	0.15 U	1.6 U
Carbon Tetrachloride	0.4	0.47	0.63	0.48	0.45	0.42	0.4	0.45	0.45 U
1,2-Dichloroethane	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U	0.29 U
1,1-Dichloroethene	0.069 U	0.065 U	0.067 U	0.068 U	0.071 U	0.073	0.069 U	0.067 U	0.14 U
1,1-Dichloroethane	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U	0.29 U
1,1,2-Trichloroethane	0.19 U	0.18 U	0.18 U	0.19 U	0.2 U	0.16 U	0.19 U	0.18 U	0.39 U
1,1,2,2-Tetrachloroethane	0.24 U	0.22 U	0.23 U	0.23 U	0.25 U	0.2 U	0.24 U	0.23 U	0.49 U
1,1,1-Trichloroethane	0.19 U	0.75	1.3	0.87	0.2 U	13	0.19 U	0.18 U	0.39 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 114								
Sample ID	IA-B114-1	IA-B114-1	IA-B114-1	IA-B114-1	IA-B114-1	IA-B114-1	IA-B114-1	IA-B114-1	IA-B114-1
Sample Date	4/1/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.87	1.75	1.64	1.66	1.76	1.28	1.32	1.34	1.89
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.048 U	0.045 U	0.042 U	0.042 U	0.045 U	0.033 U	0.034 U	0.034 U	0.048 U
Trichloroethene	3.7	0.19 U	0.44	0.73	0.19 U	0.14 U	0.14 U	0.14 U	0.2 U
trans-1,2-Dichloroethene	0.74 U	0.69 U	0.65 U	0.66 U	0.7 U	0.51 U	0.52 U	0.53 U	0.75 U
Tetrachloroethene	14	1.2	1.4	1.7	0.34	0.22	0.18 U	0.45	0.48
cis-1,2-Dichloroethene	0.32	0.14 U	0.13 U	0.13 J	0.14 U	0.1 U	0.1 U	0.11 U	0.15 U
Chloromethane	1.5	0.86	1	0.99	1.1	0.98	0.88	1.4 U	2 U
Chloroethane	0.25 U	0.23 U	0.22 U	0.22 U	0.23 U	0.17 U	0.17 U	0.18 U	0.25 U
Chlorobenzene	0.17 U	0.16 U	0.15 U	0.15 U	0.16 U	0.12 U	0.12 U	0.12 U	0.87 U
Carbon Tetrachloride	0.42	0.54	0.67	0.45	0.47	0.41	0.41	0.47	0.37
1,2-Dichloroethane	0.15 U	0.14 U	0.13 U	0.13 U	0.14 U	0.1 U	0.11 U	0.11 U	0.15 U
1,1-Dichloroethene	0.074 U	0.069 U	0.065 U	0.066 U	0.07 U	0.051 U	0.052 U	0.053 U	0.075 U
1,1-Dichloroethane	0.15 U	0.14 U	0.13 U	0.13 U	0.14 U	0.1 U	0.11 U	0.11 U	0.15 U
1,1,2-Trichloroethane	0.2 U	0.19 U	0.18 U	0.18 U	0.19 U	0.14 U	0.14 U	0.15 U	0.21 U
1,1,2,2-Tetrachloroethane	0.26 U	0.24 U	0.22 U	0.23 U	0.24 U	0.18 U	0.18 U	0.18 U	0.26 U
1,1,1-Trichloroethane	0.59	4.2	0.5	0.95	1	0.58	0.14 U	1	0.65

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	**Building 121**								
Sample ID	IA-B121-1	IA-B121-1	*IA-B121-1 Duplicate*	IA-B121-1	*IA-B121-1 Duplicate*	IA-B121-1	*IA-B121-1 Duplicate*	IA-B121-1	*IA-B121-2 Duplicate*
Sample Date	4/1/2010	11/21/2011	11/21/2011	12/6/2012	12/6/2012	12/16/2013	12/16/2013	11/24/2014	11/24/2014
Dilution	1.75	1.68	1.68	1.68	1.61	1.88	1.90	1.66	1.82
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.045 U	0.043 U	0.043 U	0.043 U	0.041 U	0.048 U	0.048 U	0.042 U	0.046 U
Trichloroethene	0.19 U	0.18 U	0.18 U	0.18 U	0.17	0.22	0.23	0.3	0.29
trans-1,2-Dichloroethene	0.69 U	0.67 U	0.67 U	0.67 U	0.64 U	0.74 U	0.75 U	0.66 U	0.72 U
Tetrachloroethene	0.24 U	0.23 U	0.23 U	0.23 U	0.22 U	0.26 U	0.26 U	0.22 U	0.25 U
cis-1,2-Dichloroethene	0.14 U	0.13 U	0.13 U	0.13 U	0.13 U	0.15 U	0.15 U	0.13 U	0.14 U
Chloromethane	1.6	0.86	0.84	0.84	0.94	1.1	1.1	1.4	1.4
Chloroethane	0.23 U	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.25 U	0.22 U	0.24 U
Chlorobenzene	0.16 U	0.15 U	0.15 U	0.16	0.17	0.17 U	0.17 U	0.15 U	0.17 U
Carbon Tetrachloride	0.4	0.46	0.46	0.57	0.69	0.71	0.79	0.5	0.4
1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.15 U	0.15 U	0.13 U	0.15 U
1,1-Dichloroethene	0.069 U	0.067 U	0.067 U	0.067 U	0.064 U	0.074 U	0.075 U	0.066 U	0.072 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.15 U	0.15 U	0.13 U	0.15 U
1,1,2-Trichloroethane	0.19 U	0.18 U	0.18 U	0.24	0.26	0.2 U	0.21 U	0.18 U	0.2 U
1,1,2,2-Tetrachloroethane	0.24 U	0.23 U	0.23 U	0.23 U	0.22 U	0.26 U	0.26 U	0.23 U	0.25 U
1,1,1-Trichloroethane	0.24	0.75	0.7	3.8	4	0.2 U	0.21 U	0.22	0.21

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	**Building 121**							
Sample ID	IA-B121-1	*IA-B121-1 Duplicate*	IA-B121-1	*IA-B121-1 Duplicate*	IA-B121-1	*IA-B121-1 Duplicate*	IA-B121-1	*IA-B121-1 Duplicate*
Sample Date	11/24/2015	11/24/2015	11/22/2016	11/22/2016	12/15/2017	12/15/2017	11/27/2018	11/27/2018
Dilution	1.3	1.31	1.78	1.68	1.54	1.60	1.74	1.61
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND								
Vinyl Chloride	0.033 U	0.033 U	0.046 U	0.043 U	0.039 U	0.041 U	0.044 U	0.041 U
Trichloroethene	0.43	0.48	0.68	0.68	0.16 U	0.17 U	0.19 U	0.17 U
trans-1,2-Dichloroethene	0.52 U	0.52 U	95	97	0.61 U	0.63 U	0.69 U	0.64 U
Tetrachloroethene	0.29	0.3	0.24 U	0.23 U	0.21 U	0.22 U	0.24 U	0.22 U
cis-1,2-Dichloroethene	0.1 U	0.1 U	0.14 U	0.13 U	0.12 U	0.13 U	0.14 U	0.13 U
Chloromethane	1.0	0.98	0.98	0.93	1.6 U	1.6 U	1.8 U	1.7 U
Chloroethane	0.17 U	0.17 U	0.23 U	0.22 U	0.2 U	0.21 U	0.23 U	0.21 U
Chlorobenzene	0.12 U	0.12 U	0.16 U	0.15 U	0.14 U	0.15 U	0.8 U	0.74 U
Carbon Tetrachloride	0.39	0.43	0.31	0.4	0.44	0.46	0.28	0.32
1,2-Dichloroethane	0.1 U	0.11 U	0.14 U	0.14 U	0.12 U	0.13 U	0.14 U	0.13 U
1,1-Dichloroethene	0.052 U	0.052 U	0.07 U	0.067 U	0.061 U	0.063 U	0.069 U	0.064 U
1,1-Dichloroethane	0.1 U	0.11 U	0.14 U	0.14 U	0.12 U	0.13 U	0.14 U	0.13 U
1,1,2-Trichloroethane	0.14 U	0.14 U	0.19 U	0.18 U	0.17 U	0.17 U	0.19 U	0.18 U
1,1,2,2-Tetrachloroethane	0.18 U	0.18 U	0.24 U	0.23 U	0.21 U	0.22 U	0.24 U	0.22 U
1,1,1-Trichloroethane	0.14 U	0.15	0.19 U	0.18 U	0.17 U	0.17 U	0.19 U	0.18 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Table 6-1
Summary of Indoor Air Sampling
Watervliet Arsenal
Watervliet, New York

Building	Building 130								
Sample ID	IA-B130-1	IA-B130-1	IA-B130-1	IA-B130-1	IA-B130-1	IA-B130-1	IA-B130-1	IA-B130-1	IA-B130-1
Sample Date	4/1/2010	11/21/2011	12/6/2012	12/16/2013	11/24/2014	11/24/2015	11/22/2016	12/15/2017	11/27/2018
Dilution	1.64	1.79	2.01	1.78	1.73	1.47	1.3	1.34	1.73
Units	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
COMPOUND									
Vinyl Chloride	0.042 U	0.046 U	0.051 U	0.046 U	0.044 U	0.038 U	0.033 U	0.034 U	0.044 U
Trichloroethene	0.19	0.33	0.28	0.44	0.18 U	0.42	0.14 U	0.58	0.25
trans-1,2-Dichloroethene	0.65 U	0.71 U	0.8 U	0.7 U	0.68 U	0.58 U	0.52 U	0.53 U	0.68 U
Tetrachloroethene	0.32	0.46	0.67	0.52	0.46	0.4	0.18 U	0.59	0.56
cis-1,2-Dichloroethene	0.13 U	0.14 U	0.16 U	0.14 U	0.14 U	0.12 U	0.1 U	0.11 U	0.14 U
Chloromethane	1.6	0.82	1	0.95	1.4	1.0	0.9	1.4 U	1.8 U
Chloroethane	0.22 U	0.24 U	0.26 U	0.23 U	0.23 U	0.19 U	0.17 U	0.18 U	0.23 U
Chlorobenzene	0.15 U	0.16 U	0.18 U	0.16 U	0.16 U	0.14 U	0.12 U	0.12 U	0.8 U
Carbon Tetrachloride	0.43	0.47	0.7	0.52	0.47	0.44	0.38	0.46	0.34
1,2-Dichloroethane	0.13 U	0.14 U	0.16 U	0.14 U	0.14 U	0.12 U	0.1 U	0.11 U	0.14 U
1,1-Dichloroethene	0.065 U	0.071 U	0.08 U	0.07 U	0.068 U	0.07	0.052 U	0.053 U	0.068 U
1,1-Dichloroethane	0.13 U	0.14 U	0.16 U	0.14 U	0.14 U	0.12 U	0.1 U	0.11 U	0.14 U
1,1,2-Trichloroethane	0.18 U	0.2 U	0.22 U	0.19 U	0.19 U	0.16 U	0.14 U	0.15 U	0.19 U
1,1,2,2-Tetrachloroethane	0.22 U	0.24 U	0.28 U	0.24 U	0.24 U	0.2 U	0.18 U	0.18 U	0.24 U
1,1,1-Trichloroethane	0.18 U	0.2 U	0.22 U	0.19 U	0.19 U	0.16 U	0.14 U	0.15 U	0.19 U

Notes:

µg/m3 - micrograms per cubic meter

U - not detected at indicated concentration

J - estimated concentration

NS - Not Sampled

Appendix A

Purge Logs

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: WVA-SA-SNS-C6 **DATE:** 2018/10/17

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QRC

A: Total Casing and Screen Length: —

B: Casing Internal Diameter: —

C: Water Level Below Top of Casing: —

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1215	1225											
Gallons	—	—											
Rate (mL/min)	100	100											
Depth to Water (ft.)	—	—											
Temperature (°C)	16.0	16.2											
pH	6.10	6.08											
REDOX (mV)	94	90											
Conductivity (mohm/cm)	1.03	1.04											
Turbidity	39.2	47.1											
Dissolved Oxygen	15.1	12.9											
TDS													
Salinity													

Notes: Second set of parameters were collected after the sample was collected.

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 94EM-MW-21 DATE: 2018-10-12

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QRC

A: Total Casing and Screen Length: 17.50'

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 5.43

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
(4")	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	0840	0845	0850	0855	0900	0905	0910	0915				
Gallons				1.5				2.2				
Rate (mL/min)	100	100	100	100	100	100	100	100				
Depth to Water (ft.)	6.52	6.69	6.76	6.81	6.82	6.86	6.97	7.09				
Temperature (°C)	21.0	20.9	20.8	20.7	20.7	20.7	20.7	20.8				
pH	5.85	5.87	5.88	5.88	5.89	5.91	5.92	5.93				
REDOX (mV)	125	123	122	121	120	119	118	117				
Conductivity (mohm/cm)	1.30	1.29	1.28	1.27	1.27	1.28	1.27	1.27				
Turbidity	29.4	19.6	12.4	9.44	8.48	7.54	7.13	7.21				
Dissolved Oxygen	19.2	14.0	11.4	10.3	9.58	9.41	9.29	9.20				
TDS	NA	NA	NA	NA	NA	NA	NA	NA				
Salinity	NA	NA	NA	NA	NA	NA	NA	NA				

Notes: Began Pumping: 0835

Began Sampling: 0920

Completed Sampling: 0930

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 94EM-MW-20 DATE: 2018-10-11

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QRC

A: Total Casing and Screen Length: 14.14'

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 4.62'

D: Volume of Water in Casing: _____

$v = 0.0408\ (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED														
Time	1510	1515	1520	1525	1530	1535	1555	1600	1605	1610	1615	1620	1625	1630	
Gallons					1.5					2.0					2.5
Rate (mL/min)	100	100	100	100	100	<100	100	100	100	100	100	100	100	100	
Depth to Water (ft.)	4.73	4.78	4.82	4.86	4.91	4.92	4.82	4.84	4.87	4.91	4.93	4.95	4.97	4.99	
Temperature (°C)	20.6	21.1	21.5	21.6	21.7	21.8	21.4	21.4	21.5	21.4	21.5	21.5	21.4	21.4	
pH	6.02	6.03	6.02	6.01	6.01	6.01	5.82	5.83	5.83	5.83	5.84	5.85	5.85	5.86	
REDOX (mV)	-37	-81	-91	-92	-92	-94	-62	-58	-53	-50	-48	-43	-40	-39	
Conductivity (mohm/cm)	3.10	3.62	3.39	2.86	2.62	2.59	0.96	0.95	0.94	0.92	0.91	0.90	0.90	0.89	
Turbidity	106	99	79	56.2	89	124	102	98	72	60	51	42	40	39	
Dissolved Oxygen	7.22	6.95	7.00	7.10	7.07	7.01	7.61	7.44	7.40	7.33	7.26	7.16	6.99	6.92	
TDS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Salinity	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes: Began Pumping: 1450

Stopped pump @ 1539 because of decreased flow and increase in Turbidity. Pulled Bladder Pump and found built up sediment at pump intake. Cleaned pump and started again.

Began Sampling: 1635

Completed Sampling: 1650

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 94EM-MW-19 **DATE:** 2018/10/11

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: GRC

A: Total Casing and Screen Length: 13.66'

B: Casing Internal Diameter: 4"

C: Water Level Below Top of Casing: 4.75'

D: Volume of Water in Casing: _____

$v = 0.0408\ (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
(4")	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1315	1320	1325	1330	1335	1340	1345	1350	1355	1400	1405	1410
Gallons			0.5									2.5
Rate (mL/min)	100	100	100	100	100	100	100	100	100	100	100	100
Depth to Water (ft.)	4.80	4.92	4.94	5.00	5.06	5.09	5.12	5.15	5.17	5.19	5.19	5.20
Temperature (°C)	20.1	20.0	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.9	19.8	19.8
pH	8.17	7.27	6.35	6.14	6.04	6.03	6.03	6.02	6.01	6.01	6.01	6.01
REDOX (mV)	-19	-9	1	4	7	8	10	12	14	15	15	17
Conductivity (mohm/cm)	2.14	2.14	2.17	2.17	2.16	2.15	2.15	2.14	2.14	2.13	2.13	2.14
Turbidity	156	128	104	78	71.9	58.0	47.1	37.6	33.2	29.0	26.8	25.2
Dissolved Oxygen	18.1	12.6	8.69	8.21	8.04	7.98	7.91	7.84	7.95	7.79	7.77	7.76
TDS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Salinity	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: Began Purging: 1300
Began Sampling: 1410
Completed Sampling: 1420

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-82R-3 **DATE:** 2018-10-11

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QRC

A: Total Casing and Screen Length: >100'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 14.67'

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1035	1040	1045	1050	1055	1100	1105	1110	1115	1120		
Gallons					1.0					2.0		
Rate (mL/min)	130	130	130	130	130	130	130	130	130	130		
Depth to Water (ft.)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Temperature (°C)	19.6	19.9	20.2	20.4	20.7	21.0	21.4	21.8	22.0	22.2		
pH	5.87	5.81	5.80	5.81	5.82	5.83	5.84	5.85	5.86	5.85		
REDOX (mV)	-126	-177	-178	-177	-178	-177	-175	-175	-173	-171		
Conductivity (mohm/cm)	4.10	3.24	3.21	3.22	3.24	3.25	3.21	3.22	3.20	3.20		
Turbidity	52.0	46.3	40.6	42.9	46.7	35.3	29.7	26.2	24.5	23.6		
Dissolved Oxygen	8.15	7.96	7.91	7.85	7.78	7.69	7.60	7.46	7.36	7.36		
TDS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Salinity	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		

Notes: Began Pumping: 1030
Began Sampling: 1120
Completed Sampling: 1135
DUP [redacted] collected here (DUP-01-101118)

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-82R-2 **DATE:** 2018/10/11

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QRC

A: Total Casing and Screen Length: >100'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 10.08'

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	0935	0940	0945	0950	0955	1000	1005	1010				
Gallons				1.0				2.0				
Rate (mL/min)	120	120	120	120	120	120	120	120				
Depth to Water (ft.)	NA	NA	NA	NA	NA	NA	NA	NA				
Temperature (°C)	19.3	19.5	19.4	19.3	19.3	19.3	19.2	19.2				
pH	6.10	6.06	6.04	6.02	6.00	5.99	5.98	5.98				
REDOX (mV)	-36	-38	-40	-42	-46	-47	-50	-52				
Conductivity (mohm/cm)	5.68	5.93	5.97	6.01	6.04	6.06	6.06	6.05				
Turbidity	65.4	61.0	53.6	48.1	42.9	40.8	38.0	37.0				
Dissolved Oxygen	8.42	8.37	8.40	8.43	8.39	8.39	8.40	8.30				
TDS	NA	NA	NA	NA	NA	NA	NA	NA				
Salinity	NA	NA	NA	NA	NA	NA	NA	NA				

Notes: Began Pumping: 0930
Began Sampling: 1010
Completed Sampling: 1015

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-82R-1 **DATE:** 2018/10/11

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QRC

A: Total Casing and Screen Length: 57.21'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 10.04'

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	0830	0835	0840	0845	0850	0855	0900	0905	0910			
Gallons	0.0				1.0				2.0			
Rate (mL/min)	120	120	120	120	120	120	120	120	120			
Depth to Water (ft.)	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Temperature (°C)	19.6	19.1	18.9	18.9	19.2	19.5	19.7	19.8	19.9			
pH	5.99	5.99	5.99	6.00	6.01	6.01	6.01	6.00	6.00			
REDOX (mV)	-78	-79	-79	-80	-82	-83	-83	-84	-84			
Conductivity (mohm/cm)	5.93	5.93	5.94	5.96	5.98	6.00	6.02	6.03	6.04			
Turbidity	726	316	149	133	84	51	43	40	38			
Dissolved Oxygen	13.2	9.61	9.51	9.21	8.96	8.86	8.78	8.72	8.67			
TDS	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Salinity	NA	NA	NA	NA	NA	NA	NA	NA	NA			

Notes: Began Pumping: 0820
Sampling Began: 0910
Sampling Completed: 0915

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-83-3 DATE: 2018/10/10

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QRC

A: Total Casing and Screen Length: >100ft

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 8.67 ft

D: Volume of Water in Casing:

$v = 0.0408\ (B)^2 \times (A-C) = D$

$v = 0.0408\ (\quad)^2 \times (\quad - \quad) =$ _____ gal.

Well I.D.	Vol. Gal./ft.
(1")	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1515	1520	1525	1530	1535	1540	1545	1550	1555	1600		
Gallons					1.0					2.6		
Rate (mL/min)	110	110	110	110	110	110	110	110	110	110		
Depth to Water (ft.)	8.67	—	—	—	—	—	—	—	—	—		
Temperature (°C)	19.0	19.1	18.9	18.9	18.7	18.6	18.1	18.0	17.9	17.7		
pH	6.10	6.31	6.28	6.19	6.09	6.05	5.98	5.97	5.97	5.98		
REDOX (mV)	16	34	37	-25	-34	-46	-98	-116	-121	-125		
Conductivity (mohm/cm)	0.35	0.24	0.27	0.76	1.82	2.16	2.58	2.67	2.69	2.70		
Turbidity	26.9	31.2	28.4	27.9	26.5	26.0	25.1	24.7	22.8	21.3		
Dissolved Oxygen	9.8	9.3	9.2	8.8	8.7	8.6	8.6	8.6	8.6	8.6		
TDS	NA	—								↓		
Salinity	NA	—								↓		

Notes: Began Pumping: 1500
Began Sampling: 1600
Completed Sampling: 1605

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-83-2 DATE: 2016-10-10

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QRC

A: Total Casing and Screen Length: >100ft

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 8.32

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1350	1400	1405	1410	1415	1420	1425	1430	1435			
Gallons					1.5				2.2			
Rate (mL/min)	100	100	100	100	100	100	100	100	100			
Depth to Water (ft.)	8.32	–	–	–	–	–	–	–	–			
Temperature (°C)	18.7	18.8	18.8	18.5	18.0	17.6	17.3	17.2	17.2			
pH	5.9	5.8	5.9	5.9	5.9	5.9	5.9	5.9	5.9			
REDOX (mV)	-77	-80	-83	-85	-88	-90	-90	-89	-90			
Conductivity (mohm/cm)	3.9	4.0	4.3	4.5	4.7	4.6	5.1	5.2	5.2			
Turbidity	–	–	–	–	–	–	–	–	–			
Dissolved Oxygen mg/L	9.6	9.4	9.4	9.5	9.6	9.7	9.7	9.6	9.5			
TDS	NA								→			
Salinity	NA								→			

Notes: 1435 - Began sampling.

1440 - Completed Sampling

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-63-1 **DATE:** 2016/10/10

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: QBC

A: Total Casing and Screen Length: 57.47 ft

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 10.12 ft

D: Volume of Water in Casing: ~~47.35 ft~~

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
(1")	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED														
Time	1615	1620	1625	1630	1635	1640	1645	1650	1655	1700	1705	1710	1715	1720	
Gallons				1.0				2.0						3.0	
Rate (mL/min)	120	120	120	120	120	120	120	120	120	120	120	120	120	120	
Depth to Water (ft.)	NA														
Temperature (°C)	16.9	19.7	19.4	19.4	19.5	18.2	17.4	17.3	17.3	17.3	17.3	17.3	17.3	17.3	
pH	5.98	5.98	5.98	5.99	5.98	6.01	6.00	5.99	5.99	6.00	6.01	6.01	6.01	6.01	
REDOX (mV)	-109	-91	-89	-91	-91	-84	-77	-82	-83	-86	-87	-89	-89	-90	
Conductivity (mohm/cm)	4.22	5.07	4.68	4.15	3.92	3.71	3.48	3.39	3.36	3.34	3.35	3.36	3.35	3.36	
Turbidity	>1000	>1000	>1000	>1000	>1000	756	613	578	441	137	65	41	39	37	
Dissolved Oxygen	8.18	7.67	7.60	7.52	7.50	7.46	7.35	7.29	7.18	7.04	7.07	7.08	7.07	7.09	
TDS	NA														
Salinity	NA														

Notes: Began pumping: 1610
Began Sampling: 1720
Completed Sampling: 1725
Flushed the flow through cell at 1635 due to the high turbidity.

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: WVA-SA-SS-3 DATE: 10/12/16

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: NA

B: Casing Internal Diameter: NA

C: Water Level Below Top of Casing: 6.9'

D: Volume of Water in Casing: _____

v = 0.0408 (B)^2 x (A-C) = D

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1220	1225											
Gallons		0.2											
Rate (mL/min)	150	150											
Depth to Water (ft.)	6.9	✓											
Temperature (°C)	16.71	16.46											
pH	5.96	6.01											
REDOX (mV)	100	104											
Conductivity (mohm/cm)	0.282	0.277											
Turbidity	11.7	12.7											
Dissolved Oxygen	6.85	6.31											
TDS													
Salinity													

Notes: Well obstructed, location outside of fence near MW-85 Used
Pump started @ 1218
Pumping ended @ 1225

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: UVA-SA-STS-5 DATE: 10/12/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: NA

B: Casing Internal Diameter: NA

C: Water Level Below Top of Casing: 6.29'

D: Volume of Water in Casing: _____

v = 0.0408 (B)^2 x (A-C) = D

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1148	1155											
Gallons		0.2											
Rate (mL/min)	200	200											
Depth to Water (ft.)	6.29	-											
Temperature (°C)	14.84	15.41											
pH	5.88	6.03											
REDOX (mV)	-22	-30											
Conductivity (mohm/cm)	0.690	0.607											
Turbidity	5.31	5.24											
Dissolved Oxygen	7.59	7.70											
TDS													
Salinity													

Notes: Pump started @ 1147
Pumping ended @ 1155

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 83DM-SP-3 DATE: 10/12/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: ~16-18'

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 6.70'

D: Volume of Water in Casing: _____

v = 0.0408 (B)^2 x (A-C) = D

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1010	1015	1020	1025	1030	1035	1040	1045	1050			
Gallons	✓								2.5			
Rate (mL/min)	100	100	100	100	100	100	100	100	100			
Depth to Water (ft.)	6.7	✓	✓	✓	✓	✓	✓	✓	✓			
Temperature (°C)	15.26	15.28	15.17	15.12	15.11	15.06	15.02	15.03	15.00			
pH	6.52	6.58	6.60	6.61	6.61	6.61	6.61	6.62	6.62			
REDOX (mV)	139	147	145	130	104	84	78	74	70			
Conductivity (mohm/cm)	2.96	2.99	3.00	2.99	2.99	2.98	2.97	2.95	2.94			
Turbidity	13.2	9.83	2.99	9.31	8.41	7.92	7.51	5.00	4.92			
Dissolved Oxygen	4.87	3.49	3.26	3.01	2.07	1.31	1.21	1.17	1.14			
TDS	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Salinity	✓	✓	✓	✓	✓	✓	✓	✓	✓			

Notes: Pump started at 1007

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: 86EA-SP-6 DATE: 10/12/16

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: ~ 12-14'

B: Casing Internal Diameter: 2"

C: Water Level Below Top of Casing: 7.24'

D: Volume of Water in Casing: _____

v = 0.0408 (B)^2 x (A-C) = D

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	0830	0835	0840	0845	0850	0855	0900	0905				
Gallons								2.5				
Rate (mL/min)	100	100	100	100	100	100	100	100				
Depth to Water (ft.)	7.24	"	"	"	"	"	"	"				
Temperature (°C)	18.07	18.97	19.14	19.40	19.52	19.60	19.51	19.55				
pH	5.95	6.14	6.19	6.25	6.29	6.34	6.38	6.41				
REDOX (mV)	119	127	127	128	126	125	124	124				
Conductivity (mohm/cm)	0.943	0.906	0.881	0.878	0.896	0.894	0.899	0.905				
Turbidity	22.7	11.8	8.32	5.90	3.86	2.56	0.89	0.78				
Dissolved Oxygen	2.16	1.43	1.60	1.77	1.41	1.15	1.06	1.03				
TDS	"	"	"	"	"	"	"	"				
Salinity	"	"	"	"	"	"	"	"				

Notes: Pump started @ 0826
Pumping ended @ 0910

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-85R-3 DATE: 10/31/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: ≥100'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 12.30'

D: Volume of Water in Casing: _____

v = 0.0408 (B)² x (A-C) = D

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1605	1610	1615	1620	1625	1630	1635	1640	1645			
Gallons									2.75			
Rate (mL/min)	110	110	110	110	110	110	110	110	110			
Depth to Water (ft.)	12.30'	"	"	"	"	"	"	"	"			
Temperature (°C)	15.08	15.30	15.51	15.42	15.36	15.29	15.22	15.20	15.14			
pH	6.27	6.29	6.30	6.30	6.30	6.32	6.31	6.31	6.31			
REDOX (mV)	-107	-114	-127	-131	-136	-152	-173	-177	-182			
Conductivity (mohm/cm)	2.35	2.82	3.00	3.04	3.07	3.06	3.04	3.03	3.03			
Turbidity	10.3	9.57	8.24	8.47	9.01	9.62	9.44	8.22	7.96			
Dissolved Oxygen	0.85	0.68	0.42	0.41	0.41	0.38	0.40	0.42	0.43			
TDS	"	"	"	"	"	"	"	"	"			
Salinity	"	"	"	"	"	"	"	"	"			

Notes: Pump started @ ~ 1603
Pump stopped @ 1650

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-85R-2 (85) DATE: 10/11/16

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: ~100'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 10.43'

D: Volume of Water in Casing: _____

v = 0.0408 $(B)^2$ x (A-C) = D

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1425	1430	1435	1440	1445	1450	1455	1500	1505	1510	1515	1520
Gallons												
Rate (mL/min)	110	110	110	110	110	110	110	110	110	110	110	110
Depth to Water (ft.)	10.43	"	"	"	"	"	"	"	"	"	"	"
Temperature (°C)	15.96	15.39	15.42	15.57	15.74	15.60	15.41	15.60	15.77	15.67	15.66	15.68
pH	6.15	6.10	6.10	6.11	6.22	6.24	6.25	6.26	6.29	6.30	6.29	6.28
REDOX (mV)	-67	-109	-107	-108	-36	-44	-50	-58	-65	-72	-73	-77
Conductivity (mohm/cm)	1.47	2.46	2.49	2.66	2.59	2.67	2.54	2.49	2.42	2.34	2.34	2.31
Turbidity	50.4	30.5	29.9	24.5	NA	>1000	>1000	909	893	709	438	304
Dissolved Oxygen mg/L	8.88	8.82	8.21	7.08	0.83	0.71	0.52	0.42	0.33	0.30	0.29	0.28
TDS	"	"	"	"	"	"	"	"	"	"	"	"
Salinity	"	"	"	"	"	"	"	"	"	"	"	"

Notes: Pump started at 1423
Pumping ended at 1603

Had to stop pump and check flow through cell between 1440 and 1445

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-852-2 DATE: 10/11/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: _____

C: Water Level Below Top of Casing: _____

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1525	1530	1535	1540	1545	1550	1555	1600				
Gallons		[illegible]						5.0				
Rate (mL/min)	110	110	110	110	110	110	110	110				
Depth to Water (ft.)	~	~	~	~	~	~	~	~				
Temperature (°C)	15.64	15.61	15.59	15.54	15.44	15.43	15.37	15.36				
pH	6.29	6.29	6.31	6.30	6.31	6.31	6.30	6.30				
REDOX (mV)	-79	-81	-88	-91	-94	-100	-103	-105				
Conductivity (mohm/cm)	2.31	2.30	2.29	2.30	2.29	2.28	2.28	2.28				
Turbidity	262	218	161	121	99.4	83.9	60.2	48.7				
Dissolved Oxygen	0.30	0.31	0.34	0.34	0.35	0.35	0.35	0.35				
TDS												
Salinity												

Notes:

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-85R-1 DATE: 10/11/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: 57.12'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 12.32'

D: Volume of Water in Casing: _____

v = 0.0408 (B)^2 x (A-C) = D

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1312	1320	1325	1330	1335	1340	1345	1350	1355	1400	1405	1410
Gallons												3
Rate (mL/min)	110	110	110	110	110	110	110	110	110	110	110	110
Depth to Water (ft.)	12.32	"	"	"	"	"	"	"	"	"	"	"
Temperature (°C)	16.33	16.31	16.44	16.35	16.35	16.37	16.30	16.24	16.20	16.15	16.14	16.13
pH	5.92	6.01	6.04	6.03	6.03	6.01	6.02	6.03	6.05	6.06	6.07	6.09
REDOX (mV)	-93	-170	-185	-183	-176	-169	-158	-150	-148	-144	-149	-155
Conductivity (mohm/cm)	1.71	1.74	1.62	1.50	1.44	1.41	1.40	1.40	1.41	1.42	1.43	1.46
Turbidity	79.0	92.3	80.1	72.3	62.9	57.7	50.1	42.6	39.1	36.1	32.4	29.3
Dissolved Oxygen	10.92	8.84	7.99	7.53	7.01	6.82	6.53	6.33	6.01	5.86	5.75	5.69
TDS	"	"	"	"	"	"	"	"				
Salinity	"	"	"	"	"	"	"	"				

Notes: Pumping started @ 1310
Pumping ended @ 1415

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-86R-3 DATE: 10/11/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: 99.63'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 9.70'

D: Volume of Water in Casing: \

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )^2 x (-) = gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1049	1055	1100	1105	1110	1115	1120	1125	1130			
Gallons									2.5			
Rate (mL/min)	105	105	105	105	105	105	105	105	105			
Depth to Water (ft.)	9.70'	"	"	"	"	"	"	"	"			
Temperature (°C)	14.77	15.62	15.91	15.87	15.86	15.80	15.77	15.79	15.80			
pH	6.05	6.19	6.20	6.26	6.27	6.27	6.26	6.25	6.24			
REDOX (mV)	-163	-175	-180	-185	-187	-188	-189	-189	-190			
Conductivity (mohm/cm)	2.64	3.04	3.18	3.20	3.20	3.19	3.17	3.15	3.11			
Turbidity	363	18.1	6.76	5.02	4.98	4.06	3.12	2.64	2.01			
Dissolved Oxygen	3.29	2.36	2.70	2.58	2.41	2.30	2.24	2.18	2.11			
TDS	"	"	"	"	"	"	"	"	"			
Salinity	"	"	"	"	"	"	"	"	"			

Notes: Pumping started at 1045
Pumping ended at 1135

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-86R-2 DATE: 10/11/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: DM

A: Total Casing and Screen Length: ~100'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 10.85'

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	0942	0950	0955	1000	1005	1010	1015						
Gallons							2.25						
Rate (mL/min)	110	110	110	110	110	110	110						
Depth to Water (ft.)	10.85	"	"	"	"	"	"						
Temperature (°C)	16.16	16.35	16.39	16.36	16.29	16.24	16.20						
pH	6.14	6.12	6.15	16.15	6.15	6.15	6.14						
REDOX (mV)	-195	-190	-178	-171	-166	-165	-165						
Conductivity (mohm/cm)	2.15	2.19	2.19	2.20	2.20	2.21	2.21						
Turbidity	48.2	34.4	26.5	22.8	19.6	18.0	16.5						
Dissolved Oxygen	3.29	3.30	3.08	3.04	3.02	2.98	2.94						
TDS	"	"	"	"	"	"	"						
Salinity	"	"	"	"	"	"	"						

Notes: Pump started @ 0940
Pump ended @ 1020

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-86R-1 DATE: 10/11/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: Daniel McAdoo

A: Total Casing and Screen Length: 57.72'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 11.81'

D: Volume of Water in Casing: _____

v = 0.0408 (B)^2 x (A-C) = D

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	0837	0845	0850	0855	0900	0905	0910	0915	0920	0925	0930	0935
Gallons												3
Rate (mL/min)	120	110	110	110	110	110	110	110	110	110	110	110
Depth to Water (ft.)	11.81	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Temperature (°C)	16.20	15.82	15.97	15.92	15.98	16.04	16.08	16.05	16.08	16.09	16.09	16.10
pH	5.80	6.01	5.99	5.98	5.97	6.06	6.07	6.10	6.12	6.14	6.16	6.17
REDOX (mV)	-59	-151	-169	-170	-177	-189	-190	-193	-193	-193	-196	-196
Conductivity (mohm/cm)	2.49	2.44	2.31	2.33	2.23	2.25	2.25	2.25	2.26	2.27	2.27	2.27
Turbidity	820	689	568	492	428	349	152	129	104	81.0	67.4	48.4
Dissolved Oxygen	4.85	2.97	2.60	2.30	2.35	2.39	2.26	2.32	2.26	2.13	2.09	2.06
TDS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Salinity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: Pump started at 0836
Pumping ended at 0940

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-34R-1 DATE: 10/10/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: Daniel Mcandrew

A: Total Casing and Screen Length: 58.71'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 10.95'

D: Volume of Water in Casing: _____

v = 0.0408 (B)^2 x (A-C) = D

v = 0.0408 ( )^2 x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1550	1555	1600	1605	1610	1615	1620	1625	1630			
Gallons									2.5			
Rate (mL/min)	110	110	110	110	110	110	110	110	110			
Depth to Water (ft.)	10.95	"	"	"	"	"	"	"	"			
Temperature (°C)	16.26	15.44	15.27	15.26	15.37	15.32	15.39	15.20	15.25			
pH	6.13	6.03	6.08	6.12	6.14	6.15	6.16	6.16	6.17			
REDOX (mV)	-152	-195	-184	-179	-187	-196	-202	-204	-207			
Conductivity (mohm/cm)	2.24	2.05	2.02	2.01	2.03	2.05	2.05	2.07	2.06			
Turbidity	519	71000	21000	795	370	186	98.3	60.5	29.5			
Dissolved Oxygen	0.38	0.34	0.32	0.28	0.28	0.28	0.27	0.27	0.27			
TDS	"	"	"	"	"	"	"	"	"			
Salinity	"	"	"	"	"	"	"	"	"			

Notes: Pumping started at 1549
Pumping ended at 1630

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: ~~84R~~ MW-84R-3 DATE: 10/10/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: Daniel Meandro

A: Total Casing and Screen Length: _____

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 12.31'

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED											
Time	1400	1405	1410	1415	1420	1425	1430	1435	1440	1445	1450	1455
Gallons	0.1									3		
Rate (mL/min)	110	110	110	110	110	110	110	110	110	110		
Depth to Water (ft.)	12.31	/	/	/	/	/	/	/	/	/		
Temperature (°C)	18.45	18.70	18.75	18.97	19.74	19.91	18.85	18.30	18.35	18.34		
pH	5.77	5.81	6.04	5.99	5.96	5.96	5.90	5.90	5.91	5.90		
REDOX (mV)	-148	-143	-156	-151	-145	-143	-142	-145	-144	-145		
Conductivity (mohm/cm)	2.12	1.95	1.96	2.02	2.00	2.03	2.13	2.20	2.18	2.21		
Turbidity	-	-	-	-	-	-	-	-	-	35.1		
Dissolved Oxygen mg/L	0.63	0.52	0.50	0.48	0.44	0.56	0.53	0.56	0.56	0.56		
TDS (NA)	/	/	/	/	/	/	/	/	/	/		
Salinity (NA)	/	/	/	/	/	/	/	/	/	/		

Notes: Depth to water cannot be taken while pumping (well diameter too small)
Pump started at 1400
Ended at 1445

MALCOLM PIRNIE

WELL DEVELOPMENT/ PURGING LOG

WELL NUMBER: MW-84R-2 DATE: 10/10/18

PROJECT NAME: WVA LTM, 2018, Watervliet, New York

PROJECT NUMBER: 02118227.0000

SAMPLERS: Daniel Meandro

A: Total Casing and Screen Length: 7100'

B: Casing Internal Diameter: 1"

C: Water Level Below Top of Casing: 13.76'

D: Volume of Water in Casing: _____

$v = 0.0408 (B)^2 \times (A-C) = D$

v = 0.0408 ( )² x (-) = _____ gal.

Well I.D.	Vol. Gal./ft.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

PARAMETER	ACCUMULATED VOLUME PURGED												
Time	1505	1510	1515	1520	1525	1530	1535						
Gallons							2.25						
Rate (mL/min)	110	110	110	110	110	110	110						
Depth to Water (ft.)	13.76	/	/	/	/	/	/						
Temperature (°C)	17.41	17.12	15.98	15.85	15.80	15.74	15.70						
pH	5.92	5.95	5.99	5.96	5.94	5.94	5.96						
REDOX (mV)	-121	-123	-125	-126	-126	-126	-128						
Conductivity (mohm/cm)	2.40	2.46	2.44	2.39	2.36	2.36	2.36						
Turbidity	-	-	-	-	-	-	27.4						
Dissolved Oxygen	0.53	0.57	0.52	0.48	0.45	0.43	0.38						
TDS (NA)	/	/	/	/	/	/	/						
Salinity (NA)	/	/	/	/	/	/	/						

Notes: Pumping started at 1505
Pumping ended at 1535

ARCADIS Design & Consultancy for natural and built assets

Appendix B

CD Containing Summary Tables and Analytical Laboratory Reporting Forms

Watervliet Arsenal - Long Term Monitoring

Well ID:

METHOD:

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*

Well ID: **83DM-SP-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	123	143		191	121	62	119	173	125				5		
Carbon Dioxide	mg/l				32	24	0.2 (J)	17	23 ( )	16 ( )						
Carbon Dioxide	ug/l	20300 ( )	30400 ( )											22000		
Chloride	mg/L	441	314		462	744	329	500	284	596				508		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l					2.6		2	2.8	1.8				2.6		
Dissolved Oxygen	mg/L															
DOC	mg/L	2 ( )	2.5 ( )													
DOC Average Quads-Dissolved	mg/l															
Ethane	ug/l		0.5 (J)													
Ethene	ug/l		0.712 ( )													
Ferrous Iron	mg/L	0.06	1.64		0.14	0.17	0.11	0.32	1.2	2.17						
Methane	ug/l	6.25 ( )	781 ( )		19	300	980	170	91	160						
Nitrate	mg/L	0.22	0.04		1.91	0.08	0.35	0.13	0.59	0.66						
Nitrite	mg/L	0.034	0.177		0.14	0.5	0.026	0.148	0.013	0.036				21		
pH																
Redox	mV															
Sulfate	mg/L				47	32	9	36	36	39						
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )	0.1 ( )													
Temperature	C															
Total Dissolved Solids	mg/l	1200 ( )	940 ( )													
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Phenol	ug/L															

Well ID: **83DM-SP-1**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1 1-Trichloroethane	ug/L															
1 1-Dichloroethane	ug/L															
1 1-Dichloroethene	ug/L															
1,1,1-Trichloroethane	ug/L		3.6 ( )			2										
1,1,2,2-Tetrachloroethane	ug/L															
1,1-Dichloroethane	ug/L		1.6 ( )													
2-Butanone	ug/L															
2-Butanone (MEK)	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Bromodichloromethane	ug/L															
Carbon Disulfide	ug/L															
Chloroform	UG/L										1.2					1.4
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/L	1.2 ( )	18 ( )		4	12			3.4		1.2					
cis-1,2-Dichloroethene (Dup)	ug/l							2.9								
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
trans-1,2-Dichloroethene	ug/L															
Trichloroethene	ug/L	3.6 ( )	15 ( )		8	8			6.2	3	3.8			3.3		2.4
Trichloroethene (Dup)	ug/l							4.7								
Vinyl chloride	ug/l		1.8 ( )													

Well ID: **83DM-SP-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	209		207		171	171	125	171	173					209	
Alkalinity (Dup)	mg/L															
Carbon Dioxide	mg/l			82		72	81	65	64	66 ( )						
Carbon Dioxide	ug/L	86100 ( )													63000	
Chloride	mg/L	359		457		365	361	880	810	828					1728	
Chloride (Dup)	mg/L															
Conductivity	mohm/cm															
Conductivity (Dup)	mohm/cm															
Dissolved Organic Carbon	mg/l			1.4		1.8	1.5	1.4	1.9	1.2					1	
Dissolved Oxygen	mg/L															
Dissolved Oxygen (Dup)	mg/L															
DOC	mg/L	1.7 ( )														
OC Average Quads-Dissolve	mg/l															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/l	0.863 ( )														
Ethene	ug/l	0.675 ( )														
Ferrous Iron	mg/L	0.99		2.03		0.99	1.01	1.5	1.38							
Ferrous Iron (Dup)	mg/L															
Methane	ug/L	35.2 ( )		36		30	23	33	25	15					12	
Methane (Dup)	ug/L															
Nitrate	mg/L	0.2		0.17		0.02	0.29	0.5	0.52	0.14						
Nitrate (Dup)	mg/L															
Nitrite	mg/L	0.019		0.003		0.087	0.015	0.008	0.021	0.038						
Nitrite (Dup)	mg/L															
pH																
pH (Dup)																
Redox	mV															
Redox (Dup)	mV															
Salinity																
Sulfate	mg/L															

Well ID: **83DM-SP-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Sulfate (Dup)	mg/L															
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )														
TDS	mg/L															
Temperature	C															
Temperature (Dup)	C															
Total Dissolved Solids	mg/l	1500 ( )														
Turbidity	NTUs															
Turbidity (Dup)	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
Methylene Chloride	ug/L															

Well ID: **83DM-SP-4**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Carbon Dioxide (Dup)	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC (Dup)	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide (Dup)	mg/L															
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l															
Turbidity	NTUs															

Well ID: **83DM-SP-4**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
bis(2-Ethylhexyl)phthalate (Dup	ug/L															
Butyl benzyl phthalate	ug/L															
Butyl benzyl phthalate (Dup)	ug/L															
Diethyl phthalate	ug/L															
Diethyl phthalate (Dup)	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-butyl phthalate (Dup)	ug/L															
Di-n-octyl phthalate	ug/L															
Di-n-octyl phthalate (Dup)	ug/L															
Naphthalene	ug/L															
Naphthalene (Dup)	ug/L															
Phenol	ug/L															
Phenol (Dup)	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															

Well ID: **86EM-SP-1A**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **86EM-SP-1A**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Chloroform	ug/L															3.9
cis-1 2-Dichloroethene	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L	2.3 ( )	1.5 ( )		2		1	1.1	1		1					
cis-1,2-Dichloroethene (BS)	ug/l												1.7			
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L					1										
Trichloroethene	ug/L	10 ( )	10 ( )		11	3	13	9.4	14	7.7	9.6					6.6
Trichloroethene (BS)	ug/L												11		11	
Trichlorofluoromethane	ug/L															

Well ID: **86EM-SP-1B**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
OC Average Quads-Dissolve	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **86EM-SP-1B**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Bromodichloromethane	ug/l									1.1						
Chloroform	ug/l							1.7		18						
cis-1,2-Dichloroethene	ug/L	0.52 ( )														
Methylene Chloride	ug/L															
Trichloroethene	ug/L	0.73 ( )					1									

Well ID: **86EM-SP-5**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	190		141		212	110	150	194	192					236	
Carbon Dioxide	mg/l			81		68	76	66	86	66 ( )						
Carbon Dioxide	ug/L	99400 ( )													70000	
Carbon Dioxide (Dup)	ug/L															
Chloride	mg/L	720		541		544		235	432						609	
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l			8.9		11	7	11	10	5.7					7.5	
Dissolved Oxygen	mg/L															
DOC	mg/L	7.4 ( )														
DOC (Dup)	mg/L															
OC Average Quads-Dissolve	mg/l															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/l	0.66 ( )														
Ethene	ug/L															
Ferrous Iron	mg/L	0.42		3.12		2.13	1.88	0.92		3.17						
Methane	ug/L	349 ( )		640		430	360	220	460	210					340	
Methane (Dup)	ug/L															
Nitrate	mg/L	0.21		0.26		0.09	0.33	0.32	0.38	0.86					22.1	
Nitrite	mg/L	0.012		0.009		0.101	0.005	0.08	0.014	0.036						
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	72		28		40	76	16	26						52	
Sulfide-Dissolved	mg/l	0.1 ( )														
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	1500 ( )														
Turbidity	NTUs															

Well ID: **86EM-SP-5**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
4-Chloro-3-methylphenol	ug/L	37 ( )							12							
4-Chloro-3-methylphenol (Dup)	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
bis(2-Ethylhexyl)phthalate (Dup	ug/L															
Butyl benzyl phthalate	ug/L															
Butyl benzyl phthalate (Dup)	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-butyl phthalate (Dup)	ug/L															
Fluoranthene	ug/L															
Fluoranthene (Dup)	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1-Dichloroethane	ug/L															
1,1-Dichloroethane	ug/L	0.75 (J)														
1,1-Dichloroethane (Dup)	ug/L															
2-Butanone	ug/L															
2-Butanone (Dup)	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Carbon Disulfide	ug/L															
Chloroform (Dup)	ug/L															
Chloromethane	ug/L															
Methylene Chloride	ug/L															

Well ID: **86EM-SP-6**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L					245	145		250	161					375	
Carbon Dioxide	ug/L														81000	
Carbon Dioxide	mg/L					68	54	39	80	45 ( )						
Chloride	mg/L					140	58	40	82	105					91	
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L					3.1	1.8	1.7	2.6	1.8					2.4	
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L					0.31	0.19	0.38	0.28	0.91					0.19	
Methane	ug/L					330	13									
Methane (Dup)	ug/L															
Nitrate	mg/L					0.06	0.37	0.43	0.57	0.11					0	
Nitrite	mg/L					0.059	0.003	0.059	0.022	0.076					30	
pH																
Redox	mV															
Salinity																
Sulfate	mg/L						52	24		35					50	
Sulfide	mg/L															
Sulfide-Dissolved	mg/L					1.3		5		1.4						
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **86EM-SP-6**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Diethyl phthalate (Dup)	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1-Dichloroethane	ug/L															
1 1-Dichloroethane (Dup)	ug/L															
1,1-Dichloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Chloroform	ug/l								5.6	13						
Chloromethane	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Trichloroethene	ug/L															
Vinyl Chloride	ug/L															

Well ID: **92EM-SP-7**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	160		30		171	93	145	238	173				224		
Carbon Dioxide	ug/l	19600 ( )												6500		
Carbon Dioxide	mg/L			14		37	42	30	35	19 ( )						
Chloride	mg/L	272		492		1345	989	948	510	244				54		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L			1.5		2.9	2.8	2.7	4	1.8				1.2		
Dissolved Oxygen	mg/L															
DOC	mg/L	2.5 ( )														
DOC Average Quads-Dissolved	mg/l															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/l	0.5 (J)														
Ethene	ug/l	0.5 (J)														
Ferrous Iron	mg/L	0.47		0.41		0.25	0.27	0.62	0.38	0.12						
Methane	ug/L	9.12 ( )		11		49	60	37	61							
Nitrate	mg/L	0.03		0.16		0.07	0.3	0.45	0.39	0.15				19.1		
Nitrite	mg/L	0.407		0.01		0.39	0.014	0.04	0.032	0.054				0		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L			63				80		77				25		
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )		2.6												
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	850 ( )														
Turbidity	NTUs															

Well ID: **92EM-SP-7**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Naphthalene	ug/L															
Phenol	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethane	ug/L	0.8 ( )		1		2	1	1.3	2							
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Chloromethane	ug/L															
cis-1,2-Dichloroethene	ug/l					1			1.4							
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **92EM-SP-8**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	188		196		93	110	205	211	279				265		
Carbon Dioxide	mg/L			41		44	36	34	20	18 ( )						
Carbon Dioxide	ug/l	31700 ( )												14000		
Chloride	mg/L	1014				2098	790	1020	238	279				62		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L			2.8		4.9	3.2	3.9	5	3.4				3.6		
Dissolved Oxygen	mg/L															
DOC	mg/L	4.4 ( )														
DOC Average Quads-Dissolved	mg/l															
Ethane	ug/l	1.06 ( )														
Ferrous Iron	mg/L	0.35		0.28		0.33	0.47	0.62	1.05	0.77						
Methane	ug/L	18.9 ( )		22		76	18	43	36	25				14		
Methane (Dup)	ug/L															
Nitrate	mg/L	0.04		0.51		0.06	0.27	0.43	0.63	0.22				8		
Nitrite	mg/L	0.081		0.012		0.028	0.004	0.068	0.256	0.179				38		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )														
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	10 (J)														
Turbidity	NTUs															

Well ID: **92EM-SP-8**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
4-Chloro-3-methylphenol	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Naphthalene	ug/L															
Phenol	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1-Dichloroethane	ug/L															
1,1-Dichloroethane	ug/L					2		1.3	1.6							
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Chloromethane	ug/L															
cis-1,2-Dichloroethene	ug/L					1		1.1	1.6							
Methylene Chloride	ug/L															
Vinyl Chloride	ug/L															

Well ID: **93EM-RW-2**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	71		123		10	70	94	125	82				452		
Carbon Dioxide	mg/L					31	12	17		13 ( )						
Carbon Dioxide	ug/l	7340 ( )												22000		
Chloride	mg/L	53		590		115	272	76	48	114						
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L			1.5		2	1.5	1.7	2.3	1.6				1.5		
Dissolved Oxygen	mg/L															
DOC	mg/L	2.2 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/L						790									
Ethene	ug/L						550									
Ferrous Iron	mg/L	0.3		0.74		0.1	0.24	0.31	0.81	0.04						
Methane	ug/L	0.578 ( )				83	8000 (E)	11	10					46		
Nitrate	mg/L	0.001		0.14		0.02	0.28	0.47	0.52	0.54						
Nitrite	mg/L	0.071		0.017		0.043	0.018	0.015	0.03	0.013				62		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	36		29		30	52	14	11	13				20		
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )								1.4						
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	280 ( )														
Turbidity	NTUs															

Well ID: **93EM-RW-2**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluorene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Benzene	ug/L															
Bromodichloromethane	ug/l	5.7 ( )							6.2							
Bromodichloromethane (BS)	ug/L															
Carbon Disulfide	ug/L															
Chloroform	ug/L	49 ( )		2			15	13	56	62	57					
Chloroform (BS)	ug/L												9.3			
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/L			55		140	63	61	1.8	13	4.6			60		65
cis-1,2-Dichloroethene (BS)	ug/l												50			
Dibromochloromethane	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L	0.59 ( )		7		29	18	25	1.3	6.8	4.7			27		29
Tetrachloroethene (BS)	ug/l												16			
trans-1,2-Dichloroethene	ug/L															
Trichloroethene	ug/L	0.83 ( )		20		56	44	48	2.4	14	10			34		58
Trichloroethene (BS)	ug/l												39			
Vinyl Chloride	ug/L					6	5									

Well ID: **93EM-SP-11**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **93EM-SP-11**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Bromodichloromethane	ug/l						9	5.8		4.3						
Bromodichloromethane (Dup)	ug/l								11							
Chloroform	ug/l						72	69		53						
Chloroform (Dup)	ug/l								70							
Dibromochloromethane	ug/l							4.8								
Methylene Chloride	ug/L															

Well ID: **93EM-SP-13**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC (Dup)	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide (Dup)	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **93EM-SP-13**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2,4-Dimethylphenol	ug/L															
Acenaphthene	ug/L															
Acenaphthene (Dup)	ug/L															
Benzo(a)pyrene	ug/L															
Benzo(b)fluoranthene	ug/L															
Benzo(k)fluoranthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
bis(2-Ethylhexyl)phthalate (Dup	ug/L															
Butyl benzyl phthalate	ug/L															
Butyl benzyl phthalate (Dup)	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-butyl phthalate (Dup)	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Fluoranthene (Dup)	ug/L															
Fluorene	ug/L															
Fluorene (Dup)	ug/L															
Pyrene	ug/L	0.37 ( )														
Pyrene (Dup)	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Carbon disulfide	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Methylene Chloride (Dup)	ug/L															
Tetrachloroethene	ug/L															

Well ID: **93EM-SP-9**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
Chloroform	ug/L								3.8							
Methylene Chloride	ug/L															

Well ID: **94EM-MW-19**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC (Dup)	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
bis(2-Ethylhexyl)phthalate (Dup	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **94EM-MW-19**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **94EM-MW-20**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L													126		
Chloride	mg/L													554		
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L													5.5		
Nitrite	mg/L													9		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **94EM-MW-20**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	UG/L															30
Toluene	ug/L															
Trichloroethene	UG/L															1.6

Well ID: **94EM-MW-21**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L													178		
Chloride	mg/L													118		
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L													18.1		
Nitrite	mg/L													0		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Chromium	mg/l															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **94EM-MW-21**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (Dup)	ug/l															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Barium	mg/l															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	0.7 ( )				1										
cis-1,2-Dichloroethene (Dup)	ug/l															
Lead	mg/l															
Methylene Chloride	ug/L															
Tetrachloroethene	UG/L															44
Tetrachloroethene (Dup)	ug/l															
Trichloroethene	UG/L															1.9

Well ID: **B121-N**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	194				138	54	144	144	138				172		
Carbon Dioxide	ug/l	6310 ( )												6200		
Carbon Dioxide	mg/L					18	6.4	5.5	8 ( )	3.6 (J)						
Chloride	mg/L	184				326	344	374	280	376				179		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L					2.6	2	4.5	2.4	4.8				7.1		
Dissolved Oxygen	mg/L															
DOC	mg/l	8.7 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	14.5 ( )				63	38		71	16						
Ethene	ug/l	0.5 (J)					25		51							
Ferrous Iron	mg/L	2.64				0.89	1.1	1.66	1.94	2.06						
Methane	ug/l	4780 ( )				2900	1100	1500	4100	1400				980		
Nitrate	mg/L	0.27				0.08	0.31	0.2	0.79	0.46				25.9		
Nitrite	mg/L	0.035				0.134	0.009	0.149	0.01	0.027				43		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	6				18	72	4	20	28						
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )						2.2								
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	640 ( )														
Turbidity	NTUs															

Well ID: **B121-N**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Fluorene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Benzene	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	0.89 ( )				290	74		170	3.4				1.3		1.3
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
trans-1 2-Dichloroethene	ug/L															
trans-1,2-Dichloroethene	ug/L					4	3		4.1							
Trichloroethene	ug/L															
Vinyl Chloride	ug/L					160	110		100	11						

Well ID: **B121-S**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	103				5	45	100	145	93				81		
Carbon Dioxide	mg/L					11	3.8 (J)	1.7 (J)	5.7 ( )	4.6 (J)						
Carbon Dioxide	ug/l	3940 ( )														
Chloride	mg/L	158				1087	163	150	173	309				247		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L					1.6	1.9	2.2	3	1.8				1.7		
Dissolved Oxygen	mg/L															
DOC	mg/l	2.8 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	0.604 ( )														
Ethene	ug/l	0.5 (J)														
Ferrous Iron	mg/L						0.09	0.35	1.9	0.6						
Methane	ug/l	1010 ( )				8300	34	400	200	850				2100 (D)		
Methane (Dup)	ug/L															
Nitrate	mg/L	0.13				0.09	0.42	0.24	0.62	0.12				260		
Nitrite	mg/L	0.025				0.117	0.011	0.128	0.01	0.012				0		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	54					58	37	80	57						
Sulfide	mg/L															
Sulfide-Dissolved	mg/L					4.8				1.1						
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	500 ( )														
Turbidity	NTUs															

Well ID: **B121-S**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1 1-Trichloroethane	ug/L															
1,1,1-Trichloroethane	ug/l	0.57 ( )						1.1						2.5		
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	1.3 ( )				110	1	1	1.7	3.2				2		
Methylene Chloride	ug/L															
Toluene	ug/l															
trans-1,2-Dichloroethene	ug/L															
Trichloroethene	ug/L															
Vinyl Chloride	ug/L					21										
Vinyl chloride (Dup)	ug/L															

Well ID: **WVA-AW-135-MW-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-AW-135-MW-1**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,1-Trichloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Toluene	ug/L															

Well ID: **WVA-AW-135-MW-2**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															

Well ID: **WVA-AW-135-MW-2**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
Toluene	ug/L															

Well ID: **WVA-AW-135-MW-4**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L						67									
Carbon Dioxide	mg/l						6.3						8			
Chloride	mg/L						581									
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L						2.1									
Methane	ug/L															
Nitrate	mg/L						0.18									
Nitrite	mg/L						0.018									
pH																
Redox	mV															
Salinity																
Sulfate	mg/L						7									
Sulfide	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-135-MW-4**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Carbon Tetrachloride	ug/L															
Chloroethane	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
Trichloroethene	ug/L															

Well ID: **WVA-AW-25-MW-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Naphthalene	ug/L															
Phenanthrene	ug/L															
Phenol	ug/L															
Pyrene	ug/L															

Well ID: **WVA-AW-25-MW-1**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (MEK)	ug/L															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
Toluene	ug/L															

Well ID: **WVA-AW-25-MW-2**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	193	138		143	178	101	251	252	206				185		
Carbon Dioxide	mg/l				61	58	45	48	73 ( )	160 ( )						
Carbon Dioxide	ug/l	67300 ( )	68800 ( )											55000		
Chloride	mg/L	174	203		580	561	589	894	519	550				568		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l					30	4.2	1.6	53	490				8.8		
Dissolved Oxygen	mg/L															
DOC	mg/l	33 ( )	25 ( )													
DOC Average Quads-Dissolved	mg/l															
Ethane	ug/l		0.973 ( )													
Ethene	ug/l	9.39 ( )	18.6 ( )				11		16							
Ferrous Iron	mg/L	1.21	1.25		0.79	1.41	0.52	0.3	1.47							
Methane	ug/l	2140 ( )	4600 ( )		2900	3200	1200	3100 (D)	10000 (D)	1100				8300 (D)		
Nitrate	mg/L	0.42	0.09		0.11	0.08	0.42	0.43	0.82	0.73				7.1		
Nitrite	mg/L	0.013	0.059		0.084	0.021	0.018	0.036	0.041	0.033				20		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L								30	24				52		
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )	0.11 ( )													
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	840 ( )	850 ( )													
Turbidity	NTUs															

Well ID: **WVA-AW-25-MW-2**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Phenol	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1 1-Trichloroethane	ug/L															
1 1-Dichloroethane	ug/L															
1 1-Dichloroethene	ug/L															
1,1,1-Trichloroethane	ug/L	6.8 ( )	6.9 ( )		12	10	10	6.1	9	4	2.2			6.3		
1,1-Dichloroethane	ug/L	10 ( )	13 ( )		14	11	10	7.2	7.7	6.6	5.8			6.4		
1,1-Dichloroethene	ug/L	0.5 ( )							1.3							
2-Butanone	ug/L															
2-Butanone (MEK)	ug/l									13						
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Bromomethane	ug/L															
Carbon Disulfide	ug/L										1.1					
Chloroform	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/L	22 ( )	31 ( )		64	52	30	25	33	18	17			30		
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
trans-1 2-Dichloroethene	ug/L															
trans-1,2-Dichloroethene	ug/l	0.75 (J)	1.2 ( )		1						5.7			1.8		
Trichloroethene	ug/L	36 ( )	20 ( )		17	18	33	11	24	16	7.8			19		
Vinyl chloride	ug/l	10 ( )	10 ( )		21	16			8					7.3		

Well ID: **WVA-AW-25-MW-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	156	125		153	118	138	221	216	212				184		
Carbon Dioxide	mg/l				51	44	61	56	50 ( )	49 ( )						
Carbon Dioxide	ug/l	41400 ( )	45000 ( )											52000		
Carbon Dioxide (Dup)	ug/l															
Chloride	mg/L	383	551		772	1041	1068	945	531	601				4.4		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L					3.2	2.9	3.3	4.2	3.4				3.8		
Dissolved Oxygen	mg/L															
DOC	mg/l	2.7 ( )	2.8 ( )													
DOC (Dup)	mg/L															
DOC Average Quads-Dissolved	mg/L															
C Average Quads-Dissolved (D	mg/l															
Ethane	ug/l	2.2 ( )	0.5 (J)					27	12							
Ethene	ug/l	3.65 ( )	0.516 ( )				12									
Ferrous Iron	mg/L	0.16	0.28		0.41	0.97	0.47	1.24	2.93	1.07						
Methane	ug/l	2450 ( )	284 ( )		1800	3000	770	4000 (D)	2000 (D)					350		
Methane (Dup)	ug/L															
Nitrate	mg/L	0.18	0.02		0.33	0.02	0.18	0.27	0.61	0.63				15.6		
Nitrite	mg/L	0.103	0.036		0.072	0.015	0.018	0.015	0.045	0.017				150		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L								80					15		
Sulfide	mg/L															
Sulfide (Dup)	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )	0.1 ( )					6.8								
Sulfide-Dissolved (Dup)	mg/l															
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	1200 ( )	1500 ( )													

Well ID: **WVA-AW-25-MW-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Total Dissolved Solids (Dup)	mg/l															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
bis(2-Ethylhexyl)phthalate (Dup	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-AW-25-MW-3**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1 1-Trichloroethane	ug/L															
1 1 1-Trichloroethane (Dup)	ug/L															
1 1-Dichloroethane	ug/L															
1 1-Dichloroethane (Dup)	ug/L															
1 1-Dichloroethene	ug/L															
1 1-Dichloroethene (Dup)	ug/L															
1,1,1-Trichloroethane	ug/l	8.6 ( )	10 ( )		12	9	8	5.1		1.6				2.9		1.7
1,1,1-Trichloroethane (Dup)	ug/L															
1,1-Dichloroethane	ug/l	5.8 ( )	8.2 ( )		9	8	8	7.8	5.7	4.2	3			5.1		1.6
1,1-Dichloroethane (Dup)	ug/L															
1,1-Dichloroethene	ug/L				1		1									
1,1-Dichloroethene (Dup)	ug/L															
2-Butanone	ug/L															
2-Butanone (Dup)	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethyl vinyl ether (Dup)	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Carbon Disulfide (Dup)	ug/L															
Carbon tetrachloride	ug/l	1 ( )														
Chloroethane	ug/L															
Chloroform	ug/L												3			
Chloroform (Dup)	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1 2-Dichloroethene (Dup)	ug/L															
cis-1,2-Dichloroethene	ug/l	110 ( )	150 ( )		170	190	130	120	110	92	62			60		21
cis-1,2-Dichloroethene (Dup)	ug/L															
Methylene Chloride	ug/L															
Methylene Chloride (Dup)	ug/L															
Tetrachloroethene	ug/L															

Well ID: **WVA-AW-25-MW-3**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
trans-1 2-Dichloroethene	ug/L															
trans-1 2-Dichloroethene (Dup)	ug/L															
trans-1,2-Dichloroethene	ug/l	5.4 ( )	3.8 (J)		1			1	2.4		1 (J)					2.7
trans-1,2-Dichloroethene (Dup)	ug/L															
Trichloroethene	ug/l	22 ( )	16 ( )		40	19	13	11	7.2	4	2.8		3.6	61		3.4
Trichloroethene (Dup)	ug/L															
Vinyl chloride	ug/l	13 ( )	13 ( )		24	22	19	15	10	8.9	9.6			2.3		4.8
Vinyl Chloride (Dup)	ug/L															

Well ID: **WVA-AW-25-MW-4**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Sulfate	mg/L															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,1-Trichloroethane	ug/L															
1,1-Dichloroethane	ug/L															
Chloroform	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
Trichloroethene	ug/L															

Well ID: **WVA-AW-25-MW-5**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
4-Chloro-3-methylphenol	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L					20		26								
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L								24							
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Naphthalene	ug/L															

Well ID: **WVA-AW-25-MW-5**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
cis-1,2-Dichloroethene	ug/l	0.56 ( )														
Methylene Chloride	ug/L															
Toluene	ug/l															
Trichloroethene	ug/L															

Well ID: **WVA-AW-25-MW-6**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-25-MW-6**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1 1-Trichloroethane	ug/L															
1,1,1-Trichloroethane	ug/l	8.2 ( )	8.4 ( )		11		8	5.7	7.4 (D)	6.6	5.9					
1,1,1-Trichloroethane (BS)	ug/l												4.8		4.6	
1,1-Dichloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
Chloroform	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/L				2	2	2	1.3		5.8	1.2					
cis-1,2-Dichloroethene (BS)	ug/l												1		1.3	
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l															
Trichloroethene	ug/l	290 ( )	290 ( )		260	10	310	210 (D)	260 (D)	270 (D)	250 (D)					27
Trichloroethene (BS)	ug/l												160		160 (D)	
Vinyl chloride	ug/L															

Well ID: **WVA-AW-25-MW-7**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	80				99	48	1427	115	103					91	
Carbon Dioxide	mg/l					5.5	7.6	1.3 (J)	3.6 (J)	4.8 (J)						
Carbon Dioxide	ug/l	5290 ( )													3500 (J)	
Chloride	mg/L	606													78	
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l					7.8	6.1	7.8	8.6	4.9					11	
Dissolved Oxygen	mg/L															
DOC	mg/l	7.7 ( )														
DOC Average Quads-Dissolved	mg/L															
DOC Average Quads-Dissolved	ug/l															
Ferrous Iron	mg/L	0.81				0.92	1.55	0.11	0.87							
Methane	ug/l	0.597 ( )				600	790	220	640	260					24	
Nitrate	mg/L	0.1				0.06	0.35	0.44	0.5	0.14					3.9	
Nitrite	mg/L	0.275				0.144	0.03	0.155	0.223	0.19						
pH																
Redox	mV															
Sulfate	mg/L	57				41		41	80						74	
Sulfide-Dissolved	mg/l	0.1 ( )														
Temperature	C															
Total Dissolved Solids	ug/l															
Total Dissolved Solids	mg/l	1800 ( )														
Turbidity	NTUs															

Well ID: **WVA-AW-25-MW-7**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone (MEK)	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l															
Tetrachloroethene	ug/L															
Trichloroethene	ug/L															
Vinyl chloride	ug/l															

Well ID: **WVA-AW-35-MW-5**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-35-MW-5**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,2,2-Tetrachloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-AW-35-MW-8**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
3,3'-Dichlorobenzidine	ug/l															
bis(2-Ethylhexyl)phthalate	ug/L															
Chrysene	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Fluoranthene	ug/L															
Pentachlorophenol	ug/L															
Pyrene	ug/L															

Well ID: **WVA-AW-35-MW-8**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
Ethylbenzene	ug/L															
Methylene Chloride	ug/L															
Toluene	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-AW-MW-20**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-MW-20**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **WVA-AW-MW-22**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
OC Average Quads-Dissolve	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Phenol	ug/L															
Pyrene	ug/L															

Well ID: **WVA-AW-MW-22**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Benzene	ug/L															
Carbon Disulfide	ug/L															
Chloromethane	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-AW-MW-23**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-MW-23**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
Chlorobenzene	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Trichloroethene	ug/L															

Well ID: **WVA-AW-MW-24**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Pyrene	ug/L															

Well ID: **WVA-AW-MW-24**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,2,2-Tetrachloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Benzene	ug/L															
Carbon disulfide	ug/L															
Chlorobenzene	ug/L															
Methylene Chloride	ug/L															
Toluene	ug/L															
Trichloroethene	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-AW-MW-26**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
bis(2-Ethylhexyl)phthalate (Dup	ug/L															

Well ID: **WVA-AW-MW-26**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Methylene Chloride (Dup)	ug/L															
Tetrachloroethene	ug/L															
Tetrachloroethene (Dup)	ug/L															

Well ID: **WVA-AW-MW-27**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-AW-MW-27**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Chloroform	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	1 ( )														
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
Vinyl chloride	ug/l	1.9 ( )														

Well ID: **WVA-AW-MW-29**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-MW-29**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **WVA-AW-MW-30**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-MW-30**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-AW-MW-32**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l						3									

Well ID: **WVA-AW-MW-33**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
Chloroform	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
trans-1,2-Dichloroethene	ug/L															
Trichloroethene	ug/L															
Vinyl chloride	ug/L															

Well ID: **WVA-AW-MW-34**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-AW-MW-34**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,1-Trichloroethane	ug/L															
1,1,2,2-Tetrachloroethane	ug/L															
1,1-Dichloroethene	ug/L															
Chloroform	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
trans-1,2-Dichloroethene	ug/L															
Trichloroethene	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-AW-MW-35**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-MW-35**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	7.6 ( )				8	21	7.4	8.4	4	11					45
cis-1,2-Dichloroethene (BS)	ug/l												17		23	
cis-1,2-Dichloroethene (Dup)	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l	0.5 (J)														
trans-1 2-Dichloroethene	ug/L															
trans-1,2-Dichloroethene	ug/l	0.75 (J)					2									2.7
trans-1,2-Dichloroethene (BS)	ug/l														1.4	
rans-1,2-Dichloroethene (Dup)	ug/L															
Trichloroethene	ug/l	48 ( )				53	63	43	59	34	23					40
Trichloroethene (BS)	ug/l												23		44	
Trichloroethene (Dup)	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-AW-MW-36**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Sulfate	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-AW-MW-36**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,2,2-Tetrachloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Chlorobenzene	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	26 ( )					20	50	70	28	18					2.3
cis-1,2-Dichloroethene (BS)	ug/l												22			
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l	1.4 ( )														
trans-1 2-Dichloroethene	ug/L															
trans-1,2-Dichloroethene	ug/l	1 ( )						1.4	2							
Trichloroethene	ug/l	11 ( )					11	9.8	22	4.5	4.8					4.5
Trichloroethene (BS)	ug/l												10		1.2	
Vinyl Chloride	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-AW-MW-38**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Alkalinity (Dup)	mg/L															
Chloride	mg/L															
Chloride (Dup)	mg/L															
Conductivity	mohm/cm															
Conductivity (Dup)	mohm/cm															
Dissolved Oxygen	mg/L															
Dissolved Oxygen (Dup)	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ferrous Iron	mg/L															
Ferrous Iron (Dup)	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrate (Dup)	mg/L															
Nitrite	mg/L															
Nitrite (Dup)	mg/L															
pH																
pH (Dup)																
Redox	mV															
Redox (Dup)	mV															
Salinity																
Sulfate	mg/L															
Sulfate (Dup)	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Temperature (Dup)	C															
Turbidity	NTUs															

Well ID: **WVA-AW-MW-38**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Turbidity (Dup)	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluorene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-AW-MW-41**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC (Dup)	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide (Dup)	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
bis(2-Ethylhexyl)phthalate (Dup	ug/L															

Well ID: **WVA-AW-MW-41**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-AW-MW-43**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
4-Chloro-3-methylphenol	ug/l	28 ( )				13										
Bis(2-ethylhexyl) phthalate	ug/l															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L									26						
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Naphthalene	ug/L															

Well ID: **WVA-AW-MW-43**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1-Dichloroethane	ug/L															
1,1-Dichloroethane	ug/l	2 ( )				3	2	2.4	3.1	1.7	2.4					1.9
1,1-Dichloroethane (BS)	ug/l												1.8		1.1	
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Chloromethane	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l															
Toluene	ug/l															

Well ID: **WVA-AW-MW-44**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
4-Chloro-3-methylphenol	ug/l	4.8 (J)				18										
4-Chloro-3-methylphenol (Dup)	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Bis(2-ethylhexyl)phthalate (Dup	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-AW-MW-44**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1 2 2-Tetrachloroethane	ug/L															
1 1-Dichloroethane	ug/L															
1 1-Dichloroethane (Dup)	ug/L															
1,1-Dichloroethane	ug/l	0.89 ( )		2		2	1	1.5	3.5		1.2					
1,1-Dichloroethene	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Bromomethane	ug/L															
Carbon Disulfide	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-AW-MW-47**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	203				175	145	215	194	183				163		
Carbon Dioxide	mg/L					26	17	18	26 ( )	15 ( )						
Carbon Dioxide	ug/l	30100 ( )												53000		
Chloride	mg/L	456				365		434	508	362				457		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L					2.7	2.2	2.1	2.6	1.8				1.4		
Dissolved Oxygen	mg/L															
DOC	mg/l	2.4 ( )														
DOC Average Quads-Dissolved	mg/l															
Ethane	ug/l	4.03 ( )				11										
Ethene	ug/l	2 (J)														
Ferrous Iron	mg/L	1.93				0.57	0.62	0.53	0.18	0.07						
Methane	ug/l	1140 ( )				4900	2800	3500 (E)	3600 (D)	2400				51		
Nitrate	mg/L	0.07				0.07	0.24	0.27	0.61	0.1				7.4		
Nitrite	mg/L	0.016				0.022	0.012	0.024	0.009	0.005				14		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	26				6	4	1	1	4				37		
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )														
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	1300 ( )														
Turbidity	NTUs															

Well ID: **WVA-AW-MW-47**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Anthracene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															
Phenanthrene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1-Dichloroethane	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Benzene	ug/L															
Chloromethane	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	0.5 (J)				1	1		2.8					22		70
cis-1,2-Dichloroethene (BS)	ug/l												1			
Methylene Chloride	ug/L															
trans-1 2-Dichloroethene	ug/L															
trans-1,2-Dichloroethene	ug/l	0.75 (J)												1		1.2
Trichloroethene	ug/l							1.6	4							2.6
Vinyl chloride	ug/l	5.1 ( )				3								18		3.8

Well ID: **WVA-AW-MW-51**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Alkalinity (Dup)	mg/L															
Chloride	mg/L															
Chloride (Dup)	mg/L															
Conductivity	mohm/cm															
Conductivity (Dup)	mohm/cm															
Dissolved Oxygen	mg/L															
Dissolved Oxygen (Dup)	mg/L															
DOC	mg/L															
OC Average Quads-Dissolved	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Ferrous Iron (Dup)	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrate (Dup)	mg/L															
Nitrite	mg/L															
Nitrite (Dup)	mg/L															
pH																
pH (Dup)																
Redox	mV															
Redox (Dup)	mV															
Salinity																
Sulfate	mg/L															
Sulfate (Dup)	mg/L															
Sulfide	mg/L															
TDS	mg/L															

Well ID: **WVA-AW-MW-51**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Temperature	C															
Temperature (Dup)	C															
Turbidity	NTUs															
Turbidity (Dup)	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Anthracene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															
Phenol	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone (MEK)	ug/L															
2-Chloroethylvinylether	ug/L															
Benzene	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (Dup)	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (Dup)	ug/L															
Tetrachloroethene	ug/L															
Tetrachloroethene (Dup)	ug/L															
Trichloroethene	ug/L															
Trichloroethene (Dup)	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-AW-MW-52**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	1946	880	1051	888	905	844	881	617	675				67		
Carbon Dioxide	ug/l		600 (J)													
Chloride	mg/L	5	20	6	31	15	0	0.5	2	2				19		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l			1.9		2.2	1.9	1.5	1.9	1.1						
Dissolved Oxygen	mg/L															
DOC	mg/l	2 ( )	1.9 ( )													
DOC Average Quads-Dissolved	mg/l															
Ethane	ug/l	5 (J)	4.15 ( )													
Ethene	ug/l	17.4 ( )	14.3 ( )					11								
Ferrous Iron	mg/L	1.01	0.1	0.27	0.03	0.56	0.15	2.4	0.02	0.05						
Methane	ug/l	2720 ( )	3760 ( )	3000	2000	2700	1800	1600	720							
Nitrate	mg/L	0.45	1.14	1.96	1.58	0.34	1.17	1.31	1.28	1.39				0		
Nitrite	mg/L	0.572	0.015	0.016	0.071	0.065	0.2	0.154	0.041	0.051				0		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L		20	1	0	15	2	14	1	5				13		
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )	0.1 ( )		3.1											
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	1200 ( )	1200 ( )													
Turbidity	NTUs															

Well ID: **WVA-AW-MW-52**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2 6-Dinitrotoluene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															
Phenol	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone (MEK)	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Bromomethane	ug/l										8.9					
Carbon disulfide	ug/L															
Chlorobenzene	ug/L															
Chloromethane	ug/l		5.1 ( )								2.8					
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	0.94 ( )	0.93 ( )													
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l	6.5 ( )	7.4 ( )	5	6	6	5	6.1	5.1	3.2	3.6			2.5		2.3
Tetrachloroethene (BS)	ug/l												1.6			
Toluene	ug/l	0.75 (J)														
Trichloroethene	ug/l	2.1 ( )	2.3 ( )	2	2	2	2	1.8	1.7	1.2	1.3					
Trichloroethene (BS)	ug/l												1.8			

Well ID: **WVA-AW-MW-58**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-AW-MW-58**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
Chloroform	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **WVA-AW-MW-59**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Phenol	ug/L															

Well ID: **WVA-AW-MW-59**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,2,2-Tetrachloroethane	ug/L															
1,1-Dichloroethene	ug/L															
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Benzene	ug/L															
Bromodichloromethane	ug/L															
Carbon Disulfide	ug/L															
Chlorobenzene	ug/L															
Chloroform	ug/L															
cis-1,2-Dichloroethene	ug/L															
Dibromochloromethane	ug/L															
Ethylbenzene	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
Toluene	ug/L															
trans-1,2-Dichloroethene	ug/L															
Trichloroethene	ug/L															
Vinyl Chloride	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-AW-MW-61**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC (Dup)	mg/L															
Ethene	ug/L															
Ethene (Dup)	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide (Dup)	mg/L															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
is(2-Ethylhexyl)phthalate (Dup	ug/L															
Phenol	ug/L															
Phenol (Dup)	ug/L															

Well ID: **WVA-AW-MW-61**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Carbon Disulfide	ug/L															
Carbon Disulfide (Dup)	ug/L															
Chloroform	ug/L															
Chloroform (Dup)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (Dup)	ug/L															
Methylene Chloride	ug/L															
Methylene Chloride (Dup)	ug/L															
Tetrachloroethene	ug/L															
Tetrachloroethene (Dup)	ug/L															
Trichloroethene	ug/L															
Trichloroethene (Dup)	ug/L															
Vinyl Chloride	ug/L															
Vinyl Chloride (BS)	ug/L															

Well ID: **WVA-AW-MW-64**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	138	80	144	136	39	87	97	86	112						
Carbon Dioxide	mg/L			2.2 (J)	5.4	0.32 (J)	0.47 (J)		0.59 (J)	19 ( )						
Carbon Dioxide	ug/l	1240 ( )														
Chloride	mg/L	123	97	190	191	197	265	149	255	261						
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L			1.3		1.8	1.1	1.6	1.6							
Dissolved Oxygen	mg/L															
DOC	mg/l	1.7 ( )	1.3 ( )													
DOC Average Quads-Dissolved	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/l	93.5 ( )	11.6 ( )	72	67	67	33		69 (D)	98						
Ethane (Dup)	ug/L															
Ethene	ug/l	35.4 ( )	8.16 ( )						13	19						
Ethene (Dup)	ug/L															
Ferrous Iron	mg/L	1.84	0.1	0.73	1.43	0.08	0.13	0.02	0.24	1.07						
Methane	ug/l	3500 ( )	351 ( )	2600	2400	2600	1900	12	2400 (D)	3200						
Methane (Dup)	ug/L															
Nitrate	mg/L	0.07	0.04	0.18	0.63	0.6	0.28	0.5	0.48	0.6						
Nitrite	mg/L	0.016	0.01	0.012	0.145	0.58	0.013	0.02	0.017	0.006						
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	17	11	3	3	1	4	5	2	66						
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )	0.1 ( )		3.2											
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	400 ( )	320 ( )													
Turbidity	NTUs															

Well ID: **WVA-AW-MW-64**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															
Phenol	ug/L															

Well ID: **WVA-AW-MW-64**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l			9	9	7	6		5.6	8.7	6.6					
1,1-Dichloroethene (BS)	ug/l												7			
2-Butanone (MEK)	ug/l								92 (D)							
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Benzene	ug/l				2											
Carbon disulfide	ug/l				3											
Chlorobenzene	ug/l								10 (D)							
Chloroform	ug/L															
Chloromethane	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1 2-Dichloroethene (Dup)	ug/L															
cis-1,2-Dichloroethene	ug/l	1700 ( )	380 ( )	1600	2200	1200	1300	230 (D)	980 (D)	1200	1100 (D)					110
cis-1,2-Dichloroethene (BS)	ug/l												2900 (D)			
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l	3600 ( )	990 ( )	3000	4200	3000	3200	320 (D)	2800 (D)	2000 (D)	2300 (D)					230 (E)
Tetrachloroethene (BS)	ug/l												13			
Tetrachloroethene (Dup)	ug/L															
Toluene	ug/l								11 (D)							
trans-1,2-Dichloroethene	ug/l	51 ( )		12	11	10	7		7.5 (D)	12						
trans-1,2-Dichloroethene (BS)	ug/l												35			
Trichloroethene	ug/l	1400 ( )	300 ( )	1300	1700	1400	1400	130	760 (D)	1300 (D)	880 (D)					97
Trichloroethene (BS)	ug/l												14			
Trichloroethene (Dup)	ug/L															
Vinyl chloride	ug/l	460 ( )	58 ( )	390		240	320	10	230 (D)	410 (D)	440					23
Vinyl Chloride (BS)	ug/l												2000 (D)			
Vinyl chloride (Dup)	ug/L															
Xylenes, Total	ug/l															

Well ID: **WVA-AW-MW-66**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
Ferrous Iron	mg/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Chloroform	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **WVA-AW-MW-67**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Methylene Chloride	ug/L															

Well ID: **WVA-AW-MW-70**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Fluorene	ug/L															
Naphthalene	ug/L															
Phenanthrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Methylene Chloride	ug/L															

Well ID: **WVA-AW-MW-71**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
Ferrous Iron	mg/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-AW-MW-73**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Methane	ug/L															
pH																
Redox	mV															
Salinity																
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-AW-MW-73**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Methylnaphthalene	ug/L															
Acenaphthene	ug/L															
Acenaphthylene	ug/L															
Anthracene	ug/L															
Benzo(a)anthracene	ug/L															
Benzo(a)pyrene	ug/L															
Benzo(b)fluoranthene	ug/L															
Benzo(g,h,i)perylene	ug/L															
Benzo(k)fluoranthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Chrysene	ug/L															
Dibenzo(a,h)anthracene	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Fluoranthene	ug/L															
Fluorene	ug/L															
Indeno(1,2,3-cd)pyrene	ug/L															
Naphthalene	ug/L															
Phenanthrene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **WVA-AW-MW-BLD-110**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthene	ug/l	0.43 ( )														
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Fluorene	ug/L															
Naphthalene	ug/L															
Pyrene	ug/L															

Well ID: **WVA-AW-MW-BLD-110**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Benzene	ug/L															
Chloromethane	ug/L															
cis-1 2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-B35-PW-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-B35-PW-1**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthene	ug/L															
Anthracene	ug/l	0.23 ( )														
Benzo[a]anthracene	ug/l															
Benzo[b]fluoranthene	ug/l	0.23 ( )														
Benzo[k]fluoranthene	ug/l	0.2 (J)														
Bis(2-ethylhexyl) phthalate	ug/l															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/l															
Chrysene	ug/l	0.44 ( )														
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Fluoranthene	ug/l	0.32 ( )														
Phenanthrene	ug/l															
Phenol	ug/L															
Pyrene	ug/l	0.42 ( )														

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
Carbon Tetrachloride	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-MW-81-1**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
cis-1,2-Dichloroethene	ug/l			5												

Well ID: **WVA-MW-81-2**

METHOD: *VOC*

Analyte	Units	May-08	Oct-08	May-09	Oct-09	Jun-10	Jun-11	Jun-12	Sept-13	Jun-14	Jun-15	Jul-15	Jun-16	Sept-17	Oct-17	Oct-18
cis-1,2-Dichloroethene	ug/l			2												

Well ID: **WVA-MW-81-3**

METHOD: *VOC*

Analyte	Units	May-08	Oct-08	May-09	Oct-09	Jun-10	Jun-11	Jun-12	Sept-13	Jun-14	Jun-15	Jul-15	Jun-16	Sept-17	Oct-17	Oct-18
cis-1,2-Dichloroethene	ug/l			5												
trans-1,2-Dichloroethene	ug/l			1												

Well ID: **WVA-MW-82R-1**

METHOD: *NAT*

Analyte	Units	May-08	Oct-08	May-09	Oct-09	Jun-10	Jun-11	Jun-12	Sept-13	Jun-14	Jun-15	Jul-15	Jun-16	Sept-17	Oct-17	Oct-18
Alkalinity	mg/l														1370	
Chloride	mg/l														1667	
Nitrate	mg/l														13.9	
Nitrite	mg/l														32	
Sulfate	mg/l														45	

METHOD: *VOC*

Analyte	Units	May-08	Oct-08	May-09	Oct-09	Jun-10	Jun-11	Jun-12	Sept-13	Jun-14	Jun-15	Jul-15	Jun-16	Sept-17	Oct-17	Oct-18
cis-1,2-Dichloroethene	ug/l			170		170	65	95	150 (D)	39	42		180		220 (D)	93
Tetrachloroethene	ug/l			41		23	5	3.3	7.4 (D)				4.8		12	2.2
trans-1,2-Dichloroethene	ug/l			1		1			1.4				1.3		1.2	
Trichloroethene	ug/l			20		10	4	2.8	5.4 (D)	1.5	1.2		5.2		7.7	2.4
Vinyl Chloride	ug/l			48		58	27	38	42 (D)	33	48		24		18	31

Well ID: **WVA-MW-82R-2**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														349	
Chloride	mg/l														1303	
Ferrous Iron	mg/l														1.3	
Nitrate	mg/l														15.3	
Nitrite	mg/l														20	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
cis-1,2-Dichloroethene	UG/L			350		370	160	170	200 (D)	73	100		110		140	96
Tetrachloroethene	ug/l					1									24	
trans-1,2-Dichloroethene	ug/l					2	1		1.8							
Trichloroethene	ug/l														3	
Vinyl Chloride	ug/l			100		170	56	67	78 (D)	36	43		33		33	33

Well ID: **WVA-MW-82R-3**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Carbon disulfide	ug/l								1.2							
cis-1,2-Dichloroethene	ug/l								1.1 (D)	2.5					2.6	
Tetrachloroethene	UG/L															1.3

Well ID: **WVA-MW-83-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														155	
Chloride	mg/l														1020	
Nitrate	mg/l														4.7	
Nitrite	mg/l														24	
Sulfate	mg/l														16	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	UG/L					13	12	9.4	12							10
1,1-Dichloroethene (Dup)	ug/l										15					
cis-1,2-Dichloroethene	UG/L			5100		4800	3800	4100	3400 (D)						3100 (D)	3900
cis-1,2-Dichloroethene (Dup)	ug/l									3100	3200 (D)		3700			
Tetrachloroethene	UG/L			7100		5800	8400	8400 (D)	8500 (D)						4100 (D)	11000
Tetrachloroethene (Dup)	ug/l									120 (D)	10000 (D)		5600 (D)			
trans-1,2-Dichloroethene	UG/L			28		29	47	18	29						27	28
rans-1,2-Dichloroethene (Dup)	ug/l												20 (J)			
Trichloroethene	UG/L			2400		2500	2400	2700 (D)	2800 (D)						1600	3900
Trichloroethene (Dup)	ug/l									3100	3200 (D)		2700			
Vinyl chloride	UG/L			140		150	120	130	150 (D)						250	210
Vinyl Chloride (Dup)	ug/l									120			100			

Well ID: **WVA-MW-83-2**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														229	
Chloride	mg/l														1083	
Nitrate	mg/l														12.7	
Nitrite	mg/l														134	
Sulfate	mg/l														52	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l					20	18	12	10	14	22					
Carbon disulfide	ug/l										1.9					
cis-1,2-Dichloroethene	ug/l			5900		6000	6300	5300 (D)	4900 (D)	5500 (D)	4000 (D)		3700		3600 (D)	3600
Tetrachloroethene	ug/l			5000		8000	14000	12000 (D)	10000 (D)	26000 (D)	37000 (D)		22000 (D)		9600 (D)	27000
trans-1,2-Dichloroethene	ug/l			44		98	40	23	30	26	120				32	
Trichloroethene	ug/l			1400		1400	2500	1800	1900 (D)	8000 (D)	4900 (D)		3500		1800	3500
Vinyl Chloride	ug/l			590		500	500	380	480 (D)	710			290		410	250

Well ID: **WVA-MW-83-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														636	
Chloride	mg/l														682	
Nitrate	mg/l														7.3	
Nitrite	mg/l														58	
Sulfate	mg/l														13	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l			3		3	3	2.9	2.6 (D)	1.2						
cis-1,2-Dichloroethene	ug/l			1300		1000	920	1000 (D)	1200 (D)	680 (D)	320 (D)		340 (D)		480 (D)	210 (E)
Tetrachloroethene	ug/l			420		400	400	280 (D)	150 (D)	39	37		32		87	3.9
trans-1,2-Dichloroethene	ug/l			7		8	6	5.5	8 (D)	4.9	3.1		3.4		4.5	2.6
Trichloroethene	ug/l			190		180	170	160	100 (D)	35	26		22		43	2.5
Vinyl Chloride	ug/l			49		42	49	49	130 (D)	340 (D)	240 (D)		290 (D)		380 (D)	340

Well ID: **WVA-MW-84R-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														68	
Chloride	mg/l														563	
Nitrate	mg/l														13.7	
Nitrite	mg/l														14	
Sulfate	mg/l														38	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l					13	8	7.5	7.8	6	9.1				5	8.7
cis-1,2-Dichloroethene	ug/l			6300		4400	3400	3400 (D)	4200 (D)	2500 (D)	2900 (D)		2600 (D)		2700 (D)	3100 (E)
Tetrachloroethene	ug/l			940		740	500	380	340 (D)	240	260 (D)		230		200	280 (E)
trans-1,2-Dichloroethene	ug/l			52		29	20	14	18 (D)	13			39		17	24
Trichloroethene	ug/l			1300		890	440	340	410 (D)	240	200 (D)		250		220	280 (E)
Vinyl Chloride	ug/l			420		180	110	110	220 (D)	150	180 (D)		210		200	420

Well ID: **WVA-MW-84R-2**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														172	
Chloride	mg/l														696	
Nitrate	mg/l														12.7	
Nitrite	mg/l														30	
Sulfate	mg/l														13	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l			27		24	36		59 (D)	52	83					72
Chloromethane	ug/l										2.7					
cis-1,2-Dichloroethene	ug/l			11000		8600	13000	18000 (D)	22000 (D)	19000 (D)	20000 (D)		22000 (D)		19000 (D)	26000
Tetrachloroethene	ug/l			48000		37000	54000	53000 (D)	38000 (D)	36000 (D)	33000 (D)		17000 (D)		25000 (D)	7800 (E)
trans-1,2-Dichloroethene	ug/l			68		68	36		77 (D)	58					76	340 (E)
Trichloroethene	ug/l			17000		12000	11000	12000 (D)	11000 (D)	12000 (D)	8900 (D)		8900		8400 (D)	7700
Vinyl Chloride	ug/l			440		420	580	990	1600 (D)	1600	2000 (D)		3000		1700	3400

Well ID: **WVA-MW-84R-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														119	
Chloride	mg/l														607	
Ferrous Iron	mg/l														77	
Nitrate	mg/l														12.5	
Nitrite	mg/l														0	
Sulfate	mg/l														33	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l			22		24	28	20	20 (D)	19	23					13
Carbon disulfide	ug/l										2.4					
cis-1,2-Dichloroethene	ug/l			10000		9500	10000	12000 (D)	11000 (D)	7100 (D)	6600 (D)		6300 (D)		7200 (D)	4300 (E)
Tetrachloroethene	ug/l			3800		2400	2600	1700	1900 (D)	1400	1600 (D)		1300		1700	270 (E)
trans-1,2-Dichloroethene	ug/l			69		41	200	59	43 (D)	29	81		60		43	75
Trichloroethene	ug/l			3400		2400	2200	1600	1700 (D)	1600	1100 (D)		1200		1100	380 (E)
Vinyl Chloride	ug/l			870		770	960	1200	1600 (D)	1000	1200 (D)		1700		890	1700 (E)

Well ID: **WVA-MW-85R-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														193	
Chloride	mg/l														368	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
cis-1,2-Dichloroethene	UG/L			2		5	2	1.6	2.8 (D)	3.6	12		1.5		1.4	2.5
Tetrachloroethene	ug/l					3	7	4.3	2 (D)	1.2	1.8				1	2
Trichloroethene	ug/l					1	2									
Vinyl Chloride	ug/l			4		4					3.3					3.4

Well ID: **WVA-MW-85R-2**

METHOD: *NAT*

Analyte	Units	May-08	Oct-08	May-09	Oct-09	Jun-10	Jun-11	Jun-12	Sept-13	Jun-14	Jun-15	Jul-15	Jun-16	Sept-17	Oct-17	Oct-18
Alkalinity	mg/l														101	
Chloride	mg/l														568	
Sulfate	mg/l														34	

METHOD: *VOC*

Analyte	Units	May-08	Oct-08	May-09	Oct-09	Jun-10	Jun-11	Jun-12	Sept-13	Jun-14	Jun-15	Jul-15	Jun-16	Sept-17	Oct-17	Oct-18
1,1-Dichloroethene	UG/L			5		4	7	5.9	6.7	7.1	8.5					5.5
cis-1,2-Dichloroethene	ug/l			1900		1100	4000	3300 (D)	3900 (D)	2800 (D)	2400 (D)		1900 (D)		2200 (D)	2300
Tetrachloroethene	ug/l			1300		970	6700	5100 (D)	3500 (D)	2700 (D)	1900 (D)		1400 (D)		1800 (D)	1600
trans-1,2-Dichloroethene	ug/l			12		14	15	15	21 (D)	15	42		31		15	19
Trichloroethene	ug/l			600		380	1600	960	780 (D)	740	500 (D)		600		370	340 (E)
Vinyl chloride	UG/L			190		120	190	150	300 (D)	320	300 (D)		340		320	580

Well ID: **WVA-MW-85R-3**

METHOD: *NAT*

Analyte	Units	May-08	Oct-08	May-09	Oct-09	Jun-10	Jun-11	Jun-12	Sept-13	Jun-14	Jun-15	Jul-15	Jun-16	Sept-17	Oct-17	Oct-18
Alkalinity	mg/l														201	
Chloride	mg/l														737	
Nitrate	mg/l														13.7	
Nitrite	mg/l														17	

METHOD: *VOC*

Analyte	Units	May-08	Oct-08	May-09	Oct-09	Jun-10	Jun-11	Jun-12	Sept-13	Jun-14	Jun-15	Jul-15	Jun-16	Sept-17	Oct-17	Oct-18
1,1-Dichloroethene	UG/L			13		8					11					6.9
Carbon disulfide	ug/l					2					4.6					
cis-1,2-Dichloroethene	ug/l			4100		2100	1400	1900	2500 (D)	4400	2400 (D)		1600		1200	2300 (E)
Tetrachloroethene	ug/l			22000		24000	23000	23000 (D)	20000 (D)	33000 (D)	29000 (D)		13000 (D)		16000 (D)	8800 (E)
trans-1,2-Dichloroethene	ug/l			19		20					46					20
Trichloroethene	ug/l			3400		1900	1300	1000	1100 (D)	2400	1300 (D)		920		610	1300
Vinyl Chloride	ug/l			510			300	240	410 (D)	610			380		330	700 (E)

Well ID: **WVA-MW-86R-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														128	
Chloride	mg/l														650	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
cis-1,2-Dichloroethene	ug/l			26		18	42	24		6.9	2.6		2.2		2.1	2.2
cis-1,2-Dichloroethene (Dup)	ug/l								15 (D)							
Tetrachloroethene	ug/l			2		2	3									
trans-1,2-Dichloroethene	ug/l									1.2	2.5		1.7			
Trichloroethene	ug/l			1		1	4									
Vinyl Chloride	ug/l			22		10	36	23		4.5	2.7		2.7			
Vinyl chloride (Dup)	ug/l								15 (D)							

Well ID: **WVA-MW-86R-2**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														182	
Chloride	mg/l														448	
Nitrate	mg/l														0.8	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l			3		2	3	3.2	3.2 (D)	7.7	8.1				6.6	10
cis-1,2-Dichloroethene	ug/l			1200		860	1200	1300 (D)	1600 (D)	2300 (D)	2500 (D)		4600 (D)		4400 (D)	3600 (E)
Tetrachloroethene	ug/l			860		700	670	590 (D)	510 (D)	720 (D)	640 (D)				18	26
trans-1,2-Dichloroethene	ug/l			17		14	11	8.9	22 (D)	25	47		38		36	54
Trichloroethene	ug/l			240		220	210	260	270 (D)	400	210 (D)				16	23
Vinyl Chloride	ug/l			43		54	91	110	180 (D)	280	300 (D)		1400		1400 (D)	2600

Well ID: **WVA-MW-86R-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/l														79	
Chloride	mg/l														681	
Nitrate	mg/l														1.2	
Sulfate	mg/l														0	

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l			18		11	12	12	12 (D)	12	10					4.3
Carbon disulfide	ug/l					4					9.1					
cis-1,2-Dichloroethene	ug/l			8400		4800	5600	5200 (D)	6400 (D)	5800 (D)	4400 (D)		1300 (D)		660 (D)	1900 (E)
Tetrachloroethene	ug/l			330		67	120	160	18 (D)		1.2		410		93	390
trans-1,2-Dichloroethene	ug/l			32		30	30	26	60 (D)	29			16		11	34
Trichloroethene	ug/l			290		80	43	62	18		1.2		210		120	140
Vinyl Chloride	ug/l			1200		830	980	730	1100 (D)	1300 (D)	1800 (D)		210		95	490 (E)

Well ID: **WVA-SA-GTI-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-SA-GTI-1**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(a)anthracene	ug/L															
Benzo(a)pyrene	ug/L															
Benzo(b)fluoranthene	ug/L															
Benzo(k)fluoranthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Chrysene	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Naphthalene	ug/L															
Phenanthrene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **WVA-SA-GTI-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-GTI-3**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
Chloromethane	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-SA-MW-19**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-SA-MW-19R**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	139		25		260	146	217	193	196						
Carbon Dioxide	mg/L			170		150	50	140 ( )	100 ( )	63 ( )						
Carbon Dioxide	ug/l	98200 ( )														
Chloride	mg/L	165		184		1	524	87	90	36						
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L			2.1		3.7	3.7	2.6	4.4	3.1						
Dissolved Oxygen	mg/L															
DOC	mg/l	3.4 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	0.5 (J)														
Ferrous iron	mg/l						2.72		0.32	1.68						
Methane	ug/l	519 ( )		170		260		120	17							
Nitrate	mg/L	0.07		0.17		0.09	0.24	0.5	0.33	0.33						
Nitrite	mg/L	0.051		0.02		0.043	0.019	0.008	0.012	0.008						
pH																
Redox	mV															
Sulfate	mg/L	12		5		24	24	2	14	30						
Sulfide-Dissolved	mg/l	0.1 ( )		2.6												
Temperature	C															
Total Dissolved Solids	mg/l	660 ( )														
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Methylnaphthalene	ug/L															
Acenaphthene	ug/l	0.39 ( )														
Bis(2-ethylhexyl)phthalate	ug/L															
Fluorene	ug/l	0.93 ( )														
Pyrene	ug/l	0.36 ( )														

Well ID: **WVA-SA-MW-19R**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	1 ( )		1					1.1							1.2
Ethylbenzene	ug/L															
Trichloroethene	ug/L															

Well ID: **WVA-SA-MW-20**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	134		40		233	80	104	231	208						
Carbon Dioxide	mg/l			27		40	14	20	24 ( )	14 ( )						
Carbon Dioxide	ug/l	32200 ( )														
Chloride	mg/L	7		272		1	317	1	29	68						
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l			3.3		3.4		3	4.4	3						
Dissolved Oxygen	mg/L															
DOC	mg/l	3.3 ( )														
DOC Average Quads-Dissolved	mg/l															
Ethane	ug/l	3.6 ( )														
Ethene	ug/l	0.5 (J)														
Ferrous Iron	mg/L	0.34		0		0.23	0.16	2.15	0.09	0.24						
Methane	ug/l	11.9 ( )		18		17										
Nitrate	mg/L	0.68		0.23		0.3	0.3	0.14	0.57	0.59						
Nitrite	mg/L	0.006		0.011		0.031	0.01	0.072	0.02	0.037						
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	74		41		24	74	75	55							
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )														
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	380 ( )														
Turbidity	NTUs															

Well ID: **WVA-SA-MW-20**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Chlorobenzene	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	3.1 ( )		2		2	1									
Ethylbenzene	ug/L															
Methylene Chloride	ug/L															
Vinyl Chloride	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-SA-MW-22**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L								216							
Chloride	mg/L								34							
Ferrous iron	mg/L								0.08							
Nitrate	mg/L								0.8							
Nitrite	mg/L								0.037							
Sulfate	mg/L								28							

Well ID: **WVA-SA-MW-23**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	111		110		120	168	108	133	153						
Alkalinity (Dup)	mg/L															
Carbon Dioxide	mg/l			53		54	34	58	73 ( )							
Carbon Dioxide	ug/l	41100 ( )												45000		
Carbon Dioxide (Dup)	mg/l									61 ( )						
Chloride	mg/L	166				209	181	215	203	237				314		
Chloride (Dup)	mg/L															
Conductivity	mohm/cm															
Conductivity (Dup)	mohm/cm															
Dissolved Oxygen	mg/L															
Dissolved Oxygen (Dup)	mg/L															
DOC	mg/l	1 (J)														
DOC Average Quads-Dissolved	mg/l															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/l	0.5 (J)														
Ferrous Iron	mg/L	1.02		0.8		1.17	0.23	1.13	1.23							
Ferrous Iron (Dup)	mg/L															
Methane	ug/l	318 ( )		86		64	23	140	84							
Methane (Dup)	ug/l									11						
Nitrate	mg/L	0.25		0.21		0.07	0.24	0.38	0.57	0.54				22.1		
Nitrate (Dup)	mg/L															
Nitrite	mg/L	0.001		0.011		0.024	0.008	0.081	0.001	0.02				8		
Nitrite (Dup)	mg/L															
pH																
pH (Dup)																
Redox	mV															
Redox (Dup)	mV															
Salinity																
Sulfate	mg/L			33		37	43	33	33	40						
Sulfate (Dup)	mg/L															

Well ID: **WVA-SA-MW-23**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )														
TDS	mg/L															
Temperature	C															
Temperature (Dup)	C															
Total Dissolved Solids	mg/l	620 ( )														
Turbidity	NTUs															
Turbidity (Dup)	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (Dup)	ug/l															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-SA-MW-24**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide-Dissolved	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-SA-MW-25**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Dissolved Oxygen	mg/L															
pH																
Redox	mV															

Well ID: **WVA-SA-MW-26**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(a)pyrene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Pyrene	ug/L															

Well ID: **WVA-SA-MW-26**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-SA-MW-27**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Carbon Disulfide	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-SA-MW-27R**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Sulfate	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Bis(2-ethylhexyl)phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															

Well ID: **WVA-SA-MW-28**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Phenol	ug/L															

Well ID: **WVA-SA-MW-28**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,1-Trichloroethane	ug/L															
1,1,2,2-Tetrachloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Bromoform	ug/L															
Carbon Disulfide	ug/L															
Ethylbenzene	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															
Toluene	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-SA-MW-29**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthene	ug/L															
Anthracene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Fluoranthene	ug/L															
Fluorene	ug/L															
Phenanthrene	ug/L															
Pyrene	ug/L															

Well ID: **WVA-SA-MW-29**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Toluene	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-SA-MW-32**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	50		105		87	34	19								
Carbon Dioxide	mg/l			4.3 (J)		3.1 (J)	2.2 (J)	3.3 (J)	4 (J)	9.5 ( )						
Carbon Dioxide	ug/l	4480 ( )												10000		
Chloride	mg/L	10		8		2	12	9								
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l			2		2.4	1.4	1.5	2.8	1.8				1.6		
Dissolved Oxygen	mg/L															
DOC	mg/l	2.1 ( )														
DOC (Dup)	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	1.9 ( )														
Ethane (Dup)	ug/L															
Ethene	ug/l	0.5 (J)														
Ethene (Dup)	ug/L															
Ferrous Iron	mg/L	0		0.29		0.19	0.38	0.29								
Methane	ug/l	41.7 ( )		16												
Methane (Dup)	ug/L															
Nitrate	mg/L	0.34		0.34		0.07	0.24	0.61								
Nitrite	mg/L	0.001		0.022		0.075	0.052	0.197								
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	0		16		16		60								
Sulfide	mg/L															
Sulfide (Dup)	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )						2.4		1.1						
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	170 ( )														
Turbidity	NTUs															

Well ID: **WVA-SA-MW-32**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,2,4-Trichlorobenzene	ug/L															
1,2-Dichlorobenzene	ug/L															
1,2-Dichlorobenzene (Dup)	ug/L															
1,4-Dichlorobenzene	ug/L															
1,4-Dichlorobenzene (Dup)	ug/L															
2,4-Dimethylphenol	ug/L															
2-Methylnaphthalene	ug/L															
2-Methylnaphthalene (Dup)	ug/L															
Acenaphthene	ug/L															
Acenaphthene (Dup)	ug/L															
Anthracene	ug/L															
Anthracene (Dup)	ug/L															
Benzo(a)anthracene	ug/L															
Benzo(a)anthracene (Dup)	ug/L															
Benzo(a)pyrene (Dup)	ug/L															
Benzo(b)fluoranthene (Dup)	ug/L															
Benzo(g,h,i)perylene	ug/L															
Benzo(g,h,i)perylene (Dup)	ug/L															
Benzo(k)fluoranthene (Dup)	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
bis(2-Ethylhexyl)phthalate (Dup	ug/L															
Chrysene	ug/L															
Chrysene (Dup)	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-butyl phthalate (Dup)	ug/L															
Di-n-octyl phthalate	ug/L															
Di-n-octyl phthalate (Dup)	ug/L															
Fluoranthene	ug/L															
Fluoranthene (Dup)	ug/L															

Well ID: **WVA-SA-MW-32**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Fluorene	ug/L															
Fluorene (Dup)	ug/L															
Indeno(1,2,3-cd)pyrene	ug/L															
Indeno(1,2,3-cd)pyrene (Dup)	ug/L															
Naphthalene	ug/L															
Naphthalene (Dup)	ug/L															
Phenanthrene	ug/L															
Phenanthrene (Dup)	ug/L															
Phenol	ug/L															
Phenol (Dup)	ug/L															
Pyrene	ug/L															
Pyrene (Dup)	ug/L															

Well ID: **WVA-SA-MW-32**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 2-Dichloroethane	ug/L															
1,1,2,2-Tetrachloroethane	ug/L															
1,1,2-Trichloroethane	ug/L															
1,1-Dichloroethene	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Benzene	ug/L															
Carbon disulfide	ug/L															
Chlorobenzene	ug/L															
Chloroform (Dup)	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	18 ( )		34		11	110	9.1	7.1	3.5	2.7			9.1		2
cis-1,2-Dichloroethene (BS)	ug/l												12			
cis-1,2-Dichloroethene (Dup)	ug/L															
Ethylbenzene	ug/L															
Methylene Chloride	ug/L															
Methylene Chloride (Dup)	ug/L															
Tetrachloroethene	ug/l	4.8 ( )		5		3	5	2.5	5	5.3	6.9			8.6		3
Tetrachloroethene (BS)	ug/l												9.6			
Toluene	ug/L															
trans-1,2-Dichloroethene	ug/L															
Trichloroethene	ug/l	2.8 ( )		5		2	13	2	4.3		2.3			4.4		1.3
Trichloroethene (BS)	ug/l												8			
Vinyl chloride	ug/l	1.6 ( )		2			49									
Vinyl Chloride (Dup)	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-SA-MW-33**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L						157	171								
Carbon Dioxide	mg/L						9.7									
Chloride	mg/L						1	1								
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L						0.13	0.22								
Methane	ug/L								11							
Nitrate	mg/L						0.29	0.23								
Nitrite	mg/L						0.007	0.168								
pH																
Redox	mV															
Sulfate	mg/L						19	25								
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L									16						
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															
Phenol	ug/L															

Well ID: **WVA-SA-MW-33**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
Methylene chloride	ug/L															
Toluene	ug/l									2.3	32					
Toluene (BS)	ug/l												120			

Well ID: **WVA-SA-MW-34**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	225		71		210	168	198	290	233						
Alkalinity (Dup)	mg/L															
Carbon Dioxide	mg/L			46		42	26	28		32 ( )						
Carbon Dioxide	ug/l	29200 ( )												20000		
Chloride	mg/L	155				805	671	531	462	696				158.6		
Chloride (Dup)	mg/L															
Conductivity	mohm/cm															
Conductivity (Dup)	mohm/cm															
Dissolved Organic Carbon	mg/l			2.4		2.7	2.2	2.6	3.3	2.2				2.2		
Dissolved Oxygen	mg/L															
Dissolved Oxygen (Dup)	mg/L															
DOC	mg/l	2.9 ( )														
DOC Average Quads-Dissolved	mg/l															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/l	5.54 ( )														
Ferrous Iron	mg/L	0.53		0.21		0.76	1.28	1.16	0.24	2.22						
Ferrous Iron (Dup)	mg/L															
Methane	ug/l	5220 ( )		9800		13000	8600	9000 (D)	14000 (D)	5700 (D)				5700 (D)		
Methane (Dup)	ug/L															
Nitrate	mg/L	0.04		0.5		0.11	0.46	0.63	0.7	0.97				19.2		
Nitrate (Dup)	mg/L															
Nitrite	mg/L	0.101		0.06		0.252	0.156	0.298	0.044	0.068				43		
Nitrite (Dup)	mg/L															
pH																
pH (Dup)																
Redox	mV															
Redox (Dup)	mV															
Salinity																
Sulfate	mg/L	0		0		1	6	5	0	1				2		
Sulfate (Dup)	mg/L															

Well ID: **WVA-SA-MW-34**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )														
Sulfide-Dissolved (Dup)	mg/L															
TDS	mg/L															
Temperature	C															
Temperature (Dup)	C															
Total Dissolved Solids	mg/l	740 ( )														
Turbidity	NTUs															
Turbidity (Dup)	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (Dup)	ug/L															
Tetrachloroethene (Dup)	ug/L															
Vinyl chloride	ug/l	2 ( )														

Well ID: **WVA-SA-MW-38**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	152		141		294	212	239	263	236						
Carbon Dioxide	mg/L			160		160	120	110	150 ( )	130 ( )						
Carbon Dioxide	ug/l	102000 ( )												170000		
Chloride	mg/L	10		39		1	262	1	109	200				197		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l			3		3.1	2.5	2.7	2.7	2.3				2.6		
Dissolved Oxygen	mg/L															
DOC	mg/l	3.1 ( )														
DOC Average Quads-Dissolved	mg/l															
Ferrous Iron	mg/L			1.58		0.16	0.25	0.13	0.13	0.15						
Methane	ug/l	2.5 ( )		25			110							51		
Nitrate	mg/L	0.02		0.17		0.1	0.29	0.73	0.73	0.59				54		
Nitrite	mg/L	0.101		0.014		0.022	0.016	0.016	0.002	0.032				11		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L			47		29	61	41	61	35				40		
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )						1.5		1.2						
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	470 ( )														
Turbidity	NTUs															

Well ID: **WVA-SA-MW-38**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,2,2-Tetrachloroethane	ug/L															
1,1,2-Trichloroethane	ug/L															
1,2-Dichloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Bromoform	ug/L															
Dibromochloromethane	ug/L															
Methylene Chloride	ug/L															
trans-1,3-Dichloropropene	ug/L															
Trichloroethene	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-SA-MW-39**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	122		107		201	133	109	173	201						
Carbon Dioxide	mg/L			250		200	210	160 ( )	170 ( )	190 ( )						
Carbon Dioxide	ug/l	129000 ( )												310000		
Carbon dioxide (Dup)	ug/L															
Chloride	mg/L	132		140		146	181	123	167	191				260		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L			8		8.8	7.9	7.4	8.9	7				7.1		
Dissolved Oxygen	mg/L															
DOC	mg/l	8.4 ( )														
DOC Average Quads-Dissolved	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/l	752 ( )		420		440	300	320	430 (D)	380				410		
Ethene	ug/l	731 ( )		390		370	240	210	270 (D)	260				220		
Ferrous Iron	mg/L					2.49	2.53	2.2		2.62						
Methane	ug/l	11300 ( )		6800		5900	5500	4900 (D)	5300 (D)	5100 (D)				5400 (D)		
Nitrate	mg/L	0		0.21		0.06	0.31	0.47	0.74	0.14				14.9		
Nitrite	mg/L	0		0.01		0.028	0.012	0.223	0.025	0.021				10		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L			28		22	19	18	53	19				40		
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )														
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	610 ( )														
Turbidity	NTUs															

Well ID: **WVA-SA-MW-39**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Anthracene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-SA-MW-39**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1-Dichloroethene	ug/L															
1,1-Dichloroethane (BS)	ug/l												14			
1,1-Dichloroethene	ug/l	13 ( )		18		16	19	13	13 (D)	15				12		7.4
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Benzene	ug/l	24 ( )		27		27	30	19	15 (D)	22				25		15
Benzene (BS)	ug/l												25			
cis-1 2-Dichloroethene	ug/L															
cis-1 2-Dichloroethene (Dup)	ug/L															
cis-1,2-Dichloroethene	ug/l	4800 ( )		4200		7600	4300	5400 (D)	3800 (D)	6600 (D)	5100 (D)			5900 (D)		3500 (E)
cis-1,2-Dichloroethene (BS)	ug/l												5700 (D)			
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l	470 ( )		340		300	200	230	110 (D)	170	190			58		83
Tetrachloroethene (BS)	ug/l												320			
Tetrachloroethene (Dup)	ug/L															
Toluene	ug/l	1.9 ( )		2		2	2		9.9 (D)							
trans-1 2-Dichloroethene	ug/L															
trans-1,2-Dichloroethene	ug/l	200 ( )		60		46	36	24	87 (D)	41				30		17
trans-1,2-Dichloroethene (BS)	ug/l												28			
Trichloroethene	ug/l	900 ( )		720		720	580	600	530 (D)	870	540			370		430
Trichloroethene (BS)	ug/l												880			
Trichloroethene (Dup)	ug/L															
Vinyl chloride	ug/l	2000 ( )		1500		2900	1700	1900 (D)	1400 (D)	3000 (D)	2100 (D)			2000 (D)		940
Vinyl Chloride (BS)	ug/l												1900			
Vinyl chloride (Dup)	ug/L															
Xylenes, Total	ug/l					1										

Well ID: **WVA-SA-MW-41**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L			59		68	65	28	45	46						
Carbon Dioxide	mg/l			1.4 (J)		1.3 (J)	1.3 (J)	0.77 (J)	0.68 (J)	0.94 (J)						
Carbon Dioxide	ug/l	1230 ( )														
Chloride	mg/L	6.5		27		1	5	12	7	2				17		
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/l			1.1		1.3	1.2	2	1.6	1.3						
Dissolved Oxygen	mg/L															
DOC	mg/l	1.5 ( )														
DOC (Dup)	mg/L															
DOC Average Quads-Dissolved	mg/l															
Ethane	ug/L															
Ethane (Dup)	ug/L															
Ethene	ug/L															
Ethene (Dup)	ug/L															
Ferrous Iron	mg/L	3.06		0.19		0.63	0.51	1.54	0.7	1.99						
Methane	ug/l	0.376 ( )								4400 (D)				1000		
Methane (Dup)	ug/L															
Nitrate	mg/L	1.36		0.24		0.09	0.46	0.17	0.73	0.48				32.1		
Nitrite	mg/L	2.06		0.16		0.57	0.023	0.158	0.03	0.043				22		
pH																
Redox	mV															
Salinity																
Sulfate	mg/L			31		21	16	19	17	12						
Sulfide	mg/L															
Sulfide (Dup)	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )								1.2						
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	180 ( )														
Turbidity	NTUs															

Well ID: **WVA-SA-MW-41**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene	ug/L															
Phenol	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Carbon Disulfide	ug/L															
Chlorobenzene	ug/L															
Chloroform	ug/L															
cis-1,2-Dichloroethene	ug/L						36									
cis-1,2-Dichloroethene (Dup)	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l						3									
Toluene	ug/L															
Trichloroethene	ug/l						4									
Vinyl Chloride	ug/L						2									
Vinyl Chloride (Dup)	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-SA-MW-45**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-SA-MW-45**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthylene	ug/L															
Anthracene	ug/L															
Benzo(a)anthracene	ug/L															
Benzo(a)pyrene	ug/L															
Benzo(b)fluoranthene	ug/L															
Benzo(g,h,i)perylene	ug/L															
Benzo(k)fluoranthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Chrysene	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Indeno(1,2,3-cd)pyrene	ug/L															
Phenanthrene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether (BS)	ug/L															
Bromodichloromethane	ug/L															
Bromomethane	ug/L															
Carbon Disulfide	ug/L															
Chloromethane	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Trichlorofluoromethane	ug/L															
Vinyl Chloride	ug/L															
Vinyl chloride (BS)	ug/L															
Xylenes, Total (BS)	ug/L															

Well ID: **WVA-SA-MW-46**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Carbon Disulfide	ug/L															
Chloromethane	ug/L															
Methylene Chloride	ug/L															
Trichloroethene (BS)	ug/L															

Well ID: **WVA-SA-MW-47**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mV															
Dissolved Oxygen	mg/L															
Dissolved Oxygen	mohm/cm															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mg/L															
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-SA-MW-47**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(a)anthracene	ug/L															
Benzo(a)pyrene	ug/L															
Benzo(b)fluoranthene	ug/L															
Benzo(k)fluoranthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Chrysene	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
4-Methyl-2-Pentanone	ug/L															
Benzene	ug/L															
Bromomethane	ug/L															
Chloromethane	ug/L															
Methylene Chloride	ug/L															
Trichloroethene (BS)	ug/L															

Well ID: **WVA-SA-MW-48**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Fluoranthene	ug/L															
Pyrene	ug/L															

Well ID: **WVA-SA-MW-48**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Methylene Chloride	ug/L															
Toluene	ug/L															
Trichloroethene (BS)	ug/L															

Well ID: **WVA-SA-MW-49**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-MW-49**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
cis-1,2-Dichloroethene (BS)	ug/l					1										
Methylene Chloride	ug/L															
Tetrachloroethene (BS)	ug/L					1										
Trichloroethene (BS)	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-SA-MW-50**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthylene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Phenol	ug/L															

Well ID: **WVA-SA-MW-50**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Bromodichloromethane	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
Toluene	ug/L															
Trichloroethene (BS)	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-SA-MW-51**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-MW-51**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
Methylene chloride (BS)	ug/L															
Tetrachloroethene (BS)	ug/L															
Trichloroethene (BS)	ug/L															
Vinyl Chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-52**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															

Well ID: **WVA-SA-MW-53**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-SA-MW-53**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(a)anthracene	ug/L															
Benzo(a)pyrene	ug/L															
Benzo(b)fluoranthene	ug/L															
Benzo(g,h,i)perylene	ug/L															
Benzo(k)fluoranthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Chrysene	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Indeno(1,2,3-cd)pyrene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Chloromethane	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-SA-MW-54**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-SA-MW-54**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(a)anthracene	ug/L															
Benzo(a)pyrene	ug/L															
Benzo(b)fluoranthene	ug/L															
Benzo(g,h,i)perylene	ug/L															
Benzo(k)fluoranthene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Chrysene	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Indeno(1,2,3-cd)pyrene	ug/L															
Pyrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1 1 2 2-Tetrachloroethane (BS)	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
4-Methyl-2-Pentanone	ug/L															
Bromodichloromethane	ug/L															
Bromomethane	ug/L															
Chloromethane	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
Tetrachloroethene (BS)	ug/l					1										
Vinyl Chloride	ug/L															

Well ID: **WVA-SA-MW-55**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthylene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-SA-MW-55**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
4-Methyl-2-Pentanone	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
Trichloroethene	ug/L															
Vinyl Chloride	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-SA-MW-56**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthylene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-MW-56**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
4-Methyl-2-Pentanone	ug/L															
Benzene	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
Tetrachloroethene	ug/L															
Toluene	ug/L															
Trichloroethene	ug/L															
Xylenes, Total	ug/L															

Well ID: **WVA-SA-MW-57**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-SA-MW-57**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/L															
Carbon Disulfide	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-59**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Carbon disulfide	ug/l	23 ( )														
Chlorobenzene	ug/L															
Chloromethane	ug/L															
Tetrachloroethene (BS)	ug/l					1										

Well ID: **WVA-SA-MW-60**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-SA-MW-60**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/l	22 ( )														
cis-1,2-Dichloroethene (BS)	ug/l					12	17	37	12	49		87	88		30	
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
trans-1 2-Dichloroethene (BS)	ug/L															
trans-1,2-Dichloroethene	ug/l	0.85 ( )														
trans-1,2-Dichloroethene (BS)	ug/l											1.3	1			
Vinyl Chloride	ug/L															
Vinyl Chloride (BS)	ug/l							94		140 (D)		820 (D)	520 (D)		150	

Well ID: **WVA-SA-MW-61**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Phenol	ug/L															

Well ID: **WVA-SA-MW-61**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
Chlorobenzene	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
Trichloroethene (BS)	ug/L															
Vinyl Chloride	ug/L															
Vinyl Chloride (BS)	ug/L															
Xylenes, Total (BS)	ug/L															

Well ID: **WVA-SA-MW-62**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Phenol	ug/L															

Well ID: **WVA-SA-MW-62**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
Chlorobenzene	ug/L															
Toluene (BS)	ug/L															
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-63**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthylene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Pyrene	ug/L															

Well ID: **WVA-SA-MW-63**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether (BS)	ug/L															
Benzene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
Methylene Chloride	ug/L															
Toluene	ug/L															
Vinyl Chloride	ug/L															
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-64**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															

Well ID: **WVA-SA-MW-64**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
Chloromethane	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
Ethylbenzene	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
Vinyl Chloride	ug/L															
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-65**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															

Well ID: **WVA-SA-MW-65**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Bromodichloromethane	ug/L															
Methylene Chloride	ug/L															
Tetrachloroethene	ug/L															

Well ID: **WVA-SA-MW-66**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-MW-66**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
Carbon Disulfide	ug/L															
Chlorobenzene	ug/L															
Chlorobenzene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
Methylene Chloride	ug/L															
Trichlorofluoromethane	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-SA-MW-67**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Phenol	ug/L															

Well ID: **WVA-SA-MW-67**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
Methylene Chloride	ug/L															
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-68**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-MW-68**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether (BS)	ug/L															
Bromodichloromethane	ug/L															
Bromomethane	ug/L															
Methylene Chloride	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-SA-MW-69**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene (BS)	ug/L															
Chloromethane	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-SA-MW-70**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
N-Nitrosodiphenylamine (1)	ug/L															

Well ID: **WVA-SA-MW-70**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Bromodichloromethane	ug/L															
Carbon Disulfide	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/l	42 ( )														2.4
cis-1,2-Dichloroethene (BS)	ug/L					56	60	64	7.9	4.2		5	15		11	
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
Tetrachloroethene (BS)	ug/l								1.2	1.9						
trans-1 2-Dichloroethene (BS)	ug/L															
trans-1,2-Dichloroethene	ug/l	1.6 ( )														
trans-1,2-Dichloroethene (BS)	ug/L															
Trichloroethene	ug/L															
Trichloroethene (BS)	ug/l						1									
Vinyl chloride	ug/l	3.6 ( )														
Vinyl chloride (BS)	ug/L					4	7	10					5.8			

Well ID: **WVA-SA-MW-71**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(a)pyrene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Phenol	ug/L															
Pyrene	ug/L															

Well ID: **WVA-SA-MW-71**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
Methylene Chloride	ug/L															
Methylene chloride (BS)	ug/L															
Vinyl Chloride	ug/L															
Vinyl chloride (BS)	ug/l															

Well ID: **WVA-SA-MW-72**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide (Dup)	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC (Dup)	mg/L															
Ethane	ug/L															
Ethane (Dup)	ug/L															
Ethene	ug/L															
Ethene (Dup)	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Silica (Dup)	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
Sulfide (Dup)	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-SA-MW-72**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate (Dup	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-butyl phthalate (Dup)	ug/L															
Phenol	ug/L															
Phenol (Dup)	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (Dup)	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/L															
Benzene (BS)	ug/L															
Benzene (Dup)	ug/L															
Bromodichloromethane	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene (Dup)	ug/L															
Methylene Chloride	ug/L															
Methylene Chloride (Dup)	ug/L															
Vinyl Chloride	ug/L															
Vinyl chloride (BS)	ug/L															
Vinyl Chloride (Dup)	ug/L															

Well ID: **WVA-SA-MW-73**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthylene	ug/L															
Anthracene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Phenol	ug/L															

Well ID: **WVA-SA-MW-73**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
Ethylbenzene	ug/L															
Methylene Chloride	ug/L															
Toluene	ug/L															
Trichlorofluoromethane	ug/L															
Vinyl Chloride	ug/L															
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-74**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ethane	ug/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Silica	mg/L															
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Acenaphthylene	ug/L															
Anthracene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Phenol	ug/L															

Well ID: **WVA-SA-MW-74**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/L															
Benzene (BS)	ug/L															
Bromodichloromethane	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (BS)	ug/L															
Methylene Chloride	ug/L															
Vinyl Chloride	ug/L															
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-75**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-MW-75**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Benzene (BS)	ug/l															
Carbon Disulfide	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Vinyl chloride	ug/l	1 (J)														
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-76**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-MW-76**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
4-Methyl-2-Pentanone	ug/L															
Benzene (BS)	ug/L															
Carbon disulfide	ug/L															
Methylene chloride	ug/L															

Well ID: **WVA-SA-MW-77**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC (Dup)	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Phenanthrene	ug/L															

Well ID: **WVA-SA-MW-77**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (MEK) (BS)	ug/l															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
4-Methyl-2-Pentanone	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															

Well ID: **WVA-SA-MW-78**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzene	UG/L															1.5
cis-1,2-Dichloroethene	UG/L															28
Tetrachloroethene	UG/L															2
Trichloroethene	UG/L															3.5
Vinyl chloride	UG/L															39

Well ID: **WVA-SA-MW-79**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	12		60		62	104	46	145	86						
Carbon Dioxide	ug/l	600 (J)														
Chloride	mg/L	25		53		62	2	12	9	15						
Dissolved Organic Carbon	mg/l			1.8		1.9	1	2.1	2.2	1.2				1.5		
DOC	mg/l	7.5 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	11.4 ( )														
Ethene	ug/l	2.73 ( )														
Ferrous Iron	mg/L	0.86		0.11		0.04	0.24	0.51	0.32	0.61						
Methane	ug/l	5590 ( )		3400		7800	1700	2700 (D)	2700 (D)	530				2500 (D)		
Methane (Dup)	ug/l															
Nitrate	mg/L	0		0.22		0.06	0.35	0.45	0.7	0.67				26.4		
Nitrite	mg/L	0.06		0.008		0.011	0.019	0.178	0.03	0.02				32		
Sulfate	mg/L	18		2		2	5	80	22	15						
Sulfide-Dissolved	mg/l	0.1 ( )														
Total Dissolved Solids	mg/l	430 ( )														

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/l	4.8 ( )		1		2	1		1					1.2		1.1
Benzene (BS)	ug/l												5.5			
Carbon disulfide	ug/L															
cis-1,2-Dichloroethene	ug/l	0.5 (J)								1.1						
cis-1,2-Dichloroethene (BS)	ug/L															

Well ID: **WVA-SA-MW-80**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	88		286		282	113	196	59	121						
Carbon Dioxide	mg/L			67		79	62		12 ( )	19 ( )						
Carbon Dioxide	ug/L	27200 ( )												43000		
Chloride	mg/L	9		154		1	24	6	3	20				103		
Dissolved Organic Carbon	mg/L			4.3		5.1	3.5	4.8	2.2	1.5				2.5		
DOC	mg/l	7.4 ( )														
OC Average Quads-Dissolved	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/l	5.97 ( )						22								
Ethene	ug/l	1.28 ( )						23								
Ferrous Iron	mg/L	3.3		1.74		1.07	0.38		0.53	0.22						
Methane	ug/l	1230 ( )		2000		3500	1200	4100 (D)	440	470				920		
Methane (Dup)	ug/L															
Nitrate	mg/L	0.13		0.98		0.12	0.32	0.64	0.75	0.75				25.7		
Nitrite	mg/L	0.148		0.108		0.09	0.033	0.705	0.035	0.042				57		
Sulfate	mg/L	13		39		8	7	56	11	53				72		
Sulfide-Dissolved	mg/l	0.1 ( )		1.8						1.2						
Total Dissolved Solids	mg/l	300 ( )														

Well ID: **WVA-SA-MW-80**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/L															
Benzene (BS)	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	5 ( )		15		35	22	99		1.5						
cis-1,2-Dichloroethene (BS)	ug/L															
Trichloroethene	ug/l	0.97 ( )		4		6	5	17		2.1						
Vinyl chloride	ug/l			7		15	8	58			2.5			3.1		
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-81**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L			2.95		169	256	51	243	201						
Carbon Dioxide	mg/L			12		9.6	8.4	1.6 (J)	6.4 ( )	6.1 ( )						
Carbon dioxide	ug/l	10800 ( )												9400		
Chloride	mg/L	177		144		177	186	46	153	156				425.9		
Dissolved Organic Carbon	mg/l			2.3		2.4	2.3		2.2	1.6				1.8		
DOC	mg/l	3.5 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	77.7 ( )					36		33	32				36		
Ethene	ug/l	435 ( )					170		120	150				110		
Ferrous Iron	mg/L	0		0.1		0.14	0.22	0.1	0.09	1.78						
Methane	ug/l	34600 ( )		27000		28000	14000	770	27000 (D)	23000 (D)				14000 (D)		
Nitrate	mg/L	0		0.24		0.06	0.33	0.35	0.13	0.41				3.5		
Nitrite	mg/L	0		0.012		0.008	0.011	0.023	0.011	0.115				26		
Sulfate	mg/L			1		1	4	5	1	1				11		
Sulfide-Dissolved	mg/L	0.1 ( )						1.2		1.8						
Total Dissolved Solids	mg/l	700 ( )														

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Carbon disulfide	ug/l										3.4					
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	11 ( )		17		28	18	2.2	37	19	41			39		25
cis-1,2-Dichloroethene (BS)	ug/l												16			
Vinyl chloride	ug/l	150 ( )		170		460	400	2.7	480 (D)	340 (D)	730 (D)			520 (D)		540
Vinyl Chloride (BS)	ug/l												300 (D)			

Well ID: **WVA-SA-MW-82**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	88		157			219	119	197	130						
Carbon dioxide	ug/l	5800 ( )												12000		
Carbon Dioxide	mg/L			5.5			6.6	4 (J)	3.9 (J)	4.2 (J)						
Chloride	mg/L	18		90			3	8	1	28				104.6		
Dissolved Organic Carbon	mg/L			2.3			2.2	3	2.9	1.2				3.3		
DOC	mg/l	2.5 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	28.7 ( )														
Ethene	ug/L	28.7 ( )														
Ferrous Iron	mg/L	1.21		0.24				0.99	2.12	0.38						
Methane	ug/l	39400 ( )		760			10000	93	14000 (D)	5500 (D)				370		
Nitrate	mg/L	0		0.45			2.09	0.33	0.2	0.71				14.7		
Nitrite	mg/L	0		0.03			0.273	0.055	0.164	0.185				29		
Sulfate	mg/L	26		7				10	53	15						
Sulfide-Dissolved	mg/l	0.1 ( )														
Total Dissolved Solids	mg/l	210 ( )														

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/l															
Benzene (BS)	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	0.8 ( )														
cis-1,2-Dichloroethene (BS)	ug/L															
Vinyl chloride	ug/l			5					3.2		3.3					
Vinyl chloride (BS)	ug/L															

Well ID: **WVA-SA-MW-83**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	186		309		240	248	146	285	734						
Carbon Dioxide	mg/L			10		9	8.1	5.2 ( )		7.2 ( )						
Carbon dioxide	ug/l	11300 ( )												8700		
Chloride	mg/L	92		154		145	6	147	146	198				162		
Dissolved Organic Carbon	mg/L			2.2		2.6	2.3	2.1	4.1 (D)	1.7				1.8		
DOC	mg/l	2.8 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	56.9 ( )					28	40	44 (D)					65		
Ethene	ug/l	183 ( )					94	120	150 (D)					140		
Ferrous Iron	mg/L	0.23		0.15		0.4	0.07	0.05	0.49	0.09						
Methane	ug/l	14900 ( )		28000		30000	26000	29000 (D)	38000 (D)	300				29000 (D)		
Nitrate	mg/L	0.67		0.14		0.11	0.34	0.57	0.36	0.94				18.9		
Nitrite	mg/L	0.006		0.007		0.039	0.022	0.085	0.154	0.034				28		
Sulfate	mg/L			2		10	2	4	9	0				48		
Sulfide-Dissolved	mg/L	0.1 ( )						1.2		4.2						
Total Dissolved Solids	mg/l	710 ( )														

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (BS)	ug/L															
Benzene	ug/l	0.5 ( )														
Carbon disulfide	ug/l								3.9		3.9					
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	41 ( )		47		66	45	46	56 (D)	48	23			22		5.8
cis-1,2-Dichloroethene (BS)	ug/l												20			
trans-1,2-Dichloroethene	ug/l	0.82 ( )														
Vinyl chloride	ug/l	700 ( )		400		990	700	590 (D)	810 (D)	640 (D)	660 (D)			590 (D)		32
Vinyl Chloride (BS)	ug/l												460 (D)			

Well ID: **WVA-SA-MW-84**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L			148		162	122	127	167	163						
Carbon Dioxide	mg/L						180	160 ( )	190 ( )	170 ( )						
Carbon dioxide	ug/l													100000		
Chloride	mg/L			212		81	156	156	192	79				159		
Dissolved Organic Carbon	mg/l			6.5		6.3	6	5.4	10 (D)	4.7				2.8		
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l			260		210	180	220	320 (D)	170				110		
Ethene	ug/l					340	270	320	480 (D)	250				120		
Ferrous iron	mg/L					1.75			1.69							
Methane	ug/l					2300	2200	1300 (D)	3400 (D)	1700				1000		
Nitrate	mg/L			0.25		0.28	0.31	0.46	0.25	0.2				20.3		
Nitrite	mg/L			0.013		0.015	0.009	0.165	0.07	0.048				11		
Sulfate	mg/L			44		59	24		18	44						
Total Dissolved Solids	mg/l															

Well ID: **WVA-SA-MW-84**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l			7		5	6	7.7	8.4 (D)	6.6	3.8			3.1		
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Benzene	ug/l			8		6	8	7.4	13 (D)	6.1				3.1		
Carbon Dioxide	mg/l			230												
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l			1800		2100	1900	2600 (D)	3300 (D)	1600 (D)	1200 (D)			910 (D)		370 (E)
cis-1,2-Dichloroethene (BS)	ug/l												340 (D)			
Ethene	ug/l			420												
Methane	ug/l			2900												
trans-1,2-Dichloroethene	ug/l			13		10	8	9.3	21	8.4	3.8			3.4		2.3
trans-1,2-Dichloroethene (BS)	ug/l												1.6			
Trichloroethene	ug/l			2		1										
Vinyl chloride	ug/l			2000		2400	2300	2400 (D)	3500 (D)	1600 (D)	1300 (D)			960 (D)		310
Vinyl Chloride (BS)	ug/l												170			

Well ID: **WVA-SA-MW-85**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Sulfate	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone (MEK) (BS)	ug/L															
2-Chloroethyl vinyl ether (BS)	ug/l															
2-Chloroethylvinylether (BS)	ug/L															
Benzene (BS)	ug/L															
cis-1 2-Dichloroethene (BS)	ug/L															
Methylene chloride	ug/L															
Vinyl chloride (BS)	ug/l															

Well ID: **WVA-SA-MW-EA-6**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L			223		328	143	163	214	115						
Carbon Dioxide	mg/L			1.6 (J)		68	67	80	110 ( )	79 ( )						
Carbon Dioxide	ug/l	5210 ( )														
Chloride	mg/L			82		90	246	95	83	280						
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L			2.2		2.7	2.2	2.4	3.2	1.5						
Dissolved Oxygen	mg/L															
DOC	mg/l	1.8 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	0.5 (J)														
Ethene	ug/l	0.5 (J)														
Ferrous Iron	mg/L			0.08		0.43	0.23	0.43	2.8	1.71						
Methane	ug/l	1.08 ( )				36	34	31	64	14						
Nitrate	mg/L			0.24		0.09	0.3	0.15	0.12	0.62						
Nitrite	mg/L			0.01		0.075	0.012	0.104	0	0.023						
pH																
Redox	mV															
Salinity																
Sulfate	mg/L			31		42	79			32						
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )						1.4								
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	470 ( )														
Turbidity	NTUs															

Well ID: **WVA-SA-MW-EA-6**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(a)pyrene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1,2,2-Tetrachloroethane	ug/L															
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Chlorobenzene	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l			2		1										1.1
Methylene chloride	ug/L															
Toluene	ug/L															
Trichloroethene	ug/l	2.3 ( )		30		22	13	12	15	3.5	13					1.6
Trichloroethene (BS)	ug/l												1.7			

Well ID: **WVA-SA-MW-ESE-1**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ethene	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Phenanthrene	ug/L															

Well ID: **WVA-SA-MW-ESE-1**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
cis-1,2-Dichloroethene	ug/L															
Methylene Chloride	ug/L															
Trichloroethene	ug/L															
Vinyl Chloride	ug/L															

Well ID: **WVA-SA-MW-ESE-2**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(a)pyrene	ug/L															
Bis(2-ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Naphthalene (Dup)	ug/L															

Well ID: **WVA-SA-MW-ESE-2**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Benzene	ug/L															
Carbon disulfide	ug/L															
Chloromethane	ug/L															
Methylene chloride	ug/L															

Well ID: **WVA-SA-MW-ESE-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
OC Average Quads-Dissolve	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															

Well ID: **WVA-SA-MW-ESE-3**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
4-Methyl-2-Pentanone	ug/L															
Chloromethane	ug/L															
Methylene chloride	ug/L															

Well ID: **WVA-SA-MW-ESE-6**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	153		23.5		338	251	286	297	274						
Carbon Dioxide	mg/L			70		63	59	55 ( )	51 ( )	61 ( )						
Carbon Dioxide	ug/l	48000 ( )														
Chloride	mg/L	18		3.5		1	1	19	26	13						
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L			4		4.2	4.4	3.8	4.4	3.3						
Dissolved Oxygen	mg/L															
DOC	mg/l	4.2 ( )														
DOC (Dup)	mg/L															
DOC Average Quads-Dissolved	mg/l															
Ethane	ug/l	11.8 ( )														
Ferrous Iron	mg/L	2.88					2.92			2.69						
Methane	ug/l	38900 ( )		15000		18000	15000	15000 (D)	24000 (D)	11000 (D)						
Methane (Dup)	ug/L															
Nitrate	mg/L	0.05		0.25		0.11	0.33	0.31	0.56	0.61						
Nitrite	mg/L	0.223		0.025		0.024	0.015	0.137	0	0.021						
pH																
Redox	mV															
Salinity																
Sulfate	mg/L	7		1		21	3	2	5	34						
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )		2.2				1.2								
TDS	mg/L															
Temperature	C															
Total Dissolved Solids	mg/l	450 ( )														
Turbidity	NTUs															

Well ID: **WVA-SA-MW-ESE-6**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Methylnaphthalene	ug/L															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluorene	ug/L															
Naphthalene	ug/L															
Phenanthrene	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Butanone (Dup)	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Benzene	ug/L															
Carbon Disulfide	ug/L															
Chlorobenzene	ug/L															
Chloromethane	ug/L															
Chloromethane (Dup)	ug/L															
Methylene chloride	ug/L															
Methylene Chloride (Dup)	ug/L															
Tetrachloroethene	ug/L															
Trichloroethene	ug/L															

Well ID: **WVA-SA-MW-ESE-8**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Carbon Dioxide	ug/L															
Carbon Dioxide (Dup)	ug/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC (Dup)	mg/L															
OC Average Quads-Dissolved	mg/L															
C Average Quads-Dissolved (D	mg/L															
Ethane	ug/L															
Ethane (Dup)	ug/L															
Ethene	ug/L															
Ethene (Dup)	ug/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Methane (Dup)	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

Well ID: **WVA-SA-MW-ESE-8**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Anthracene (Dup)	ug/L															
Bis(2-ethylhexyl)phthalate	ug/L															
is(2-Ethylhexyl)phthalate (Dup	ug/L															
Butyl benzyl phthalate	ug/L															
Butyl benzyl phthalate (Dup)	ug/L															
Diethyl phthalate	ug/L															
Diethyl phthalate (Dup)	ug/L															
Di-n-butyl phthalate	ug/L															
Di-n-butyl phthalate (Dup)	ug/L															
Di-n-octyl phthalate	ug/L															
Di-n-octyl phthalate (Dup)	ug/L															
Fluoranthene (Dup)	ug/L															
Phenanthrene (Dup)	ug/L															
Pyrene (Dup)	ug/L															

Well ID: **WVA-SA-MW-ESE-8**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethylvinylether	ug/L															
2-Chloroethylvinylether (Dup)	ug/L															
Chloroform	ug/L															
Chloroform (Dup)	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1 2-Dichloroethene (Dup)	ug/L															
cis-1,2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene (Dup)	ug/L															
Dibromochloromethane	ug/L															
Methylene Chloride	ug/L															
Methylene Chloride (Dup)	ug/L															
Tetrachloroethene	ug/L															
trans-1 2-Dichloroethene (Dup)	ug/L															
trans-1,2-Dichloroethene	ug/L															
Trichloroethene	ug/L															
Vinyl chloride	ug/L															
Vinyl chloride (Dup)	ug/L															

Well ID: **WVA-SA-SNS-6**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L	170				260	144	219	235	188						
Carbon Dioxide	ug/l	75200 ( )														
Carbon Dioxide	mg/L					66	42	41	59 ( )	38 ( )						
Chloride	mg/L	85				17	21	88	107	181						
Conductivity	mohm/cm															
Dissolved Organic Carbon	mg/L					6.4	7.3	9.2	6.4	6.6						
Dissolved Oxygen	mg/L															
DOC	mg/l	26 ( )														
DOC Average Quads-Dissolved	mg/L															
Ethane	ug/l	0.614 ( )								12						
Ethene	ug/l	0.5 (J)								11						
Ferrous Iron	mg/L	2.8				2.02	0.049	0.64	0.67	0.53						
Methane	ug/l	1220 ( )				300	38	68	62							
Nitrate	mg/L	1.14				0.24	0.33	0.24	0.71	0.19						
Nitrite	mg/L	0.099				0.36	0.014	0.026	0.013	0.029						
pH																
Redox	mV															
Sulfate	mg/L	76				48	52	27	10	19						
Sulfide	mg/L															
Sulfide-Dissolved	mg/l	0.1 ( )														
Temperature	C															
Total Dissolved Solids	mg/l	470 ( )														
Turbidity	NTUs															

Well ID: **WVA-SA-SNS-6**

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Bis(2-ethylhexyl) phthalate	ug/l															
bis(2-Ethylhexyl)phthalate	ug/L															
Butyl benzyl phthalate	ug/L															
Diethyl phthalate	ug/l									12						
Di-n-butyl phthalate	ug/L															
Phenol	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone (MEK)	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Benzene	ug/L															
Bromodichloromethane	UG/L															2.8
Bromomethane	ug/l							2.6								
Chloroform	ug/l									2.6						18
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	2.7 ( )				39	13	18	22	6.6	4.7		3			1.3
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l						2	1.9								63
Toluene	ug/L															
Trichloroethene	ug/l	2 ( )					1	1.6	1.2				1.8			4.2
Vinyl chloride	ug/l	4.2 ( )				4		2.1	5.7		3					

Well ID: **WVA-SA-STS-3**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
DOC Average Quads-Dissolved	mg/L															
Methane	ug/L															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Bis(2-ethylhexyl)phthalate	ug/L															
Di-n-butyl phthalate	ug/L															
Phenol	ug/L															

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Bromomethane	ug/l							2.4								
Carbon disulfide	ug/l					2										
Chloroform	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	1.6 ( )				1	1	1.3	1.2							1.2
Tetrachloroethene	ug/l										1.2					110
Toluene	ug/l						1									
Trichloroethene	UG/L															2.9

Well ID: **WVA-SA-STS-5**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Benzo(k)fluoranthene	ug/L															
Bis(2-ethylhexyl)phthalate	ug/L															
Diethyl phthalate	ug/l									11						
Di-n-butyl phthalate	ug/L															
Fluoranthene	ug/L															
Phenol	ug/L															
Pyrene	ug/L															

Well ID: **WVA-SA-STS-5**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Bromodichloromethane	ug/L															
Chloroform	ug/L												1.7			
Chloromethane	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	3.6 ( )				5	1	3.8	2.2	4.9	1.5		1.3			3.8
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l	0.63 ( )														82
Toluene	ug/L															
Trichloroethene	UG/L															2.2
Vinyl chloride	ug/l							6.4		4	3.5		6			

Well ID: **WVA-SA-STS-6**

METHOD: *NAT*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
Alkalinity	mg/L															
Chloride	mg/L															
Conductivity	mohm/cm															
Dissolved Oxygen	mg/L															
DOC	mg/L															
DOC Average Quads-Dissolved	mg/L															
Ferrous Iron	mg/L															
Methane	ug/L															
Nitrate	mg/L															
Nitrite	mg/L															
pH																
Redox	mV															
Salinity																
Sulfate	mg/L															
Sulfide	mg/L															
TDS	mg/L															
Temperature	C															
Turbidity	NTUs															

METHOD: *SVOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
bis(2-Ethylhexyl)phthalate	ug/L															
Chrysene	ug/L															
Diethyl phthalate	ug/l									12						
Di-n-butyl phthalate	ug/L															
Di-n-octyl phthalate	ug/L															
Fluoranthene	ug/L															
Phenol	ug/L															
Pyrene	ug/L															

Well ID: **WVA-SA-STS-6**

METHOD: *VOC*

Analyte	*Units*	*May-08*	*Oct-08*	*May-09*	*Oct-09*	*Jun-10*	*Jun-11*	*Jun-12*	*Sept-13*	*Jun-14*	*Jun-15*	*Jul-15*	*Jun-16*	*Sept-17*	*Oct-17*	*Oct-18*
1,1-Dichloroethene	ug/l							1.7								
2-Butanone	ug/L															
2-Chloroethyl vinyl ether	ug/l															
2-Chloroethylvinylether	ug/L															
Bromodichloromethane	ug/L															
Chloromethane	ug/L															
cis-1 2-Dichloroethene	ug/L															
cis-1,2-Dichloroethene	ug/l	10 ( )				7	8	620 (D)	4.4	4.6	4.6		12			4.5
Methylene Chloride	ug/L															
Tetrachloroethene	ug/l	8.5 ( )				1	6	430 (D)			1		1.1			
Toluene	ug/l															
trans-1,2-Dichloroethene	ug/l							4.2								
Trichloroethene	ug/l	3.4 ( )						230 (D)					2.2			
Vinyl chloride	ug/l							45								

ARCADIS
WATERVLIET ARSENAL LTM 2018
TL0045

KATAHDIN ANALYTICAL SERVICES
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

TABLE OF CONTENTS

Total number of pages: 527

SAMPLE DATA PACKAGE		0000001		
Narrative	----------	0000002	to	0000004
Supporting Documents	----------	0000005	to	0000007
Chain of Custody Record	----------	0000008	to	0000009
Login Report	----------	0000010	to	0000012
SAMPLE DATA SUMMARY				
Report of Analytical Results	----------	A0000001	to	A0000078
VOLATILES DATA		1000001		
QC Summary	----------	1000002	to	1000016
Sample Data	----------	1000017	to	1000232
Standards Data	----------	1000233	to	1000287
Raw QC Data	----------	1000288	to	1000319
Logbooks and Supporting Documents	----------	1000320	to	1000323
METALS DATA		4000001		
Sample Data	----------	4000002	to	4000009
QC Summary Section	----------	4000010	to	4000046
Raw Data	----------	4000047	to	4000111
Logbooks and Supporting Documents	----------	4000112	to	4000114

SAMPLE DATA PACKAGE

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
ARCADIS
WATERVLIET ARSENAL LTM 2018
TL0045

Sample Receipt

The following samples were received on October 13, 2018 and were logged in under Katahdin Analytical Services work order number TL0045 for a hardcopy due date of October 25, 2018.

KATAHDIN Sample No.	ARCADIS Sample Identification
TL0045-1	WVA-SA-STS-3-101218
TL0045-2	WVA-SA-STS-5-101218
TL0045-3	83DM-SP-3-101218
TL0045-4	86EM-SP-6-101218
TL0045-5	DUP-01-101118
TL0045-6	WVA-SA-SNS-6-101218
TL0045-7	WVA-MW-85R-3-101118
TL0045-8	WVA-MW-85R-2-101118
TL0045-9	WVA-MW-85R-1-101118
TL0045-10	WVA-MW-86R-3-101118
TL0045-11	WVA-MW-86R-2-101118
TL0045-12	WVA-MW-86R-1-101118
TL0045-13	94EM-MW-20-101118
TL0045-14	94EM-MW-21-101218
TL0045-15	94EM-MW-19-101118
TL0045-16	WVA-MW-82R-3-101118
TL0045-17	WVA-MW-82R-2-101118
TL0045-18	WVA-MW-82R-1-101118
TL0045-19	WVA-MW-84R-3-101018
TL0045-20	WVA-MW-84R-2-101018
TL0045-21	WVA-MW-84R-1-101018
TL0045-22	WVA-MW-83-3-101018
TL0045-23	WVA-MW-83-2-101018
TL0045-24	WVA-MW-83-1-101018
TL0045-25	VOA TRIP BLANK

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAP standards unless otherwise noted in this narrative or in the Report of Analysis.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Heather Manz**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of Work Order TL0045 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846, 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA, and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA, and/or for the specific methods listed below or on the Report of Analysis.

8260B Analysis

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are statistically derived for the full list of spiked compounds. The recoveries of the spiked analytes in the LCS are compared to these acceptance limits. Katahdin standard operating procedure is to take corrective action only if the number of spiked analytes in the LCS that are outside of the QC limits is greater than ten percent of the client compound list.

There were no protocol deviations or observations noted by the organics laboratory staff for this analysis.

Metals Analysis

The samples of Katahdin Work Order TL0045 were prepared and analyzed for all metals in accordance with the "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846. 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA,III, IIIA and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA.

Inductively-Coupled Plasma Atomic Emission Spectroscopic Analysis (ICP)

Aqueous-matrix Katahdin Sample Numbers TL0045-(3, 4, 13, 14, 15) were digested for ICP analysis on 10/16/18 (QC Batch LJ16ICW1) in accordance with USEPA Method 3010A.

ICP analyses of Katahdin Work Order TL0045 sample digestates were performed using a Thermo iCAP 6500 ICP spectrometer in accordance with USEPA Method 6010C. All samples were analyzed within holding times and all analytical run QC criteria were met.

Analysis of Mercury by Cold Vapor Atomic Absorption (CVAA)

Aqueous-matrix Katahdin Sample Numbers TL0045-(3, 4, 13, 14, 15) were digested for mercury analysis on 10/17/18 (QC Batch LJ17HGW2) in accordance with USEPA Method 7470A.

Mercury analyses of the Katahdin Work Order TL0045 sample digestates were performed using a Cetac M6100 automated mercury analyzer in accordance with USEPA Methods 7470A. All samples were analyzed within holding times and all analytical run QC criteria were met.

Reporting of Metals Results

Per client request, analytical results for client samples on Form I and preparation blanks on Form IIIP have been reported using the laboratory's practical quantitation limit (PQL). Results that are less than the PQL are flagged with "U" in the C-qualifier column, and the PQL is listed in the concentration column. PQLs have been adjusted for each sample based on the sample amounts used in preparation and analysis.

Analytical results on Forms VA, VD, VII, and IX for client samples, matrix QC samples (duplicates and matrix spikes), and laboratory control samples have been reported down to the laboratory's method detection limits (MDLs). Analytical results that are below the MDLs are flagged with "U" in the C-qualifier column, and the PQL is listed in the concentration column.

Analytical results for instrument run QC samples (ICVs, ICBs, etc.) have been reported down to the laboratory's instrument detection limits (IDLs).

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Quality Assurance Officer, or their designee, as verified by the following signature.

Leslie Dimond
11.27.18

Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, Inc.

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

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

Katahdin Analytical Services, LLC. Sample Receipt Condition Report

Client: Arcadis	KAS PM: HMM	Sampled By: Client
Project:	KIMS Entry By: JCB	Delivered By: FedEx
KAS Work Order#: TL0045	KIMS Review By: HMM	Received By: G. Brewer
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 10/13/18 12:48

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 2.3
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?					Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?	✓				
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?	✓				
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved?					
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Jennifer Prescott

From: Giroux, Danielle [Danielle.Giroux@arcadis.com]
Sent: Wednesday, October 17, 2018 10:30 AM
To: hmanz@katahdinlab.com
Cc: Bagnato, Stefan; 'Jennifer Prescott'; 'Leslie Dimond'; MFlanders@katahdinlab.com; 'Greg Lull'
Subject: Watervliet, TL0045
Attachments: TL0045.pdf

Hi Heather,
In reviewing the login COC I noticed the following issues:

83DM-SP-3-101218 should be analyzed for VOCs and Chromium only.

The following all need the prefix "WVA-" attached to the IDs:
MW-85R-3-101118
MW-85R-2-101118
MW-85R-1-101118
MW-86R-3-101118
MW-86R-2-101118
MW-86R-1-101118
MW-82R-3-101118
MW-82R-2-101118
MW-82R-1-101118
MW-84R-3-101018
MW-84R-2-101018
MW-84R-1-101018
MW-83-3-101018
MW-83-2-101018
MW-83-1-101018

Thank you
Danielle

Danielle Giroux | Project Geologist | Danielle.Giroux@arcadis.com
ARCADIS U.S., Inc. | 855 Route 146, Suite 210 | Clifton Park, NY, 12065
T. +1 518 250 7327



Connect with us! www.arcadis.com | LinkedIn | Twitter | Facebook

Please consider the Environment before printing this e-mail.

This email and any files transmitted with it are the property of Arcadis and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of Arcadis are neither given nor endorsed by it.

Katahdin ANALYTICAL SERVICES

600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Page 1 of 2

Client: Arcadis	Contact: Stefan Bagnato	Phone #: (518) 250-7300	Fax #: ( )
Address: 855 NY-146	City: Clifton Park	State: NY	Zip Code: 12065
Purchase Order #	Proj. Name / No.: WVA LTM 02118227.0000	Katahdin Quote #	
Bill (if different than above)	Address		
Sampler (Print / Sign): Daniel Meandro		Copies To: Danielle Giroux	

LAB USE ONLY — WORK ORDER #: TL0045 — KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☒ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOC (HCl)	Metals (HNO_3)	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.
	WVA-SA-STS-3-101218	10/12/18/1225	GW	3	X											
	WVA-SA-STS-5-101218	10/12/18/1155	GW	3	X											
	83DM-SP-3-101218	10/12/18/1055	GW	4	X	X										
	86EM-SP-6-101218	10/12/18/0910	GW	4	X	X										
	DUP-01-101118	10/11/18/ -	GW	3	X											
	WVA-SA-SNS-6-101218	10/12/18/1225	GW	3	X											
	MW-85R-3-101118	10/11/18/1645	GW	3	X											
	MW-85R-2-101118	10/11/18/1600	GW	3	X											
	MW-85R-1-101118	10/11/18/1415	GW	3	X											
	MW-86R-3-101118	10/11/18/1135	GW	3	X											
	MW-86R-2-101118	10/11/18/1020	GW	3	X											
	MW-86R-1-101118	10/11/18/0940	GW	3	X											
	94EM-MW-20-101118	10/11/18/1650	GW	4	X	X										
	94EM-MW-21-101218	10/12/18/0930	GW	4	X	X										
	94EM-MW-19-101118	10/11/18/1420	GW	4	X	X										
	MW-82R-3-101118	10/11/18/1135	GW	3	X											

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
	10/12/18 14:15		Fed Ex	10/13/18 12:48	
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

0000008

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Arcadis | Contact: Stefan Bagnato | Phone #: (518) 250-7300 | Fax #: ( )

Address: 855 NY-146 | City: Clifton Park | State: NY | Zip Code: 12065

Purchase Order # | Proj. Name / No.: WNA LTM 02118227.0000 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): Daniel Meandro | Copies To: Danielle Giroux

LAB USE ONLY | WORK ORDER #: TL0045 | KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☒ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOC (HCl)	Filt. ☐Y ☒N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MW-82R-2-101118	10/11/18/1015	GW	3	X										
	MW-82R-1-101118	10/11/18/0915	GW	3	X										
	MW-84R-3-101018	10/10/18/1450	GW	3	X										
	MW-84R-2-101018	10/10/18/1540	GW	3	X										
	MW-84R-1-101018	10/10/18/1635	GW	3	X										
	MW-83-3-101018	10/10/18/1605	GW	3	X										
	MW-83-2-101018	10/10/18/1440	GW	3	X										
	MW-83-1-101018	10/10/18/1720	GW	3	X										
	VOA TRIP BLANK	9/25/18/0900	W	2	X										
	Temp. BLANK	/ / /	W	1											
		/													
		/													
		/													
		/													
		/													
		/													

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
	2018/10/12 1415		FedEx	10/13/18 12:48	
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Oct. 17, 2018
10:43 AM

Quote/Incoming: ARCADIS-WATERVI

Login Number: TL0045

Account: ARCADIS002 NoWeb
ARCADIS

Project: ARCADIS-WATERVLIET

Primary Report Address:
Stefan Bagnato
ARCADIS
855 Route 146
Suite 210
Clifton Park,NY 12065
stefan.bagnato@arcadis-us.com

Primary Invoice Address:
Accounts Payable Attn: Accounts Payable
ARCADIS U.S., Inc.
630 Plaza Drive
Suite 100
Highlands Ranch,CO 80129

Report CC Addresses:
Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	Not DOD, NELAP. ND to PQL, no J flags.
CHECK NO.	:	
CLIENT PO#	:	02118227.0000
CLIENT PROJECT MANAGE	:	Stefan Bagnato
CONTRACT	:	W912DR-18-D-0004
COOLER TEMPERATURE	:	2.3
DELIVERY SERVICES	:	FedEx
EDD FORMAT	:	KAS121-CSV & KAS136QC-CSV
LOGIN INITIALS	:	JCB
PM	:	HHM
PROJECT NAME	:	Watervliet Arsenal LTM 2018
QC LEVEL	:	IV
REPORT INSTRUCTIONS	:	Email PDF & EDD to Stefan. No HC. Email invoices to Terry Huber (Terry.Huber@arcadis.com), stefan.bagnato@arcadis.com and AccountsPayable.Administration@arcadis.com.
SDG ID	:	
SDG STATUS	:	
VERBAL TAT	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-1	WVA-SA-STS-3-101218	12-OCT-18 12:25	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	26-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-2	WVA-SA-STS-5-101218	12-OCT-18 11:55	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	26-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-3	83DM-SP-3-101218	12-OCT-18 10:55	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	RCRA-METALS				
SW3010-PREP		SW6010-CHROMIUM				
Aqueous	S	SW8260-S	26-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-4	86EM-SP-6-101218	12-OCT-18 09:10	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	RCRA-METALS				
SW3010-PREP		SW6010-ARSENIC		SW6010-BARIUM		
SW6010-CADMIUM		SW6010-CHROMIUM		SW6010-LEAD		
SW6010-SELENIUM		SW6010-SILVER		SW7470-MERCURY		
Aqueous	S	SW8260-S	26-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-5	DUP-01-101118	11-OCT-18 00:00	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-6	WVA-SA-SNS-6-101218	12-OCT-18 12:25	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	26-OCT-18	40mL Vial+HCl		

Login Number: TL0045

Account: ARCADIS002 NoWeb
ARCADIS

Project: ARCADIS-WATERVLIET

Quote/Incoming: ARCADIS-WATERVl

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-7	WVA-MW-85R-3-101118	11-OCT-18 16:45	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-8	WVA-MW-85R-2-101118	11-OCT-18 16:00	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-9	WVA-MW-85R-1-101118	11-OCT-18 14:15	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-10	WVA-MW-86R-3-101118	11-OCT-18 11:35	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-11	WVA-MW-86R-2-101118	11-OCT-18 10:20	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-12	WVA-MW-86R-1-101118	11-OCT-18 09:40	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-13	94EM-MW-20-101118	11-OCT-18 16:50	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	RCRA-METALS				

SW3010-PREP	SW6010-ARSENIC	SW6010-BARIUM
SW6010-CADMIUM	SW6010-CHROMIUM	SW6010-LEAD
SW6010-SELENIUM	SW6010-SILVER	SW7470-MERCURY

Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-14	94EM-MW-21-101218	12-OCT-18 09:30	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	RCRA-METALS				

SW3010-PREP	SW6010-ARSENIC	SW6010-BARIUM
SW6010-CADMIUM	SW6010-CHROMIUM	SW6010-LEAD
SW6010-SELENIUM	SW6010-SILVER	SW7470-MERCURY

Aqueous	S	SW8260-S	26-OCT-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-15	94EM-MW-19-101118	11-OCT-18 14:20	13-OCT-18			25-OCT-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	RCRA-METALS				

SW3010-PREP	SW6010-ARSENIC	SW6010-BARIUM
SW6010-CADMIUM	SW6010-CHROMIUM	SW6010-LEAD
SW6010-SELENIUM	SW6010-SILVER	SW7470-MERCURY

Aqueous	S	SW8260-S	25-OCT-18	40mL Vial+HCl		

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Oct. 17, 2018

10:43 AM

Login Number: TL0045

Quote/Incoming: ARCADIS-WATERVI

Account: ARCADIS002
ARCADIS

NoWeb

Project: ARCADIS-WATERVLIET

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0045-16	WVA-MW-82R-3-101118	11-OCT-18 11:35	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	25-OCT-18	40mL Vial+HCl				
TL0045-17	WVA-MW-82R-2-101118	11-OCT-18 10:15	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	25-OCT-18	40mL Vial+HCl				
TL0045-18	WVA-MW-82R-1-101118	11-OCT-18 09:15	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	25-OCT-18	40mL Vial+HCl				
TL0045-19	WVA-MW-84R-3-101018	10-OCT-18 14:50	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	24-OCT-18	40mL Vial+HCl				
TL0045-20	WVA-MW-84R-2-101018	10-OCT-18 15:40	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	24-OCT-18	40mL Vial+HCl				
TL0045-21	WVA-MW-84R-1-101018	10-OCT-18 16:35	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	24-OCT-18	40mL Vial+HCl				
TL0045-22	WVA-MW-83-3-101018	10-OCT-18 16:05	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	24-OCT-18	40mL Vial+HCl				
TL0045-23	WVA-MW-83-2-101018	10-OCT-18 14:40	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	24-OCT-18	40mL Vial+HCl				
TL0045-24	WVA-MW-83-1-101018	10-OCT-18 17:20	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	24-OCT-18	40mL Vial+HCl				
TL0045-25	VOA TRIP BLANK	10-OCT-18 00:00	13-OCT-18			25-OCT-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	24-OCT-18	40mL Vial+HCl				

Total Samples: ***25*** ***Total Analyses:*** ***30***

SAMPLE DATA SUMMARY PACKAGE

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Limit of Quantitation (LOQ) (previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client. Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.
J	The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ) (previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-1
Client ID: WVA-SA-STS-3-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7888.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.2	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.9	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		110	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.9	%			
Toluene-d8		98.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-1
Client ID: WVA-SA-STS-3-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7888.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		122.	%			
Dibromofluoromethane		111.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-2
Client ID: WVA-SA-STS-5-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7889.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		3.8	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.2	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		82.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.5	%			
Toluene-d8		99.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-2
Client ID: WVA-SA-STS-5-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7889.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-3
Client ID: 83DM-SP-3-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7890.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.2	%			
Toluene-d8		99.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-3
Client ID: 83DM-SP-3-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7890.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-4
Client ID: 86EM-SP-6-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7891.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.9	%			
Toluene-d8		98.6	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-4
Client ID: 86EM-SP-6-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7891.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		125.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-5
Client ID: DUP-01-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7904.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		101.	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-5
Client ID: DUP-01-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7904.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		124.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-6
Client ID: WVA-SA-SNS-6-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7892.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.3	ug/L	1	1	1.0
Chloroform		18.	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		4.2	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane		2.8	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		63.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		100.	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-6
Client ID: WVA-SA-SNS-6-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7892.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		125.	%			
Dibromofluoromethane		113.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-7
Client ID: WVA-MW-85R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7905.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	700	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		6.9	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		20.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	2300	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	1500	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	8800	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		89.9	%			
Toluene-d8		96.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-7
Client ID: WVA-MW-85R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7905.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-7DL
Client ID: WVA-MW-85R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7928.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	400	ug/L	200	2	400
Vinyl Chloride		870	ug/L	200	2	400
Bromomethane	U	400	ug/L	200	2	400
Chloroethane	U	400	ug/L	200	2	400
Trichlorofluoromethane	U	400	ug/L	200	2	400
1,1-Dichloroethene	U	200	ug/L	200	1	200
Carbon Disulfide	U	200	ug/L	200	1	200
Methylene Chloride	U	1000	ug/L	200	5	1000
trans-1,2-Dichloroethene	U	200	ug/L	200	1	200
1,1-Dichloroethane	U	200	ug/L	200	1	200
cis-1,2-Dichloroethene		2400	ug/L	200	1	200
Chloroform	U	200	ug/L	200	1	200
Carbon Tetrachloride	U	200	ug/L	200	1	200
1,1,1-Trichloroethane	U	200	ug/L	200	1	200
2-Butanone	U	1000	ug/L	200	5	1000
Benzene	U	200	ug/L	200	1	200
1,2-Dichloroethane	U	200	ug/L	200	1	200
Trichloroethene		1300	ug/L	200	1	200
1,2-Dichloropropane	U	200	ug/L	200	1	200
Bromodichloromethane	U	200	ug/L	200	1	200
cis-1,3-Dichloropropene	U	200	ug/L	200	1	200
Toluene	U	200	ug/L	200	1	200
4-Methyl-2-Pentanone	U	1000	ug/L	200	5	1000
Tetrachloroethene		27000	ug/L	200	1	200
trans-1,3-Dichloropropene	U	200	ug/L	200	1	200
1,1,2-Trichloroethane	U	200	ug/L	200	1	200
Dibromochloromethane	U	200	ug/L	200	1	200
Chlorobenzene	U	200	ug/L	200	1	200
Ethylbenzene	U	200	ug/L	200	1	200
m+p-Xylenes	U	400	ug/L	200	2	400
o-Xylene	U	200	ug/L	200	1	200
Bromoform	U	200	ug/L	200	1	200
1,1,2,2-Tetrachloroethane	U	200	ug/L	200	1	200
P-Bromofluorobenzene		93.7	%			
Toluene-d8		99.1	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-7DL
Client ID: WVA-MW-85R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7928.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		118.	%			
Dibromofluoromethane		107.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-8
Client ID: WVA-MW-85R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7906.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	460	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		5.5	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		19.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	2100	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	340	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	1600	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.5	%			
Toluene-d8		97.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-8
Client ID: WVA-MW-85R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7906.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		123.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-8DL
Client ID: WVA-MW-85R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7933.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	80.	ug/L	40	2	80.
Vinyl Chloride		580	ug/L	40	2	80.
Bromomethane	U	80.	ug/L	40	2	80.
Chloroethane	U	80.	ug/L	40	2	80.
Trichlorofluoromethane	U	80.	ug/L	40	2	80.
1,1-Dichloroethene	U	40.	ug/L	40	1	40.
Carbon Disulfide	U	40.	ug/L	40	1	40.
Methylene Chloride	U	200	ug/L	40	5	200
trans-1,2-Dichloroethene	U	40.	ug/L	40	1	40.
1,1-Dichloroethane	U	40.	ug/L	40	1	40.
cis-1,2-Dichloroethene		2300	ug/L	40	1	40.
Chloroform	U	40.	ug/L	40	1	40.
Carbon Tetrachloride	U	40.	ug/L	40	1	40.
1,1,1-Trichloroethane	U	40.	ug/L	40	1	40.
2-Butanone	U	200	ug/L	40	5	200
Benzene	U	40.	ug/L	40	1	40.
1,2-Dichloroethane	U	40.	ug/L	40	1	40.
Trichloroethene		340	ug/L	40	1	40.
1,2-Dichloropropane	U	40.	ug/L	40	1	40.
Bromodichloromethane	U	40.	ug/L	40	1	40.
cis-1,3-Dichloropropene	U	40.	ug/L	40	1	40.
Toluene	U	40.	ug/L	40	1	40.
4-Methyl-2-Pentanone	U	200	ug/L	40	5	200
Tetrachloroethene		1600	ug/L	40	1	40.
trans-1,3-Dichloropropene	U	40.	ug/L	40	1	40.
1,1,2-Trichloroethane	U	40.	ug/L	40	1	40.
Dibromochloromethane	U	40.	ug/L	40	1	40.
Chlorobenzene	U	40.	ug/L	40	1	40.
Ethylbenzene	U	40.	ug/L	40	1	40.
m+p-Xylenes	U	80.	ug/L	40	2	80.
o-Xylene	U	40.	ug/L	40	1	40.
Bromoform	U	40.	ug/L	40	1	40.
1,1,2,2-Tetrachloroethane	U	40.	ug/L	40	1	40.
P-Bromofluorobenzene		94.4	%			
Toluene-d8		99.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-8DL
Client ID: WVA-MW-85R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7933.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		108.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-9RA
Client ID: WVA-MW-85R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7936.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		3.4	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.5	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		2.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.5	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-9RA
Client ID: WVA-MW-85R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7936.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		124.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-10
Client ID: WVA-MW-86R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7908.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	490	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		4.3	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		34.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	1900	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	190	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	500	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.6	%			
Toluene-d8		98.8	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-10
Client ID: WVA-MW-86R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7908.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-10DL
Client ID: WVA-MW-86R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7934.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	40.	ug/L	20	2	40.
Vinyl Chloride		440	ug/L	20	2	40.
Bromomethane	U	40.	ug/L	20	2	40.
Chloroethane	U	40.	ug/L	20	2	40.
Trichlorofluoromethane	U	40.	ug/L	20	2	40.
1,1-Dichloroethene	U	20.	ug/L	20	1	20.
Carbon Disulfide	U	20.	ug/L	20	1	20.
Methylene Chloride	U	100	ug/L	20	5	100
trans-1,2-Dichloroethene		23.	ug/L	20	1	20.
1,1-Dichloroethane	U	20.	ug/L	20	1	20.
cis-1,2-Dichloroethene		1600	ug/L	20	1	20.
Chloroform	U	20.	ug/L	20	1	20.
Carbon Tetrachloride	U	20.	ug/L	20	1	20.
1,1,1-Trichloroethane	U	20.	ug/L	20	1	20.
2-Butanone	U	100	ug/L	20	5	100
Benzene	U	20.	ug/L	20	1	20.
1,2-Dichloroethane	U	20.	ug/L	20	1	20.
Trichloroethene		140	ug/L	20	1	20.
1,2-Dichloropropane	U	20.	ug/L	20	1	20.
Bromodichloromethane	U	20.	ug/L	20	1	20.
cis-1,3-Dichloropropene	U	20.	ug/L	20	1	20.
Toluene	U	20.	ug/L	20	1	20.
4-Methyl-2-Pentanone	U	100	ug/L	20	5	100
Tetrachloroethene		390	ug/L	20	1	20.
trans-1,3-Dichloropropene	U	20.	ug/L	20	1	20.
1,1,2-Trichloroethane	U	20.	ug/L	20	1	20.
Dibromochloromethane	U	20.	ug/L	20	1	20.
Chlorobenzene	U	20.	ug/L	20	1	20.
Ethylbenzene	U	20.	ug/L	20	1	20.
m+p-Xylenes	U	40.	ug/L	20	2	40.
o-Xylene	U	20.	ug/L	20	1	20.
Bromoform	U	20.	ug/L	20	1	20.
1,1,2,2-Tetrachloroethane	U	20.	ug/L	20	1	20.
P-Bromofluorobenzene		93.5	%			
Toluene-d8		98.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-10DL
Client ID: WVA-MW-86R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7934.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		124.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-11
Client ID: WVA-MW-86R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7909.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	1400	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		10.	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		54.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	3600	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		23.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		26.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.0	%			
Toluene-d8		99.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-11
Client ID: WVA-MW-86R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7909.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		122.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-11DL
Client ID: WVA-MW-86R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7930.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	200	ug/L	100	2	200
Vinyl Chloride		2600	ug/L	100	2	200
Bromomethane	U	200	ug/L	100	2	200
Chloroethane	U	200	ug/L	100	2	200
Trichlorofluoromethane	U	200	ug/L	100	2	200
1,1-Dichloroethene	U	100	ug/L	100	1	100
Carbon Disulfide	U	100	ug/L	100	1	100
Methylene Chloride	U	500	ug/L	100	5	500
trans-1,2-Dichloroethene	U	100	ug/L	100	1	100
1,1-Dichloroethane	U	100	ug/L	100	1	100
cis-1,2-Dichloroethene		4700	ug/L	100	1	100
Chloroform	U	100	ug/L	100	1	100
Carbon Tetrachloride	U	100	ug/L	100	1	100
1,1,1-Trichloroethane	U	100	ug/L	100	1	100
2-Butanone	U	500	ug/L	100	5	500
Benzene	U	100	ug/L	100	1	100
1,2-Dichloroethane	U	100	ug/L	100	1	100
Trichloroethene	U	100	ug/L	100	1	100
1,2-Dichloropropane	U	100	ug/L	100	1	100
Bromodichloromethane	U	100	ug/L	100	1	100
cis-1,3-Dichloropropene	U	100	ug/L	100	1	100
Toluene	U	100	ug/L	100	1	100
4-Methyl-2-Pentanone	U	500	ug/L	100	5	500
Tetrachloroethene	U	100	ug/L	100	1	100
trans-1,3-Dichloropropene	U	100	ug/L	100	1	100
1,1,2-Trichloroethane	U	100	ug/L	100	1	100
Dibromochloromethane	U	100	ug/L	100	1	100
Chlorobenzene	U	100	ug/L	100	1	100
Ethylbenzene	U	100	ug/L	100	1	100
m+p-Xylenes	U	200	ug/L	100	2	200
o-Xylene	U	100	ug/L	100	1	100
Bromoform	U	100	ug/L	100	1	100
1,1,2,2-Tetrachloroethane	U	100	ug/L	100	1	100
P-Bromofluorobenzene		94.9	%			
Toluene-d8		99.4	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-11DL
Client ID: WVA-MW-86R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7930.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		118.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-12RA
Client ID: WVA-MW-86R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7937.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.2	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.6	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-12RA
Client ID: WVA-MW-86R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7937.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		129.	%			
Dibromofluoromethane		113.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-13RA
Client ID: 94EM-MW-20-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7938.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.6	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		30.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.5	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-13RA
Client ID: 94EM-MW-20-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7938.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		112.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-14RA
Client ID: 94EM-MW-21-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7939.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.9	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		44.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.5	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-14RA
Client ID: 94EM-MW-21-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7939.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-15
Client ID: 94EM-MW-19-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7913.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		101.	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-15
Client ID: 94EM-MW-19-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7913.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		129.	%			
Dibromofluoromethane		112.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-16
Client ID: WVA-MW-82R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7914.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		1.3	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		102.	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-16
Client ID: WVA-MW-82R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7914.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		131.	%			
Dibromofluoromethane		116.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-17
Client ID: WVA-MW-82R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7915.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		33.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		96.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		100.	%			
Toluene-d8		99.6	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-17
Client ID: WVA-MW-82R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7915.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		131.	%			
Dibromofluoromethane		112.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-18RA
Client ID: WVA-MW-82R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7927.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		31.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		93.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.4	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		2.2	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.9	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-18RA
Client ID: WVA-MW-82R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7927.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		114.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-19
Client ID: WVA-MW-84R-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7916.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	1700	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		13.	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		75.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	4300	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	380	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	270	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.1	%			
Toluene-d8		98.1	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-19
Client ID: WVA-MW-84R-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7916.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		127.	%			
Dibromofluoromethane		113.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-19DL
Client ID: WVA-MW-84R-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7932.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	200	ug/L	100	2	200
Vinyl Chloride		3200	ug/L	100	2	200
Bromomethane	U	200	ug/L	100	2	200
Chloroethane	U	200	ug/L	100	2	200
Trichlorofluoromethane	U	200	ug/L	100	2	200
1,1-Dichloroethene	U	100	ug/L	100	1	100
Carbon Disulfide	U	100	ug/L	100	1	100
Methylene Chloride	U	500	ug/L	100	5	500
trans-1,2-Dichloroethene	U	100	ug/L	100	1	100
1,1-Dichloroethane	U	100	ug/L	100	1	100
cis-1,2-Dichloroethene		5800	ug/L	100	1	100
Chloroform	U	100	ug/L	100	1	100
Carbon Tetrachloride	U	100	ug/L	100	1	100
1,1,1-Trichloroethane	U	100	ug/L	100	1	100
2-Butanone	U	500	ug/L	100	5	500
Benzene	U	100	ug/L	100	1	100
1,2-Dichloroethane	U	100	ug/L	100	1	100
Trichloroethene		330	ug/L	100	1	100
1,2-Dichloropropane	U	100	ug/L	100	1	100
Bromodichloromethane	U	100	ug/L	100	1	100
cis-1,3-Dichloropropene	U	100	ug/L	100	1	100
Toluene	U	100	ug/L	100	1	100
4-Methyl-2-Pentanone	U	500	ug/L	100	5	500
Tetrachloroethene		270	ug/L	100	1	100
trans-1,3-Dichloropropene	U	100	ug/L	100	1	100
1,1,2-Trichloroethane	U	100	ug/L	100	1	100
Dibromochloromethane	U	100	ug/L	100	1	100
Chlorobenzene	U	100	ug/L	100	1	100
Ethylbenzene	U	100	ug/L	100	1	100
m+p-Xylenes	U	200	ug/L	100	2	200
o-Xylene	U	100	ug/L	100	1	100
Bromoform	U	100	ug/L	100	1	100
1,1,2,2-Tetrachloroethane	U	100	ug/L	100	1	100
P-Bromofluorobenzene		94.0	%			
Toluene-d8		99.1	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-19DL
Client ID: WVA-MW-84R-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7932.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		120.	%			
Dibromofluoromethane		108.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-20
Client ID: WVA-MW-84R-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7917.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	1600	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		72.	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	E	340	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	4100	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	7800	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		90.0	%			
Toluene-d8		95.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-20
Client ID: WVA-MW-84R-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7917.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		125.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-20DL
Client ID: WVA-MW-84R-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7929.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	400	ug/L	200	2	400
Vinyl Chloride		3400	ug/L	200	2	400
Bromomethane	U	400	ug/L	200	2	400
Chloroethane	U	400	ug/L	200	2	400
Trichlorofluoromethane	U	400	ug/L	200	2	400
1,1-Dichloroethene	U	200	ug/L	200	1	200
Carbon Disulfide	U	200	ug/L	200	1	200
Methylene Chloride	U	1000	ug/L	200	5	1000
trans-1,2-Dichloroethene	U	200	ug/L	200	1	200
1,1-Dichloroethane	U	200	ug/L	200	1	200
cis-1,2-Dichloroethene		26000	ug/L	200	1	200
Chloroform	U	200	ug/L	200	1	200
Carbon Tetrachloride	U	200	ug/L	200	1	200
1,1,1-Trichloroethane	U	200	ug/L	200	1	200
2-Butanone	U	1000	ug/L	200	5	1000
Benzene	U	200	ug/L	200	1	200
1,2-Dichloroethane	U	200	ug/L	200	1	200
Trichloroethene		7700	ug/L	200	1	200
1,2-Dichloropropane	U	200	ug/L	200	1	200
Bromodichloromethane	U	200	ug/L	200	1	200
cis-1,3-Dichloropropene	U	200	ug/L	200	1	200
Toluene	U	200	ug/L	200	1	200
4-Methyl-2-Pentanone	U	1000	ug/L	200	5	1000
Tetrachloroethene		18000	ug/L	200	1	200
trans-1,3-Dichloropropene	U	200	ug/L	200	1	200
1,1,2-Trichloroethane	U	200	ug/L	200	1	200
Dibromochloromethane	U	200	ug/L	200	1	200
Chlorobenzene	U	200	ug/L	200	1	200
Ethylbenzene	U	200	ug/L	200	1	200
m+p-Xylenes	U	400	ug/L	200	2	400
o-Xylene	U	200	ug/L	200	1	200
Bromoform	U	200	ug/L	200	1	200
1,1,2,2-Tetrachloroethane	U	200	ug/L	200	1	200
P-Bromofluorobenzene		89.9	%			
Toluene-d8		97.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-20DL
Client ID: WVA-MW-84R-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7929.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		118.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-21
Client ID: WVA-MW-84R-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7918.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	390	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		8.7	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		24.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	3100	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	280	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	280	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.4	%			
Toluene-d8		95.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-21
Client ID: WVA-MW-84R-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7918.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-21DL
Client ID: WVA-MW-84R-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7931.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	200	ug/L	100	2	200
Vinyl Chloride		420	ug/L	100	2	200
Bromomethane	U	200	ug/L	100	2	200
Chloroethane	U	200	ug/L	100	2	200
Trichlorofluoromethane	U	200	ug/L	100	2	200
1,1-Dichloroethene	U	100	ug/L	100	1	100
Carbon Disulfide	U	100	ug/L	100	1	100
Methylene Chloride	U	500	ug/L	100	5	500
trans-1,2-Dichloroethene	U	100	ug/L	100	1	100
1,1-Dichloroethane	U	100	ug/L	100	1	100
cis-1,2-Dichloroethene		3300	ug/L	100	1	100
Chloroform	U	100	ug/L	100	1	100
Carbon Tetrachloride	U	100	ug/L	100	1	100
1,1,1-Trichloroethane	U	100	ug/L	100	1	100
2-Butanone	U	500	ug/L	100	5	500
Benzene	U	100	ug/L	100	1	100
1,2-Dichloroethane	U	100	ug/L	100	1	100
Trichloroethene		260	ug/L	100	1	100
1,2-Dichloropropane	U	100	ug/L	100	1	100
Bromodichloromethane	U	100	ug/L	100	1	100
cis-1,3-Dichloropropene	U	100	ug/L	100	1	100
Toluene	U	100	ug/L	100	1	100
4-Methyl-2-Pentanone	U	500	ug/L	100	5	500
Tetrachloroethene		300	ug/L	100	1	100
trans-1,3-Dichloropropene	U	100	ug/L	100	1	100
1,1,2-Trichloroethane	U	100	ug/L	100	1	100
Dibromochloromethane	U	100	ug/L	100	1	100
Chlorobenzene	U	100	ug/L	100	1	100
Ethylbenzene	U	100	ug/L	100	1	100
m+p-Xylenes	U	200	ug/L	100	2	200
o-Xylene	U	100	ug/L	100	1	100
Bromoform	U	100	ug/L	100	1	100
1,1,2,2-Tetrachloroethane	U	100	ug/L	100	1	100
P-Bromofluorobenzene		94.0	%			
Toluene-d8		98.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-21DL
Client ID: WVA-MW-84R-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7931.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		123.	%			
Dibromofluoromethane		109.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-22
Client ID: WVA-MW-83-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7893.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	410	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		2.6	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	210	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.5	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		3.9	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.8	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-22
Client ID: WVA-MW-83-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7893.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		123.	%			
Dibromofluoromethane		109.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-22DL
Client ID: WVA-MW-83-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7887.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	20.	ug/L	10	2	20.
Vinyl Chloride		340	ug/L	10	2	20.
Bromomethane	U	20.	ug/L	10	2	20.
Chloroethane	U	20.	ug/L	10	2	20.
Trichlorofluoromethane	U	20.	ug/L	10	2	20.
1,1-Dichloroethene	U	10.	ug/L	10	1	10.
Carbon Disulfide	U	10.	ug/L	10	1	10.
Methylene Chloride	U	50.	ug/L	10	5	50.
trans-1,2-Dichloroethene	U	10.	ug/L	10	1	10.
1,1-Dichloroethane	U	10.	ug/L	10	1	10.
cis-1,2-Dichloroethene		140	ug/L	10	1	10.
Chloroform	U	10.	ug/L	10	1	10.
Carbon Tetrachloride	U	10.	ug/L	10	1	10.
1,1,1-Trichloroethane	U	10.	ug/L	10	1	10.
2-Butanone	U	50.	ug/L	10	5	50.
Benzene	U	10.	ug/L	10	1	10.
1,2-Dichloroethane	U	10.	ug/L	10	1	10.
Trichloroethene	U	10.	ug/L	10	1	10.
1,2-Dichloropropane	U	10.	ug/L	10	1	10.
Bromodichloromethane	U	10.	ug/L	10	1	10.
cis-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
Toluene	U	10.	ug/L	10	1	10.
4-Methyl-2-Pentanone	U	50.	ug/L	10	5	50.
Tetrachloroethene	U	10.	ug/L	10	1	10.
trans-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
1,1,2-Trichloroethane	U	10.	ug/L	10	1	10.
Dibromochloromethane	U	10.	ug/L	10	1	10.
Chlorobenzene	U	10.	ug/L	10	1	10.
Ethylbenzene	U	10.	ug/L	10	1	10.
m+p-Xylenes	U	20.	ug/L	10	2	20.
o-Xylene	U	10.	ug/L	10	1	10.
Bromoform	U	10.	ug/L	10	1	10.
1,1,2,2-Tetrachloroethane	U	10.	ug/L	10	1	10.
P-Bromofluorobenzene		98.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-22DL
Client ID: WVA-MW-83-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7887.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		116.	%			
Dibromofluoromethane		108.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-23DL
Client ID: WVA-MW-83-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7886.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	500	ug/L	250	2	500
Vinyl Chloride	U	500	ug/L	250	2	500
Bromomethane	U	500	ug/L	250	2	500
Chloroethane	U	500	ug/L	250	2	500
Trichlorofluoromethane	U	500	ug/L	250	2	500
1,1-Dichloroethene	U	250	ug/L	250	1	250
Carbon Disulfide	U	250	ug/L	250	1	250
Methylene Chloride	U	1200	ug/L	250	5	1200
trans-1,2-Dichloroethene	U	250	ug/L	250	1	250
1,1-Dichloroethane	U	250	ug/L	250	1	250
cis-1,2-Dichloroethene		3600	ug/L	250	1	250
Chloroform	U	250	ug/L	250	1	250
Carbon Tetrachloride	U	250	ug/L	250	1	250
1,1,1-Trichloroethane	U	250	ug/L	250	1	250
2-Butanone	U	1200	ug/L	250	5	1200
Benzene	U	250	ug/L	250	1	250
1,2-Dichloroethane	U	250	ug/L	250	1	250
Trichloroethene		3500	ug/L	250	1	250
1,2-Dichloropropane	U	250	ug/L	250	1	250
Bromodichloromethane	U	250	ug/L	250	1	250
cis-1,3-Dichloropropene	U	250	ug/L	250	1	250
Toluene	U	250	ug/L	250	1	250
4-Methyl-2-Pentanone	U	1200	ug/L	250	5	1200
Tetrachloroethene		27000	ug/L	250	1	250
trans-1,3-Dichloropropene	U	250	ug/L	250	1	250
1,1,2-Trichloroethane	U	250	ug/L	250	1	250
Dibromochloromethane	U	250	ug/L	250	1	250
Chlorobenzene	U	250	ug/L	250	1	250
Ethylbenzene	U	250	ug/L	250	1	250
m+p-Xylenes	U	500	ug/L	250	2	500
o-Xylene	U	250	ug/L	250	1	250
Bromoform	U	250	ug/L	250	1	250
1,1,2,2-Tetrachloroethane	U	250	ug/L	250	1	250
P-Bromofluorobenzene		97.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-23DL
Client ID: WVA-MW-83-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7886.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		114.	%			
Dibromofluoromethane		107.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-23DL2
Client ID: WVA-MW-83-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7894.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	50.	ug/L	25	2	50.
Vinyl Chloride		250	ug/L	25	2	50.
Bromomethane	U	50.	ug/L	25	2	50.
Chloroethane	U	50.	ug/L	25	2	50.
Trichlorofluoromethane	U	50.	ug/L	25	2	50.
1,1-Dichloroethene	U	25.	ug/L	25	1	25.
Carbon Disulfide	U	25.	ug/L	25	1	25.
Methylene Chloride	U	120	ug/L	25	5	120
trans-1,2-Dichloroethene	U	25.	ug/L	25	1	25.
1,1-Dichloroethane	U	25.	ug/L	25	1	25.
cis-1,2-Dichloroethene		2800	ug/L	25	1	25.
Chloroform	U	25.	ug/L	25	1	25.
Carbon Tetrachloride	U	25.	ug/L	25	1	25.
1,1,1-Trichloroethane	U	25.	ug/L	25	1	25.
2-Butanone	U	120	ug/L	25	5	120
Benzene	U	25.	ug/L	25	1	25.
1,2-Dichloroethane	U	25.	ug/L	25	1	25.
Trichloroethene		2700	ug/L	25	1	25.
1,2-Dichloropropane	U	25.	ug/L	25	1	25.
Bromodichloromethane	U	25.	ug/L	25	1	25.
cis-1,3-Dichloropropene	U	25.	ug/L	25	1	25.
Toluene	U	25.	ug/L	25	1	25.
4-Methyl-2-Pentanone	U	120	ug/L	25	5	120
Tetrachloroethene	E	23000	ug/L	25	1	25.
trans-1,3-Dichloropropene	U	25.	ug/L	25	1	25.
1,1,2-Trichloroethane	U	25.	ug/L	25	1	25.
Dibromochloromethane	U	25.	ug/L	25	1	25.
Chlorobenzene	U	25.	ug/L	25	1	25.
Ethylbenzene	U	25.	ug/L	25	1	25.
m+p-Xylenes	U	50.	ug/L	25	2	50.
o-Xylene	U	25.	ug/L	25	1	25.
Bromoform	U	25.	ug/L	25	1	25.
1,1,2,2-Tetrachloroethane	U	25.	ug/L	25	1	25.
P-Bromofluorobenzene		95.5	%			
Toluene-d8		98.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-23DL2
Client ID: WVA-MW-83-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7894.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		124.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-24DL
Client ID: WVA-MW-83-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7935.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	200	ug/L	100	2	200
Vinyl Chloride		250	ug/L	100	2	200
Bromomethane	U	200	ug/L	100	2	200
Chloroethane	U	200	ug/L	100	2	200
Trichlorofluoromethane	U	200	ug/L	100	2	200
1,1-Dichloroethene	U	100	ug/L	100	1	100
Carbon Disulfide	U	100	ug/L	100	1	100
Methylene Chloride	U	500	ug/L	100	5	500
trans-1,2-Dichloroethene	U	100	ug/L	100	1	100
1,1-Dichloroethane	U	100	ug/L	100	1	100
cis-1,2-Dichloroethene		3900	ug/L	100	1	100
Chloroform	U	100	ug/L	100	1	100
Carbon Tetrachloride	U	100	ug/L	100	1	100
1,1,1-Trichloroethane	U	100	ug/L	100	1	100
2-Butanone	U	500	ug/L	100	5	500
Benzene	U	100	ug/L	100	1	100
1,2-Dichloroethane	U	100	ug/L	100	1	100
Trichloroethene		3900	ug/L	100	1	100
1,2-Dichloropropane	U	100	ug/L	100	1	100
Bromodichloromethane	U	100	ug/L	100	1	100
cis-1,3-Dichloropropene	U	100	ug/L	100	1	100
Toluene	U	100	ug/L	100	1	100
4-Methyl-2-Pentanone	U	500	ug/L	100	5	500
Tetrachloroethene		11000	ug/L	100	1	100
trans-1,3-Dichloropropene	U	100	ug/L	100	1	100
1,1,2-Trichloroethane	U	100	ug/L	100	1	100
Dibromochloromethane	U	100	ug/L	100	1	100
Chlorobenzene	U	100	ug/L	100	1	100
Ethylbenzene	U	100	ug/L	100	1	100
m+p-Xylenes	U	200	ug/L	100	2	200
o-Xylene	U	100	ug/L	100	1	100
Bromoform	U	100	ug/L	100	1	100
1,1,2,2-Tetrachloroethane	U	100	ug/L	100	1	100
P-Bromofluorobenzene		91.7	%			
Toluene-d8		95.8	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-24DL
Client ID: WVA-MW-83-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7935.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		107.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-24DL2
Client ID: WVA-MW-83-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7940.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	20.	ug/L	10	2	20.
Vinyl Chloride		210	ug/L	10	2	20.
Bromomethane	U	20.	ug/L	10	2	20.
Chloroethane	U	20.	ug/L	10	2	20.
Trichlorofluoromethane	U	20.	ug/L	10	2	20.
1,1-Dichloroethene		10.	ug/L	10	1	10.
Carbon Disulfide	U	10.	ug/L	10	1	10.
Methylene Chloride	U	50.	ug/L	10	5	50.
trans-1,2-Dichloroethene		28.	ug/L	10	1	10.
1,1-Dichloroethane	U	10.	ug/L	10	1	10.
cis-1,2-Dichloroethene	E	3500	ug/L	10	1	10.
Chloroform	U	10.	ug/L	10	1	10.
Carbon Tetrachloride	U	10.	ug/L	10	1	10.
1,1,1-Trichloroethane	U	10.	ug/L	10	1	10.
2-Butanone	U	50.	ug/L	10	5	50.
Benzene	U	10.	ug/L	10	1	10.
1,2-Dichloroethane	U	10.	ug/L	10	1	10.
Trichloroethene	E	3300	ug/L	10	1	10.
1,2-Dichloropropane	U	10.	ug/L	10	1	10.
Bromodichloromethane	U	10.	ug/L	10	1	10.
cis-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
Toluene	U	10.	ug/L	10	1	10.
4-Methyl-2-Pentanone	U	50.	ug/L	10	5	50.
Tetrachloroethene	E	10000	ug/L	10	1	10.
trans-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
1,1,2-Trichloroethane	U	10.	ug/L	10	1	10.
Dibromochloromethane	U	10.	ug/L	10	1	10.
Chlorobenzene	U	10.	ug/L	10	1	10.
Ethylbenzene	U	10.	ug/L	10	1	10.
m+p-Xylenes	U	20.	ug/L	10	2	20.
o-Xylene	U	10.	ug/L	10	1	10.
Bromoform	U	10.	ug/L	10	1	10.
1,1,2,2-Tetrachloroethane	U	10.	ug/L	10	1	10.
P-Bromofluorobenzene		92.0	%			
Toluene-d8		96.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-24DL2
Client ID: WVA-MW-83-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7940.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		108.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-25
Client ID: VOA TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7885.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.3	%			
Toluene-d8		98.8	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-25
Client ID: VOA TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7885.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		113.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 83DM-SP-3-101218

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	32.7			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	10	U		P	1	10	0.59
7439-92-1	LEAD, TOTAL	5.0	U		P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 86EM-SP-6-101218

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	76.5			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	18.9			P	1	10	0.59
7439-92-1	LEAD, TOTAL	5.0	U		P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 94EM-MW-20-101118

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-013

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	59.6			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	406			P	1	10	0.59
7439-92-1	LEAD, TOTAL	70.5			P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 94EM-MW-21-101218

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-014

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	38.4			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	366			P	1	10	0.59
7439-92-1	LEAD, TOTAL	5.0	U		P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 94EM-MW-19-101118

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-015

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	143			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	109			P	1	10	0.59
7439-92-1	LEAD, TOTAL	5.0	U		P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

VOLATILES DATA

QC Summary Section

Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Watervliet Arsenal LTM 2018 **Matrix:** AQ
Lab Code: KAS **SDG:** TL0045

Client Sample ID	Lab Sample ID	Col. ID	BFB #	DBF #	DCA #	TOL #
WVA-SA-STS-3-101218	TL0045-1		96.9	111.	122.	98.3
WVA-MW-86R-3-101118	TL0045-10		96.6	110.	126.	98.8
WVA-MW-86R-3-101118	TL0045-10DL		93.5	110.	124.	98.3
WVA-MW-86R-2-101118	TL0045-11		99.0	110.	122.	99.2
WVA-MW-86R-2-101118	TL0045-11DL		94.9	105.	118.	99.4
WVA-MW-86R-1-101118	TL0045-12RA		94.6	113.	129.	101.
94EM-MW-20-101118	TL0045-13RA		94.5	112.	126.	100.
94EM-MW-21-101218	TL0045-14RA		98.5	110.	126.	102.
94EM-MW-19-101118	TL0045-15		101.	112.	129.	102.
WVA-MW-82R-3-101118	TL0045-16		102.	116.	131.	100.
WVA-MW-82R-2-101118	TL0045-17		100.	112.	131.	99.6
WVA-MW-82R-1-101118	TL0045-18RA		94.9	102.	114.	100.
WVA-MW-84R-3-101018	TL0045-19		99.1	113.	127.	98.1
WVA-MW-84R-3-101018	TL0045-19DL		94.0	108.	120.	99.1
WVA-SA-STS-5-101218	TL0045-2		99.5	110.	121.	99.2
WVA-MW-84R-2-101018	TL0045-20		90.0	110.	125.	95.9
WVA-MW-84R-2-101018	TL0045-20DL		89.9	106.	118.	97.3
WVA-MW-84R-1-101018	TL0045-21		95.4	110.	126.	95.5
WVA-MW-84R-1-101018	TL0045-21DL		94.0	109.	123.	98.9
WVA-MW-83-3-101018	TL0045-22		99.8	109.	123.	100.
WVA-MW-83-3-101018	TL0045-22DL		98.4	108.	116.	102.
WVA-MW-83-2-101018	TL0045-23DL		97.5	107.	114.	101.
WVA-MW-83-2-101018	TL0045-23DL2		95.5	110.	124.	98.5
WVA-MW-83-1-101018	TL0045-24DL		91.7	107.	121.	95.8
WVA-MW-83-1-101018	TL0045-24DL2		92.0	108.	121.	96.5
VOA TRIP BLANK	TL0045-25		95.3	105.	113.	98.8
83DM-SP-3-101218	TL0045-3		96.2	110.	121.	99.2
86EM-SP-6-101218	TL0045-4		96.9	110.	125.	98.6
DUP-01-101118	TL0045-5		101.	110.	124.	103.
WVA-SA-SNS-6-101218	TL0045-6		100.	113.	125.	102.
WVA-MW-85R-3-101118	TL0045-7		89.9	110.	121.	96.2
WVA-MW-85R-3-101118	TL0045-7DL		93.7	107.	118.	99.1
WVA-MW-85R-2-101118	TL0045-8		98.5	110.	123.	97.3
WVA-MW-85R-2-101118	TL0045-8DL		94.4	108.	121.	99.5
WVA-MW-85R-1-101118	TL0045-9RA		97.5	110.	124.	103.
Laboratory Control S	WG238778-8		98.7	98.2	93.5	98.8

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Watervliet Arsenal LTM 2018 **Matrix:** AQ
Lab Code: KAS **SDG:** TL0045

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
Method Blank Sample	WG238778-9		95.0		105.		107.		98.7	
Laboratory Control S	WG238848-1		105.		98.5		104.		103.	
Method Blank Sample	WG238848-2		99.4		109.		117.		99.4	
Laboratory Control S	WG239008-1		96.4		92.0		99.8		97.4	
Method Blank Sample	WG239008-2		91.9		101.		110.		99.7	

		QC Limits
DBF	DIBROMOFLUOROMETHANE	68-128
BFB	P-BROMOFLUOROBENZENE	56-133
TOL	TOLUENE-D8	65-128
DCA	1,2-DICHLOROETHANE-D4	67-135

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : T7884.D
Instrument ID : GCMS-T
Heated Purge : No

SDG : TL0045
Lab Sample ID : WG238778-9
Date Analyzed : 18-OCT-18
Time Analyzed : 15:36

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG238778-8	T7882.D	10/18/18	14:01
VOA TRIP BLANK	TL0045-25	T7885.D	10/18/18	16:06
WVA-MW-83-2-101018	TL0045-23DL	T7886.D	10/18/18	16:35
WVA-MW-83-3-101018	TL0045-22DL	T7887.D	10/18/18	17:05
WVA-SA-STS-3-101218	TL0045-1	T7888.D	10/18/18	17:35
WVA-SA-STS-5-101218	TL0045-2	T7889.D	10/18/18	18:05
83DM-SP-3-101218	TL0045-3	T7890.D	10/18/18	18:35
86EM-SP-6-101218	TL0045-4	T7891.D	10/18/18	19:05
WVA-SA-SNS-6-101218	TL0045-6	T7892.D	10/18/18	19:35
WVA-MW-83-3-101018	TL0045-22	T7893.D	10/18/18	20:04
WVA-MW-83-2-101018	TL0045-23DL2	T7894.D	10/18/18	20:34

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : T7901.D
Instrument ID : GCMS-T
Heated Purge : No

SDG : TL0045
Lab Sample ID : WG238848-2
Date Analyzed : 19-OCT-18
Time Analyzed : 10:15

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG238848-1	T7899.D	10/19/18	09:07
DUP-01-101118	TL0045-5	T7904.D	10/19/18	11:45
WVA-MW-85R-3-101118	TL0045-7	T7905.D	10/19/18	12:15
WVA-MW-85R-2-101118	TL0045-8	T7906.D	10/19/18	12:45
WVA-MW-86R-3-101118	TL0045-10	T7908.D	10/19/18	13:45
WVA-MW-86R-2-101118	TL0045-11	T7909.D	10/19/18	14:15
94EM-MW-19-101118	TL0045-15	T7913.D	10/19/18	16:15
WVA-MW-82R-3-101118	TL0045-16	T7914.D	10/19/18	16:45
WVA-MW-82R-2-101118	TL0045-17	T7915.D	10/19/18	17:14
WVA-MW-84R-3-101018	TL0045-19	T7916.D	10/19/18	17:44
WVA-MW-84R-2-101018	TL0045-20	T7917.D	10/19/18	18:14
WVA-MW-84R-1-101018	TL0045-21	T7918.D	10/19/18	18:44

Katahdin
ANALYTICAL SERVICES

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : T7926.D
Instrument ID : GCMS-T
Heated Purge : No

SDG : TL0045
Lab Sample ID : WG239008-2
Date Analyzed : 22-OCT-18
Time Analyzed : 10:53

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG239008-1	T7924.D	10/22/18	09:39
WVA-MW-82R-1-101118	TL0045-18RA	T7927.D	10/22/18	11:23
WVA-MW-85R-3-101118	TL0045-7DL	T7928.D	10/22/18	11:53
WVA-MW-84R-2-101018	TL0045-20DL	T7929.D	10/22/18	12:23
WVA-MW-86R-2-101118	TL0045-11DL	T7930.D	10/22/18	12:53
WVA-MW-84R-1-101018	TL0045-21DL	T7931.D	10/22/18	13:23
WVA-MW-84R-3-101018	TL0045-19DL	T7932.D	10/22/18	13:52
WVA-MW-85R-2-101118	TL0045-8DL	T7933.D	10/22/18	14:22
WVA-MW-86R-3-101118	TL0045-10DL	T7934.D	10/22/18	14:52
WVA-MW-83-1-101018	TL0045-24DL	T7935.D	10/22/18	15:22
WVA-MW-85R-1-101118	TL0045-9RA	T7936.D	10/22/18	16:24
WVA-MW-86R-1-101118	TL0045-12RA	T7937.D	10/22/18	16:54
94EM-MW-20-101118	TL0045-13RA	T7938.D	10/22/18	18:13
94EM-MW-21-101218	TL0045-14RA	T7939.D	10/22/18	18:43
WVA-MW-83-1-101018	TL0045-24DL2	T7940.D	10/22/18	19:13

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : TB764A.D
Instrument ID : GCMS-T

SDG : TL0045
Date Analyzed : 18-OCT-18
Time Analyzed : 10:37
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	16.1		
75	30.0 - 60.0% of mass 95	54.2		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.0		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	71.4		
175	5.0 - 9.0% of mass 174	5.0	7.06	1
176	95.0 - 101.0% of mass 174	70.5	98.76	1
177	5.0 - 9.0% of mass 176	4.7	6.72	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG238778-4	T7876.D	10/18/18	11:02
Initial Calibration	WG238778-3	T7877.D	10/18/18	11:32
Initial Calibration	WG238778-2	T7878.D	10/18/18	12:02
Initial Calibration	WG238778-1	T7879.D	10/18/18	12:32
Initial Calibration	WG238778-6	T7880.D	10/18/18	13:01
Initial Calibration	WG238778-5	T7881.D	10/18/18	13:31
Independent Source	WG238778-7	T7882.D	10/18/18	14:01
Laboratory Control S	WG238778-8	T7882.D	10/18/18	14:01
Method Blank Sample	WG238778-9	T7884.D	10/18/18	15:36
VOA TRIP BLANK	TL0045-25	T7885.D	10/18/18	16:06
WVA-MW-83-2-101018	TL0045-23DL	T7886.D	10/18/18	16:35
WVA-MW-83-3-101018	TL0045-22DL	T7887.D	10/18/18	17:05
WVA-SA-STS-3-101218	TL0045-1	T7888.D	10/18/18	17:35
WVA-SA-STS-5-101218	TL0045-2	T7889.D	10/18/18	18:05
83DM-SP-3-101218	TL0045-3	T7890.D	10/18/18	18:35
86EM-SP-6-101218	TL0045-4	T7891.D	10/18/18	19:05
WVA-SA-SNS-6-101218	TL0045-6	T7892.D	10/18/18	19:35
WVA-MW-83-3-101018	TL0045-22	T7893.D	10/18/18	20:04
WVA-MW-83-2-101018	TL0045-23DL2	T7894.D	10/18/18	20:34

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : TB765A.D
Instrument ID : GCMS-T

SDG : TL0045
Date Analyzed : 19-OCT-18
Time Analyzed : 08:01
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	20.3		
75	30.0 - 60.0% of mass 95	59.5		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.4		
173	Less than 2.0% of mass 174	0.3	0.39	1
174	Greater than 50.0% of mass 95	69.7		
175	5.0 - 9.0% of mass 174	5.4	7.75	1
176	95.0 - 101.0% of mass 174	69.0	99.09	1
177	5.0 - 9.0% of mass 176	4.8	6.99	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG238848-4	T7898.D	10/19/18	08:23
Laboratory Control S	WG238848-1	T7899.D	10/19/18	09:07
Method Blank Sample	WG238848-2	T7901.D	10/19/18	10:15
DUP-01-101118	TL0045-5	T7904.D	10/19/18	11:45
WVA-MW-85R-3-101118	TL0045-7	T7905.D	10/19/18	12:15
WVA-MW-85R-2-101118	TL0045-8	T7906.D	10/19/18	12:45
WVA-MW-86R-3-101118	TL0045-10	T7908.D	10/19/18	13:45
WVA-MW-86R-2-101118	TL0045-11	T7909.D	10/19/18	14:15
94EM-MW-19-101118	TL0045-15	T7913.D	10/19/18	16:15
WVA-MW-82R-3-101118	TL0045-16	T7914.D	10/19/18	16:45
WVA-MW-82R-2-101118	TL0045-17	T7915.D	10/19/18	17:14
WVA-MW-84R-3-101018	TL0045-19	T7916.D	10/19/18	17:44
WVA-MW-84R-2-101018	TL0045-20	T7917.D	10/19/18	18:14
WVA-MW-84R-1-101018	TL0045-21	T7918.D	10/19/18	18:44

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : TB766A.D
Instrument ID : GCMS-T

SDG : TL0045
Date Analyzed : 22-OCT-18
Time Analyzed : 08:28
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	19.1		
75	30.0 - 60.0% of mass 95	57.6		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.2		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	76.6		
175	5.0 - 9.0% of mass 174	5.8	7.62	1
176	95.0 - 101.0% of mass 174	74.0	96.57	1
177	5.0 - 9.0% of mass 176	4.9	6.62	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG239008-4	T7923.D	10/22/18	08:51
Laboratory Control S	WG239008-1	T7924.D	10/22/18	09:39
Method Blank Sample	WG239008-2	T7926.D	10/22/18	10:53
WVA-MW-82R-1-101118	TL0045-18RA	T7927.D	10/22/18	11:23
WVA-MW-85R-3-101118	TL0045-7DL	T7928.D	10/22/18	11:53
WVA-MW-84R-2-101018	TL0045-20DL	T7929.D	10/22/18	12:23
WVA-MW-86R-2-101118	TL0045-11DL	T7930.D	10/22/18	12:53
WVA-MW-84R-1-101018	TL0045-21DL	T7931.D	10/22/18	13:23
WVA-MW-84R-3-101018	TL0045-19DL	T7932.D	10/22/18	13:52
WVA-MW-85R-2-101118	TL0045-8DL	T7933.D	10/22/18	14:22
WVA-MW-86R-3-101118	TL0045-10DL	T7934.D	10/22/18	14:52
WVA-MW-83-1-101018	TL0045-24DL	T7935.D	10/22/18	15:22
WVA-MW-85R-1-101118	TL0045-9RA	T7936.D	10/22/18	16:24
WVA-MW-86R-1-101118	TL0045-12RA	T7937.D	10/22/18	16:54
94EM-MW-20-101118	TL0045-13RA	T7938.D	10/22/18	18:13
94EM-MW-21-101218	TL0045-14RA	T7939.D	10/22/18	18:43
WVA-MW-83-1-101018	TL0045-24DL2	T7940.D	10/22/18	19:13

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG238778-4
Lab File ID : T7876.D

SDG: TL0045
Analytical Date: 10/18/18 11:02
Instrument ID: GCMS-T

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	341295		5.78		498120		6.58		463112		10.64	
	Upper Limit	682590		5.95		996240		6.74		926224		10.81	
	Lower Limit	170647.5		5.62		249060		6.41		231556		10.47	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG238778-8	395383		5.79		589180		6.59		543233		10.64	
Method Blank Sample	WG238778-9	335850		5.79		509902		6.59		458454		10.64	
VOA TRIP BLANK	TL0045-25	319435		5.79		485899		6.59		433247		10.64	
WVA-MW-83-2-10101	TL0045-23DL	302034		5.78		450483		6.59		402740		10.64	
WVA-MW-83-3-10101	TL0045-22DL	288658		5.79		429439		6.59		395642		10.64	
WVA-SA-STS-3-10121	TL0045-1	271710		5.80		422690		6.59		380646		10.64	
WVA-SA-STS-5-10121	TL0045-2	269794		5.79		412208		6.59		377131		10.64	
83DM-SP-3-101218	TL0045-3	272006		5.79		410351		6.59		365978		10.64	
86EM-SP-6-101218	TL0045-4	263587		5.79		399176		6.59		362194		10.64	
WVA-SA-SNS-6-1012	TL0045-6	253753		5.79		390232		6.59		363762		10.64	
WVA-MW-83-3-10101	TL0045-22	257333		5.79		382398		6.59		349408		10.64	
WVA-MW-83-2-10101	TL0045-23DL2	262318		5.79		400224		6.59		355865		10.64	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG238778-4
Lab File ID : T7876.D

SDG: TL0045
Analytical Date: 10/18/18 11:02
Instrument ID: GCMS-T

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	257566		13.73	
	Upper Limit	515132		13.89	
	Lower Limit	128783		13.56	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG238778-8	299832		13.73	
Method Blank Sample	WG238778-9	235595		13.73	
VOA TRIP BLANK	TL0045-25	223473		13.73	
WVA-MW-83-2-10101	TL0045-23DL	215927		13.73	
WVA-MW-83-3-10101	TL0045-22DL	202871		13.73	
WVA-SA-STS-3-1012	TL0045-1	201669		13.73	
WVA-SA-STS-5-1012	TL0045-2	195687		13.73	
83DM-SP-3-101218	TL0045-3	192744		13.73	
86EM-SP-6-101218	TL0045-4	190513		13.73	
WVA-SA-SNS-6-1012	TL0045-6	186525		13.73	
WVA-MW-83-3-10101	TL0045-22	187214		13.73	
WVA-MW-83-2-10101	TL0045-23DL2	186282		13.73	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG238848-4
Lab File ID : T7898.D

SDG: TL0045
Analytical Date: 10/19/18 08:23
Instrument ID: GCMS-T

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	318192		5.78		454188		6.59		429597		10.64	
	Upper Limit	636384		5.95		908376		6.75		859194		10.81	
	Lower Limit	159096		5.62		227094		6.42		214798.5		10.47	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG238848-1	327952		5.79		465943		6.59		430734		10.64	
Method Blank Sample	WG238848-2	287202		5.79		426536		6.59		390711		10.64	
DUP-01-101118	TL0045-5	260719		5.78		389119		6.59		360429		10.64	
WVA-MW-85R-3-1011	TL0045-7	268984		5.79		420545		6.59		350118		10.65	
WVA-MW-85R-2-1011	TL0045-8	266431		5.79		410425		6.59		365320		10.64	
WVA-MW-86R-3-1011	TL0045-10	247668		5.79		389008		6.59		350565		10.64	
WVA-MW-86R-2-1011	TL0045-11	254610		5.79		380803		6.59		348335		10.64	
94EM-MW-19-101118	TL0045-15	237905		5.78		359139		6.59		335354		10.64	
WVA-MW-82R-3-1011	TL0045-16	231637		5.79		357900		6.59		333872		10.64	
WVA-MW-82R-2-1011	TL0045-17	235741		5.79		359948		6.59		333641		10.64	
WVA-MW-84R-3-1010	TL0045-19	242227		5.79		373656		6.59		333266		10.64	
WVA-MW-84R-2-1010	TL0045-20	252867		5.80		394469		6.59		333099		10.65	
WVA-MW-84R-1-1010	TL0045-21	241988		5.79		373930		6.59		333700		10.65	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG238848-4
Lab File ID : T7898.D

SDG: TL0045
Analytical Date: 10/19/18 08:23
Instrument ID: GCMS-T

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	244795		13.73	
	Upper Limit	489590		13.89	
	Lower Limit	122397.5		13.56	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG238848-1	244180		13.73	
Method Blank Sample	WG238848-2	207891		13.73	
DUP-01-101118	TL0045-5	191483		13.73	
WVA-MW-85R-3-1011	TL0045-7	189332		13.73	
WVA-MW-85R-2-1011	TL0045-8	189436		13.73	
WVA-MW-86R-3-1011	TL0045-10	182126		13.73	
WVA-MW-86R-2-1011	TL0045-11	181975		13.73	
94EM-MW-19-101118	TL0045-15	176969		13.73	
WVA-MW-82R-3-1011	TL0045-16	178437		13.73	
WVA-MW-82R-2-1011	TL0045-17	177636		13.73	
WVA-MW-84R-3-1010	TL0045-19	180480		13.73	
WVA-MW-84R-2-1010	TL0045-20	176602		13.73	
WVA-MW-84R-1-1010	TL0045-21	172269		13.73	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239008-4
Lab File ID : T7923.D

SDG: TL0045
Analytical Date: 10/22/18 08:51
Instrument ID: GCMS-T

		PENTAFLUOROBENZENE				1,4-DIFLUOROBENZENE				CHLOROBENZENE-D5			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	277140		5.79		375656		6.59		343452		10.64	
	Upper Limit	554280		5.96		751312		6.75		686904		10.81	
	Lower Limit	138570		5.62		187828		6.42		171726		10.47	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG239008-1	304786		5.79		423687		6.59		372072		10.64	
Method Blank Sample	WG239008-2	253286		5.79		360547		6.59		310307		10.64	
WVA-MW-82R-1-1011	TL0045-18RA	248884		5.79		359109		6.59		308968		10.64	
WVA-MW-85R-3-1011	TL0045-7DL	243097		5.78		356708		6.59		313198		10.64	
WVA-MW-84R-2-1010	TL0045-20DL	235476		5.79		356739		6.59		297459		10.64	
WVA-MW-86R-2-1011	TL0045-11DL	231623		5.79		338714		6.59		296646		10.64	
WVA-MW-84R-1-1010	TL0045-21DL	228153		5.79		345925		6.59		302934		10.64	
WVA-MW-84R-3-1010	TL0045-19DL	225138		5.79		335281		6.59		296431		10.64	
WVA-MW-85R-2-1011	TL0045-8DL	218596		5.79		328605		6.59		289523		10.64	
WVA-MW-86R-3-1011	TL0045-10DL	217547		5.79		333087		6.59		290907		10.64	
WVA-MW-83-1-10101	TL0045-24DL	213653		5.79		327175		6.59		283533		10.64	
WVA-MW-85R-1-1011	TL0045-9RA	217276		5.80		322587		6.59		298383		10.65	
WVA-MW-86R-1-1011	TL0045-12RA	207728		5.80		320756		6.59		285035		10.64	
94EM-MW-20-101118	TL0045-13RA	211791		5.79		328743		6.59		296682		10.64	
94EM-MW-21-101218	TL0045-14RA	210112		5.79		316120		6.59		287152		10.64	
WVA-MW-83-1-10101	TL0045-24DL2	214630		5.79		331592		6.59		285786		10.64	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239008-4
Lab File ID : T7923.D

SDG: TL0045
Analytical Date: 10/22/18 08:51
Instrument ID: GCMS-T

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	188612		13.73	
	Upper Limit	377224		13.89	
	Lower Limit	94306		13.56	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG239008-1	201568		13.73	
Method Blank Sample	WG239008-2	160346		13.73	
WVA-MW-82R-1-1011	TL0045-18RA	162599		13.73	
WVA-MW-85R-3-1011	TL0045-7DL	163348		13.73	
WVA-MW-84R-2-1010	TL0045-20DL	156682		13.73	
WVA-MW-86R-2-1011	TL0045-11DL	156261		13.73	
WVA-MW-84R-1-1010	TL0045-21DL	156381		13.73	
WVA-MW-84R-3-1010	TL0045-19DL	155107		13.73	
WVA-MW-85R-2-1011	TL0045-8DL	146136		13.73	
WVA-MW-86R-3-1011	TL0045-10DL	152110		13.73	
WVA-MW-83-1-10101	TL0045-24DL	148688		13.73	
WVA-MW-85R-1-1011	TL0045-9RA	152161		13.73	
WVA-MW-86R-1-1011	TL0045-12RA	149495		13.73	
94EM-MW-20-101118	TL0045-13RA	151958		13.73	
94EM-MW-21-101218	TL0045-14RA	151604		13.73	
WVA-MW-83-1-10101	TL0045-24DL2	149220		13.73	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Sample Data Section

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin Analytical Services, Inc.

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

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

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-1
Client ID: WVA-SA-STS-3-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7888.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.2	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.9	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		110	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.9	%			
Toluene-d8		98.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-1
Client ID: WVA-SA-STS-3-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7888.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		122.	%			
Dibromofluoromethane		111.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7888.D
Report Date: 25-Oct-2018 11:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7888.D
Lab Smp Id: TL0045-1 Client Smp ID: WVA-SA-STS-3-101218
Inj Date : 18-OCT-2018 17:35 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-1
Misc Info : WG238778,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

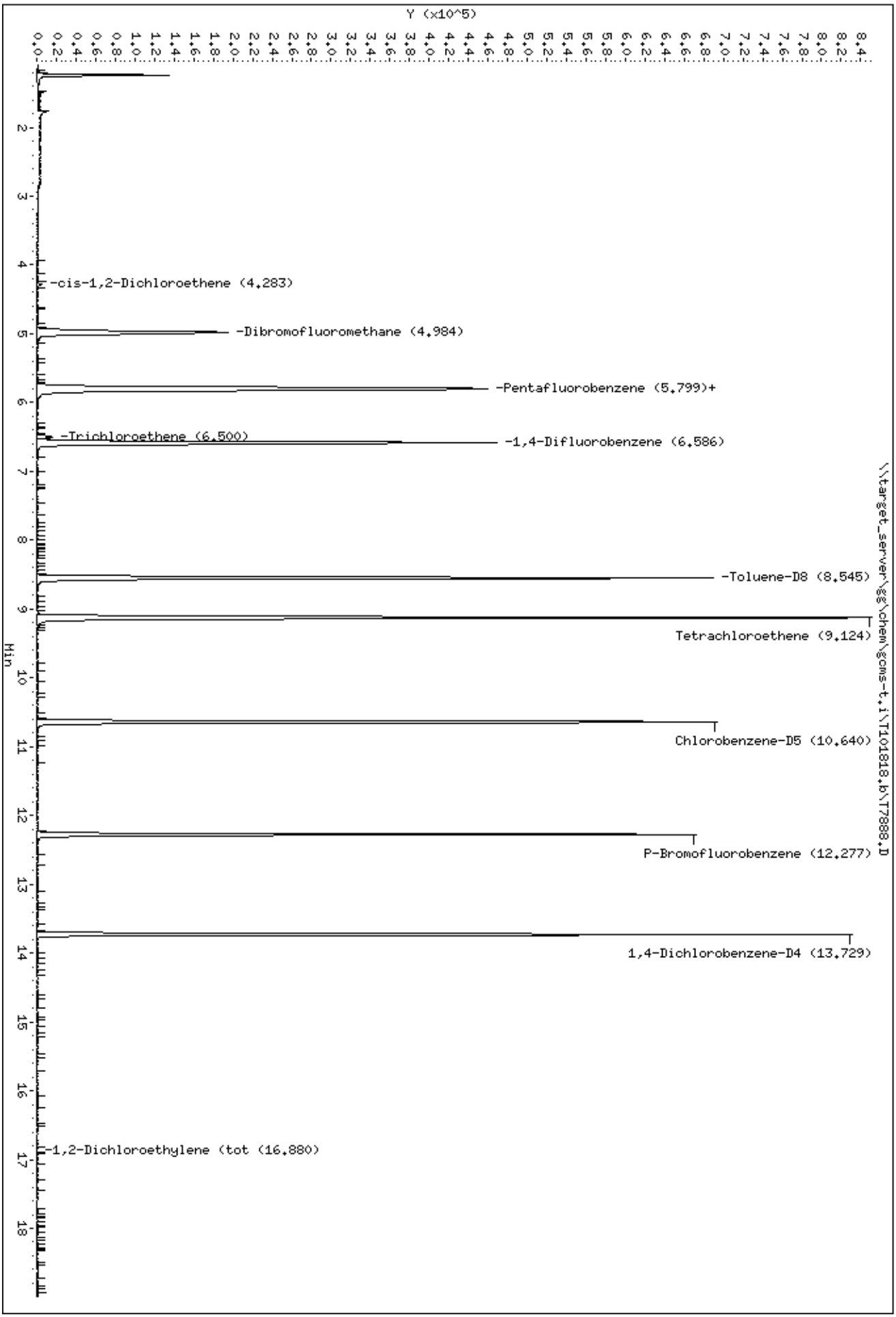
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.740)	2737	1.17369	1.2	
$	34 Dibromofluoromethane	113	4.983	4.976	(0.859)	183598	55.5891	55.6	
*	41 Pentafluorobenzene	168	5.799	5.791	(1.000)	271710	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.002)	294969	61.2090	61.2	
	47 Trichloroethene	95	6.499	6.499	(0.987)	8330	2.93576	2.9	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	422690	50.0000		
$	56 Toluene-D8	98	8.551	8.544	(1.299)	523250	49.1494	49.1	
	58 Tetrachloroethene	164	9.123	9.123	(0.858)	208569	110.751	111	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	380646	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	235607	48.4614	48.5	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	201669	50.0000		
M	103 1,2-Dichloroethylene (total)	96				2737	1.17369	1.2(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Y (x10^5)
Min
-cis-1,2-Dichloroethene (4.283)
-Dibromofluoromethane (4.984)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.500)
-1,4-Difluorobenzene (6.586)
-Toluene-D8 (8.545)
Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T101818.b\T7888.D
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7888.D
Date : 18-OCT-2018 17:35
Client ID: WWA-SA-STS-3-101218
Sample Info: TL0045-1
Instrument: gcms-t.i

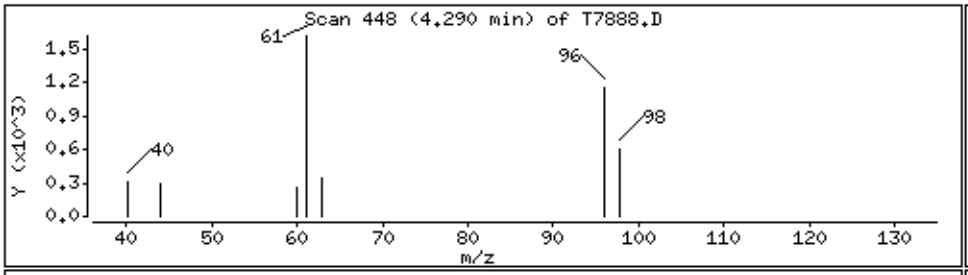
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7888.D

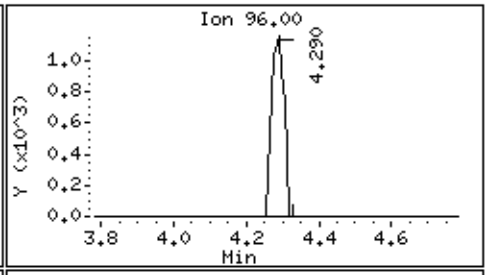
Date : 18-OCT-2018 17:35

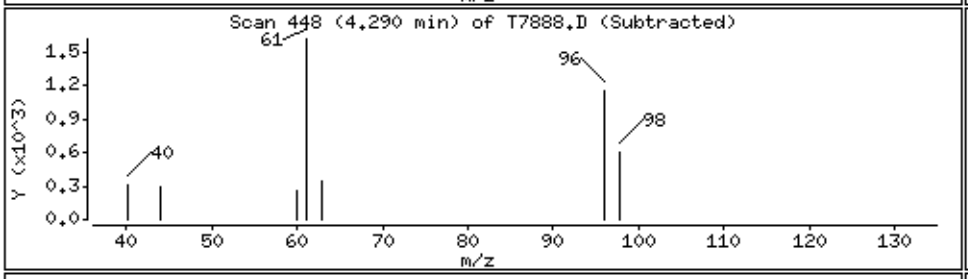
Client ID: WVA-SA-STS-3-101218 Instrument: gcms-t.i

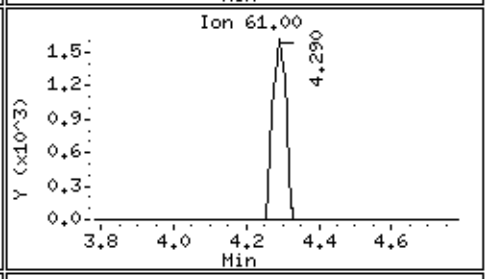
Sample Info: TL0045-1

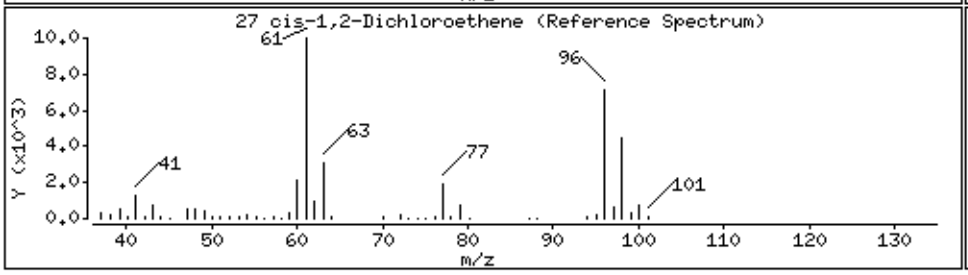
27 cis-1,2-Dichloroethene Concentration: 1.2 ug/l

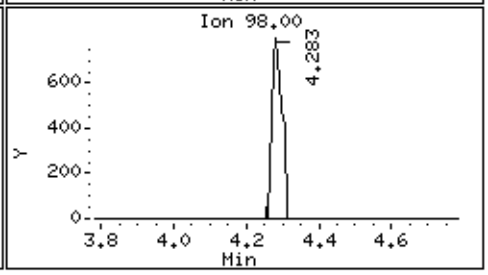




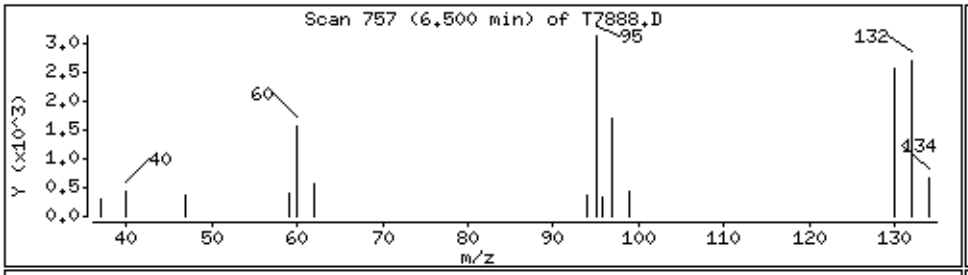


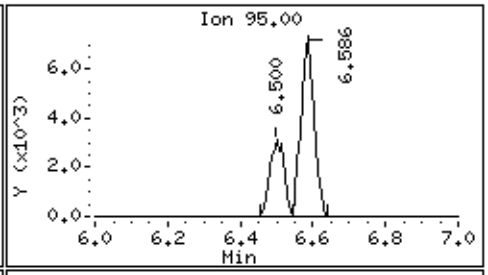


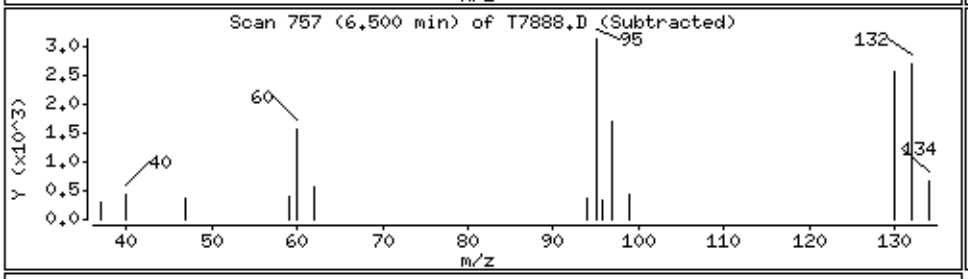


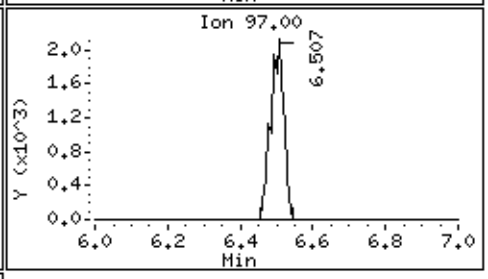


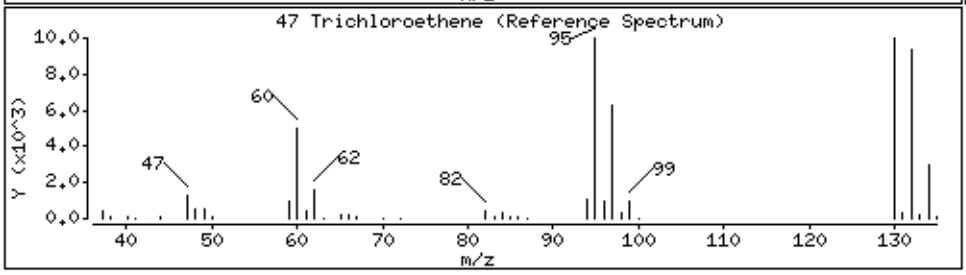
47 Trichloroethene Concentration: 2.9 ug/l











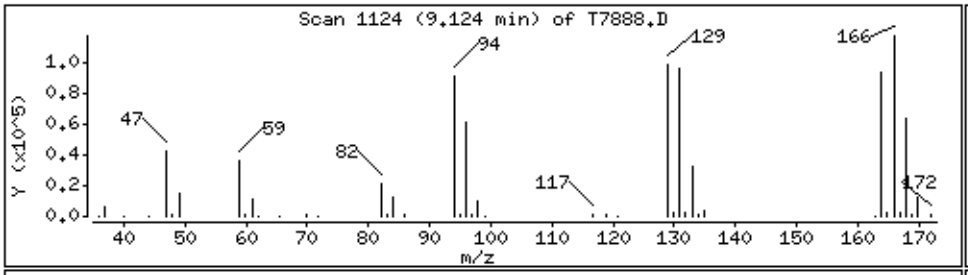
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7888.D

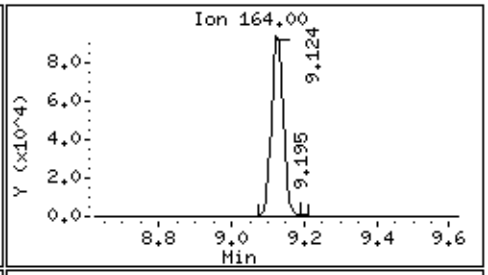
Date : 18-OCT-2018 17:35

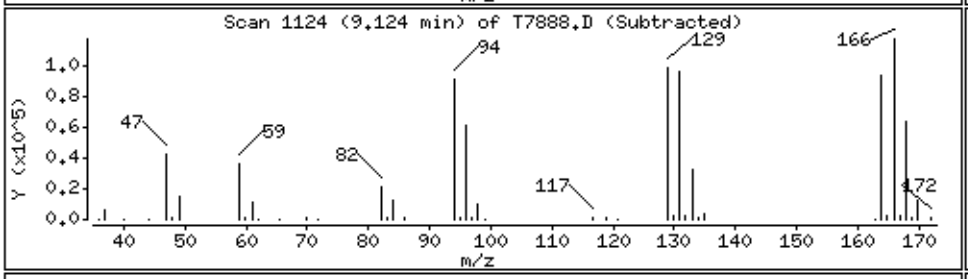
Client ID: WVA-SA-STS-3-101218 Instrument: gcms-t.i

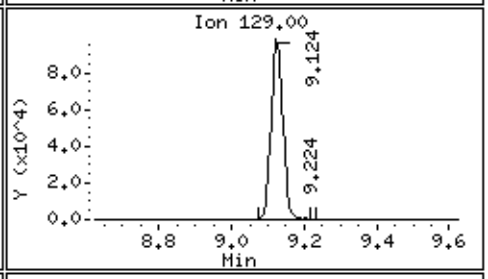
Sample Info: TL0045-1

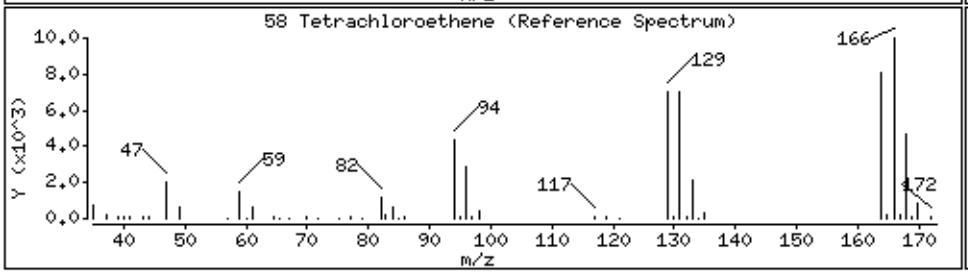
58 Tetrachloroethene Concentration: 111 ug/l

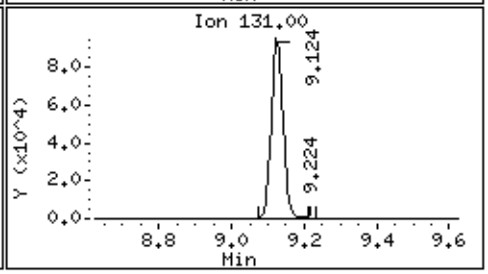












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-2
Client ID: WVA-SA-STS-5-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7889.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		3.8	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.2	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		82.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.5	%			
Toluene-d8		99.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-2
Client ID: WVA-SA-STS-5-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7889.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7889.D
Report Date: 25-Oct-2018 11:59

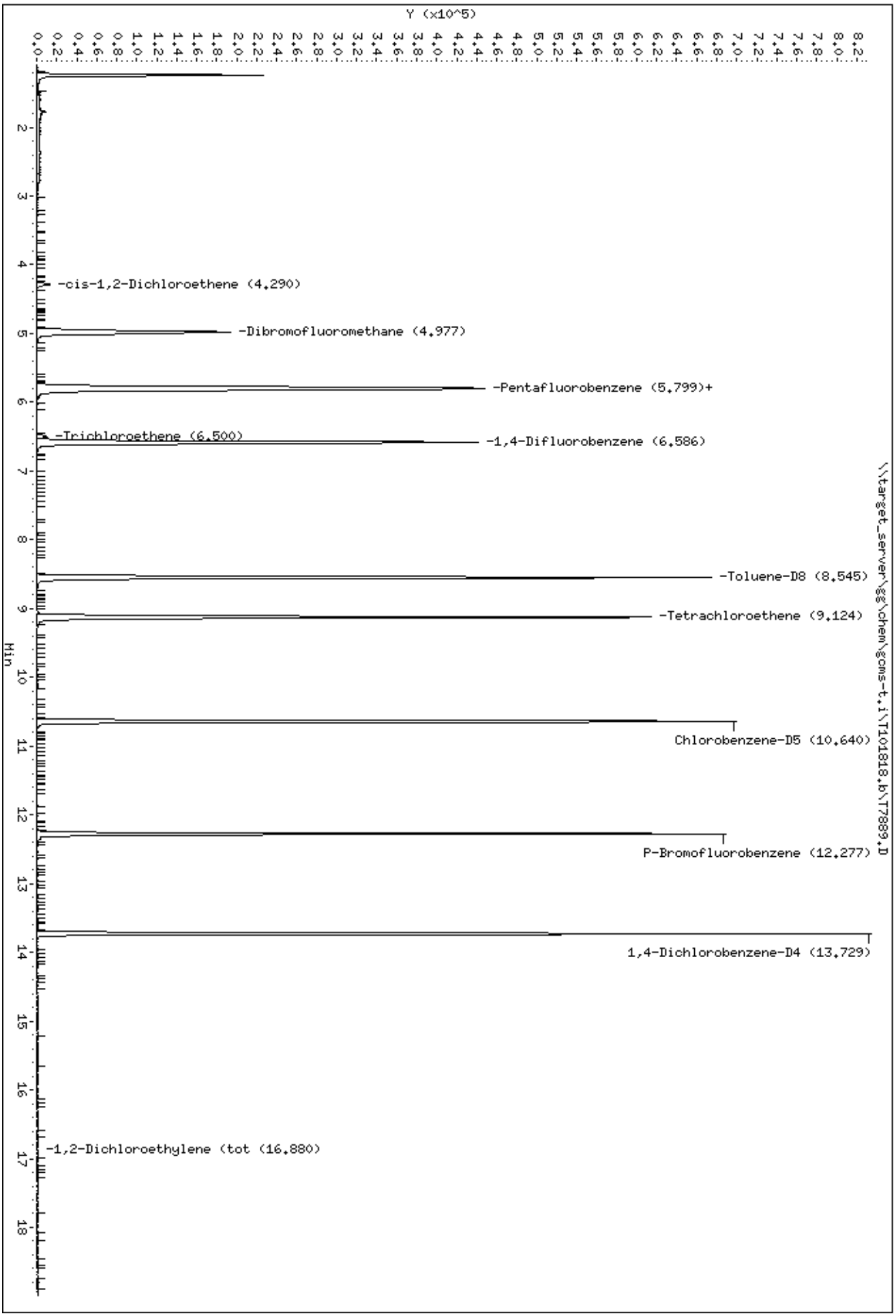
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7889.D
Lab Smp Id: TL0045-2 Client Smp ID: WVA-SA-STS-5-101218
Inj Date : 18-OCT-2018 18:05 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-2
Misc Info : WG238778,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	27 cis-1,2-Dichloroethene	96	4.276	4.283	(0.738)	8737	3.77324	3.8	
$	34 Dibromofluoromethane	113	4.983	4.976	(0.860)	179709	54.7980	54.8	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	269794	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	288847	60.3643	60.4	
	47 Trichloroethene	95	6.492	6.499	(0.986)	5993	2.16583	2.2	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	412208	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	514989	49.6035	49.6	
	58 Tetrachloroethene	164	9.123	9.123	(0.858)	152080	81.5077	81.5	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	377131	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	235970	49.7703	49.8	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	195687	50.0000		
M	103 1,2-Dichloroethylene (total)	96				8737	3.77324	3.8	


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7889.D
Date : 18-OCT-2018 18:05
Client ID: WWA-SA-STS-5-101218
Sample Info: TL0045-2
Instrument: gcms-t.i
\\target_server\gg\chem\gcms-t.i\T101818.b\T7889.D
Y (x10^5)
Min
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.500)
-1,4-Difluorobenzene (6.586)
-Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)

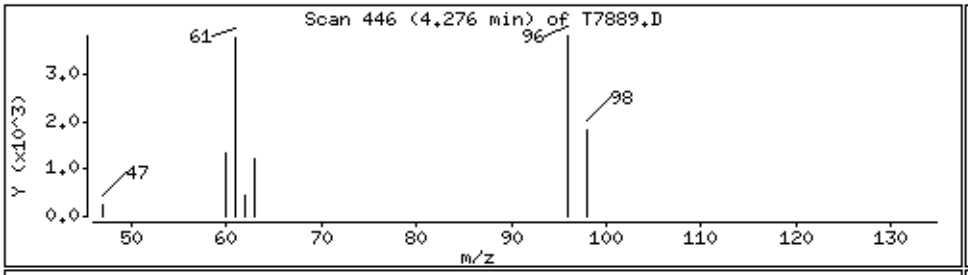
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7889.D

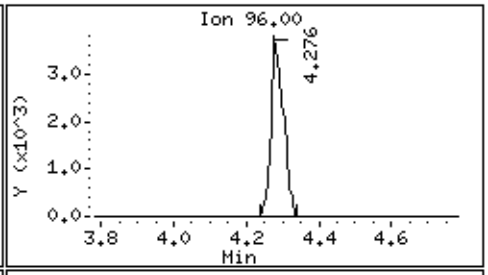
Date : 18-OCT-2018 18:05

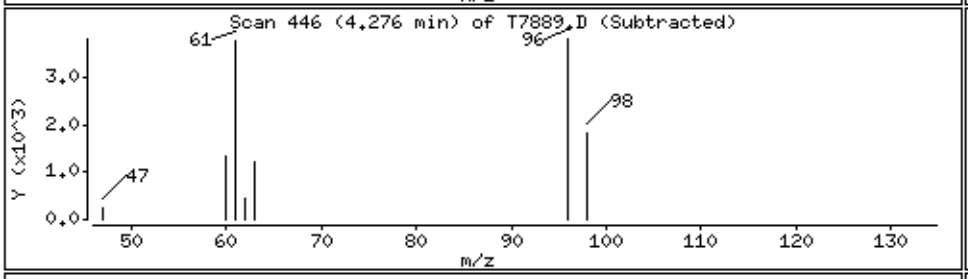
Client ID: WVA-SA-STS-5-101218 Instrument: gcms-t.i

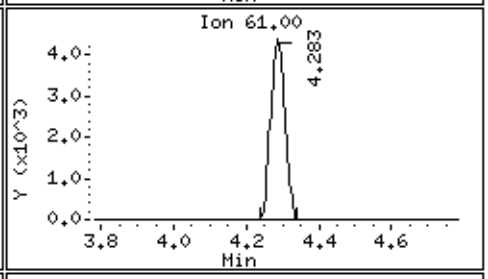
Sample Info: TL0045-2

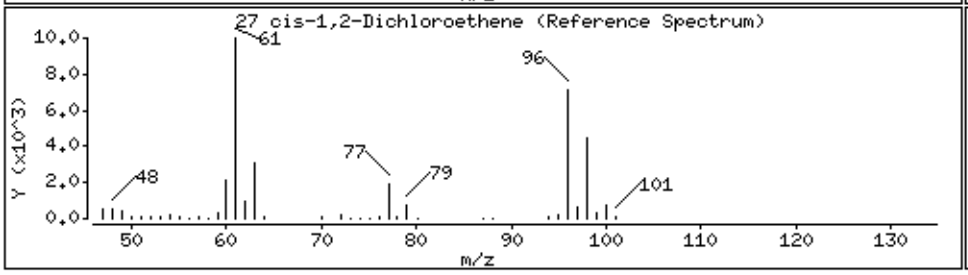
27 cis-1,2-Dichloroethene Concentration: 3.8 ug/l

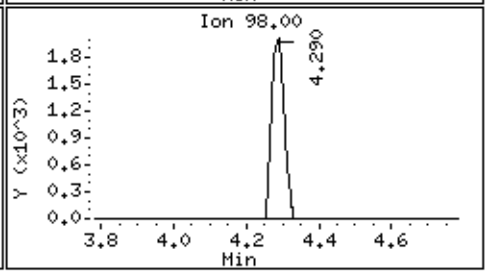




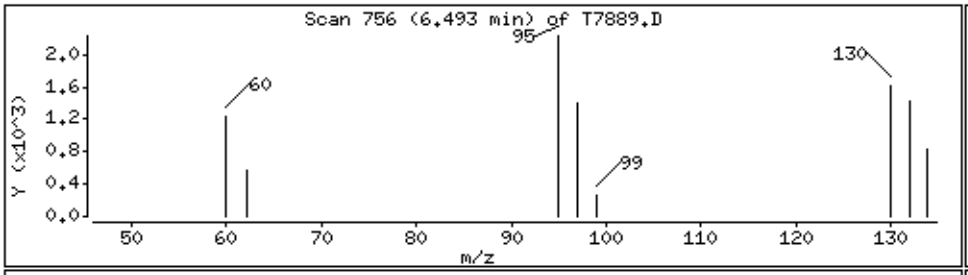


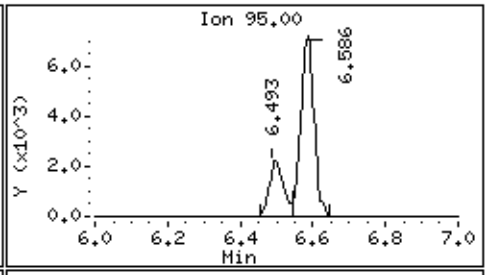


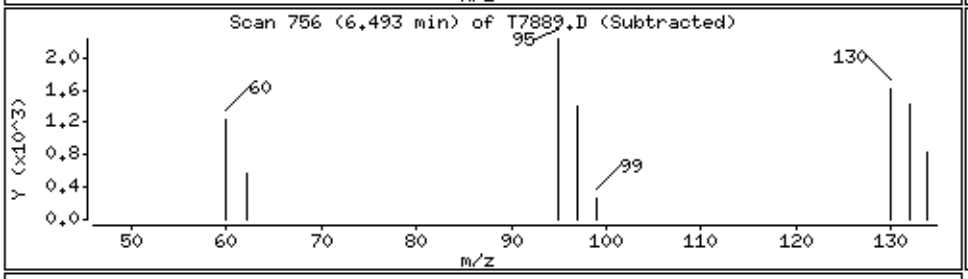


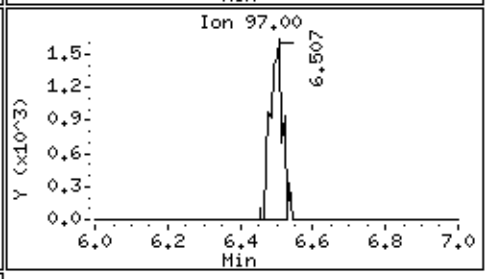


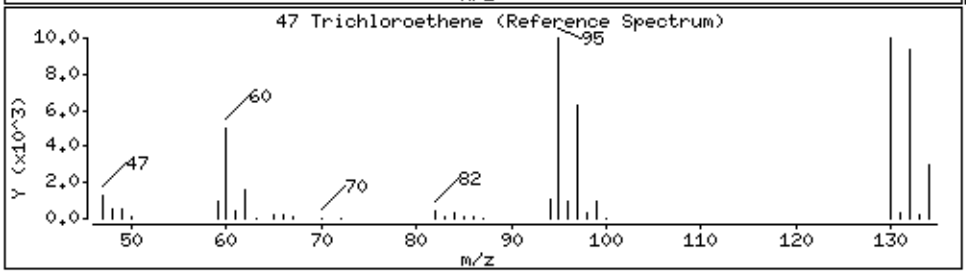
47 Trichloroethene Concentration: 2.2 ug/l











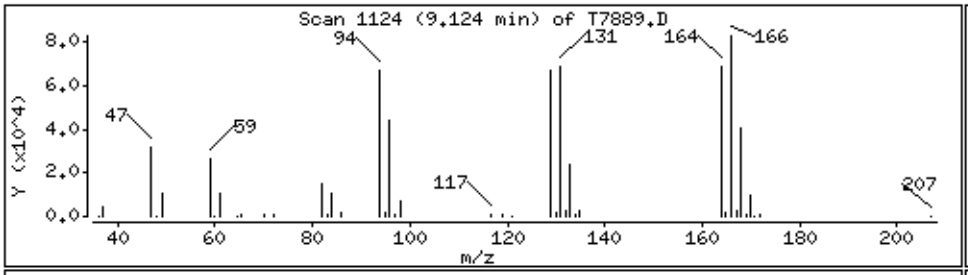
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7889.D

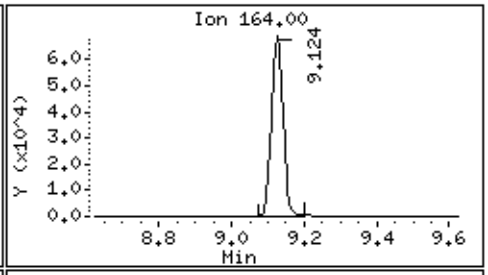
Date : 18-OCT-2018 18:05

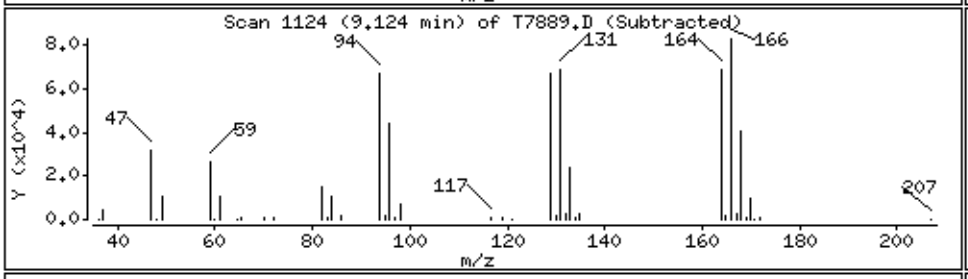
Client ID: WVA-SA-STS-5-101218 Instrument: gcms-t.i

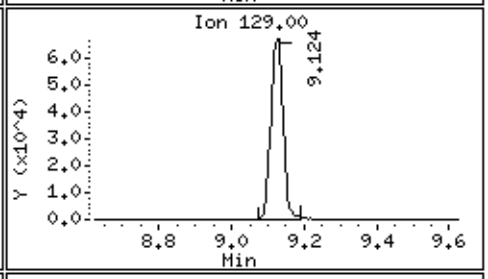
Sample Info: TL0045-2

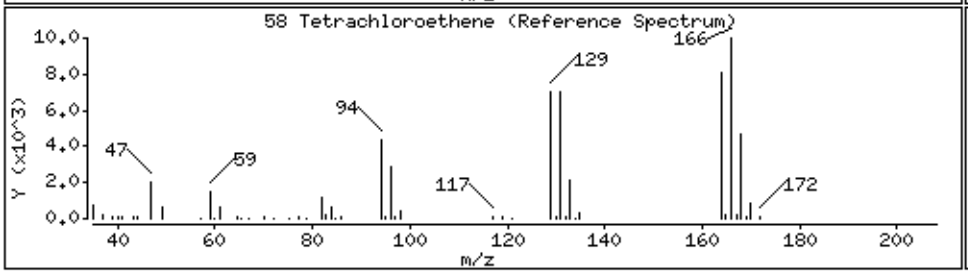
58 Tetrachloroethene Concentration: 81.5 ug/l

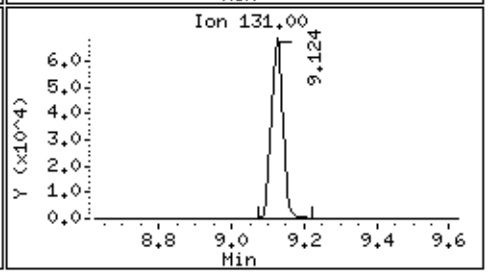












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-3
Client ID: 83DM-SP-3-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7890.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.2	%			
Toluene-d8		99.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-3
Client ID: 83DM-SP-3-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7890.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7890.D
Report Date: 25-Oct-2018 11:59

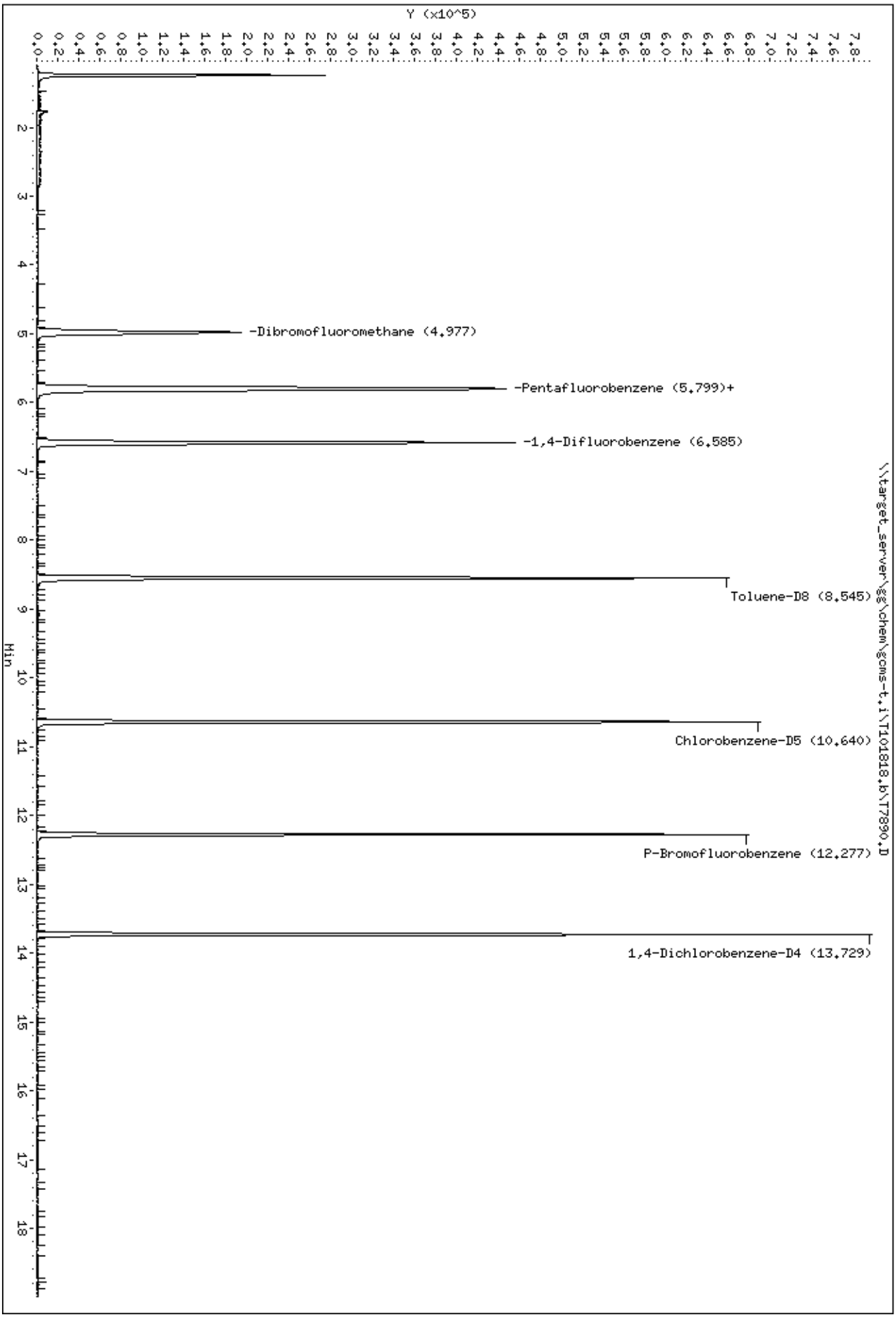
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7890.D
Lab Smp Id: TL0045-3 Client Smp ID: 83DM-SP-3-101218
Inj Date : 18-OCT-2018 18:35 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-3
Misc Info : WG238778,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	34 Dibromofluoromethane	113	4.983	4.976	(0.860)	181207	54.8055	54.8	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	272006	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.820	5.813	(1.005)	292626	60.6567	60.6	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	410351	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	512773	49.6136	49.6	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	365978	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	227033	48.1020	48.1	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	192744	50.0000		


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7890.D
Date : 18-OCT-2018 18:35
Client ID: 83DH-SP-3-101218
Sample Info: TL0045-3
Instrument: gcms-t.i
Y (x10^5)
Min
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.585)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
\\target_server\gg\chem\gcms-t.i\T101818.b\T7890.D

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-4
Client ID: 86EM-SP-6-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7891.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.9	%			
Toluene-d8		98.6	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-4
Client ID: 86EM-SP-6-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7891.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		125.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7891.D
Report Date: 25-Oct-2018 11:59

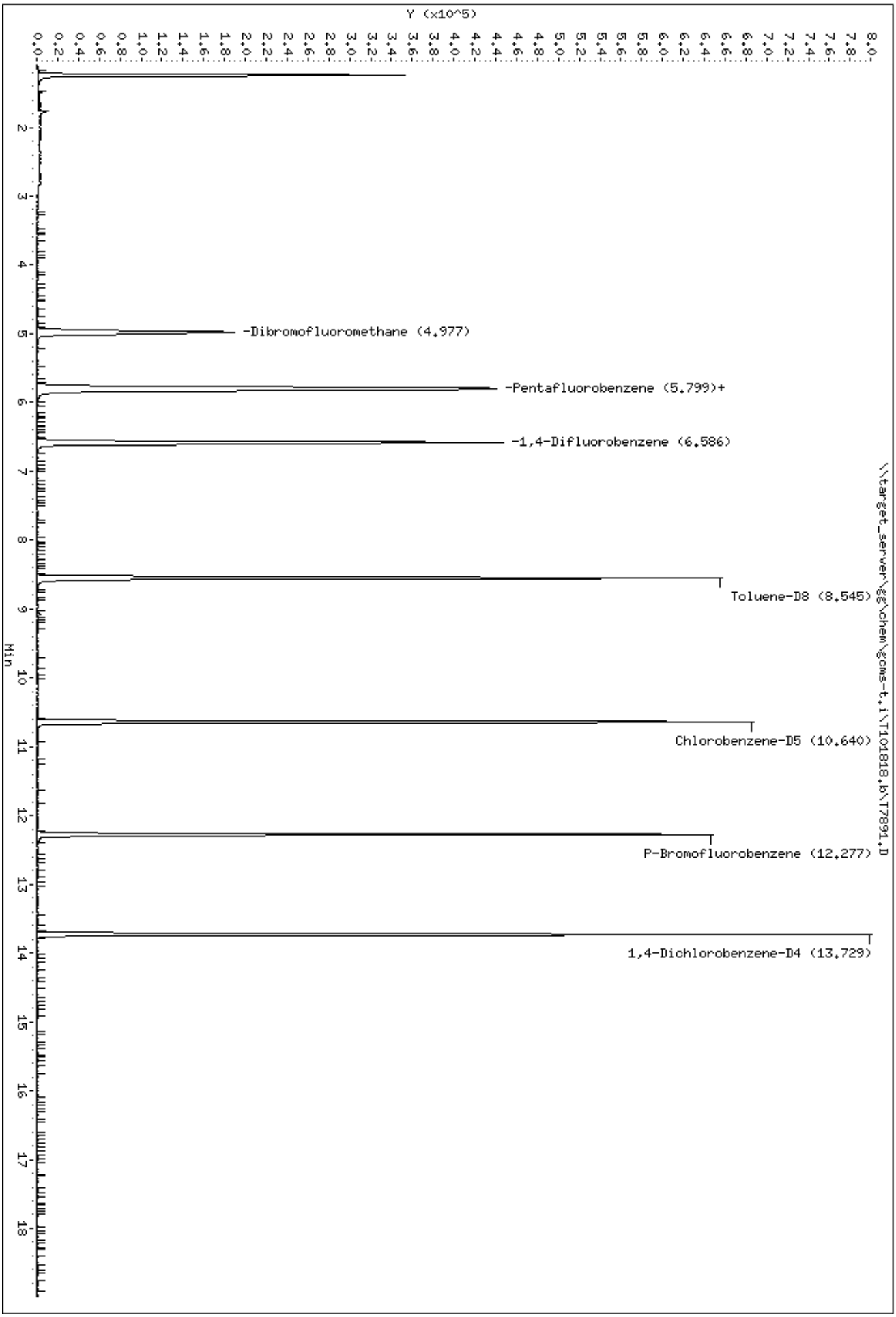
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7891.D
Lab Smp Id: TL0045-4 Client Smp ID: 86EM-SP-6-101218
Inj Date : 18-OCT-2018 19:05 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-4
Misc Info : WG238778,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 34 Dibromofluoromethane	113	4.983	4.976	(0.861)	175473	54.7664	54.8	
* 41 Pentafluorobenzene	168	5.791	5.791	(1.000)	263587	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	293322	62.7430	62.7	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	399176	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	495521	49.2865	49.3	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	362194	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	222377	48.4345	48.4	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	190513	50.0000		


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7891.D
Date : 18-OCT-2018 19:05
Client ID: 86EM-SP-6-101218
Sample Info: TL0045-4
Instrument: gcms-t.i
Y (x10^5)
Min
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
\\target_server\gg\chem\gcms-t.i\T101818.b\T7891.D

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-5
Client ID: DUP-01-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7904.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		101.	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-5
Client ID: DUP-01-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7904.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		124.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7904.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7904.D
Lab Smp Id: TL0045-5 Client Smp ID: DUP-01-101118
Inj Date : 19-OCT-2018 11:45 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-5
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

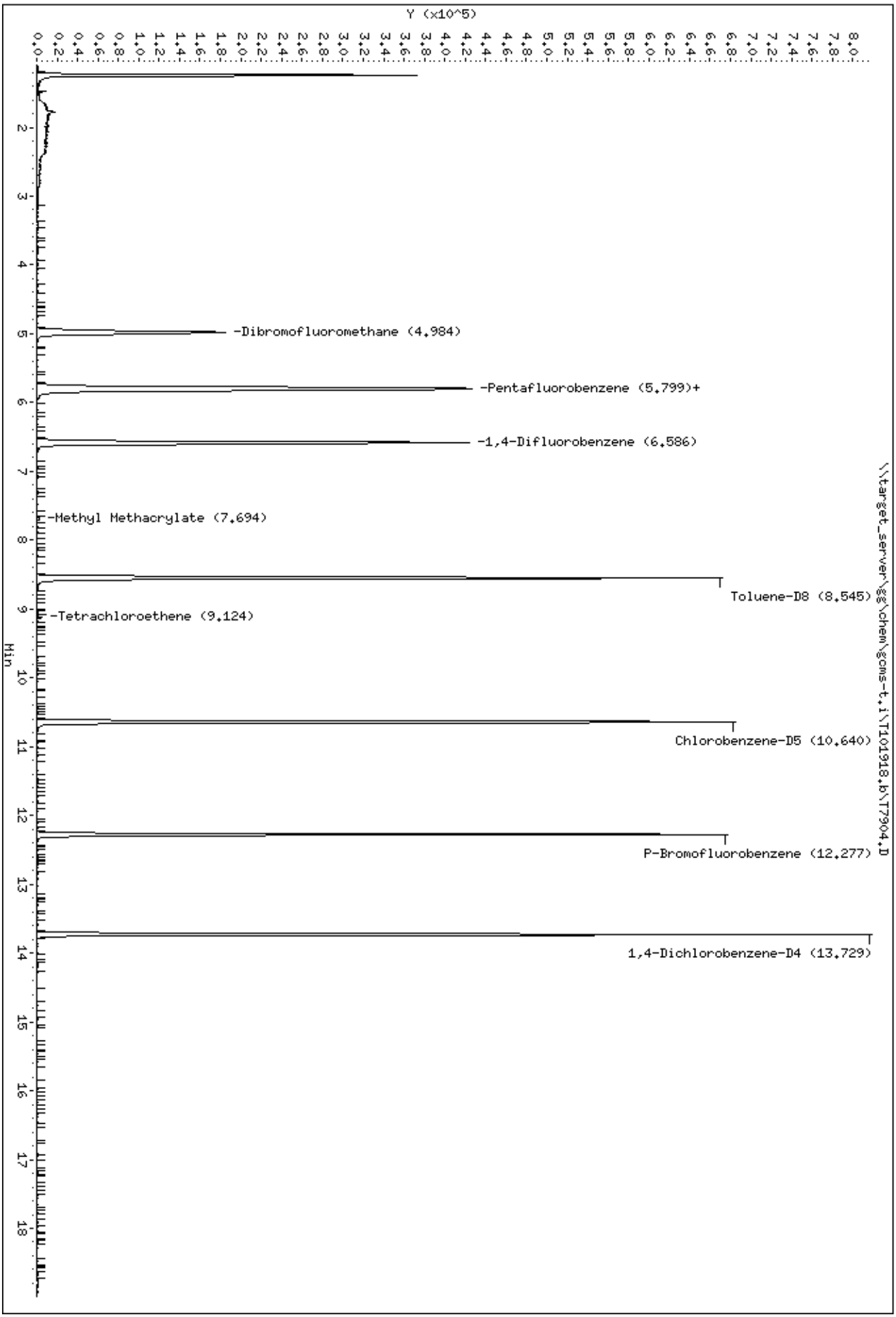
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 34 Dibromofluoromethane	113	4.983	4.976	(0.862)	174770	55.1470	55.1	
* 41 Pentafluorobenzene	168	5.784	5.791	(1.000)	260719	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.820	5.813	(1.006)	285690	61.7827	61.8	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	389119	50.0000		
52 Methyl Methacrylate	41	7.693	7.686	(1.168)	1547	2.43136	2.4	
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	503865	51.4118	51.4	
58 Tetrachloroethene	164	9.123	9.123	(0.858)	936	0.52490	0.52(a)	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	360429	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	226162	50.5320	50.5	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	191483	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7904.D
Date : 19-OCT-2018 11:45
Client ID: DUP-01-101118
Sample Info: TL0045-5
Instrument: gcms-t.i
Y (x10^5)
Min
-Dibromofluoromethane (4.984)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
-Methyl Methacrylate (7.694)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
\\target_server\gg\chem\gcms-t.i\T101918.b\T7904.D

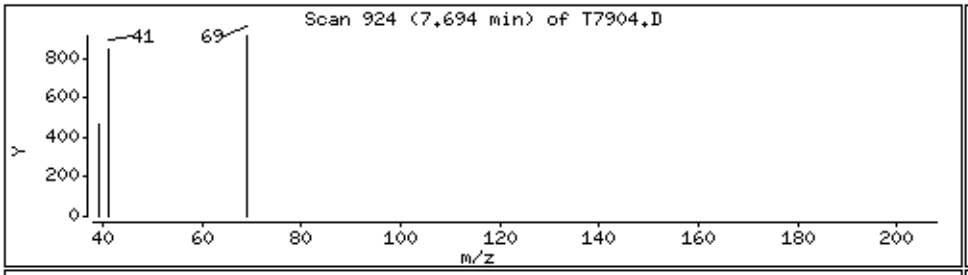
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7904.D

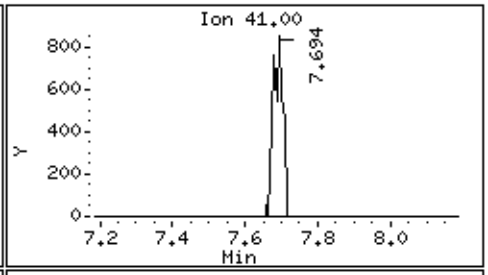
Date : 19-OCT-2018 11:45

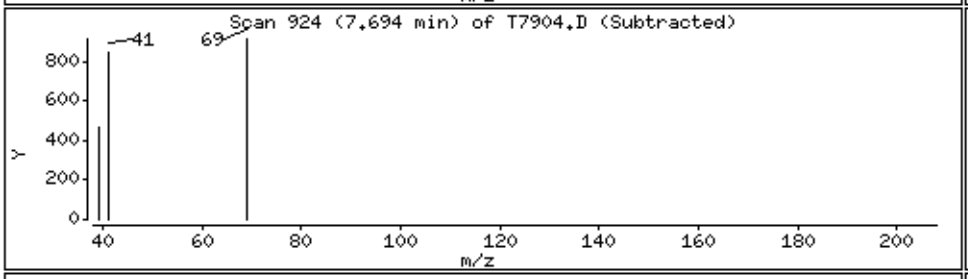
Client ID: DUP-01-101118 Instrument: gcms-t.i

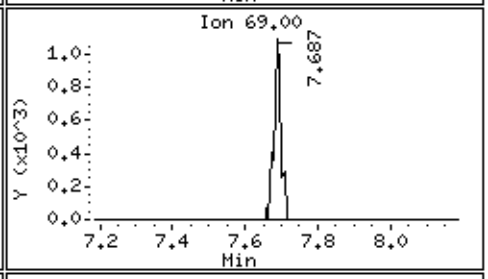
Sample Info: TL0045-5

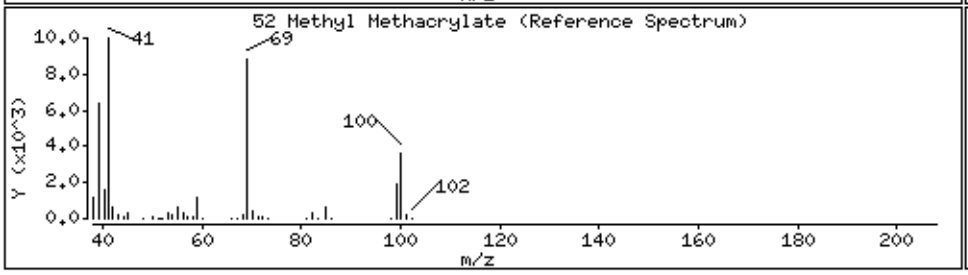
52 Methyl Methacrylate Concentration: 2.4 ug/l

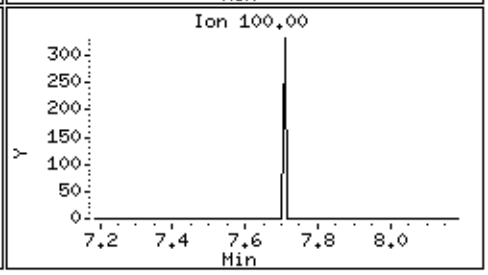




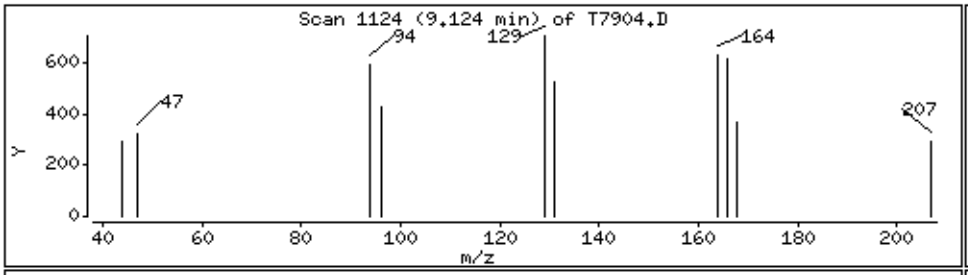


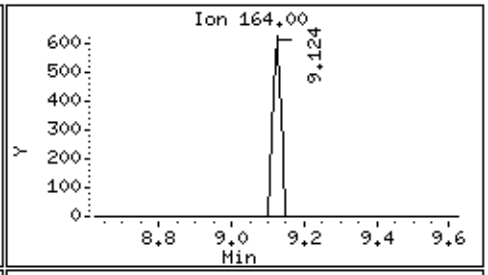


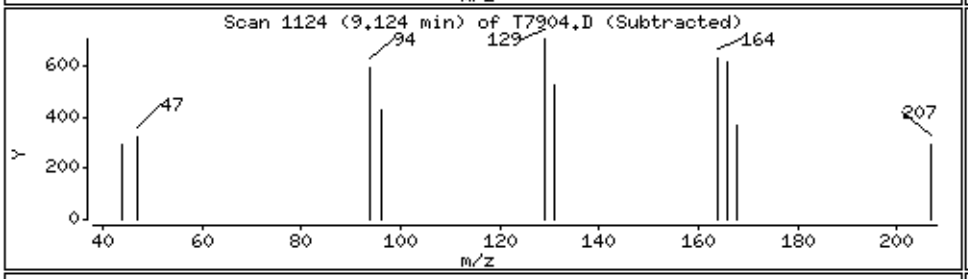


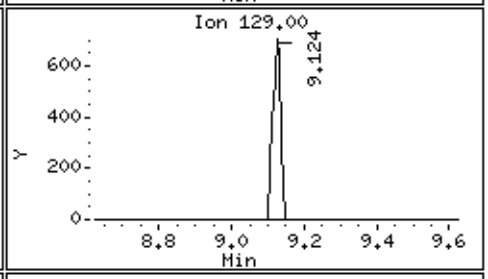


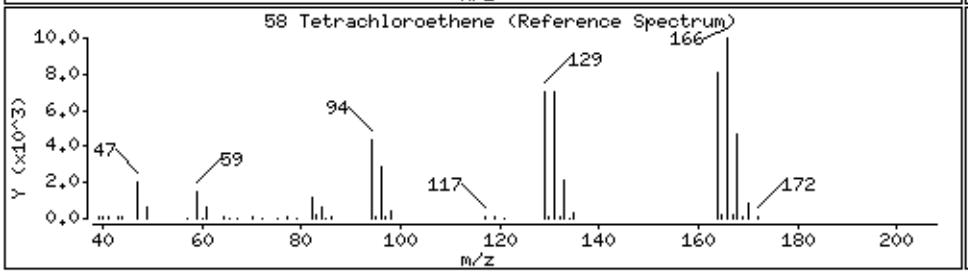
58 Tetrachloroethene Concentration: 0.52 ug/l

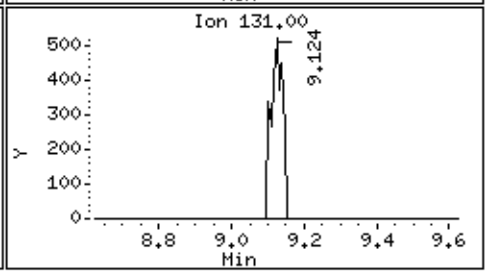












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-6
Client ID: WVA-SA-SNS-6-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7892.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.3	ug/L	1	1	1.0
Chloroform		18.	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		4.2	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane		2.8	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		63.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		100.	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-6
Client ID: WVA-SA-SNS-6-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7892.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		125.	%			
Dibromofluoromethane		113.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7892.D
Report Date: 25-Oct-2018 11:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7892.D
Lab Smp Id: TL0045-6 Client Smp ID: WVA-SA-SNS-6-101218
Inj Date : 18-OCT-2018 19:35 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-6
Misc Info : WG238778,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

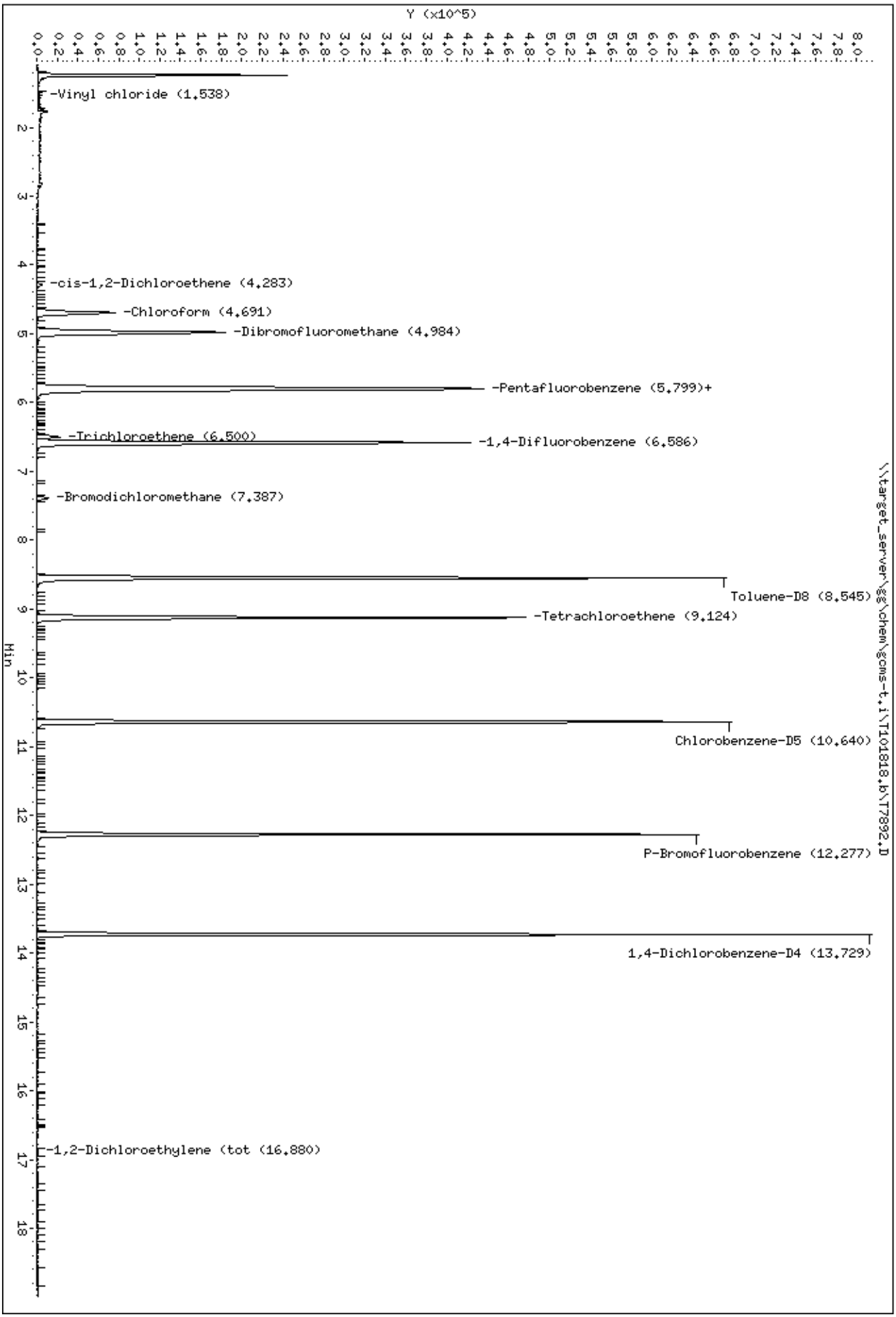
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	1560	0.68911	0.69(a)	
	27 cis-1,2-Dichloroethene	96	4.297	4.283	(0.742)	2786	1.27925	1.3	
	31 Chloroform	83	4.690	4.690	(0.810)	100511	18.1134	18.1	
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	174529	56.5827	56.6	
*	41 Pentafluorobenzene	168	5.792	5.791	(1.000)	253753	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	280854	62.4042	62.4	
	47 Trichloroethene	95	6.492	6.499	(0.986)	11136	4.25112	4.2	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	390232	50.0000		
	51 Bromodichloromethane	83	7.386	7.393	(1.122)	11592	2.78451	2.8	
$	56 Toluene-D8	98	8.544	8.544	(1.297)	501001	50.9737	51.0	
	58 Tetrachloroethene	164	9.124	9.123	(0.858)	113965	63.3247	63.3	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	363762	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	224840	50.0934	50.1	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	186525	50.0000		
M	103 1,2-Dichloroethylene (total)	96				2786	1.27925	1.3(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Y (x10^5)
-Vinyl chloride (1.538)
-cis-1,2-Dichloroethene (4.283)
-Chloroform (4.691)
-Dibromofluoromethane (4.984)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.500)
-1,4-Difluorobenzene (6.586)
-Bromodichloromethane (7.387)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
Min
\\target_server\gg\chem\gcms-t.i\T101818.b\T7892.D
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7892.D
Date : 18-OCT-2018 19:35
Client ID: WWA-SA-SNS-6-101218
Sample Info: TL0045-6
Instrument: gcms-t.i

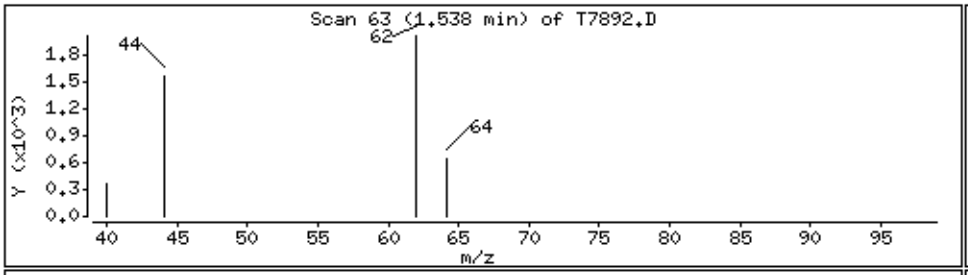
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7892.D

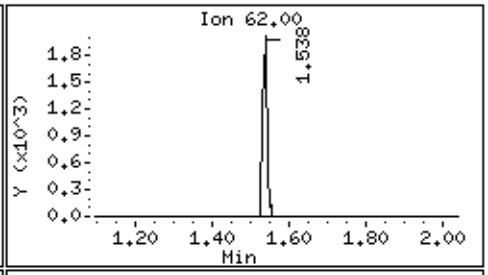
Date : 18-OCT-2018 19:35

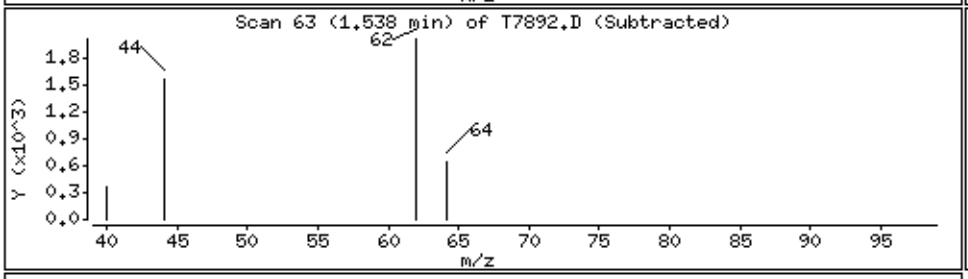
Client ID: WVA-SA-SNS-6-101218 Instrument: gcms-t.i

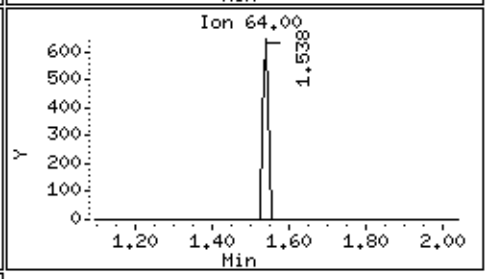
Sample Info: TL0045-6

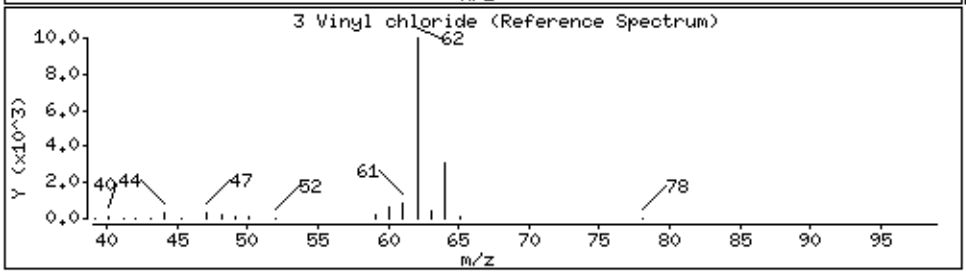
3 Vinyl chloride Concentration: 0.69 ug/l



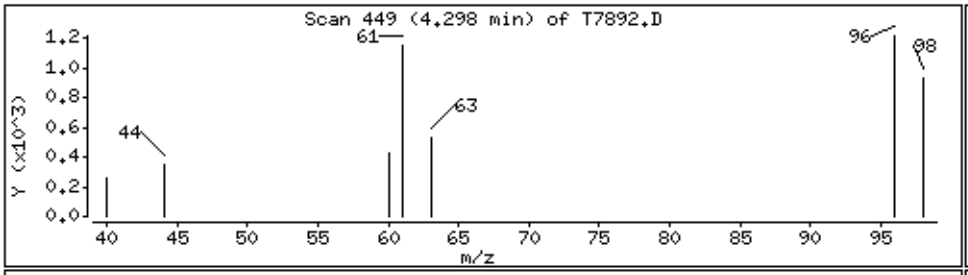


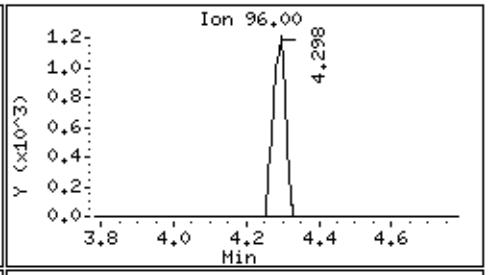


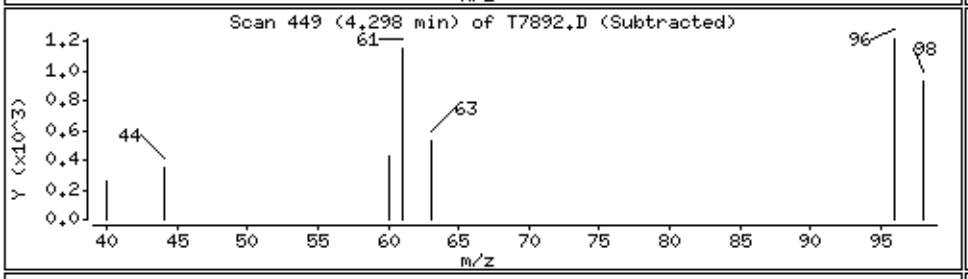


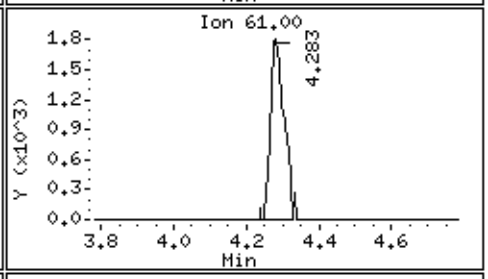


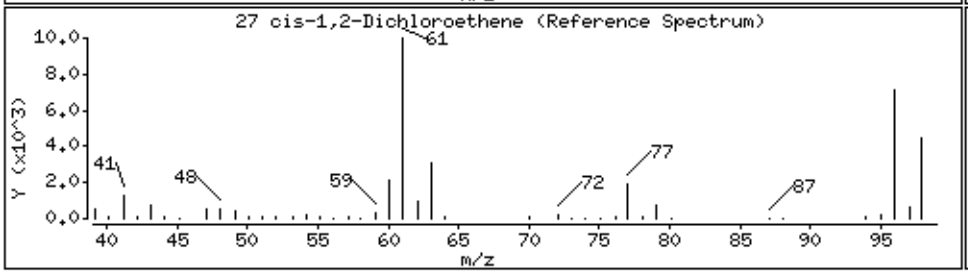
27 cis-1,2-Dichloroethene Concentration: 1.3 ug/l

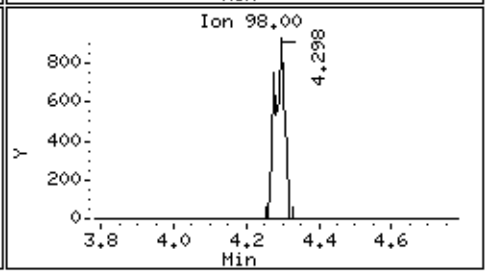












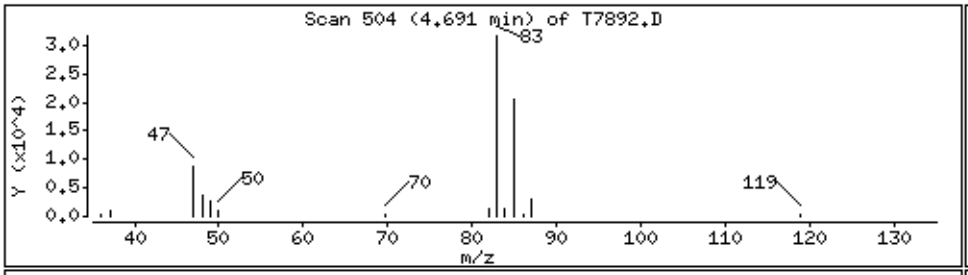
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7892.D

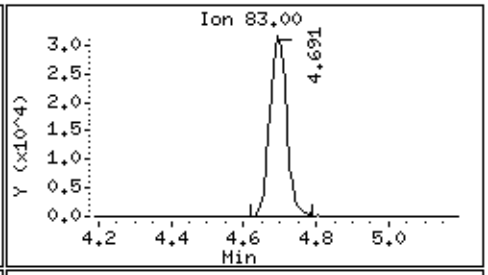
Date : 18-OCT-2018 19:35

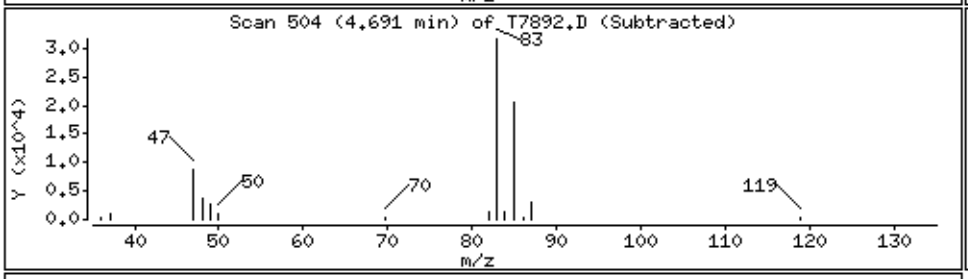
Client ID: WVA-SA-SNS-6-101218 Instrument: gcms-t.i

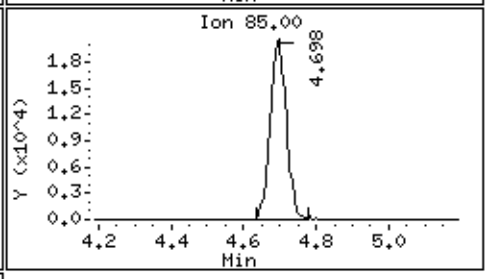
Sample Info: TL0045-6

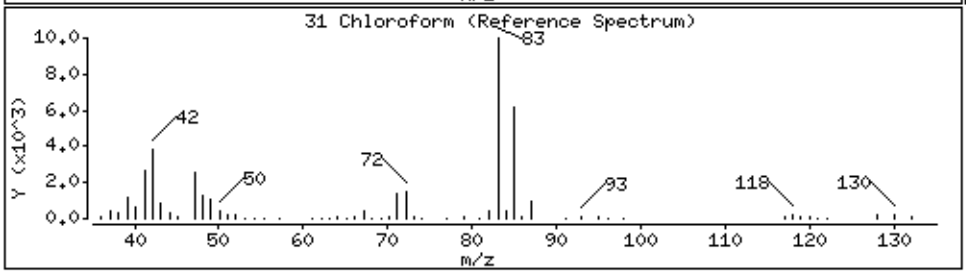
31 Chloroform Concentration: 18.1 ug/l



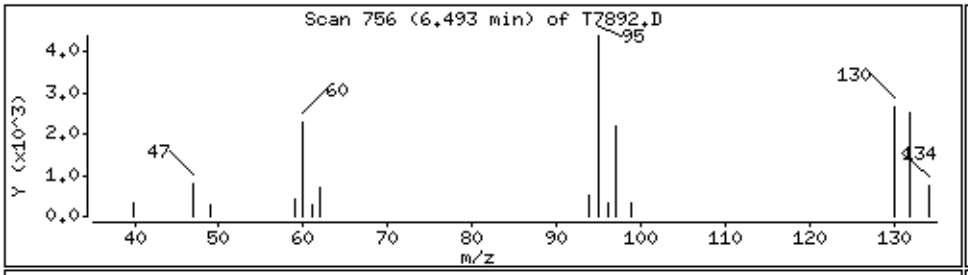


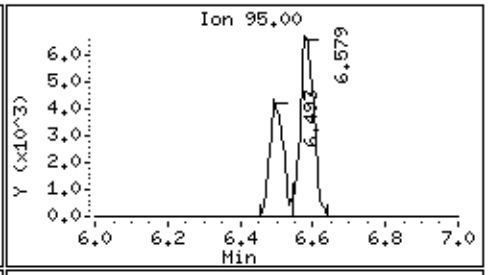


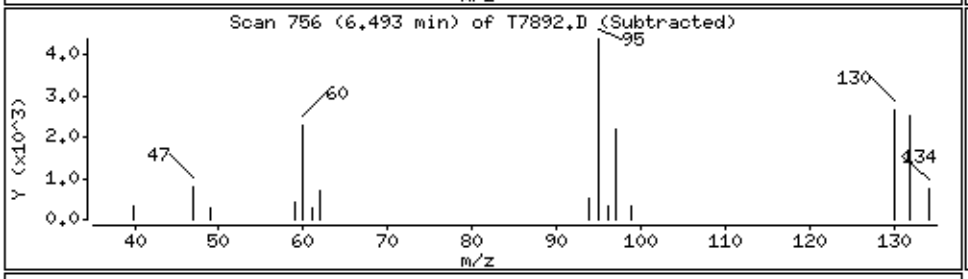


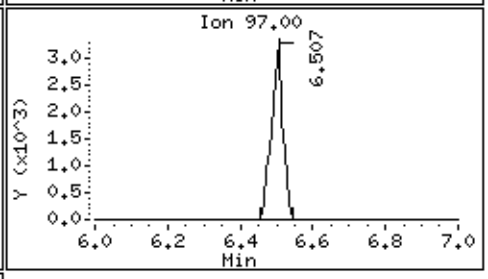


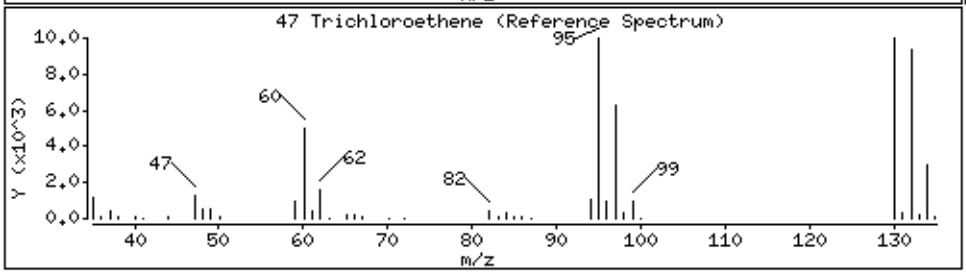
47 Trichloroethene Concentration: 4.2 ug/l











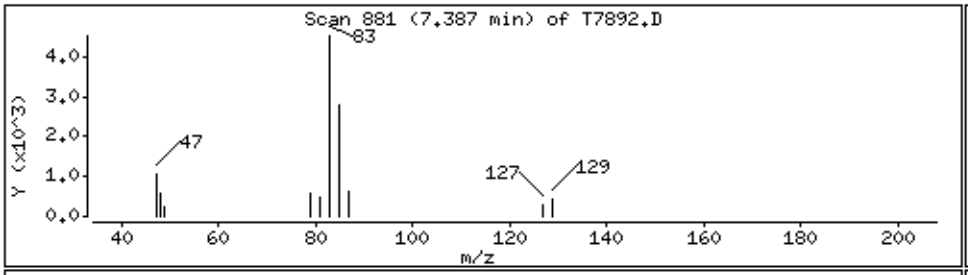
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7892.D

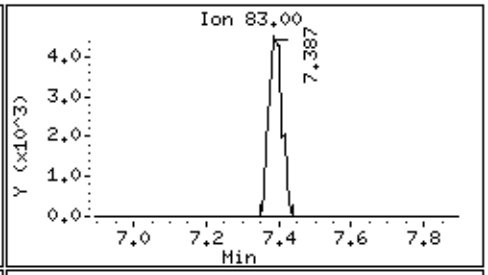
Date : 18-OCT-2018 19:35

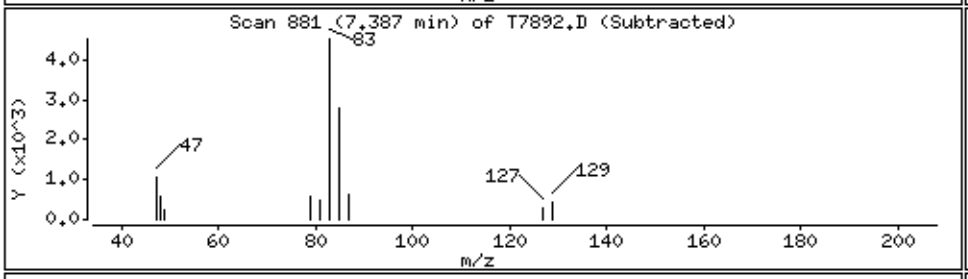
Client ID: WVA-SA-SNS-6-101218 Instrument: gcms-t.i

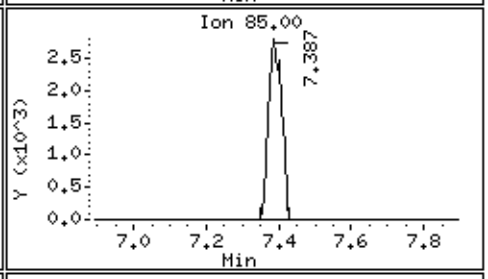
Sample Info: TL0045-6

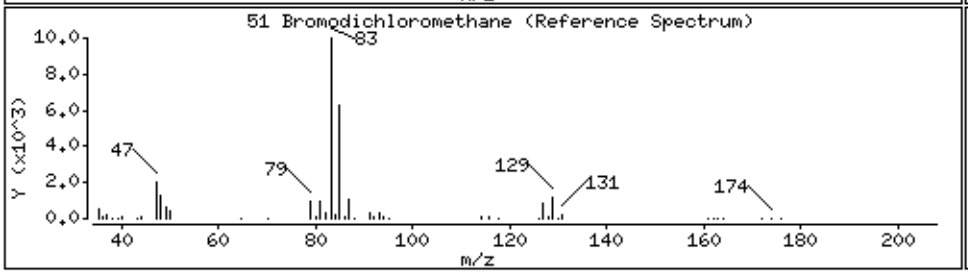
51 Bromodichloromethane Concentration: 2.8 ug/l

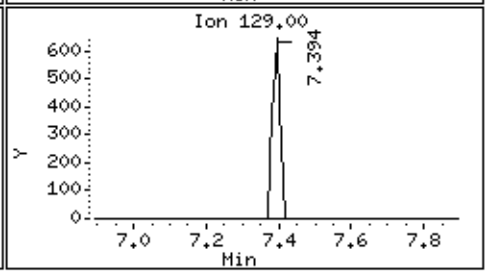




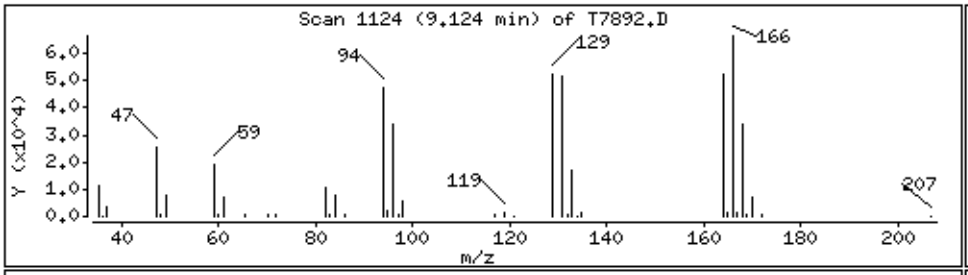


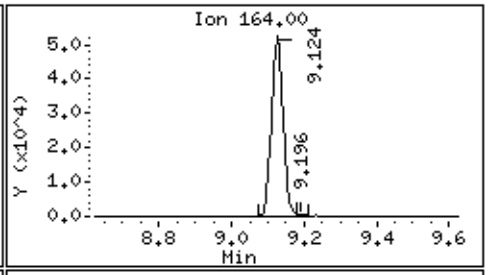


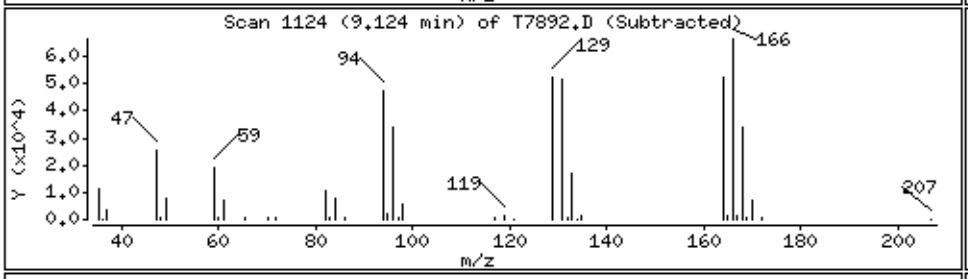


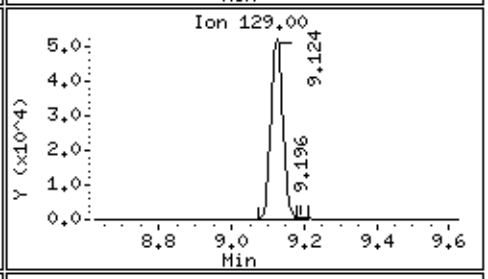


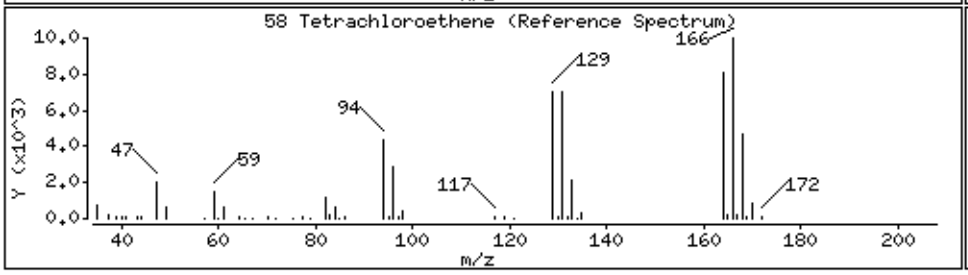
58 Tetrachloroethene Concentration: 63.3 ug/l

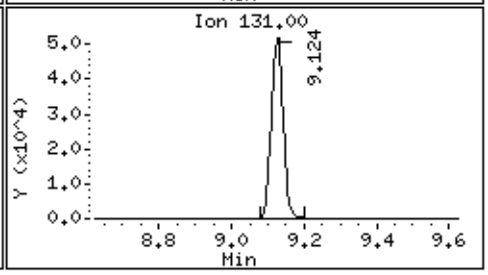












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-7
Client ID: WVA-MW-85R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7905.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	700	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		6.9	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		20.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	2300	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	1500	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	8800	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		89.9	%			
Toluene-d8		96.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-7
Client ID: WVA-MW-85R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7905.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7905.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7905.D
Lab Smp Id: TL0045-7 Client Smp ID: WVA-MW-85R-3-101118
Inj Date : 19-OCT-2018 12:15 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-7
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

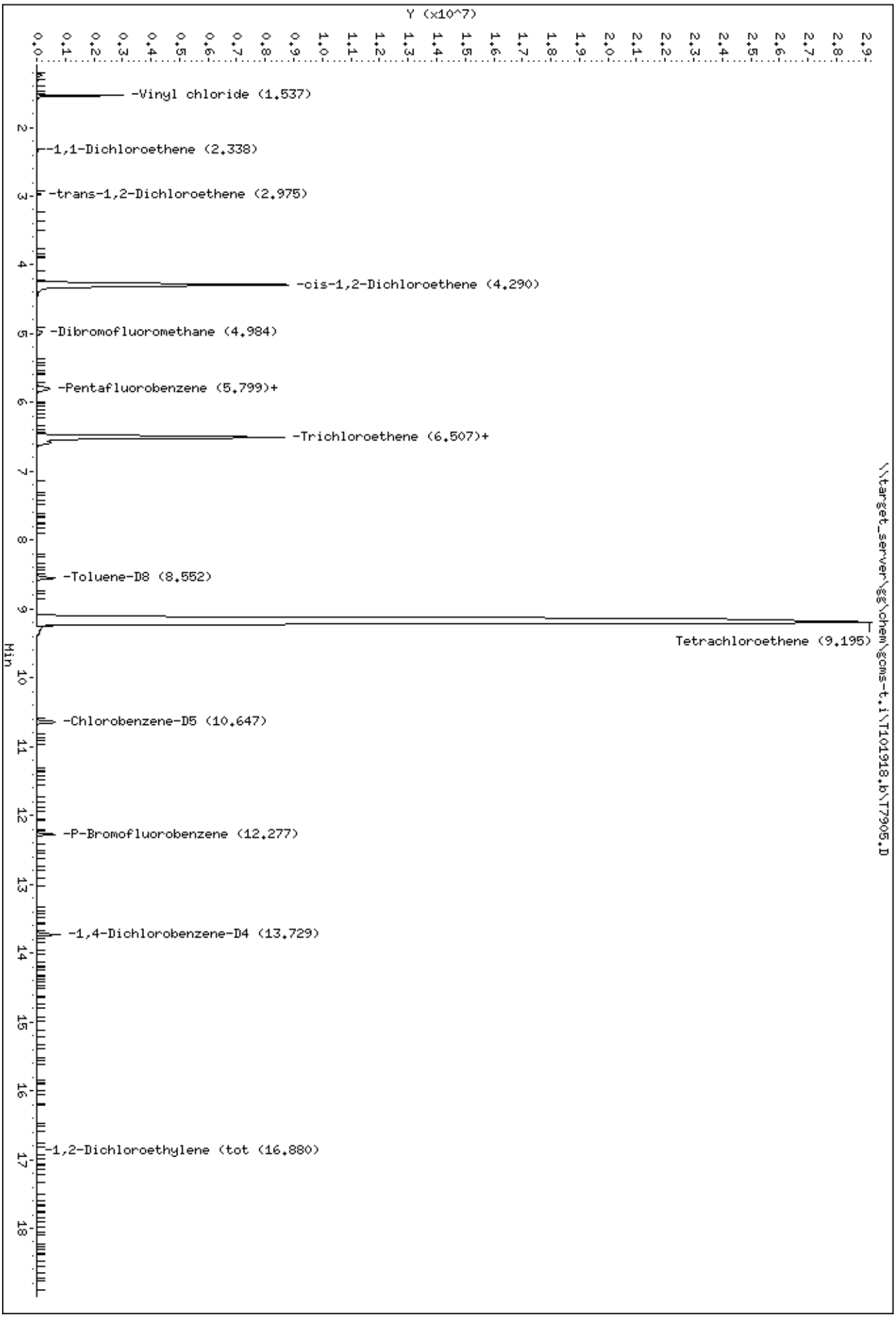
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	1680570	700.332	700(A)	
	8 1,1-Dichloroethene	96	2.338	2.331	(0.404)	15737	6.92129	6.9	
	16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	41860	19.8480	19.8	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	5401226	2339.65	2340(A)	
$	34 Dibromofluoromethane	113	4.983	4.976	(0.860)	179359	54.8560	54.8	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	268984	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.820	5.813	(1.005)	289544	60.6922	60.7	
	47 Trichloroethene	95	6.506	6.499	(0.988)	4139694	1466.40	1470(A)	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	420545	50.0000		
$	56 Toluene-D8	98	8.551	8.544	(1.299)	509232	48.0766	48.1	
	58 Tetrachloroethene	164	9.195	9.123	(0.864)	15227152	8790.69	8790(A)	
*	68 Chlorobenzene-D5	117	10.646	10.646	(1.000)	350118	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	217399	44.9443	44.9	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	189332	50.0000		
M	103 1,2-Dichloroethylene (total)	96				5443086	2359.50	2360	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Y (x10^7)
Min
-Vinyl chloride (1.537)
-1,1-Dichloroethene (2.338)
-trans-1,2-Dichloroethene (2.975)
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.984)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.507)+
-Toluene-D8 (8.552)
Tetrachloroethene (9.195)
-Chlorobenzene-D5 (10.647)
-P-Bromofluorobenzene (12.277)
-1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T101918.b\T7905.D
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7905.D
Date : 19-OCT-2018 12:15
Client ID: WVA-MW-85R-3-101118
Sample Info: TL0045-7
Instrument: gcms-t.i

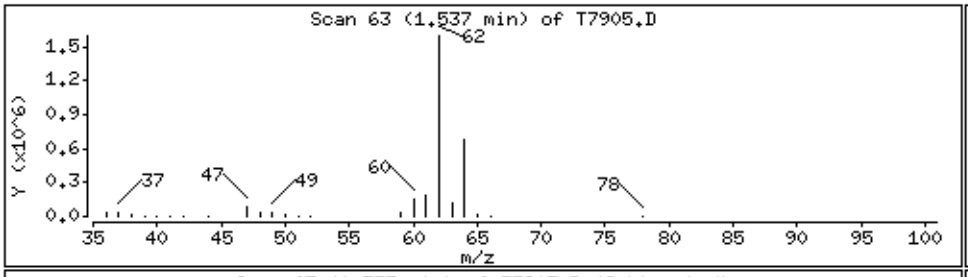
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7905.D

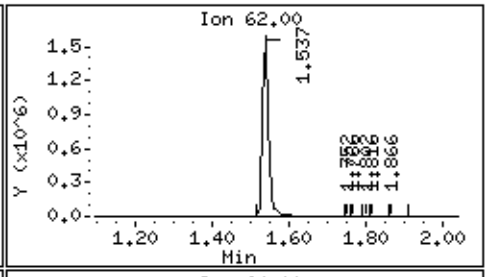
Date : 19-OCT-2018 12:15

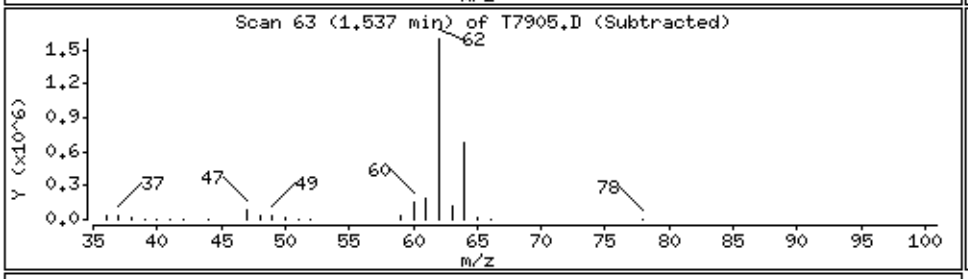
Client ID: WVA-MW-85R-3-101118 Instrument: gcms-t.i

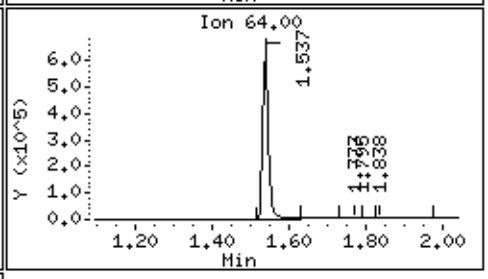
Sample Info: TL0045-7

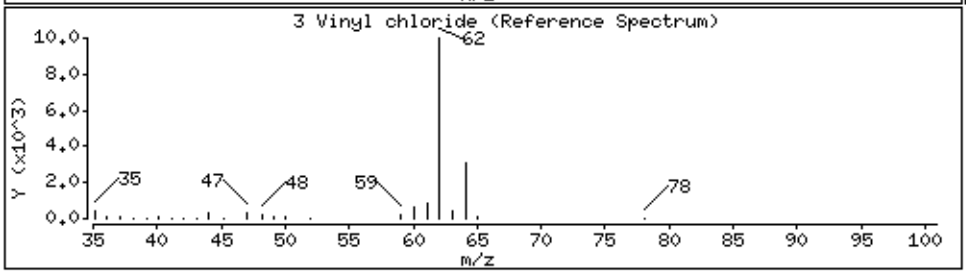
3 Vinyl chloride Concentration: 700 ug/l



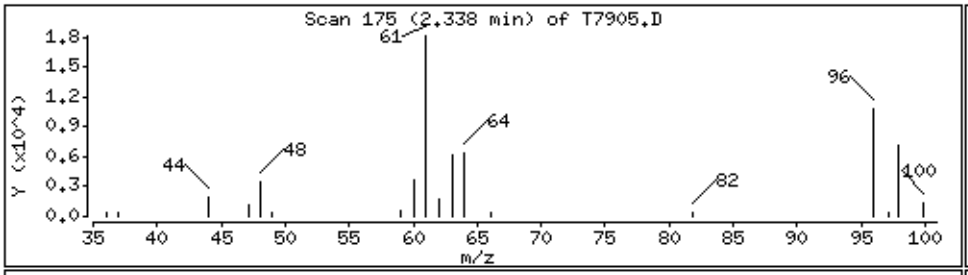


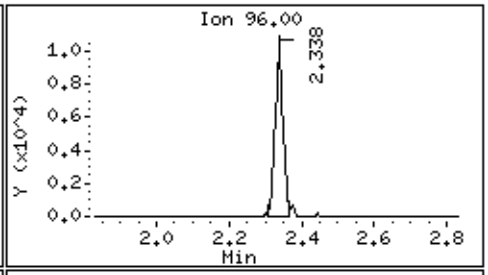


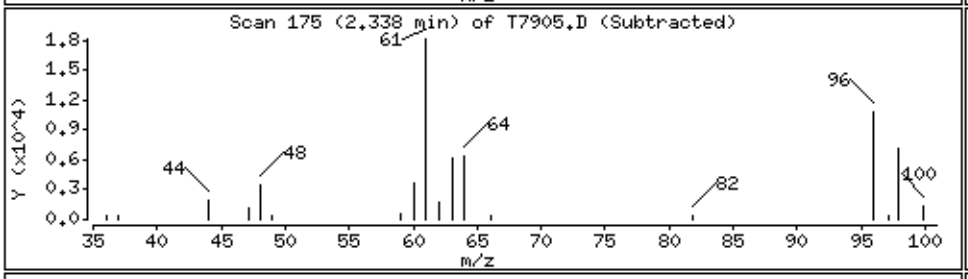


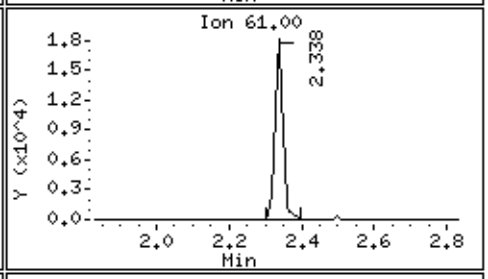


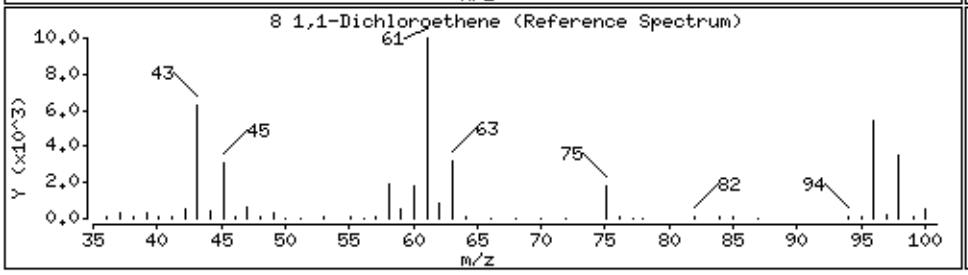
8 1,1-Dichloroethene Concentration: 6.9 ug/l

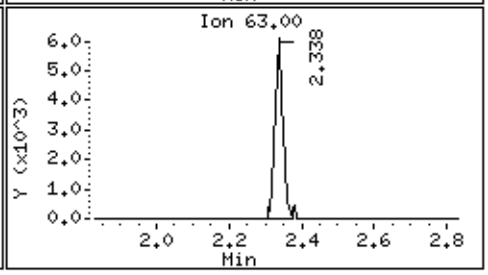












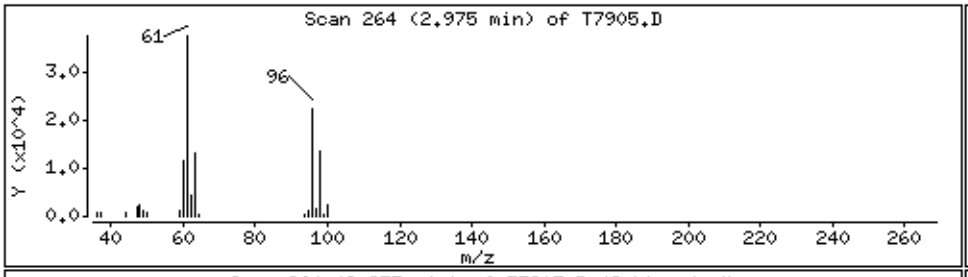
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7905.D

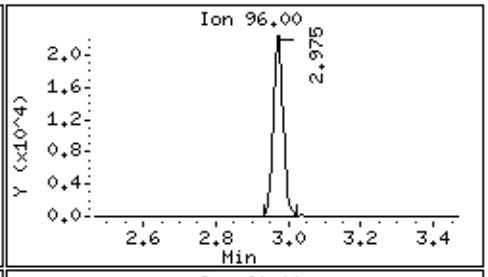
Date : 19-OCT-2018 12:15

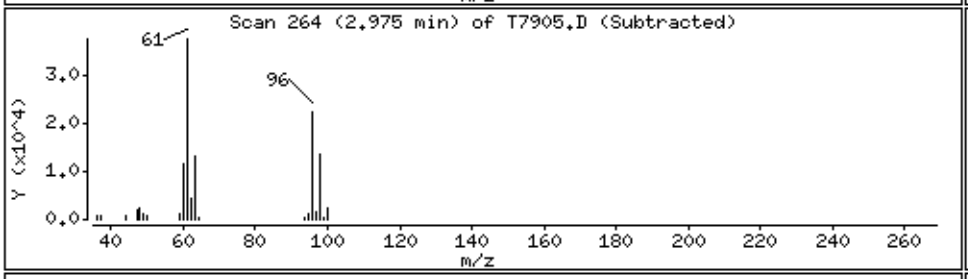
Client ID: WVA-MW-85R-3-101118 Instrument: gcms-t.i

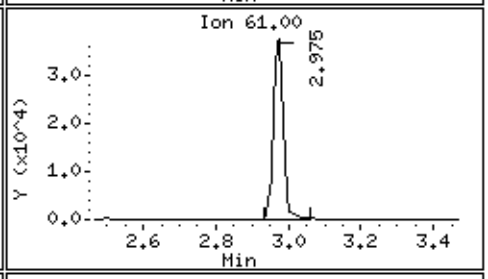
Sample Info: TL0045-7

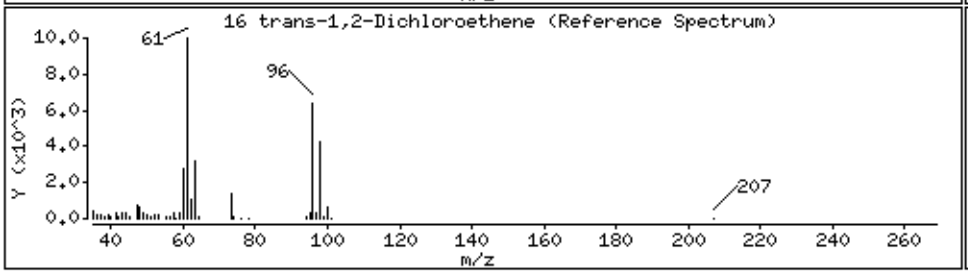
16 trans-1,2-Dichloroethene Concentration: 19.8 ug/l

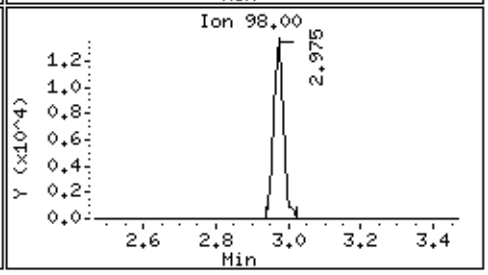




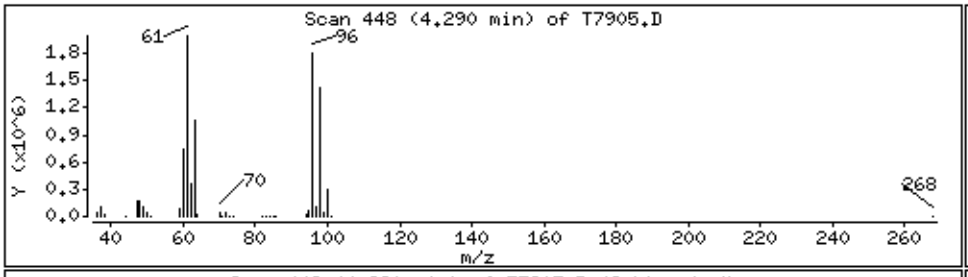


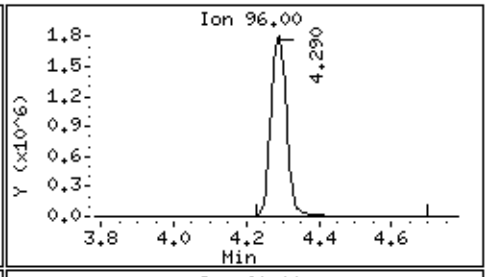


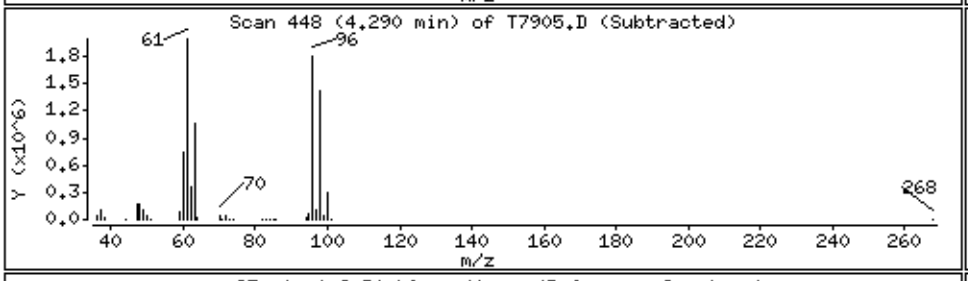


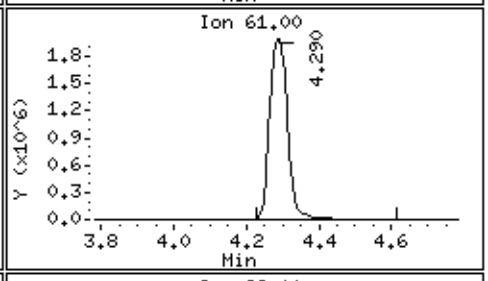


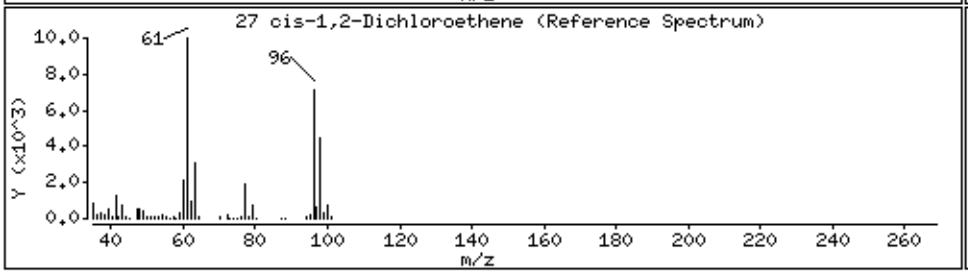
27 cis-1,2-Dichloroethene Concentration: 2340 ug/l

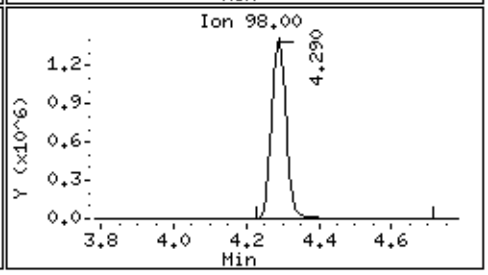












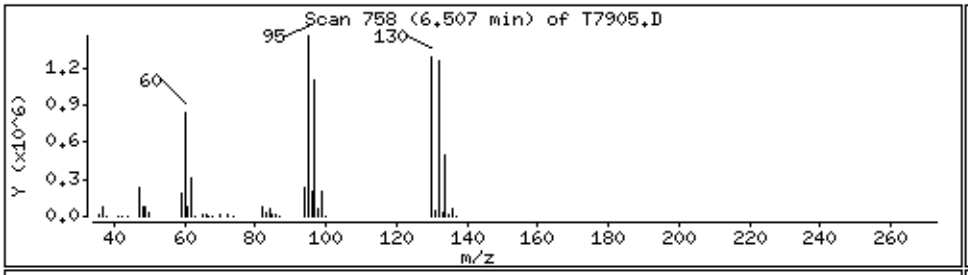
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7905.D

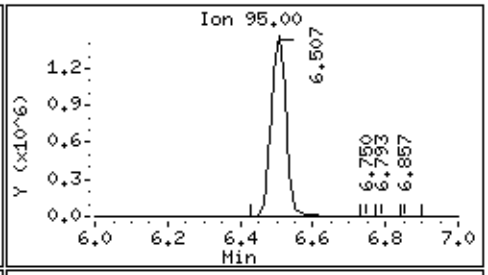
Date : 19-OCT-2018 12:15

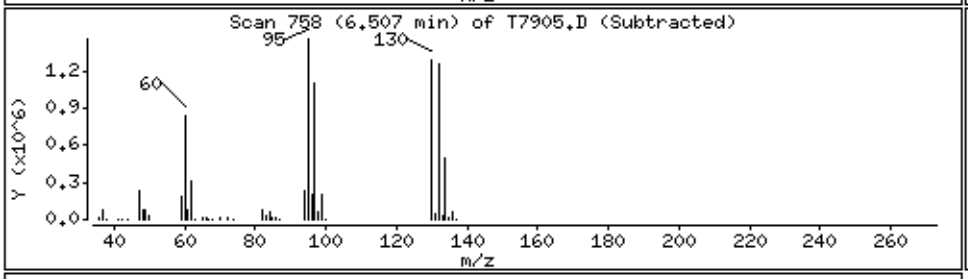
Client ID: WVA-MW-85R-3-101118 Instrument: gcms-t.i

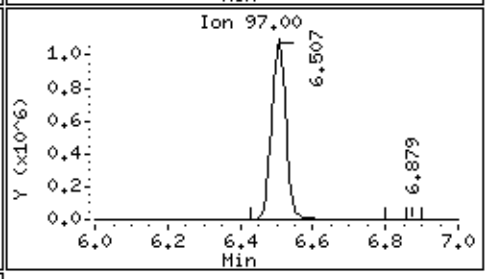
Sample Info: TL0045-7

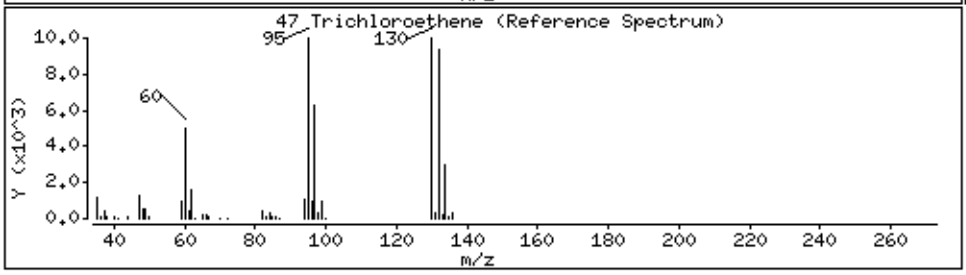
47 Trichloroethene Concentration: 1470 ug/l



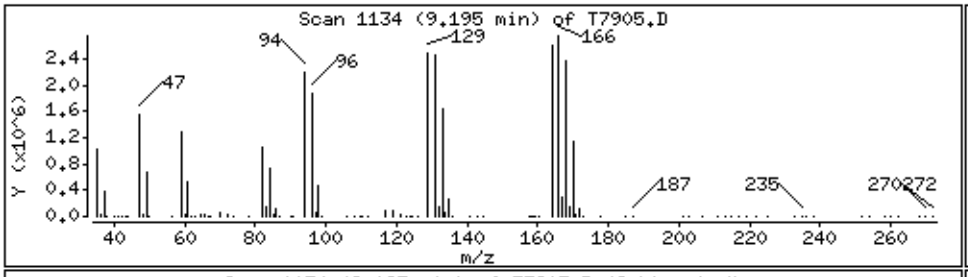


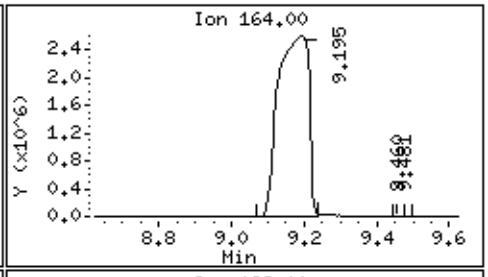


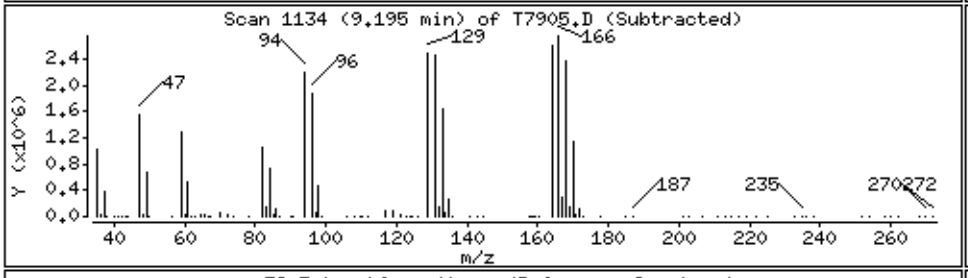


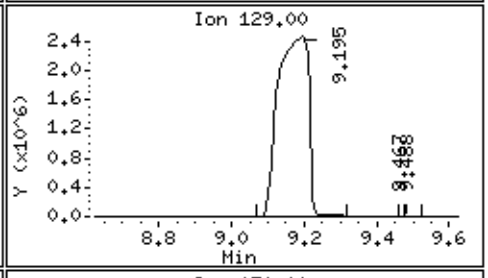


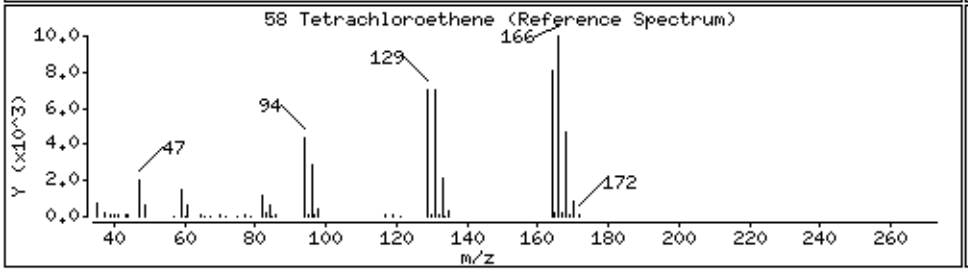
58 Tetrachloroethene Concentration: 8790 ug/l

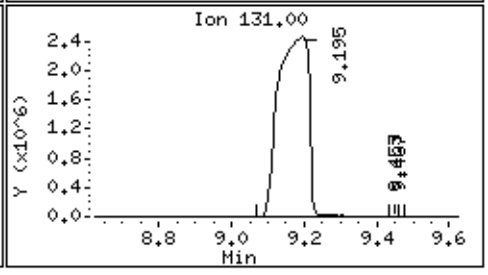












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-7DL
Client ID: WVA-MW-85R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7928.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	400	ug/L	200	2	400
Vinyl Chloride		870	ug/L	200	2	400
Bromomethane	U	400	ug/L	200	2	400
Chloroethane	U	400	ug/L	200	2	400
Trichlorofluoromethane	U	400	ug/L	200	2	400
1,1-Dichloroethene	U	200	ug/L	200	1	200
Carbon Disulfide	U	200	ug/L	200	1	200
Methylene Chloride	U	1000	ug/L	200	5	1000
trans-1,2-Dichloroethene	U	200	ug/L	200	1	200
1,1-Dichloroethane	U	200	ug/L	200	1	200
cis-1,2-Dichloroethene		2400	ug/L	200	1	200
Chloroform	U	200	ug/L	200	1	200
Carbon Tetrachloride	U	200	ug/L	200	1	200
1,1,1-Trichloroethane	U	200	ug/L	200	1	200
2-Butanone	U	1000	ug/L	200	5	1000
Benzene	U	200	ug/L	200	1	200
1,2-Dichloroethane	U	200	ug/L	200	1	200
Trichloroethene		1300	ug/L	200	1	200
1,2-Dichloropropane	U	200	ug/L	200	1	200
Bromodichloromethane	U	200	ug/L	200	1	200
cis-1,3-Dichloropropene	U	200	ug/L	200	1	200
Toluene	U	200	ug/L	200	1	200
4-Methyl-2-Pentanone	U	1000	ug/L	200	5	1000
Tetrachloroethene		27000	ug/L	200	1	200
trans-1,3-Dichloropropene	U	200	ug/L	200	1	200
1,1,2-Trichloroethane	U	200	ug/L	200	1	200
Dibromochloromethane	U	200	ug/L	200	1	200
Chlorobenzene	U	200	ug/L	200	1	200
Ethylbenzene	U	200	ug/L	200	1	200
m+p-Xylenes	U	400	ug/L	200	2	400
o-Xylene	U	200	ug/L	200	1	200
Bromoform	U	200	ug/L	200	1	200
1,1,2,2-Tetrachloroethane	U	200	ug/L	200	1	200
P-Bromofluorobenzene		93.7	%			
Toluene-d8		99.1	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-7DL
Client ID: WVA-MW-85R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7928.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		118.	%			
Dibromofluoromethane		107.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7928.D
Report Date: 25-Oct-2018 13:46

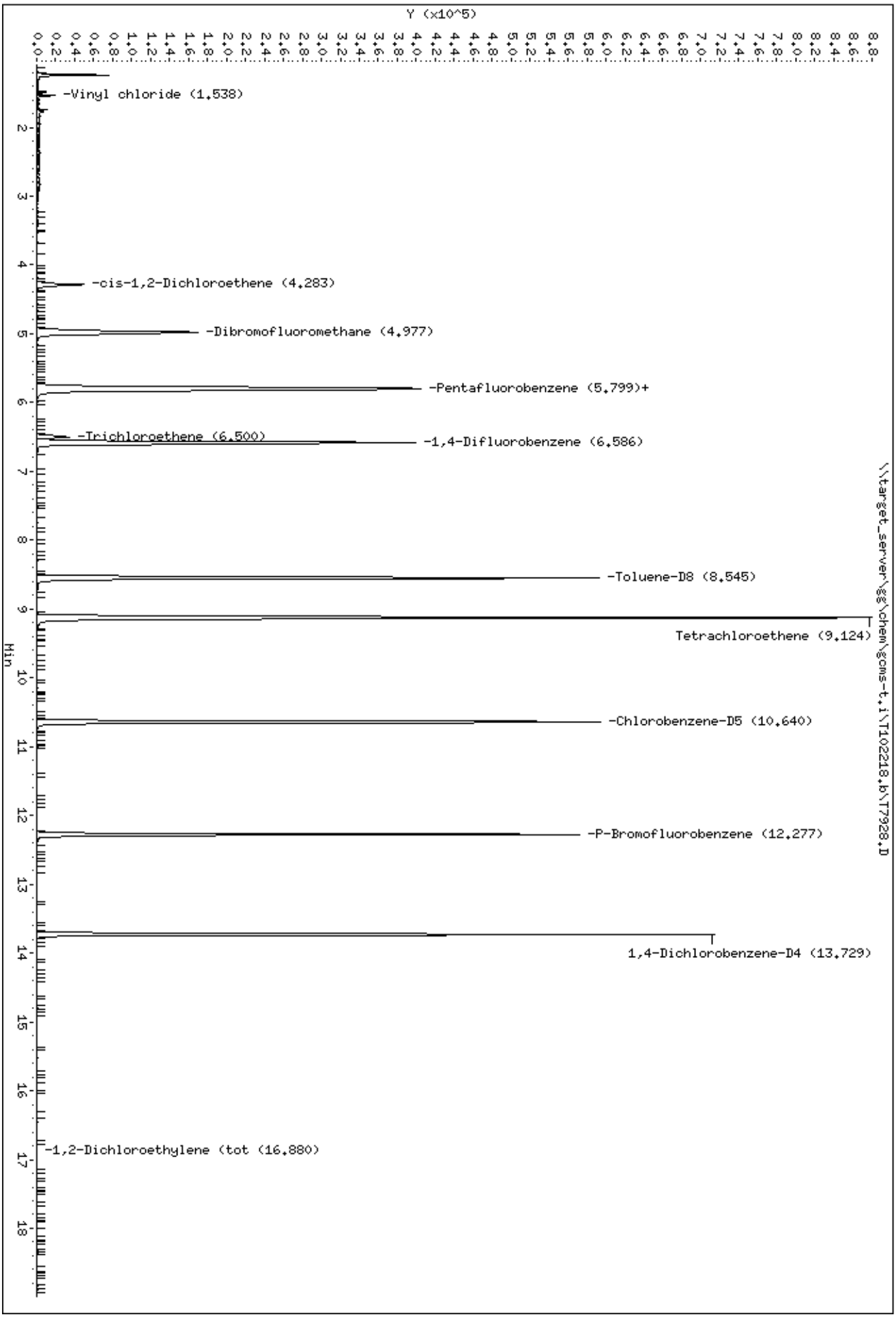
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7928.D
Lab Smp Id: TL0045-7DL Client Smp ID: WVA-MW-85R-3-101118
Inj Date : 22-OCT-2018 11:53 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-7DL
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 6
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.266)	9471	4.36707	873	
27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	25340	12.1454	2430	
$ 34 Dibromofluoromethane	113	4.976	4.976	(0.860)	157729	53.3777	53.4	
* 41 Pentafluorobenzene	168	5.784	5.791	(1.000)	243097	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.005)	253878	58.8830	58.9	
47 Trichloroethene	95	6.499	6.499	(0.987)	15120	6.31446	1260	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	356708	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	445135	49.5461	49.5	
58 Tetrachloroethene	164	9.124	9.123	(0.858)	208198	134.362	26900	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	313198	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	192141	46.8314	46.8	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	163348	50.0000		
M 103 1,2-Dichloroethylene (total)	96				25340	12.1454	2430	



Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7928.D
Date : 22-OCT-2018 11:53
Client ID: WVA-MW-85R-3-101118
Sample Info: TL0045-7DL

Instrument: gcms-t.i

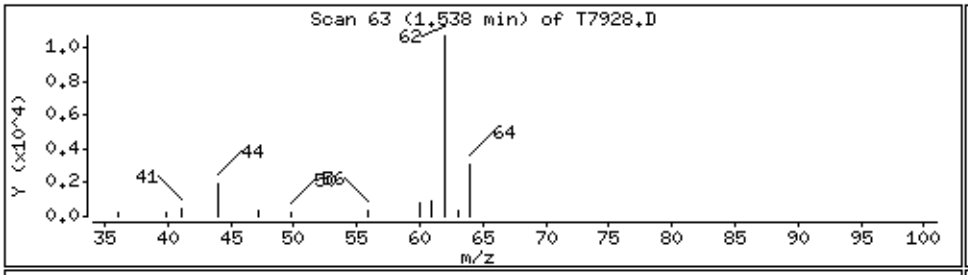
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7928.D

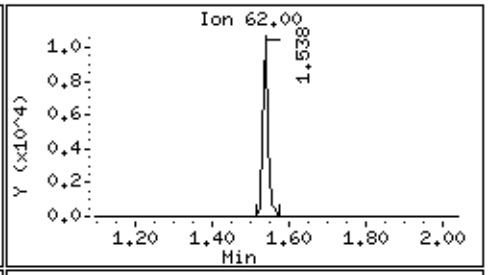
Date : 22-OCT-2018 11:53

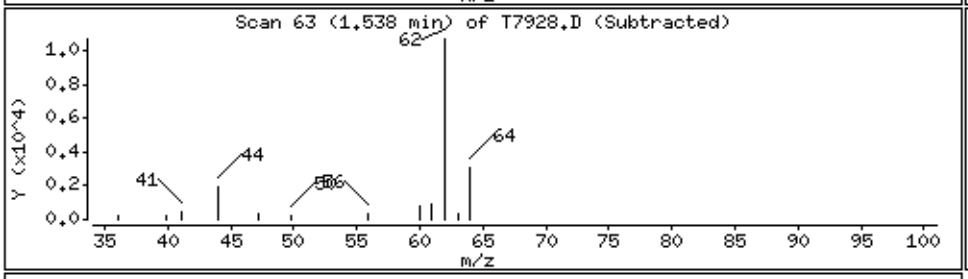
Client ID: WVA-MW-85R-3-101118 Instrument: gcms-t.i

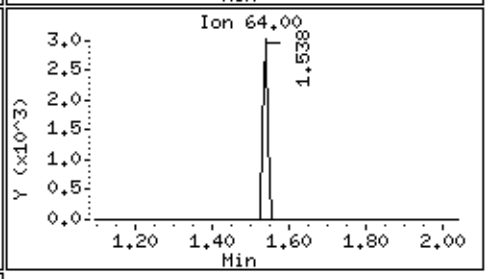
Sample Info: TL0045-7DL

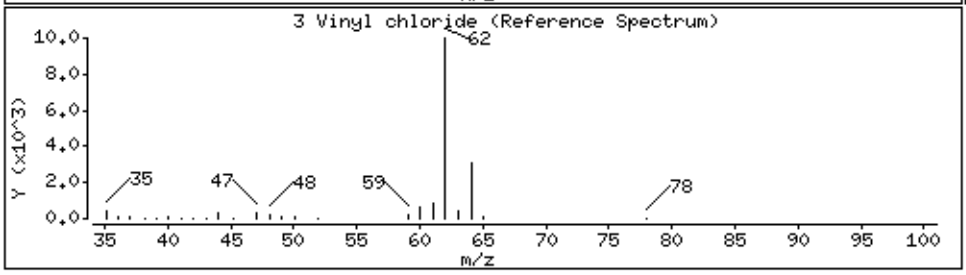
3 Vinyl chloride Concentration: 873 ug/l



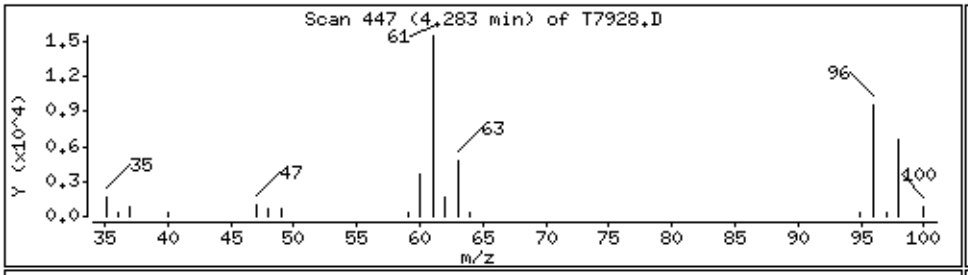


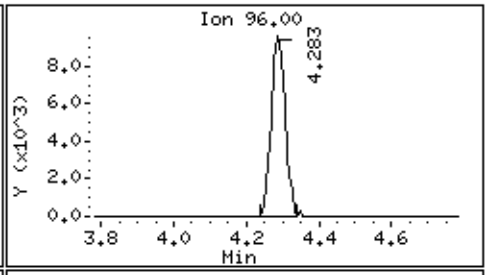


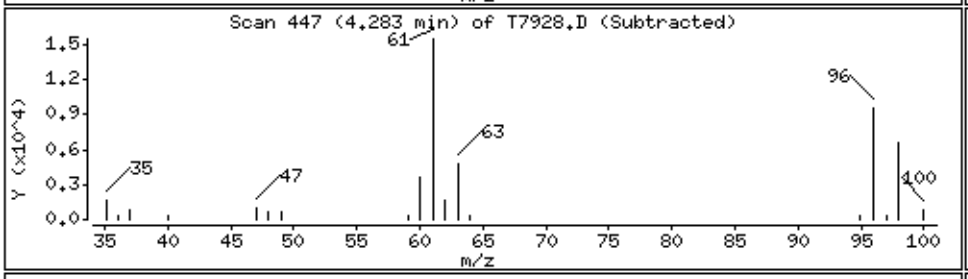


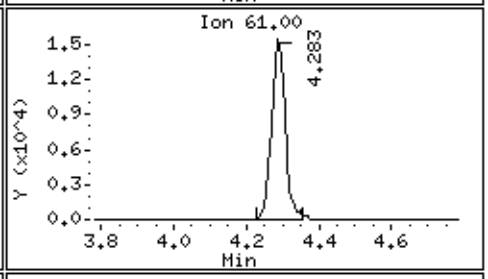


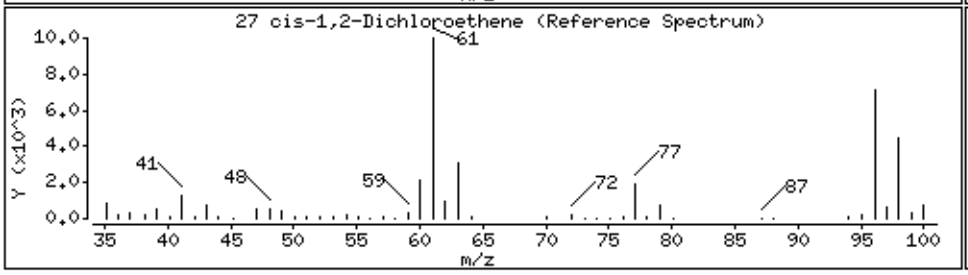
27 cis-1,2-Dichloroethene Concentration: 2430 ug/l

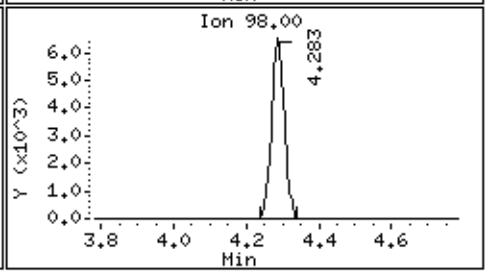












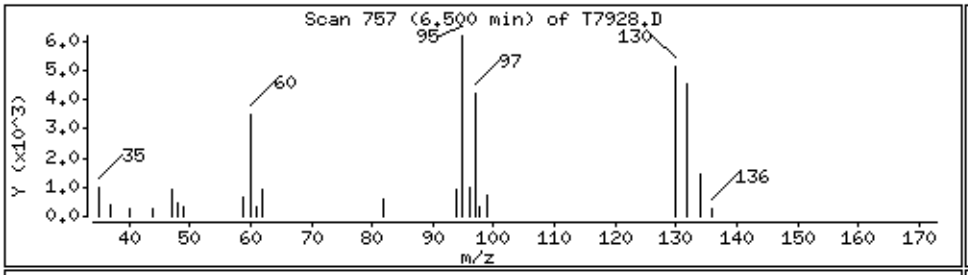
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7928.D

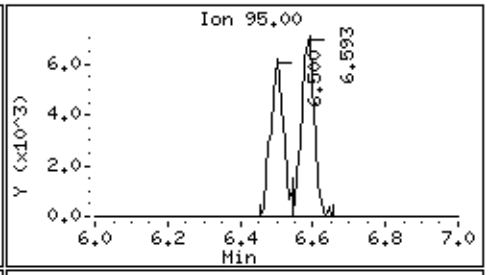
Date : 22-OCT-2018 11:53

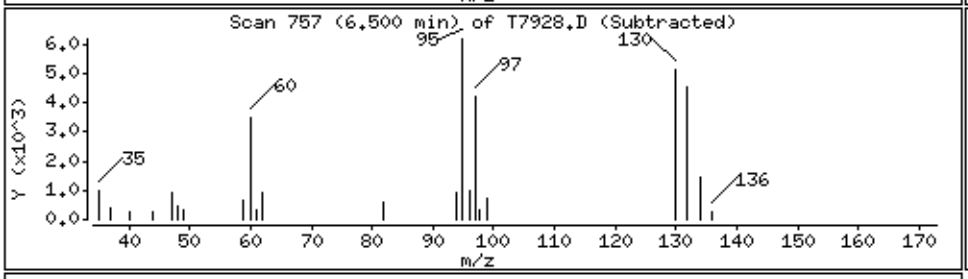
Client ID: WVA-MW-85R-3-101118 Instrument: gcms-t.i

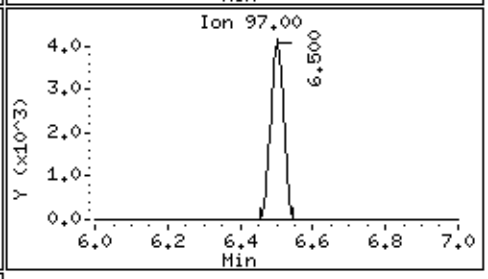
Sample Info: TL0045-7DL

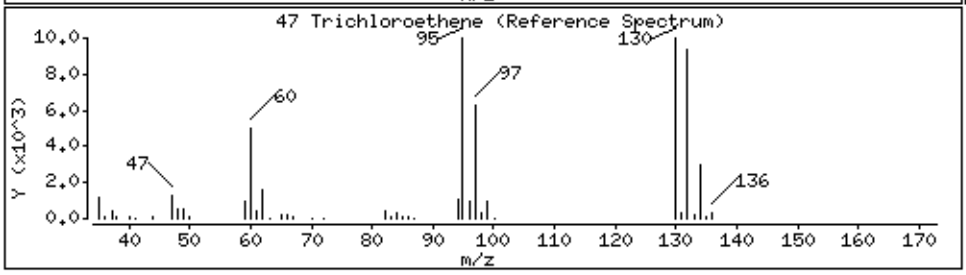
47 Trichloroethene Concentration: 1260 ug/l



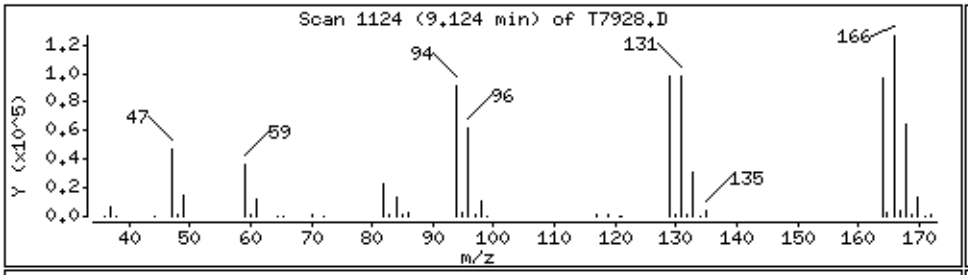


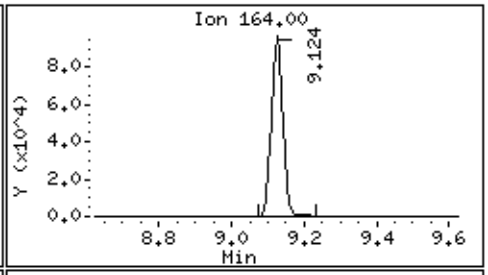


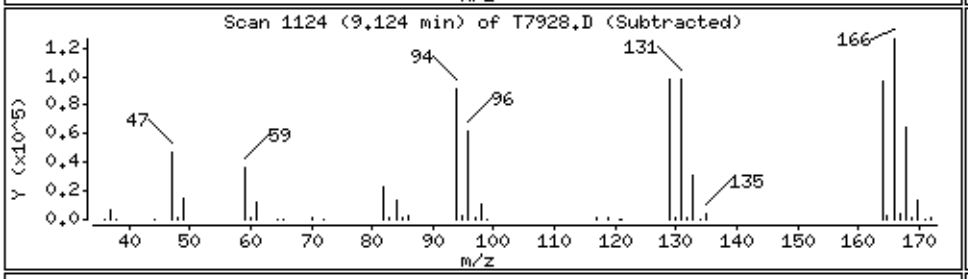


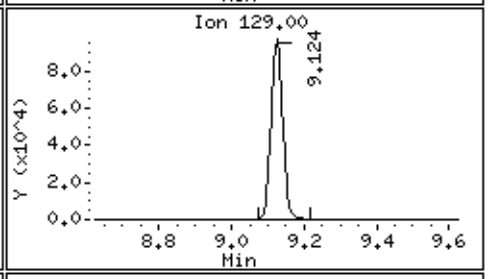


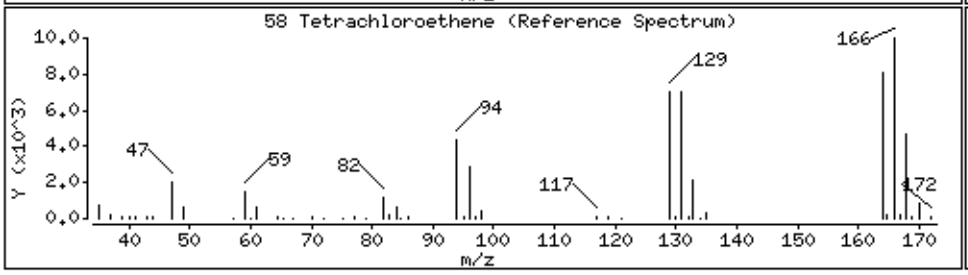
58 Tetrachloroethene Concentration: 26900 ug/l

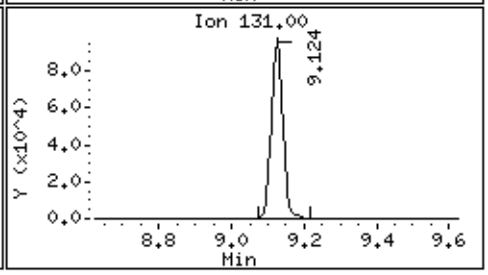












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-8
Client ID: WVA-MW-85R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7906.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	460	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		5.5	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		19.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	2100	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	340	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	1600	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.5	%			
Toluene-d8		97.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-8
Client ID: WVA-MW-85R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7906.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		123.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7906.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7906.D
Lab Smp Id: TL0045-8 Client Smp ID: WVA-MW-85R-2-101118
Inj Date : 19-OCT-2018 12:45 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-8
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

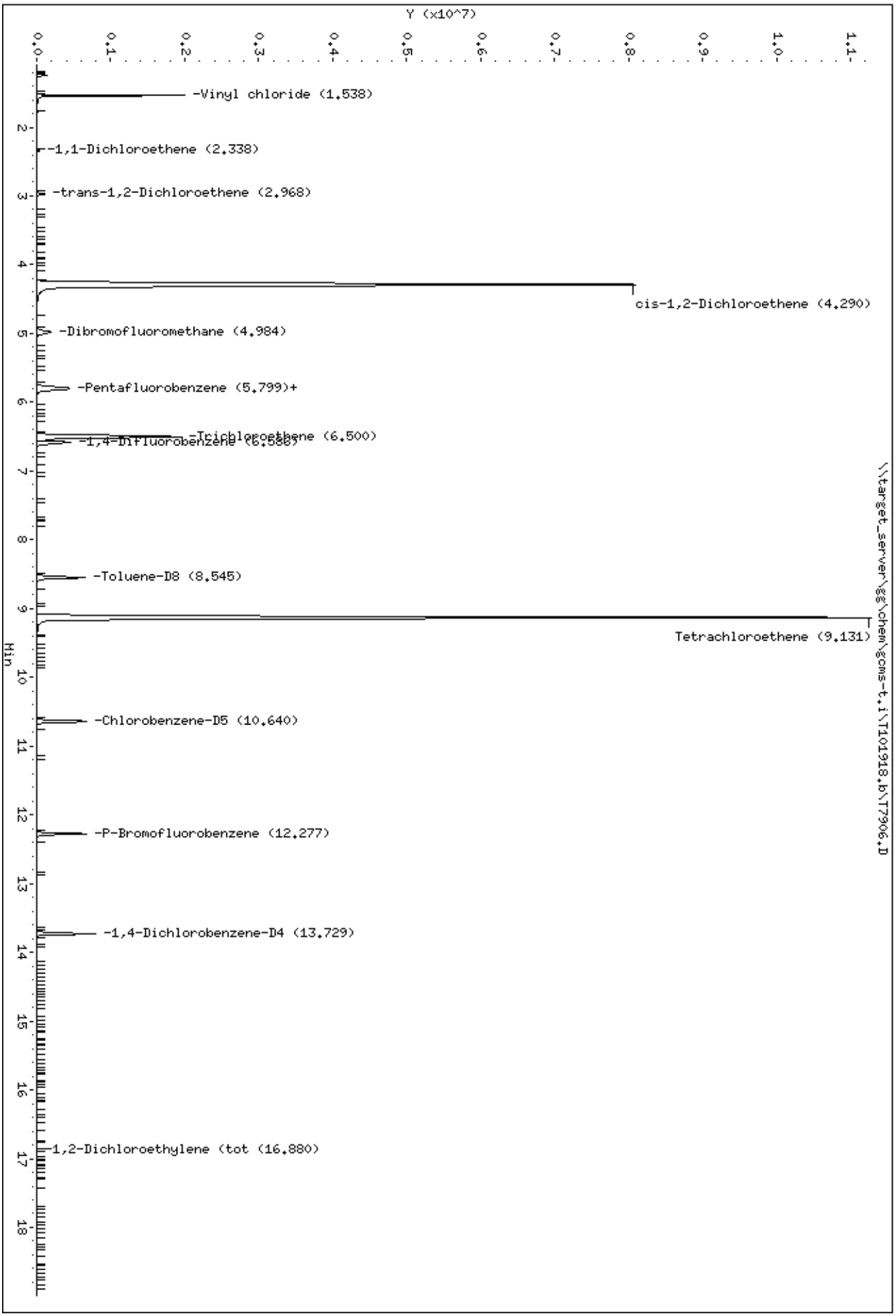
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	1103313	464.181	464(A)	
	8 1,1-Dichloroethene	96	2.338	2.331	(0.404)	12387	5.50013	5.5	
	16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	39185	18.7576	18.8	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	4879524	2133.92	2130(A)	
$	34 Dibromofluoromethane	113	4.983	4.976	(0.860)	178684	55.1732	55.2	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	266431	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.820	5.813	(1.005)	291574	61.7033	61.7	
	47 Trichloroethene	95	6.499	6.499	(0.987)	941265	341.645	342(A)	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	410425	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	503030	48.6621	48.7	
	58 Tetrachloroethene	164	9.131	9.123	(0.858)	2979969	1648.76	1650(A)	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	365320	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	232440	49.2387	49.2	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	189436	50.0000		
M	103 1,2-Dichloroethylene (total)	96				4918709	2152.67	2150	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7906.D
Date : 19-OCT-2018 12:45
Client ID: WWA-MW-85R-2-101118
Sample Info: TL0045-8

Instrument: gcms-t.i

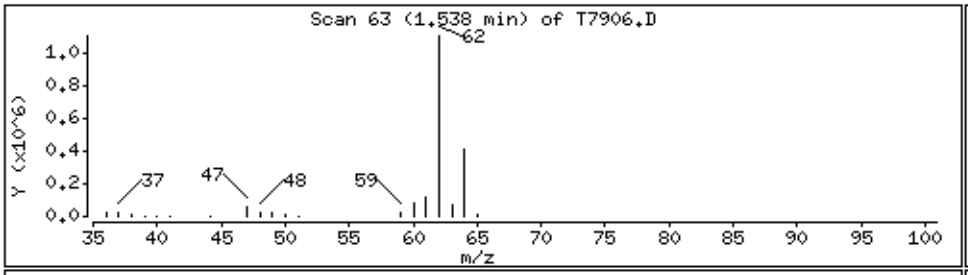
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7906.D

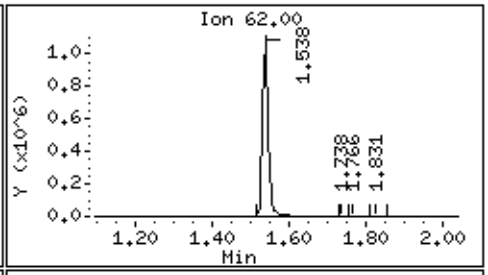
Date : 19-OCT-2018 12:45

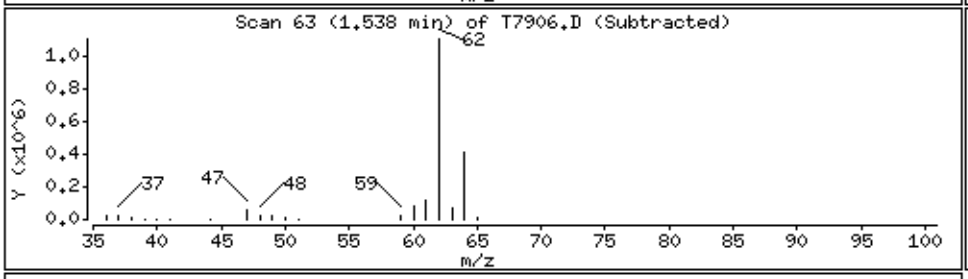
Client ID: WVA-MW-85R-2-101118 Instrument: gcms-t.i

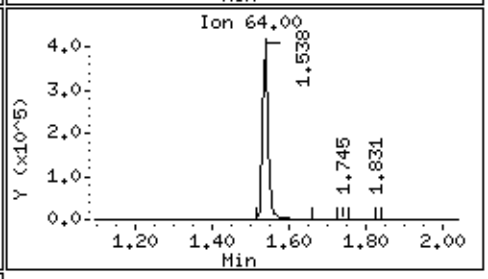
Sample Info: TL0045-8

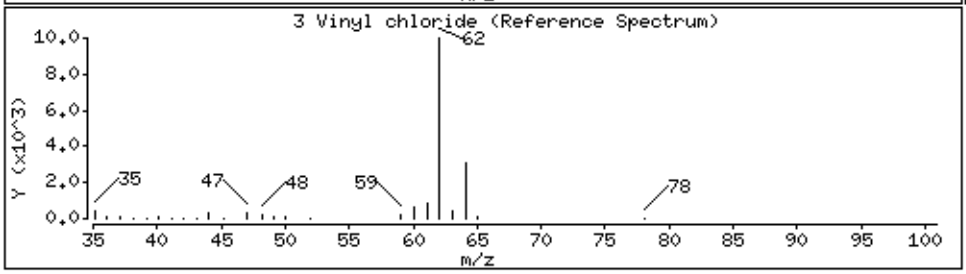
3 Vinyl chloride Concentration: 464 ug/l



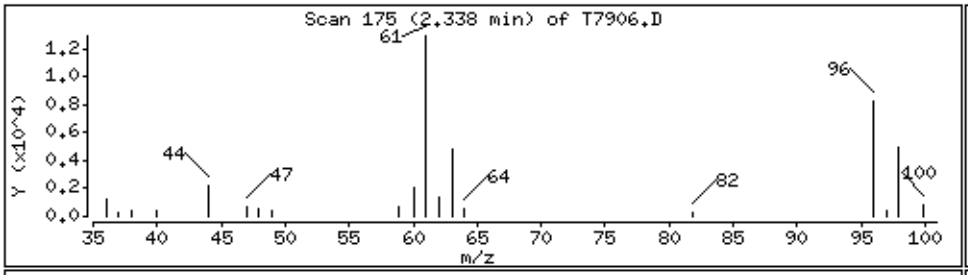


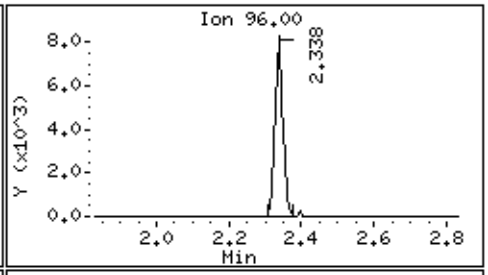


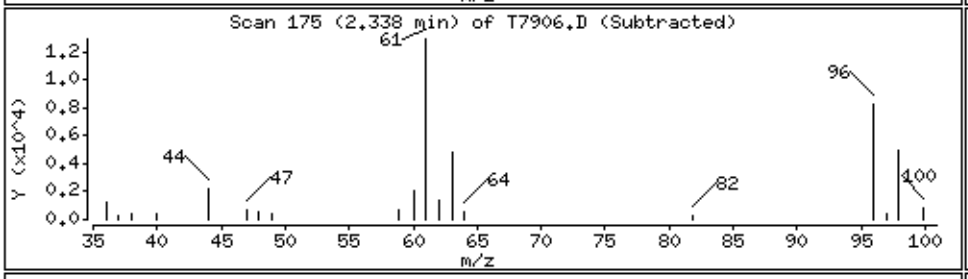


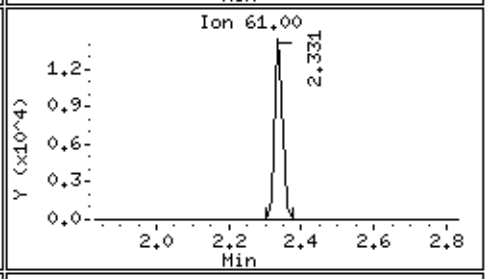


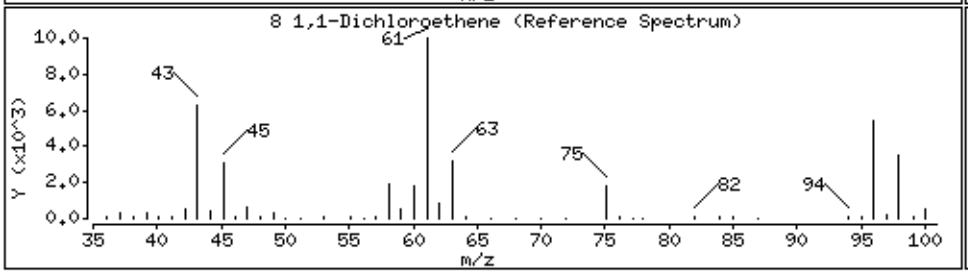
8 1,1-Dichloroethene Concentration: 5.5 ug/l

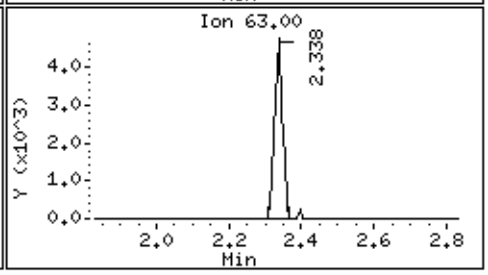












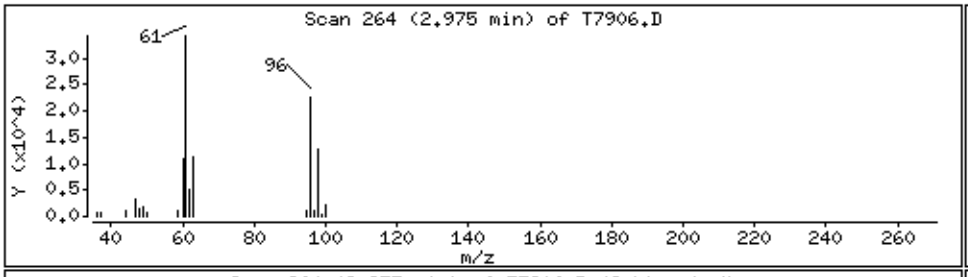
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7906.D

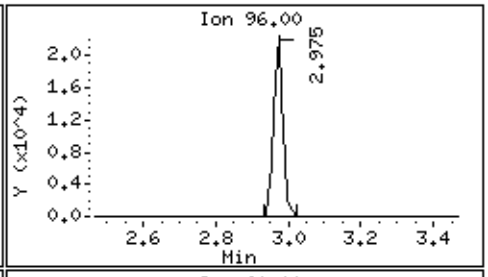
Date : 19-OCT-2018 12:45

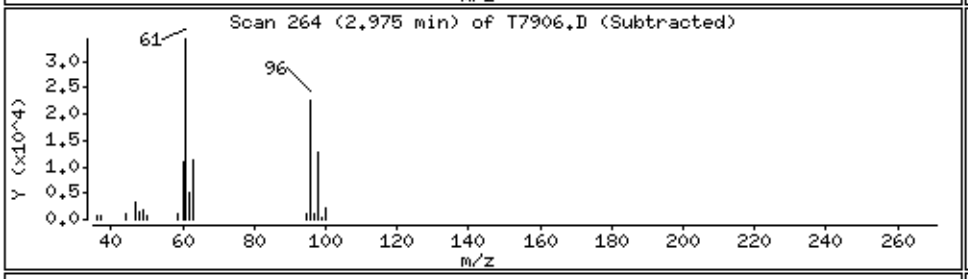
Client ID: WVA-MW-85R-2-101118 Instrument: gcms-t.i

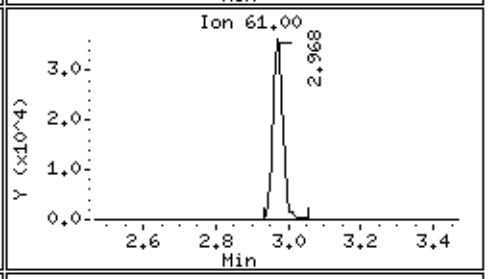
Sample Info: TL0045-8

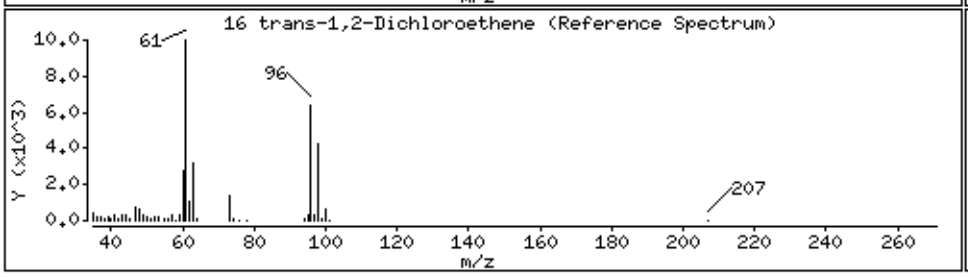
16 trans-1,2-Dichloroethene Concentration: 18.8 ug/l

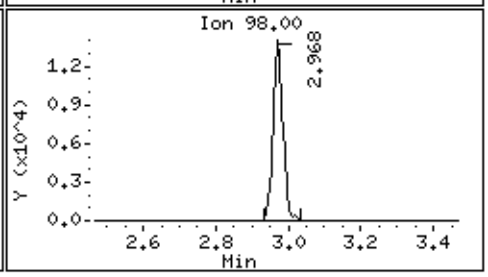




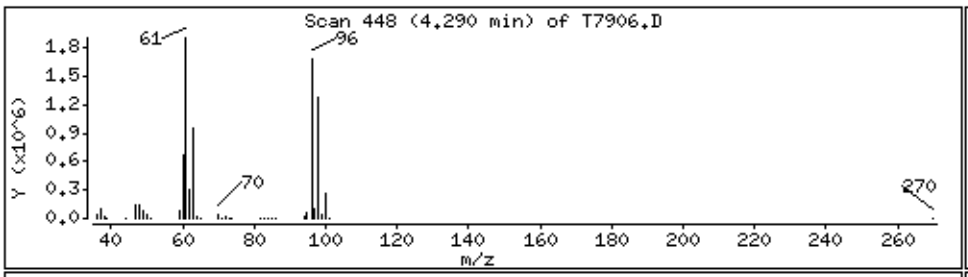


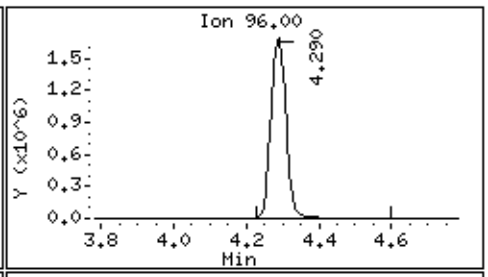


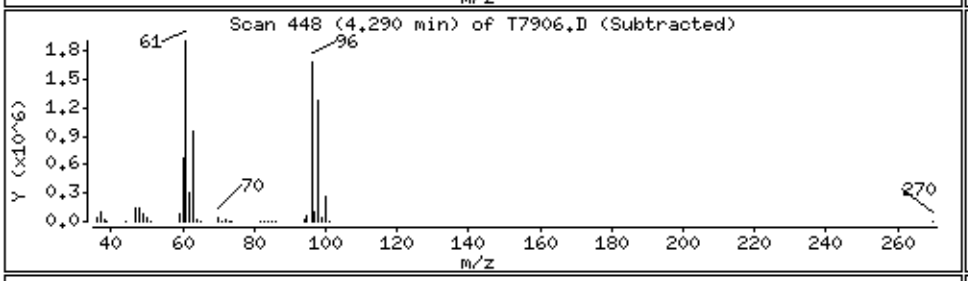


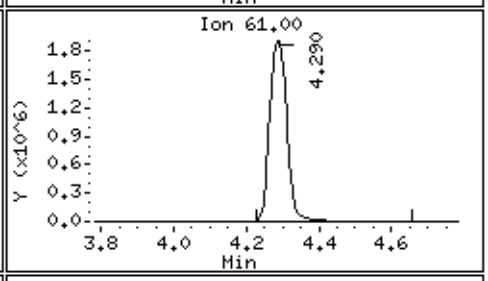


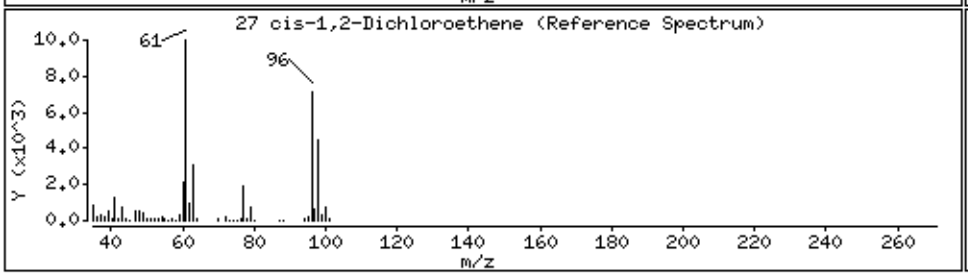
27 cis-1,2-Dichloroethene Concentration: 2130 ug/l

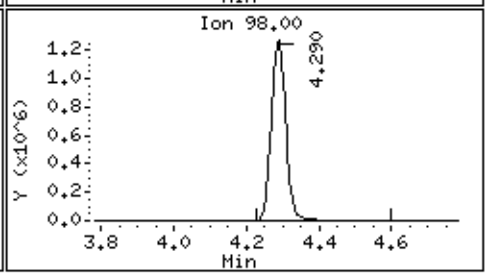












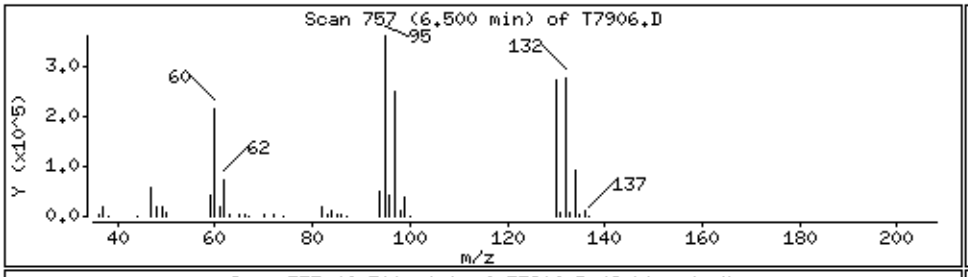
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7906.D

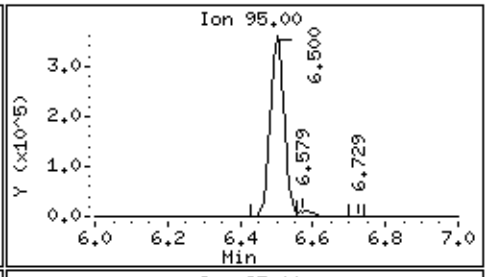
Date : 19-OCT-2018 12:45

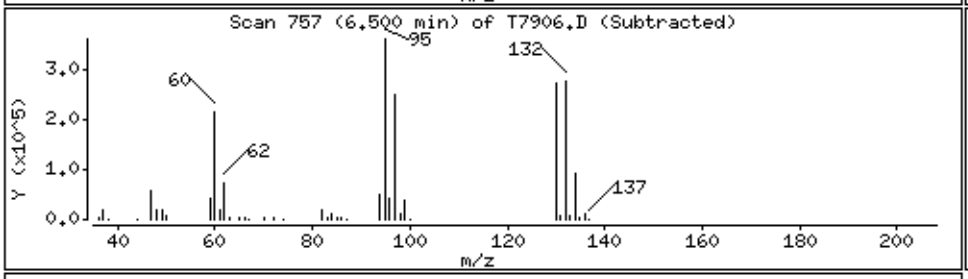
Client ID: WVA-MW-85R-2-101118 Instrument: gcms-t.i

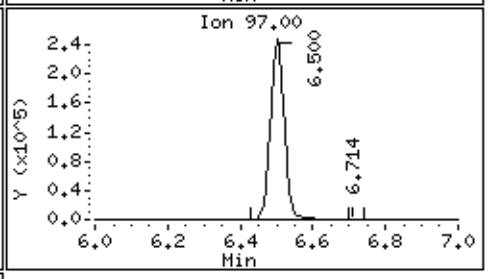
Sample Info: TL0045-8

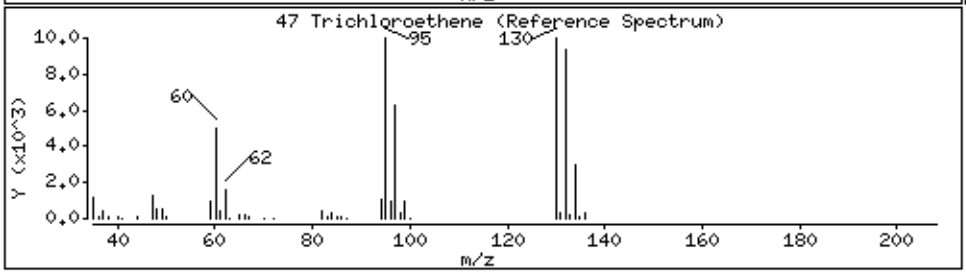
47 Trichloroethene Concentration: 342 ug/l



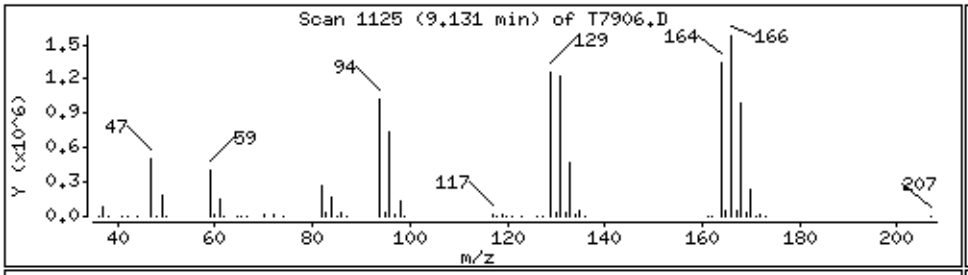


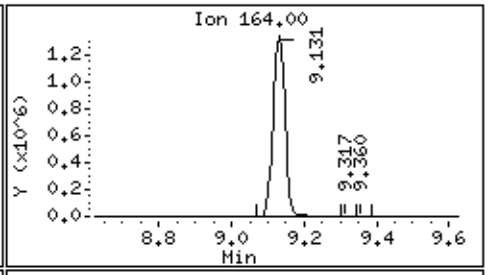


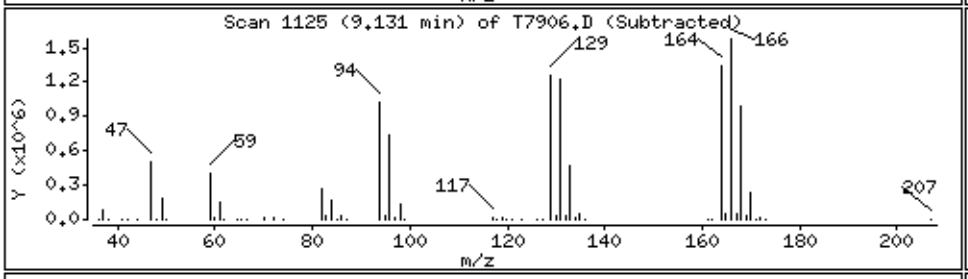


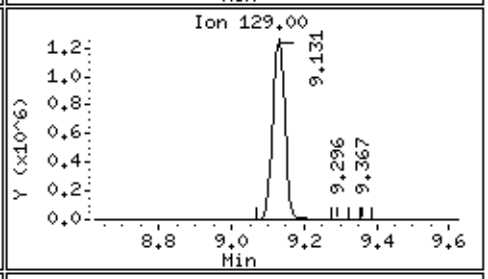


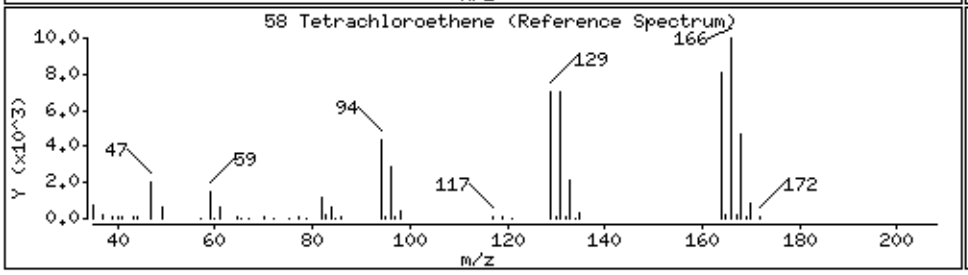
58 Tetrachloroethene Concentration: 1650 ug/l

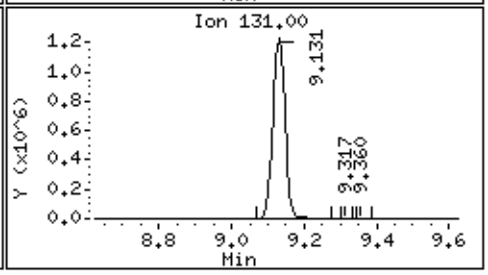












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-8DL
Client ID: WVA-MW-85R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7933.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	80.	ug/L	40	2	80.
Vinyl Chloride		580	ug/L	40	2	80.
Bromomethane	U	80.	ug/L	40	2	80.
Chloroethane	U	80.	ug/L	40	2	80.
Trichlorofluoromethane	U	80.	ug/L	40	2	80.
1,1-Dichloroethene	U	40.	ug/L	40	1	40.
Carbon Disulfide	U	40.	ug/L	40	1	40.
Methylene Chloride	U	200	ug/L	40	5	200
trans-1,2-Dichloroethene	U	40.	ug/L	40	1	40.
1,1-Dichloroethane	U	40.	ug/L	40	1	40.
cis-1,2-Dichloroethene		2300	ug/L	40	1	40.
Chloroform	U	40.	ug/L	40	1	40.
Carbon Tetrachloride	U	40.	ug/L	40	1	40.
1,1,1-Trichloroethane	U	40.	ug/L	40	1	40.
2-Butanone	U	200	ug/L	40	5	200
Benzene	U	40.	ug/L	40	1	40.
1,2-Dichloroethane	U	40.	ug/L	40	1	40.
Trichloroethene		340	ug/L	40	1	40.
1,2-Dichloropropane	U	40.	ug/L	40	1	40.
Bromodichloromethane	U	40.	ug/L	40	1	40.
cis-1,3-Dichloropropene	U	40.	ug/L	40	1	40.
Toluene	U	40.	ug/L	40	1	40.
4-Methyl-2-Pentanone	U	200	ug/L	40	5	200
Tetrachloroethene		1600	ug/L	40	1	40.
trans-1,3-Dichloropropene	U	40.	ug/L	40	1	40.
1,1,2-Trichloroethane	U	40.	ug/L	40	1	40.
Dibromochloromethane	U	40.	ug/L	40	1	40.
Chlorobenzene	U	40.	ug/L	40	1	40.
Ethylbenzene	U	40.	ug/L	40	1	40.
m+p-Xylenes	U	80.	ug/L	40	2	80.
o-Xylene	U	40.	ug/L	40	1	40.
Bromoform	U	40.	ug/L	40	1	40.
1,1,2,2-Tetrachloroethane	U	40.	ug/L	40	1	40.
P-Bromofluorobenzene		94.4	%			
Toluene-d8		99.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-8DL
Client ID: WVA-MW-85R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7933.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		108.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7933.D
Report Date: 25-Oct-2018 13:46

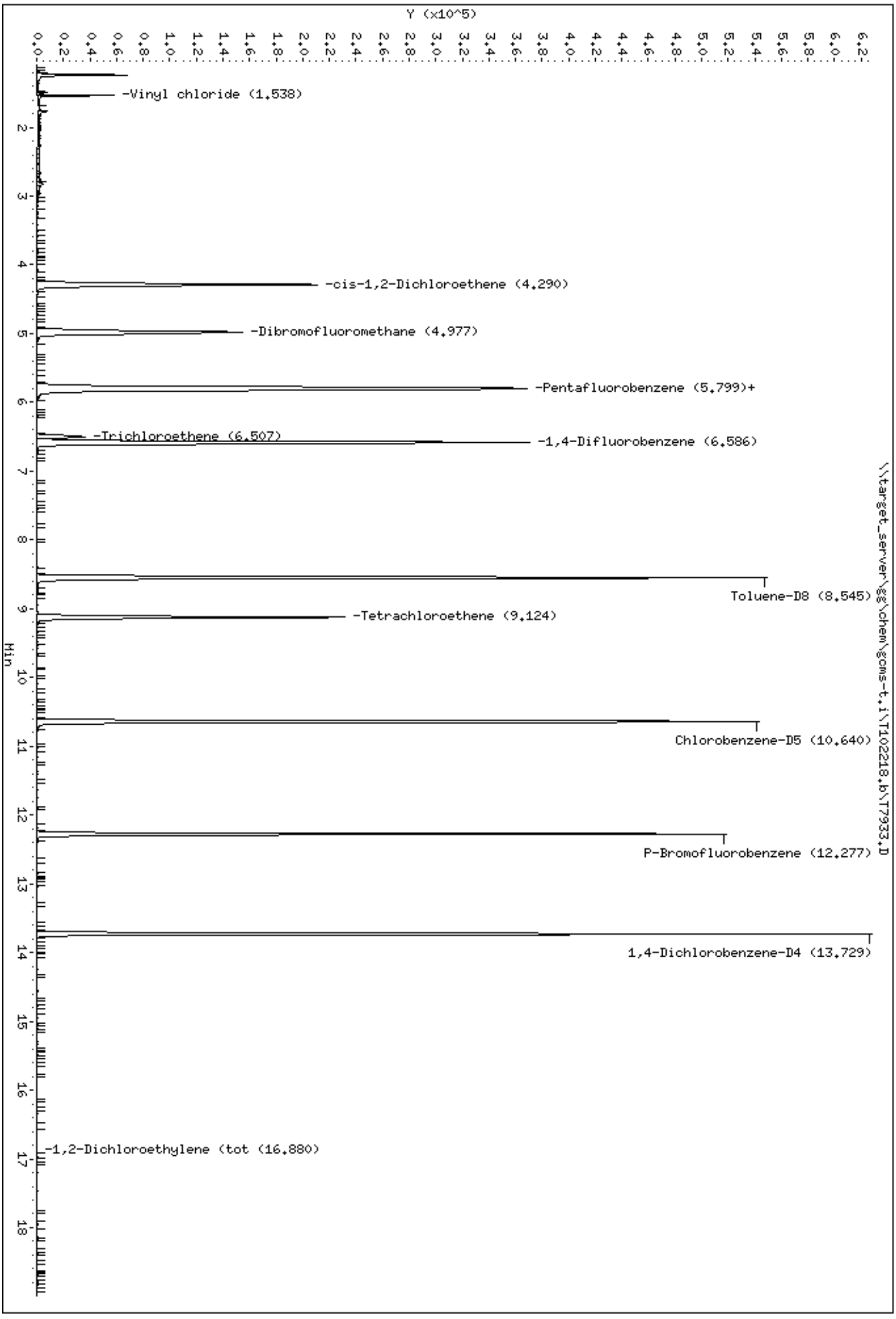
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7933.D
Lab Smp Id: TL0045-8DL Client Smp ID: WVA-MW-85R-2-101118
Inj Date : 22-OCT-2018 14:22 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-8DL
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 11
Dil Factor: 40.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	40.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.265)	28374	14.5496	582	
27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	108705	57.9418	2320	
$ 34 Dibromofluoromethane	113	4.976	4.976	(0.859)	143606	54.0453	54.0	
* 41 Pentafluorobenzene	168	5.792	5.791	(1.000)	218596	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	235111	60.6422	60.6	
47 Trichloroethene	95	6.499	6.499	(0.987)	18580	8.42303	337	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	328605	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	411742	49.7487	49.7	
58 Tetrachloroethene	164	9.124	9.123	(0.858)	56182	39.2223	1570	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	289523	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	178351	47.1879	47.2	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	146136	50.0000		
M 103 1,2-Dichloroethylene (total)	96				108705	57.9418	2320	


Y (x10^5)
Min
-Vinyl chloride (1.538)
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.507)
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T102218.b\T7933.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7933.D
Date : 22-OCT-2018 14:22
Client ID: WVA-MW-85R-2-101118
Sample Info: TL0045-8DL
Instrument: gcms-t.i

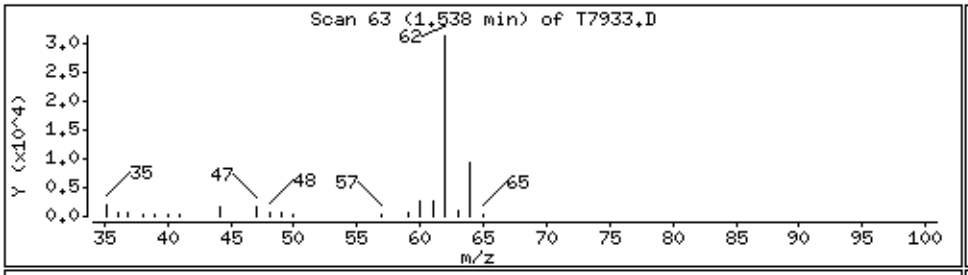
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7933.D

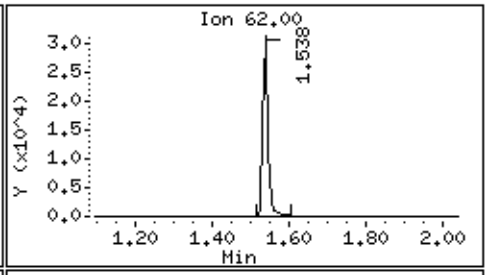
Date : 22-OCT-2018 14:22

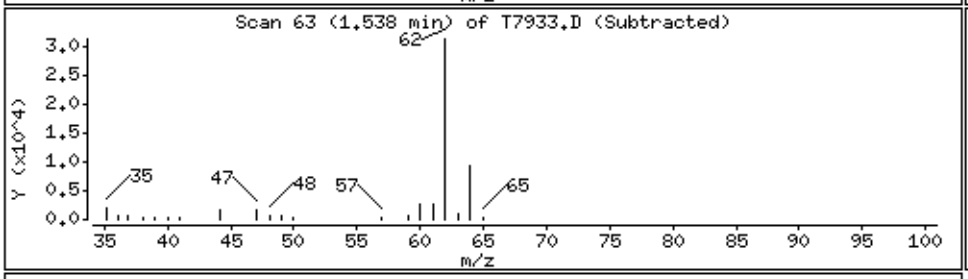
Client ID: WVA-MW-85R-2-101118 Instrument: gcms-t.i

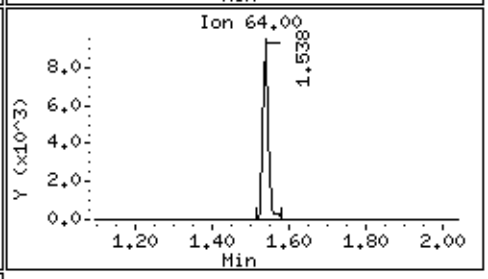
Sample Info: TL0045-8DL

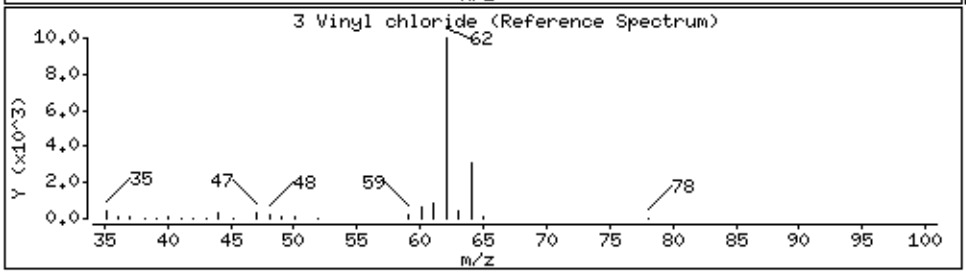
3 Vinyl chloride Concentration: 582 ug/l



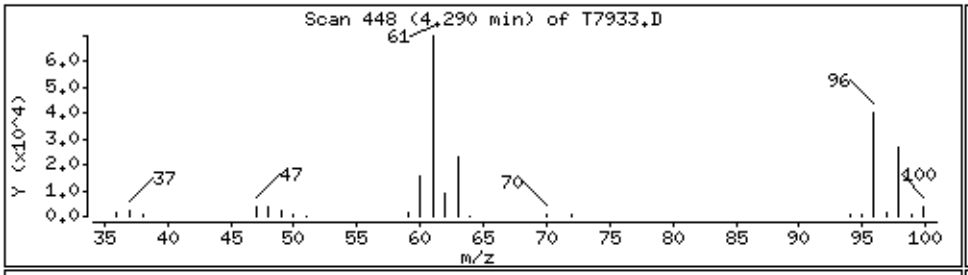


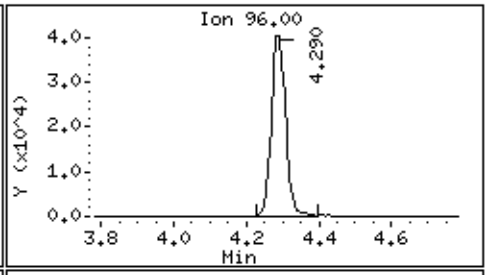


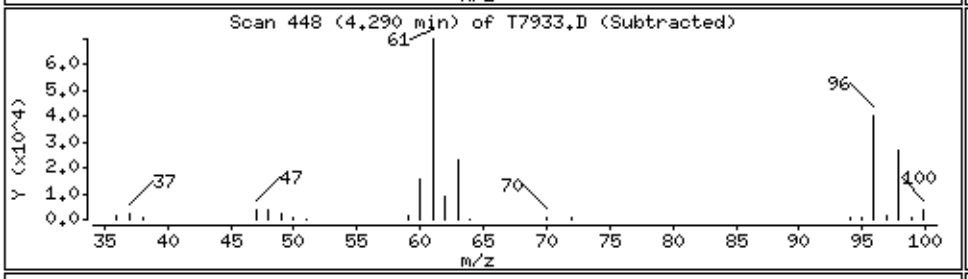


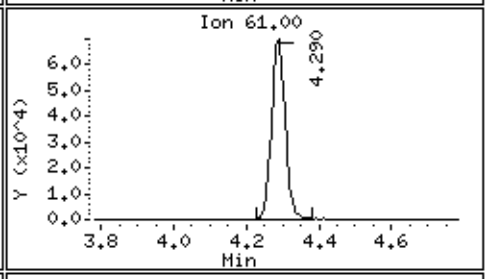


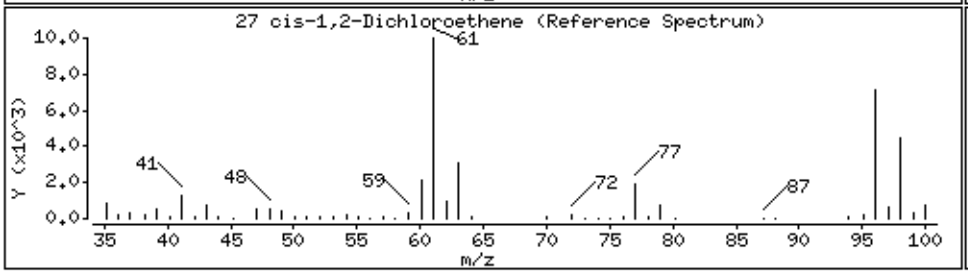
27 cis-1,2-Dichloroethene Concentration: 2320 ug/l

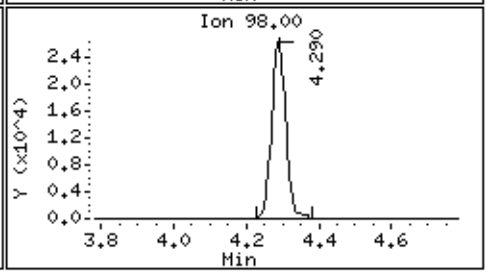












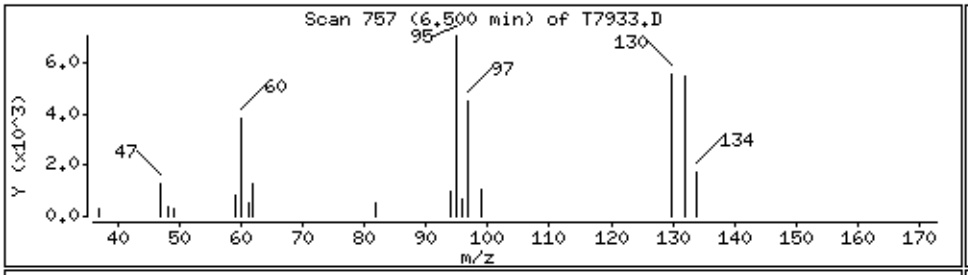
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7933.D

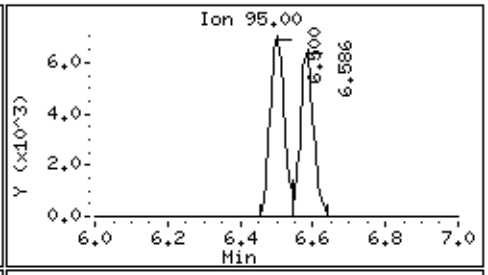
Date : 22-OCT-2018 14:22

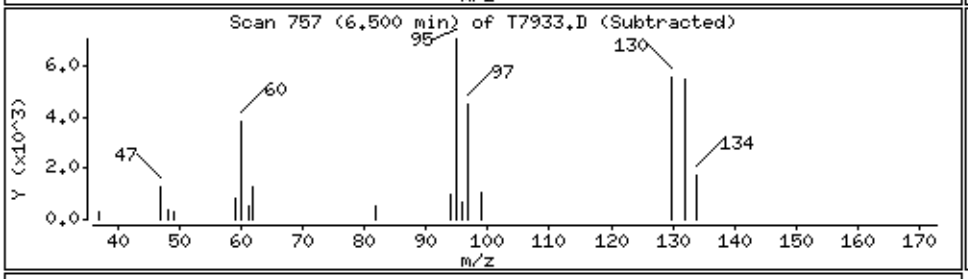
Client ID: WVA-MW-85R-2-101118 Instrument: gcms-t.i

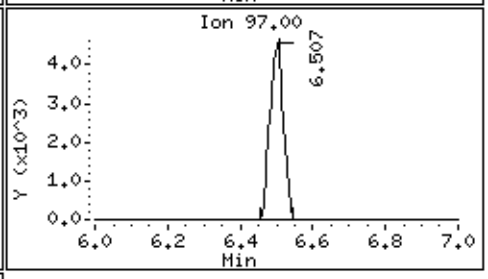
Sample Info: TL0045-8DL

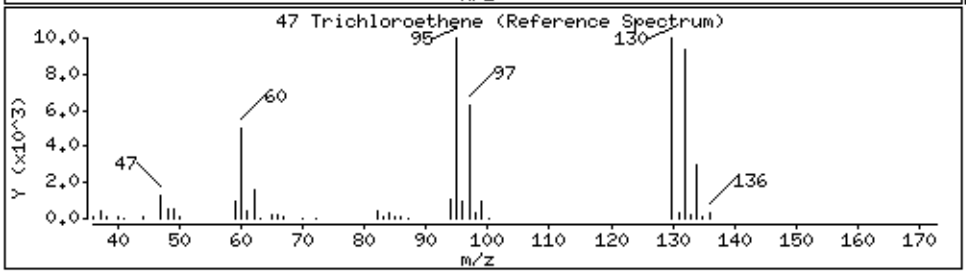
47 Trichloroethene Concentration: 337 ug/l



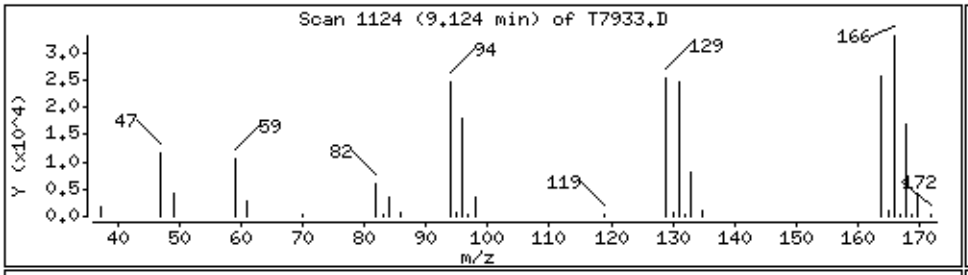


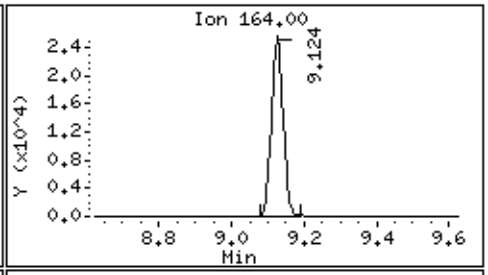


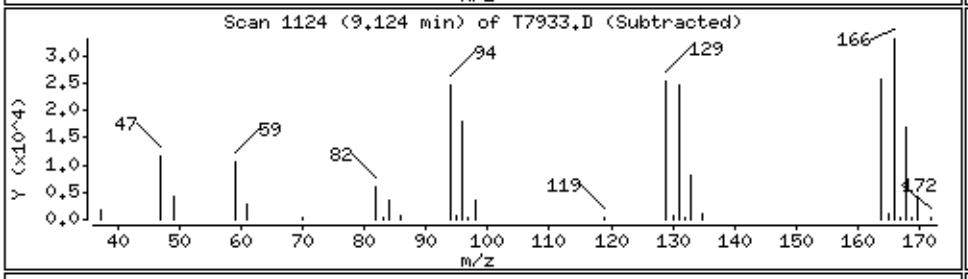


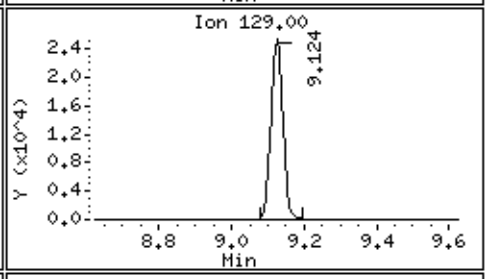


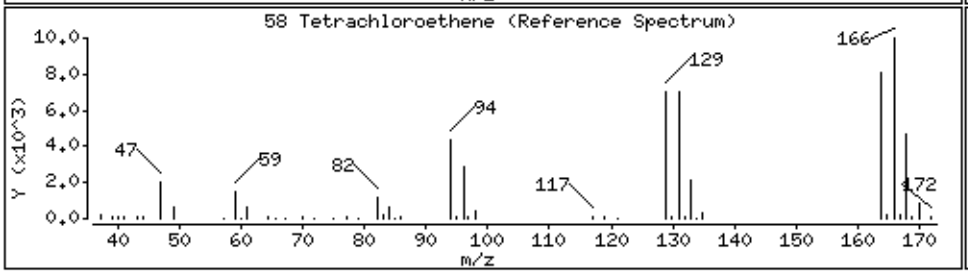
58 Tetrachloroethene Concentration: 1570 ug/l

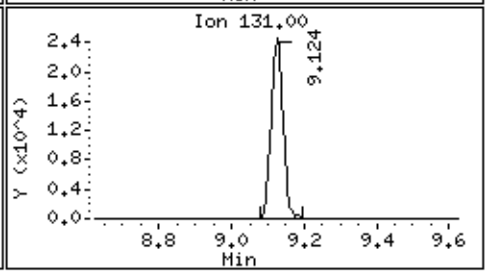












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-9RA
Client ID: WVA-MW-85R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7936.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		3.4	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.5	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		2.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.5	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-9RA
Client ID: WVA-MW-85R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7936.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		124.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7936.D
Report Date: 25-Oct-2018 13:47

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7936.D
Lab Smp Id: TL0045-9RA Client Smp ID: WVA-MW-85R-1-101118
Inj Date : 22-OCT-2018 16:24
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-9RA
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

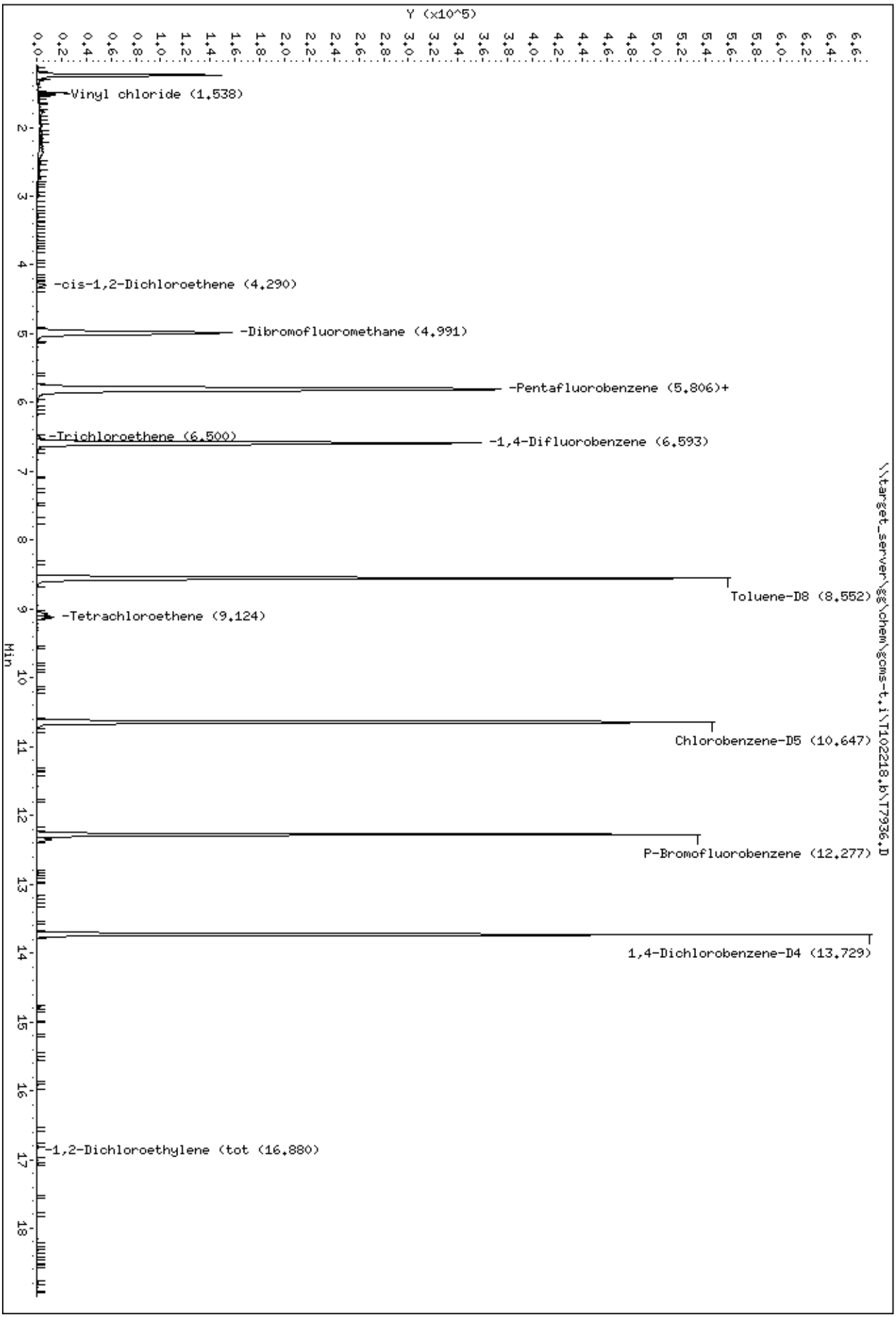
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	6607	3.40852	3.4	
	27 cis-1,2-Dichloroethene	96	4.297	4.283	(0.741)	4643	2.48984	2.5	
$	34 Dibromofluoromethane	113	4.991	4.976	(0.861)	145921	55.2502	55.2	
*	41 Pentafluorobenzene	168	5.799	5.791	(1.000)	217276	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.820	5.813	(1.004)	238758	61.9570	62.0	
	47 Trichloroethene	95	6.506	6.499	(0.987)	1363	0.62943	0.63(a)	
*	48 1,4-Difluorobenzene	114	6.592	6.585	(1.000)	322587	50.0000		
$	56 Toluene-D8	98	8.551	8.544	(1.297)	418596	51.5204	51.5	
	58 Tetrachloroethene	164	9.123	9.123	(0.857)	2903	1.96649	2.0	
*	68 Chlorobenzene-D5	117	10.646	10.646	(1.000)	298383	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.862)	180920	48.7606	48.8	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	152161	50.0000		
M	103 1,2-Dichloroethylene (total)	96				4643	2.48984	2.5	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7936.D
Date : 22-OCT-2018 16:24
Client ID: WVA-MW-85R-1-101118
Sample Info: TL0045-9RA

Instrument: gcms-t.i

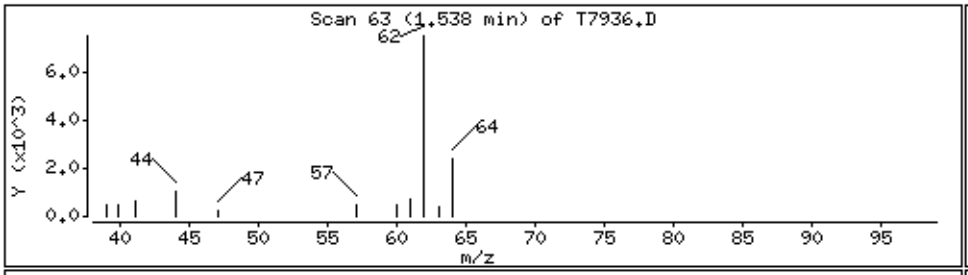
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7936.D

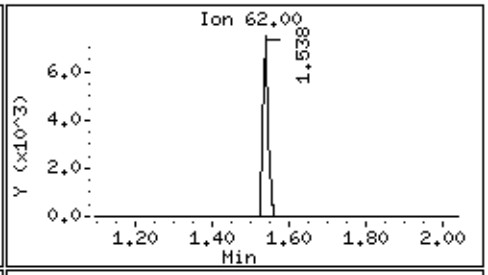
Date : 22-OCT-2018 16:24

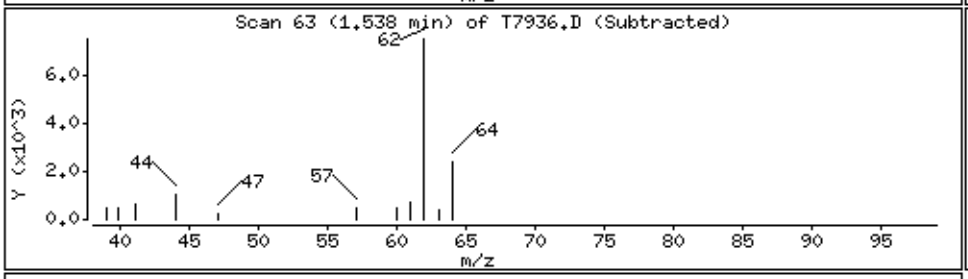
Client ID: WVA-MW-85R-1-101118 Instrument: gcms-t.i

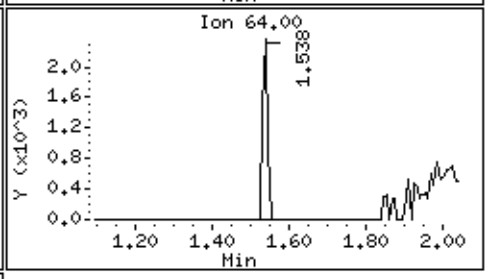
Sample Info: TL0045-9RA

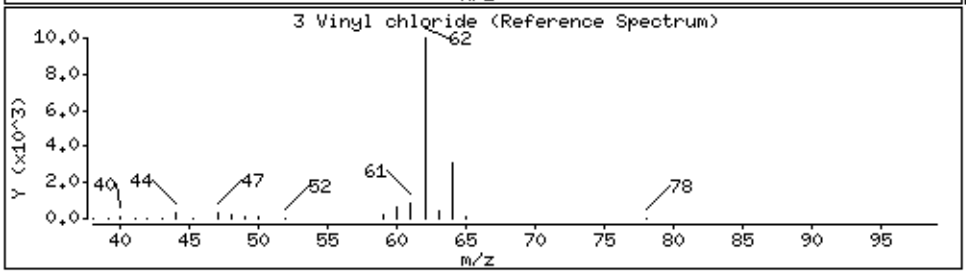
3 Vinyl chloride Concentration: 3.4 ug/l



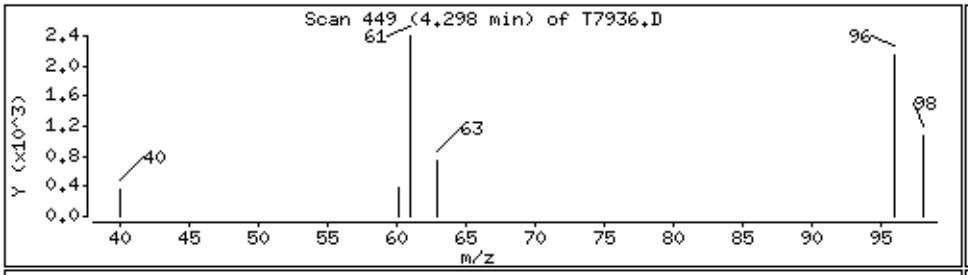


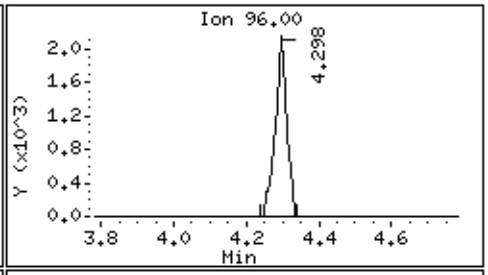


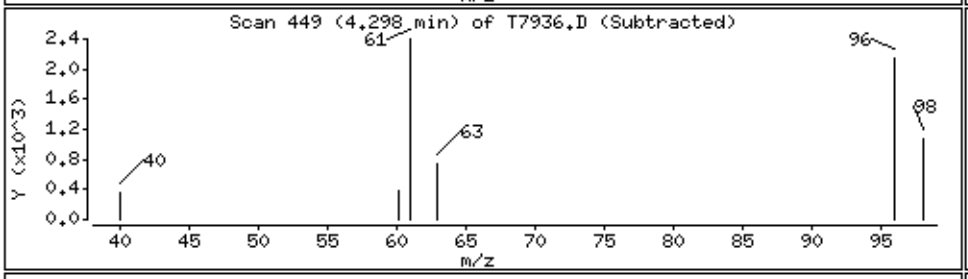


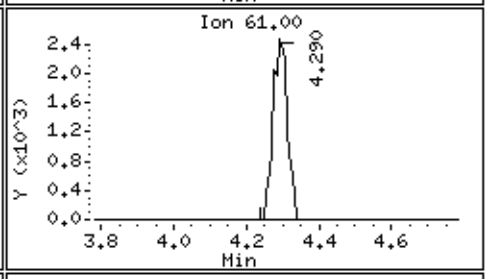


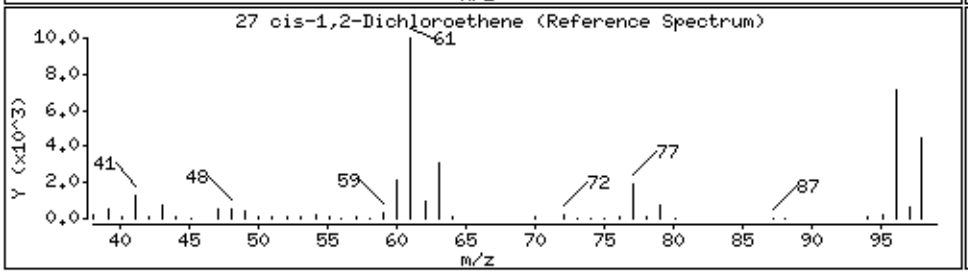
27 cis-1,2-Dichloroethene Concentration: 2.5 ug/l

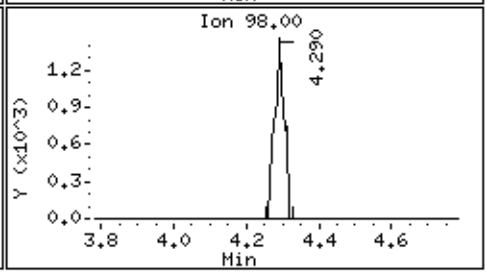












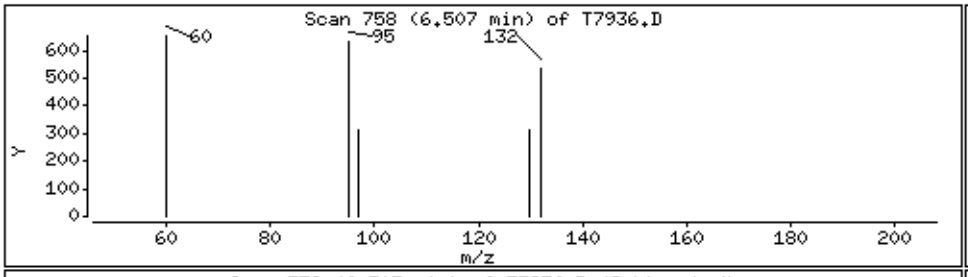
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7936.D

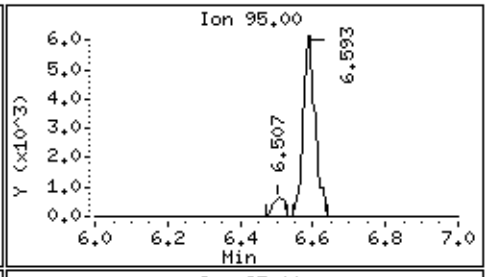
Date : 22-OCT-2018 16:24

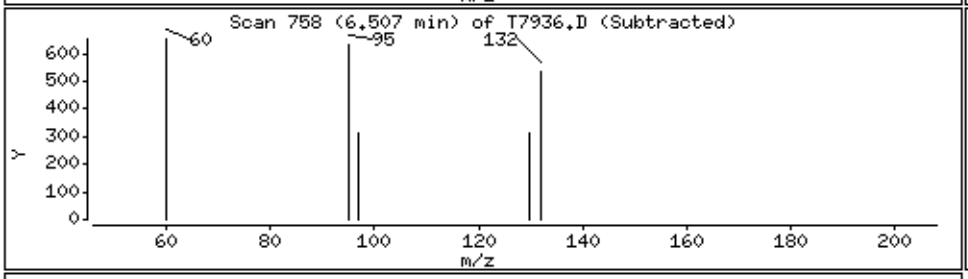
Client ID: WVA-MW-85R-1-101118 Instrument: gcms-t.i

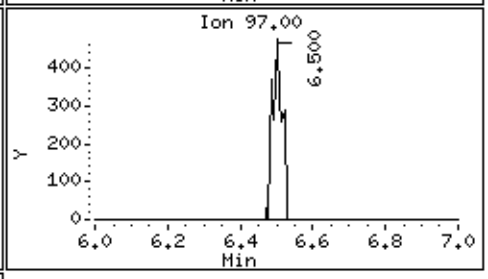
Sample Info: TL0045-9RA

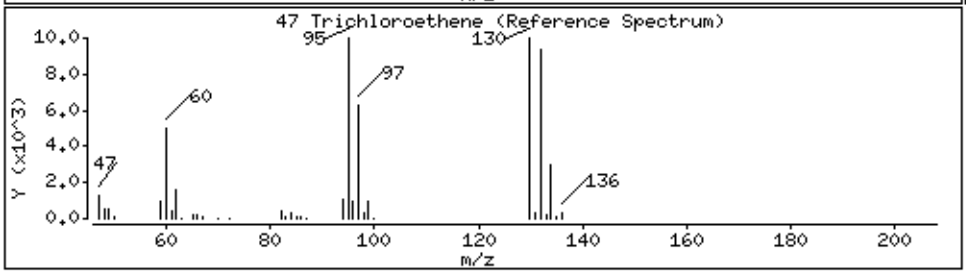
47 Trichloroethene Concentration: 0.63 ug/l



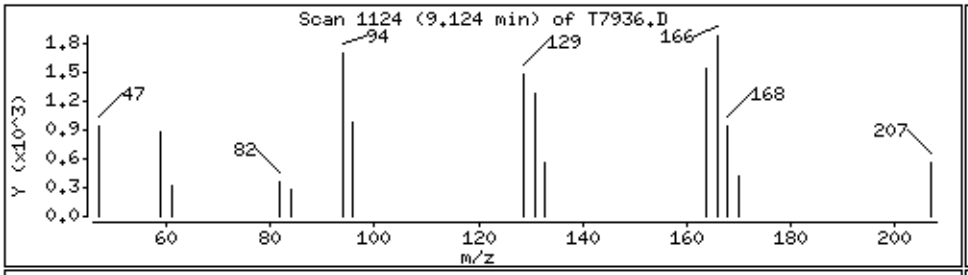


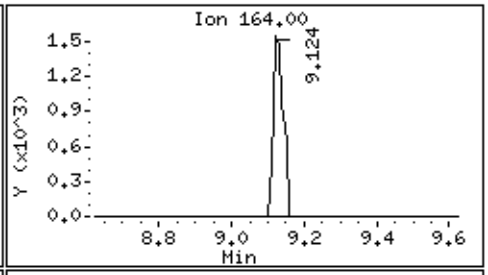


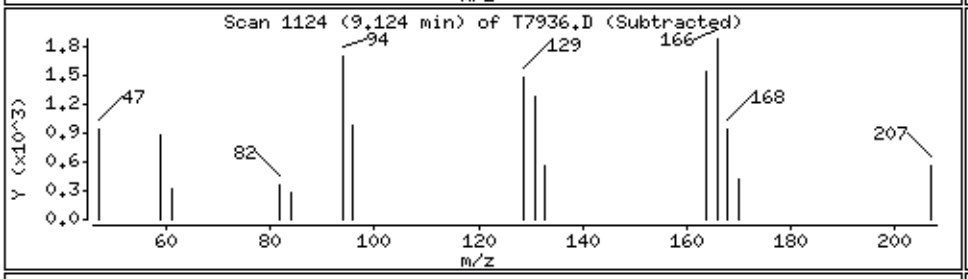


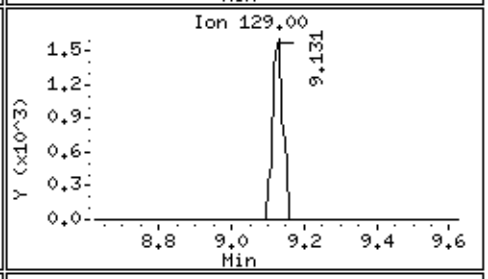


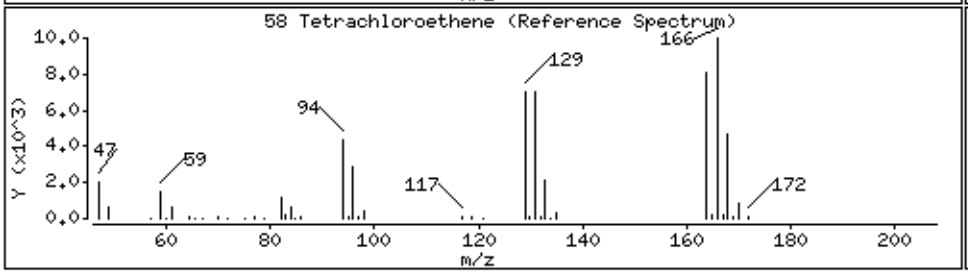
58 Tetrachloroethene Concentration: 2.0 ug/l

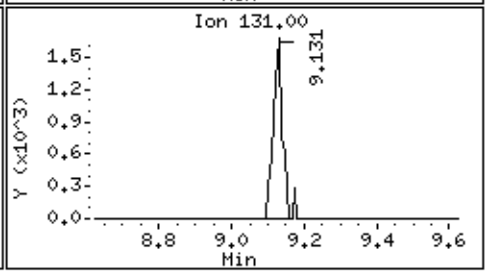












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-10
Client ID: WVA-MW-86R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7908.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	490	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		4.3	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		34.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	1900	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	190	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	500	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.6	%			
Toluene-d8		98.8	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-10
Client ID: WVA-MW-86R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7908.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7908.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7908.D
Lab Smp Id: TL0045-10 Client Smp ID: WVA-MW-86R-3-101118
Inj Date : 19-OCT-2018 13:45 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-10
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

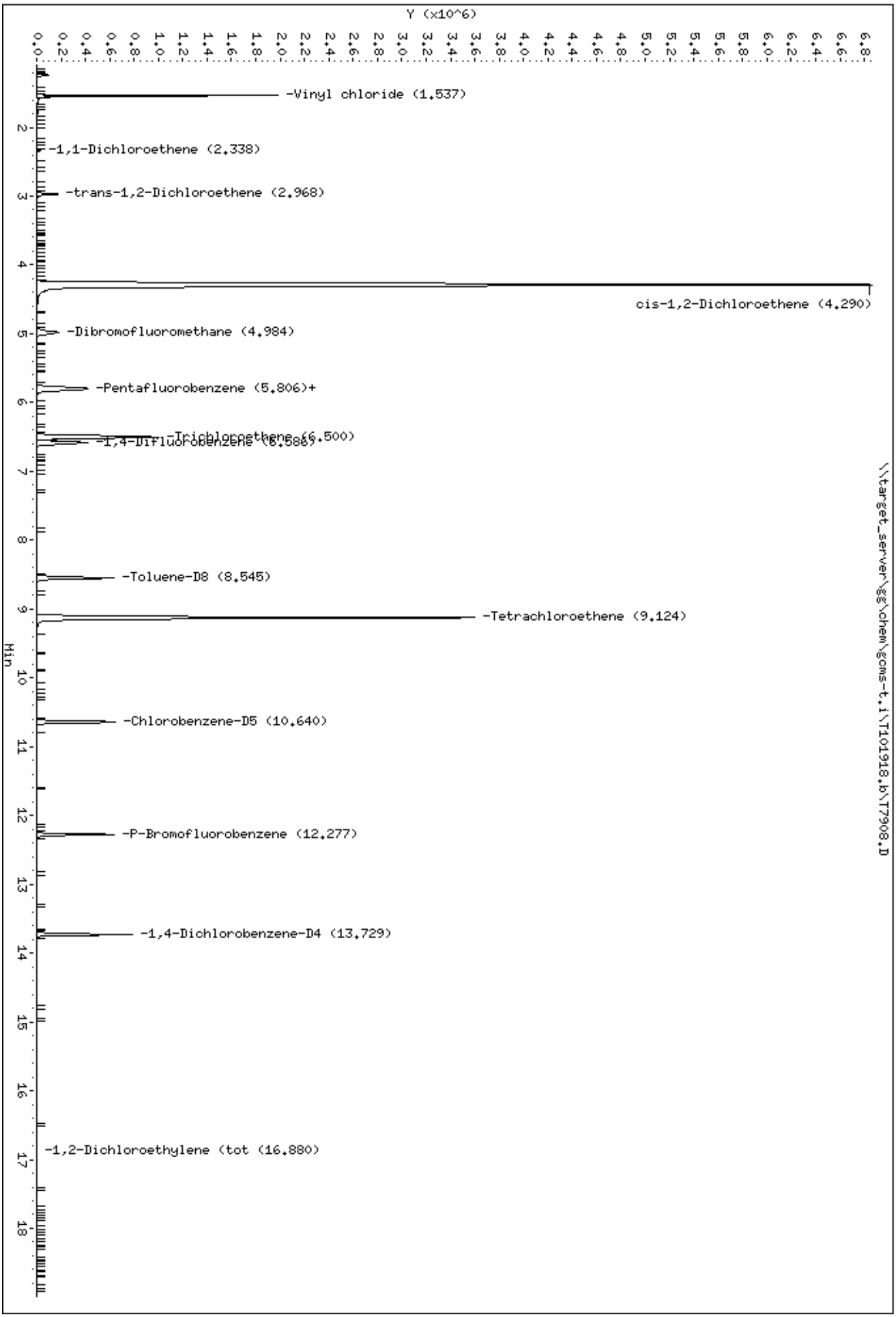
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	1082667	490.003	490(A)	
	8 1,1-Dichloroethene	96	2.338	2.331	(0.404)	9014	4.30565	4.3	
	16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	66511	34.2505	34.2	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	4048218	1904.49	1900(A)	
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	165698	55.0396	55.0	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	247668	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	276017	62.8363	62.8	
	47 Trichloroethene	95	6.499	6.499	(0.987)	484600	185.576	186(A)	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	389008	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	484044	49.4034	49.4	
	58 Tetrachloroethene	164	9.123	9.123	(0.858)	864966	498.711	499(A)	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	350565	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	216010	48.2775	48.3	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	182126	50.0000		
M	103 1,2-Dichloroethylene (total)	96				4114729	1938.74	1940	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7908.D
Date : 19-OCT-2018 13:45
Client ID: WVA-MW-86R-3-101118
Sample Info: TL0045-10

Instrument: gcms-t.i

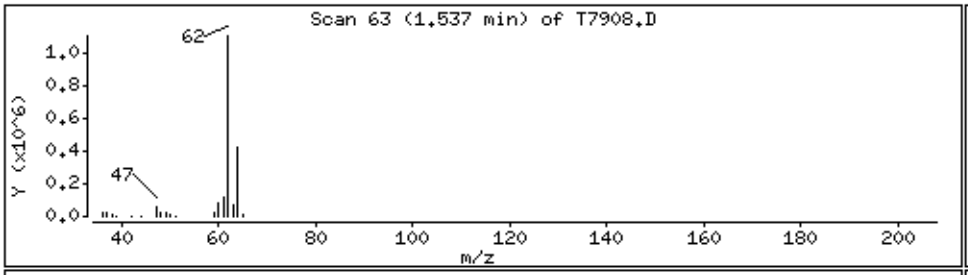
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7908.D

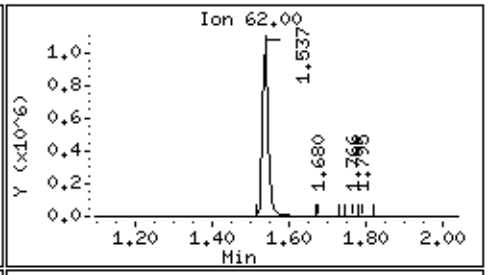
Date : 19-OCT-2018 13:45

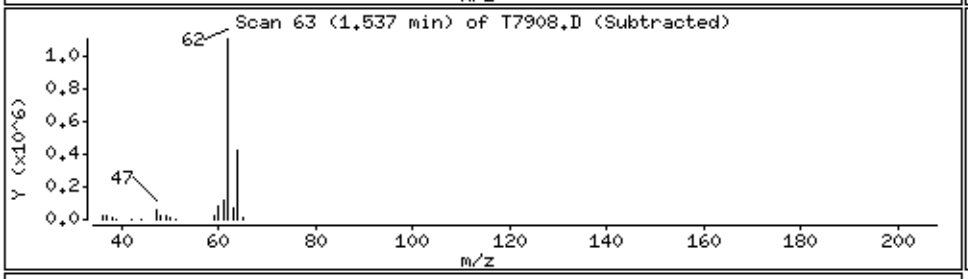
Client ID: WVA-MW-86R-3-101118 Instrument: gcms-t.i

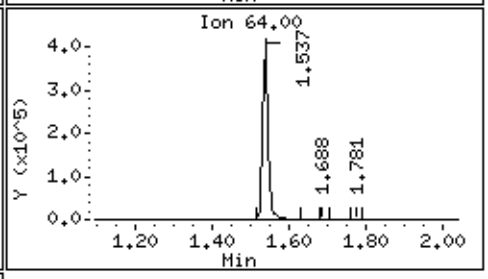
Sample Info: TL0045-10

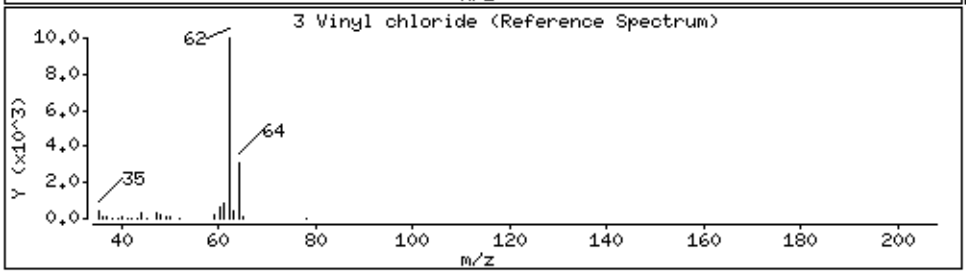
3 Vinyl chloride Concentration: 490 ug/l



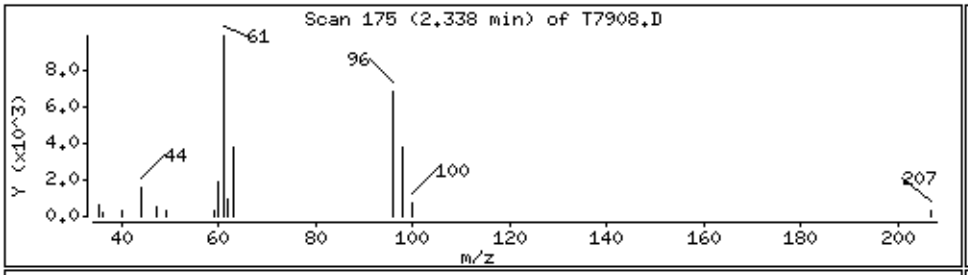


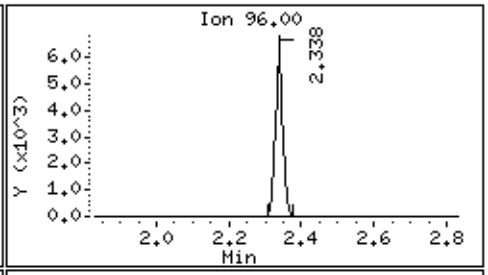


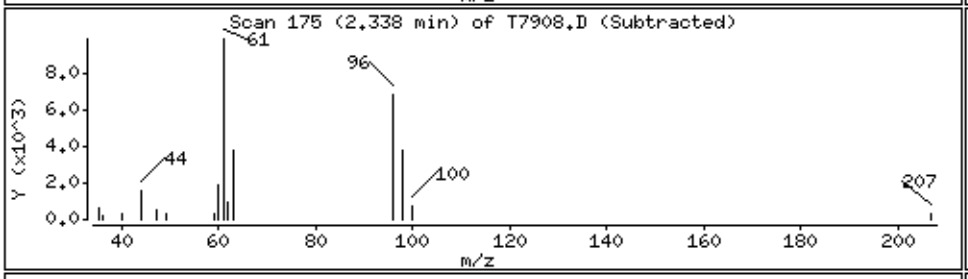


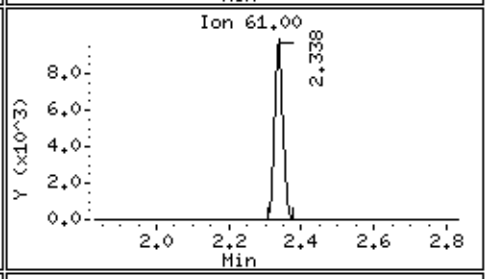


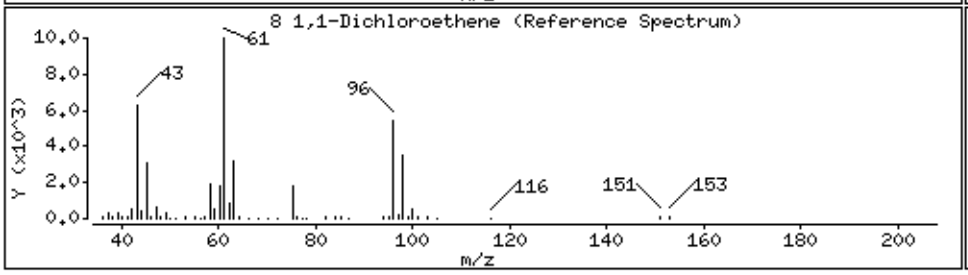
8 1,1-Dichloroethene Concentration: 4.3 ug/l

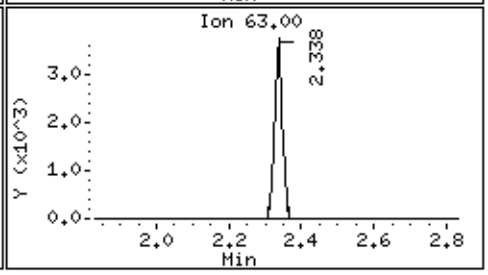












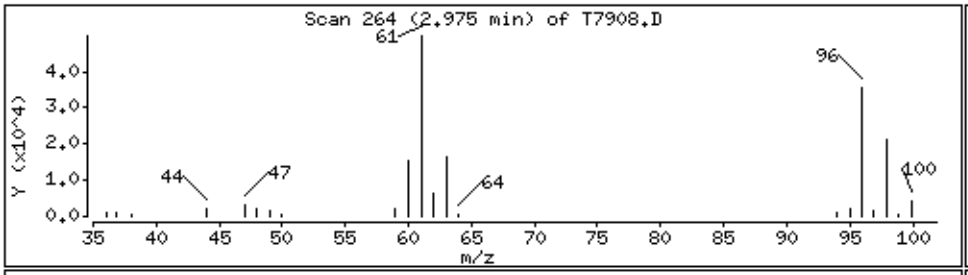
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7908.D

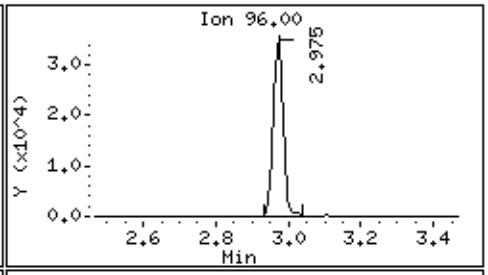
Date : 19-OCT-2018 13:45

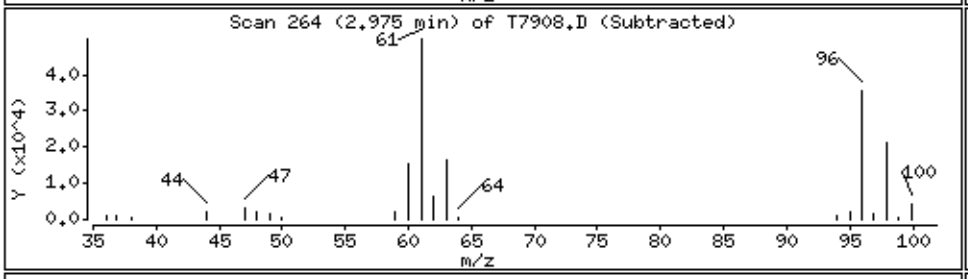
Client ID: WVA-MW-86R-3-101118 Instrument: gcms-t.i

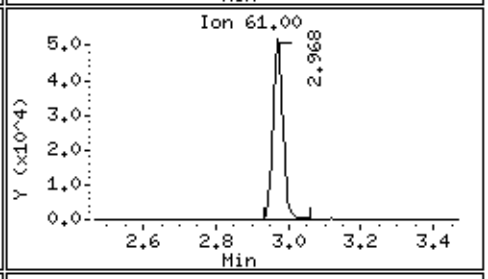
Sample Info: TL0045-10

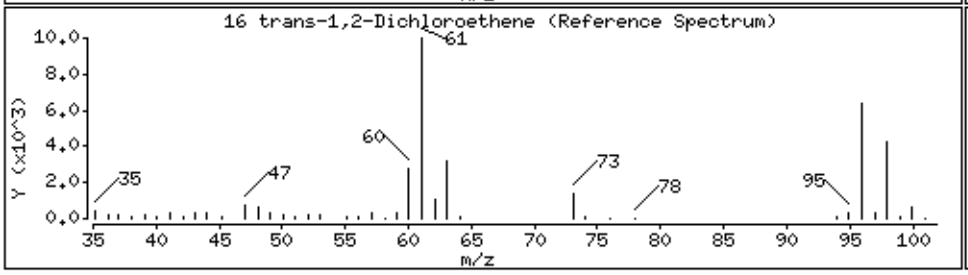
16 trans-1,2-Dichloroethene Concentration: 34.2 ug/l

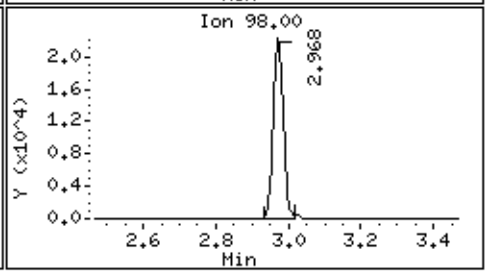




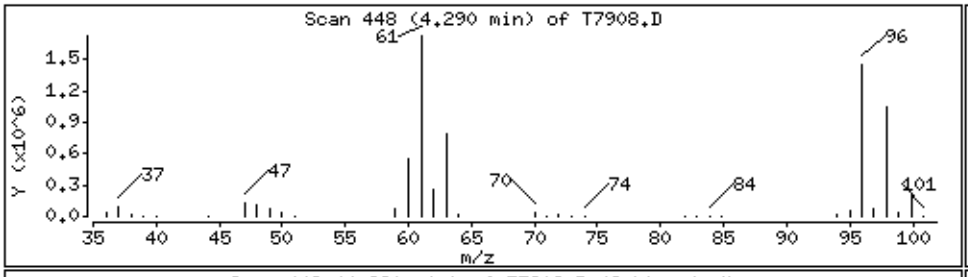


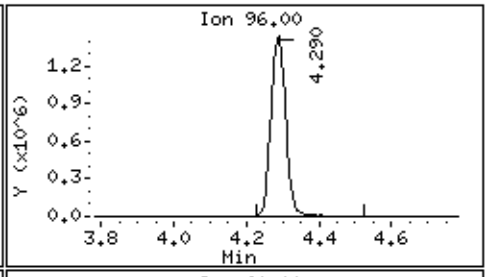


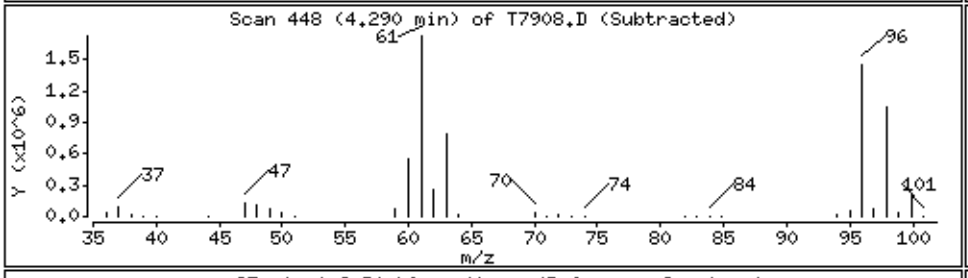


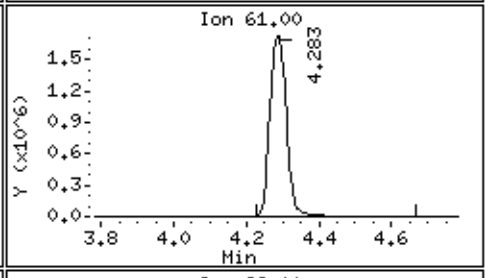


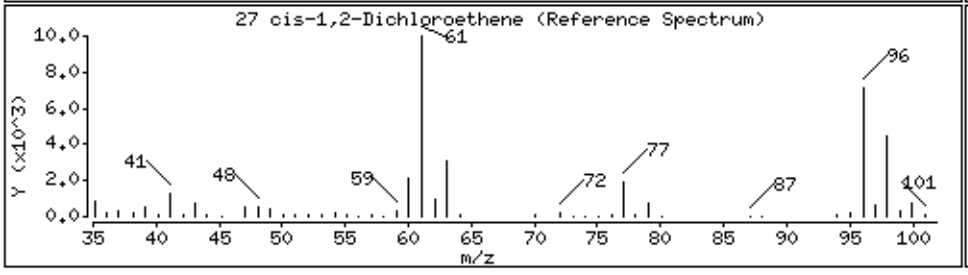
27 cis-1,2-Dichloroethene Concentration: 1900 ug/l

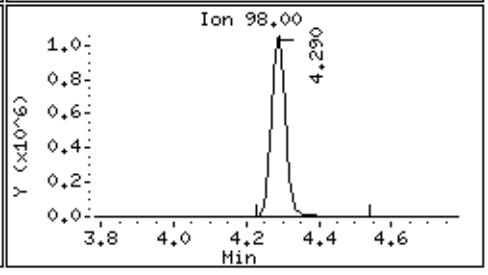












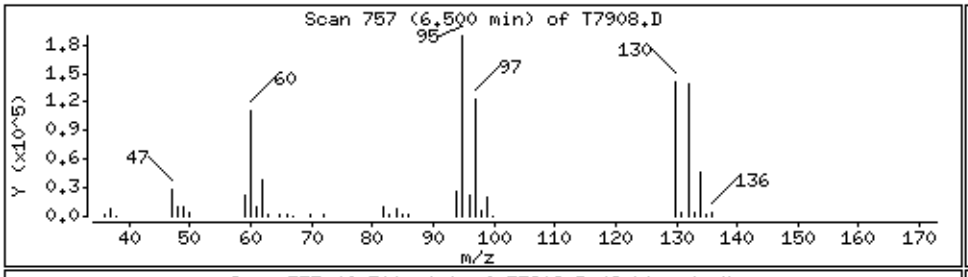
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7908.D

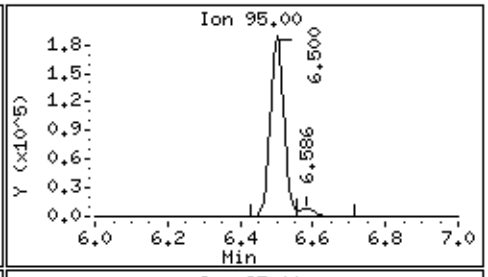
Date : 19-OCT-2018 13:45

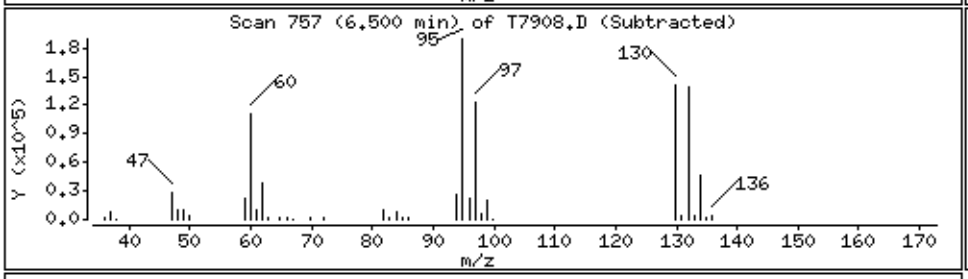
Client ID: WVA-MW-86R-3-101118 Instrument: gcms-t.i

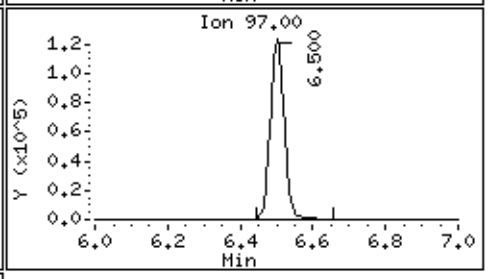
Sample Info: TL0045-10

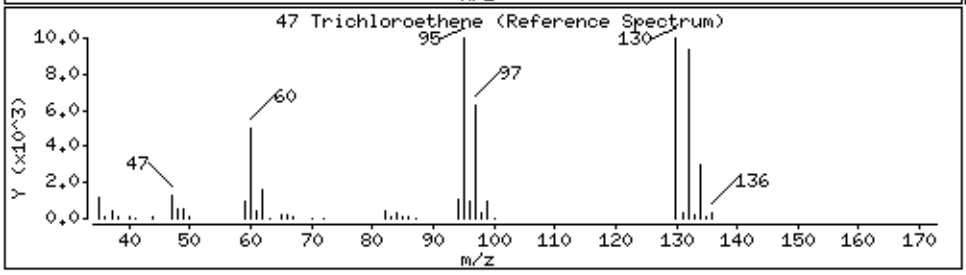
47 Trichloroethene Concentration: 186 ug/l



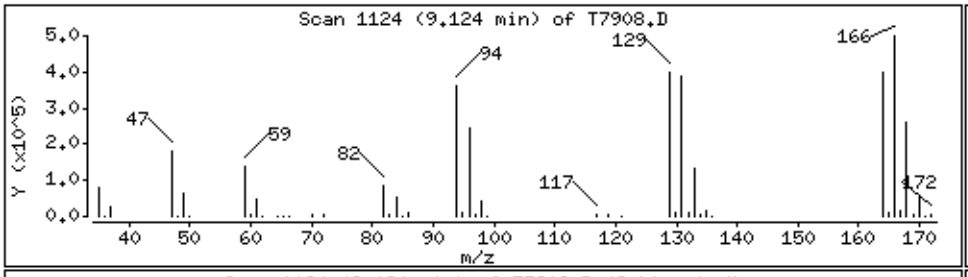


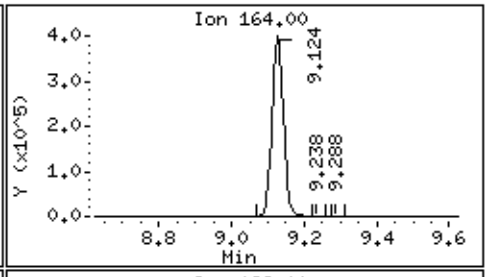


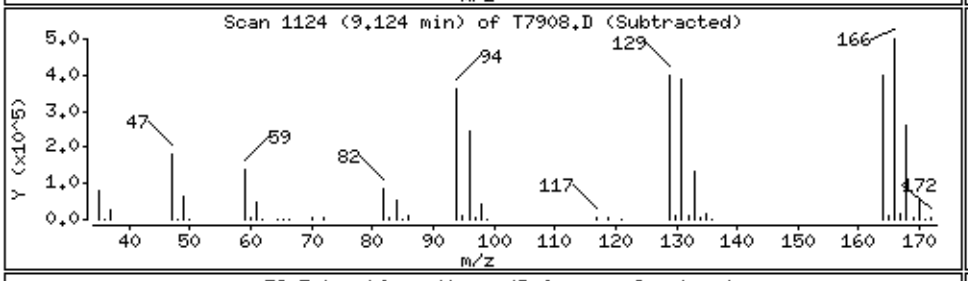


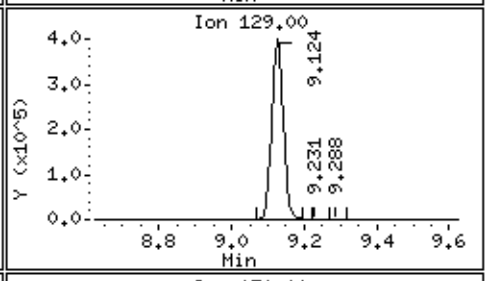


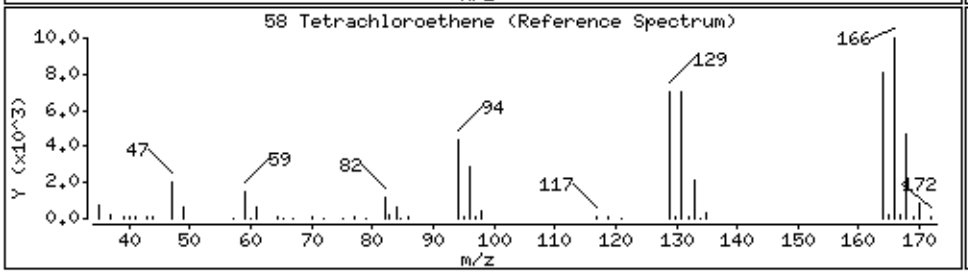
58 Tetrachloroethene Concentration: 499 ug/l

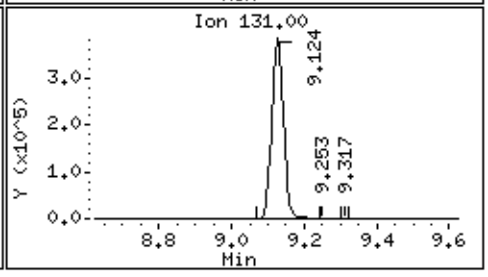












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-10DL
Client ID: WVA-MW-86R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7934.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	40.	ug/L	20	2	40.
Vinyl Chloride		440	ug/L	20	2	40.
Bromomethane	U	40.	ug/L	20	2	40.
Chloroethane	U	40.	ug/L	20	2	40.
Trichlorofluoromethane	U	40.	ug/L	20	2	40.
1,1-Dichloroethene	U	20.	ug/L	20	1	20.
Carbon Disulfide	U	20.	ug/L	20	1	20.
Methylene Chloride	U	100	ug/L	20	5	100
trans-1,2-Dichloroethene		23.	ug/L	20	1	20.
1,1-Dichloroethane	U	20.	ug/L	20	1	20.
cis-1,2-Dichloroethene		1600	ug/L	20	1	20.
Chloroform	U	20.	ug/L	20	1	20.
Carbon Tetrachloride	U	20.	ug/L	20	1	20.
1,1,1-Trichloroethane	U	20.	ug/L	20	1	20.
2-Butanone	U	100	ug/L	20	5	100
Benzene	U	20.	ug/L	20	1	20.
1,2-Dichloroethane	U	20.	ug/L	20	1	20.
Trichloroethene		140	ug/L	20	1	20.
1,2-Dichloropropane	U	20.	ug/L	20	1	20.
Bromodichloromethane	U	20.	ug/L	20	1	20.
cis-1,3-Dichloropropene	U	20.	ug/L	20	1	20.
Toluene	U	20.	ug/L	20	1	20.
4-Methyl-2-Pentanone	U	100	ug/L	20	5	100
Tetrachloroethene		390	ug/L	20	1	20.
trans-1,3-Dichloropropene	U	20.	ug/L	20	1	20.
1,1,2-Trichloroethane	U	20.	ug/L	20	1	20.
Dibromochloromethane	U	20.	ug/L	20	1	20.
Chlorobenzene	U	20.	ug/L	20	1	20.
Ethylbenzene	U	20.	ug/L	20	1	20.
m+p-Xylenes	U	40.	ug/L	20	2	40.
o-Xylene	U	20.	ug/L	20	1	20.
Bromoform	U	20.	ug/L	20	1	20.
1,1,2,2-Tetrachloroethane	U	20.	ug/L	20	1	20.
P-Bromofluorobenzene		93.5	%			
Toluene-d8		98.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-10DL
Client ID: WVA-MW-86R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7934.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		124.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7934.D
Report Date: 25-Oct-2018 13:46

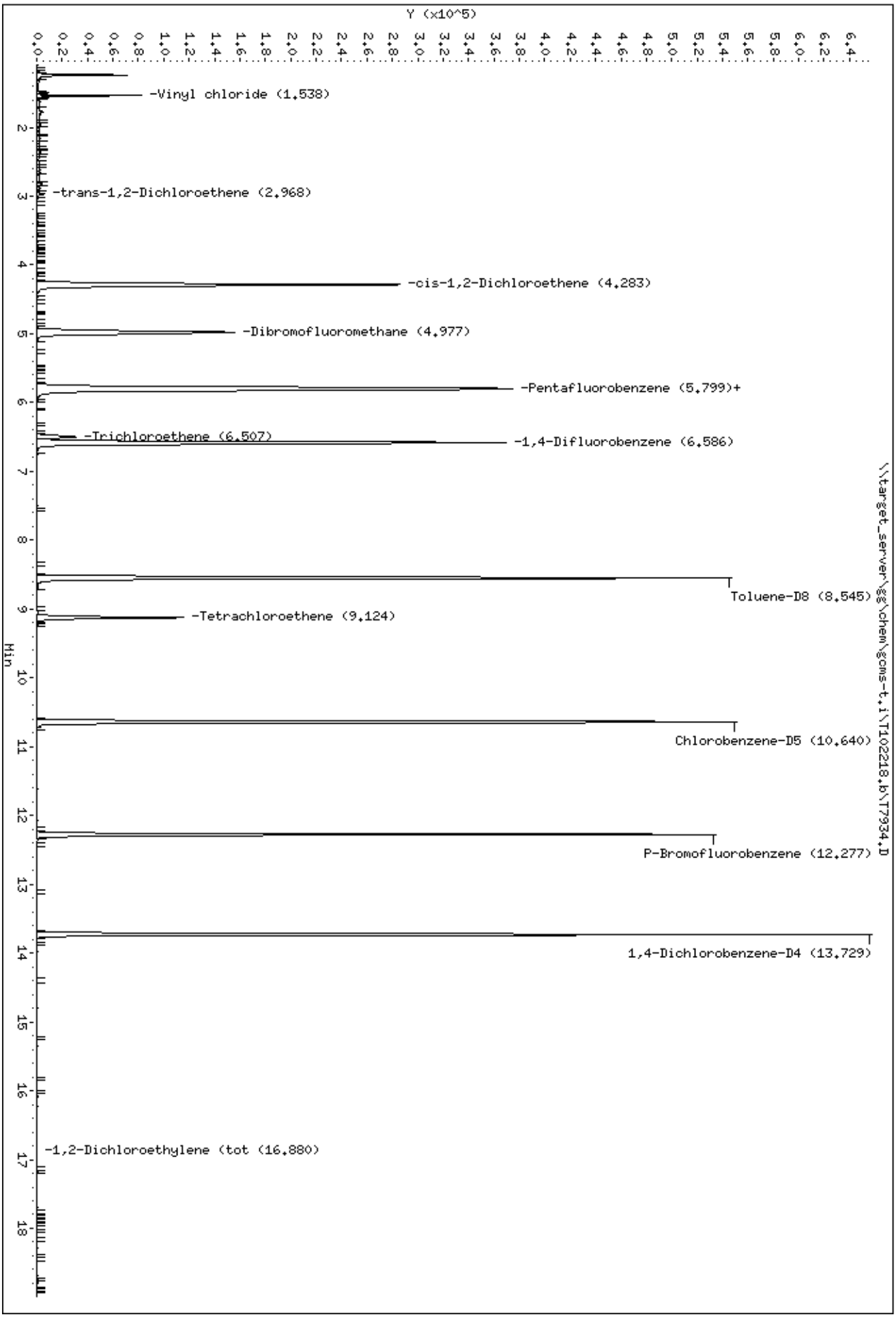
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7934.D
Lab Smp Id: TL0045-10DL Client Smp ID: WVA-MW-86R-3-101118
Inj Date : 22-OCT-2018 14:52 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-10DL
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 12
Dil Factor: 20.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	20.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.265)	42240	21.7643	435	
16 trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	1953	1.14496	22.9	
27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	149537	80.0904	1600	
$ 34 Dibromofluoromethane	113	4.983	4.976	(0.861)	146057	55.2328	55.2	
* 41 Pentafluorobenzene	168	5.791	5.791	(1.000)	217547	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	239777	62.1440	62.1	
47 Trichloroethene	95	6.499	6.499	(0.987)	15270	6.82933	136	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	333087	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	412324	49.1487	49.1	
58 Tetrachloroethene	164	9.123	9.123	(0.858)	27869	19.3636	387	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	290907	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	179050	46.7354	46.7	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	152110	50.0000		
M 103 1,2-Dichloroethylene (total)	96				151490	81.2354	1620	


Y (x10^5)
Min
-Vinyl chloride (1.538)
-trans-1,2-Dichloroethene (2.968)
-cis-1,2-Dichloroethene (4.283)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.507)
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T102218.b\T7934.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7934.D
Date : 22-OCT-2018 14:52
Client ID: WVA-MW-86R-3-101118
Sample Info: TL0045-10DL
Instrument: gcms-t.i

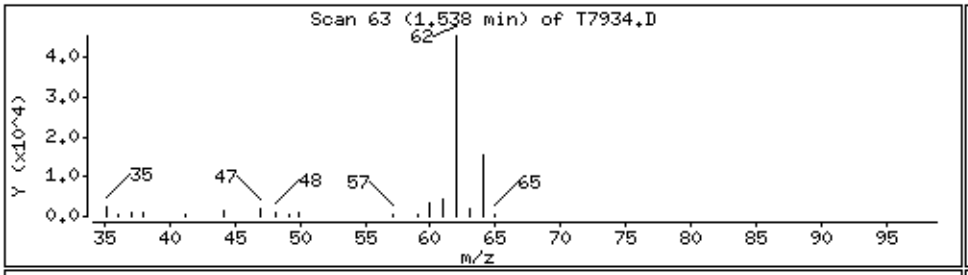
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7934.D

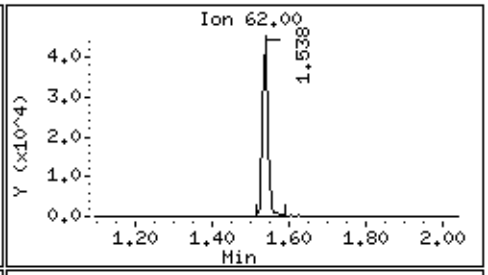
Date : 22-OCT-2018 14:52

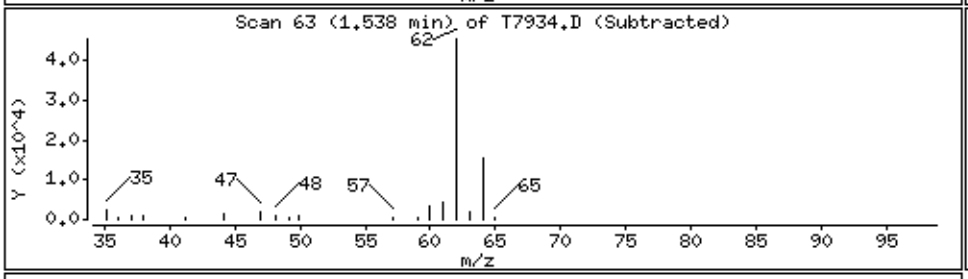
Client ID: WVA-MW-86R-3-101118 Instrument: gcms-t.i

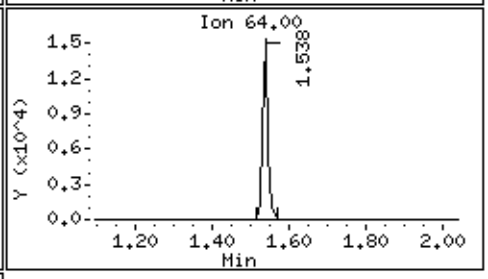
Sample Info: TL0045-10DL

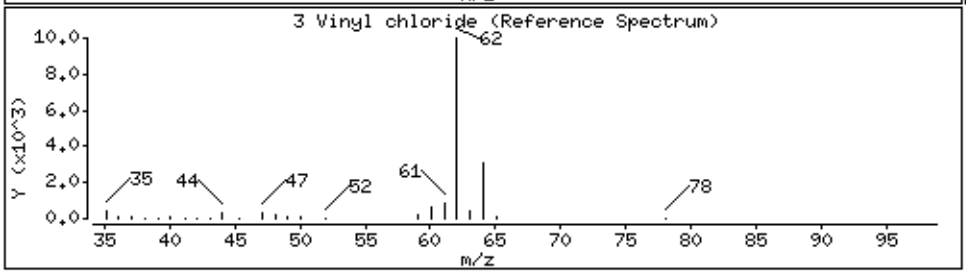
3 Vinyl chloride Concentration: 435 ug/l



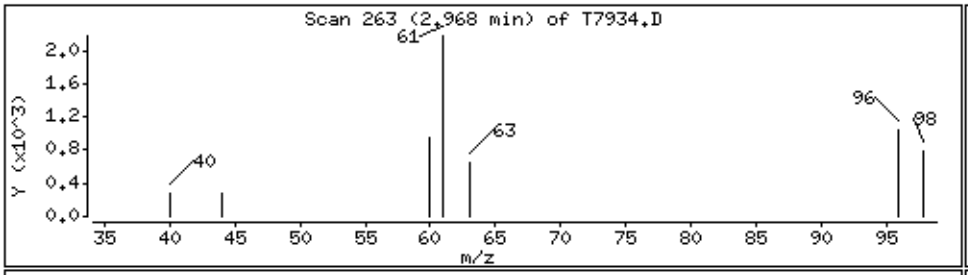


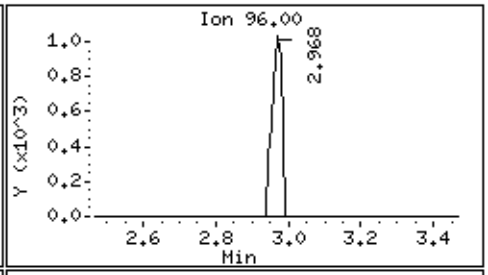


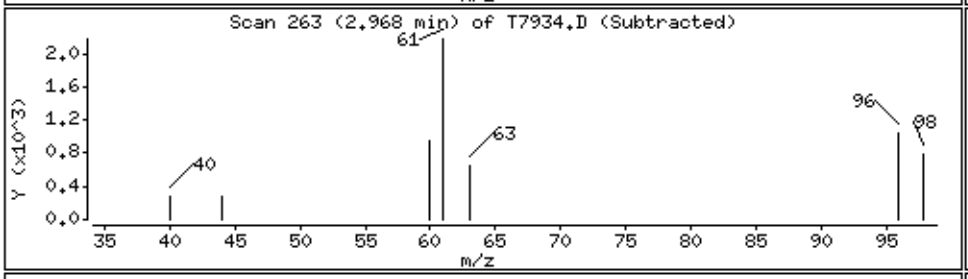


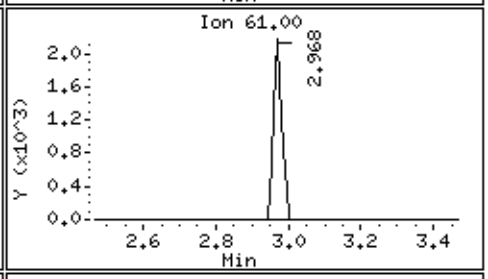


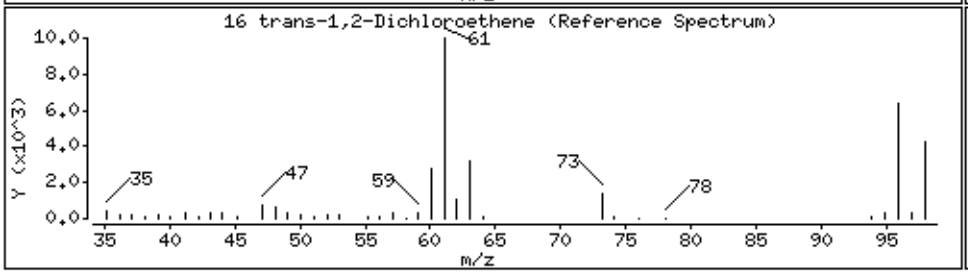
16 trans-1,2-Dichloroethene Concentration: 22.9 ug/l

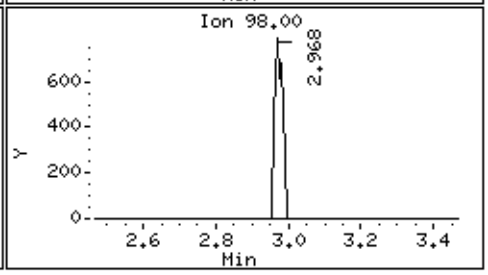












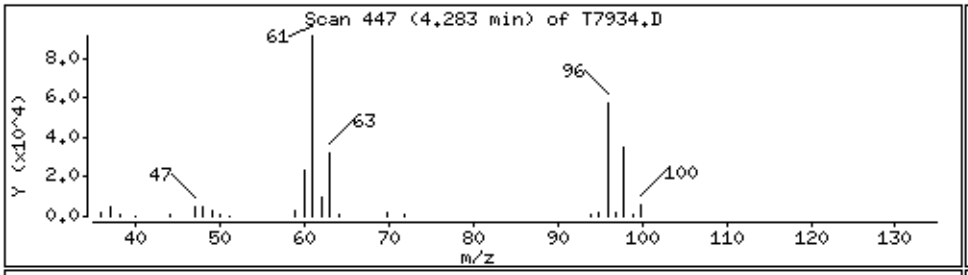
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7934.D

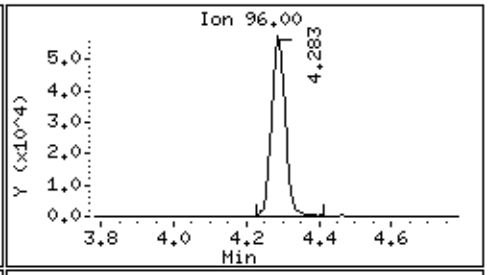
Date : 22-OCT-2018 14:52

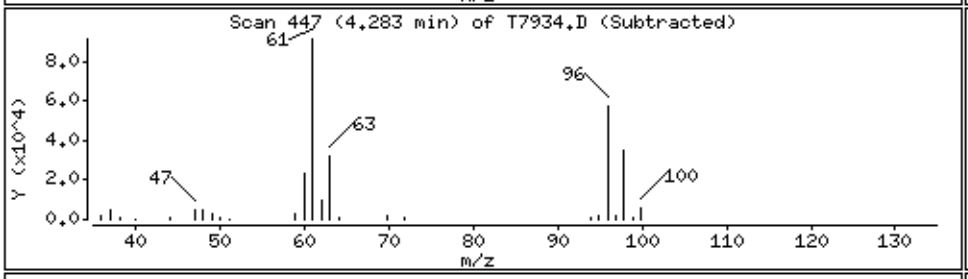
Client ID: WVA-MW-86R-3-101118 Instrument: gcms-t.i

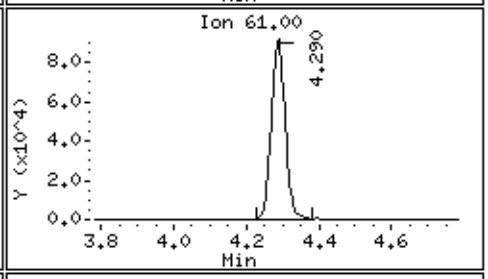
Sample Info: TL0045-10DL

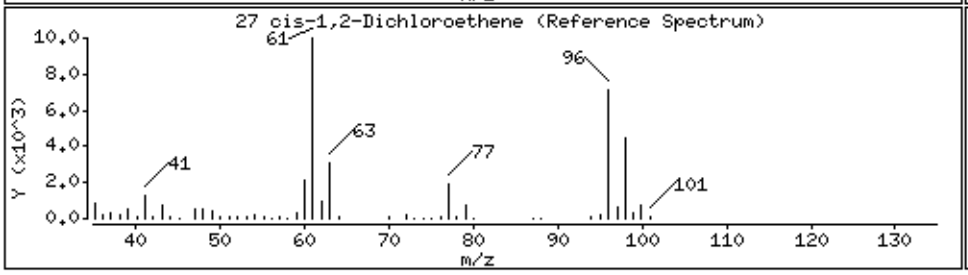
27 cis-1,2-Dichloroethene Concentration: 1600 ug/l

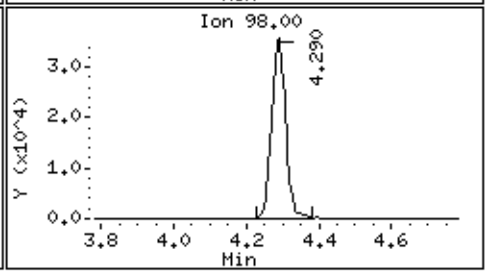




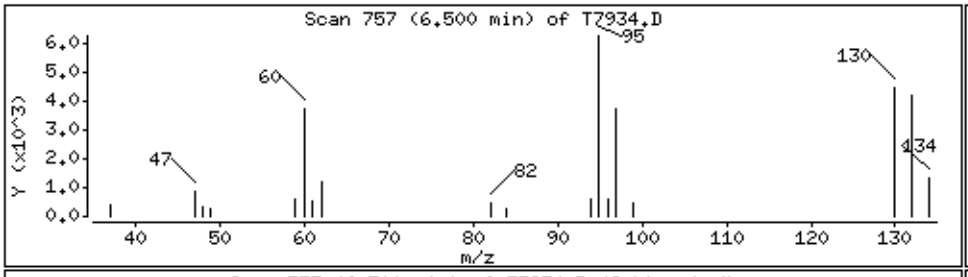


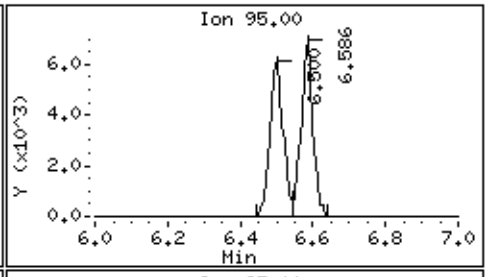


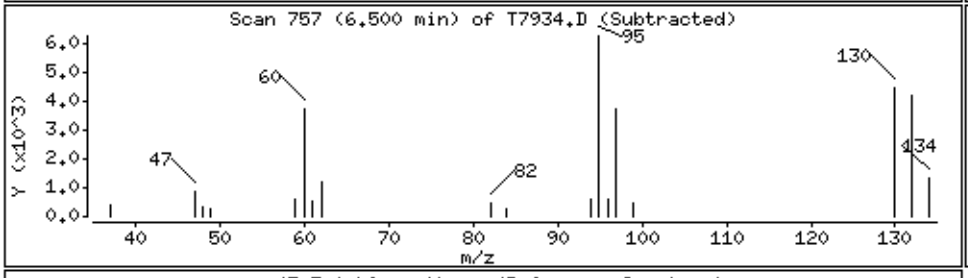


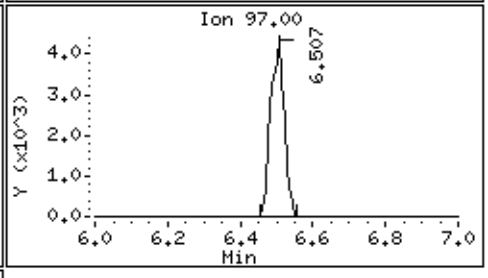


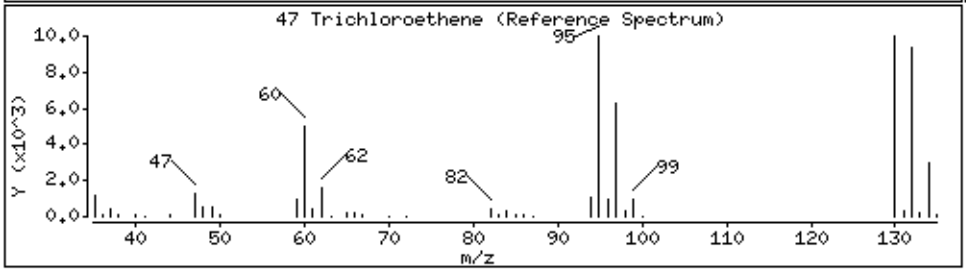
47 Trichloroethene Concentration: 136 ug/l











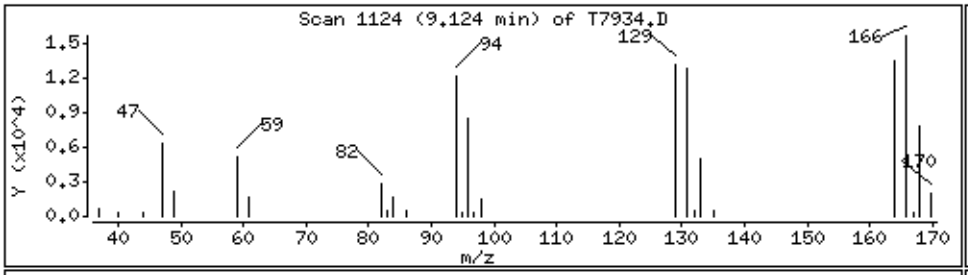
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7934.D

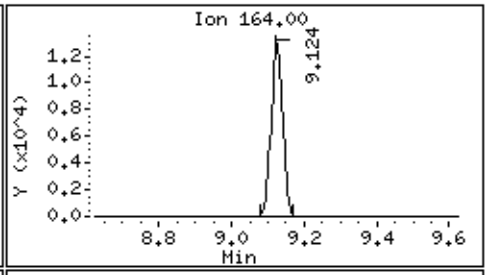
Date : 22-OCT-2018 14:52

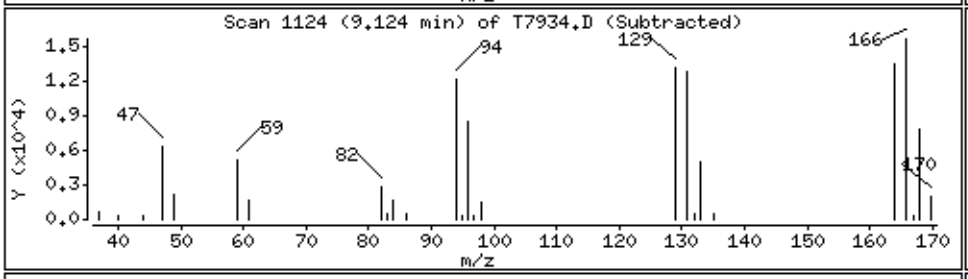
Client ID: WVA-MW-86R-3-101118 Instrument: gcms-t.i

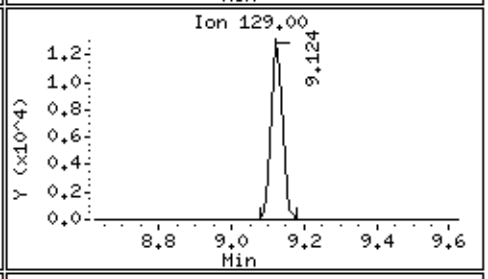
Sample Info: TL0045-10DL

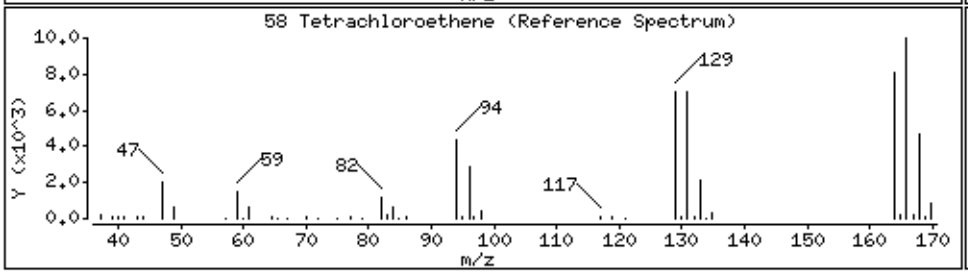
58 Tetrachloroethene Concentration: 387 ug/l

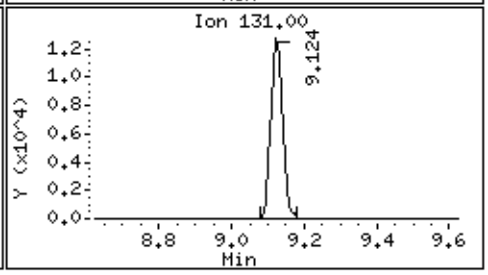












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-11
Client ID: WVA-MW-86R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7909.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	1400	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		10.	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		54.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	3600	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		23.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		26.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.0	%			
Toluene-d8		99.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-11
Client ID: WVA-MW-86R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7909.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		122.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7909.D
Report Date: 29-Oct-2018 17:19

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7909.D
Lab Smp Id: TL0045-11 Client Smp ID: WVA-MW-86R-2-101118
Inj Date : 19-OCT-2018 14:15 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-11
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

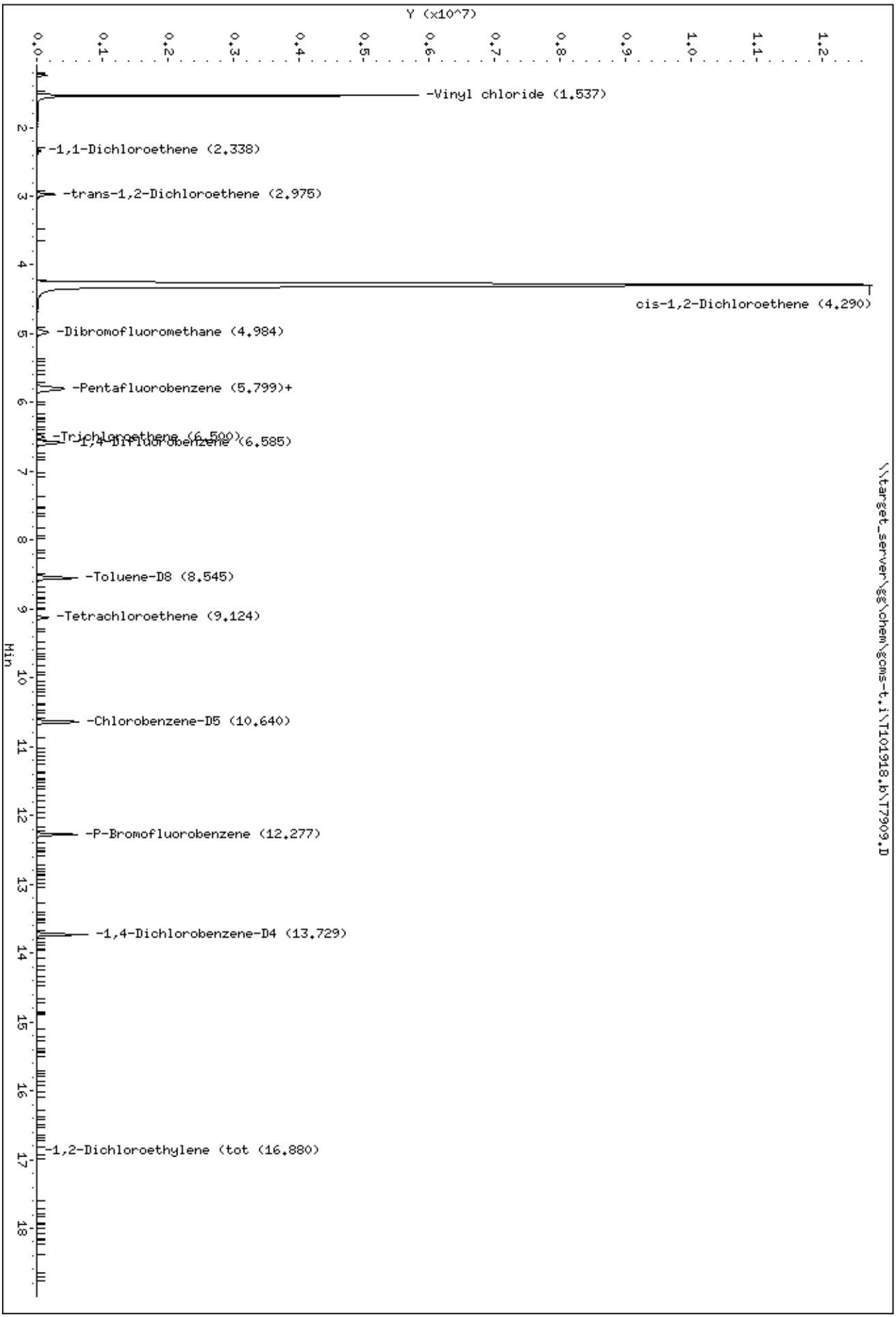
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	3231309	1422.58	1420(A)	
	8 1,1-Dichloroethene	96	2.338	2.331	(0.404)	21667	10.0673	10.1	
	16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	106940	53.5683	53.6	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	7810546	3574.30	3570(AM)	M6
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	170390	55.0549	55.0	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	254610	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	276697	61.2736	61.3	
	47 Trichloroethene	95	6.499	6.499	(0.987)	57727	22.5827	22.6	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	380803	50.0000		
$	56 Toluene-D8	98	8.551	8.544	(1.299)	475865	49.6151	49.6	
	58 Tetrachloroethene	164	9.123	9.123	(0.858)	44246	25.6741	25.7	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	348335	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	216885	49.5175	49.5	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	181975	50.0000		
M	103 1,2-Dichloroethylene (total)	96				7917486	3627.87	3630	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7909.D
Date : 19-OCT-2018 14:15
Client ID: WVA-MW-86R-2-101118
Sample Info: TL0045-11

Instrument: gcms-t.i

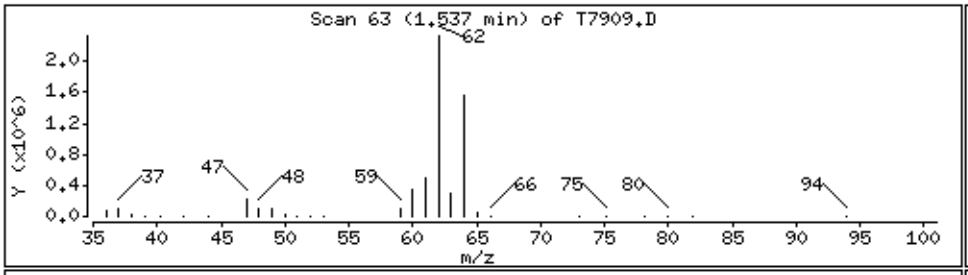
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7909.D

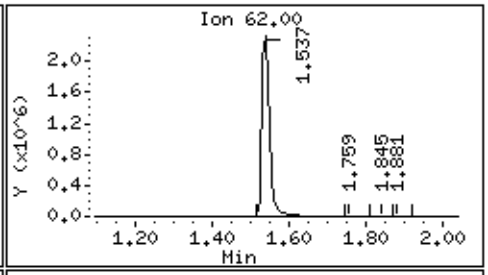
Date : 19-OCT-2018 14:15

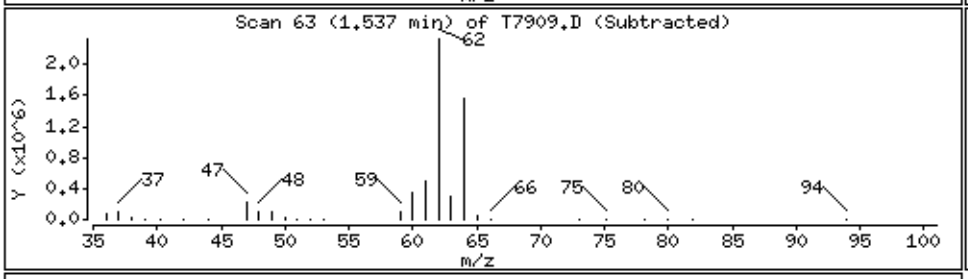
Client ID: WVA-MW-86R-2-101118 Instrument: gcms-t.i

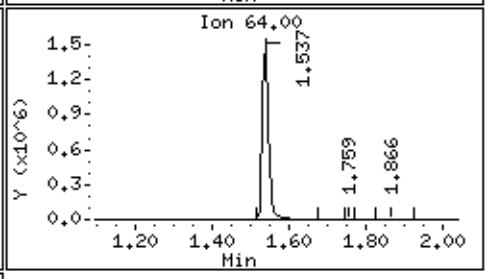
Sample Info: TL0045-11

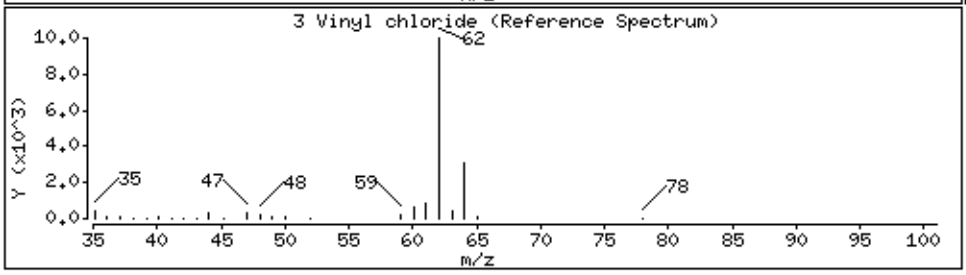
3 Vinyl chloride Concentration: 1420 ug/l



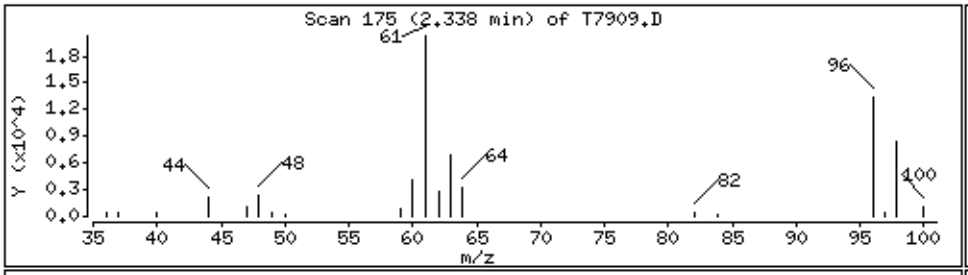


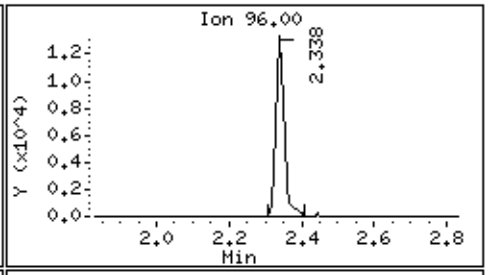


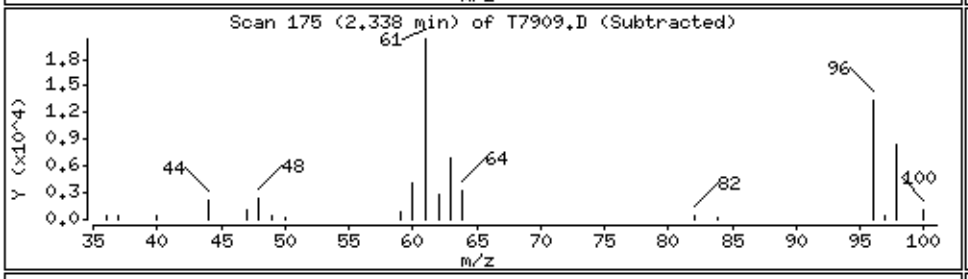


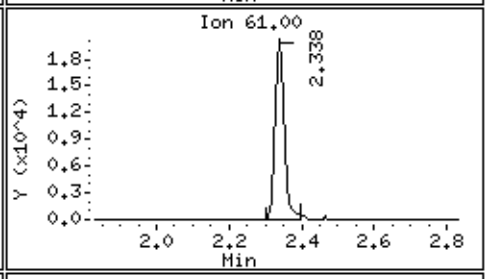


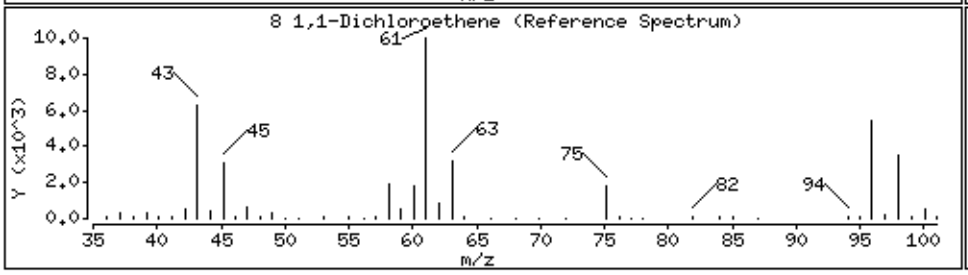
8 1,1-Dichloroethene Concentration: 10.1 ug/l

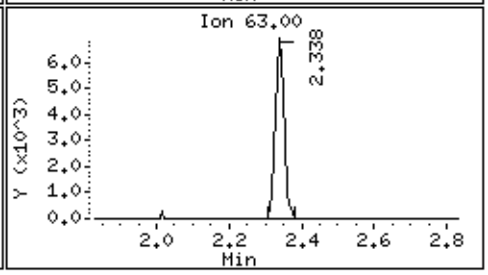












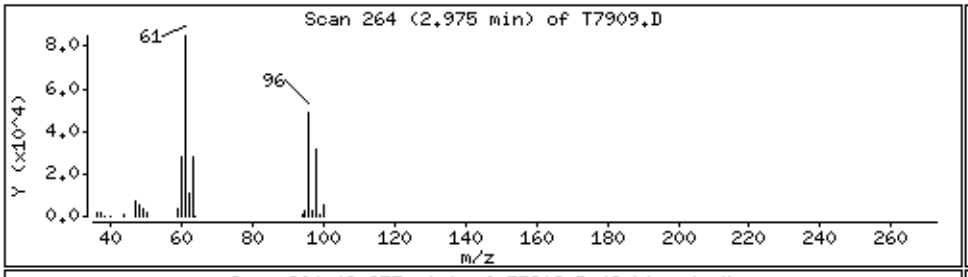
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7909.D

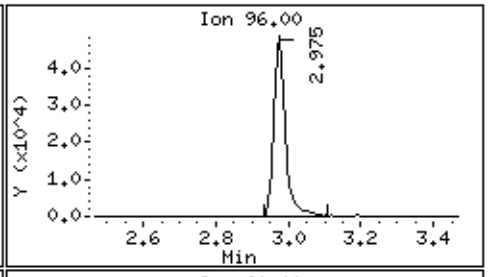
Date : 19-OCT-2018 14:15

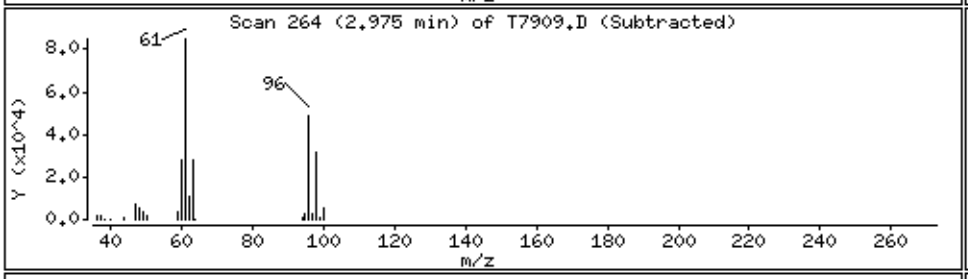
Client ID: WVA-MW-86R-2-101118 Instrument: gcms-t.i

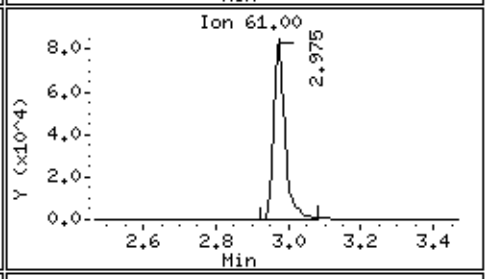
Sample Info: TL0045-11

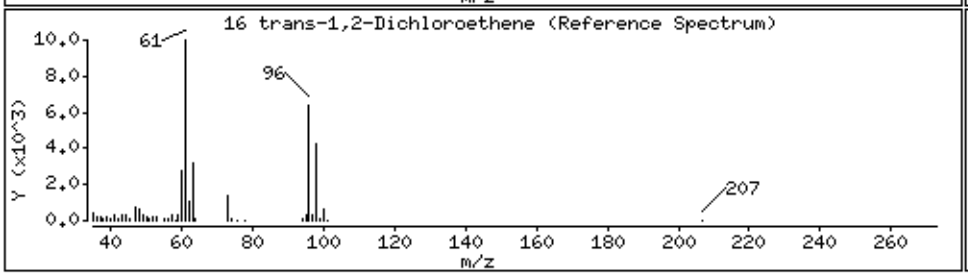
16 trans-1,2-Dichloroethene Concentration: 53.6 ug/l

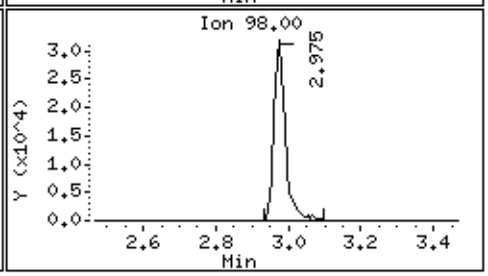




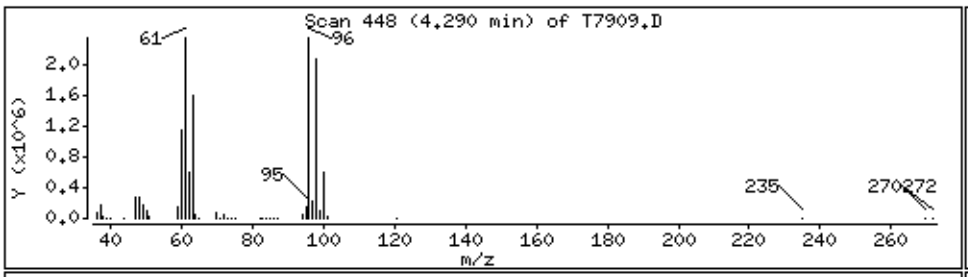


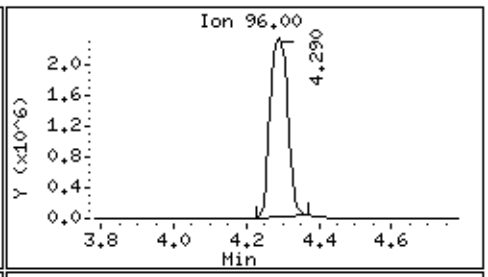


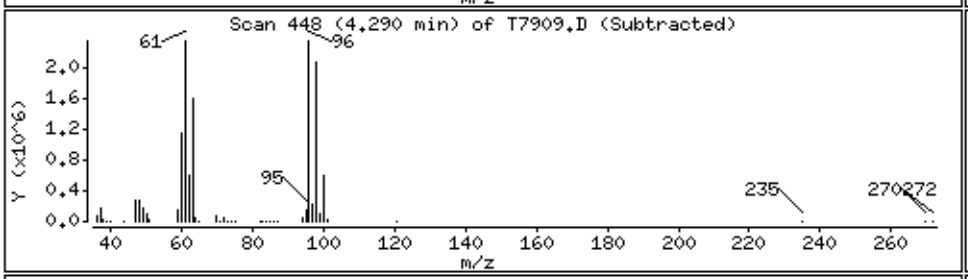


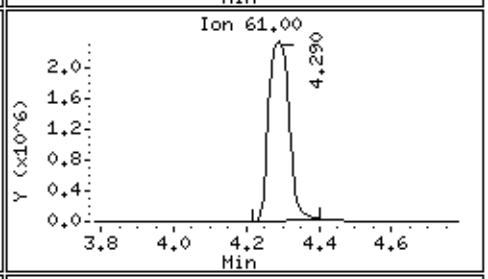


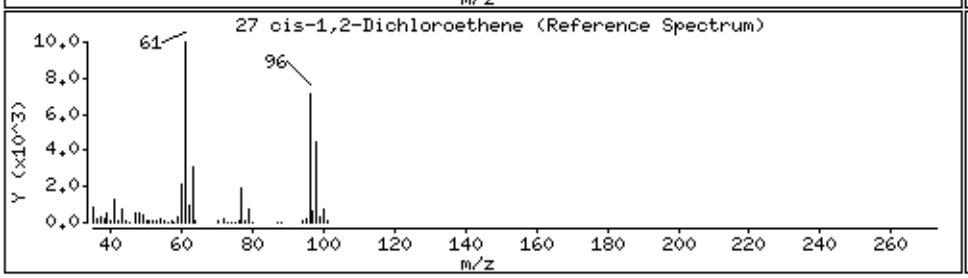
27 cis-1,2-Dichloroethene Concentration: 3570 ug/l

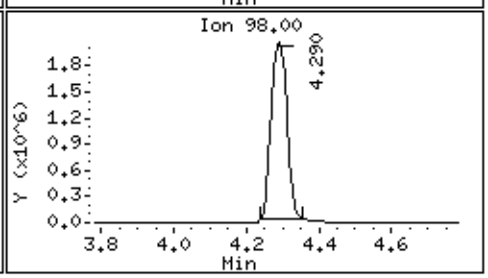












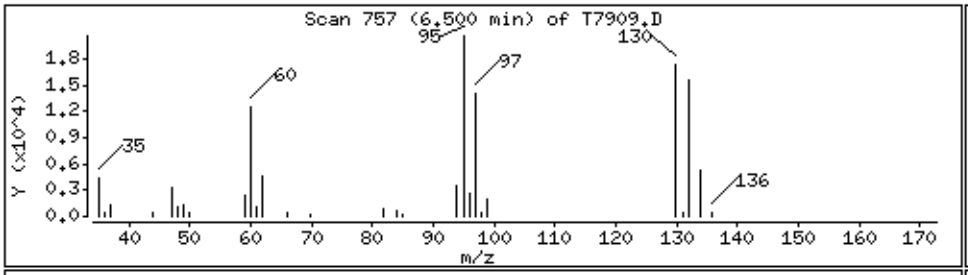
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7909.D

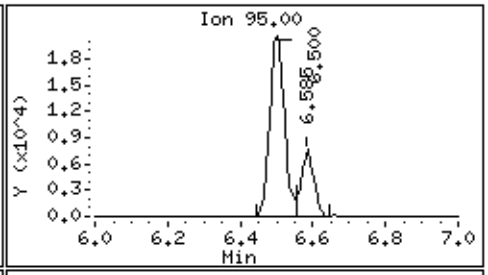
Date : 19-OCT-2018 14:15

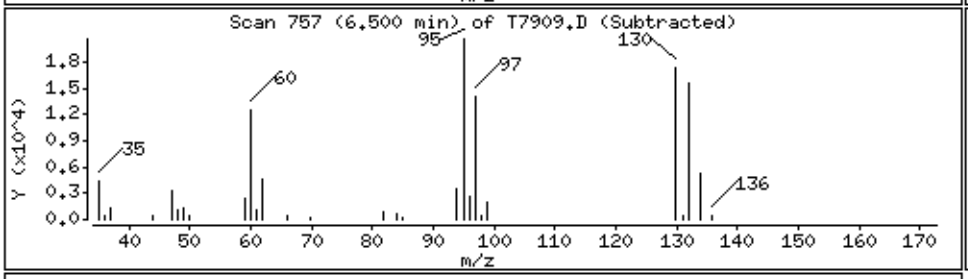
Client ID: WVA-MW-86R-2-101118 Instrument: gcms-t.i

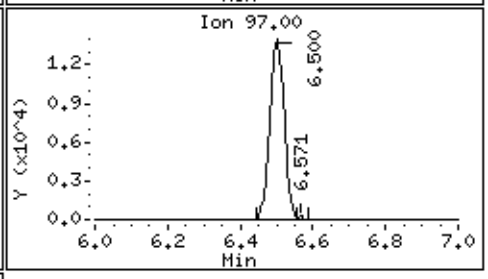
Sample Info: TL0045-11

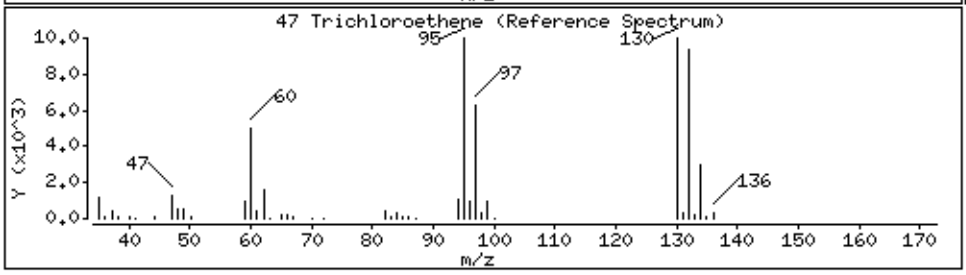
47 Trichloroethene Concentration: 22.6 ug/l



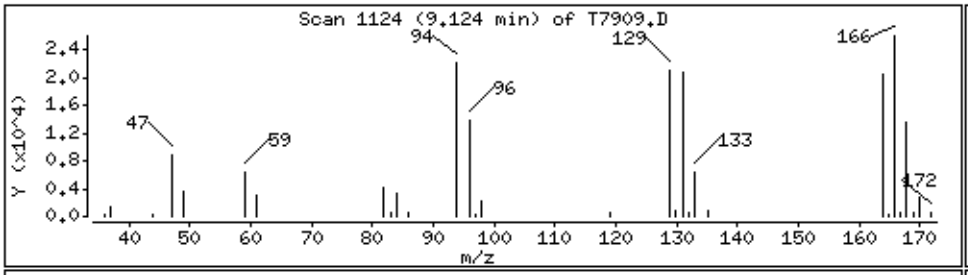


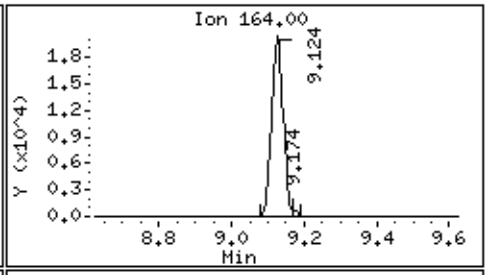


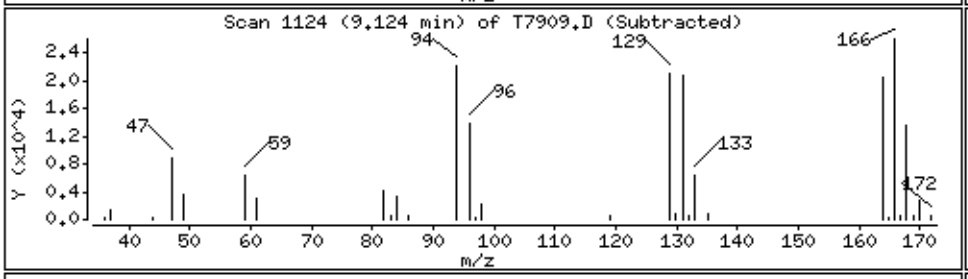


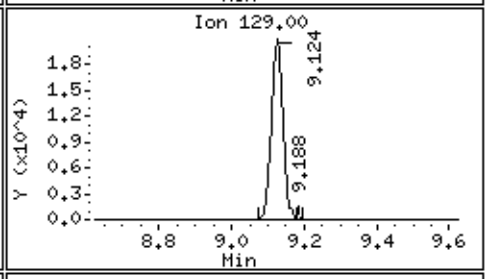


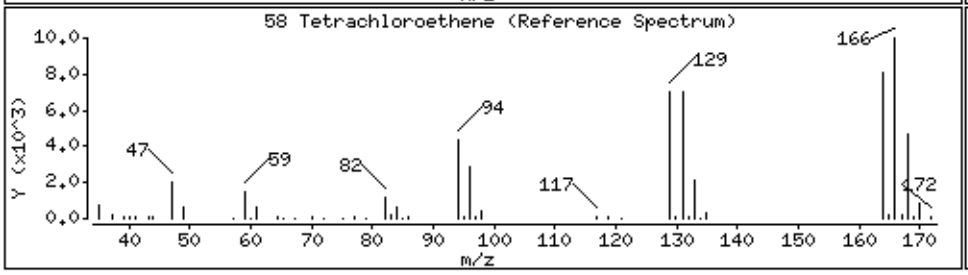
58 Tetrachloroethene Concentration: 25.7 ug/l

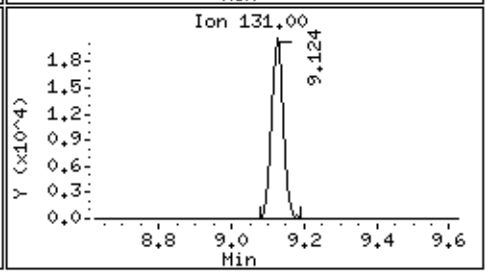












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-11DL
Client ID: WVA-MW-86R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7930.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	200	ug/L	100	2	200
Vinyl Chloride		2600	ug/L	100	2	200
Bromomethane	U	200	ug/L	100	2	200
Chloroethane	U	200	ug/L	100	2	200
Trichlorofluoromethane	U	200	ug/L	100	2	200
1,1-Dichloroethene	U	100	ug/L	100	1	100
Carbon Disulfide	U	100	ug/L	100	1	100
Methylene Chloride	U	500	ug/L	100	5	500
trans-1,2-Dichloroethene	U	100	ug/L	100	1	100
1,1-Dichloroethane	U	100	ug/L	100	1	100
cis-1,2-Dichloroethene		4700	ug/L	100	1	100
Chloroform	U	100	ug/L	100	1	100
Carbon Tetrachloride	U	100	ug/L	100	1	100
1,1,1-Trichloroethane	U	100	ug/L	100	1	100
2-Butanone	U	500	ug/L	100	5	500
Benzene	U	100	ug/L	100	1	100
1,2-Dichloroethane	U	100	ug/L	100	1	100
Trichloroethene	U	100	ug/L	100	1	100
1,2-Dichloropropane	U	100	ug/L	100	1	100
Bromodichloromethane	U	100	ug/L	100	1	100
cis-1,3-Dichloropropene	U	100	ug/L	100	1	100
Toluene	U	100	ug/L	100	1	100
4-Methyl-2-Pentanone	U	500	ug/L	100	5	500
Tetrachloroethene	U	100	ug/L	100	1	100
trans-1,3-Dichloropropene	U	100	ug/L	100	1	100
1,1,2-Trichloroethane	U	100	ug/L	100	1	100
Dibromochloromethane	U	100	ug/L	100	1	100
Chlorobenzene	U	100	ug/L	100	1	100
Ethylbenzene	U	100	ug/L	100	1	100
m+p-Xylenes	U	200	ug/L	100	2	200
o-Xylene	U	100	ug/L	100	1	100
Bromoform	U	100	ug/L	100	1	100
1,1,2,2-Tetrachloroethane	U	100	ug/L	100	1	100
P-Bromofluorobenzene		94.9	%			
Toluene-d8		99.4	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-11DL
Client ID: WVA-MW-86R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7930.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		118.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7930.D
Report Date: 25-Oct-2018 13:46

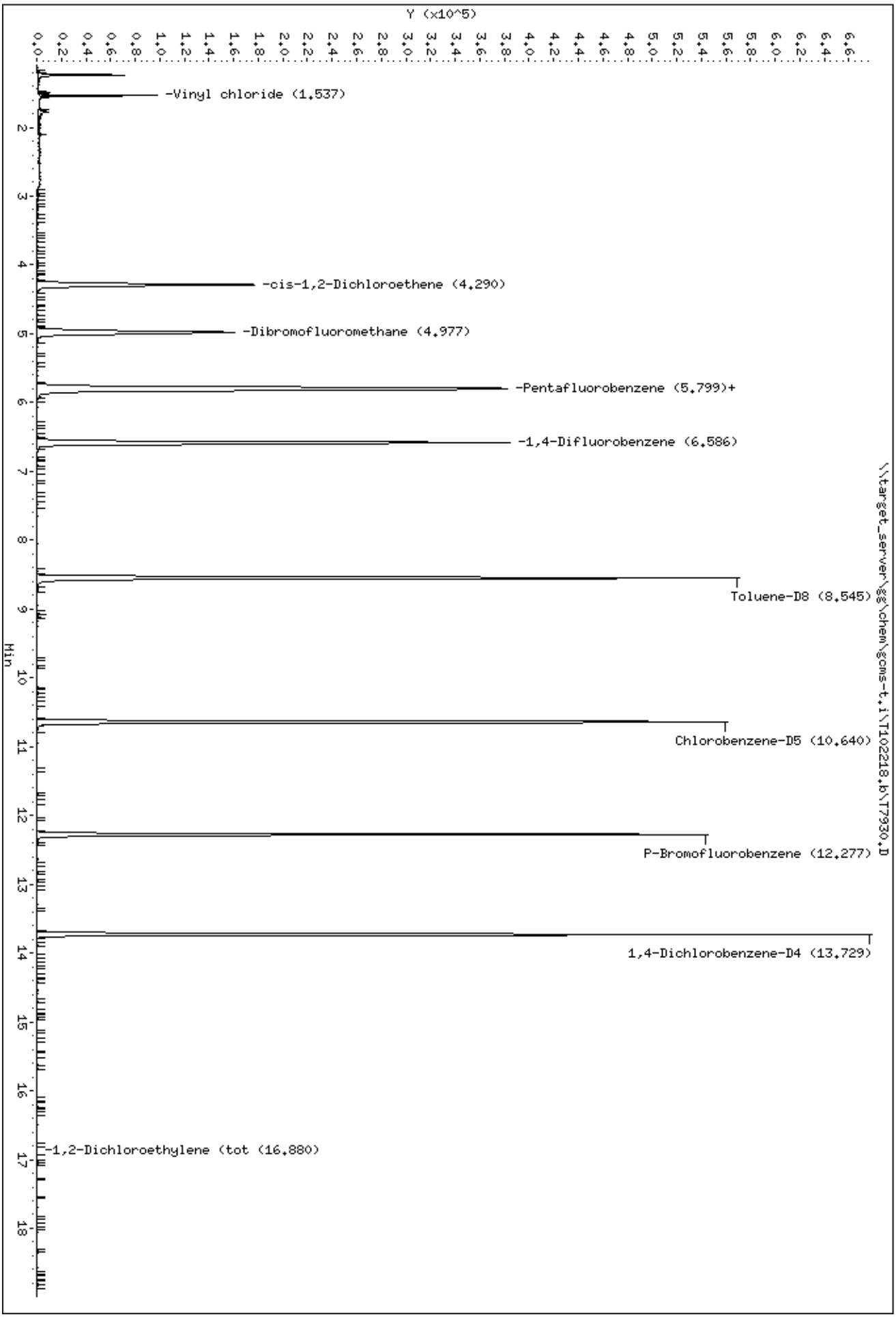
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7930.D
Lab Smp Id: TL0045-11DL Client Smp ID: WVA-MW-86R-2-101118
Inj Date : 22-OCT-2018 12:53 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-11DL
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 8
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	53035	25.6658	2570	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	92680	46.6218	4660	
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	147365	52.3408	52.3	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	231623	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	243424	59.2552	59.2	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	338714	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	423909	49.6901	49.7	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	296646	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	184889	47.4578	47.4	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	156261	50.0000		
M	103 1,2-Dichloroethylene (total)	96				92680	46.6218	4660	


Y (x10^5)
Min
-Vinyl chloride (1,537)
-cis-1,2-Dichloroethene (4,290)
-Dibromofluoromethane (4,977)
-Pentafluorobenzene (5,799)+
-1,4-Difluorobenzene (6,586)
Toluene-D8 (8,545)
Chlorobenzene-D5 (10,640)
P-Bromofluorobenzene (12,277)
1,4-Dichlorobenzene-D4 (13,729)
-1,2-Dichloroethylene (tot (16,880)
\\target_server\gg\chem\gcms-t.i\T102218.b\T7930.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7930.D
Date : 22-OCT-2018 12:53
Client ID: WVA-MW-86R-2-101118
Sample Info: TL0045-11DL
Instrument: gcms-t.i

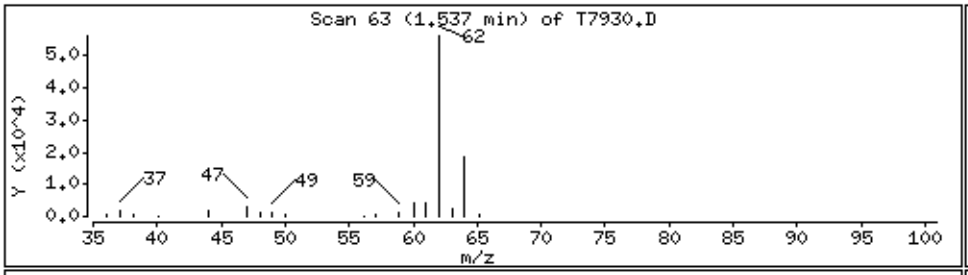
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7930.D

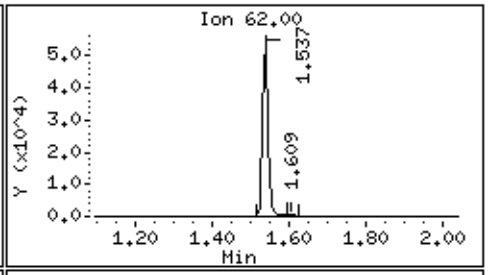
Date : 22-OCT-2018 12:53

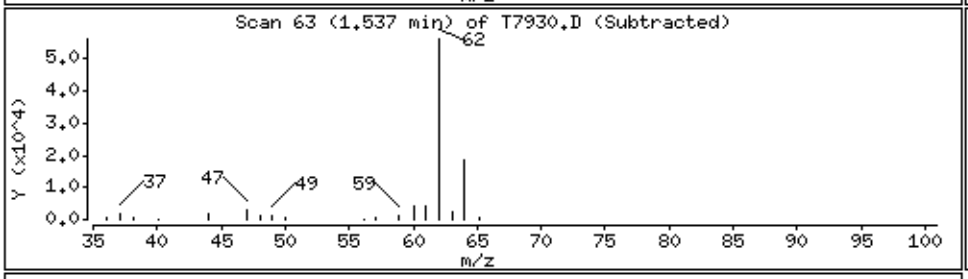
Client ID: WVA-MW-86R-2-101118 Instrument: gcms-t.i

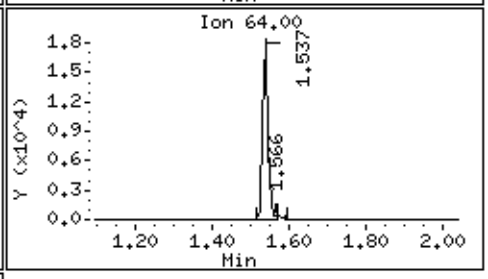
Sample Info: TL0045-11DL

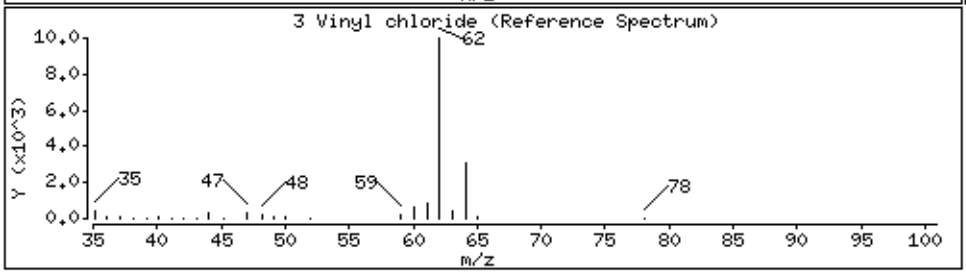
3 Vinyl chloride Concentration: 2570 ug/l



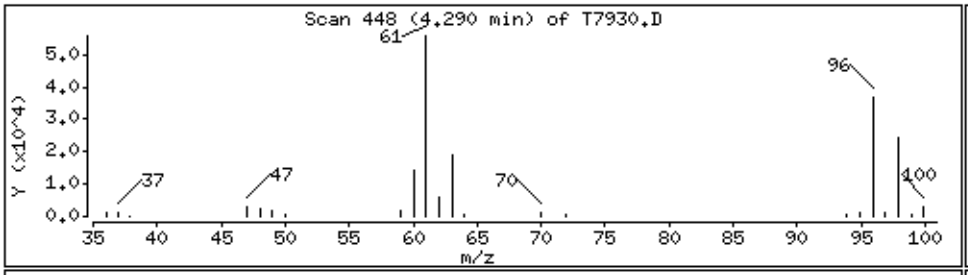


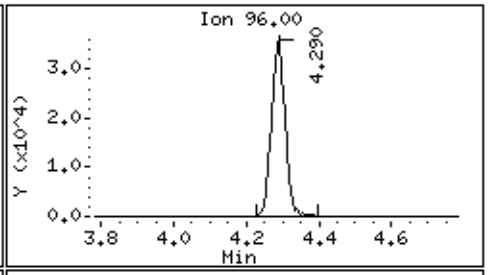


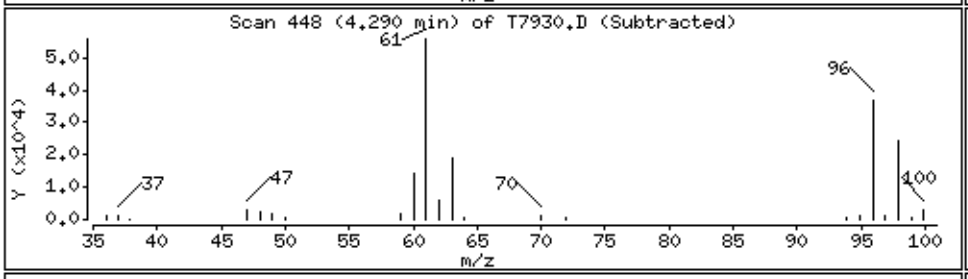


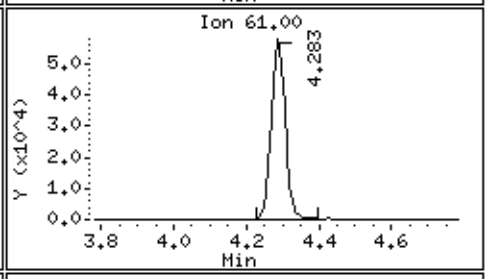


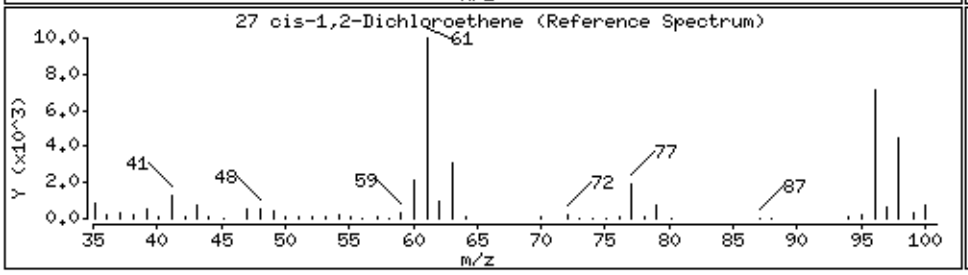
27 cis-1,2-Dichloroethene Concentration: 4660 ug/l

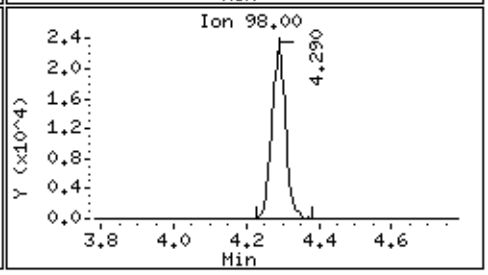












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-12RA
Client ID: WVA-MW-86R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7937.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.2	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.6	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-12RA
Client ID: WVA-MW-86R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7937.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		129.	%			
Dibromofluoromethane		113.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7937.D
Report Date: 25-Oct-2018 13:47

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7937.D
Lab Smp Id: TL0045-12RA Client Smp ID: WVA-MW-86R-1-101118
Inj Date : 22-OCT-2018 16:54 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-12RA
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

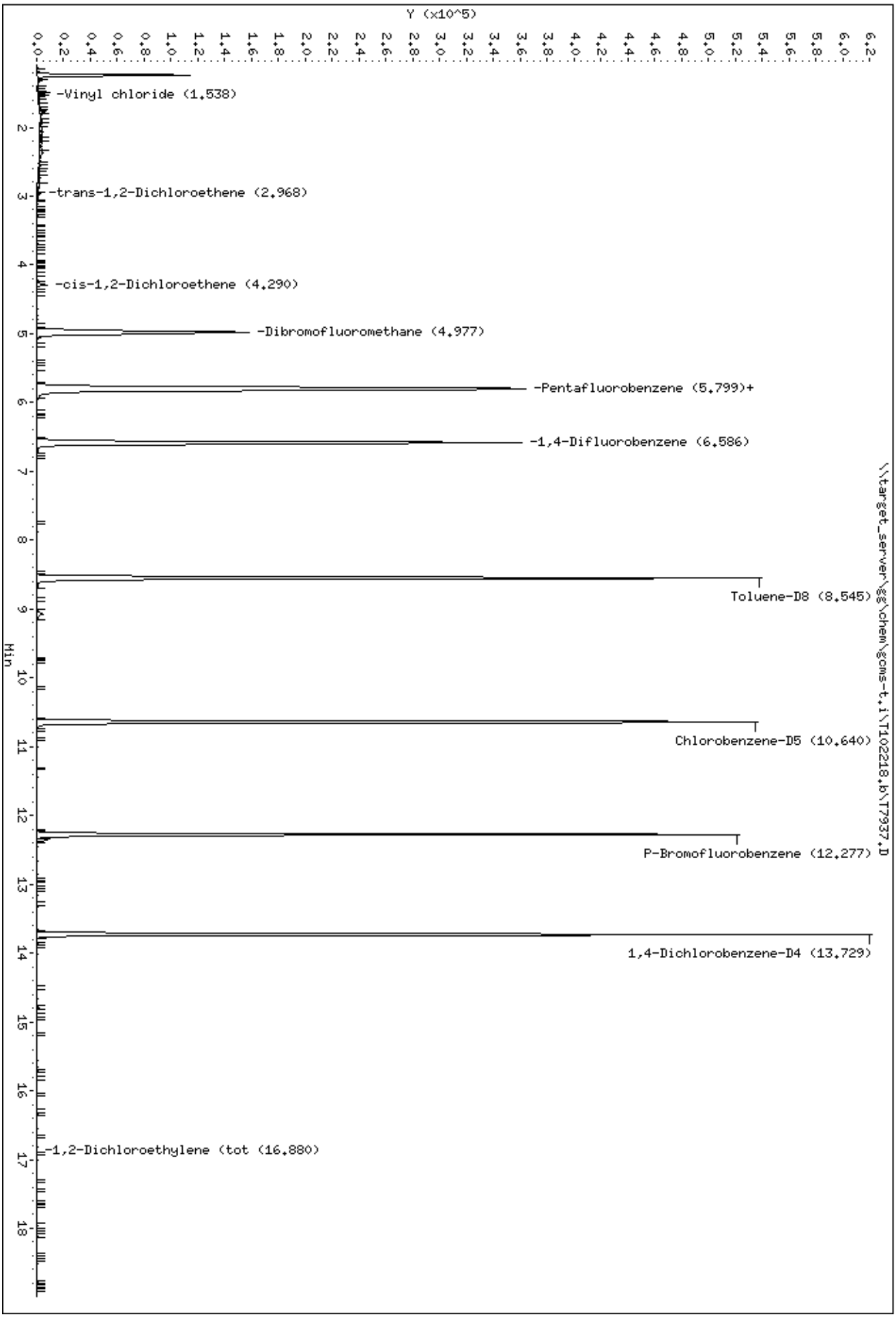
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
3	Vinyl chloride	62	1.537	1.537	(0.265)	3484	1.87999	1.9	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	749	0.45986	0.46(a)	
27	cis-1,2-Dichloroethene	96	4.290	4.283	(0.740)	3845	2.15668	2.2	
$ 34	Dibromofluoromethane	113	4.976	4.976	(0.858)	142327	56.3663	56.4	
* 41	Pentafluorobenzene	168	5.799	5.791	(1.000)	207728	50.0000		
$ 42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.002)	237214	64.3858	64.4	
* 48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	320756	50.0000		
$ 56	Toluene-D8	98	8.552	8.544	(1.299)	409242	50.6566	50.6	
* 68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	285035	50.0000		
$ 77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	174474	47.2918	47.3	
* 93	1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	149495	50.0000		
M 103	1,2-Dichloroethylene (total)	96				4594	2.61655	2.6	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Y (x10^5)
-Vinyl chloride (1.538)
-trans-1,2-Dichloroethene (2.968)
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
Min
\\target_server\gg\chem\gcms-t.i\T102218.b\T7937.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7937.D
Date : 22-OCT-2018 16:54
Client ID: WVA-MW-86R-1-101118
Sample Info: TL0045-12RA
Instrument: gcms-t.i

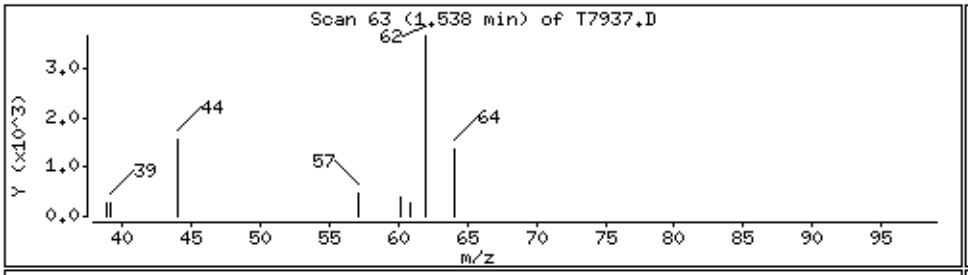
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7937.D

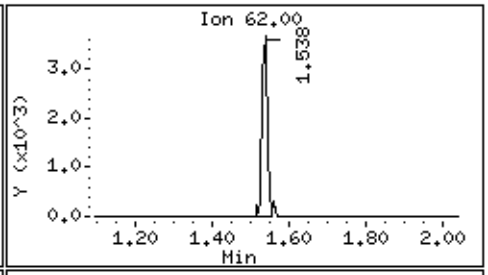
Date : 22-OCT-2018 16:54

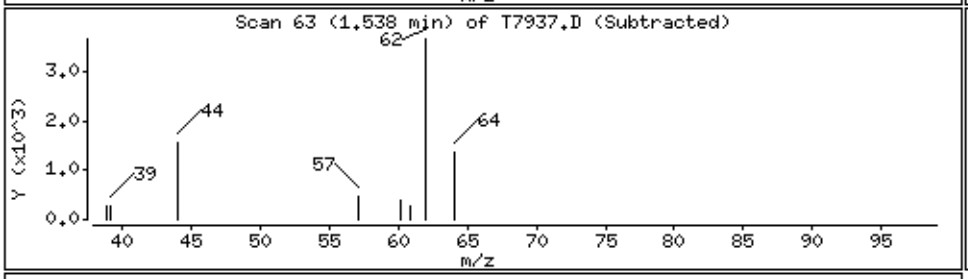
Client ID: WVA-MW-86R-1-101118 Instrument: gcms-t.i

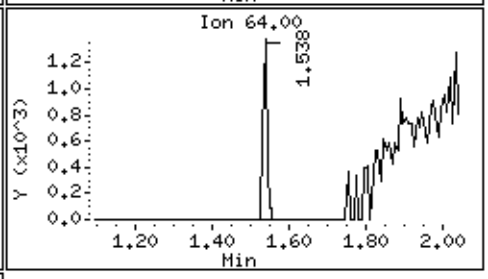
Sample Info: TL0045-12RA

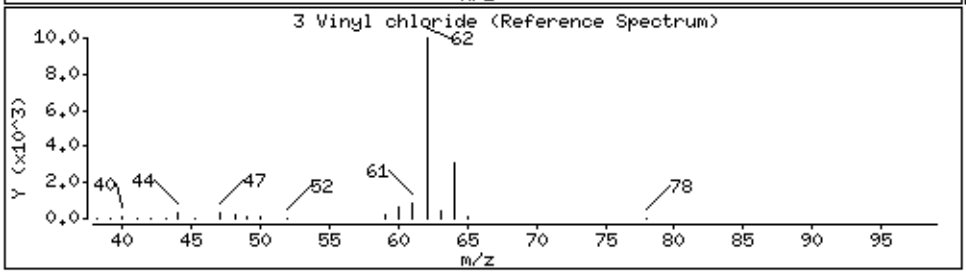
3 Vinyl chloride Concentration: 1.9 ug/l



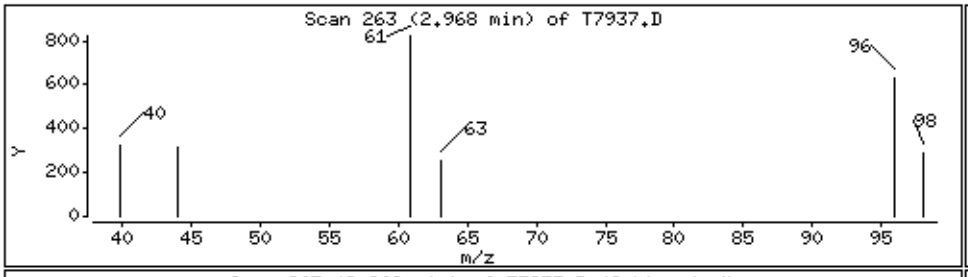


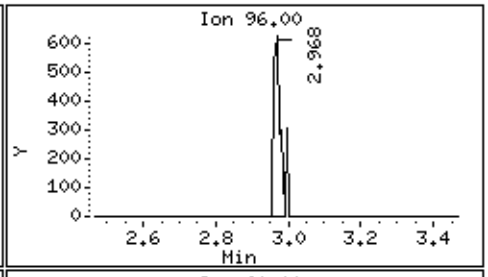


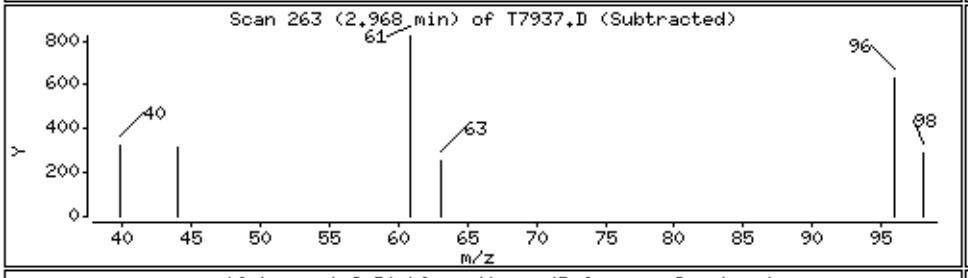


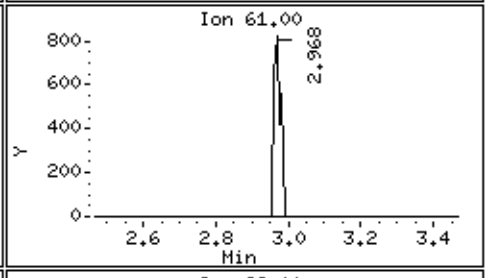


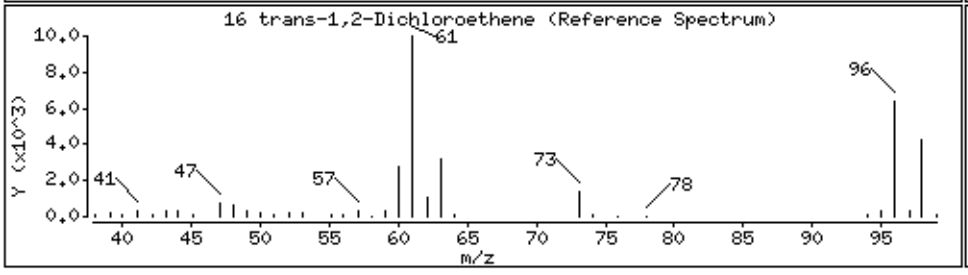
16 trans-1,2-Dichloroethene Concentration: 0.46 ug/l

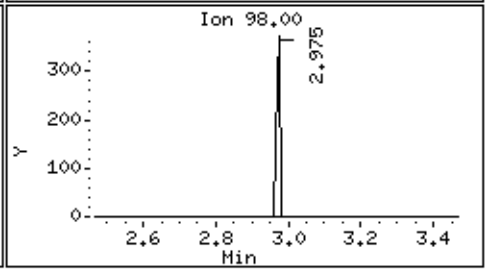












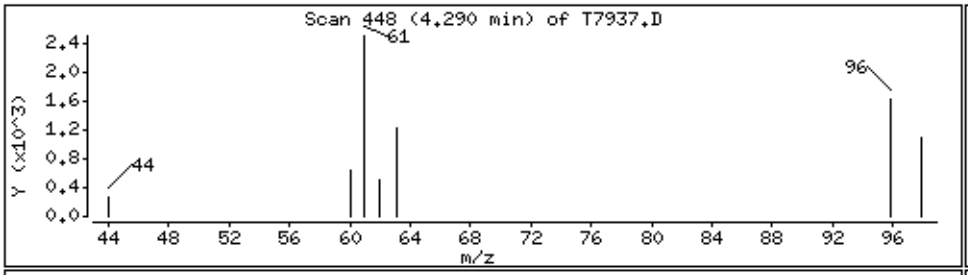
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7937.D

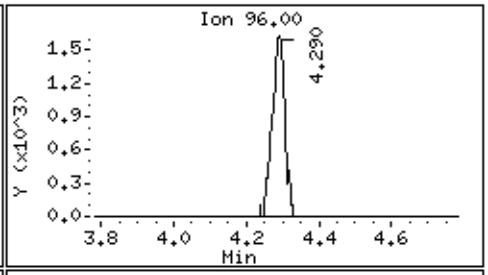
Date : 22-OCT-2018 16:54

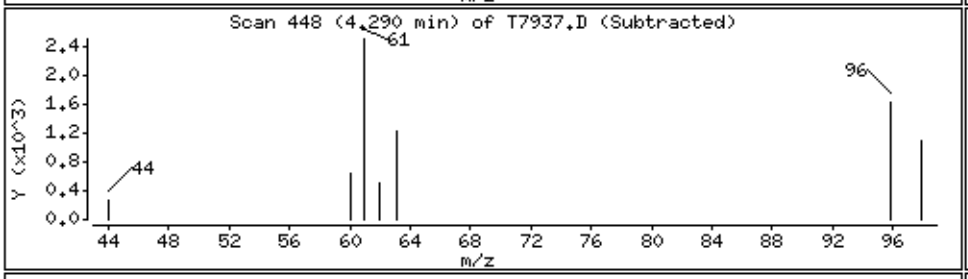
Client ID: WVA-MW-86R-1-101118 Instrument: gcms-t.i

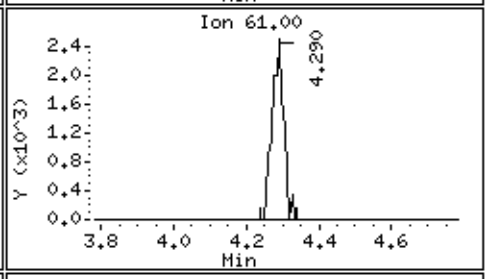
Sample Info: TL0045-12RA

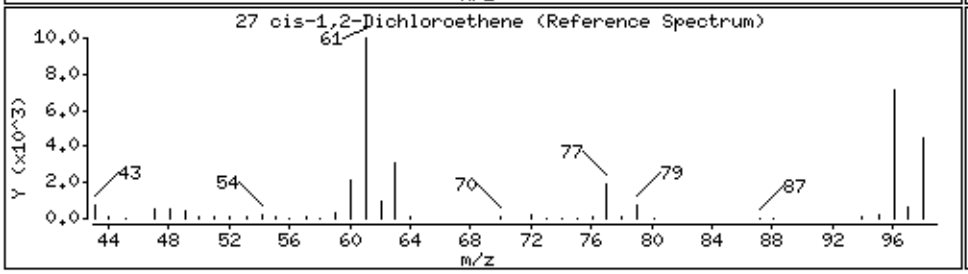
27 cis-1,2-Dichloroethene Concentration: 2.2 ug/l

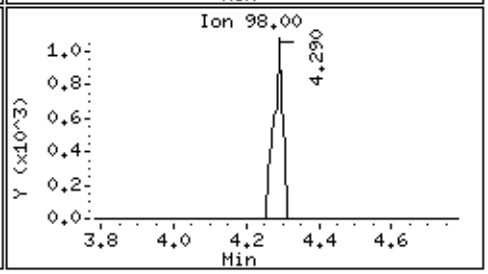












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-13RA
Client ID: 94EM-MW-20-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7938.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.6	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		30.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.5	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-13RA
Client ID: 94EM-MW-20-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7938.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		112.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7938.D
Report Date: 25-Oct-2018 13:47

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7938.D
Lab Smp Id: TL0045-13RA Client Smp ID: 94EM-MW-20-101118
Inj Date : 22-OCT-2018 18:13
Operator : JR/HG Inst ID: gcms-t.i
Smp Info : TL0045-13RA
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

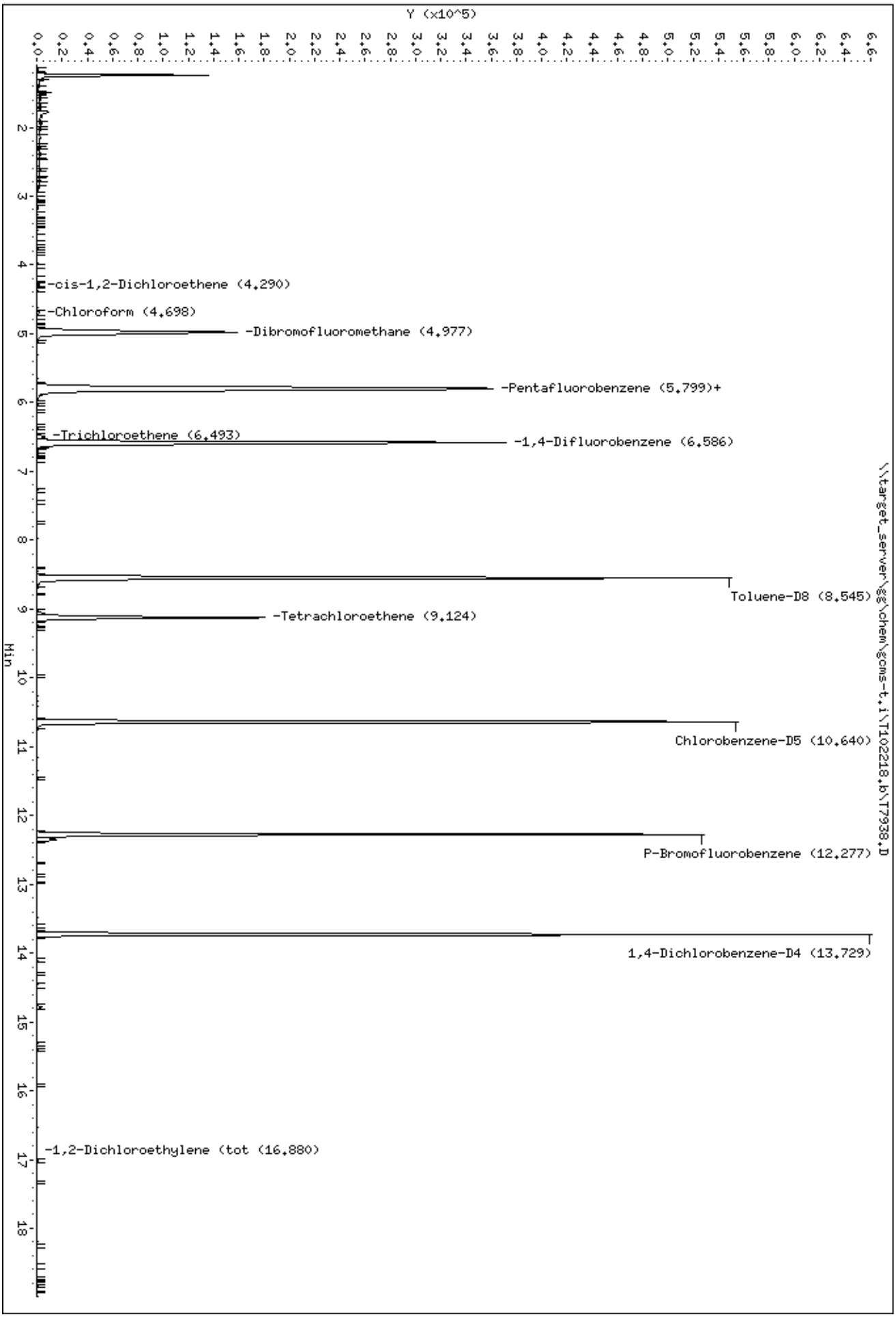
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	800	0.44012	0.44(a)	
	31 Chloroform	83	4.683	4.690	(0.809)	2628	0.56743	0.57(a)	
$	34 Dibromofluoromethane	113	4.983	4.976	(0.860)	144704	56.2083	56.2	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	211791	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	237397	63.1993	63.2	
	47 Trichloroethene	95	6.492	6.499	(0.986)	3584	1.62408	1.6	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	328743	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	415329	50.1610	50.2	
	58 Tetrachloroethene	164	9.123	9.123	(0.858)	43668	29.7503	29.8	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	296682	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	178713	47.2639	47.3	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	151958	50.0000		
M	103 1,2-Dichloroethylene (total)	96				800	0.44012	0.44(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Y (x10^5)
Min
-cis-1,2-Dichloroethene (4.290)
-Chloroform (4.698)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.493)
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T102218.b\T7938.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7938.D
Date : 22-OCT-2018 18:13
Client ID: 94EH-MW-20-101118
Sample Info: TL0045-13RA
Instrument: gcms-t.i

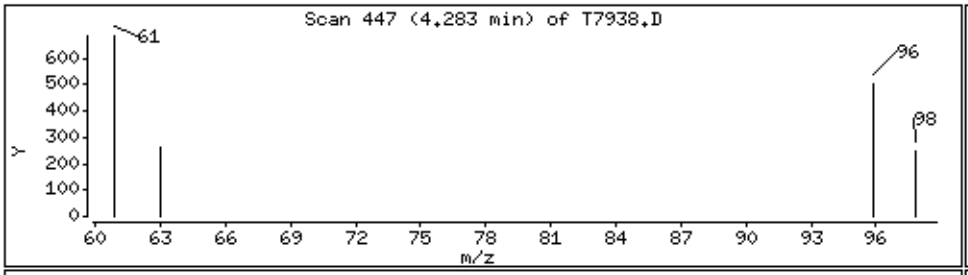
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7938.D

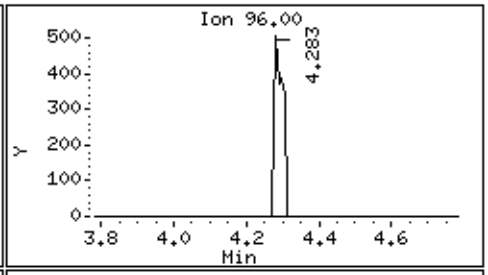
Date : 22-OCT-2018 18:13

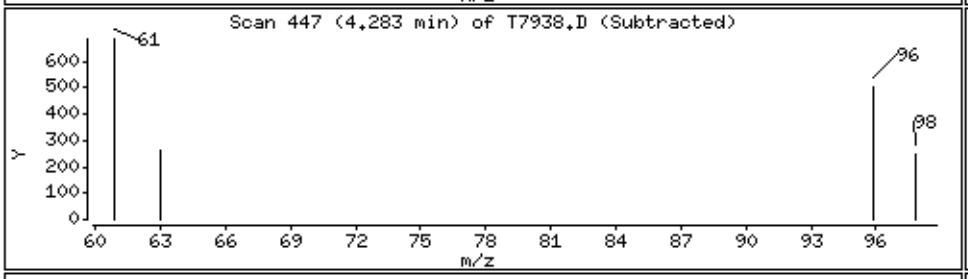
Client ID: 94EM-MW-20-101118 Instrument: gcms-t.i

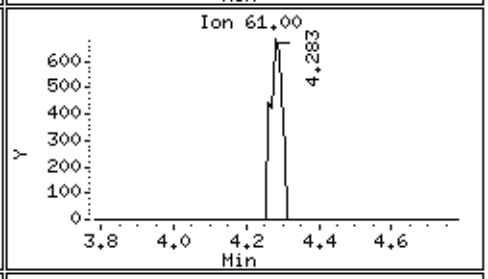
Sample Info: TL0045-13RA

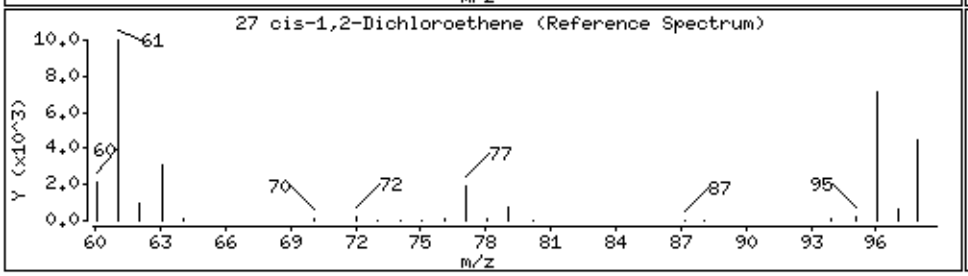
27 cis-1,2-Dichloroethene Concentration: 0.44 ug/l

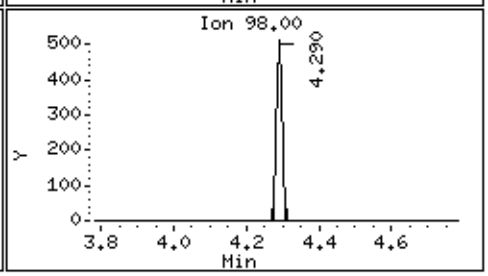




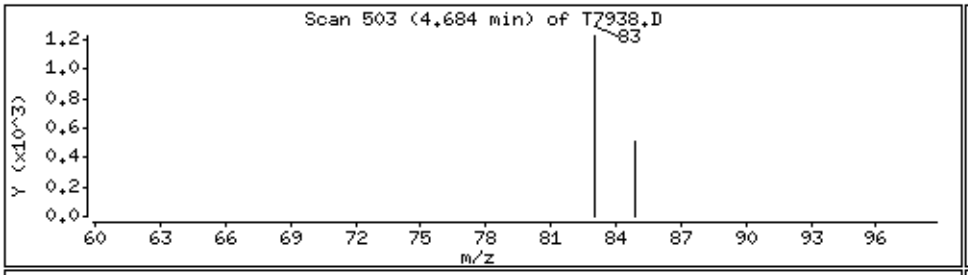


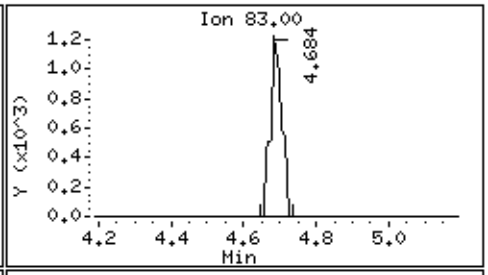


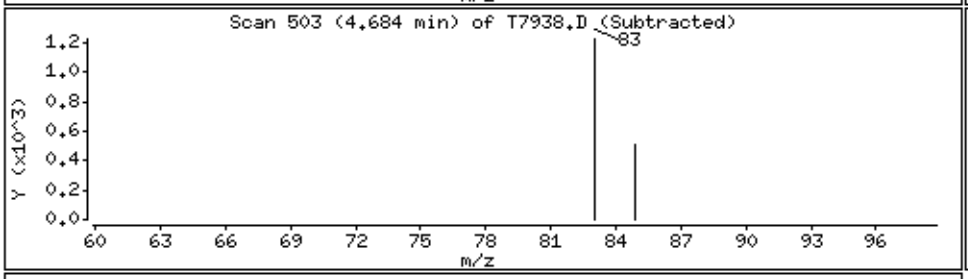


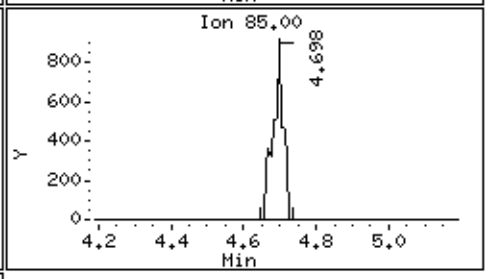


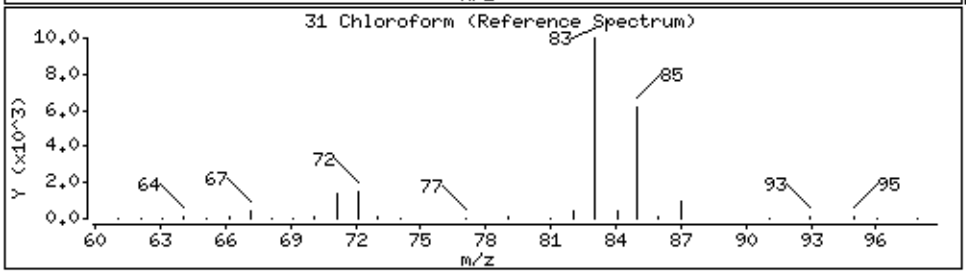
31 Chloroform Concentration: 0.57 ug/l











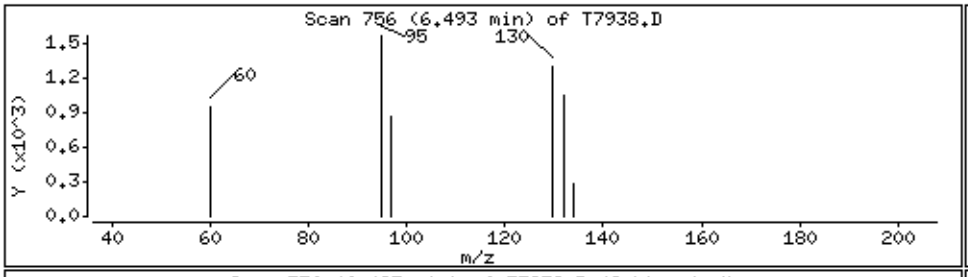
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7938.D

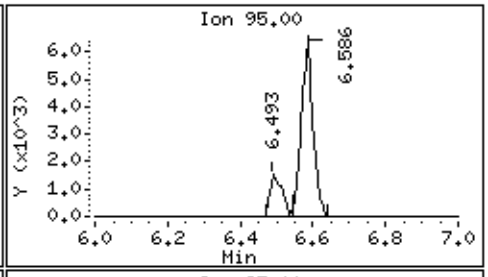
Date : 22-OCT-2018 18:13

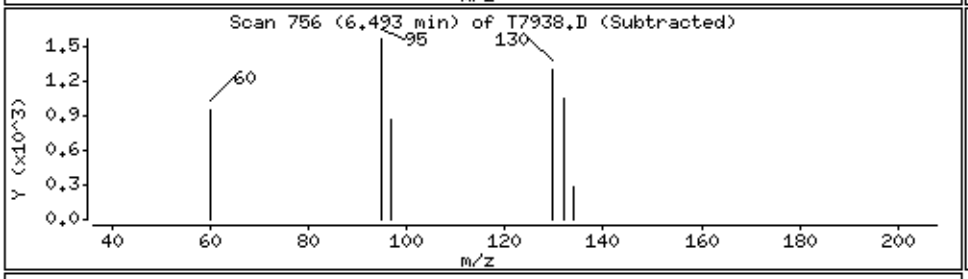
Client ID: 94EM-MW-20-101118 Instrument: gcms-t.i

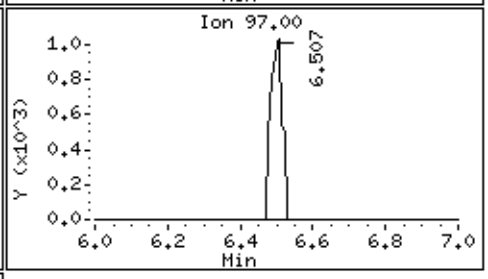
Sample Info: TL0045-13RA

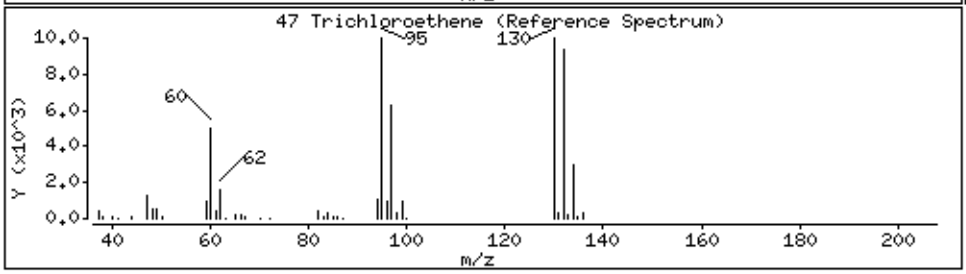
47 Trichloroethene Concentration: 1.6 ug/l



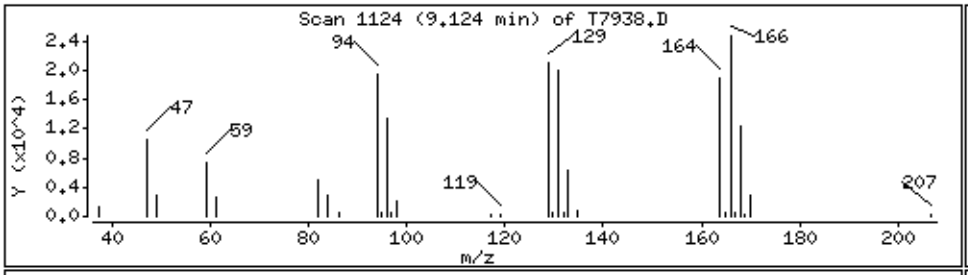


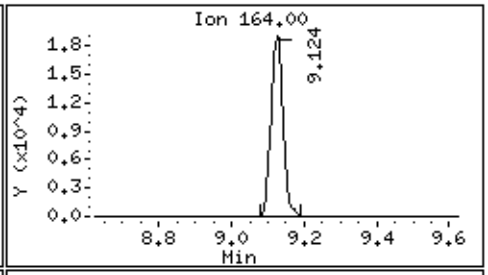


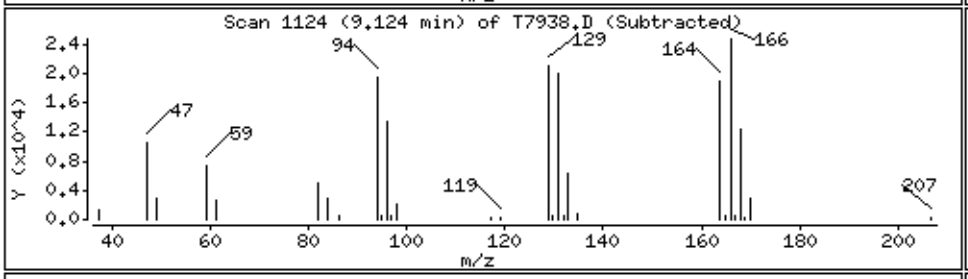


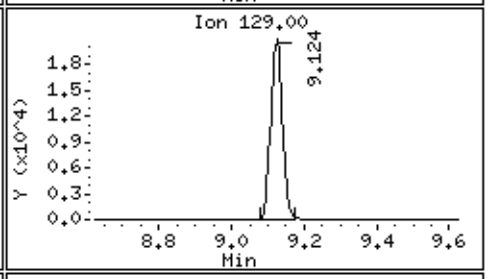


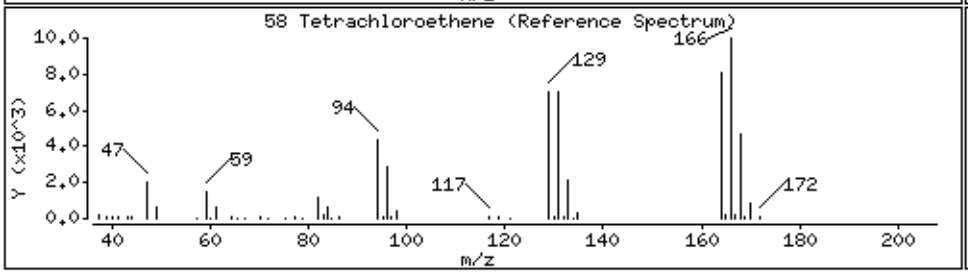
58 Tetrachloroethene Concentration: 29.8 ug/l

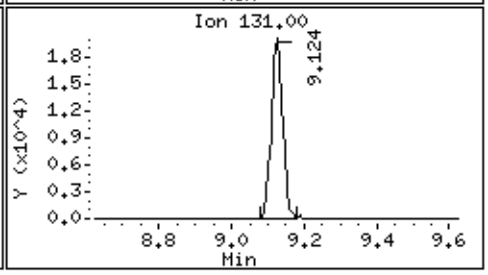












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-14RA
Client ID: 94EM-MW-21-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7939.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.9	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		44.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.5	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-14RA
Client ID: 94EM-MW-21-101218
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7939.D

Sample Date: 12-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7939.D
Report Date: 25-Oct-2018 13:47

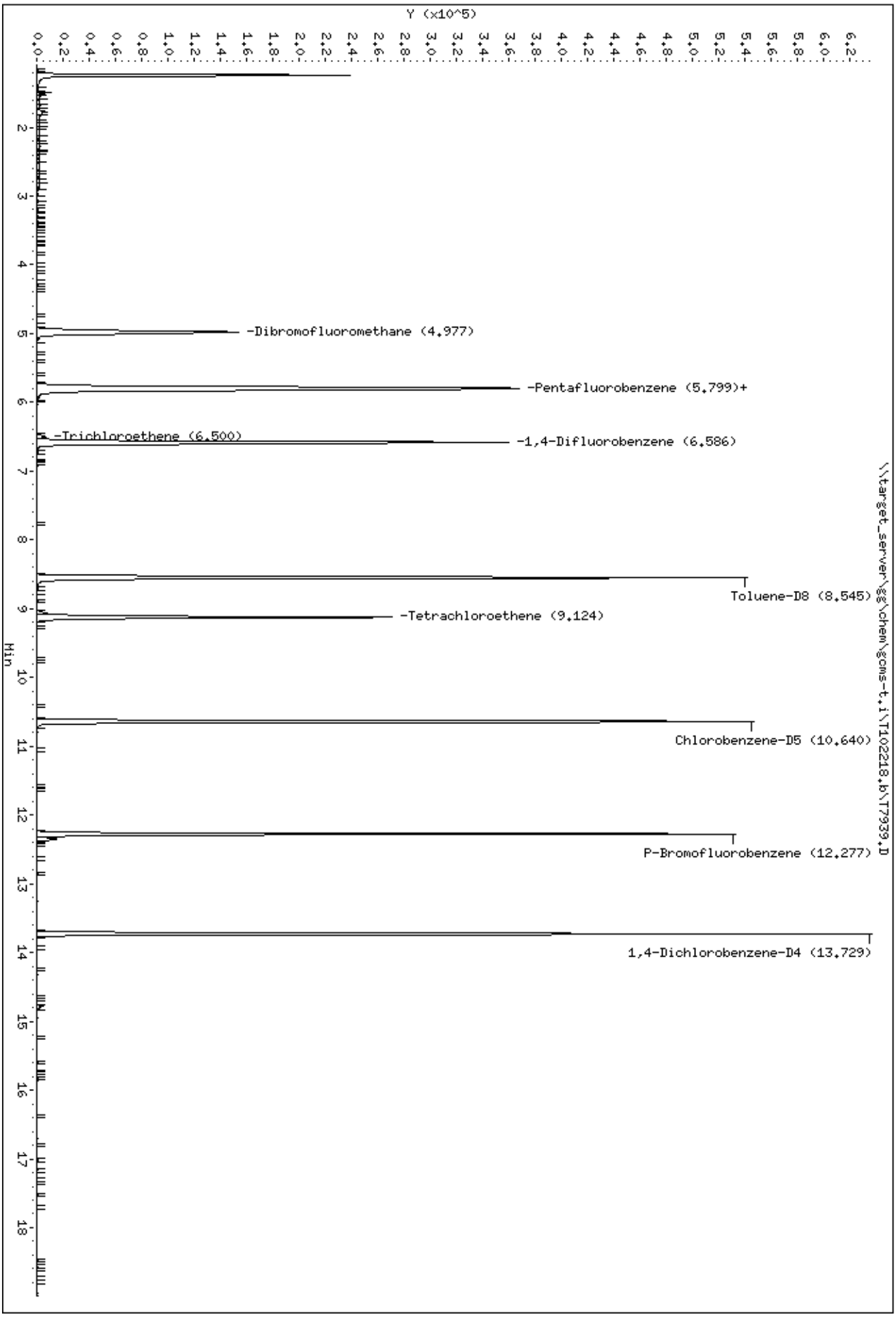
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7939.D
Lab Smp Id: TL0045-14RA Client Smp ID: 94EM-MW-21-101218
Inj Date : 22-OCT-2018 18:43
Operator : JR/HG Inst ID: gcms-t.i
Smp Info : TL0045-14RA
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$ 34 Dibromofluoromethane	113	4.976	4.976	(0.859)	140346	54.9511	55.0	
* 41 Pentafluorobenzene	168	5.791	5.791	(1.000)	210112	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	235593	63.2202	63.2	
47 Trichloroethene	95	6.492	6.499	(0.986)	4074	1.91984	1.9	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	316120	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	404178	50.7635	50.8	
58 Tetrachloroethene	164	9.124	9.123	(0.858)	62170	43.7610	43.8	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	287152	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	179125	49.2645	49.3	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	151604	50.0000		



Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7939.D
Date : 22-OCT-2018 18:43
Client ID: 94EH-MW-21-101218
Sample Info: TL0045-14RA

Instrument: gcms-t.i

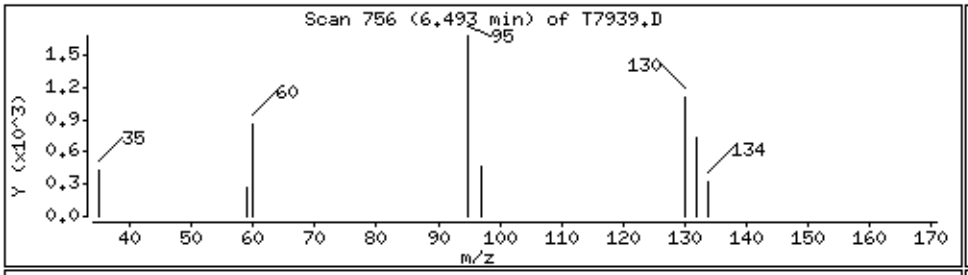
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7939.D

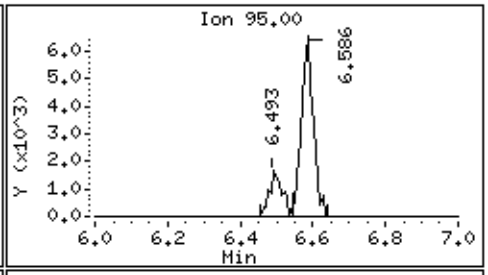
Date : 22-OCT-2018 18:43

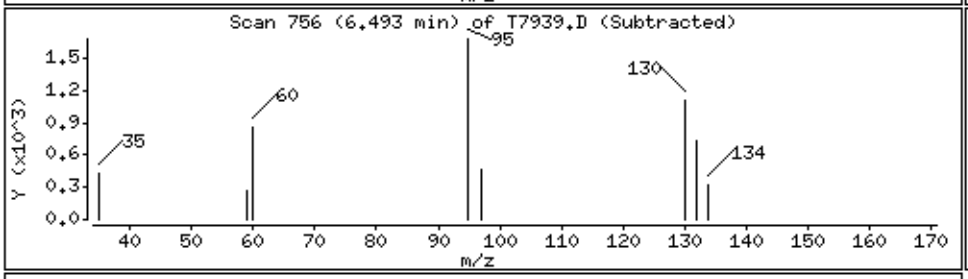
Client ID: 94EM-MW-21-101218 Instrument: gcms-t.i

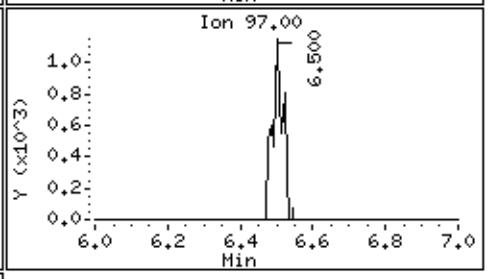
Sample Info: TL0045-14RA

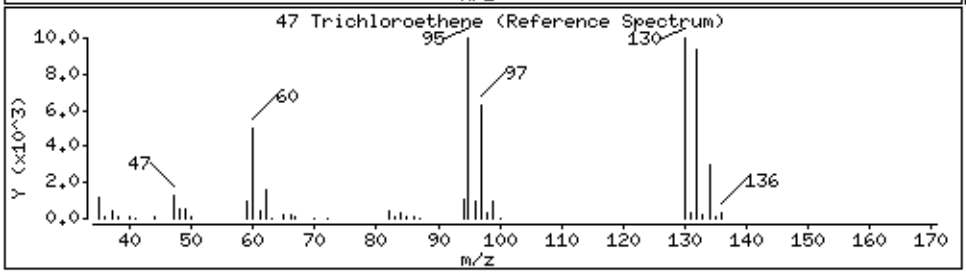
47 Trichloroethene Concentration: 1.9 ug/l



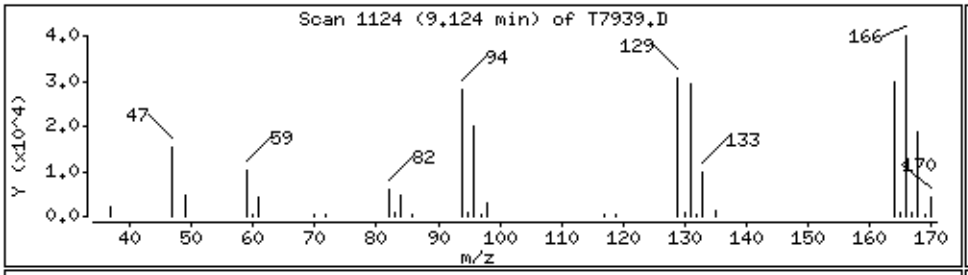


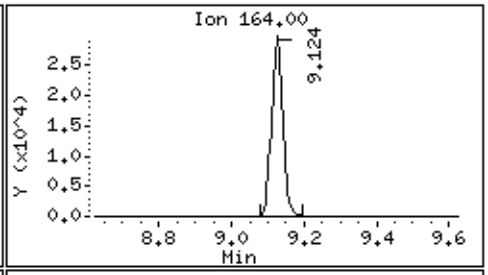


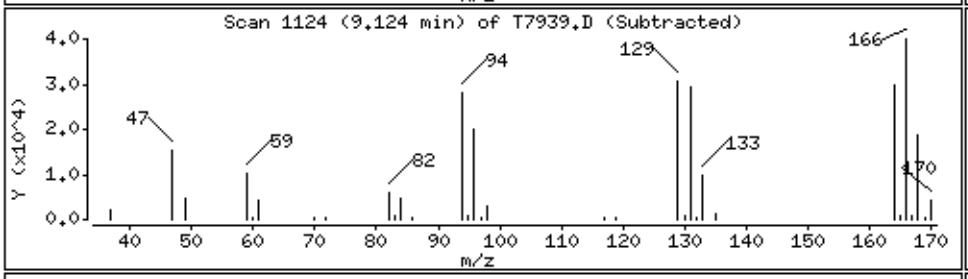


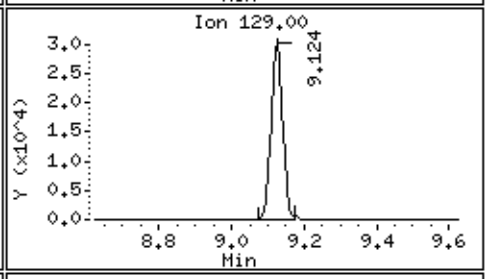


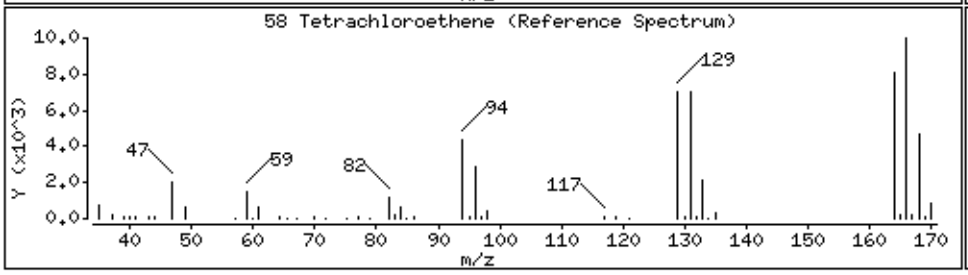
58 Tetrachloroethene Concentration: 43.8 ug/l

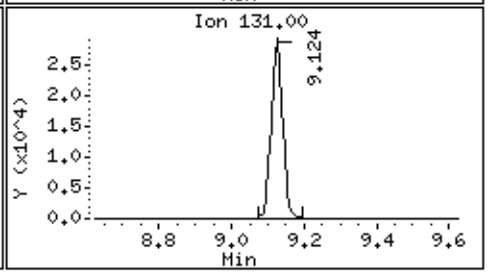












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-15
Client ID: 94EM-MW-19-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7913.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		101.	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-15
Client ID: 94EM-MW-19-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7913.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		129.	%			
Dibromofluoromethane		112.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7913.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7913.D
Lab Smp Id: TL0045-15 Client Smp ID: 94EM-MW-19-101118
Inj Date : 19-OCT-2018 16:15 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-15
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

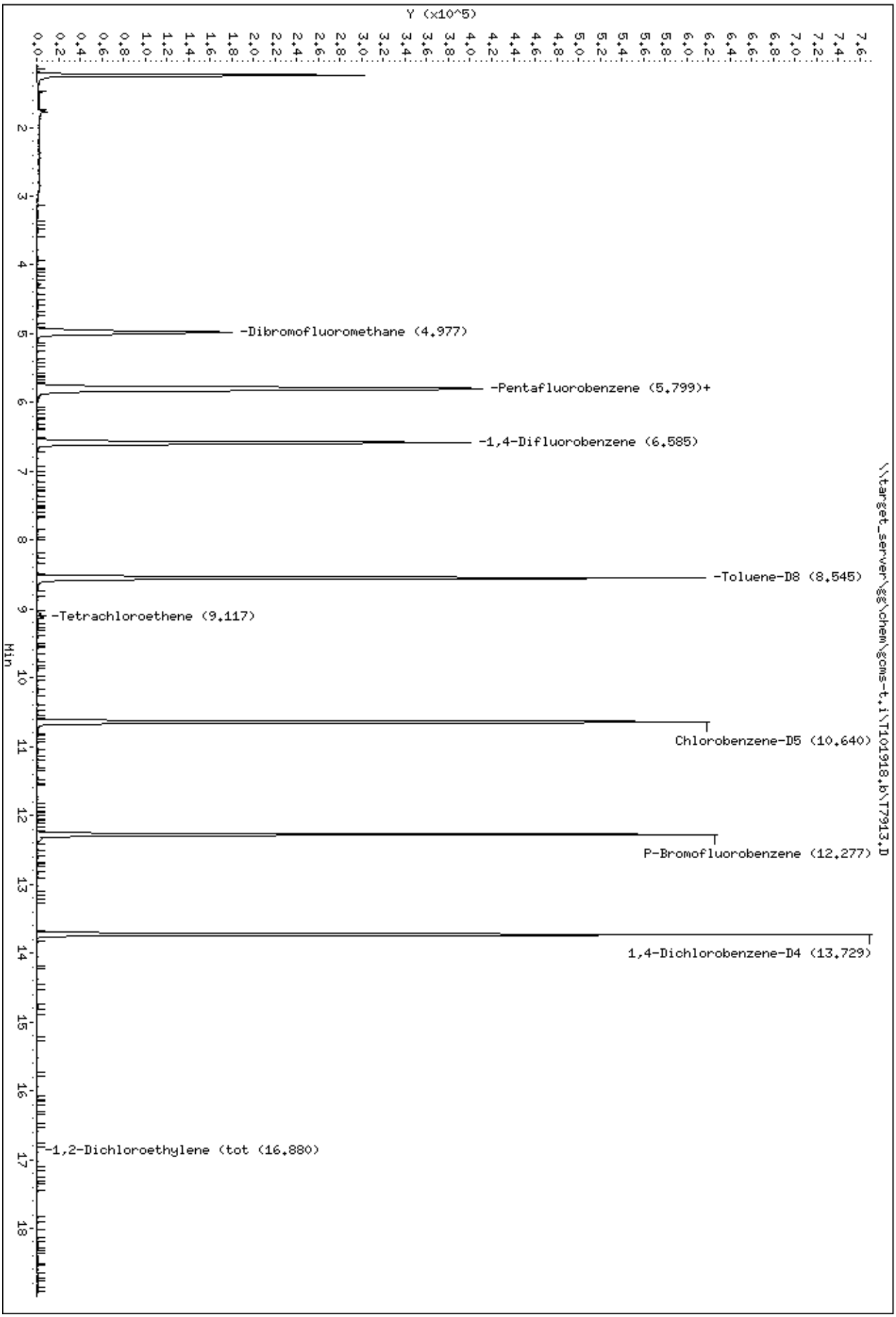
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	34 Dibromofluoromethane	113	4.976	4.976	(0.860)	162617	56.2328	56.2	
*	41 Pentafluorobenzene	168	5.784	5.791	(1.000)	237905	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.005)	271701	64.3920	64.4	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	359139	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	463524	51.2437	51.2	
	58 Tetrachloroethene	164	9.123	9.123	(0.858)	1586	0.95591	0.96(a)	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	335354	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	208246	50.4131	50.4	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	176969	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7913.D
Date : 19-OCT-2018 16:15
Client ID: 94EH-MW-19-101118
Sample Info: TL0045-15
Instrument: gcms-t.i
Y (x10^5)
Min
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.585)
-Toluene-D8 (8.545)
-Tetrachloroethene (9.117)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T101918.b\T7913.D

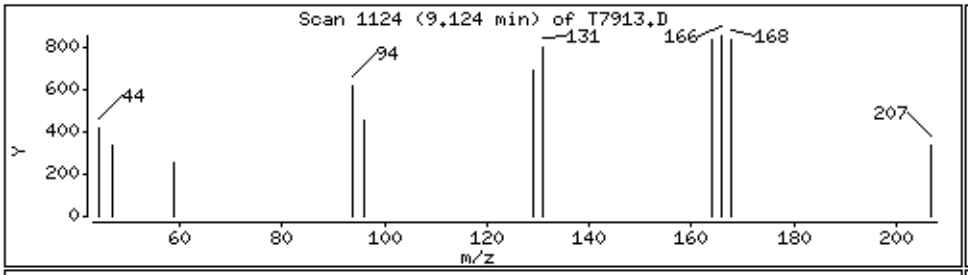
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7913.D

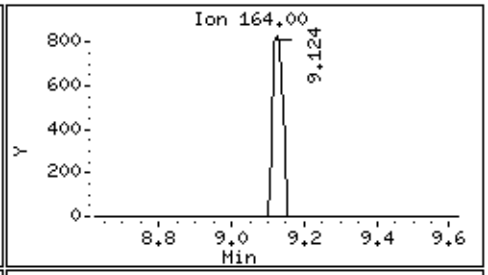
Date : 19-OCT-2018 16:15

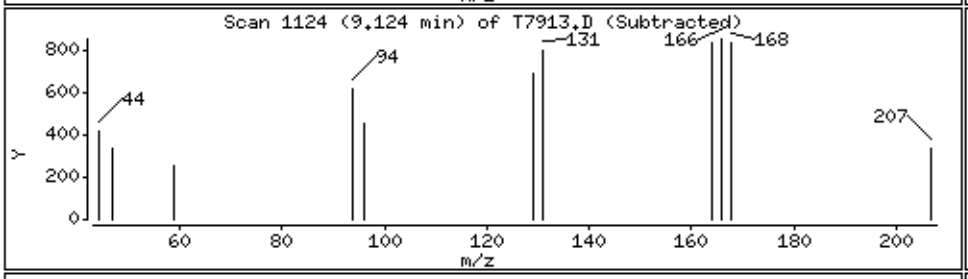
Client ID: 94EM-MW-19-101118 Instrument: gcms-t.i

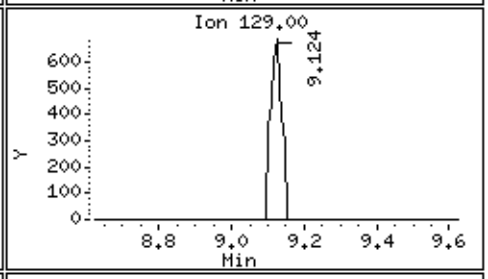
Sample Info: TL0045-15

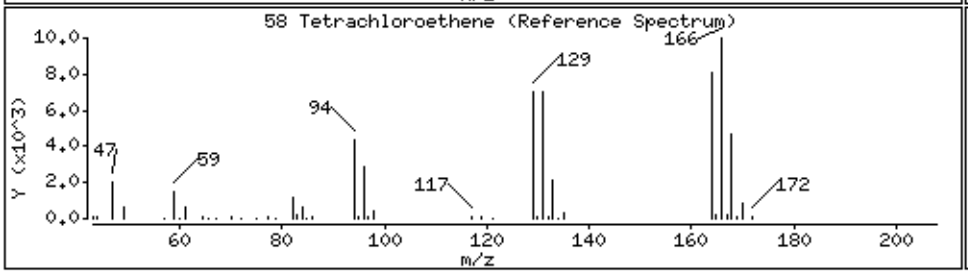
58 Tetrachloroethene Concentration: 0.96 ug/l

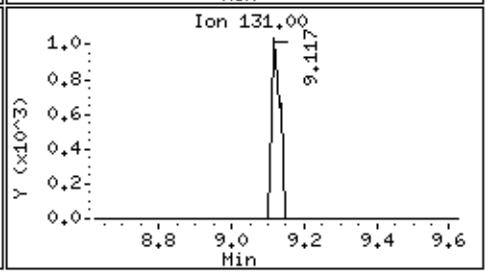












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-16
Client ID: WVA-MW-82R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7914.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		1.3	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		102.	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-16
Client ID: WVA-MW-82R-3-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7914.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		131.	%			
Dibromofluoromethane		116.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7914.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7914.D
Lab Smp Id: TL0045-16 Client Smp ID: WVA-MW-82R-3-101118
Inj Date : 19-OCT-2018 16:45 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-16
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

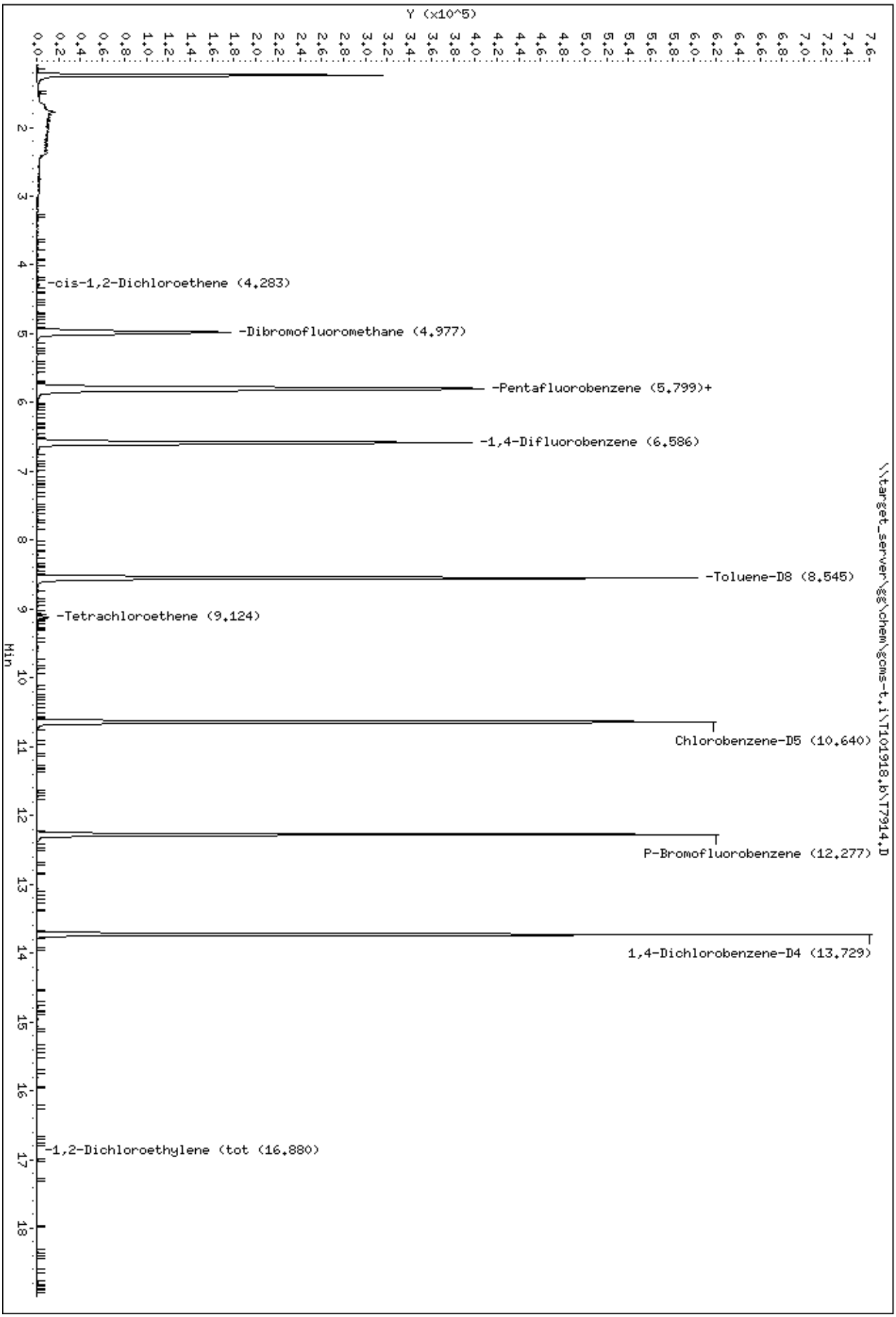
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	27 cis-1,2-Dichloroethene	96	4.276	4.283	(0.738)	1498	0.75351	0.75(a)	
$	34 Dibromofluoromethane	113	4.984	4.976	(0.861)	163084	57.9203	57.9	
*	41 Pentafluorobenzene	168	5.792	5.791	(1.000)	231637	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	269224	65.5315	65.5	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	357900	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	450642	49.9920	50.0	
	58 Tetrachloroethene	164	9.131	9.123	(0.858)	2174	1.31613	1.3	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	333872	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	208950	50.7587	50.8	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	178437	50.0000		
M	103 1,2-Dichloroethylene (total)	96				1498	0.75351	0.75(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7914.D
Date : 19-OCT-2018 16:45
Client ID: WVA-MW-82R-3-101118
Sample Info: TL0045-16
Instrument: gcms-t.i
Y (x10^5)
Min
-cis-1,2-Dichloroethene (4.283)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
-Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T101918.b\T7914.D

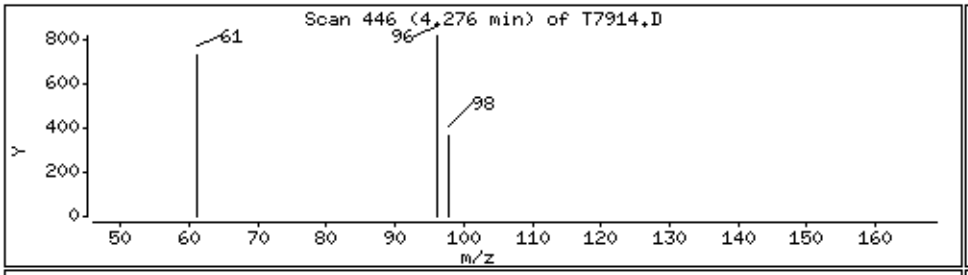
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7914.D

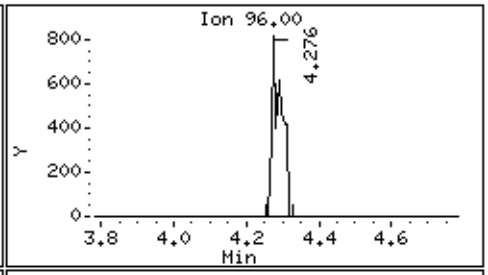
Date : 19-OCT-2018 16:45

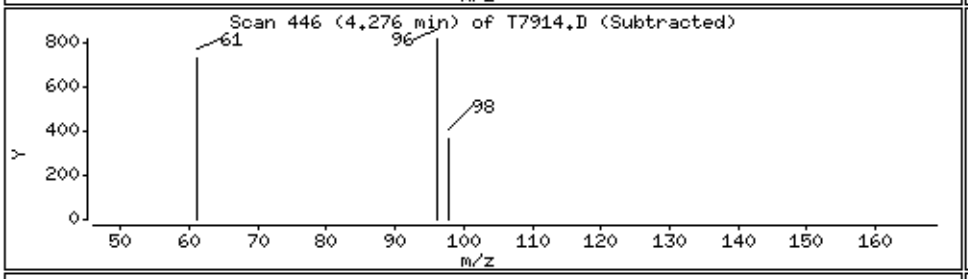
Client ID: WVA-MW-82R-3-101118 Instrument: gcms-t.i

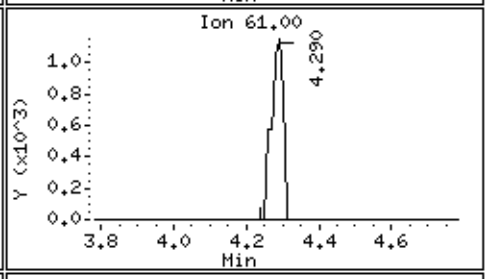
Sample Info: TL0045-16

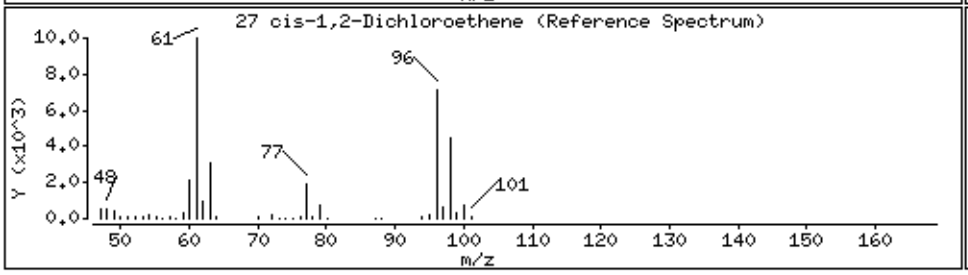
27 cis-1,2-Dichloroethene Concentration: 0.75 ug/l

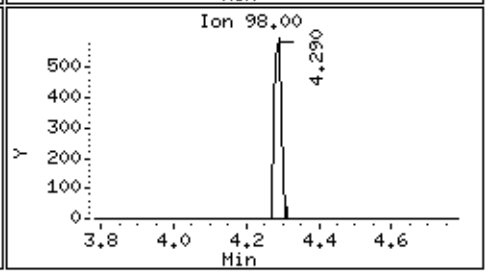




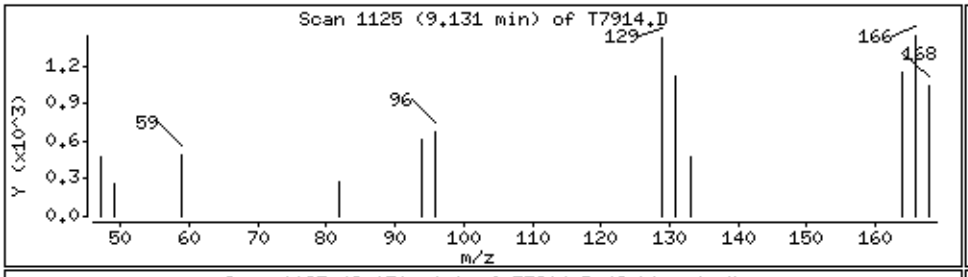


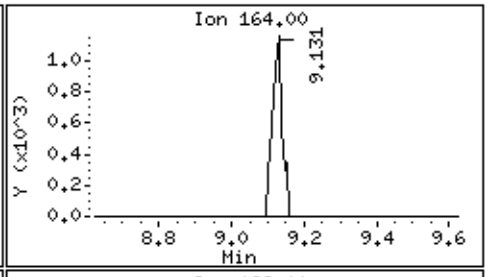


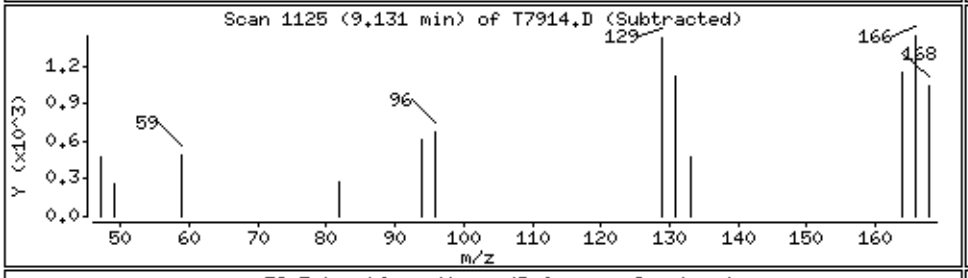


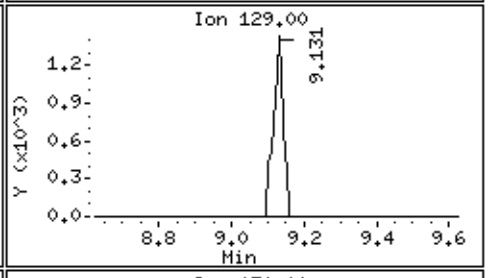


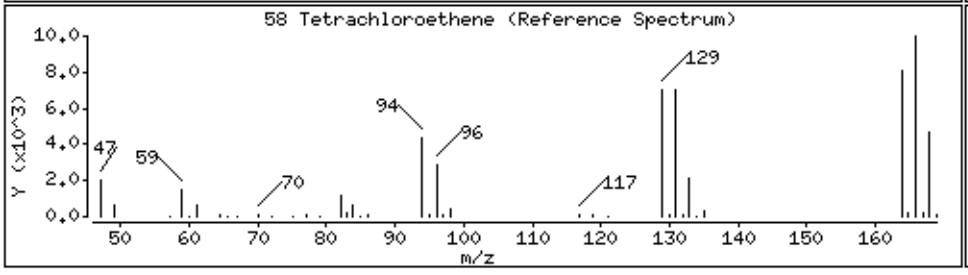
58 Tetrachloroethene Concentration: 1.3 ug/l

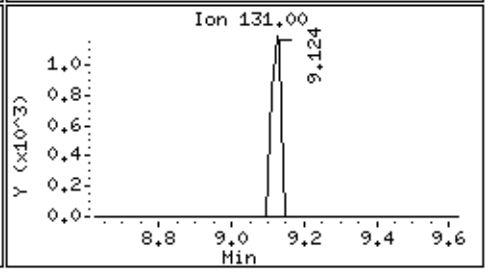












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-17
Client ID: WVA-MW-82R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7915.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		33.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		96.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		100.	%			
Toluene-d8		99.6	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-17
Client ID: WVA-MW-82R-2-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7915.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		131.	%			
Dibromofluoromethane		112.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7915.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7915.D
Lab Smp Id: TL0045-17 Client Smp ID: WVA-MW-82R-2-101118
Inj Date : 19-OCT-2018 17:14 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-17
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

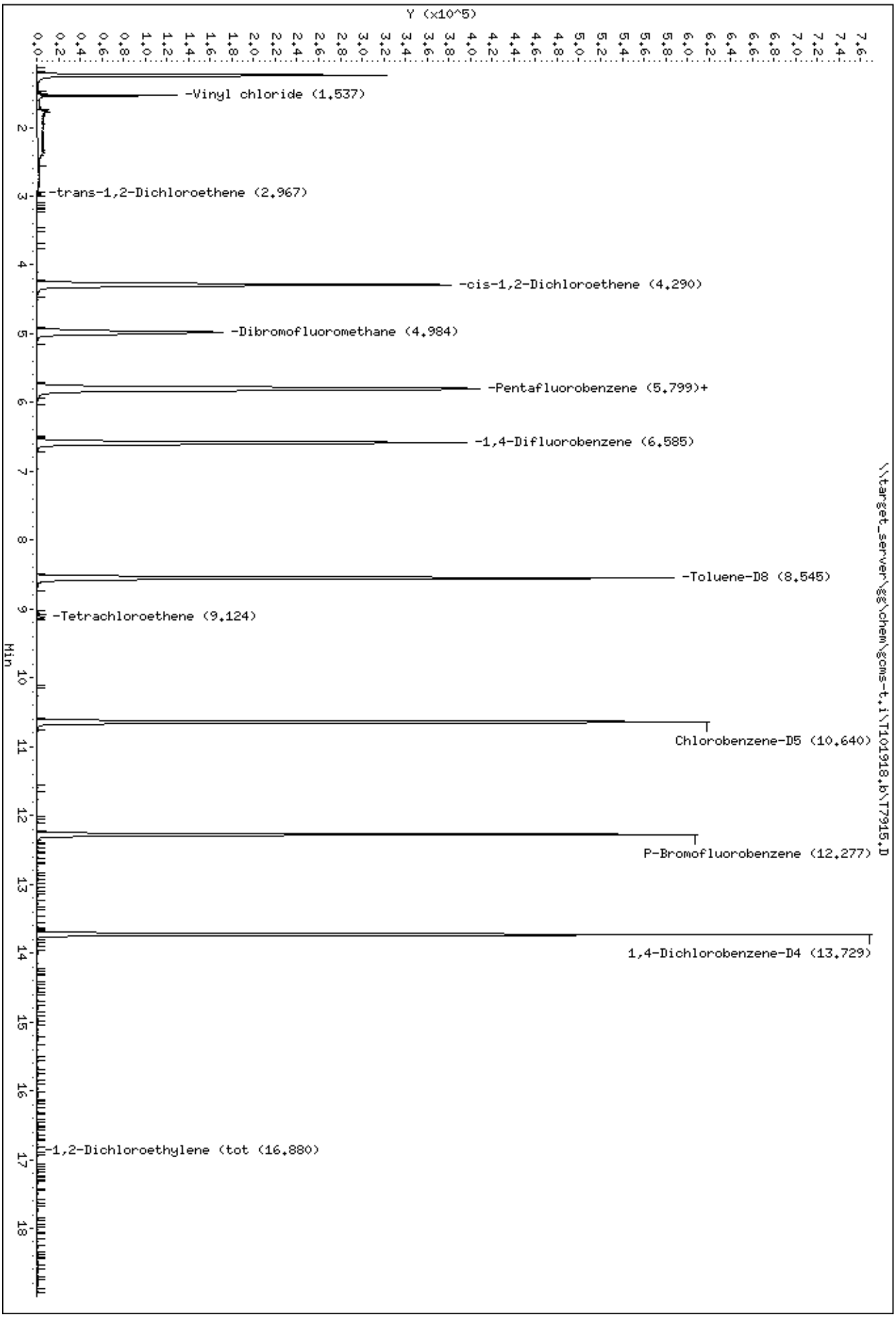
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	69627	33.1067	33.1	
	16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	1277	0.69087	0.69(a)	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	193285	95.5318	95.5	
$	34 Dibromofluoromethane	113	4.983	4.976	(0.860)	161218	56.2608	56.3	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	235741	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	273078	65.3125	65.3	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	359948	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.298)	451344	49.7850	49.8	
	58 Tetrachloroethene	164	9.123	9.123	(0.858)	1301	0.78816	0.79(a)	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	333641	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	207681	50.1633	50.2	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	177636	50.0000		
M	103 1,2-Dichloroethylene (total)	96				194562	96.2227	96.2	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Y (x10^5)
-Vinyl chloride (1,537)
-trans-1,2-Dichloroethene (2,967)
-cis-1,2-Dichloroethene (4,290)
-Dibromofluoromethane (4,984)
-Pentafluorobenzene (5,799)+
-1,4-Difluorobenzene (6,585)
-Toluene-D8 (8,545)
-Tetrachloroethene (9,124)
Chlorobenzene-D5 (10,640)
P-Bromofluorobenzene (12,277)
1,4-Dichlorobenzene-D4 (13,729)
-1,2-Dichloroethylene (tot (16,880)
Min
\\target_server\gg\chem\gcms-t.i\T101918.b\T7915.D
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7915.D
Date : 19-OCT-2018 17:14
Client ID: WVA-MW-82R-2-101118
Sample Info: TL0045-17
Instrument: gcms-t.i

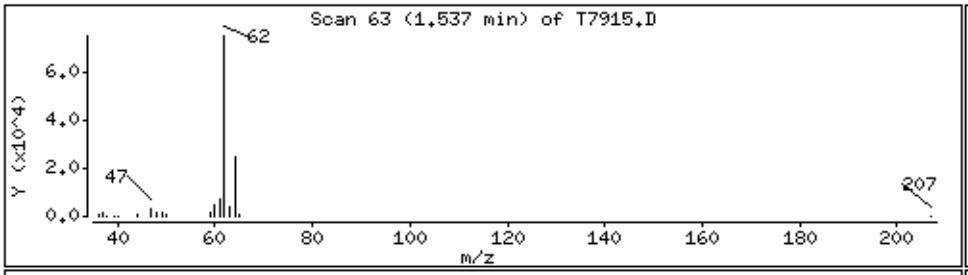
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7915.D

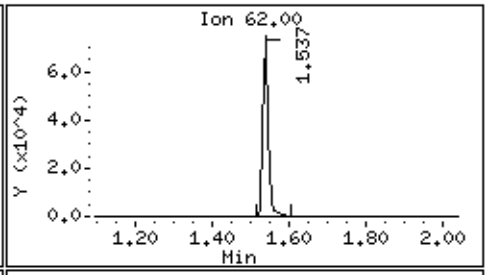
Date : 19-OCT-2018 17:14

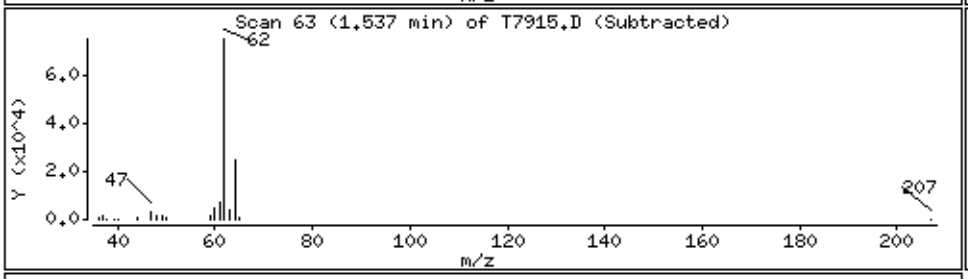
Client ID: WVA-MW-82R-2-101118 Instrument: gcms-t.i

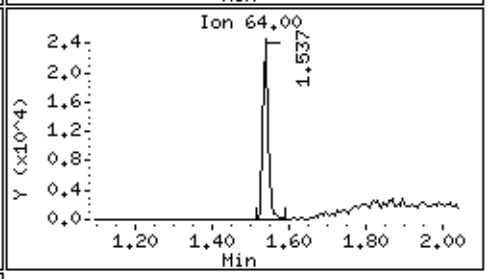
Sample Info: TL0045-17

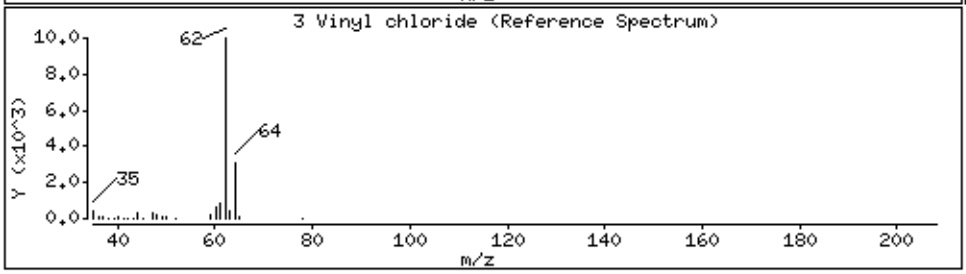
3 Vinyl chloride Concentration: 33.1 ug/l



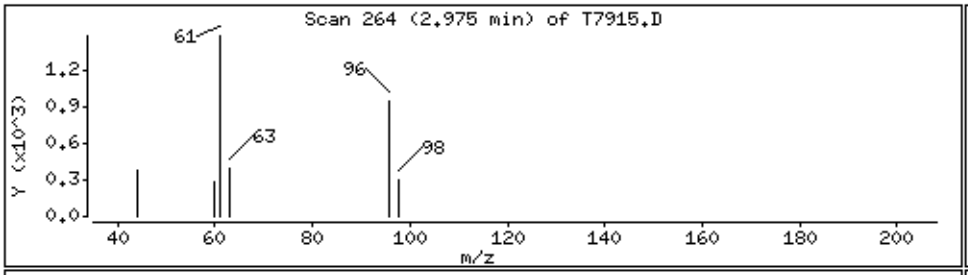


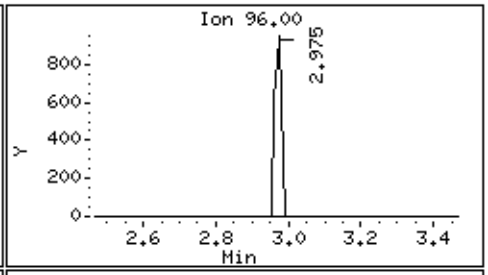


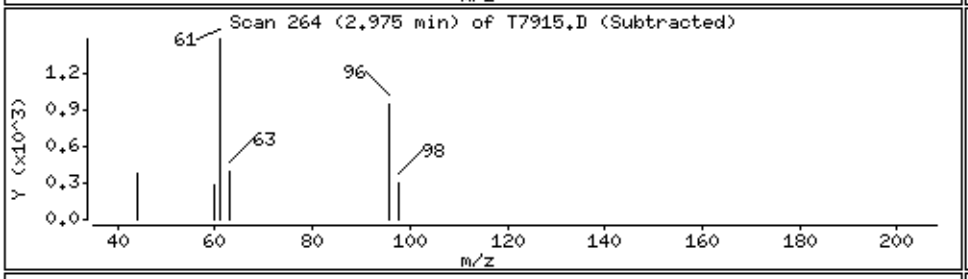


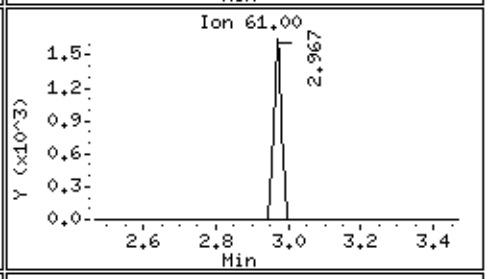


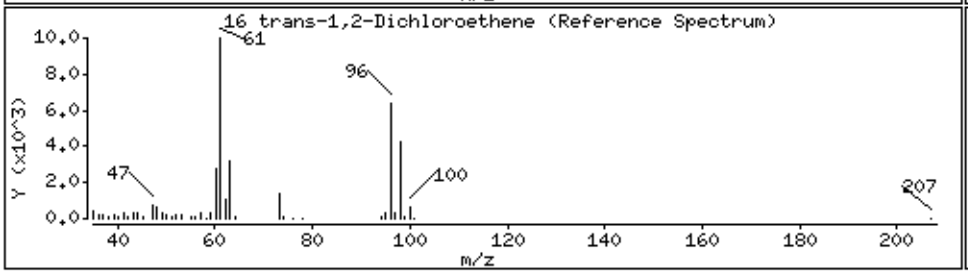
16 trans-1,2-Dichloroethene Concentration: 0.69 ug/l

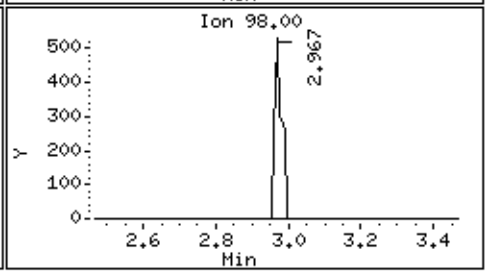












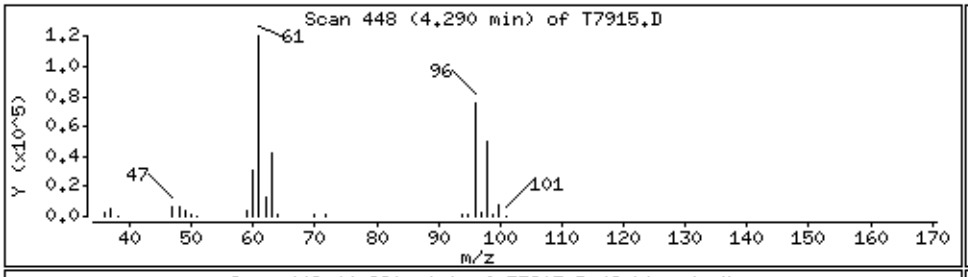
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7915.D

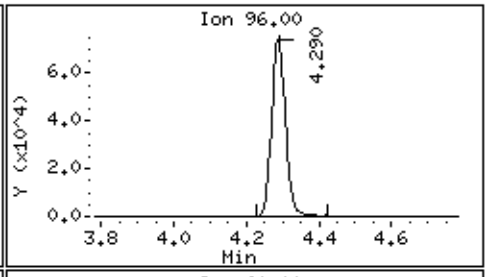
Date : 19-OCT-2018 17:14

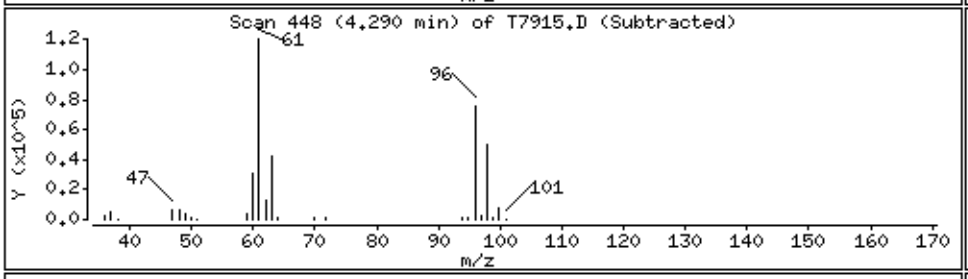
Client ID: WVA-MW-82R-2-101118 Instrument: gcms-t.i

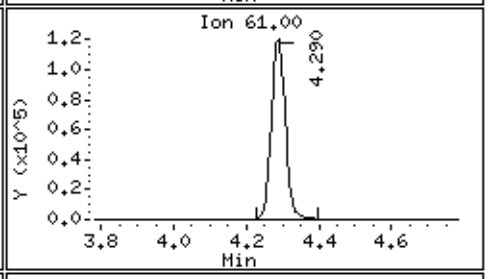
Sample Info: TL0045-17

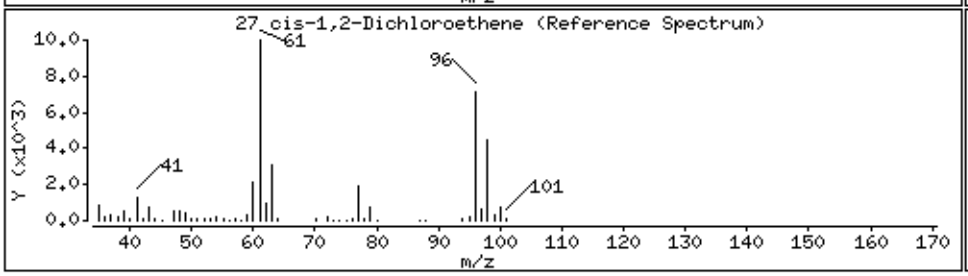
27 cis-1,2-Dichloroethene Concentration: 95.5 ug/l

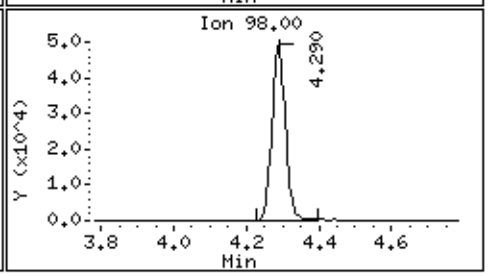




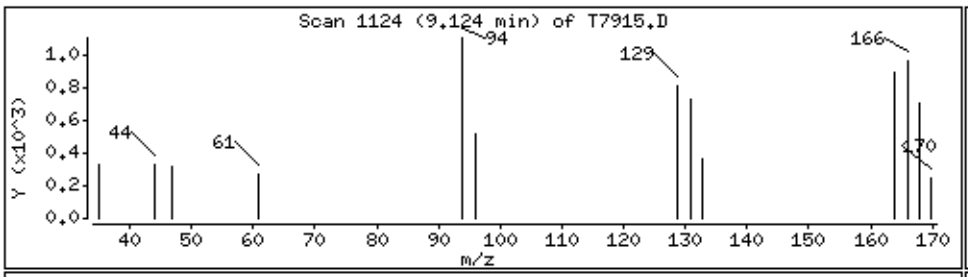


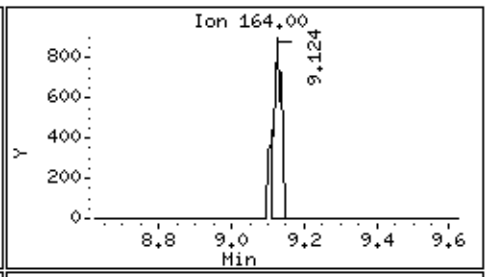


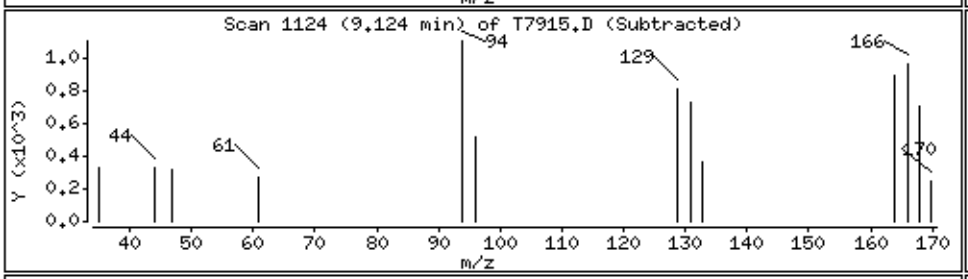


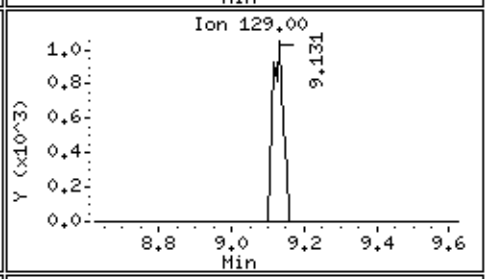


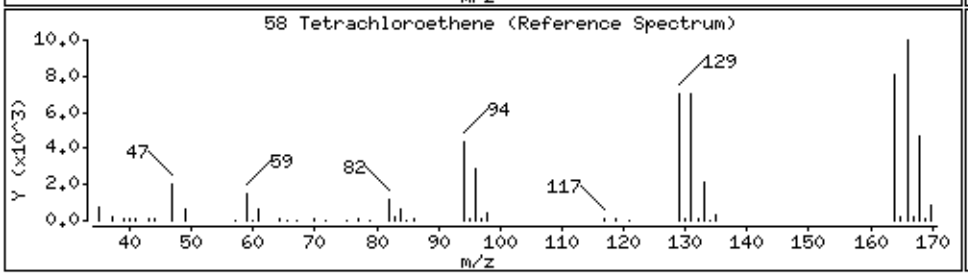
58 Tetrachloroethene Concentration: 0.79 ug/l

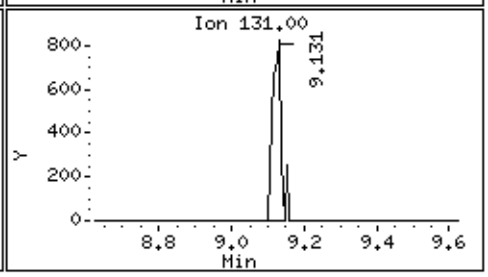












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-18RA
Client ID: WVA-MW-82R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7927.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		31.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		93.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.4	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		2.2	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.9	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-18RA
Client ID: WVA-MW-82R-1-101118
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7927.D

Sample Date: 11-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		114.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7927.D
Report Date: 25-Oct-2018 13:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7927.D
Lab Smp Id: TL0045-18RA Client Smp ID: WVA-MW-82R-1-101118
Inj Date : 22-OCT-2018 11:23 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-18RA
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

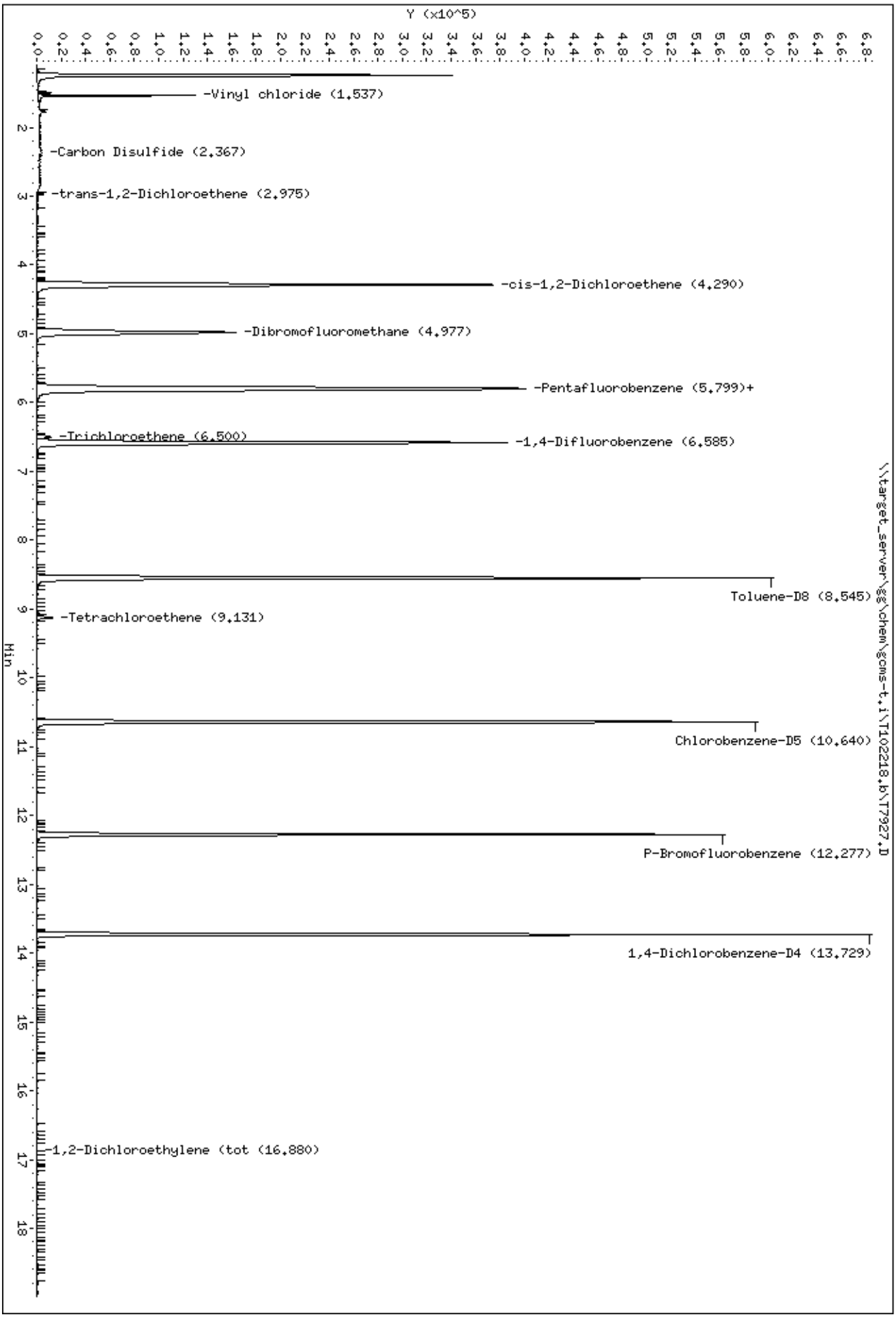
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	68971	31.0630	31.1	
	10 Carbon Disulfide	76	2.366	2.359	(0.409)	1498	0.25101	0.25(a)	
	16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	1382	0.70820	0.71(a)	
	27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	199385	93.3427	93.3	
$	34 Dibromofluoromethane	113	4.983	4.976	(0.860)	154004	50.9052	50.9	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	248884	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	251559	56.9885	57.0	
	47 Trichloroethene	95	6.499	6.499	(0.987)	5850	2.42676	2.4	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	359109	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	452234	49.9997	50.0	
	58 Tetrachloroethene	164	9.130	9.123	(0.858)	3368	2.20332	2.2	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	308968	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	196088	47.4738	47.5	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	162599	50.0000		
M	103 1,2-Dichloroethylene (total)	96				200767	94.0509	94.0	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Y (x10^5)
Min
-Vinyl chloride (1.537)
-Carbon Disulfide (2.367)
-trans-1,2-Dichloroethene (2.975)
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.500)
-1,4-Difluorobenzene (6.585)
Toluene-D8 (8.545)
-Tetrachloroethene (9.131)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T102218.b\T7927.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7927.D
Date : 22-OCT-2018 11:23
Client ID: WVA-MW-82R-1-101118
Sample Info: TL0045-18RA
Instrument: gcms-t.i

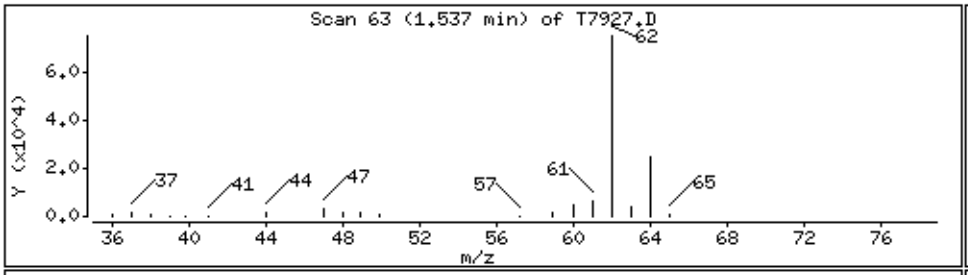
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7927.D

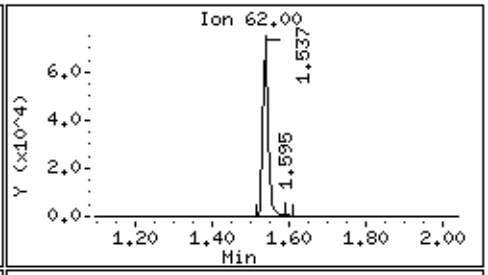
Date : 22-OCT-2018 11:23

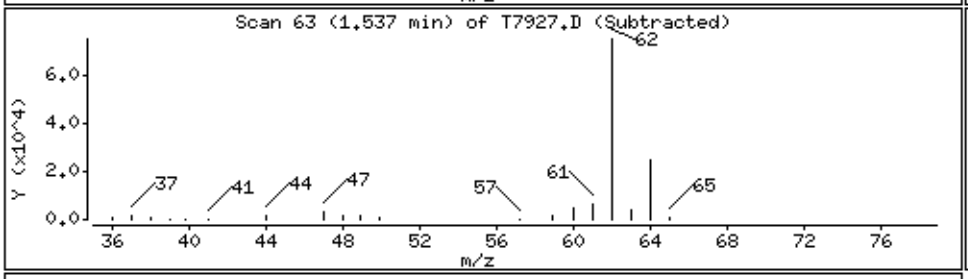
Client ID: WVA-MW-82R-1-101118 Instrument: gcms-t.i

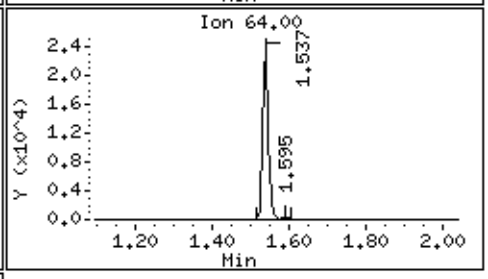
Sample Info: TL0045-18RA

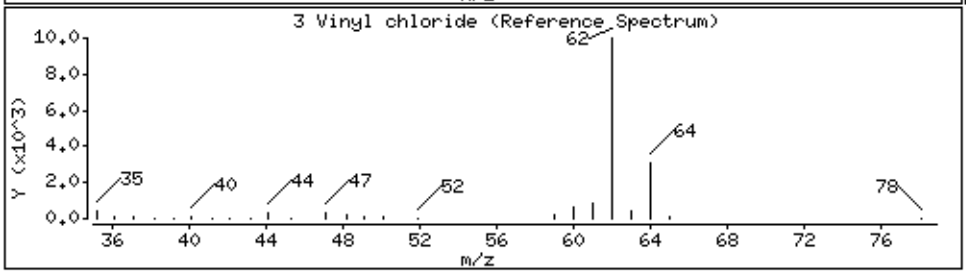
3 Vinyl chloride Concentration: 31.1 ug/l



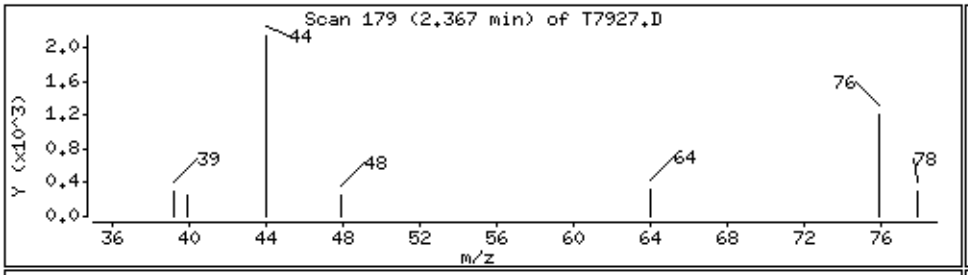


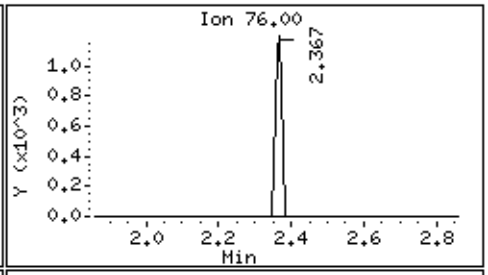


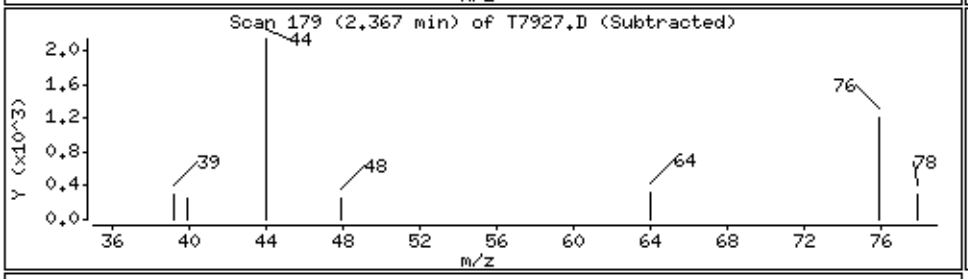


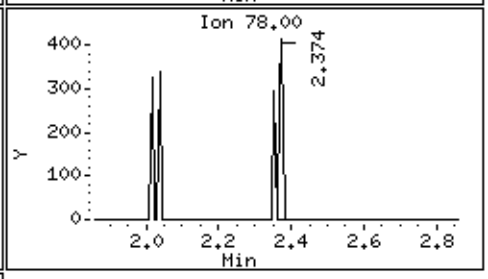


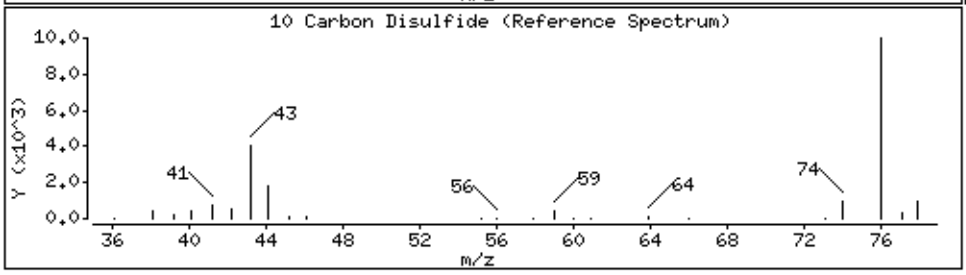
10 Carbon Disulfide Concentration: 0.25 ug/l











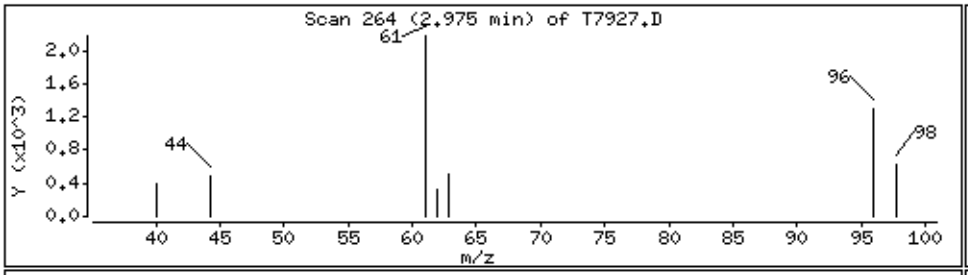
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7927.D

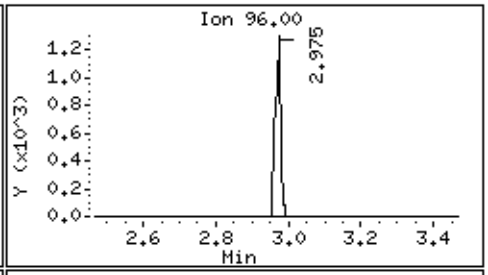
Date : 22-OCT-2018 11:23

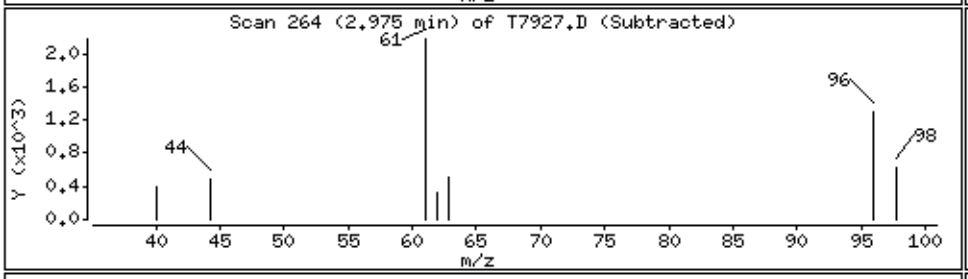
Client ID: WVA-MW-82R-1-101118 Instrument: gcms-t.i

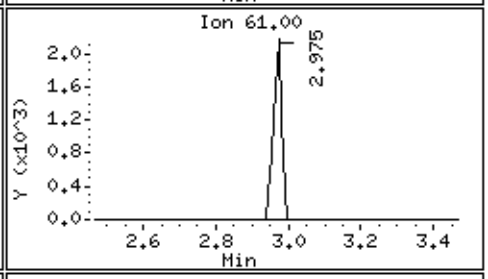
Sample Info: TL0045-18RA

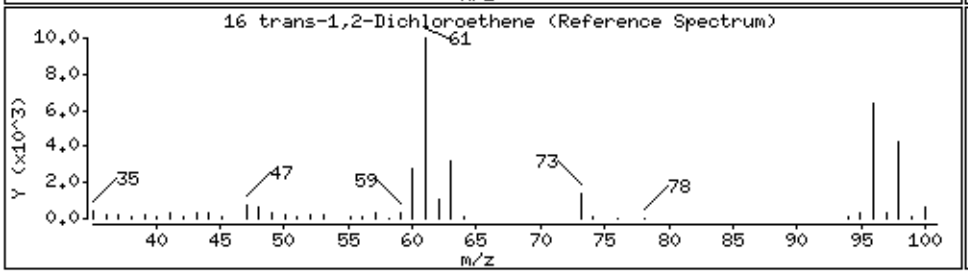
16 trans-1,2-Dichloroethene Concentration: 0.71 ug/l

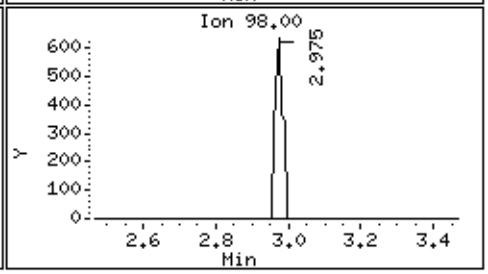




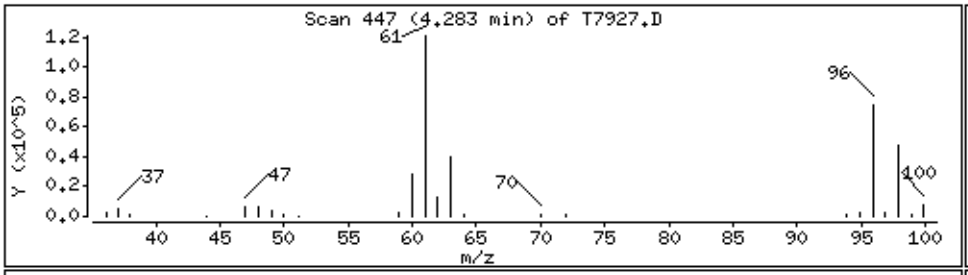


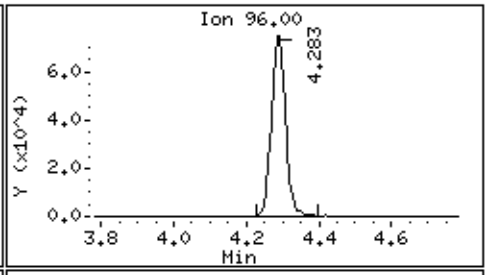


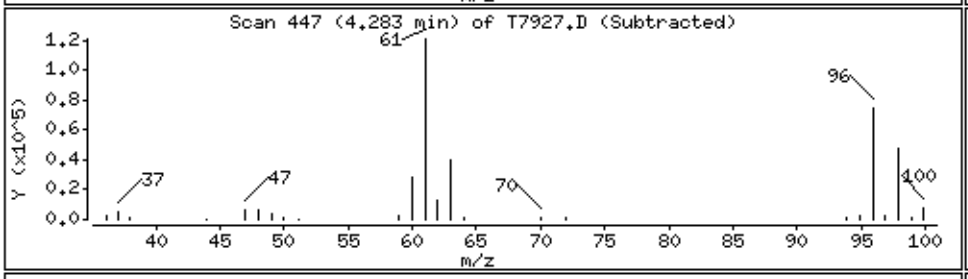


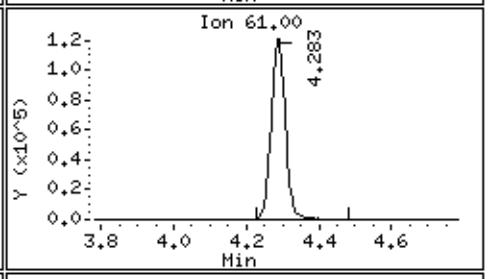


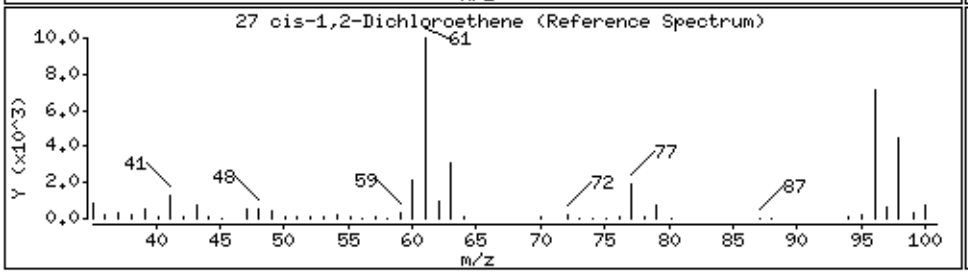
27 cis-1,2-Dichloroethene Concentration: 93.3 ug/l

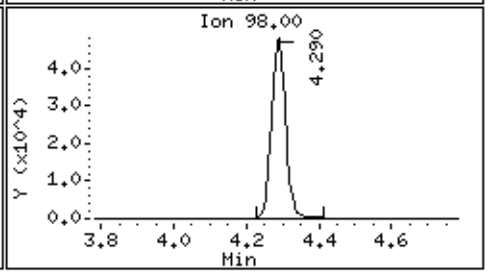












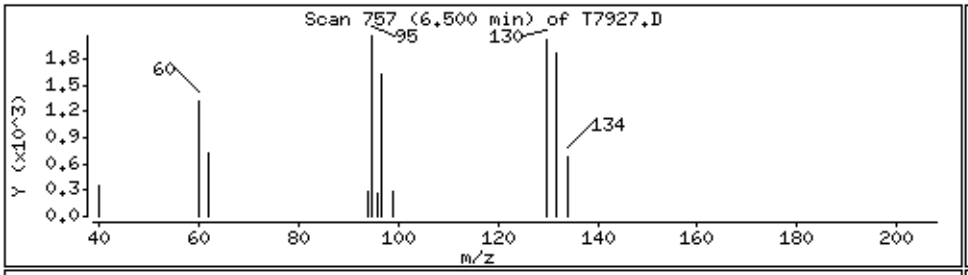
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7927.D

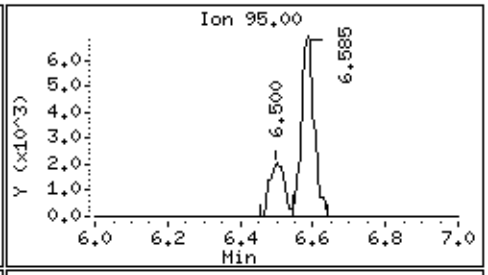
Date : 22-OCT-2018 11:23

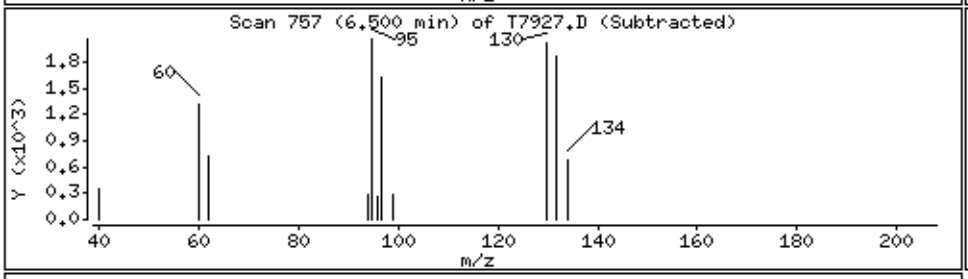
Client ID: WVA-MW-82R-1-101118 Instrument: gcms-t.i

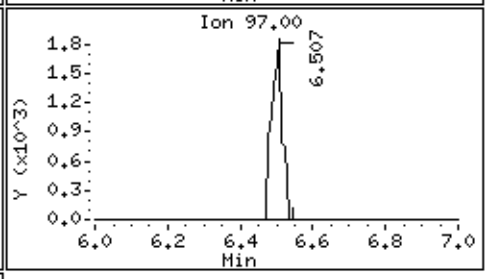
Sample Info: TL0045-18RA

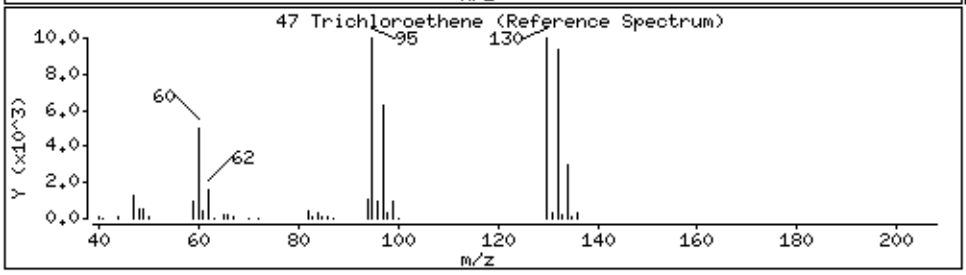
47 Trichloroethene Concentration: 2.4 ug/l



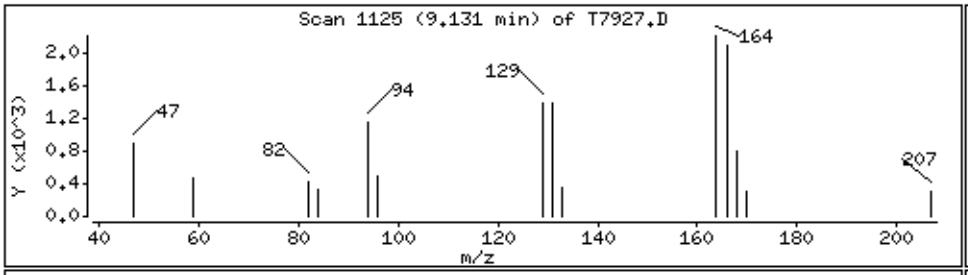


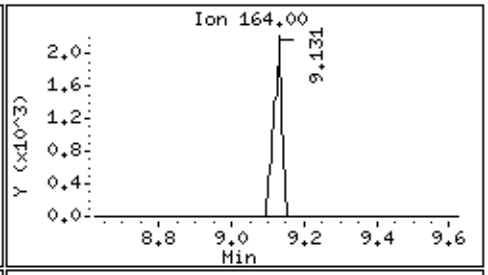


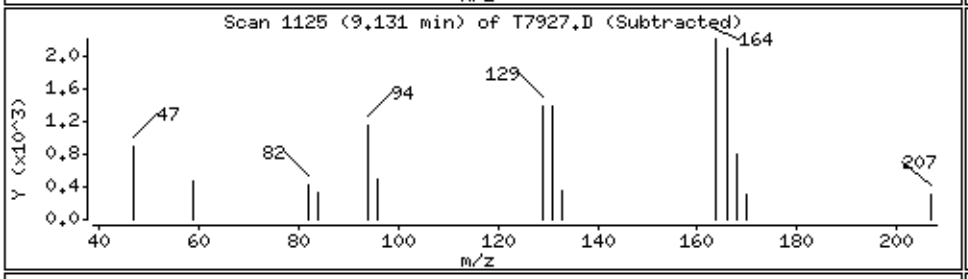


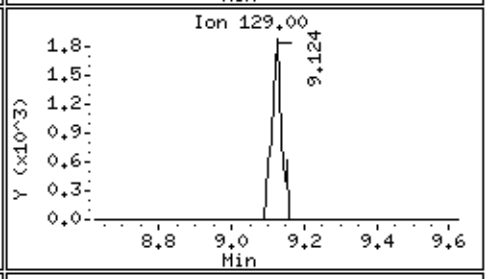


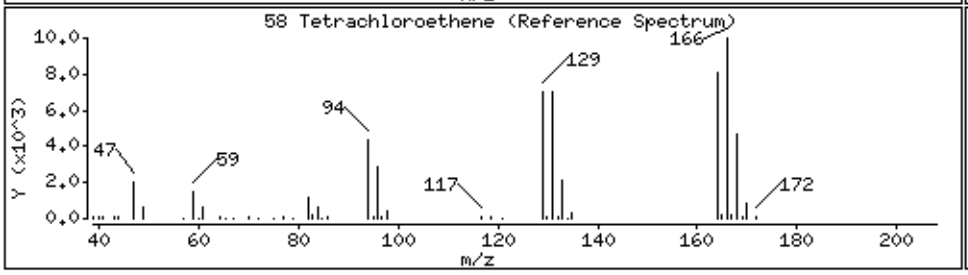
58 Tetrachloroethene Concentration: 2.2 ug/l

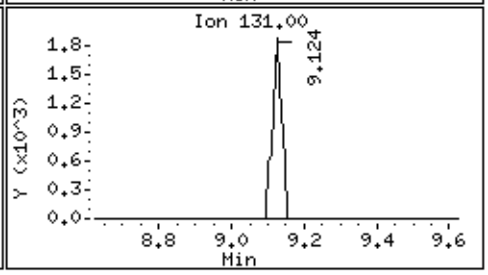












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-19
Client ID: WVA-MW-84R-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7916.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	1700	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		13.	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		75.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	4300	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	380	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	270	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.1	%			
Toluene-d8		98.1	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-19
Client ID: WVA-MW-84R-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7916.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		127.	%			
Dibromofluoromethane		113.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7916.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7916.D
Lab Smp Id: TL0045-19 Client Smp ID: WVA-MW-84R-3-101018
Inj Date : 19-OCT-2018 17:44 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-19
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

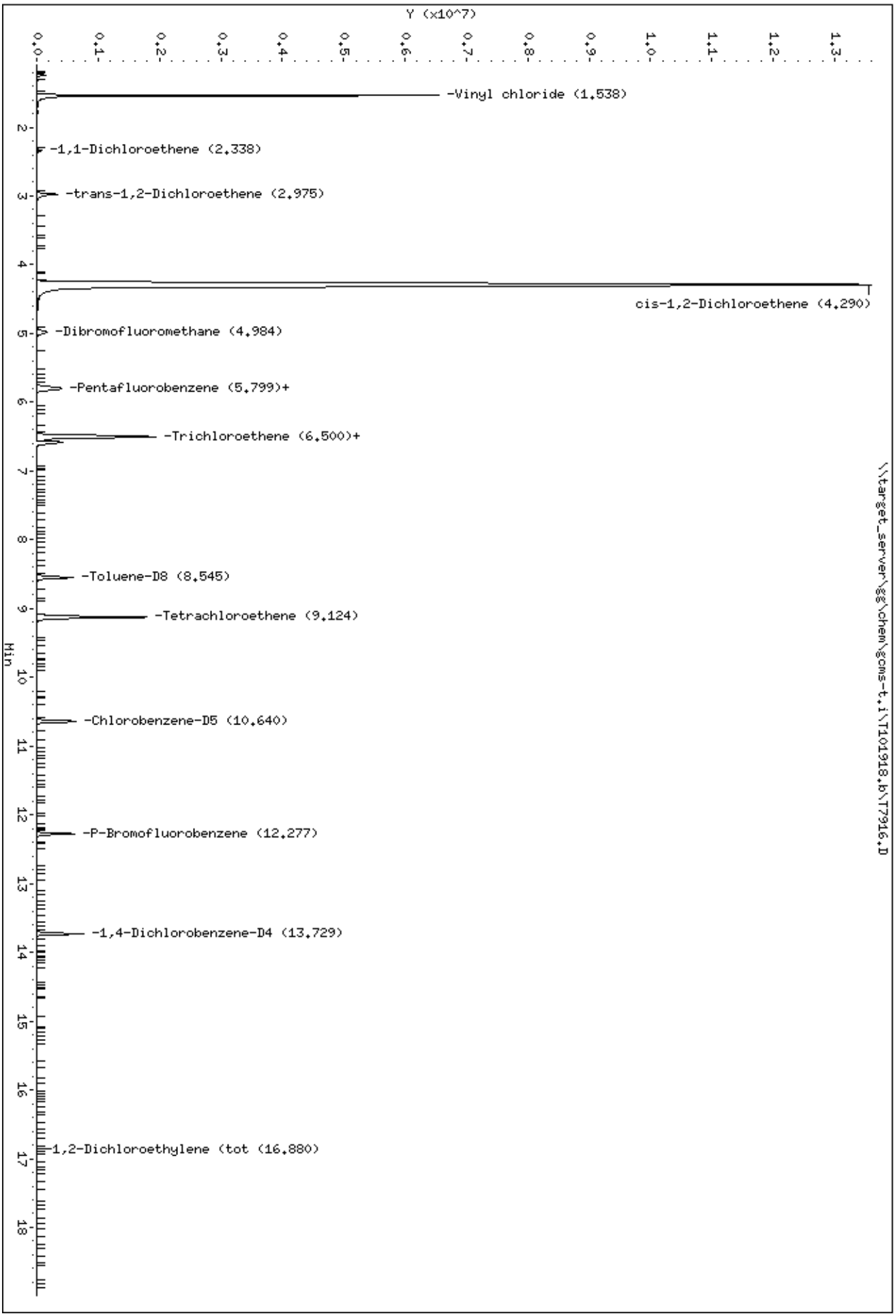
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.265)	3621739	1675.98	1680(A)	
8 1,1-Dichloroethene	96	2.338	2.331	(0.404)	26875	13.1255	13.1	
16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	142875	75.2275	75.2	
27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	8845935	4255.06	4260(A)	
$ 34 Dibromofluoromethane	113	4.984	4.976	(0.861)	165975	56.3700	56.4	
* 41 Pentafluorobenzene	168	5.792	5.791	(1.000)	242227	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	272095	63.3348	63.3	
44 1,2-Dichloroethane	62	5.792	5.920	(0.879)	1587	0.32978	0.33(a)	
47 Trichloroethene	95	6.499	6.499	(0.987)	946297	377.270	377(A)	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	373656	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	461471	49.0347	49.0	
58 Tetrachloroethene	164	9.131	9.123	(0.858)	442735	268.517	268(A)	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	333266	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	213035	49.5688	49.6	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	180480	50.0000		
M 103 1,2-Dichloroethylene (total)	96				8988810	4330.29	4330	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.



Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7916.D
Date : 19-OCT-2018 17:44
Client ID: WVA-MW-84R-3-101018
Sample Info: TL0045-19

Instrument: gcms-t.i

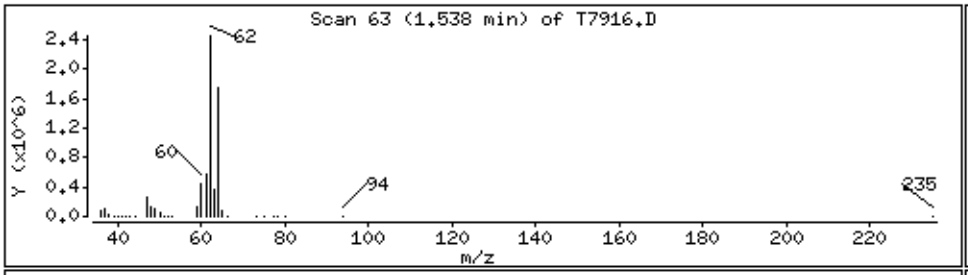
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7916.D

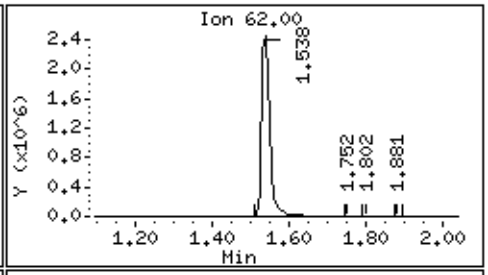
Date : 19-OCT-2018 17:44

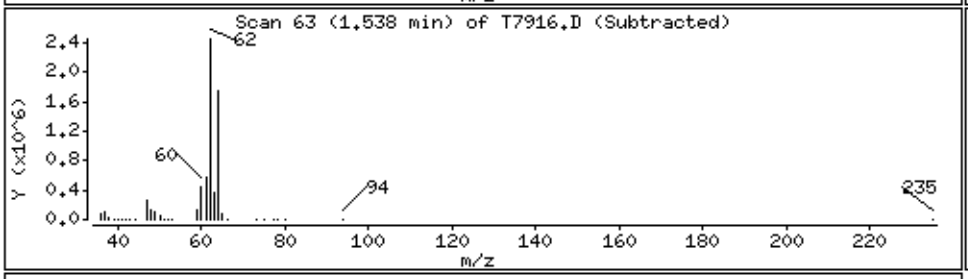
Client ID: WVA-MW-84R-3-101018 Instrument: gcms-t.i

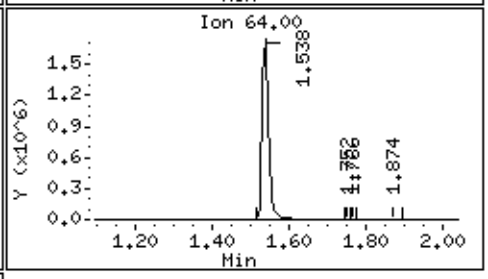
Sample Info: TL0045-19

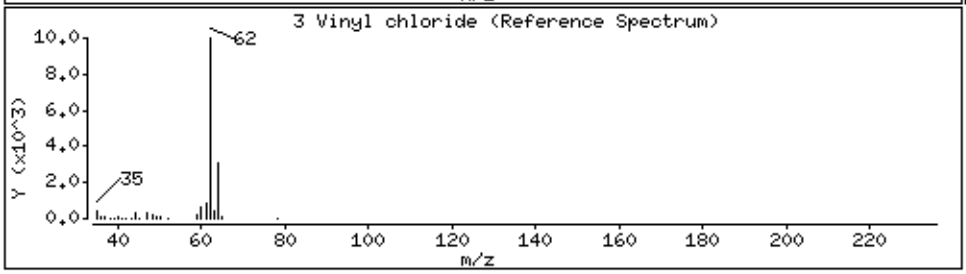
3 Vinyl chloride Concentration: 1680 ug/l



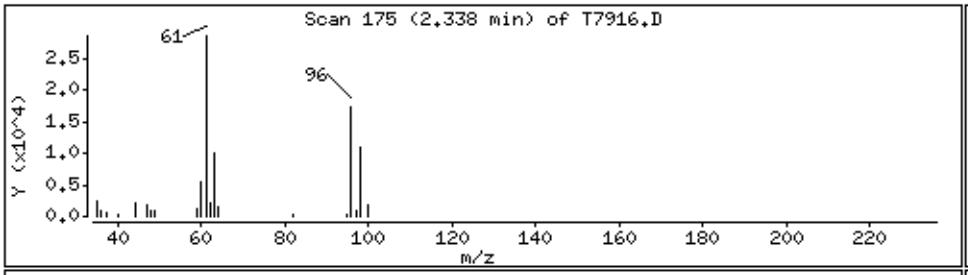


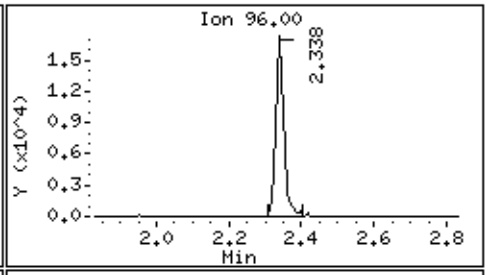


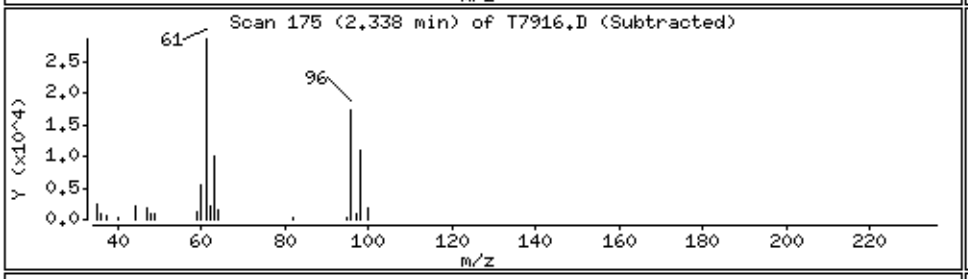


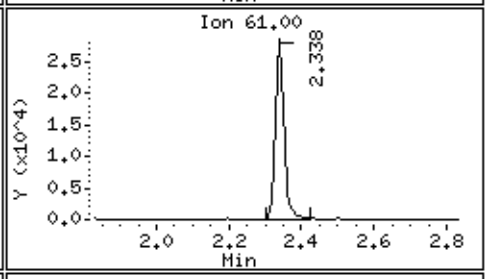


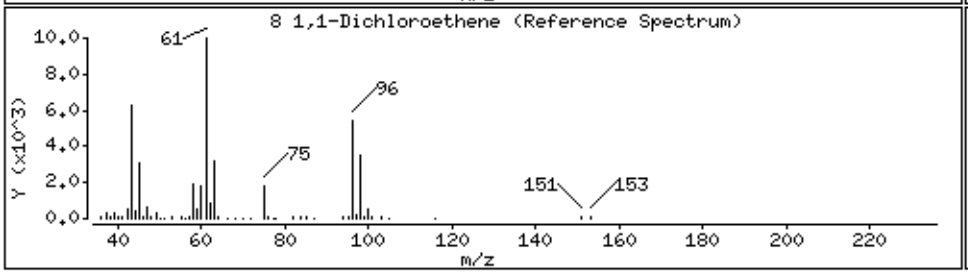
8 1,1-Dichloroethene Concentration: 13.1 ug/l

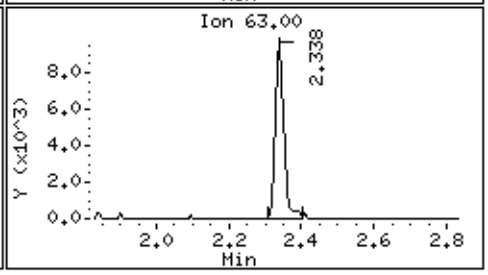












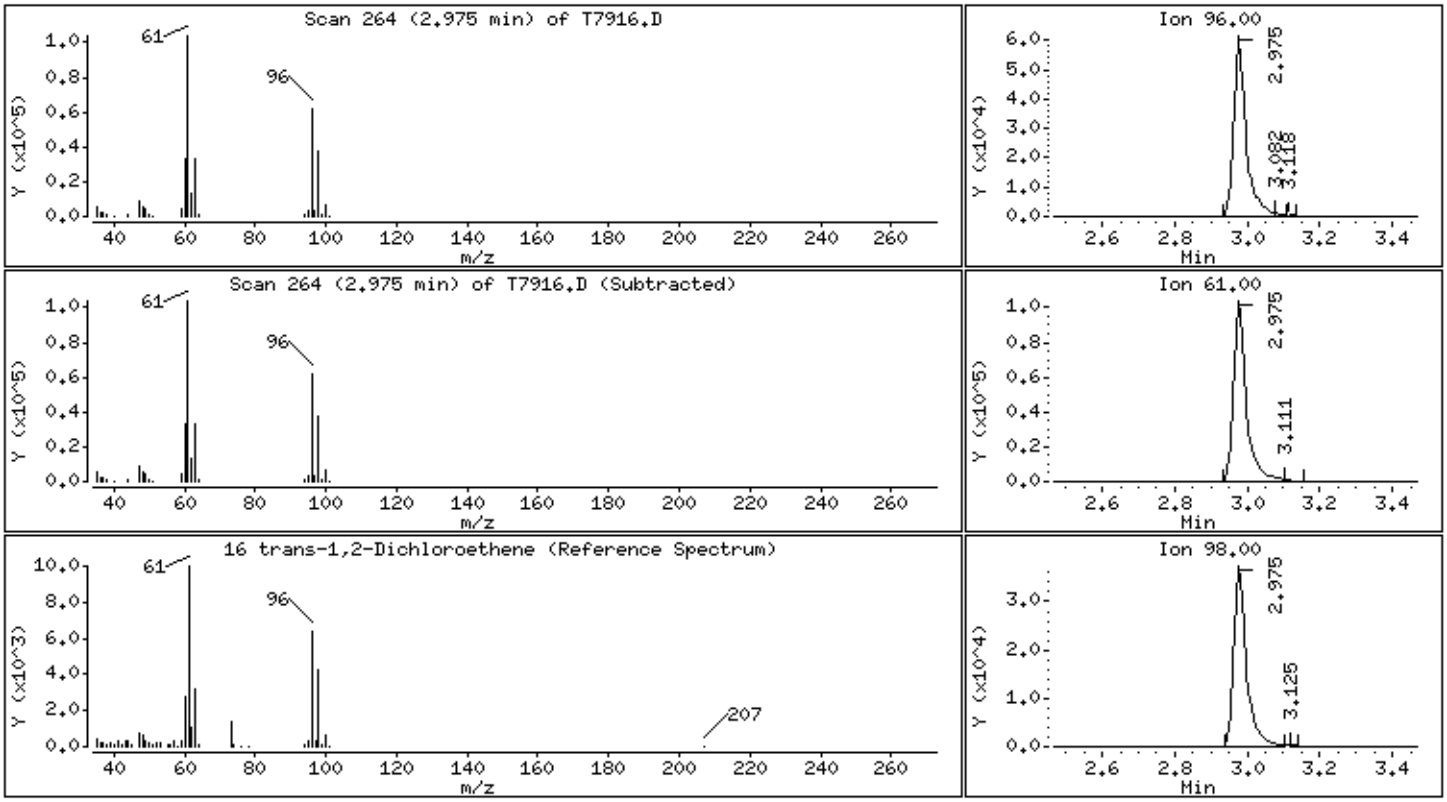
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7916.D

Date : 19-OCT-2018 17:44

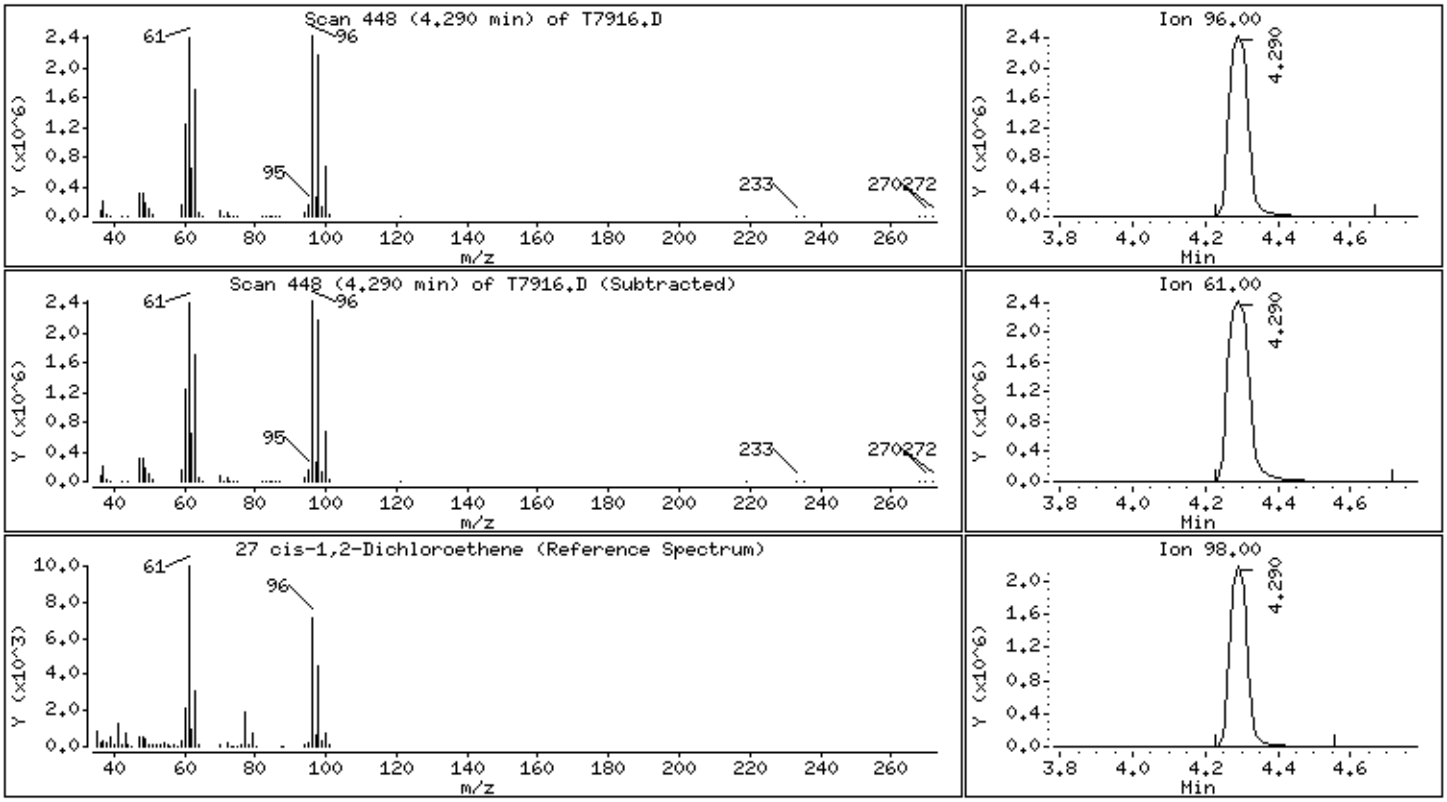
Client ID: WVA-MW-84R-3-101018 Instrument: gcms-t.i

Sample Info: TL0045-19

16 trans-1,2-Dichloroethene Concentration: 75.2 ug/l



27 cis-1,2-Dichloroethene Concentration: 4260 ug/l



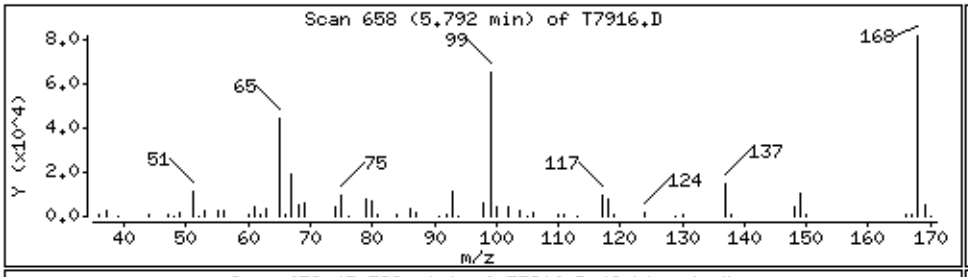
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7916.D

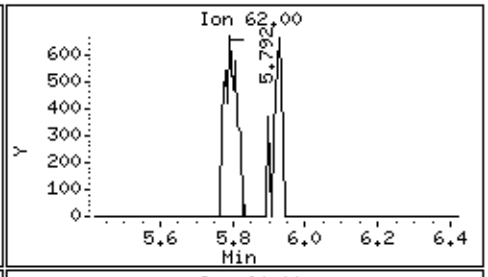
Date : 19-OCT-2018 17:44

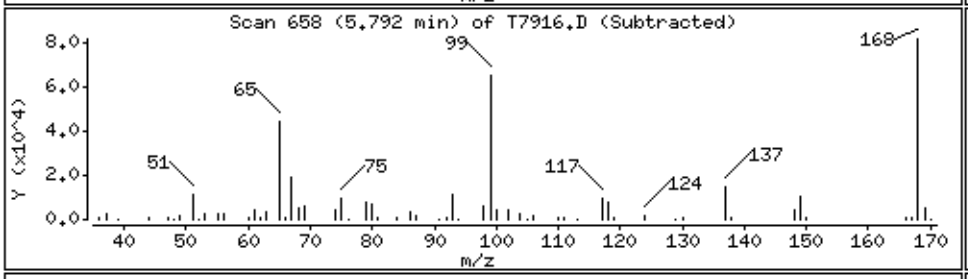
Client ID: WVA-MW-84R-3-101018 Instrument: gcms-t.i

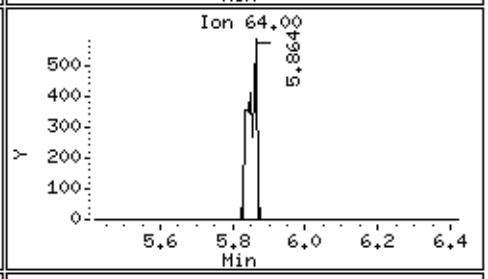
Sample Info: TL0045-19

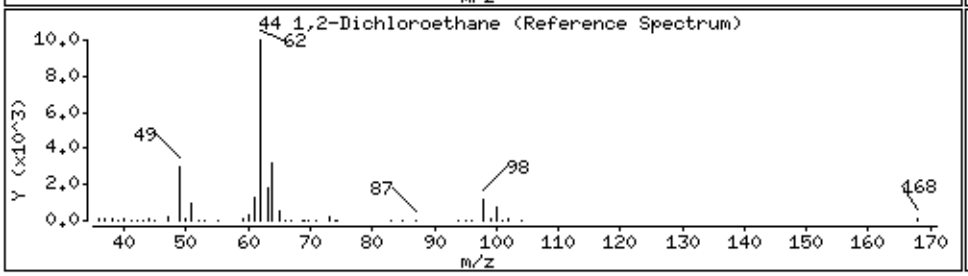
44 1,2-Dichloroethane Concentration: 0.33 ug/l

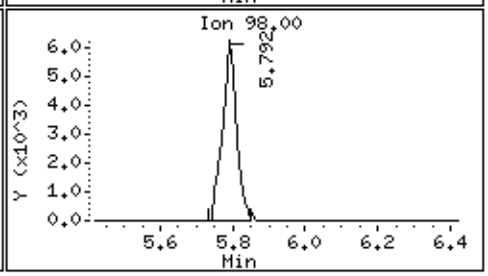




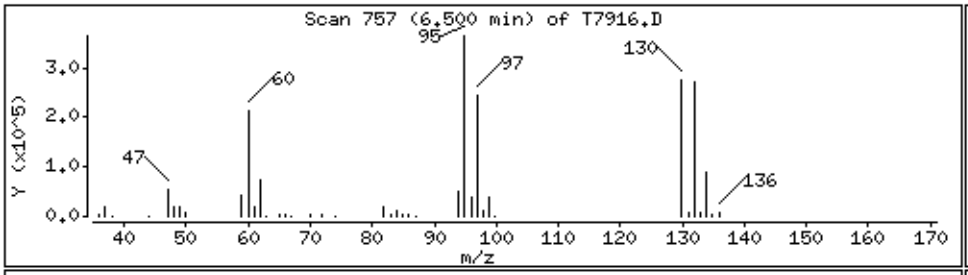


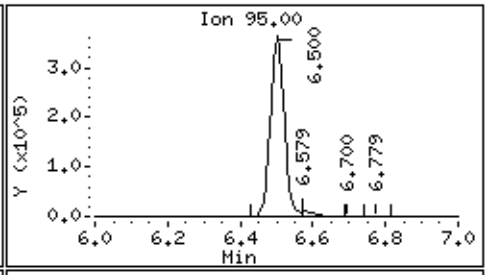


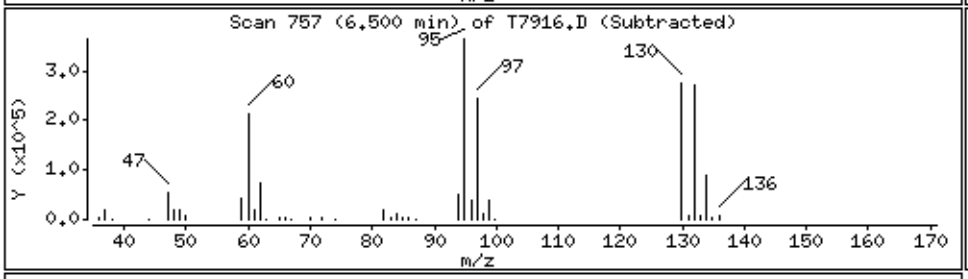


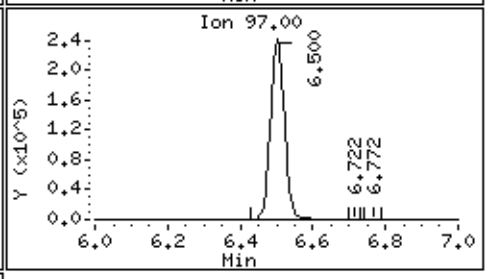


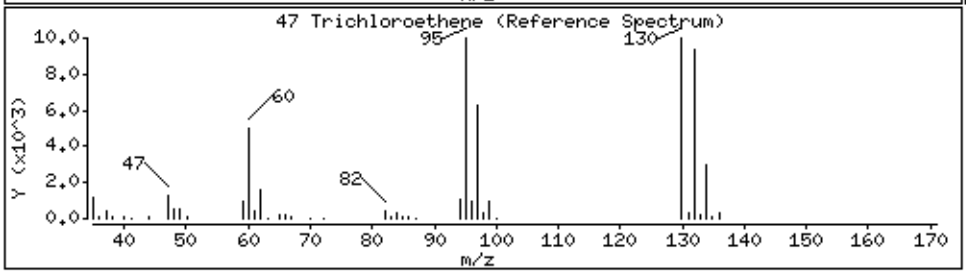
47 Trichloroethene Concentration: 377 ug/l











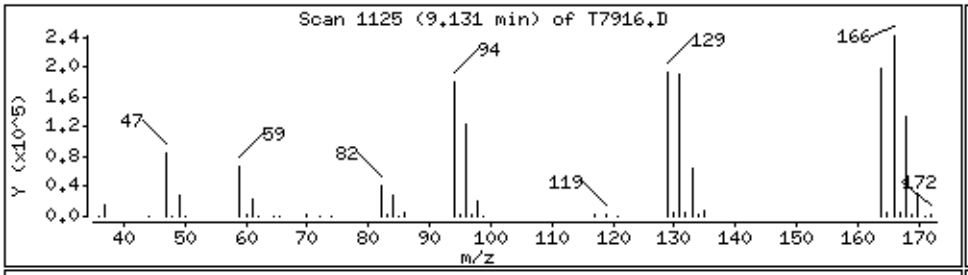
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7916.D

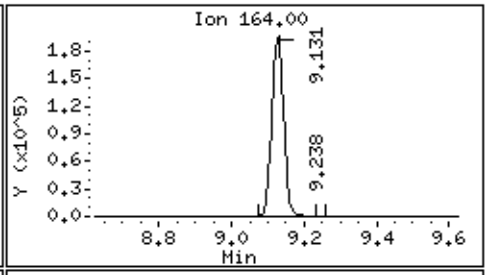
Date : 19-OCT-2018 17:44

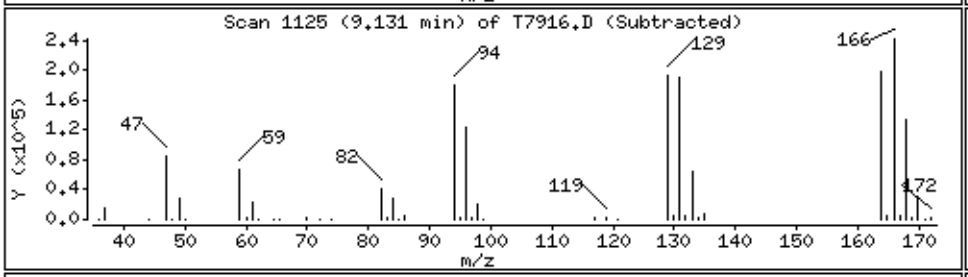
Client ID: WVA-MW-84R-3-101018 Instrument: gcms-t.i

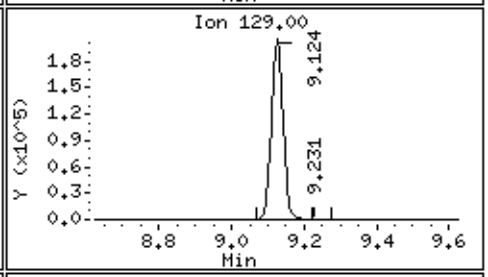
Sample Info: TL0045-19

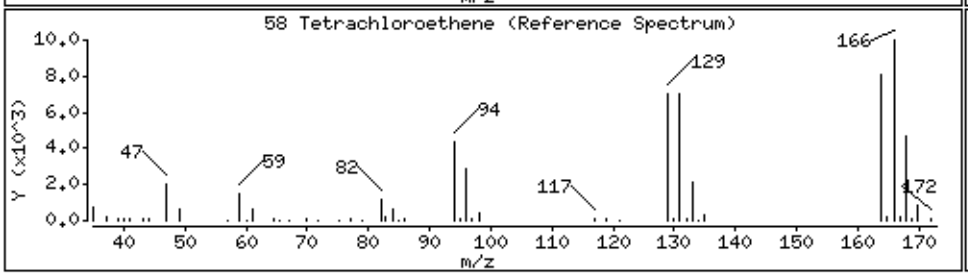
58 Tetrachloroethene Concentration: 268 ug/l

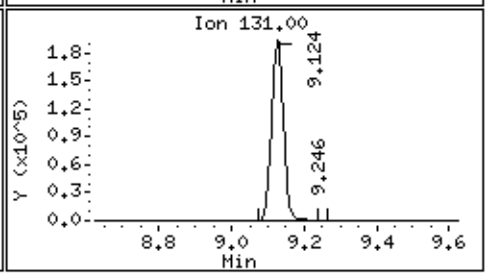












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-19DL
Client ID: WVA-MW-84R-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7932.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	200	ug/L	100	2	200
Vinyl Chloride		3200	ug/L	100	2	200
Bromomethane	U	200	ug/L	100	2	200
Chloroethane	U	200	ug/L	100	2	200
Trichlorofluoromethane	U	200	ug/L	100	2	200
1,1-Dichloroethene	U	100	ug/L	100	1	100
Carbon Disulfide	U	100	ug/L	100	1	100
Methylene Chloride	U	500	ug/L	100	5	500
trans-1,2-Dichloroethene	U	100	ug/L	100	1	100
1,1-Dichloroethane	U	100	ug/L	100	1	100
cis-1,2-Dichloroethene		5800	ug/L	100	1	100
Chloroform	U	100	ug/L	100	1	100
Carbon Tetrachloride	U	100	ug/L	100	1	100
1,1,1-Trichloroethane	U	100	ug/L	100	1	100
2-Butanone	U	500	ug/L	100	5	500
Benzene	U	100	ug/L	100	1	100
1,2-Dichloroethane	U	100	ug/L	100	1	100
Trichloroethene		330	ug/L	100	1	100
1,2-Dichloropropane	U	100	ug/L	100	1	100
Bromodichloromethane	U	100	ug/L	100	1	100
cis-1,3-Dichloropropene	U	100	ug/L	100	1	100
Toluene	U	100	ug/L	100	1	100
4-Methyl-2-Pentanone	U	500	ug/L	100	5	500
Tetrachloroethene		270	ug/L	100	1	100
trans-1,3-Dichloropropene	U	100	ug/L	100	1	100
1,1,2-Trichloroethane	U	100	ug/L	100	1	100
Dibromochloromethane	U	100	ug/L	100	1	100
Chlorobenzene	U	100	ug/L	100	1	100
Ethylbenzene	U	100	ug/L	100	1	100
m+p-Xylenes	U	200	ug/L	100	2	200
o-Xylene	U	100	ug/L	100	1	100
Bromoform	U	100	ug/L	100	1	100
1,1,2,2-Tetrachloroethane	U	100	ug/L	100	1	100
P-Bromofluorobenzene		94.0	%			
Toluene-d8		99.1	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-19DL
Client ID: WVA-MW-84R-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7932.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		120.	%			
Dibromofluoromethane		108.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7932.D
Report Date: 25-Oct-2018 13:46

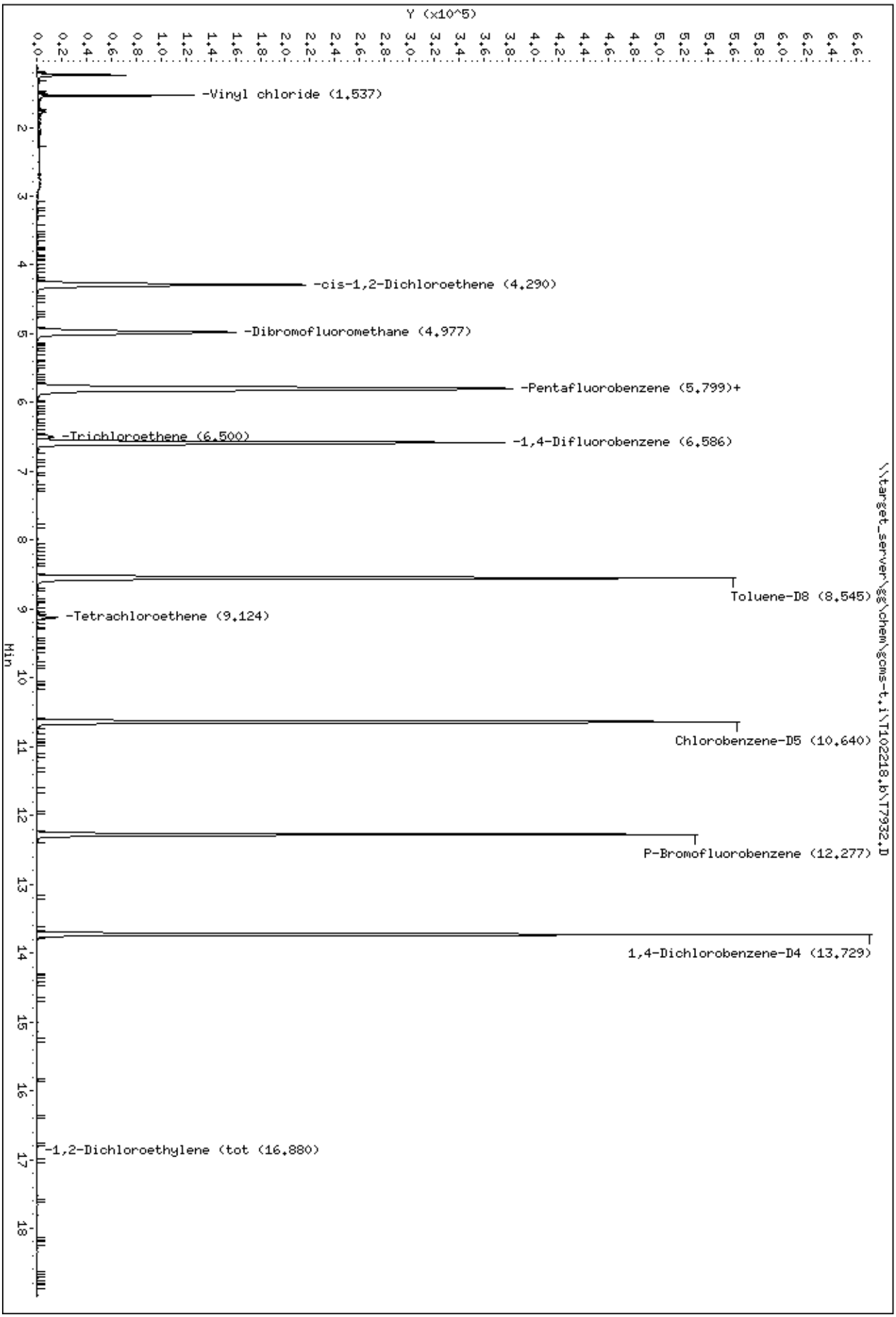
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7932.D
Lab Smp Id: TL0045-19DL Client Smp ID: WVA-MW-84R-3-101018
Inj Date : 22-OCT-2018 13:52 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-19DL
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 10
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.265)	65292	32.5076	3250	
27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	111283	57.5924	5760	
$ 34 Dibromofluoromethane	113	4.976	4.976	(0.859)	147557	53.9186	53.9	
* 41 Pentafluorobenzene	168	5.791	5.791	(1.000)	225138	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	240389	60.2019	60.2	
47 Trichloroethene	95	6.499	6.499	(0.987)	7392	3.28435	328	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	335281	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	418309	49.5358	49.5	
58 Tetrachloroethene	164	9.123	9.123	(0.858)	4023	2.74312	274	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	296431	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	181321	47.0185	47.0	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	155107	50.0000		
M 103 1,2-Dichloroethylene (total)	96				111283	57.5924	5760	


Y (x10^5)
-Vinyl chloride (1.537)
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.500)
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
Min
\\target_server\gg\chem\gcms-t.i\T102218.b\T7932.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7932.D
Date : 22-OCT-2018 13:52
Client ID: WVA-MW-84R-3-101018
Sample Info: TL0045-19DL
Instrument: gcms-t.i

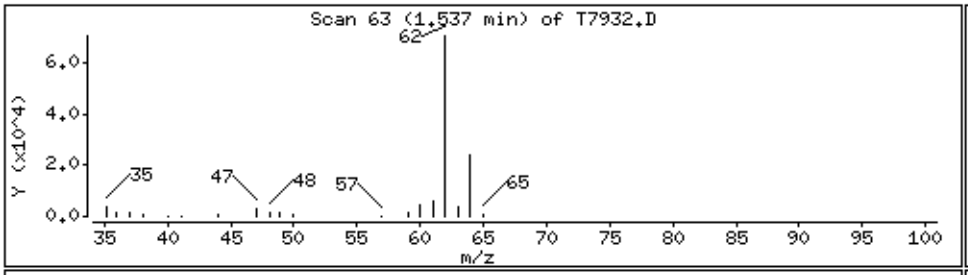
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7932.D

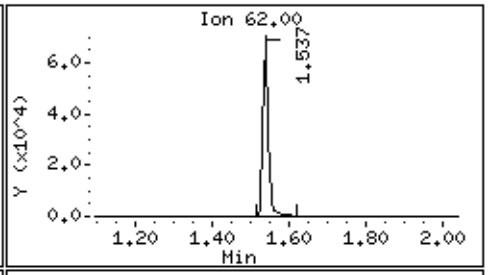
Date : 22-OCT-2018 13:52

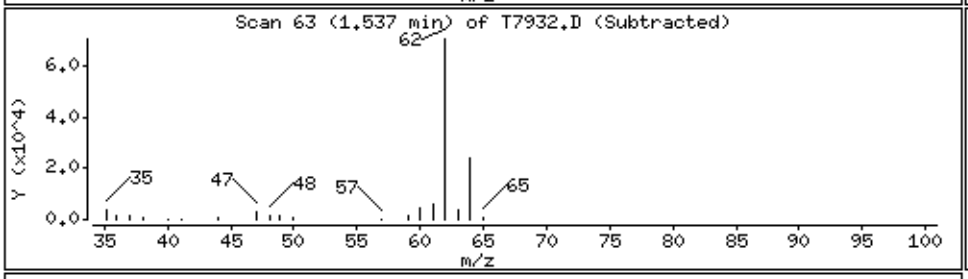
Client ID: WVA-MW-84R-3-101018 Instrument: gcms-t.i

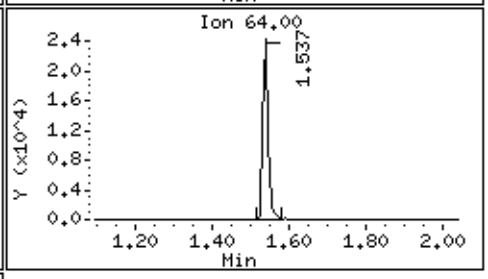
Sample Info: TL0045-19DL

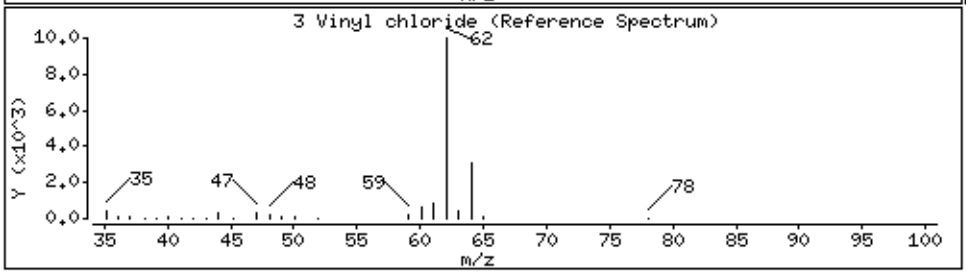
3 Vinyl chloride Concentration: 3250 ug/l



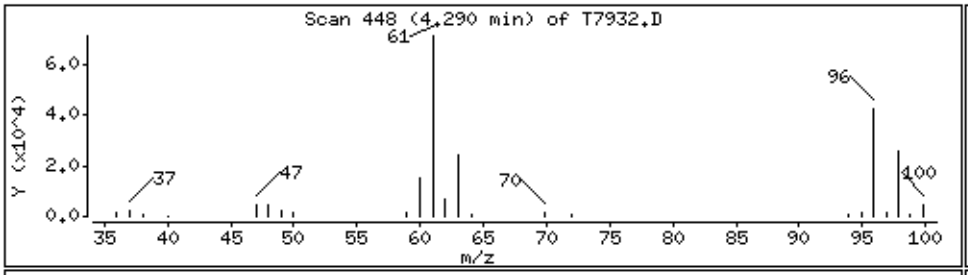


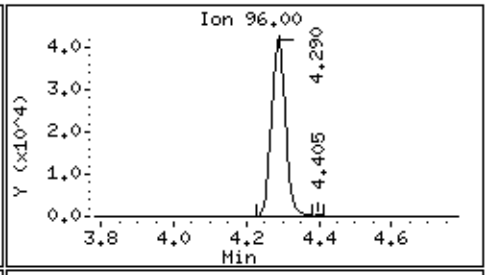


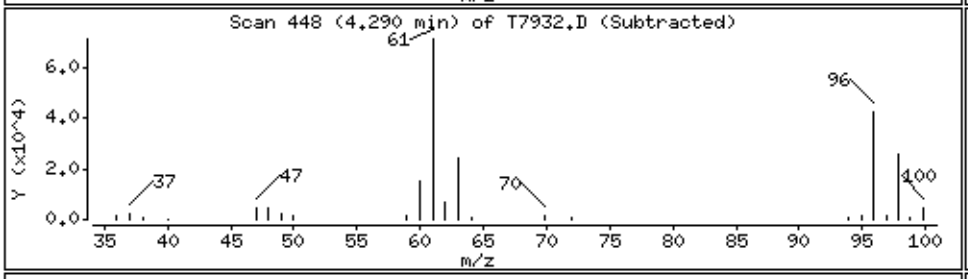


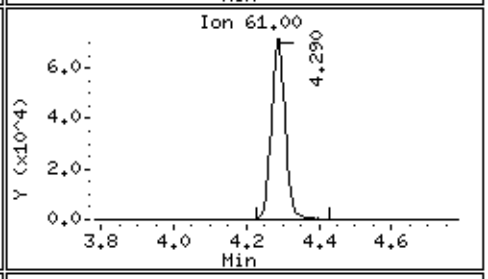


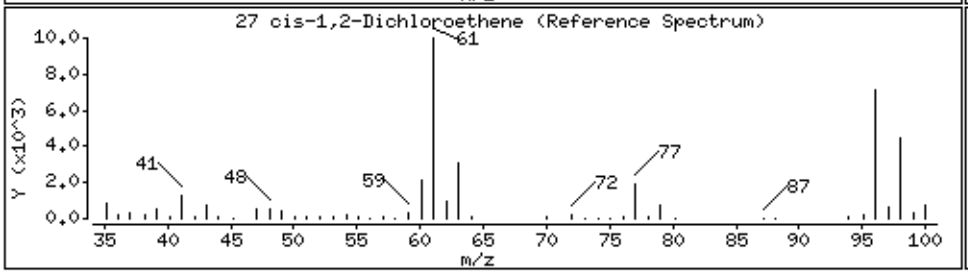
27 cis-1,2-Dichloroethene Concentration: 5760 ug/l

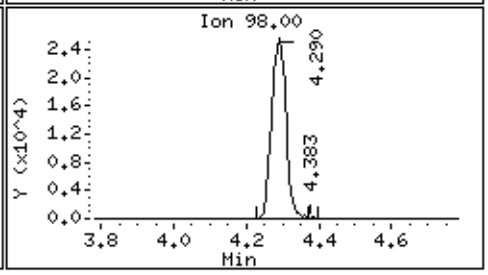












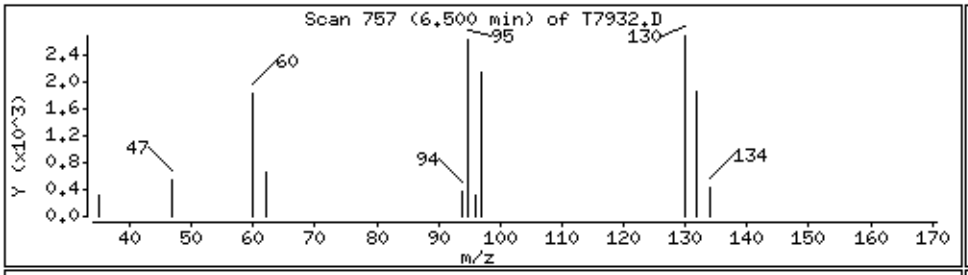
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7932.D

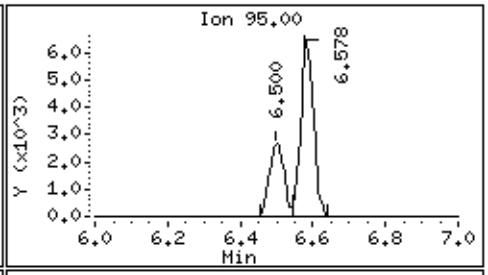
Date : 22-OCT-2018 13:52

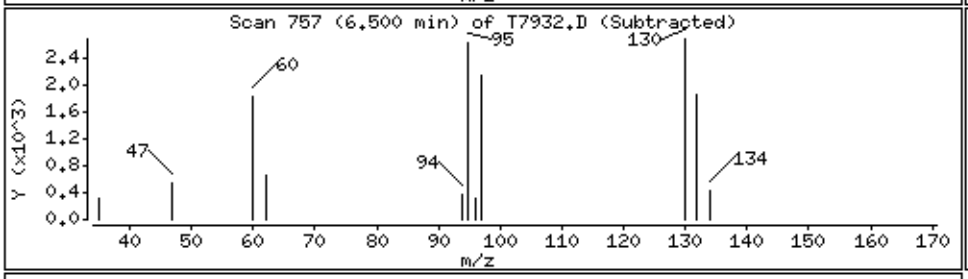
Client ID: WVA-MW-84R-3-101018 Instrument: gcms-t.i

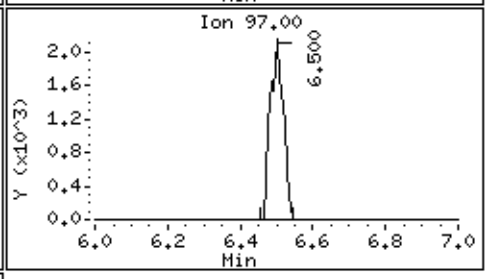
Sample Info: TL0045-19DL

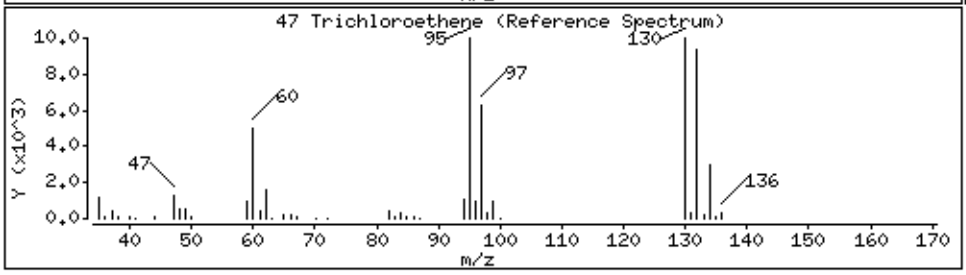
47 Trichloroethene Concentration: 328 ug/l



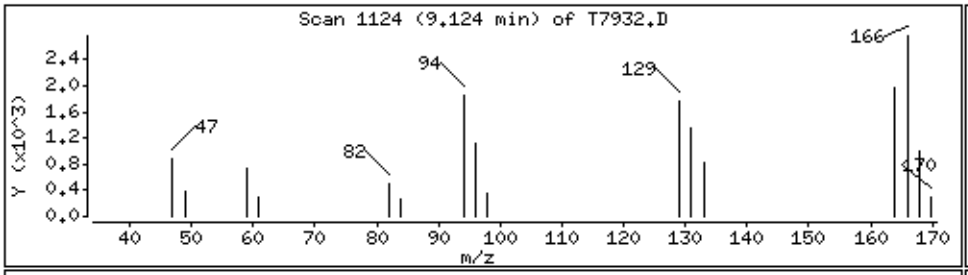


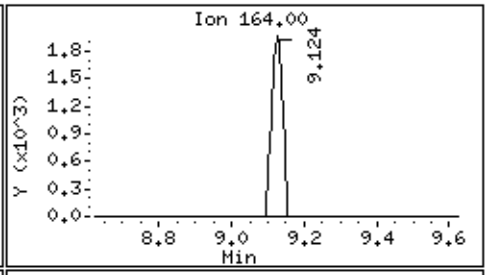


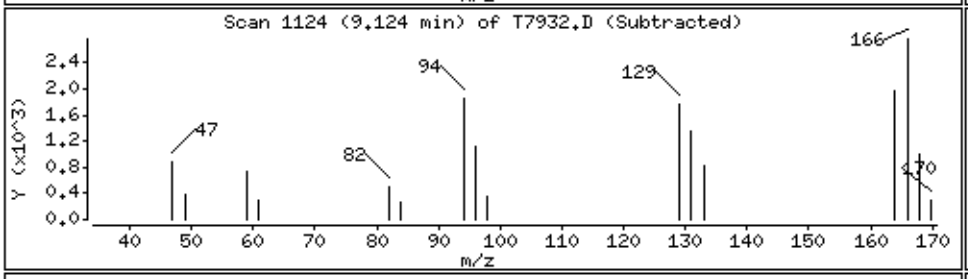


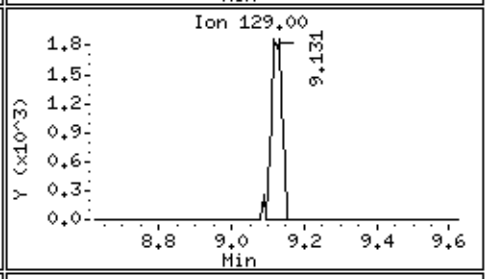


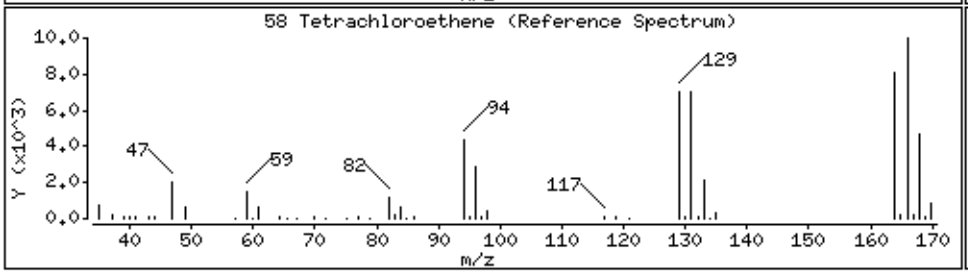
58 Tetrachloroethene Concentration: 274 ug/l

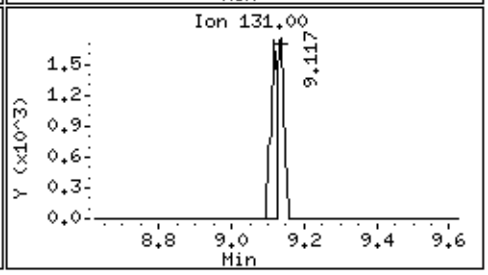












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-20
Client ID: WVA-MW-84R-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7917.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	1600	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		72.	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	E	340	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	4100	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	7800	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		90.0	%			
Toluene-d8		95.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-20
Client ID: WVA-MW-84R-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7917.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		125.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7917.D
Report Date: 25-Oct-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7917.D
Lab Smp Id: TL0045-20 Client Smp ID: WVA-MW-84R-2-101018
Inj Date : 19-OCT-2018 18:14 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-20
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

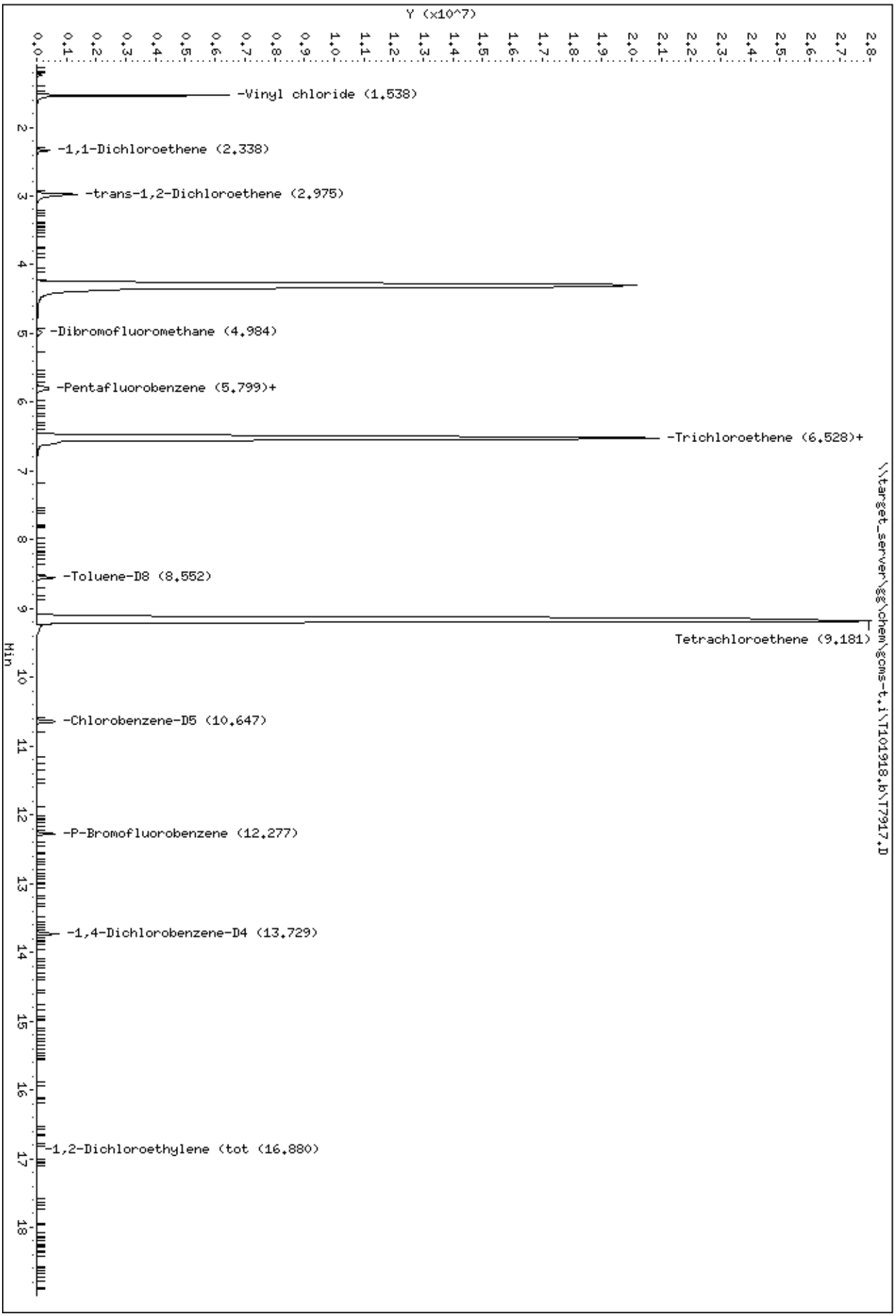
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	3651901	1618.83	1620(A)	
	8 1,1-Dichloroethene	96	2.338	2.331	(0.403)	154604	72.3303	72.3	
	16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.513)	675288	340.596	340(A)	
$	34 Dibromofluoromethane	113	4.984	4.976	(0.859)	169417	55.1179	55.1	
*	41 Pentafluorobenzene	168	5.799	5.791	(1.000)	252867	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.820	5.813	(1.004)	280453	62.5335	62.5	
	47 Trichloroethene	95	6.521	6.499	(0.989)	10775039	4069.14	4070(A)	
*	48 1,4-Difluorobenzene	114	6.592	6.585	(1.000)	394469	50.0000		
$	56 Toluene-D8	98	8.551	8.544	(1.297)	476228	47.9328	47.9	
	58 Tetrachloroethene	164	9.181	9.123	(0.862)	12872732	7811.17	7810(A)	
*	68 Chlorobenzene-D5	117	10.647	10.646	(1.000)	333099	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.862)	204143	44.9936	45.0	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	176602	50.0000		
M	103 1,2-Dichloroethylene (total)	96				675288	340.596	340	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7917.D
Date : 19-OCT-2018 18:14
Client ID: WVA-MW-84R-2-101018
Sample Info: TL0045-20

Instrument: gcms-t.i

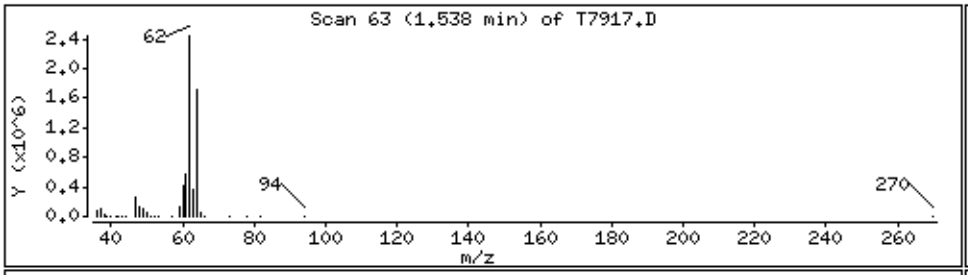
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7917.D

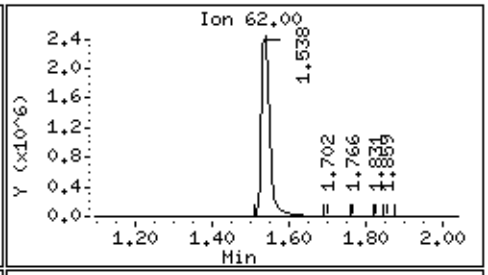
Date : 19-OCT-2018 18:14

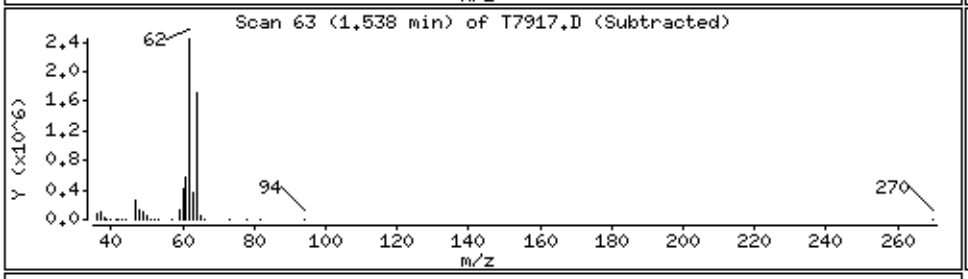
Client ID: WVA-MW-84R-2-101018 Instrument: gcms-t.i

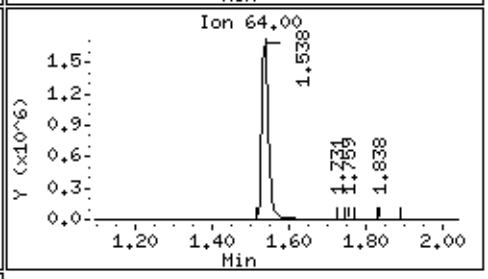
Sample Info: TL0045-20

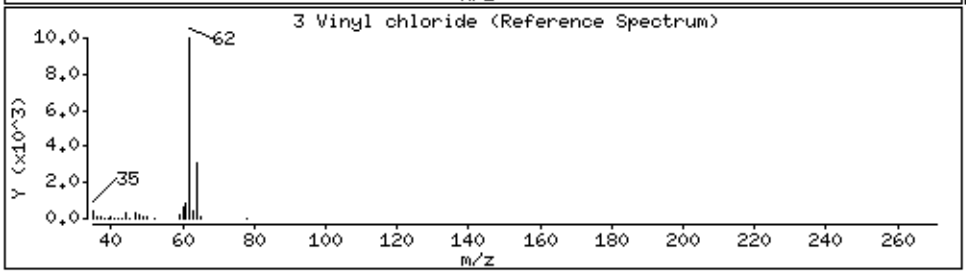
3 Vinyl chloride Concentration: 1620 ug/l



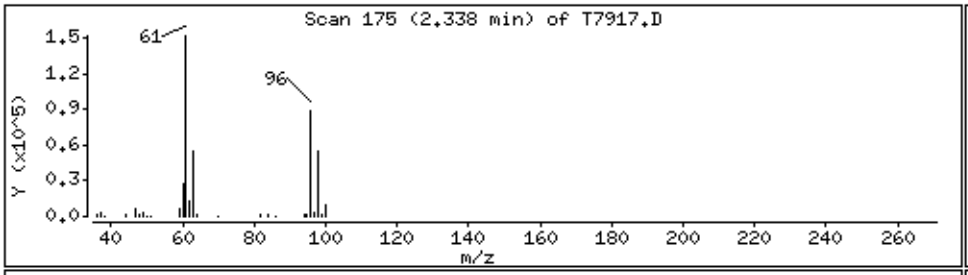


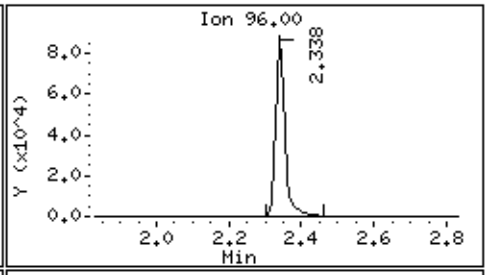


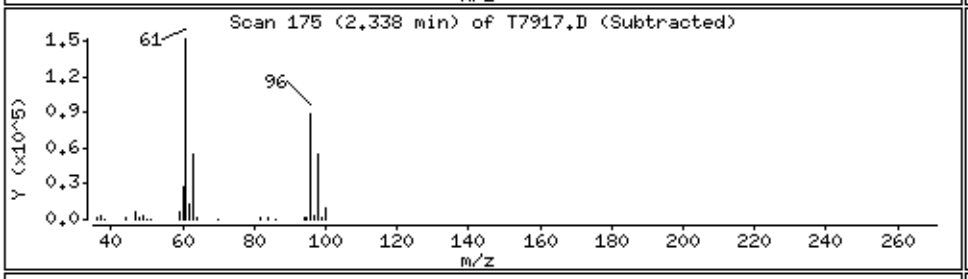


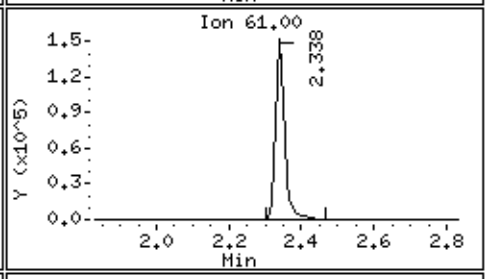


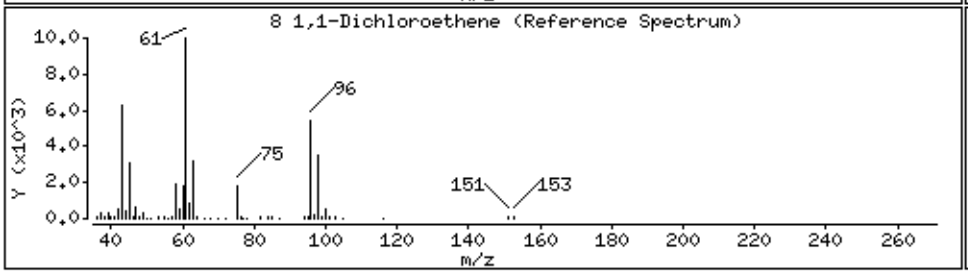
8 1,1-Dichloroethene Concentration: 72.3 ug/l

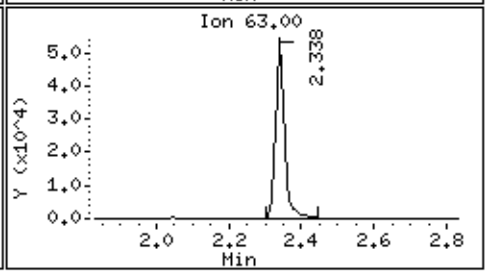












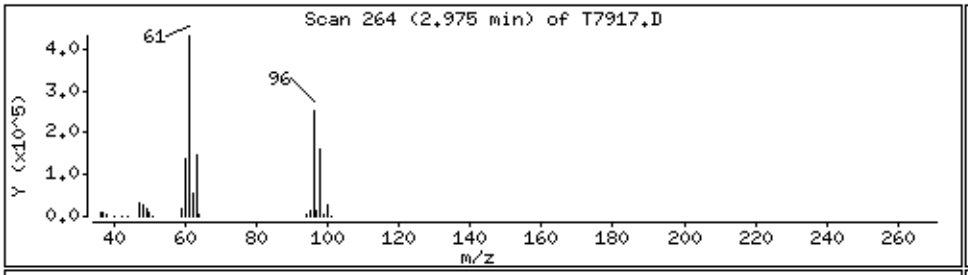
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7917.D

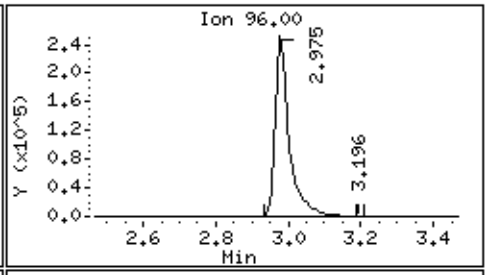
Date : 19-OCT-2018 18:14

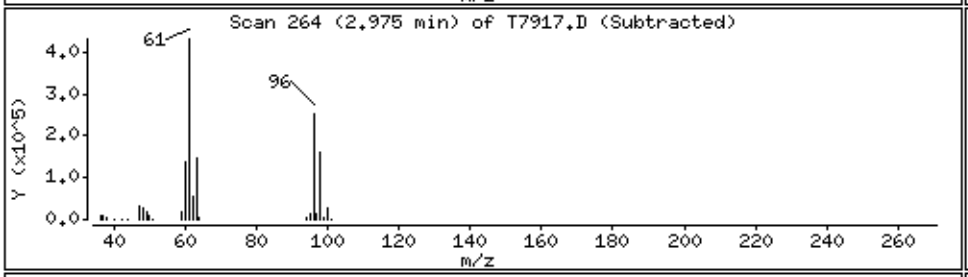
Client ID: WVA-MW-84R-2-101018 Instrument: gcms-t.i

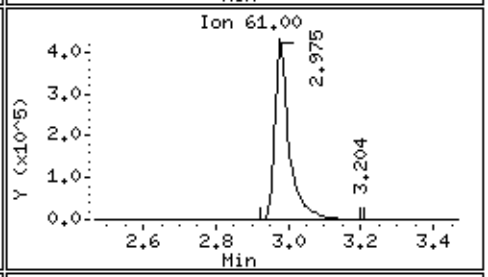
Sample Info: TL0045-20

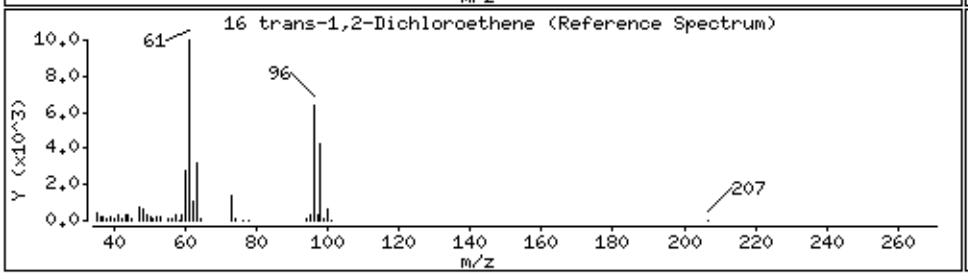
16 trans-1,2-Dichloroethene Concentration: 340 ug/l

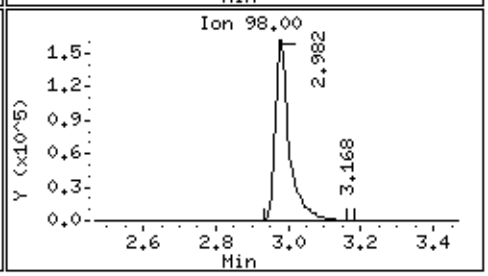




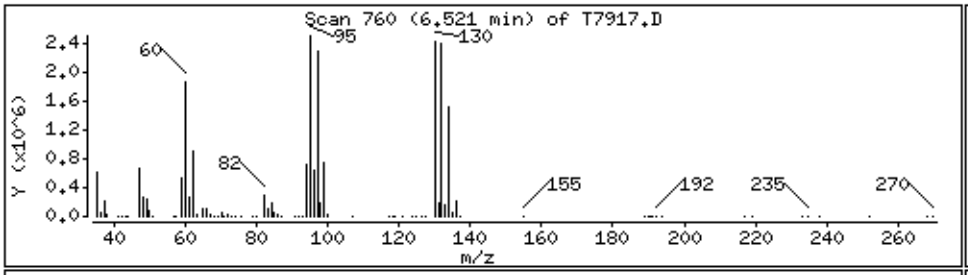


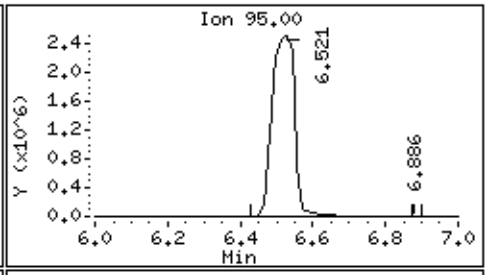


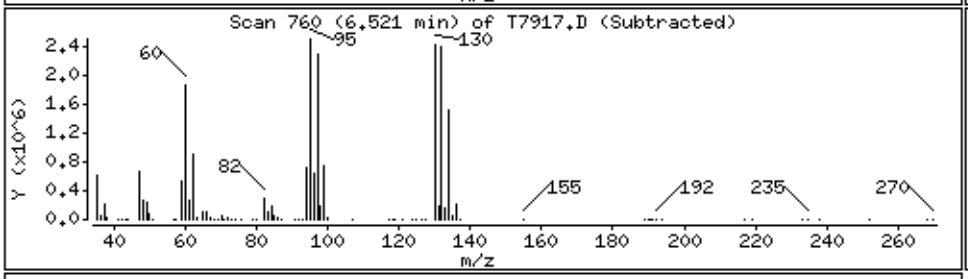


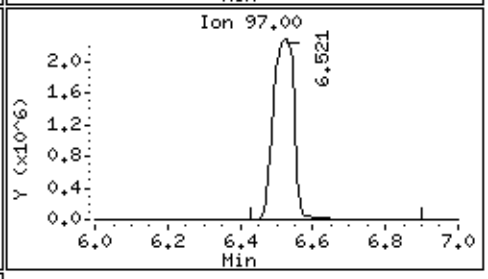


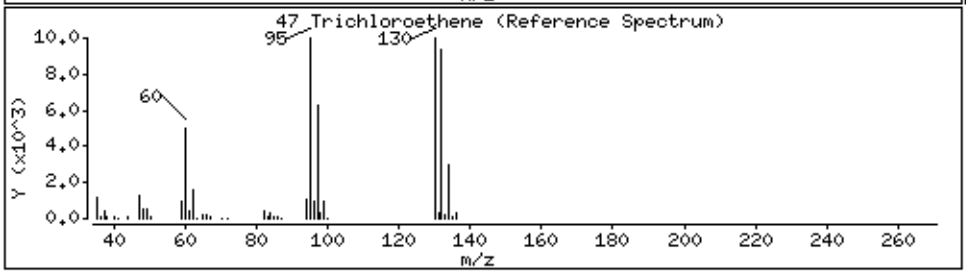
47 Trichloroethene Concentration: 4070 ug/l











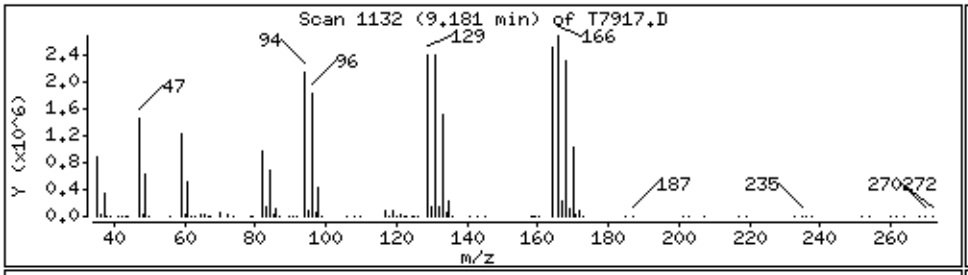
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7917.D

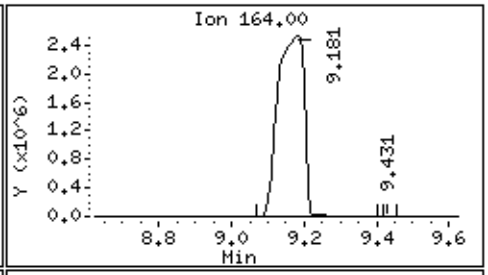
Date : 19-OCT-2018 18:14

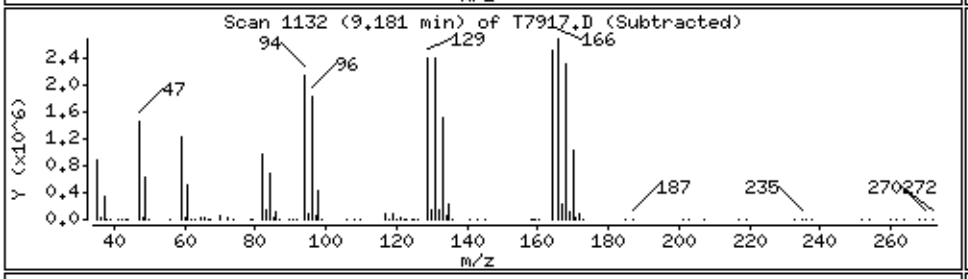
Client ID: WVA-MW-84R-2-101018 Instrument: gcms-t.i

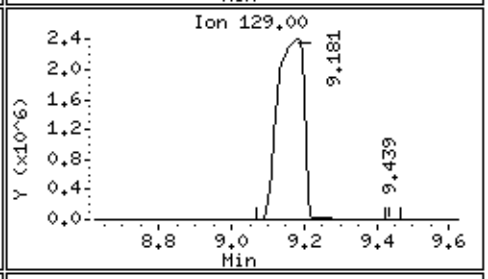
Sample Info: TL0045-20

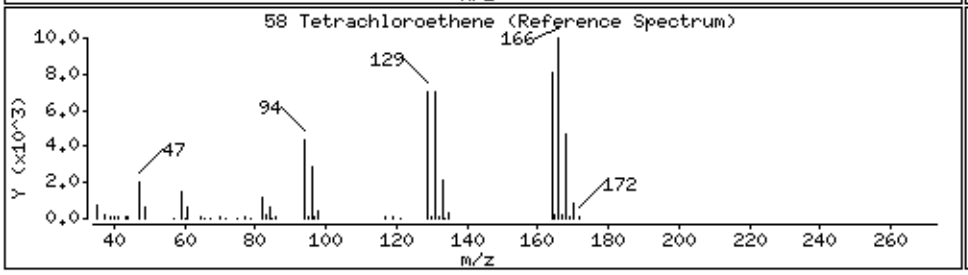
58 Tetrachloroethene Concentration: 7810 ug/l

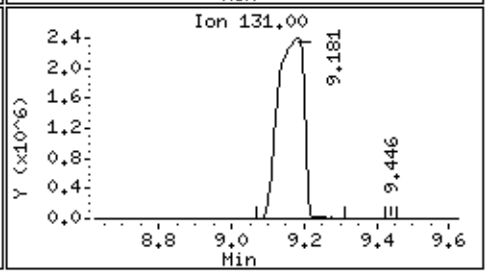












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-20DL
Client ID: WVA-MW-84R-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7929.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	400	ug/L	200	2	400
Vinyl Chloride		3400	ug/L	200	2	400
Bromomethane	U	400	ug/L	200	2	400
Chloroethane	U	400	ug/L	200	2	400
Trichlorofluoromethane	U	400	ug/L	200	2	400
1,1-Dichloroethene	U	200	ug/L	200	1	200
Carbon Disulfide	U	200	ug/L	200	1	200
Methylene Chloride	U	1000	ug/L	200	5	1000
trans-1,2-Dichloroethene	U	200	ug/L	200	1	200
1,1-Dichloroethane	U	200	ug/L	200	1	200
cis-1,2-Dichloroethene		26000	ug/L	200	1	200
Chloroform	U	200	ug/L	200	1	200
Carbon Tetrachloride	U	200	ug/L	200	1	200
1,1,1-Trichloroethane	U	200	ug/L	200	1	200
2-Butanone	U	1000	ug/L	200	5	1000
Benzene	U	200	ug/L	200	1	200
1,2-Dichloroethane	U	200	ug/L	200	1	200
Trichloroethene		7700	ug/L	200	1	200
1,2-Dichloropropane	U	200	ug/L	200	1	200
Bromodichloromethane	U	200	ug/L	200	1	200
cis-1,3-Dichloropropene	U	200	ug/L	200	1	200
Toluene	U	200	ug/L	200	1	200
4-Methyl-2-Pentanone	U	1000	ug/L	200	5	1000
Tetrachloroethene		18000	ug/L	200	1	200
trans-1,3-Dichloropropene	U	200	ug/L	200	1	200
1,1,2-Trichloroethane	U	200	ug/L	200	1	200
Dibromochloromethane	U	200	ug/L	200	1	200
Chlorobenzene	U	200	ug/L	200	1	200
Ethylbenzene	U	200	ug/L	200	1	200
m+p-Xylenes	U	400	ug/L	200	2	400
o-Xylene	U	200	ug/L	200	1	200
Bromoform	U	200	ug/L	200	1	200
1,1,2,2-Tetrachloroethane	U	200	ug/L	200	1	200
P-Bromofluorobenzene		89.9	%			
Toluene-d8		97.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-20DL
Client ID: WVA-MW-84R-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7929.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		118.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7929.D
Report Date: 25-Oct-2018 13:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7929.D
Lab Smp Id: TL0045-20DL Client Smp ID: WVA-MW-84R-2-101018
Inj Date : 22-OCT-2018 12:23 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-20DL
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 7
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

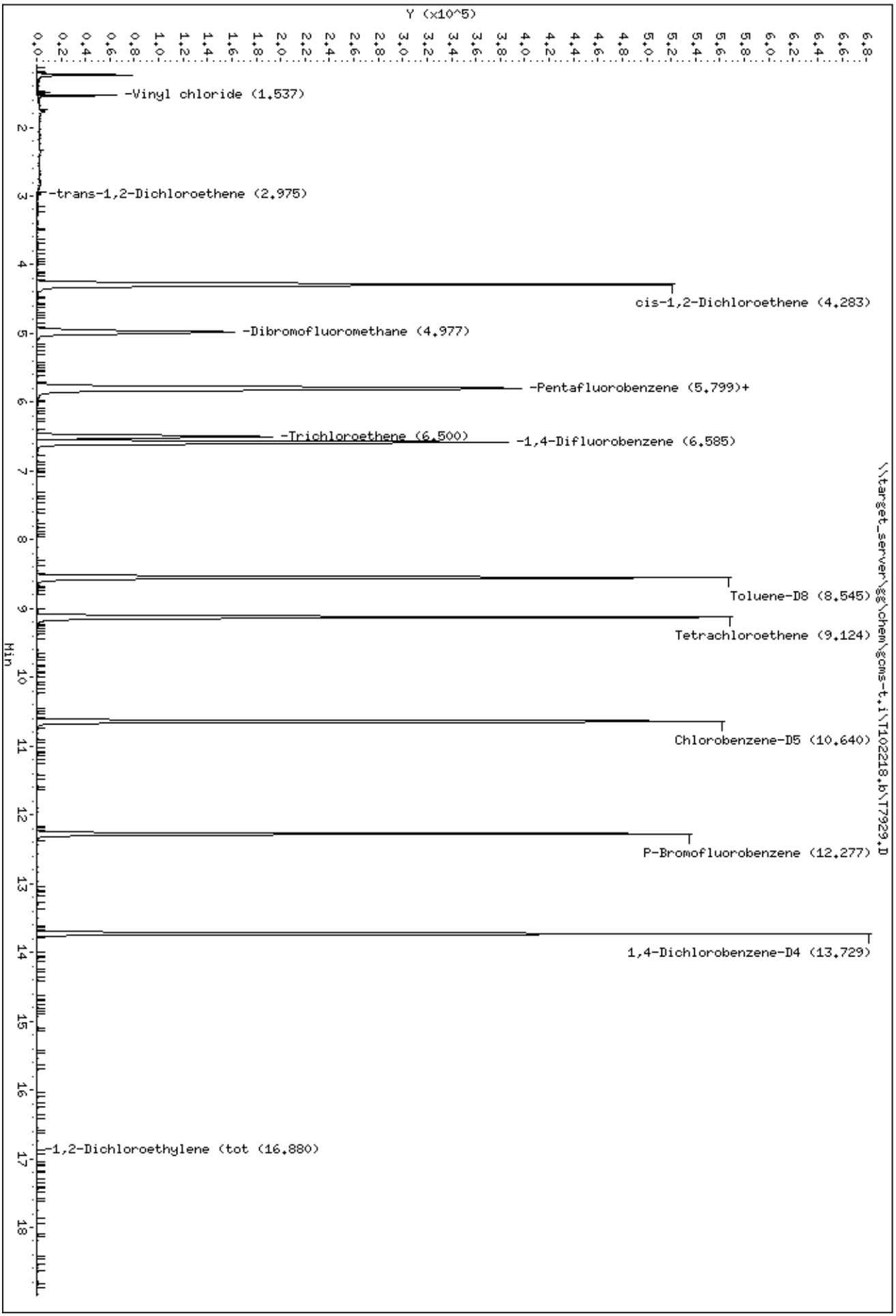
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.265)	35750	17.0178	3400	
16 trans-1,2-Dichloroethene	96	2.981	2.967	(0.515)	1033	0.55950	112(a)	
27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	261429	129.358	25900	
$ 34 Dibromofluoromethane	113	4.983	4.976	(0.860)	151606	52.9660	53.0	
* 41 Pentafluorobenzene	168	5.791	5.791	(1.000)	235476	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	246725	59.0760	59.1	
47 Trichloroethene	95	6.499	6.499	(0.987)	92525	38.6372	7730	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	356739	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	436999	48.6363	48.6	
58 Tetrachloroethene	164	9.123	9.123	(0.858)	134796	91.5943	18300	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	297459	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	184366	44.9324	44.9	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	156682	50.0000		
M 103 1,2-Dichloroethylene (total)	96				262462	129.917	26000	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Y (x10^5)
Min
-Vinyl chloride (1.537)
-trans-1,2-Dichloroethene (2.975)
cis-1,2-Dichloroethene (4.283)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.500)
-1,4-Difluorobenzene (6.585)
Toluene-D8 (8.545)
Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T102218.b\T7929.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7929.D
Date : 22-OCT-2018 12:23
Client ID: WVA-MW-84R-2-101018
Sample Info: TL0045-20DL
Instrument: gcms-t.i

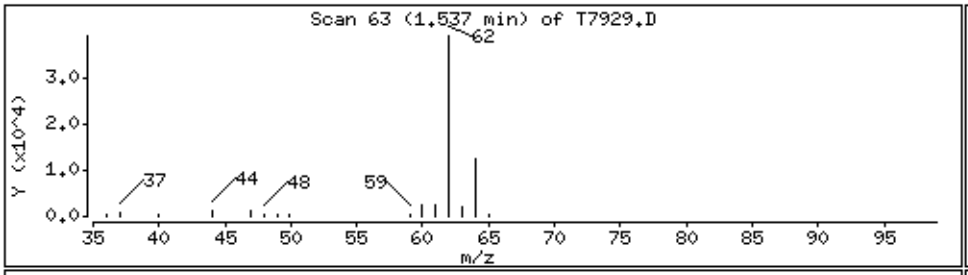
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7929.D

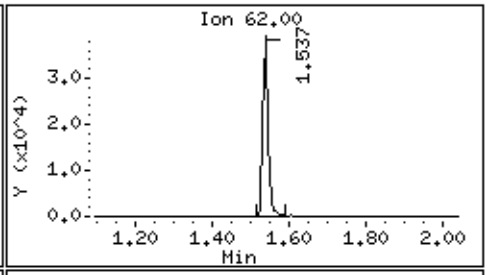
Date : 22-OCT-2018 12:23

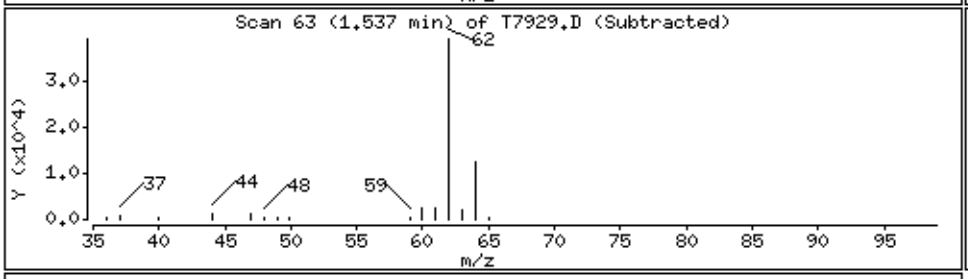
Client ID: WVA-MW-84R-2-101018 Instrument: gcms-t.i

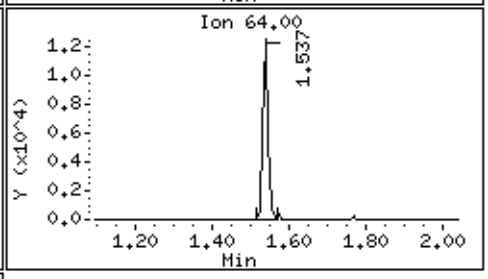
Sample Info: TL0045-20DL

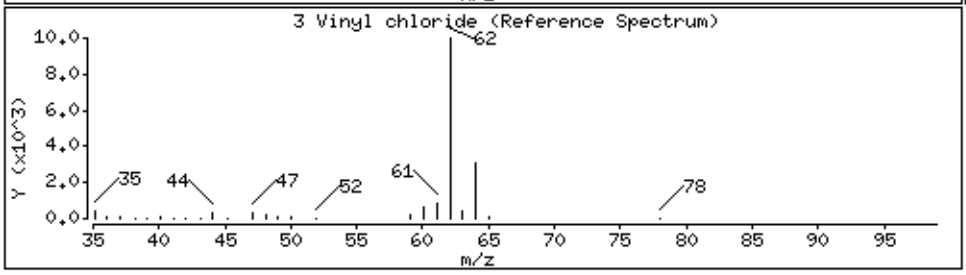
3 Vinyl chloride Concentration: 3400 ug/l



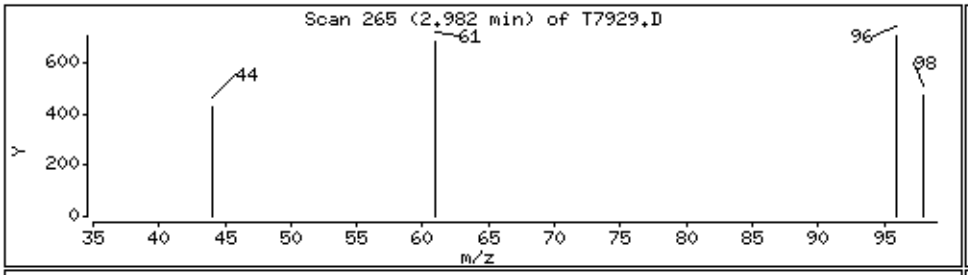


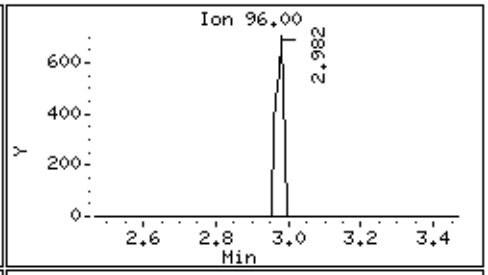


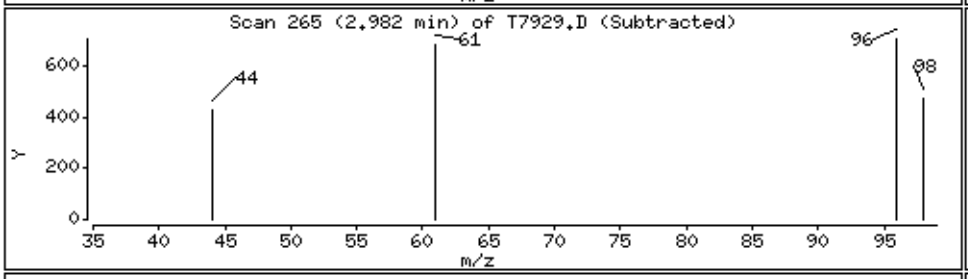


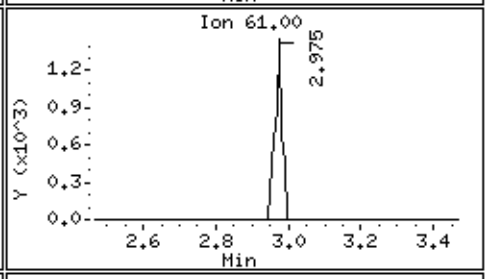


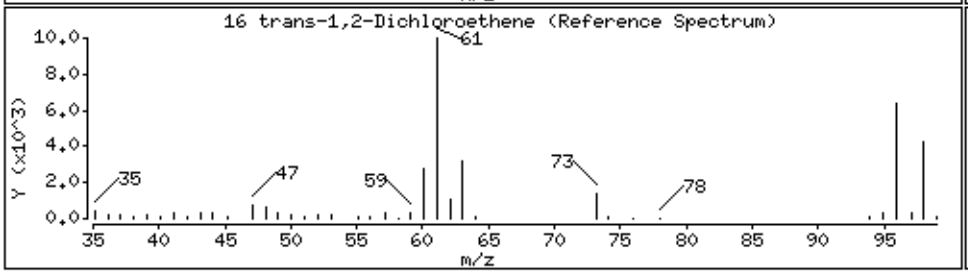
16 trans-1,2-Dichloroethene Concentration: 112 ug/l

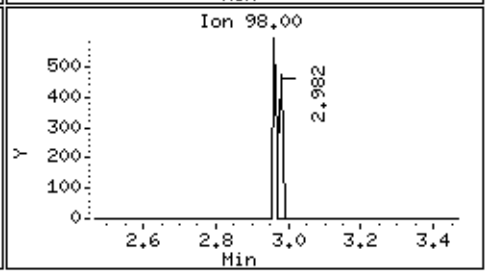












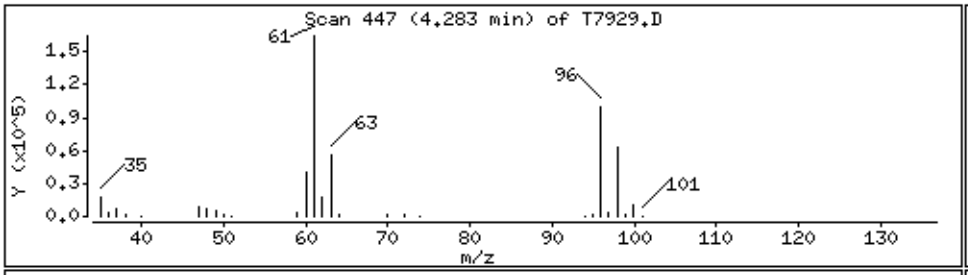
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7929.D

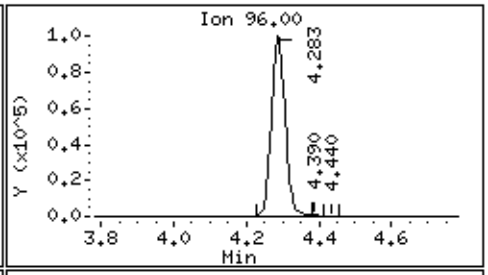
Date : 22-OCT-2018 12:23

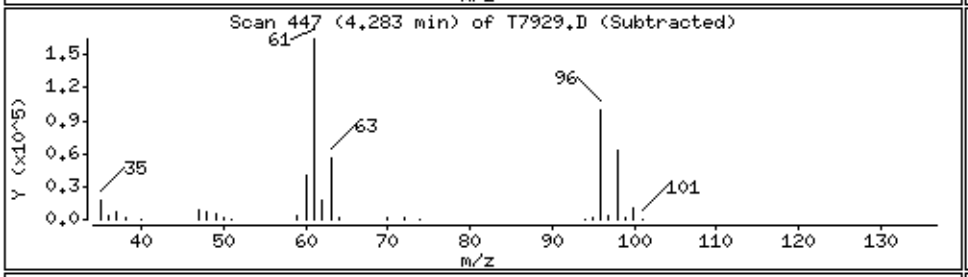
Client ID: WVA-MW-84R-2-101018 Instrument: gcms-t.i

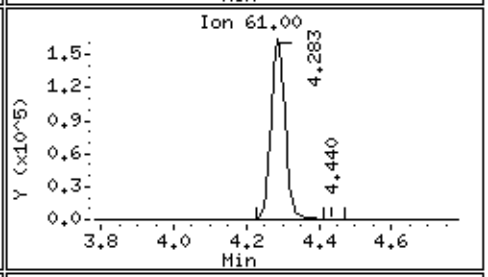
Sample Info: TL0045-20DL

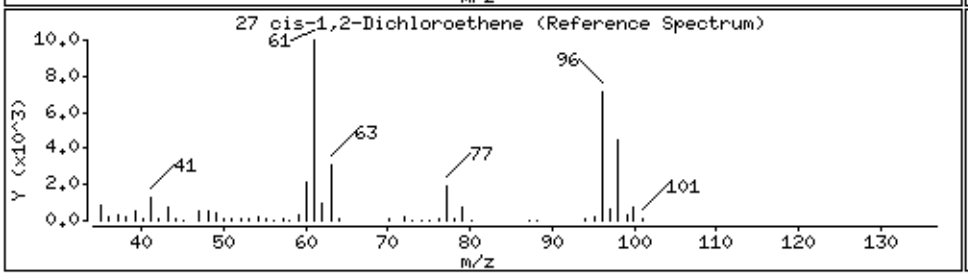
27 cis-1,2-Dichloroethene Concentration: 25900 ug/l

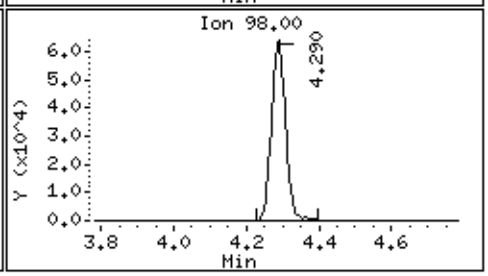




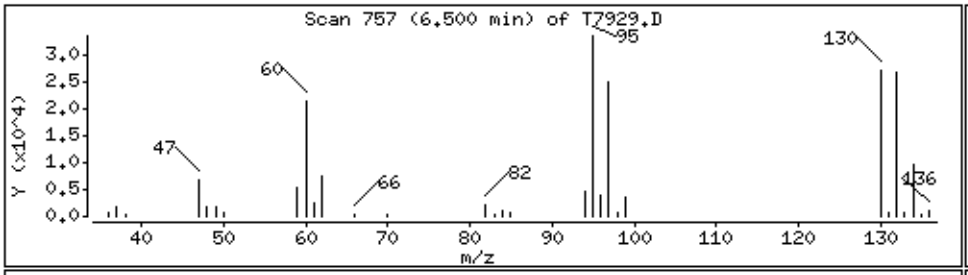


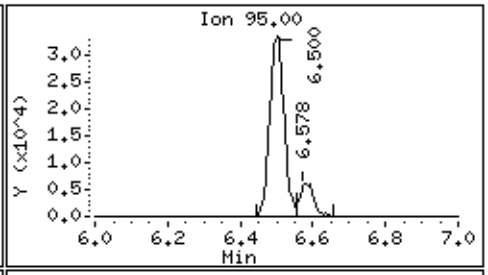


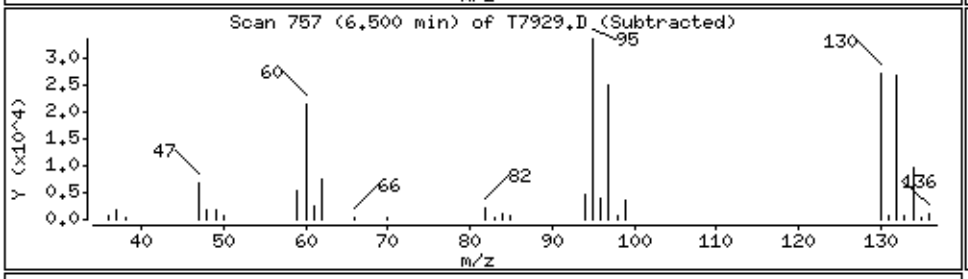


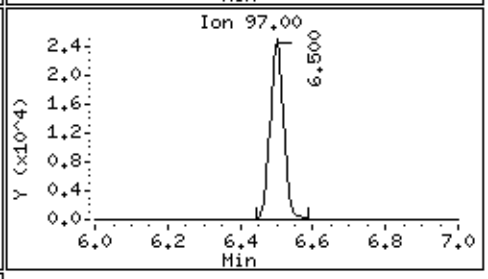


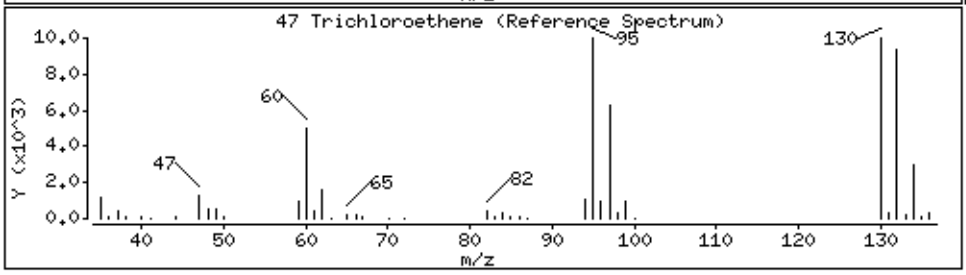
47 Trichloroethene Concentration: 7730 ug/l











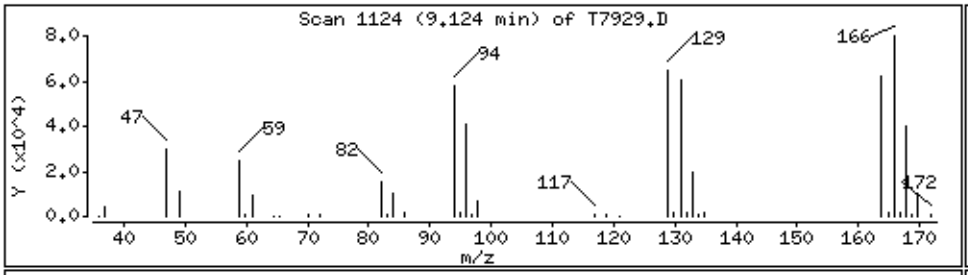
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7929.D

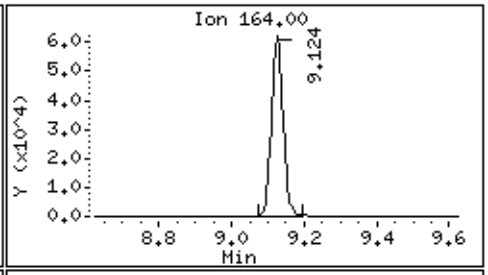
Date : 22-OCT-2018 12:23

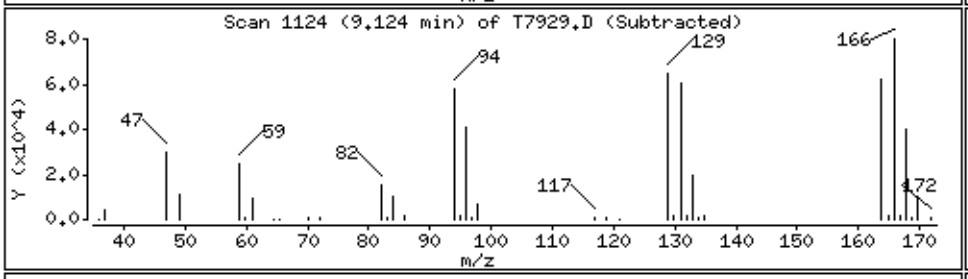
Client ID: WVA-MW-84R-2-101018 Instrument: gcms-t.i

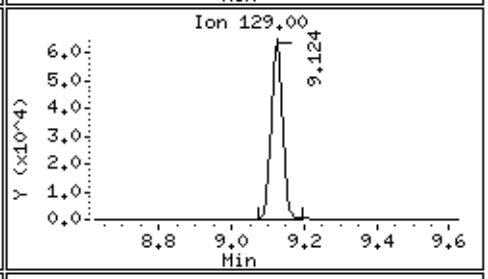
Sample Info: TL0045-20DL

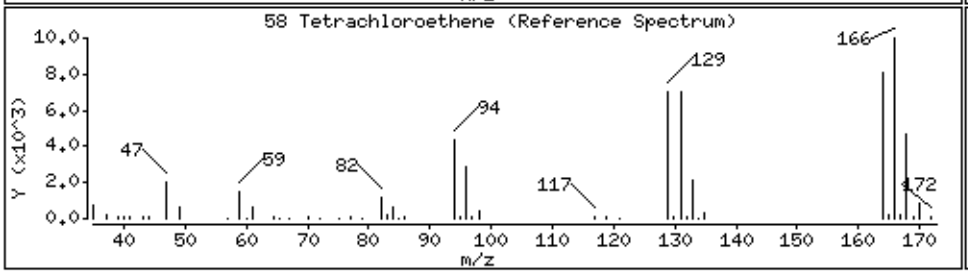
58 Tetrachloroethene Concentration: 18300 ug/l

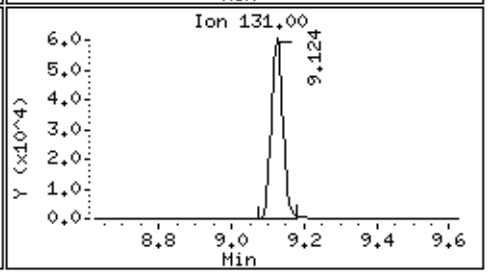












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-21
Client ID: WVA-MW-84R-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7918.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	390	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene		8.7	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		24.	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	3100	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	E	280	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	280	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.4	%			
Toluene-d8		95.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-21
Client ID: WVA-MW-84R-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7918.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7918.D
Report Date: 29-Oct-2018 17:19

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7918.D
Lab Smp Id: TL0045-21 Client Smp ID: WVA-MW-84R-1-101018
Inj Date : 19-OCT-2018 18:44 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-21
Misc Info : WG238848,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

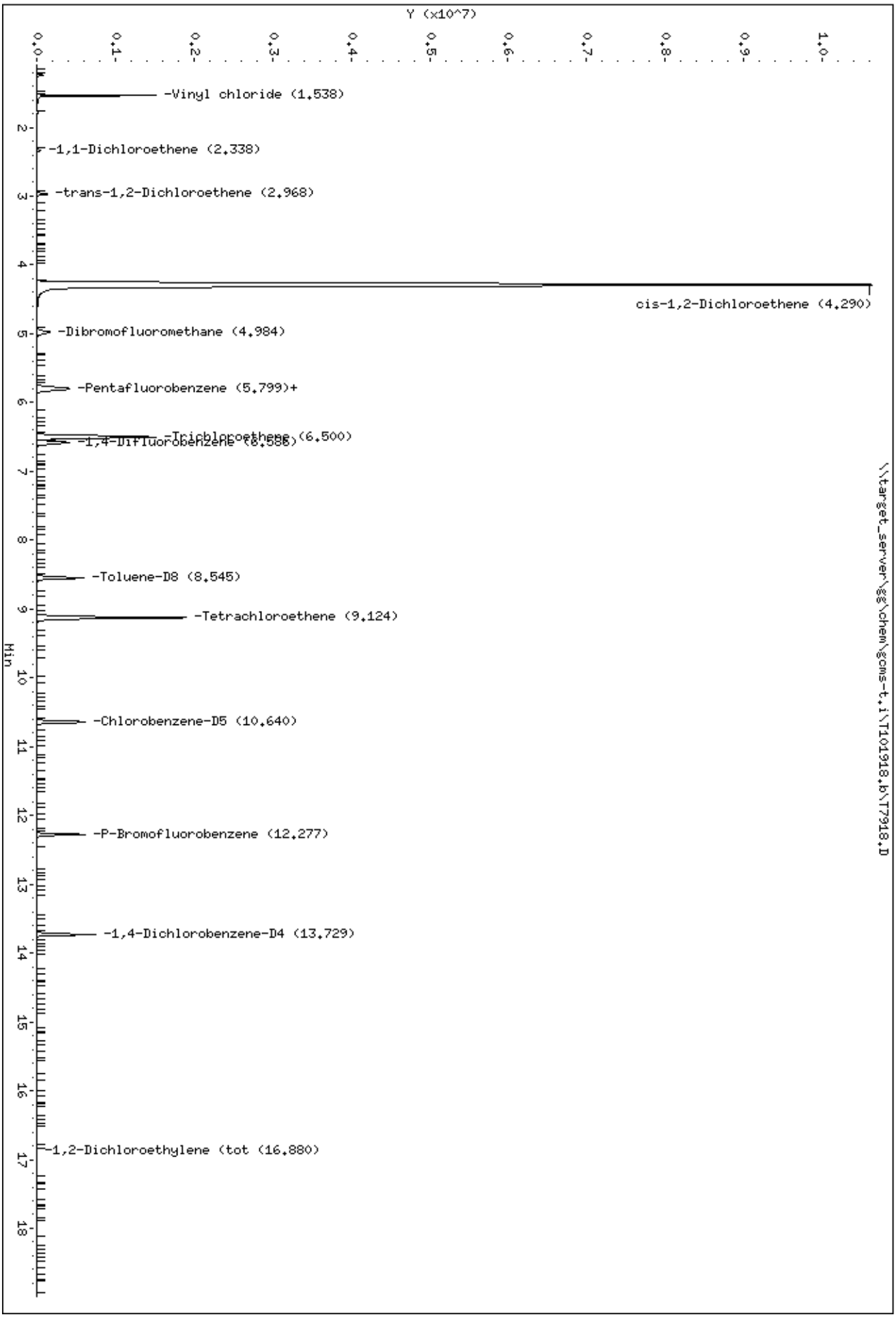
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	835873	387.186	387(A)	
	8 1,1-Dichloroethene	96	2.338	2.331	(0.404)	17845	8.72397	8.7	
	16 trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	45995	24.2415	24.2	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	6467572	3114.10	3110(AM)	M6
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	162159	55.1283	55.1	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	241988	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	270726	63.0784	63.1	
	47 Trichloroethene	95	6.499	6.499	(0.987)	713287	284.165	284(A)	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	373930	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	449910	47.7712	47.8	
	58 Tetrachloroethene	164	9.123	9.123	(0.857)	461178	279.339	279(A)	
*	68 Chlorobenzene-D5	117	10.646	10.646	(1.000)	333700	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	205110	47.6899	47.7	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	172269	50.0000		
M	103 1,2-Dichloroethylene (total)	96				6513567	3138.34	3140	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7918.D
Date : 19-OCT-2018 18:44
Client ID: WVA-MW-84R-1-101018
Sample Info: TL0045-21

Instrument: gcms-t.i

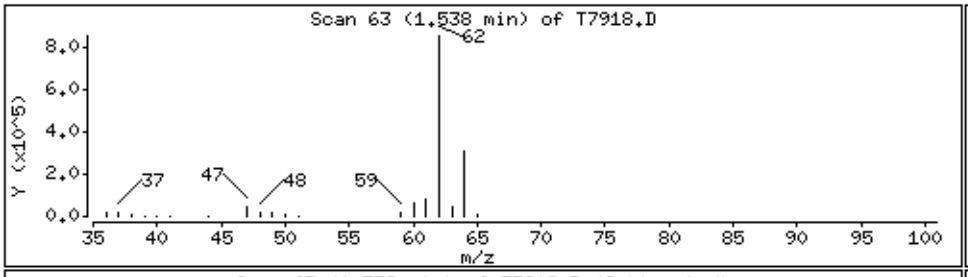
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7918.D

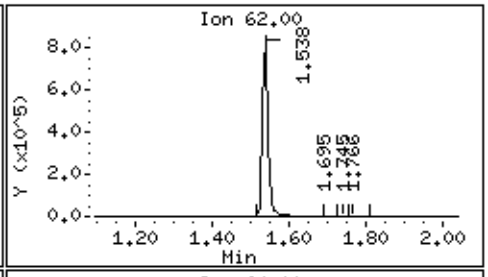
Date : 19-OCT-2018 18:44

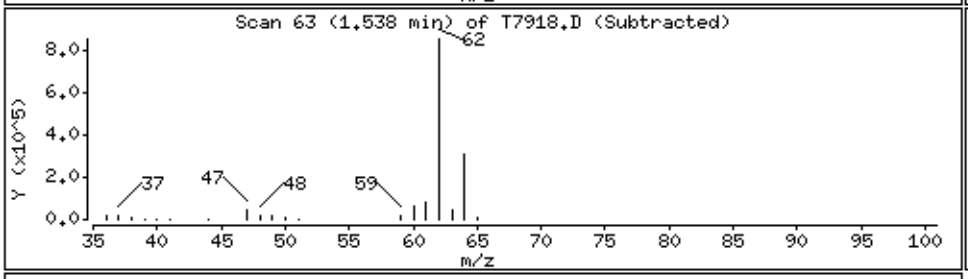
Client ID: WVA-MW-84R-1-101018 Instrument: gcms-t.i

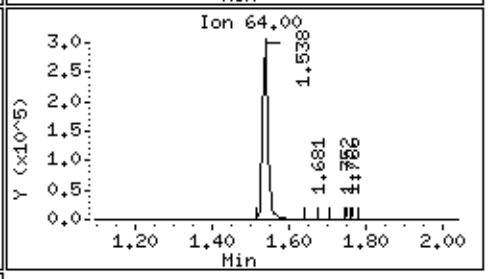
Sample Info: TL0045-21

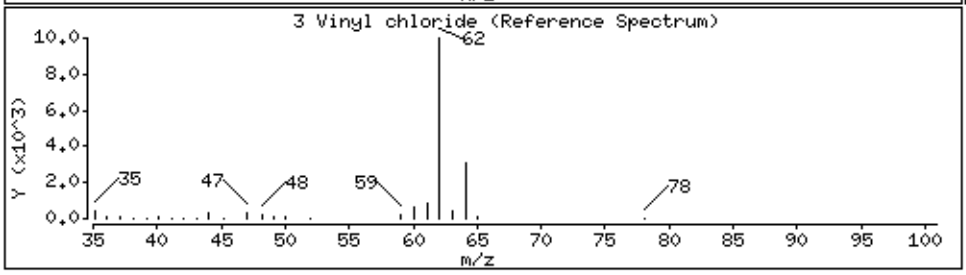
3 Vinyl chloride Concentration: 387 ug/l



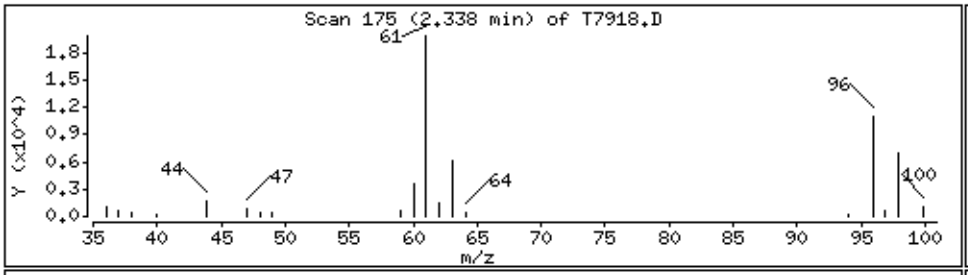


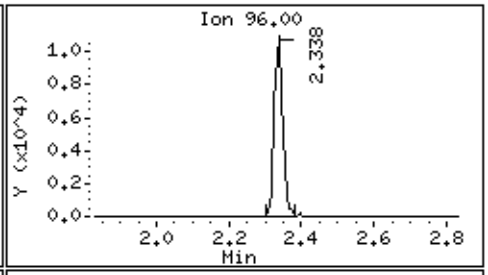


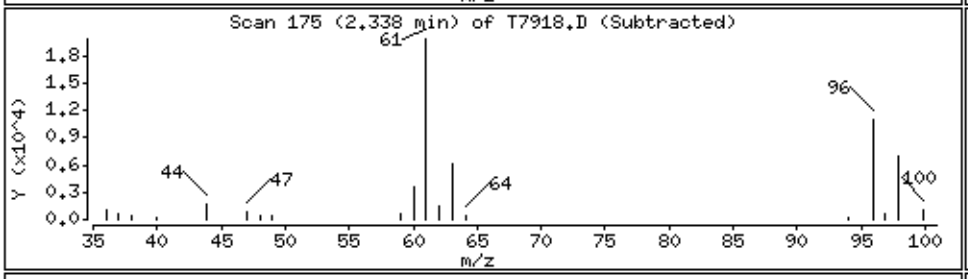


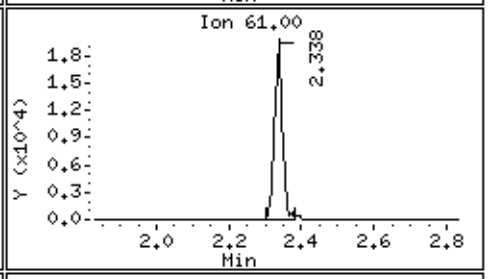


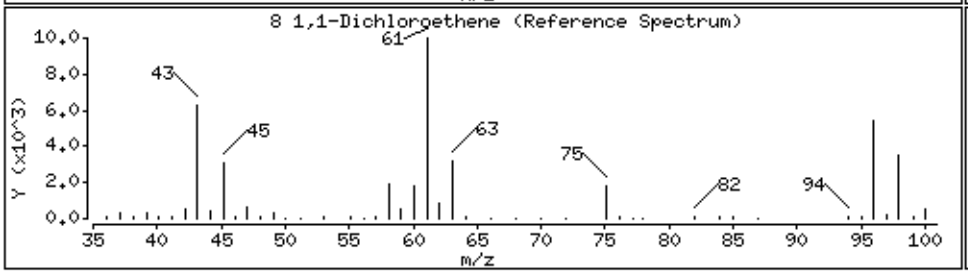
8 1,1-Dichloroethene Concentration: 8.7 ug/l

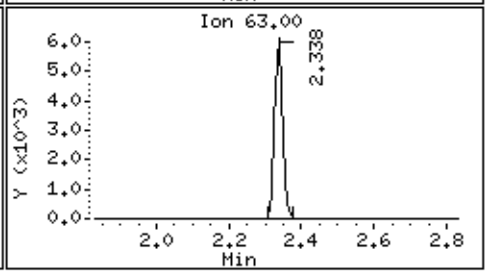












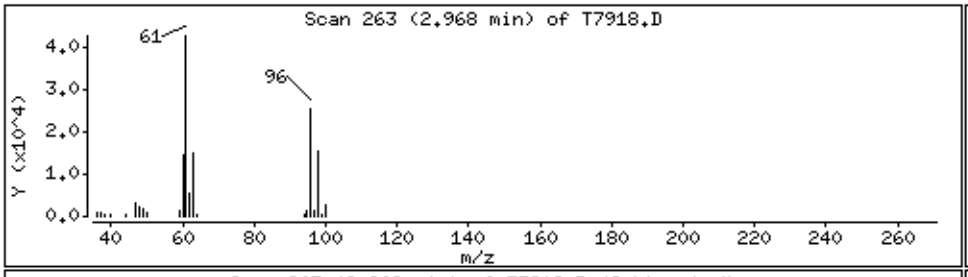
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7918.D

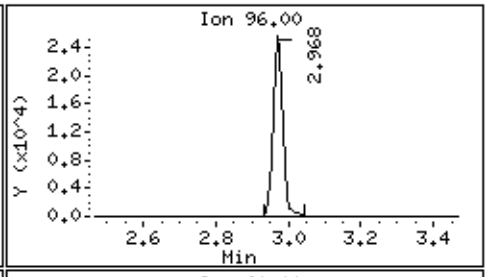
Date : 19-OCT-2018 18:44

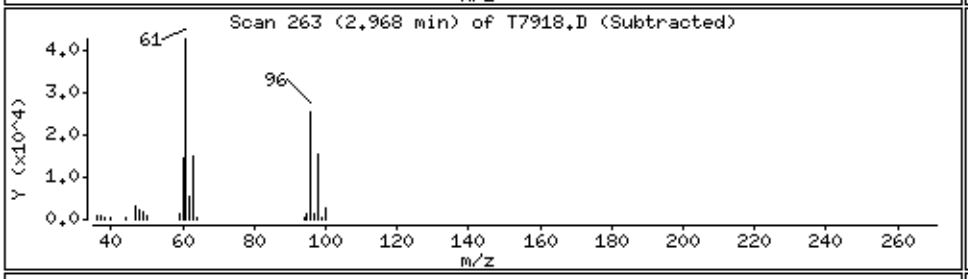
Client ID: WVA-MW-84R-1-101018 Instrument: gcms-t.i

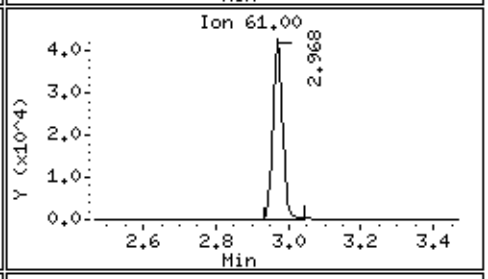
Sample Info: TL0045-21

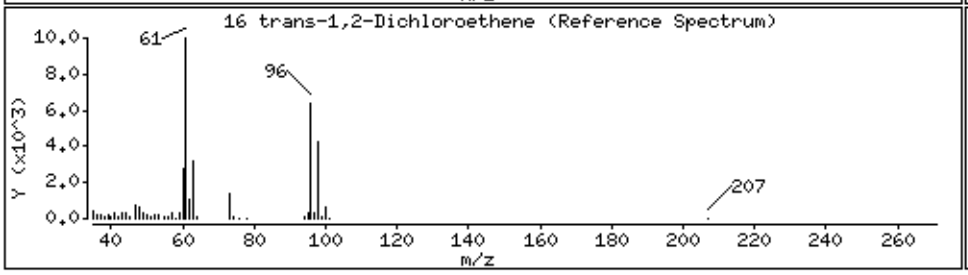
16 trans-1,2-Dichloroethene Concentration: 24.2 ug/l

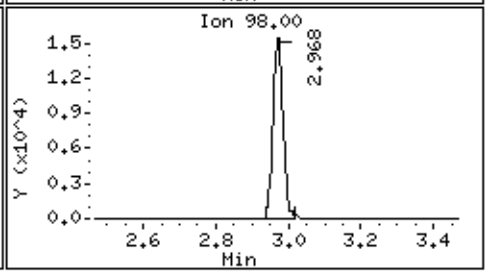




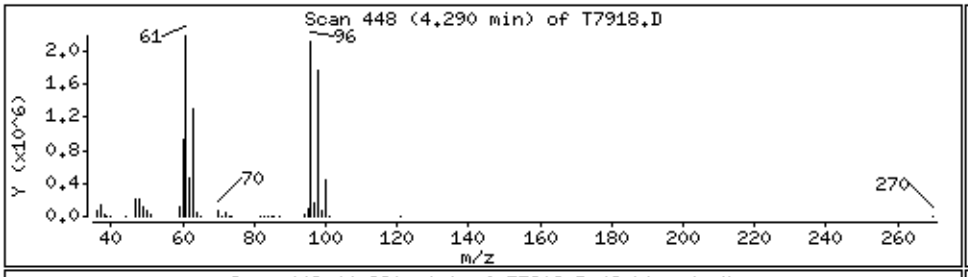


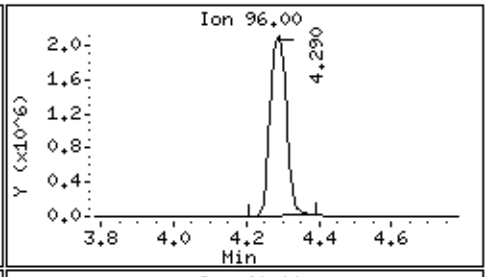


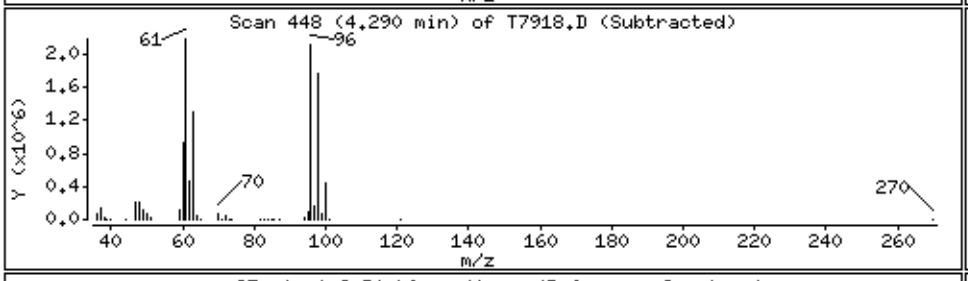


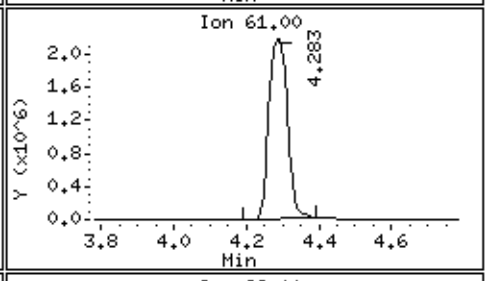


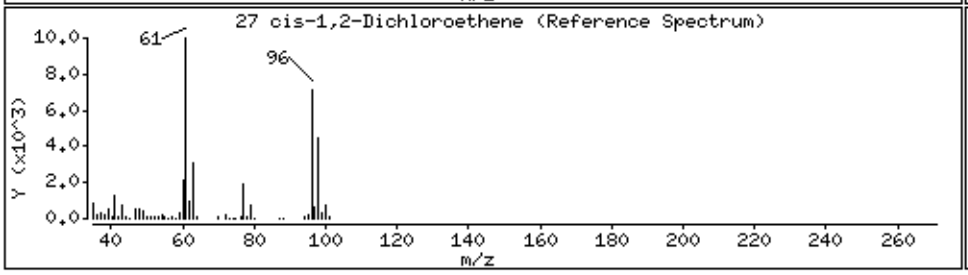
27 cis-1,2-Dichloroethene Concentration: 3110 ug/l

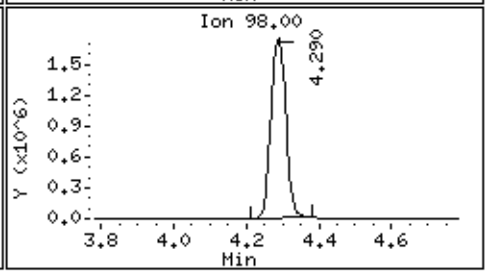












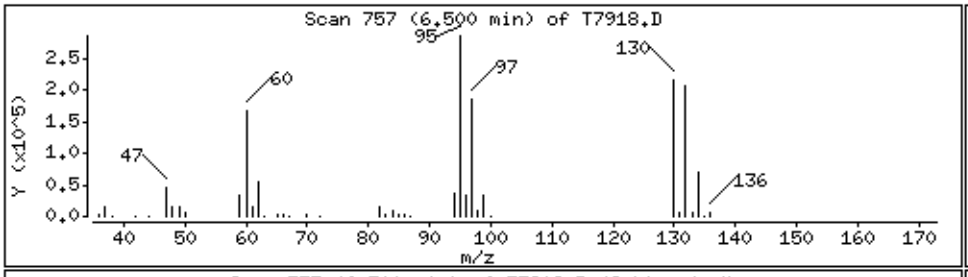
Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7918.D

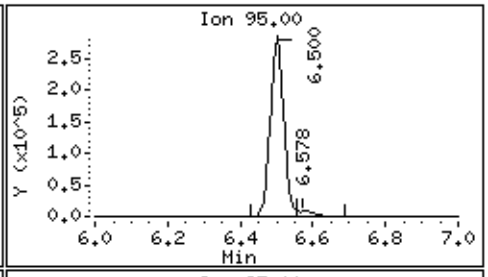
Date : 19-OCT-2018 18:44

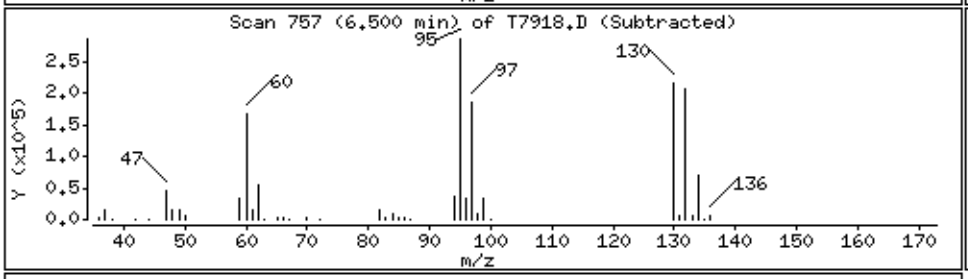
Client ID: WVA-MW-84R-1-101018 Instrument: gcms-t.i

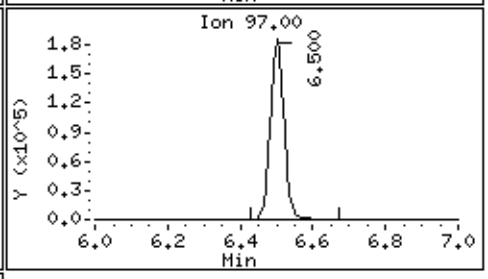
Sample Info: TL0045-21

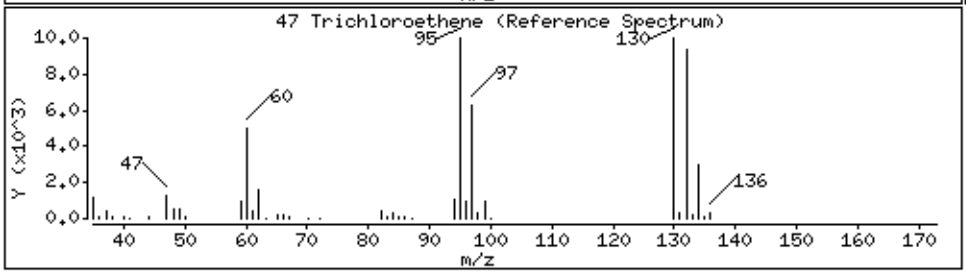
47 Trichloroethene Concentration: 284 ug/l



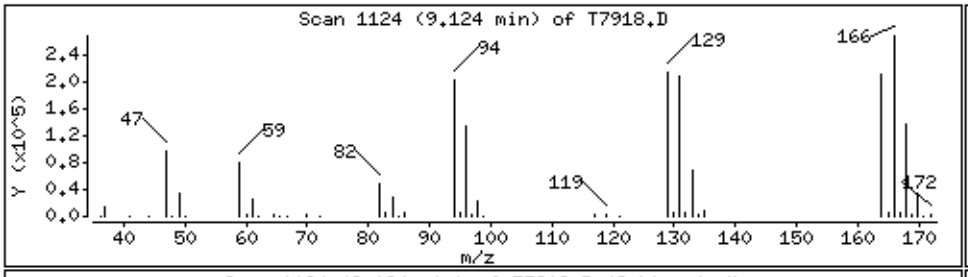


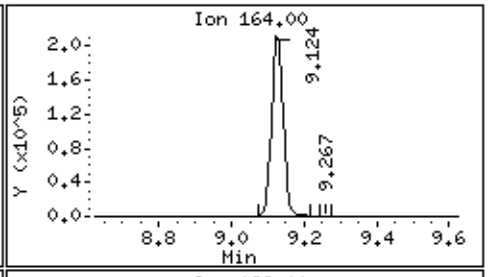


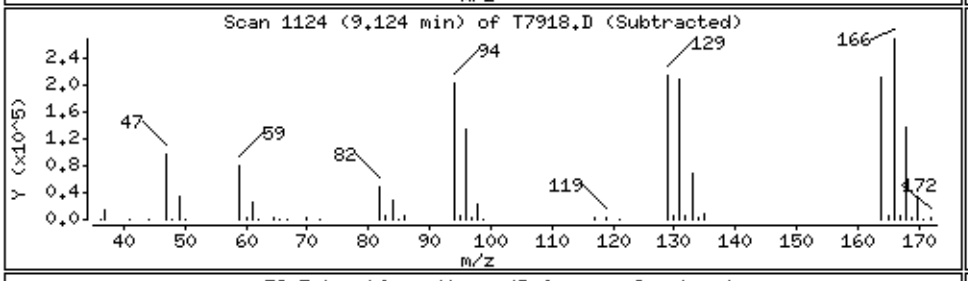


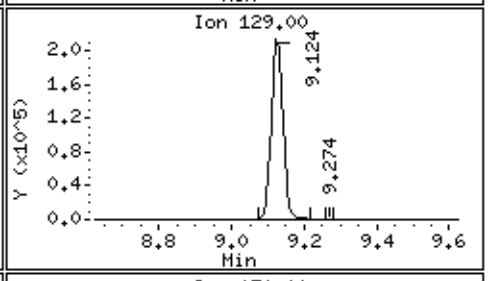


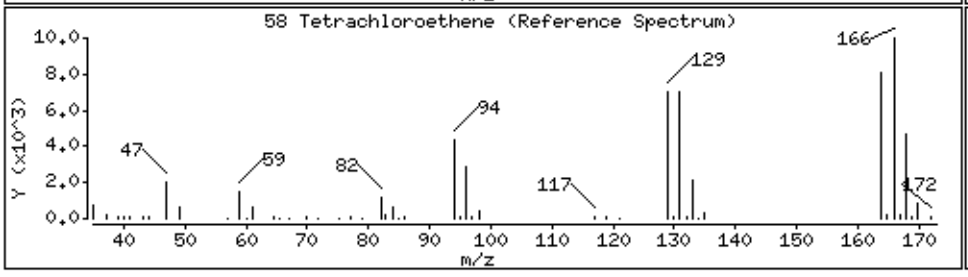
58 Tetrachloroethene Concentration: 279 ug/l

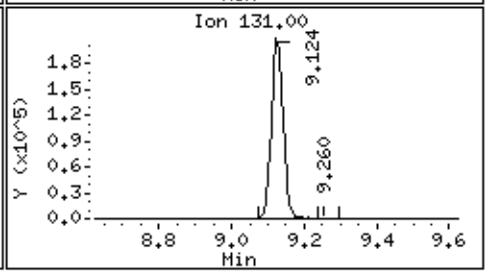












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-21DL
Client ID: WVA-MW-84R-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7931.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	200	ug/L	100	2	200
Vinyl Chloride		420	ug/L	100	2	200
Bromomethane	U	200	ug/L	100	2	200
Chloroethane	U	200	ug/L	100	2	200
Trichlorofluoromethane	U	200	ug/L	100	2	200
1,1-Dichloroethene	U	100	ug/L	100	1	100
Carbon Disulfide	U	100	ug/L	100	1	100
Methylene Chloride	U	500	ug/L	100	5	500
trans-1,2-Dichloroethene	U	100	ug/L	100	1	100
1,1-Dichloroethane	U	100	ug/L	100	1	100
cis-1,2-Dichloroethene		3300	ug/L	100	1	100
Chloroform	U	100	ug/L	100	1	100
Carbon Tetrachloride	U	100	ug/L	100	1	100
1,1,1-Trichloroethane	U	100	ug/L	100	1	100
2-Butanone	U	500	ug/L	100	5	500
Benzene	U	100	ug/L	100	1	100
1,2-Dichloroethane	U	100	ug/L	100	1	100
Trichloroethene		260	ug/L	100	1	100
1,2-Dichloropropane	U	100	ug/L	100	1	100
Bromodichloromethane	U	100	ug/L	100	1	100
cis-1,3-Dichloropropene	U	100	ug/L	100	1	100
Toluene	U	100	ug/L	100	1	100
4-Methyl-2-Pentanone	U	500	ug/L	100	5	500
Tetrachloroethene		300	ug/L	100	1	100
trans-1,3-Dichloropropene	U	100	ug/L	100	1	100
1,1,2-Trichloroethane	U	100	ug/L	100	1	100
Dibromochloromethane	U	100	ug/L	100	1	100
Chlorobenzene	U	100	ug/L	100	1	100
Ethylbenzene	U	100	ug/L	100	1	100
m+p-Xylenes	U	200	ug/L	100	2	200
o-Xylene	U	100	ug/L	100	1	100
Bromoform	U	100	ug/L	100	1	100
1,1,2,2-Tetrachloroethane	U	100	ug/L	100	1	100
P-Bromofluorobenzene		94.0	%			
Toluene-d8		98.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-21DL
Client ID: WVA-MW-84R-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7931.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		123.	%			
Dibromofluoromethane		109.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7931.D
Report Date: 25-Oct-2018 13:46

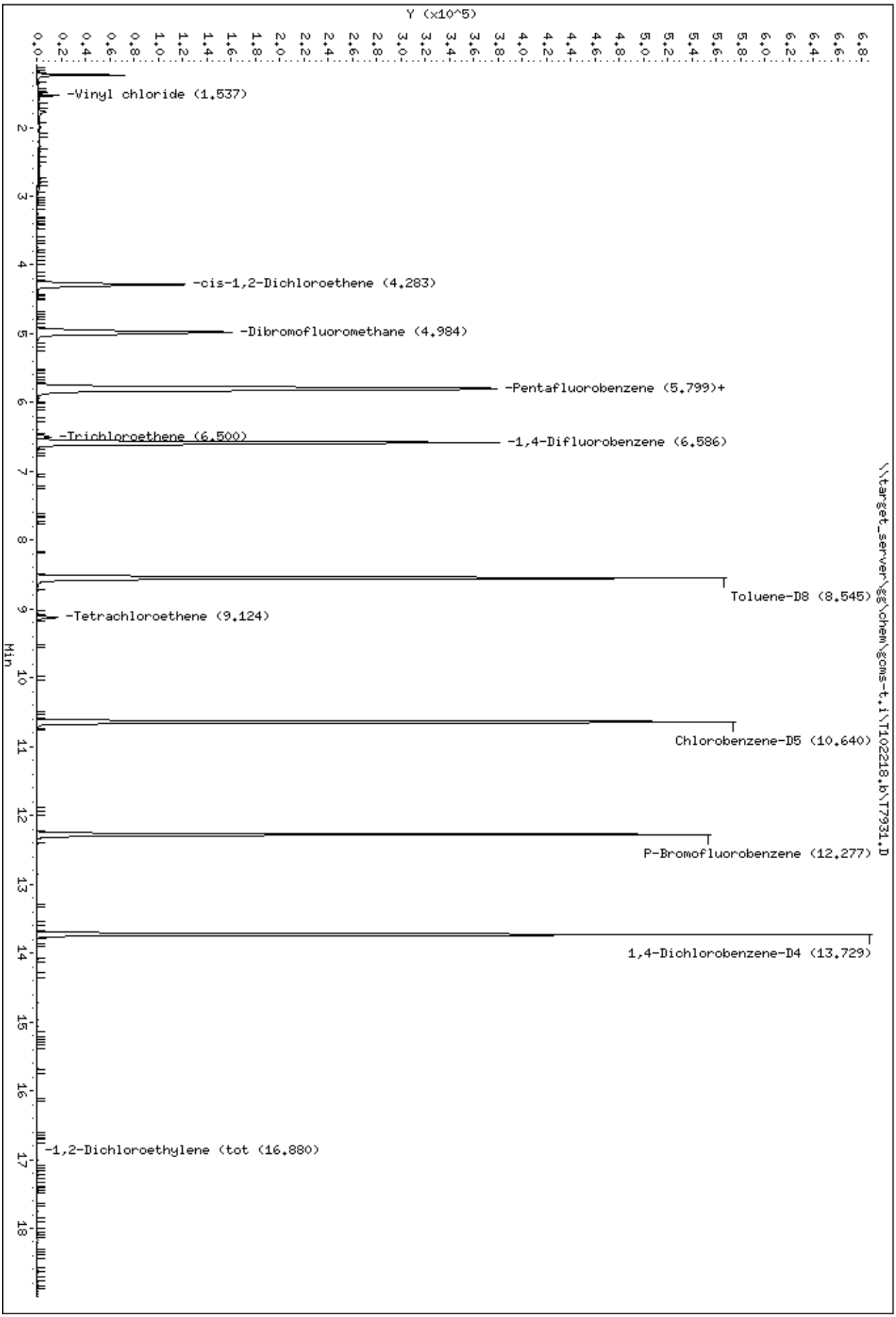
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7931.D
Lab Smp Id: TL0045-21DL Client Smp ID: WVA-MW-84R-1-101018
Inj Date : 22-OCT-2018 13:23 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-21DL
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 9
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.265)	8642	4.24582	424	
27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	64646	33.0142	3300	
$ 34 Dibromofluoromethane	113	4.983	4.976	(0.860)	150859	54.3967	54.4	
* 41 Pentafluorobenzene	168	5.791	5.791	(1.000)	228153	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	249050	61.5467	61.5	
47 Trichloroethene	95	6.499	6.499	(0.987)	5970	2.57092	257	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	345925	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	430836	49.4494	49.4	
58 Tetrachloroethene	164	9.131	9.123	(0.858)	4468	2.98115	298	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	302934	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	187087	47.0209	47.0	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	156381	50.0000		
M 103 1,2-Dichloroethylene (total)	96				64646	33.0142	3300	


Y (x10^5)
-Vinyl chloride (1.537)
-cis-1,2-Dichloroethene (4.283)
-Dibromofluoromethane (4.984)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.500)
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
Min
\\target_server\gg\chem\gcms-t.i\T102218.b\T7931.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7931.D
Date : 22-OCT-2018 13:23
Client ID: WVA-HW-84R-1-101018
Sample Info: TL0045-21DL
Instrument: gcms-t.i

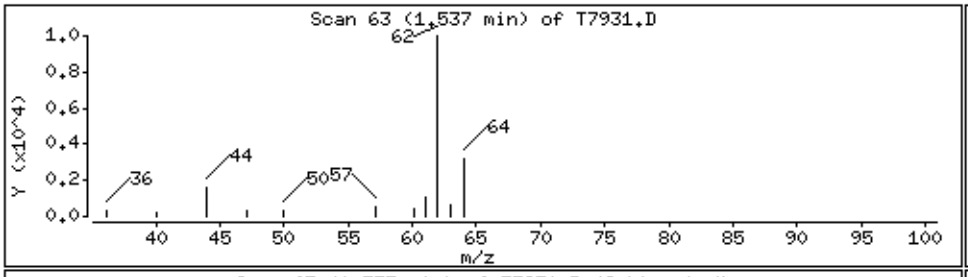
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7931.D

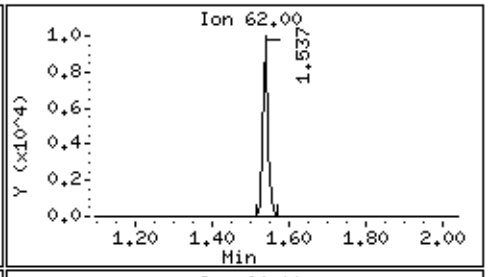
Date : 22-OCT-2018 13:23

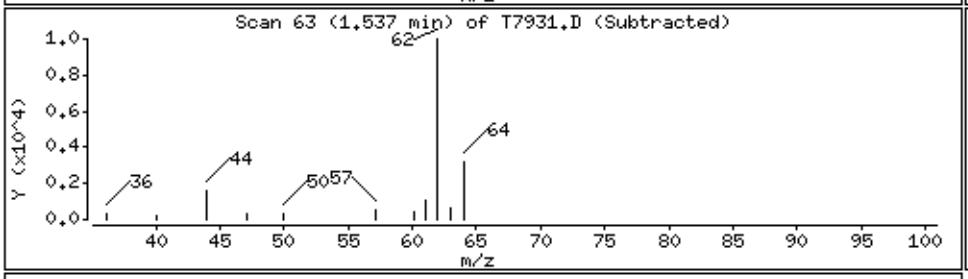
Client ID: WVA-MW-84R-1-101018 Instrument: gcms-t.i

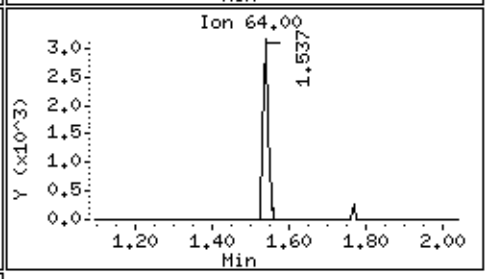
Sample Info: TL0045-21DL

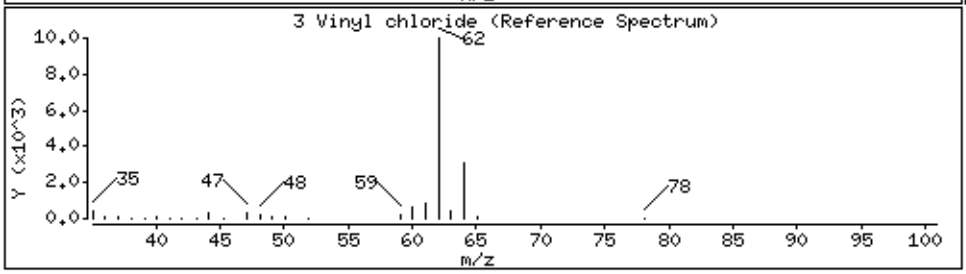
3 Vinyl chloride Concentration: 424 ug/l



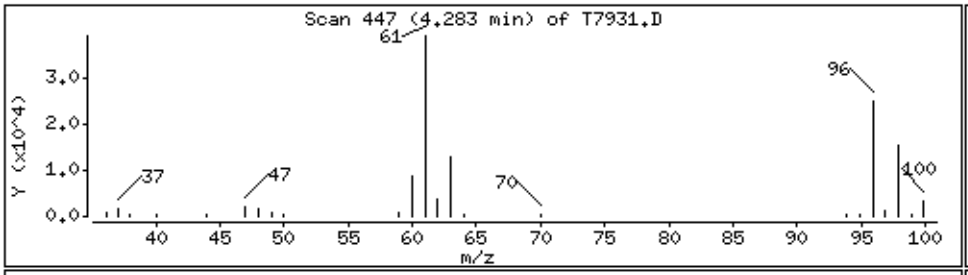


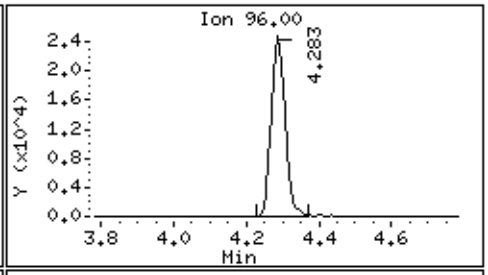


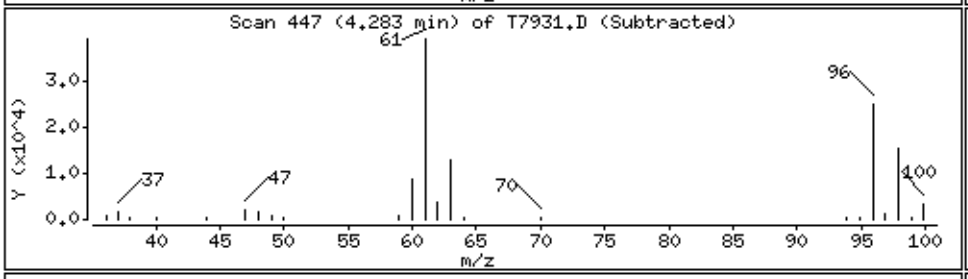


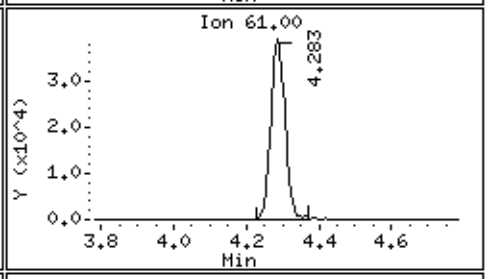


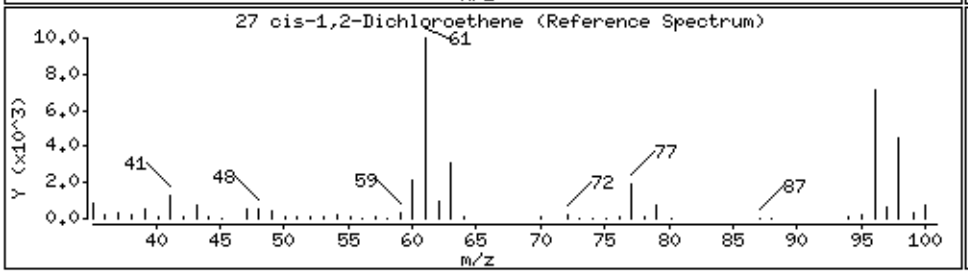
27 cis-1,2-Dichloroethene Concentration: 3300 ug/l

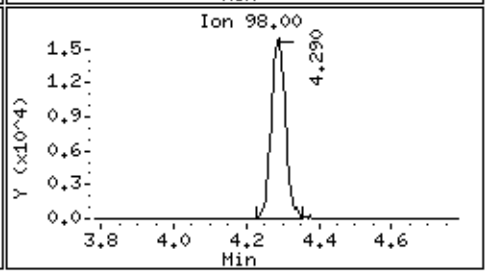












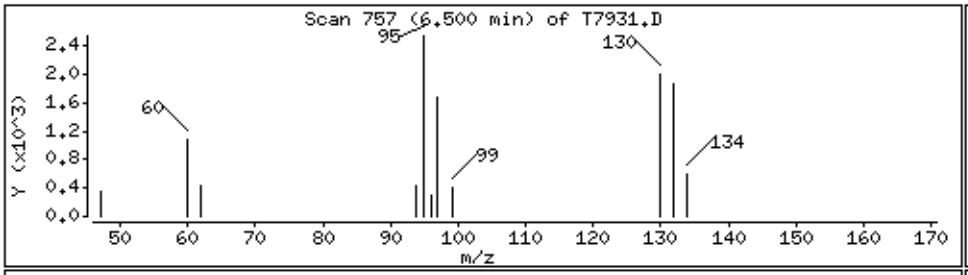
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7931.D

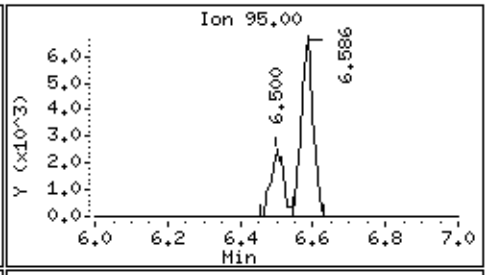
Date : 22-OCT-2018 13:23

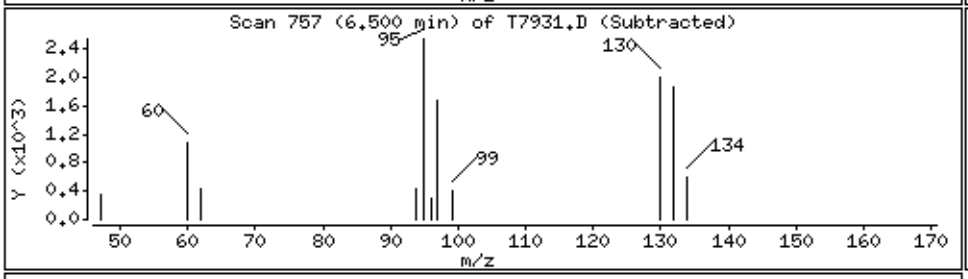
Client ID: WVA-MW-84R-1-101018 Instrument: gcms-t.i

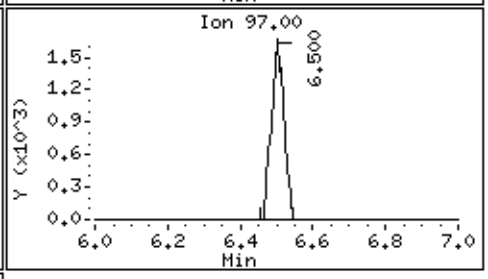
Sample Info: TL0045-21DL

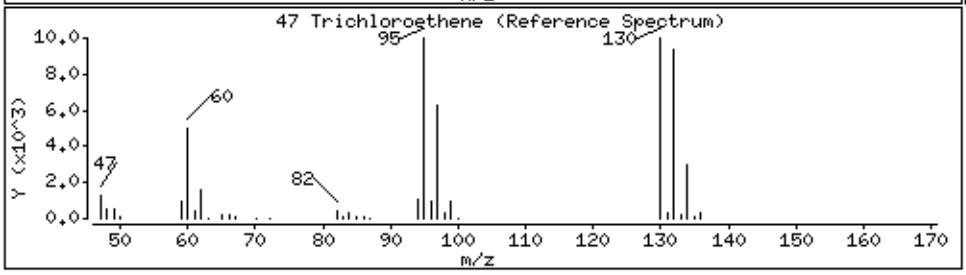
47 Trichloroethene Concentration: 257 ug/l



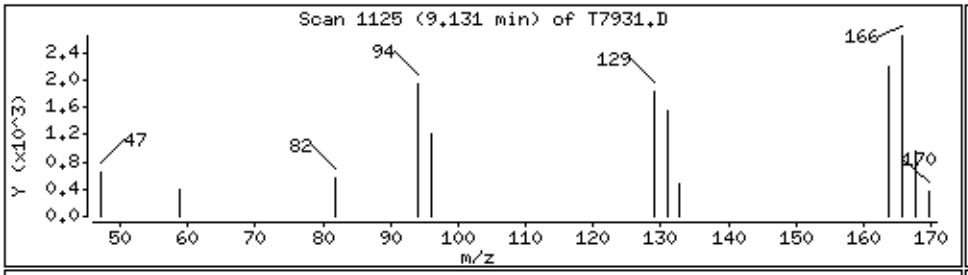


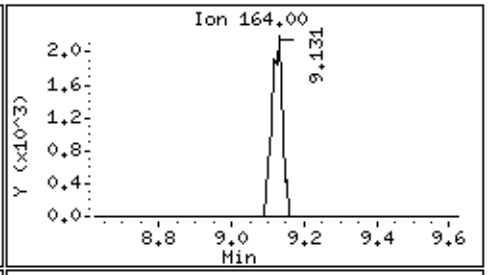


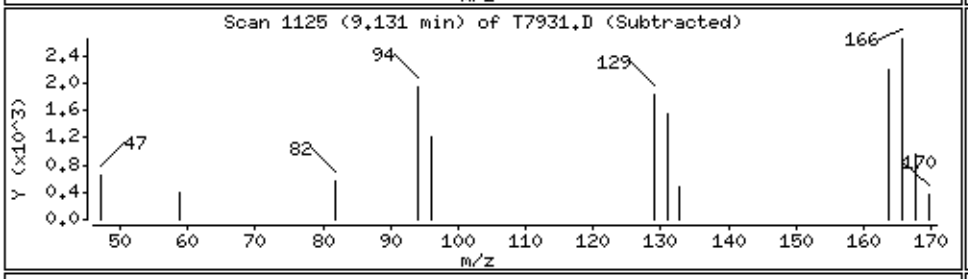


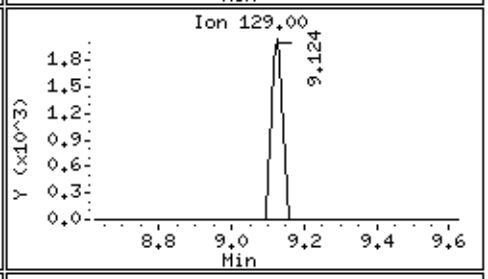


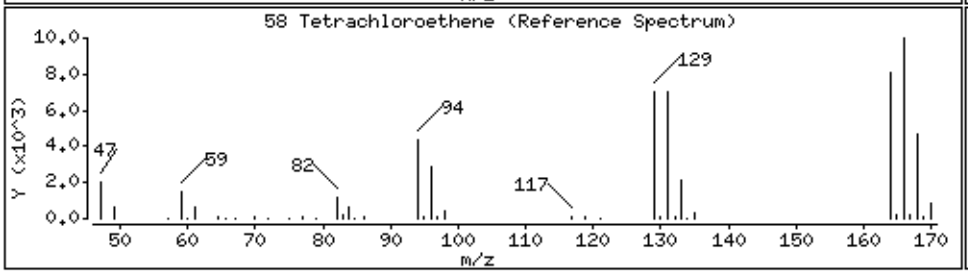
58 Tetrachloroethene Concentration: 298 ug/l

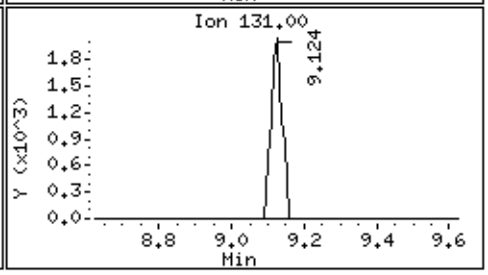












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-22
Client ID: WVA-MW-83-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7893.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	410	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		2.6	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	210	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.5	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		3.9	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.8	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-22
Client ID: WVA-MW-83-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7893.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		123.	%			
Dibromofluoromethane		109.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7893.D
Report Date: 25-Oct-2018 11:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7893.D
Lab Smp Id: TL0045-22 Client Smp ID: WVA-MW-83-3-101018
Inj Date : 18-OCT-2018 20:04 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-22
Misc Info : WG238778,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

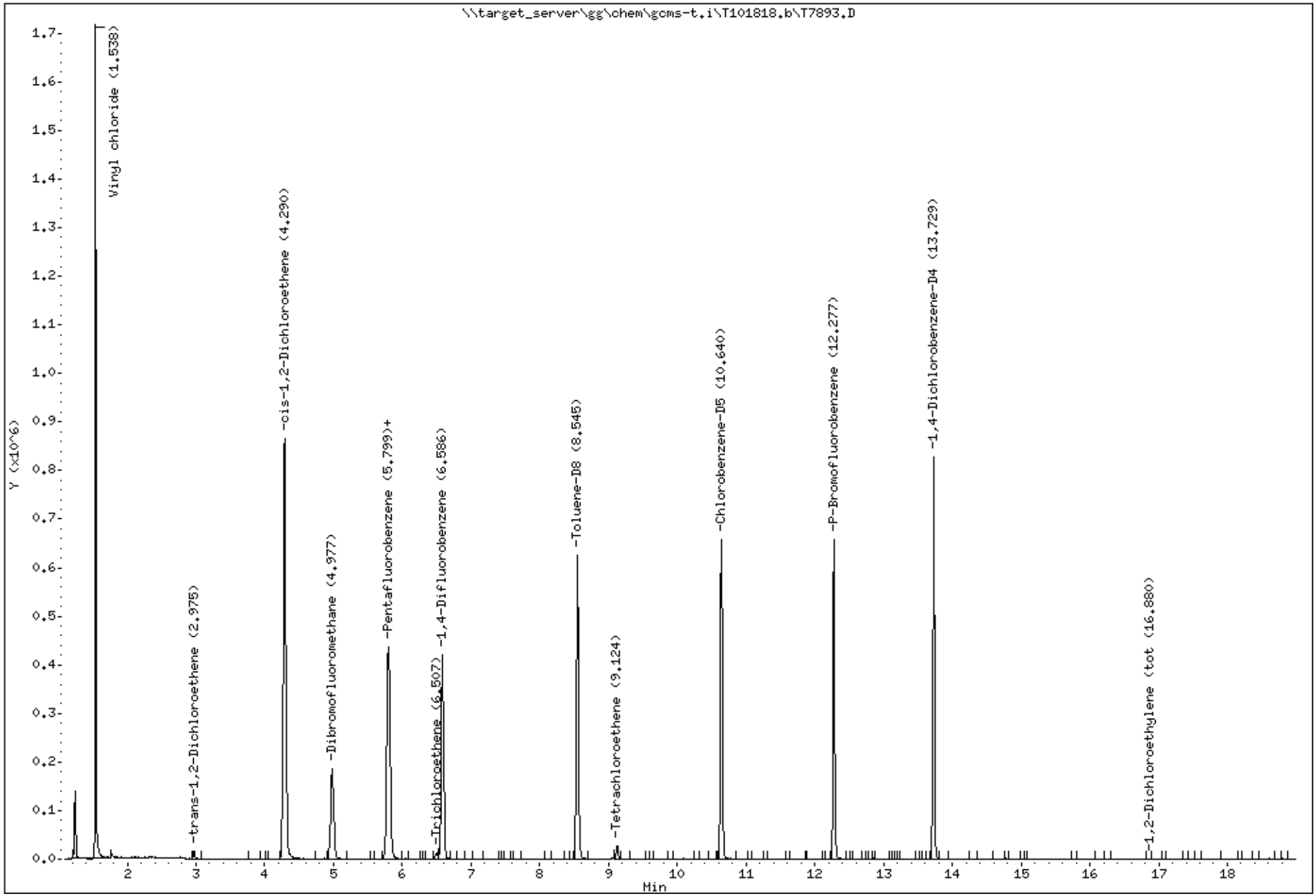
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	933173	406.481	406(A)	
	16 trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	5180	2.56730	2.6	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	461733	209.065	209(A)	
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	170389	54.4720	54.5	
*	41 Pentafluorobenzene	168	5.792	5.791	(1.000)	257333	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	279888	61.3244	61.3	
	47 Trichloroethene	95	6.492	6.499	(0.986)	6458	2.51582	2.5	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	382398	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	483556	50.2067	50.2	
	58 Tetrachloroethene	164	9.124	9.123	(0.858)	6803	3.93538	3.9	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	349408	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	219569	49.9212	49.9	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	187214	50.0000		
M	103 1,2-Dichloroethylene (total)	96				466913	211.632	212	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7893.D
Date : 18-OCT-2018 20:04
Client ID: WVA-MW-83-3-101018 Instrument: gcms-t.i
Sample Info: TL0045-22



Katahdin Analytical Services 1000194

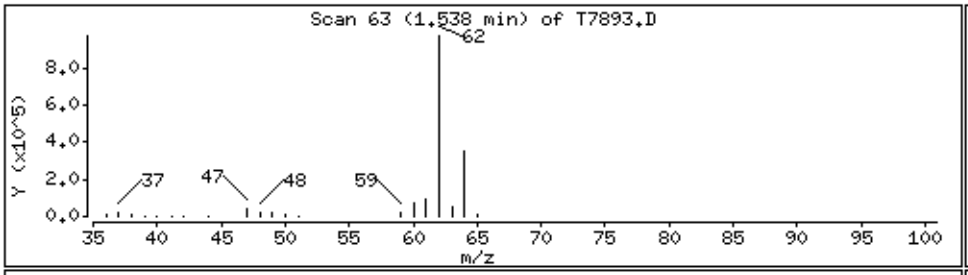
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7893.D

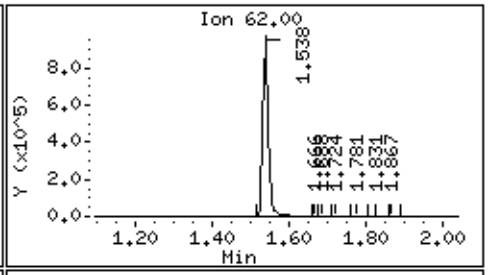
Date : 18-OCT-2018 20:04

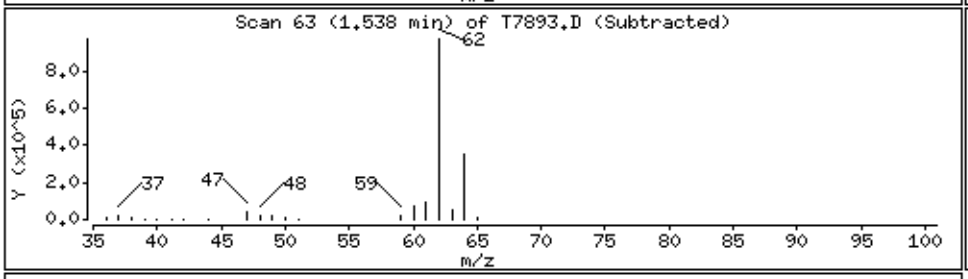
Client ID: WVA-MW-83-3-101018 Instrument: gcms-t.i

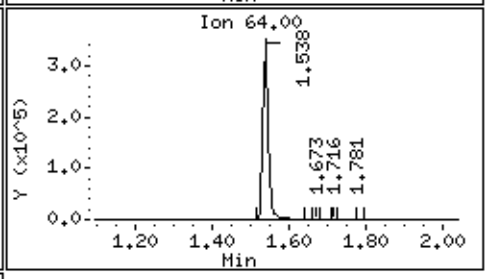
Sample Info: TL0045-22

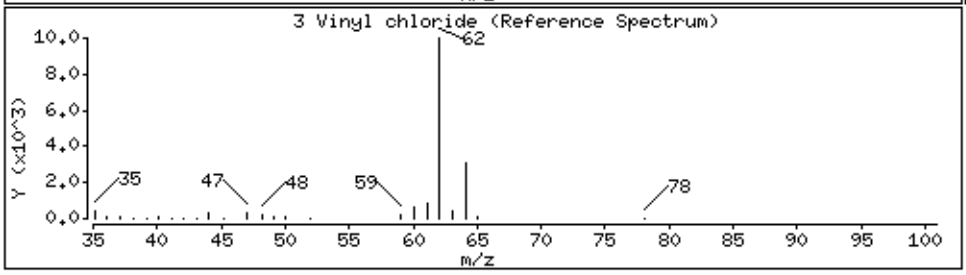
3 Vinyl chloride Concentration: 406 ug/l



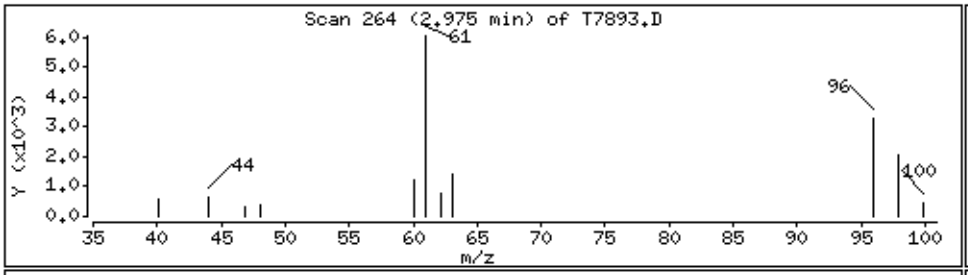


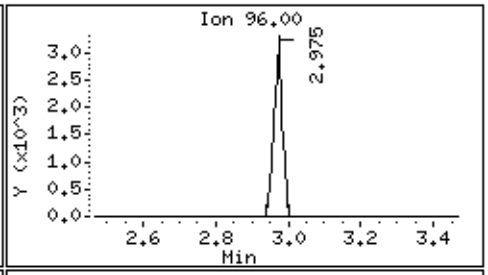


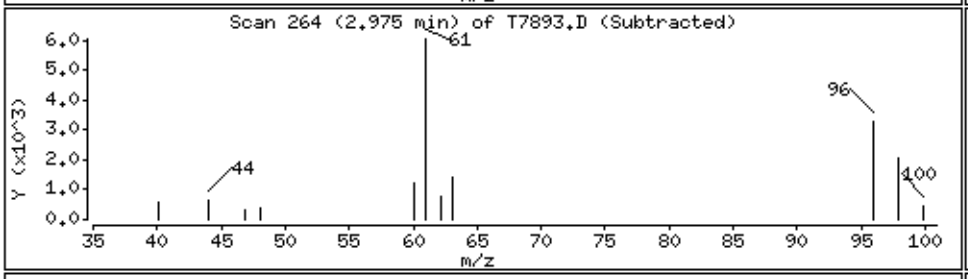


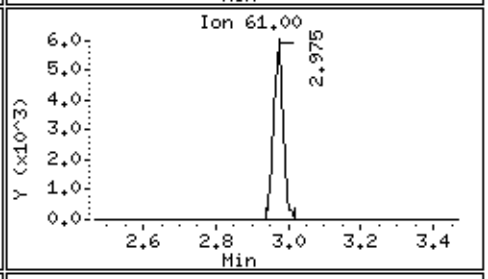


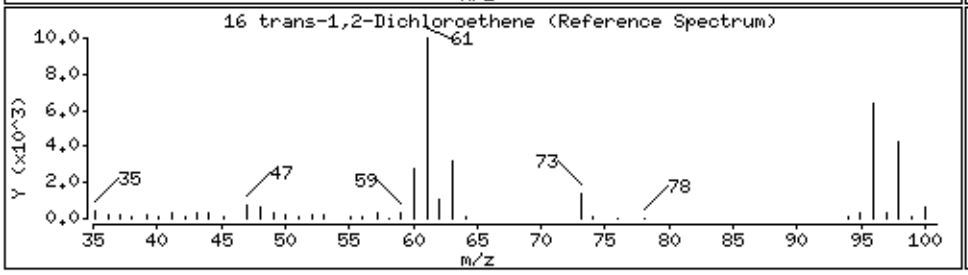
16 trans-1,2-Dichloroethene Concentration: 2.6 ug/l

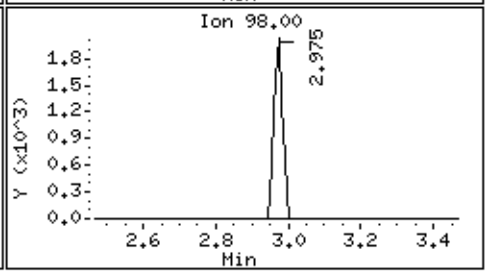












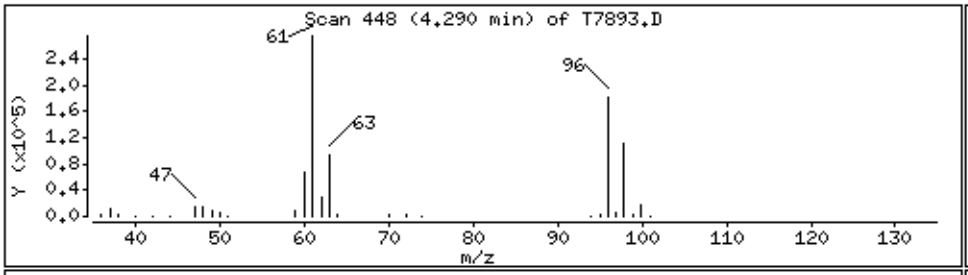
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7893.D

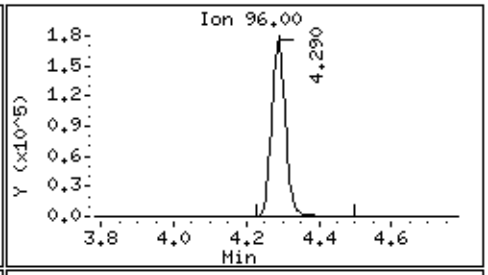
Date : 18-OCT-2018 20:04

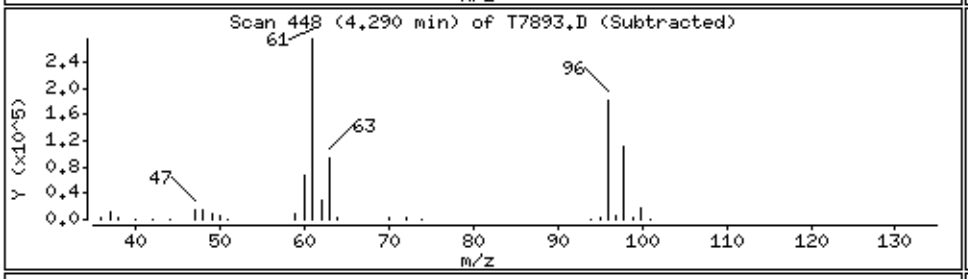
Client ID: WVA-MW-83-3-101018 Instrument: gcms-t.i

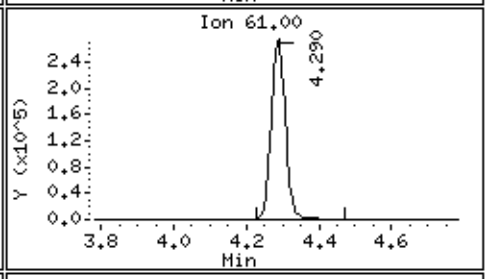
Sample Info: TL0045-22

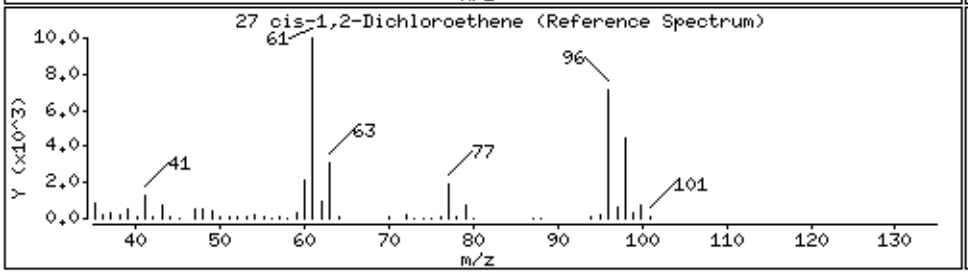
27 cis-1,2-Dichloroethene Concentration: 209 ug/l

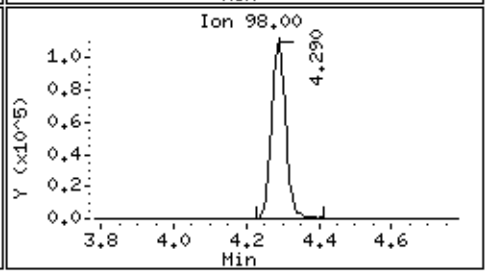




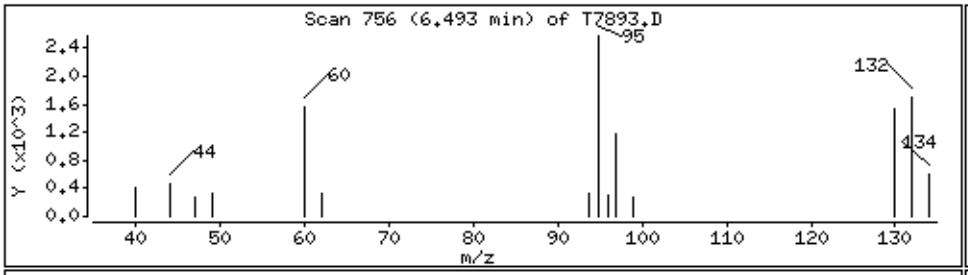


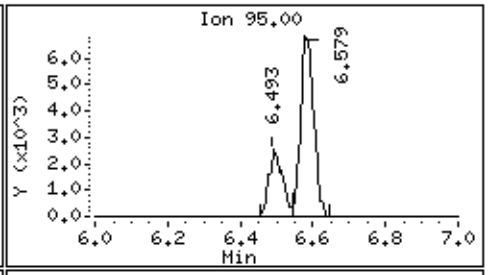


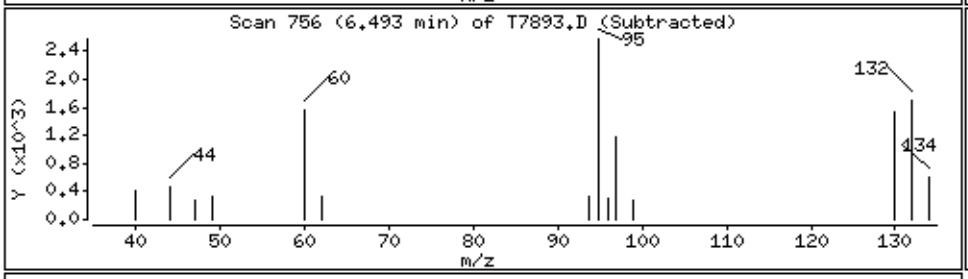


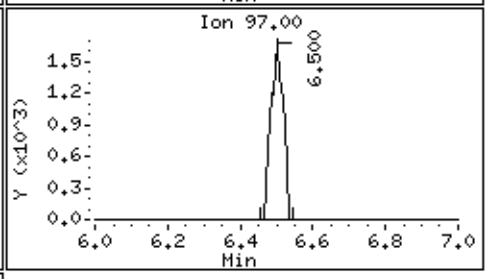


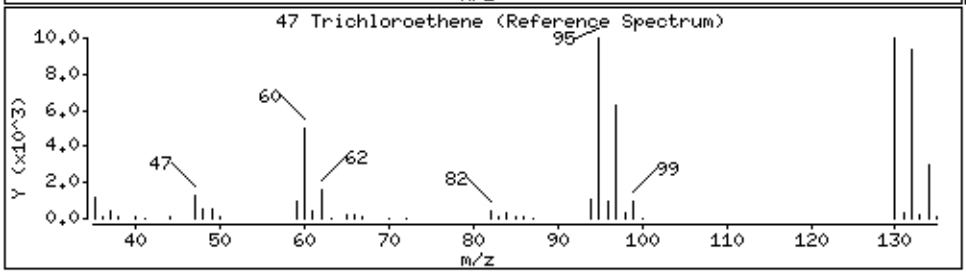
47 Trichloroethene Concentration: 2.5 ug/l











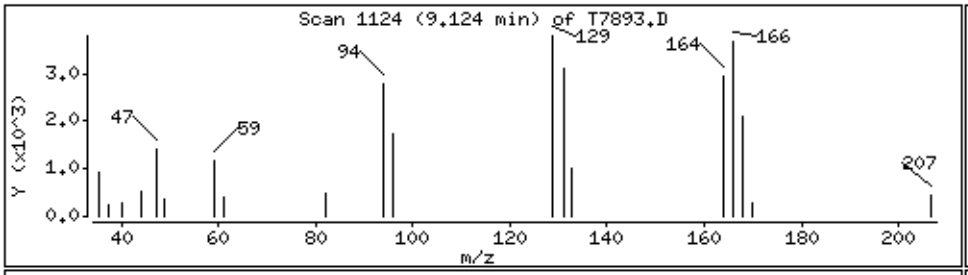
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7893.D

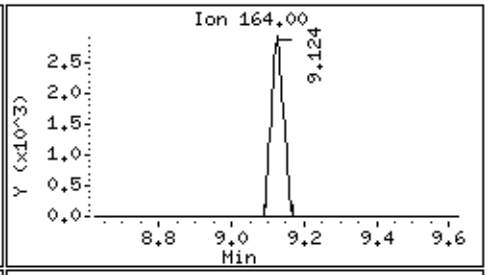
Date : 18-OCT-2018 20:04

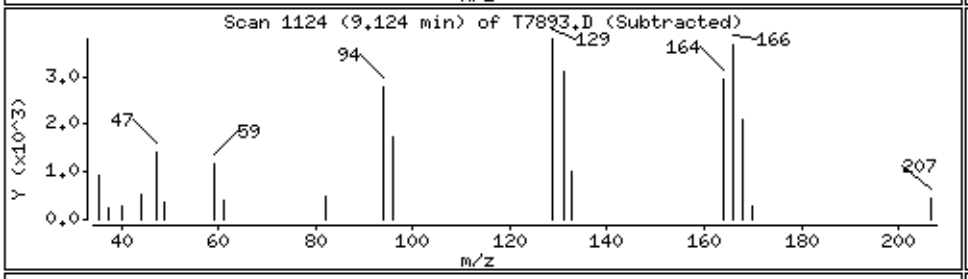
Client ID: WVA-MW-83-3-101018 Instrument: gcms-t.i

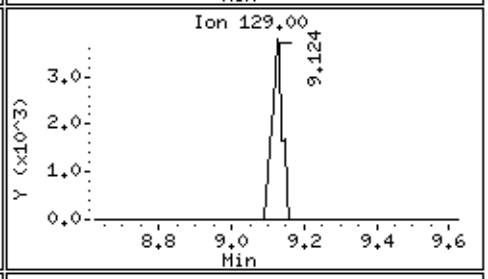
Sample Info: TL0045-22

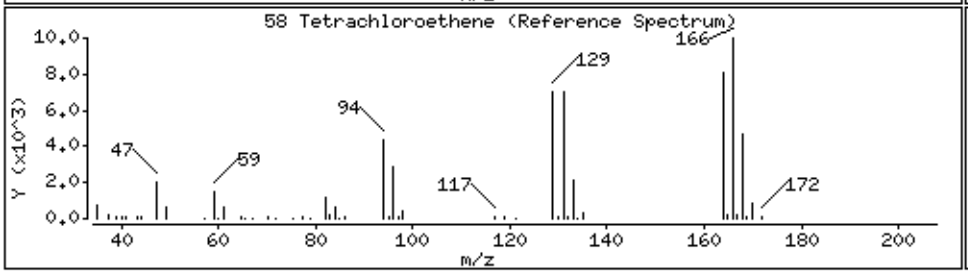
58 Tetrachloroethene Concentration: 3.9 ug/l

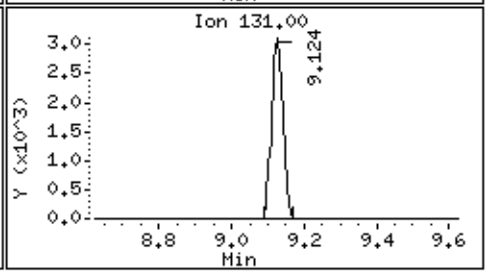












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-22DL
Client ID: WVA-MW-83-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7887.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	20.	ug/L	10	2	20.
Vinyl Chloride		340	ug/L	10	2	20.
Bromomethane	U	20.	ug/L	10	2	20.
Chloroethane	U	20.	ug/L	10	2	20.
Trichlorofluoromethane	U	20.	ug/L	10	2	20.
1,1-Dichloroethene	U	10.	ug/L	10	1	10.
Carbon Disulfide	U	10.	ug/L	10	1	10.
Methylene Chloride	U	50.	ug/L	10	5	50.
trans-1,2-Dichloroethene	U	10.	ug/L	10	1	10.
1,1-Dichloroethane	U	10.	ug/L	10	1	10.
cis-1,2-Dichloroethene		140	ug/L	10	1	10.
Chloroform	U	10.	ug/L	10	1	10.
Carbon Tetrachloride	U	10.	ug/L	10	1	10.
1,1,1-Trichloroethane	U	10.	ug/L	10	1	10.
2-Butanone	U	50.	ug/L	10	5	50.
Benzene	U	10.	ug/L	10	1	10.
1,2-Dichloroethane	U	10.	ug/L	10	1	10.
Trichloroethene	U	10.	ug/L	10	1	10.
1,2-Dichloropropane	U	10.	ug/L	10	1	10.
Bromodichloromethane	U	10.	ug/L	10	1	10.
cis-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
Toluene	U	10.	ug/L	10	1	10.
4-Methyl-2-Pentanone	U	50.	ug/L	10	5	50.
Tetrachloroethene	U	10.	ug/L	10	1	10.
trans-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
1,1,2-Trichloroethane	U	10.	ug/L	10	1	10.
Dibromochloromethane	U	10.	ug/L	10	1	10.
Chlorobenzene	U	10.	ug/L	10	1	10.
Ethylbenzene	U	10.	ug/L	10	1	10.
m+p-Xylenes	U	20.	ug/L	10	2	20.
o-Xylene	U	10.	ug/L	10	1	10.
Bromoform	U	10.	ug/L	10	1	10.
1,1,2,2-Tetrachloroethane	U	10.	ug/L	10	1	10.
P-Bromofluorobenzene		98.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-22DL
Client ID: WVA-MW-83-3-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7887.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		116.	%			
Dibromofluoromethane		108.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7887.D
Report Date: 25-Oct-2018 11:59

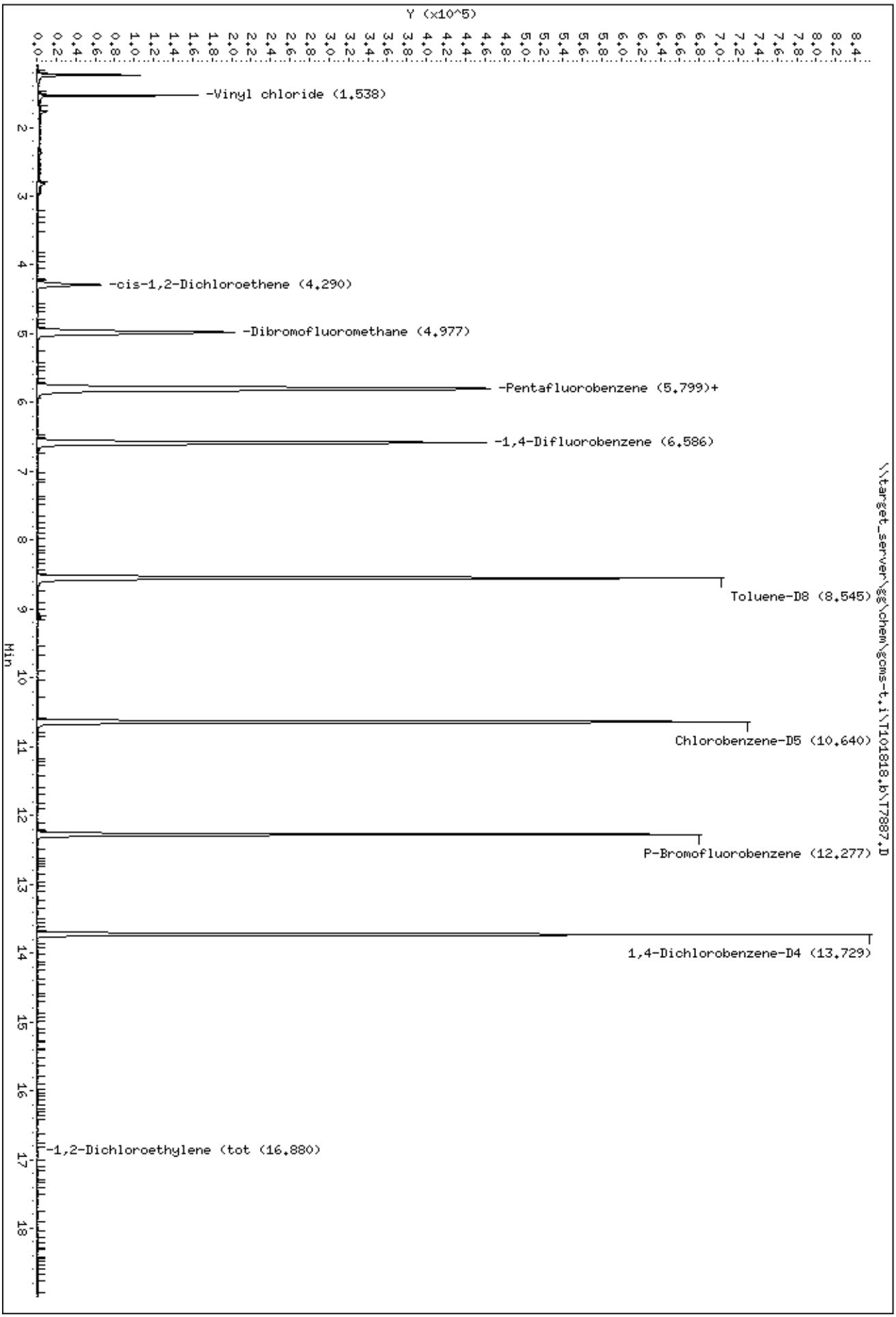
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7887.D
Lab Smp Id: TL0045-22DL Client Smp ID: WVA-MW-83-3-101018
Inj Date : 18-OCT-2018 17:05 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-22DL
Misc Info : WG238778,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 12
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.265)	87138	33.8374	338	
27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	33929	13.6953	137	
$ 34 Dibromofluoromethane	113	4.976	4.976	(0.859)	188755	53.7951	53.8	
* 41 Pentafluorobenzene	168	5.791	5.791	(1.000)	288658	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	297728	58.1541	58.2	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	429439	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	551849	51.0211	51.0	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	395642	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	243021	49.2008	49.2	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	202871	50.0000		
M 103 1,2-Dichloroethylene (total)	96				33929	13.6953	137	


Y (x10^5)
Min
-Vinyl chloride (1.538)
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T101818.b\T7887.D
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7887.D
Date : 18-OCT-2018 17:05
Client ID: WVA-MW-83-3-101018
Sample Info: TL0045-22DL
Instrument: gcms-t.i

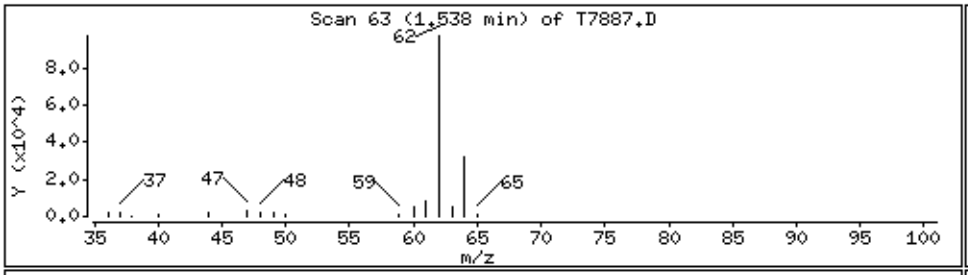
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7887.D

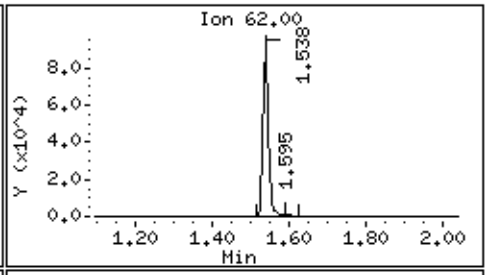
Date : 18-OCT-2018 17:05

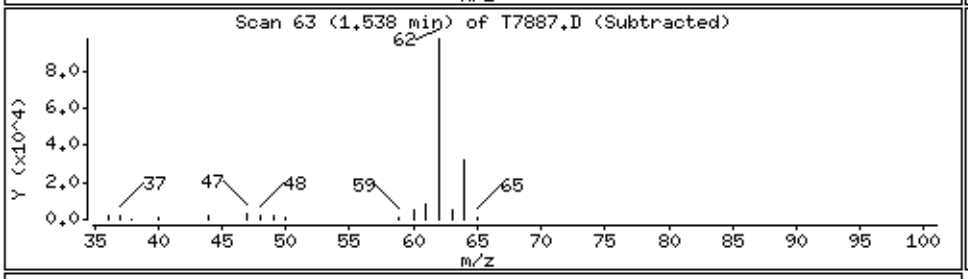
Client ID: WVA-MW-83-3-101018 Instrument: gcms-t.i

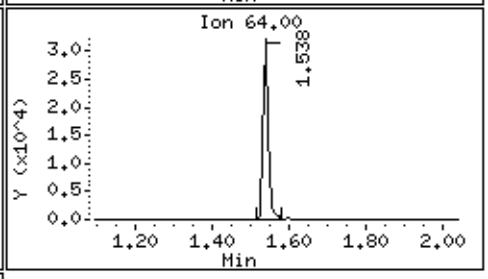
Sample Info: TL0045-22DL

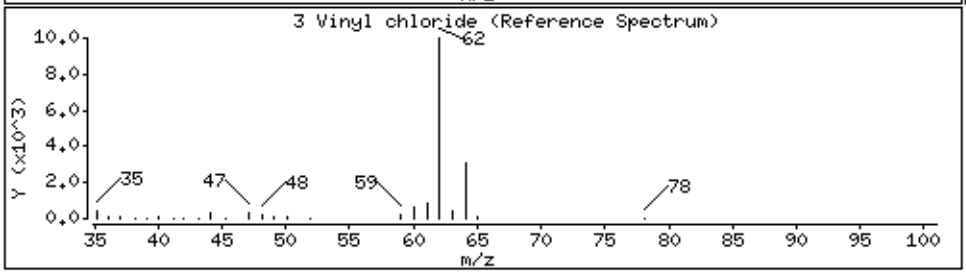
3 Vinyl chloride Concentration: 338 ug/l



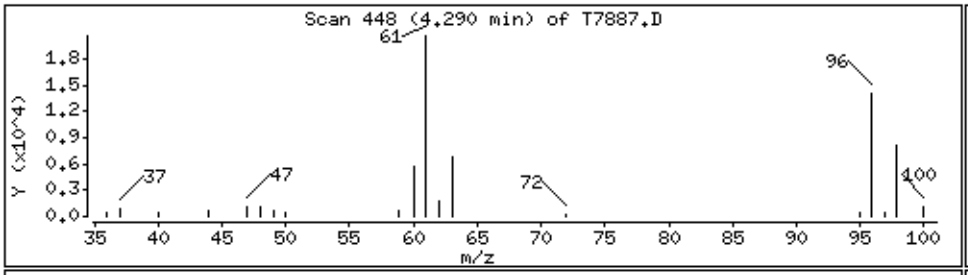


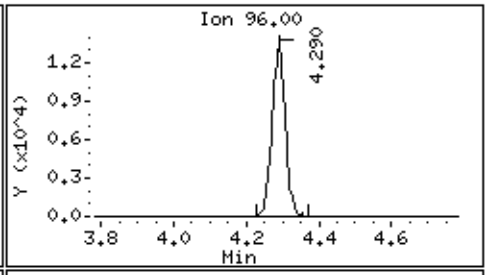


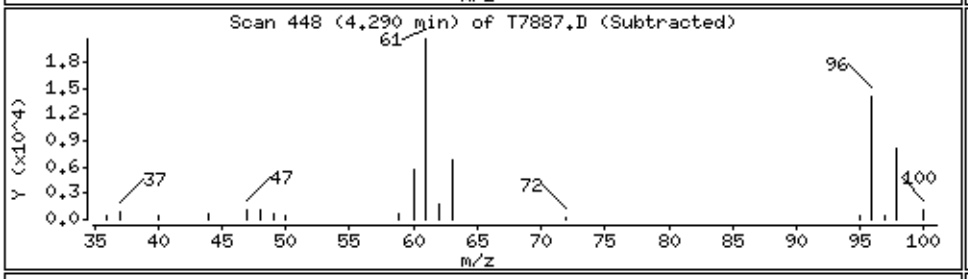


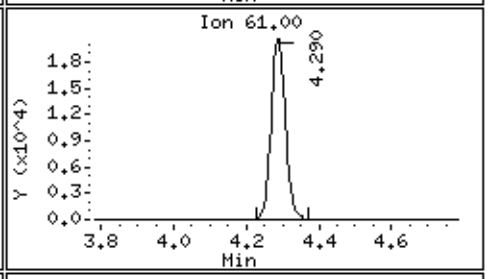


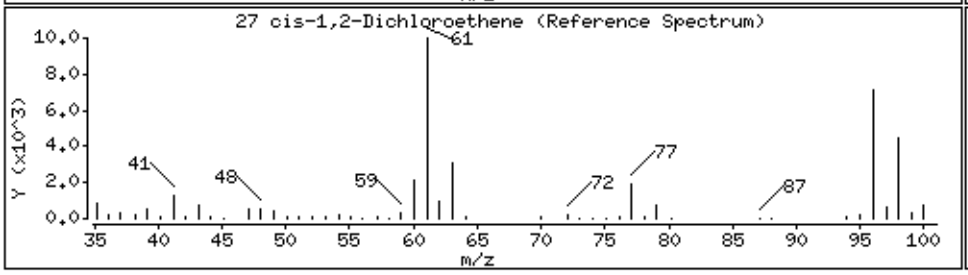
27 cis-1,2-Dichloroethene Concentration: 137 ug/l

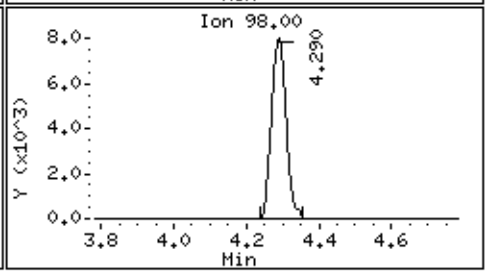












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-23DL
Client ID: WVA-MW-83-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7886.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	500	ug/L	250	2	500
Vinyl Chloride	U	500	ug/L	250	2	500
Bromomethane	U	500	ug/L	250	2	500
Chloroethane	U	500	ug/L	250	2	500
Trichlorofluoromethane	U	500	ug/L	250	2	500
1,1-Dichloroethene	U	250	ug/L	250	1	250
Carbon Disulfide	U	250	ug/L	250	1	250
Methylene Chloride	U	1200	ug/L	250	5	1200
trans-1,2-Dichloroethene	U	250	ug/L	250	1	250
1,1-Dichloroethane	U	250	ug/L	250	1	250
cis-1,2-Dichloroethene		3600	ug/L	250	1	250
Chloroform	U	250	ug/L	250	1	250
Carbon Tetrachloride	U	250	ug/L	250	1	250
1,1,1-Trichloroethane	U	250	ug/L	250	1	250
2-Butanone	U	1200	ug/L	250	5	1200
Benzene	U	250	ug/L	250	1	250
1,2-Dichloroethane	U	250	ug/L	250	1	250
Trichloroethene		3500	ug/L	250	1	250
1,2-Dichloropropane	U	250	ug/L	250	1	250
Bromodichloromethane	U	250	ug/L	250	1	250
cis-1,3-Dichloropropene	U	250	ug/L	250	1	250
Toluene	U	250	ug/L	250	1	250
4-Methyl-2-Pentanone	U	1200	ug/L	250	5	1200
Tetrachloroethene		27000	ug/L	250	1	250
trans-1,3-Dichloropropene	U	250	ug/L	250	1	250
1,1,2-Trichloroethane	U	250	ug/L	250	1	250
Dibromochloromethane	U	250	ug/L	250	1	250
Chlorobenzene	U	250	ug/L	250	1	250
Ethylbenzene	U	250	ug/L	250	1	250
m+p-Xylenes	U	500	ug/L	250	2	500
o-Xylene	U	250	ug/L	250	1	250
Bromoform	U	250	ug/L	250	1	250
1,1,2,2-Tetrachloroethane	U	250	ug/L	250	1	250
P-Bromofluorobenzene		97.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-23DL
Client ID: WVA-MW-83-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7886.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		114.	%			
Dibromofluoromethane		107.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7886.D
Report Date: 25-Oct-2018 11:59

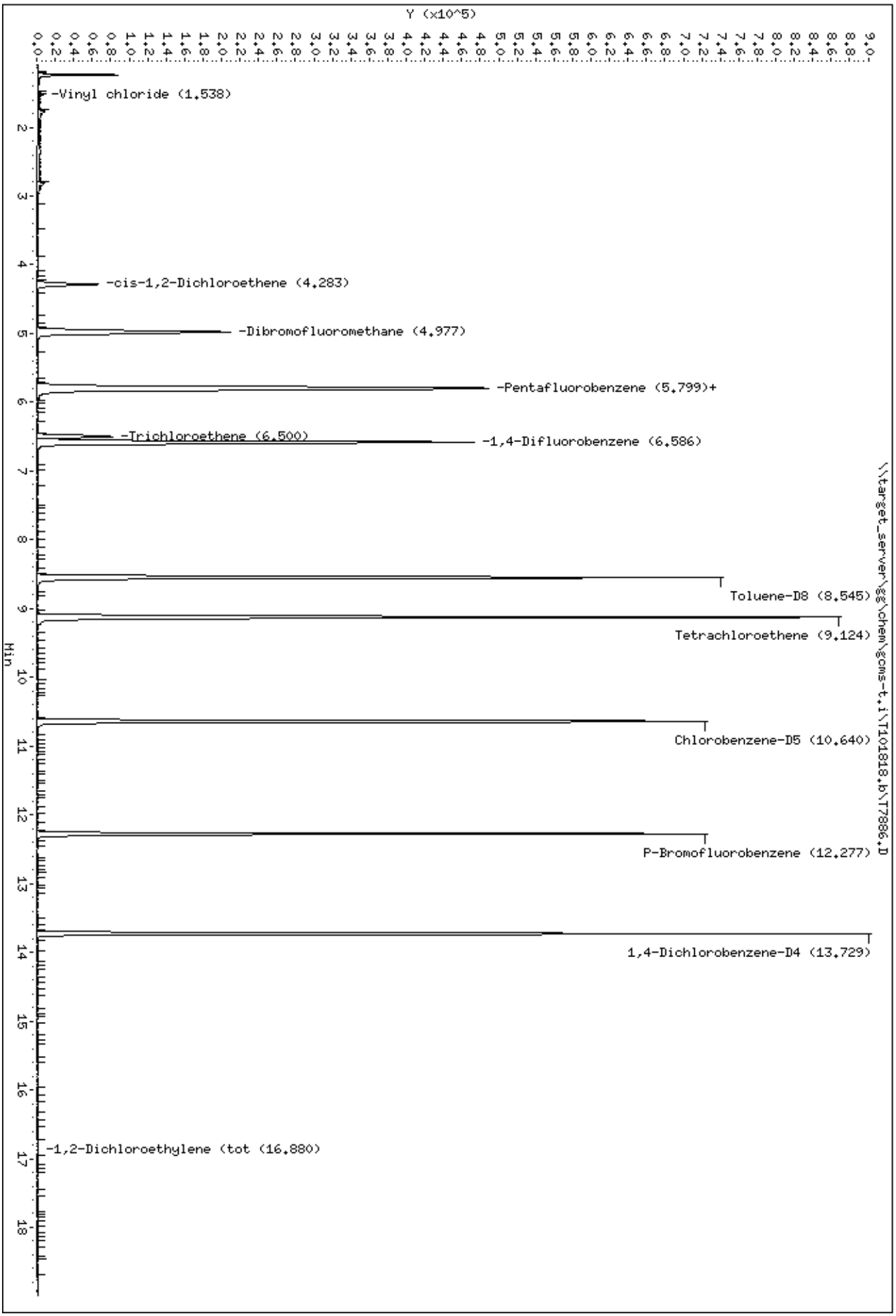
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7886.D
Lab Smp Id: TL0045-23DL Client Smp ID: WVA-MW-83-2-101018
Inj Date : 18-OCT-2018 16:35 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-23DL
Misc Info : WG238778,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 11
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	250.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
3 Vinyl chloride	62	1.537	1.537	(0.266)	3559	1.32083	330	
27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	37476	14.4571	3610	
$ 34 Dibromofluoromethane	113	4.976	4.976	(0.860)	196717	53.5813	53.6	
* 41 Pentafluorobenzene	168	5.784	5.791	(1.000)	302034	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.005)	306865	57.2844	57.3	
47 Trichloroethene	95	6.507	6.499	(0.988)	41990	13.8856	3470	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	450483	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	572913	50.4941	50.5	
58 Tetrachloroethene	164	9.124	9.123	(0.858)	212139	106.467	26600	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	402740	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	252625	48.7559	48.8	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	215927	50.0000		
M 103 1,2-Dichloroethylene (total)	96				37476	14.4571	3610	



Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7886.D
Date : 18-OCT-2018 16:35
Client ID: WWA-MW-83-2-101018
Sample Info: TL0045-23DL

Instrument: gcms-t.i

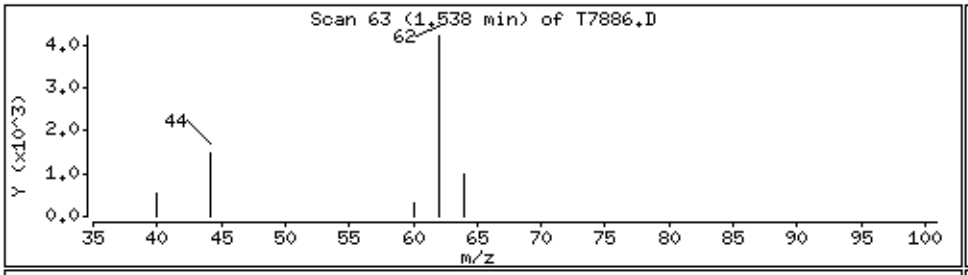
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7886.D

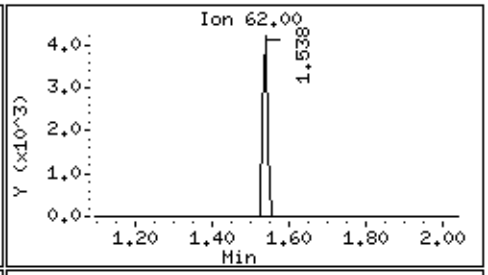
Date : 18-OCT-2018 16:35

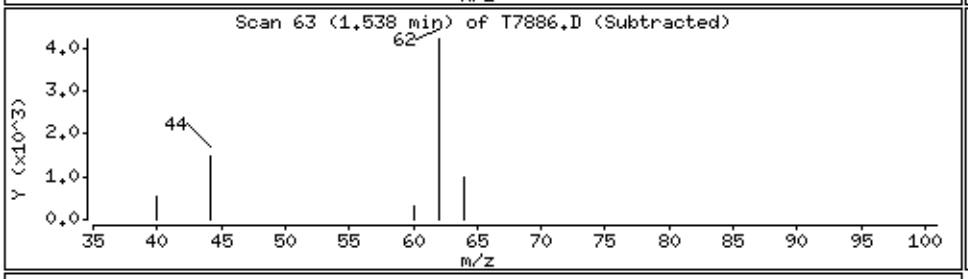
Client ID: WVA-MW-83-2-101018 Instrument: gcms-t.i

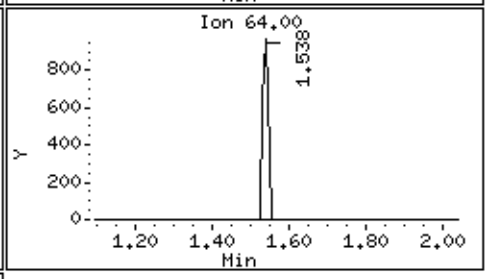
Sample Info: TL0045-23DL

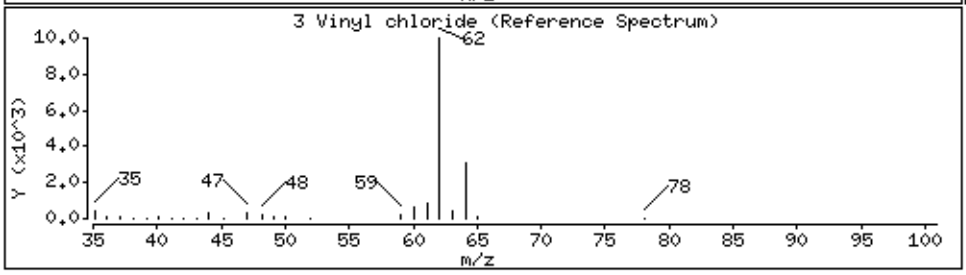
3 Vinyl chloride Concentration: 330 ug/l



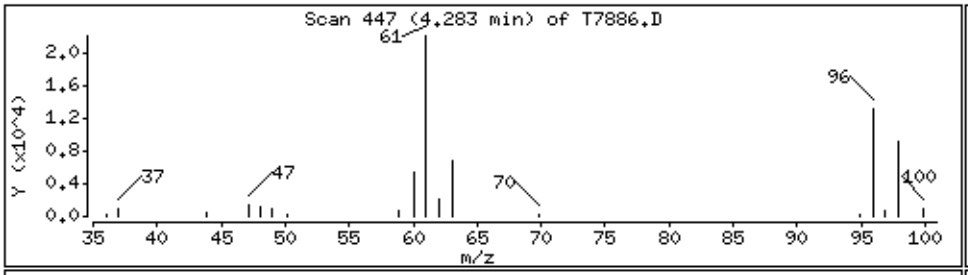


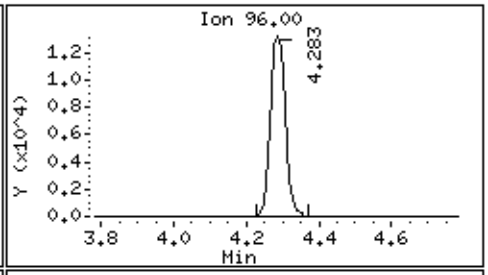


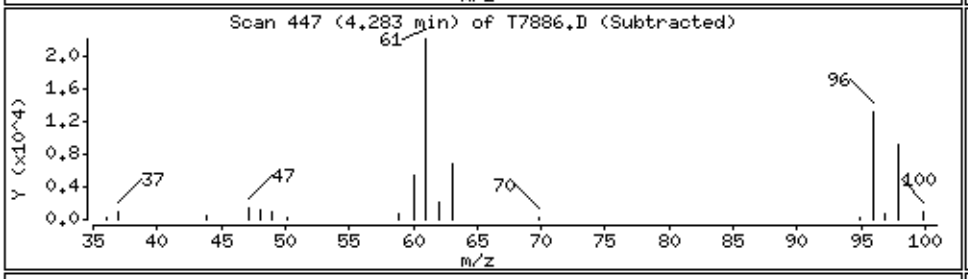


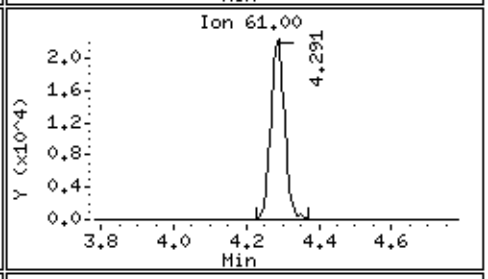


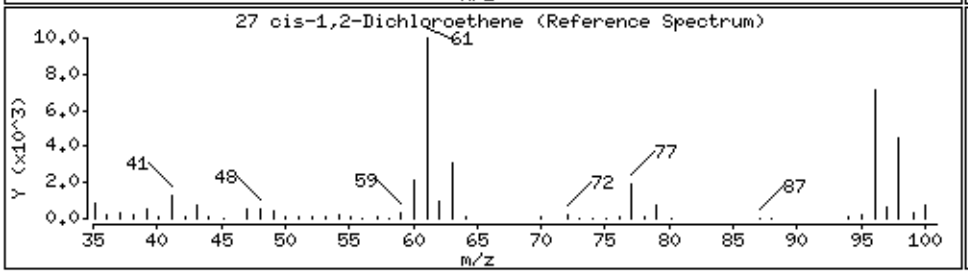
27 cis-1,2-Dichloroethene Concentration: 3610 ug/l

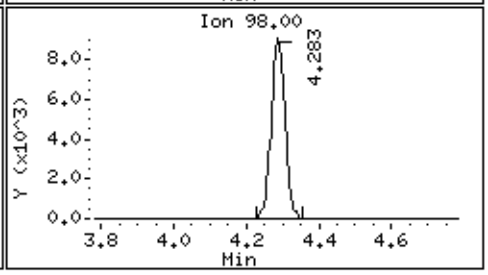












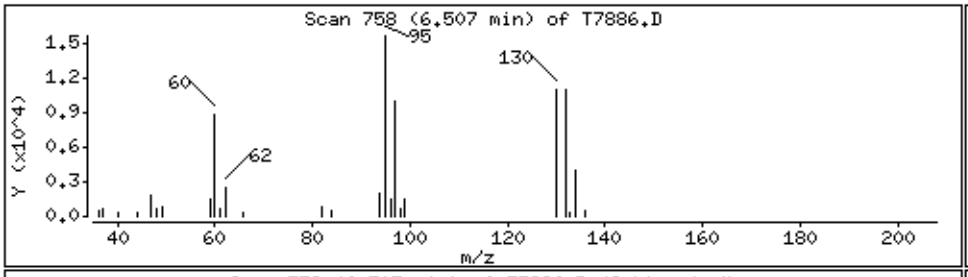
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7886.D

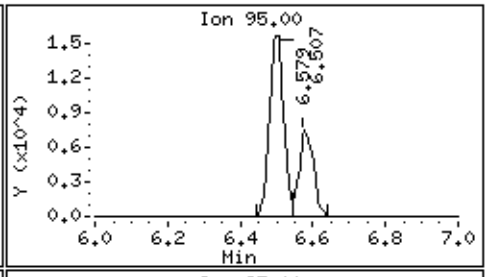
Date : 18-OCT-2018 16:35

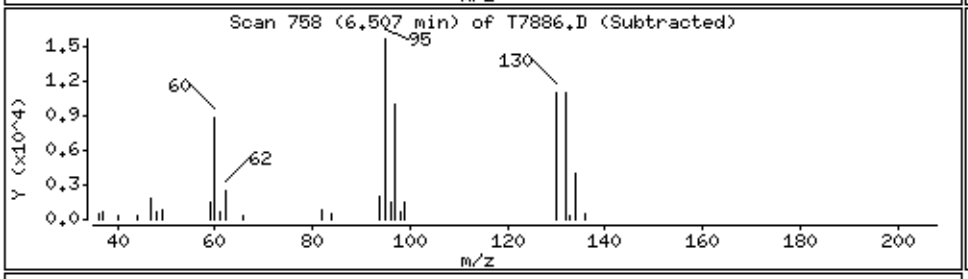
Client ID: WVA-MW-83-2-101018 Instrument: gcms-t.i

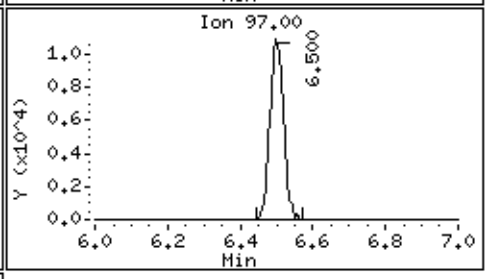
Sample Info: TL0045-23DL

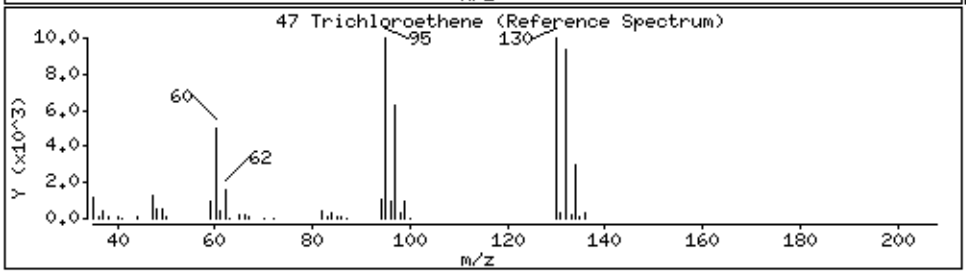
47 Trichloroethene Concentration: 3470 ug/l



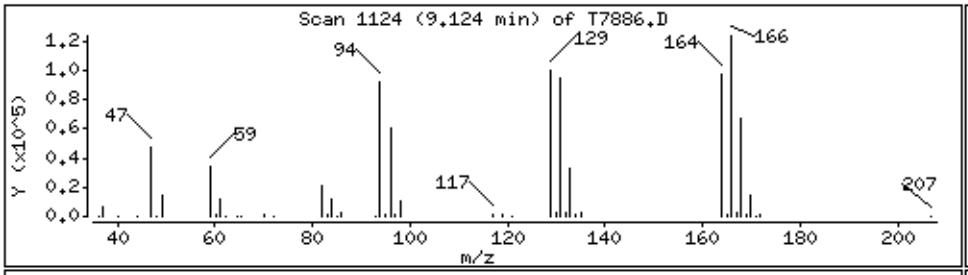


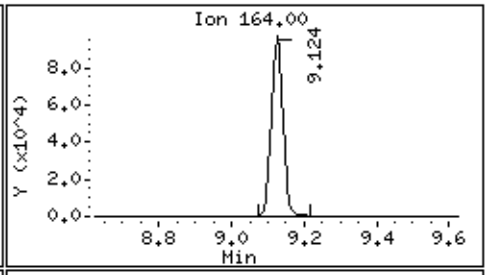


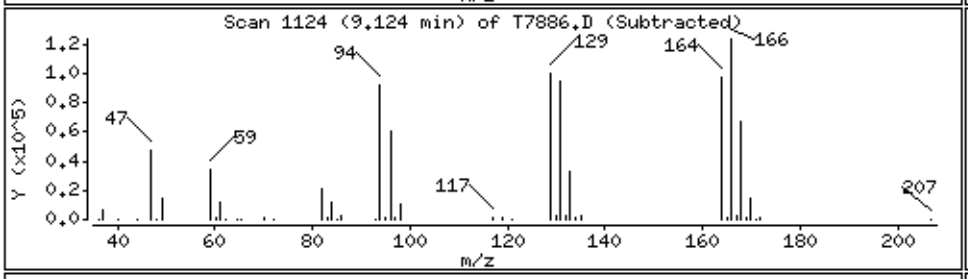


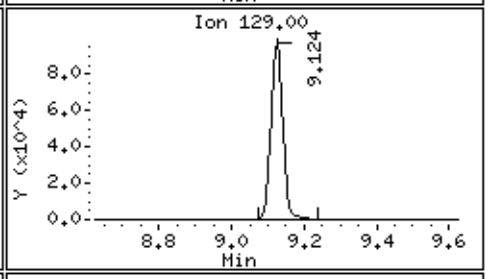


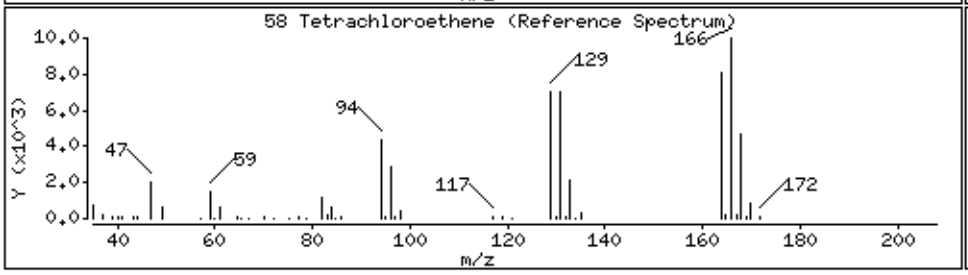
58 Tetrachloroethene Concentration: 26600 ug/l

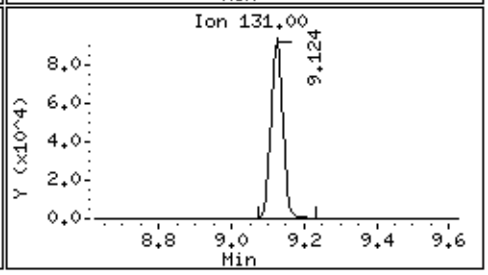












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-23DL2
Client ID: WVA-MW-83-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7894.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	50.	ug/L	25	2	50.
Vinyl Chloride		250	ug/L	25	2	50.
Bromomethane	U	50.	ug/L	25	2	50.
Chloroethane	U	50.	ug/L	25	2	50.
Trichlorofluoromethane	U	50.	ug/L	25	2	50.
1,1-Dichloroethene	U	25.	ug/L	25	1	25.
Carbon Disulfide	U	25.	ug/L	25	1	25.
Methylene Chloride	U	120	ug/L	25	5	120
trans-1,2-Dichloroethene	U	25.	ug/L	25	1	25.
1,1-Dichloroethane	U	25.	ug/L	25	1	25.
cis-1,2-Dichloroethene		2800	ug/L	25	1	25.
Chloroform	U	25.	ug/L	25	1	25.
Carbon Tetrachloride	U	25.	ug/L	25	1	25.
1,1,1-Trichloroethane	U	25.	ug/L	25	1	25.
2-Butanone	U	120	ug/L	25	5	120
Benzene	U	25.	ug/L	25	1	25.
1,2-Dichloroethane	U	25.	ug/L	25	1	25.
Trichloroethene		2700	ug/L	25	1	25.
1,2-Dichloropropane	U	25.	ug/L	25	1	25.
Bromodichloromethane	U	25.	ug/L	25	1	25.
cis-1,3-Dichloropropene	U	25.	ug/L	25	1	25.
Toluene	U	25.	ug/L	25	1	25.
4-Methyl-2-Pentanone	U	120	ug/L	25	5	120
Tetrachloroethene	E	23000	ug/L	25	1	25.
trans-1,3-Dichloropropene	U	25.	ug/L	25	1	25.
1,1,2-Trichloroethane	U	25.	ug/L	25	1	25.
Dibromochloromethane	U	25.	ug/L	25	1	25.
Chlorobenzene	U	25.	ug/L	25	1	25.
Ethylbenzene	U	25.	ug/L	25	1	25.
m+p-Xylenes	U	50.	ug/L	25	2	50.
o-Xylene	U	25.	ug/L	25	1	25.
Bromoform	U	25.	ug/L	25	1	25.
1,1,2,2-Tetrachloroethane	U	25.	ug/L	25	1	25.
P-Bromofluorobenzene		95.5	%			
Toluene-d8		98.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-23DL2
Client ID: WVA-MW-83-2-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7894.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		124.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7894.D
Report Date: 25-Oct-2018 11:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7894.D
Lab Smp Id: TL0045-23DL2 Client Smp ID: WVA-MW-83-2-101018
Inj Date : 18-OCT-2018 20:34 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-23DL2
Misc Info : WG238778,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 19
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

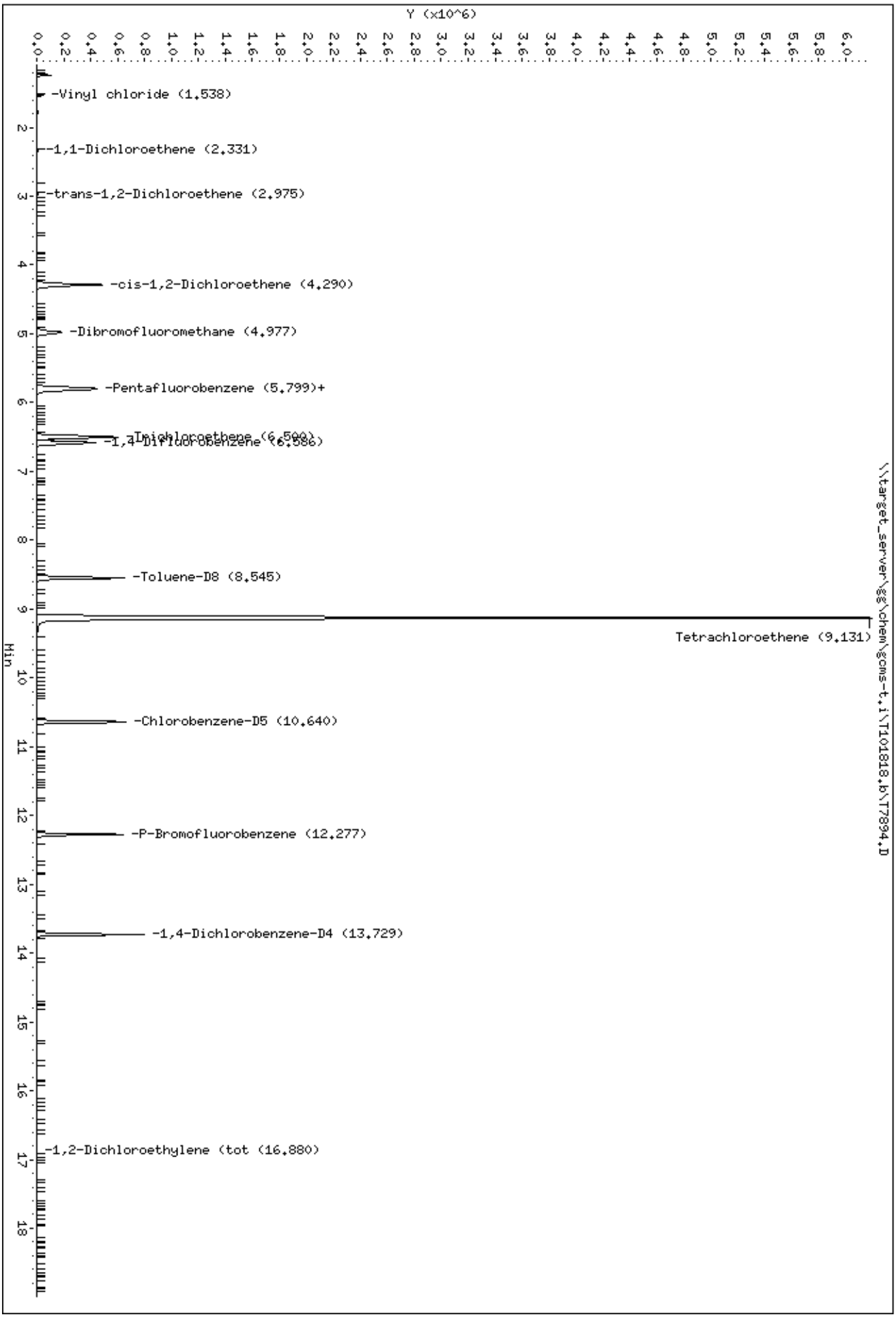
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	25.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
3	Vinyl chloride	62	1.537	1.537	(0.265)	23352	9.97860	249	
8	1,1-Dichloroethene	96	2.331	2.331	(0.402)	785	0.35402	8.8(a)	
16	trans-1,2-Dichloroethene	96	2.960	2.967	(0.511)	1738	0.84502	21.1(a)	
27	cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	256339	113.860	2850	
$ 34	Dibromofluoromethane	113	4.984	4.976	(0.860)	174604	54.7588	54.8	
* 41	Pentafluorobenzene	168	5.791	5.791	(1.000)	262318	50.0000		
$ 42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	289507	62.2265	62.2	
47	Trichloroethene	95	6.499	6.499	(0.987)	291233	108.401	2710	
* 48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	400224	50.0000		
$ 56	Toluene-D8	98	8.544	8.544	(1.297)	496437	49.2484	49.2	
58	Tetrachloroethene	164	9.131	9.123	(0.858)	1589995	903.086	22600(A)	
* 68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	355865	50.0000		
$ 77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	219796	47.7470	47.7	
* 93	1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	186282	50.0000		
M 103	1,2-Dichloroethylene (total)	96				258077	114.705	2870	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.


Y (x10^6)
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0
-Vinyl chloride (1,538)
--1,1-Dichloroethene (2,331)
-trans-1,2-Dichloroethene (2,975)
-cis-1,2-Dichloroethene (4,290)
-Dibromofluoromethane (4,977)
-Pentafluorobenzene (5,799)+
-Dichloroethene (6,500)
-1,4-Difluorobenzene (6,586)
-Toluene-D8 (8,545)
Tetrachloroethene (9,131)
-Chlorobenzene-D5 (10,640)
-P-Bromofluorobenzene (12,277)
-1,4-Dichlorobenzene-D4 (13,729)
-1,2-Dichloroethylene (tot (16,880)
Min
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
\\target_server\gg\chem\gcms-t.i\T101818.b\T7894.D
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7894.D
Date : 18-OCT-2018 20:34
Client ID: WVA-MW-83-2-101018
Sample Info: TL0045-23DL2
Instrument: gcms-t.i

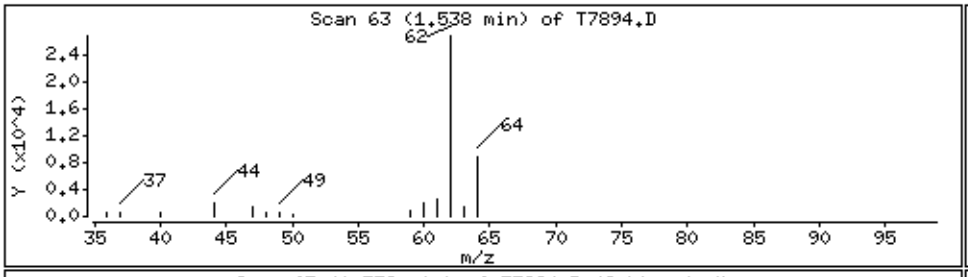
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7894.D

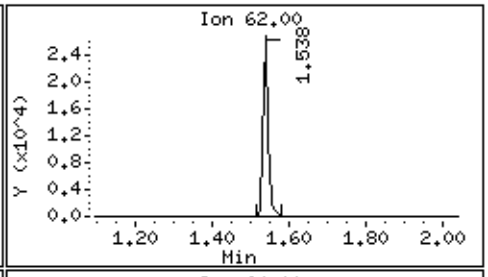
Date : 18-OCT-2018 20:34

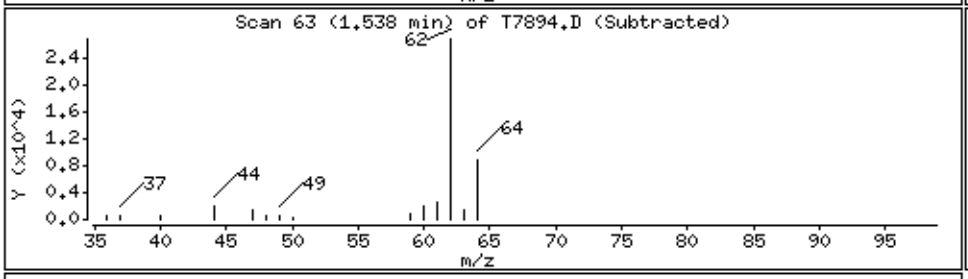
Client ID: WVA-MW-83-2-101018 Instrument: gcms-t.i

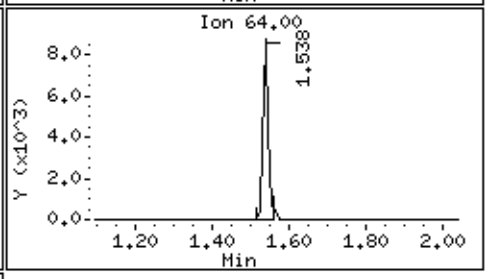
Sample Info: TL0045-23DL2

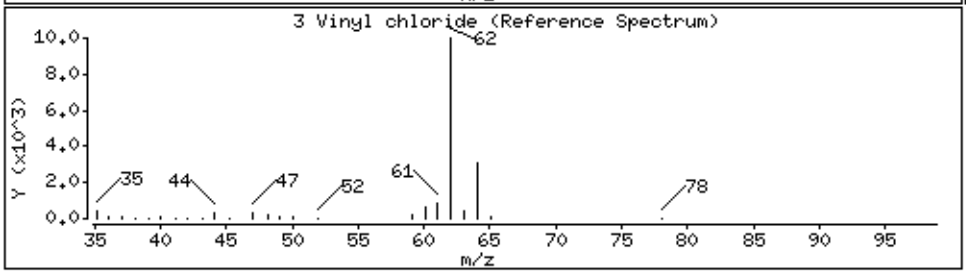
3 Vinyl chloride Concentration: 249 ug/l



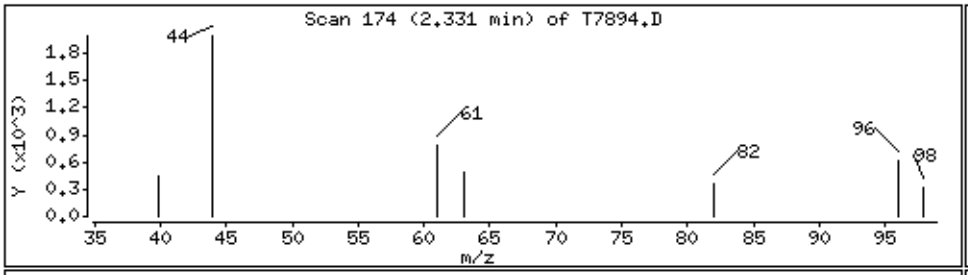


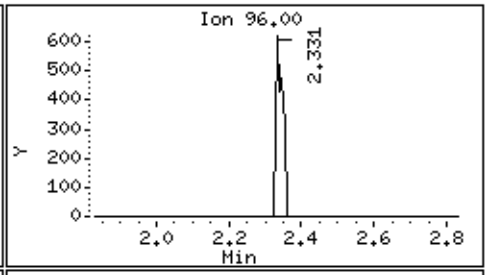


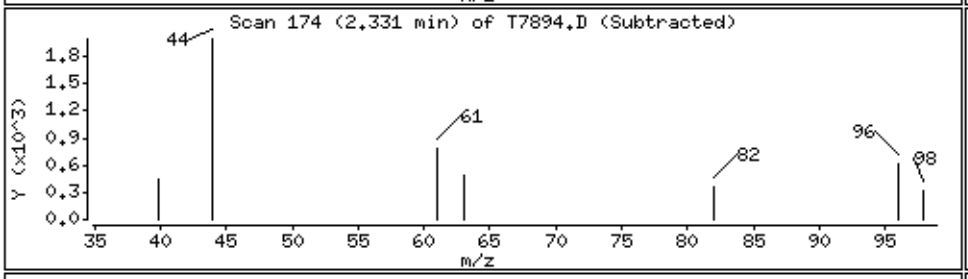


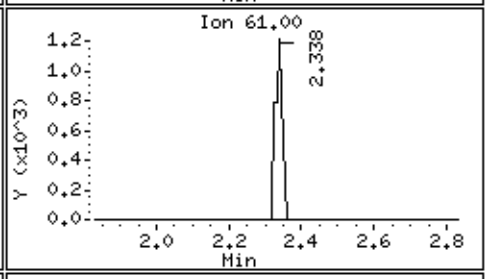


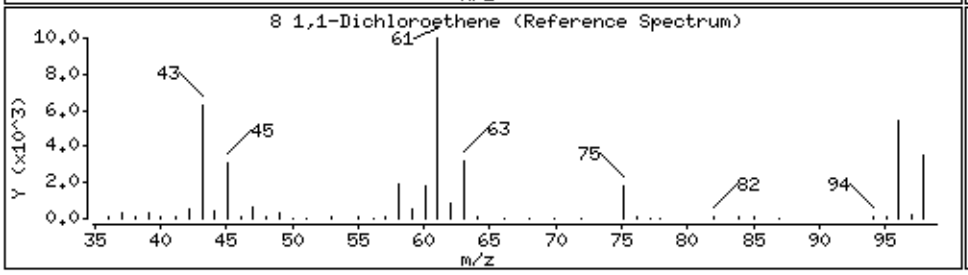
8 1,1-Dichloroethene Concentration: 8.8 ug/l

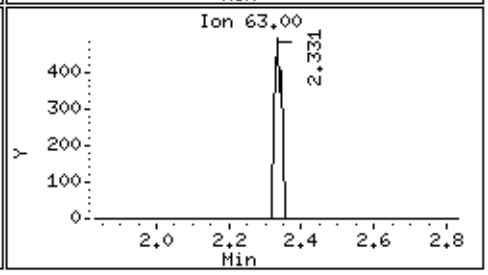












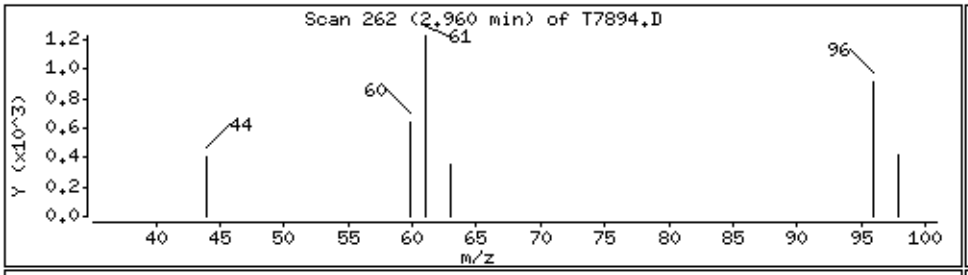
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7894.D

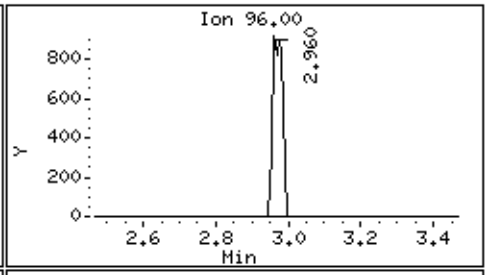
Date : 18-OCT-2018 20:34

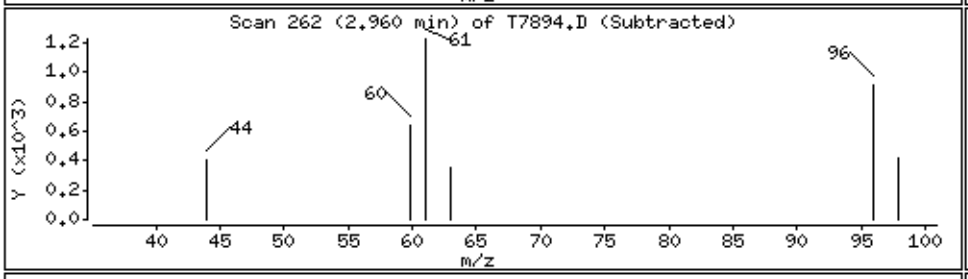
Client ID: WVA-MW-83-2-101018 Instrument: gcms-t.i

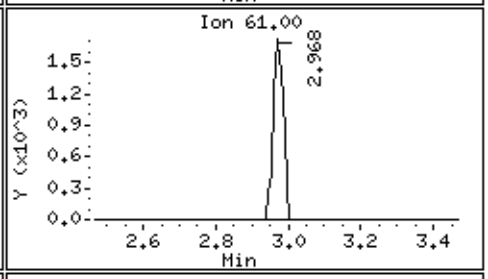
Sample Info: TL0045-23DL2

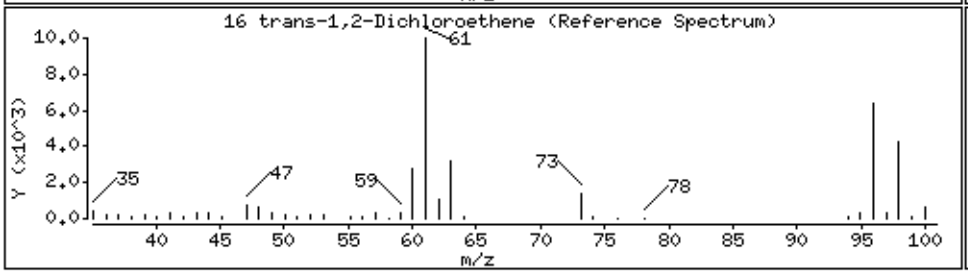
16 trans-1,2-Dichloroethene Concentration: 21.1 ug/l

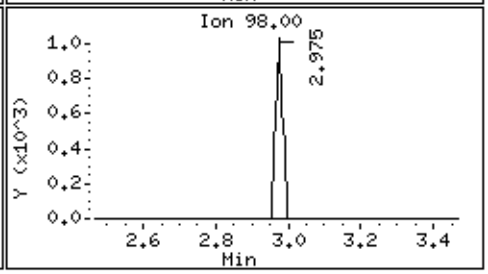




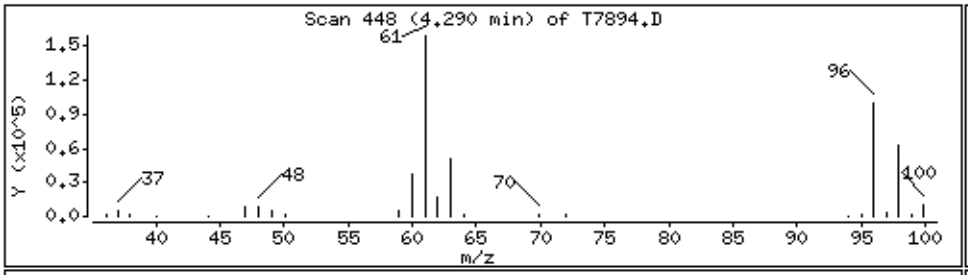


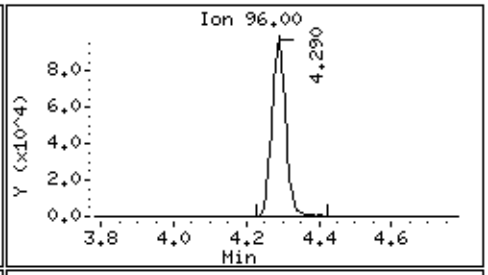


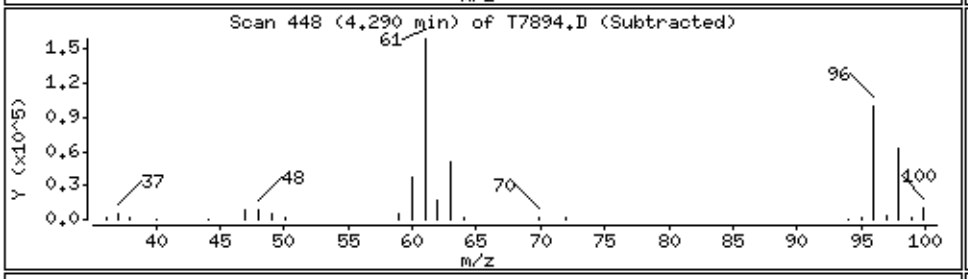


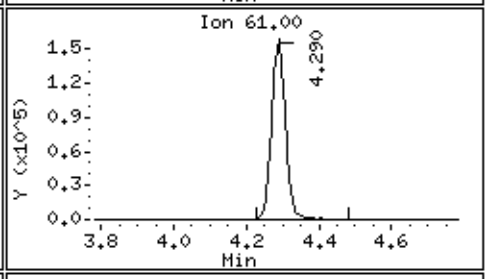


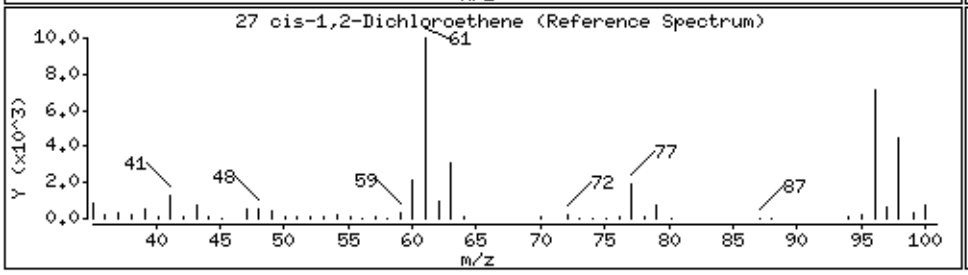
27 cis-1,2-Dichloroethene Concentration: 2850 ug/l

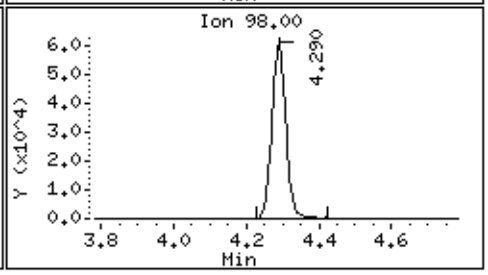












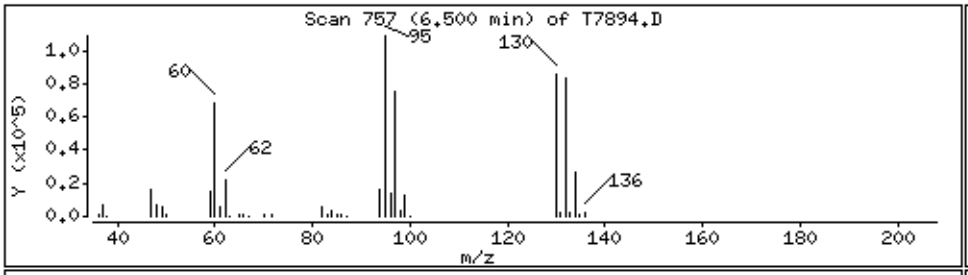
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7894.D

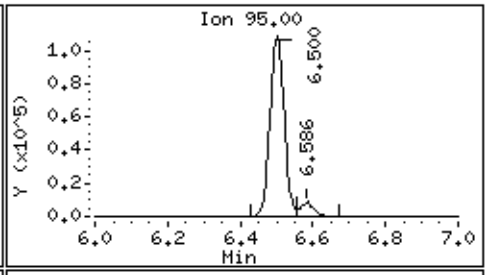
Date : 18-OCT-2018 20:34

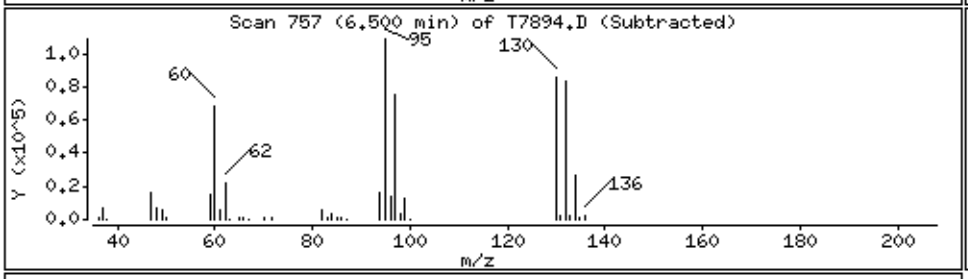
Client ID: WVA-MW-83-2-101018 Instrument: gcms-t.i

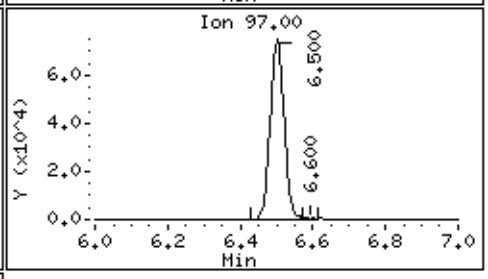
Sample Info: TL0045-23DL2

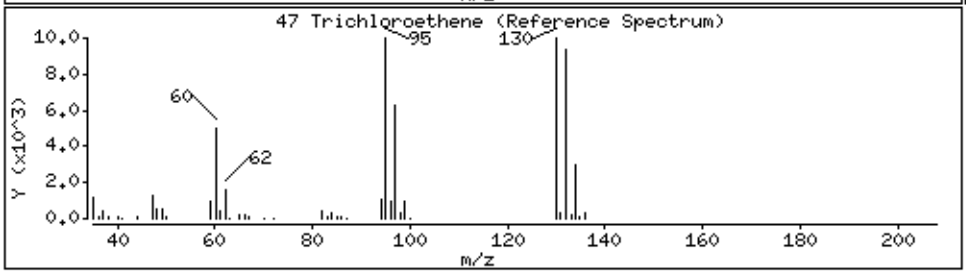
47 Trichloroethene Concentration: 2710 ug/l



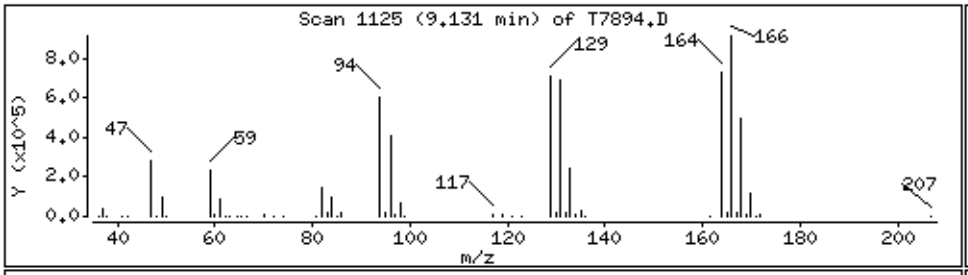


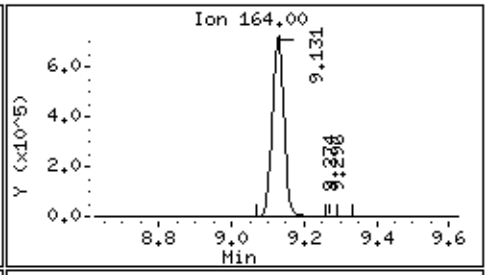


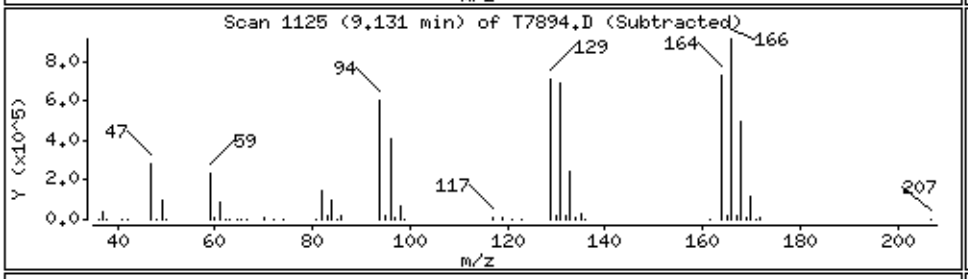


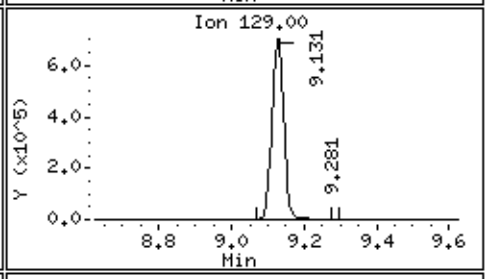


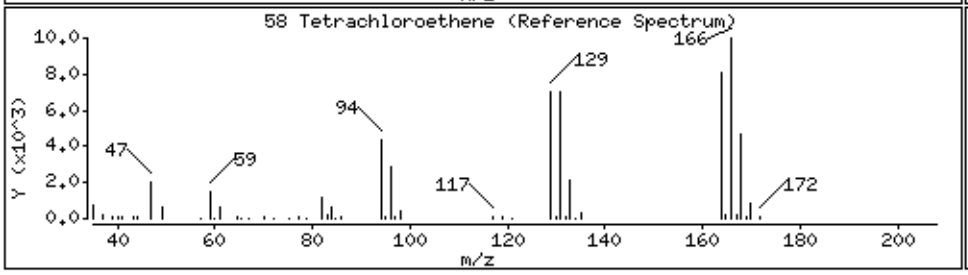
58 Tetrachloroethene Concentration: 22600 ug/l

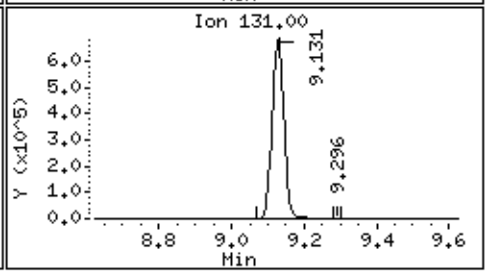












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-24DL
Client ID: WVA-MW-83-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7935.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	200	ug/L	100	2	200
Vinyl Chloride		250	ug/L	100	2	200
Bromomethane	U	200	ug/L	100	2	200
Chloroethane	U	200	ug/L	100	2	200
Trichlorofluoromethane	U	200	ug/L	100	2	200
1,1-Dichloroethene	U	100	ug/L	100	1	100
Carbon Disulfide	U	100	ug/L	100	1	100
Methylene Chloride	U	500	ug/L	100	5	500
trans-1,2-Dichloroethene	U	100	ug/L	100	1	100
1,1-Dichloroethane	U	100	ug/L	100	1	100
cis-1,2-Dichloroethene		3900	ug/L	100	1	100
Chloroform	U	100	ug/L	100	1	100
Carbon Tetrachloride	U	100	ug/L	100	1	100
1,1,1-Trichloroethane	U	100	ug/L	100	1	100
2-Butanone	U	500	ug/L	100	5	500
Benzene	U	100	ug/L	100	1	100
1,2-Dichloroethane	U	100	ug/L	100	1	100
Trichloroethene		3900	ug/L	100	1	100
1,2-Dichloropropane	U	100	ug/L	100	1	100
Bromodichloromethane	U	100	ug/L	100	1	100
cis-1,3-Dichloropropene	U	100	ug/L	100	1	100
Toluene	U	100	ug/L	100	1	100
4-Methyl-2-Pentanone	U	500	ug/L	100	5	500
Tetrachloroethene		11000	ug/L	100	1	100
trans-1,3-Dichloropropene	U	100	ug/L	100	1	100
1,1,2-Trichloroethane	U	100	ug/L	100	1	100
Dibromochloromethane	U	100	ug/L	100	1	100
Chlorobenzene	U	100	ug/L	100	1	100
Ethylbenzene	U	100	ug/L	100	1	100
m+p-Xylenes	U	200	ug/L	100	2	200
o-Xylene	U	100	ug/L	100	1	100
Bromoform	U	100	ug/L	100	1	100
1,1,2,2-Tetrachloroethane	U	100	ug/L	100	1	100
P-Bromofluorobenzene		91.7	%			
Toluene-d8		95.8	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-24DL
Client ID: WVA-MW-83-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7935.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		107.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7935.D
Report Date: 25-Oct-2018 13:47

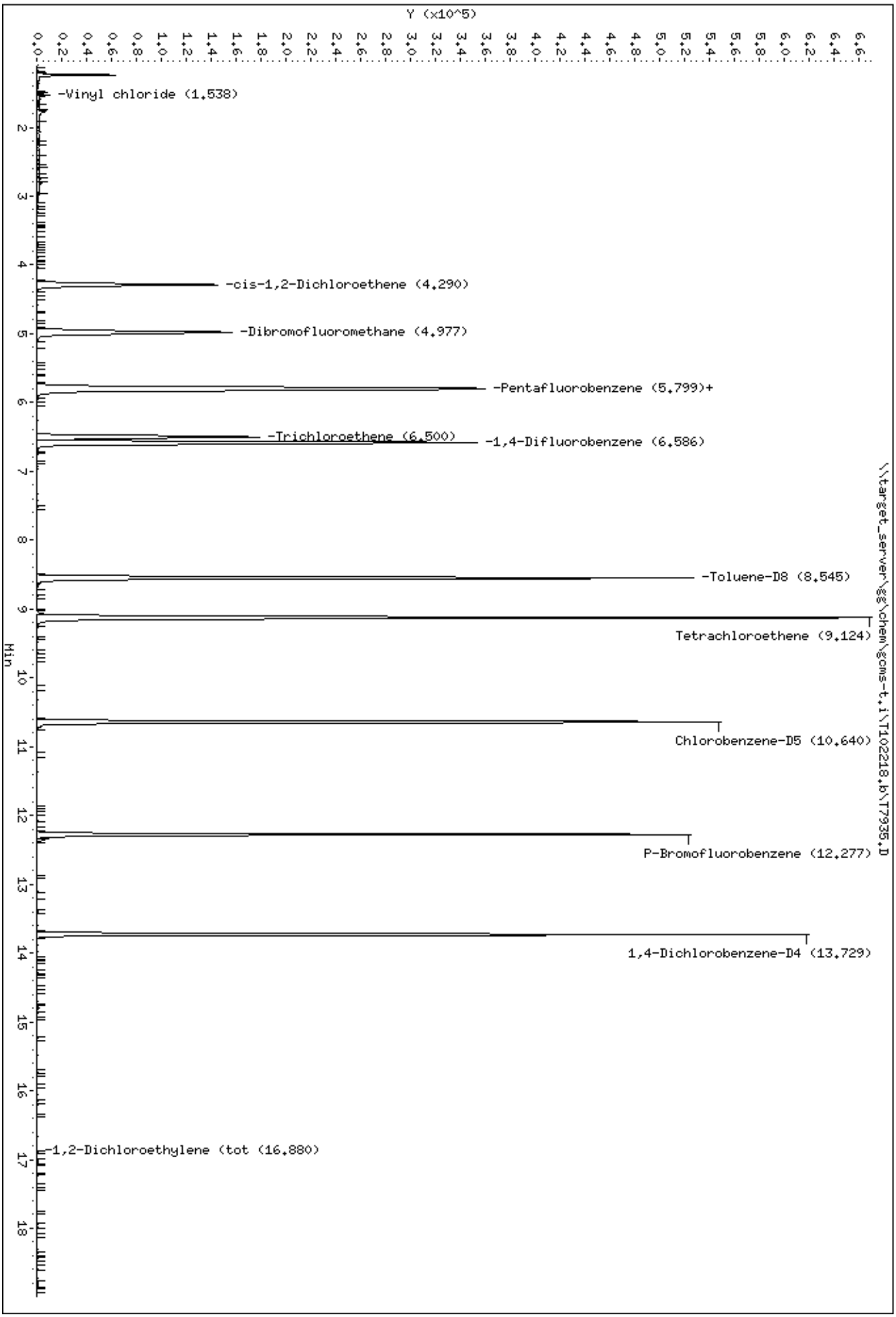
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7935.D
Lab Smp Id: TL0045-24DL Client Smp ID: WVA-MW-83-1-101018
Inj Date : 22-OCT-2018 15:22
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-24DL
Misc Info : WG239008,WG238778-4
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 13
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.537	1.537	(0.265)	4824	2.53088	253	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	71975	39.2516	3920	
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	138903	53.4848	53.5	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	213653	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	229694	60.6157	60.6	
	47 Trichloroethene	95	6.499	6.499	(0.987)	86036	39.1739	3920	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	327175	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	394798	47.9099	47.9	
	58 Tetrachloroethene	164	9.124	9.123	(0.858)	159291	113.555	11400	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	283533	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	172468	45.8308	45.8	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	148688	50.0000		
M	103 1,2-Dichloroethylene (total)	96				71975	39.2516	3920	


Y (x10^5)
Min
-Vinyl chloride (1.538)
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-Trichloroethene (6.500)
-1,4-Difluorobenzene (6.586)
-Toluene-D8 (8.545)
Tetrachloroethene (9.124)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T102218.b\T7935.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7935.D
Date : 22-OCT-2018 15:22
Client ID: WWA-MW-83-1-101018
Sample Info: TL0045-24DL
Instrument: gcms-t.i

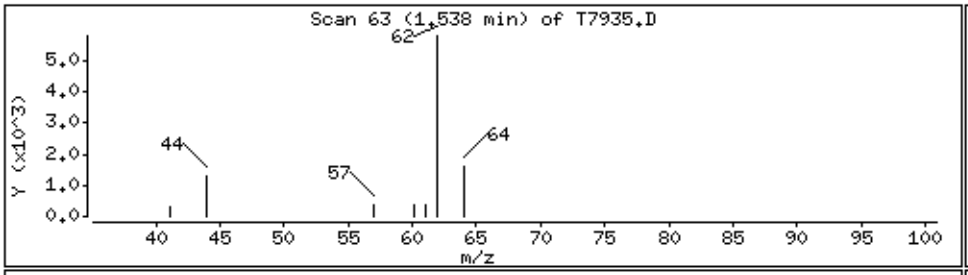
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7935.D

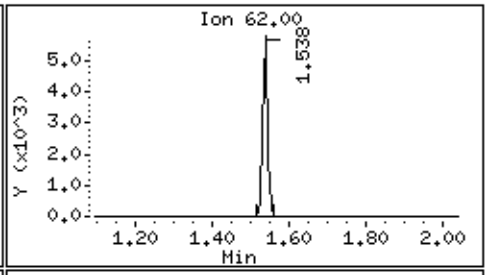
Date : 22-OCT-2018 15:22

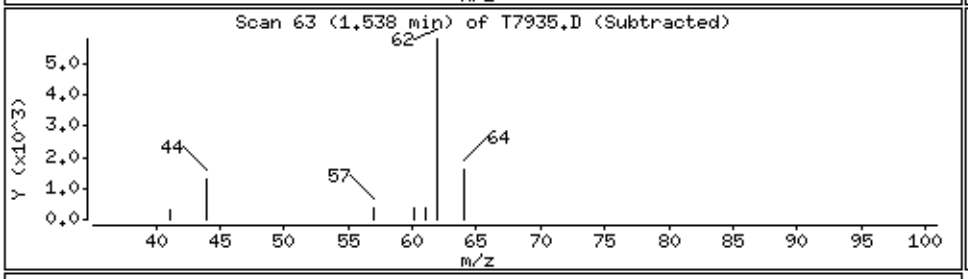
Client ID: WVA-MW-83-1-101018 Instrument: gcms-t.i

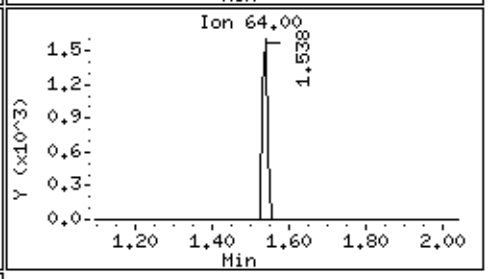
Sample Info: TL0045-24DL

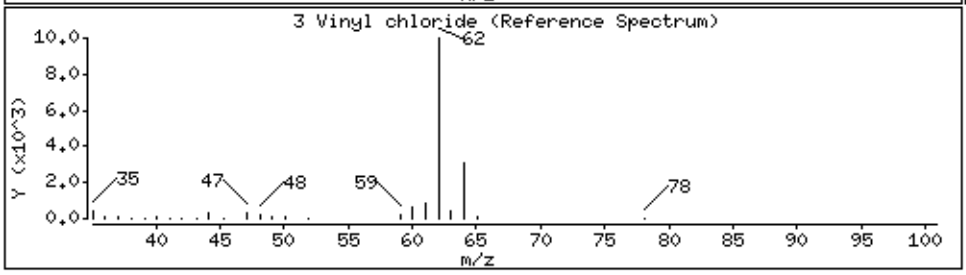
3 Vinyl chloride Concentration: 253 ug/l



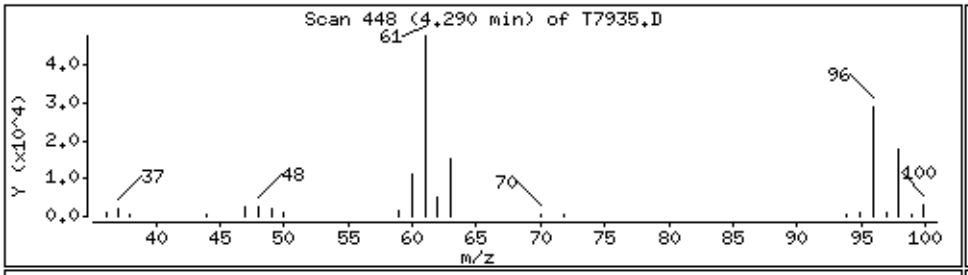


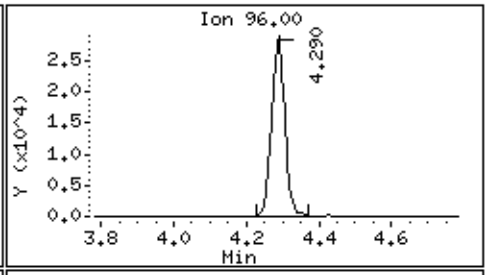


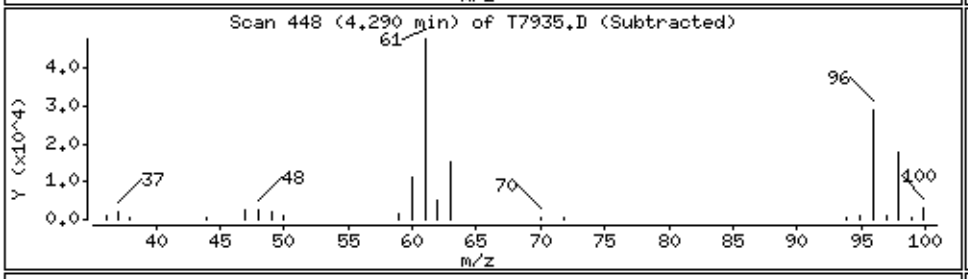


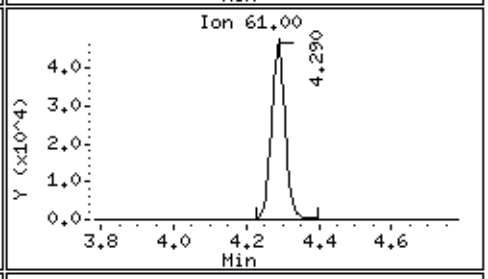


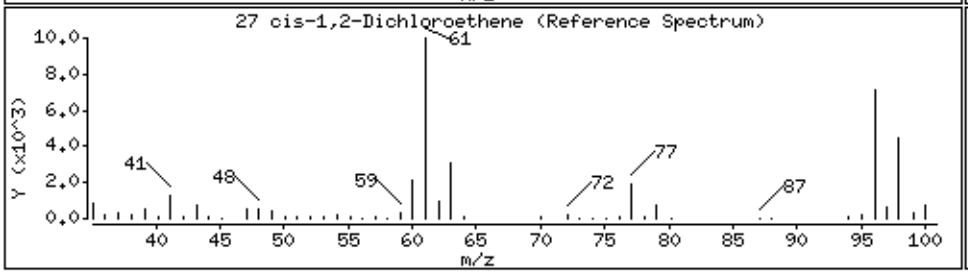
27 cis-1,2-Dichloroethene Concentration: 3920 ug/l

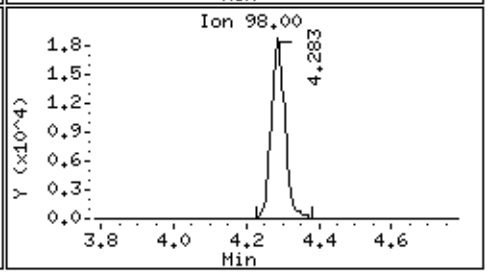












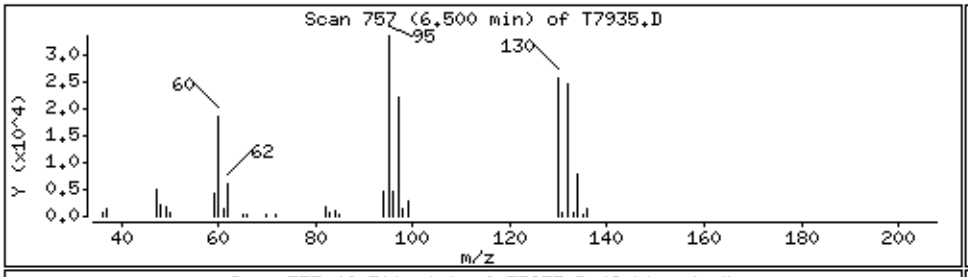
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7935.D

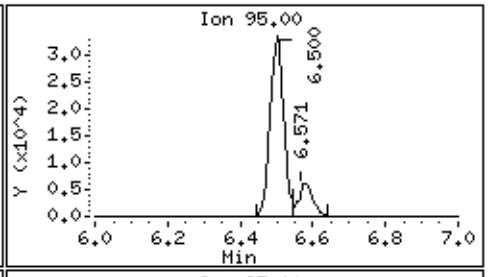
Date : 22-OCT-2018 15:22

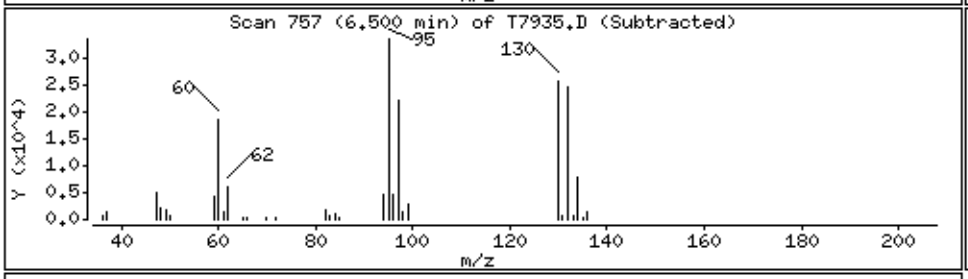
Client ID: WVA-MW-83-1-101018 Instrument: gcms-t.i

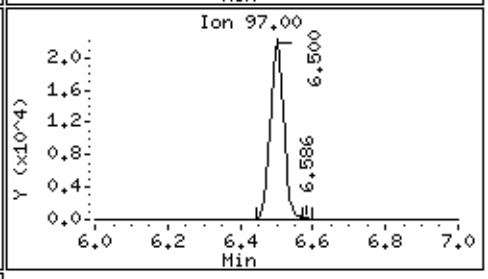
Sample Info: TL0045-24DL

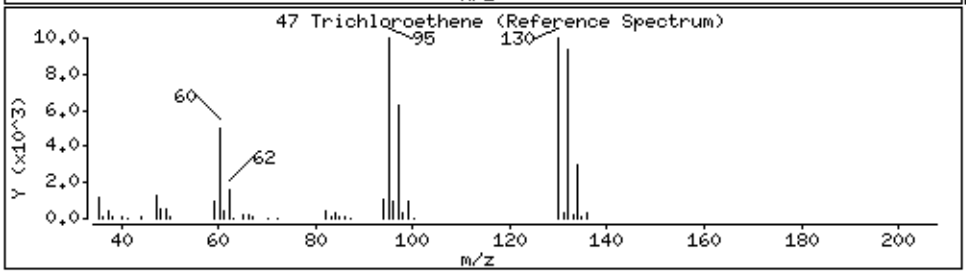
47 Trichloroethene Concentration: 3920 ug/l



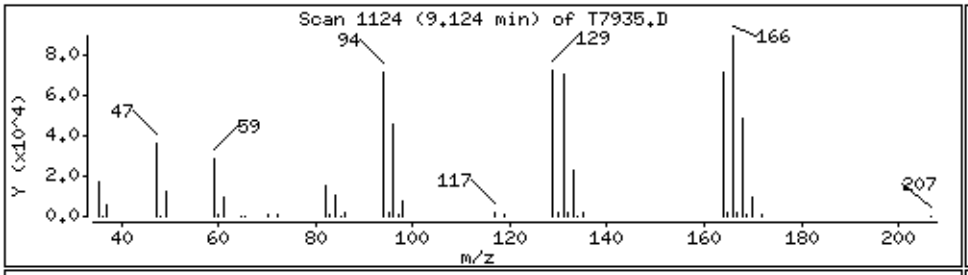


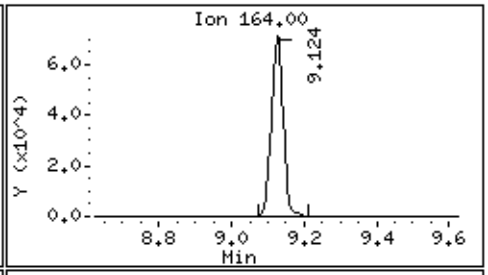


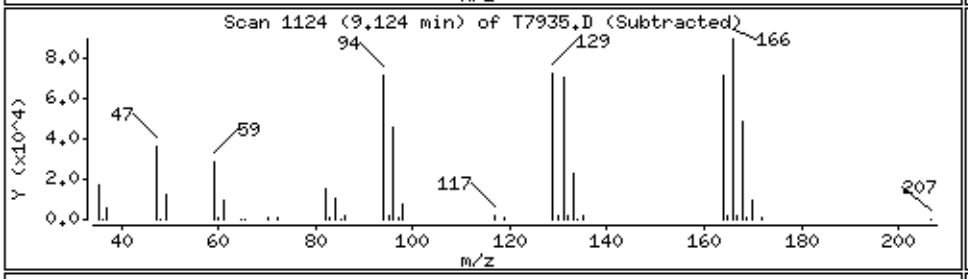


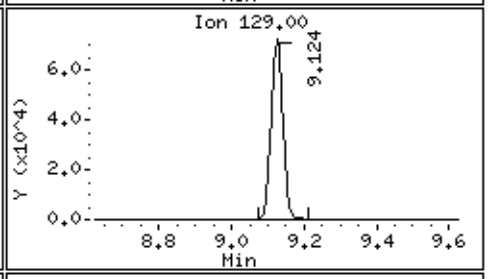


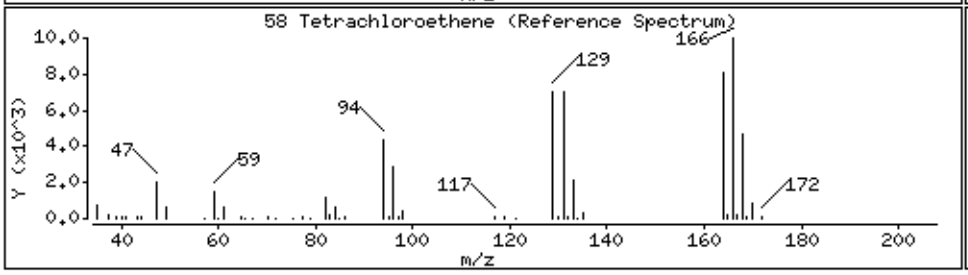
58 Tetrachloroethene Concentration: 11400 ug/l

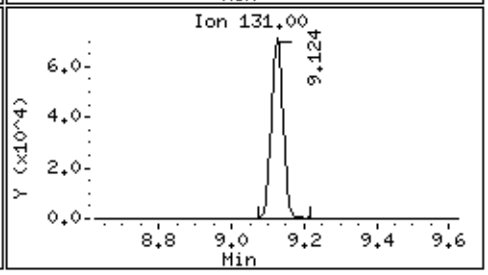












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-24DL2
Client ID: WVA-MW-83-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7940.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	20.	ug/L	10	2	20.
Vinyl Chloride		210	ug/L	10	2	20.
Bromomethane	U	20.	ug/L	10	2	20.
Chloroethane	U	20.	ug/L	10	2	20.
Trichlorofluoromethane	U	20.	ug/L	10	2	20.
1,1-Dichloroethene		10.	ug/L	10	1	10.
Carbon Disulfide	U	10.	ug/L	10	1	10.
Methylene Chloride	U	50.	ug/L	10	5	50.
trans-1,2-Dichloroethene		28.	ug/L	10	1	10.
1,1-Dichloroethane	U	10.	ug/L	10	1	10.
cis-1,2-Dichloroethene	E	3500	ug/L	10	1	10.
Chloroform	U	10.	ug/L	10	1	10.
Carbon Tetrachloride	U	10.	ug/L	10	1	10.
1,1,1-Trichloroethane	U	10.	ug/L	10	1	10.
2-Butanone	U	50.	ug/L	10	5	50.
Benzene	U	10.	ug/L	10	1	10.
1,2-Dichloroethane	U	10.	ug/L	10	1	10.
Trichloroethene	E	3300	ug/L	10	1	10.
1,2-Dichloropropane	U	10.	ug/L	10	1	10.
Bromodichloromethane	U	10.	ug/L	10	1	10.
cis-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
Toluene	U	10.	ug/L	10	1	10.
4-Methyl-2-Pentanone	U	50.	ug/L	10	5	50.
Tetrachloroethene	E	10000	ug/L	10	1	10.
trans-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
1,1,2-Trichloroethane	U	10.	ug/L	10	1	10.
Dibromochloromethane	U	10.	ug/L	10	1	10.
Chlorobenzene	U	10.	ug/L	10	1	10.
Ethylbenzene	U	10.	ug/L	10	1	10.
m+p-Xylenes	U	20.	ug/L	10	2	20.
o-Xylene	U	10.	ug/L	10	1	10.
Bromoform	U	10.	ug/L	10	1	10.
1,1,2,2-Tetrachloroethane	U	10.	ug/L	10	1	10.
P-Bromofluorobenzene		92.0	%			
Toluene-d8		96.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-24DL2
Client ID: WVA-MW-83-1-101018
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7940.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		121.	%			
Dibromofluoromethane		108.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7940.D
Report Date: 25-Oct-2018 13:47

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7940.D
Lab Smp Id: TL0045-24DL2 Client Smp ID: WVA-MW-83-1-101018
Inj Date : 22-OCT-2018 19:13
Operator : JR/HG Inst ID: gcms-t.i
Smp Info : TL0045-24DL2
Misc Info : WG239008,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 18
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

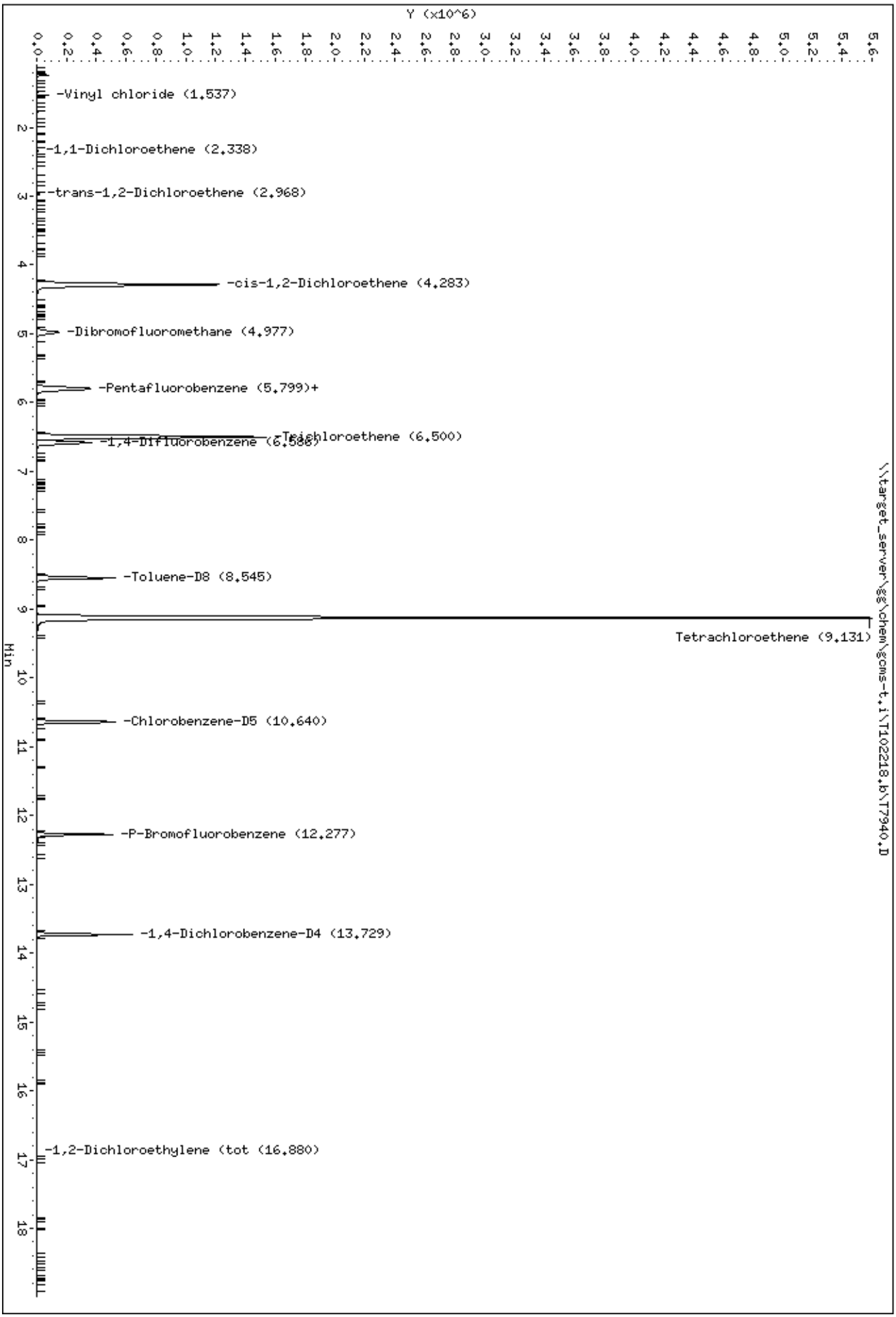
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
3	Vinyl chloride	62	1.537	1.537	(0.265)	39748	20.7586	208	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	1867	1.02907	10.3	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	4696	2.79049	27.9	
27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	647934	351.743	3520(A)	
$ 34	Dibromofluoromethane	113	4.976	4.976	(0.859)	141279	54.1520	54.2	
* 41	Pentafluorobenzene	168	5.791	5.791	(1.000)	214630	50.0000		
$ 42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	230895	60.6553	60.6	
47	Trichloroethene	95	6.499	6.499	(0.987)	739123	332.055	3320(A)	
* 48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	331592	50.0000		
$ 56	Toluene-D8	98	8.544	8.544	(1.297)	402812	48.2313	48.2	
58	Tetrachloroethene	164	9.131	9.123	(0.858)	1415260	1000.95	10000(A)	
* 68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	285786	50.0000		
$ 77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	175357	45.9778	46.0	
* 93	1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	149220	50.0000		
M 103	1,2-Dichloroethylene (total)	96				652630	354.533	3540	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Y (x10^6)
Min
-Vinyl chloride (1.537)
-1,1-Dichloroethene (2.338)
-trans-1,2-Dichloroethene (2.968)
-cis-1,2-Dichloroethene (4.283)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
-Toluene-D8 (8.545)
Tetrachloroethene (9.131)
-Chlorobenzene-D5 (10.640)
-P-Bromofluorobenzene (12.277)
-1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7940.D
Date : 22-OCT-2018 19:13
Client ID: WWA-MW-83-1-101018
Sample Info: TL0045-24DL2
Instrument: gcms-t.i
\\target_server\gg\chem\gcms-t.i\T102218.b\T7940.D

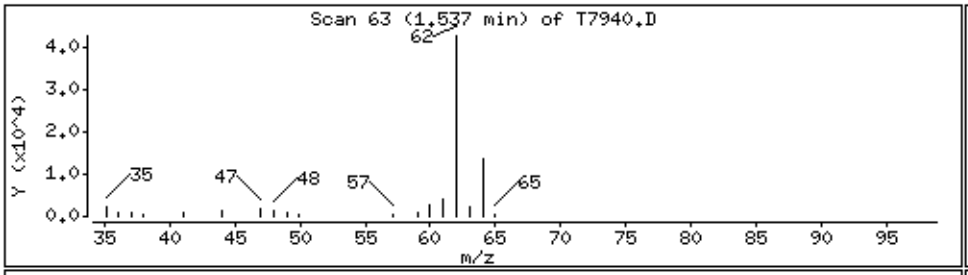
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7940.D

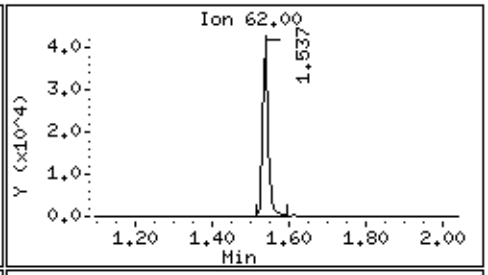
Date : 22-OCT-2018 19:13

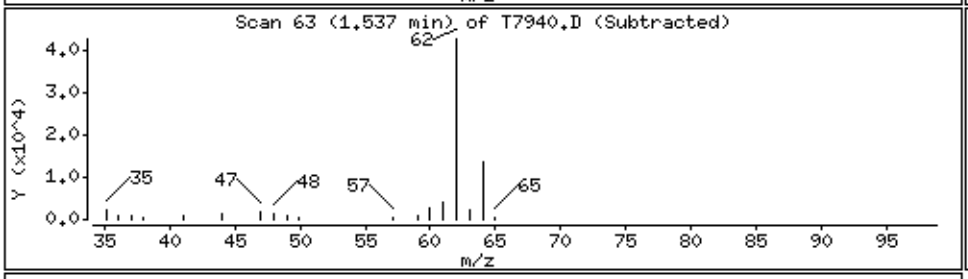
Client ID: WVA-MW-83-1-101018 Instrument: gcms-t.i

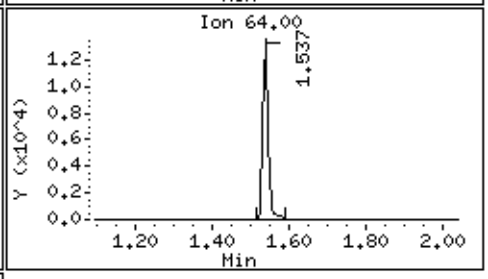
Sample Info: TL0045-24DL2

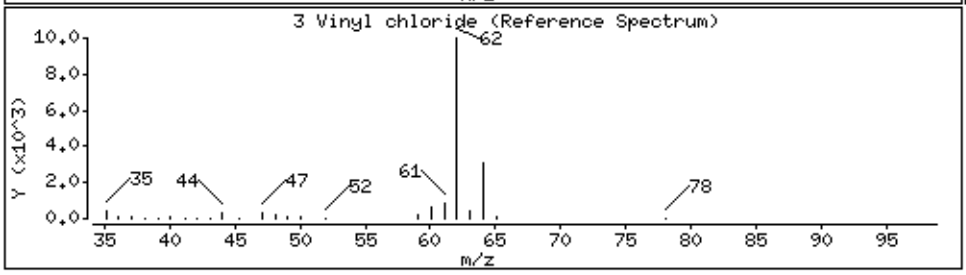
3 Vinyl chloride Concentration: 208 ug/l



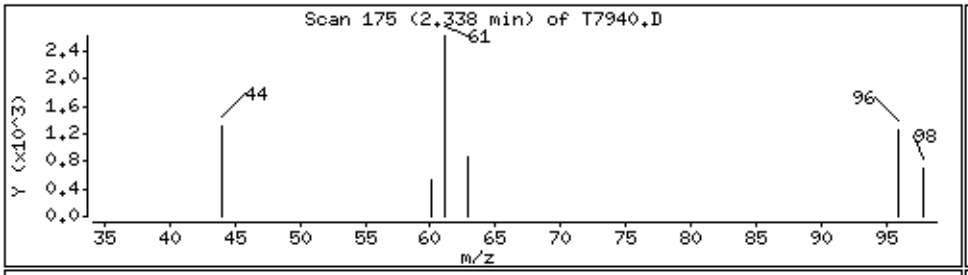


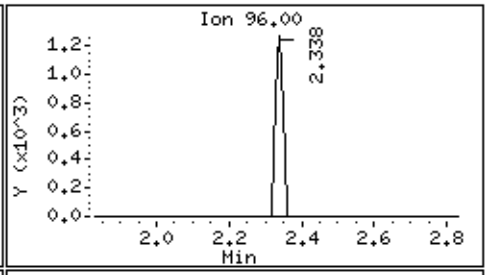


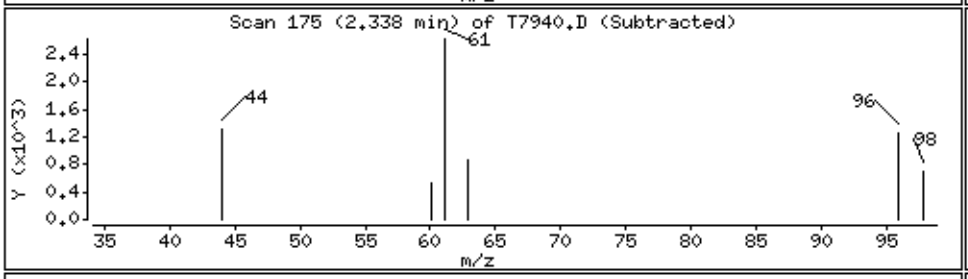


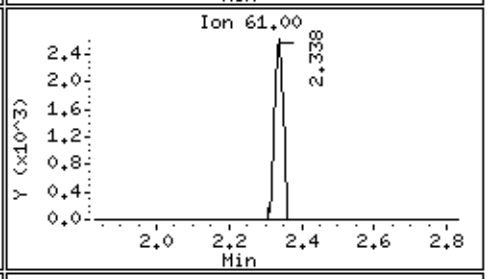


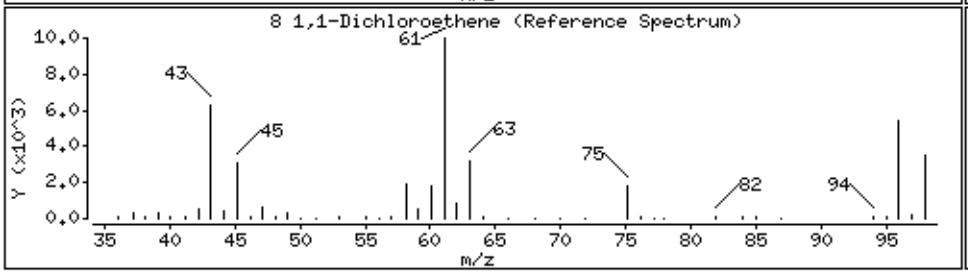
8 1,1-Dichloroethene Concentration: 10.3 ug/l

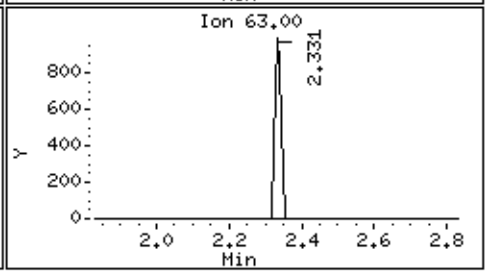












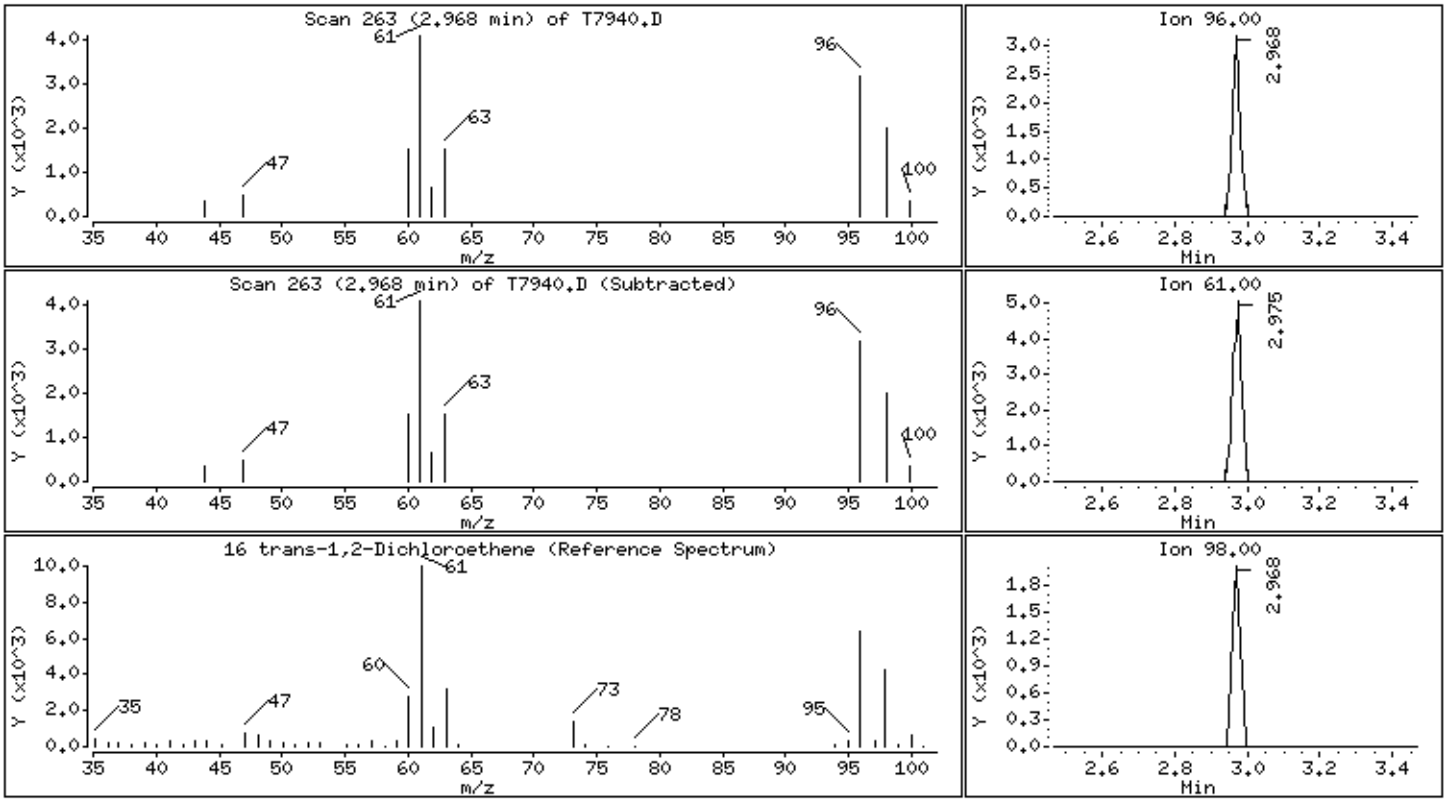
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7940.D

Date : 22-OCT-2018 19:13

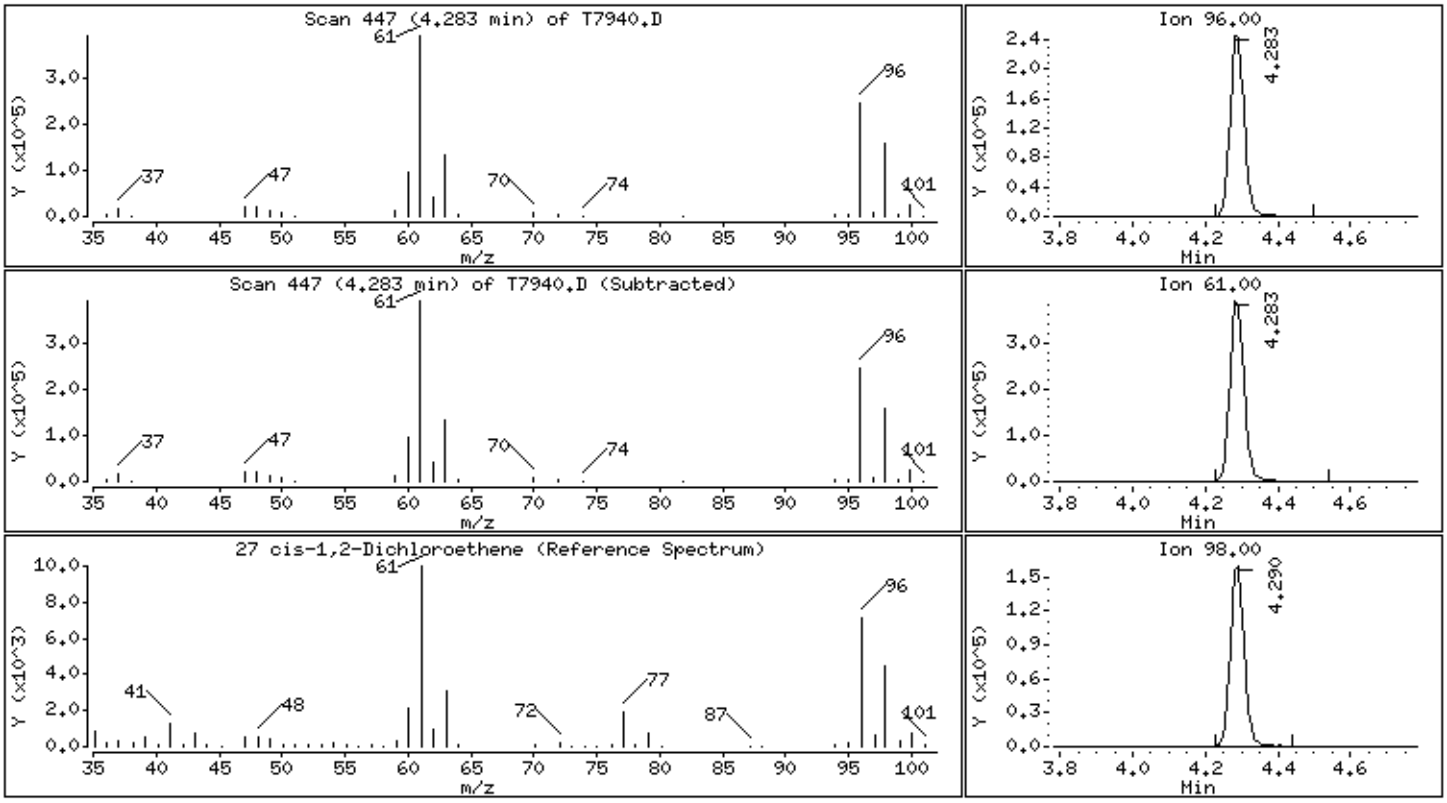
Client ID: WVA-MW-83-1-101018 Instrument: gcms-t.i

Sample Info: TL0045-24DL2

16 trans-1,2-Dichloroethene Concentration: 27.9 ug/l



27 cis-1,2-Dichloroethene Concentration: 3520 ug/l



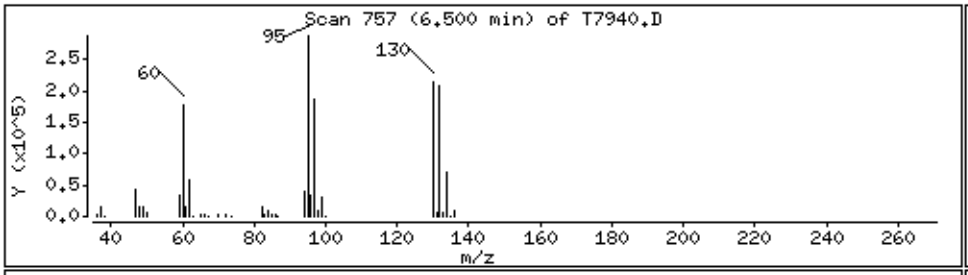
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7940.D

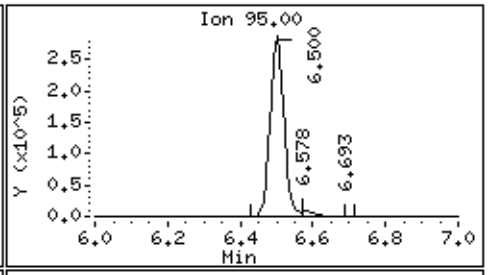
Date : 22-OCT-2018 19:13

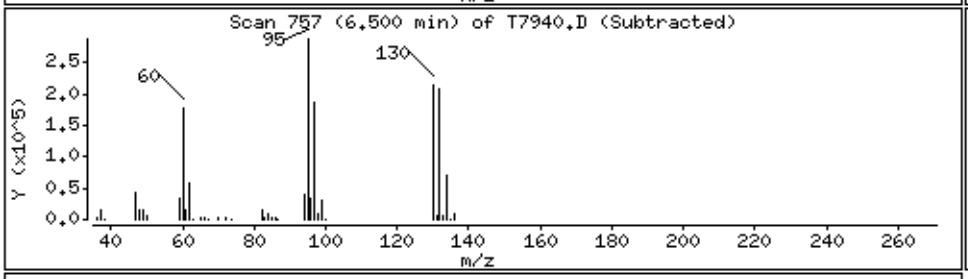
Client ID: WVA-MW-83-1-101018 Instrument: gcms-t.i

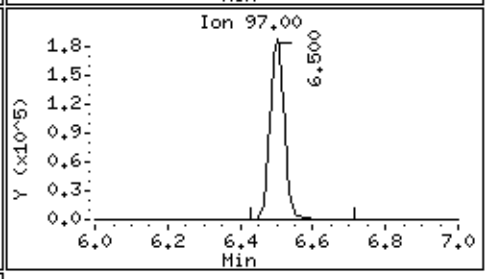
Sample Info: TL0045-24DL2

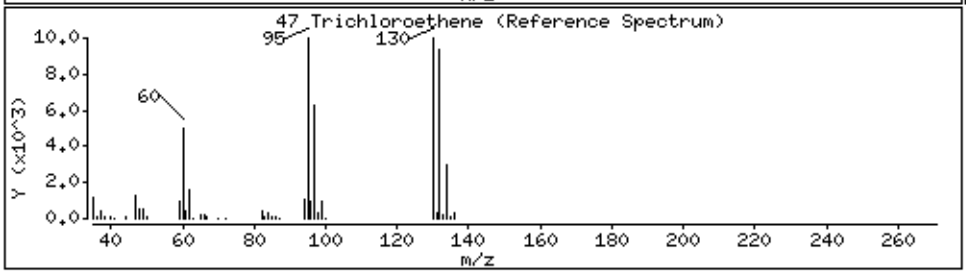
47 Trichloroethene Concentration: 3320 ug/l



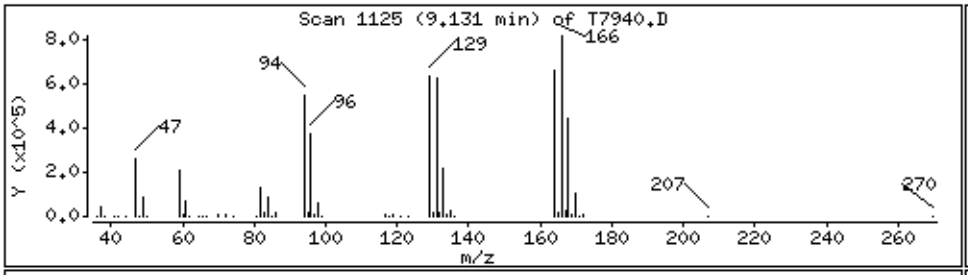


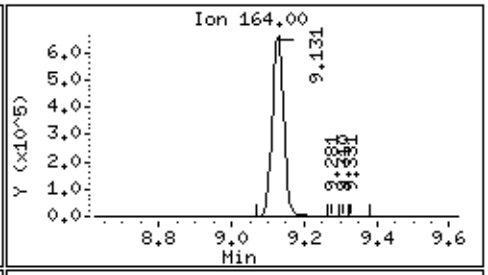


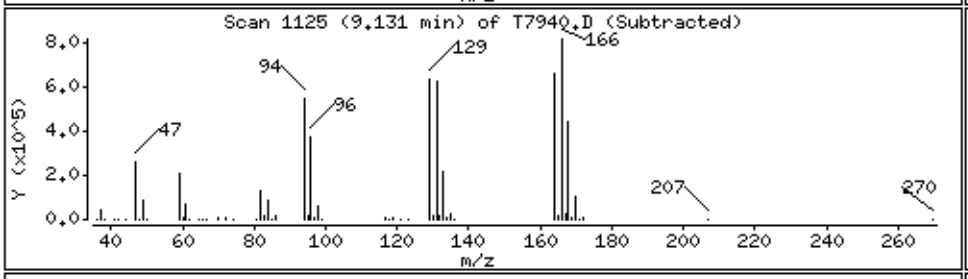


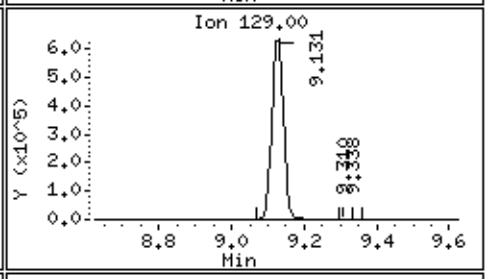


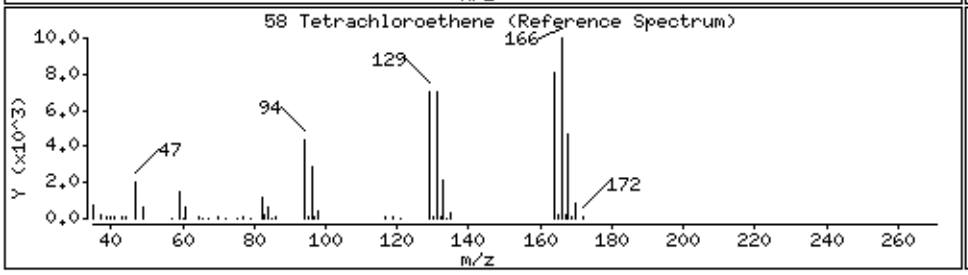
58 Tetrachloroethene Concentration: 10000 ug/l

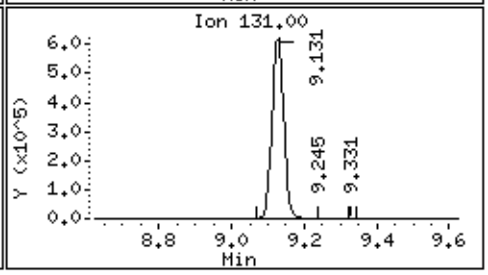












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-25
Client ID: VOA TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7885.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.3	%			
Toluene-d8		98.8	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0045-25
Client ID: VOA TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0045
Lab File ID: T7885.D

Sample Date: 10-OCT-18
Received Date: 13-OCT-18
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		113.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7885.D
Report Date: 25-Oct-2018 11:59

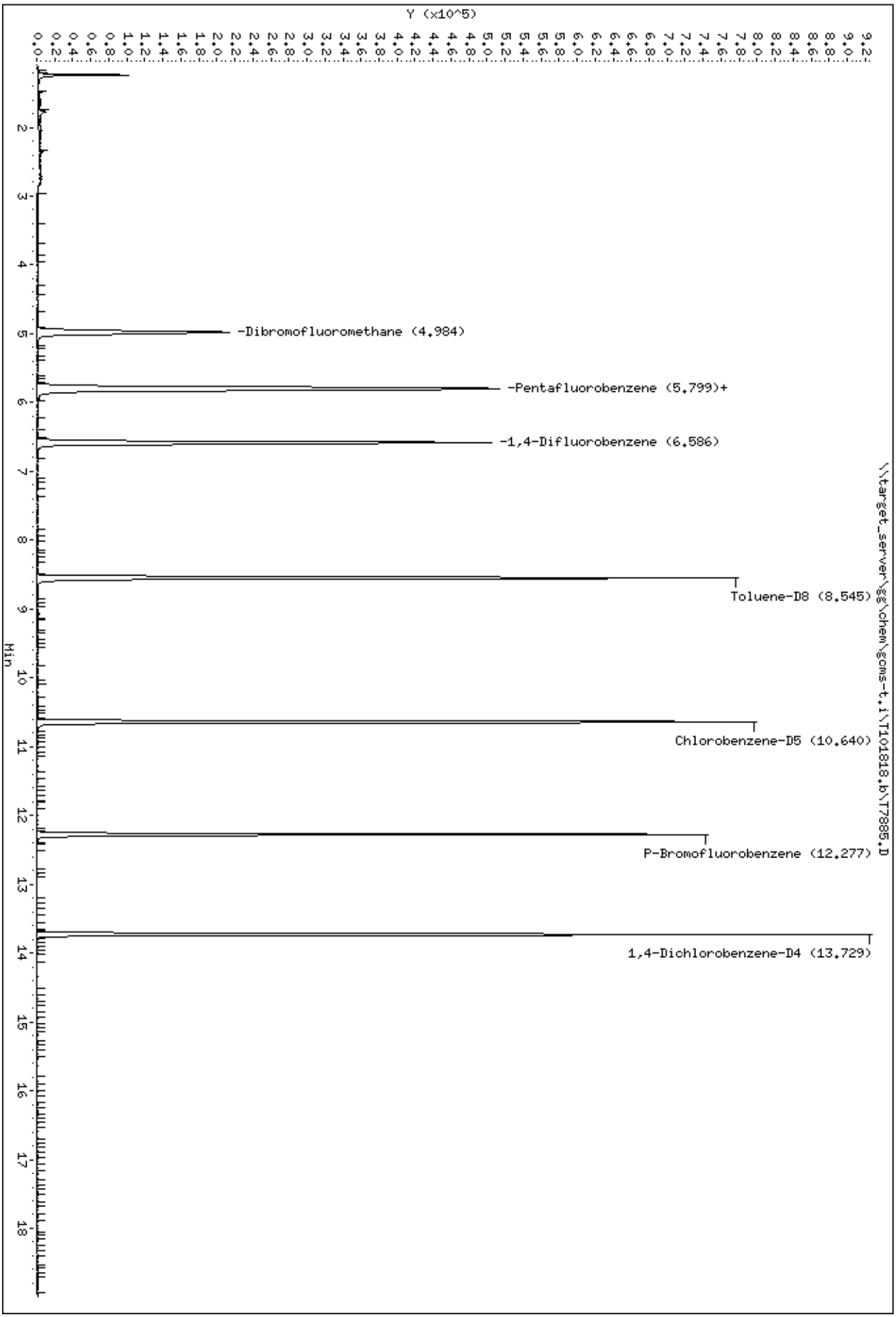
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7885.D
Lab Smp Id: TL0045-25 Client Smp ID: VOA TRIP BLANK
Inj Date : 18-OCT-2018 16:06 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : TL0045-25
Misc Info : WG238778,WG238778-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 34 Dibromofluoromethane	113	4.976	4.976	(0.859)	204385	52.6374	52.6	
* 41 Pentafluorobenzene	168	5.791	5.791	(1.000)	319435	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	319214	56.3435	56.3	
* 48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	485899	50.0000		
$ 56 Toluene-D8	98	8.544	8.544	(1.297)	604911	49.4284	49.4	
* 68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	433247	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	266203	47.6317	47.6	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	223473	50.0000		


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7885.D
Date : 18-OCT-2018 16:06
Client ID: WQA TRIP BLANK
Sample Info: TL0045-25
Instrument: gcms-t.i
Y (x10^5)
Min
-Dibromofluoromethane (4.984)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
\\target_server\gg\chem\gcms-t.i\T101818.b\T7885.D

Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: TL0045
Project : Watervliet Arsenal LTM 2018
Instrument ID: GCMS-T
Lab File IDs : T7879.D T7878.D T7877.D T7876.D T7881.D T7880.D
Column ID:
Calibration Date(s): 18-OCT-18 11:02, 18-OCT-18 13:31

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Crv					Max	
	1.0000	5.0000	20.0000	50.0000	100.0000	150.0000	New	b	m1	m2	%RSD	%RSD	
Chloromethane	3175	12034	46763	107965	237603	299966	LNR	-0.03966	0.28561		0.99798	0.99000	O
Vinyl chloride	0.52253	0.47703	0.44439	0.43184	0.39986	0.40073	AVG		0.44606		10.6108	15.00000	O
Bromomethane	2921	11779	39734	94582	171545	239639	QUA	-0.03242	3.97870	0.82178	0.99423	0.99000	O
Chloroethane	0.30859	0.27984	0.27513	0.26373	0.21466	0.22892	AVG		0.26181		13.2310	15.00000	O
Trichlorofluoromethane	1.16766	1.12691	1.09939	1.09208	0.88390	0.93212	AVG		1.05034		10.8928	15.00000	O
1,1-Dichloroethene	0.47205	0.44696	0.42161	0.42088	0.37481	0.39958	AVG		0.42265		8.09754	15.00000	O
Carbon Disulfide	1.51095	1.27980	1.19719	1.16139	1.00367	1.04067	AVG		1.19895		15.3105	15.00000	W
Methylene Chloride	4267	19836	66609	143058	341310	427036	LNR	-0.03409	0.40652		0.99829	0.99000	O
trans-1,2-Dichloroethene	0.40294	0.40636	0.41560	0.38681	0.36783	0.37268	AVG		0.39204		4.92976	15.00000	O
1,1-Dichloroethane	0.86928	0.92367	0.90009	0.86441	0.78964	0.80868	AVG		0.85930		6.01316	15.00000	O
cis-1,2-Dichloroethene	0.42638	0.41669	0.44473	0.44212	0.41891	0.42593	AVG		0.42913		2.73514	15.00000	O
Chloroform	1.21288	1.24591	1.08534	1.05980	0.95979	0.99659	AVG		1.09338		10.5040	15.00000	O
Carbon Tetrachloride	0.65053	0.64195	0.60502	0.63618	0.55442	0.60296	AVG		0.61517		5.79368	15.00000	O
1,1,1-Trichloroethane	1.12860	1.09462	1.06083	1.06114	0.94893	0.99784	AVG		1.04866		6.22894	15.00000	O
2-Butanone	0.15159	0.16888	0.17163	0.15443	0.16348	0.16622	AVG		0.16271		4.93911	15.00000	O
Benzene	1.13035	1.16788	1.12335	1.10622	1.03829	1.03777	AVG		1.10064		4.77153	15.00000	O
1,2-Dichloroethane	0.73369	0.72429	0.62483	0.62666	0.55614	0.59812	AVG		0.64396		10.9772	15.00000	O
Trichloroethene	0.34273	0.33974	0.33875	0.34458	0.31897	0.32907	AVG		0.33564		2.91208	15.00000	O
1,2-Dichloropropane	0.20797	0.28941	0.28805	0.28726	0.27511	0.28341	AVG		0.27187		11.6696	15.00000	O
Bromodichloromethane	0.46510	0.54643	0.55961	0.56652	0.51264	0.55013	AVG		0.53341		7.17802	15.00000	O
cis-1,3-dichloropropene	0.40996	0.54856	0.58161	0.58880	0.55369	0.57611	AVG		0.54312		12.3597	15.00000	O
Toluene	0.69947	0.69472	0.69695	0.68692	0.64119	0.66499	AVG		0.68071		3.38804	15.00000	O
Tetrachloroethene	0.24591	0.26258	0.23894	0.24490	0.24403	0.24788	AVG		0.24737		3.24400	15.00000	O
4-methyl-2-pentanone	0.18943	0.22396	0.24579	0.23170	0.23235	0.23536	AVG		0.22643		8.59180	15.00000	O
trans-1,3-Dichloropropene	0.47820	0.51933	0.56481	0.58089	0.53393	0.56341	AVG		0.54009		6.98680	15.00000	O
1,1,2-Trichloroethane	0.17974	0.25191	0.24657	0.23430	0.23168	0.24183	AVG		0.23101		11.3473	15.00000	O
Dibromochloromethane	0.36395	0.39221	0.41046	0.40621	0.39655	0.40261	AVG		0.39533		4.22708	15.00000	O
Chlorobenzene	0.84877	0.83784	0.80243	0.77447	0.75383	0.76244	AVG		0.79663		5.00274	15.00000	O
Ethylbenzene	1.57621	1.52054	1.57247	1.53641	1.40987	1.40851	AVG		1.50400		5.08154	15.00000	O
m+p-Xylenes	1.06282	1.22671	1.24834	1.21157	1.07333	1.06286	AVG		1.14760		7.83101	15.00000	O
o-Xylene	0.91473	1.12610	1.23476	1.27432	1.17399	1.18123	AVG		1.15086		10.9985	15.00000	O
Bromoform	0.22400	0.27567	0.29029	0.28400	0.28515	0.29810	AVG		0.27620		9.64018	15.00000	O
1,1,2,2-Tetrachloroethane	0.65314	0.69029	0.70412	0.64908	0.66524	0.66305	AVG		0.67082		3.24187	15.00000	O
Dibromofluoromethane	0.63076	0.60591	0.60306	0.62131	0.58865	0.59696	AVG		0.60777		2.57020	15.00000	
1,2-Dichloroethane-D4	0.93822	0.89383	0.87942	0.89678	0.82447	0.88809	AVG		0.88680		4.13819	15.00000	
Toluene-D8	1.24079	1.26772	1.26113	1.26565	1.24663	1.27405	AVG		1.25933		1.02650	15.00000	
P-Bromofluorobenzene	0.56382	0.57781	0.57977	0.59152	0.55705	0.58061	AVG		0.57510		2.17489	15.00000	

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: TL0045
Project : Watervliet Arsenal LTM 2018
Instrument ID: GCMS-T
Lab File IDs : T7879.D T7878.D T7877.D T7876.D T7881.D T7880.D
Column ID:
Calibration Date(s): 18-OCT-18 11:02
18-OCT-18 13:31

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 12-Nov-2018 10:37

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa02236
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: WG238778-7 Client Smp ID: LCS
Level: LOW Operator: JSS
Data Type: MS DATA SampleType: LCS
SpikeList File: IND_CHECK.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Misc Info: WG238778,WG238778-4,TL0183-1

SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
1	Dichlorodifluorome	50.0	42.9	85.76	80-120
2	Chloromethane	50.0	64.2	128.41*	80-120
3	Vinyl chloride	50.0	52.3	104.54	80-120
4	Bromomethane	50.0	60.0	120.01*	80-120
5	Chloroethane	50.0	52.6	105.18	80-120
6	Trichlorofluoromet	50.0	42.2	84.46	80-120
7	Diethyl Ether	50.0	50.2	100.46	80-120
19	Tertiary-butyl alc	250	281	112.34	80-120
8	1,1-Dichloroethene	50.0	46.8	93.55	80-120
10	Carbon Disulfide	50.0	44.5	89.04	80-120
9	Freon-113	50.0	48.9	97.89	80-120
11	Iodomethane	50.0	49.9	99.76	80-120
12	Acrolein	250	237	94.99	80-120
14	Methylene Chloride	50.0	54.8	109.55	80-120
15	Acetone	50.0	49.9	99.83	80-120
45	Isobutyl Alcohol	1000	1340	133.73*	80-120
16	trans-1,2-Dichloro	50.0	51.1	102.22	80-120
13	Allyl Chloride	50.0	47.1	94.28	80-120
18	Methyl tert-butyl	50.0	55.6	111.32	80-120
20	Acetonitrile	500	532	106.46	80-120
21	Di-isopropyl ether	50.0	53.7	107.35	80-120
22	Chloroprene	50.0	50.2	100.52	80-120
39	Propionitrile	500	511	102.19	80-120
40	Methacrylonitrile	500	510	101.90	80-120
23	1,1-Dichloroethane	50.0	51.1	102.15	80-120
24	Acrylonitrile	250	259	103.73	80-120
25	Ethyl tertiary-but	50.0	53.2	106.41	80-120
26	Vinyl Acetate	50.0	49.5	98.96	80-120
27	cis-1,2-Dichloroet	50.0	50.9	101.75	80-120
M 103	1,2-Dichloroethyle	100	102	101.98	80-120
52	Methyl Methacrylat	50.0	48.5	97.02	80-120
28	2,2-Dichloropropan	50.0	47.2	94.40	80-120
30	Bromochloromethane	50.0	57.7	115.33	80-120
31	Chloroform	50.0	47.5	95.05	80-120
32	Carbon Tetrachlori	50.0	45.9	91.74	80-120
33	Tetrahydrofuran	50.0	56.1	112.26	80-120
35	1,1,1-Trichloroeth	50.0	47.0	93.97	80-120
36	1,1-Dichloropropen	50.0	50.7	101.46	80-120
37	2-Butanone	50.0	52.4	104.75	80-120
38	Benzene	50.0	49.5	99.04	80-120

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 12-Nov-2018 10:37

SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
29	Cyclohexane	50.0	53.3	106.63	80-120
62	Ethyl Methacrylate	50.0	48.1	96.16	80-120
43	Tertiary-amyl meth	50.0	49.7	99.49	80-120
44	1,2-Dichloroethane	50.0	45.1	90.15	80-120
47	Trichloroethene	50.0	49.9	99.75	80-120
49	Dibromomethane	50.0	50.2	100.47	80-120
50	1,2-Dichloropropan	50.0	53.7	107.43	80-120
51	Bromodichlorometha	50.0	51.2	102.45	80-120
55	cis-1,3-dichloropr	50.0	50.9	101.90	80-120
53	1,4-Dioxane	1000	1150	115.32	80-120
54	2-Chloroethylvinyl	50.0	45.6	91.21	80-120
57	Toluene	50.0	50.8	101.54	80-120
59	4-methyl-2-pentano	50.0	50.8	101.52	80-120
58	Tetrachloroethene	50.0	52.9	105.72	80-120
60	trans-1,3-Dichloro	50.0	51.6	103.31	80-120
61	1,1,2-Trichloroeth	50.0	52.3	104.62	80-120
63	Dibromochlorometha	50.0	51.7	103.48	80-120
64	1,3-Dichloropropan	50.0	49.5	99.04	80-120
65	1,2-Dibromoethane	50.0	53.6	107.23	80-120
67	2-Hexanone	50.0	50.2	100.49	80-120
69	Chlorobenzene	50.0	49.5	99.06	80-120
70	Ethylbenzene	50.0	49.8	99.72	80-120
71	1,1,1,2-Tetrachlor	50.0	50.9	101.79	80-120
M 105	Xylenes (total)	150	154	102.75	80-120
72	m+p-Xylenes	100	101	101.23	80-120
73	o-Xylene	50.0	52.9	105.79	80-120
74	Styrene	50.0	53.1	106.18	80-120
75	Bromoform	50.0	51.8	103.65	80-120
76	Isopropylbenzene	50.0	56.9	113.84	80-120
79	cis-1,4-Dichloro-2	50.0	48.2	96.49	80-120
85	trans-1,4-Dichloro	50.0	46.2	92.48	80-120
78	Bromobenzene	50.0	50.0	100.06	80-120
80	N-Propylbenzene	50.0	51.0	102.01	80-120
81	1,1,2,2-Tetrachlor	50.0	52.2	104.36	80-120
84	1,3,5-Trimethylben	50.0	52.6	105.16	80-120
82	2-Chlorotoluene	50.0	51.4	102.74	80-120
83	1,2,3-Trichloropro	50.0	48.9	97.88	80-120
86	4-Chlorotoluene	50.0	50.2	100.36	80-120
87	tert-Butylbenzene	50.0	52.4	104.71	80-120
88	Pentachloroethane	50.0	49.0	98.11	80-120
89	1,2,4-Trimethylben	50.0	53.6	107.22	80-120
91	P-Isopropyltoluene	50.0	53.0	106.09	80-120
92	1,3-Dichlorobenzen	50.0	50.6	101.17	80-120
94	1,4-Dichlorobenzen	50.0	48.3	96.62	80-120
96	N-Butylbenzene	50.0	51.7	103.50	80-120
90	sec-Butylbenzene	50.0	52.9	105.78	80-120
97	1,2-Dichlorobenzen	50.0	50.6	101.10	80-120
98	1,2-Dibromo-3-Chlo	50.0	47.9	95.87	80-120
99	1,3,5-Trichloroben	50.0	54.0	107.92	80-120
100	Hexachlorobutadien	50.0	47.8	95.69	80-120
101	1,2,4-Trichloroben	50.0	52.4	104.76	80-120
95	1,2,3-Trimethylben	50.0	50.3	100.70	80-120
102	Naphthalene	50.0	50.6	101.31	80-120
104	1,2,3-Trichloroben	50.0	52.1	104.27	80-120

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 12-Nov-2018 10:37

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
17 Methyl Acetate	50.0	49.9	99.79	80-120
46 Methylcyclohexane	50.0	54.2	108.33	80-120
M 66 Total Alkylbenzene	350	367	104.92	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/l	AMOUNT RECOVERED ug/l	% RECOVERED	LIMITS
$ 34 Dibromofluorometha	50.0	49.1	98.16	68-128
$ 42 1,2-Dichloroethane	50.0	46.8	93.53	67-135
$ 56 Toluene-D8	50.0	49.4	98.82	65-128
$ 77 P-Bromofluorobenze	50.0	49.4	98.75	56-133

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 12-Nov-2018 10:37

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Lab Smp Id: WG238778-7 Client Smp ID: LCS
Inj Date : 18-OCT-2018 14:01 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-7,TL0183
Misc Info : WG238778,WG238778-4,TL0183-1
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 7 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	179692	42.8825	42.9	
2	Chloromethane	50	1.480	1.480	(0.256)	149483	64.2033	64.2(R)	
3	Vinyl chloride	62	1.537	1.537	(0.265)	184369	52.2689	52.3	
4	Bromomethane	94	1.766	1.759	(0.305)	115509	60.0035	60.0(R)	
5	Chloroethane	64	1.852	1.837	(0.320)	108876	52.5891	52.6	
6	Trichlorofluoromethane	101	1.952	1.945	(0.337)	350755	42.2303	42.2	
7	Diethyl Ether	59	2.173	2.173	(0.375)	127748	50.2298	50.2	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	156333	46.7761	46.8	
9	Freon-113	151	2.366	2.359	(0.409)	136257	48.9442	48.9	
10	Carbon Disulfide	76	2.366	2.359	(0.409)	422074	44.5185	44.5	
11	Iodomethane	142	2.452	2.452	(0.423)	117991	49.8818	49.9	
12	Acrolein	56	2.617	2.610	(0.452)	91292	237.475	237	
13	Allyl Chloride	41	2.731	2.724	(0.472)	209924	47.1401	47.1	
14	Methylene Chloride	84	2.824	2.824	(0.488)	181563	54.7764	54.8	
15	Acetone	43	2.874	2.874	(0.496)	51132	49.9149	49.9	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	158443	51.1091	51.1	
17	Methyl Acetate	43	2.988	2.989	(0.516)	109610	49.8967	49.9	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.531)	572803	55.6588	55.6	
19	Tertiary-butyl alcohol	59	3.181	3.182	(0.549)	83687	280.850	281	
20	Acetonitrile	41	3.339	3.339	(0.577)	150944	532.310	532	
21	Di-isopropyl ether	45	3.475	3.468	(0.600)	463077	53.6746	53.7	
22	Chloroprene	53	3.582	3.582	(0.619)	283730	50.2581	50.2	
23	1,1-Dichloroethane	63	3.610	3.611	(0.623)	347063	51.0761	51.1	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 12-Nov-2018 10:37

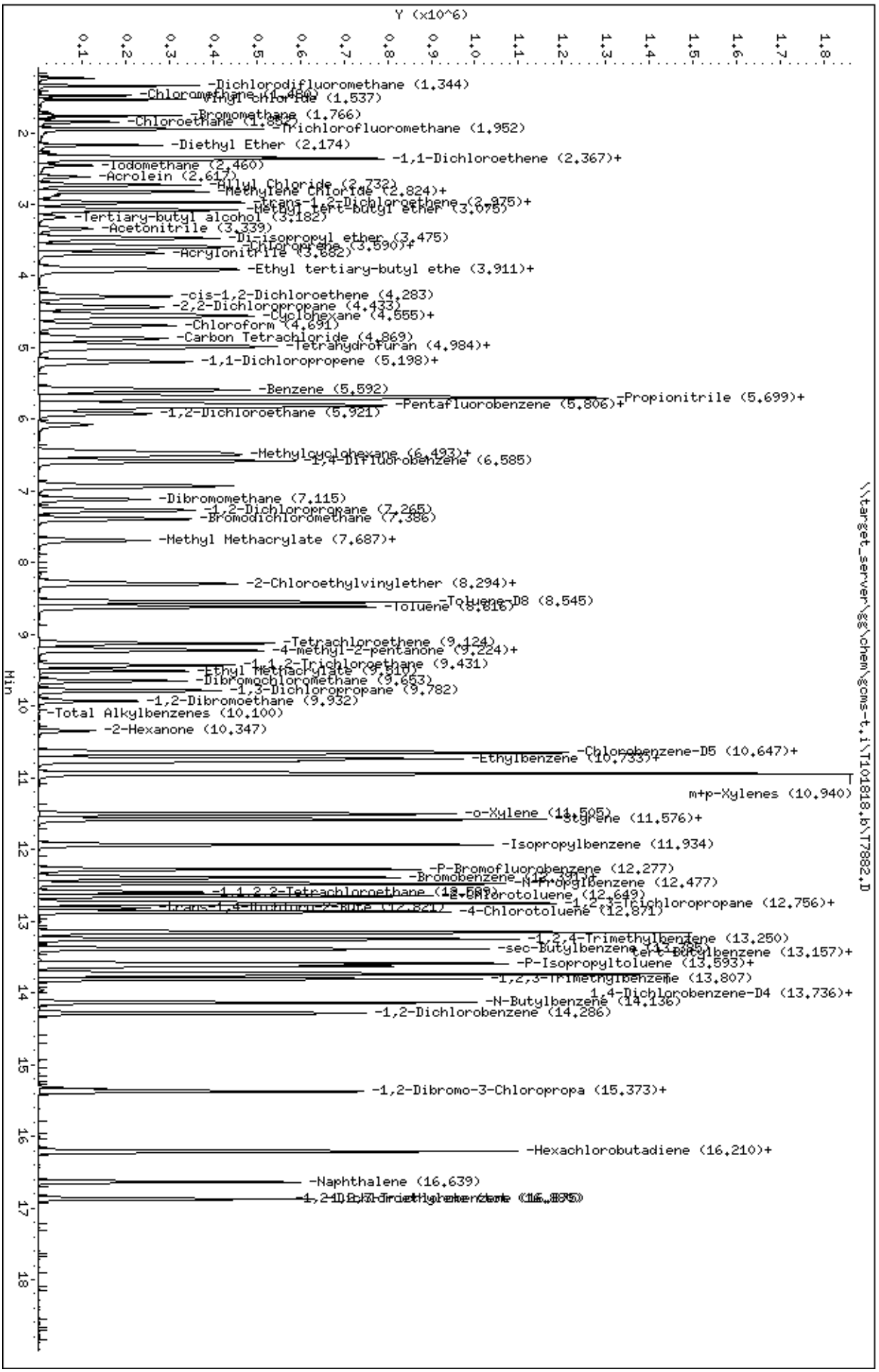
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.682	(0.636)	224961	259.334	259	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	508325	53.2026	53.2	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	349972	49.4787	49.5	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	172636	50.8743	50.9	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.765)	326179	47.1999	47.2	
	29	Cyclohexane	56	4.547	4.547	(0.785)	230950	53.3174	53.3	
	30	Bromochloromethane	128	4.561	4.562	(0.788)	82118	57.6665	57.7	
	31	Chloroform	83	4.690	4.690	(0.810)	410916	47.5261	47.5	
	32	Carbon Tetrachloride	117	4.869	4.869	(0.739)	332501	45.8687	45.9	
	33	Tetrahydrofuran	42	4.940	4.926	(0.853)	39569	56.1278	56.1	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.859)	235884	49.0804	49.1	
	35	1,1,1-Trichloroethane	97	4.990	4.991	(0.862)	389616	46.9845	47.0	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	268341	50.7305	50.7	
	37	2-Butanone	43	5.212	5.205	(0.900)	67384	52.3728	52.4	
	38	Benzene	78	5.591	5.591	(0.849)	642248	49.5198	49.5	
	39	Propionitrile	54	5.670	5.677	(0.979)	186936	510.971	511	
	40	Methacrylonitrile	41	5.698	5.699	(0.984)	876910	509.500	510	
*	41	Pentafluorobenzene	168	5.791	5.791	(1.000)	395383	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	327945	46.7657	46.8	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	462378	49.7456	49.7	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	342031	45.0745	45.1	
	45	Isobutyl Alcohol	43	5.820	5.820	(1.005)	147788	1337.32	1340(R)	
	46	Methylcyclohexane	83	6.456	6.464	(1.115)	258622	54.1651	54.2	
	47	Trichloroethene	95	6.499	6.499	(0.987)	197252	49.8736	49.9	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	589180	50.0000		
	49	Dibromomethane	93	7.114	7.114	(1.080)	132270	50.2326	50.2	
	50	1,2-Dichloropropane	63	7.264	7.264	(1.103)	172087	53.7168	53.7	
	51	Bromodichloromethane	83	7.386	7.393	(1.122)	321979	51.2262	51.2	
	52	Methyl Methacrylate	41	7.686	7.686	(1.167)	138704	48.5118	48.5	
	53	1,4-Dioxane	88	7.700	7.701	(1.169)	36189	1153.22	1150	
	54	2-Chloroethylvinylether	63	8.265	8.265	(1.255)	73004	45.6042	45.6	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	326063	50.9478	50.9	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	733188	49.4081	49.4	
	57	Toluene	92	8.616	8.616	(1.308)	407236	50.7700	50.8	
	58	Tetrachloroethene	164	9.123	9.123	(0.858)	142068	52.8602	52.9	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	135444	50.7625	50.8	
	60	trans-1,3-Dichloropropene	75	9.223	9.224	(1.401)	328741	51.6543	51.6	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	142393	52.3104	52.3	
	62	Ethyl Methacrylate	69	9.509	9.510	(1.444)	205913	48.0784	48.1	
	63	Dibromochloromethane	129	9.645	9.653	(0.907)	222222	51.7378	51.7	
	64	1,3-Dichloropropane	76	9.781	9.788	(0.919)	291678	49.5184	49.5	
	65	1,2-Dibromoethane	107	9.931	9.931	(1.508)	185521	53.6159	53.6	
M	66	Total Alkylbenzenes	100				4909828	367.237	367	
	67	2-Hexanone	43	10.346	10.346	(0.972)	92452	50.2459	50.2	
*	68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	543233	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	428680	49.5290	49.5	
	70	Ethylbenzene	91	10.732	10.739	(1.009)	814722	49.8591	49.8	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.775	(1.012)	191216	50.8964	50.9	
	72	m+p-Xylenes	91	10.939	10.940	(1.028)	1262189	101.232	101	
	73	o-Xylene	91	11.504	11.505	(1.081)	661376	52.8946	52.9	
	74	Styrene	104	11.583	11.583	(1.089)	451530	53.0911	53.1	
	75	Bromoform	173	11.576	11.576	(1.088)	155526	51.8273	51.8	
	76	Isopropylbenzene	105	11.933	11.934	(0.869)	763258	56.9219	56.9	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	334587	49.3731	49.4	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 12-Nov-2018 10:37

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.391	12.391	(0.903)	196806	50.0307	50.0	
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.405	(0.903)	73204	48.2451	48.2	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	938116	51.0030	51.0	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.598	(0.917)	209911	52.1821	52.2	
	82 2-Chlorotoluene	91	12.648	12.649	(0.921)	591155	51.3707	51.4	
	83 1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	191738	48.9404	48.9	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	655798	52.5820	52.6	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	55940	46.2377	46.2	
	86 4-Chlorotoluene	91	12.870	12.870	(0.938)	625222	50.1803	50.2	
	87 tert-Butylbenzene	119	13.156	13.156	(0.958)	599639	52.3531	52.4	
	88 Pentachloroethane	165	13.156	13.156	(0.958)	101258	49.0530	49.0	
	89 1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	669528	53.6123	53.6	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	771818	52.8912	52.9	
	91 P-Isopropyltoluene	119	13.592	13.592	(0.990)	644134	53.0474	53.0	
	92 1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	329683	50.5872	50.6	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	299832	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	329587	48.3121	48.3	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	645151	50.3477	50.3	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	630795	51.7477	51.7	
	97 1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	310815	50.5515	50.6	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	45786	47.9369	47.9	
	99 1,3,5-Trichlorobenzene	180	15.380	15.380	(1.120)	244845	53.9586	54.0	
	100 Hexachlorobutadiene	225	16.209	16.209	(1.181)	121604	47.8452	47.8	
	101 1,2,4-Trichlorobenzene	180	16.216	16.217	(1.181)	213892	52.3783	52.4	
	102 Naphthalene	128	16.638	16.638	(1.212)	446335	50.6544	50.6	
M	103 1,2-Dichloroethylene (total)	96				331079	101.983	102	
	104 1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	196683	52.1370	52.1	
M	105 Xylenes (total)	91				1923565	154.126	154	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Date : 18-OCT-2018 14:01
Client ID: LCS
Sample Info: WG238778-7,TL0183
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.344)
-Chloromethane (1.480)
-Vinyl Chloride (1.537)
-Bromomethane (1.766)
-Chloroethane (1.859)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.367)+
-Iodomethane (2.460)
-Acrolein (2.617)
-Allyl Chloride (2.732)
-Methylene Chloride (2.824)+
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-butyl ether (3.078)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.475)
-Chloroprene (3.590)+
-Acrylonitrile (3.682)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.869)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.198)+
-Benzene (5.592)
-Propionitrile (5.699)+
-Pentafluorobenzene (5.806)+
-1,2-Dichloroethane (5.921)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.585)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.294)+
-Toluene-D8 (8.545)
-Toluene (8.616)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.224)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.576)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.390)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.588)
-2-Chlorotoluene (12.649)
-trans-1,4-Dichloro-2-Bute (12.821)
-1,2,3-Trichloropropane (12.756)+
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.405)
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.286)
-1,2-Dibromo-3-Chloropropa (15.373)+
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.835)

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7876.D
Report Date: 12-Nov-2018 14:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7876.D
Lab Smp Id: WG238778-4
Inj Date : 18-OCT-2018 11:02 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-4
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 12-Nov-2018 14:30 gcms-t.i Quant Type: ISTD
Cal Date : 18-OCT-2018 11:02 Cal File: T7876.D
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	190690	50.0000	52.7	
2	Chloromethane	50	1.480	1.480	(0.256)	107965	50.0000	53.4	
3	Vinyl chloride	62	1.537	1.537	(0.266)	147385	50.0000	48.4	
4	Bromomethane	94	1.759	1.759	(0.304)	94582	50.0000	56.7	
5	Chloroethane	64	1.852	1.837	(0.320)	90011	50.0000	50.4	
6	Trichlorofluoromethane	101	1.952	1.945	(0.337)	372720	50.0000	52.0	
7	Diethyl Ether	59	2.174	2.173	(0.376)	109179	50.0000	49.7	
8	1,1-Dichloroethene	96	2.331	2.331	(0.403)	143643	50.0000	49.8	
9	Freon-113	151	2.359	2.359	(0.408)	126645	50.0000	52.7	
10	Carbon Disulfide	76	2.359	2.359	(0.408)	396378	50.0000	48.4	
11	Iodomethane	142	2.452	2.452	(0.424)	94203	50.0000	46.6	
12	Acrolein	56	2.610	2.617	(0.451)	74790	250.000	225	
13	Allyl Chloride	41	2.724	2.724	(0.471)	185213	50.0000	48.2	
14	Methylene Chloride	84	2.824	2.824	(0.488)	143058	50.0000	49.8	
15	Acetone	43	2.874	2.874	(0.497)	201098	250.000	248	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.513)	132016	50.0000	49.3	
17	Methyl Acetate	43	2.989	2.989	(0.517)	90074	50.0000	47.5	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.532)	452588	50.0000	50.9	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.550)	59634	250.000	231	
20	Acetonitrile	41	3.339	3.339	(0.577)	110578	500.000	452	
21	Di-isopropyl ether	45	3.475	3.468	(0.601)	376673	50.0000	50.6	
22	Chloroprene	53	3.582	3.582	(0.619)	257815	50.0000	52.9	
23	1,1-Dichloroethane	63	3.611	3.611	(0.624)	295018	50.0000	50.3	
24	Acrylonitrile	52	3.682	3.682	(0.637)	177167	250.000	237	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7876.D
Report Date: 12-Nov-2018 14:30

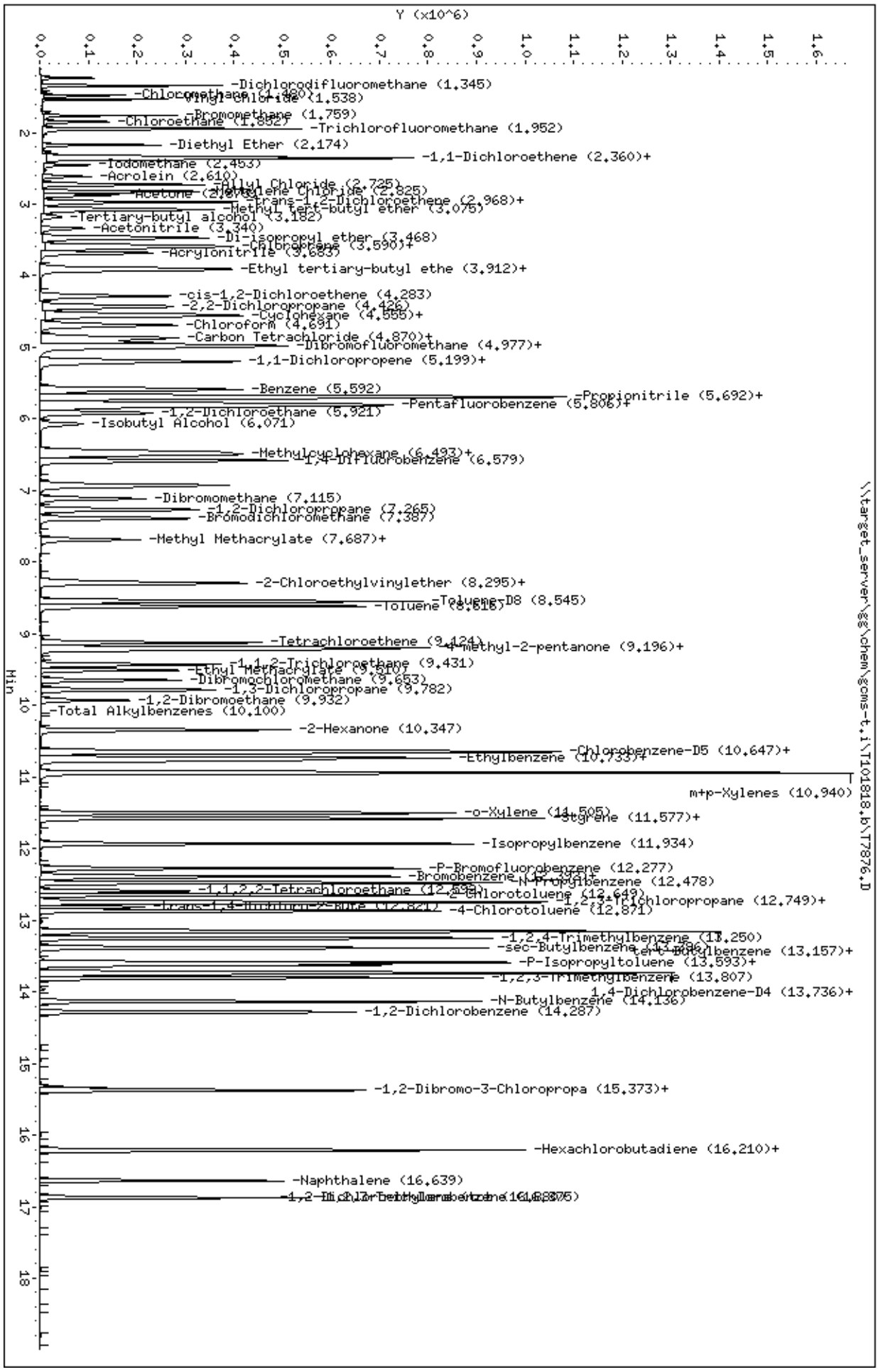
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25 Ethyl tertiary-butyl ether	59	3.904	3.904	(0.675)	431418	50.0000	52.3	
	26 Vinyl Acetate	43	3.925	3.925	(0.597)	304572	50.0000	50.9	
	27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	150892	50.0000	51.5	
	28 2,2-Dichloropropane	77	4.426	4.433	(0.765)	316541	50.0000	53.1	
	29 Cyclohexane	56	4.540	4.540	(0.785)	194011	50.0000	51.9	
	30 Bromochloromethane	128	4.562	4.569	(0.789)	64313	50.0000	52.3	
	31 Chloroform	83	4.690	4.690	(0.811)	361705	50.0000	48.5	
	32 Carbon Tetrachloride	117	4.876	4.869	(0.741)	316892	50.0000	51.7	
	33 Tetrahydrofuran	42	4.926	4.926	(0.852)	144473	250.000	237	
$	34 Dibromofluoromethane	113	4.976	4.976	(0.860)	212050	50.0000	51.1	
	35 1,1,1-Trichloroethane	97	4.991	4.991	(0.863)	362163	50.0000	50.6	
	36 1,1-Dichloropropene	75	5.191	5.191	(0.789)	235856	50.0000	52.7	
	37 2-Butanone	43	5.205	5.205	(0.900)	263523	250.000	237	
	38 Benzene	78	5.591	5.591	(0.850)	551028	50.0000	50.2	
	39 Propionitrile	54	5.670	5.670	(0.980)	143210	500.000	453	
	40 Methacrylonitrile	41	5.691	5.699	(0.984)	726049	500.000	489	
*	41 Pentafluorobenzene	168	5.784	5.792	(1.000)	341295	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.005)	306065	50.0000	50.6	
	43 Tertiary-amyl methyl ether	73	5.820	5.827	(1.006)	396082	50.0000	49.4	
	44 1,2-Dichloroethane	62	5.920	5.920	(0.900)	312154	50.0000	48.6	
	45 Isobutyl Alcohol	43	6.078	5.820	(1.051)	75076	1000.00	787	
	46 Methylcyclohexane	83	6.464	6.456	(1.117)	218592	50.0000	53.0	
	47 Trichloroethene	95	6.499	6.499	(0.988)	171643	50.0000	51.3	
*	48 1,4-Difluorobenzene	114	6.578	6.585	(1.000)	498120	50.0000		
	49 Dibromomethane	93	7.114	7.114	(1.082)	112592	50.0000	50.6	
	50 1,2-Dichloropropane	63	7.264	7.264	(1.104)	143089	50.0000	52.8	
	51 Bromodichloromethane	83	7.386	7.386	(1.123)	282193	50.0000	53.1	
	52 Methyl Methacrylate	41	7.686	7.686	(1.168)	113104	50.0000	46.8	
	53 1,4-Dioxane	88	7.701	7.701	(1.171)	21562	1000.00	813	
	54 2-Chloroethylvinylether	63	8.258	8.266	(1.255)	72636	50.0000	53.7	
	55 cis-1,3-dichloropropene	75	8.294	8.294	(1.261)	293294	50.0000	54.2	
$	56 Toluene-D8	98	8.544	8.544	(1.299)	630445	50.0000	50.2	
	57 Toluene	92	8.616	8.616	(1.310)	342170	50.0000	50.4	
	58 Tetrachloroethene	164	9.124	9.124	(0.858)	113418	50.0000	49.5	
	59 4-methyl-2-pentanone	43	9.195	9.195	(1.398)	577061	250.000	256	
	60 trans-1,3-Dichloropropene	75	9.224	9.224	(1.402)	289353	50.0000	53.8	
	61 1,1,2-Trichloroethane	83	9.431	9.431	(1.434)	116709	50.0000	50.7	
	62 Ethyl Methacrylate	69	9.503	9.510	(1.445)	174348	50.0000	48.1	
	63 Dibromochloromethane	129	9.653	9.653	(0.907)	188123	50.0000	51.4	
	64 1,3-Dichloropropane	76	9.781	9.781	(0.919)	252124	50.0000	50.2	
	65 1,2-Dibromoethane	107	9.932	9.932	(1.510)	150332	50.0000	51.4	
M	66 Total Alkylbenzenes	100				4344612	50.0000	(a)	
	67 2-Hexanone	43	10.339	10.346	(0.972)	399115	250.000	254	
*	68 Chlorobenzene-D5	117	10.639	10.639	(1.000)	463112	50.0000		
	69 Chlorobenzene	112	10.661	10.661	(1.002)	358666	50.0000	48.6	
	70 Ethylbenzene	91	10.732	10.732	(1.009)	711528	50.0000	51.1	
	71 1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	163869	50.0000	51.2	
	72 m+p-Xylenes	91	10.940	10.940	(1.028)	1122184	100.000	106	
	73 o-Xylene	91	11.505	11.505	(1.081)	590155	50.0000	55.4	
	74 Styrene	104	11.583	11.576	(1.089)	389643	50.0000	53.7	
	75 Bromoform	173	11.576	11.576	(1.088)	131525	50.0000	51.4	
	76 Isopropylbenzene	105	11.934	11.934	(0.869)	630678	50.0000	54.8	
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.866)	294650	50.0000	51.4	
	78 Bromobenzene	156	12.384	12.384	(0.902)	168823	50.0000	50.0	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7876.D
Report Date: 12-Nov-2018 14:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.405	(0.903)	65851	50.0000	50.5	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	827062	50.0000	52.3	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	167180	50.0000	48.4	
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	516177	50.0000	52.2	
	83 1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	164619	50.0000	48.9	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	582202	50.0000	54.3	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	53620	50.0000	51.6	
	86 4-Chlorotoluene	91	12.870	12.870	(0.938)	555908	50.0000	51.9	
	87 tert-Butylbenzene	119	13.156	13.156	(0.958)	529999	50.0000	53.9	
	88 Pentachloroethane	165	13.156	13.163	(0.958)	91914	50.0000	51.8	
	89 1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	586936	50.0000	54.7	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	668255	50.0000	53.3	
	91 P-Isopropyltoluene	119	13.592	13.592	(0.990)	577129	50.0000	55.3	
	92 1,3-Dichlorobenzene	146	13.621	13.628	(0.992)	273576	50.0000	48.9	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	257566	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	282149	50.0000	48.1	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	572280	50.0000	52.0	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	573029	50.0000	54.7	
	97 1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	263446	50.0000	49.9	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	39616	50.0000	48.3	
	99 1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	208710	50.0000	53.5	
	100 Hexachlorobutadiene	225	16.209	16.209	(1.181)	108021	50.0000	49.5	
	101 1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	186356	50.0000	53.1	
	102 Naphthalene	128	16.638	16.638	(1.212)	360845	50.0000	47.7	
M	103 1,2-Dichloroethylene (total)	96				282908	50.0000	(a)	
	104 1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	168651	50.0000	52.0	
M	105 Xylenes (total)	91				1712339	150.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7876.D
Date : 18-OCT-2018 11:02
Client ID:
Sample Info: WG238778-4
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T101818.b\T7876.D
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.420)
-Vinyl Chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.892)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.610)
-Allyl Chloride (2.725)
-Acetone (2.760)
-Methylene Chloride (2.825)
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.076)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.340)
-Di-isopropyl ether (3.468)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.912)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.426)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)+
-Dibromofluoromethane (4.977)+
-1,1-Dichloropropene (5.199)+
-Benzene (5.592)
-Propionitrile (5.692)+
-Pentafluorobenzene (5.806)+
-1,2-Dichloroethane (5.921)
-Isobutyl Alcohol (6.071)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.579)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.387)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
-Toluene-D8 (8.545)
-Toluene (8.618)
-Tetrachloroethene (9.424)
-4-methyl-2-pentanone (9.196)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.507)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.341)+
-N-Propylbenzene (12.478)
-1,1,2,2-Tetrachloroethane (12.536)
-2-Chlorotoluene (12.649)
-1,2,3-Trichloropropane (12.749)+
-trans-1,4-Dichloro-2-Bute (12.821)
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.796)
-4-Isopropyltoluene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.287)
-1,2-Dibromo-3-Chloropropa (15.373)+
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.8875)

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7877.D
Report Date: 12-Nov-2018 14:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7877.D
Lab Smp Id: WG238778-3
Inj Date : 18-OCT-2018 11:32 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-3
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 12-Nov-2018 14:30 gcms-t.i Quant Type: ISTD
Cal Date : 18-OCT-2018 11:32 Cal File: T7877.D
Als bottle: 2 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	76775	20.0000	20.8	
2	Chloromethane	50	1.480	1.480	(0.256)	46763	20.0000	21.5	
3	Vinyl chloride	62	1.537	1.537	(0.266)	62056	20.0000	19.9	
4	Bromomethane	94	1.759	1.759	(0.304)	39734	20.0000	21.6	
5	Chloroethane	64	1.852	1.837	(0.320)	38420	20.0000	21.0	
6	Trichlorofluoromethane	101	1.952	1.945	(0.337)	153523	20.0000	20.9	
7	Diethyl Ether	59	2.174	2.173	(0.376)	48602	20.0000	21.6	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	58875	20.0000	20.0	
9	Freon-113	151	2.359	2.359	(0.408)	50710	20.0000	20.6	
10	Carbon Disulfide	76	2.359	2.359	(0.408)	167179	20.0000	20.0	
11	Iodomethane	142	2.460	2.452	(0.425)	31435	20.0000	17.4	
12	Acrolein	56	2.610	2.617	(0.451)	32292	100.000	95.1	
13	Allyl Chloride	41	2.731	2.724	(0.472)	79513	20.0000	20.2	
14	Methylene Chloride	84	2.824	2.824	(0.488)	66609	20.0000	21.8	
15	Acetone	43	2.874	2.874	(0.497)	94578	100.000	111	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.513)	58036	20.0000	21.2	
17	Methyl Acetate	43	2.989	2.989	(0.517)	41462	20.0000	21.4	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.532)	194512	20.0000	21.4	
19	Tertiary-butyl alcohol	59	3.175	3.182	(0.549)	31812	100.000	117	
20	Acetonitrile	41	3.339	3.339	(0.577)	53643	200.000	214	
21	Di-isopropyl ether	45	3.468	3.468	(0.600)	160062	20.0000	21.0	
22	Chloroprene	53	3.582	3.582	(0.619)	106046	20.0000	21.3	
23	1,1-Dichloroethane	63	3.611	3.611	(0.624)	125692	20.0000	20.9	
24	Acrylonitrile	52	3.682	3.682	(0.637)	78491	100.000	102	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7877.D
Report Date: 12-Nov-2018 14:30

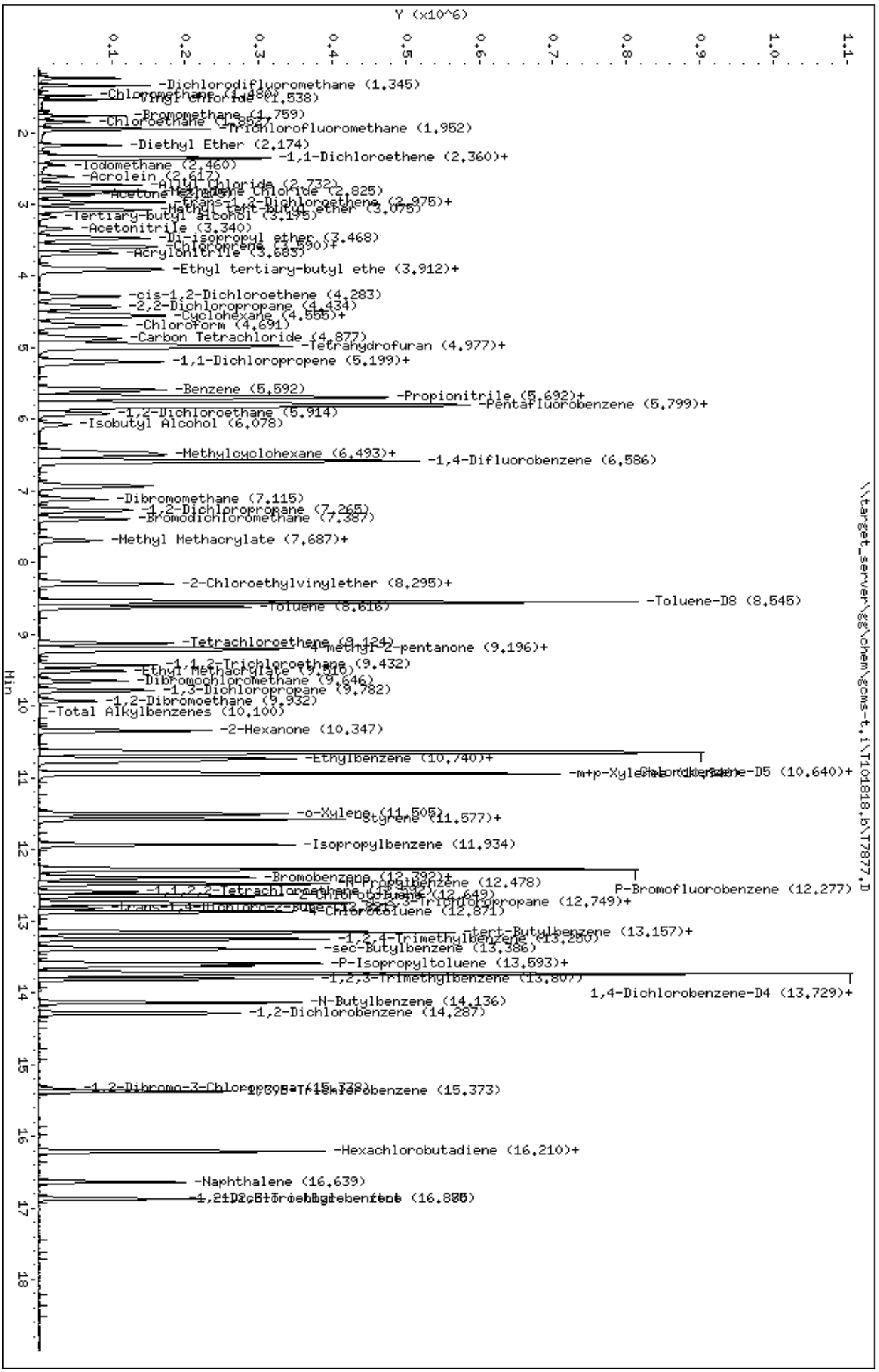
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.675)	176322	20.0000	20.9	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	131493	20.0000	21.3	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	62103	20.0000	20.7	
	28	2,2-Dichloropropane	77	4.426	4.433	(0.765)	126155	20.0000	20.7	
	29	Cyclohexane	56	4.547	4.540	(0.786)	76424	20.0000	20.3	
	30	Bromochloromethane	128	4.562	4.569	(0.789)	26364	20.0000	21.0	
	31	Chloroform	83	4.690	4.690	(0.811)	151561	20.0000	19.8	
	32	Carbon Tetrachloride	117	4.876	4.869	(0.741)	124264	20.0000	19.7	
	33	Tetrahydrofuran	42	4.934	4.926	(0.853)	65545	100.000	105	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.860)	210533	50.0000	49.6	
	35	1,1,1-Trichloroethane	97	4.991	4.991	(0.863)	148137	20.0000	20.2	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	94249	20.0000	20.4	
	37	2-Butanone	43	5.205	5.205	(0.900)	119838	100.000	105	
	38	Benzene	78	5.591	5.591	(0.849)	230724	20.0000	20.4	
	39	Propionitrile	54	5.670	5.670	(0.980)	68802	200.000	213	
	40	Methacrylonitrile	41	5.699	5.699	(0.985)	327112	200.000	215	
*	41	Pentafluorobenzene	168	5.784	5.792	(1.000)	349108	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.005)	307011	50.0000	49.6	
	43	Tertiary-amyl methyl ether	73	5.827	5.827	(1.007)	165169	20.0000	20.1	
	44	1,2-Dichloroethane	62	5.913	5.920	(0.898)	128334	20.0000	19.4	
	45	Isobutyl Alcohol	43	6.078	5.820	(1.051)	37845	400.000	388	
	46	Methylcyclohexane	83	6.457	6.456	(1.116)	89362	20.0000	21.2	
	47	Trichloroethene	95	6.499	6.499	(0.987)	69575	20.0000	20.2	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	513474	50.0000		
	49	Dibromomethane	93	7.114	7.114	(1.080)	47186	20.0000	20.6	
	50	1,2-Dichloropropane	63	7.272	7.264	(1.104)	59162	20.0000	21.2	
	51	Bromodichloromethane	83	7.386	7.386	(1.122)	114939	20.0000	21.0	
	52	Methyl Methacrylate	41	7.686	7.686	(1.167)	46101	20.0000	19.5	
	53	1,4-Dioxane	88	7.708	7.701	(1.170)	12413	400.000	454	
	54	2-Chloroethylvinylether	63	8.266	8.266	(1.255)	28264	20.0000	20.2	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	119457	20.0000	21.4	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	647560	50.0000	50.1	
	57	Toluene	92	8.616	8.616	(1.308)	143147	20.0000	20.5	
	58	Tetrachloroethene	164	9.124	9.124	(0.858)	45286	20.0000	19.3	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	252411	100.000	108	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	116006	20.0000	20.9	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	50642	20.0000	21.3	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	71443	20.0000	19.8	
	63	Dibromochloromethane	129	9.646	9.653	(0.907)	77794	20.0000	20.8	
	64	1,3-Dichloropropane	76	9.781	9.781	(0.919)	107338	20.0000	20.9	
	65	1,2-Dibromoethane	107	9.932	9.932	(1.508)	62802	20.0000	20.8	
M	66	Total Alkylbenzenes	100				1758234	20.0000		(a)
	67	2-Hexanone	43	10.346	10.346	(0.972)	174403	100.000	109	
*	68	Chlorobenzene-D5	117	10.639	10.639	(1.000)	473826	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	152085	20.0000	20.1	
	70	Ethylbenzene	91	10.740	10.732	(1.009)	298031	20.0000	20.9	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	66308	20.0000	20.2	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	473195	40.0000	43.5	
	73	o-Xylene	91	11.505	11.505	(1.081)	234024	20.0000	21.4	
	74	Styrene	104	11.576	11.576	(1.088)	158309	20.0000	21.3	
	75	Bromoform	173	11.576	11.576	(1.088)	55019	20.0000	21.0	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	251380	20.0000	21.5	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	297696	50.0000	50.4	
	78	Bromobenzene	156	12.384	12.384	(0.902)	70277	20.0000	20.5	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7877.D
Report Date: 12-Nov-2018 14:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.405	(0.903)	25992	20.0000	19.6	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	341166	20.0000	21.3	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	73675	20.0000	21.0	
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	212125	20.0000	21.1	
	83 1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	70740	20.0000	20.7	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	235977	20.0000	21.7	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	21022	20.0000	19.9	
	86 4-Chlorotoluene	91	12.870	12.870	(0.938)	231958	20.0000	21.3	
	87 tert-Butylbenzene	119	13.156	13.156	(0.958)	213143	20.0000	21.3	
	88 Pentachloroethane	165	13.163	13.163	(0.959)	38266	20.0000	21.2	
	89 1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	234225	20.0000	21.5	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	272987	20.0000	21.4	
	91 P-Isopropyltoluene	119	13.592	13.592	(0.990)	231814	20.0000	21.9	
	92 1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	117619	20.0000	20.7	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	261586	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	120368	20.0000	20.2	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	234851	20.0000	21.0	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	228922	20.0000	21.5	
	97 1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	110025	20.0000	20.5	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	16374	20.0000	19.6	
	99 1,3,5-Trichlorobenzene	180	15.380	15.373	(1.120)	83101	20.0000	21.0	
	100 Hexachlorobutadiene	225	16.209	16.209	(1.181)	43957	20.0000	19.8	
	101 1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	70193	20.0000	19.7	
	102 Naphthalene	128	16.638	16.638	(1.212)	145554	20.0000	19.6	
M	103 1,2-Dichloroethylene (total)	96				120139	20.0000	(a)	
	104 1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	70837	20.0000	21.5	
M	105 Xylenes (total)	91				707219	60.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.480)+
-Vinyl Chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.856)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.460)
-Acrolein (2.617)
-Allyl Chloride (2.732)
-Acetone (2.809)
-Methylene Chloride (2.825)
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.175)
-Acetonitrile (3.340)
-Di-isopropyl ether (3.468)
-Chloroprene (3.590)+
-Acrylonitrile (3.685)
-Ethyl tertiary-butyl ethe (3.912)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.434)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.877)
-Tetrahydrofuran (4.977)+
-1,1-Dichloropropene (5.199)+
-Benzene (5.592)
-Propionitrile (5.692)+
-Pentafluorobenzene (5.799)+
-1,2-Dichloroethane (5.914)
-Isobutyl Alcohol (6.078)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.387)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
-Toluene-D8 (8.545)
-Toluene (8.616)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.196)+
-1,1,2-Trichloroethane (9.432)
-Ethyl Methacrylate (9.516)
-Dibromochloromethane (9.646)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Ethylbenzene (10.740)+
-m+p-Xylene (10.840)
Chlorobenzene-D5 (10.640)+
-o-Xylene (11.505)
Styrene (11.577)+
-Isopropylbenzene (11.934)
-Bromobenzene (12.392)+
-N-Propylbenzene (12.478)
P-Bromofluorobenzene (12.277)
-1,1,2,2-Tetrachloroethane (12.649)
-2-Chlorotoluene (12.749)+
-1,2,3-Trichloropropane (12.749)+
-trans-1,4-Dichloro-2-bute
-4-Chlorotoluene (12.871)
-tert-Butylbenzene (13.157)+
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.386)
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.729)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.287)
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene (15.373)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.885)
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7877.D
Date : 18-OCT-2018 11:32
Client ID:
Sample Info: WG238778-3
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T101818.b\T7877.D

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7878.D
Report Date: 12-Nov-2018 14:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7878.D
Lab Smp Id: WG238778-2
Inj Date : 18-OCT-2018 12:02 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-2
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 12-Nov-2018 14:30 gcms-t.i Quant Type: ISTD
Cal Date : 18-OCT-2018 12:02 Cal File: T7878.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	18849	5.00000	5.1	
2	Chloromethane	50	1.480	1.480	(0.256)	12034	5.00000	4.0	
3	Vinyl chloride	62	1.537	1.537	(0.265)	16721	5.00000	5.3	
4	Bromomethane	94	1.766	1.759	(0.305)	11779	5.00000	5.1	
5	Chloroethane	64	1.852	1.837	(0.320)	9809	5.00000	5.3	
6	Trichlorofluoromethane	101	1.952	1.945	(0.337)	39501	5.00000	5.4	
7	Diethyl Ether	59	2.181	2.173	(0.377)	12434	5.00000	5.5	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	15667	5.00000	5.3	
9	Freon-113	151	2.359	2.359	(0.407)	13091	5.00000	5.3	
10	Carbon Disulfide	76	2.367	2.359	(0.409)	44860	5.00000	5.3	
11	Iodomethane	142	2.460	2.452	(0.425)	5289	5.00000	4.8	
12	Acrolein	56	2.610	2.617	(0.451)	8362	25.0000	24.5	
13	Allyl Chloride	41	2.731	2.724	(0.472)	19869	5.00000	5.0	
14	Methylene Chloride	84	2.824	2.824	(0.488)	19836	5.00000	5.2	
15	Acetone	43	2.874	2.874	(0.496)	29381	25.0000	30.3	
16	trans-1,2-Dichloroethene	96	2.974	2.967	(0.514)	14244	5.00000	5.2	
17	Methyl Acetate	43	2.989	2.989	(0.516)	9827	5.00000	5.0	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.531)	47177	5.00000	5.2	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.549)	8855	25.0000	27.3	
20	Acetonitrile	41	3.339	3.339	(0.577)	13202	50.0000	52.5	
21	Di-isopropyl ether	45	3.475	3.468	(0.600)	37160	5.00000	4.8	
22	Chloroprene	53	3.582	3.582	(0.619)	25006	5.00000	5.0	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	32377	5.00000	5.4	
24	Acrylonitrile	52	3.682	3.682	(0.636)	20069	25.0000	26.1	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7878.D
Report Date: 12-Nov-2018 14:30

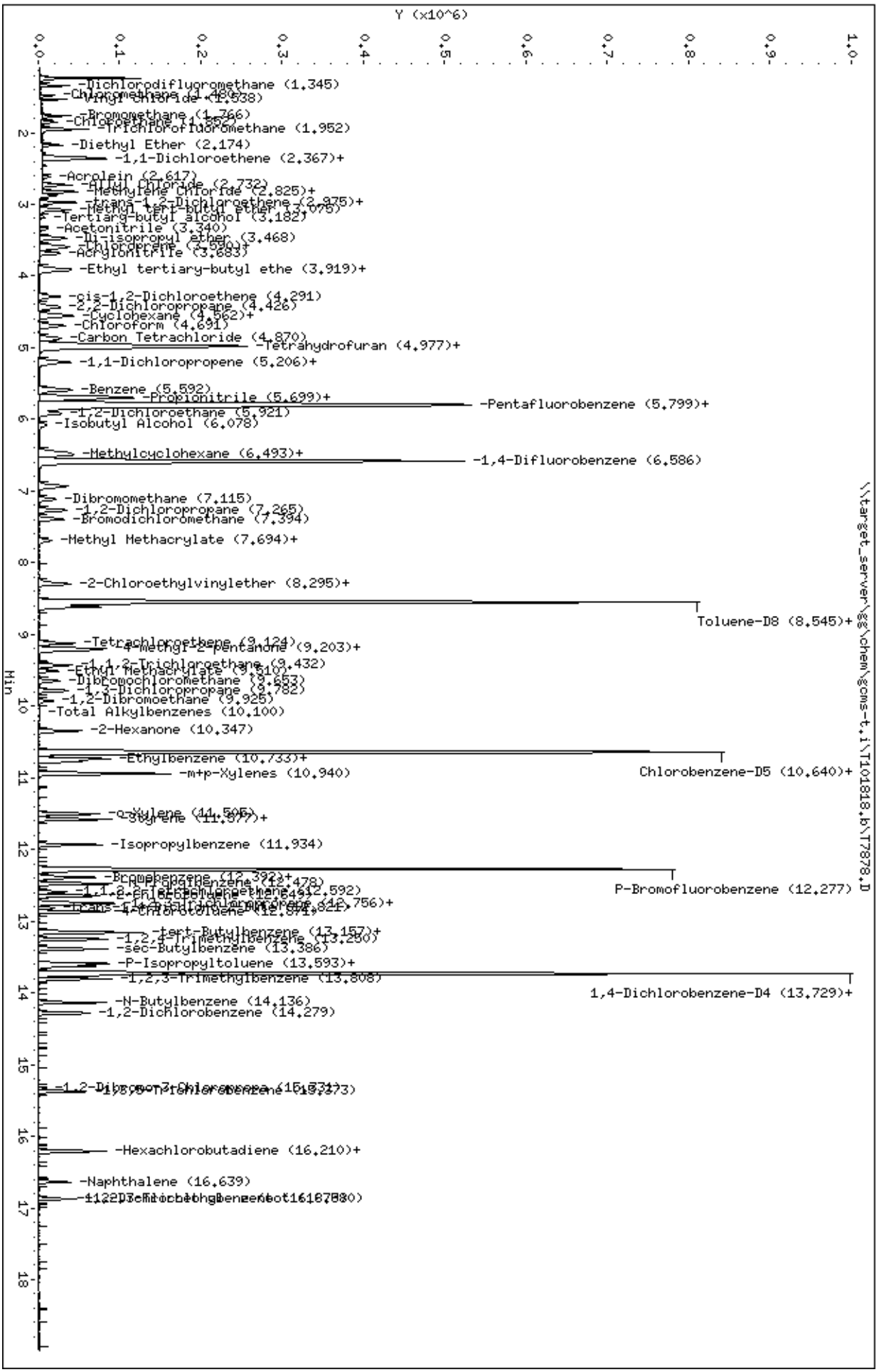
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	42670	5.00000	5.0	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	29401	5.00000	4.9	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	14606	5.00000	4.8	
	28	2,2-Dichloropropane	77	4.440	4.433	(0.767)	31362	5.00000	5.1	
	29	Cyclohexane	56	4.547	4.540	(0.785)	17091	5.00000	4.9	
	30	Bromochloromethane	128	4.562	4.569	(0.788)	6925	5.00000	5.5	
	31	Chloroform	83	4.690	4.690	(0.810)	43672	5.00000	5.7	
	32	Carbon Tetrachloride	117	4.869	4.869	(0.739)	32300	5.00000	5.2	
	33	Tetrahydrofuran	42	4.948	4.926	(0.854)	15372	25.0000	24.6	
$	34	Dibromofluoromethane	113	4.984	4.976	(0.861)	212386	50.0000	49.8	
	35	1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	38369	5.00000	5.2	
	36	1,1-Dichloropropene	75	5.191	5.191	(0.788)	22422	5.00000	5.0	
	37	2-Butanone	43	5.212	5.205	(0.900)	29598	25.0000	25.9	
	38	Benzene	78	5.591	5.591	(0.849)	58762	5.00000	5.3	
	39	Propionitrile	54	5.670	5.670	(0.979)	17386	50.0000	53.6	
	40	Methacrylonitrile	41	5.699	5.699	(0.984)	79473	50.0000	52.1	
*	41	Pentafluorobenzene	168	5.792	5.792	(1.000)	350524	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	313308	50.0000	50.4	
	43	Tertiary-amyl methyl ether	73	5.827	5.827	(1.006)	41238	5.00000	5.0	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	36443	5.00000	5.6	
	45	Isobutyl Alcohol	43	6.078	5.820	(1.049)	9491	100.000	96.9	
	46	Methylcyclohexane	83	6.464	6.456	(1.116)	19894	5.00000	4.7	
	47	Trichloroethene	95	6.499	6.499	(0.987)	17094	5.00000	5.1	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	503153	50.0000		
	49	Dibromomethane	93	7.107	7.114	(1.079)	11707	5.00000	5.2	
	50	1,2-Dichloropropane	63	7.265	7.264	(1.103)	14562	5.00000	5.3	
	51	Bromodichloromethane	83	7.393	7.386	(1.123)	27494	5.00000	5.1	
	52	Methyl Methacrylate	41	7.679	7.686	(1.166)	9310	5.00000	5.3	
	53	1,4-Dioxane	88	7.715	7.701	(1.172)	3184	100.000	119	
	54	2-Chloroethylvinylether	63	8.258	8.266	(1.254)	5470	5.00000	4.0	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	27601	5.00000	5.0	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	637858	50.0000	50.3	
	57	Toluene	92	8.616	8.616	(1.308)	34955	5.00000	5.1	
	58	Tetrachloroethene	164	9.124	9.124	(0.858)	12208	5.00000	5.3	
	59	4-methyl-2-pentanone	43	9.202	9.195	(1.397)	56344	25.0000	24.7	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	26130	5.00000	4.8	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	12675	5.00000	5.4	
	62	Ethyl Methacrylate	69	9.503	9.510	(1.443)	14333	5.00000	5.0	
	63	Dibromochloromethane	129	9.646	9.653	(0.907)	18235	5.00000	5.0	
	64	1,3-Dichloropropane	76	9.789	9.781	(0.920)	25146	5.00000	5.0	
	65	1,2-Dibromoethane	107	9.932	9.932	(1.508)	14440	5.00000	4.9(T)	
M	66	Total Alkylbenzenes	100				394826	5.00000	(a)	
	67	2-Hexanone	43	10.346	10.346	(0.972)	39034	25.0000	24.8	
*	68	Chlorobenzene-D5	117	10.639	10.639	(1.000)	464932	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	38954	5.00000	5.2	
	70	Ethylbenzene	91	10.732	10.732	(1.009)	70695	5.00000	5.0	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	16473	5.00000	5.1	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	114067	10.0000	10.7	
	73	o-Xylene	91	11.505	11.505	(1.081)	52356	5.00000	4.9	
	74	Styrene	104	11.576	11.576	(1.088)	34373	5.00000	4.7	
	75	Bromoform	173	11.576	11.576	(1.088)	12817	5.00000	5.0	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	54897	5.00000	4.9	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	290725	50.0000	50.2	
	78	Bromobenzene	156	12.391	12.384	(0.903)	17867	5.00000	5.4	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7878.D
Report Date: 12-Nov-2018 14:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.405	(0.903)	5918	5.00000	4.7	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	79440	5.00000	5.2	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	17239	5.00000	5.1	
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	49625	5.00000	5.2	
	83 1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	16847	5.00000	5.2	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	52768	5.00000	5.1	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	4681	5.00000	4.6	
	86 4-Chlorotoluene	91	12.870	12.870	(0.938)	56288	5.00000	5.4	
	87 tert-Butylbenzene	119	13.156	13.156	(0.958)	47397	5.00000	5.0	
	88 Pentachloroethane	165	13.163	13.163	(0.959)	8229	5.00000	4.8	
	89 1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	52228	5.00000	5.0	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	62772	5.00000	5.2	
	91 P-Isopropyltoluene	119	13.593	13.592	(0.990)	50054	5.00000	4.9	
	92 1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	28492	5.00000	5.2	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	249736	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	31247	5.00000	5.5	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	55428	5.00000	5.2	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	50167	5.00000	4.9	
	97 1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	26605	5.00000	5.2	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	3695	5.00000	4.6	
	99 1,3,5-Trichlorobenzene	180	15.380	15.373	(1.120)	18784	5.00000	5.0	
	100 Hexachlorobutadiene	225	16.202	16.209	(1.180)	10824	5.00000	5.1	
	101 1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	15418	5.00000	4.5	
	102 Naphthalene	128	16.639	16.638	(1.212)	29093	5.00000	5.0	
M	103 1,2-Dichloroethylene (total)	96				28850	5.00000	(a)	
	104 1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	14647	5.00000	4.7	
M	105 Xylenes (total)	91				166423	15.0000	(a)	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7878.D
Date : 18-OCT-2018 12:02
Client ID:
Sample Info: WG238778-2
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T101818.b\T7878.D
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.486)
-Vinyl Chloride (1.538)
-Bromomethane (1.766)
-Chloroethane (1.896)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.367)+
-Acrolein (2.617)
-Allyl Chloride (2.732)
-Methylene Chloride (2.825)+
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-butyl ether (3.076)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.340)
-Di-isopropyl ether (3.468)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.919)+
-cis-1,2-Dichloroethene (4.291)
-2,2-Dichloropropane (4.426)
-Cyclohexane (4.562)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.977)+
-1,1-Dichloropropene (5.206)+
-Benzene (5.592)
-Propionitrile (5.699)+
-Pentafluorobenzene (5.799)+
-1,2-Dichloroethane (5.921)
-Isobutyl Alcohol (6.078)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.394)
-Methyl Methacrylate (7.694)+
-2-Chloroethylvinylether (8.295)+
Toluene-D8 (8.545)+
-Tetrachloroethene (9.124)
-4-Methyl-2-pentanone (9.203)+
-1,1,2-Trichloroethane (9.432)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.663)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.925)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Ethylbenzene (10.733)+
-m+p-Xylenes (10.940)
Chlorobenzene-D5 (10.640)+
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-Bromobenzene (12.392)+
-n-Propylbenzene (12.478)
-1,1,2,2-Tetrachloroethane (12.592)
-trans-1,4-Dichloro-2-butene (12.756)+
-4-Chlorotoluene (12.974)+
P-Bromofluorobenzene (12.277)
-tert-Butylbenzene (13.157)+
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.386)
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.808)
1,4-Dichlorobenzene-D4 (13.729)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.279)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7879.D
Report Date: 12-Nov-2018 14:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7879.D
Lab Smp Id: WG238778-1
Inj Date : 18-OCT-2018 12:32 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-1
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 12-Nov-2018 14:30 gcms-t.i Quant Type: ISTD
Cal Date : 18-OCT-2018 12:32 Cal File: T7879.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	3728	1.00000	1.0	
2	Chloromethane	50	1.487	1.480	(0.257)	3175	1.00000	(a)	
3	Vinyl chloride	62	1.537	1.537	(0.265)	3478	1.00000	1.2	
4	Bromomethane	94	1.766	1.759	(0.305)	2921	1.00000	0.13(a)	
5	Chloroethane	64	1.852	1.837	(0.320)	2054	1.00000	1.2	
6	Trichlorofluoromethane	101	1.952	1.945	(0.337)	7772	1.00000	1.1	
7	Diethyl Ether	59	2.173	2.173	(0.375)	1960	1.00000	0.92(a)	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	3142	1.00000	1.1	
9	Freon-113	151	2.359	2.359	(0.407)	2245	1.00000	0.96(a)	
10	Carbon Disulfide	76	2.367	2.359	(0.409)	10057	1.00000	1.3	
11	Iodomethane	142	2.452	2.452	(0.423)	987	1.00000	2.7	
12	Acrolein	56	2.610	2.617	(0.451)	2063	5.00000	6.4	
13	Allyl Chloride	41	2.731	2.724	(0.472)	4727	1.00000	1.3	
14	Methylene Chloride	84	2.817	2.824	(0.486)	4267	1.00000	(a)	
15	Acetone	43	2.881	2.874	(0.498)	5914	5.00000	1.9(a)	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	2682	1.00000	1.0	
17	Methyl Acetate	43	2.989	2.989	(0.516)	1886	1.00000	1.0(T)	
18	Methyl tert-butyl ether	73	3.082	3.074	(0.532)	7789	1.00000	0.90(a)	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.549)	1645	5.00000	(a)	
20	Acetonitrile	41	3.346	3.339	(0.578)	2503	10.0000	10.5(a)	
21	Di-isopropyl ether	45	3.460	3.468	(0.598)	7041	1.00000	0.97(a)	
22	Chloroprene	53	3.589	3.582	(0.620)	4479	1.00000	0.94(a)	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	5786	1.00000	1.0	
24	Acrylonitrile	52	3.682	3.682	(0.636)	3800	5.00000	5.2	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7879.D
Report Date: 12-Nov-2018 14:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25 Ethyl tertiary-butyl ether	59	3.911	3.904	(0.675)	6803	1.00000	0.84(a)	
	26 Vinyl Acetate	43	3.918	3.925	(0.595)	5423	1.00000	0.92(Ta)	
	27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	2838	1.00000	0.99(a)	
	28 2,2-Dichloropropane	77	4.447	4.433	(0.768)	5780	1.00000	0.99(a)	
	29 Cyclohexane	56	4.562	4.540	(0.788)	1899	1.00000	0.98(a)	
	30 Bromochloromethane	128	4.547	4.569	(0.785)	1020	1.00000	0.85(a)	
	31 Chloroform	83	4.697	4.690	(0.811)	8073	1.00000	1.1	
	32 Carbon Tetrachloride	117	4.876	4.869	(0.741)	6406	1.00000	1.0	
	33 Tetrahydrofuran	42	4.941	4.926	(0.853)	2667	5.00000	4.5(a)	
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	209919	50.0000	51.9	
	35 1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	7512	1.00000	1.1	
	36 1,1-Dichloropropene	75	5.198	5.191	(0.789)	4049	1.00000	0.92(a)	
	37 2-Butanone	43	5.212	5.205	(0.900)	5045	5.00000	4.6(a)	
	38 Benzene	78	5.591	5.591	(0.849)	11131	1.00000	1.0	
	39 Propionitrile	54	5.677	5.670	(0.980)	3083	10.0000	10.0	
	40 Methacrylonitrile	41	5.699	5.699	(0.984)	14078	10.0000	9.7(a)	
*	41 Pentafluorobenzene	168	5.791	5.792	(1.000)	332803	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	312242	50.0000	52.9	
	43 Tertiary-amyl methyl ether	73	5.827	5.827	(1.006)	7982	1.00000	1.0	
	44 1,2-Dichloroethane	62	5.913	5.920	(0.898)	7225	1.00000	1.1	
	45 Isobutyl Alcohol	43	6.092	5.820	(1.052)	1158	20.0000	12.4(Ta)	
	46 Methylcyclohexane	83	6.471	6.456	(1.117)	3177	1.00000	0.79(a)	
	47 Trichloroethene	95	6.506	6.499	(0.988)	3375	1.00000	1.0	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	492371	50.0000		
	49 Dibromomethane	93	7.114	7.114	(1.080)	2125	1.00000	0.96(a)	
	50 1,2-Dichloropropane	63	7.257	7.264	(1.102)	2048	1.00000	0.76(Ta)	
	51 Bromodichloromethane	83	7.386	7.386	(1.122)	4580	1.00000	0.87(a)	
	52 Methyl Methacrylate	41	7.686	7.686	(1.167)	1399	1.00000	2.2(T)	
	55 cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	4037	1.00000	0.75(a)	
$	56 Toluene-D8	98	8.544	8.544	(1.297)	610929	50.0000	49.3	
	57 Toluene	92	8.616	8.616	(1.308)	6888	1.00000	1.0	
	58 Tetrachloroethene	164	9.116	9.124	(0.857)	2177	1.00000	0.99(a)	
	59 4-methyl-2-pentanone	43	9.202	9.195	(1.397)	9327	5.00000	4.2(a)	
	60 trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	4709	1.00000	0.88(a)	
	61 1,1,2-Trichloroethane	83	9.438	9.431	(1.433)	1770	1.00000	0.78(a)	
	62 Ethyl Methacrylate	69	9.510	9.510	(1.444)	1761	1.00000	1.7	
	63 Dibromochloromethane	129	9.645	9.653	(0.907)	3222	1.00000	0.92(a)	
	64 1,3-Dichloropropane	76	9.796	9.781	(0.921)	4713	1.00000	0.98(a)	
	65 1,2-Dibromoethane	107	9.924	9.932	(1.507)	2584	1.00000	0.89(Ta)	
M	66 Total Alkylbenzenes	100				63655	1.00000	(a)	
	67 2-Hexanone	43	10.346	10.346	(0.972)	5797	5.00000	3.9(a)	
*	68 Chlorobenzene-D5	117	10.639	10.639	(1.000)	442643	50.0000		
	69 Chlorobenzene	112	10.668	10.661	(1.003)	7514	1.00000	1.1	
	70 Ethylbenzene	91	10.732	10.732	(1.009)	13954	1.00000	1.0	
	71 1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	2862	1.00000	0.93(a)	
	72 m+p-Xylenes	91	10.940	10.940	(1.028)	18818	2.00000	1.8(a)	
	73 o-Xylene	91	11.505	11.505	(1.081)	8098	1.00000	0.79(a)	
	74 Styrene	104	11.576	11.576	(1.088)	5558	1.00000	0.80(a)	
	75 Bromoform	173	11.583	11.576	(1.089)	1983	1.00000	0.81(a)	
	76 Isopropylbenzene	105	11.926	11.934	(0.869)	8212	1.00000	0.78(a)	
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	277611	50.0000	49.0	
	78 Bromobenzene	156	12.384	12.384	(0.902)	2991	1.00000	0.96(a)	
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.405	(0.903)	1252	1.00000	1.0	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	14659	1.00000	1.0	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7879.D
Report Date: 12-Nov-2018 14:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
81	1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	3093	1.00000	0.97(Ta)	
82	2-Chlorotoluene	91	12.649	12.649	(0.921)	8501	1.00000	0.94(a)	
83	1,2,3-Trichloropropane	75	12.742	12.734	(0.928)	3093	1.00000	1.00	
84	1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	7963	1.00000	0.81(a)	
85	trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	921	1.00000	0.96(a)	
86	4-Chlorotoluene	91	12.870	12.870	(0.938)	8907	1.00000	0.90(a)	
87	tert-Butylbenzene	119	13.156	13.156	(0.958)	7524	1.00000	0.83(a)	
88	Pentachloroethane	165	13.163	13.163	(0.959)	1394	1.00000	0.86(a)	
89	1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	8104	1.00000	0.82(a)	
90	sec-Butylbenzene	105	13.385	13.385	(0.975)	9828	1.00000	0.85(a)	
91	P-Isopropyltoluene	119	13.585	13.592	(0.990)	7595	1.00000	0.79(a)	
92	1,3-Dichlorobenzene	146	13.621	13.628	(0.992)	5384	1.00000	1.0	
* 93	1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	236779	50.0000		
94	1,4-Dichlorobenzene	146	13.743	13.750	(1.001)	5680	1.00000	1.0	
95	1,2,3-Trimethylbenzene	105	13.800	13.807	(1.005)	9678	1.00000	0.96(a)	
96	N-Butylbenzene	91	14.136	14.136	(1.030)	7982	1.00000	0.83(a)	
97	1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	4805	1.00000	0.99(a)	
98	1,2-Dibromo-3-Chloropropane	75	15.330	15.337	(1.117)	830	1.00000	1.1(T)	
99	1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	2815	1.00000	0.78(a)	
100	Hexachlorobutadiene	225	16.202	16.209	(1.180)	2166	1.00000	1.1	
101	1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	2898	1.00000	0.90(a)	
102	Naphthalene	128	16.638	16.638	(1.212)	4223	1.00000	1.7	
M 103	1,2-Dichloroethylene (total)	96				5520	1.00000	(a)	
104	1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	2388	1.00000	0.80(a)	
M 105	Xylenes (total)	91				26916	5.00000	(a)	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7879.D
Date : 18-OCT-2018 12:32
Client ID:
Sample Info: WG238778-1
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T101818.b\T7879.D
Y (x10^5)
Min
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.506)
-Vinyl chloride (1.538)
-Bromomethane (1.766)+
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Acrolein (2.610)
-Methylene Chloride (2.773)
-Acetone (2.817)
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.332)
-Di-isopropyl ether (3.475)
-Chloroprene (3.590)+
-Acrylonitrile (3.690)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.290)
-2,2-Dichloropropane (4.441)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.977)+
-1,1-Dichloropropene (5.199)+
-Benzene (5.585)
-Propionitrile (5.699)+
-Pentafluorobenzene (5.799)+
-1,2-Dichloroethane (5.914)
-Isobutyl Alcohol (6.078)
-Methylcyclohexane (6.500)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)
-cis-1,3-dichloropropene (8.295)
Toluene-D8 (8.545)+
-Tetrachloroethene (9.124)
-4-Methyl-2-pentanone (9.203)+
-1,1,2-Trichloroethane (9.439)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.646)
-1,3-Dichloropropane (9.789)
-1,2-Dibromoethane (9.925)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.354)
-Ethylbenzene (10.733)+
-m+p-Xylenes (10.940)
Chlorobenzene-D5 (10.640)+
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.927)
-Bromobenzene (12.392)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.592)
-1,4-Dichlorobutene (12.676)+
-1,2,3-Trichloropropane (12.756)+
-4-Chlorotoluene (12.819)
P-Bromofluorobenzene (12.277)
-tert-Butylbenzene (13.157)+
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.386)
-P-Isopropyltoluene (13.586)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.729)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.286)
-1,2-Dibromo-3-Chloropropane (15.370)
-1,3,5-Trichlorobenzene (15.573)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.875)

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7880.D
Report Date: 12-Nov-2018 14:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7880.D
Lab Smp Id: WG238778-6
Inj Date : 18-OCT-2018 13:01 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-6
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 12-Nov-2018 14:30 gcms-t.i Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 5 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	538138	150.000	144	
2	Chloromethane	50	1.480	1.480	(0.256)	299966	150.000	146	
3	Vinyl chloride	62	1.537	1.537	(0.265)	425135	150.000	135	
4	Bromomethane	94	1.759	1.759	(0.304)	239639	150.000	152(A)	
5	Chloroethane	64	1.837	1.837	(0.317)	242859	150.000	131	
6	Trichlorofluoromethane	101	1.945	1.945	(0.336)	988884	150.000	133	
7	Diethyl Ether	59	2.173	2.173	(0.375)	329797	150.000	145	
8	1,1-Dichloroethene	96	2.331	2.331	(0.402)	423907	150.000	142	
9	Freon-113	151	2.359	2.359	(0.407)	365694	150.000	147	
10	Carbon Disulfide	76	2.359	2.359	(0.407)	1104043	150.000	130	
11	Iodomethane	142	2.452	2.452	(0.423)	433393	150.000	149	
12	Acrolein	56	2.610	2.617	(0.451)	246090	750.000	716	
13	Allyl Chloride	41	2.724	2.724	(0.470)	533953	150.000	134	
14	Methylene Chloride	84	2.824	2.824	(0.488)	427036	150.000	147	
15	Acetone	43	2.874	2.874	(0.496)	626172	750.000	756(A)	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	395370	150.000	142	
17	Methyl Acetate	43	2.989	2.989	(0.516)	287259	150.000	146(T)	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.531)	1375123	150.000	149	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.549)	191003	750.000	728	
20	Acetonitrile	41	3.339	3.339	(0.577)	358959	1500.00	1420	
21	Di-isopropyl ether	45	3.468	3.468	(0.599)	1163231	150.000	151(A)	
22	Chloroprene	53	3.582	3.582	(0.619)	749013	150.000	148	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	857922	150.000	141	
24	Acrylonitrile	52	3.682	3.682	(0.636)	565129	750.000	728	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7880.D
Report Date: 12-Nov-2018 14:30

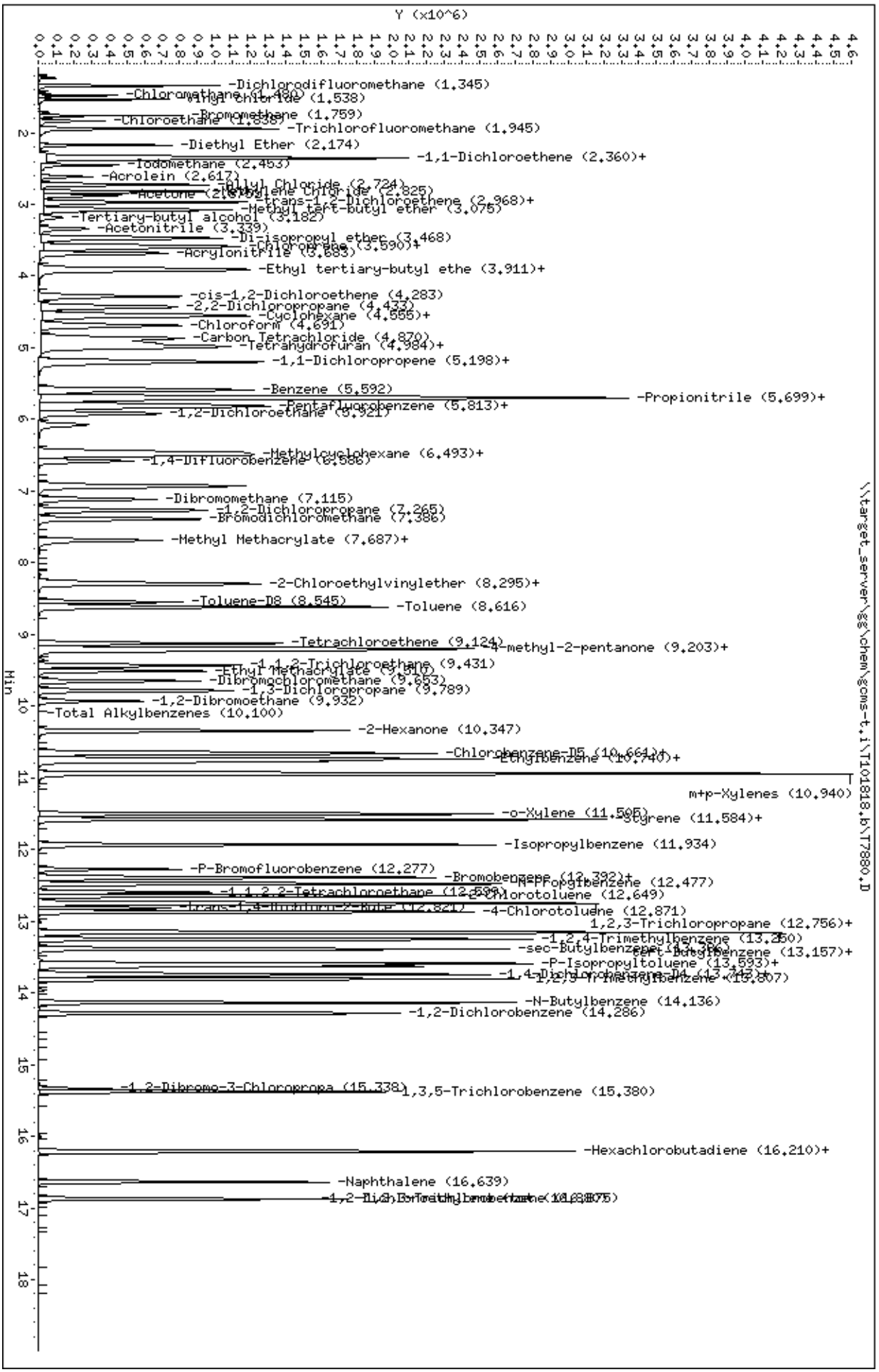
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	1328884	150.000	156(A)	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	946937	150.000	153(TA)	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	451871	150.000	149	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.765)	925803	150.000	150	
	29	Cyclohexane	56	4.547	4.540	(0.785)	593447	150.000	152(A)	
	30	Bromochloromethane	128	4.562	4.569	(0.788)	184906	150.000	145	
	31	Chloroform	83	4.690	4.690	(0.810)	1057272	150.000	137	
	32	Carbon Tetrachloride	117	4.869	4.869	(0.739)	930600	150.000	147	
	33	Tetrahydrofuran	42	4.926	4.926	(0.851)	500830	750.000	794(A)	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.859)	211103	50.0000	49.1	
	35	1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	1058604	150.000	143	
	36	1,1-Dichloropropene	75	5.191	5.191	(0.788)	716244	150.000	155(A)	
	37	2-Butanone	43	5.205	5.205	(0.899)	881727	750.000	766(A)	
	38	Benzene	78	5.591	5.591	(0.849)	1601688	150.000	141	
	39	Propionitrile	54	5.677	5.670	(0.980)	485020	1500.00	1480	
	40	Methacrylonitrile	41	5.699	5.699	(0.984)	2228903	1500.00	1450	
*	41	Pentafluorobenzene	168	5.791	5.792	(1.000)	353631	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	314055	50.0000	50.1	
	43	Tertiary-amyl methyl ether	73	5.820	5.827	(1.005)	1245472	150.000	150	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	923136	150.000	139	
	45	Isobutyl Alcohol	43	5.820	5.820	(1.005)	400026	3000.00	4050(TA)	
	46	Methylcyclohexane	83	6.464	6.456	(1.116)	703339	150.000	165(A)	
	47	Trichloroethene	95	6.499	6.499	(0.987)	507885	150.000	147	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	514464	50.0000		
	49	Dibromomethane	93	7.114	7.114	(1.080)	344801	150.000	150	
	50	1,2-Dichloropropane	63	7.264	7.264	(1.103)	437409	150.000	156(TA)	
	51	Bromodichloromethane	83	7.393	7.386	(1.123)	849063	150.000	155(A)	
	52	Methyl Methacrylate	41	7.686	7.686	(1.167)	388384	150.000	152(TA)	
	53	1,4-Dioxane	88	7.701	7.701	(1.169)	66951	3000.00	2440	
	54	2-Chloroethylvinylether	63	8.265	8.266	(1.255)	227620	150.000	163(A)	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	889171	150.000	159(A)	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	655455	50.0000	50.6	
	57	Toluene	92	8.616	8.616	(1.308)	1026343	150.000	146	
	58	Tetrachloroethene	164	9.123	9.124	(0.857)	357277	150.000	150(A)	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	1816299	750.000	780(A)	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	869570	150.000	156(A)	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	373244	150.000	157(A)	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	575942	150.000	151(A)	
	63	Dibromochloromethane	129	9.653	9.653	(0.907)	580296	150.000	153(A)	
	64	1,3-Dichloropropane	76	9.788	9.781	(0.919)	775535	150.000	149	
	65	1,2-Dibromoethane	107	9.931	9.932	(1.508)	475141	150.000	157(TA)	
M	66	Total Alkylbenzenes	100				12458078	150.000	(a)	
	67	2-Hexanone	43	10.346	10.346	(0.972)	1308594	750.000	804(A)	
*	68	Chlorobenzene-D5	117	10.646	10.639	(1.000)	480440	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.001)	1098927	150.000	144	
	70	Ethylbenzene	91	10.739	10.732	(1.009)	2030119	150.000	140	
	71	1,1,1,2-Tetrachloroethane	131	10.775	10.768	(1.012)	506730	150.000	152(A)	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	3063836	300.000	278	
	73	o-Xylene	91	11.505	11.505	(1.081)	1702528	150.000	154(A)	
	74	Styrene	104	11.583	11.576	(1.088)	1202316	150.000	160(A)	
	75	Bromoform	173	11.576	11.576	(1.087)	429659	150.000	162(A)	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	1865133	150.000	155(A)	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	298701	50.0000	50.5	
	78	Bromobenzene	156	12.391	12.384	(0.903)	511082	150.000	144	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7880.D
Report Date: 12-Nov-2018 14:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
79	cis-1,4-Dichloro-2-Butene	53	12.405	12.405	(0.904)	214134	150.000	157(A)	
80	N-Propylbenzene	91	12.477	12.477	(0.909)	2265753	150.000	137	
81	1,1,2,2-Tetrachloroethane	83	12.598	12.599	(0.918)	536152	150.000	148(T)	
82	2-Chlorotoluene	91	12.649	12.649	(0.921)	1496415	150.000	145	
83	1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	517575	150.000	147	
84	1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	1679357	150.000	150	
85	trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	172275	150.000	158(A)	
86	4-Chlorotoluene	91	12.870	12.870	(0.938)	1589337	150.000	142	
87	tert-Butylbenzene	119	13.156	13.156	(0.958)	1573380	150.000	153(A)	
88	Pentachloroethane	165	13.156	13.163	(0.958)	298813	150.000	161(A)	
89	1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	1691384	150.000	151(A)	
90	sec-Butylbenzene	105	13.385	13.385	(0.975)	1935602	150.000	148	
91	P-Isopropyltoluene	119	13.592	13.592	(0.990)	1661719	150.000	152(A)	
92	1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	828317	150.000	141	
* 93	1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	269540	50.0000		
94	1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	859986	150.000	140	
95	1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	1656374	150.000	144	
96	N-Butylbenzene	91	14.136	14.136	(1.030)	1650883	150.000	151(A)	
97	1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	808676	150.000	146	
98	1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	135254	150.000	158(TA)	
99	1,3,5-Trichlorobenzene	180	15.380	15.373	(1.120)	644185	150.000	158(A)	
100	Hexachlorobutadiene	225	16.209	16.209	(1.181)	329183	150.000	144	
101	1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	593061	150.000	162(A)	
102	Naphthalene	128	16.638	16.638	(1.212)	1208028	150.000	150(A)	
M 103	1,2-Dichloroethylene (total)	96				847241	150.000	(a)	
104	1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	554851	150.000	164(A)	
M 105	Xylenes (total)	91				4766364	150.000	(a)	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.


Y (x10^6)
Min
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.400)
Vinyl Chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.838)
-Trichlorofluoromethane (1.945)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.617)
-Allyl Chloride (2.724)
-Acetone (2.810)
-Methylene Chloride (2.825)
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.468)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.198)+
-Benzene (5.592)
-Propionitrile (5.699)+
-Pentafluorobenzene (5.813)+
-1,2-Dichloroethane (5.921)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
-Toluene-D8 (8.545)
-Toluene (8.616)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.203)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.789)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.664)+
-Ethylbenzene (10.740)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.584)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.392)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.599)
-2-Chlorotoluene (12.649)
-trans-1,4-Dichloro-2-Bute (12.821)
-4-Chlorotoluene (12.871)
1,2,3-Trichloropropane (12.756)+
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.306)
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,4-Dichlorobenzene-D4 (13.742)+
-1,2,3-Trimethylbenzene (13.807)
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.286)
-1,2-Dibromo-3-Chloropropa (15.338)
1,3,5-Trichlorobenzene (15.380)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.875)
Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7880.D
Date : 18-OCT-2018 13:01
Client ID:
Sample Info: WG238778-6
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T101818.b\T7880.D

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7881.D
Report Date: 12-Nov-2018 14:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7881.D
Lab Smp Id: WG238778-5
Inj Date : 18-OCT-2018 13:31 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-5
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 12-Nov-2018 14:30 gcms-t.i Quant Type: ISTD
Cal Date : 18-OCT-2018 13:31 Cal File: T7881.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	369533	100.000	87.9	
2	Chloromethane	50	1.480	1.480	(0.256)	237603	100.000	103	
3	Vinyl chloride	62	1.537	1.537	(0.265)	317181	100.000	89.6	
4	Bromomethane	94	1.759	1.759	(0.304)	171545	100.000	92.1	
5	Chloroethane	64	1.837	1.837	(0.317)	170274	100.000	82.0	
6	Trichlorofluoromethane	101	1.945	1.945	(0.336)	701145	100.000	84.2	
7	Diethyl Ether	59	2.173	2.173	(0.375)	239339	100.000	93.8	
8	1,1-Dichloroethene	96	2.331	2.331	(0.403)	297316	100.000	88.7	
9	Freon-113	151	2.359	2.359	(0.407)	255941	100.000	91.6	
10	Carbon Disulfide	76	2.359	2.359	(0.407)	796152	100.000	83.7	
11	Iodomethane	142	2.452	2.452	(0.423)	282010	100.000	103	
12	Acrolein	56	2.617	2.617	(0.452)	180534	500.000	468	
13	Allyl Chloride	41	2.724	2.724	(0.470)	385909	100.000	86.4	
14	Methylene Chloride	84	2.824	2.824	(0.488)	341310	100.000	104	
15	Acetone	43	2.874	2.874	(0.496)	455556	500.000	488	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	291777	100.000	93.8	
17	Methyl Acetate	43	2.989	2.989	(0.516)	215353	100.000	97.7	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.531)	1013213	100.000	98.1	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.549)	158034	500.000	535	
20	Acetonitrile	41	3.339	3.339	(0.577)	279527	1000.00	983	
21	Di-isopropyl ether	45	3.468	3.468	(0.599)	858183	100.000	99.2	
22	Chloroprene	53	3.582	3.582	(0.619)	536544	100.000	94.7	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	626370	100.000	91.9	
24	Acrylonitrile	52	3.682	3.682	(0.636)	423293	500.000	486	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7881.D
Report Date: 12-Nov-2018 14:30

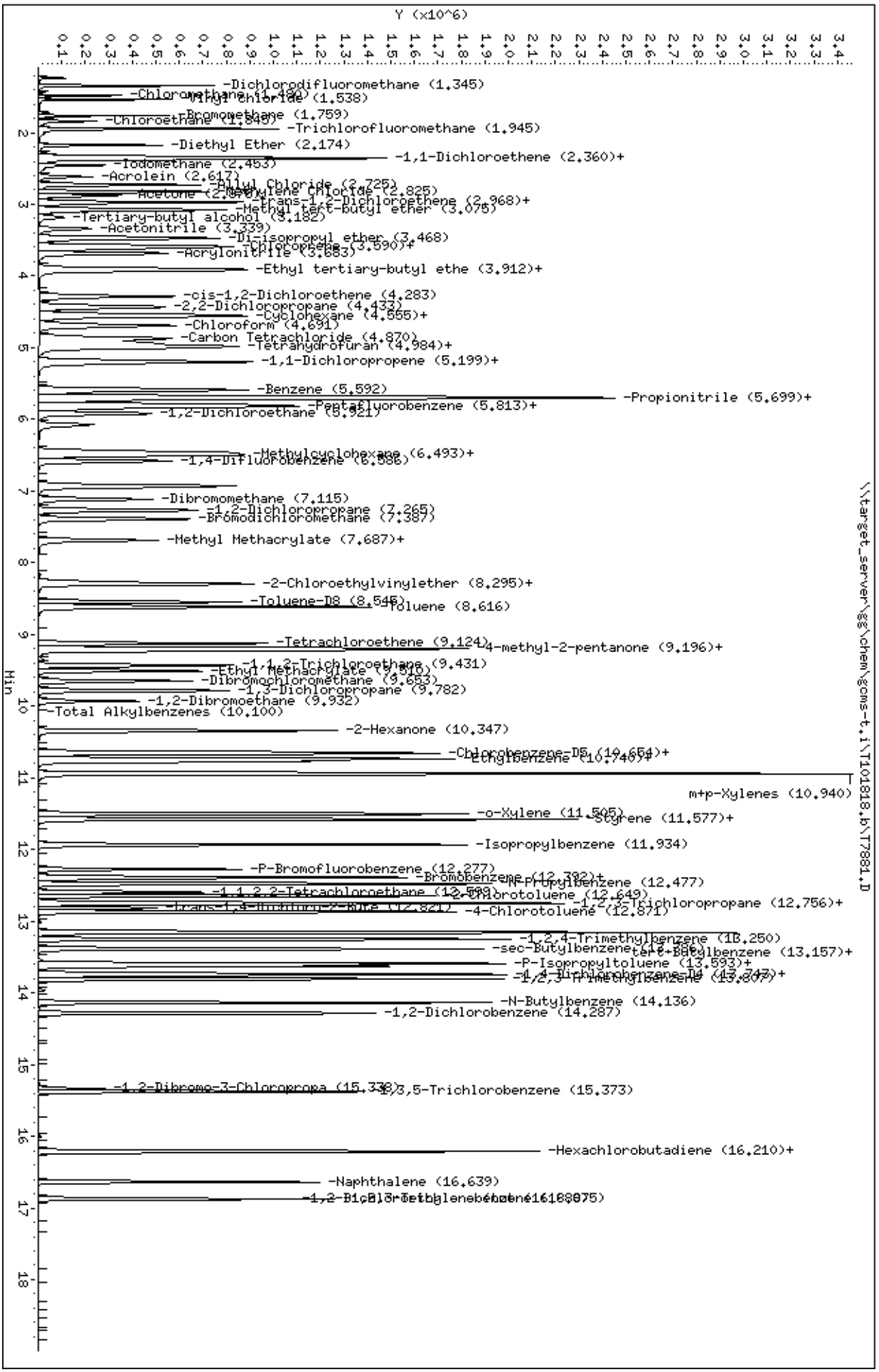
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	976344	100.000	102	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	694067	100.000	100	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	332297	100.000	97.6	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.765)	616200	100.000	88.9	
	29	Cyclohexane	56	4.540	4.540	(0.784)	415257	100.000	95.2	
	30	Bromochloromethane	128	4.569	4.569	(0.789)	141317	100.000	98.9	
	31	Chloroform	83	4.690	4.690	(0.810)	761341	100.000	87.8	
	32	Carbon Tetrachloride	117	4.869	4.869	(0.739)	639948	100.000	90.1	
	33	Tetrahydrofuran	42	4.926	4.926	(0.851)	373257	500.000	528	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.859)	233469	50.0000	48.4	
	35	1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	752729	100.000	90.5	
	36	1,1-Dichloropropene	75	5.191	5.191	(0.788)	507983	100.000	98.0	
	37	2-Butanone	43	5.205	5.205	(0.899)	648400	500.000	502	
	38	Benzene	78	5.591	5.591	(0.849)	1198460	100.000	94.3	
	39	Propionitrile	54	5.670	5.670	(0.979)	354739	1000.00	967	
	40	Methacrylonitrile	41	5.699	5.699	(0.984)	1670559	1000.00	968	
*	41	Pentafluorobenzene	168	5.792	5.792	(1.000)	396619	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	327002	50.0000	46.5	
	43	Tertiary-amyl methyl ether	73	5.827	5.827	(1.006)	919815	100.000	98.6	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	641932	100.000	86.4	
	45	Isobutyl Alcohol	43	5.820	5.820	(1.005)	288911	2000.00	2610	
	46	Methylcyclohexane	83	6.456	6.456	(1.115)	503392	100.000	105	
	47	Trichloroethene	95	6.499	6.499	(0.987)	368178	100.000	95.0	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	577134	50.0000		
	49	Dibromomethane	93	7.114	7.114	(1.080)	245988	100.000	95.4	
	50	1,2-Dichloropropane	63	7.264	7.264	(1.103)	317553	100.000	101	
	51	Bromodichloromethane	83	7.386	7.386	(1.122)	591727	100.000	96.1	
	52	Methyl Methacrylate	41	7.686	7.686	(1.167)	280829	100.000	98.5	
	53	1,4-Dioxane	88	7.701	7.701	(1.169)	64555	2000.00	2100	
	54	2-Chloroethylvinylether	63	8.266	8.266	(1.255)	161171	100.000	103	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	639107	100.000	102	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	719470	50.0000	49.5	
	57	Toluene	92	8.616	8.616	(1.308)	740108	100.000	94.2	
	58	Tetrachloroethene	164	9.124	9.124	(0.858)	259021	100.000	98.6	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	1340992	500.000	513	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	616294	100.000	98.8	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	267424	100.000	100	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	419642	100.000	98.8	
	63	Dibromochloromethane	129	9.653	9.653	(0.907)	420920	100.000	100	
	64	1,3-Dichloropropane	76	9.781	9.781	(0.919)	563484	100.000	97.9	
	65	1,2-Dibromoethane	107	9.932	9.932	(1.508)	342872	100.000	101	
M	66	Total Alkylbenzenes	100				9004158	100.000	(a)	
	67	2-Hexanone	43	10.346	10.346	(0.972)	951464	500.000	529	
*	68	Chlorobenzene-D5	117	10.639	10.639	(1.000)	530725	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	800157	100.000	94.6	
	70	Ethylbenzene	91	10.732	10.732	(1.009)	1496506	100.000	93.7	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	362925	100.000	98.9	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	2278575	200.000	187	
	73	o-Xylene	91	11.505	11.505	(1.081)	1246136	100.000	102	
	74	Styrene	104	11.576	11.576	(1.088)	869162	100.000	105	
	75	Bromoform	173	11.576	11.576	(1.088)	302675	100.000	103	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	1355385	100.000	104	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	321491	50.0000	48.4	
	78	Bromobenzene	156	12.384	12.384	(0.902)	366882	100.000	96.0	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7881.D
Report Date: 12-Nov-2018 14:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.405	12.405	(0.904)	144454	100.000	98.0	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	1662501	100.000	93.0	
	81 1,1,2,2-Tetrachloroethane	83	12.599	12.599	(0.918)	387573	100.000	99.2	
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	1077764	100.000	96.4	
	83 1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	371103	100.000	97.5	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	1218769	100.000	100	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	120280	100.000	102	
	86 4-Chlorotoluene	91	12.870	12.870	(0.938)	1160003	100.000	95.8	
	87 tert-Butylbenzene	119	13.156	13.156	(0.958)	1126135	100.000	101	
	88 Pentachloroethane	165	13.163	13.163	(0.959)	203583	100.000	102	
	89 1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	1213978	100.000	100	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	1406789	100.000	99.2	
	91 P-Isopropyltoluene	119	13.592	13.592	(0.990)	1182764	100.000	100	
	92 1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	601451	100.000	95.0	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	291301	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	620992	100.000	93.7	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	1190358	100.000	95.6	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	1193222	100.000	101	
	97 1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	581158	100.000	97.3	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	90233	100.000	97.2	
	99 1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	461672	100.000	105	
	100 Hexachlorobutadiene	225	16.209	16.209	(1.181)	236329	100.000	95.7	
	101 1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	424578	100.000	107	
	102 Naphthalene	128	16.638	16.638	(1.212)	870591	100.000	101	
M	103 1,2-Dichloroethylene (total)	96				624074	100.000	(a)	
	104 1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	387907	100.000	106	
M	105 Xylenes (total)	91				3524711	100.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7881.D
Date : 18-OCT-2018 13:31
Client ID:
Sample Info: WG238778-5
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T101818.b\T7881.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.480)
-Vinyl chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.849)
-Trichlorofluoromethane (1.945)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.617)
-Allyl Chloride (2.725)
-Methylene chloride (2.825)
Acetone (2.847)
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.468)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.912)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.199)+
-Benzene (5.592)
-Propionitrile (5.699)+
-Pentafluorobenzene (5.813)+
-1,2-Dichloroethane (5.921)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.387)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
-Toluene-D8 (8.546)
Toluene (8.616)
-Tetrachloroethene (9.124)
4-methyl-2-pentanone (9.196)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.516)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.654)+
-Ethylbenzene (10.740)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.392)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.599)
-2-Chlorotoluene (12.649)
-1,2,3-Trichloropropane (12.756)+
-trans-1,4-Dichloro-2-Bute (12.821)
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.306)
tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,4-Dichlorobenzene-D4 (13.747)+
-1,2,3-Trimethylbenzene (13.807)
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.287)
-1,2-Dibromo-3-Chloropropa (15.338)
-1,3,5-Trichlorobenzene (15.373)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.975)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018 **SDG:** TL0045
Lab ID : WG238848-4 **Analytical Date:** 10/19/18 08:23
Lab File ID : T7898.D **Instrument ID:** GCMS-T
Initial Calibration Date(s): 10/18/18 11:02 10/18/18 13:31 **Column ID:**

	Compound	$\overline{RRF}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
2	Chloromethane	50.00000	48.49386	0.28834	0.100	-3.01228	20.00000	Linear
3	Vinyl chloride	0.44606	0.43359	0.43359	0.010	-2.79691	20.00000	Averaged
4	Bromomethane	50.00000	51.86830	0.25541	0.010	3.73660	20.00000	Quadratic
5	Chloroethane	0.26181	0.26770	0.26770	0.010	2.24914	20.00000	Averaged
6	Trichlorofluoromethane	1.05034	1.15334	1.15334	0.010	9.80540	20.00000	Averaged
8	1,1-Dichloroethene	0.42265	0.43803	0.43803	0.100	3.64054	20.00000	Averaged
10	Carbon Disulfide	1.19895	1.20179	1.20179	0.010	0.23716	20.00000	Averaged
14	Methylene Chloride	50.00000	50.21962	0.42216	0.010	0.43925	20.00000	Linear
16	trans-1,2-Dichloroethene	0.39204	0.37866	0.37866	0.010	-3.41185	20.00000	Averaged
23	1,1-Dichloroethane	0.85930	0.86971	0.86971	0.100	1.21166	20.00000	Averaged
27	cis-1,2-Dichloroethene	0.42913	0.43932	0.43932	0.010	2.37464	20.00000	Averaged
31	Chloroform	1.09338	1.09303	1.09303	0.010	-0.03284	20.00000	Averaged
32	Carbon Tetrachloride	0.61517	0.67711	0.67711	0.010	10.06754	20.00000	Averaged
35	1,1,1-Trichloroethane	1.04866	1.10427	1.10427	0.010	5.30334	20.00000	Averaged
37	2-Butanone	0.16271	0.17142	0.17142	0.010	5.35679	20.00000	Averaged
38	Benzene	1.10064	1.10096	1.10096	0.010	0.02907	20.00000	Averaged
44	1,2-Dichloroethane	0.64396	0.66884	0.66884	0.010	3.86334	20.00000	Averaged
47	Trichloroethene	0.33564	0.34694	0.34694	0.010	3.36754	20.00000	Averaged
50	1,2-Dichloropropane	0.27187	0.28521	0.28521	0.010	4.90882	20.00000	Averaged
51	Bromodichloromethane	0.53341	0.57346	0.57346	0.010	7.50980	20.00000	Averaged
55	cis-1,3-dichloropropene	0.54312	0.60820	0.60820	0.010	11.98246	20.00000	Averaged
57	Toluene	0.68071	0.68773	0.68773	0.010	1.03156	20.00000	Averaged
58	Tetrachloroethene	0.24737	0.24986	0.24986	0.010	1.00549	20.00000	Averaged
59	4-methyl-2-pentanone	0.22643	0.26147	0.26147	0.010	15.47238	20.00000	Averaged
60	trans-1,3-Dichloropropene	0.54009	0.59913	0.59913	0.010	10.93007	20.00000	Averaged
61	1,1,2-Trichloroethane	0.23101	0.24898	0.24898	0.010	7.77920	20.00000	Averaged
63	Dibromochloromethane	0.39533	0.41367	0.41367	0.010	4.63824	20.00000	Averaged
69	Chlorobenzene	0.79663	0.77771	0.77771	0.300	-2.37569	20.00000	Averaged
70	Ethylbenzene	1.50400	1.52918	1.52918	0.010	1.67413	20.00000	Averaged
72	m+p-Xylenes	1.14760	1.24309	1.24309	0.010	8.32089	20.00000	Averaged
73	o-Xylene	1.15086	1.24755	1.24755	0.010	8.40196	20.00000	Averaged
75	Bromoform	0.27620	0.29959	0.29959	0.100	8.46908	20.00000	Averaged
81	1,1,2,2-Tetrachloroethane	0.67082	0.66618	0.66618	0.300	-0.69189	20.00000	Averaged
34	Dibromofluoromethane	0.60777	0.62177	0.62177	0.010	2.30314	20.00000	Averaged
42	1,2-Dichloroethane-D4	0.88680	0.97799	0.97799	0.010	10.28287	20.00000	Averaged
56	Toluene-D8	1.25933	1.27107	1.27107	0.010	0.93200	20.00000	Averaged
77	P-Bromofluorobenzene	0.57510	0.60208	0.60208	0.010	4.69147	20.00000	Averaged

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG238848-4
Lab File ID : T7898.D
Initial Calibration Date(s): 10/18/18 11:02 10/18/18 13:31

SDG: TL0045
Analytical Date: 10/19/18 08:23
Instrument ID: GCMS-T
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7898.D
Report Date: 15-Nov-2018 14:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7898.D
Lab Smp Id: WG238848-4 Client Smp ID: ontinuing Calibrati
Inj Date : 19-OCT-2018 08:23 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238848-4,TL0045
Misc Info : WG238848,WG238778-4,TL0045-5
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

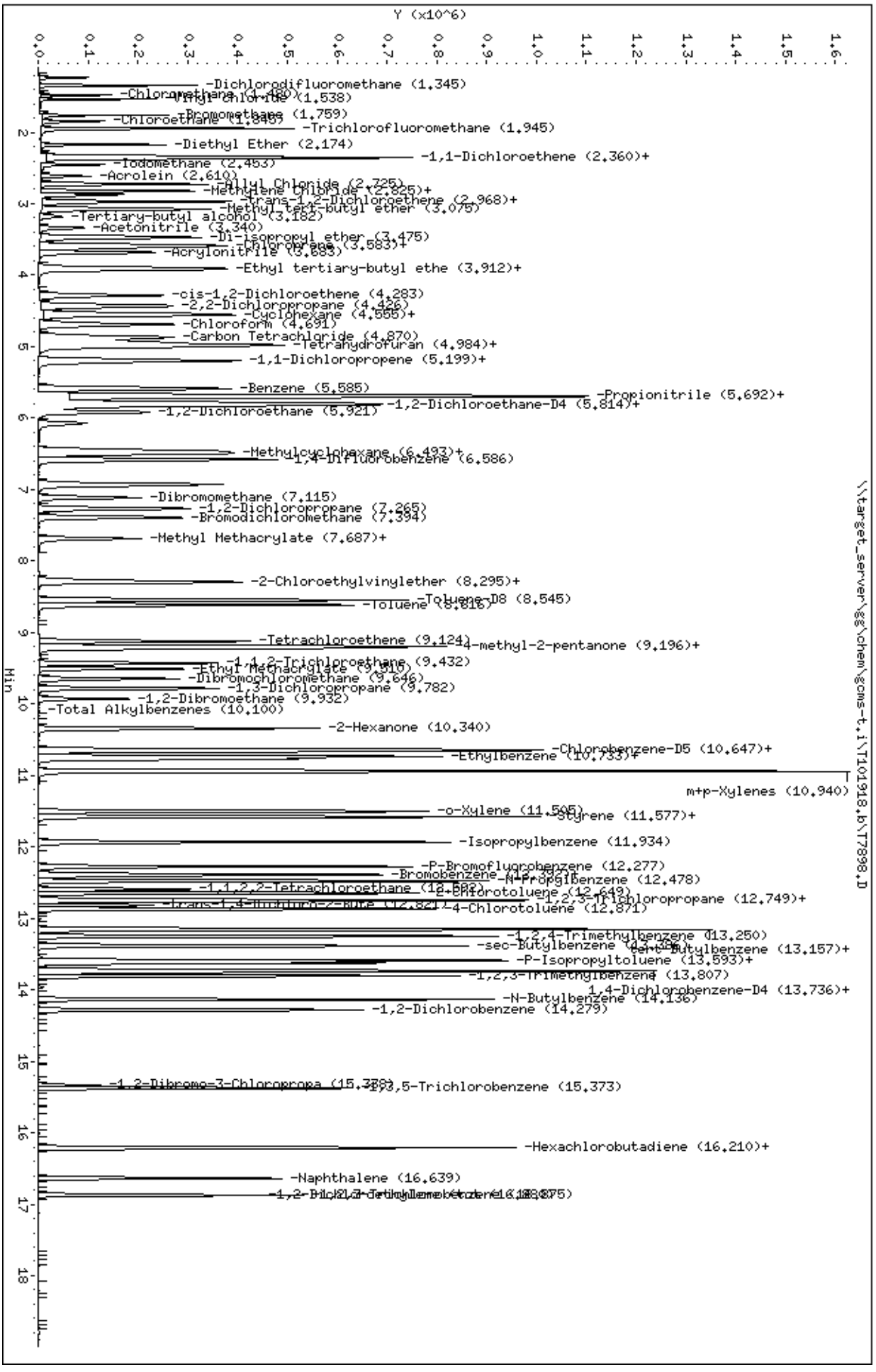
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	164538	50.0000	48.8	
2	Chloromethane	50	1.480	1.480	(0.256)	91746	50.0000	48.5	
3	Vinyl chloride	62	1.537	1.537	(0.266)	137964	50.0000	48.6	
4	Bromomethane	94	1.759	1.759	(0.304)	81268	50.0000	51.9	
5	Chloroethane	64	1.845	1.837	(0.319)	85180	50.0000	51.1	
6	Trichlorofluoromethane	101	1.945	1.945	(0.336)	366982	50.0000	54.9	
7	Diethyl Ether	59	2.174	2.173	(0.376)	106035	50.0000	51.8	
8	1,1-Dichloroethene	96	2.331	2.331	(0.403)	139379	50.0000	51.8	
9	Freon-113	151	2.359	2.359	(0.408)	127332	50.0000	56.8	
10	Carbon Disulfide	76	2.359	2.359	(0.408)	382400	50.0000	50.1	
11	Iodomethane	142	2.452	2.452	(0.424)	120618	50.0000	61.4	
12	Acrolein	56	2.610	2.610	(0.451)	80284	250.000	260	
13	Allyl Chloride	41	2.724	2.724	(0.471)	180451	50.0000	50.4	
14	Methylene Chloride	84	2.824	2.824	(0.488)	134328	50.0000	50.2	
15	Acetone	43	2.874	2.874	(0.497)	217876	250.000	289	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.513)	120487	50.0000	48.3	
17	Methyl Acetate	43	2.989	2.989	(0.517)	93104	50.0000	52.7	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.532)	427429	50.0000	51.6	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.550)	64311	250.000	268	
20	Acetonitrile	41	3.339	3.339	(0.577)	110714	500.000	485	
21	Di-isopropyl ether	45	3.475	3.468	(0.601)	351128	50.0000	50.6	
22	Chloroprene	53	3.582	3.582	(0.619)	244379	50.0000	53.8	
23	1,1-Dichloroethane	63	3.611	3.611	(0.624)	276734	50.0000	50.6	

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7898.D
Report Date: 15-Nov-2018 14:41

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.682	(0.637)	183454	250.000	263	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.675)	406965	50.0000	52.9	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	298132	50.0000	54.7	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	139787	50.0000	51.2	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.766)	312320	50.0000	56.2	
	29	Cyclohexane	56	4.540	4.547	(0.785)	174675	50.0000	50.1	
	30	Bromochloromethane	128	4.562	4.562	(0.789)	59379	50.0000	51.8	
	31	Chloroform	83	4.690	4.690	(0.811)	347792	50.0000	50.0	
	32	Carbon Tetrachloride	117	4.869	4.869	(0.739)	307534	50.0000	55.0	
	33	Tetrahydrofuran	42	4.934	4.926	(0.853)	150143	250.000	265	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.860)	197843	50.0000	51.2	
	35	1,1,1-Trichloroethane	97	4.984	4.991	(0.862)	351371	50.0000	52.6	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	216925	50.0000	53.2	
	37	2-Butanone	43	5.205	5.205	(0.900)	272725	250.000	263	
	38	Benzene	78	5.584	5.591	(0.848)	500043	50.0000	50.0	
	39	Propionitrile	54	5.670	5.677	(0.980)	152354	500.000	517	
	40	Methacrylonitrile	41	5.699	5.699	(0.985)	743760	500.000	537	
*	41	Pentafluorobenzene	168	5.784	5.791	(1.000)	318192	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.005)	311188	50.0000	55.1	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.006)	382175	50.0000	51.1	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	303777	50.0000	51.9	
	45	Isobutyl Alcohol	43	5.820	5.820	(1.006)	122560	1000.00	1380	
	46	Methylcyclohexane	83	6.464	6.464	(1.117)	207790	50.0000	54.1	
	47	Trichloroethene	95	6.499	6.499	(0.987)	157577	50.0000	51.7	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	454188	50.0000		
	49	Dibromomethane	93	7.107	7.114	(1.079)	110072	50.0000	54.2	
	50	1,2-Dichloropropane	63	7.265	7.264	(1.103)	129541	50.0000	52.4	
	51	Bromodichloromethane	83	7.386	7.393	(1.122)	260460	50.0000	53.8	
	52	Methyl Methacrylate	41	7.679	7.686	(1.166)	110422	50.0000	50.0	
	53	1,4-Dioxane	88	7.701	7.701	(1.169)	22578	1000.00	933	
	54	2-Chloroethylvinylether	63	8.266	8.265	(1.255)	65490	50.0000	53.1	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	276238	50.0000	56.0	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	577303	50.0000	50.5	
	57	Toluene	92	8.616	8.616	(1.308)	312359	50.0000	50.5	
	58	Tetrachloroethene	164	9.124	9.123	(0.858)	107339	50.0000	50.5	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	593776	250.000	289	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	272116	50.0000	55.5	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	113082	50.0000	53.9	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	169479	50.0000	51.2	
	63	Dibromochloromethane	129	9.646	9.653	(0.907)	177711	50.0000	52.3	
	64	1,3-Dichloropropane	76	9.781	9.788	(0.919)	237229	50.0000	50.9	
	65	1,2-Dibromoethane	107	9.932	9.931	(1.508)	143812	50.0000	53.9	
M	66	Total Alkylbenzenes	100				4079632	50.0000	374	
	67	2-Hexanone	43	10.339	10.346	(0.972)	423577	250.000	291	
*	68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	429597	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	334100	50.0000	48.8	
	70	Ethylbenzene	91	10.732	10.739	(1.009)	656932	50.0000	50.8	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.775	(1.012)	156172	50.0000	52.6	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	1068059	100.000	108	
	73	o-Xylene	91	11.505	11.505	(1.081)	535944	50.0000	54.2	
	74	Styrene	104	11.576	11.583	(1.088)	356935	50.0000	53.1	
	75	Bromoform	173	11.576	11.576	(1.088)	128705	50.0000	54.2	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	585369	50.0000	53.5	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	273456	50.0000	52.3	

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7898.D
Report Date: 15-Nov-2018 14:41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
78	Bromobenzene	156	12.384	12.391	(0.902)	155773	50.0000	48.5	
79	cis-1,4-Dichloro-2-Butene	53	12.398	12.405	(0.903)	70847	50.0000	57.2	
80	N-Propylbenzene	91	12.477	12.477	(0.909)	777204	50.0000	51.8	
81	1,1,2,2-Tetrachloroethane	83	12.591	12.598	(0.917)	163077	50.0000	49.6	
82	2-Chlorotoluene	91	12.649	12.649	(0.921)	485256	50.0000	51.6	
83	1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	161911	50.0000	50.6	
84	1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	536191	50.0000	52.6	
85	trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	57087	50.0000	57.8	
86	4-Chlorotoluene	91	12.870	12.870	(0.938)	519070	50.0000	51.0	
87	tert-Butylbenzene	119	13.149	13.156	(0.958)	499821	50.0000	53.4	
88	Pentachloroethane	165	13.156	13.156	(0.958)	89077	50.0000	52.8	
89	1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	550813	50.0000	54.0	
90	sec-Butylbenzene	105	13.385	13.385	(0.975)	627126	50.0000	52.6	
91	P-Isopropyltoluene	119	13.592	13.592	(0.990)	540876	50.0000	54.6	
92	1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	259606	50.0000	48.8	
* 93	1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	244795	50.0000		
94	1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	262260	50.0000	47.1	
95	1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	533828	50.0000	51.0	
96	N-Butylbenzene	91	14.136	14.136	(1.030)	547601	50.0000	55.0	
97	1,2-Dichlorobenzene	146	14.279	14.286	(1.040)	248200	50.0000	49.4	
98	1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	41613	50.0000	53.4	
99	1,3,5-Trichlorobenzene	180	15.373	15.380	(1.120)	195166	50.0000	52.7	
100	Hexachlorobutadiene	225	16.209	16.209	(1.181)	103257	50.0000	49.8	
101	1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	173807	50.0000	52.1	
102	Naphthalene	128	16.638	16.638	(1.212)	355666	50.0000	49.5	
M 103	1,2-Dichloroethylene (total)	96				260274	50.0000	99.5	
104	1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	159054	50.0000	51.6	
M 105	Xylenes (total)	91				1604003	150.000	162	


Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7898.D
Date : 19-OCT-2018 08:23
Client ID: ontinuing Calibrati
Sample Info: WG238848-4,TL0045
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T101918.b\T7898.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.480)
Vinyl chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.845)
-Trichlorofluoromethane (1.945)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.610)
-Allyl Chloride (2.725)
-Methylene Chloride (2.825)+
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.340)
-Di-isopropyl ether (3.475)
-Chloroprene (3.583)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.912)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.426)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.199)+
-Benzene (5.585)
-Propionitrile (5.692)+
-1,2-Dichloroethane-D4 (5.814)+
-1,2-Dichloroethane (5.921)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.394)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
-Toluene-D8 (8.545)
-Toluene (8.616)
-Tetrachloroethene (9.124)
4-methyl-2-pentanone (9.196)+
-1,1,2-Trichloroethane (9.432)
-Ethyl Methacrylate (9.516)
-Dibromochloromethane (9.646)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.340)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.331)
-N-Propylbenzene (12.478)
-1,1,2,2-Tetrachloroethane (12.582)
-2-Chlorotoluene (12.649)
-1,2,3-Trichloropropane (12.749)+
-trans-1,4-Dichloro-2-Bute (12.821)
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.457)+
-4-Isopropyltoluene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.279)
-1,2-Dibromo-3-Chloropropa (15.378)
-1,3,5-Trichlorobenzene (15.373)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.875)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018 **SDG:** TL0045
Lab ID : WG239008-4 **Analytical Date:** 10/22/18 08:51
Lab File ID : T7923.D **Instrument ID:** GCMS-T
Initial Calibration Date(s): 10/18/18 11:02 10/18/18 13:31 **Column ID:**

	Compound	$\overline{\text{RRF}}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	50.00000	53.91727	0.31932	0.100	7.83454	20.00000	Linear	
3	Vinyl chloride	0.44606	0.50607	0.50607	0.010	13.45152	20.00000	Averaged	
4	Bromomethane	50.00000	35.83306	0.18147	0.010	-28.33388	20.00000	Quadratic	*
5	Chloroethane	0.26181	0.29759	0.29759	0.010	13.66425	20.00000	Averaged	
6	Trichlorofluoromethane	1.05034	1.31210	1.31210	0.010	24.92077	20.00000	Averaged	*
8	1,1-Dichloroethene	0.42265	0.46166	0.46166	0.100	9.23009	20.00000	Averaged	
10	Carbon Disulfide	1.19895	1.21097	1.21097	0.010	1.00306	20.00000	Averaged	
14	Methylene Chloride	50.00000	46.95388	0.39561	0.010	-6.09224	20.00000	Linear	
16	trans-1,2-Dichloroethene	0.39204	0.36402	0.36402	0.010	-7.14699	20.00000	Averaged	
23	1,1-Dichloroethane	0.85930	0.84351	0.84351	0.100	-1.83680	20.00000	Averaged	
27	cis-1,2-Dichloroethene	0.42913	0.41981	0.41981	0.010	-2.17027	20.00000	Averaged	
31	Chloroform	1.09338	1.05971	1.05971	0.010	-3.07953	20.00000	Averaged	
32	Carbon Tetrachloride	0.61517	0.73337	0.73337	0.010	19.21386	20.00000	Averaged	
35	1,1,1-Trichloroethane	1.04866	1.14384	1.14384	0.010	9.07646	20.00000	Averaged	
37	2-Butanone	0.16271	0.16531	0.16531	0.010	1.60272	20.00000	Averaged	
38	Benzene	1.10064	1.12265	1.12265	0.010	2.00014	20.00000	Averaged	
44	1,2-Dichloroethane	0.64396	0.70599	0.70599	0.010	9.63374	20.00000	Averaged	
47	Trichloroethene	0.33564	0.36671	0.36671	0.010	9.25727	20.00000	Averaged	
50	1,2-Dichloropropane	0.27187	0.29084	0.29084	0.010	6.97822	20.00000	Averaged	
51	Bromodichloromethane	0.53341	0.59702	0.59702	0.010	11.92558	20.00000	Averaged	
55	cis-1,3-dichloropropene	0.54312	0.61722	0.61722	0.010	13.64318	20.00000	Averaged	
57	Toluene	0.68071	0.70694	0.70694	0.010	3.85343	20.00000	Averaged	
58	Tetrachloroethene	0.24737	0.27468	0.27468	0.010	11.03858	20.00000	Averaged	
59	4-methyl-2-pentanone	0.22643	0.26416	0.26416	0.010	16.66250	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.54009	0.62206	0.62206	0.010	15.17652	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.23101	0.24059	0.24059	0.010	4.14996	20.00000	Averaged	
63	Dibromochloromethane	0.39533	0.42112	0.42112	0.010	6.52258	20.00000	Averaged	
69	Chlorobenzene	0.79663	0.79513	0.79513	0.300	-0.18807	20.00000	Averaged	
70	Ethylbenzene	1.50400	1.62663	1.62663	0.010	8.15330	20.00000	Averaged	
72	m+p-Xylenes	1.14760	1.31473	1.31473	0.010	14.56269	20.00000	Averaged	
73	o-Xylene	1.15086	1.33279	1.33279	0.010	15.80847	20.00000	Averaged	
75	Bromoform	0.27620	0.32124	0.32124	0.100	16.30737	20.00000	Averaged	
81	1,1,2,2-Tetrachloroethane	0.67082	0.71089	0.71089	0.300	5.97312	20.00000	Averaged	
34	Dibromofluoromethane	0.60777	0.55740	0.55740	0.010	-8.28885	20.00000	Averaged	
42	1,2-Dichloroethane-D4	0.88680	0.88577	0.88577	0.010	-0.11623	20.00000	Averaged	
56	Toluene-D8	1.25933	1.25303	1.25303	0.010	-0.50004	20.00000	Averaged	
77	P-Bromofluorobenzene	0.57510	0.58225	0.58225	0.010	1.24406	20.00000	Averaged	

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239008-4
Lab File ID : T7923.D
Initial Calibration Date(s): 10/18/18 11:02 10/18/18 13:31

SDG: TL0045
Analytical Date: 10/22/18 08:51
Instrument ID: GCMS-T
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7923.D
Report Date: 15-Nov-2018 14:48

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7923.D
Lab Smp Id: WG239008-4 Client Smp ID: ontinuing Calibrati
Inj Date : 22-OCT-2018 08:51 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG239008-4,TL0045
Misc Info : WG239008,WG238778-4,TL0045-9
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

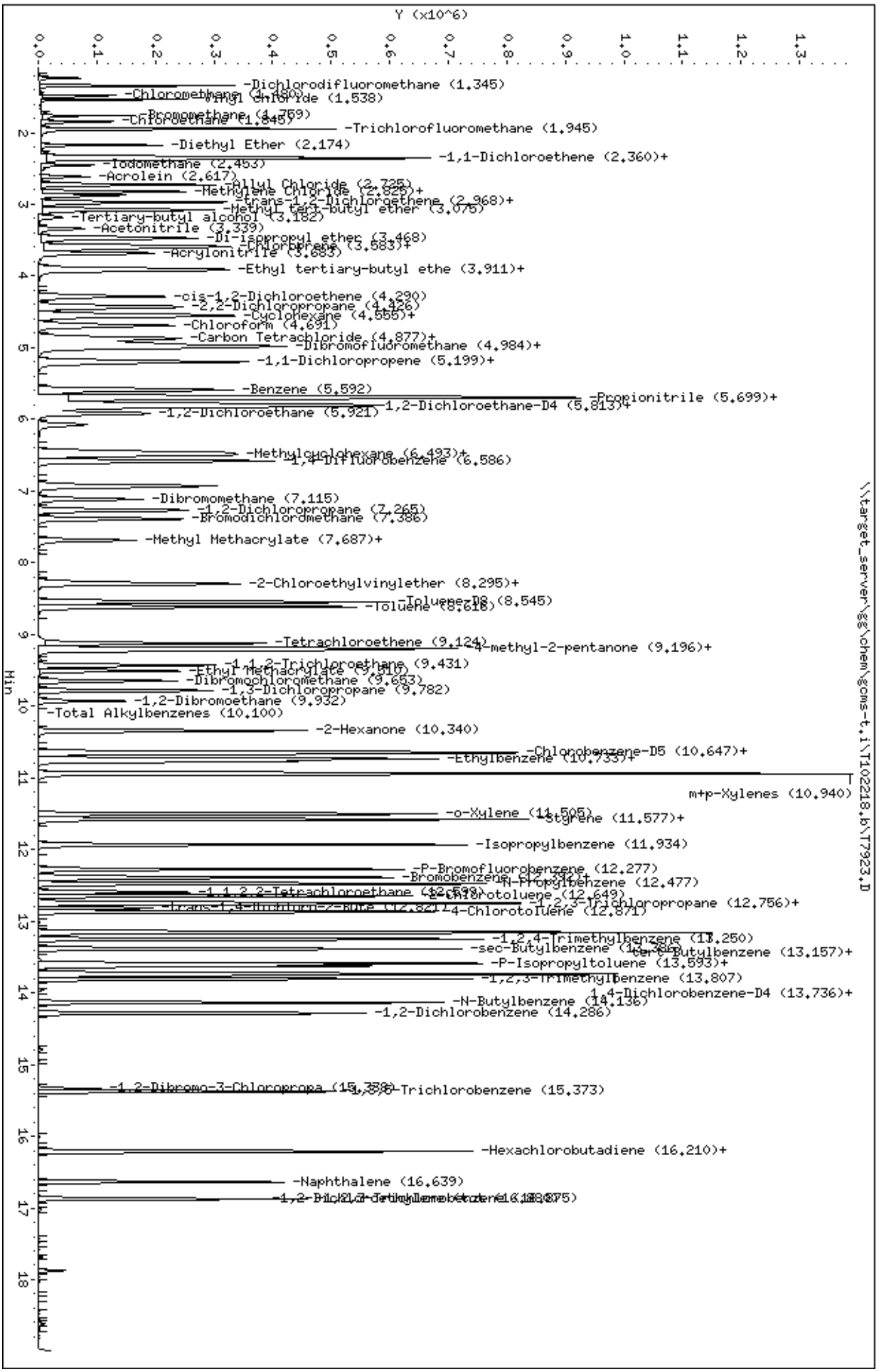
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	174112	50.0000	59.3	
2	Chloromethane	50	1.480	1.480	(0.256)	88495	50.0000	53.9	
3	Vinyl chloride	62	1.537	1.537	(0.265)	140251	50.0000	56.7	
4	Bromomethane	94	1.759	1.759	(0.304)	50293	50.0000	35.8	
5	Chloroethane	64	1.845	1.837	(0.319)	82473	50.0000	56.8	
6	Trichlorofluoromethane	101	1.945	1.945	(0.336)	363635	50.0000	62.5	
7	Diethyl Ether	59	2.173	2.173	(0.375)	91564	50.0000	51.4	
8	1,1-Dichloroethene	96	2.331	2.331	(0.402)	127944	50.0000	54.6	
9	Freon-113	151	2.359	2.359	(0.407)	114974	50.0000	58.9	
10	Carbon Disulfide	76	2.359	2.359	(0.407)	335609	50.0000	50.5	
11	Iodomethane	142	2.452	2.452	(0.423)	85413	50.0000	51.3	
12	Acrolein	56	2.617	2.610	(0.452)	66532	250.000	247	
13	Allyl Chloride	41	2.724	2.724	(0.470)	155269	50.0000	49.7	
14	Methylene Chloride	84	2.824	2.824	(0.488)	109639	50.0000	47.0	
15	Acetone	43	2.874	2.874	(0.496)	194866	250.000	297	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	100884	50.0000	46.4	
17	Methyl Acetate	43	2.989	2.989	(0.516)	76752	50.0000	49.8	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.531)	362404	50.0000	50.2	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.549)	53530	250.000	256	
20	Acetonitrile	41	3.339	3.339	(0.577)	93470	500.000	470	
21	Di-isopropyl ether	45	3.475	3.468	(0.600)	281739	50.0000	46.6	
22	Chloroprene	53	3.582	3.582	(0.619)	213648	50.0000	54.0	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	233771	50.0000	49.1	

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7923.D
Report Date: 15-Nov-2018 14:48

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.682	(0.636)	146802	250.000	241	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	344639	50.0000	51.5	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	248479	50.0000	55.1	
	27	cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	116347	50.0000	48.9	
	28	2,2-Dichloropropane	77	4.426	4.433	(0.764)	273080	50.0000	56.4	
	29	Cyclohexane	56	4.547	4.547	(0.785)	148669	50.0000	49.0	
	30	Bromochloromethane	128	4.569	4.562	(0.789)	49189	50.0000	49.3	
	31	Chloroform	83	4.690	4.690	(0.810)	293689	50.0000	48.5	
	32	Carbon Tetrachloride	117	4.876	4.869	(0.741)	275496	50.0000	59.6	
	33	Tetrahydrofuran	42	4.926	4.926	(0.851)	122754	250.000	248	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.859)	154477	50.0000	45.8	
	35	1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	317004	50.0000	54.5	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	188620	50.0000	55.9	
	37	2-Butanone	43	5.212	5.205	(0.900)	229075	250.000	254	
	38	Benzene	78	5.591	5.591	(0.849)	421732	50.0000	51.0	
	39	Propionitrile	54	5.663	5.677	(0.978)	123585	500.000	482	
	40	Methacrylonitrile	41	5.699	5.699	(0.984)	618746	500.000	513	
*	41	Pentafluorobenzene	168	5.791	5.791	(1.000)	277140	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	245482	50.0000	49.9	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	317354	50.0000	48.7	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	265211	50.0000	54.8	
	45	Isobutyl Alcohol	43	5.820	5.820	(1.005)	107319	1000.00	1380	
	46	Methylcyclohexane	83	6.456	6.464	(1.115)	177796	50.0000	53.1	
	47	Trichloroethene	95	6.499	6.499	(0.987)	137757	50.0000	54.6	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	375656	50.0000		
	49	Dibromomethane	93	7.114	7.114	(1.080)	89617	50.0000	53.4	
	50	1,2-Dichloropropane	63	7.264	7.264	(1.103)	109256	50.0000	53.5	
	51	Bromodichloromethane	83	7.386	7.393	(1.122)	224273	50.0000	56.0	
	52	Methyl Methacrylate	41	7.686	7.686	(1.167)	93804	50.0000	51.4	
	53	1,4-Dioxane	88	7.701	7.701	(1.169)	17900	1000.00	895	
	54	2-Chloroethylvinylether	63	8.265	8.265	(1.255)	55224	50.0000	54.1	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	231863	50.0000	56.8	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	470709	50.0000	49.7	
	57	Toluene	92	8.616	8.616	(1.308)	265566	50.0000	51.9	
	58	Tetrachloroethene	164	9.123	9.123	(0.858)	94339	50.0000	55.5	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	496170	250.000	292	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	233681	50.0000	57.6	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	90380	50.0000	52.1	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	139772	50.0000	51.1	
	63	Dibromochloromethane	129	9.645	9.653	(0.907)	144634	50.0000	53.3	
	64	1,3-Dichloropropane	76	9.781	9.788	(0.919)	199260	50.0000	53.5	
	65	1,2-Dibromoethane	107	9.931	9.931	(1.508)	115790	50.0000	52.5	
M	66	Total Alkylbenzenes	100				3327529	50.0000	396	
	67	2-Hexanone	43	10.339	10.346	(0.972)	349843	250.000	301	
*	68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	343452	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	273090	50.0000	49.9	
	70	Ethylbenzene	91	10.732	10.739	(1.009)	558669	50.0000	54.1	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.775	(1.012)	132301	50.0000	55.7	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	903090	100.000	114	
	73	o-Xylene	91	11.505	11.505	(1.081)	457749	50.0000	57.9	
	74	Styrene	104	11.583	11.583	(1.089)	299927	50.0000	55.8	
	75	Bromoform	173	11.583	11.576	(1.089)	110332	50.0000	58.2	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	500813	50.0000	59.4	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	218726	50.0000	50.6	

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7923.D
Report Date: 15-Nov-2018 14:48

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.384	12.391	(0.902)	129821	50.0000	52.5	
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.405	(0.903)	61219	50.0000	64.1	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	643136	50.0000	55.6	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.598	(0.917)	134082	50.0000	53.0	
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	401145	50.0000	55.4	
	83 1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	136877	50.0000	55.5	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	449277	50.0000	57.3	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	48353	50.0000	63.5	
	86 4-Chlorotoluene	91	12.870	12.870	(0.938)	437692	50.0000	55.8	
	87 tert-Butylbenzene	119	13.156	13.156	(0.958)	412377	50.0000	57.2	
	88 Pentachloroethane	165	13.156	13.156	(0.958)	76400	50.0000	58.8	
	89 1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	452885	50.0000	57.6	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	509660	50.0000	55.5	
	91 P-Isopropyltoluene	119	13.592	13.592	(0.990)	432796	50.0000	56.7	
	92 1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	213727	50.0000	52.1	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	188612	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	216887	50.0000	50.5	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	442204	50.0000	54.8	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	427398	50.0000	55.7	
	97 1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	203137	50.0000	52.5	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	36028	50.0000	60.0	
	99 1,3,5-Trichlorobenzene	180	15.380	15.380	(1.120)	155564	50.0000	54.5	
	100 Hexachlorobutadiene	225	16.209	16.209	(1.181)	73450	50.0000	45.9	
	101 1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	140079	50.0000	54.5	
	102 Naphthalene	128	16.638	16.638	(1.212)	297511	50.0000	53.6	
M	103 1,2-Dichloroethylene (total)	96				217231	50.0000	95.3	
	104 1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	129710	50.0000	54.6	
M	105 Xylenes (total)	91				1360839	150.000	172	


Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7923.D
Date : 22-OCT-2018 08:51
Client ID: ontinuing Calibrati
Sample Info: WG239008-4,TL0045
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T102218.b\T7923.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.480)
-Vinyl chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.845)
-Trichlorofluoromethane (1.945)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.617)
-Allyl Chloride (2.725)
-Methylene Chloride (2.825)+
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.468)
-Chloroprene (3.683)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.290)
-2,2-Dichloropropane (4.426)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.877)+
-Dibromofluoromethane (4.984)+
-1,1-Dichloropropene (5.199)+
-Benzene (5.592)
-Propionitrile (5.699)+
1,2-Dichloroethane-D4 (5.813)+
-1,2-Dichloroethane (5.921)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
Toluene-D8 (8.545)
-Toluene (8.618)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.196)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.693)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.340)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.392)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.599)
-2-Chlorotoluene (12.649)
-trans-1,4-Dichloro-2-Bute (12.821)+
-1,2,3-Trichloropropane (12.756)+
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.[illegible])
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.286)
-1,2-Dibromo-3-Chloropropa (15.338)
-1,3,5-Trichlorobenzene (15.373)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.875)

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\TB764a.D

Date : 18-OCT-2018 10:37

Client ID:

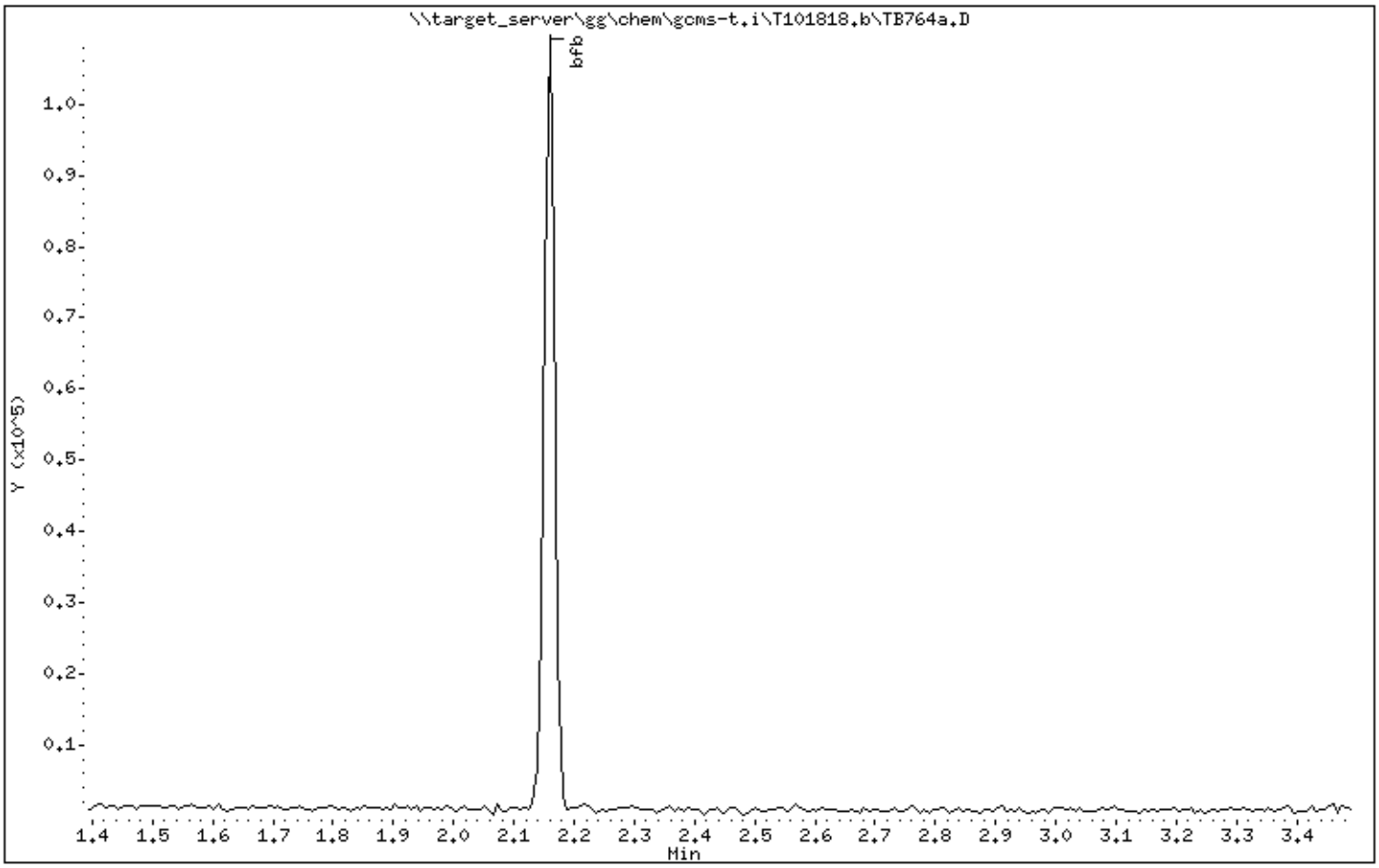
Instrument: gcms-t.i

Sample Info: WG238778-10,TL0045

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\TB764a.D

Date : 18-OCT-2018 10:37

Client ID:

Instrument: gcms-t.i

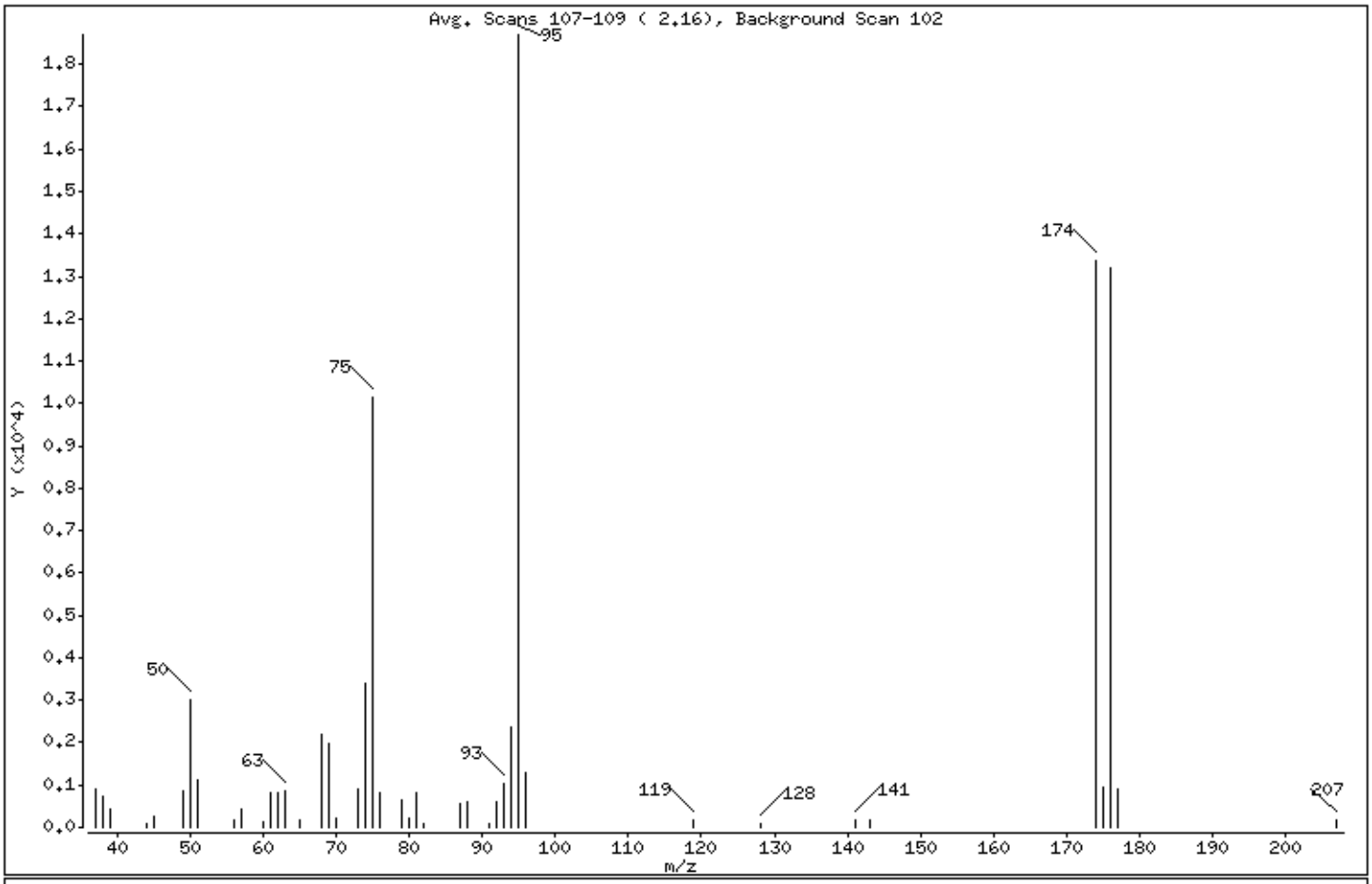
Sample Info: WG238778-10,TL0045

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.15
75	30.00 - 60.00% of mass 95	54.17
96	5.00 - 9.00% of mass 95	6.95
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	71.39
175	5.00 - 9.00% of mass 174	5.04 (7.06)
176	95.00 - 101.00% of mass 174	70.51 (98.76)
177	5.00 - 9.00% of mass 176	4.74 (6.72)

Date : 18-OCT-2018 10:37

Client ID:

Instrument: gcms-t.i

Sample Info: WG238778-10,TL0045

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

Data File: TB764a.D
Spectrum: Avg. Scans 107-109 (2.16), Background Scan 102
Location of Maximum: 95.00
Number of points: 43

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	918	61.00	820	79.00	631	96.00	1300
38.00	712	62.00	822	80.00	210	119.00	155
39.00	411	63.00	840	81.00	799	128.00	74
44.00	93	65.00	189	82.00	90	141.00	190
45.00	275	68.00	2186	87.00	546	143.00	173
49.00	839	69.00	1977	88.00	615	174.00	13348
50.00	3019	70.00	199	91.00	82	175.00	942
51.00	1102	73.00	886	92.00	619	176.00	13182
56.00	169	74.00	3401	93.00	1011	177.00	886
57.00	434	75.00	10128	94.00	2384	207.00	179
60.00	125	76.00	808	95.00	18696		

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\TB765a.D

Date : 19-OCT-2018 08:01

Client ID:

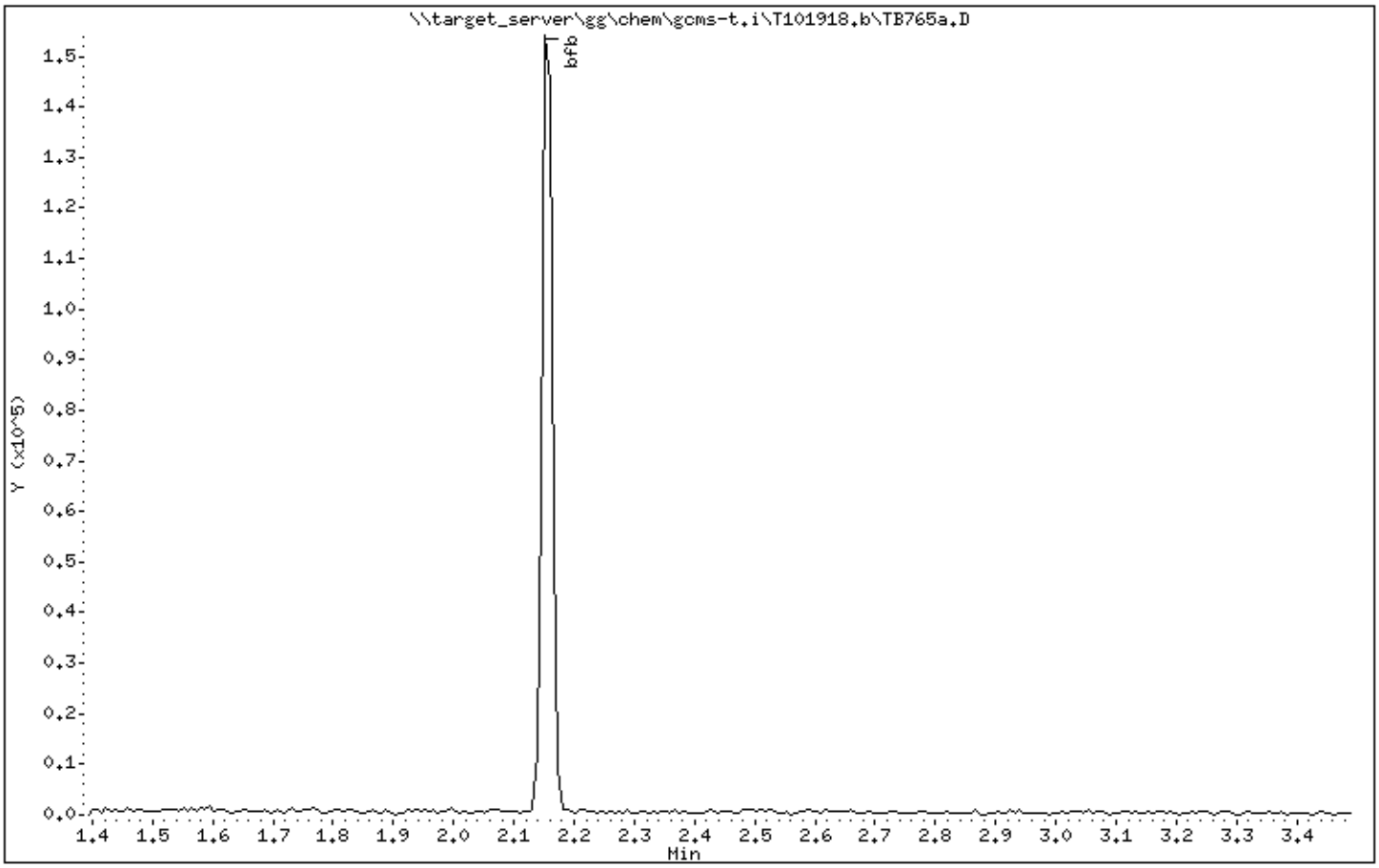
Instrument: gcms-t.i

Sample Info: WG238848-3,TL0045

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\TB765a.D

Date : 19-OCT-2018 08:01

Client ID:

Instrument: gcms-t.i

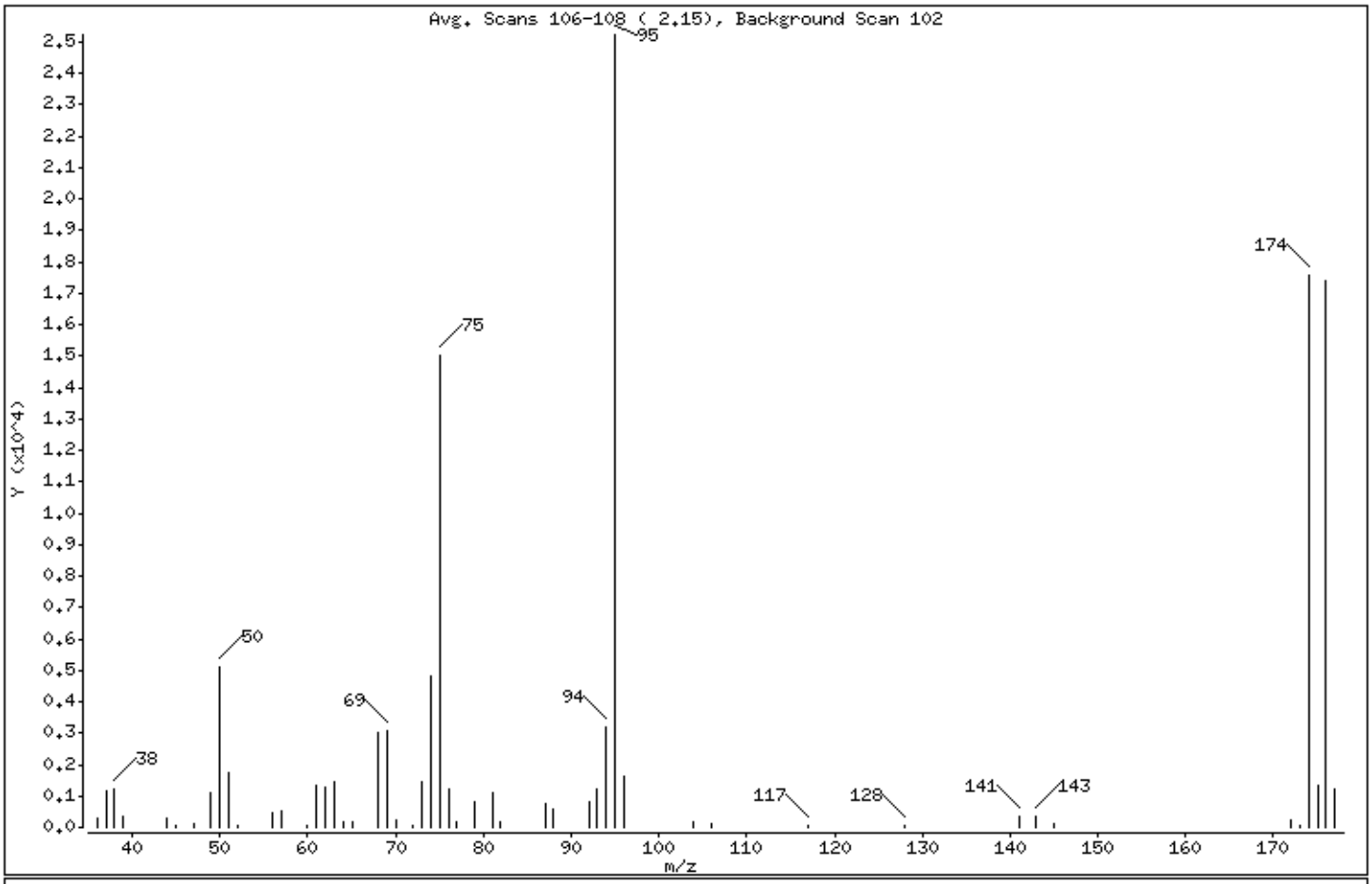
Sample Info: WG238848-3,TL0045

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.30
75	30.00 - 60.00% of mass 95	59.46
96	5.00 - 9.00% of mass 95	6.38
173	Less than 2.00% of mass 174	0.27 (0.39)
174	Greater than 50.00% of mass 95	69.68
175	5.00 - 9.00% of mass 174	5.40 (7.75)
176	95.00 - 101.00% of mass 174	69.05 (99.09)
177	5.00 - 9.00% of mass 176	4.82 (6.99)

Date : 19-OCT-2018 08:01

Client ID: Instrument: gcms-t.i

Sample Info: WG238848-3,TL0045

Operator: JSS

Column phase: RTX-VMS Column diameter: 0.18

Data File: TB765a.D
Spectrum: Avg. Scans 106-108 (2.15), Background Scan 102
Location of Maximum: 95.00
Number of points: 51

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	271	60.00	86	76.00	1226	106.00	89
37.00	1174	61.00	1314	77.00	155	117.00	77
38.00	1226	62.00	1269	79.00	839	128.00	76
39.00	345	63.00	1428	81.00	1113	141.00	326
44.00	312	64.00	147	82.00	178	143.00	319
45.00	85	65.00	154	87.00	770	145.00	100
47.00	128	68.00	3025	88.00	604	172.00	210
49.00	1079	69.00	3064	92.00	837	173.00	69
50.00	5120	70.00	221	93.00	1242	174.00	17576
51.00	1713	72.00	70	94.00	3181	175.00	1362
52.00	68	73.00	1421	95.00	25224	176.00	17416
56.00	447	74.00	4814	96.00	1609	177.00	1217
57.00	520	75.00	14998	104.00	198		

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\TB766a.D

Date : 22-OCT-2018 08:28

Client ID:

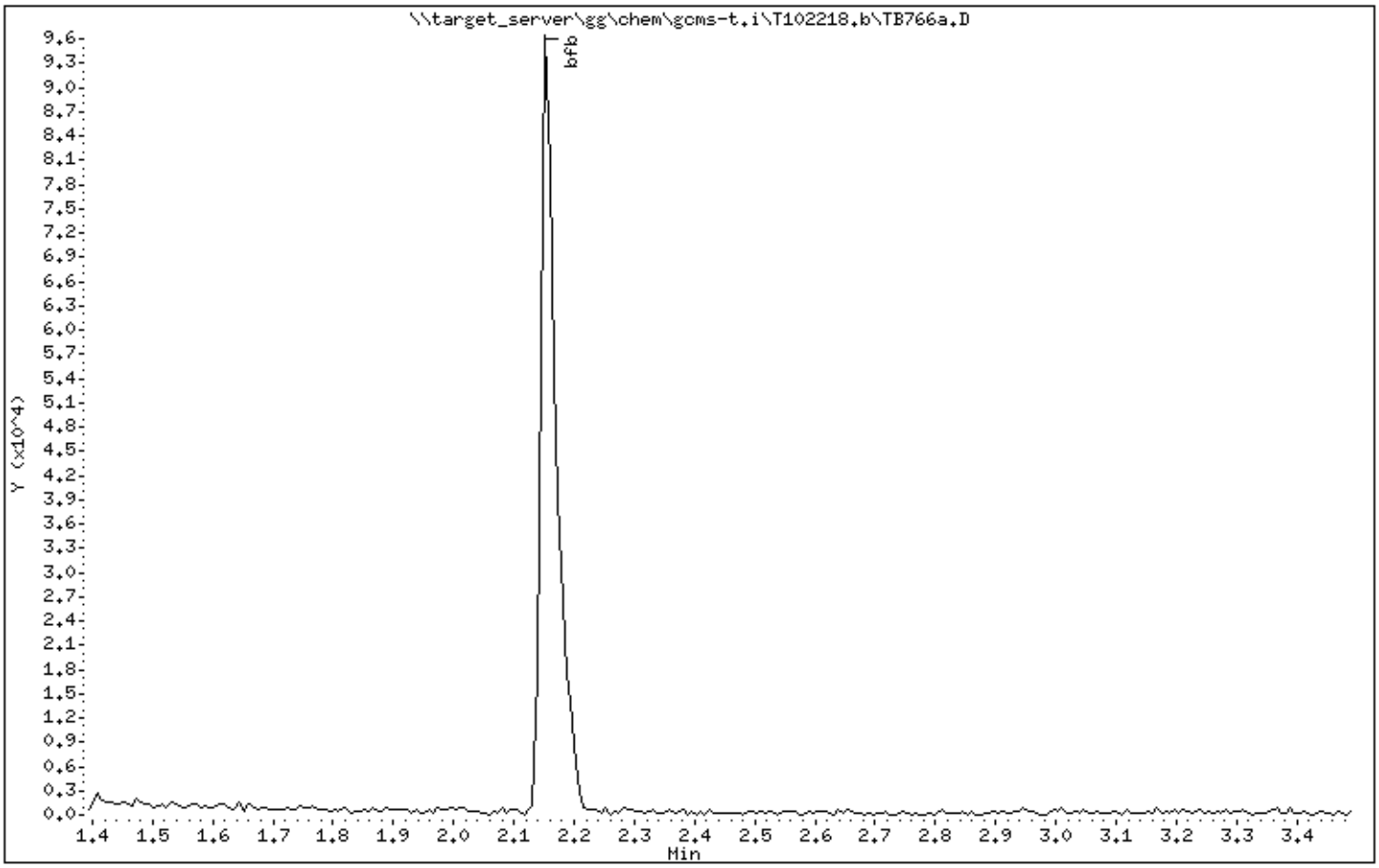
Instrument: gcms-t.i

Sample Info: WG239008-3,TL0045

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\TB766a.D

Date : 22-OCT-2018 08:28

Client ID:

Instrument: gcms-t.i

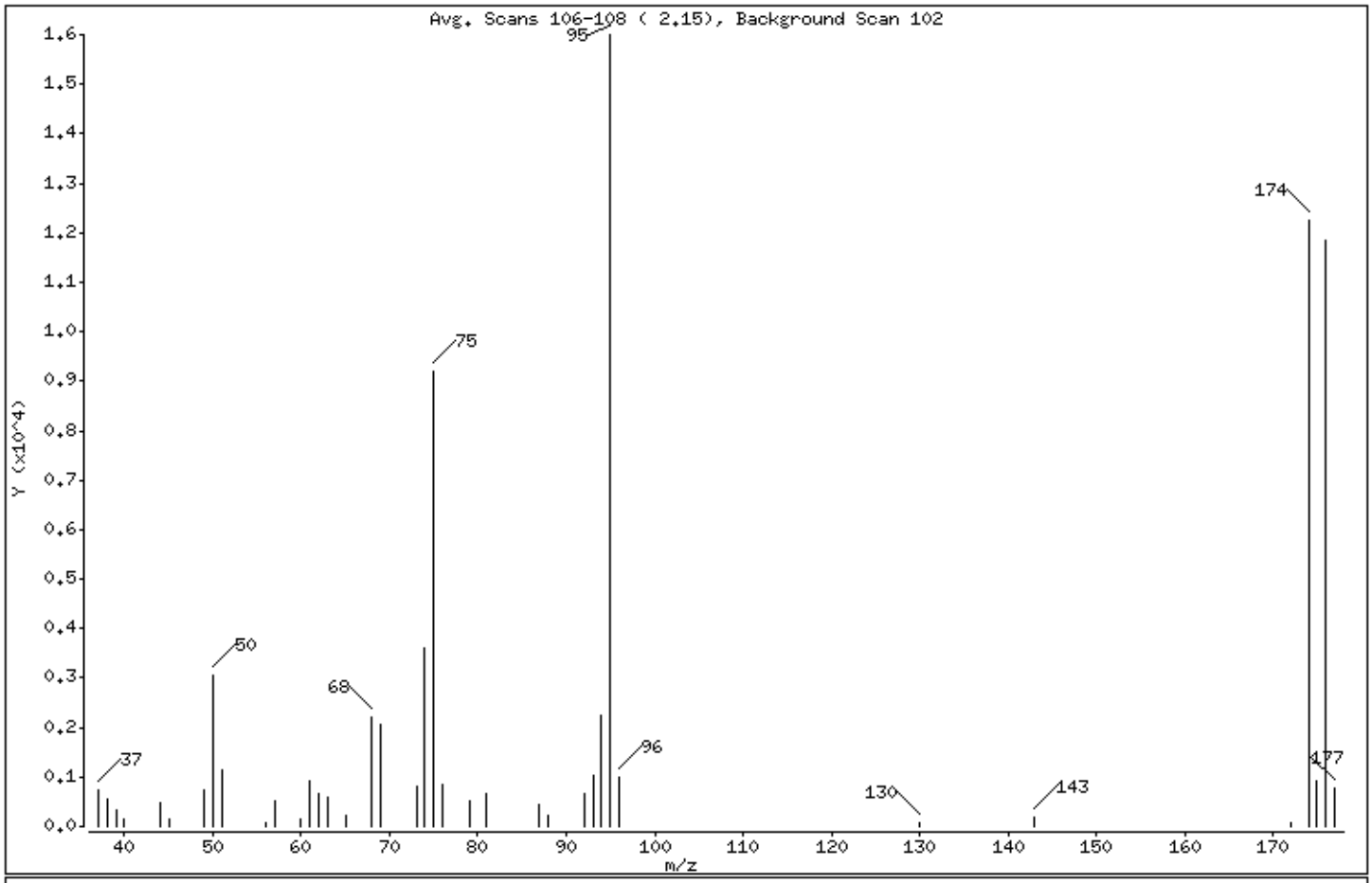
Sample Info: WG239008-3,TL0045

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.05
75	30.00 - 60.00% of mass 95	57.59
96	5.00 - 9.00% of mass 95	6.22
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	76.64
175	5.00 - 9.00% of mass 174	5.84 (7.62)
176	95.00 - 101.00% of mass 174	74.01 (96.57)
177	5.00 - 9.00% of mass 176	4.90 (6.62)

Date : 22-OCT-2018 08:28

Client ID:

Instrument: gcms-t.i

Sample Info: WG239008-3,TL0045

Operator: JSS

Column phase: RTX-VMS

Column diameter: 0.18

Data File: TB766a.D
Spectrum: Avg. Scans 106-108 (2.15), Background Scan 102
Location of Maximum: 95.00
Number of points: 38

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	719	57.00	497	75.00	9216	96.00	995
38.00	539	60.00	158	76.00	844	130.00	86
39.00	337	61.00	917	79.00	526	143.00	188
40.00	135	62.00	671	81.00	673	172.00	70
44.00	479	63.00	602	87.00	444	174.00	12265
45.00	144	65.00	229	88.00	239	175.00	934
49.00	745	68.00	2208	92.00	653	176.00	11844
50.00	3049	69.00	2061	93.00	1012	177.00	784
51.00	1140	73.00	824	94.00	2234		
56.00	68	74.00	3596	95.00	16004		

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG238778-9
Client ID: Method Blank Sample
Project:
SDG: TL0045
Lab File ID: T7884.D

Sample Date:
Received Date:
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.0	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG238778-9
Client ID: Method Blank Sample
Project:
SDG: TL0045
Lab File ID: T7884.D

Sample Date:
Received Date:
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Toluene-d8		98.7	%			
1,2-Dichloroethane-d4		107.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7884.D
Report Date: 25-Oct-2018 14:01

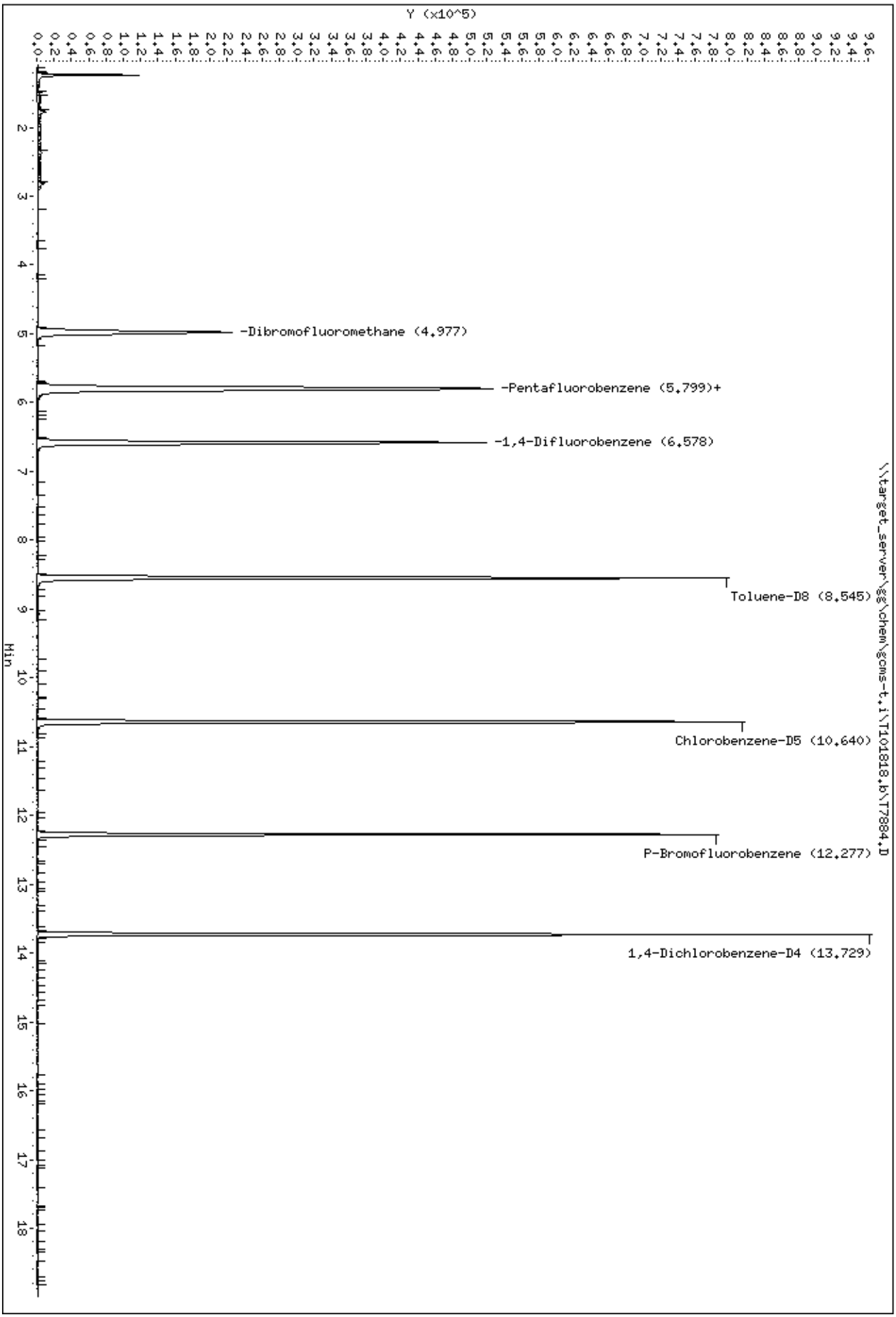
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7884.D
Lab Smp Id: WG238778-9 Client Smp ID: WG238778-Blank
Inj Date : 18-OCT-2018 15:36 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-9,TL0045
Misc Info : WG238778,WG238778-4,TL0045-1
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 9 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	214538	52.5517	52.6	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	335850	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	318686	53.5010	53.5	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	509902	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	633991	49.3659	49.4	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	458454	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	278521	47.4898	47.5	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	235595	50.0000		



Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7884.D
Date : 18-OCT-2018 15:36
Client ID: WG238778-Blank
Sample Info: WG238778-9,TL0045

Instrument: gcms-t.i

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG238848-2
Client ID: Method Blank Sample
Project:
SDG: TL0045
Lab File ID: T7901.D

Sample Date:
Received Date:
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.4	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG238848-2
Client ID: Method Blank Sample
Project:
SDG: TL0045
Lab File ID: T7901.D

Sample Date:
Received Date:
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Toluene-d8		99.4	%			
1,2-Dichloroethane-d4		117.	%			
Dibromofluoromethane		109.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7901.D
Report Date: 25-Oct-2018 12:39

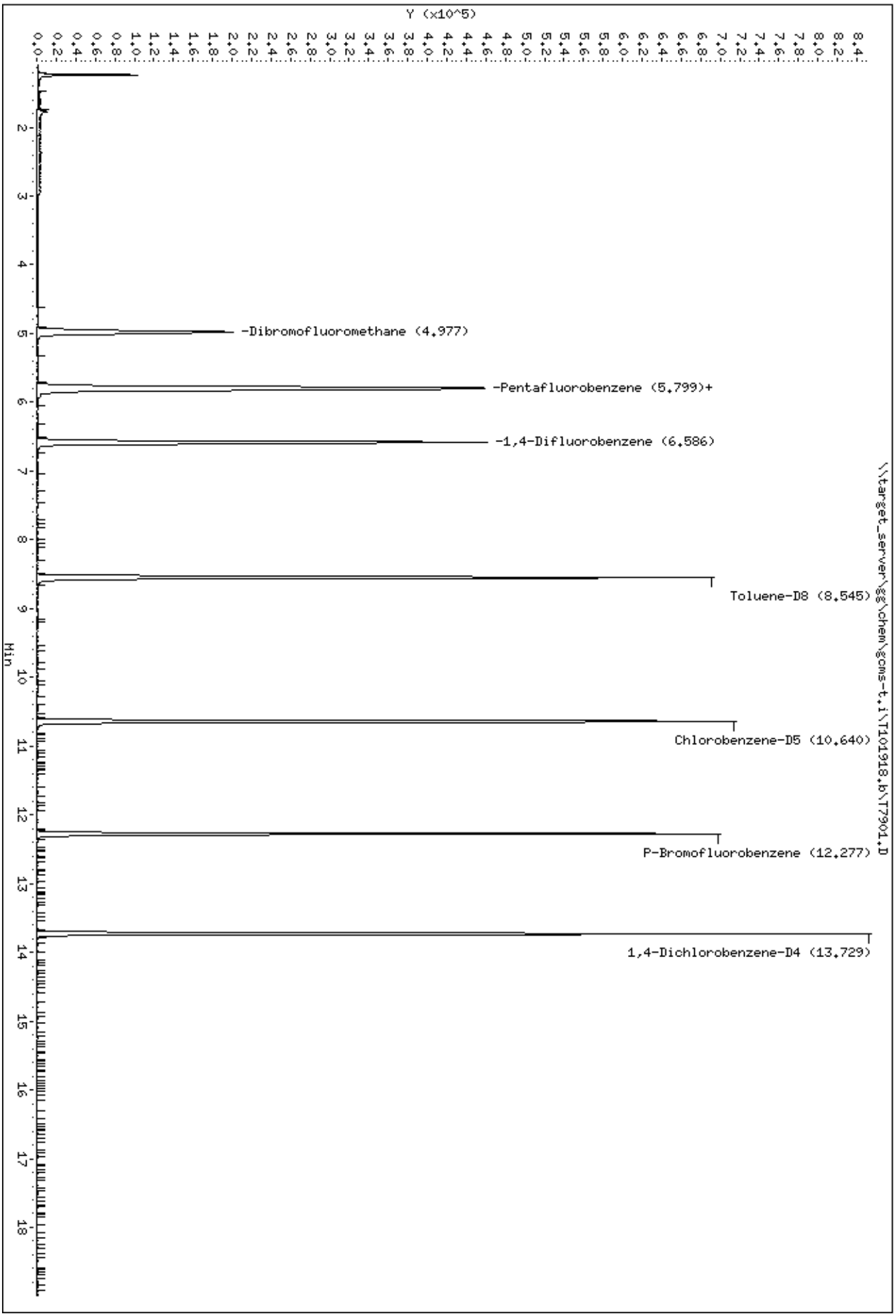
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7901.D
Lab Smp Id: WG238848-2 Client Smp ID: WG238848-Blank
Inj Date : 19-OCT-2018 10:15 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238848-2,TL0045
Misc Info : WG238848,WG238778-4,TL0045-1
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$	34 Dibromofluoromethane	113	4.984	4.976	(0.861)	190835	54.6636	54.7	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	287202	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	297658	58.4352	58.4	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	426536	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	534030	49.7096	49.7	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	390711	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	243823	49.6991	49.7	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	207891	50.0000		


Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7901.D
Date : 19-OCT-2018 10:15
Client ID: WG238848-Blank
Sample Info: WG238848-2,TL0045
Instrument: gcms-t.i
Y (x10^5)
Min
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
\\target_server\gg\chem\gcms-t.i\T101918.b\T7901.D

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG239008-2
Client ID: Method Blank Sample
Project:
SDG: TL0045
Lab File ID: T7926.D

Sample Date:
Received Date:
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		91.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG239008-2
Client ID: Method Blank Sample
Project:
SDG: TL0045
Lab File ID: T7926.D

Sample Date:
Received Date:
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 25-OCT-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Toluene-d8		99.7	%			
1,2-Dichloroethane-d4		110.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7926.D
Report Date: 25-Oct-2018 13:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7926.D
Lab Smp Id: WG239008-2 Client Smp ID: WG239008-Blank
Inj Date : 22-OCT-2018 10:53 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG239008-2,TL0045
Misc Info : WG239008,WG238778-4,Tl0045-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

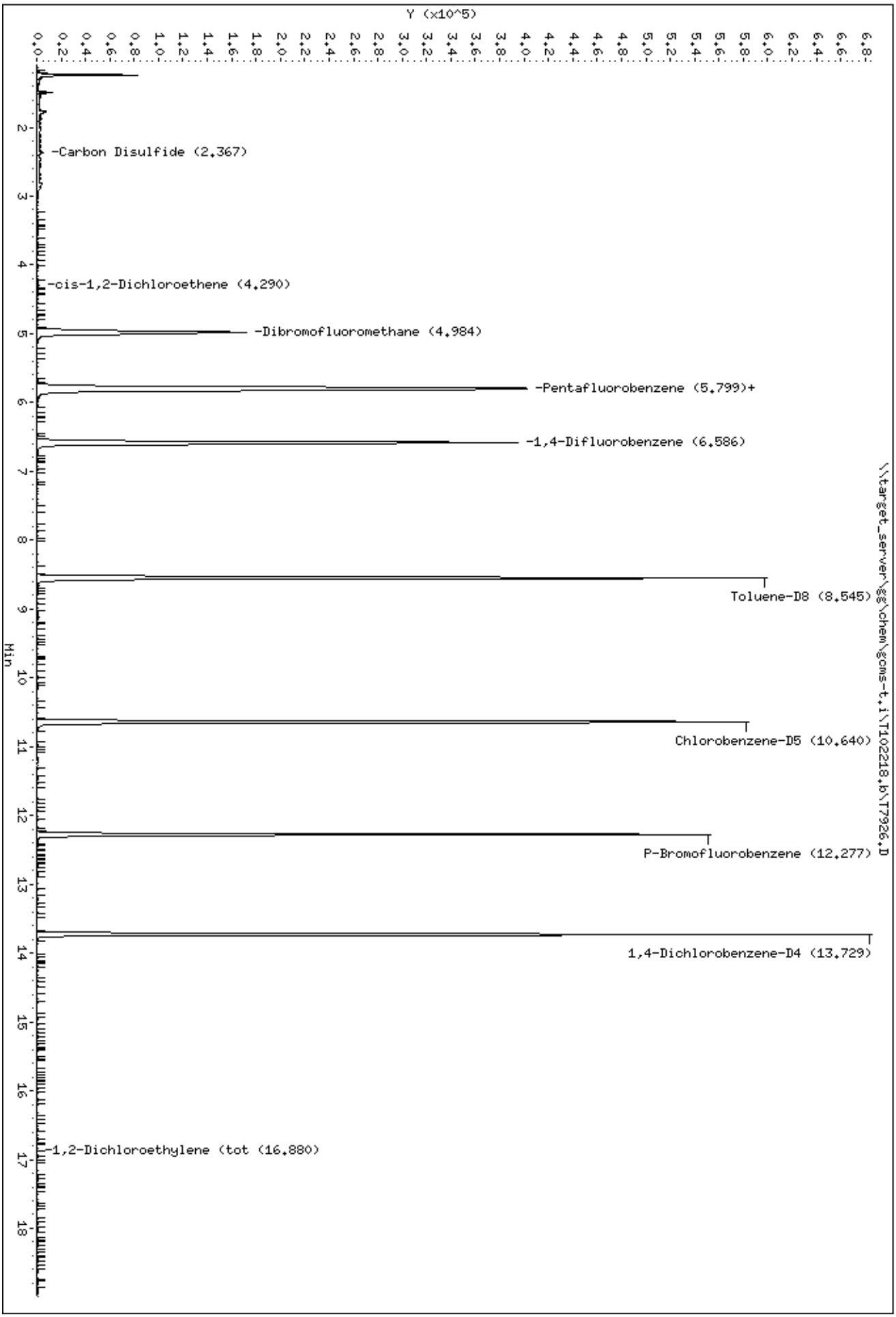
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	10 Carbon Disulfide	76	2.366	2.359	(0.409)	2323	0.38248	0.38(a)	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	647	0.29763	0.30(a)	
$	34 Dibromofluoromethane	113	4.976	4.976	(0.859)	154888	50.3077	50.3	
*	41 Pentafluorobenzene	168	5.791	5.791	(1.000)	253286	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	247630	55.1235	55.1	
*	48 1,4-Difluorobenzene	114	6.585	6.585	(1.000)	360547	50.0000		
$	56 Toluene-D8	98	8.544	8.544	(1.297)	452545	49.8346	49.8	
*	68 Chlorobenzene-D5	117	10.639	10.646	(1.000)	310307	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	190599	45.9609	46.0	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	160346	50.0000		
M	103 1,2-Dichloroethylene (total)	96				647	0.29763	0.30(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Y (x10^5)
Min
-Carbon Disulfide (2.367)
-cis-1,2-Dichloroethene (4.290)
-Dibromofluoromethane (4.984)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T102218.b\T7926.D
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7926.D
Date : 22-OCT-2018 10:53
Client ID: WG239008-Blank
Sample Info: WG239008-2,TL0045
Instrument: gcms-t.i

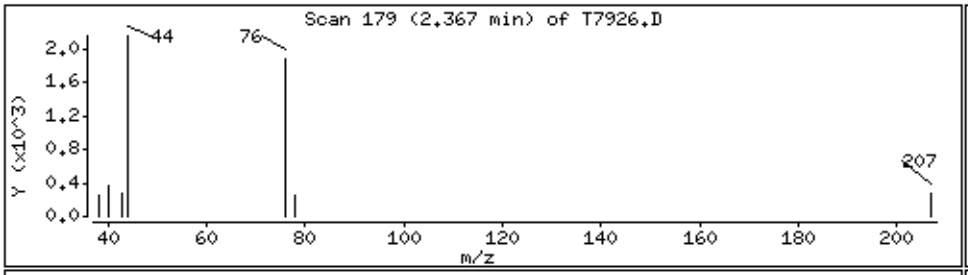
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7926.D

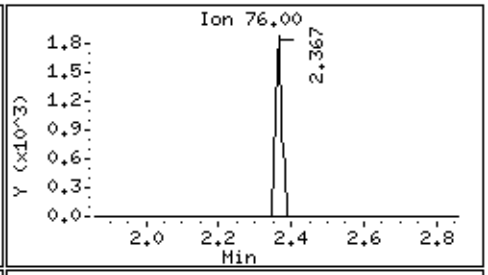
Date : 22-OCT-2018 10:53

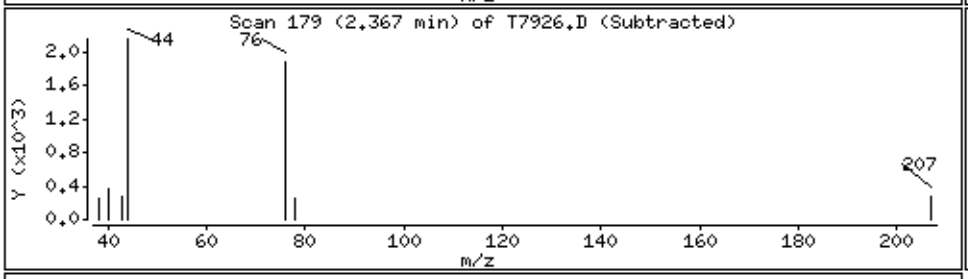
Client ID: WG239008-Blank Instrument: gcms-t.i

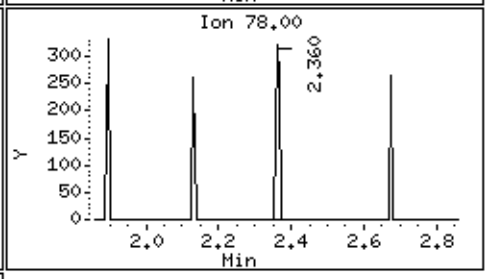
Sample Info: WG239008-2,TL0045

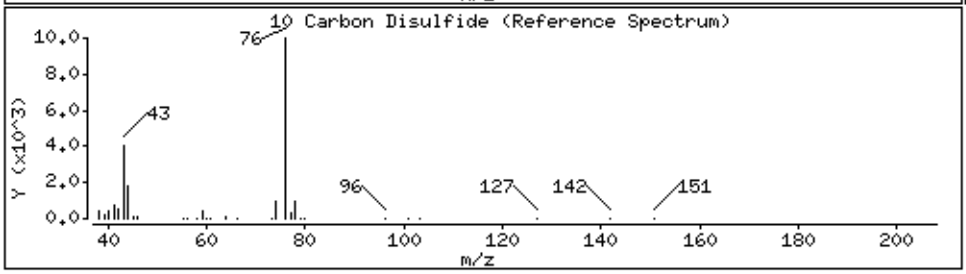
10 Carbon Disulfide Concentration: 0.38 ug/l



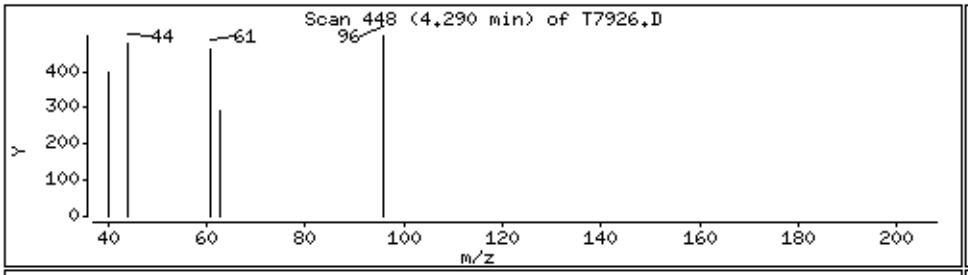


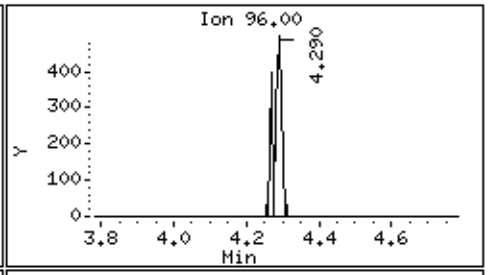


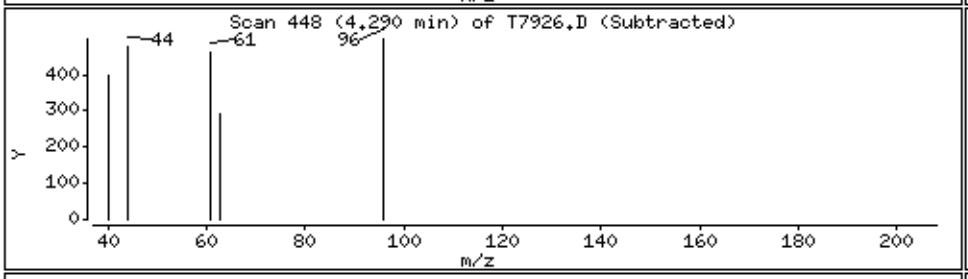


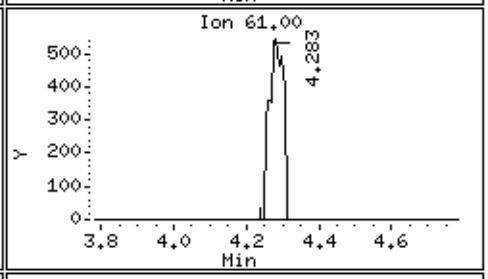


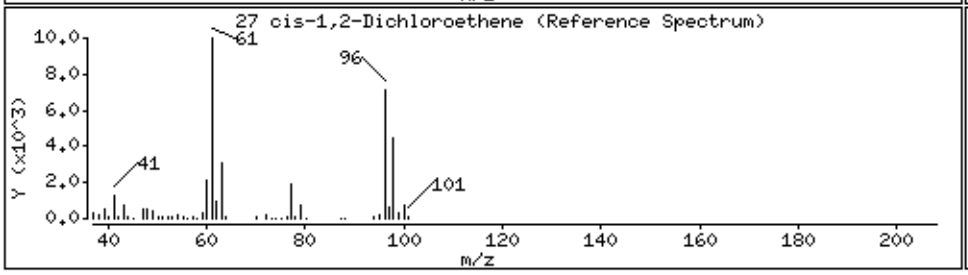
27 cis-1,2-Dichloroethene Concentration: 0.30 ug/l

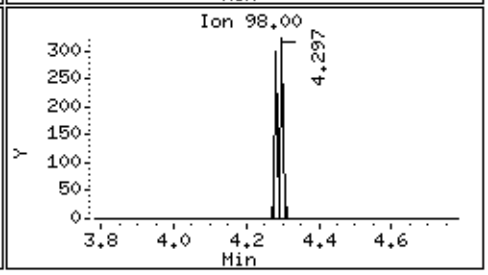












Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG238778-8
Client ID: LCS
Project:
SDG: TL0045
LCS File ID: T7882.D

Sample Date:
Received Date:
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 16-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	* 128.	50.0	64.2	ug/L	59-123
Vinyl Chloride	105.	50.0	52.3	ug/L	64-131
Bromomethane	120.	50.0	60.0	ug/L	57-135
Chloroethane	105.	50.0	52.6	ug/L	53-157
Trichlorofluoromethane	84.4	50.0	42.2	ug/L	70-149
1,1-Dichloroethene	93.6	50.0	46.8	ug/L	88-127
Carbon Disulfide	89.0	50.0	44.5	ug/L	71-129
Methylene Chloride	110.	50.0	54.8	ug/L	72-129
trans-1,2-Dichloroethene	102.	50.0	51.1	ug/L	78-125
1,1-Dichloroethane	102.	50.0	51.1	ug/L	76-130
cis-1,2-Dichloroethene	102.	50.0	50.9	ug/L	85-123
Chloroform	95.0	50.0	47.5	ug/L	78-128
Carbon Tetrachloride	91.8	50.0	45.9	ug/L	87-126
1,1,1-Trichloroethane	94.0	50.0	47.0	ug/L	77-129
2-Butanone	105.	50.0	52.4	ug/L	71-132
Benzene	99.0	50.0	49.5	ug/L	86-116
1,2-Dichloroethane	90.2	50.0	45.1	ug/L	81-125
Trichloroethene	99.8	50.0	49.9	ug/L	79-121
1,2-Dichloropropane	107.	50.0	53.7	ug/L	84-118
Bromodichloromethane	102.	50.0	51.2	ug/L	85-122
cis-1,3-Dichloropropene	102.	50.0	50.9	ug/L	83-119
Toluene	102.	50.0	50.8	ug/L	84-118
4-Methyl-2-Pentanone	102.	50.0	50.8	ug/L	83-122
Tetrachloroethene	106.	50.0	52.9	ug/L	47-155
trans-1,3-Dichloropropene	103.	50.0	51.6	ug/L	85-135
1,1,2-Trichloroethane	105.	50.0	52.3	ug/L	84-115
Dibromochloromethane	103.	50.0	51.7	ug/L	85-119
Chlorobenzene	99.0	50.0	49.5	ug/L	89-113
Ethylbenzene	99.6	50.0	49.8	ug/L	88-113
m+p-Xylenes	101.	100.	101.	ug/L	88-116
o-Xylene	106.	50.0	52.9	ug/L	90-116
Bromoform	104.	50.0	51.8	ug/L	86-117
1,1,2,2-Tetrachloroethane	104.	50.0	52.2	ug/L	79-121
P-Bromofluorobenzene	98.7				56-133
Toluene-d8	98.8				65-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG238778-8
Client ID: LCS
Project:
SDG: TL0045
LCS File ID: T7882.D

Sample Date:
Received Date:
Extract Date: 18-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238778

Analysis Date: 18-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 16-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,2-Dichloroethane-d4	93.5				67-135
Dibromofluoromethane	98.2				68-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 25-Oct-2018 11:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Lab Smp Id: WG238778-8 Client Smp ID: LCS
Inj Date : 18-OCT-2018 14:01 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238778-8,TL0045
Misc Info : WG238778,WG238778-4,TL0045-1
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101818.b\T8A05(57)D.m
Meth Date : 18-Oct-2018 14:11 hgould Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 7 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	179692	42.8825	42.9	
2	Chloromethane	50	1.480	1.480	(0.256)	149483	64.2033	64.2(R)	
3	Vinyl chloride	62	1.537	1.537	(0.265)	184369	52.2689	52.3	
4	Bromomethane	94	1.766	1.759	(0.305)	115509	60.0035	60.0(R)	
5	Chloroethane	64	1.852	1.837	(0.320)	108876	52.5891	52.6	
6	Trichlorofluoromethane	101	1.952	1.945	(0.337)	350755	42.2303	42.2	
7	Diethyl Ether	59	2.173	2.173	(0.375)	127748	50.2298	50.2	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	156333	46.7761	46.8	
9	Freon-113	151	2.366	2.359	(0.409)	136257	48.9442	48.9	
10	Carbon Disulfide	76	2.366	2.359	(0.409)	422074	44.5185	44.5	
11	Iodomethane	142	2.452	2.452	(0.423)	117991	49.8818	49.9	
12	Acrolein	56	2.617	2.610	(0.452)	91292	237.475	237	
13	Allyl Chloride	41	2.731	2.724	(0.472)	209924	47.1401	47.1	
14	Methylene Chloride	84	2.824	2.824	(0.488)	181563	54.7764	54.8	
15	Acetone	43	2.874	2.874	(0.496)	51132	49.9149	49.9	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	158443	51.1091	51.1	
17	Methyl Acetate	43	2.988	2.989	(0.516)	109610	49.8967	49.9	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.531)	572803	55.6588	55.6	
19	Tertiary-butyl alcohol	59	3.181	3.182	(0.549)	83687	280.850	281	
20	Acetonitrile	41	3.339	3.339	(0.577)	150944	532.310	532	
21	Di-isopropyl ether	45	3.475	3.468	(0.600)	463077	53.6746	53.7	
22	Chloroprene	53	3.582	3.582	(0.619)	283730	50.2581	50.2	
23	1,1-Dichloroethane	63	3.610	3.611	(0.623)	347063	51.0761	51.1	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 25-Oct-2018 11:59

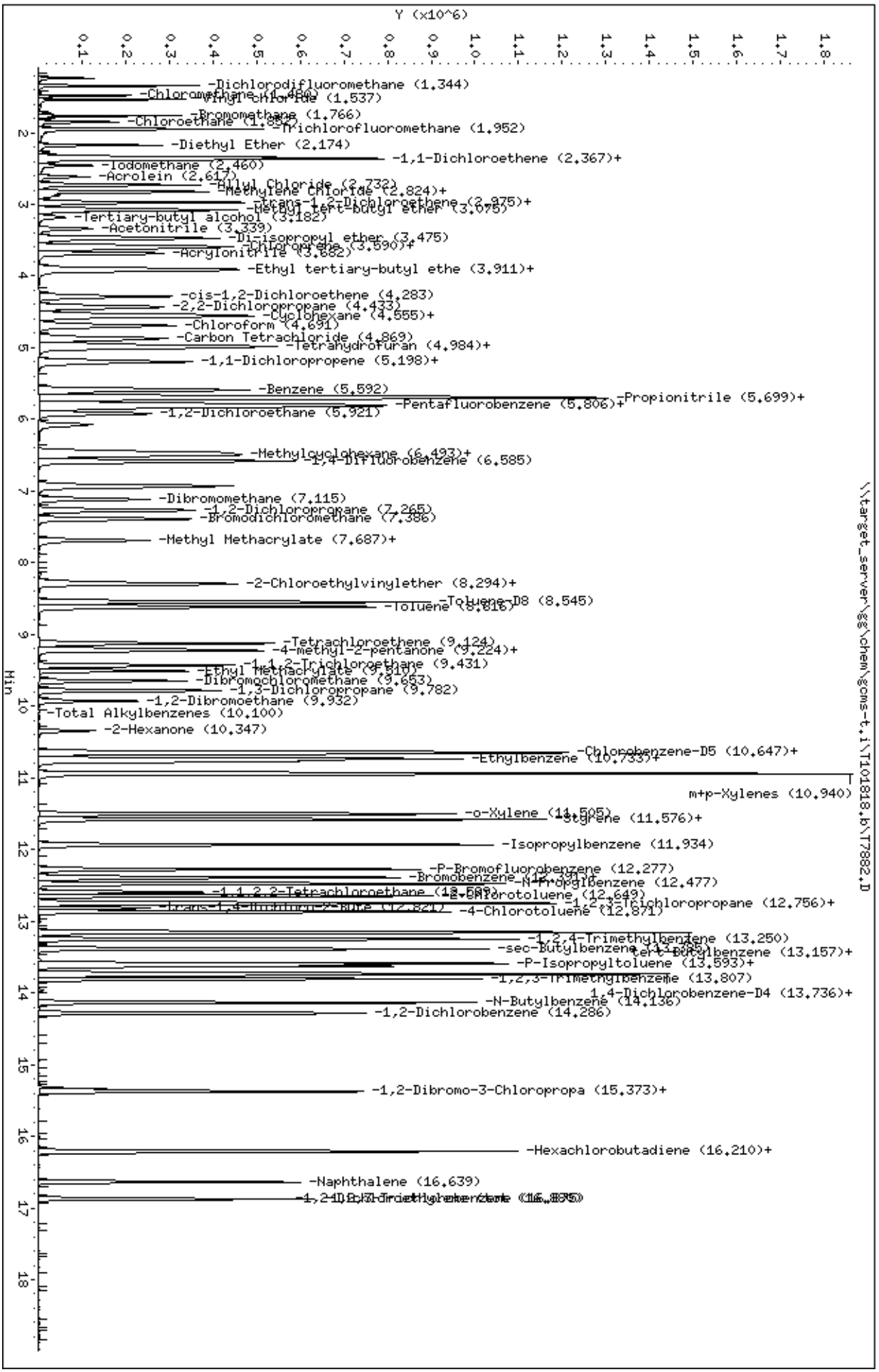
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.682	(0.636)	224961	259.334	259	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	508325	53.2026	53.2	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	349972	49.4787	49.5	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	172636	50.8743	50.9	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.765)	326179	47.1999	47.2	
	29	Cyclohexane	56	4.547	4.547	(0.785)	230950	53.3174	53.3	
	30	Bromochloromethane	128	4.561	4.562	(0.788)	82118	57.6665	57.7	
	31	Chloroform	83	4.690	4.690	(0.810)	410916	47.5261	47.5	
	32	Carbon Tetrachloride	117	4.869	4.869	(0.739)	332501	45.8687	45.9	
	33	Tetrahydrofuran	42	4.940	4.926	(0.853)	39569	56.1278	56.1	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.859)	235884	49.0804	49.1	
	35	1,1,1-Trichloroethane	97	4.990	4.991	(0.862)	389616	46.9845	47.0	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	268341	50.7305	50.7	
	37	2-Butanone	43	5.212	5.205	(0.900)	67384	52.3728	52.4	
	38	Benzene	78	5.591	5.591	(0.849)	642248	49.5198	49.5	
	39	Propionitrile	54	5.670	5.677	(0.979)	186936	510.971	511	
	40	Methacrylonitrile	41	5.698	5.699	(0.984)	876910	509.500	510	
*	41	Pentafluorobenzene	168	5.791	5.791	(1.000)	395383	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	327945	46.7657	46.8	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	462378	49.7456	49.7	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	342031	45.0745	45.1	
	45	Isobutyl Alcohol	43	5.820	5.820	(1.005)	147788	1337.32	1340(R)	
	46	Methylcyclohexane	83	6.456	6.464	(1.115)	258622	54.1651	54.2	
	47	Trichloroethene	95	6.499	6.499	(0.987)	197252	49.8736	49.9	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	589180	50.0000		
	49	Dibromomethane	93	7.114	7.114	(1.080)	132270	50.2326	50.2	
	50	1,2-Dichloropropane	63	7.264	7.264	(1.103)	172087	53.7168	53.7	
	51	Bromodichloromethane	83	7.386	7.393	(1.122)	321979	51.2262	51.2	
	52	Methyl Methacrylate	41	7.686	7.686	(1.167)	138704	48.5118	48.5	
	53	1,4-Dioxane	88	7.700	7.701	(1.169)	36189	1153.22	1150	
	54	2-Chloroethylvinylether	63	8.265	8.265	(1.255)	73004	45.6042	45.6	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	326063	50.9478	50.9	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	733188	49.4081	49.4	
	57	Toluene	92	8.616	8.616	(1.308)	407236	50.7700	50.8	
	58	Tetrachloroethene	164	9.123	9.123	(0.858)	142068	52.8602	52.9	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	135444	50.7625	50.8	
	60	trans-1,3-Dichloropropene	75	9.223	9.224	(1.401)	328741	51.6543	51.6	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	142393	52.3104	52.3	
	62	Ethyl Methacrylate	69	9.509	9.510	(1.444)	205913	48.0784	48.1	
	63	Dibromochloromethane	129	9.645	9.653	(0.907)	222222	51.7378	51.7	
	64	1,3-Dichloropropane	76	9.781	9.788	(0.919)	291678	49.5184	49.5	
	65	1,2-Dibromoethane	107	9.931	9.931	(1.508)	185521	53.6159	53.6	
M	66	Total Alkylbenzenes	100				4909828	367.237	367	
	67	2-Hexanone	43	10.346	10.346	(0.972)	92452	50.2459	50.2	
*	68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	543233	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	428680	49.5290	49.5	
	70	Ethylbenzene	91	10.732	10.739	(1.009)	814722	49.8591	49.8	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.775	(1.012)	191216	50.8964	50.9	
	72	m+p-Xylenes	91	10.939	10.940	(1.028)	1262189	101.232	101	
	73	o-Xylene	91	11.504	11.505	(1.081)	661376	52.8946	52.9	
	74	Styrene	104	11.583	11.583	(1.089)	451530	53.0911	53.1	
	75	Bromoform	173	11.576	11.576	(1.088)	155526	51.8273	51.8	
	76	Isopropylbenzene	105	11.933	11.934	(0.869)	763258	56.9219	56.9	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	334587	49.3731	49.4	

Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Report Date: 25-Oct-2018 11:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.391	12.391	(0.903)	196806	50.0307	50.0	
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.405	(0.903)	73204	48.2451	48.2	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	938116	51.0030	51.0	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.598	(0.917)	209911	52.1821	52.2	
	82 2-Chlorotoluene	91	12.648	12.649	(0.921)	591155	51.3707	51.4	
	83 1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	191738	48.9404	48.9	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	655798	52.5820	52.6	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	55940	46.2377	46.2	
	86 4-Chlorotoluene	91	12.870	12.870	(0.938)	625222	50.1803	50.2	
	87 tert-Butylbenzene	119	13.156	13.156	(0.958)	599639	52.3531	52.4	
	88 Pentachloroethane	165	13.156	13.156	(0.958)	101258	49.0530	49.0	
	89 1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	669528	53.6123	53.6	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	771818	52.8912	52.9	
	91 P-Isopropyltoluene	119	13.592	13.592	(0.990)	644134	53.0474	53.0	
	92 1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	329683	50.5872	50.6	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	299832	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	329587	48.3121	48.3	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	645151	50.3477	50.3	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	630795	51.7477	51.7	
	97 1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	310815	50.5515	50.6	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	45786	47.9369	47.9	
	99 1,3,5-Trichlorobenzene	180	15.380	15.380	(1.120)	244845	53.9586	54.0	
	100 Hexachlorobutadiene	225	16.209	16.209	(1.181)	121604	47.8452	47.8	
	101 1,2,4-Trichlorobenzene	180	16.216	16.217	(1.181)	213892	52.3783	52.4	
	102 Naphthalene	128	16.638	16.638	(1.212)	446335	50.6544	50.6	
M	103 1,2-Dichloroethylene (total)	96				331079	101.983	102	
	104 1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	196683	52.1370	52.1	
M	105 Xylenes (total)	91				1923565	154.126	154	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Date : 18-OCT-2018 14:01
Client ID: LCS
Sample Info: WG238778-8,TL0045
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T101818.b\T7882.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.344)
-Chloromethane (1.480)
-Vinyl Chloride (1.537)
-Bromomethane (1.766)
-Chloroethane (1.859)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.367)+
-Iodomethane (2.460)
-Acrolein (2.617)
-Allyl Chloride (2.732)
-Methylene Chloride (2.824)+
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-butyl ether (3.078)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.475)
-Chloroprene (3.590)+
-Acrylonitrile (3.682)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.869)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.198)+
-Benzene (5.592)
-Propionitrile (5.699)+
-Pentafluorobenzene (5.806)+
-1,2-Dichloroethane (5.921)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.585)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.294)+
-Toluene-D8 (8.545)
-Toluene (8.616)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.224)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.576)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.390)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.588)
-2-Chlorotoluene (12.649)
-1,2,3-Trichloropropane (12.756)+
-trans-1,4-Dichloro-2-Bute (12.821)
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.295)
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.286)
-1,2-Dibromo-3-Chloropropa (15.373)+
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.835)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG238848-1
Client ID: LCS
Project:
SDG: TL0045
LCS File ID: T7899.D

Sample Date:
Received Date:
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 16-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	116.	50.0	58.1	ug/L	59-123
Vinyl Chloride	104.	50.0	51.8	ug/L	64-131
Bromomethane	118.	50.0	58.8	ug/L	57-135
Chloroethane	114.	50.0	57.1	ug/L	53-157
Trichlorofluoromethane	96.6	50.0	48.3	ug/L	70-149
1,1-Dichloroethene	104.	50.0	51.8	ug/L	88-127
Carbon Disulfide	95.6	50.0	47.8	ug/L	71-129
Methylene Chloride	110.	50.0	55.0	ug/L	72-129
trans-1,2-Dichloroethene	99.0	50.0	49.5	ug/L	78-125
1,1-Dichloroethane	104.	50.0	51.9	ug/L	76-130
cis-1,2-Dichloroethene	97.2	50.0	48.6	ug/L	85-123
Chloroform	98.2	50.0	49.1	ug/L	78-128
Carbon Tetrachloride	107.	50.0	53.4	ug/L	87-126
1,1,1-Trichloroethane	100.	50.0	50.2	ug/L	77-129
2-Butanone	98.6	50.0	49.3	ug/L	71-132
Benzene	101.	50.0	50.6	ug/L	86-116
1,2-Dichloroethane	105.	50.0	52.4	ug/L	81-125
Trichloroethene	108.	50.0	53.8	ug/L	79-121
1,2-Dichloropropane	106.	50.0	53.0	ug/L	84-118
Bromodichloromethane	113.	50.0	56.5	ug/L	85-122
cis-1,3-Dichloropropene	109.	50.0	54.3	ug/L	83-119
Toluene	101.	50.0	50.4	ug/L	84-118
4-Methyl-2-Pentanone	106.	50.0	53.0	ug/L	83-122
Tetrachloroethene	102.	50.0	51.2	ug/L	47-155
trans-1,3-Dichloropropene	115.	50.0	57.3	ug/L	85-135
1,1,2-Trichloroethane	106.	50.0	52.8	ug/L	84-115
Dibromochloromethane	112.	50.0	55.8	ug/L	85-119
Chlorobenzene	99.6	50.0	49.8	ug/L	89-113
Ethylbenzene	103.	50.0	51.4	ug/L	88-113
m+p-Xylenes	107.	100.	107.	ug/L	88-116
o-Xylene	110.	50.0	55.1	ug/L	90-116
Bromoform	112.	50.0	55.8	ug/L	86-117
1,1,2,2-Tetrachloroethane	103.	50.0	51.3	ug/L	79-121
P-Bromofluorobenzene	105.				56-133
Toluene-d8	103.				65-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG238848-1
Client ID: LCS
Project:
SDG: TL0045
LCS File ID: T7899.D

Sample Date:
Received Date:
Extract Date: 19-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG238848

Analysis Date: 19-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 16-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,2-Dichloroethane-d4	104.				67-135
Dibromofluoromethane	98.5				68-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7899.D
Report Date: 15-Nov-2018 14:41

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T101918.b\T7899.D
Lab Smp Id: WG238848-1
Inj Date : 19-OCT-2018 09:07 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG238848-1,TL0045
Misc Info : WG238848,WG238848-4,TL0045-5
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T101918.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 14:09 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

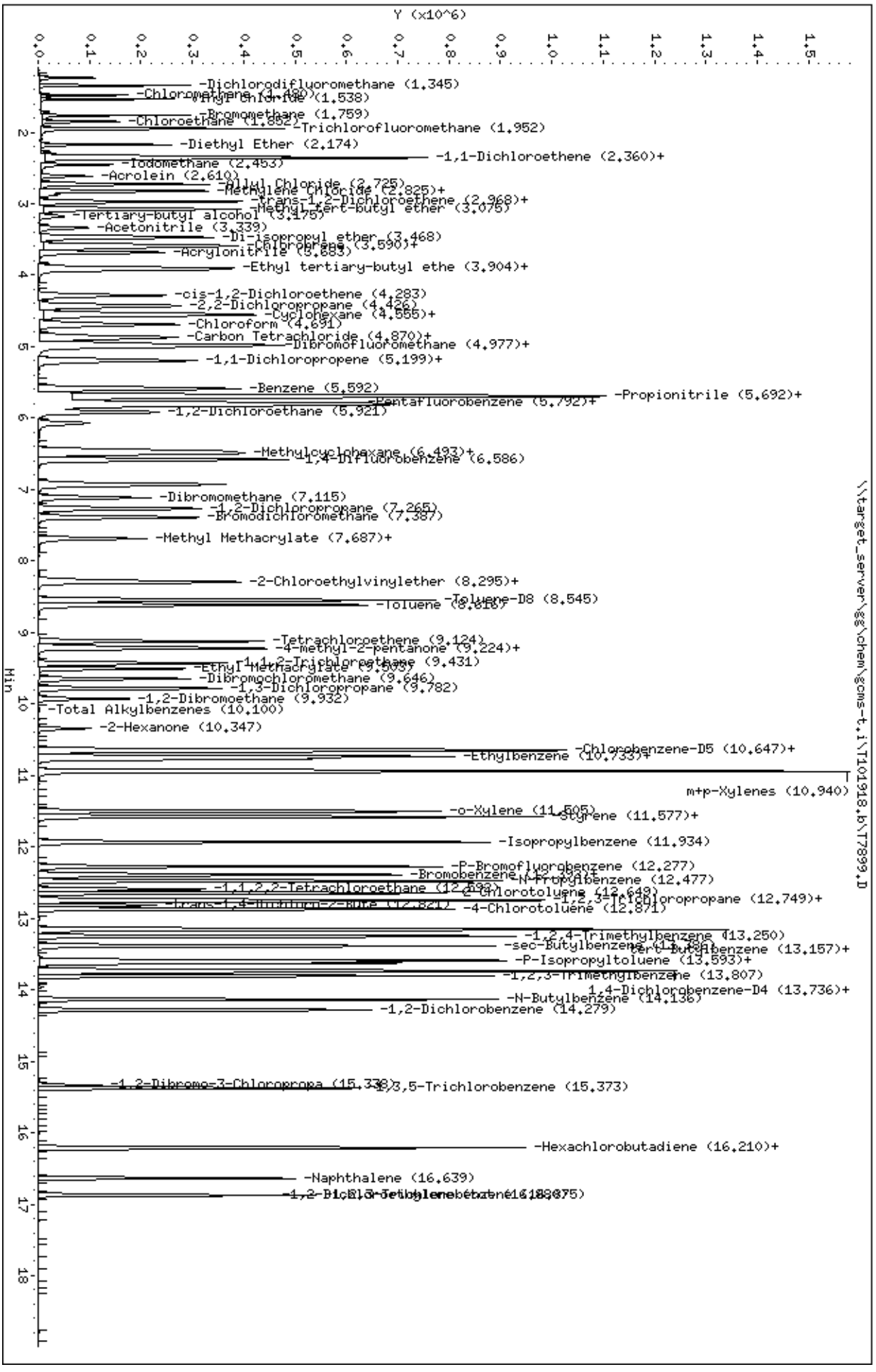
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	147945	42.5656	42.6	
2	Chloromethane	50	1.480	1.480	(0.256)	112527	58.0847	58.1	
3	Vinyl chloride	62	1.537	1.537	(0.265)	151707	51.8524	51.8	
4	Bromomethane	94	1.759	1.759	(0.304)	93971	58.7551	58.8	
5	Chloroethane	64	1.852	1.837	(0.320)	97991	57.0633	57.1	
6	Trichlorofluoromethane	101	1.952	1.945	(0.337)	332492	48.2624	48.3	
7	Diethyl Ether	59	2.173	2.173	(0.375)	113648	53.8737	53.9	
8	1,1-Dichloroethene	96	2.331	2.331	(0.402)	143566	51.7884	51.8	
9	Freon-113	151	2.359	2.359	(0.407)	128622	55.7013	55.7	
10	Carbon Disulfide	76	2.367	2.359	(0.409)	375934	47.8048	47.8	
11	Iodomethane	142	2.452	2.452	(0.423)	134246	65.6488	65.6	
12	Acrolein	56	2.610	2.610	(0.451)	79425	249.086	249	
13	Allyl Chloride	41	2.724	2.724	(0.470)	182319	49.3592	49.4	
14	Methylene Chloride	84	2.824	2.824	(0.488)	151269	55.0280	55.0	
15	Acetone	43	2.874	2.874	(0.496)	45785	54.3415	54.3	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	127405	49.5472	49.5	
17	Methyl Acetate	43	2.989	2.989	(0.516)	88083	48.3417	48.3	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.531)	477303	55.9153	55.9	
19	Tertiary-butyl alcohol	59	3.175	3.182	(0.548)	66315	267.995	268	
20	Acetonitrile	41	3.339	3.339	(0.577)	113483	482.489	482	
21	Di-isopropyl ether	45	3.468	3.468	(0.599)	358761	50.1336	50.1	
22	Chloroprene	53	3.582	3.582	(0.619)	249738	53.3326	53.3	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	292496	51.8964	51.9	

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7899.D
Report Date: 15-Nov-2018 14:41

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.682	(0.636)	186199	258.783	259	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	422418	53.3018	53.3	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	297860	53.2491	53.2	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	136847	48.6194	48.6	
	28	2,2-Dichloropropane	77	4.426	4.433	(0.764)	314311	54.8343	54.8	
	29	Cyclohexane	56	4.547	4.547	(0.785)	193205	53.7707	53.8	
	30	Bromochloromethane	128	4.562	4.562	(0.788)	63163	53.4756	53.5	
	31	Chloroform	83	4.690	4.690	(0.810)	352291	49.1234	49.1	
	32	Carbon Tetrachloride	117	4.869	4.869	(0.739)	306305	53.4310	53.4	
	33	Tetrahydrofuran	42	4.941	4.926	(0.853)	29972	51.2562	51.2	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.859)	196308	49.2442	49.2	
	35	1,1,1-Trichloroethane	97	4.984	4.991	(0.861)	345081	50.1703	50.2	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	226110	54.0527	54.0	
	37	2-Butanone	43	5.212	5.205	(0.900)	52571	49.2610	49.3	
	38	Benzene	78	5.591	5.591	(0.849)	518565	50.5586	50.6	
	39	Propionitrile	54	5.670	5.677	(0.979)	151867	500.465	500	
	40	Methacrylonitrile	41	5.699	5.699	(0.984)	750798	525.921	526	
*	41	Pentafluorobenzene	168	5.792	5.791	(1.000)	327952	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	304132	52.2873	52.3	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	389021	50.4589	50.4	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	314771	52.4536	52.4	
	45	Isobutyl Alcohol	43	5.820	5.820	(1.005)	125015	1363.85	1360	
	46	Methylcyclohexane	83	6.456	6.464	(1.115)	207857	52.4839	52.5	
	47	Trichloroethene	95	6.499	6.499	(0.987)	168252	53.7928	53.8	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	465943	50.0000		
	49	Dibromomethane	93	7.114	7.114	(1.080)	112175	53.8685	53.9	
	50	1,2-Dichloropropane	63	7.264	7.264	(1.103)	134397	53.0478	53.0	
	51	Bromodichloromethane	83	7.386	7.393	(1.122)	281015	56.5340	56.5	
	52	Methyl Methacrylate	41	7.686	7.686	(1.167)	114938	50.7536	50.8	
	53	1,4-Dioxane	88	7.701	7.701	(1.169)	23751	957.042	957	
	54	2-Chloroethylvinylether	63	8.266	8.265	(1.255)	66424	52.4684	52.5	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	274884	54.3111	54.3	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	602754	51.3615	51.4	
	57	Toluene	92	8.616	8.616	(1.308)	319816	50.4169	50.4	
	58	Tetrachloroethene	164	9.124	9.123	(0.858)	109218	51.2512	51.2	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	111851	53.0076	53.0	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	288370	57.2952	57.3	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	113694	52.8143	52.8	
	62	Ethyl Methacrylate	69	9.502	9.510	(1.443)	169734	50.0631	50.1	
	63	Dibromochloromethane	129	9.645	9.653	(0.907)	190080	55.8129	55.8	
	64	1,3-Dichloropropane	76	9.781	9.788	(0.919)	239623	51.3061	51.3	
	65	1,2-Dibromoethane	107	9.924	9.931	(1.507)	143665	52.5009	52.5	
M	66	Total Alkylbenzenes	100				4116069	378.631	379	
	67	2-Hexanone	43	10.346	10.346	(0.972)	74391	50.9896	51.0	
*	68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	430734	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	342132	49.8537	49.8	
	70	Ethylbenzene	91	10.732	10.739	(1.009)	665409	51.3571	51.4	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.775	(1.012)	162007	54.3843	54.4	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	1059898	107.209	107	
	73	o-Xylene	91	11.505	11.505	(1.081)	546603	55.1330	55.1	
	74	Styrene	104	11.576	11.583	(1.088)	364759	54.0901	54.1	
	75	Bromoform	173	11.576	11.576	(1.088)	132898	55.8536	55.8	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	628943	57.5953	57.6	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	280713	52.3792	52.4	

Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7899.D
Report Date: 15-Nov-2018 14:41

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	78	Bromobenzene	156	12.384	12.391	(0.902)	158808	49.5722	49.6	
	79	cis-1,4-Dichloro-2-Butene	53	12.405	12.405	(0.904)	69132	55.9455	55.9	
	80	N-Propylbenzene	91	12.477	12.477	(0.909)	770801	51.4576	51.4	
	81	1,1,2,2-Tetrachloroethane	83	12.591	12.598	(0.917)	168053	51.2980	51.3	
	82	2-Chlorotoluene	91	12.649	12.649	(0.921)	499785	53.3292	53.3	
	83	1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	160151	50.1946	50.2	
	84	1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	542762	53.4373	53.4	
	85	trans-1,4-Dichloro-2-Butene	53	12.813	12.820	(0.933)	56940	57.7909	57.8	
	86	4-Chlorotoluene	91	12.870	12.870	(0.938)	533703	52.5977	52.6	
	87	tert-Butylbenzene	119	13.156	13.156	(0.958)	508080	54.4694	54.5	
	88	Pentachloroethane	165	13.156	13.156	(0.958)	91111	54.1969	54.2	
	89	1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	568304	55.8784	55.9	
	90	sec-Butylbenzene	105	13.385	13.385	(0.975)	645098	54.2828	54.3	
	91	P-Isopropyltoluene	119	13.592	13.592	(0.990)	538278	54.4330	54.4	
	92	1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	266961	50.2990	50.3	
*	93	1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	244180	50.0000		
	94	1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	271141	48.8033	48.8	
	95	1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	541552	51.8951	51.9	
	96	N-Butylbenzene	91	14.136	14.136	(1.030)	542746	54.6723	54.7	
	97	1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	251503	50.2277	50.2	
	98	1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	42587	54.7497	54.7	
	99	1,3,5-Trichlorobenzene	180	15.380	15.380	(1.120)	196984	53.3050	53.3	
	100	Hexachlorobutadiene	225	16.209	16.209	(1.181)	103617	50.0599	50.0	
	101	1,2,4-Trichlorobenzene	180	16.217	16.217	(1.181)	170542	51.2809	51.3	
	102	Naphthalene	128	16.638	16.638	(1.212)	349922	48.8037	48.8	
M	103	1,2-Dichloroethylene (total)	96				264252	98.1666	98.2	
	104	1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	161950	52.7143	52.7	
M	105	Xylenes (total)	91				1606501	162.342	162	


Data File: \\target_server\gg\chem\gcms-t.i\T101918.b\T7899.D
Date : 19-OCT-2018 09:07
Client ID:
Sample Info: WG238848-1,TL0045
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: JSS
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T101918.b\T7899.D
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.402)
-Vinyl Chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.852)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.610)
-Allyl Chloride (2.725)
-Methylene Chloride (2.825)+
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.175)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.468)
-Cyclohexane (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.904)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.426)
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)+
-Dibromofluoromethane (4.977)+
-1,1-Dichloropropene (5.199)+
-Benzene (5.592)
-Propionitrile (5.692)+
-Pentafluorobenzene (5.792)+
-1,2-Dichloroethane (5.921)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.387)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
-Toluene-D8 (8.545)
-Toluene (8.618)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.224)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.503)
-Dibromochloromethane (9.646)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.291)
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.593)
-2-Chlorotoluene (12.649)
-1,2,3-Trichloropropane (12.749)+
-trans-1,4-Dichloro-2-Butene (12.821)
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.286)
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.279)
-1,2-Dibromo-3-Chloropropa (15.338)
-1,3,5-Trichlorobenzene (15.373)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.875)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG239008-1
Client ID: LCS
Project:
SDG: TL0045
LCS File ID: T7924.D

Sample Date:
Received Date:
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 16-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	94.6	50.0	47.3	ug/L	59-123
Vinyl Chloride	93.4	50.0	46.7	ug/L	64-131
Bromomethane	80.4	50.0	40.2	ug/L	57-135
Chloroethane	106.	50.0	53.0	ug/L	53-157
Trichlorofluoromethane	91.0	50.0	45.5	ug/L	70-149
1,1-Dichloroethene	97.6	50.0	48.8	ug/L	88-127
Carbon Disulfide	86.2	50.0	43.1	ug/L	71-129
Methylene Chloride	95.6	50.0	47.8	ug/L	72-129
trans-1,2-Dichloroethene	94.6	50.0	47.3	ug/L	78-125
1,1-Dichloroethane	96.0	50.0	48.0	ug/L	76-130
cis-1,2-Dichloroethene	94.2	50.0	47.1	ug/L	85-123
Chloroform	92.2	50.0	46.1	ug/L	78-128
Carbon Tetrachloride	106.	50.0	53.0	ug/L	87-126
1,1,1-Trichloroethane	96.8	50.0	48.4	ug/L	77-129
2-Butanone	103.	50.0	51.7	ug/L	71-132
Benzene	97.4	50.0	48.7	ug/L	86-116
1,2-Dichloroethane	106.	50.0	53.0	ug/L	81-125
Trichloroethene	104.	50.0	51.9	ug/L	79-121
1,2-Dichloropropane	104.	50.0	51.9	ug/L	84-118
Bromodichloromethane	110.	50.0	54.9	ug/L	85-122
cis-1,3-Dichloropropene	105.	50.0	52.7	ug/L	83-119
Toluene	95.4	50.0	47.7	ug/L	84-118
4-Methyl-2-Pentanone	109.	50.0	54.4	ug/L	83-122
Tetrachloroethene	103.	50.0	51.6	ug/L	47-155
trans-1,3-Dichloropropene	111.	50.0	55.7	ug/L	85-135
1,1,2-Trichloroethane	104.	50.0	51.8	ug/L	84-115
Dibromochloromethane	112.	50.0	55.9	ug/L	85-119
Chlorobenzene	101.	50.0	50.4	ug/L	89-113
Ethylbenzene	105.	50.0	52.4	ug/L	88-113
m+p-Xylenes	109.	100.	109.	ug/L	88-116
o-Xylene	112.	50.0	55.8	ug/L	90-116
Bromoform	* 120.	50.0	59.9	ug/L	86-117
1,1,2,2-Tetrachloroethane	115.	50.0	57.5	ug/L	79-121
P-Bromofluorobenzene	96.4				56-133
Toluene-d8	97.4				65-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG239008-1
Client ID: LCS
Project:
SDG: TL0045
LCS File ID: T7924.D

Sample Date:
Received Date:
Extract Date: 22-OCT-18
Extracted By: JSS
Extraction Method: SW846 5030
Lab Prep Batch: WG239008

Analysis Date: 22-OCT-18
Analyst: JSS
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 16-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,2-Dichloroethane-d4	99.8				67-135
Dibromofluoromethane	92.0				68-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7924.D
Report Date: 15-Nov-2018 14:48

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T102218.b\T7924.D
Lab Smp Id: WG239008-1 Client Smp ID: WG239008-LCS
Inj Date : 22-OCT-2018 09:39 MS Autotune Date: 31-AUG-2018 16:19
Operator : JSS Inst ID: gcms-t.i
Smp Info : WG239008-1,TL0045
Misc Info : WG239008,WG239008-4,TL0045-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T102218.b\T8A05(57)D.m
Meth Date : 23-Oct-2018 13:57 HGOULD Quant Type: ISTD
Cal Date : 18-OCT-2018 13:01 Cal File: T7880.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	104408	32.3227	32.3	
2	Chloromethane	50	1.480	1.480	(0.256)	85868	47.3379	47.3	
3	Vinyl chloride	62	1.537	1.537	(0.265)	127040	46.7217	46.7	
4	Bromomethane	94	1.759	1.759	(0.304)	61447	40.1557	40.2	
5	Chloroethane	64	1.852	1.837	(0.320)	84511	52.9541	53.0	
6	Trichlorofluoromethane	101	1.952	1.945	(0.337)	291082	45.4630	45.5	
7	Diethyl Ether	59	2.173	2.173	(0.375)	100968	51.5008	51.5	
8	1,1-Dichloroethene	96	2.331	2.331	(0.402)	125608	48.7544	48.8	
9	Freon-113	151	2.359	2.359	(0.407)	112490	52.4179	52.4	
10	Carbon Disulfide	76	2.366	2.359	(0.409)	315212	43.1298	43.1	
11	Iodomethane	142	2.459	2.452	(0.425)	102160	55.2248	55.2	
12	Acrolein	56	2.617	2.610	(0.452)	76765	259.043	259	
13	Allyl Chloride	41	2.724	2.724	(0.470)	167896	48.9093	48.9	
14	Methylene Chloride	84	2.824	2.824	(0.488)	122663	47.7961	47.8	
15	Acetone	43	2.881	2.874	(0.498)	43894	56.2380	56.2	
16	trans-1,2-Dichloroethene	96	2.967	2.967	(0.512)	113062	47.3113	47.3	
17	Methyl Acetate	43	2.988	2.989	(0.516)	85201	50.3141	50.3	
18	Methyl tert-butyl ether	73	3.074	3.074	(0.531)	431895	54.4414	54.4	
19	Tertiary-butyl alcohol	59	3.181	3.182	(0.549)	63958	278.381	278	
20	Acetonitrile	41	3.339	3.339	(0.577)	110434	505.213	505	
21	Di-isopropyl ether	45	3.475	3.468	(0.600)	317438	47.7307	47.7	
22	Chloroprene	53	3.582	3.582	(0.619)	215718	49.5690	49.6	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	251609	48.0351	48.0	

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7924.D
Report Date: 15-Nov-2018 14:48

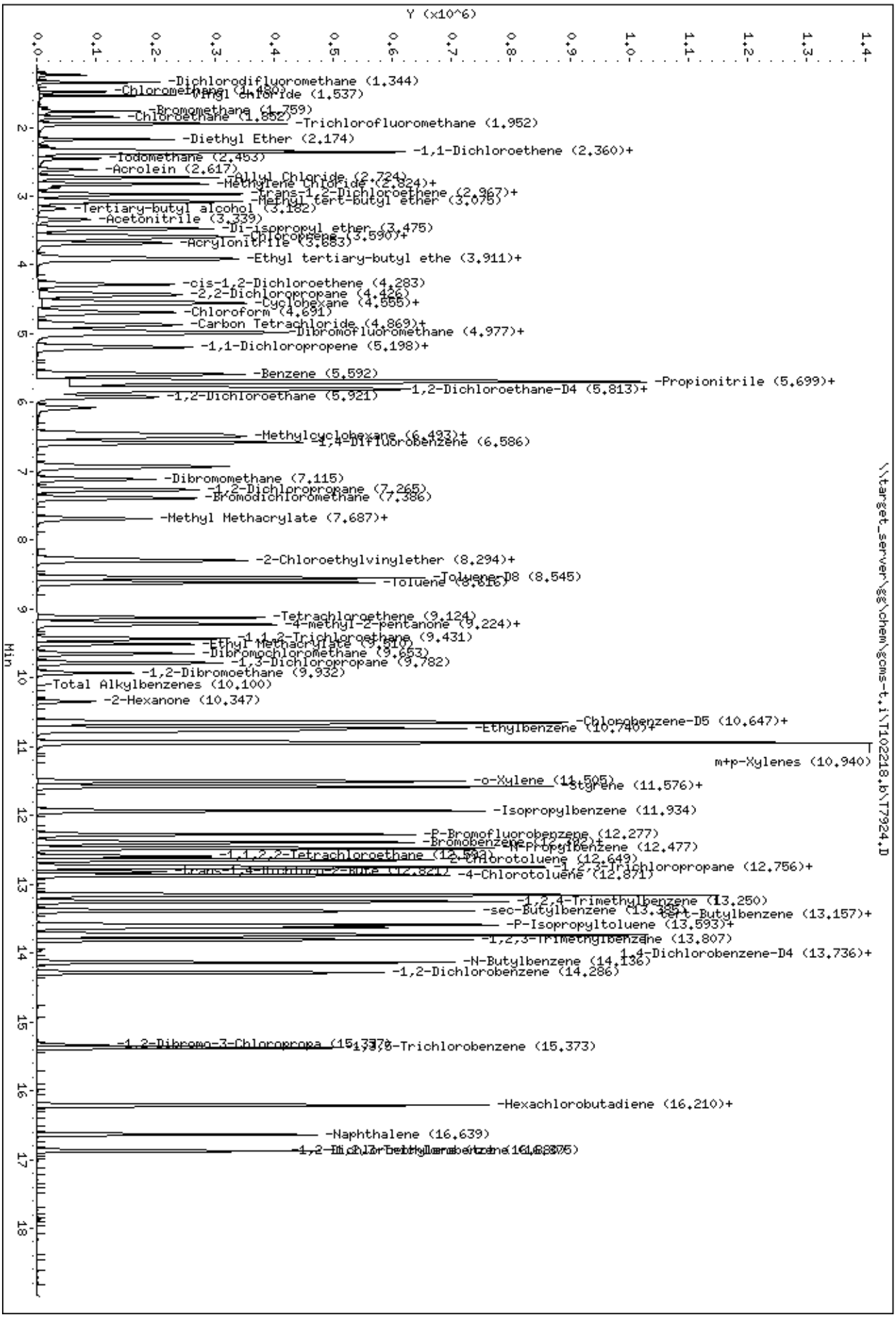
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.682	(0.636)	160244	239.638	240	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	365183	49.5821	49.6	
	26	Vinyl Acetate	43	3.925	3.925	(0.596)	266281	52.3514	52.4	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	123171	47.0867	47.1	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.765)	283316	53.1838	53.2	
	29	Cyclohexane	56	4.547	4.547	(0.785)	156589	46.9514	47.0	
	30	Bromochloromethane	128	4.569	4.562	(0.789)	54003	49.1956	49.2	
	31	Chloroform	83	4.697	4.690	(0.811)	307000	46.0617	46.1	
	32	Carbon Tetrachloride	117	4.876	4.869	(0.741)	276319	53.0075	53.0	
	33	Tetrahydrofuran	42	4.940	4.926	(0.853)	28677	52.7691	52.8	
$	34	Dibromofluoromethane	113	4.976	4.976	(0.859)	170337	45.9771	46.0	
	35	1,1,1-Trichloroethane	97	4.990	4.991	(0.862)	309275	48.3822	48.4	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	193584	50.8926	50.9	
	37	2-Butanone	43	5.212	5.205	(0.900)	51240	51.6632	51.7	
	38	Benzene	78	5.591	5.591	(0.849)	454607	48.7434	48.7	
	39	Propionitrile	54	5.670	5.677	(0.979)	139965	496.301	496	
	40	Methacrylonitrile	41	5.698	5.699	(0.984)	686792	517.652	518	
*	41	Pentafluorobenzene	168	5.791	5.791	(1.000)	304786	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	269747	49.9006	49.9	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	347978	48.5659	48.6	
	44	1,2-Dichloroethane	62	5.920	5.920	(0.899)	289152	52.9900	53.0	
	45	Isobutyl Alcohol	43	5.820	5.820	(1.005)	110723	1299.74	1300	
	46	Methylcyclohexane	83	6.456	6.464	(1.115)	180470	49.0323	49.0	
	47	Trichloroethene	95	6.499	6.499	(0.987)	147688	51.9275	51.9	
*	48	1,4-Difluorobenzene	114	6.585	6.585	(1.000)	423687	50.0000		
	49	Dibromomethane	93	7.114	7.114	(1.080)	99931	52.7749	52.8	
	50	1,2-Dichloropropane	63	7.264	7.264	(1.103)	119541	51.8898	51.9	
	51	Bromodichloromethane	83	7.393	7.393	(1.123)	248208	54.9140	54.9	
	52	Methyl Methacrylate	41	7.686	7.686	(1.167)	108676	52.7092	52.7	
	53	1,4-Dioxane	88	7.693	7.701	(1.168)	21100	935.016	935	
	54	2-Chloroethylvinylether	63	8.265	8.265	(1.255)	62488	54.2822	54.3	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	242726	52.7404	52.7	
$	56	Toluene-D8	98	8.544	8.544	(1.297)	519562	48.6881	48.7	
	57	Toluene	92	8.616	8.616	(1.308)	275294	47.7266	47.7	
	58	Tetrachloroethene	164	9.123	9.123	(0.858)	95041	51.6301	51.6	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	104333	54.3761	54.4	
	60	trans-1,3-Dichloropropene	75	9.223	9.224	(1.401)	254785	55.6711	55.7	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	101334	51.7675	51.8	
	62	Ethyl Methacrylate	69	9.509	9.510	(1.444)	151999	49.3213	49.3	
	63	Dibromochloromethane	129	9.652	9.653	(0.907)	164475	55.9088	55.9	
	64	1,3-Dichloropropane	76	9.781	9.788	(0.919)	212466	52.6638	52.7	
	65	1,2-Dibromoethane	107	9.931	9.931	(1.508)	129111	51.8880	51.9	
M	66	Total Alkylbenzenes	100				3411976	379.393	379	
	67	2-Hexanone	43	10.346	10.346	(0.972)	71933	57.0783	57.1	
*	68	Chlorobenzene-D5	117	10.639	10.646	(1.000)	372072	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	298903	50.4215	50.4	
	70	Ethylbenzene	91	10.732	10.739	(1.009)	586368	52.3919	52.4	
	71	1,1,1,2-Tetrachloroethane	131	10.775	10.775	(1.013)	142366	55.3259	55.3	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	931973	109.133	109	
	73	o-Xylene	91	11.504	11.505	(1.081)	478207	55.8390	55.8	
	74	Styrene	104	11.576	11.583	(1.088)	313960	53.8975	53.9	
	75	Bromoform	173	11.583	11.576	(1.089)	123053	59.8697	59.9(R)	
	76	Isopropylbenzene	105	11.933	11.934	(0.869)	525567	58.3032	58.3	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	235033	48.2295	48.2	

Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7924.D
Report Date: 15-Nov-2018 14:48

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.384	12.391	(0.902)	134776	50.9644	51.0	
	79 cis-1,4-Dichloro-2-Butene	53	12.405	12.405	(0.904)	65736	64.4433	64.4	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	660750	53.4358	53.4	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.598	(0.917)	155418	57.4704	57.5	
	82 2-Chlorotoluene	91	12.648	12.649	(0.921)	420555	54.3617	54.4	
	83 1,2,3-Trichloropropane	75	12.734	12.734	(0.928)	148485	56.3765	56.4	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	464203	55.3645	55.4	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.820	(0.934)	52621	64.6978	64.7	
	86 4-Chlorotoluene	91	12.870	12.870	(0.938)	459241	54.8272	54.8	
	87 tert-Butylbenzene	119	13.156	13.156	(0.958)	419945	54.5383	54.5	
	88 Pentachloroethane	165	13.156	13.156	(0.958)	78148	56.3132	56.3	
	89 1,2,4-Trimethylbenzene	105	13.249	13.249	(0.965)	471773	56.1934	56.2	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	528257	53.8481	53.8	
	91 P-Isopropyltoluene	119	13.592	13.592	(0.990)	440647	53.9803	54.0	
	92 1,3-Dichlorobenzene	146	13.628	13.628	(0.993)	226074	51.6002	51.6	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.728	(1.000)	201568	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	229288	49.9947	50.0	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	451597	52.4235	52.4	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	426401	52.0328	52.0	
	97 1,2-Dichlorobenzene	146	14.286	14.286	(1.041)	214814	51.9698	52.0	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.337	(1.117)	45598	71.0132	71.0(R)	
	99 1,3,5-Trichlorobenzene	180	15.380	15.380	(1.120)	157739	51.7088	51.7	
	100 Hexachlorobutadiene	225	16.209	16.209	(1.181)	74961	43.8715	43.9	
	101 1,2,4-Trichlorobenzene	180	16.216	16.217	(1.181)	151304	55.1142	55.1	
	102 Naphthalene	128	16.638	16.638	(1.212)	327552	55.1975	55.2	
M	103 1,2-Dichloroethylene (total)	96				236233	94.3980	94.4	
	104 1,2,3-Trichlorobenzene	180	16.874	16.874	(1.229)	139003	54.8100	54.8	
M	105 Xylenes (total)	91				1410180	164.972	165	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.


Y (x10^6)
Min
Data File: \\target_server\gg\chem\gcms-t.i\T102218.b\T7924.D
Date : 22-OCT-2018 09:39
Client ID: WG239008-LCS
Sample Info: WG239008-1,TL0045
Instrument: gcms-t.i
-Dichlorodifluoromethane (1.344)
-Chloromethane (1.480)
-Vinyl chloride (1.537)
-Bromomethane (1.759)
-Chloroethane (1.882)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.617)
-Allyl Chloride (2.724)
-Methylene chloride (2.824)+
-trans-1,2-Dichloroethene (2.967)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.475)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.426)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.869)+
-Dibromofluoromethane (4.977)+
-1,1-Dichloropropene (5.198)+
-Benzene (5.592)
-Propionitrile (5.699)+
-1,2-Dichloroethane-D4 (5.813)+
-1,2-Dichloroethane (5.921)
-Methylcyclohexane (6.493)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.294)+
-Toluene-D8 (8.545)
-Toluene (8.616)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.224)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.740)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.576)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.402)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.594)
-2-Chlorotoluene (12.649)
-trans-1,4-Dichloro-2-Bute (12.821)
-1,2,3-Trichloropropane (12.756)+
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.286)
-1,2-Dibromo-3-Chloropropa (15.
1,3,5-Trichlorobenzene (15.373)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.
\\target_server\gg\chem\gcms-t.i\T102218.b\T7924.D

Logbooks and Supporting Documents

KATAHDIN ANALYTICAL SERVICES

GCMS-T INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 10/18/18 10:37

Method - Check One:	8260	8260 - 10 mL	8260 SIM	624	524
STD IDs: * BFB STD: V1228	CAL STD: V1259	GAS STD: V1260A	XTRAs STD: V1261	LCS/MS STD: V1250	
SURR STD: V1242	IS STD: V1242				

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	Prep Method: 5030	5035	1311	Criteria: KAS	DoD	QAPP	pH Paper Lot #: Y/N	ANALYST	pH	TRC	KI Paper Lot #: COMMENTS
WG238778 -10	TB764	—	—	VOABFBAQ							Y	HG/HR	N/A	N/A	
50 -4	T7876	1	1	TSAOS(~~567~~)							Y				
20 -3	77	1	2	57							Y				
5 -2	78	1	3	TTC 10/19/18							Y				
1 -1	79	1	4								Y				
150 -6	80	1	5								Y				
100 -5	81	1	6								Y				
IND/LCS -7/8	82	1	7								Y				
VBlankA	83	1	8								N				Target hits
vBlank -9	84	1	9								Y				
TL00145 -2BA	85	1	10		✓			✓			Y		<2		
-23A DL	86	250	11								Y		<2		
-22 DL	87	10	12								Y		<2		
-1A	88	1	13								Y		<2		
-2A	89	1	14								Y		<2		
-3A	90	1	15								Y		<2		
-4A	91	1	16								Y		<2		
-6A	92	1	17								Y		<2		
-22B	93	1	18								Y		<2		
-23 DL2	94	25	19		✓			✓			Y		<2		2034 ✓
Rinse	95	1	20								—		N/A		
Rinse	96	1	21								—				
															TTC 10/19/18

* Refer to page 1 for standard preparation instructions.

WG ✓

KATAHDIN ANALYTICAL SERVICES

GCMS-T INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 10/19/18 8:01

Method - Check One:	8260 ✓	8260 - 10 mL	8260 SIM	624	524
STD IDs: * BFB STD: V1228	CAL STD: V1263	GAS STD: V1264	XTRAs STD: V1261	LCS/MS STD: V1250	
SURR STD: V1242	IS STD: V1242	Prep Method	Criteria	pH Paper Lot #: 857466	KI Paper Lot #

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
WG238848-3	T7865	1	—	VOABFBAQ							Y	HC/SR	N/A	N/A	
VSTD050 -4	T7898	1	1	T8A05(56)D							Y	↓	↓	↓	
LCS -1	99	1	2	↓	✓						Y				
VBlank A	T7900	1	3								N				Target hits
VBlank -2	01	1	4								Y		↓		
SL9767-1 DL	02	20	5		✓		✓	✓			Y		L2		PBT1488A
TL0045-18 DL	03	2	6		↓		↓	↓			N		↓		Not needed, over-dil
-5A	04	1	7								Y				
-7A	05	1	8								Y				DL 1:200
-8A	06	1	9								Y				DL 1:40
-9A	07	1	10								N				RA CO
-10A	08	1	11								Y				DL 1:20
-11A	09	1	12								Y				DL 1:100
-12A	10	1	13								N				RA CO
-13A	11	1	14								N				RA CO
-14A	12	1	15								N				RA CO
-15A	13	1	16								Y				
-16A	14	1	17								Y				
-17A	15	1	18								Y				
-19A	16	1	19								Y				DL 1:100
-20A	17	1	20								Y				DL 1:200
-21A	18	1	21								Y				DL 1:100
-18A	19	1	22		✓			✓			N		✓		1914 ✓ RA CO
VBlank	20	1	23								—		N/A		
VBlank	21	1	24	✓							—	✓	↓	↓	
															TIC 10/22/18

* Refer to page 1 for standard preparation instructions.

KATAHDIN ANALYTICAL SERVICES

GCMS-T INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 10-22-18 8:01

Method - Check One:	8260 ✓	8260 - 10 mL	8260 SIM	624	524
STD IDs: * BFB STD: V1228	CAL STD: V1263	GAS STD: V1264B	XTRAs STD: V1261	LCS/MS STD: V1250	
SURR STD: V1242	IS STD: V1242	Prep Method	Criteria	pH Paper Lot #: HC867466	KI Paper Lot #

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
WG239008 -3	TB766	–	–	VOABFBAQ							Y	H/6/JR	NA	N/A	
VSTD050 -4	T7923	1	1	T8A05(5&)D							Y				
LCS -1	24	1	2	57	~~F~~						Y				
VBlankA	25	1	3		~~2.2~~						N				Target hits
VBlank -2	26	1	4								Y		✓		
TL0045 -18C RA	27	1	5		✓			✓			Y		<2		
-7B DL	28	200	6								Y				
-20B DL	29	200	7								Y				
-11B DL	30	100	8								Y				
-21B DL	31	100	9								Y				
-19B DL	32	100	10								Y				
-8B DL	33	40	11								Y				
-10B DL	34	20	12								Y				
-24A DL	35	100	13								Y				
-9B RA	36	1	14								Y				
-12B RA	37	1	15								Y				
-13B RA	38	1	16								Y				
-14B RA	39	1	17								Y				
✓ -24A DL2	40	10	18		✓			✓			Y		~~N~~		1913 ✓
Rinse	41	1	19								—		N/A		
~~RINSE~~ TCLP BLK	42	1	20	✓							N	✓	✓	✓	2013 OOC
															TTE 10/23/18

* Refer to page 1 for standard preparation instructions.

METALS DATA

Sample Data Section

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client. Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL, "U" LOQ or "U" LOD, where the rate of false negatives is <1%.
J	Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: TL0045 **SOW No.** SW846

Client Field ID	Lab Sample ID
83DM-SP-3-101218	TL0045-003
86EM-SP-6-101218	TL0045-004
94EM-MW-19-101118	TL0045-015
94EM-MW-20-101118	TL0045-013
94EM-MW-21-101218	TL0045-014

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Madison Dinsmore

Date: 10/19/18 Title: Analyst

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 83DM-SP-3-101218

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	32.7			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	10	U		P	1	10	0.59
7439-92-1	LEAD, TOTAL	5.0	U		P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 86EM-SP-6-101218

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	76.5			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	18.9			P	1	10	0.59
7439-92-1	LEAD, TOTAL	5.0	U		P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 94EM-MW-20-101118

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-013

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	59.6			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	406			P	1	10	0.59
7439-92-1	LEAD, TOTAL	70.5			P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 94EM-MW-21-101218

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-014

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	38.4			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	366			P	1	10	0.59
7439-92-1	LEAD, TOTAL	5.0	U		P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** 94EM-MW-19-101118

Matrix: WATER **SDG Name:** TL0045

Percent Solids: 0.00 **Lab Sample ID:** TL0045-015

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adj. PQL	Adj. MDL
7440-38-2	ARSENIC, TOTAL	8.0	U		P	1	8.0	1.5
7440-39-3	BARIUM, TOTAL	143			P	1	5.0	0.33
7440-43-9	CADMIUM, TOTAL	5.0	U		P	1	5.0	0.073
7440-47-3	CHROMIUM, TOTAL	109			P	1	10	0.59
7439-92-1	LEAD, TOTAL	5.0	U		P	1	5.0	1.1
7439-97-6	MERCURY, TOTAL	0.20	U		CV	1	0.20	0.026
7782-49-2	SELENIUM, TOTAL	10	U		P	1	10	3.3
7440-22-4	SILVER, TOTAL	10	U		P	1	10	0.59

Comments:

QC Summary Section

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: ICV

File: HLJ17A Oct 17, 2018 10:35

Analyte	True	Found	%R (1)
MERCURY	6.0	5.81	96.8

SAMPLE: CCV

File: HLJ17A Oct 17, 2018 10:41

Analyte	True	Found	%R (1)
MERCURY	5.0	5.12	102.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCV

File: HLJ17A Oct 17, 2018 11:05

Analyte	True	Found	%R (1)
MERCURY	5.0	5.14	102.8

SAMPLE: CCV

File: HLJ17A Oct 17, 2018 11:30

Analyte	True	Found	%R (1)
MERCURY	5.0	5.14	102.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCV

File: HLJ17A Oct 17, 2018 11:37

Analyte	True	Found	%R (1)
MERCURY	5.0	5.11	102.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: ICV

File: ILJ16A Oct 16, 2018 14:14

Analyte	True	Found	%R (1)
ALUMINUM	10000.0	10040.00	100.4
ARSENIC	400.0	398.20	99.5
BARIUM	400.0	398.40	99.6
CADMIUM	400.0	406.30	101.6
CALCIUM	10000.0	10100.00	101.0
CHROMIUM	400.0	401.90	100.5
IRON	10000.0	10140.00	101.4
LEAD	400.0	405.40	101.3
MAGNESIUM	10000.0	9874.00	98.7
SELENIUM	400.0	398.60	99.7
SILVER	400.0	400.20	100.1

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 14:38

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12560.00	100.5
ARSENIC	500.0	502.50	100.5
BARIUM	500.0	494.40	98.9
CADMIUM	500.0	501.30	100.3
CALCIUM	12500.0	12610.00	100.9
CHROMIUM	500.0	502.90	100.6
IRON	12500.0	12630.00	101.0
LEAD	500.0	502.10	100.4
MAGNESIUM	12500.0	12230.00	97.8
SELENIUM	500.0	499.20	99.8
SILVER	500.0	500.30	100.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 14:58

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12290.00	98.3
ARSENIC	500.0	498.00	99.6
BARIUM	500.0	490.90	98.2
CADMIUM	500.0	495.30	99.1
CALCIUM	12500.0	12340.00	98.7
CHROMIUM	500.0	499.00	99.8
IRON	12500.0	12410.00	99.3
LEAD	500.0	496.00	99.2
MAGNESIUM	12500.0	12090.00	96.7
SELENIUM	500.0	493.90	98.8
SILVER	500.0	498.00	99.6

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 15:50

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12410.00	99.3
ARSENIC	500.0	499.40	99.9
BARIUM	500.0	492.60	98.5
CADMIUM	500.0	499.70	99.9
CALCIUM	12500.0	12540.00	100.3
CHROMIUM	500.0	502.30	100.5
IRON	12500.0	12540.00	100.3
LEAD	500.0	502.10	100.4
MAGNESIUM	12500.0	12190.00	97.5
SELENIUM	500.0	497.00	99.4
SILVER	500.0	501.20	100.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 16:44

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12470.00	99.8
ARSENIC	500.0	501.90	100.4
BARIUM	500.0	495.00	99.0
CADMIUM	500.0	500.30	100.1
CALCIUM	12500.0	12560.00	100.5
CHROMIUM	500.0	500.60	100.1
IRON	12500.0	12590.00	100.7
LEAD	500.0	501.40	100.3
MAGNESIUM	12500.0	12230.00	97.8
SELENIUM	500.0	500.00	100.0
SILVER	500.0	501.40	100.3

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 17:35

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12460.00	99.7
ARSENIC	500.0	506.40	101.3
BARIUM	500.0	494.00	98.8
CADMIUM	500.0	503.50	100.7
CALCIUM	12500.0	12350.00	98.8
CHROMIUM	500.0	501.20	100.2
IRON	12500.0	12570.00	100.6
LEAD	500.0	504.20	100.8
MAGNESIUM	12500.0	12350.00	98.8
SELENIUM	500.0	502.60	100.5
SILVER	500.0	505.90	101.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 18:28

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12440.00	99.5
ARSENIC	500.0	505.80	101.2
BARIUM	500.0	493.60	98.7
CADMIUM	500.0	502.60	100.5
CALCIUM	12500.0	12340.00	98.7
CHROMIUM	500.0	504.00	100.8
IRON	12500.0	12620.00	101.0
LEAD	500.0	502.70	100.5
MAGNESIUM	12500.0	12250.00	98.0
SELENIUM	500.0	502.80	100.6
SILVER	500.0	505.70	101.1

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 19:21

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12250.00	98.0
ARSENIC	500.0	495.90	99.2
BARIUM	500.0	495.90	99.2
CADMIUM	500.0	496.50	99.3
CALCIUM	12500.0	12160.00	97.3
CHROMIUM	500.0	497.30	99.5
IRON	12500.0	12420.00	99.4
LEAD	500.0	499.70	99.9
MAGNESIUM	12500.0	12090.00	96.7
SELENIUM	500.0	493.30	98.7
SILVER	500.0	501.60	100.3

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 19:40

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12420.00	99.4
ARSENIC	500.0	498.60	99.7
BARIUM	500.0	500.30	100.1
CADMIUM	500.0	500.80	100.2
CALCIUM	12500.0	12280.00	98.2
CHROMIUM	500.0	500.30	100.1
IRON	12500.0	12560.00	100.5
LEAD	500.0	504.00	100.8
MAGNESIUM	12500.0	12190.00	97.5
SELENIUM	500.0	498.00	99.6
SILVER	500.0	504.10	100.8

SAMPLE: CCV

File: ILJ16A Oct 16, 2018 20:04

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12320.00	98.6
ARSENIC	500.0	495.50	99.1
BARIUM	500.0	499.10	99.8
CADMIUM	500.0	497.30	99.5
CALCIUM	12500.0	12140.00	97.1
CHROMIUM	500.0	497.20	99.4
IRON	12500.0	12410.00	99.3
LEAD	500.0	499.00	99.8
MAGNESIUM	12500.0	12070.00	96.6
SELENIUM	500.0	494.30	98.9
SILVER	500.0	499.80	100.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: PQL

File: HLJ17A Oct 17, 2018 10:39

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.18	90.0

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: PQL

File: ILJ16A Oct 16, 2018 14:23

Analyte	TRUE	FOUND	% R
ALUMINUM	300.0	305.50	101.8
ARSENIC	8.0	8.58	107.3
BARIUM	5.0	4.94	98.8
CADMIUM	5.0	5.03	100.6
CALCIUM	100.0	102.10	102.1
CHROMIUM	10.0	9.96	99.6
IRON	100.0	101.50	101.5
LEAD	5.0	5.61	112.2
MAGNESIUM	100.0	92.01	92.0
SELENIUM	10.0	8.27	82.7
SILVER	10.0	10.48	104.8

SAMPLE: PQL

File: ILJ16A Oct 16, 2018 19:49

Analyte	TRUE	FOUND	% R
ALUMINUM	300.0	308.10	102.7
ARSENIC	8.0	8.35	104.4
BARIUM	5.0	5.06	101.2
CADMIUM	5.0	5.06	101.2
CALCIUM	100.0	101.50	101.5
CHROMIUM	10.0	9.86	98.6
IRON	100.0	100.60	100.6
LEAD	5.0	5.39	107.8
MAGNESIUM	100.0	92.69	92.7
SELENIUM	10.0	8.56	85.6
SILVER	10.0	10.90	109.0

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: ICB

File: HLJ17A Oct 17, 2018 10:37

Analyte	Result	C
MERCURY	-0.041	U

SAMPLE: CCB

File: HLJ17A Oct 17, 2018 10:43

Analyte	Result	C
MERCURY	-0.041	U

SAMPLE: CCB

File: HLJ17A Oct 17, 2018 11:07

Analyte	Result	C
MERCURY	0.026	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCB

File: HLJ17A Oct 17, 2018 11:32

Analyte	Result	C
MERCURY	-0.060	U

SAMPLE: CCB

File: HLJ17A Oct 17, 2018 11:39

Analyte	Result	C
MERCURY	-0.046	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: ICB

File: ILJ16A Oct 16, 2018 14:18

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.073	U
CALCIUM	5.900	U
CHROMIUM	0.590	U
IRON	3.300	U
LEAD	1.100	U
MAGNESIUM	2.500	U
SELENIUM	3.300	U
SILVER	0.590	U

SAMPLE: CCB

File: ILJ16A Oct 16, 2018 14:42

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.073	U
CALCIUM	5.900	U
CHROMIUM	0.590	U
IRON	3.300	U
LEAD	1.100	U
MAGNESIUM	2.704	J
SELENIUM	3.300	U
SILVER	0.590	U

SAMPLE: CCB

File: ILJ16A Oct 16, 2018 15:02

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.073	U
CALCIUM	5.900	U
CHROMIUM	0.590	U
IRON	3.300	U
LEAD	1.100	U
MAGNESIUM	2.500	U
SELENIUM	3.300	U
SILVER	0.590	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCB
File: ILJ16A Oct 16, 2018 15:54

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.073	U
CALCIUM	5.900	U
CHROMIUM	0.590	U
IRON	3.300	U
LEAD	1.510	J
MAGNESIUM	4.020	J
SELENIUM	3.300	U
SILVER	0.590	U

SAMPLE: CCB
File: ILJ16A Oct 16, 2018 16:48

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.084	J
CALCIUM	5.900	U
CHROMIUM	0.590	U
IRON	3.300	U
LEAD	1.100	U
MAGNESIUM	3.112	J
SELENIUM	3.300	U
SILVER	0.590	U

SAMPLE: CCB
File: ILJ16A Oct 16, 2018 17:40

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.073	U
CALCIUM	6.138	J
CHROMIUM	0.590	U
IRON	3.300	U
LEAD	1.100	U
MAGNESIUM	2.500	U
SELENIUM	3.300	U
SILVER	0.755	J

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCB
File: ILJ16A Oct 16, 2018 18:32

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.073	U
CALCIUM	5.900	U
CHROMIUM	0.590	U
IRON	3.300	U
LEAD	1.100	U
MAGNESIUM	3.753	J
SELENIUM	3.300	U
SILVER	0.590	U

SAMPLE: CCB
File: ILJ16A Oct 16, 2018 19:26

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.073	U
CALCIUM	5.900	U
CHROMIUM	0.590	U
IRON	4.214	J
LEAD	1.100	U
MAGNESIUM	2.783	J
SELENIUM	3.300	U
SILVER	0.729	J

SAMPLE: CCB
File: ILJ16A Oct 16, 2018 19:44

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	1.500	U
BARIUM	0.330	U
CADMIUM	0.073	U
CALCIUM	5.900	U
CHROMIUM	0.590	U
IRON	3.490	J
LEAD	1.100	U
MAGNESIUM	4.157	J
SELENIUM	3.300	U
SILVER	0.590	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: CCB

File: ILJ16A Oct 16, 2018 20:08

Analyte	Result	C
ALUMINUM	19.000	U
ARSENIC	3.954	J
BARIUM	0.330	U
CADMIUM	0.094	J
CALCIUM	7.483	J
CHROMIUM	0.590	U
IRON	5.300	J
LEAD	1.141	J
MAGNESIUM	3.535	J
SELENIUM	3.300	U
SILVER	0.590	U

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWLJ16ICW1

Matrix: WATER **SDG Name:** TL0045

QC Batch ID: LJ16ICW1

Concentration Units : ug/L

Analyte	RESULT	C
ARSENIC	8.0	U
BARIUM	5.0	U
CADMIUM	5.0	U
CHROMIUM	10	U
LEAD	5.0	U
SELENIUM	10	U
SILVER	10	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWLJ17HGW2

Matrix: WATER **SDG Name:** TL0045

QC Batch ID: LJ17HGW2

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.20	U

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: ICSA

File: ILJ16A Oct 16, 2018 14:27

Analyte	TRUE	FOUND	% R
ALUMINUM	500000	495400	99.1
ARSENIC	0	-2	
BARIUM	0	0	
CADMIUM	0	-1	
CALCIUM	500000	468600	93.7
CHROMIUM	0	0	
IRON	200000	183900	92.0
LEAD	0	-2	
MAGNESIUM	500000	475300	95.1
SELENIUM	0	-3	
SILVER	0	1	

SAMPLE: ICSAB

File: ILJ16A Oct 16, 2018 14:32

Analyte	TRUE	FOUND	% R
ALUMINUM	500000	497800	99.6
ARSENIC	100	99	99.0
BARIUM	500	497	99.4
CADMIUM	1000	951	95.1
CALCIUM	500000	474100	94.8
CHROMIUM	500	485	97.0
IRON	200000	187000	93.5
LEAD	50	44	88.0
MAGNESIUM	500000	484300	96.9
SELENIUM	50	54	108.0
SILVER	200	218	109.0

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Concentration Units: ug/L

SAMPLE: ICSA

File: ILJ16A Oct 16, 2018 19:53

Analyte	TRUE	FOUND	% R
ALUMINUM	500000	492900	98.6
ARSENIC	0	0	
BARIUM	0	0	
CADMIUM	0	0	
CALCIUM	500000	458500	91.7
CHROMIUM	0	0	
IRON	200000	182900	91.5
LEAD	0	-2	
MAGNESIUM	500000	472600	94.5
SELENIUM	0	5	
SILVER	0	1	

SAMPLE: ICSAB

File: ILJ16A Oct 16, 2018 19:58

Analyte	TRUE	FOUND	% R
ALUMINUM	500000	501200	100.2
ARSENIC	100	97	97.0
BARIUM	500	496	99.2
CADMIUM	1000	936	93.6
CALCIUM	500000	464600	92.9
CHROMIUM	500	477	95.4
IRON	200000	185000	92.5
LEAD	50	46	92.0
MAGNESIUM	500000	476700	95.3
SELENIUM	50	48	96.0
SILVER	200	218	109.0

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWLJ16ICW1

Matrix: WATER **SDG Name:** TL0045

QC Batch ID: LJ16ICW1

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ARSENIC	100	103	103.4	80	120
BARIUM	2000	2030	101.4	80	120
CADMIUM	250	260	103.8	80	120
CHROMIUM	200	206	103.0	80	120
LEAD	100	102	102.0	80	120
SELENIUM	100	100	100.3	80	120
SILVER	50.0	50.8	101.7	80	120

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWLJ17HGW2

Matrix: WATER **SDG Name:** TL0045

QC Batch ID: LJ17HGW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.39	107.8	80	120

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 7/11/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
MERCURY	0.20	0.026	CV

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** I

Instrument Name: THERMO ICAP 6500 **Date:** 7/16/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
ALUMINUM	300	19	P
ARSENIC	8.0	1.5	P
BARIUM	5.0	0.33	P
CADMIUM	5.0	0.073	P
CALCIUM	100	5.9	P
CHROMIUM	10	0.59	P
IRON	100	3.3	P
LEAD	5.0	1.1	P
MAGNESIUM	100	2.5	P
SELENIUM	10	3.3	P
SILVER	10	0.59	P

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 7/11/2018

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.013	ug/L	CV	SW846 7470A / SW846 7470A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** I

Instrument Name: THERMO ICAP 6500 **Date:** 7/16/2018

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ARSENIC	1.4	ug/L	P	SW846 3010A / SW846 6010C
BARIUM	0.23	ug/L	P	SW846 3010A / SW846 6010C
CADMIUM	0.049	ug/L	P	SW846 3010A / SW846 6010C
CHROMIUM	0.36	ug/L	P	SW846 3010A / SW846 6010C
LEAD	1.1	ug/L	P	SW846 3010A / SW846 6010C
SELENIUM	2.4	ug/L	P	SW846 3010A / SW846 6010C
SILVER	0.27	ug/L	P	SW846 3010A / SW846 6010C

ICP INTERELEMENT CORRECTION FACTORS

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Instrument Name: THERMO ICAP 6500 **Instrument ID:** I **Date:** 7/12/2018

Analyte	Wavelength (nm)	Interelement Correction Factors for: Al	Ca	Fe	Mg	As	Cr	Co	Cu	Mn	Mo	Ni	Ti	V
ALUMINUM	396.15	0.0	0.0004500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0363000	0.0	0.0	0.0
ANTIMONY	206.83	0.0000090	0.0	0.0000310	0.0	-0.0000820	0.0091920	0.0	0.0	0.0	-0.0019100	-0.0010130	0.0	-0.0003690
ARSENIC	189.04	-0.0000120	0.0	-0.0000840	0.0	0.0	0.0002030	0.0	0.0	0.0	0.0006500	0.0	0.0	0.0
BARIUM	455.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	313.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0007160	0.0000820
BORON	208.96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0446700	0.0	0.0	0.0
CADMIUM	226.50	0.0	0.0	0.0000640	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0000800	0.0000260	0.0
CALCIUM	315.89	0.0	0.0	0.0	0.0	0.0	0.0008850	0.0030700	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	267.72	0.0	0.0	0.0000070	0.0	0.0	0.0	0.0	0.0	0.0001360	0.0	0.0	0.0	0.0000720
COBALT	228.62	0.0	0.0	0.0000010	0.0	0.0	-0.0000420	0.0	0.0	0.0	0.0	0.0000640	0.0020930	0.0
COPPER	327.40	0.0000050	0.0	-0.0000110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0014700	0.0004010
GOLD	242.79	0.0	0.0	0.0001110	0.0	0.0	0.0	0.0	0.0	0.0058700	0.0	0.0	0.0	0.0
IRON	259.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	220.35	-0.0000930	0.0	0.0000260	0.0	0.0	-0.0001750	-0.0000480	0.0000290	0.0	-0.0012100	0.0002080	-0.0001240	0.0
LITHIUM	670.78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	202.58	0.0	0.0	0.0005280	0.0	0.0	0.0	0.0687500	0.0	0.0	0.0209000	0.0	-0.0000620	0.0
MANGANESE	257.61	-0.0000160	0.0	-0.0000300	0.0000310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	202.03	0.0	0.0	0.0	0.0	0.0	0.0000620	0.0	0.0	0.0000840	0.0	0.0	0.0	-0.0001920
NICKEL	231.60	0.0	0.0	-0.0000380	0.0	0.0	0.0	0.0001750	0.0	0.0	0.0019630	0.0	0.0	0.0
POTASSIUM	766.49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	196.09	0.0000220	0.0	0.0000110	0.0	-0.0000500	0.0	0.0001640	0.0	0.0003770	0.0	0.0	0.0	-0.0000070
SILICON	251.61	0.0	0.0	-0.0004840	0.0	0.0	0.0	0.0	0.0	0.0	0.0107740	0.0	0.0069100	0.0
SILVER	328.07	0.0	0.0	-0.0003310	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0001370	0.0
SODIUM	589.59	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	421.55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	190.86	0.0000040	0.0	-0.0000090	0.0	0.0	0.0	0.0021060	0.0000120	-0.0015310	-0.0000380	0.0	-0.0007180	-0.0083600
TIN	189.99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	334.90	0.0	0.0	0.0	0.0	0.0	0.0001290	0.0	0.0	0.0	0.0019400	0.0	0.0	0.0
VANADIUM	292.40	0.0	0.0	0.0000050	0.0	0.0	-0.0028120	0.0	0.0	-0.0002370	-0.0039090	0.0	0.0006460	0.0
ZINC	206.20	0.0	0.0	0.0	0.0	0.0	0.0000010	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FORM XI - IN

ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services **Instrument Code:** I

Instrument Name: THERMO ICAP 6500 **Date:** 7/11/2018

Concentration Units: ug/L

Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	5.00	500000	P
ARSENIC	45.00	20000	P
BARIUM	5.00	20000	P
CADMIUM	45.00	20000	P
CALCIUM	5.00	500000	P
CHROMIUM	10.00	20000	P
IRON	5.00	250000	P
LEAD	45.00	20000	P
MAGNESIUM	45.00	200000	P
SELENIUM	45.00	20000	P
SILVER	10.00	2000	P

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LJ16ICW1

Matrix: WATER **SDG Name:** TL0045

Method: P **Prep Date:** 10/16/2018

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWLJ16ICW1	LCSWLJ16ICW1	0.05	0.05	
PBWLJ16ICW1	PBWLJ16ICW1	0.05	0.05	
83DM-SP-3-101218	TL0045-003	0.05	0.05	D
86EM-SP-6-101218	TL0045-004	0.05	0.05	D
94EM-MW-20-101118	TL0045-013	0.05	0.05	D
94EM-MW-21-101218	TL0045-014	0.05	0.05	D
94EM-MW-19-101118	TL0045-015	0.05	0.05	D

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** LJ17HGW2

Matrix: WATER **SDG Name:** TL0045

Method: CV **Prep Date:** 10/17/2018

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWLJ17HGW2	LCSWLJ17HGW2	0.025	0.025	
PBWLJ17HGW2	PBWLJ17HGW2	0.025	0.025	
83DM-SP-3-101218	TL0045-003	0.025	0.025	D
86EM-SP-6-101218	TL0045-004	0.025	0.025	D
94EM-MW-20-101118	TL0045-013	0.025	0.025	D
94EM-MW-21-101218	TL0045-014	0.025	0.025	D
94EM-MW-19-101118	TL0045-015	0.025	0.025	D

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Instrument ID: CETAC M6100 **File Name:** HLJ17A

Date: 10/17/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	10:22	Hg
Standard #1 (0.2 ppb		1	10:24	Hg
Standard #2 (0.5 ppb		1	10:26	Hg
Standard #3 (1.0 ppb		1	10:28	Hg
Standard #4 (5.0 ppb		1	10:31	Hg
Standard #5 (10.0 pp		1	10:33	Hg
ICV		1	10:35	HG
ICB		1	10:37	HG
PQL		1	10:39	HG
CCV		1	10:41	HG
CCB		1	10:43	HG
ZZZZZZ		1	10:45	
ZZZZZZ		1	10:48	
ZZZZZZ		1	10:50	
ZZZZZZ		5	10:52	
ZZZZZZ		1	10:54	
ZZZZZZ		1	10:56	
ZZZZZZ		1	10:58	
ZZZZZZ		1	11:00	
ZZZZZZ		1	11:03	
CCV		1	11:05	HG
CCB		1	11:07	HG
ZZZZZZ		1	11:09	
ZZZZZZ		1	11:11	
PBWLJ17HGW2		1	11:13	HG
LCSWLJ17HGW2		1	11:15	HG
ZZZZZZ		1	11:17	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Instrument ID: CETAC M6100 **File Name:** HLJ17A

Date: 10/17/2018 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		1	11:20	
TL0045-003	83DM-SP-3-101218	1	11:22	HG
TL0045-004	86EM-SP-6-101218	1	11:24	HG
TL0045-013	94EM-MW-20-101118	1	11:26	HG
TL0045-014	94EM-MW-21-101218	1	11:28	HG
CCV		1	11:30	HG
CCB		1	11:32	HG
TL0045-015	94EM-MW-19-101118	1	11:35	HG
CCV		1	11:37	HG
CCB		1	11:39	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Instrument ID: THERMO ICAP 6500 **File Name:** ILJ16A

Date: 10/16/2018 **Method:** P

Lab Sample ID	Client ID	D.F.	Time	Elements									
Blank		1	14:06	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
Std 1		1	14:10	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
ICV		1	14:14	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
ICB		1	14:18	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
PQL		1	14:23	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
ICSA		1	14:27	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
ICSAB		1	14:32	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
CCV		1	14:38	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
CCB		1	14:42	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
ZZZZZZ		1	14:46											
ZZZZZZ		1	14:52											
CCV		1	14:58	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
CCB		1	15:02	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
ZZZZZZ		1	15:07											
ZZZZZZ		1	15:11											
ZZZZZZ		1	15:15											
ZZZZZZ		2	15:19											
ZZZZZZ		10	15:24											
ZZZZZZ		10	15:28											
ZZZZZZ		1	15:33											
ZZZZZZ		1	15:37											
ZZZZZZ		5	15:41											
ZZZZZZ		10	15:46											
CCV		1	15:50	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
CCB		1	15:54	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG
ZZZZZZ		10	15:59											
ZZZZZZ		1	16:03											

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Instrument ID: THERMO ICAP 6500 **File Name:** ILJ16A

Date: 10/16/2018 **Method:** P

Lab Sample ID	Client ID	D.F.	Time	Elements												
ZZZZZZ		1	16:08													
ZZZZZZ		1	16:12													
ZZZZZZ		1	16:17													
ZZZZZZ		5	16:22													
ZZZZZZ		1	16:26													
ZZZZZZ		1	16:31													
ZZZZZZ		1	16:35													
ZZZZZZ		1	16:40													
CCV		1	16:44	AL	AS	BA		CD	CA	CR		FE	PB	MG	SE	AG
CCB		1	16:48	AL	AS	BA		CD	CA	CR		FE	PB	MG	SE	AG
ZZZZZZ		2	16:52													
ZZZZZZ		2	16:57													
ZZZZZZ		2	17:01													
ZZZZZZ		2	17:05													
ZZZZZZ		2	17:10													
ZZZZZZ		2	17:14													
ZZZZZZ		5	17:18													
ZZZZZZ		2	17:23													
ZZZZZZ		5	17:27													
ZZZZZZ		10	17:31													
CCV		1	17:35	AL	AS	BA		CD	CA	CR		FE	PB	MG	SE	AG
CCB		1	17:40	AL	AS	BA		CD	CA	CR		FE	PB	MG	SE	AG
PBWLJ16ICW1		1	17:44		AS	BA		CD		CR			PB		SE	AG
LCSWLJ16ICW1		1	17:48		AS	BA		CD		CR			PB		SE	AG
ZZZZZZ		1	17:53													
ZZZZZZ		5	17:57													
ZZZZZZ		1	18:01													

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Instrument ID: THERMO ICAP 6500 **File Name:** ILJ16A

Date: 10/16/2018 **Method:** P

Lab Sample ID	Client ID	D.F.	Time	Elements												
ZZZZZZ		1	18:06													
ZZZZZZ		1	18:10													
ZZZZZZ		1	18:14													
ZZZZZZ		1	18:19													
ZZZZZZ		1	18:23													
CCV		1	18:28	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
CCB		1	18:32	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
ZZZZZZ		1	18:37													
ZZZZZZ		1	18:41													
ZZZZZZ		1	18:45													
ZZZZZZ		1	18:50													
ZZZZZZ		1	18:54													
ZZZZZZ		1	18:58													
ZZZZZZ		1	19:03													
TL0045-003	83DM-SP-3-101218	1	19:07		AS	BA		CD		CR			PB			SE	AG
TL0045-004	86EM-SP-6-101218	1	19:13		AS	BA		CD		CR			PB			SE	AG
TL0045-013	94EM-MW-20-101118	1	19:17		AS	BA		CD		CR			PB			SE	AG
CCV		1	19:21	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
CCB		1	19:26	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
TL0045-014	94EM-MW-21-101218	1	19:30		AS	BA		CD		CR			PB			SE	AG
TL0045-015	94EM-MW-19-101118	1	19:35		AS	BA		CD		CR			PB			SE	AG
CCV		1	19:40	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
CCB		1	19:44	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
PQL		1	19:49	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
ICSA		1	19:53	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
ICSAB		1	19:58	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG
CCV		1	20:04	AL	AS	BA		CD	CA	CR		FE	PB	MG		SE	AG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TL0045

Instrument ID: THERMO ICAP 6500 **File Name:** ILJ16A

Date: 10/16/2018 **Method:** P

Lab Sample ID	Client ID	D.F.	Time	Elements											
CCB		1	20:08	AL	AS	BA	CD	CA	CR	FE	PB	MG	SE	AG	

Raw Data Section

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: Cetac M6100 (H) **ANALYST**: JS **ANALYSIS DATE**: 10/17/2018

FILE NAME: HLJ17A **METHOD**: CVAA

☑ 245.1
☑ 7470
☐ 7471
☑ DoD
☐ _____

REVIEWED
MD 10/17/18
KATAHDIN ANALYTICAL
METALS SECTION

Analyte : Mercury

$SnCl_2$ Lot : MR2145

STANDARDS USED:

Standard Name	Prep. Date	Expiration Date	Standard Conc.
Cal. Blank / ICB / CCB	10/17/2018	11/03/2018	0.00 ug/L
Standard #1 / PQL	10/17/2018	11/03/2018	0.20 ug/L
Standard #2	10/17/2018	11/03/2018	0.50 ug/L
Standard #3	10/17/2018	11/03/2018	1.00 ug/L
Standard #4 / CCV	10/17/2018	11/03/2018	5.00 ug/L
Standard #5	10/17/2018	11/03/2018	10.00 ug/L
ICV	10/17/2018	11/03/2018	6.00 ug/L

Additional Comments and Notes:

MD 10/17/18

Post Spike (245.1/7470): 0.005 mL MW18091 (pipet M17) into 8.0mL (pipet M13) of sample

Post Spike (7471): 0.008 mL MW18091 (pipet M17) into 8.0mL (pipet M13) of sample

5x Diln.: 6.4mL (pipet M13) of Cal. Blank + 1.6mL (pipet M13) of sample

O flag: Sample concentration over calibration, re-analyzed at dilution

Q flag: Analytical run QC outside laboratory limits

INSTRUMENT RUNLOG

Instrument: CETAC M6100

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Calibration Blank	1.0000	HLJ17A	10/17/2018	10:22	JS
Standard #1 (0.2 ppb)	1.0000	HLJ17A	10/17/2018	10:24	JS
Standard #2 (0.5 ppb)	1.0000	HLJ17A	10/17/2018	10:26	JS
Standard #3 (1.0 ppb)	1.0000	HLJ17A	10/17/2018	10:28	JS
Standard #4 (5.0 ppb)	1.0000	HLJ17A	10/17/2018	10:31	JS
Standard #5 (10.0 ppb)	1.0000	HLJ17A	10/17/2018	10:33	JS
ICV	1.0000	HLJ17A	10/17/2018	10:35	JS
ICB	1.0000	HLJ17A	10/17/2018	10:37	JS
PQL	1.0000	HLJ17A	10/17/2018	10:39	JS
CCV	1.0000	HLJ17A	10/17/2018	10:41	JS
CCB	1.0000	HLJ17A	10/17/2018	10:43	JS
PBWLJ17HGW1	1.0000	HLJ17A	10/17/2018	10:45	JS
LCSWLJ17HGW1	1.0000	HLJ17A	10/17/2018	10:48	JS
SL9943-001	1.0000	HLJ17A	10/17/2018	10:50	JS
SL9943-001L	5.0000	HLJ17A	10/17/2018	10:52	JS
SL9943-001S	1.0000	HLJ17A	10/17/2018	10:54	JS
SL9943-001P	1.0000	HLJ17A	10/17/2018	10:56	JS
TL0085-001	1.0000	HLJ17A	10/17/2018	10:58	JS
TL0085-002	1.0000	HLJ17A	10/17/2018	11:00	JS
TL0085-003	1.0000	HLJ17A	10/17/2018	11:03	JS
CCV	1.0000	HLJ17A	10/17/2018	11:05	JS
CCB	1.0000	HLJ17A	10/17/2018	11:07	JS
TL0085-004	1.0000	HLJ17A	10/17/2018	11:09	JS
TL0085-005	1.0000	HLJ17A	10/17/2018	11:11	JS
PBWLJ17HGW2	1.0000	HLJ17A	10/17/2018	11:13	JS
LCSWLJ17HGW2	1.0000	HLJ17A	10/17/2018	11:15	JS
SL9853-001	1.0000	HLJ17A	10/17/2018	11:17	JS
SL9976-001	1.0000	HLJ17A	10/17/2018	11:20	JS
TL0045-003	1.0000	HLJ17A	10/17/2018	11:22	JS
TL0045-004	1.0000	HLJ17A	10/17/2018	11:24	JS
TL0045-013	1.0000	HLJ17A	10/17/2018	11:26	JS
TL0045-014	1.0000	HLJ17A	10/17/2018	11:28	JS
CCV	1.0000	HLJ17A	10/17/2018	11:30	JS
CCB	1.0000	HLJ17A	10/17/2018	11:32	JS
TL0045-015	1.0000	HLJ17A	10/17/2018	11:35	JS
CCV	1.0000	HLJ17A	10/17/2018	11:37	JS
CCB	1.0000	HLJ17A	10/17/2018	11:39	JS

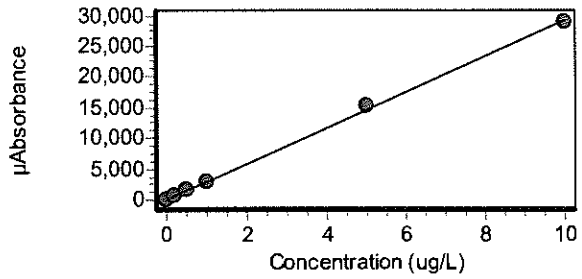
Report Generated By CETAC QuickTrace
Analyst: kasgc
Worksheet file: C:\Program Files\QuickTrace\Worksheets\HLJ17A.wsz
Date Started: 10/17/2018 8:27:32 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Calibration Blank					STD	10/17/18 10:22:34 am	0.000	-26	17.82		1.00
Replicates	-19.6	-27.7	-27.8	-30.5							
Standard #1 (0.2 ppb)					STD	10/17/18 10:24:40 am	0.200	614	2.35		1.00
Replicates	622.3	612.6	625.9	593.8							
Standard #2 (0.5 ppb)					STD	10/17/18 10:26:48 am	0.500	1509	0.80		1.00
Replicates	1514.4	1512.3	1516.8	1490.6							
Standard #3 (1.0 ppb)					STD	10/17/18 10:28:55 am	1.000	2778	1.72		1.00
Replicates	2845.0	2772.6	2733.3	2760.3							
Standard #4 (5.0 ppb)					STD	10/17/18 10:31:03 am	5.000	15394	0.25		1.00
Replicates	15393.8	15419.6	15339.6	15421.1							
Standard #5 (10.0 ppb)					STD	10/17/18 10:33:12 am	10.000	28845	0.15		1.00
Replicates	28893.0	28870.6	28806.0	28810.0							

Calibration

Equation: A = 81.146 + 2911.679C
R2: 0.99889
SEE: 434.2281
Flags:



ICV					ICV	10/17/18 10:35:21 am	5.812	17003	0.27		1.00
Replicates	17006.3	16957.5	16983.3	17065.8							
% Recovery	96.86										
ICB					ICB	10/17/18 10:37:28 am	-0.041	-39	82.36		1.00
Replicates	-49.1	-24.2	-3.8	-77.5							

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
PQL					CRDL	10/17/18 10:39:34 am	0.178	600	2.98		1.00
	Replicates	620.2	607.0	577.8	597.0						
	% Recovery	89.18									
CCV					CCV	10/17/18 10:41:43 am	5.120	14988	4.56		1.00
	Replicates	14006.9	15085.0	15572.7	15288.7						
	% Recovery	102.40									
CCB					CCB	10/17/18 10:43:49 am	-0.041	-37	24.84		1.00
	Replicates	-30.5	-28.0	-42.1	-47.1						
PBWLJ17HGW1					PBK	10/17/18 10:45:56 am	-0.026	4	906.17		1.00
	Replicates	-5.8	14.6	-40.1	47.4						
LCSWLJ17HGW1					LCS	10/17/18 10:48:04 am	5.296	15500	0.05		1.00
	Replicates	15512.6	15496.3	15493.8	15499.2						
	% Recovery	105.91									
SL9943-001					UNK	10/17/18 10:50:12 am	-0.020	24	97.99		1.00
	Replicates	30.0	53.0	-3.9	17.8						
SL9943-001L					UNK	10/17/18 10:52:20 am	-0.150	-6	361.28		5.00
	Replicates	-4.8	-30.0	-12.4	22.8						
SL9943-001S					UNK	10/17/18 10:54:28 am	1.061	3171	0.34		1.00
	Replicates	3176.2	3155.2	3177.5	3176.4						
SL9943-001P					UNK	10/17/18 10:56:36 am	0.959	2873	1.53		1.00
	Replicates	2884.9	2860.1	2821.4	2925.9						
TL0085-001					UNK	10/17/18 10:58:44 am	-0.013	43	15.69		1.00
	Replicates	38.9	36.1	50.4	47.2						
TL0085-002					UNK	10/17/18 11:00:52 am	-0.006	63	11.64		1.00
	Replicates	57.8	64.2	56.2	72.2						
TL0085-003					UNK	10/17/18 11:03:01 am	-0.022	16	175.61		1.00
	Replicates	-20.1	22.0	14.0	47.9						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV					CCV	10/17/18 11:05:09 am	5.136	15037	0.40		1.00
	Replicates	15085.1	14950.5	15040.0	15071.5						
	% Recovery	102.73									
CCB					CCB	10/17/18 11:07:16 am	-0.020	22	69.58		1.00
	Replicates	33.9	34.9	5.2	12.5						
TL0085-004					UNK	10/17/18 11:09:25 am	-0.011	50	31.47		1.00
	Replicates	69.8	48.3	51.4	31.3						
TL0085-005					UNK	10/17/18 11:11:33 am	-0.029	-4	015.48		1.00
	Replicates	-3.8	41.0	-50.9	-1.0						
PBWLJ17HGW2					PBK	10/17/18 11:13:41 am	-0.017	33	36.30		1.00
	Replicates	27.0	33.7	48.7	21.2						
LCSWLJ17HGW2					LCS	10/17/18 11:15:49 am	5.389	15773	0.24		1.00
	Replicates	15737.7	15742.5	15802.0	15809.8						
	% Recovery	107.79									
SL9853-001					UNK	10/17/18 11:17:58 am	-0.026	5	893.56		1.00
	Replicates	48.6	-54.9	15.6	10.0						
SL9976-001					UNK	10/17/18 11:20:08 am	-0.002	75	32.05		1.00
	Replicates	80.5	98.6	41.5	79.3						
TL0045-003					UNK	10/17/18 11:22:16 am	0.002	88	24.62		1.00
	Replicates	91.8	73.5	116.3	68.8						
TL0045-004					UNK	10/17/18 11:24:24 am	0.008	103	61.50		1.00
	Replicates	29.6	178.7	80.4	123.9						
TL0045-013					UNK	10/17/18 11:26:33 am	0.038	192	13.22		1.00
	Replicates	175.9	170.3	226.4	197.1						
TL0045-014					UNK	10/17/18 11:28:43 am	-0.021	19	202.97		1.00
	Replicates	0.5	-22.6	67.9	31.6						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV					CCV	10/17/18 11:30:51 am	5.145	15063	0.23		1.00
	Replicates	15100.0	15083.5	15034.6	15032.3						
	% Recovery	102.91									
CCB					CCB	10/17/18 11:32:57 am	-0.060	-95	37.40		1.00
	Replicates	-102.0	-50.7	-136.9	-90.4						
TL0045-015					UNK	10/17/18 11:35:07 am	-0.015	39	88.23		1.00
	Replicates	27.8	65.8	-4.9	65.6						
CCV					CCV	10/17/18 11:37:15 am	5.107	14952	0.15		1.00
	Replicates	14974.5	14922.1	14961.8	14948.0						
	% Recovery	102.14									
CCB					CCB	10/17/18 11:39:22 am	-0.046	-52	51.39		1.00
	Replicates	-40.0	-36.3	-92.5	-40.3						

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: I (Thermo iCAP 6500) **ANALYST**: JS **ANALYSIS DATE**: 10/16/2018

FILE NAME: ILJ16A **METHOD**: ICP

- ☐ 200.7
- ☑ 6010
- ☑ DOD
- ☐ _____

REVIEWED
MO 10/17/18
KATAHDIN ANALYTICAL
METALS SECTION

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by _____ (initals) on _____ (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Blk/ICB/CCB	MW18057	09/17/2018	09/17/2019	0 ug/L
Standard 1	MW18108	10/10/2018	11/25/2018	Varies by Element
ICV	MW18095	10/05/2018	01/05/2019	Varies by Element
PQL	MW18111	11/11/2018	11/19/2018	Varies by Element
LRS1	MW18098	10/08/2018	01/08/2019	Varies by Element
LRS2	MW18112	10/11/2018	11/25/2018	Varies by Element
ICSA	MW18056	09/17/2018	12/17/2018	Varies by Element
ICSAB	MW19088	10/02/2018	01/02/2019	Varies by Element
CCV	MW18116	10/15/2018	11/25/2018	Varies by Element
Internal Standard	MW18106	10/11/2018	01/11/2019	5.0 mg/L Yttrium

Additional Comments and Notes:

MO 10/17/18

Dilutions: Some samples were diluted based on history or due to interfering element concentrations.

Dilution preparations are as follows:

10x diln.: 1.0mL of sample (pipet M19) + 9.0mL of MW18057 (pipet M18)

5x diln.: 1.6mL of sample (pipet M18) + 6.4mL of MW18057 (pipet M18)

2x diln.: 4.0mL of sample (pipet M18) + 4.0mL of MW18057 (pipet M18)

Post Spike: 0.03mL of MS2125, MS2089 (pipet M16), 0.06mL of MS2111 (pipet M16), 0.003mL of MS2109(pipet M17) to 6.0mL of sample (pipet M18) (Unless otherwise specified)

INSTRUMENT RUNLOG

Instrument: ICAP 6500

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Blank	1.000	ILJ16A	10/16/2018	14:06	JS
Std 1	1.000	ILJ16A	10/16/2018	14:10	JS
ICV	1.000	ILJ16A	10/16/2018	14:14	JS
ICB	1.000	ILJ16A	10/16/2018	14:18	JS
PQL	1.000	ILJ16A	10/16/2018	14:23	JS
ICSA	1.000	ILJ16A	10/16/2018	14:27	JS
ICSAB	1.000	ILJ16A	10/16/2018	14:32	JS
CCV	1.000	ILJ16A	10/16/2018	14:38	JS
CCB	1.000	ILJ16A	10/16/2018	14:42	JS
LRS1	1.000	ILJ16A	10/16/2018	14:46	JS
LRS2	1.000	ILJ16A	10/16/2018	14:52	JS
CCV	1.000	ILJ16A	10/16/2018	14:58	JS
CCB	1.000	ILJ16A	10/16/2018	15:02	JS
PBWLJ10ICW2	1.000	ILJ16A	10/16/2018	15:07	JS
LCSWLJ10ICW2	1.000	ILJ16A	10/16/2018	15:11	JS
SL9588-002S	1.000	ILJ16A	10/16/2018	15:15	JS
SL9698-003P	2.000	ILJ16A	10/16/2018	15:19	JS
SL9848-005	10.00	ILJ16A	10/16/2018	15:24	JS
SL9848-006	10.00	ILJ16A	10/16/2018	15:28	JS
RINSE	1.000	ILJ16A	10/16/2018	15:33	JS
RINSE	1.000	ILJ16A	10/16/2018	15:37	JS
SL9826-011	5.000	ILJ16A	10/16/2018	15:41	JS
SL9828-001	10.00	ILJ16A	10/16/2018	15:46	JS
CCV	1.000	ILJ16A	10/16/2018	15:50	JS
CCB	1.000	ILJ16A	10/16/2018	15:54	JS
SL9828-002	10.00	ILJ16A	10/16/2018	15:59	JS
PBSLJ15ICS1	1.000	ILJ16A	10/16/2018	16:03	JS
LCSOLJ15ICS1	1.000	ILJ16A	10/16/2018	16:08	JS
SL9846-004	1.000	ILJ16A	10/16/2018	16:12	JS
SL9846-005	1.000	ILJ16A	10/16/2018	16:17	JS
SL9846-005L	5.000	ILJ16A	10/16/2018	16:22	JS
SL9846-005A	1.000	ILJ16A	10/16/2018	16:26	JS
SL9846-005D	1.000	ILJ16A	10/16/2018	16:31	JS
SL9846-005S	1.000	ILJ16A	10/16/2018	16:35	JS
SL9846-011	1.000	ILJ16A	10/16/2018	16:40	JS
CCV	1.000	ILJ16A	10/16/2018	16:44	JS
CCB	1.000	ILJ16A	10/16/2018	16:48	JS
SL9886-001	2.000	ILJ16A	10/16/2018	16:52	JS
SL9978-001	2.000	ILJ16A	10/16/2018	16:57	JS
SL9978-002	2.000	ILJ16A	10/16/2018	17:01	JS
SL9978-003	2.000	ILJ16A	10/16/2018	17:05	JS
SL9978-004	2.000	ILJ16A	10/16/2018	17:10	JS
SL9978-005	2.000	ILJ16A	10/16/2018	17:14	JS
SL9978-008	5.000	ILJ16A	10/16/2018	17:18	JS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SL9978-009	2.000	ILJ16A	10/16/2018	17:23	JS
SL9978-010	5.000	ILJ16A	10/16/2018	17:27	JS
SL9978-010	10.00	ILJ16A	10/16/2018	17:31	JS
CCV	1.000	ILJ16A	10/16/2018	17:35	JS
CCB	1.000	ILJ16A	10/16/2018	17:40	JS
PBWLJ16ICW1	1.000	ILJ16A	10/16/2018	17:44	JS
LCSWLJ16ICW1	1.000	ILJ16A	10/16/2018	17:48	JS
SL9849-003R	1.000	ILJ16A	10/16/2018	17:53	JS
SL9849-003RL	5.000	ILJ16A	10/16/2018	17:57	JS
SL9849-003RA	1.000	ILJ16A	10/16/2018	18:01	JS
SL9849-003RS	1.000	ILJ16A	10/16/2018	18:06	JS
SL9849-003RP	1.000	ILJ16A	10/16/2018	18:10	JS
SL9976-001	1.000	ILJ16A	10/16/2018	18:14	JS
SL9994-001	1.000	ILJ16A	10/16/2018	18:19	JS
SL9994-002	1.000	ILJ16A	10/16/2018	18:23	JS
CCV	1.000	ILJ16A	10/16/2018	18:28	JS
CCB	1.000	ILJ16A	10/16/2018	18:32	JS
SL9994-003	1.000	ILJ16A	10/16/2018	18:37	JS
TL0026-001	1.000	ILJ16A	10/16/2018	18:41	JS
TL0026-002	1.000	ILJ16A	10/16/2018	18:45	JS
TL0033-001	1.000	ILJ16A	10/16/2018	18:50	JS
TL0033-002	1.000	ILJ16A	10/16/2018	18:54	JS
TL0033-003	1.000	ILJ16A	10/16/2018	18:58	JS
TL0033-004	1.000	ILJ16A	10/16/2018	19:03	JS
TL0045-003	1.000	ILJ16A	10/16/2018	19:07	JS
TL0045-004	1.000	ILJ16A	10/16/2018	19:13	JS
TL0045-013	1.000	ILJ16A	10/16/2018	19:17	JS
CCV	1.000	ILJ16A	10/16/2018	19:21	JS
CCB	1.000	ILJ16A	10/16/2018	19:26	JS
TL0045-014	1.000	ILJ16A	10/16/2018	19:30	JS
TL0045-015	1.000	ILJ16A	10/16/2018	19:35	JS
CCV	1.000	ILJ16A	10/16/2018	19:40	JS
CCB	1.000	ILJ16A	10/16/2018	19:44	JS
PQL	1.000	ILJ16A	10/16/2018	19:49	JS
ICSA	1.000	ILJ16A	10/16/2018	19:53	JS
ICSAB	1.000	ILJ16A	10/16/2018	19:58	JS
CCV	1.000	ILJ16A	10/16/2018	20:04	JS
CCB	1.000	ILJ16A	10/16/2018	20:08	JS

Intensity Report

Author:

Published: 10/17/2018 7:42:03AM

Notes:

Blank

Method Name: FAST-2016_NO_AU Method Revision: 671

Analyst Name: JS

Acquire Date: 10/16/2018 2:06:03PM Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.00003800	Cts/S	0.00005300	137.8	-5.876
Al3961_R		-0.0003940	Cts/S	0.0001630	41.34	-5.209
As1891_A		-0.0004370	Cts/S	0.000008000	1.726	-3.026
B_2089_A		0.001091	Cts/S	0.00005400	4.976	7.553
Ba4554_R		0.003349	Cts/S	0.0001670	4.982	44.30
Be3130_R		-0.0004780	Cts/S	0.00005400	11.27	-6.329
Ca3158_R		-0.003025	Cts/S	0.0002180	7.207	-40.01
Cd2265_A		-0.0004890	Cts/S	0.00001300	2.724	-3.386
Co2286_A		0.0003890	Cts/S	0.00001200	2.972	2.691
Cr2677_A		0.00002300	Cts/S	0.000004000	19.75	3.443
Cu3273_A		0.0001250	Cts/S	0.00002100	17.15	19.04
Fe2599_R		0.0001730	Cts/S	0.0001480	85.68	2.296
K_7664_R		-0.003582	Cts/S	0.0008720	24.36	-47.43
Li6707_R		-0.0001480	Cts/S	0.0002900	195.3	-1.977
Mg2025_A		-0.0005020	Cts/S	0.00009400	18.61	-3.480
Mn2576_R		0.0002310	Cts/S	0.0001380	59.96	3.059
Mo2020_A		0.00008100	Cts/S	0.000004000	4.508	0.5609
Na5895_R		0.004178	Cts/S	0.0005290	12.66	55.25
Ni2316_A		-0.0001320	Cts/S	0.00004100	31.22	-0.9155
Pb2203_A		-0.0002800	Cts/S	0.0001290	45.90	-1.941
Sb2068_A		0.00005000	Cts/S	0.00001700	34.00	0.3435
Se1960_A		0.0002360	Cts/S	0.00004300	18.16	1.634
Si2516_R		0.002287	Cts/S	0.00001500	0.6413	30.25
Sn1899_A		0.0001250	Cts/S	0.00001400	11.10	0.8622
Sr4215_R		-0.002009	Cts/S	0.000003000	0.1528	-26.57
Ti3349_A		-0.0001890	Cts/S	0.00002900	15.54	-28.89
Tl1908_A		-0.0004150	Cts/S	0.000006000	1.514	-2.874
V_2924_A		0.000006000	Cts/S	0.000002000	34.00	0.8619
Zn2062_A		0.00005100	Cts/S	0.000006000	11.98	0.3562
Y_3600_R		13,229	Cts/S	97.136	0.73424	13,229
Y_2243_A		6,922.4	Cts/S	29.241	0.42241	6,922.4
Y_3600_A		152,830	Cts/S	157.13	0.10281	152,830

Std 1

Method Name: FAST-2016_NO_AU Method Revision: 671

Analyst Name: JS

Acquire Date: 10/16/2018 2:10:26PM Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1066	Cts/S	0.0001240	0.1167	15,820
Al3961_R		1.336	Cts/S	0.001586	0.1187	17,270
As1891_A		0.04932	Cts/S	0.00001900	0.03937	333.6
B_2089_A		0.2026	Cts/S	0.0003530	0.1740	1,370
Ba4554_R		3.407	Cts/S	0.01543	0.4530	44,040
Be3130_R		5.469	Cts/S	0.004502	0.08231	70,700
Ca3158_R		1.359	Cts/S	0.006286	0.4624	17,570
Cd2265_A		1.822	Cts/S	0.002311	0.1268	12,330
Co2286_A		0.4881	Cts/S	0.0001990	0.04074	3,301
Cr2677_A		0.07207	Cts/S	0.0001180	0.1633	10,690
Cu3273_A		0.09051	Cts/S	0.00007400	0.08171	13,430
Fe2599_R		2.380	Cts/S	0.005906	0.2482	30,770
K_7664_R		0.9770	Cts/S	0.002406	0.2463	12,630
Li6707_R		0.9091	Cts/S	0.001742	0.1916	11,750

Std 1

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:10:26PM
Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Mg2025_A		1.196	Cts/S	0.002559	0.2139	8,091
Mn2576_R		0.5339	Cts/S	0.0005750	0.1076	6,901
Mo2020_A		0.4072	Cts/S	0.0006720	0.1650	2,754
Na5895_R		3.442	Cts/S	0.007730	0.2246	44,490
Ni2316_A		0.2389	Cts/S	0.0006440	0.2695	1,616
Pb2203_A		0.1316	Cts/S	0.00005300	0.04021	890.0
Sb2068_A		0.07763	Cts/S	0.0001450	0.1864	525.1
Se1960_A		0.03639	Cts/S	0.0001820	0.5015	246.1
Si2516_R		0.7298	Cts/S	0.003535	0.4844	9,434
Sn1899_A		0.07465	Cts/S	0.0001470	0.1972	504.9
Sr4215_R		4.575	Cts/S	0.009774	0.2136	59,140
Ti3349_A		0.1574	Cts/S	0.00003500	0.02237	23,360
Tl1908_A		0.07918	Cts/S	0.0001500	0.1890	535.6
V_2924_A		0.08621	Cts/S	0.00008900	0.1029	12,790
Zn2062_A		0.3986	Cts/S	0.0001520	0.03804	2,696
Y_3600_R		12,926	Cts/S	8.9333	0.069110	12,926
Y_2243_A		6,764.0	Cts/S	10.162	0.15024	6,764.0
Y_3600_A		148,390	Cts/S	496.54	0.33461	148,390

ICV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:14:33PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		400.2	ug/L	0.6083	0.1520	6,392
Al3961_R		10,040	ug/L	33.06	0.3293	7,024
As1891_A		398.2	ug/L	0.9200	0.2310	130.9
B_2089_A		403.8	ug/L	1.351	0.3346	557.3
Ba4554_R		398.4	ug/L	1.598	0.4012	17,800
Be3130_R		402.1	ug/L	0.1803	0.04485	28,790
Ca3158_R		10,100	ug/L	28.81	0.2852	7,170
Cd2265_A		406.3	ug/L	1.316	0.3239	5,001
Co2286_A		410.3	ug/L	1.342	0.3271	1,355
Cr2677_A		401.9	ug/L	2.337	0.5814	4,345
Cu3273_A		399.1	ug/L	0.6243	0.1564	5,427
Fe2599_R		10,140	ug/L	13.71	0.1353	12,640
K_7664_R		13,380	ug/L	67.87	0.5071	6,828
Li6707_R		399.5	ug/L	1.443	0.3612	4,755
Mg2025_A		9,874	ug/L	39.40	0.3990	3,190
Mn2576_R		402.7	ug/L	0.9976	0.2478	2,817
Mo2020_A		408.9	ug/L	2.683	0.6561	1,125
Na5895_R		9,951	ug/L	4.369	0.04391	17,980
Ni2316_A		407.9	ug/L	1.215	0.2978	657.9
Pb2203_A		405.4	ug/L	0.3793	0.09357	359.3
Sb2068_A		403.4	ug/L	1.755	0.4350	211.8
Se1960_A		398.6	ug/L	4.644	1.165	98.97
Si2516_R		9,805	ug/L	5.134	0.05236	3,767
Sn1899_A		410.0	ug/L	1.843	0.4494	207.3
Sr4215_R		405.0	ug/L	1.505	0.3715	24,250
Ti3349_A		403.0	ug/L	0.3669	0.09103	9,493
Tl1908_A		398.8	ug/L	2.606	0.6536	211.7
V_2924_A		400.1	ug/L	0.9509	0.2376	5,172
Zn2062_A		407.2	ug/L	1.142	0.2804	1,097
Y_3600_R		13,096	Cts/S	4.1309	0.031544	13,096
Y_2243_A		6,757.0	Cts/S	21.291	0.31509	6,757.0
Y_3600_A		149,940	Cts/S	160.71	0.10718	149,940

ICB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:18:44PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1391	ug/L	0.2247	161.5	-3.570
Al3961_R		3.642	ug/L	5.828	160.0	-2.417
As1891_A		-0.08312	ug/L	1.393	1,676	-3.011
B_2089_A		1.939	ug/L	0.6112	31.53	10.05
Ba4554_R		-0.1184	ug/L	0.006187	5.224	37.01
Be3130_R		0.01126	ug/L	0.03289	292.0	-5.279
Ca3158_R		1.908	ug/L	0.9118	47.78	-36.68
Cd2265_A		0.02464	ug/L	0.004675	18.98	-3.030
Co2286_A		-0.08136	ug/L	0.01353	16.64	2.382
Cr2677_A		0.1359	ug/L	0.1332	97.98	4.912
Cu3273_A		0.01177	ug/L	0.1609	1,366	19.09
Fe2599_R		0.9538	ug/L	0.9097	95.38	3.290
K_7664_R		32.00	ug/L	35.63	111.4	-28.85
Li6707_R		0.2802	ug/L	1.031	368.1	1.078
Mg2025_A		0.6935	ug/L	0.3078	44.38	-3.201
Mn2576_R		-0.1737	ug/L	0.09451	54.41	1.747
Mo2020_A		0.4252	ug/L	0.08708	20.48	1.734
Na5895_R		-4.666	ug/L	4.902	105.0	44.62
Ni2316_A		0.1758	ug/L	0.06147	34.96	-0.6142
Pb2203_A		0.1015	ug/L	0.1928	190.0	-1.820
Sb2068_A		0.2881	ug/L	0.9391	325.9	0.4921
Se1960_A		-0.1001	ug/L	0.7457	745.3	1.586
Si2516_R		-0.7160	ug/L	16.15	2,256	28.34
Sn1899_A		-0.2163	ug/L	0.9260	428.1	0.7398
Sr4215_R		0.001969	ug/L	0.06732	3,419	-25.04
Ti3349_A		-0.1185	ug/L	0.1970	166.3	-31.56
Tl1908_A		0.6645	ug/L	0.1718	25.86	-2.470
V_2924_A		-0.1240	ug/L	0.1790	144.3	-0.8209
Zn2062_A		0.2383	ug/L	0.1789	75.04	0.9993
Y_3600_R		12,563	Cts/S	551.32	4.3883	12,563
Y_2243_A		6,822.8	Cts/S	6.3698	0.093361	6,822.8
Y_3600_A		151,970	Cts/S	110.47	0.072693	151,970

PQL

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:23:09PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		10.48	ug/L	0.2087	1.992	165.6
Al3961_R		305.5	ug/L	7.044	2.306	208.8
As1891_A		8.582	ug/L	0.2220	2.587	-0.06622
B_2089_A		50.05	ug/L	0.3716	0.7425	75.18
Ba4554_R		4.941	ug/L	0.09446	1.912	264.3
Be3130_R		4.917	ug/L	0.06951	1.413	345.8
Ca3158_R		102.1	ug/L	10.40	10.18	33.28
Cd2265_A		5.027	ug/L	0.06879	1.368	59.53
Co2286_A		10.31	ug/L	0.1236	1.199	37.24
Cr2677_A		9.957	ug/L	0.6549	6.578	113.0
Cu3273_A		24.75	ug/L	0.03040	0.1228	360.7
Fe2599_R		101.5	ug/L	1.555	1.533	128.9
K_7664_R		989.0	ug/L	3.467	0.3505	461.5
Li6707_R		99.03	ug/L	2.035	2.055	1,178
Mg2025_A		92.01	ug/L	0.9743	1.059	26.94
Mn2576_R		5.548	ug/L	0.2954	5.324	41.81
Mo2020_A		10.39	ug/L	0.09487	0.9134	29.59
Na5895_R		991.1	ug/L	1.542	0.1556	1,841
Ni2316_A		9.912	ug/L	0.07694	0.7762	15.38

PQL

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:23:09PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		5.606	ug/L	0.8604	15.35	3.130
Sb2068_A		8.308	ug/L	0.5728	6.894	4.376
Se1960_A		8.269	ug/L	1.312	15.87	3.673
Si2516_R		192.8	ug/L	3.467	1.799	103.5
Sn1899_A		99.70	ug/L	0.5222	0.5238	51.87
Sr4215_R		10.14	ug/L	0.1948	1.921	582.2
Ti3349_A		14.53	ug/L	0.1031	0.7094	320.7
Tl1908_A		14.74	ug/L	0.4923	3.340	5.221
V_2924_A		9.922	ug/L	0.3408	3.435	131.5
Zn2062_A		20.15	ug/L	0.1815	0.9004	55.53
Y_3600_R		13,107	Cts/S	18.817	0.14356	13,107
Y_2243_A		6,866.4	Cts/S	7.1204	0.10370	6,866.4
Y_3600_A		152,730	Cts/S	796.01	0.52120	152,730

ICSA

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:27:32PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.249	ug/L	0.1510	12.08	-813.0
Al3961_R	R	495,400	ug/L	4,426	0.8934	333,700
As1891_A		-2.464	ug/L	1.912	77.61	-9.009
B_2089_A		-0.3831	ug/L	0.04613	12.04	6.204
Ba4554_R		-0.06769	ug/L	0.1228	181.5	39.39
Be3130_R		0.01503	ug/L	0.01301	86.61	-5.037
Ca3158_R	R	468,600	ug/L	3,971	0.8474	322,200
Cd2265_A		-0.6118	ug/L	0.1145	18.71	195.1
Co2286_A		0.4181	ug/L	0.2157	51.59	3.635
Cr2677_A		-0.08396	ug/L	0.1563	186.1	15.30
Cu3273_A		-1.526	ug/L	0.2370	15.53	5.506
Fe2599_R	R	183,900	ug/L	78.76	0.04283	220,900
K_7664_R		25.30	ug/L	20.44	80.82	-32.72
Li6707_R		6.318	ug/L	0.6051	9.576	70.61
Mg2025_A	R	475,300	ug/L	1,471	0.3094	139,500
Mn2576_R		-0.2726	ug/L	0.4233	155.3	2.116
Mo2020_A		-1.253	ug/L	0.04727	3.773	-2.638
Na5895_R		14.82	ug/L	7.590	51.20	78.52
Ni2316_A		2.408	ug/L	0.1980	8.222	-11.53
Pb2203_A		-2.004	ug/L	0.8740	43.62	-31.24
Sb2068_A		0.1996	ug/L	0.01031	5.165	3.252
Se1960_A		-2.897	ug/L	1.073	37.03	2.479
Si2516_R		-29.69	ug/L	13.88	46.75	20.40
Sn1899_A		8.665	ug/L	1.412	16.30	4.737
Sr4215_R	W	4.716	ug/L	0.04715	0.9997	247.1
Ti3349_A		0.8118	ug/L	0.0003190	0.03926	-8.228
Tl1908_A		3.152	ug/L	0.7468	23.69	-0.07490
V_2924_A		-0.3161	ug/L	0.1097	34.69	20.49
Zn2062_A		0.7748	ug/L	0.03188	4.114	2.218
Y_3600_R		12,622	Cts/S	95.912	0.75989	12,622
Y_2243_A		6,149.3	Cts/S	7.0721	0.11501	6,149.3
Y_3600_A		134,440	Cts/S	216.83	0.16129	134,440

ICSAB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:32:58PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

ICSAB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:32:58PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		218.4	ug/L	0.4093	0.1874	2,299
Al3961_R	R	497,800	ug/L	3,533	0.7097	336,400
As1891_A		99.21	ug/L	1.517	1.529	22.02
B_2089_A		514.0	ug/L	0.7862	0.1530	638.4
Ba4554_R		497.2	ug/L	2.289	0.4603	21,470
Be3130_R		490.4	ug/L	1.556	0.3173	33,950
Ca3158_R	R	474,100	ug/L	265.5	0.05601	327,000
Cd2265_A		951.0	ug/L	0.07077	0.007441	10,760
Co2286_A		484.8	ug/L	1.101	0.2272	1,446
Cr2677_A		484.5	ug/L	0.4677	0.09652	4,686
Cu3273_A		529.1	ug/L	0.4540	0.08581	6,423
Fe2599_R	R	187,000	ug/L	741.1	0.3964	225,400
K_7664_R		21,700	ug/L	138.5	0.6381	10,730
Li6707_R		553.5	ug/L	1.365	0.2465	6,371
Mg2025_A	R	484,300	ug/L	809.1	0.1671	141,100
Mn2576_R		465.5	ug/L	2.209	0.4746	3,152
Mo2020_A		503.0	ug/L	2.200	0.4375	1,250
Na5895_R		21,480	ug/L	96.97	0.4514	37,460
Ni2316_A		943.5	ug/L	1.420	0.1505	1,360
Pb2203_A		44.08	ug/L	1.198	2.717	5.675
Sb2068_A		616.1	ug/L	0.8509	0.1381	294.7
Se1960_A		53.95	ug/L	3.657	6.779	15.06
Si2516_R		1,954	ug/L	13.06	0.6684	752.6
Sn1899_A		502.4	ug/L	1.769	0.3522	229.3
Sr4215_R		507.2	ug/L	2.018	0.3978	29,370
Ti3349_A		499.2	ug/L	0.1200	0.02403	10,500
Tl1908_A		96.61	ug/L	0.4055	0.4197	44.53
V_2924_A		492.8	ug/L	1.174	0.2382	5,706
Zn2062_A		933.3	ug/L	0.2668	0.02859	2,271
Y_3600_R		12,662	Cts/S	99.190	0.78338	12,662
Y_2243_A		6,102.8	Cts/S	7.3071	0.11973	6,102.8
Y_3600_A		133,790	Cts/S	457.48	0.34193	133,790

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:38:12PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		500.3	ug/L	1.462	0.2923	7,997
Al3961_R		12,560	ug/L	9.899	0.07879	8,836
As1891_A		502.5	ug/L	3.191	0.6349	165.8
B_2089_A		498.4	ug/L	0.4371	0.08769	685.5
Ba4554_R		494.4	ug/L	0.8772	0.1774	22,190
Be3130_R		497.9	ug/L	0.2093	0.04205	35,850
Ca3158_R		12,610	ug/L	28.05	0.2224	9,007
Cd2265_A		501.3	ug/L	0.06366	0.01270	6,163
Co2286_A		506.7	ug/L	0.6347	0.1253	1,670
Cr2677_A		502.9	ug/L	0.9535	0.1896	5,439
Cu3273_A		494.0	ug/L	0.7483	0.1515	6,718
Fe2599_R		12,630	ug/L	14.61	0.1157	15,830
K_7664_R		12,210	ug/L	19.82	0.1623	6,260
Li6707_R		495.7	ug/L	1.791	0.3612	5,932
Mg2025_A		12,230	ug/L	6.388	0.05224	3,947
Mn2576_R		498.1	ug/L	0.08198	0.01646	3,503
Mo2020_A		505.4	ug/L	0.4879	0.09654	1,389
Na5895_R		12,330	ug/L	32.18	0.2610	22,380
Ni2316_A		502.5	ug/L	0.7085	0.1410	809.7

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:38:12PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		502.1	ug/L	0.5286	0.1053	444.9
Sb2068_A		500.3	ug/L	1.073	0.2145	262.3
Se1960_A		499.2	ug/L	1.253	0.2509	123.4
Si2516_R		12,510	ug/L	35.99	0.2877	4,823
Sn1899_A		503.9	ug/L	0.2259	0.04483	254.3
Sr4215_R		498.3	ug/L	0.2401	0.04818	30,000
Ti3349_A		499.2	ug/L	1.561	0.3126	11,770
Tl1908_A		502.2	ug/L	0.1228	0.02446	267.0
V_2924_A		497.9	ug/L	0.2739	0.05502	6,439
Zn2062_A		504.3	ug/L	0.3509	0.06958	1,357
Y_3600_R		13,165	Cts/S	8.1543	0.061939	13,165
Y_2243_A		6,748.9	Cts/S	8.6233	0.12777	6,748.9
Y_3600_A		150,030	Cts/S	241.53	0.16099	150,030

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:42:21PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.5414	ug/L	0.4958	91.58	3.009
Al3961_R		-5.297	ug/L	2.142	40.44	-8.752
As1891_A		0.2717	ug/L	0.8369	308.0	-2.886
B_2089_A		2.071	ug/L	0.3274	15.80	10.22
Ba4554_R		0.08749	ug/L	0.02728	31.18	47.23
Be3130_R		0.005761	ug/L	0.04334	752.3	-5.788
Ca3158_R		-0.9585	ug/L	4.943	515.7	-39.86
Cd2265_A		0.01223	ug/L	0.07788	637.0	-3.181
Co2286_A		-0.2772	ug/L	0.04682	16.89	1.732
Cr2677_A		-0.08804	ug/L	0.2256	256.2	2.463
Cu3273_A		-0.3426	ug/L	0.2470	72.10	14.23
Fe2599_R		-0.3900	ug/L	1.312	336.6	1.756
K_7664_R		13.04	ug/L	20.26	155.4	-39.74
Li6707_R		1.093	ug/L	0.6263	57.28	10.97
Mg2025_A		2.704	ug/L	0.7925	29.30	-2.545
Mn2576_R		0.4381	ug/L	0.02434	5.557	6.019
Mo2020_A		0.4917	ug/L	0.1617	32.89	1.916
Na5895_R		-0.9341	ug/L	1.202	128.7	52.46
Ni2316_A		-0.1316	ug/L	0.1872	142.2	-1.112
Pb2203_A		0.3781	ug/L	0.2025	53.57	-1.568
Sb2068_A		-0.08546	ug/L	0.07717	90.30	0.2902
Se1960_A		-1.406	ug/L	1.303	92.67	1.262
Si2516_R		-13.30	ug/L	4.721	35.50	24.60
Sn1899_A		0.3316	ug/L	0.1616	48.72	1.017
Sr4215_R		-0.1240	ug/L	0.1053	84.98	-33.35
Ti3349_A		0.2059	ug/L	0.1879	91.28	-23.80
Tl1908_A		-0.1122	ug/L	0.4147	369.8	-2.890
V_2924_A		0.1150	ug/L	0.2253	195.9	2.339
Zn2062_A		0.06000	ug/L	0.07833	130.6	0.5141
Y_3600_R		12,951	Cts/S	61.088	0.47168	12,951
Y_2243_A		6,813.1	Cts/S	3.6823	0.054048	6,813.1
Y_3600_A		151,980	Cts/S	115.49	0.075992	151,980

LRS1

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:46:45PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

LRS1

Method Name: FAST-2016_NO_AU Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:46:45PM Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	R	2,036	ug/L	1.372	0.06741	32,670
Al3961_R		-19.38	ug/L	1.826	9.424	112.7
As1891_A	R	20,900	ug/L	80.95	0.3873	6,917
B_2089_A	R	20,550	ug/L	74.23	0.3613	26,920
Ba4554_R	R	19,280	ug/L	131.7	0.6835	857,500
Be3130_R	R	19,420	ug/L	322.2	1.659	1,388,000
Ca3158_R		-80.70	ug/L	4.961	6.147	-22.68
Cd2265_A	R	20,130	ug/L	0.1615	0.0008020	243,100
Co2286_A	R	20,670	ug/L	49.32	0.2386	66,950
Cr2677_A	R	19,950	ug/L	11.47	0.05750	214,900
Cu3273_A	R	20,140	ug/L	64.87	0.3221	272,200
Fe2599_R		8.866	ug/L	2.628	29.64	13.30
K_7664_R		21.58	ug/L	5.936	27.50	-35.76
Li6707_R	R	19,700	ug/L	55.92	0.2839	234,100
Mg2025_A		92.67	ug/L	3.844	4.149	361.2
Mn2576_R	R	19,970	ug/L	25.14	0.1259	139,400
Mo2020_A	R	5,183	ug/L	23.97	0.4624	14,010
Na5895_R		39.58	ug/L	2.773	7.005	125.7
Ni2316_A	R	20,690	ug/L	5.497	0.02657	32,790
Pb2203_A	RF	42,340	ug/L	30.47	0.07197	37,150
Sb2068_A	R	20,770	ug/L	66.36	0.3194	10,710
Se1960_A	R	21,220	ug/L	74.04	0.3489	5,094
Si2516_R		46.23	ug/L	24.74	53.51	100.2
Sn1899_A	R	20,600	ug/L	8.807	0.04275	10,200
Sr4215_R	R	19,700	ug/L	292.0	1.482	1,178,000
Ti3349_A	R	19,960	ug/L	8.347	0.04181	470,400
Tl1908_A	R	20,440	ug/L	59.11	0.2891	10,810
V_2924_A	R	19,930	ug/L	33.71	0.1691	258,000
Zn2062_A	R	20,160	ug/L	45.24	0.2244	53,360
Y_3600_R		13,071	Cts/S	82.680	0.63253	13,071
Y_2243_A		6,641.4	Cts/S	12.364	0.18617	6,641.4
Y_3600_A		149,540	Cts/S	41.925	0.028035	149,540

LRS2

Method Name: FAST-2016_NO_AU Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:52:52PM Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.9929	ug/L	0.5655	56.96	-1,056
Al3961_R	R	518,700	ug/L	1,440	0.2776	353,900
As1891_A		-1.701	ug/L	0.6069	35.67	-10.33
B_2089_A		34.72	ug/L	2.008	5.784	48.69
Ba4554_R		0.6818	ug/L	0.1745	25.60	72.50
Be3130_R		0.3554	ug/L	0.01527	4.297	18.35
Ca3158_R	R	491,600	ug/L	4,857	0.9880	342,400
Cd2265_A		-0.5876	ug/L	0.06430	10.94	255.4
Co2286_A		0.7302	ug/L	0.1669	22.85	4.637
Cr2677_A		-1.785	ug/L	0.1358	7.609	2.646
Cu3273_A		-0.4184	ug/L	0.2935	70.13	13.52
Fe2599_R	R	237,100	ug/L	389.0	0.1641	288,500
K_7664_R	R	314,300	ug/L	320.5	0.1020	157,600
Li6707_R		13.82	ug/L	0.9898	7.162	158.8
Mg2025_A	R	210,000	ug/L	321.8	0.1533	61,840
Mn2576_R		18.85	ug/L	0.07050	0.3741	61.56
Mo2020_A		0.5832	ug/L	0.1115	19.12	1.969
Na5895_R	R	209,500	ug/L	4,554	2.174	368,300
Ni2316_A		4.638	ug/L	0.09237	1.991	-12.41

LRS2

Method Name: FAST-2016_NO_AU Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:52:52PM Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-1.307	ug/L	1.267	96.92	-29.86
Sb2068_A		-2.029	ug/L	0.8649	42.63	2.527
Se1960_A		1.113	ug/L	4.024	361.4	3.565
Si2516_R	R	49,430	ug/L	14.35	0.02902	18,420
Sn1899_A		9.234	ug/L	0.3685	3.990	5.015
Sr4215_R		14.51	ug/L	0.009470	0.06526	823.5
Ti3349_A		8.039	ug/L	0.1689	2.102	144.8
Tl1908_A		1.551	ug/L	0.6210	40.03	-0.9507
V_2924_A		-0.06737	ug/L	0.02123	31.51	30.07
Zn2062_A		2.621	ug/L	0.03506	1.338	6.769
Y_3600_R		12,786	Cts/S	57.696	0.45126	12,786
Y_2243_A		6,169.5	Cts/S	7.4540	0.12082	6,169.5
Y_3600_A		134,440	Cts/S	511.17	0.38023	134,440

CCV

Method Name: FAST-2016_NO_AU Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 2:58:32PM Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		498.0	ug/L	3.513	0.7054	8,006
Al3961_R		12,290	ug/L	667.9	5.433	8,668
As1891_A		498.0	ug/L	0.5745	0.1154	165.9
B_2089_A		513.6	ug/L	1.694	0.3299	712.2
Ba4554_R		490.9	ug/L	26.33	5.364	22,100
Be3130_R		490.3	ug/L	26.87	5.481	35,390
Ca3158_R		12,340	ug/L	633.2	5.133	8,834
Cd2265_A		495.3	ug/L	0.1734	0.03500	6,150
Co2286_A		500.6	ug/L	0.6782	0.1355	1,667
Cr2677_A		499.0	ug/L	5.862	1.175	5,427
Cu3273_A		490.8	ug/L	2.398	0.4885	6,712
Fe2599_R		12,410	ug/L	655.3	5.280	15,600
K_7664_R		12,210	ug/L	600.2	4.917	6,272
Li6707_R		490.3	ug/L	26.46	5.398	5,882
Mg2025_A		12,090	ug/L	4.365	0.03609	3,942
Mn2576_R		487.8	ug/L	27.17	5.570	3,439
Mo2020_A		499.6	ug/L	1.540	0.3083	1,387
Na5895_R		12,180	ug/L	671.0	5.509	22,160
Ni2316_A		498.7	ug/L	0.4033	0.08087	811.4
Pb2203_A		496.0	ug/L	0.7192	0.1450	443.9
Sb2068_A		495.9	ug/L	1.198	0.2416	262.5
Se1960_A		493.9	ug/L	0.003611	0.0007310	123.3
Si2516_R		12,320	ug/L	569.3	4.620	4,764
Sn1899_A		497.4	ug/L	0.1722	0.03463	253.5
Sr4215_R		491.2	ug/L	27.29	5.554	29,650
Ti3349_A		495.2	ug/L	3.853	0.7782	11,740
Tl1908_A		495.0	ug/L	0.1800	0.03636	265.7
V_2924_A		495.0	ug/L	4.797	0.9692	6,437
Zn2062_A		497.4	ug/L	0.05279	0.01061	1,351
Y_3600_R		13,213	Cts/S	542.18	4.1034	13,213
Y_2243_A		6,815.4	Cts/S	14.844	0.21780	6,815.4
Y_3600_A		150,880	Cts/S	848.55	0.56241	150,880

CCB

Method Name: FAST-2016_NO_AU Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:02:41PM Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:02:41PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3426	ug/L	0.02178	6.358	-0.2495
Al3961_R		4.067	ug/L	5.396	132.7	-2.296
As1891_A		0.7503	ug/L	0.7875	105.0	-2.689
B_2089_A	W	17.69	ug/L	0.6909	3.906	30.67
Ba4554_R		0.1810	ug/L	0.09728	53.74	52.14
Be3130_R		0.04146	ug/L	0.02932	70.72	-3.313
Ca3158_R		-4.086	ug/L	1.225	29.97	-42.70
Cd2265_A		0.02610	ug/L	0.005123	19.63	-2.969
Co2286_A		-0.07293	ug/L	0.3041	417.0	2.377
Cr2677_A		-0.0008970	ug/L	0.04240	4,727	3.401
Cu3273_A		0.2801	ug/L	0.1002	35.76	22.69
Fe2599_R		1.539	ug/L	0.3212	20.88	4.199
K_7664_R		54.75	ug/L	5.756	10.51	-18.86
Li6707_R		2.167	ug/L	0.9339	43.10	23.92
Mg2025_A		1.662	ug/L	0.7920	47.66	-2.841
Mn2576_R		0.3114	ug/L	0.4637	148.9	5.210
Mo2020_A		0.9948	ug/L	0.1200	12.07	3.269
Na5895_R		23.66	ug/L	0.3032	1.282	97.71
Ni2316_A		-0.09520	ug/L	0.1338	140.6	-1.036
Pb2203_A		0.4083	ug/L	0.04985	12.21	-1.523
Sb2068_A		0.4629	ug/L	0.3215	69.45	0.5716
Se1960_A		0.04466	ug/L	1.654	3,704	1.598
Si2516_R		-13.22	ug/L	1.838	13.91	25.01
Sn1899_A		0.8461	ug/L	0.03418	4.040	1.262
Sr4215_R		0.01280	ug/L	0.1429	1,117	-25.66
Ti3349_A		0.06022	ug/L	0.07677	127.5	-27.17
Tl1908_A		0.3283	ug/L	0.4851	147.7	-2.616
V_2924_A		0.04520	ug/L	0.01094	24.19	1.370
Zn2062_A		0.03565	ug/L	0.1995	559.7	0.4418
Y_3600_R		13,147	Cts/S	75.078	0.57108	13,147
Y_2243_A		6,726.7	Cts/S	2.9909	0.044463	6,726.7
Y_3600_A		151,340	Cts/S	16.683	0.011024	151,340

PBWLJ10ICW2

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:07:05PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.5495	ug/L	0.2559	46.56	3.223
Al3961_R		7.782	ug/L	1.250	16.06	0.3011
As1891_A		1.622	ug/L	0.9927	61.21	-2.489
B_2089_A		19.28	ug/L	0.1784	0.9255	33.99
Ba4554_R		-0.1597	ug/L	0.1108	69.38	37.57
Be3130_R		0.06231	ug/L	0.03681	59.08	-1.807
Ca3158_R		1.604	ug/L	3.848	240.0	-39.30
Cd2265_A		0.07545	ug/L	0.04861	64.42	-2.460
Co2286_A		0.1397	ug/L	0.1420	101.7	3.191
Cr2677_A		0.06337	ug/L	0.1497	236.2	4.232
Cu3273_A		0.07573	ug/L	0.1339	176.8	20.55
Fe2599_R		-1.484	ug/L	1.414	95.28	0.4461
K_7664_R		75.63	ug/L	34.75	45.95	-7.997
Li6707_R		2.045	ug/L	1.391	68.01	23.09
Mg2025_A		9.787	ug/L	1.284	13.12	-0.2416
Mn2576_R		0.1423	ug/L	0.2210	155.3	4.122
Mo2020_A		0.3807	ug/L	0.03207	8.423	1.648
Na5895_R		12.31	ug/L	4.996	40.57	78.38
Ni2316_A		0.3501	ug/L	0.2003	57.23	-0.3388

PBWLJ10ICW2

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:07:05PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.2378	ug/L	0.1206	50.72	-1.738
Sb2068_A		0.1221	ug/L	0.1455	119.2	0.4122
Se1960_A		-1.551	ug/L	0.09636	6.211	1.257
Si2516_R		18.51	ug/L	5.226	28.24	37.75
Sn1899_A		0.01605	ug/L	0.4860	3,028	0.8784
Sr4215_R		0.04832	ug/L	0.06005	124.3	-23.85
Ti3349_A		0.1466	ug/L	0.08289	56.54	-25.94
Tl1908_A		2.036	ug/L	0.6161	30.27	-1.763
V_2924_A		0.1066	ug/L	0.1294	121.4	2.292
Zn2062_A		0.02451	ug/L	0.08831	360.3	0.4276
Y_3600_R		13,369	Cts/S	335.88	2.5124	13,369
Y_2243_A		6,984.4	Cts/S	1.0993	0.015739	6,984.4
Y_3600_A		156,340	Cts/S	843.28	0.53940	156,340

LCSWLJ10ICW2

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:11:30PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		52.40	ug/L	0.3306	0.6309	857.8
Al3961_R		2,104	ug/L	2.751	0.1308	1,518
As1891_A		109.3	ug/L	0.4677	0.4281	34.70
B_2089_A		523.0	ug/L	1.913	0.3659	721.0
Ba4554_R		2,014	ug/L	8.744	0.4342	92,810
Be3130_R		51.15	ug/L	0.07276	0.1422	3,760
Ca3158_R		2,563	ug/L	11.86	0.4628	1,851
Cd2265_A		263.1	ug/L	0.2565	0.09750	3,313
Co2286_A		540.0	ug/L	0.2240	0.04148	1,827
Cr2677_A		210.7	ug/L	1.256	0.5961	2,350
Cu3273_A		256.3	ug/L	2.737	1.068	3,598
Fe2599_R		1,044	ug/L	1.012	0.09694	1,347
K_7664_R		9,762	ug/L	21.15	0.2166	5,134
Li6707_R		485.9	ug/L	0.6413	0.1320	5,978
Mg2025_A		5,072	ug/L	16.11	0.3176	1,683
Mn2576_R		514.5	ug/L	1.940	0.3772	3,722
Mo2020_A		100.2	ug/L	0.9363	0.9346	283.1
Na5895_R		7,452	ug/L	17.88	0.2399	13,930
Ni2316_A		534.4	ug/L	0.7051	0.1320	882.4
Pb2203_A		104.1	ug/L	0.6294	0.6049	93.11
Sb2068_A		103.5	ug/L	0.2143	0.2070	54.30
Se1960_A		108.9	ug/L	3.756	3.450	28.96
Si2516_R		1,001	ug/L	6.557	0.6553	426.4
Sn1899_A		514.4	ug/L	4.178	0.8121	266.5
Sr4215_R		497.0	ug/L	1.113	0.2239	30,770
Ti3349_A		498.0	ug/L	2.348	0.4716	12,090
Tl1908_A		99.18	ug/L	2.203	2.221	50.92
V_2924_A		518.7	ug/L	2.554	0.4925	6,952
Zn2062_A		544.4	ug/L	0.2983	0.05479	1,505
Y_3600_R		13,537	Cts/S	15.859	0.11715	13,537
Y_2243_A		6,929.8	Cts/S	10.102	0.14577	6,929.8
Y_3600_A		154,510	Cts/S	598.67	0.38747	154,510

SL9588-002S

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:15:43PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9588-002S

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:15:43PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		23.83	ug/L	0.2654	1.114	351.5
Al3961_R		11,670	ug/L	42.19	0.3614	8,175
As1891_A		47.17	ug/L	0.1572	0.3333	12.77
B_2089_A		267.2	ug/L	0.9247	0.3460	362.7
Ba4554_R	W	1,021	ug/L	5.286	0.5179	45,640
Be3130_R		23.78	ug/L	0.2181	0.9172	1,690
Ca3158_R		5,611	ug/L	34.69	0.6183	3,974
Cd2265_A		116.2	ug/L	0.1674	0.1441	1,430
Co2286_A		243.3	ug/L	0.09712	0.03992	804.4
Cr2677_A		99.47	ug/L	0.4703	0.4728	1,082
Cu3273_A		120.9	ug/L	0.9886	0.8180	1,662
Fe2599_R		5,450	ug/L	52.61	0.9653	6,813
K_7664_R		6,462	ug/L	13.06	0.2021	3,280
Li6707_R		232.6	ug/L	0.4631	0.1990	2,775
Mg2025_A		4,632	ug/L	9.911	0.2140	1,494
Mn2576_R		272.8	ug/L	0.9317	0.3416	1,913
Mo2020_A		47.61	ug/L	0.1680	0.3529	131.5
Na5895_R		8,311	ug/L	26.98	0.3246	15,060
Ni2316_A		241.7	ug/L	0.2843	0.1176	388.2
Pb2203_A		48.63	ug/L	0.7084	1.457	40.80
Sb2068_A		42.57	ug/L	0.06141	0.1443	22.02
Se1960_A		44.88	ug/L	0.7808	1.740	12.63
Si2516_R		21,950	ug/L	155.4	0.7079	8,412
Sn1899_A		222.3	ug/L	0.6283	0.2827	112.8
Sr4215_R		292.1	ug/L	0.5467	0.1872	17,520
Ti3349_A		260.6	ug/L	1.143	0.4384	6,149
Tl1908_A		45.55	ug/L	0.3126	0.6862	21.24
V_2924_A		245.6	ug/L	0.1011	0.04118	3,207
Zn2062_A		251.6	ug/L	0.3584	0.1424	678.4
Y_3600_R		13,127	Cts/S	93.960	0.71576	13,127
Y_2243_A		6,756.6	Cts/S	0.47767	0.0070700	6,756.6
Y_3600_A		150,450	Cts/S	210.60	0.13999	150,450

SL9698-003P

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:19:58PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		63.41	ug/L	0.4230	0.6670	-193.9
Al3961_R	W	166,700	ug/L	433.2	0.2598	60,850
As1891_A		188.2	ug/L	0.7601	0.4040	24.79
B_2089_A		873.8	ug/L	2.508	0.2870	596.5
Ba4554_R	W	2,661	ug/L	16.74	0.6291	61,980
Be3130_R		58.09	ug/L	0.5738	0.9879	1,924
Ca3158_R	W	54,080	ug/L	11.11	0.02054	20,110
Cd2265_A		267.7	ug/L	0.6079	0.2271	1,836
Co2286_A		571.7	ug/L	2.606	0.4559	995.0
Cr2677_A		1,168	ug/L	2.291	0.1962	6,370
Cu3273_A	W	2,085	ug/L	9.388	0.4502	14,220
Fe2599_R	W	274,500	ug/L	1,490	0.5427	178,700
K_7664_R		45,180	ug/L	38.86	0.08601	12,070
Li6707_R		861.6	ug/L	4.600	0.5339	5,357
Mg2025_A	W	78,300	ug/L	193.9	0.2476	12,810
Mn2576_R	W	3,145	ug/L	0.2904	0.009235	11,450
Mo2020_A		149.7	ug/L	0.3083	0.2060	209.5
Na5895_R	W	62,750	ug/L	160.5	0.2557	59,080
Ni2316_A		753.3	ug/L	0.9360	0.1243	602.8

SL9698-003P

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:19:58PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		1,503	ug/L	2.104	0.1399	678.6
Sb2068_A		18.65	ug/L	1.023	5.487	6.808
Se1960_A		105.2	ug/L	2.607	2.479	15.37
Si2516_R		2,983	ug/L	47.11	1.579	639.6
Sn1899_A		693.1	ug/L	2.337	0.3372	177.8
Sr4215_R		1,002	ug/L	2.743	0.2738	31,330
Ti3349_A	W	9,206	ug/L	0.6252	0.006791	109,500
Tl1908_A		95.35	ug/L	1.244	1.305	19.38
V_2924_A		893.9	ug/L	1.415	0.1583	5,896
Zn2062_A	W	4,476	ug/L	2.656	0.05934	6,117
Y_3600_R		13,680	Cts/S	13.718	0.10027	13,680
Y_2243_A		6,851.6	Cts/S	19.266	0.28119	6,851.6
Y_3600_A		151,110	Cts/S	557.31	0.36882	151,110

SL9848-005

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:24:12PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		5.073	ug/L	2.294	45.22	2.175
Al3961_R		718.9	ug/L	5.179	0.7205	49.68
As1891_A		24.87	ug/L	15.73	63.22	-2.032
B_2089_A		3,718	ug/L	109.3	2.941	479.5
Ba4554_R		17.42	ug/L	0.6057	3.477	119.3
Be3130_R		0.8917	ug/L	0.04621	5.182	0.1047
Ca3158_R	W	326,800	ug/L	789.2	0.2415	22,860
Cd2265_A		0.5310	ug/L	0.4594	86.51	-2.537
Co2286_A		2.320	ug/L	0.7892	34.01	3.258
Cr2677_A		7.724	ug/L	3.125	40.45	10.73
Cu3273_A		4.011	ug/L	0.5227	13.03	22.10
Fe2599_R		84.57	ug/L	8.716	10.31	12.58
K_7664_R	W	358,900	ug/L	893.8	0.2491	18,050
Li6707_R		242.6	ug/L	7.537	3.106	281.7
Mg2025_A	W	1,005,000	ug/L	28,800	2.867	31,120
Mn2576_R		-22.47	ug/L	2.887	12.85	9.026
Mo2020_A		11.16	ug/L	0.5145	4.609	3.475
Na5895_R	F	8,385,000	ug/L	150,400	1.794	1,482,000
Ni2316_A		6.921	ug/L	0.8053	11.64	0.2183
Pb2203_A		-3.956	ug/L	9.658	244.1	-2.165
Sb2068_A		-5.488	ug/L	0.08335	1.519	0.04852
Se1960_A		-18.26	ug/L	0.9797	5.365	1.104
Si2516_R		2,272	ug/L	70.19	3.089	114.4
Sn1899_A		-6.010	ug/L	4.712	78.40	0.5174
Sr4215_R		6,037	ug/L	16.29	0.2698	35,500
Ti3349_A		3.772	ug/L	4.337	115.0	-17.80
Tl1908_A		32.09	ug/L	4.287	13.36	-1.028
V_2924_A		-0.3485	ug/L	2.734	784.7	0.2624
Zn2062_A		35.38	ug/L	0.6961	1.968	9.493
Y_3600_R		12,857	Cts/S	189.89	1.4769	12,857
Y_2243_A		6,490.0	Cts/S	20.980	0.32326	6,490.0
Y_3600_A		137,390	Cts/S	100.79	0.073356	137,390

SL9848-006

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:28:40PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9848-006

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:28:40PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		6.707	ug/L	4.309	64.25	4.574
Al3961_R		618.7	ug/L	83.11	13.43	41.84
As1891_A		12.79	ug/L	5.814	45.46	-2.392
B_2089_A		3,712	ug/L	58.89	1.587	472.4
Ba4554_R		13.72	ug/L	1.809	13.18	101.0
Be3130_R		0.06808	ug/L	0.5658	831.0	-5.571
Ca3158_R	W	320,700	ug/L	232.4	0.07246	21,950
Cd2265_A		0.1924	ug/L	0.7014	364.5	-2.909
Co2286_A		1.882	ug/L	0.8807	46.80	3.075
Cr2677_A		5.433	ug/L	0.8720	16.05	8.389
Cu3273_A		4.719	ug/L	0.9684	20.52	22.76
Fe2599_R		4.966	ug/L	5.538	111.5	2.767
K_7664_R	W	351,400	ug/L	776.4	0.2210	17,300
Li6707_R		260.8	ug/L	10.46	4.012	296.7
Mg2025_A	W	1,007,000	ug/L	17,770	1.765	30,790
Mn2576_R		-29.52	ug/L	0.4785	1.621	4.176
Mo2020_A		8.497	ug/L	1.434	16.88	2.734
Na5895_R	F	8,367,000	ug/L	233,800	2.794	1,448,000
Ni2316_A		8.155	ug/L	1.054	12.93	0.4025
Pb2203_A		4.900	ug/L	15.48	315.8	-1.384
Sb2068_A		-4.388	ug/L	6.825	155.5	0.1010
Se1960_A		-10.23	ug/L	2.792	27.28	1.274
Si2516_R		2,153	ug/L	32.05	1.489	107.6
Sn1899_A		-3.834	ug/L	2.009	52.41	0.6148
Sr4215_R		5,917	ug/L	17.05	0.2881	34,060
Ti3349_A		-1.201	ug/L	0.9355	77.89	-28.29
Tl1908_A		33.05	ug/L	6.645	20.11	-0.9646
V_2924_A		1.966	ug/L	2.112	107.4	3.020
Zn2062_A		7.182	ug/L	1.701	23.69	2.163
Y_3600_R		12,585	Cts/S	178.77	1.4205	12,585
Y_2243_A		6,403.7	Cts/S	4.8665	0.075995	6,403.7
Y_3600_A		136,060	Cts/S	210.84	0.15497	136,060

RINSE

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:33:08PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6245	ug/L	0.3649	58.42	4.418
Al3961_R		-0.2736	ug/L	1.073	392.2	-5.436
As1891_A		1.517	ug/L	1.320	87.01	-2.484
B_2089_A		6.293	ug/L	0.04059	0.6451	15.97
Ba4554_R		-0.08283	ug/L	0.1258	151.9	40.82
Be3130_R		0.02977	ug/L	0.02555	85.82	-4.204
Ca3158_R		6.579	ug/L	5.181	78.75	-35.48
Cd2265_A		0.01552	ug/L	0.01752	112.8	-3.167
Co2286_A		-0.1492	ug/L	0.007227	4.843	2.173
Cr2677_A		-0.1805	ug/L	0.1380	76.44	1.465
Cu3273_A		-0.2051	ug/L	0.01767	8.614	16.29
Fe2599_R		-1.037	ug/L	1.330	128.2	0.9868
K_7664_R		79.33	ug/L	19.18	24.18	-6.267
Li6707_R		2.534	ug/L	1.517	59.86	28.68
Mg2025_A		4.655	ug/L	0.2763	5.936	-1.926
Mn2576_R		0.4163	ug/L	0.4442	106.7	6.033
Mo2020_A		0.2178	ug/L	0.05581	25.62	1.166
Na5895_R		240.7	ug/L	9.550	3.968	496.1
Ni2316_A		-0.005604	ug/L	0.07794	1,391	-0.9168

RINSE

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:33:08PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.7330	ug/L	1.205	164.4	-1.259
Sb2068_A		0.1008	ug/L	0.3491	346.2	0.3968
Se1960_A		-2.022	ug/L	1.782	88.11	1.120
Si2516_R		-11.69	ug/L	14.31	122.3	25.91
Sn1899_A		-0.7173	ug/L	0.5973	83.27	0.4885
Sr4215_R		0.1059	ug/L	0.02557	24.14	-20.28
Ti3349_A		0.07527	ug/L	0.1861	247.2	-27.23
Tl1908_A		-0.02139	ug/L	0.02796	130.7	-2.863
V_2924_A		-0.3006	ug/L	0.1924	63.99	-3.160
Zn2062_A		-0.02556	ug/L	0.1481	579.4	0.2841
Y_3600_R		13,309	Cts/S	19.681	0.14787	13,309
Y_2243_A		6,869.8	Cts/S	2.6831	0.039057	6,869.8
Y_3600_A		153,680	Cts/S	51.482	0.033500	153,680

RINSE

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:37:33PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2711	ug/L	0.02232	8.235	-1.423
Al3961_R		2.931	ug/L	4.577	156.2	-3.169
As1891_A		-0.2276	ug/L	0.08466	37.19	-3.050
B_2089_A		5.343	ug/L	0.2019	3.778	14.53
Ba4554_R		-0.1726	ug/L	0.1939	112.4	36.87
Be3130_R		0.002164	ug/L	0.01511	698.3	-6.223
Ca3158_R		2.053	ug/L	2.721	132.5	-38.87
Cd2265_A		0.0007970	ug/L	0.02334	2,930	-3.315
Co2286_A		-0.009136	ug/L	0.1313	1,438	2.613
Cr2677_A		0.2392	ug/L	0.1354	56.58	6.068
Cu3273_A		-0.2392	ug/L	0.01079	4.510	15.71
Fe2599_R		0.9829	ug/L	3.827	389.4	3.563
K_7664_R		41.38	ug/L	0.6973	1.685	-26.14
Li6707_R		1.527	ug/L	0.2156	14.11	16.56
Mg2025_A		2.936	ug/L	0.04088	1.392	-2.464
Mn2576_R		0.1500	ug/L	0.5394	359.5	4.143
Mo2020_A		0.05542	ug/L	0.2014	363.5	0.7050
Na5895_R		98.26	ug/L	8.257	8.403	236.1
Ni2316_A		-0.02962	ug/L	0.08323	281.0	-0.9477
Pb2203_A		0.5713	ug/L	0.6584	115.2	-1.392
Sb2068_A		0.1636	ug/L	1.356	829.3	0.4271
Se1960_A		1.219	ug/L	0.3045	24.98	1.904
Si2516_R		-14.04	ug/L	8.762	62.39	25.07
Sn1899_A		-0.7048	ug/L	0.3363	47.71	0.4898
Sr4215_R		0.05167	ug/L	0.1081	209.3	-23.66
Ti3349_A		-0.03982	ug/L	0.09903	248.7	-29.81
Tl1908_A		0.6542	ug/L	0.008604	1.315	-2.467
V_2924_A		0.04064	ug/L	0.1786	439.5	1.385
Zn2062_A		0.04133	ug/L	0.05164	124.9	0.4613
Y_3600_R		13,345	Cts/S	34.139	0.25582	13,345
Y_2243_A		6,800.0	Cts/S	11.783	0.17328	6,800.0
Y_3600_A		152,620	Cts/S	144.47	0.094661	152,620

SL9826-011

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:41:58PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9826-011

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:41:58PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		3.301	ug/L	0.7957	24.11	-4.482
Al3961_R		490.1	ug/L	8.042	1.641	69.15
As1891_A		-0.5952	ug/L	2.151	361.4	-3.031
B_2089_A		57.69	ug/L	2.662	4.615	22.49
Ba4554_R		114.3	ug/L	3.698	3.234	1,030
Be3130_R		-0.2924	ug/L	0.1403	48.00	-10.14
Ca3158_R	W	236,000	ug/L	13,440	5.694	32,590
Cd2265_A		-0.03349	ug/L	0.1488	444.5	-1.086
Co2286_A		2.716	ug/L	0.5413	19.93	4.375
Cr2677_A		3.580	ug/L	0.5223	14.59	12.96
Cu3273_A		4.217	ug/L	1.821	43.20	29.63
Fe2599_R		9,374	ug/L	536.1	5.719	2,267
K_7664_R		14,070	ug/L	766.3	5.447	1,355
Li6707_R		92.41	ug/L	4.153	4.494	211.4
Mg2025_A		88,000	ug/L	1,266	1.439	5,632
Mn2576_R	W	6,133	ug/L	374.6	6.107	8,317
Mo2020_A		2.690	ug/L	1.174	43.65	2.290
Na5895_R	W	371,400	ug/L	20,680	5.569	129,700
Ni2316_A		3.552	ug/L	1.519	42.76	0.09571
Pb2203_A		6.527	ug/L	4.270	65.42	-0.6248
Sb2068_A		-0.7934	ug/L	2.420	305.1	0.2589
Se1960_A		-4.728	ug/L	8.272	175.0	1.473
Si2516_R		12,620	ug/L	739.4	5.858	960.9
Sn1899_A		1.777	ug/L	2.820	158.7	1.012
Sr4215_R		1,506	ug/L	85.69	5.689	17,470
Ti3349_A		-1.716	ug/L	0.2768	16.14	-36.17
Tl1908_A		6.168	ug/L	0.3002	4.867	-3.134
V_2924_A		-0.3627	ug/L	2.058	567.5	-3.664
Zn2062_A		2.936	ug/L	0.3614	12.31	1.913
Y_3600_R		12,698	Cts/S	291.60	2.2964	12,698
Y_2243_A		6,708.0	Cts/S	64.369	0.95959	6,708.0
Y_3600_A		148,800	Cts/S	364.65	0.24506	148,800

SL9828-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:46:20PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		5.110	ug/L	3.235	63.31	0.2351
Al3961_R		265.7	ug/L	33.93	12.77	15.32
As1891_A		-0.2328	ug/L	13.53	5,813	-2.954
B_2089_A		47.09	ug/L	1.367	2.902	13.51
Ba4554_R		184.6	ug/L	2.140	1.159	858.0
Be3130_R		-0.3092	ug/L	0.8683	280.8	-8.400
Ca3158_R		123,400	ug/L	1,499	1.215	8,677
Cd2265_A		-0.001799	ug/L	0.3247	18,040	-2.742
Co2286_A		-0.9436	ug/L	2.198	233.0	2.296
Cr2677_A		0.6466	ug/L	3.559	550.4	4.464
Cu3273_A		-0.4837	ug/L	0.8353	172.7	17.79
Fe2599_R		4,466	ug/L	95.79	2.145	553.3
K_7664_R		12,830	ug/L	440.5	3.432	606.0
Li6707_R		87.43	ug/L	16.35	18.70	101.1
Mg2025_A		25,120	ug/L	59.49	0.2368	801.2
Mn2576_R		2,689	ug/L	12.20	0.4536	1,864
Mo2020_A		1.037	ug/L	1.069	103.1	0.8877
Na5895_R	W	849,800	ug/L	7,781	0.9156	151,500
Ni2316_A		3.984	ug/L	1.636	41.06	-0.2874

SL9828-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:46:20PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.5000	ug/L	6.880	1,376	-1.811
Sb2068_A		-5.418	ug/L	3.671	67.75	0.05189
Se1960_A		-7.329	ug/L	10.15	138.4	1.432
Si2516_R		10,240	ug/L	47.53	0.4642	415.8
Sn1899_A		-0.7576	ug/L	7.763	1,025	0.7971
Sr4215_R		962.5	ug/L	11.68	1.214	5,685
Ti3349_A		-2.937	ug/L	1.767	60.17	-34.94
Tl1908_A		3.521	ug/L	8.641	245.4	-2.817
V_2924_A		-0.6497	ug/L	1.989	306.2	-0.7712
Zn2062_A		5.056	ug/L	0.08544	1.690	1.698
Y_3600_R		12,963	Cts/S	89.830	0.69300	12,963
Y_2243_A		6,708.7	Cts/S	25.852	0.38535	6,708.7
Y_3600_A		148,470	Cts/S	55.982	0.037705	148,470

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:50:43PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		501.2	ug/L	0.5632	0.1124	8,058
Al3961_R		12,410	ug/L	19.53	0.1574	8,782
As1891_A		499.4	ug/L	1.544	0.3091	165.7
B_2089_A		499.6	ug/L	1.172	0.2346	691.0
Ba4554_R		492.6	ug/L	0.4342	0.08814	22,260
Be3130_R		494.4	ug/L	0.06147	0.01244	35,820
Ca3158_R		12,540	ug/L	26.18	0.2088	9,013
Cd2265_A		499.7	ug/L	0.4033	0.08070	6,180
Co2286_A		505.2	ug/L	0.5012	0.09921	1,675
Cr2677_A		502.3	ug/L	0.7056	0.1405	5,463
Cu3273_A		492.3	ug/L	0.4379	0.08896	6,731
Fe2599_R		12,540	ug/L	6.208	0.04952	15,820
K_7664_R		12,150	ug/L	58.88	0.4846	6,267
Li6707_R		493.0	ug/L	0.5361	0.1087	5,937
Mg2025_A		12,190	ug/L	18.80	0.1542	3,957
Mn2576_R		495.8	ug/L	0.7274	0.1467	3,509
Mo2020_A		502.8	ug/L	2.735	0.5438	1,390
Na5895_R		12,290	ug/L	14.86	0.1210	22,440
Ni2316_A		502.4	ug/L	0.7578	0.1508	814.3
Pb2203_A		502.1	ug/L	0.2735	0.05448	447.5
Sb2068_A		500.8	ug/L	0.4589	0.09163	264.1
Se1960_A		497.0	ug/L	1.572	0.3163	123.6
Si2516_R		12,450	ug/L	7.879	0.06330	4,830
Sn1899_A		502.3	ug/L	1.368	0.2723	255.0
Sr4215_R		496.0	ug/L	0.3083	0.06215	30,060
Ti3349_A		497.3	ug/L	1.171	0.2354	11,790
Tl1908_A		500.4	ug/L	1.493	0.2984	267.6
V_2924_A		496.6	ug/L	0.2167	0.04364	6,459
Zn2062_A		503.2	ug/L	0.1177	0.02339	1,362
Y_3600_R		13,250	Cts/S	220.11	1.6612	13,250
Y_2243_A		6,788.3	Cts/S	8.3554	0.12309	6,788.3
Y_3600_A		150,870	Cts/S	164.16	0.10881	150,870

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:54:52PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:54:52PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3954	ug/L	0.2441	61.74	0.6105
Al3961_R		-1.439	ug/L	2.377	165.2	-6.258
As1891_A		0.02101	ug/L	0.3352	1,595	-2.979
B_2089_A		4.077	ug/L	0.4095	10.04	12.92
Ba4554_R		0.1211	ug/L	0.09975	82.40	50.10
Be3130_R		-0.01283	ug/L	0.03450	269.0	-7.297
Ca3158_R		-0.3200	ug/L	7.773	2,429	-40.57
Cd2265_A		0.06029	ug/L	0.02181	36.17	-2.591
Co2286_A		-0.1313	ug/L	0.01380	10.51	2.219
Cr2677_A		-0.03334	ug/L	0.2876	862.6	3.094
Cu3273_A		-0.1159	ug/L	0.1708	147.4	17.60
Fe2599_R		0.7821	ug/L	0.5930	75.83	3.301
K_7664_R		53.07	ug/L	32.68	61.58	-19.91
Li6707_R		0.8792	ug/L	0.2812	31.99	8.659
Mg2025_A		4.020	ug/L	1.480	36.83	-2.120
Mn2576_R		-0.04534	ug/L	0.1772	390.9	2.747
Mo2020_A		0.4854	ug/L	0.09122	18.79	1.903
Na5895_R		38.60	ug/L	0.5262	1.363	126.4
Ni2316_A		-0.1640	ug/L	0.4956	302.2	-1.168
Pb2203_A		1.510	ug/L	0.3434	22.75	-0.5511
Sb2068_A		0.2697	ug/L	1.003	372.1	0.4825
Se1960_A		-2.107	ug/L	0.1705	8.089	1.092
Si2516_R		-8.775	ug/L	3.490	39.77	27.07
Sn1899_A		-0.1939	ug/L	0.3258	168.0	0.7522
Sr4215_R		0.07343	ug/L	0.04015	54.68	-22.28
Ti3349_A		-0.005491	ug/L	0.1064	1,938	-29.29
Tl1908_A		0.4453	ug/L	0.2828	63.49	-2.592
V_2924_A		-0.07661	ug/L	0.2951	385.2	-0.1797
Zn2062_A		0.1910	ug/L	0.08385	43.89	0.8722
Y_3600_R		13,327	Cts/S	129.87	0.97451	13,327
Y_2243_A		6,830.1	Cts/S	1.2343	0.018071	6,830.1
Y_3600_A		154,280	Cts/S	1,142.5	0.74049	154,280

SL9828-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:59:18PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		6.035	ug/L	2.762	45.77	3.845
Al3961_R		397.9	ug/L	68.15	17.13	25.41
As1891_A		14.77	ug/L	0.3224	2.183	-2.485
B_2089_A		40.61	ug/L	5.728	14.11	12.95
Ba4554_R		129.4	ug/L	1.700	1.313	617.9
Be3130_R		-0.3389	ug/L	0.4121	121.6	-8.607
Ca3158_R		165,800	ug/L	1,207	0.7283	11,730
Cd2265_A		-0.02484	ug/L	0.08167	328.8	-3.341
Co2286_A		3.543	ug/L	1.304	36.80	3.832
Cr2677_A		4.791	ug/L	0.4922	10.27	9.028
Cu3273_A		2.554	ug/L	1.629	63.78	22.19
Fe2599_R		272.0	ug/L	21.88	8.043	35.99
K_7664_R		9,249	ug/L	429.8	4.647	426.0
Li6707_R		27.44	ug/L	14.01	51.07	30.75
Mg2025_A		36,650	ug/L	57.94	0.1581	1,192
Mn2576_R		3,081	ug/L	8.940	0.2902	2,149
Mo2020_A		17.11	ug/L	0.4220	2.467	5.385
Na5895_R	W	551,800	ug/L	556.8	0.1009	98,970
Ni2316_A		8.638	ug/L	1.091	12.63	0.5117

SL9828-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 3:59:18PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		1.414	ug/L	0.1232	8.712	-1.790
Sb2068_A		-1.910	ug/L	4.631	242.5	0.2384
Se1960_A		-1.790	ug/L	26.48	1,479	1.597
Si2516_R		8,397	ug/L	22.92	0.2730	348.3
Sn1899_A		-3.663	ug/L	0.7888	21.53	0.6647
Sr4215_R		1,012	ug/L	0.4712	0.04657	6,011
Ti3349_A		-3.408	ug/L	1.070	31.38	-36.46
Tl1908_A		11.47	ug/L	3.209	27.98	-2.467
V_2924_A		-0.1988	ug/L	0.9609	483.5	-0.5119
Zn2062_A		5.420	ug/L	0.5935	10.95	1.828
Y_3600_R		13,037	Cts/S	255.37	1.9588	13,037
Y_2243_A		6,833.8	Cts/S	14.593	0.21355	6,833.8
Y_3600_A		150,280	Cts/S	472.34	0.31431	150,280

PBSLJ15ICS1

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:03:42PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.03971	ug/L	0.4353	1,096	-5.332
Al3961_R		20.29	ug/L	26.23	129.3	9.159
As1891_A		0.2186	ug/L	0.7994	365.7	-2.930
B_2089_A		7.195	ug/L	0.3747	5.208	17.19
Ba4554_R		0.5220	ug/L	0.4116	78.86	67.89
Be3130_R		0.02475	ug/L	0.03696	149.4	-4.579
Ca3158_R		69.34	ug/L	4.351	6.274	9.977
Cd2265_A		0.005836	ug/L	0.007496	128.4	-3.268
Co2286_A		-0.1929	ug/L	0.007777	4.032	2.033
Cr2677_A		0.7589	ug/L	0.05490	7.235	11.87
Cu3273_A		0.5708	ug/L	0.1331	23.32	27.08
Fe2599_R		16.23	ug/L	0.3208	1.977	22.77
K_7664_R		65.17	ug/L	7.790	11.95	-13.59
Li6707_R		1.199	ug/L	0.2421	20.19	12.48
Mg2025_A		13.44	ug/L	0.3108	2.312	0.9559
Mn2576_R	W	2.914	ug/L	0.01952	0.6698	23.67
Mo2020_A		0.2407	ug/L	0.02021	8.397	1.231
Na5895_R		43.84	ug/L	5.386	12.29	135.2
Ni2316_A		0.3088	ug/L	0.4961	160.6	-0.4031
Pb2203_A		0.4998	ug/L	0.3019	60.41	-1.472
Sb2068_A		0.3903	ug/L	0.01399	3.583	0.4192
Se1960_A		-2.348	ug/L	0.9631	41.01	1.040
Si2516_R		-6.061	ug/L	2.161	35.65	27.97
Sn1899_A		30.92	ug/L	0.4310	1.394	16.70
Sr4215_R		0.3321	ug/L	0.1777	53.52	-6.461
Ti3349_A		0.6733	ug/L	0.3426	50.89	-12.75
Tl1908_A		-0.04544	ug/L	1.244	2,737	-2.882
V_2924_A		0.1582	ug/L	0.005305	3.353	2.932
Zn2062_A		1.707	ug/L	0.05543	3.247	5.032
Y_3600_R		13,250	Cts/S	30.147	0.22753	13,250
Y_2243_A		6,872.7	Cts/S	6.8518	0.099696	6,872.7
Y_3600_A		153,740	Cts/S	169.14	0.11002	153,740

LCSOLJ15ICS1

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:08:07PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

LCSOLJ15ICS1

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:08:07PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		48.05	ug/L	0.09449	0.1966	769.8
Al3961_R		1,970	ug/L	18.78	0.9530	1,375
As1891_A		98.14	ug/L	1.289	1.314	30.10
B_2089_A		476.7	ug/L	0.8536	0.1791	641.9
Ba4554_R		1,946	ug/L	7.341	0.3772	86,800
Be3130_R		48.48	ug/L	0.09499	0.1959	3,448
Ca3158_R		2,421	ug/L	9.232	0.3813	1,690
Cd2265_A		243.8	ug/L	0.1773	0.07273	2,994
Co2286_A		502.6	ug/L	0.7122	0.1417	1,659
Cr2677_A		196.1	ug/L	0.2865	0.1461	2,143
Cu3273_A		243.9	ug/L	0.4618	0.1893	3,356
Fe2599_R		998.0	ug/L	1.098	0.1100	1,247
K_7664_R		9,323	ug/L	57.61	0.6179	4,743
Li6707_R		478.9	ug/L	2.831	0.5911	5,702
Mg2025_A		4,631	ug/L	1.011	0.02183	1,499
Mn2576_R		481.8	ug/L	2.719	0.5643	3,373
Mo2020_A		99.31	ug/L	0.3912	0.3939	273.7
Na5895_R		7,151	ug/L	15.18	0.2123	12,940
Ni2316_A		496.6	ug/L	0.9234	0.1859	799.8
Pb2203_A		96.44	ug/L	0.7877	0.8169	84.01
Sb2068_A		95.31	ug/L	0.5874	0.6163	48.54
Se1960_A		93.49	ug/L	1.027	1.099	24.49
Si2516_R		919.8	ug/L	23.93	2.602	381.8
Sn1899_A		531.5	ug/L	1.685	0.3170	268.5
Sr4215_R		492.0	ug/L	0.8822	0.1793	29,480
Ti3349_A		480.2	ug/L	0.5090	0.1060	11,420
Tl1908_A		94.00	ug/L	0.5420	0.5766	46.94
V_2924_A		481.9	ug/L	1.114	0.2312	6,327
Zn2062_A		493.3	ug/L	0.9076	0.1840	1,330
Y_3600_R		13,100	Cts/S	72.724	0.55515	13,100
Y_2243_A		6,758.7	Cts/S	9.9501	0.14722	6,758.7
Y_3600_A		151,370	Cts/S	18.551	0.012255	151,370

SL9846-004

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:12:20PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		3.568	ug/L	0.4350	12.19	-636.4
Al3961_R	W	71,180	ug/L	429.4	0.6032	52,390
As1891_A		44.56	ug/L	1.116	2.505	8.141
B_2089_A		123.4	ug/L	0.7472	0.6055	176.8
Ba4554_R		150.6	ug/L	0.5965	0.3962	7,111
Be3130_R		4.594	ug/L	0.05948	1.295	132.0
Ca3158_R	W	130,200	ug/L	934.9	0.7181	97,760
Cd2265_A		-0.8697	ug/L	0.06855	7.881	154.4
Co2286_A		44.23	ug/L	0.05323	0.1203	186.8
Cr2677_A		151.5	ug/L	0.7143	0.4716	1,693
Cu3273_A		203.4	ug/L	0.03076	0.01512	2,808
Fe2599_R	RW	132,500	ug/L	800.2	0.6037	174,000
K_7664_R		12,840	ug/L	2.941	0.02291	6,893
Li6707_R		235.0	ug/L	0.02840	0.01208	2,945
Mg2025_A	W	38,360	ug/L	10.74	0.02799	12,780
Mn2576_R	W	1,486	ug/L	7.883	0.5306	10,910
Mo2020_A		14.53	ug/L	0.03657	0.2517	42.15
Na5895_R	W	54,580	ug/L	160.5	0.2941	103,500
Ni2316_A		99.12	ug/L	0.1663	0.1678	152.4

SL9846-004

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:12:20PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		124.1	ug/L	0.9085	0.7319	113.5
Sb2068_A		-0.7819	ug/L	0.9261	118.4	1.220
Se1960_A		-2.236	ug/L	0.2160	9.658	1.777
Si2516_R		2,578	ug/L	2.188	0.08486	1,078
Sn1899_A		53.21	ug/L	0.06205	0.1166	28.55
Sr4215_R		551.7	ug/L	0.5227	0.09473	34,790
Ti3349_A	W	3,865	ug/L	9.973	0.2580	93,560
Tl1908_A		-1.572	ug/L	0.1667	10.61	-7.009
V_2924_A		143.5	ug/L	0.6224	0.4338	1,959
Zn2062_A		460.2	ug/L	0.3693	0.08025	1,282
Y_3600_R		13,788	Cts/S	174.31	1.2642	13,788
Y_2243_A		6,980.3	Cts/S	5.3001	0.075928	6,980.3
Y_3600_A		153,730	Cts/S	224.87	0.14628	153,730

SL9846-005

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:17:22PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		5.654	ug/L	1.160	20.52	-591.4
Al3961_R	W	65,420	ug/L	1,529	2.338	47,940
As1891_A		42.28	ug/L	1.152	2.724	7.569
B_2089_A		130.9	ug/L	0.04916	0.03755	189.1
Ba4554_R		167.7	ug/L	2.094	1.249	7,886
Be3130_R		4.295	ug/L	0.05750	1.339	79.29
Ca3158_R		13,960	ug/L	309.5	2.217	10,410
Cd2265_A		-1.240	ug/L	0.3150	25.41	146.3
Co2286_A		37.72	ug/L	0.01439	0.03816	171.4
Cr2677_A		151.5	ug/L	0.4359	0.2877	1,720
Cu3273_A		193.4	ug/L	0.2199	0.1137	2,707
Fe2599_R	RW	128,500	ug/L	3,010	2.343	168,000
K_7664_R		13,310	ug/L	198.7	1.492	7,123
Li6707_R		209.6	ug/L	3.775	1.801	2,616
Mg2025_A	W	34,150	ug/L	71.37	0.2090	11,500
Mn2576_R	W	1,314	ug/L	29.32	2.231	9,610
Mo2020_A		13.86	ug/L	0.01598	0.1152	40.66
Na5895_R	W	55,000	ug/L	929.9	1.691	103,900
Ni2316_A		91.77	ug/L	0.2251	0.2453	142.1
Pb2203_A		130.5	ug/L	1.073	0.8221	120.9
Sb2068_A		-0.5454	ug/L	0.1966	36.05	1.332
Se1960_A		-1.463	ug/L	0.6252	42.74	1.949
Si2516_R		3,016	ug/L	63.95	2.120	1,251
Sn1899_A		49.73	ug/L	0.8206	1.650	27.03
Sr4215_R		175.3	ug/L	3.100	1.768	10,990
Ti3349_A	W	4,420	ug/L	18.82	0.4257	108,700
Tl1908_A		0.8106	ug/L	0.6346	78.29	-5.862
V_2924_A		156.8	ug/L	0.01392	0.008881	2,174
Zn2062_A		472.6	ug/L	0.4430	0.09374	1,330
Y_3600_R		13,738	Cts/S	297.60	2.1662	13,738
Y_2243_A		7,056.8	Cts/S	2.7484	0.038947	7,056.8
Y_3600_A		156,130	Cts/S	7.5179	0.0048150	156,130

SL9846-005L

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:22:24PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9846-005L

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:22:24PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		6.362	ug/L	0.4504	7.080	-123.2
Al3961_R		67,160	ug/L	249.6	0.3716	9,586
As1891_A		46.99	ug/L	1.022	2.174	-0.6398
B_2089_A		146.8	ug/L	1.514	1.031	47.00
Ba4554_R		174.1	ug/L	0.6940	0.3986	1,630
Be3130_R		4.504	ug/L	0.5470	12.14	11.73
Ca3158_R		14,400	ug/L	48.30	0.3354	2,059
Cd2265_A		-1.393	ug/L	0.2438	17.50	26.72
Co2286_A		39.09	ug/L	0.03825	0.09785	36.61
Cr2677_A		158.8	ug/L	1.078	0.6789	354.0
Cu3273_A		204.5	ug/L	0.4438	0.2171	573.1
Fe2599_R	W	133,900	ug/L	114.0	0.08516	34,110
K_7664_R		13,410	ug/L	19.02	0.1419	1,359
Li6707_R		219.2	ug/L	0.9536	0.4350	531.4
Mg2025_A		33,840	ug/L	35.81	0.1058	2,211
Mn2576_R		1,353	ug/L	1.895	0.1401	1,930
Mo2020_A		15.35	ug/L	0.4504	2.934	9.172
Na5895_R		56,020	ug/L	14.60	0.02607	20,670
Ni2316_A		95.10	ug/L	1.368	1.438	27.87
Pb2203_A		138.2	ug/L	0.6898	0.4992	23.37
Sb2068_A		5.964	ug/L	7.860	131.8	1.237
Se1960_A		-3.045	ug/L	5.039	165.5	1.599
Si2516_R		3,019	ug/L	45.34	1.502	268.5
Sn1899_A		49.29	ug/L	1.110	2.252	5.890
Sr4215_R		181.0	ug/L	1.058	0.5845	2,191
Ti3349_A		4,574	ug/L	7.516	0.1643	21,900
Tl1908_A		1.934	ug/L	3.650	188.7	-3.315
V_2924_A		163.5	ug/L	2.796	1.711	442.6
Zn2062_A		498.7	ug/L	1.156	0.2317	273.0
Y_3600_R		13,381	Cts/S	136.19	1.0178	13,381
Y_2243_A		6,854.8	Cts/S	19.682	0.28714	6,854.8
Y_3600_A		152,160	Cts/S	498.05	0.32731	152,160

SL9846-005A

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:26:43PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		564.2	ug/L	0.4205	0.07454	8,653
Al3961_R	W	74,050	ug/L	46.78	0.06318	54,210
As1891_A		607.0	ug/L	4.466	0.7357	204.2
B_2089_A		695.2	ug/L	7.192	1.035	981.9
Ba4554_R		724.0	ug/L	7.156	0.9884	33,840
Be3130_R		570.7	ug/L	1.461	0.2560	42,570
Ca3158_R		18,900	ug/L	120.5	0.6373	14,080
Cd2265_A		563.7	ug/L	6.166	1.094	7,321
Co2286_A		609.7	ug/L	4.860	0.7971	2,118
Cr2677_A		709.5	ug/L	1.549	0.2183	7,882
Cu3273_A		763.2	ug/L	3.029	0.3969	10,600
Fe2599_R	RW	129,100	ug/L	143.0	0.1108	168,500
K_7664_R		23,780	ug/L	72.17	0.3035	12,740
Li6707_R		782.7	ug/L	7.897	1.009	9,759
Mg2025_A	W	39,610	ug/L	372.0	0.9391	13,220
Mn2576_R	W	1,827	ug/L	5.722	0.3132	13,350
Mo2020_A		588.2	ug/L	4.012	0.6821	1,674
Na5895_R	W	59,260	ug/L	186.9	0.3153	111,800
Ni2316_A		656.5	ug/L	7.954	1.212	1,085

SL9846-005A

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:26:43PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		694.4	ug/L	6.650	0.9577	638.8
Sb2068_A		570.3	ug/L	3.212	0.5632	313.1
Se1960_A		565.9	ug/L	5.693	1.006	145.2
Si2516_R		3,240	ug/L	20.39	0.6292	1,340
Sn1899_A		49.37	ug/L	0.7248	1.468	26.57
Sr4215_R		739.5	ug/L	6.220	0.8411	46,400
Ti3349_A	W	4,938	ug/L	2.502	0.05067	119,700
Tl1908_A		557.7	ug/L	3.404	0.6103	303.9
V_2924_A		718.2	ug/L	1.061	0.1477	9,590
Zn2062_A	W	1,028	ug/L	12.07	1.174	2,863
Y_3600_R		13,715	Cts/S	132.51	0.96620	13,715
Y_2243_A		6,986.2	Cts/S	33.710	0.48253	6,986.2
Y_3600_A		153,920	Cts/S	427.72	0.27788	153,920

SL9846-005D

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:31:38PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		4.108	ug/L	0.007630	0.1857	-487.4
Al3961_R	W	54,800	ug/L	40.35	0.07363	40,930
As1891_A		38.87	ug/L	0.2826	0.7272	7.141
B_2089_A		134.7	ug/L	0.7480	0.5554	193.7
Ba4554_R		170.2	ug/L	0.07427	0.04364	8,155
Be3130_R		3.778	ug/L	0.04622	1.223	38.73
Ca3158_R		14,510	ug/L	10.20	0.07029	11,030
Cd2265_A		-0.6947	ug/L	0.005319	0.7656	121.9
Co2286_A		32.17	ug/L	0.09144	0.2842	152.2
Cr2677_A		145.9	ug/L	0.6382	0.4375	1,642
Cu3273_A		186.8	ug/L	0.9551	0.5112	2,599
Fe2599_R	W	104,200	ug/L	414.1	0.3973	138,900
K_7664_R		11,910	ug/L	63.43	0.5326	6,489
Li6707_R		158.9	ug/L	0.9061	0.5703	2,020
Mg2025_A	W	29,930	ug/L	2.996	0.01001	10,050
Mn2576_R	W	1,162	ug/L	0.4487	0.03863	8,660
Mo2020_A		14.80	ug/L	0.1498	1.012	43.17
Na5895_R	W	58,580	ug/L	129.9	0.2218	112,800
Ni2316_A		77.34	ug/L	0.3743	0.4840	119.6
Pb2203_A		125.0	ug/L	1.124	0.8992	114.9
Sb2068_A		0.1990	ug/L	0.6322	317.6	1.541
Se1960_A		-0.04738	ug/L	2.222	4,690	2.193
Si2516_R		3,316	ug/L	19.29	0.5818	1,397
Sn1899_A		49.95	ug/L	0.6010	1.203	27.06
Sr4215_R		180.4	ug/L	0.04547	0.02521	11,530
Ti3349_A	W	4,463	ug/L	10.78	0.2416	108,900
Tl1908_A		0.4815	ug/L	1.350	280.4	-5.853
V_2924_A		142.6	ug/L	0.04055	0.02842	1,966
Zn2062_A		412.0	ug/L	0.1311	0.03183	1,156
Y_3600_R		13,999	Cts/S	32.217	0.23014	13,999
Y_2243_A		7,033.5	Cts/S	9.9595	0.14160	7,033.5
Y_3600_A		155,010	Cts/S	488.78	0.31532	155,010

SL9846-005S

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:35:53PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9846-005S

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:35:53PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		49.54	ug/L	1.581	3.192	290.4
Al3961_R	W	54,820	ug/L	607.1	1.107	41,500
As1891_A		131.6	ug/L	1.474	1.120	40.04
B_2089_A		578.3	ug/L	0.2357	0.04076	812.6
Ba4554_R	W	1,930	ug/L	7.616	0.3947	93,220
Be3130_R		47.94	ug/L	0.3988	0.8319	3,432
Ca3158_R		17,220	ug/L	166.4	0.9659	13,270
Cd2265_A		227.8	ug/L	0.2019	0.08864	3,054
Co2286_A		496.0	ug/L	0.5523	0.1114	1,755
Cr2677_A		334.3	ug/L	23.41	7.004	3,728
Cu3273_A		420.9	ug/L	29.56	7.023	5,848
Fe2599_R	W	99,600	ug/L	998.5	1.003	134,500
K_7664_R		20,170	ug/L	167.8	0.8321	11,170
Li6707_R		586.8	ug/L	5.049	0.8604	7,568
Mg2025_A	W	32,320	ug/L	9.896	0.03062	10,910
Mn2576_R	W	1,512	ug/L	12.87	0.8513	11,430
Mo2020_A		106.8	ug/L	0.1855	0.1737	308.0
Na5895_R	W	60,420	ug/L	374.6	0.6200	117,900
Ni2316_A		535.8	ug/L	1.546	0.2886	893.9
Pb2203_A		216.2	ug/L	0.3901	0.1804	200.3
Sb2068_A		46.02	ug/L	1.902	4.132	25.02
Se1960_A		88.34	ug/L	0.3264	0.3695	24.81
Si2516_R		3,115	ug/L	42.06	1.350	1,335
Sn1899_A		508.6	ug/L	1.745	0.3431	268.9
Sr4215_R		636.0	ug/L	3.309	0.5203	41,270
Ti3349_A	W	5,177	ug/L	348.6	6.733	125,800
Tl1908_A		88.41	ug/L	0.9106	1.030	42.74
V_2924_A		608.2	ug/L	43.81	7.204	8,187
Zn2062_A		848.3	ug/L	0.7425	0.08753	2,392
Y_3600_R		14,188	Cts/S	88.387	0.62297	14,188
Y_2243_A		7,070.3	Cts/S	5.4350	0.076870	7,070.3
Y_3600_A		154,530	Cts/S	7,856.6	5.0842	154,530

SL9846-011

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:40:05PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		4.440	ug/L	0.09056	2.039	-376.1
Al3961_R	W	33,610	ug/L	271.9	0.8090	24,680
As1891_A		35.37	ug/L	2.381	6.732	6.498
B_2089_A		87.87	ug/L	1.194	1.358	128.5
Ba4554_R		122.7	ug/L	0.9169	0.7475	5,790
Be3130_R		2.818	ug/L	0.05094	1.808	43.62
Ca3158_R		11,180	ug/L	159.3	1.424	8,343
Cd2265_A		2.147	ug/L	0.02067	0.9627	131.6
Co2286_A		20.86	ug/L	0.1795	0.8604	99.74
Cr2677_A		90.61	ug/L	0.1447	0.1597	1,019
Cu3273_A		163.5	ug/L	0.4022	0.2459	2,274
Fe2599_R	W	84,710	ug/L	771.7	0.9110	111,000
K_7664_R		7,924	ug/L	9.708	0.1225	4,227
Li6707_R		75.16	ug/L	0.3173	0.4222	938.4
Mg2025_A		17,890	ug/L	27.76	0.1552	5,943
Mn2576_R		682.1	ug/L	8.790	1.289	4,994
Mo2020_A		28.04	ug/L	0.05552	0.1980	80.17
Na5895_R	W	38,140	ug/L	45.88	0.1203	72,230
Ni2316_A		61.91	ug/L	0.05965	0.09636	94.58

SL9846-011

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:40:05PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		115.3	ug/L	0.6362	0.5517	105.7
Sb2068_A		1.710	ug/L	0.6319	36.95	1.929
Se1960_A		0.8045	ug/L	2.614	325.0	2.228
Si2516_R		3,367	ug/L	2.663	0.07907	1,389
Sn1899_A		51.14	ug/L	0.8542	1.670	27.41
Sr4215_R		118.7	ug/L	0.2023	0.1704	7,449
Ti3349_A	W	3,017	ug/L	0.1131	0.003749	73,360
Tl1908_A		0.1517	ug/L	0.7342	483.9	-4.947
V_2924_A		110.5	ug/L	0.4322	0.3912	1,514
Zn2062_A		480.1	ug/L	0.7120	0.1483	1,334
Y_3600_R		13,761	Cts/S	50.844	0.36949	13,761
Y_2243_A		6,963.3	Cts/S	6.6013	0.094802	6,963.3
Y_3600_A		154,440	Cts/S	284.95	0.18450	154,440

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:44:22PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		501.4	ug/L	2.323	0.4634	8,070
Al3961_R		12,470	ug/L	4.128	0.03310	8,813
As1891_A		501.9	ug/L	0.4085	0.08139	166.7
B_2089_A		500.5	ug/L	0.5564	0.1112	692.6
Ba4554_R		495.0	ug/L	3.409	0.6888	22,330
Be3130_R		497.4	ug/L	0.5349	0.1075	35,980
Ca3158_R		12,560	ug/L	97.53	0.7766	9,013
Cd2265_A		500.3	ug/L	0.5417	0.1083	6,192
Co2286_A		505.9	ug/L	1.673	0.3307	1,679
Cr2677_A		500.6	ug/L	1.202	0.2401	5,451
Cu3273_A		495.3	ug/L	1.210	0.2444	6,781
Fe2599_R		12,590	ug/L	30.36	0.2412	15,850
K_7664_R		12,210	ug/L	56.17	0.4601	6,286
Li6707_R		494.1	ug/L	4.048	0.8193	5,941
Mg2025_A		12,230	ug/L	1.354	0.01107	3,974
Mn2576_R		496.4	ug/L	3.319	0.6685	3,507
Mo2020_A		502.8	ug/L	1.270	0.2527	1,391
Na5895_R		12,300	ug/L	3.952	0.03213	22,430
Ni2316_A		504.3	ug/L	0.7315	0.1451	817.9
Pb2203_A		501.4	ug/L	0.7100	0.1416	447.2
Sb2068_A		501.6	ug/L	0.8083	0.1612	264.7
Se1960_A		500.0	ug/L	0.4311	0.08624	124.4
Si2516_R		12,450	ug/L	149.3	1.199	4,822
Sn1899_A		501.6	ug/L	2.206	0.4397	254.8
Sr4215_R		498.0	ug/L	1.541	0.3095	30,120
Ti3349_A		498.1	ug/L	0.06602	0.01326	11,830
Tl1908_A		499.7	ug/L	0.8426	0.1686	267.4
V_2924_A		497.5	ug/L	0.4723	0.09494	6,479
Zn2062_A		502.5	ug/L	0.4637	0.09229	1,361
Y_3600_R		13,227	Cts/S	96.304	0.72809	13,227
Y_2243_A		6,793.3	Cts/S	8.8820	0.13075	6,793.3
Y_3600_A		151,060	Cts/S	59.863	0.039629	151,060

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:48:30PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:48:30PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4824	ug/L	0.04418	9.159	2.036
Al3961_R		8.117	ug/L	12.58	155.0	0.5246
As1891_A		-0.06235	ug/L	0.1439	230.8	-2.994
B_2089_A		3.559	ug/L	0.4094	11.51	12.18
Ba4554_R		-0.02604	ug/L	0.08359	321.0	43.05
Be3130_R		0.02118	ug/L	0.02638	124.5	-4.794
Ca3158_R		1.621	ug/L	7.000	431.9	-38.77
Cd2265_A		0.08447	ug/L	0.05476	64.83	-2.279
Co2286_A		0.1134	ug/L	0.1383	122.0	3.020
Cr2677_A		0.09180	ug/L	0.08138	88.65	4.439
Cu3273_A		-0.2303	ug/L	0.2530	109.8	15.80
Fe2599_R		1.819	ug/L	0.8652	47.58	4.570
K_7664_R		46.01	ug/L	12.62	27.42	-23.46
Li6707_R		1.500	ug/L	0.8172	54.48	16.05
Mg2025_A		3.112	ug/L	1.105	35.51	-2.401
Mn2576_R		0.09949	ug/L	0.02580	25.93	3.747
Mo2020_A		0.5600	ug/L	0.3193	57.03	2.101
Na5895_R		22.76	ug/L	0.8815	3.872	96.49
Ni2316_A		0.06578	ug/L	0.06320	96.09	-0.7897
Pb2203_A		-0.1714	ug/L	0.4019	234.5	-2.060
Sb2068_A		-0.02426	ug/L	0.8879	3,660	0.3278
Se1960_A		-1.533	ug/L	2.081	135.7	1.228
Si2516_R		-5.291	ug/L	10.28	194.2	28.16
Sn1899_A		-0.8505	ug/L	0.02420	2.845	0.4161
Sr4215_R		-0.04297	ug/L	0.06516	151.7	-29.12
Ti3349_A		0.1731	ug/L	0.07918	45.74	-24.65
Tl1908_A		0.7833	ug/L	0.1285	16.41	-2.397
V_2924_A		-0.2080	ug/L	0.02703	13.00	-1.940
Zn2062_A		0.2523	ug/L	0.1052	41.71	1.034
Y_3600_R		13,202	Cts/S	5.8179	0.044068	13,202
Y_2243_A		6,799.6	Cts/S	0.43220	0.0063560	6,799.6
Y_3600_A		152,360	Cts/S	457.38	0.30021	152,360

SL9886-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:52:55PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		27.63	ug/L	0.5530	2.001	-94.57
Al3961_R	W	125,700	ug/L	78.91	0.06280	44,310
As1891_A		128.9	ug/L	0.1959	0.1519	16.32
B_2089_A		1,058	ug/L	1.345	0.1271	689.3
Ba4554_R	W	4,903	ug/L	11.46	0.2338	110,200
Be3130_R		4.113	ug/L	0.1051	2.555	70.59
Ca3158_R	W	638,300	ug/L	4,963	0.7776	229,500
Cd2265_A		48.66	ug/L	0.01353	0.02780	362.0
Co2286_A		37.74	ug/L	0.2464	0.6530	74.39
Cr2677_A		277.8	ug/L	0.6169	0.2221	1,478
Cu3273_A	W	3,937	ug/L	0.7512	0.01908	25,790
Fe2599_R	W	124,400	ug/L	38.19	0.03069	78,200
K_7664_R	W	320,400	ug/L	1,172	0.3658	82,900
Li6707_R		86.59	ug/L	0.04876	0.05631	517.8
Mg2025_A	W	84,720	ug/L	171.3	0.2022	13,290
Mn2576_R	W	28,650	ug/L	61.85	0.2159	101,000
Mo2020_A		61.87	ug/L	0.2653	0.4289	86.50
Na5895_R		27,250	ug/L	95.45	0.3502	24,790
Ni2316_A		208.1	ug/L	0.1412	0.06785	157.2

SL9886-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:52:55PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		553.7	ug/L	0.08897	0.01607	236.8
Sb2068_A		2.400	ug/L	1.091	45.48	1.526
Se1960_A		33.37	ug/L	6.447	19.32	7.116
Si2516_R		2,464	ug/L	23.87	0.9687	507.9
Sn1899_A		255.7	ug/L	1.651	0.6458	63.44
Sr4215_R	W	3,652	ug/L	3.072	0.08413	110,300
Ti3349_A	W	2,786	ug/L	1.043	0.03743	31,770
Tl1908_A		6.847	ug/L	1.239	18.09	-13.06
V_2924_A		133.3	ug/L	0.7240	0.5432	810.1
Zn2062_A	W	12,510	ug/L	14.66	0.1172	16,410
Y_3600_R		13,203	Cts/S	28.619	0.21677	13,203
Y_2243_A		6,572.9	Cts/S	11.194	0.17030	6,572.9
Y_3600_A		144,920	Cts/S	437.89	0.30217	144,920

SL9978-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 4:57:16PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		7.794	ug/L	0.9151	11.74	-712.2
Al3961_R	W	201,000	ug/L	1,012	0.5034	71,230
As1891_A		107.1	ug/L	0.6904	0.6445	10.60
B_2089_A		137.3	ug/L	0.5089	0.3705	100.4
Ba4554_R		1,321	ug/L	3.882	0.2939	29,900
Be3130_R		8.416	ug/L	0.2306	2.740	51.77
Ca3158_R		43,270	ug/L	1.877	0.004338	15,620
Cd2265_A		-3.013	ug/L	0.2611	8.665	165.8
Co2286_A		70.30	ug/L	0.3786	0.5386	161.9
Cr2677_A		1,031	ug/L	2.468	0.2393	5,669
Cu3273_A		406.3	ug/L	0.5870	0.1445	2,771
Fe2599_R	W	298,800	ug/L	1,036	0.3469	188,900
K_7664_R		19,840	ug/L	63.61	0.3205	5,122
Li6707_R		225.7	ug/L	1.224	0.5426	1,361
Mg2025_A		36,940	ug/L	52.23	0.1414	6,074
Mn2576_R	W	3,046	ug/L	4.558	0.1496	10,760
Mo2020_A		11.29	ug/L	0.3548	3.144	16.73
Na5895_R		7,451	ug/L	35.52	0.4767	6,861
Ni2316_A		168.6	ug/L	1.347	0.7991	124.6
Pb2203_A	W	6,521	ug/L	12.40	0.1902	2,966
Sb2068_A		41.09	ug/L	1.081	2.631	14.41
Se1960_A		0.05677	ug/L	1.952	3,438	2.447
Si2516_R		3,446	ug/L	22.33	0.6481	711.1
Sn1899_A		60.86	ug/L	2.366	3.887	16.49
Sr4215_R		1,271	ug/L	2.779	0.2188	38,600
Ti3349_A	W	9,564	ug/L	7.384	0.07721	114,600
Tl1908_A		0.5962	ug/L	1.973	330.9	-6.397
V_2924_A		423.1	ug/L	0.4053	0.09579	2,837
Zn2062_A	W	5,396	ug/L	1.009	0.01870	7,417
Y_3600_R		13,284	Cts/S	13.141	0.098918	13,284
Y_2243_A		6,891.5	Cts/S	8.4266	0.12228	6,891.5
Y_3600_A		152,180	Cts/S	312.56	0.20539	152,180

SL9978-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:01:33PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9978-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:01:33PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		7.501	ug/L	2.614	34.85	-1,069
Al3961_R	W	289,100	ug/L	1,313	0.4541	104,900
As1891_A		118.4	ug/L	0.2495	0.2108	10.27
B_2089_A		217.9	ug/L	0.8620	0.3956	154.3
Ba4554_R	W	2,139	ug/L	12.74	0.5954	49,550
Be3130_R		13.38	ug/L	0.1444	1.080	132.5
Ca3158_R	W	70,800	ug/L	172.4	0.2435	26,190
Cd2265_A		-2.695	ug/L	0.5366	19.91	254.1
Co2286_A		101.5	ug/L	0.01290	0.01271	230.5
Cr2677_A		1,604	ug/L	5.178	0.3229	8,790
Cu3273_A		560.8	ug/L	0.7906	0.1410	3,806
Fe2599_R	W	437,500	ug/L	3,354	0.7665	283,200
K_7664_R		24,270	ug/L	75.27	0.3102	6,423
Li6707_R		317.6	ug/L	0.5136	0.1617	1,962
Mg2025_A		48,500	ug/L	126.4	0.2606	7,948
Mn2576_R	W	4,395	ug/L	15.30	0.3482	15,900
Mo2020_A		15.78	ug/L	0.5598	3.547	23.11
Na5895_R		12,710	ug/L	75.82	0.5967	11,940
Ni2316_A		244.9	ug/L	0.9451	0.3858	180.7
Pb2203_A	W	9,162	ug/L	4.906	0.05355	4,154
Sb2068_A		29.92	ug/L	2.909	9.723	13.01
Se1960_A		0.4419	ug/L	1.944	440.0	2.853
Si2516_R		4,235	ug/L	21.03	0.4965	890.6
Sn1899_A		77.35	ug/L	2.343	3.029	20.65
Sr4215_R	W	2,257	ug/L	15.58	0.6902	70,240
Ti3349_A	W	13,530	ug/L	11.81	0.08732	161,800
Tl1908_A		2.378	ug/L	1.616	67.96	-7.451
V_2924_A		587.8	ug/L	0.3099	0.05273	3,930
Zn2062_A	W	12,130	ug/L	23.59	0.1945	16,610
Y_3600_R		13,600	Cts/S	27.685	0.20356	13,600
Y_2243_A		6,867.0	Cts/S	8.8159	0.12838	6,867.0
Y_3600_A		151,820	Cts/S	152.96	0.10076	151,820

SL9978-003

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:05:55PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		9.019	ug/L	1.030	11.42	-813.0
Al3961_R	W	245,800	ug/L	766.5	0.3118	90,110
As1891_A		79.49	ug/L	1.168	1.469	5.177
B_2089_A		220.9	ug/L	0.008536	0.003865	156.9
Ba4554_R		1,968	ug/L	8.239	0.4186	46,070
Be3130_R		12.05	ug/L	0.07670	0.6366	157.8
Ca3158_R	W	67,050	ug/L	32.45	0.04841	25,050
Cd2265_A		-2.516	ug/L	0.01894	0.7527	194.9
Co2286_A		78.37	ug/L	0.3737	0.4769	180.8
Cr2677_A		698.2	ug/L	0.5021	0.07191	3,871
Cu3273_A		247.0	ug/L	0.1730	0.07003	1,681
Fe2599_R	W	339,700	ug/L	698.7	0.2057	222,200
K_7664_R		19,860	ug/L	22.65	0.1141	5,301
Li6707_R		253.8	ug/L	4.042	1.592	1,584
Mg2025_A		29,070	ug/L	17.70	0.06089	4,784
Mn2576_R	W	3,554	ug/L	16.34	0.4597	12,990
Mo2020_A		13.54	ug/L	0.4419	3.264	19.93
Na5895_R		12,110	ug/L	32.55	0.2688	11,500
Ni2316_A		173.9	ug/L	0.08526	0.04902	127.3

SL9978-003

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:05:55PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A	W	13,990	ug/L	18.61	0.1331	6,370
Sb2068_A		13.20	ug/L	0.1604	1.215	6.490
Se1960_A		-2.639	ug/L	0.2853	10.81	2.254
Si2516_R		3,093	ug/L	17.27	0.5583	667.0
Sn1899_A		59.47	ug/L	0.8820	1.483	16.15
Sr4215_R	W	2,234	ug/L	6.014	0.2692	70,220
Ti3349_A	W	10,770	ug/L	8.745	0.08122	129,900
Tl1908_A		1.457	ug/L	0.7966	54.68	-6.610
V_2924_A		430.5	ug/L	1.597	0.3710	2,918
Zn2062_A	W	4,075	ug/L	4.634	0.1137	5,606
Y_3600_R		13,740	Cts/S	2.9652	0.021581	13,740
Y_2243_A		6,897.7	Cts/S	15.151	0.21965	6,897.7
Y_3600_A		153,190	Cts/S	32.084	0.020944	153,190

SL9978-004

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:10:11PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		9.106	ug/L	0.4812	5.284	-1,100
Al3961_R	W	346,400	ug/L	14.54	0.004196	126,600
As1891_A		82.43	ug/L	4.039	4.899	3.856
B_2089_A		344.1	ug/L	0.5735	0.1667	240.0
Ba4554_R	W	3,005	ug/L	15.98	0.5320	70,060
Be3130_R		17.76	ug/L	0.1351	0.7607	257.5
Ca3158_R	W	102,700	ug/L	317.0	0.3087	38,270
Cd2265_A		-2.617	ug/L	0.08317	3.178	265.2
Co2286_A		95.75	ug/L	1.525	1.593	228.1
Cr2677_A		971.1	ug/L	2.215	0.2281	5,352
Cu3273_A		309.1	ug/L	2.178	0.7046	2,083
Fe2599_R	W	452,500	ug/L	602.3	0.1331	294,900
K_7664_R		28,680	ug/L	279.3	0.9741	7,652
Li6707_R		357.4	ug/L	0.1219	0.03411	2,223
Mg2025_A		35,640	ug/L	90.10	0.2528	5,863
Mn2576_R	W	3,755	ug/L	14.48	0.3857	13,660
Mo2020_A		17.45	ug/L	0.5469	3.134	25.42
Na5895_R		19,450	ug/L	74.50	0.3830	18,370
Ni2316_A		231.6	ug/L	0.2490	0.1075	169.8
Pb2203_A	W	17,450	ug/L	12.96	0.07427	7,944
Sb2068_A		21.52	ug/L	1.633	7.587	9.732
Se1960_A		-1.286	ug/L	2.998	233.1	2.719
Si2516_R		3,257	ug/L	31.81	0.9765	704.0
Sn1899_A		64.14	ug/L	1.381	2.153	17.33
Sr4215_R	W	3,568	ug/L	14.35	0.4021	111,800
Ti3349_A	W	15,020	ug/L	1.030	0.006861	180,100
Tl1908_A		1.823	ug/L	0.3941	21.62	-7.583
V_2924_A		579.7	ug/L	0.9144	0.1577	3,911
Zn2062_A	W	4,855	ug/L	3.931	0.08096	6,675
Y_3600_R		13,694	Cts/S	130.49	0.95293	13,694
Y_2243_A		6,893.1	Cts/S	15.367	0.22293	6,893.1
Y_3600_A		152,350	Cts/S	534.07	0.35057	152,350

SL9978-005

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:14:32PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9978-005

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:14:32PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		6.938	ug/L	0.6849	9.872	-615.6
Al3961_R	W	198,400	ug/L	1,230	0.6200	72,160
As1891_A		108.0	ug/L	0.5297	0.4905	11.36
B_2089_A		92.10	ug/L	1.238	1.345	69.70
Ba4554_R		1,053	ug/L	1.583	0.1502	24,480
Be3130_R		8.060	ug/L	0.08810	1.093	49.67
Ca3158_R		30,360	ug/L	311.8	1.027	11,230
Cd2265_A		-1.754	ug/L	0.3357	19.13	147.7
Co2286_A		78.15	ug/L	0.01628	0.02083	173.1
Cr2677_A		627.4	ug/L	0.6889	0.1098	3,457
Cu3273_A		187.2	ug/L	0.3507	0.1874	1,269
Fe2599_R	W	258,000	ug/L	1,761	0.6826	167,400
K_7664_R		17,270	ug/L	41.97	0.2429	4,569
Li6707_R		210.1	ug/L	4.657	2.216	1,300
Mg2025_A		36,550	ug/L	34.97	0.09568	5,999
Mn2576_R	W	3,230	ug/L	24.88	0.7704	11,720
Mo2020_A		9.839	ug/L	0.1838	1.868	14.65
Na5895_R		5,073	ug/L	34.46	0.6792	4,812
Ni2316_A		393.4	ug/L	324.1	82.39	311.0
Pb2203_A	W	10,980	ug/L	23.38	0.2130	4,985
Sb2068_A		13.50	ug/L	1.379	10.22	6.058
Se1960_A		-1.607	ug/L	6.463	402.2	2.186
Si2516_R		3,989	ug/L	76.69	1.922	836.7
Sn1899_A		51.84	ug/L	1.445	2.788	14.14
Sr4215_R		881.7	ug/L	1.560	0.1770	27,480
Ti3349_A	W	9,195	ug/L	8.748	0.09514	110,300
Tl1908_A		-0.3786	ug/L	0.4256	112.4	-6.587
V_2924_A		411.2	ug/L	0.2821	0.06862	2,762
Zn2062_A	W	4,471	ug/L	34.02	0.7609	6,134
Y_3600_R		13,631	Cts/S	24.274	0.17808	13,631
Y_2243_A		6,878.1	Cts/S	30.344	0.44118	6,878.1
Y_3600_A		152,290	Cts/S	60.968	0.040033	152,290

SL9978-008

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:18:48PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		21.65	ug/L	8.739	40.36	-547.1
Al3961_R	W	449,500	ug/L	2,364	0.5258	65,760
As1891_A		97.75	ug/L	4.296	4.395	-0.03499
B_2089_A		456.1	ug/L	2.997	0.6571	130.3
Ba4554_R		4,024	ug/L	28.49	0.7080	37,590
Be3130_R		22.82	ug/L	0.6364	2.789	139.4
Ca3158_R	W	137,400	ug/L	1,042	0.7581	20,490
Cd2265_A		-5.402	ug/L	0.02762	0.5113	128.7
Co2286_A		123.5	ug/L	4.471	3.621	116.8
Cr2677_A		1,234	ug/L	61.17	4.957	2,790
Cu3273_A		360.7	ug/L	18.52	5.134	1,005
Fe2599_R	W	580,200	ug/L	3,079	0.5307	151,400
K_7664_R		36,890	ug/L	88.97	0.2412	3,917
Li6707_R		461.0	ug/L	2.110	0.4578	1,147
Mg2025_A		46,390	ug/L	304.8	0.6571	3,039
Mn2576_R		3,688	ug/L	13.31	0.3608	5,365
Mo2020_A		21.10	ug/L	0.3348	1.587	12.50
Na5895_R		25,540	ug/L	56.02	0.2193	9,687
Ni2316_A		310.3	ug/L	5.488	1.768	90.68

SL9978-008

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:18:48PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A	W	15,630	ug/L	111.5	0.7131	2,834
Sb2068_A		34.90	ug/L	0.4707	1.349	5.932
Se1960_A		-7.734	ug/L	15.44	199.6	1.861
Si2516_R		3,591	ug/L	6.665	0.1856	329.6
Sn1899_A		66.79	ug/L	4.514	6.758	7.692
Sr4215_R		4,705	ug/L	17.10	0.3633	59,020
Ti3349_A	W	18,350	ug/L	917.6	4.999	90,290
Tl1908_A		-2.544	ug/L	0.5961	23.43	-5.527
V_2924_A		721.2	ug/L	37.79	5.241	1,996
Zn2062_A	W	6,823	ug/L	56.01	0.8209	3,738
Y_3600_R		13,708	Cts/S	68.447	0.49932	13,708
Y_2243_A		6,867.5	Cts/S	35.332	0.51448	6,867.5
Y_3600_A		156,320	Cts/S	5,402.5	3.4561	156,320

SL9978-009

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:23:03PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		8.448	ug/L	0.1247	1.476	-706.8
Al3961_R	W	213,000	ug/L	533.5	0.2504	77,390
As1891_A		112.7	ug/L	1.971	1.749	11.55
B_2089_A		145.4	ug/L	1.663	1.144	106.0
Ba4554_R		1,749	ug/L	8.992	0.5142	40,560
Be3130_R		9.869	ug/L	0.09613	0.9741	94.48
Ca3158_R		49,360	ug/L	31.30	0.06340	18,270
Cd2265_A		-1.692	ug/L	0.09349	5.525	173.7
Co2286_A		83.58	ug/L	0.7703	0.9217	186.3
Cr2677_A		378.8	ug/L	0.7168	0.1892	2,098
Cu3273_A		275.6	ug/L	0.2279	0.08270	1,875
Fe2599_R	W	298,000	ug/L	1,167	0.3915	193,100
K_7664_R		22,760	ug/L	46.48	0.2042	6,029
Li6707_R		234.1	ug/L	0.6680	0.2853	1,447
Mg2025_A		40,100	ug/L	92.85	0.2315	6,598
Mn2576_R	W	3,686	ug/L	4.153	0.1127	13,360
Mo2020_A		16.55	ug/L	0.08225	0.4970	24.15
Na5895_R		8,056	ug/L	40.79	0.5063	7,599
Ni2316_A		227.9	ug/L	0.4086	0.1793	173.4
Pb2203_A	W	2,477	ug/L	0.9428	0.03806	1,125
Sb2068_A		2.914	ug/L	1.762	60.48	2.917
Se1960_A		-5.058	ug/L	0.8313	16.44	1.858
Si2516_R		4,016	ug/L	22.10	0.5502	842.5
Sn1899_A		57.20	ug/L	0.1891	0.3306	15.56
Sr4215_R		1,417	ug/L	8.406	0.5932	44,130
Ti3349_A	W	10,040	ug/L	19.47	0.1940	120,500
Tl1908_A		2.170	ug/L	1.018	46.93	-6.283
V_2924_A		404.4	ug/L	0.2560	0.06331	2,731
Zn2062_A	W	3,346	ug/L	2.952	0.08824	4,602
Y_3600_R		13,615	Cts/S	108.25	0.79508	13,615
Y_2243_A		6,894.9	Cts/S	20.581	0.29849	6,894.9
Y_3600_A		152,470	Cts/S	30.221	0.019821	152,470

SL9978-010

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:27:18PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9978-010

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:27:18PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		22.81	ug/L	1.414	6.199	-1,026
Al3961_R	W	726,000	ug/L	3,854	0.5309	106,600
As1891_A		119.7	ug/L	4.082	3.411	-1.628
B_2089_A		821.3	ug/L	0.3716	0.04525	230.5
Ba4554_R	W	7,630	ug/L	14.37	0.1884	71,530
Be3130_R		38.82	ug/L	0.5392	1.389	263.6
Ca3158_R	W	249,800	ug/L	2,103	0.8417	37,420
Cd2265_A		-4.250	ug/L	1.493	35.13	253.9
Co2286_A		203.9	ug/L	0.2287	0.1122	190.6
Cr2677_A		2,053	ug/L	2.716	0.1323	4,527
Cu3273_A		1,190	ug/L	3.197	0.2686	3,243
Fe2599_R	W	1,063,000	ug/L	9,596	0.9030	278,500
K_7664_R		65,160	ug/L	152.4	0.2339	6,986
Li6707_R		755.9	ug/L	0.8308	0.1099	1,890
Mg2025_A		63,030	ug/L	79.39	0.1260	4,158
Mn2576_R	W	5,950	ug/L	33.67	0.5659	8,682
Mo2020_A		92.75	ug/L	0.4332	0.4671	52.99
Na5895_R		47,280	ug/L	52.13	0.1103	17,950
Ni2316_A		763.1	ug/L	0.03241	0.004247	232.1
Pb2203_A	W	24,270	ug/L	8.975	0.03699	4,430
Sb2068_A		34.61	ug/L	3.479	10.05	7.182
Se1960_A		0.4230	ug/L	13.83	3,270	2.728
Si2516_R		3,956	ug/L	69.83	1.765	367.6
Sn1899_A		192.3	ug/L	6.117	3.182	20.67
Sr4215_R	W	8,572	ug/L	8.180	0.09543	108,000
Ti3349_A	W	29,290	ug/L	18.49	0.06312	140,600
Tl1908_A		3.175	ug/L	0.5051	15.91	-6.438
V_2924_A		1,128	ug/L	3.004	0.2663	3,049
Zn2062_A	W	17,040	ug/L	2.148	0.01260	9,399
Y_3600_R		13,764	Cts/S	88.371	0.64206	13,764
Y_2243_A		6,912.3	Cts/S	0.20916	0.0030260	6,912.3
Y_3600_A		152,360	Cts/S	850.49	0.55820	152,360

SL9978-010

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:31:39PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		35.13	ug/L	3.191	9.084	-526.1
Al3961_R	W	741,000	ug/L	1,377	0.1858	53,370
As1891_A		134.7	ug/L	11.68	8.673	-1.979
B_2089_A		850.7	ug/L	6.328	0.7439	121.9
Ba4554_R		7,855	ug/L	39.76	0.5061	36,130
Be3130_R		40.43	ug/L	0.7288	1.802	134.0
Ca3158_R	W	257,800	ug/L	788.2	0.3057	18,920
Cd2265_A		-8.640	ug/L	0.4456	5.157	126.1
Co2286_A		208.5	ug/L	0.4574	0.2194	97.97
Cr2677_A		2,114	ug/L	12.07	0.5709	2,332
Cu3273_A		1,204	ug/L	2.818	0.2339	1,648
Fe2599_R	W	1,122,000	ug/L	7,135	0.6357	144,200
K_7664_R		65,870	ug/L	265.8	0.4035	3,439
Li6707_R		764.2	ug/L	10.10	1.321	936.0
Mg2025_A		63,520	ug/L	13.65	0.02149	2,075
Mn2576_R		6,134	ug/L	18.10	0.2950	4,390
Mo2020_A		96.02	ug/L	1.860	1.937	27.45
Na5895_R		47,980	ug/L	182.2	0.3798	8,962
Ni2316_A		782.9	ug/L	1.623	0.2072	117.3

SL9978-010

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:31:39PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A	W	25,090	ug/L	20.97	0.08359	2,269
Sb2068_A		26.23	ug/L	0.1697	0.6470	3.342
Se1960_A		-29.01	ug/L	10.54	36.31	1.453
Si2516_R		3,943	ug/L	52.03	1.320	195.5
Sn1899_A		193.9	ug/L	2.526	1.303	10.75
Sr4215_R		8,801	ug/L	39.68	0.4509	54,350
Ti3349_A	W	30,040	ug/L	59.14	0.1969	72,030
Tl1908_A		-1.479	ug/L	1.824	123.3	-4.930
V_2924_A		1,155	ug/L	4.311	0.3733	1,561
Zn2062_A	W	17,670	ug/L	9.320	0.05274	4,830
Y_3600_R		13,498	Cts/S	63.493	0.47037	13,498
Y_2243_A		6,851.1	Cts/S	14.427	0.21058	6,851.1
Y_3600_A		152,290	Cts/S	681.95	0.44780	152,290

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:35:55PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		505.9	ug/L	1.494	0.2954	8,210
Al3961_R		12,460	ug/L	40.04	0.3213	8,923
As1891_A		506.4	ug/L	0.9815	0.1938	168.4
B_2089_A		501.3	ug/L	0.4782	0.09539	694.6
Ba4554_R		494.0	ug/L	2.266	0.4587	22,570
Be3130_R		494.7	ug/L	0.9806	0.1982	36,250
Ca3158_R		12,350	ug/L	48.88	0.3957	8,981
Cd2265_A		503.5	ug/L	0.1773	0.03521	6,240
Co2286_A		507.4	ug/L	0.5443	0.1073	1,686
Cr2677_A		501.2	ug/L	0.8153	0.1627	5,502
Cu3273_A		495.4	ug/L	0.2091	0.04222	6,837
Fe2599_R		12,570	ug/L	55.01	0.4376	16,040
K_7664_R		12,170	ug/L	47.03	0.3863	6,350
Li6707_R		494.9	ug/L	0.4696	0.09490	6,028
Mg2025_A		12,350	ug/L	24.36	0.1972	4,019
Mn2576_R		489.4	ug/L	0.8035	0.1642	3,503
Mo2020_A		504.8	ug/L	0.1625	0.03219	1,398
Na5895_R		12,240	ug/L	56.20	0.4591	22,610
Ni2316_A		507.9	ug/L	0.4853	0.09555	824.8
Pb2203_A		504.2	ug/L	2.990	0.5931	450.4
Sb2068_A		504.2	ug/L	0.3259	0.06464	266.4
Se1960_A		502.6	ug/L	0.7049	0.1403	125.2
Si2516_R		12,290	ug/L	33.24	0.2703	4,825
Sn1899_A		506.5	ug/L	1.048	0.2068	257.6
Sr4215_R		494.0	ug/L	1.764	0.3572	30,280
Ti3349_A		496.1	ug/L	0.3490	0.07035	11,880
Tl1908_A		502.8	ug/L	0.1056	0.02100	269.5
V_2924_A		497.0	ug/L	1.586	0.3192	6,524
Zn2062_A		503.4	ug/L	1.227	0.2438	1,365
Y_3600_R		13,401	Cts/S	18.060	0.13476	13,401
Y_2243_A		6,802.2	Cts/S	2.4788	0.036442	6,802.2
Y_3600_A		152,300	Cts/S	504.19	0.33106	152,300

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:40:04PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:40:04PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.7550	ug/L	0.3075	40.73	6.539
Al3961_R		5.973	ug/L	18.07	302.5	-1.041
As1891_A		0.2633	ug/L	0.003934	1.494	-2.941
B_2089_A		2.484	ug/L	0.2566	10.33	10.96
Ba4554_R		0.03892	ug/L	0.04174	107.2	46.32
Be3130_R		0.05038	ug/L	0.03347	66.43	-2.689
Ca3158_R		6.138	ug/L	0.3371	5.491	-35.79
Cd2265_A		0.04061	ug/L	0.04679	115.2	-2.873
Co2286_A		-0.05865	ug/L	0.04042	68.93	2.500
Cr2677_A		0.2849	ug/L	0.1259	44.20	6.590
Cu3273_A		-0.3652	ug/L	0.04449	12.18	14.01
Fe2599_R		1.881	ug/L	2.541	135.1	4.695
K_7664_R		69.80	ug/L	15.51	22.22	-11.20
Li6707_R		0.6417	ug/L	0.3431	53.47	5.803
Mg2025_A		1.796	ug/L	1.101	61.30	-2.890
Mn2576_R		0.3456	ug/L	0.1252	36.23	5.520
Mo2020_A		0.5241	ug/L	0.08053	15.36	2.044
Na5895_R		13.17	ug/L	6.571	49.87	79.64
Ni2316_A		-0.03235	ug/L	0.2769	855.8	-0.9645
Pb2203_A		-0.04573	ug/L	0.8857	1,937	-1.979
Sb2068_A		0.3450	ug/L	0.5369	155.6	0.5305
Se1960_A		-2.548	ug/L	0.5470	21.46	0.9995
Si2516_R		-12.27	ug/L	6.405	52.21	25.67
Sn1899_A		-0.4168	ug/L	0.02896	6.947	0.6484
Sr4215_R		0.04137	ug/L	0.05056	122.2	-24.21
Ti3349_A		0.06162	ug/L	0.1407	228.3	-27.44
Tl1908_A		-0.4980	ug/L	0.003591	0.7211	-3.155
V_2924_A		-0.2269	ug/L	0.2931	129.2	-2.196
Zn2062_A		0.2280	ug/L	0.2581	113.2	0.9923
Y_3600_R		13,303	Cts/S	102.86	0.77322	13,303
Y_2243_A		6,935.3	Cts/S	103.26	1.4889	6,935.3
Y_3600_A		152,980	Cts/S	801.27	0.52377	152,980

PBWLJ16ICW1

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:44:28PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3296	ug/L	0.01976	5.996	-0.4744
Al3961_R		7.247	ug/L	1.740	24.01	-0.09215
As1891_A		0.5341	ug/L	0.7849	147.0	-2.814
B_2089_A		10.83	ug/L	0.1308	1.207	22.01
Ba4554_R		-0.07354	ug/L	0.2799	380.6	40.83
Be3130_R		0.06579	ug/L	0.008634	13.12	-1.560
Ca3158_R		0.9562	ug/L	0.3366	35.20	-39.12
Cd2265_A		-0.05780	ug/L	0.0009480	1.639	-4.068
Co2286_A		-0.1062	ug/L	0.04842	45.57	2.310
Cr2677_A		0.07140	ug/L	0.2588	362.5	4.234
Cu3273_A		0.05709	ug/L	0.1577	276.2	19.85
Fe2599_R		2.903	ug/L	1.514	52.15	5.921
K_7664_R		61.38	ug/L	34.40	56.05	-15.38
Li6707_R		1.815	ug/L	0.8761	48.28	19.72
Mg2025_A		7.868	ug/L	0.6085	7.734	-0.8705
Mn2576_R		0.3383	ug/L	0.5855	173.1	5.431
Mo2020_A		0.1301	ug/L	0.06284	48.32	0.9185
Na5895_R		17.49	ug/L	0.8344	4.772	86.63
Ni2316_A		-0.06619	ug/L	0.2326	351.5	-1.015

PBWLJ16ICW1

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:44:28PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.3027	ug/L	0.3497	115.5	-1.646
Sb2068_A		0.4244	ug/L	0.1830	43.13	0.5680
Se1960_A		-0.4148	ug/L	0.5167	124.6	1.514
Si2516_R		26.17	ug/L	9.387	35.87	40.10
Sn1899_A		-0.3669	ug/L	0.4361	118.9	0.6660
Sr4215_R		0.002702	ug/L	0.1648	6,097	-26.31
Ti3349_A		0.02488	ug/L	0.03573	143.6	-28.33
Tl1908_A		-0.4430	ug/L	0.3961	89.40	-3.088
V_2924_A		-0.1474	ug/L	0.05785	39.24	-1.110
Zn2062_A		0.2544	ug/L	0.1016	39.93	1.048
Y_3600_R		13,159	Cts/S	109.58	0.83274	13,159
Y_2243_A		6,852.4	Cts/S	19.929	0.29083	6,852.4
Y_3600_A		153,030	Cts/S	173.92	0.11365	153,030

LCSWLJ16ICW1

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:48:53PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		50.85	ug/L	0.1465	0.2882	821.7
Al3961_R		2,048	ug/L	9.913	0.4840	1,446
As1891_A		103.4	ug/L	1.017	0.9832	32.31
B_2089_A		506.3	ug/L	0.1894	0.03740	690.6
Ba4554_R		2,027	ug/L	3.998	0.1972	91,470
Be3130_R		50.75	ug/L	0.1720	0.3389	3,652
Ca3158_R		2,543	ug/L	28.46	1.119	1,798
Cd2265_A		259.5	ug/L	0.4696	0.1809	3,231
Co2286_A		522.5	ug/L	1.676	0.3207	1,748
Cr2677_A		206.0	ug/L	0.1435	0.06964	2,269
Cu3273_A		256.6	ug/L	0.2152	0.08387	3,558
Fe2599_R		1,043	ug/L	6.974	0.6687	1,318
K_7664_R		9,904	ug/L	11.98	0.1209	5,101
Li6707_R		504.6	ug/L	1.261	0.2500	6,078
Mg2025_A		4,909	ug/L	12.74	0.2595	1,611
Mn2576_R		498.8	ug/L	1.365	0.2736	3,533
Mo2020_A		102.7	ug/L	0.2361	0.2299	286.9
Na5895_R		7,598	ug/L	1.370	0.01803	13,900
Ni2316_A		520.1	ug/L	0.8366	0.1609	849.1
Pb2203_A		102.0	ug/L	0.6700	0.6566	90.24
Sb2068_A		99.80	ug/L	0.9242	0.9260	51.69
Se1960_A		100.3	ug/L	1.839	1.833	26.52
Si2516_R		1,026	ug/L	3.652	0.3557	427.4
Sn1899_A		518.1	ug/L	0.05216	0.01007	265.4
Sr4215_R		510.9	ug/L	0.2713	0.05310	30,970
Ti3349_A		503.4	ug/L	0.2087	0.04146	12,070
Tl1908_A		99.65	ug/L	1.577	1.583	50.62
V_2924_A		507.1	ug/L	0.2972	0.05861	6,713
Zn2062_A		514.5	ug/L	0.5772	0.1122	1,406
Y_3600_R		13,253	Cts/S	1.0085	0.0076100	13,253
Y_2243_A		6,852.1	Cts/S	19.030	0.27772	6,852.1
Y_3600_A		152,600	Cts/S	128.68	0.084321	152,600

SL9849-003R

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:53:07PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9849-003R

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:53:07PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4703	ug/L	0.2040	43.37	-0.3868
Al3961_R		593.2	ug/L	3.846	0.6483	420.1
As1891_A		-0.08029	ug/L	0.2633	327.9	-3.024
B_2089_A		25.84	ug/L	0.2195	0.8494	42.00
Ba4554_R		43.61	ug/L	0.1889	0.4332	2,022
Be3130_R		0.07023	ug/L	0.03478	49.52	-2.675
Ca3158_R		20,170	ug/L	71.90	0.3565	14,600
Cd2265_A		-0.03377	ug/L	0.01391	41.19	-3.220
Co2286_A		-0.1163	ug/L	0.1339	115.2	2.504
Cr2677_A		1.346	ug/L	0.07320	5.437	18.22
Cu3273_A		2.503	ug/L	0.04320	1.726	53.18
Fe2599_R		426.8	ug/L	14.04	3.291	543.8
K_7664_R		5,069	ug/L	8.411	0.1659	2,602
Li6707_R		3.532	ug/L	1.145	32.42	40.83
Mg2025_A		2,207	ug/L	22.04	0.9989	715.2
Mn2576_R		6.576	ug/L	0.3561	5.415	50.18
Mo2020_A		0.9893	ug/L	0.1375	13.90	3.300
Na5895_R		3,116	ug/L	0.6191	0.01987	5,766
Ni2316_A		1.221	ug/L	0.03706	3.035	1.053
Pb2203_A		1.323	ug/L	0.2852	21.55	-0.7485
Sb2068_A		1.369	ug/L	0.2826	20.64	1.075
Se1960_A		0.9826	ug/L	0.4853	49.39	1.855
Si2516_R		6,711	ug/L	30.51	0.4546	2,632
Sn1899_A		-0.2256	ug/L	0.3904	173.0	0.7359
Sr4215_R		124.9	ug/L	0.1640	0.1313	7,593
Ti3349_A		27.48	ug/L	0.2956	1.076	629.7
Tl1908_A		-0.3183	ug/L	0.06294	19.78	-3.027
V_2924_A		2.364	ug/L	0.07395	3.129	32.25
Zn2062_A		4.782	ug/L	0.1071	2.240	13.36
Y_3600_R		13,326	Cts/S	28.955	0.21727	13,326
Y_2243_A		6,822.9	Cts/S	43.295	0.63455	6,822.9
Y_3600_A		152,090	Cts/S	181.86	0.11958	152,090

SL9849-003RL

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:57:30PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		2.187	ug/L	1.373	62.79	0.8983
Al3961_R		603.3	ug/L	3.140	0.5205	80.55
As1891_A		0.6312	ug/L	1.114	176.5	-2.980
B_2089_A		31.80	ug/L	0.7896	2.483	16.15
Ba4554_R		43.09	ug/L	1.055	2.449	431.8
Be3130_R		0.1387	ug/L	0.01941	13.99	-4.601
Ca3158_R		20,240	ug/L	61.05	0.3016	2,874
Cd2265_A		0.06643	ug/L	0.1303	196.1	-3.107
Co2286_A		0.2377	ug/L	0.03004	12.64	2.895
Cr2677_A		1.939	ug/L	0.6114	31.52	7.764
Cu3273_A		2.251	ug/L	1.397	62.08	25.36
Fe2599_R		413.6	ug/L	17.37	4.200	106.4
K_7664_R		5,250	ug/L	120.8	2.302	496.8
Li6707_R		2.337	ug/L	1.916	81.97	3.629
Mg2025_A		2,149	ug/L	0.6650	0.03095	138.3
Mn2576_R		8.333	ug/L	1.546	18.55	14.85
Mo2020_A		1.281	ug/L	0.2007	15.66	1.281
Na5895_R		3,114	ug/L	31.50	1.012	1,187
Ni2316_A		0.6239	ug/L	0.09136	14.64	-0.7144

SL9849-003RL

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 5:57:30PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.8888	ug/L	1.128	126.9	-1.780
Sb2068_A		-0.3421	ug/L	6.073	1,775	0.3101
Se1960_A		-12.78	ug/L	8.538	66.79	0.9933
Si2516_R		6,674	ug/L	11.08	0.1660	543.2
Sn1899_A		-2.668	ug/L	1.937	72.60	0.5860
Sr4215_R		122.9	ug/L	1.864	1.517	1,460
Ti3349_A		28.24	ug/L	0.03508	0.1242	107.6
Tl1908_A		0.3891	ug/L	4.202	1,080	-2.830
V_2924_A		1.647	ug/L	0.6827	41.44	5.277
Zn2062_A		5.137	ug/L	0.5716	11.13	3.187
Y_3600_R		13,211	Cts/S	143.79	1.0884	13,211
Y_2243_A		6,909.8	Cts/S	3.0201	0.043707	6,909.8
Y_3600_A		153,560	Cts/S	1,043.2	0.67935	153,560

SL9849-003RA

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:01:55PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		572.7	ug/L	0.7222	0.1261	9,211
Al3961_R		11,760	ug/L	110.6	0.9405	8,339
As1891_A		571.2	ug/L	1.410	0.2468	190.6
B_2089_A		597.7	ug/L	0.09443	0.01580	826.2
Ba4554_R		614.9	ug/L	2.652	0.4312	27,810
Be3130_R		582.4	ug/L	2.994	0.5140	42,260
Ca3158_R	W	25,200	ug/L	269.8	1.071	18,180
Cd2265_A		580.7	ug/L	0.8287	0.1427	7,186
Co2286_A		589.6	ug/L	1.327	0.2251	1,959
Cr2677_A		578.2	ug/L	1.222	0.2113	6,262
Cu3273_A		577.2	ug/L	1.208	0.2093	7,859
Fe2599_R		6,036	ug/L	51.74	0.8572	7,626
K_7664_R		15,490	ug/L	87.67	0.5660	8,012
Li6707_R		578.7	ug/L	2.654	0.4587	6,978
Mg2025_A		7,687	ug/L	17.12	0.2227	2,505
Mn2576_R		579.0	ug/L	9.177	1.585	4,103
Mo2020_A		586.9	ug/L	1.392	0.2371	1,626
Na5895_R		8,604	ug/L	50.98	0.5925	15,750
Ni2316_A		590.0	ug/L	1.016	0.1722	959.1
Pb2203_A		581.9	ug/L	0.04986	0.008568	519.7
Sb2068_A		575.7	ug/L	1.014	0.1761	306.5
Se1960_A		568.8	ug/L	0.4473	0.07865	141.5
Si2516_R		6,986	ug/L	77.60	1.111	2,728
Sn1899_A		0.4754	ug/L	0.07126	14.99	1.088
Sr4215_R		699.3	ug/L	2.716	0.3884	42,440
Ti3349_A		602.5	ug/L	0.8495	0.1410	14,240
Tl1908_A		574.1	ug/L	0.7018	0.1222	308.0
V_2924_A		579.3	ug/L	1.286	0.2220	7,503
Zn2062_A		583.1	ug/L	0.6682	0.1146	1,581
Y_3600_R		13,267	Cts/S	166.58	1.2556	13,267
Y_2243_A		6,802.3	Cts/S	15.330	0.22536	6,802.3
Y_3600_A		150,260	Cts/S	16.618	0.011059	150,260

SL9849-003RS

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:06:06PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9849-003RS

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:06:06PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		49.67	ug/L	0.4178	0.8411	791.9
Al3961_R		2,531	ug/L	12.96	0.5119	1,794
As1891_A		102.6	ug/L	0.3519	0.3429	31.99
B_2089_A		517.5	ug/L	1.112	0.2149	704.7
Ba4554_R	W	2,028	ug/L	9.960	0.4911	91,690
Be3130_R		50.01	ug/L	0.06673	0.1334	3,604
Ca3158_R		21,960	ug/L	154.4	0.7033	15,850
Cd2265_A		251.1	ug/L	0.4548	0.1811	3,123
Co2286_A		507.0	ug/L	1.835	0.3620	1,695
Cr2677_A		201.8	ug/L	0.5696	0.2823	2,198
Cu3273_A		254.3	ug/L	0.3772	0.1483	3,488
Fe2599_R		1,380	ug/L	12.23	0.8857	1,747
K_7664_R		14,670	ug/L	20.77	0.1416	7,590
Li6707_R		504.8	ug/L	0.3950	0.07824	6,092
Mg2025_A		6,993	ug/L	14.00	0.2001	2,289
Mn2576_R		492.1	ug/L	6.462	1.313	3,493
Mo2020_A		102.0	ug/L	0.4426	0.4341	284.5
Na5895_R		10,500	ug/L	29.05	0.2767	19,220
Ni2316_A		505.9	ug/L	0.1710	0.03380	824.8
Pb2203_A		100.1	ug/L	1.084	1.083	88.35
Sb2068_A		98.95	ug/L	0.9107	0.9204	51.21
Se1960_A		98.36	ug/L	1.916	1.948	26.00
Si2516_R		7,444	ug/L	48.99	0.6582	2,907
Sn1899_A		507.7	ug/L	1.654	0.3257	259.8
Sr4215_R		622.6	ug/L	1.696	0.2724	37,820
Ti3349_A		513.6	ug/L	0.7974	0.1552	12,180
Tl1908_A		97.60	ug/L	1.086	1.112	49.43
V_2924_A		500.5	ug/L	0.1640	0.03277	6,553
Zn2062_A		503.2	ug/L	0.3674	0.07302	1,373
Y_3600_R		13,278	Cts/S	29.630	0.22315	13,278
Y_2243_A		6,842.7	Cts/S	7.8060	0.11408	6,842.7
Y_3600_A		150,920	Cts/S	55.889	0.037032	150,920

SL9849-003RP

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:10:20PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		51.80	ug/L	1.321	2.550	821.8
Al3961_R		2,703	ug/L	56.73	2.099	1,879
As1891_A		107.0	ug/L	0.4283	0.4002	33.36
B_2089_A		532.0	ug/L	0.03661	0.006883	721.4
Ba4554_R	W	2,135	ug/L	11.74	0.5500	94,640
Be3130_R		52.68	ug/L	0.3437	0.6525	3,724
Ca3158_R		22,990	ug/L	407.3	1.771	16,270
Cd2265_A		260.2	ug/L	0.1531	0.05886	3,223
Co2286_A		525.9	ug/L	1.453	0.2762	1,751
Cr2677_A		209.2	ug/L	2.860	1.367	2,267
Cu3273_A		264.3	ug/L	2.734	1.034	3,607
Fe2599_R		1,474	ug/L	24.37	1.654	1,829
K_7664_R		15,450	ug/L	211.1	1.366	7,845
Li6707_R		526.5	ug/L	0.3918	0.07440	6,232
Mg2025_A		7,262	ug/L	5.568	0.07668	2,368
Mn2576_R		516.8	ug/L	9.437	1.826	3,597
Mo2020_A		105.1	ug/L	0.3777	0.3593	292.1
Na5895_R		11,070	ug/L	123.6	1.117	19,870
Ni2316_A		522.0	ug/L	0.01217	0.002331	847.7

SL9849-003RP

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:10:20PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		103.7	ug/L	1.090	1.052	91.18
Sb2068_A		103.2	ug/L	1.139	1.104	53.18
Se1960_A		103.2	ug/L	0.2609	0.2529	27.08
Si2516_R		7,877	ug/L	126.7	1.608	3,015
Sn1899_A		524.0	ug/L	1.164	0.2222	267.0
Sr4215_R		652.1	ug/L	6.871	1.054	38,840
Ti3349_A		532.0	ug/L	7.528	1.415	12,560
Tl1908_A		101.2	ug/L	1.416	1.399	51.15
V_2924_A		519.8	ug/L	5.344	1.028	6,772
Zn2062_A		519.9	ug/L	1.301	0.2502	1,413
Y_3600_R		13,021	Cts/S	133.16	1.0226	13,021
Y_2243_A		6,816.2	Cts/S	9.6086	0.14097	6,816.2
Y_3600_A		150,190	Cts/S	1,203.6	0.80138	150,190

SL9976-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:14:33PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4053	ug/L	0.2100	51.82	0.5982
Al3961_R		142.7	ug/L	1.369	0.9592	98.40
As1891_A		2.564	ug/L	0.2291	8.935	-2.108
B_2089_A		55.72	ug/L	0.05700	0.1023	81.73
Ba4554_R		142.6	ug/L	0.9270	0.6500	6,418
Be3130_R		-0.0003140	ug/L	0.04235	13,500	-6.306
Ca3158_R		21,130	ug/L	56.26	0.2662	15,080
Cd2265_A		0.7560	ug/L	0.01443	1.908	6.066
Co2286_A		0.2253	ug/L	0.03584	15.91	3.391
Cr2677_A		0.9732	ug/L	0.05856	6.018	15.16
Cu3273_A		0.6932	ug/L	0.3161	45.59	27.30
Fe2599_R		30.93	ug/L	1.746	5.643	40.96
K_7664_R		1,150	ug/L	33.23	2.890	545.3
Li6707_R		12.89	ug/L	0.3108	2.411	152.0
Mg2025_A		1,336	ug/L	2.646	0.1980	431.1
Mn2576_R	W	1,156	ug/L	9.101	0.7874	8,107
Mo2020_A		0.4825	ug/L	0.01680	3.483	2.158
Na5895_R	RF	262,200	ug/L	1,917	0.7310	473,500
Ni2316_A		2.193	ug/L	0.3750	17.10	2.659
Pb2203_A		0.9992	ug/L	0.2067	20.69	-1.019
Sb2068_A		0.07332	ug/L	0.5091	694.4	0.3824
Se1960_A		-2.502	ug/L	0.4377	17.50	1.100
Si2516_R		501.5	ug/L	5.025	1.002	221.6
Sn1899_A		0.1110	ug/L	0.04621	41.65	0.9046
Sr4215_R		72.39	ug/L	0.5210	0.7198	4,325
Ti3349_A		-0.3809	ug/L	0.0007230	0.1898	-36.30
Tl1908_A		1.228	ug/L	0.6300	51.29	-3.120
V_2924_A		-0.1356	ug/L	0.1030	76.00	-4.429
Zn2062_A		161.6	ug/L	0.6826	0.4223	439.5
Y_3600_R		13,132	Cts/S	186.76	1.4222	13,132
Y_2243_A		6,809.9	Cts/S	18.496	0.27161	6,809.9
Y_3600_A		145,790	Cts/S	75.843	0.052023	145,790

SL9994-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:19:17PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

SL9994-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:19:17PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4367	ug/L	0.04417	10.12	-4.817
Al3961_R		989.1	ug/L	81.74	8.264	711.6
As1891_A		3.199	ug/L	0.5528	17.28	-1.923
B_2089_A		22.26	ug/L	0.2152	0.9666	37.01
Ba4554_R		16.87	ug/L	1.178	6.985	819.4
Be3130_R		0.02991	ug/L	0.03122	104.4	-6.708
Ca3158_R	W	31,410	ug/L	2,360	7.516	23,030
Cd2265_A		0.03633	ug/L	0.03179	87.49	-1.370
Co2286_A		0.3806	ug/L	0.1598	41.98	4.280
Cr2677_A		1.794	ug/L	0.01238	0.6904	22.77
Cu3273_A		3.850	ug/L	0.09781	2.541	69.47
Fe2599_R		1,211	ug/L	88.51	7.312	1,556
K_7664_R		4,122	ug/L	289.4	7.021	2,132
Li6707_R		6.239	ug/L	0.5497	8.810	74.84
Mg2025_A		9,203	ug/L	16.72	0.1817	2,977
Mn2576_R		182.3	ug/L	11.41	6.258	1,317
Mo2020_A		1.034	ug/L	0.08965	8.669	3.447
Na5895_R	RW	115,700	ug/L	8,243	7.126	214,500
Ni2316_A		3.339	ug/L	0.1787	5.352	4.403
Pb2203_A		1.317	ug/L	0.6729	51.07	-0.7407
Sb2068_A		0.5546	ug/L	0.3449	62.18	0.6429
Se1960_A		-2.189	ug/L	0.3230	14.75	1.087
Si2516_R		5,169	ug/L	395.0	7.642	2,059
Sn1899_A		0.1671	ug/L	0.1140	68.23	0.9296
Sr4215_R		197.5	ug/L	13.77	6.969	12,170
Ti3349_A		45.36	ug/L	0.9787	2.158	1,028
Tl1908_A		0.6005	ug/L	0.4402	73.30	-2.662
V_2924_A		1.572	ug/L	0.1241	7.896	20.87
Zn2062_A		16.04	ug/L	0.1410	0.8788	43.76
Y_3600_R		13,512	Cts/S	775.29	5.7379	13,512
Y_2243_A		6,783.1	Cts/S	16.469	0.24279	6,783.1
Y_3600_A		147,760	Cts/S	610.88	0.41343	147,760

SL9994-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:23:54PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6853	ug/L	0.2816	41.09	-0.3387
Al3961_R		888.6	ug/L	9.203	1.036	619.3
As1891_A		3.712	ug/L	0.4616	12.43	-1.732
B_2089_A		20.02	ug/L	0.06990	0.3491	33.77
Ba4554_R		18.69	ug/L	0.4016	2.149	872.8
Be3130_R		0.07736	ug/L	0.03721	48.10	-2.621
Ca3158_R	W	38,030	ug/L	63.20	0.1662	26,970
Cd2265_A		-0.01744	ug/L	0.05197	297.9	-2.145
Co2286_A		0.2053	ug/L	0.08922	43.46	3.605
Cr2677_A		1.601	ug/L	0.01188	0.7417	20.46
Cu3273_A		4.228	ug/L	0.1026	2.426	73.87
Fe2599_R		1,108	ug/L	0.3570	0.03223	1,377
K_7664_R		4,112	ug/L	47.33	1.151	2,056
Li6707_R		8.203	ug/L	0.5610	6.838	95.28
Mg2025_A		11,010	ug/L	7.295	0.06628	3,532
Mn2576_R		139.0	ug/L	0.5934	0.4269	972.4
Mo2020_A		1.317	ug/L	0.1079	8.192	4.184
Na5895_R	RW	144,300	ug/L	101.9	0.07062	258,600
Ni2316_A		3.680	ug/L	0.3183	8.648	4.926

SL9994-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:23:54PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.5420	ug/L	0.6360	117.3	-1.421
Sb2068_A		0.6711	ug/L	0.4127	61.51	0.6965
Se1960_A		0.7157	ug/L	2.016	281.8	1.780
Si2516_R		4,895	ug/L	10.84	0.2216	1,886
Sn1899_A		0.2914	ug/L	0.2222	76.28	0.9845
Sr4215_R		241.3	ug/L	0.5992	0.2483	14,370
Ti3349_A		37.41	ug/L	1.451	3.879	834.9
Tl1908_A		0.9041	ug/L	0.03647	4.034	-2.439
V_2924_A		1.381	ug/L	0.1509	10.93	18.27
Zn2062_A		12.99	ug/L	0.02588	0.1992	35.23
Y_3600_R		13,035	Cts/S	20.584	0.15792	13,035
Y_2243_A		6,729.1	Cts/S	10.018	0.14888	6,729.1
Y_3600_A		146,380	Cts/S	17.594	0.012020	146,380

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:28:29PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		505.7	ug/L	0.09687	0.01915	8,167
Al3961_R		12,440	ug/L	0.1212	0.0009740	8,840
As1891_A		505.8	ug/L	1.173	0.2320	169.1
B_2089_A		500.7	ug/L	0.3573	0.07137	697.3
Ba4554_R		493.6	ug/L	1.240	0.2512	22,400
Be3130_R		496.5	ug/L	0.3443	0.06934	36,130
Ca3158_R		12,340	ug/L	41.39	0.3353	8,908
Cd2265_A		502.6	ug/L	0.1613	0.03210	6,261
Co2286_A		507.8	ug/L	0.1819	0.03583	1,696
Cr2677_A		504.0	ug/L	1.274	0.2527	5,506
Cu3273_A		493.7	ug/L	0.8968	0.1817	6,781
Fe2599_R		12,620	ug/L	19.75	0.1565	15,990
K_7664_R		12,120	ug/L	16.62	0.1372	6,276
Li6707_R		496.8	ug/L	2.568	0.5170	6,008
Mg2025_A		12,250	ug/L	39.26	0.3203	4,008
Mn2576_R		490.2	ug/L	0.1521	0.03104	3,484
Mo2020_A		502.5	ug/L	0.1476	0.02937	1,399
Na5895_R		12,300	ug/L	39.57	0.3218	22,560
Ni2316_A		508.1	ug/L	0.8898	0.1751	829.4
Pb2203_A		502.7	ug/L	0.05765	0.01147	451.4
Sb2068_A		501.0	ug/L	1.671	0.3335	266.1
Se1960_A		502.8	ug/L	2.776	0.5522	125.9
Si2516_R		12,280	ug/L	36.32	0.2957	4,787
Sn1899_A		505.8	ug/L	1.180	0.2333	258.6
Sr4215_R		492.4	ug/L	1.849	0.3754	29,970
Ti3349_A		494.7	ug/L	0.4382	0.08858	11,780
Tl1908_A		501.7	ug/L	0.07543	0.01504	270.2
V_2924_A		498.4	ug/L	1.922	0.3857	6,511
Zn2062_A		506.0	ug/L	0.1505	0.02975	1,379
Y_3600_R		13,306	Cts/S	30.989	0.23290	13,306
Y_2243_A		6,837.4	Cts/S	13.303	0.19456	6,837.4
Y_3600_A		151,540	Cts/S	218.75	0.14435	151,540

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:32:37PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:32:37PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.5380	ug/L	0.08450	15.70	2.960
Al3961_R		3.879	ug/L	3.385	87.24	-2.475
As1891_A		0.5757	ug/L	0.3875	67.30	-2.811
B_2089_A		2.287	ug/L	0.1699	7.430	10.61
Ba4554_R		0.03853	ug/L	0.004833	12.54	46.06
Be3130_R		0.1048	ug/L	0.009531	9.098	1.262
Ca3158_R		-1.755	ug/L	1.825	104.0	-41.29
Cd2265_A		0.04216	ug/L	0.008485	20.13	-2.835
Co2286_A		-0.1656	ug/L	0.2404	145.2	2.122
Cr2677_A		0.3249	ug/L	0.08465	26.05	7.040
Cu3273_A		0.09069	ug/L	0.2274	250.8	20.35
Fe2599_R		3.077	ug/L	0.2510	8.159	6.166
K_7664_R		56.93	ug/L	22.84	40.13	-17.89
Li6707_R		1.458	ug/L	0.7808	53.56	15.55
Mg2025_A		3.753	ug/L	1.341	35.74	-2.224
Mn2576_R		0.1104	ug/L	0.1913	173.3	3.837
Mo2020_A		0.4671	ug/L	0.2334	49.96	1.867
Na5895_R		41.13	ug/L	11.20	27.23	130.1
Ni2316_A		0.09343	ug/L	0.1442	154.3	-0.7545
Pb2203_A		0.2100	ug/L	0.4822	229.7	-1.738
Sb2068_A		0.8345	ug/L	0.4865	58.30	0.7892
Se1960_A		-0.7207	ug/L	2.755	382.2	1.445
Si2516_R		-4.643	ug/L	7.284	156.9	28.47
Sn1899_A		-0.02985	ug/L	0.3209	1,075	0.8422
Sr4215_R		0.04966	ug/L	0.1836	369.7	-23.61
Ti3349_A		-0.03174	ug/L	0.3361	1,059	-29.75
Tl1908_A		0.9177	ug/L	0.1080	11.77	-2.352
V_2924_A		-0.006258	ug/L	0.05480	875.7	0.7322
Zn2062_A		0.1697	ug/L	0.1043	61.45	0.8190
Y_3600_R		13,233	Cts/S	83.000	0.62721	13,233
Y_2243_A		6,881.9	Cts/S	10.925	0.15876	6,881.9
Y_3600_A		153,280	Cts/S	227.93	0.14871	153,280

SL9994-003

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:37:02PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.7325	ug/L	0.2242	30.61	-1.934
Al3961_R		1,152	ug/L	9.646	0.8376	823.5
As1891_A		3.094	ug/L	1.786	57.73	-1.993
B_2089_A		34.86	ug/L	0.08297	0.2380	54.44
Ba4554_R		25.87	ug/L	0.1355	0.5238	1,226
Be3130_R		0.03459	ug/L	0.06688	193.4	-6.667
Ca3158_R	W	27,640	ug/L	79.76	0.2886	20,150
Cd2265_A		0.8133	ug/L	0.03917	4.817	8.759
Co2286_A		0.8446	ug/L	0.1185	14.03	5.958
Cr2677_A		3.976	ug/L	0.1027	2.583	47.21
Cu3273_A		15.44	ug/L	0.04163	0.2696	230.6
Fe2599_R		1,564	ug/L	5.462	0.3493	1,999
K_7664_R		7,310	ug/L	46.24	0.6327	3,796
Li6707_R		6.935	ug/L	0.006109	0.08810	82.56
Mg2025_A		1,917	ug/L	6.924	0.3611	625.2
Mn2576_R		98.49	ug/L	0.5437	0.5521	708.1
Mo2020_A		2.084	ug/L	0.02900	1.392	6.405
Na5895_R		19,820	ug/L	129.2	0.6519	36,590
Ni2316_A		3.536	ug/L	0.1412	3.994	4.758

SL9994-003

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:37:02PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		28.66	ug/L	0.2628	0.9170	24.07
Sb2068_A		3.299	ug/L	0.09776	2.963	2.122
Se1960_A		-0.6522	ug/L	1.170	179.5	1.476
Si2516_R		3,307	ug/L	18.29	0.5530	1,321
Sn1899_A		2.202	ug/L	0.5246	23.82	1.983
Sr4215_R		98.19	ug/L	1.051	1.070	6,000
Ti3349_A		54.06	ug/L	0.1782	0.3297	1,265
Tl1908_A		0.8128	ug/L	0.3758	46.23	-2.513
V_2924_A		2.233	ug/L	0.1446	6.477	30.41
Zn2062_A		123.0	ug/L	0.2973	0.2417	337.3
Y_3600_R		13,410	Cts/S	200.55	1.4955	13,410
Y_2243_A		6,867.8	Cts/S	5.5072	0.080187	6,867.8
Y_3600_A		151,970	Cts/S	63.998	0.042113	151,970

TL0026-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:41:23PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.7927	ug/L	0.4337	54.71	-7.460
Al3961_R		1,236	ug/L	22.06	1.785	870.1
As1891_A		1.678	ug/L	0.1759	10.48	-2.482
B_2089_A		87.23	ug/L	0.1041	0.1193	125.7
Ba4554_R		35.27	ug/L	0.2598	0.7364	1,627
Be3130_R		0.09791	ug/L	0.05420	55.36	-3.135
Ca3158_R		23,790	ug/L	154.9	0.6508	17,050
Cd2265_A		0.2083	ug/L	0.02538	12.18	2.765
Co2286_A		1.037	ug/L	0.01800	1.737	6.725
Cr2677_A		6.492	ug/L	0.2719	4.188	73.93
Cu3273_A		26.23	ug/L	0.2671	1.018	373.8
Fe2599_R		2,854	ug/L	10.29	0.3605	3,585
K_7664_R		6,682	ug/L	26.25	0.3929	3,408
Li6707_R		9.243	ug/L	1.412	15.27	108.9
Mg2025_A		2,393	ug/L	1.834	0.07667	773.5
Mn2576_R		108.2	ug/L	1.862	1.721	764.6
Mo2020_A		55.03	ug/L	0.3079	0.5594	152.9
Na5895_R	W	31,260	ug/L	45.93	0.1470	56,730
Ni2316_A		26.30	ug/L	0.1577	0.5996	41.84
Pb2203_A		29.59	ug/L	0.8642	2.921	24.67
Sb2068_A		1.679	ug/L	0.1619	9.647	1.200
Se1960_A		-0.2119	ug/L	0.03694	17.44	1.573
Si2516_R		4,077	ug/L	30.20	0.7408	1,594
Sn1899_A		0.6294	ug/L	0.08008	12.72	1.166
Sr4215_R		150.5	ug/L	0.06576	0.04371	9,054
Ti3349_A		75.99	ug/L	0.1030	0.1356	1,769
Tl1908_A		-0.1618	ug/L	0.8683	536.8	-3.040
V_2924_A		2.768	ug/L	0.3253	11.75	33.12
Zn2062_A		104.3	ug/L	0.05648	0.05417	283.1
Y_3600_R		13,185	Cts/S	114.62	0.86935	13,185
Y_2243_A		6,798.5	Cts/S	0.050845	0.00074800	6,798.5
Y_3600_A		150,080	Cts/S	167.62	0.11169	150,080

TL0026-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:45:44PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

TL0026-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:45:44PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.5913	ug/L	0.2029	34.32	-14.37
Al3961_R		1,493	ug/L	13.19	0.8835	1,049
As1891_A		2.165	ug/L	0.3834	17.71	-2.373
B_2089_A		91.83	ug/L	0.4178	0.4549	131.7
Ba4554_R		34.01	ug/L	0.2154	0.6334	1,568
Be3130_R		0.08962	ug/L	0.04193	46.78	-4.986
Ca3158_R	W	32,090	ug/L	140.3	0.4371	22,970
Cd2265_A		0.2841	ug/L	0.008373	2.947	4.634
Co2286_A		0.8592	ug/L	0.1375	16.01	6.409
Cr2677_A		7.611	ug/L	0.1894	2.488	86.63
Cu3273_A		43.00	ug/L	0.6316	1.469	604.8
Fe2599_R		3,554	ug/L	3.814	0.1073	4,455
K_7664_R		8,987	ug/L	16.06	0.1787	4,592
Li6707_R		11.19	ug/L	0.3953	3.532	132.0
Mg2025_A		4,807	ug/L	0.2577	0.005361	1,574
Mn2576_R		113.4	ug/L	0.2937	0.2589	800.1
Mo2020_A		15.42	ug/L	0.1633	1.059	43.73
Na5895_R	W	41,580	ug/L	261.3	0.6285	75,300
Ni2316_A		14.09	ug/L	0.1173	0.8329	21.96
Pb2203_A		50.77	ug/L	0.5350	1.054	44.23
Sb2068_A		1.510	ug/L	0.3409	22.58	1.174
Se1960_A		-1.702	ug/L	0.6876	40.39	1.223
Si2516_R		4,501	ug/L	21.32	0.4737	1,754
Sn1899_A		1.625	ug/L	0.3812	23.46	1.688
Sr4215_R		151.8	ug/L	0.1923	0.1267	9,118
Ti3349_A		100.0	ug/L	1.469	1.468	2,351
Tl1908_A		-0.05587	ug/L	1.173	2,100	-3.031
V_2924_A		3.850	ug/L	0.3862	10.03	50.89
Zn2062_A		114.6	ug/L	0.2184	0.1906	314.5
Y_3600_R		13,162	Cts/S	74.377	0.56509	13,162
Y_2243_A		6,872.5	Cts/S	2.6306	0.038277	6,872.5
Y_3600_A		151,030	Cts/S	743.51	0.49230	151,030

TL0033-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:50:05PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3544	ug/L	0.08404	23.71	-3.762
Al3961_R		34.62	ug/L	3.563	10.29	20.23
As1891_A		-0.3636	ug/L	0.1982	54.51	-3.163
B_2089_A		8.114	ug/L	0.2712	3.342	18.49
Ba4554_R		6.611	ug/L	0.08006	1.211	343.0
Be3130_R		0.05760	ug/L	0.01802	31.28	-2.162
Ca3158_R		5,589	ug/L	35.89	0.6422	4,000
Cd2265_A		0.07970	ug/L	0.02898	36.36	-1.464
Co2286_A		0.3444	ug/L	0.2999	87.06	3.838
Cr2677_A		0.5341	ug/L	0.07136	13.36	9.644
Cu3273_A		-0.2005	ug/L	0.1145	57.10	16.12
Fe2599_R		728.5	ug/L	5.144	0.7061	922.3
K_7664_R		922.8	ug/L	5.373	0.5823	432.6
Li6707_R		2.134	ug/L	0.3556	16.67	23.74
Mg2025_A		1,043	ug/L	1.790	0.1717	339.8
Mn2576_R		192.1	ug/L	0.3936	0.2049	1,364
Mo2020_A		0.2859	ug/L	0.09502	33.24	1.407
Na5895_R		13,680	ug/L	82.32	0.6019	25,010
Ni2316_A		0.3090	ug/L	0.04318	13.97	-0.4660

TL0033-001

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:50:05PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		1.557	ug/L	1.001	64.27	-0.4757
Sb2068_A		0.1676	ug/L	0.4903	292.5	0.4404
Se1960_A		-0.8697	ug/L	1.258	144.6	1.431
Si2516_R		3,984	ug/L	13.21	0.3316	1,568
Sn1899_A		-0.6260	ug/L	0.08219	13.13	0.5374
Sr4215_R		46.01	ug/L	0.1176	0.2557	2,767
Ti3349_A		0.1451	ug/L	0.1744	120.2	-25.33
Tl1908_A		-0.1611	ug/L	0.6582	408.6	-3.115
V_2924_A		-0.03018	ug/L	0.1768	585.8	-0.07482
Zn2062_A		2.234	ug/L	0.004125	0.1846	6.501
Y_3600_R		13,267	Cts/S	159.56	1.2026	13,267
Y_2243_A		6,896.4	Cts/S	2.3440	0.033989	6,896.4
Y_3600_A		152,410	Cts/S	454.31	0.29808	152,410

TL0033-002

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:54:28PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6686	ug/L	0.7277	108.8	4.764
Al3961_R		91.77	ug/L	2.683	2.924	60.73
As1891_A		-0.3487	ug/L	0.3664	105.1	-3.128
B_2089_A		7.657	ug/L	0.4755	6.210	17.81
Ba4554_R		2.446	ug/L	0.2859	11.69	154.1
Be3130_R		0.05579	ug/L	0.03244	58.14	-2.383
Ca3158_R		7,700	ug/L	46.93	0.6094	5,495
Cd2265_A		0.05657	ug/L	0.06882	121.6	-2.573
Co2286_A		-0.3388	ug/L	0.002235	0.6598	1.559
Cr2677_A		0.4714	ug/L	0.1873	39.74	8.679
Cu3273_A		0.4508	ug/L	0.3729	82.73	25.18
Fe2599_R		65.86	ug/L	0.3342	0.5075	85.00
K_7664_R		1,152	ug/L	34.62	3.006	548.8
Li6707_R		1.082	ug/L	0.6446	59.60	11.06
Mg2025_A		1,470	ug/L	4.628	0.3149	478.9
Mn2576_R		45.98	ug/L	0.3630	0.7895	327.3
Mo2020_A		0.1339	ug/L	0.1155	86.28	0.9428
Na5895_R		17,400	ug/L	40.87	0.2349	31,620
Ni2316_A		-0.2405	ug/L	0.1614	67.10	-1.309
Pb2203_A		0.2393	ug/L	0.1989	83.12	-1.713
Sb2068_A		0.4609	ug/L	0.1528	33.16	0.5913
Se1960_A		-0.6965	ug/L	0.5407	77.63	1.454
Si2516_R		3,827	ug/L	12.30	0.3213	1,499
Sn1899_A		-0.2231	ug/L	0.4483	200.9	0.7422
Sr4215_R		82.21	ug/L	0.01656	0.02015	4,938
Ti3349_A		2.267	ug/L	0.04643	2.048	25.61
Tl1908_A		0.1102	ug/L	0.4848	439.9	-2.834
V_2924_A		0.08583	ug/L	0.2012	234.5	1.855
Zn2062_A		1.270	ug/L	0.1150	9.056	3.836
Y_3600_R		13,194	Cts/S	161.55	1.2244	13,194
Y_2243_A		6,876.0	Cts/S	1.0279	0.014949	6,876.0
Y_3600_A		152,390	Cts/S	230.39	0.15119	152,390

TL0033-003

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:58:53PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

TL0033-003

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 6:58:53PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.106	ug/L	0.3074	27.79	-60.91
Al3961_R		2,477	ug/L	12.07	0.4873	1,741
As1891_A		44.50	ug/L	0.3190	0.7167	11.80
B_2089_A		8.978	ug/L	0.2630	2.929	19.62
Ba4554_R		8.127	ug/L	0.09523	1.172	409.5
Be3130_R		0.2093	ug/L	0.03452	16.49	4.343
Ca3158_R		5,040	ug/L	3.203	0.06355	3,586
Cd2265_A		-0.1834	ug/L	0.08607	46.92	12.19
Co2286_A		7.733	ug/L	0.01228	0.1588	29.32
Cr2677_A		2.905	ug/L	0.1545	5.320	37.55
Cu3273_A		2.535	ug/L	0.3421	13.49	51.70
Fe2599_R		14,290	ug/L	0.3547	0.002482	17,960
K_7664_R		1,511	ug/L	5.531	0.3660	735.5
Li6707_R		3.328	ug/L	1.191	35.78	38.00
Mg2025_A		1,544	ug/L	5.401	0.3497	504.3
Mn2576_R		621.1	ug/L	0.8383	0.1350	4,379
Mo2020_A		0.2020	ug/L	0.1127	55.80	1.269
Na5895_R		9,166	ug/L	7.744	0.08448	16,700
Ni2316_A		2.925	ug/L	0.3465	11.85	2.653
Pb2203_A		1.581	ug/L	0.03307	2.092	0.08937
Sb2068_A		-0.1321	ug/L	0.002065	1.563	0.3659
Se1960_A		-0.9030	ug/L	0.3337	36.95	1.502
Si2516_R		8,679	ug/L	30.44	0.3507	3,365
Sn1899_A		-0.3929	ug/L	0.08460	21.53	0.6561
Sr4215_R		63.89	ug/L	0.2453	0.3840	3,836
Ti3349_A		86.55	ug/L	0.2302	0.2660	2,057
Tl1908_A		0.6740	ug/L	0.5856	86.88	-3.074
V_2924_A		2.538	ug/L	0.1657	6.530	35.34
Zn2062_A		11.49	ug/L	0.1036	0.9018	31.91
Y_3600_R		13,206	Cts/S	21.988	0.16650	13,206
Y_2243_A		6,884.8	Cts/S	8.0045	0.11626	6,884.8
Y_3600_A		153,020	Cts/S	75.965	0.049645	153,020

TL0033-004

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:03:15PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4788	ug/L	0.1403	29.31	-63.14
Al3961_R		2,478	ug/L	71.59	2.888	1,871
As1891_A		43.78	ug/L	0.4479	1.023	11.65
B_2089_A		8.940	ug/L	0.2915	3.261	19.66
Ba4554_R		8.204	ug/L	0.2078	2.533	443.5
Be3130_R		0.2205	ug/L	0.08383	38.01	4.604
Ca3158_R		4,635	ug/L	124.1	2.677	3,538
Cd2265_A		-0.08990	ug/L	0.07990	88.87	11.92
Co2286_A		7.881	ug/L	0.1082	1.373	30.08
Cr2677_A		3.099	ug/L	0.3374	10.89	38.28
Cu3273_A		2.909	ug/L	0.6339	21.79	55.09
Fe2599_R		13,090	ug/L	377.5	2.884	17,670
K_7664_R		1,437	ug/L	39.52	2.750	748.6
Li6707_R		4.177	ug/L	1.239	29.65	51.94
Mg2025_A		1,566	ug/L	6.029	0.3849	513.8
Mn2576_R		571.7	ug/L	15.72	2.750	4,329
Mo2020_A		0.3106	ug/L	0.09281	29.88	1.569
Na5895_R		8,495	ug/L	202.9	2.388	16,630
Ni2316_A		3.046	ug/L	0.1047	3.436	2.970

TL0033-004

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:03:15PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		1.440	ug/L	0.008921	0.6196	-0.1087
Sb2068_A		1.502	ug/L	1.284	85.48	1.242
Se1960_A		-2.134	ug/L	1.405	65.86	1.193
Si2516_R		8,410	ug/L	286.0	3.401	3,502
Sn1899_A		-0.3890	ug/L	0.1797	46.20	0.6611
Sr4215_R		58.93	ug/L	1.955	3.317	3,797
Ti3349_A		102.2	ug/L	7.148	6.991	2,361
Tl1908_A		-0.07656	ug/L	0.06985	91.24	-3.463
V_2924_A		2.410	ug/L	0.1135	4.709	32.80
Zn2062_A		11.70	ug/L	0.03948	0.3375	32.62
Y_3600_R		14,186	Cts/S	293.55	2.0694	14,186
Y_2243_A		6,915.3	Cts/S	11.135	0.16102	6,915.3
Y_3600_A		148,570	Cts/S	7,154.3	4.8155	148,570

TL0045-003

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:07:37PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6992	ug/L	0.08278	11.84	4.742
Al3961_R		338.0	ug/L	15.78	4.670	271.9
As1891_A		1.614	ug/L	1.098	68.00	-2.314
B_2089_A		141.5	ug/L	0.4158	0.2940	186.5
Ba4554_R		32.71	ug/L	0.3355	1.025	1,455
Be3130_R		-0.006084	ug/L	0.01006	165.3	-6.510
Ca3158_R	RW	294,300	ug/L	2,885	0.9804	203,400
Cd2265_A		0.01897	ug/L	0.04126	217.5	-2.845
Co2286_A		0.6675	ug/L	0.09294	13.92	4.627
Cr2677_A		2.495	ug/L	0.1428	5.724	30.86
Cu3273_A		3.019	ug/L	0.1327	4.396	55.91
Fe2599_R		90.18	ug/L	2.521	2.796	111.1
K_7664_R		9,446	ug/L	21.88	0.2317	4,655
Li6707_R		93.88	ug/L	1.532	1.632	1,081
Mg2025_A	RW	130,500	ug/L	149.0	0.1142	40,360
Mn2576_R	W	1,751	ug/L	13.33	0.7618	11,890
Mo2020_A		0.02128	ug/L	0.07986	375.2	0.9683
Na5895_R	RW	182,900	ug/L	652.8	0.3570	319,100
Ni2316_A		4.516	ug/L	0.2546	5.638	6.109
Pb2203_A		0.5169	ug/L	0.6371	123.3	-1.393
Sb2068_A		1.189	ug/L	0.01376	1.158	0.9299
Se1960_A		-2.907	ug/L	0.7418	25.52	1.005
Si2516_R		7,554	ug/L	55.89	0.7399	2,817
Sn1899_A		-0.01569	ug/L	0.06262	399.0	0.7997
Sr4215_R	W	9,539	ug/L	11.08	0.1162	554,000
Ti3349_A		0.3871	ug/L	0.4046	104.5	-17.99
Tl1908_A		1.908	ug/L	0.07680	4.026	-3.087
V_2924_A		-0.4834	ug/L	0.1034	21.40	-10.25
Zn2062_A		4.745	ug/L	0.06171	1.301	12.59
Y_3600_R		12,687	Cts/S	92.606	0.72991	12,687
Y_2243_A		6,480.0	Cts/S	13.492	0.20821	6,480.0
Y_3600_A		140,640	Cts/S	318.87	0.22674	140,640

TL0045-004

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:13:05PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

TL0045-004

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:13:05PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6370	ug/L	0.07692	12.08	4.397
Al3961_R		179.7	ug/L	1.698	0.9446	137.8
As1891_A		1.006	ug/L	0.1131	11.25	-2.615
B_2089_A		97.70	ug/L	0.008562	0.008763	136.8
Ba4554_R		76.50	ug/L	0.4241	0.5544	3,441
Be3130_R		-0.02364	ug/L	0.04338	183.5	-7.921
Ca3158_R	W	105,300	ug/L	816.5	0.7752	74,850
Cd2265_A		0.01880	ug/L	0.06271	333.6	-3.062
Co2286_A		0.01018	ug/L	0.2208	2,168	2.656
Cr2677_A		18.94	ug/L	0.2785	1.470	205.4
Cu3273_A		2.199	ug/L	0.1056	4.804	47.91
Fe2599_R		10.91	ug/L	2.135	19.57	15.81
K_7664_R		13,900	ug/L	94.50	0.6800	7,067
Li6707_R		3.935	ug/L	0.2531	6.432	44.75
Mg2025_A		15,090	ug/L	4.387	0.02907	4,865
Mn2576_R		26.29	ug/L	0.06638	0.2525	189.5
Mo2020_A		3.352	ug/L	0.1236	3.686	9.780
Na5895_R	W	70,120	ug/L	176.2	0.2512	125,900
Ni2316_A		0.8217	ug/L	0.007198	0.8760	0.4501
Pb2203_A		0.09362	ug/L	0.3710	396.3	-1.830
Sb2068_A		3.523	ug/L	0.1012	2.872	2.259
Se1960_A		-2.724	ug/L	1.555	57.07	0.9332
Si2516_R		8,683	ug/L	25.19	0.2901	3,326
Sn1899_A		-0.3420	ug/L	1.354	396.0	0.6696
Sr4215_R		470.6	ug/L	1.223	0.2600	28,090
Ti3349_A		-0.3086	ug/L	0.03694	11.97	-35.13
Tl1908_A		1.203	ug/L	1.454	120.9	-2.178
V_2924_A		0.2753	ug/L	0.04427	16.08	3.354
Zn2062_A		1.774	ug/L	0.08682	4.893	5.074
Y_3600_R		13,050	Cts/S	69.944	0.53596	13,050
Y_2243_A		6,758.7	Cts/S	2.5176	0.037250	6,758.7
Y_3600_A		148,110	Cts/S	20.713	0.013985	148,110

TL0045-013

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:17:28PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.9967	ug/L	0.1795	18.01	-51.47
Al3961_R		5,192	ug/L	7.821	0.1507	3,673
As1891_A		2.634	ug/L	0.07170	2.722	-2.458
B_2089_A		29.89	ug/L	0.03477	0.1163	47.83
Ba4554_R		59.62	ug/L	0.1557	0.2612	2,736
Be3130_R		0.2711	ug/L	0.05284	19.49	6.905
Ca3158_R		17,110	ug/L	64.64	0.3778	12,330
Cd2265_A		0.09868	ug/L	0.04345	44.03	13.01
Co2286_A		5.752	ug/L	0.1067	1.855	22.89
Cr2677_A		406.0	ug/L	1.409	0.3471	4,408
Cu3273_A		37.10	ug/L	0.5513	1.486	521.7
Fe2599_R		12,230	ug/L	62.36	0.5099	15,450
K_7664_R		3,014	ug/L	5.194	0.1723	1,521
Li6707_R		11.59	ug/L	0.2187	1.886	137.9
Mg2025_A		5,058	ug/L	8.916	0.1763	1,652
Mn2576_R		477.2	ug/L	0.3154	0.06608	3,381
Mo2020_A		5.941	ug/L	0.3090	5.201	17.30
Na5895_R	RW	102,400	ug/L	35.20	0.03436	186,900
Ni2316_A		104.3	ug/L	0.04746	0.04551	168.4

TL0045-013

Method Name: FAST-2016_NO_AU Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:17:28PM Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		70.50	ug/L	0.7634	1.083	62.12
Sb2068_A		2.458	ug/L	0.2488	10.12	3.208
Se1960_A		-0.9961	ug/L	0.6136	61.60	1.462
Si2516_R		8,901	ug/L	44.25	0.4972	3,466
Sn1899_A		1.801	ug/L	0.0004070	0.02259	1.774
Sr4215_R		93.05	ug/L	0.2788	0.2996	5,624
Ti3349_A		125.9	ug/L	3.761	2.989	2,958
Tl1908_A		1.484	ug/L	1.681	113.2	-2.536
V_2924_A		19.88	ug/L	0.2745	1.381	246.9
Zn2062_A		269.0	ug/L	0.3084	0.1146	734.9
Y_3600_R		13,267	Cts/S	66.390	0.50040	13,267
Y_2243_A		6,854.5	Cts/S	1.4086	0.020550	6,854.5
Y_3600_A		150,590	Cts/S	56.351	0.037420	150,590

CCV

Method Name: FAST-2016_NO_AU Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:21:58PM Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		501.6	ug/L	0.6779	0.1352	8,121
Al3961_R		12,250	ug/L	6.359	0.05189	8,719
As1891_A		495.9	ug/L	1.816	0.3662	167.1
B_2089_A		493.7	ug/L	0.1472	0.02981	693.2
Ba4554_R		495.9	ug/L	1.209	0.2438	22,520
Be3130_R		493.2	ug/L	0.08440	0.01711	35,920
Ca3158_R		12,160	ug/L	19.39	0.1595	8,788
Cd2265_A		496.5	ug/L	0.4461	0.08986	6,234
Co2286_A		499.7	ug/L	1.462	0.2925	1,682
Cr2677_A		497.3	ug/L	0.6972	0.1402	5,447
Cu3273_A		492.4	ug/L	1.091	0.2217	6,780
Fe2599_R		12,420	ug/L	5.700	0.04589	15,750
K_7664_R		12,210	ug/L	12.30	0.1008	6,331
Li6707_R		493.1	ug/L	1.163	0.2359	5,970
Mg2025_A		12,090	ug/L	7.653	0.06329	3,986
Mn2576_R		484.5	ug/L	1.668	0.3442	3,447
Mo2020_A		494.2	ug/L	1.130	0.2287	1,387
Na5895_R		12,280	ug/L	8.786	0.07153	22,550
Ni2316_A		503.3	ug/L	0.02629	0.005223	828.2
Pb2203_A		499.7	ug/L	0.7131	0.1427	452.2
Sb2068_A		494.6	ug/L	0.09159	0.01852	264.8
Se1960_A		493.3	ug/L	2.741	0.5557	124.5
Si2516_R		12,250	ug/L	51.48	0.4202	4,780
Sn1899_A		499.1	ug/L	0.9942	0.1992	257.2
Sr4215_R		493.6	ug/L	0.07914	0.01603	30,070
Ti3349_A		490.8	ug/L	0.7996	0.1629	11,720
Tl1908_A		494.7	ug/L	1.855	0.3749	268.6
V_2924_A		493.8	ug/L	0.06377	0.01291	6,467
Zn2062_A		500.1	ug/L	0.5477	0.1095	1,374
Y_3600_R		13,320	Cts/S	17.257	0.12955	13,320
Y_2243_A		6,892.3	Cts/S	4.6741	0.067816	6,892.3
Y_3600_A		151,930	Cts/S	17.659	0.011623	151,930

CCB

Method Name: FAST-2016_NO_AU Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:26:07PM Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:26:07PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.7294	ug/L	0.05459	7.484	6.121
Al3961_R		5.363	ug/L	3.115	58.08	-1.413
As1891_A		-0.2740	ug/L	0.3365	122.8	-3.115
B_2089_A		1.305	ug/L	0.3321	25.46	9.325
Ba4554_R		-0.06519	ug/L	0.1488	228.3	41.32
Be3130_R		0.03811	ug/L	0.05091	133.6	-3.558
Ca3158_R		-4.134	ug/L	0.8448	20.43	-42.95
Cd2265_A		-0.02249	ug/L	0.02019	89.79	-3.657
Co2286_A		-0.04855	ug/L	0.009652	19.88	2.523
Cr2677_A		-0.06684	ug/L	0.03651	54.62	2.724
Cu3273_A		-0.2909	ug/L	0.03455	11.88	15.10
Fe2599_R		4.214	ug/L	0.7491	17.78	7.587
K_7664_R		75.48	ug/L	48.61	64.40	-8.182
Li6707_R		0.9592	ug/L	0.6762	70.49	9.576
Mg2025_A		2.783	ug/L	1.385	49.76	-2.551
Mn2576_R		0.6213	ug/L	0.2398	38.60	7.431
Mo2020_A		0.5578	ug/L	0.07704	13.81	2.129
Na5895_R		31.68	ug/L	12.90	40.72	112.8
Ni2316_A		0.03678	ug/L	0.1679	456.6	-0.8502
Pb2203_A		0.6506	ug/L	0.4193	64.45	-1.342
Sb2068_A		0.7981	ug/L	0.07110	8.909	0.7730
Se1960_A		-1.981	ug/L	3.178	160.4	1.137
Si2516_R		-6.165	ug/L	11.40	184.9	27.85
Sn1899_A		-0.3881	ug/L	0.2343	60.37	0.6611
Sr4215_R		0.04160	ug/L	0.2339	562.2	-24.01
Ti3349_A		-0.01140	ug/L	0.1114	977.7	-29.32
Tl1908_A		0.9323	ug/L	0.2024	21.71	-2.354
V_2924_A		0.01642	ug/L	0.09378	571.0	1.041
Zn2062_A		0.2246	ug/L	0.02198	9.787	0.9750
Y_3600_R		13,216	Cts/S	33.510	0.25355	13,216
Y_2243_A		6,909.8	Cts/S	13.633	0.19731	6,909.8
Y_3600_A		153,660	Cts/S	263.36	0.17140	153,660

TL0045-014

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:30:32PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.9327	ug/L	0.3894	41.75	-7.704
Al3961_R		180.9	ug/L	0.8339	0.4610	123.5
As1891_A		4.245	ug/L	0.5703	13.44	-1.603
B_2089_A		171.6	ug/L	0.03669	0.02138	235.8
Ba4554_R		38.43	ug/L	0.05721	0.1489	1,733
Be3130_R		0.04433	ug/L	0.03359	75.77	-3.232
Ca3158_R		19,180	ug/L	61.20	0.3191	13,460
Cd2265_A		-0.04151	ug/L	0.03680	88.66	-0.2078
Co2286_A		12.70	ug/L	0.1022	0.8049	44.56
Cr2677_A		365.5	ug/L	2.894	0.7918	3,821
Cu3273_A		25.20	ug/L	0.3813	1.513	347.9
Fe2599_R		3,441	ug/L	0.6711	0.01951	4,234
K_7664_R	W	48,330	ug/L	112.8	0.2335	24,440
Li6707_R		8.312	ug/L	0.3626	4.362	95.71
Mg2025_A		4,716	ug/L	3.612	0.07659	1,520
Mn2576_R	W	1,053	ug/L	0.8205	0.07793	7,267
Mo2020_A		28.76	ug/L	0.2160	0.7512	80.07
Na5895_R	RF	206,100	ug/L	1,127	0.5468	366,200
Ni2316_A		617.2	ug/L	0.6561	0.1063	994.3

TL0045-014

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:30:32PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		3.112	ug/L	0.6980	22.43	1.087
Sb2068_A		2.489	ug/L	0.5265	21.15	2.671
Se1960_A		7.948	ug/L	0.05721	0.7198	3.646
Si2516_R		4,758	ug/L	18.21	0.3827	1,818
Sn1899_A		0.2635	ug/L	0.6063	230.1	0.9758
Sr4215_R		231.3	ug/L	0.9013	0.3897	13,650
Ti3349_A		4.200	ug/L	0.05616	1.337	69.73
Tl1908_A		1.286	ug/L	0.6882	53.51	-2.993
V_2924_A		5.407	ug/L	0.1454	2.689	51.21
Zn2062_A		23.88	ug/L	0.07745	0.3243	63.70
Y_3600_R		12,920	Cts/S	74.860	0.57943	12,920
Y_2243_A		6,766.3	Cts/S	0.18931	0.0027980	6,766.3
Y_3600_A		145,000	Cts/S	269.79	0.18607	145,000

TL0045-015

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:35:13PM
Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.8094	ug/L	0.02603	3.216	1.998
Al3961_R		1,190	ug/L	6.656	0.5593	835.3
As1891_A		1.158	ug/L	0.7658	66.12	-2.565
B_2089_A		48.69	ug/L	0.1981	0.4068	71.19
Ba4554_R		142.7	ug/L	0.7827	0.5485	6,322
Be3130_R		0.02864	ug/L	0.02566	89.58	-4.547
Ca3158_R	W	115,900	ug/L	931.2	0.8032	81,610
Cd2265_A		0.06299	ug/L	0.05087	80.76	-1.442
Co2286_A		28.30	ug/L	0.1822	0.6437	94.85
Cr2677_A		109.4	ug/L	0.3494	0.3195	1,133
Cu3273_A		13.57	ug/L	0.03958	0.2917	193.5
Fe2599_R		1,033	ug/L	5.377	0.5205	1,274
K_7664_R		6,188	ug/L	34.70	0.5607	3,091
Li6707_R		12.33	ug/L	0.06072	0.4926	143.0
Mg2025_A		23,870	ug/L	22.81	0.09559	7,624
Mn2576_R	W	1,025	ug/L	7.153	0.6978	7,083
Mo2020_A		2.080	ug/L	0.04456	2.142	6.463
Na5895_R	RF	277,100	ug/L	429.6	0.1550	492,700
Ni2316_A		195.2	ug/L	0.5658	0.2898	310.5
Pb2203_A		3.701	ug/L	1.134	30.65	1.373
Sb2068_A		-0.1584	ug/L	0.5040	318.3	0.5584
Se1960_A		-0.07050	ug/L	1.308	1,856	1.663
Si2516_R		7,294	ug/L	3.693	0.05063	2,773
Sn1899_A		0.1769	ug/L	0.5107	288.7	0.9221
Sr4215_R		789.5	ug/L	5.206	0.6595	46,690
Ti3349_A		7.910	ug/L	0.4111	5.198	151.8
Tl1908_A		1.890	ug/L	0.4993	26.42	-2.579
V_2924_A		1.042	ug/L	0.1163	11.16	6.980
Zn2062_A		15.68	ug/L	0.02596	0.1655	41.89
Y_3600_R		12,927	Cts/S	48.567	0.37569	12,927
Y_2243_A		6,693.9	Cts/S	1.4817	0.022136	6,693.9
Y_3600_A		143,300	Cts/S	325.21	0.22694	143,300

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:40:29PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:40:29PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		504.1	ug/L	1.046	0.2076	8,125
Al3961_R		12,420	ug/L	15.28	0.1230	8,843
As1891_A		498.6	ug/L	0.1187	0.02380	167.2
B_2089_A		498.6	ug/L	0.7510	0.1506	696.9
Ba4554_R		500.3	ug/L	0.3613	0.07221	22,730
Be3130_R		498.3	ug/L	0.1687	0.03386	36,310
Ca3158_R		12,280	ug/L	13.90	0.1133	8,874
Cd2265_A		500.8	ug/L	1.178	0.2352	6,261
Co2286_A		504.3	ug/L	0.8299	0.1646	1,690
Cr2677_A		500.3	ug/L	2.172	0.4342	5,455
Cu3273_A		494.9	ug/L	0.4145	0.08376	6,784
Fe2599_R		12,560	ug/L	44.08	0.3509	15,940
K_7664_R		12,310	ug/L	26.96	0.2191	6,384
Li6707_R		499.8	ug/L	1.214	0.2428	6,054
Mg2025_A		12,190	ug/L	21.98	0.1802	4,001
Mn2576_R		488.6	ug/L	0.1292	0.02644	3,478
Mo2020_A		499.1	ug/L	0.3469	0.06951	1,395
Na5895_R		12,470	ug/L	0.5308	0.004256	22,910
Ni2316_A		507.7	ug/L	2.110	0.4155	831.7
Pb2203_A		504.0	ug/L	0.4632	0.09191	454.1
Sb2068_A		498.3	ug/L	0.02152	0.004318	265.6
Se1960_A		498.0	ug/L	2.958	0.5939	125.2
Si2516_R		12,300	ug/L	63.31	0.5147	4,800
Sn1899_A		502.9	ug/L	2.794	0.5555	258.0
Sr4215_R		498.6	ug/L	0.5084	0.1020	30,390
Ti3349_A		493.0	ug/L	1.881	0.3815	11,720
Tl1908_A		499.7	ug/L	1.486	0.2975	270.1
V_2924_A		497.6	ug/L	0.3901	0.07841	6,488
Zn2062_A		504.3	ug/L	0.07823	0.01551	1,379
Y_3600_R		13,326	Cts/S	11.129	0.083510	13,326
Y_2243_A		6,861.3	Cts/S	3.2017	0.046663	6,861.3
Y_3600_A		151,250	Cts/S	24.215	0.016010	151,250

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:44:38PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3082	ug/L	0.1653	53.64	-0.8257
Al3961_R		14.84	ug/L	2.562	17.27	5.303
As1891_A		0.02506	ug/L	0.3395	1,355	-3.003
B_2089_A		2.005	ug/L	0.2037	10.15	10.24
Ba4554_R		-0.1032	ug/L	0.003219	3.120	39.90
Be3130_R		0.05425	ug/L	0.01439	26.53	-2.416
Ca3158_R		-0.4394	ug/L	8.548	1,945	-40.58
Cd2265_A		0.03199	ug/L	0.05404	169.0	-2.963
Co2286_A		-0.2199	ug/L	0.01345	6.119	1.942
Cr2677_A		0.009487	ug/L	0.2275	2,398	3.559
Cu3273_A		-0.2393	ug/L	0.2523	105.4	15.80
Fe2599_R		3.490	ug/L	0.7356	21.08	6.722
K_7664_R		69.08	ug/L	26.39	38.21	-11.64
Li6707_R		2.011	ug/L	1.109	55.13	22.39
Mg2025_A		4.157	ug/L	0.006747	0.1623	-2.093
Mn2576_R		0.1175	ug/L	0.07110	60.49	3.903
Mo2020_A		0.6467	ug/L	0.1855	28.68	2.371
Na5895_R		56.07	ug/L	0.2948	0.5259	158.2
Ni2316_A		0.06374	ug/L	0.3084	483.8	-0.8025

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:44:38PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.4684	ug/L	0.3258	69.57	-1.505
Sb2068_A		0.04467	ug/L	0.4358	975.8	0.3667
Se1960_A		-0.6918	ug/L	1.012	146.3	1.453
Si2516_R		-5.150	ug/L	3.406	66.13	28.44
Sn1899_A		-0.4539	ug/L	0.6012	132.5	0.6248
Sr4215_R		0.1891	ug/L	0.05473	28.95	-15.22
Ti3349_A		0.08309	ug/L	0.1014	122.1	-27.02
Tl1908_A		0.3039	ug/L	0.07697	25.33	-2.692
V_2924_A		-0.1547	ug/L	0.07782	50.30	-1.252
Zn2062_A		0.2034	ug/L	0.05072	24.93	0.9135
Y_3600_R		13,308	Cts/S	57.643	0.43316	13,308
Y_2243_A		6,887.3	Cts/S	11.093	0.16106	6,887.3
Y_3600_A		153,530	Cts/S	718.19	0.46778	153,530

PQL

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:49:02PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		10.90	ug/L	0.4578	4.200	173.1
Al3961_R		308.1	ug/L	7.220	2.343	213.2
As1891_A		8.349	ug/L	0.2623	3.141	-0.1462
B_2089_A		50.02	ug/L	0.07466	0.1493	75.44
Ba4554_R		5.063	ug/L	0.1714	3.385	273.1
Be3130_R		4.990	ug/L	0.05613	1.125	355.3
Ca3158_R		101.5	ug/L	3.370	3.320	33.26
Cd2265_A		5.060	ug/L	0.04654	0.9198	60.18
Co2286_A		10.11	ug/L	0.1012	1.001	36.70
Cr2677_A		9.862	ug/L	0.0008960	0.009090	112.3
Cu3273_A		24.64	ug/L	0.6030	2.447	360.4
Fe2599_R		100.6	ug/L	0.9960	0.9906	129.3
K_7664_R		1,024	ug/L	41.64	4.068	485.2
Li6707_R		98.30	ug/L	1.854	1.886	1,184
Mg2025_A		92.69	ug/L	1.733	1.870	27.27
Mn2576_R		5.091	ug/L	0.1485	2.917	39.09
Mo2020_A		10.21	ug/L	0.04401	0.4310	29.22
Na5895_R		1,025	ug/L	1.945	0.1898	1,925
Ni2316_A		10.26	ug/L	0.08436	0.8222	16.01
Pb2203_A		5.393	ug/L	0.1451	2.691	2.949
Sb2068_A		7.861	ug/L	0.06734	0.8566	4.149
Se1960_A		8.565	ug/L	1.044	12.19	3.761
Si2516_R		185.7	ug/L	0.4252	0.2289	102.1
Sn1899_A		100.7	ug/L	0.7613	0.7557	52.62
Sr4215_R		10.08	ug/L	0.1325	1.314	585.6
Ti3349_A		14.45	ug/L	0.1004	0.6951	320.0
Tl1908_A		14.77	ug/L	0.1406	0.9519	5.257
V_2924_A		9.947	ug/L	0.1661	1.669	132.3
Zn2062_A		20.04	ug/L	0.05570	0.2780	55.43
Y_3600_R		13,270	Cts/S	54.816	0.41310	13,270
Y_2243_A		6,893.8	Cts/S	4.3839	0.063591	6,893.8
Y_3600_A		153,270	Cts/S	282.61	0.18439	153,270

ICSA

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:53:26PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

ICSA

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:53:26PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.444	ug/L	0.3940	27.28	-813.7
Al3961_R	R	492,900	ug/L	4,132	0.8383	333,600
As1891_A		-0.3640	ug/L	1.032	283.5	-8.436
B_2089_A		-0.5450	ug/L	0.1529	28.05	6.082
Ba4554_R		-0.2219	ug/L	0.1113	50.17	32.89
Be3130_R		0.08386	ug/L	0.04929	58.77	-0.2918
Ca3158_R	R	458,500	ug/L	7,672	1.673	316,700
Cd2265_A		-0.4873	ug/L	0.07177	14.73	197.7
Co2286_A		0.3025	ug/L	0.03979	13.15	3.329
Cr2677_A		0.2378	ug/L	0.1164	48.92	18.53
Cu3273_A		-1.788	ug/L	0.1984	11.10	2.321
Fe2599_R	R	182,900	ug/L	194.7	0.1065	220,700
K_7664_R		54.18	ug/L	8.814	16.27	-18.46
Li6707_R		5.706	ug/L	0.4322	7.574	63.91
Mg2025_A	R	472,600	ug/L	107.5	0.02275	140,400
Mn2576_R		-0.1200	ug/L	0.8017	668.0	3.120
Mo2020_A		-1.226	ug/L	0.01440	1.175	-2.602
Na5895_R		63.25	ug/L	6.197	9.797	163.3
Ni2316_A		2.845	ug/L	0.06933	2.437	-10.94
Pb2203_A		-1.875	ug/L	0.8907	47.50	-31.37
Sb2068_A		0.07690	ug/L	0.1654	215.1	3.220
Se1960_A		4.588	ug/L	1.237	26.95	4.182
Si2516_R		-34.00	ug/L	3.552	10.45	18.91
Sn1899_A		8.022	ug/L	0.1101	1.372	4.496
Sr4215_R	W	4.672	ug/L	0.1693	3.624	245.6
Ti3349_A		0.7621	ug/L	0.1947	25.55	-9.374
Tl1908_A		3.060	ug/L	0.1854	6.057	-0.1256
V_2924_A		-0.7143	ug/L	0.1787	25.02	15.85
Zn2062_A		1.142	ug/L	0.1434	12.55	3.157
Y_3600_R		12,679	Cts/S	42.916	0.33849	12,679
Y_2243_A		6,223.4	Cts/S	19.165	0.30795	6,223.4
Y_3600_A		135,790	Cts/S	176.86	0.13025	135,790

ICSAB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:58:51PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		217.7	ug/L	1.077	0.4945	2,329
Al3961_R	R	501,200	ug/L	2,263	0.4515	340,900
As1891_A		96.95	ug/L	1.332	1.374	21.86
B_2089_A		508.3	ug/L	1.785	0.3512	645.0
Ba4554_R		496.0	ug/L	0.7040	0.1419	21,560
Be3130_R		486.5	ug/L	2.147	0.4413	33,910
Ca3158_R	R	464,600	ug/L	7,089	1.526	322,600
Cd2265_A		936.2	ug/L	0.4553	0.04863	10,820
Co2286_A		474.7	ug/L	0.1100	0.02316	1,447
Cr2677_A		477.1	ug/L	0.5628	0.1180	4,676
Cu3273_A		527.8	ug/L	2.728	0.5169	6,494
Fe2599_R	R	185,000	ug/L	957.8	0.5178	224,400
K_7664_R		21,890	ug/L	57.14	0.2611	10,900
Li6707_R		554.6	ug/L	1.372	0.2473	6,425
Mg2025_A	R	476,700	ug/L	1,097	0.2301	141,900
Mn2576_R		459.5	ug/L	1.958	0.4261	3,130
Mo2020_A		490.1	ug/L	0.1067	0.02177	1,245
Na5895_R		21,590	ug/L	8.305	0.03847	37,890
Ni2316_A		937.8	ug/L	0.5660	0.06035	1,382

ICSAB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 7:58:51PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		45.70	ug/L	1.044	2.283	6.795
Sb2068_A		605.5	ug/L	0.3966	0.06550	296.1
Se1960_A		48.09	ug/L	0.7317	1.522	14.07
Si2516_R		1,927	ug/L	6.456	0.3350	747.6
Sn1899_A		493.6	ug/L	1.906	0.3862	230.2
Sr4215_R		502.3	ug/L	0.3345	0.06658	29,280
Ti3349_A		492.3	ug/L	2.300	0.4672	10,490
Tl1908_A		95.71	ug/L	0.7967	0.8324	45.08
V_2924_A		487.6	ug/L	0.4740	0.09722	5,722
Zn2062_A		917.6	ug/L	3.205	0.3492	2,282
Y_3600_R		12,745	Cts/S	149.02	1.1692	12,745
Y_2243_A		6,237.2	Cts/S	0.87450	0.014021	6,237.2
Y_3600_A		135,610	Cts/S	22.803	0.016815	135,610

CCV

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 8:04:06PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		499.8	ug/L	1.001	0.2003	8,116
Al3961_R		12,320	ug/L	0.6444	0.005233	8,772
As1891_A		495.5	ug/L	0.2443	0.04931	166.7
B_2089_A		496.4	ug/L	0.6385	0.1286	695.7
Ba4554_R		499.1	ug/L	0.1923	0.03854	22,690
Be3130_R		494.4	ug/L	2.056	0.4158	36,050
Ca3158_R		12,140	ug/L	39.40	0.3247	8,778
Cd2265_A		497.3	ug/L	0.2325	0.04676	6,234
Co2286_A		499.8	ug/L	1.001	0.2003	1,680
Cr2677_A		497.2	ug/L	1.742	0.3504	5,462
Cu3273_A		493.7	ug/L	1.993	0.4036	6,819
Fe2599_R		12,410	ug/L	65.95	0.5314	15,760
K_7664_R		12,260	ug/L	12.30	0.1004	6,361
Li6707_R		496.0	ug/L	1.652	0.3332	6,011
Mg2025_A		12,070	ug/L	32.83	0.2720	3,973
Mn2576_R		482.8	ug/L	0.1436	0.02974	3,438
Mo2020_A		494.3	ug/L	0.4293	0.08685	1,385
Na5895_R		12,330	ug/L	5.170	0.04193	22,660
Ni2316_A		503.4	ug/L	0.4031	0.08006	827.1
Pb2203_A		499.0	ug/L	1.241	0.2487	450.9
Sb2068_A		495.4	ug/L	1.443	0.2914	264.8
Se1960_A		494.3	ug/L	1.085	0.2196	124.6
Si2516_R		12,240	ug/L	113.9	0.9306	4,781
Sn1899_A		498.7	ug/L	0.02871	0.005757	256.6
Sr4215_R		496.1	ug/L	0.5080	0.1024	30,250
Ti3349_A		491.3	ug/L	0.2275	0.04630	11,770
Tl1908_A		495.2	ug/L	0.8194	0.1655	268.4
V_2924_A		494.0	ug/L	0.6597	0.1335	6,489
Zn2062_A		500.2	ug/L	0.2700	0.05398	1,372
Y_3600_R		13,334	Cts/S	25.864	0.19397	13,334
Y_2243_A		6,881.7	Cts/S	2.3897	0.034726	6,881.7
Y_3600_A		152,380	Cts/S	164.17	0.10774	152,380

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 8:08:15PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio

CCB

Method Name: FAST-2016_NO_AU
Method Revision: 671
Analyst Name: JS
Acquire Date: 10/16/2018 8:08:15PM
Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	k	0.5830	ug/L	0.2626	45.04	3.683
Al3961_R	k	11.92	ug/L	5.862	49.20	3.184
As1891_A	s	3.954	ug/L	1.512	38.25	-3.503
B_2089_A	s	-0.9631	ug/L	1.711	177.7	13.02
Ba4554_R		0.1640	ug/L	0.1681	102.5	51.38
Be3130_R	k	0.04930	ug/L	0.09113	184.8	-2.757
Ca3158_R	k	7.483	ug/L	1.388	18.54	-34.40
Cd2265_A	s	0.09426	ug/L	0.05100	54.11	-4.637
Co2286_A	s	-0.4678	ug/L	0.1263	27.00	2.323
Cr2677_A		0.07363	ug/L	0.1374	186.6	4.263
Cu3273_A	k	-0.5542	ug/L	0.08028	14.49	11.41
Fe2599_R		5.300	ug/L	1.459	27.53	8.911
K_7664_R		67.89	ug/L	40.80	60.09	-12.13
Li6707_R		1.760	ug/L	0.07274	4.134	19.08
Mg2025_A	s	3.535	ug/L	1.531	43.32	-4.963
Mn2576_R	k	-0.1346	ug/L	0.007324	5.442	2.087
Mo2020_A	s	0.05620	ug/L	0.1704	303.2	1.417
Na5895_R		20.21	ug/L	4.926	24.37	91.43
Ni2316_A	s	-0.01938	ug/L	0.2791	1,440	-1.936
Pb2203_A	s	1.141	ug/L	0.09404	8.245	-1.963
Sb2068_A	s	0.3413	ug/L	0.4138	121.2	1.093
Se1960_A	s	-2.570	ug/L	2.332	90.72	1.983
Si2516_R	k	1.782	ug/L	5.274	296.0	30.74
Sn1899_A	s	-0.7560	ug/L	0.0003530	0.04671	1.052
Sr4215_R		0.07251	ug/L	0.03388	46.72	-22.04
Ti3349_A	k	0.2043	ug/L	0.1718	84.07	-24.04
Tl1908_A	s	2.036	ug/L	1.048	51.48	-3.668
V_2924_A	k	-0.1600	ug/L	0.1173	73.30	-1.264
Zn2062_A	s	0.07651	ug/L	0.08817	115.2	1.170
Y_3600_R		13,145	Cts/S	59.696	0.45414	13,145
Y_2243_A	^	0.00000	Cts/S	0.00000	0.00000	15,419
Y_3600_A		153,200	Cts/S	277.82	0.18134	153,200

Logbooks and Supporting Documents

Katahdin Analytical Services, Inc.

Reagents and Consumables Information:

Metals Preparation Benchsheet

Method: 3010

HNO3: MSR119 **HCL:** MSR115 **Digestion Vessels:** 180531 REVIEWED

1:1 HNO3: MR 2138 **1:1 HCL:** MR 2140

MD 10/16/18
KATAHDIN ANALYTICAL
METALS SECTION

Pipet **LCS/Spiking Information:**

M11 CLPP-SPK-1 (ID/Vol): MS2124 / 0.05 mL
M15 CLPP-SPK-INT1 (ID/Vol): MW18089 / 0.5 mL
M15 CLPP-SPK-INT2 (ID/Vol): MW18090 / 0.5 mL
____ _____ Spike (ID/Vol): NA / _____ mL

Heat Source ID : E
Start Time: 0712 **/Temp.** 94 °C
End Time: 1351 **/Temp.** 92 °C
Thermometer ID/Pos: AIC24 / 16:8

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSWLJ16ICW1	LJ16ICW1	0.05	L	0.05	L	AQ	IC	AMJ	10/16/2018	
PBWLJ16ICW1	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	
SL9849-003R	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	B
SL9849-003RP	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	B
SL9849-003RS	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	B
SL9976-001	LJ16ICW1	0.01	L		L	AQ	IC	AMJ	10/16/2018	A
SL9994-001	LJ16ICW1	0.05	L		L	AQ	IC	AMJ	10/16/2018	C
SL9994-002	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	C
SL9994-003	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	C
TL0026-001	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	A
TL0026-002	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	A
TL0033-001	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	C
TL0033-002	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	C
TL0033-003	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	C
TL0033-004	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	C
TL0045-003	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	D
TL0045-004	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	D
TL0045-013	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	D
TL0045-014	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	D
TL0045-015	LJ16ICW1		L		L	AQ	IC	AMJ	10/16/2018	D

MD 10/16/18

Digestion performed by: AMJ **On:** 10-16-18 **Page:** LJ062 **Revision:** 00

Katahdin Analytical Services 4000113

Katahdin Analytical Services, Inc. | **Metals Preparation Benchsheet**

Reagents and Consumables Information: | **Method:** 7470

HNO3: MSR110 **H2SO4:** MSR103 **Digestion Vessles:** 180714

KMNO4: MR2113 **K2S2O8:** MR2108 **NH2OH-HCl:** MR2126

REVIEWED
MD 10/17/18
KATAHDIN ANALYTICAL
METALS SECTION

Standards/Spiking Information:

1ppm A : MW18091
1ppm B : MW18092

Pipet	
M6	LCSW = 125uL of 1ppm A to 25mL
1	Spike(S/P) = 25uL of 1ppm A to 25mL
M5	ICV = 600uL of 1ppm B to 100 mL
1	S10.0 = 1000uL of 1ppm A to 100 mL

Heat Source ID : B
Start Time: 0755 **/Temp.** 71 **°C**
End Time: 0955 **/Temp.** 74 **°C**
Thermometer ID/Pos: A1025 / 5.7

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle
LCSWLJ17HGW2	LJ17HGW2	0.025	L	0.025	L	AQ	HG	JS	10/17/2018	
PBWLJ17HGW2	LJ17HGW2		L		L	AQ	HG	JS	10/17/2018	
SL9853-001	LJ17HGW2		L		L	AQ	HG	JS	10/17/2018	A
SL9976-001	LJ17HGW2		L		L	AQ	HG	JS	10/17/2018	A
TL0045-003	LJ17HGW2		L		L	AQ	HG	JS	10/17/2018	D
TL0045-004	LJ17HGW2		L		L	AQ	HG	JS	10/17/2018	
TL0045-013	LJ17HGW2		L		L	AQ	HG	JS	10/17/2018	
TL0045-014	LJ17HGW2		L		L	AQ	HG	JS	10/17/2018	
TL0045-015	LJ17HGW2		L		L	AQ	HG	JS	10/17/2018	

MD 10/17/18

Digestion performed by: JS **On:** 10-17-18

Katahdin Analytical Services 4000114

ARCADIS
WATERVLIET ARSENAL LTM 2018
TL0579

KATAHDIN ANALYTICAL SERVICES
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

TABLE OF CONTENTS

Total number of pages: 589

SAMPLE DATA PACKAGE		0000001		
Narrative	----------	0000002	to	0000004
Supporting Documents	----------	0000005	to	0000008
Chain of Custody Record	----------	0000009	to	0000012
Login Report	----------	0000013	to	0000018
SAMPLE DATA SUMMARY				
Report of Analytical Results	----------	A0000001	to	A0000114
VOLATILES DATA		1000001		
QC Summary	----------	1000002	to	1000022
Sample Data	----------	1000023	to	1000328
Standards Data	----------	1000329	to	1000405
Raw QC Data	----------	1000406	to	1000451
Logbooks and Supporting Documents	----------	1000452	to	1000457

SAMPLE DATA PACKAGE

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
ARCADIS
WATERVLIET ARSENAL LTM 2018
TL0579

Sample Receipt

The following samples were received on October 27, 2018 and were logged in under Katahdin Analytical Services work order number TL0579 for a hardcopy due date of November 14, 2018.

KATAHDIN Sample No.	ARCADIS Sample Identification
TL0579-1	WVA-SA-MW-20-102518
TL0579-2	WVA-SA-MW-19R-102518
TL0579-3	WVA-SA-MW-ESE-6-102518
TL0579-4	WVA-SA-STS-6-102518
TL0579-5	WVA-SA-MW-34-102518
TL0579-6	WVA-SA-MW-38-102518
TL0579-7	WVA-SA-MW-EA-6-102518
TL0579-8	WVA-SA-MW-23-102518
TL0579-9	DUP-02-102518
TL0579-10	WVA-SA-MW-83-102518
TL0579-11	WVA-SA-MW-84-102518
TL0579-12	WVA-SA-MW-32-102518
TL0579-13	WVA-SA-MW-39-102518
TL0579-14	WVA-SA-MW-41-102518
TL0579-15	WVA-SA-MW-78-102518
TL0579-16	WVA-SA-MW-79-102518
TL0579-17	WVA-SA-MW-80-102518
TL0579-18	WVA-SA-MW-81-102518
TL0579-19	WVA-SA-MW-82-102518
TL0579-20	WVA-SA-MW-70-102518
TL0579-21	WVA-SA-MW-60-102518
TL0579-22	WVA-AW-MW-27-102518
TL0579-23	93EM-RW-2-102518
TL0579-24	WVA-AW-MW-52-102518
TL0579-25	WVA-AW-MW-64-102518
TL0579-26	WVA-AW-MW-BLD-110-102518
TL0579-27	WVA-B35-PW-1-102518
TL0579-28	DUP-3-102518
TL0579-29	WVA-AW-35-MW-8-102518
TL0579-30	WVA-AW-MW-32-102618
TL0579-31	WVA-AW-MW-47-102618
TL0579-32	86EM-SP-1B-102618
TL0579-33	WVA-AW-25-MW-7-102618
TL0579-34	WVA-AW-25-MW-5-102618
TL0579-35	WVA-AW-25-MW-6-102618
TL0579-36	86EM-SP-1A-102618

KATAHDIN Sample No.	ARCADIS Sample Identification
TL0579-37	83DM-SP-1-102618
TL0579-38	WVA-AW-25-MW-3-102618
TL0579-39	WVA-AW-25-MW-2-102618
TL0579-40	93EM-SP-13-102618
TL0579-41	93EM-SP-11-102618
TL0579-42	WVA-MW-79-102618
TL0579-43	WVA-AW-MW-36-102618
TL0579-44	WVA-AW-MW-35-102618
TL0579-45	WVA-AW-MW-43-102618
TL0579-46	WVA-AW-MW-44-102618
TL0579-47	86EM-SP-5-102618
TL0579-48	83DM-SP-4-102618
TL0579-49	92EM-SP-7-102618
TL0579-50	92EM-SP-8-102618
TL0579-51	TRIP BLANK
TL0579-52	TRIP BLANK

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAP standards unless otherwise noted in this narrative or in the Report of Analysis.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Heather Manz**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of Work Order # TL0579 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846, 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA, and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA and/or for the specific methods listed below or on the Report of Analysis.

8260B Analysis

Samples TL0579-7, 11, 13DL2, 14, 15, 16, 24, 38, 43 and 44 were manually integrated for cis-1,2-dichloroethene, benzene, toluene, 1,2-dichloroethene-d4, 1,1-dichloroethane and/or trans-1,2-dichloroethene. The specific reasons for the manual integrations are indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are statistically derived for the full list of spiked compounds. The recoveries of the spiked analytes in the LCS and LCSD are compared to these acceptance limits. Katahdin standard operating procedure is to take corrective action only if the number of spiked analytes in the LCS that are outside of the QC limits is greater than ten percent of the client compound list.

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Quality Assurance Officer, or their designee, as verified by the following signature.

Leslie Dimond 11.30.18

Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, Inc.

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

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

Katahdin Analytical Services, LLC. Sample Receipt Condition Report

Client:	Arcadis	KAS PM:	HHM	Sampled By:	Client
Project:	WVA LTM 02118227 0050	KIMS Entry By:	SVL for GN	Delivered By:	FedEx
KAS Work Order#:	TL0579	KIMS Review By:	SVL	Received By:	GN
SDG #:		Cooler:	1 of 2	Date/Time Rec.:	10-27-18 / 10:15

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 2.2
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?	✓				
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?	✓				
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved?					
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				✓	
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Katahdin Analytical Services, LLC. — Sample Receipt Condition Report

Client: Arcadis	KAS PM: HHM	Sampled By: Client
Project: WVA LTM 02118227 0002	KIMS Entry By: SC for GN	Delivered By: FedEx
KAS Work Order#: TL0579	KIMS Review By: SC	Received By: GN
SDG #:	Cooler: 2 of 2	Date/Time Rec.: 10-27-18 / 10:15

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 3.0
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles: **Aqueous:** No bubble larger than a pea?	✓				
Soil/Sediment: Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?	✓				
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				✓	
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Sara Colby

From: Giroux, Danielle [Danielle.Giroux@arcadis.com]
Sent: Tuesday, October 30, 2018 3:51 PM
To: scolby@katahdinlab.com
Cc: Bagnato, Stefan
Subject: Change of IDs: Watervliet Arsenal LTM TL0579
Attachments: TL0579.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Sara,
We need to change a number of sample IDs prior to reporting. See below for correct IDs:

TL0579-1: WVA-SA-MW-20-102518
TL0579-2: WVA-SA-MW-19R-102518
TL0579-3: WVA-SA-MW-ESE-6-102518
TL0579-7: WVA-SA-MW-EA-6-102518
TL0579-10: WVA-SA-MW-83-102518
TL0579-11: WVA-SA-MW-84-102518
TL0579-15: WVA-SA-MW-78-102518
TL0579-16: WVA-SA-MW-79-102518
TL0579-17: WVA-SA-MW-80-102518
TL0579-18: WVA-SA-MW-81-102518
TL0579-19: WVA-SA-MW-82-102518
TL0579-22: WVA-AW-MW-27-102518
TL0579-27: WVA-B35-PW-1-102518
TL0579-37: 83DM-SP-1-102618
TL0579-38: WVA-AW-25-MW-3-102618
TL0579-39: WVA-AW-25-MW-2-102618

Thank you
Danielle

Danielle Giroux | Project Geologist | Danielle.Giroux@arcadis.com
ARCADIS U.S., Inc. | 855 Route 146, Suite 210 | Clifton Park, NY, 12065
T. +1 518 250 7327



This email and any files transmitted with it are the property of Arcadis and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of Arcadis are neither given nor endorsed by it.

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Arcadis | Contact: Stefan Bagnato | Phone #: (518) 250-7300 | Fax #:

Address: 855 NY-146 Suite 210 | City: Clifton Park | State: NY | Zip Code: 12065

Purchase Order # | Proj. Name / No.: WVA LTM 0211827.0008 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): Ashley Thomas / Ashley Thomas | Copies To: Danielle Giroux

LAB USE ONLY | WORK ORDER #: TL0579 | KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☒ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ____ ☑ TEMP BLANK ☐ INTACT ☐ NOT INTACT

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N
					ANALYSIS AND CONTAINER TYPE PRESERVATIVES									
	WVA-SA-MW-20-102518	10/25/1035	GW	3	X									
	WVA-SA-MW1R-102518	10/25/1050	GW	3	X									
	WVA-SA-MW-ESE6-102518	10/25/1100	GW	3	X									
	WVA-SA-STS-6-102518	10/25/1110	GW	3	X									
	WVA-SA-MW-34-102518	10/25/1125	GW	3	X									
	WVA-SA-MW-33-102518	10/25/1135	GW	3	X									KS
	WVA-SA-MW-38-102518	10/25/1150	GW	3	X									
	WVA-SA-MW-EA6-102518	10/25/1215	GW	3	X									
	WVA-SA-MW-23-102518	10/25/1225	GW	3	X									
	DUP-02 102518	10/25/—	GW	3	X									
	MPI-SA-MW83 102518	10/25/1235	GW	3	X									
	MPI-SA-MW84 102518	10/25/1240	GW	3	X									
	WVA-SA-MW-32 102518	10/25/1250	GW	3	X									
	WVA-SA-MW-39 102518	10/25/1300	GW	3	X									
	WVA-SA-MW-41 102518	10/25/1305	GW	3	X									
	98MPI-SA-MW-78 102518	10/25/1315	GW	3	X									

COMMENTS

10-27-18/10:15

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Ashley Thomas	10/26 1400				
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Arcadis | Contact: Stefan Bagnato | Phone #: (518) 250-7300 | Fax #: ( )

Address: 855 - NY 146 Suite 210 | City: Clifton Park | State: NY | Zip Code: 12065

Purchase Order # | Proj. Name / No.: WVA LTM 02118027.000.00 | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): Aubrey Memmer / Cindy Thomas | Copies To: Danielle Giroux

LAB USE ONLY | WORK ORDER #: TL0579 | KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☑ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ____ ☑ TEMP BLANK ☐ INTACT ☐ NOT INTACT

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOA 8260	Filt. ☐Y ☑N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	MPI-SA-MW-79-102518	10/25/1320	GW	3	X									
	MPI-SA-MW-80-102518	10/25/1330	GW	3	X									
	98MPI-SA-MW-81-102518	10/25/1340	GW	3	X									
	98MPI-SA-MW-82-102518	10/25/1350	GW	3	X									
	WVA-SA-MW-70-102518	10/25/1400	GW	3	X									
	WVA-SA-MW-60-102518	10/25/1415	GW	3	X									
	WVA-SA-MW-27-102518	10/25/1515	GW	3	X									
	93EM-RW-2-102518	10/25/1545	GW	3	X									
	WVA-AW-MW-52-102518	10/25/1555	GW	3	X									
	WVA-AW-MW-64-102518	10/25/1605	GW	3	X									
	WVA-AW-MW-BLD-110-102518	10/25/1630	GW	3	X									
	WVA-B35-PW1-102518	10/25/1640	GW	3	X									
	DUP-3-102518	10/25/—	GW	3	X									
	WVA-AW-35-MW8-102518	10/25/1710	GW	3	X									
	WVA-AW-MW-32-102618	10/26/840	GW	3	X									
	WVA-AW-MW-47-102618	10/26/900	GW	3	X									

COMMENTS

10-27-18/10:15

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
	10/26 1400				
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client	Arcadis	Contact	Stefan Bugnato	Phone #	(518) 250-7300
Address	855 NY-146 Suite 210	City	Clifton Park	State	NY
Zip Code	12065	Fax #	( )		
Purchase Order #		Proj. Name / No.	WVA LTM 02118227.0000	Katahdin Quote #	
Bill (if different than above)		Address			
Sampler (Print / Sign)	Ashley Thomas / [signature]	Copies To:	Danielle Giroux		

LAB USE ONLY

WORK ORDER #: TL0579

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☑ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☑ TEMP BLANK ☐ INTACT ☐ NOT INTACT

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: Filt. ☐Y ☐N #	VOA 8260
	86EM-SP-1B-102618	10/26/910	GW	3		X
	WVA-AW-25-MW-7-102618	10/26/920	GW	3		X
	WVA-AW-25-MW-5-102618	10/26/930	GW	3		X
	WVA-AW-25-MW-6-102618	10/26/945	GW	3		X
	86EM-SP-1A-102618	10/26/955	GW	3		X
	83EM-SP-1-102618	10/26/1005	GW	3		X
	WVA-AW-MW-3-102618	10/26/1015	GW	3		X
	WVA-AW-MW-2-102618	10/26/1025	GW	3		X
	93EM-SP-13-102618	10/26/1055	GW	3		X
	93EM-SP-11-102618	10/26/1115	GW	3		X
	WVA-MW-79-102618	10/26/1135	GW	3		X
	WVA-AW-MW-36-102618	10/26/1150	GW	3		X
	WVA-AW-MW-35-102618	10/26/1200	GW	3		X
	WVA-AW-MW-43-102618	10/26/1210	GW	3		X
	WVA-AW-MW-44-102618	10/26/1220	GW	3		X
	86EM-SP-5-102618	10/26/1225	GW	3		X

COMMENTS

10-27-13/10:15

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	10/26 1400	[signature]			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: Arcadis	Contact: Stefan Bogucki	Phone #: (518) 250-7300	Fax #: ( )
Address: 855 NY-146 Suite 210	City: Clifton Park	State: NY	Zip Code: 12065
Purchase Order #	Proj. Name / No.: WVA LTM 02118227.0000	Katahdin Quote #	
Bill (if different than above)	Address		
Sampler (Print / Sign): Aubrey Thomas /		Copies To: Danielle Giroux	

LAB USE ONLY — WORK ORDER #: TL0579

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☑ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☑ TEMP BLANK ☐ INTACT ☐ NOT INTACT

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: VOA 8260	Filt. Y N
	83DM-SP-4-102618	10/26/1300	GW	3	X	
	92EM-SP-7-102618	10/26/1240	GW	3	X	
	92EM-SP-8-102618	10/26/1250	GW	3	X	
	Trip Blank	~~10/26~~ 10/25	W	2	X	
	Trip Blank	~~10/~~ 10/25	W	2	X	
		/ /			(A1)	
	Temp Blank	/ /	W	2	(T1)	

10-26-2018

COMMENTS: One set of Trip blanks per cooler.

10-27-18/10:15

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
	10/26 1400				
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Oct. 31, 2018
10:19 AM

Quote/Incoming: ARCADIS-WATERVI

Login Number: TL0579

Account: ARCADIS002
ARCADIS

NoWeb

Project: ARCADIS-WATERVLIET

Primary Report Address:

Stefan Bagnato
ARCADIS
855 Route 146
Suite 210
Clifton Park,NY 12065
stefan.bagnato@arcadis-us.com

Primary Invoice Address:

Accounts Payable Attn: Accounts Payable
ARCADIS U.S., Inc.
630 Plaza Drive
Suite 100
Highlands Ranch,CO 80129

Report CC Addresses:

Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	Not DOD, NELAP. ND to PQL, no J flags.
CHECK NO.	:	
CLIENT PO#	:	02118227.0000
CLIENT PROJECT MANAGE	:	Stefan Bagnato
CONTRACT	:	W912DR-18-D-0004
COOLER TEMPERATURE	:	2.2, 3.0
DELIVERY SERVICES	:	Fedex
EDD FORMAT	:	KAS121-CSV & KAS136QC-CSV
LOGIN INITIALS	:	SO
PM	:	HHM
PROJECT NAME	:	Watervliet Arsenal LTM 2018
QC LEVEL	:	IV
REPORT INSTRUCTIONS	:	Email PDF & EDD to Stefan. No HC. Email invoices to Terry Huber (Terry.Huber@arcadis.com), stefan.bagnato@arcadis.com and AccountsPayable.Administration@arcadis.com.
SDG ID	:	
SDG STATUS	:	
VERBAL TAT	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-1	WVA-SA-MW-20-102518	25-OCT-18 10:35	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-2	WVA-SA-MW-19R-102518	25-OCT-18 10:50	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-3	WVA-SA-MW-ESE-6-102518	25-OCT-18 11:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-4	WVA-SA-STS-6-102518	25-OCT-18 11:10	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-5	WVA-SA-MW-34-102518	25-OCT-18 11:25	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-6	WVA-SA-MW-38-102518	25-OCT-18 11:50	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-7	WVA-SA-MW-EA-6-102518	25-OCT-18 12:15	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Login Number: TL0579

Account: ARCADIS002
ARCADIS

Project: ARCADIS-WATERVLIET

Quote/Incoming: ARCADIS-WATERVI

NoWeb

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-8	WVA-SA-MW-23-102518	25-OCT-18 12:25	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-9	DUP-02-102518	25-OCT-18 00:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-10	WVA-SA-MW-83-102518	25-OCT-18 12:35	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-11	WVA-SA-MW-84-102518	25-OCT-18 12:40	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-12	WVA-SA-MW-32-102518	25-OCT-18 12:50	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-13	WVA-SA-MW-39-102518	25-OCT-18 13:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-14	WVA-SA-MW-41-102518	25-OCT-18 13:05	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-15	WVA-SA-MW-78-102518	25-OCT-18 13:15	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-16	WVA-SA-MW-79-102518	25-OCT-18 13:20	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-17	WVA-SA-MW-80-102518	25-OCT-18 13:30	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Login Number: TL0579

Quote/Incoming: ARCADIS-WATERVI

Account: ARCADIS002

ARCADIS

NoWeb

Project: ARCADIS-WATERVLIET

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-18	WVA-SA-MW-81-102518	25-OCT-18 13:40	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-19	WVA-SA-MW-82-102518	25-OCT-18 13:50	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-20	WVA-SA-MW-70-102518	25-OCT-18 14:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-21	WVA-SA-MW-60-102518	25-OCT-18 14:15	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-22	WVA-AW-MW-27-102518	25-OCT-18 15:15	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-23	93EM-RW-2-102518	25-OCT-18 15:45	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-24	WVA-AW-MW-52-102518	25-OCT-18 15:55	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-25	WVA-AW-MW-64-102518	25-OCT-18 16:05	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-26	WVA-AW-MW-BLD-110-102518	25-OCT-18 16:30	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-27	WVA-B35-PW-1-102518	25-OCT-18 16:40	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Oct. 31, 2018
10:19 AM

Login Number: TL0579
Account: ARCADIS002
ARCADIS

Project: ARCADIS-WATERVLIET

Quote/Incoming: ARCADIS-WATERVI

NoWeb

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-28	DUP-3-102518	25-OCT-18 00:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-29	WVA-AW-35-MW-8-102518	25-OCT-18 17:10	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	08-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-30	WVA-AW-MW-32-102618	26-OCT-18 08:40	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-31	WVA-AW-MW-47-102618	26-OCT-18 09:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-32	86EM-SP-1B-102618	26-OCT-18 09:10	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-33	WVA-AW-25-MW-7-102618	26-OCT-18 09:20	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-34	WVA-AW-25-MW-5-102618	26-OCT-18 09:30	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-35	WVA-AW-25-MW-6-102618	26-OCT-18 09:45	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-36	86EM-SP-1A-102618	26-OCT-18 09:55	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-37	83DM-SP-1-102618	26-OCT-18 10:05	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Login Number: TL0579

Account: ARCADIS002
ARCADIS

Project: ARCADIS-WATERVLIET

Quote/Incoming: ARCADIS-WATERVI

NoWeb

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-38	WVA-AW-25-MW-3-102618	26-OCT-18 10:15	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-39	WVA-AW-25-MW-2-102618	26-OCT-18 10:25	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-40	93EM-SP-13-102618	26-OCT-18 10:55	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-41	93EM-SP-11-102618	26-OCT-18 11:15	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-42	WVA-MW-79-102618	26-OCT-18 11:35	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-43	WVA-AW-MW-36-102618	26-OCT-18 11:50	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-44	WVA-AW-MW-35-102618	26-OCT-18 12:00	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-45	WVA-AW-MW-43-102618	26-OCT-18 12:10	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-46	WVA-AW-MW-44-102618	26-OCT-18 12:20	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				
TL0579-47	86EM-SP-5-102618	26-OCT-18 12:25	27-OCT-18			14-NOV-18	
Matrix	*Product*	*Hold Date (shortest)*	*Bottle Type*		*Bottle Count*	*Comments*	
Aqueous S	SW8260-S	09-NOV-18	40mL Vial+HCl				

Login Number: TL0579

Account: ARCADIS002
ARCADIS

Project: ARCADIS-WATERVLIET

Quote/Incoming: ARCADIS-WATERVI

NoWeb

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0579-48	83DM-SP-4-102618	26-OCT-18 13:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

TL0579-49	92EM-SP-7-102618	26-OCT-18 12:40	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

TL0579-50	92EM-SP-8-102618	26-OCT-18 12:50	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

TL0579-51	TRIP BLANK	26-OCT-18 00:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

TL0579-52	TRIP BLANK	26-OCT-18 00:00	27-OCT-18			14-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	09-NOV-18	40mL Vial+HCl		

Total Samples: **52** ***Total Analyses:*** **52**

SAMPLE DATA SUMMARY PACKAGE

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-1
Client ID: WVA-SA-MW-20-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6365.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.1	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-1
Client ID: WVA-SA-MW-20-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6365.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		99.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-2
Client ID: WVA-SA-MW-19R-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6366.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.2	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.3	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-2
Client ID: WVA-SA-MW-19R-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6366.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-3
Client ID: WVA-SA-MW-ESE-6-1025
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6367.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.6	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-3
Client ID: WVA-SA-MW-ESE-6-1025
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6367.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-4
Client ID: WVA-SA-STS-6-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6368.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		4.5	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		93.4	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-4
Client ID: WVA-SA-STS-6-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6368.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-5
Client ID: WVA-SA-MW-34-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6369.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-5
Client ID: WVA-SA-MW-34-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6369.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-6
Client ID: WVA-SA-MW-38-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6370.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-6
Client ID: WVA-SA-MW-38-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6370.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-7
Client ID: WVA-SA-MW-EA-6-10251
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6371.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.1	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.6	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.1	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-7
Client ID: WVA-SA-MW-EA-6-10251
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6371.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-8
Client ID: WVA-SA-MW-23-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6372.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-8
Client ID: WVA-SA-MW-23-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6372.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-9
Client ID: DUP-02-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6373.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.6	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-9
Client ID: DUP-02-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6373.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-10
Client ID: WVA-SA-MW-83-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6374.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		32.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		5.8	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.7	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-10
Client ID: WVA-SA-MW-83-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6374.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-11
Client ID: WVA-SA-MW-84-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6375.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	350	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		2.3	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	370	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.5	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-11
Client ID: WVA-SA-MW-84-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6375.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-11DL
Client ID: WVA-SA-MW-84-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6388.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	8.0	ug/L	4	2	8.0
Vinyl Chloride		310	ug/L	4	2	8.0
Bromomethane	U	8.0	ug/L	4	2	8.0
Chloroethane	U	8.0	ug/L	4	2	8.0
Trichlorofluoromethane	U	8.0	ug/L	4	2	8.0
1,1-Dichloroethene	U	4.0	ug/L	4	1	4.0
Carbon Disulfide	U	4.0	ug/L	4	1	4.0
Methylene Chloride	U	20.	ug/L	4	5	20.
trans-1,2-Dichloroethene	U	4.0	ug/L	4	1	4.0
1,1-Dichloroethane	U	4.0	ug/L	4	1	4.0
cis-1,2-Dichloroethene		340	ug/L	4	1	4.0
Chloroform	U	4.0	ug/L	4	1	4.0
Carbon Tetrachloride	U	4.0	ug/L	4	1	4.0
1,1,1-Trichloroethane	U	4.0	ug/L	4	1	4.0
2-Butanone	U	20.	ug/L	4	5	20.
Benzene	U	4.0	ug/L	4	1	4.0
1,2-Dichloroethane	U	4.0	ug/L	4	1	4.0
Trichloroethene	U	4.0	ug/L	4	1	4.0
1,2-Dichloropropane	U	4.0	ug/L	4	1	4.0
Bromodichloromethane	U	4.0	ug/L	4	1	4.0
cis-1,3-Dichloropropene	U	4.0	ug/L	4	1	4.0
Toluene	U	4.0	ug/L	4	1	4.0
4-Methyl-2-Pentanone	U	20.	ug/L	4	5	20.
Tetrachloroethene	U	4.0	ug/L	4	1	4.0
trans-1,3-Dichloropropene	U	4.0	ug/L	4	1	4.0
1,1,2-Trichloroethane	U	4.0	ug/L	4	1	4.0
Dibromochloromethane	U	4.0	ug/L	4	1	4.0
Chlorobenzene	U	4.0	ug/L	4	1	4.0
Ethylbenzene	U	4.0	ug/L	4	1	4.0
m+p-Xylenes	U	8.0	ug/L	4	2	8.0
o-Xylene	U	4.0	ug/L	4	1	4.0
Bromoform	U	4.0	ug/L	4	1	4.0
1,1,2,2-Tetrachloroethane	U	4.0	ug/L	4	1	4.0
P-Bromofluorobenzene		97.8	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-11DL
Client ID: WVA-SA-MW-84-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6388.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-12RA
Client ID: WVA-SA-MW-32-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6387.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.3	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		3.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.0	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-12RA
Client ID: WVA-SA-MW-32-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6387.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-13DL
Client ID: WVA-SA-MW-39-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6389.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	80.	ug/L	40	2	80.
Vinyl Chloride		940	ug/L	40	2	80.
Bromomethane	U	80.	ug/L	40	2	80.
Chloroethane	U	80.	ug/L	40	2	80.
Trichlorofluoromethane	U	80.	ug/L	40	2	80.
1,1-Dichloroethene	U	40.	ug/L	40	1	40.
Carbon Disulfide	U	40.	ug/L	40	1	40.
Methylene Chloride	U	200	ug/L	40	5	200
trans-1,2-Dichloroethene	U	40.	ug/L	40	1	40.
1,1-Dichloroethane	U	40.	ug/L	40	1	40.
cis-1,2-Dichloroethene		2600	ug/L	40	1	40.
Chloroform	U	40.	ug/L	40	1	40.
Carbon Tetrachloride	U	40.	ug/L	40	1	40.
1,1,1-Trichloroethane	U	40.	ug/L	40	1	40.
2-Butanone	U	200	ug/L	40	5	200
Benzene	U	40.	ug/L	40	1	40.
1,2-Dichloroethane	U	40.	ug/L	40	1	40.
Trichloroethene		240	ug/L	40	1	40.
1,2-Dichloropropane	U	40.	ug/L	40	1	40.
Bromodichloromethane	U	40.	ug/L	40	1	40.
cis-1,3-Dichloropropene	U	40.	ug/L	40	1	40.
Toluene	U	40.	ug/L	40	1	40.
4-Methyl-2-Pentanone	U	200	ug/L	40	5	200
Tetrachloroethene		83.	ug/L	40	1	40.
trans-1,3-Dichloropropene	U	40.	ug/L	40	1	40.
1,1,2-Trichloroethane	U	40.	ug/L	40	1	40.
Dibromochloromethane	U	40.	ug/L	40	1	40.
Chlorobenzene	U	40.	ug/L	40	1	40.
Ethylbenzene	U	40.	ug/L	40	1	40.
m+p-Xylenes	U	80.	ug/L	40	2	80.
o-Xylene	U	40.	ug/L	40	1	40.
Bromoform	U	40.	ug/L	40	1	40.
1,1,2,2-Tetrachloroethane	U	40.	ug/L	40	1	40.
P-Bromofluorobenzene		97.9	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-13DL
Client ID: WVA-SA-MW-39-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6389.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-13DL2
Client ID: WVA-SA-MW-39-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6426.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	8.0	ug/L	4	2	8.0
Vinyl Chloride	E	1100	ug/L	4	2	8.0
Bromomethane	U	8.0	ug/L	4	2	8.0
Chloroethane	U	8.0	ug/L	4	2	8.0
Trichlorofluoromethane	U	8.0	ug/L	4	2	8.0
1,1-Dichloroethene		7.4	ug/L	4	1	4.0
Carbon Disulfide	U	4.0	ug/L	4	1	4.0
Methylene Chloride	U	20.	ug/L	4	5	20.
trans-1,2-Dichloroethene		17.	ug/L	4	1	4.0
1,1-Dichloroethane	U	4.0	ug/L	4	1	4.0
cis-1,2-Dichloroethene	E	3500	ug/L	4	1	4.0
Chloroform	U	4.0	ug/L	4	1	4.0
Carbon Tetrachloride	U	4.0	ug/L	4	1	4.0
1,1,1-Trichloroethane	U	4.0	ug/L	4	1	4.0
2-Butanone	U	20.	ug/L	4	5	20.
Benzene		15.	ug/L	4	1	4.0
1,2-Dichloroethane	U	4.0	ug/L	4	1	4.0
Trichloroethene		430	ug/L	4	1	4.0
1,2-Dichloropropane	U	4.0	ug/L	4	1	4.0
Bromodichloromethane	U	4.0	ug/L	4	1	4.0
cis-1,3-Dichloropropene	U	4.0	ug/L	4	1	4.0
Toluene	U	4.0	ug/L	4	1	4.0
4-Methyl-2-Pentanone	U	20.	ug/L	4	5	20.
Tetrachloroethene		140	ug/L	4	1	4.0
trans-1,3-Dichloropropene	U	4.0	ug/L	4	1	4.0
1,1,2-Trichloroethane	U	4.0	ug/L	4	1	4.0
Dibromochloromethane	U	4.0	ug/L	4	1	4.0
Chlorobenzene	U	4.0	ug/L	4	1	4.0
Ethylbenzene	U	4.0	ug/L	4	1	4.0
m+p-Xylenes	U	8.0	ug/L	4	2	8.0
o-Xylene	U	4.0	ug/L	4	1	4.0
Bromoform	U	4.0	ug/L	4	1	4.0
1,1,2,2-Tetrachloroethane	U	4.0	ug/L	4	1	4.0
P-Bromofluorobenzene		94.3	%			
Toluene-d8		99.7	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-13DL2
Client ID: WVA-SA-MW-39-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6426.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-14
Client ID: WVA-SA-MW-41-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6390.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		93.9	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-14
Client ID: WVA-SA-MW-41-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6390.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-15
Client ID: WVA-SA-MW-78-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6391.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		39.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		28.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene		1.5	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		3.5	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		2.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.2	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-15
Client ID: WVA-SA-MW-78-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6391.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-16
Client ID: WVA-SA-MW-79-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6392.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene		1.1	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.6	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-16
Client ID: WVA-SA-MW-79-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6392.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-17
Client ID: WVA-SA-MW-80-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6393.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		93.9	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-17
Client ID: WVA-SA-MW-80-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6393.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-18
Client ID: WVA-SA-MW-81-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6394.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	620	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		28.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.6	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-18
Client ID: WVA-SA-MW-81-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6394.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-18DL
Client ID: WVA-SA-MW-81-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6411.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	20.	ug/L	10	2	20.
Vinyl Chloride		540	ug/L	10	2	20.
Bromomethane	U	20.	ug/L	10	2	20.
Chloroethane	U	20.	ug/L	10	2	20.
Trichlorofluoromethane	U	20.	ug/L	10	2	20.
1,1-Dichloroethene	U	10.	ug/L	10	1	10.
Carbon Disulfide	U	10.	ug/L	10	1	10.
Methylene Chloride	U	50.	ug/L	10	5	50.
trans-1,2-Dichloroethene	U	10.	ug/L	10	1	10.
1,1-Dichloroethane	U	10.	ug/L	10	1	10.
cis-1,2-Dichloroethene		25.	ug/L	10	1	10.
Chloroform	U	10.	ug/L	10	1	10.
Carbon Tetrachloride	U	10.	ug/L	10	1	10.
1,1,1-Trichloroethane	U	10.	ug/L	10	1	10.
2-Butanone	U	50.	ug/L	10	5	50.
Benzene	U	10.	ug/L	10	1	10.
1,2-Dichloroethane	U	10.	ug/L	10	1	10.
Trichloroethene	U	10.	ug/L	10	1	10.
1,2-Dichloropropane	U	10.	ug/L	10	1	10.
Bromodichloromethane	U	10.	ug/L	10	1	10.
cis-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
Toluene	U	10.	ug/L	10	1	10.
4-Methyl-2-Pentanone	U	50.	ug/L	10	5	50.
Tetrachloroethene	U	10.	ug/L	10	1	10.
trans-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
1,1,2-Trichloroethane	U	10.	ug/L	10	1	10.
Dibromochloromethane	U	10.	ug/L	10	1	10.
Chlorobenzene	U	10.	ug/L	10	1	10.
Ethylbenzene	U	10.	ug/L	10	1	10.
m+p-Xylenes	U	20.	ug/L	10	2	20.
o-Xylene	U	10.	ug/L	10	1	10.
Bromoform	U	10.	ug/L	10	1	10.
1,1,2,2-Tetrachloroethane	U	10.	ug/L	10	1	10.
P-Bromofluorobenzene		97.9	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-18DL
Client ID: WVA-SA-MW-81-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6411.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		106.	%			
Dibromofluoromethane		111.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-19
Client ID: WVA-SA-MW-82-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6395.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-19
Client ID: WVA-SA-MW-82-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6395.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-20
Client ID: WVA-SA-MW-70-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6396.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.4	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.1	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-20
Client ID: WVA-SA-MW-70-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6396.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-21
Client ID: WVA-SA-MW-60-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6397.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-21
Client ID: WVA-SA-MW-60-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6397.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-22
Client ID: WVA-AW-MW-27-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6398.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		92.6	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-22
Client ID: WVA-AW-MW-27-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6398.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		99.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-23
Client ID: 93EM-RW-2-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6399.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		65.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		58.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		29.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.8	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-23
Client ID: 93EM-RW-2-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6399.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-24
Client ID: WVA-AW-MW-52-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6400.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		2.3	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.0	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-24
Client ID: WVA-AW-MW-52-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6400.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-25
Client ID: WVA-AW-MW-64-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6451.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 06-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 06-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		23.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		130	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		97.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	230	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.0	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-25
Client ID: WVA-AW-MW-64-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6451.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 06-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 06-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-25DL2
Client ID: WVA-AW-MW-64-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6427.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	10.	ug/L	5	2	10.
Vinyl Chloride		22.	ug/L	5	2	10.
Bromomethane	U	10.	ug/L	5	2	10.
Chloroethane	U	10.	ug/L	5	2	10.
Trichlorofluoromethane	U	10.	ug/L	5	2	10.
1,1-Dichloroethene	U	5.0	ug/L	5	1	5.0
Carbon Disulfide	U	5.0	ug/L	5	1	5.0
Methylene Chloride	U	25.	ug/L	5	5	25.
trans-1,2-Dichloroethene	U	5.0	ug/L	5	1	5.0
1,1-Dichloroethane	U	5.0	ug/L	5	1	5.0
cis-1,2-Dichloroethene		110	ug/L	5	1	5.0
Chloroform	U	5.0	ug/L	5	1	5.0
Carbon Tetrachloride	U	5.0	ug/L	5	1	5.0
1,1,1-Trichloroethane	U	5.0	ug/L	5	1	5.0
2-Butanone	U	25.	ug/L	5	5	25.
Benzene	U	5.0	ug/L	5	1	5.0
1,2-Dichloroethane	U	5.0	ug/L	5	1	5.0
Trichloroethene		88.	ug/L	5	1	5.0
1,2-Dichloropropane	U	5.0	ug/L	5	1	5.0
Bromodichloromethane	U	5.0	ug/L	5	1	5.0
cis-1,3-Dichloropropene	U	5.0	ug/L	5	1	5.0
Toluene	U	5.0	ug/L	5	1	5.0
4-Methyl-2-Pentanone	U	25.	ug/L	5	5	25.
Tetrachloroethene		200	ug/L	5	1	5.0
trans-1,3-Dichloropropene	U	5.0	ug/L	5	1	5.0
1,1,2-Trichloroethane	U	5.0	ug/L	5	1	5.0
Dibromochloromethane	U	5.0	ug/L	5	1	5.0
Chlorobenzene	U	5.0	ug/L	5	1	5.0
Ethylbenzene	U	5.0	ug/L	5	1	5.0
m+p-Xylenes	U	10.	ug/L	5	2	10.
o-Xylene	U	5.0	ug/L	5	1	5.0
Bromoform	U	5.0	ug/L	5	1	5.0
1,1,2,2-Tetrachloroethane	U	5.0	ug/L	5	1	5.0
P-Bromofluorobenzene		98.8	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-25DL2
Client ID: WVA-AW-MW-64-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6427.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-26
Client ID: WVA-AW-MW-BLD-110-10
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6401.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.7	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-26
Client ID: WVA-AW-MW-BLD-110-10
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6401.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-27
Client ID: WVA-B35-PW-1-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6402.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.7	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-27
Client ID: WVA-B35-PW-1-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6402.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-28
Client ID: DUP-3-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6403.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.2	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-28
Client ID: DUP-3-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6403.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-29
Client ID: WVA-AW-35-MW-8-10251
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6404.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-29
Client ID: WVA-AW-35-MW-8-10251
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6404.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-30
Client ID: WVA-AW-MW-32-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6413.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		93.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-30
Client ID: WVA-AW-MW-32-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6413.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-31
Client ID: WVA-AW-MW-47-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6414.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		3.8	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		1.2	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		70.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.6	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.1	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-31
Client ID: WVA-AW-MW-47-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6414.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		109.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-32
Client ID: 86EM-SP-1B-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6415.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-32
Client ID: 86EM-SP-1B-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6415.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		107.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-33
Client ID: WVA-AW-25-MW-7-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6416.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.6	%			
Toluene-d8		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-33
Client ID: WVA-AW-25-MW-7-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6416.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-34
Client ID: WVA-AW-25-MW-5-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6417.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.2	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-34
Client ID: WVA-AW-25-MW-5-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6417.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		107.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-35
Client ID: WVA-AW-25-MW-6-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6428.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		27.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.3	%			
Toluene-d8		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-35
Client ID: WVA-AW-25-MW-6-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6428.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-36
Client ID: 86EM-SP-1A-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6419.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform		3.9	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		6.6	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.8	%			
Toluene-d8		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-36
Client ID: 86EM-SP-1A-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6419.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		106.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-37
Client ID: 83DM-SP-1-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6420.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform		1.4	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.4	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-37
Client ID: 83DM-SP-1-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6420.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-38
Client ID: WVA-AW-25-MW-3-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6421.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		4.8	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane		1.6	ug/L	1	1	1.0
cis-1,2-Dichloroethene		21.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		3.4	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.2	%			
Toluene-d8		99.8	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-38
Client ID: WVA-AW-25-MW-3-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6421.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-39
Client ID: WVA-AW-25-MW-2-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6422.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		2.7	ug/L	1	1	1.0
1,1-Dichloroethane		9.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		6.1	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane		1.7	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.8	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.0	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-39
Client ID: WVA-AW-25-MW-2-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6422.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		108.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-40
Client ID: 93EM-SP-13-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6423.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-40
Client ID: 93EM-SP-13-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6423.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		106.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-41
Client ID: 93EM-SP-11-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6424.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-41
Client ID: 93EM-SP-11-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6424.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-42
Client ID: WVA-MW-79-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6425.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.9	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-42
Client ID: WVA-MW-79-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6425.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-43
Client ID: WVA-AW-MW-36-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6436.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.3	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		4.5	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.7	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-43
Client ID: WVA-AW-MW-36-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6436.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-44
Client ID: WVA-AW-MW-35-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6437.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		2.7	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		45.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		40.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.2	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-44
Client ID: WVA-AW-MW-35-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6437.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-45
Client ID: WVA-AW-MW-43-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6438.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane		1.9	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-45
Client ID: WVA-AW-MW-43-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6438.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-46
Client ID: WVA-AW-MW-44-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6439.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.1	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-46
Client ID: WVA-AW-MW-44-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6439.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-47
Client ID: 86EM-SP-5-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6440.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.9	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-47
Client ID: 86EM-SP-5-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6440.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		98.8	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-48
Client ID: 83DM-SP-4-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6441.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.4	%			
Toluene-d8		99.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-48
Client ID: 83DM-SP-4-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6441.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-49
Client ID: 92EM-SP-7-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6442.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-49
Client ID: 92EM-SP-7-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6442.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-50
Client ID: 92EM-SP-8-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6443.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.9	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-50
Client ID: 92EM-SP-8-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6443.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-51
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6434.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.0	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-51
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6434.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-52
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6435.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-52
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6435.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

VOLATILES DATA

QC Summary Section

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Watervliet Arsenal LTM 2018 **Matrix:** AQ
Lab Code: KAS **SDG:** TL0579

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
WVA-SA-MW-20-102518	TL0579-1		94.1		99.9		100.		101.	
WVA-SA-MW-83-102518	TL0579-10		94.7		103.		104.		101.	
WVA-SA-MW-84-102518	TL0579-11		96.5		101.		100.		103.	
WVA-SA-MW-84-102518	TL0579-11DL		97.8		103.		101.		101.	
WVA-SA-MW-32-102518	TL0579-12RA		95.0		103.		101.		101.	
WVA-SA-MW-39-102518	TL0579-13DL		97.9		101.		102.		101.	
WVA-SA-MW-39-102518	TL0579-13DL2		94.3		103.		104.		99.7	
WVA-SA-MW-41-102518	TL0579-14		93.9		102.		103.		101.	
WVA-SA-MW-78-102518	TL0579-15		98.2		102.		101.		101.	
WVA-SA-MW-79-102518	TL0579-16		96.6		104.		104.		103.	
WVA-SA-MW-80-102518	TL0579-17		93.9		102.		103.		101.	
WVA-SA-MW-81-102518	TL0579-18		95.6		105.		103.		103.	
WVA-SA-MW-81-102518	TL0579-18DL		97.9		111.		106.		103.	
WVA-SA-MW-82-102518	TL0579-19		95.4		104.		102.		102.	
WVA-SA-MW-19R-102518	TL0579-2		96.3		103.		102.		103.	
WVA-SA-MW-70-102518	TL0579-20		96.1		103.		104.		102.	
WVA-SA-MW-60-102518	TL0579-21		96.3		100.		104.		102.	
WVA-AW-MW-27-102518	TL0579-22		92.6		99.9		100.		101.	
93EM-RW-2-102518	TL0579-23		95.8		102.		103.		100.	
WVA-AW-MW-52-102518	TL0579-24		99.0		100.		102.		102.	
WVA-AW-MW-64-102518	TL0579-25		98.0		105.		103.		101.	
WVA-AW-MW-64-102518	TL0579-25DL2		98.8		102.		102.		101.	
WVA-AW-MW-BLD-110-1	TL0579-26		96.7		102.		104.		103.	
WVA-B35-PW-1-102518	TL0579-27		95.7		104.		102.		102.	
DUP-3-102518	TL0579-28		94.2		104.		103.		102.	
WVA-AW-35-MW-8-10251	TL0579-29		97.3		103.		105.		102.	
WVA-SA-MW-ESE-6-1025	TL0579-3		97.6		104.		101.		102.	
WVA-AW-MW-32-102618	TL0579-30		93.5		104.		105.		101.	
WVA-AW-MW-47-102618	TL0579-31		95.1		109.		104.		103.	
86EM-SP-1B-102618	TL0579-32		95.3		106.		107.		102.	
WVA-AW-25-MW-7-10261	TL0579-33		99.6		105.		105.		104.	
WVA-AW-25-MW-5-10261	TL0579-34		97.2		104.		107.		103.	
WVA-AW-25-MW-6-10261	TL0579-35		97.3		101.		102.		104.	
86EM-SP-1A-102618	TL0579-36		99.8		106.		106.		104.	
83DM-SP-1-102618	TL0579-37		96.4		106.		105.		102.	
WVA-AW-25-MW-3-10261	TL0579-38		97.2		102.		104.		99.8	

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Watervliet Arsenal LTM 2018 **Matrix:** AQ
Lab Code: KAS **SDG:** TL0579

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
WVA-AW-25-MW-2-10261	TL0579-39		97.0		105.		108.		102.	
WVA-SA-STS-6-102518	TL0579-4		93.4		102.		102.		100.	
93EM-SP-13-102618	TL0579-40		96.4		104.		106.		102.	
93EM-SP-11-102618	TL0579-41		95.5		103.		105.		101.	
WVA-MW-79-102618	TL0579-42		95.9		103.		102.		102.	
WVA-AW-MW-36-102618	TL0579-43		96.7		105.		103.		102.	
WVA-AW-MW-35-102618	TL0579-44		96.2		102.		101.		102.	
WVA-AW-MW-43-102618	TL0579-45		96.3		104.		102.		102.	
WVA-AW-MW-44-102618	TL0579-46		97.1		104.		103.		101.	
86EM-SP-5-102618	TL0579-47		98.9		104.		98.8		102.	
83DM-SP-4-102618	TL0579-48		95.4		104.		100.		99.3	
92EM-SP-7-102618	TL0579-49		94.5		103.		100.		101.	
WVA-SA-MW-34-102518	TL0579-5		96.4		106.		100.		102.	
92EM-SP-8-102618	TL0579-50		99.9		102.		102.		102.	
TRIP BLANK	TL0579-51		97.0		102.		100.		102.	
TRIP BLANK	TL0579-52		98.4		102.		101.		102.	
WVA-SA-MW-38-102518	TL0579-6		94.3		101.		102.		102.	
WVA-SA-MW-EA-6-10251	TL0579-7		95.1		102.		104.		101.	
WVA-SA-MW-23-102518	TL0579-8		97.5		104.		105.		101.	
DUP-02-102518	TL0579-9		95.6		103.		103.		102.	
Laboratory Control S	WG239918-1		106.		99.6		98.2		99.8	
Method Blank Sample	WG239918-2		95.2		104.		104.		100.	
Laboratory Control S	WG239941-1		102.		99.4		98.9		101.	
Method Blank Sample	WG239941-2		96.5		105.		98.9		99.9	
Laboratory Control S	WG240010-1		103.		94.8		97.1		99.6	
Method Blank Sample	WG240010-2		97.6		104.		104.		100.	
Laboratory Control S	WG240057-1		104.		92.9		98.8		101.	
Method Blank Sample	WG240057-2		96.9		104.		102.		101.	

		QC Limits
DBF	DIBROMOFLUOROMETHANE	68-128
BFB	P-BROMOFLUOROBENZENE	56-133

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Watervliet Arsenal LTM 2018 **Matrix:** AQ
Lab Code: KAS **SDG:** TL0579

TOL	TOLUENE-D8	65-128
DCA	1,2-DICHLOROETHANE-D4	67-135

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : W6361.D
Instrument ID : GCMS-W
Heated Purge : No

SDG : TL0579
Lab Sample ID : WG239918-2
Date Analyzed : 02-NOV-18
Time Analyzed : 19:20

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG239918-1	W6359.D	11/02/18	18:02
WVA-SA-MW-20-102518	TL0579-1	W6365.D	11/02/18	21:19
WVA-SA-MW-19R-102518	TL0579-2	W6366.D	11/02/18	21:49
WVA-SA-MW-ESE-6-102518	TL0579-3	W6367.D	11/02/18	22:19
WVA-SA-STS-6-102518	TL0579-4	W6368.D	11/02/18	22:49
WVA-SA-MW-34-102518	TL0579-5	W6369.D	11/02/18	23:19
WVA-SA-MW-38-102518	TL0579-6	W6370.D	11/02/18	23:49
WVA-SA-MW-EA-6-102518	TL0579-7	W6371.D	11/03/18	00:19
WVA-SA-MW-23-102518	TL0579-8	W6372.D	11/03/18	00:49
DUP-02-102518	TL0579-9	W6373.D	11/03/18	01:19
WVA-SA-MW-83-102518	TL0579-10	W6374.D	11/03/18	01:49
WVA-SA-MW-84-102518	TL0579-11	W6375.D	11/03/18	02:19

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : W6386.D
Instrument ID : GCMS-W
Heated Purge : No

SDG : TL0579
Lab Sample ID : WG239941-2
Date Analyzed : 03-NOV-18
Time Analyzed : 08:49

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG239941-1	W6384.D	11/03/18	07:39
WVA-SA-MW-32-102518	TL0579-12RA	W6387.D	11/03/18	09:19
WVA-SA-MW-84-102518	TL0579-11DL	W6388.D	11/03/18	09:49
WVA-SA-MW-39-102518	TL0579-13DL	W6389.D	11/03/18	10:19
WVA-SA-MW-41-102518	TL0579-14	W6390.D	11/03/18	10:49
WVA-SA-MW-78-102518	TL0579-15	W6391.D	11/03/18	11:19
WVA-SA-MW-79-102518	TL0579-16	W6392.D	11/03/18	11:49
WVA-SA-MW-80-102518	TL0579-17	W6393.D	11/03/18	12:19
WVA-SA-MW-81-102518	TL0579-18	W6394.D	11/03/18	12:49
WVA-SA-MW-82-102518	TL0579-19	W6395.D	11/03/18	13:19
WVA-SA-MW-70-102518	TL0579-20	W6396.D	11/03/18	13:49
WVA-SA-MW-60-102518	TL0579-21	W6397.D	11/03/18	14:19
WVA-AW-MW-27-102518	TL0579-22	W6398.D	11/03/18	14:49
93EM-RW-2-102518	TL0579-23	W6399.D	11/03/18	15:19
WVA-AW-MW-52-102518	TL0579-24	W6400.D	11/03/18	15:49
WVA-AW-MW-BLD-110-102518	TL0579-26	W6401.D	11/03/18	16:19
WVA-B35-PW-1-102518	TL0579-27	W6402.D	11/03/18	16:49
DUP-3-102518	TL0579-28	W6403.D	11/03/18	17:19
WVA-AW-35-MW-8-102518	TL0579-29	W6404.D	11/03/18	17:49

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : W6410.D
Instrument ID : GCMS-W
Heated Purge : No

SDG : TL0579
Lab Sample ID : WG240010-2
Date Analyzed : 05-NOV-18
Time Analyzed : 05:45

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG240010-1	W6408.D	11/05/18	04:40
WVA-SA-MW-81-102518	TL0579-18DL	W6411.D	11/05/18	06:15
WVA-AW-MW-32-102618	TL0579-30	W6413.D	11/05/18	07:15
WVA-AW-MW-47-102618	TL0579-31	W6414.D	11/05/18	07:45
86EM-SP-1B-102618	TL0579-32	W6415.D	11/05/18	08:15
WVA-AW-25-MW-7-102618	TL0579-33	W6416.D	11/05/18	08:45
WVA-AW-25-MW-5-102618	TL0579-34	W6417.D	11/05/18	09:15
86EM-SP-1A-102618	TL0579-36	W6419.D	11/05/18	10:15
83DM-SP-1-102618	TL0579-37	W6420.D	11/05/18	10:44
WVA-AW-25-MW-3-102618	TL0579-38	W6421.D	11/05/18	11:14
WVA-AW-25-MW-2-102618	TL0579-39	W6422.D	11/05/18	11:44
93EM-SP-13-102618	TL0579-40	W6423.D	11/05/18	12:14
93EM-SP-11-102618	TL0579-41	W6424.D	11/05/18	12:44
WVA-MW-79-102618	TL0579-42	W6425.D	11/05/18	13:14
WVA-SA-MW-39-102518	TL0579-13DL2	W6426.D	11/05/18	13:44
WVA-AW-MW-64-102518	TL0579-25DL2	W6427.D	11/05/18	14:14
WVA-AW-25-MW-6-102618	TL0579-35	W6428.D	11/05/18	14:44

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : W6433.D
Instrument ID : GCMS-W
Heated Purge : No

SDG : TL0579
Lab Sample ID : WG240057-2
Date Analyzed : 05-NOV-18
Time Analyzed : 18:18

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG240057-1	W6431.D	11/05/18	17:09
TRIP BLANK	TL0579-51	W6434.D	11/05/18	18:48
TRIP BLANK	TL0579-52	W6435.D	11/05/18	19:17
WVA-AW-MW-36-102618	TL0579-43	W6436.D	11/05/18	19:47
WVA-AW-MW-35-102618	TL0579-44	W6437.D	11/05/18	20:17
WVA-AW-MW-43-102618	TL0579-45	W6438.D	11/05/18	20:47
WVA-AW-MW-44-102618	TL0579-46	W6439.D	11/05/18	21:17
86EM-SP-5-102618	TL0579-47	W6440.D	11/05/18	21:47
83DM-SP-4-102618	TL0579-48	W6441.D	11/05/18	22:17
92EM-SP-7-102618	TL0579-49	W6442.D	11/05/18	22:47
92EM-SP-8-102618	TL0579-50	W6443.D	11/05/18	23:17
WVA-AW-MW-64-102518	TL0579-25	W6451.D	11/06/18	03:17

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : WB977A.D
Instrument ID : GCMS-W

SDG : TL0579
Date Analyzed : 01-NOV-18
Time Analyzed : 16:07
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	23.0		
75	30.0 - 60.0% of mass 95	52.3		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.7		
173	Less than 2.0% of mass 174	1.0	1.20	1
174	Greater than 50.0% of mass 95	85.5		
175	5.0 - 9.0% of mass 174	7.2	8.47	1
176	95.0 - 101.0% of mass 174	86.3	100.93	1
177	5.0 - 9.0% of mass 176	6.8	7.91	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG239831-4	W6323.D	11/01/18	16:31
Initial Calibration	WG239831-3	W6324.D	11/01/18	17:01
Initial Calibration	WG239831-2	W6325.D	11/01/18	17:31
Initial Calibration	WG239831-1	W6326.D	11/01/18	18:01
Initial Calibration	WG239831-6	W6327.D	11/01/18	18:31
Initial Calibration	WG239831-5	W6328.D	11/01/18	19:01
Initial Calibration	WG239831-7	W6329.D	11/01/18	19:31
Independent Source	WG239831-8	W6331.D	11/01/18	20:31

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : WB979.D
Instrument ID : GCMS-W

SDG : TL0579
Date Analyzed : 02-NOV-18
Time Analyzed : 16:54
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	18.0		
75	30.0 - 60.0% of mass 95	57.3		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.2		
173	Less than 2.0% of mass 174	0.3	0.31	1
174	Greater than 50.0% of mass 95	94.2		
175	5.0 - 9.0% of mass 174	6.2	6.55	1
176	95.0 - 101.0% of mass 174	91.1	96.77	1
177	5.0 - 9.0% of mass 176	6.9	7.56	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG239918-4	W6358.D	11/02/18	17:19
Laboratory Control S	WG239918-1	W6359.D	11/02/18	18:02
Method Blank Sample	WG239918-2	W6361.D	11/02/18	19:20
WVA-SA-MW-20-102518	TL0579-1	W6365.D	11/02/18	21:19
WVA-SA-MW-19R-102518	TL0579-2	W6366.D	11/02/18	21:49
WVA-SA-MW-ESE-6-102518	TL0579-3	W6367.D	11/02/18	22:19
WVA-SA-STS-6-102518	TL0579-4	W6368.D	11/02/18	22:49
WVA-SA-MW-34-102518	TL0579-5	W6369.D	11/02/18	23:19
WVA-SA-MW-38-102518	TL0579-6	W6370.D	11/02/18	23:49
WVA-SA-MW-EA-6-102518	TL0579-7	W6371.D	11/03/18	00:19
WVA-SA-MW-23-102518	TL0579-8	W6372.D	11/03/18	00:49
DUP-02-102518	TL0579-9	W6373.D	11/03/18	01:19
WVA-SA-MW-83-102518	TL0579-10	W6374.D	11/03/18	01:49
WVA-SA-MW-84-102518	TL0579-11	W6375.D	11/03/18	02:19

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : WB980A.D
Instrument ID : GCMS-W

SDG : TL0579
Date Analyzed : 03-NOV-18
Time Analyzed : 06:29
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	22.6		
75	30.0 - 60.0% of mass 95	50.6		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.3		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	91.0		
175	5.0 - 9.0% of mass 174	7.7	8.48	1
176	95.0 - 101.0% of mass 174	86.5	95.10	1
177	5.0 - 9.0% of mass 176	6.4	7.34	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG239941-4	W6383.D	11/03/18	06:57
Laboratory Control S	WG239941-1	W6384.D	11/03/18	07:39
Method Blank Sample	WG239941-2	W6386.D	11/03/18	08:49
WVA-SA-MW-32-102518	TL0579-12RA	W6387.D	11/03/18	09:19
WVA-SA-MW-84-102518	TL0579-11DL	W6388.D	11/03/18	09:49
WVA-SA-MW-39-102518	TL0579-13DL	W6389.D	11/03/18	10:19
WVA-SA-MW-41-102518	TL0579-14	W6390.D	11/03/18	10:49
WVA-SA-MW-78-102518	TL0579-15	W6391.D	11/03/18	11:19
WVA-SA-MW-79-102518	TL0579-16	W6392.D	11/03/18	11:49
WVA-SA-MW-80-102518	TL0579-17	W6393.D	11/03/18	12:19
WVA-SA-MW-81-102518	TL0579-18	W6394.D	11/03/18	12:49
WVA-SA-MW-82-102518	TL0579-19	W6395.D	11/03/18	13:19
WVA-SA-MW-70-102518	TL0579-20	W6396.D	11/03/18	13:49
WVA-SA-MW-60-102518	TL0579-21	W6397.D	11/03/18	14:19
WVA-AW-MW-27-102518	TL0579-22	W6398.D	11/03/18	14:49
93EM-RW-2-102518	TL0579-23	W6399.D	11/03/18	15:19
WVA-AW-MW-52-102518	TL0579-24	W6400.D	11/03/18	15:49
WVA-AW-MW-BLD-110-102518	TL0579-26	W6401.D	11/03/18	16:19
WVA-B35-PW-1-102518	TL0579-27	W6402.D	11/03/18	16:49
DUP-3-102518	TL0579-28	W6403.D	11/03/18	17:19
WVA-AW-35-MW-8-102518	TL0579-29	W6404.D	11/03/18	17:49

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : WB981A.D
Instrument ID : GCMS-W

SDG : TL0579
Date Analyzed : 05-NOV-18
Time Analyzed : 03:34
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	22.1		
75	30.0 - 60.0% of mass 95	57.2		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.2		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	91.8		
175	5.0 - 9.0% of mass 174	6.5	7.10	1
176	95.0 - 101.0% of mass 174	89.2	97.17	1
177	5.0 - 9.0% of mass 176	6.0	6.76	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG240010-4	W6407.D	11/05/18	04:05
Laboratory Control S	WG240010-1	W6408.D	11/05/18	04:40
Method Blank Sample	WG240010-2	W6410.D	11/05/18	05:45
WVA-SA-MW-81-102518	TL0579-18DL	W6411.D	11/05/18	06:15
WVA-AW-MW-32-102618	TL0579-30	W6413.D	11/05/18	07:15
WVA-AW-MW-47-102618	TL0579-31	W6414.D	11/05/18	07:45
86EM-SP-1B-102618	TL0579-32	W6415.D	11/05/18	08:15
WVA-AW-25-MW-7-102618	TL0579-33	W6416.D	11/05/18	08:45
WVA-AW-25-MW-5-102618	TL0579-34	W6417.D	11/05/18	09:15
86EM-SP-1A-102618	TL0579-36	W6419.D	11/05/18	10:15
83DM-SP-1-102618	TL0579-37	W6420.D	11/05/18	10:44
WVA-AW-25-MW-3-102618	TL0579-38	W6421.D	11/05/18	11:14
WVA-AW-25-MW-2-102618	TL0579-39	W6422.D	11/05/18	11:44
93EM-SP-13-102618	TL0579-40	W6423.D	11/05/18	12:14
93EM-SP-11-102618	TL0579-41	W6424.D	11/05/18	12:44
WVA-MW-79-102618	TL0579-42	W6425.D	11/05/18	13:14
WVA-SA-MW-39-102518	TL0579-13DL2	W6426.D	11/05/18	13:44
WVA-AW-MW-64-102518	TL0579-25DL2	W6427.D	11/05/18	14:14
WVA-AW-25-MW-6-102618	TL0579-35	W6428.D	11/05/18	14:44

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : WB982A.D
Instrument ID : GCMS-W

SDG : TL0579
Date Analyzed : 05-NOV-18
Time Analyzed : 16:04
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	27.1		
75	30.0 - 60.0% of mass 95	59.4		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.9		
173	Less than 2.0% of mass 174	1.2	1.38	1
174	Greater than 50.0% of mass 95	85.2		
175	5.0 - 9.0% of mass 174	5.1	6.02	1
176	95.0 - 101.0% of mass 174	82.6	96.86	1
177	5.0 - 9.0% of mass 176	6.2	7.50	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG240057-4	W6430.D	11/05/18	16:31
Laboratory Control S	WG240057-1	W6431.D	11/05/18	17:09
Method Blank Sample	WG240057-2	W6433.D	11/05/18	18:18
TRIP BLANK	TL0579-51	W6434.D	11/05/18	18:48
TRIP BLANK	TL0579-52	W6435.D	11/05/18	19:17
WVA-AW-MW-36-102618	TL0579-43	W6436.D	11/05/18	19:47
WVA-AW-MW-35-102618	TL0579-44	W6437.D	11/05/18	20:17
WVA-AW-MW-43-102618	TL0579-45	W6438.D	11/05/18	20:47
WVA-AW-MW-44-102618	TL0579-46	W6439.D	11/05/18	21:17
86EM-SP-5-102618	TL0579-47	W6440.D	11/05/18	21:47
83DM-SP-4-102618	TL0579-48	W6441.D	11/05/18	22:17
92EM-SP-7-102618	TL0579-49	W6442.D	11/05/18	22:47
92EM-SP-8-102618	TL0579-50	W6443.D	11/05/18	23:17
WVA-AW-MW-64-102518	TL0579-25	W6451.D	11/06/18	03:17

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239918-4
Lab File ID : W6358.D

SDG: TL0579
Analytical Date: 11/02/18 17:19
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	536995		6.19		873477		6.94		831488		10.73	
	Upper Limit	1073990		6.36		1746954		7.10		1662976		10.89	
	Lower Limit	268497.5		6.02		436738.5		6.77		415744		10.56	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG239918-1	545846		6.19		881176		6.94		826295		10.73	
Method Blank Sample	WG239918-2	460543		6.19		765148		6.94		714271		10.73	
WVA-SA-MW-20-102	TL0579-1	399013		6.19		655577		6.94		597948		10.73	
WVA-SA-MW-19R-10	TL0579-2	389992		6.19		640402		6.94		605352		10.73	
WVA-SA-MW-ESE-6-	TL0579-3	390596		6.19		647823		6.94		612928		10.73	
WVA-SA-STS-6-1025	TL0579-4	383166		6.19		638890		6.94		588792		10.73	
WVA-SA-MW-34-102	TL0579-5	385564		6.19		641582		6.94		595149		10.73	
WVA-SA-MW-38-102	TL0579-6	377570		6.19		622850		6.94		575633		10.73	
WVA-SA-MW-EA-6-1	TL0579-7	372709		6.19		624382		6.94		586435		10.73	
WVA-SA-MW-23-102	TL0579-8	374518		6.19		623358		6.94		585272		10.73	
DUP-02-102518	TL0579-9	366130		6.18		605280		6.94		572320		10.73	
WVA-SA-MW-83-102	TL0579-10	371263		6.18		614935		6.94		574644		10.73	
WVA-SA-MW-84-102	TL0579-11	379787		6.19		614012		6.94		584610		10.73	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239918-4
Lab File ID : W6358.D

SDG: TL0579
Analytical Date: 11/02/18 17:19
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	455197		13.44	
	Upper Limit	910394		13.61	
	Lower Limit	227598.5		13.27	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG239918-1	455793		13.44	
Method Blank Sample	WG239918-2	349180		13.44	
WVA-SA-MW-20-102	TL0579-1	298872		13.44	
WVA-SA-MW-19R-10	TL0579-2	302844		13.44	
WVA-SA-MW-ESE-6-	TL0579-3	302142		13.44	
WVA-SA-STS-6-1025	TL0579-4	296472		13.44	
WVA-SA-MW-34-102	TL0579-5	296024		13.44	
WVA-SA-MW-38-102	TL0579-6	291455		13.44	
WVA-SA-MW-EA-6-1	TL0579-7	290662		13.44	
WVA-SA-MW-23-102	TL0579-8	298268		13.44	
DUP-02-102518	TL0579-9	283691		13.44	
WVA-SA-MW-83-102	TL0579-10	285196		13.44	
WVA-SA-MW-84-102	TL0579-11	288388		13.44	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239941-4
Lab File ID : W6383.D

SDG: TL0579
Analytical Date: 11/03/18 06:57
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	598865		6.19		953813		6.94		908384		10.73	
	Upper Limit	1197730		6.35		1907626		7.10		1816768		10.89	
	Lower Limit	299432.5		6.02		476906.5		6.77		454192		10.56	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG239941-1	604846		6.19		966102		6.94		911755		10.73	
Method Blank Sample	WG239941-2	494505		6.19		812627		6.94		742754		10.73	
WVA-SA-MW-32-102	TL0579-12RA	458435		6.19		766449		6.94		714202		10.73	
WVA-SA-MW-84-102	TL0579-11DL	431718		6.19		714532		6.94		675799		10.73	
WVA-SA-MW-39-102	TL0579-13DL	419356		6.19		684088		6.94		639525		10.73	
WVA-SA-MW-41-102	TL0579-14	393804		6.19		654625		6.94		611879		10.73	
WVA-SA-MW-78-102	TL0579-15	387764		6.19		637513		6.94		609030		10.73	
WVA-SA-MW-79-102	TL0579-16	379546		6.19		629111		6.94		604751		10.73	
WVA-SA-MW-80-102	TL0579-17	379092		6.19		632254		6.94		588018		10.73	
WVA-SA-MW-81-102	TL0579-18	366735		6.19		605956		6.94		574156		10.73	
WVA-SA-MW-82-102	TL0579-19	372701		6.19		608744		6.94		571589		10.73	
WVA-SA-MW-70-102	TL0579-20	363940		6.19		610005		6.94		577111		10.73	
WVA-SA-MW-60-102	TL0579-21	359883		6.19		599675		6.94		559404		10.73	
WVA-AW-MW-27-10	TL0579-22	365365		6.19		603323		6.94		558262		10.73	
93EM-RW-2-102518	TL0579-23	362628		6.19		610944		6.94		562336		10.73	
WVA-AW-MW-52-10	TL0579-24	360047		6.19		586689		6.94		563076		10.73	
WVA-AW-MW-BLD-1	TL0579-26	354789		6.19		598424		6.94		567680		10.73	
WVA-B35-PW-1-1025	TL0579-27	352009		6.19		585406		6.94		544450		10.73	
DUP-3-102518	TL0579-28	346612		6.19		579801		6.94		543860		10.73	
WVA-AW-35-MW-8-1	TL0579-29	346467		6.19		572655		6.94		539541		10.73	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239941-4
Lab File ID : W6383.D

SDG: TL0579
Analytical Date: 11/03/18 06:57
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	479404		13.44	
	Upper Limit	958808		13.61	
	Lower Limit	239702		13.27	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG239941-1	481032		13.44	
Method Blank Sample	WG239941-2	370805		13.44	
WVA-SA-MW-32-102	TL0579-12RA	348150		13.44	
WVA-SA-MW-84-102	TL0579-11DL	329489		13.44	
WVA-SA-MW-39-102	TL0579-13DL	316128		13.44	
WVA-SA-MW-41-102	TL0579-14	306874		13.44	
WVA-SA-MW-78-102	TL0579-15	306400		13.44	
WVA-SA-MW-79-102	TL0579-16	302901		13.44	
WVA-SA-MW-80-102	TL0579-17	293387		13.44	
WVA-SA-MW-81-102	TL0579-18	285375		13.44	
WVA-SA-MW-82-102	TL0579-19	282824		13.44	
WVA-SA-MW-70-102	TL0579-20	289154		13.44	
WVA-SA-MW-60-102	TL0579-21	280801		13.44	
WVA-AW-MW-27-10	TL0579-22	284143		13.44	
93EM-RW-2-102518	TL0579-23	285964		13.44	
WVA-AW-MW-52-10	TL0579-24	279830		13.44	
WVA-AW-MW-BLD-1	TL0579-26	284840		13.44	
WVA-B35-PW-1-1025	TL0579-27	275631		13.44	
DUP-3-102518	TL0579-28	269823		13.44	
WVA-AW-35-MW-8-1	TL0579-29	271661		13.44	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240010-4
Lab File ID : W6407.D

SDG: TL0579
Analytical Date: 11/05/18 04:05
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	473111		6.19		766037		6.94		756132		10.73	
	Upper Limit	946222		6.35		1532074		7.10		1512264		10.89	
	Lower Limit	236555.5		6.02		383018.5		6.77		378066		10.56	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG240010-1	503287		6.19		810597		6.94		757802		10.73	
Method Blank Sample	WG240010-2	412130		6.18		682999		6.94		642305		10.73	
WVA-SA-MW-81-102	TL0579-18DL	376527		6.19		640461		6.94		607546		10.73	
WVA-AW-MW-32-10	TL0579-30	365156		6.18		623236		6.94		581640		10.73	
WVA-AW-MW-47-10	TL0579-31	367413		6.19		630597		6.94		598191		10.73	
86EM-SP-1B-102618	TL0579-32	358530		6.19		610122		6.94		571974		10.73	
WVA-AW-25-MW-7-1	TL0579-33	354553		6.19		592241		6.94		570699		10.73	
WVA-AW-25-MW-5-1	TL0579-34	351870		6.19		591913		6.94		570503		10.73	
86EM-SP-1A-102618	TL0579-36	347965		6.19		585569		6.94		560953		10.73	
83DM-SP-1-102618	TL0579-37	343190		6.19		574566		6.94		542319		10.73	
WVA-AW-25-MW-3-1	TL0579-38	353125		6.19		597507		6.94		559109		10.73	
WVA-AW-25-MW-2-1	TL0579-39	347253		6.19		590197		6.94		560805		10.73	
93EM-SP-13-102618	TL0579-40	343038		6.19		576519		6.94		535882		10.73	
93EM-SP-11-102618	TL0579-41	347263		6.19		579339		6.94		545356		10.73	
WVA-MW-79-102618	TL0579-42	348928		6.19		573161		6.94		542622		10.73	
WVA-SA-MW-39-102	TL0579-13DL2	347629		6.19		596778		6.94		560602		10.73	
WVA-AW-MW-64-10	TL0579-25DL2	339455		6.19		564253		6.94		525369		10.73	
WVA-AW-25-MW-6-1	TL0579-35	341991		6.19		558486		6.94		535480		10.73	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240010-4
Lab File ID : W6407.D

SDG: TL0579
Analytical Date: 11/05/18 04:05
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	428679		13.44	
	Upper Limit	857358		13.61	
	Lower Limit	214339.5		13.27	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG240010-1	421526		13.44	
Method Blank Sample	WG240010-2	329256		13.44	
WVA-SA-MW-81-102	TL0579-18DL	301765		13.44	
WVA-AW-MW-32-10	TL0579-30	297452		13.44	
WVA-AW-MW-47-10	TL0579-31	294834		13.44	
86EM-SP-1B-102618	TL0579-32	294855		13.44	
WVA-AW-25-MW-7-1	TL0579-33	285745		13.44	
WVA-AW-25-MW-5-1	TL0579-34	282771		13.44	
86EM-SP-1A-102618	TL0579-36	281338		13.44	
83DM-SP-1-102618	TL0579-37	271796		13.44	
WVA-AW-25-MW-3-1	TL0579-38	273439		13.44	
WVA-AW-25-MW-2-1	TL0579-39	282739		13.44	
93EM-SP-13-102618	TL0579-40	267917		13.44	
93EM-SP-11-102618	TL0579-41	274615		13.44	
WVA-MW-79-102618	TL0579-42	268828		13.44	
WVA-SA-MW-39-102	TL0579-13DL2	280434		13.44	
WVA-AW-MW-64-10	TL0579-25DL2	264597		13.44	
WVA-AW-25-MW-6-1	TL0579-35	274871		13.44	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240057-4
Lab File ID : W6430.D

SDG: TL0579
Analytical Date: 11/05/18 16:31
Instrument ID: GCMS-W

		PENTAFLUOROBENZENE			1,4-DIFLUOROBENZENE			CHLOROBENZENE-D5		
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	415009		6.19		672005		6.94		684520		10.73	
	Upper Limit	830018		6.36		1344010		7.10		1369040		10.89	
	Lower Limit	207504.5		6.02		336002.5		6.77		342260		10.56	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG240057-1	450782		6.19		728485		6.94		702191		10.73	
Method Blank Sample	WG240057-2	375262		6.19		624812		6.94		581321		10.73	
TRIP BLANK	TL0579-51	359011		6.19		589556		6.94		565750		10.73	
TRIP BLANK	TL0579-52	355822		6.19		583784		6.94		561385		10.73	
WVA-AW-MW-36-10	TL0579-43	337262		6.19		569671		6.94		543776		10.73	
WVA-AW-MW-35-10	TL0579-44	343002		6.19		576914		6.94		535088		10.73	
WVA-AW-MW-43-10	TL0579-45	333771		6.19		567423		6.94		540017		10.73	
WVA-AW-MW-44-10	TL0579-46	337743		6.19		581486		6.94		553909		10.73	
86EM-SP-5-102618	TL0579-47	339912		6.19		553846		6.94		535343		10.73	
83DM-SP-4-102618	TL0579-48	332378		6.19		563200		6.94		523143		10.73	
92EM-SP-7-102618	TL0579-49	326020		6.19		547746		6.94		505458		10.73	
92EM-SP-8-102618	TL0579-50	324231		6.19		540992		6.94		524586		10.73	
WVA-AW-MW-64-10	TL0579-25	323934		6.19		550102		6.94		514982		10.73	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240057-4
Lab File ID : W6430.D

SDG: TL0579
Analytical Date: 11/05/18 16:31
Instrument ID: GCMS-W

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	383228		13.44	
	Upper Limit	766456		13.61	
	Lower Limit	191614		13.27	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG240057-1	385345		13.44	
Method Blank Sample	WG240057-2	294727		13.44	
TRIP BLANK	TL0579-51	289589		13.44	
TRIP BLANK	TL0579-52	284924		13.44	
WVA-AW-MW-36-102	TL0579-43	269938		13.44	
WVA-AW-MW-35-102	TL0579-44	270446		13.44	
WVA-AW-MW-43-102	TL0579-45	271039		13.44	
WVA-AW-MW-44-102	TL0579-46	273092		13.44	
86EM-SP-5-102618	TL0579-47	271098		13.44	
83DM-SP-4-102618	TL0579-48	270283		13.44	
92EM-SP-7-102618	TL0579-49	257582		13.44	
92EM-SP-8-102618	TL0579-50	260264		13.44	
WVA-AW-MW-64-102	TL0579-25	267003		13.44	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Sample Data Section

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin Analytical Services, Inc.

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

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

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-1
Client ID: WVA-SA-MW-20-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6365.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.1	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-1
Client ID: WVA-SA-MW-20-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6365.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		99.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6365.D
Report Date: 27-Nov-2018 12:39

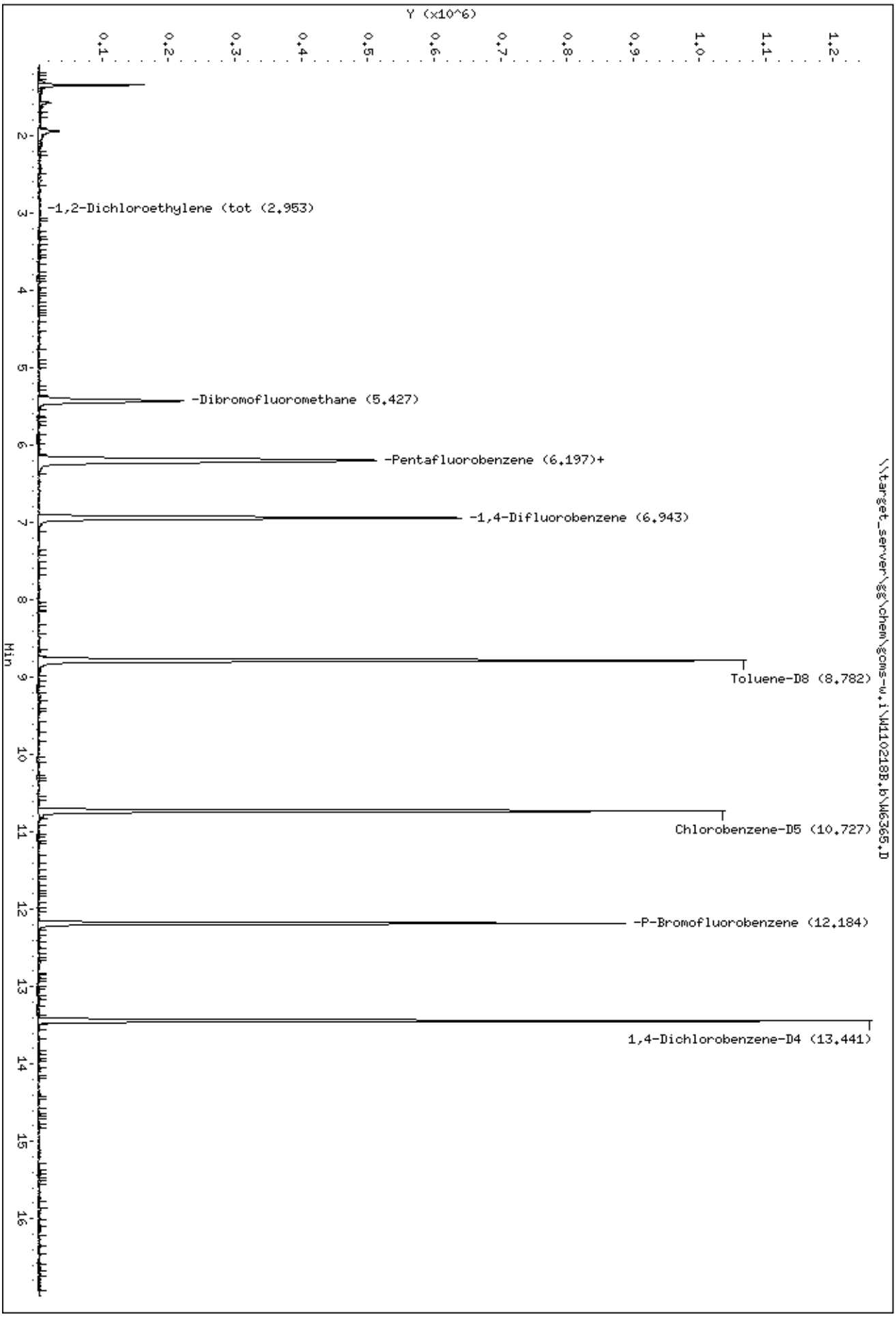
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6365.D
Lab Smp Id: TL0579-1 Client Smp ID: WVA-SA-MW-20-102518
Inj Date : 02-NOV-2018 21:19
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-1
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	184441	49.9717	50.0	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	399013	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	225693	50.1427	50.1	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	655577	50.0000		
$	58 Toluene-D8	98	8.781	8.782	(1.266)	809563	50.7296	50.7	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	597948	50.0000		
$	78 P-Bromofluorobenzene	95	12.183	12.184	(1.756)	255898	47.0359	47.0	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	298872	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6365.D
Date : 02-NOV-2018 21:19
Client ID: WWA-SA-MW-20-102518
Sample Info: TL0579-1
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6365.D
Y (x10^6)
Min
-1,2-Dichloroethylene (tot (2.953)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.943)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-2
Client ID: WVA-SA-MW-19R-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6366.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.2	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.3	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-2
Client ID: WVA-SA-MW-19R-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6366.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6366.D
Report Date: 27-Nov-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6366.D
Lab Smp Id: TL0579-2 Client Smp ID: VA-SA-MW-19R-102518
Inj Date : 02-NOV-2018 21:49
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-2
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

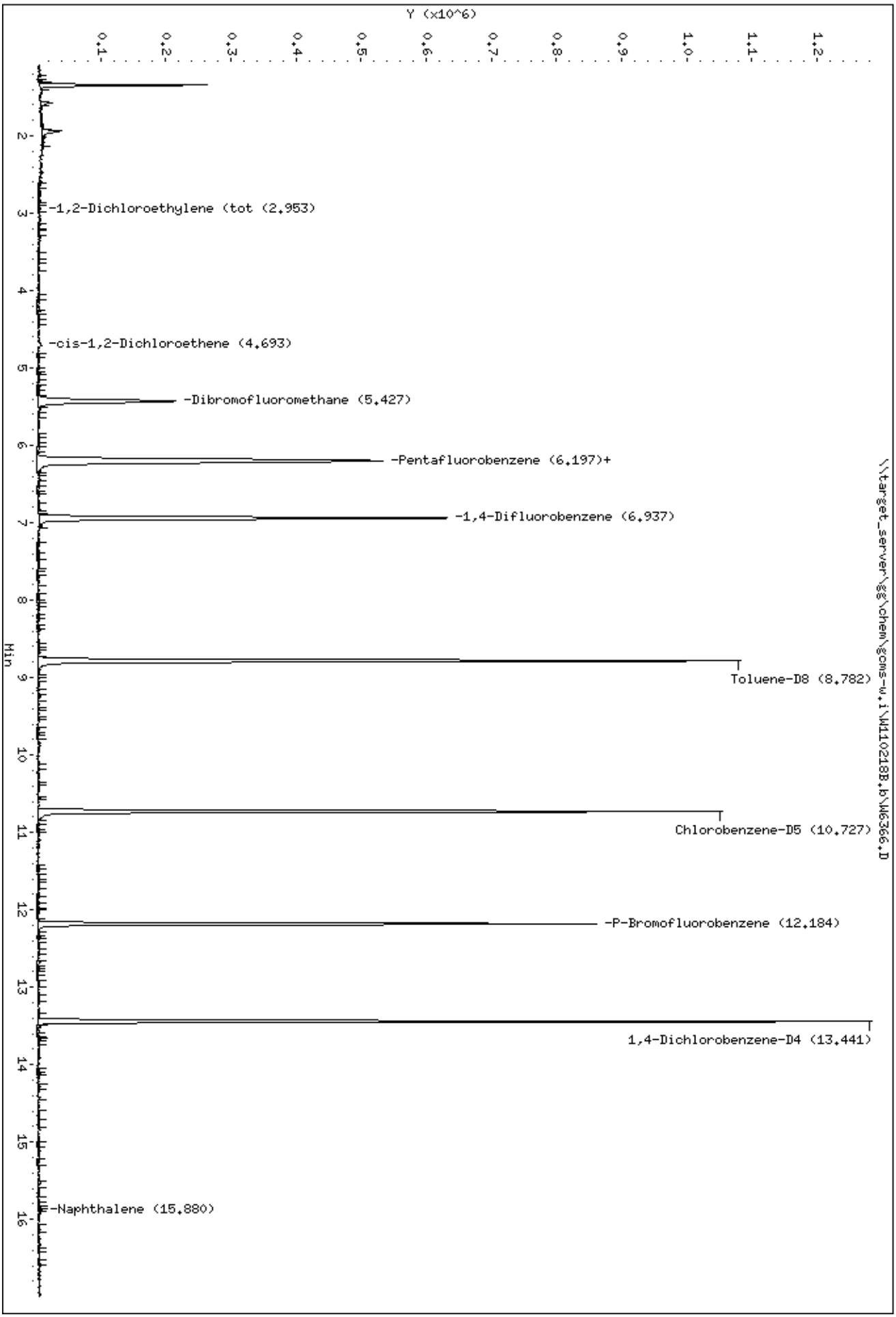
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
M 22 1,2-Dichloroethylene (total)	96				2778	1.15962	1.2(a)	
28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	2778	1.15962	1.2	
$ 35 Dibromofluoromethane	113	5.433	5.427	(0.878)	186214	51.6191	51.6	
* 42 Pentafluorobenzene	168	6.190	6.185	(1.000)	389992	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	223379	50.7766	50.8	
* 49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	640402	50.0000		
$ 58 Toluene-D8	98	8.782	8.782	(1.265)	803255	51.5270	51.5	
* 69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	605352	50.0000		
$ 78 P-Bromofluorobenzene	95	12.184	12.184	(1.755)	255938	48.1580	48.2	
* 94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	302844	50.0000		
103 Naphthalene	128	15.879	15.886	(1.181)	1345	0.59562	0.60(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6366.D
Date : 02-NOV-2018 21:49
Client ID: WA-SA-MW-19R-102518
Sample Info: TL0579-2
Instrument: gcms-w.i
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-1,2-Dichloroethylene (tot (2.953)
-cis-1,2-Dichloroethene (4.693)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.880)
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6366.D

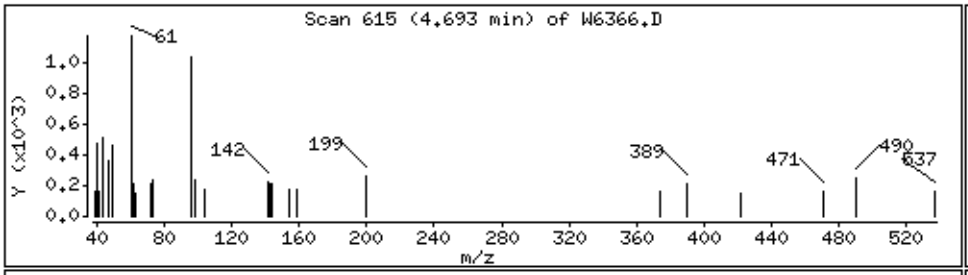
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6366.D

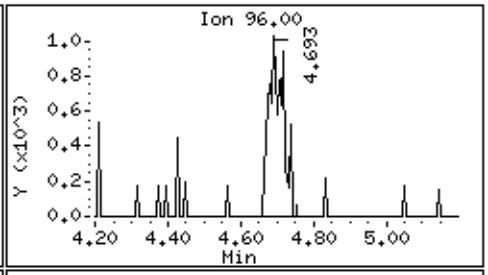
Date : 02-NOV-2018 21:49

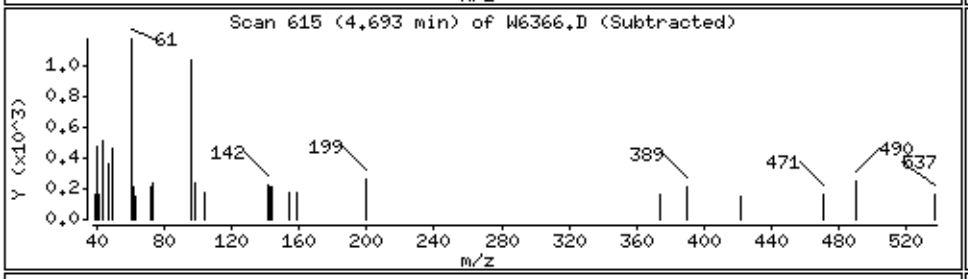
Client ID: VA-SA-MW-19R-102518 Instrument: gcms-w.i

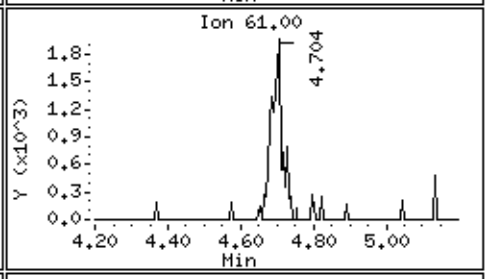
Sample Info: TL0579-2

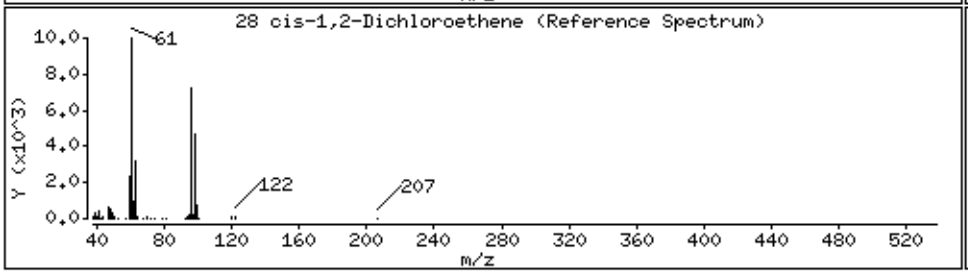
28 cis-1,2-Dichloroethene Concentration: 1.2 ug/l

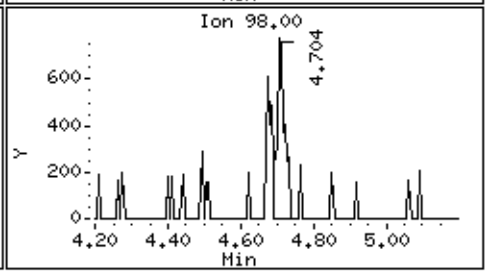




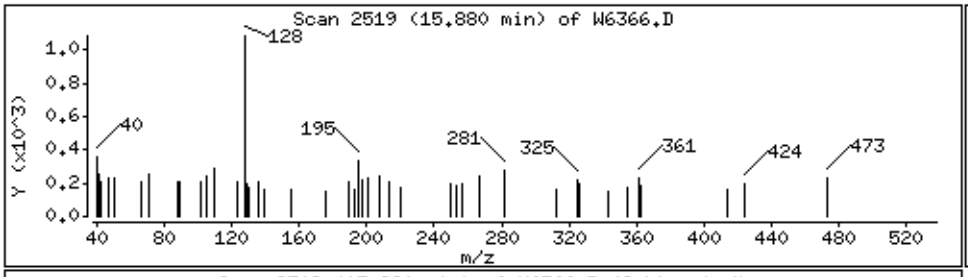


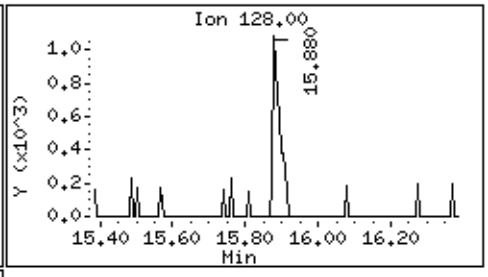


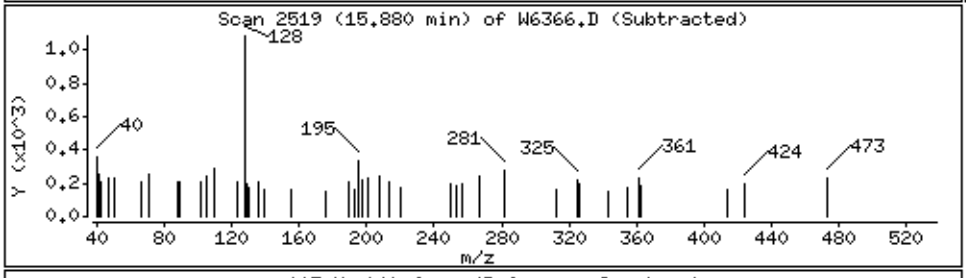


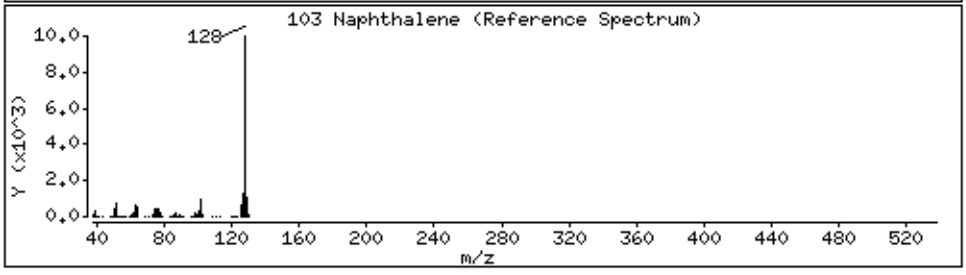


103 Naphthalene Concentration: 0.60 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-3
Client ID: WVA-SA-MW-ESE-6-1025
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6367.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.6	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-3
Client ID: WVA-SA-MW-ESE-6-1025
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6367.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6367.D
Report Date: 27-Nov-2018 12:39

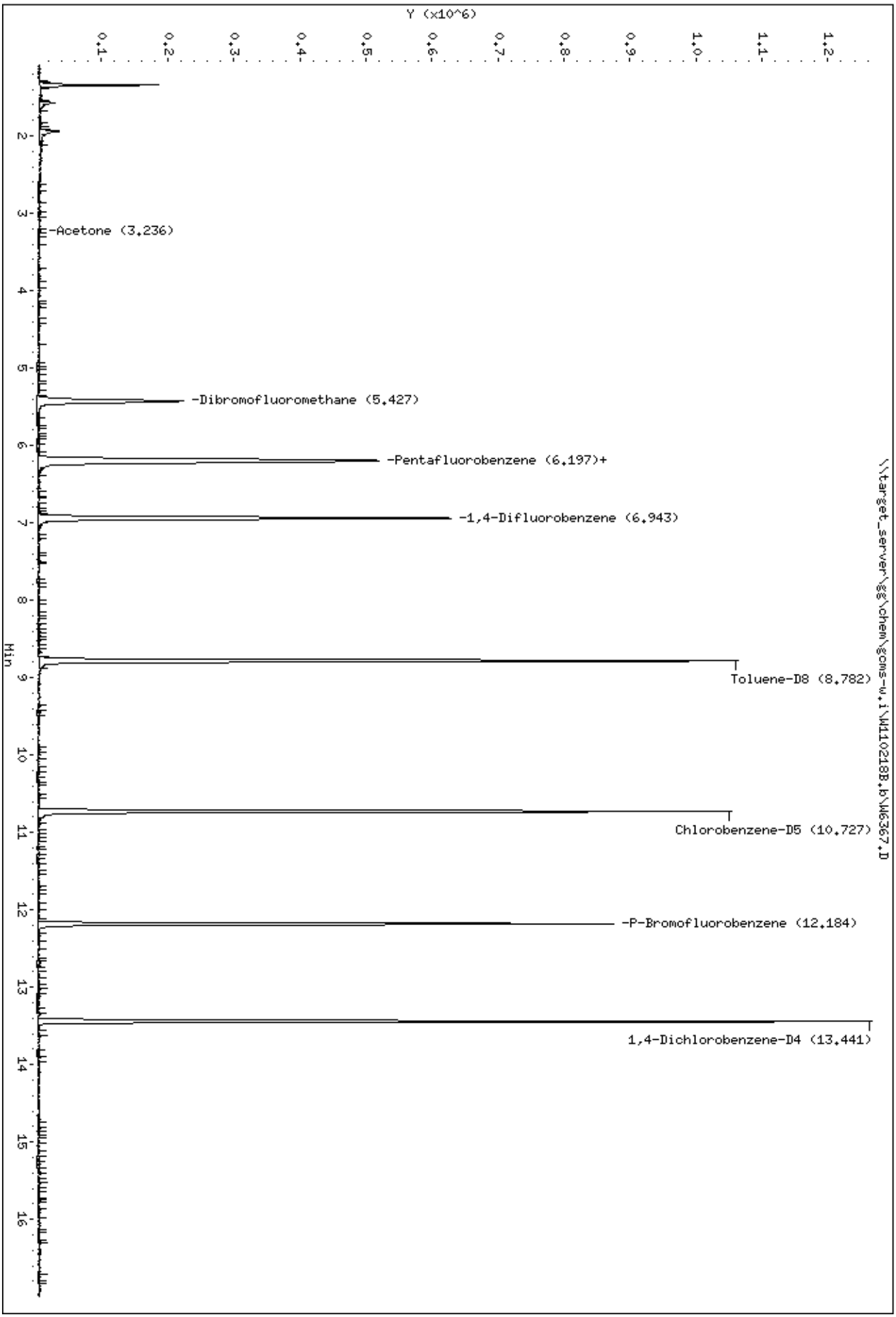
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6367.D
Lab Smp Id: TL0579-3 Client Smp ID: VA-SA-MW-ESE-6-1025
Inj Date : 02-NOV-2018 22:19
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-3
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.135	3.136	(0.506)	1716	8.19942	8.2	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	187164	51.8022	51.8	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	390596	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	222095	50.4066	50.4	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	647823	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	805316	51.0674	51.1	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	612928	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	262461	48.8197	48.8	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	302142	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6367.D
Date : 02-NOV-2018 22:19
Client ID: WA-SA-MW-ESE-6-1025
Sample Info: TL0579-3
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6367.D
Y (x10^6)
Min
-Acetone (3.236)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.943)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)

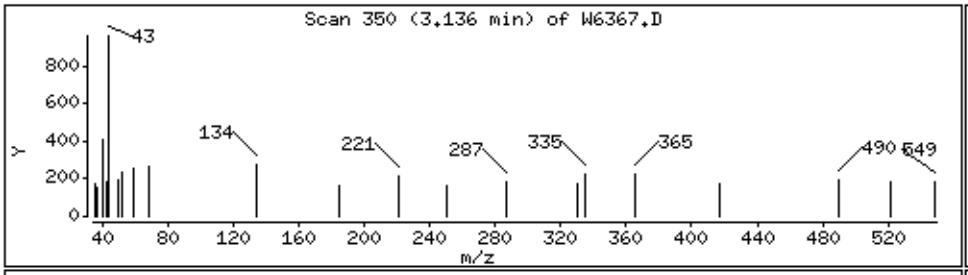
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6367.D

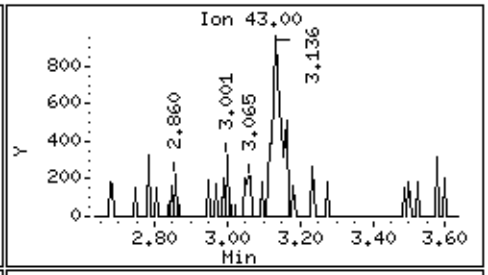
Date : 02-NOV-2018 22:19

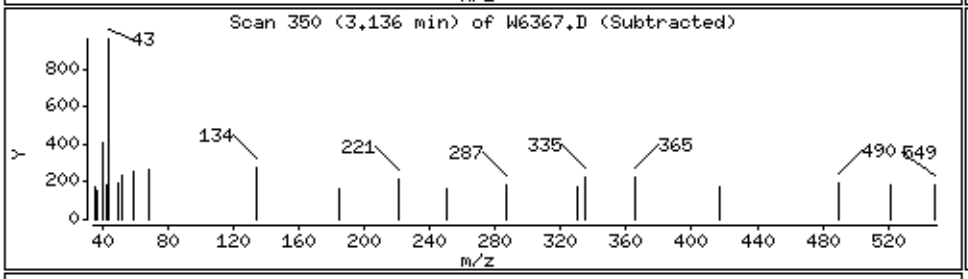
Client ID: VA-SA-MW-ESE-6-1025 Instrument: gcms-w.i

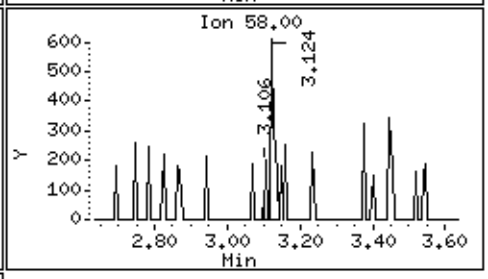
Sample Info: TL0579-3

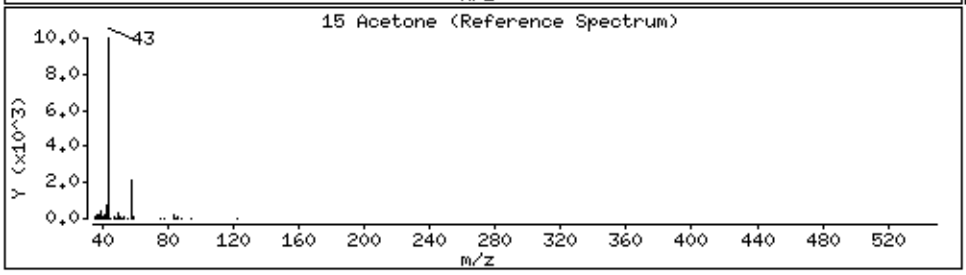
15 Acetone Concentration: 8.2 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-4
Client ID: WVA-SA-STS-6-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6368.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		4.5	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		93.4	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-4
Client ID: WVA-SA-STS-6-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6368.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6368.D
Report Date: 27-Nov-2018 12:39

Katahdin Analytical Services

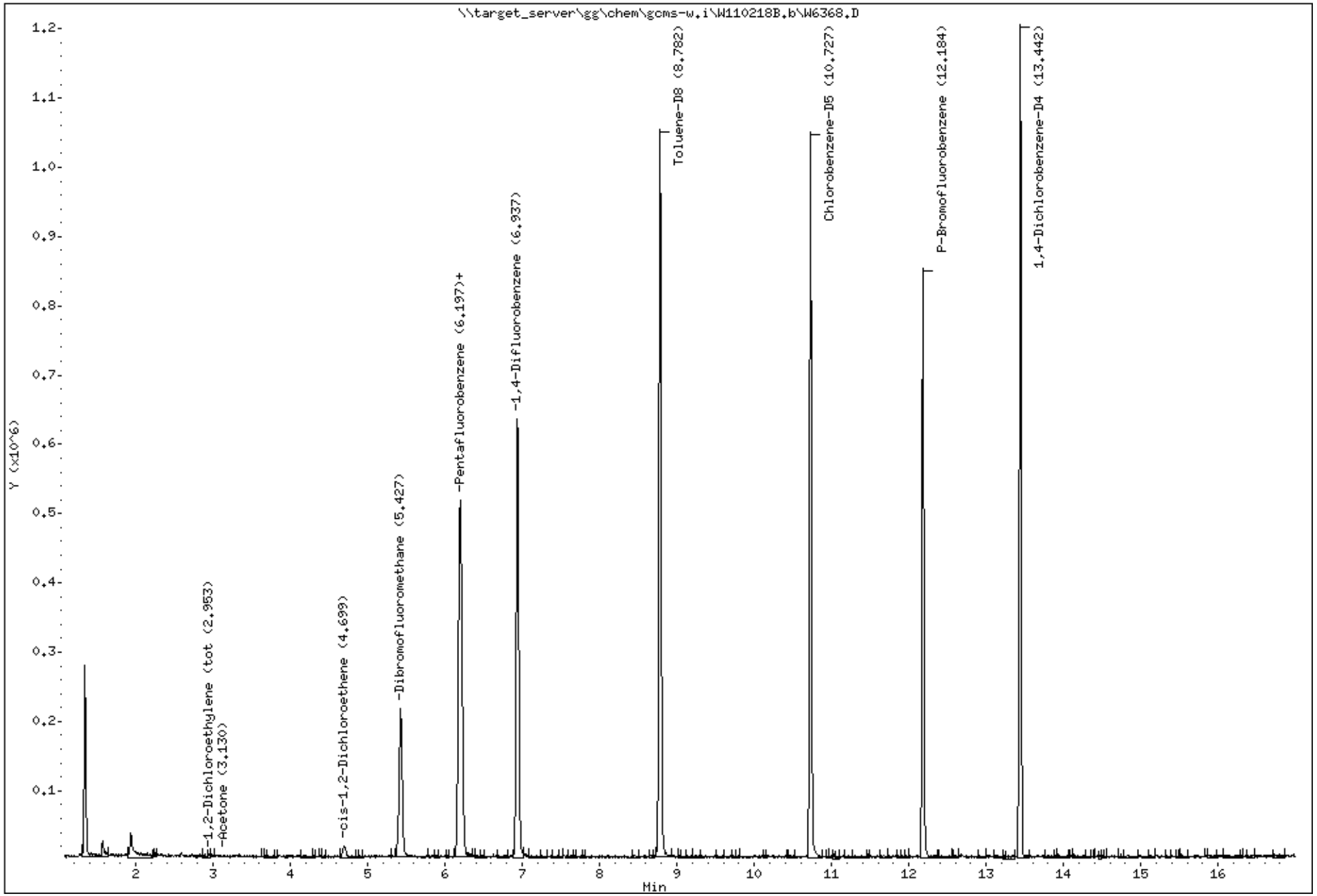
Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6368.D
Lab Smp Id: TL0579-4 Client Smp ID: WVA-SA-STS-6-102518
Inj Date : 02-NOV-2018 22:49
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-4
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.129	3.136	(0.506)	2242	8.91542	8.9	
M	22 1,2-Dichloroethylene (total)	96				10611	4.50826	4.5	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.759)	10611	4.50826	4.5	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	180321	50.8760	50.9	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	383166	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	219768	50.8457	50.8	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	638890	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	780265	50.1707	50.2	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	588792	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	247472	46.6752	46.7	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	296472	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6368.D
Date : 02-NOV-2018 22:49
Client ID: WVA-SA-STS-6-102518 Instrument: gcms-w.i
Sample Info: TL0579-4



Katahdin Analytical Services 1000043

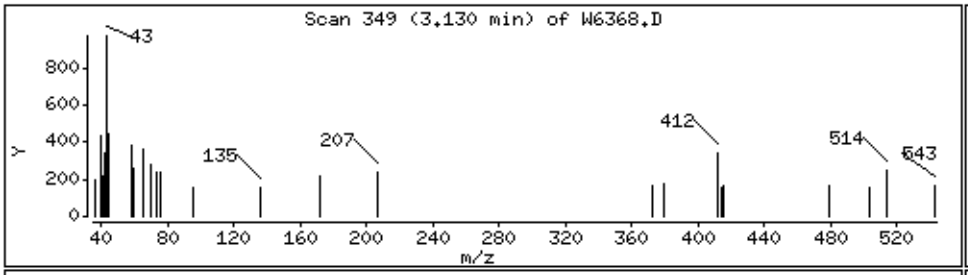
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6368.D

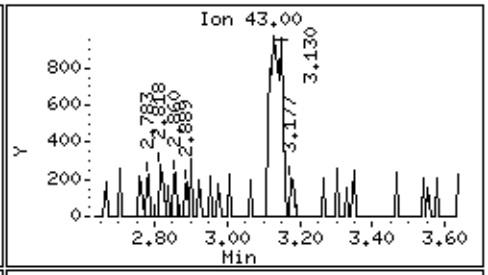
Date : 02-NOV-2018 22:49

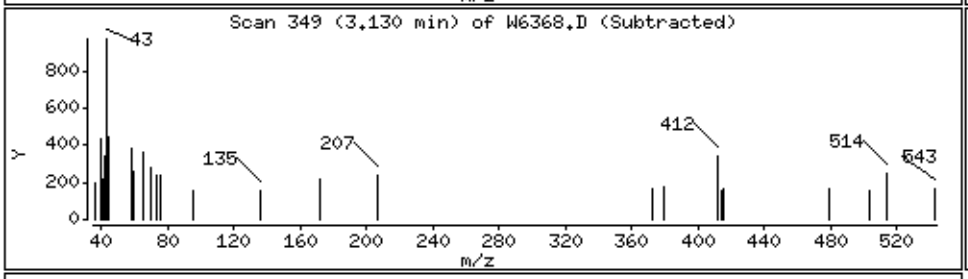
Client ID: WVA-SA-STS-6-102518 Instrument: gcms-w.i

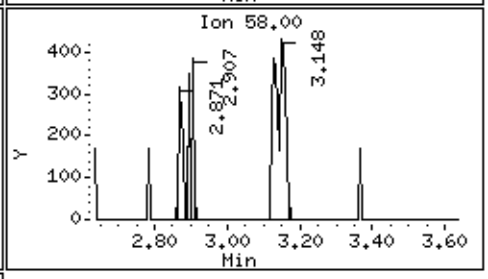
Sample Info: TL0579-4

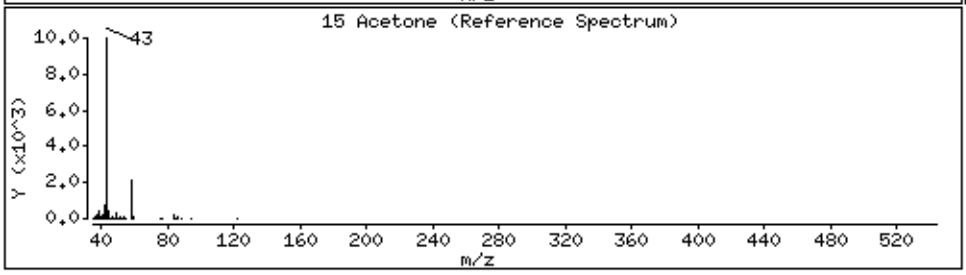
15 Acetone Concentration: 8.9 ug/l



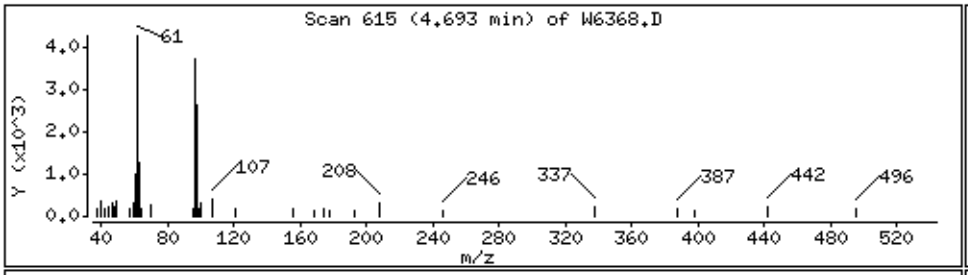


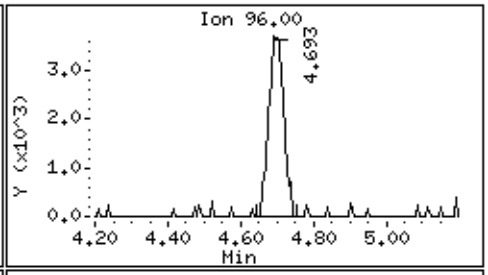


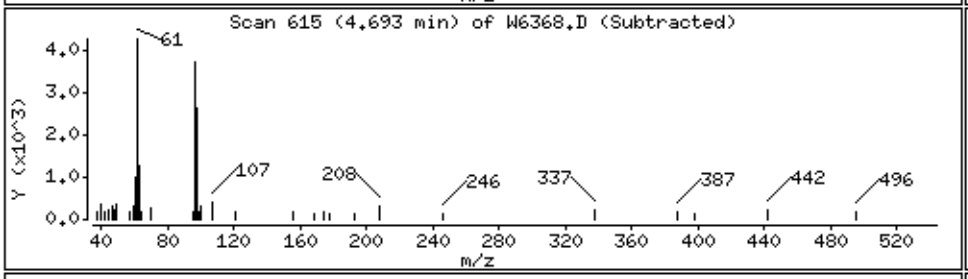


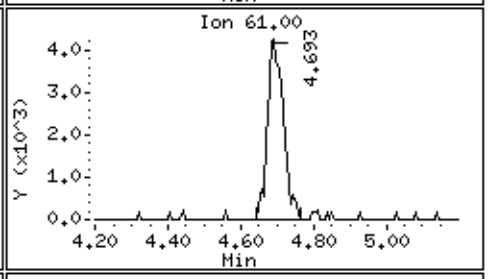


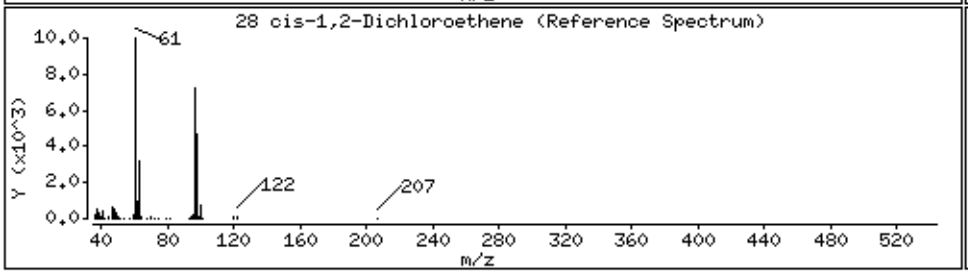
28 cis-1,2-Dichloroethene Concentration: 4.5 ug/l

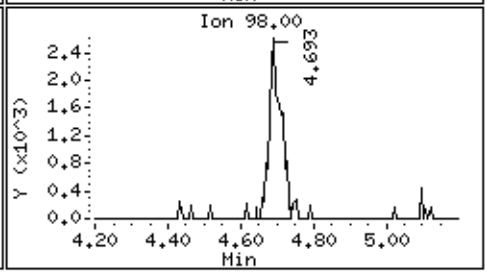












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-5
Client ID: WVA-SA-MW-34-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6369.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-5
Client ID: WVA-SA-MW-34-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6369.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6369.D
Report Date: 27-Nov-2018 12:39

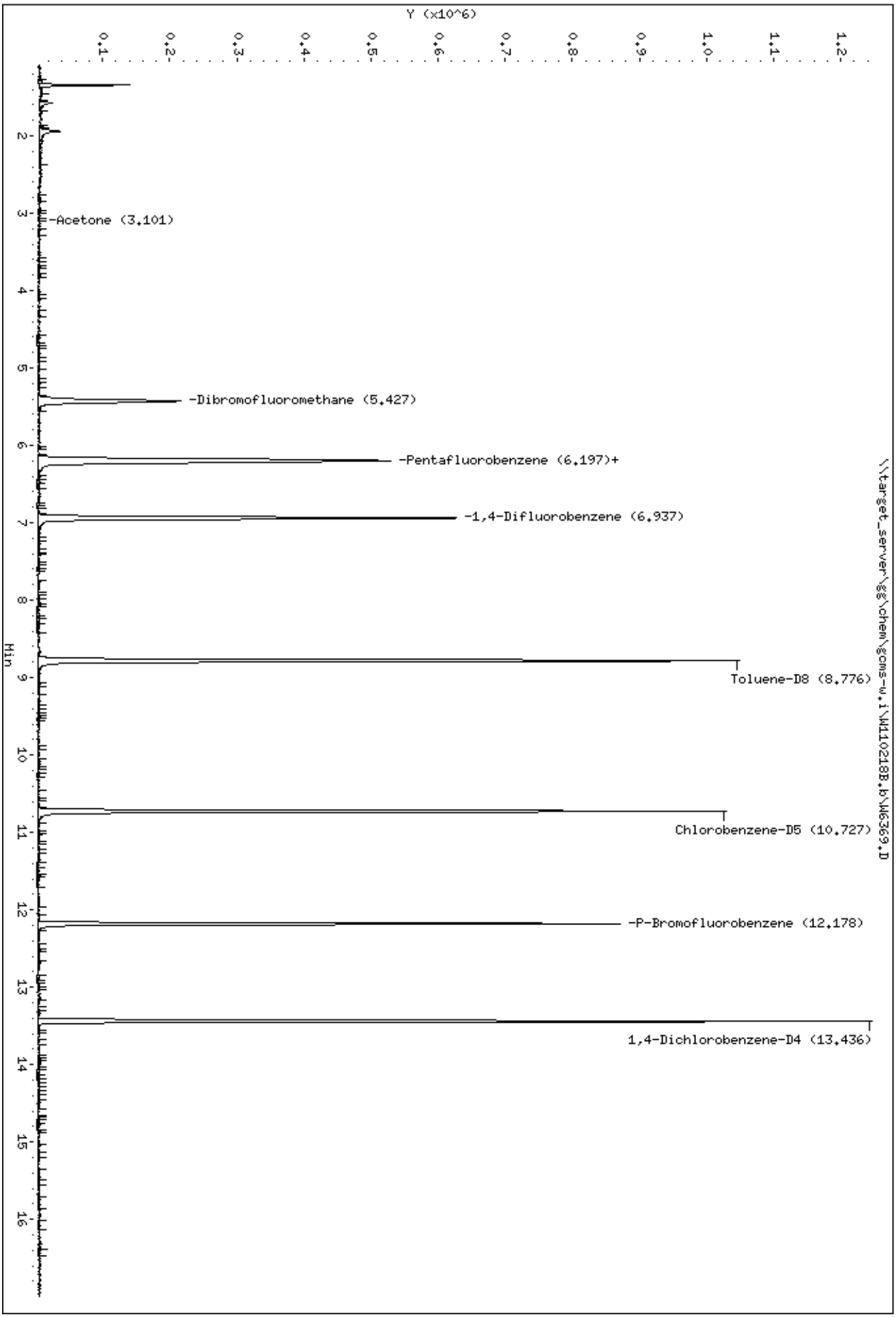
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6369.D
Lab Smp Id: TL0579-5 Client Smp ID: WVA-SA-MW-34-102518
Inj Date : 02-NOV-2018 23:19
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-5
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.141	3.136	(0.508)	1700	8.20719	8.2	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	188137	52.7511	52.8	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	385564	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.006)	218589	50.2584	50.2	
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	641582	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.264)	792746	50.7594	50.8	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	595149	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.754)	256659	48.2049	48.2	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	296024	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6369.D
Date : 02-NOV-2018 23:19
Client ID: WWA-SA-MW-34-102518
Sample Info: TL0579-5
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6369.D
Y (x10^6)
Min
-Acetone (3.101)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.436)

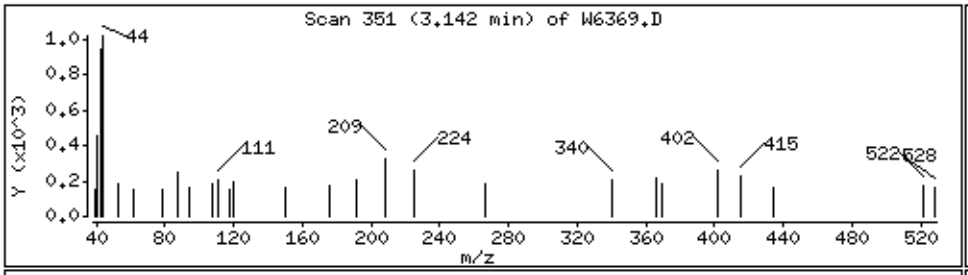
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6369.D

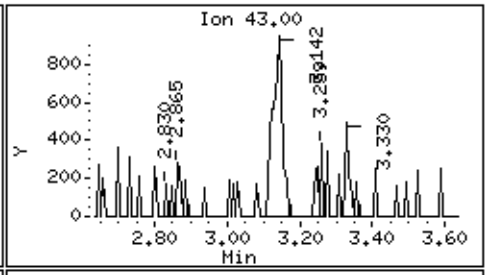
Date : 02-NOV-2018 23:19

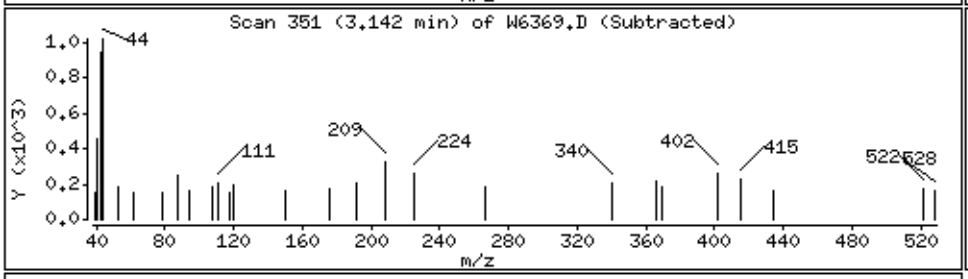
Client ID: WVA-SA-MW-34-102518 Instrument: gcms-w.i

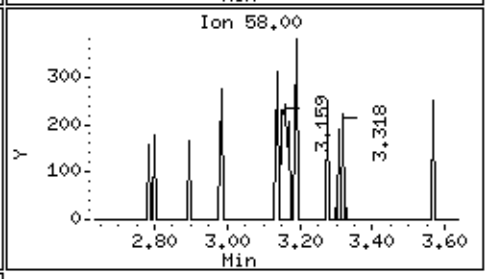
Sample Info: TL0579-5

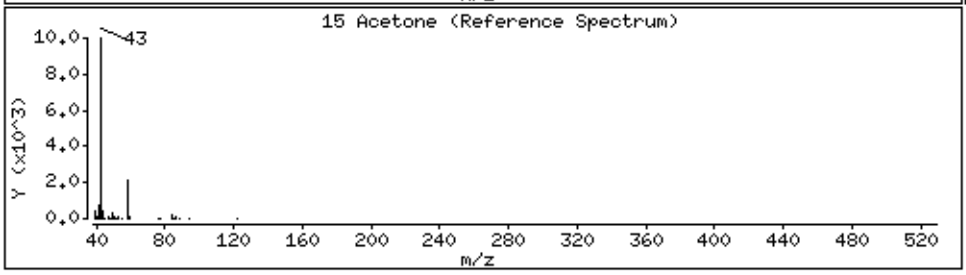
15 Acetone Concentration: 8.2 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-6
Client ID: WVA-SA-MW-38-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6370.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-6
Client ID: WVA-SA-MW-38-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6370.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6370.D
Report Date: 27-Nov-2018 12:39

Katahdin Analytical Services

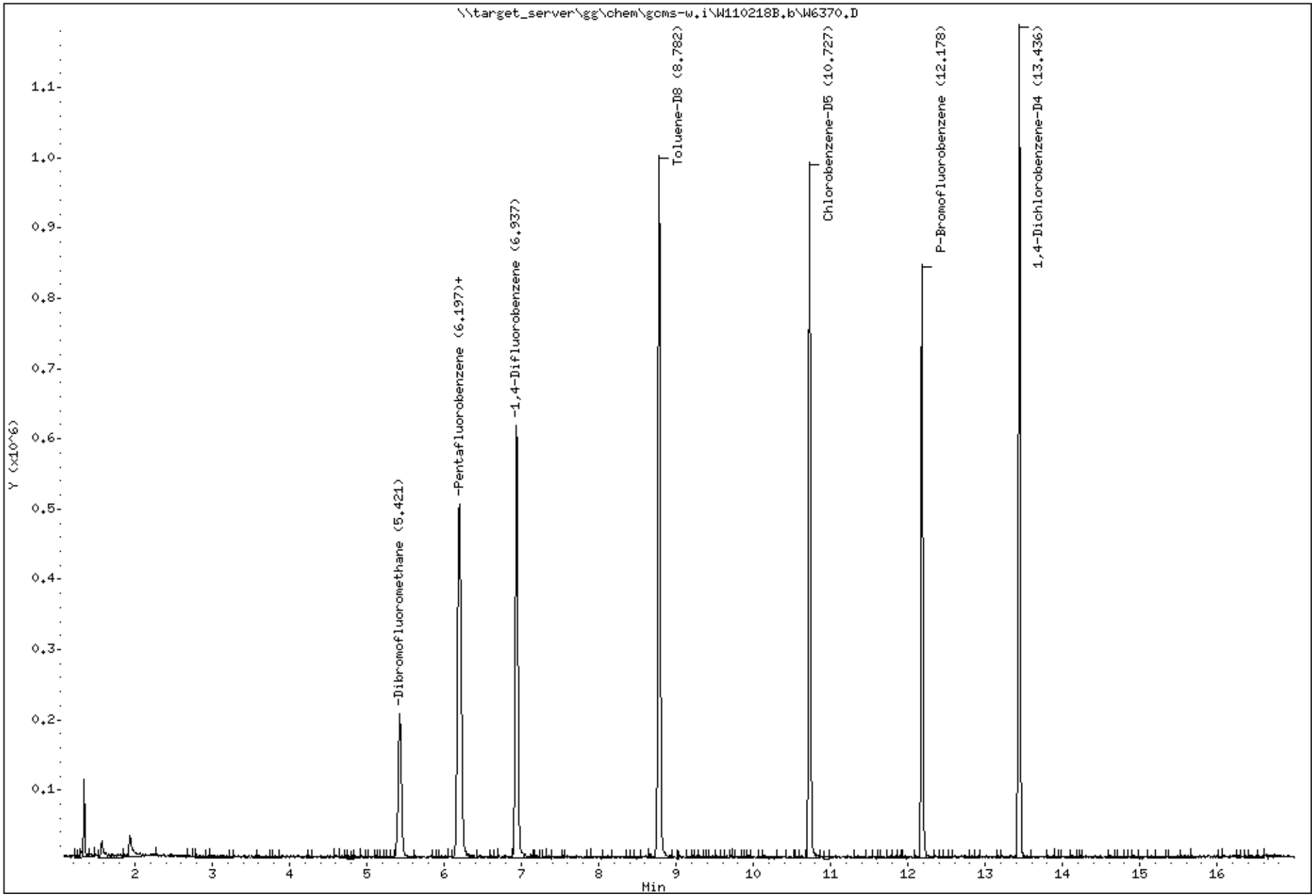
Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6370.D
Lab Smp Id: TL0579-6 Client Smp ID: WVA-SA-MW-38-102518
Inj Date : 02-NOV-2018 23:49
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-6
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$	35 Dibromofluoromethane	113	5.421	5.427	(0.876)	175910	50.3671	50.4	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	377570	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	217684	51.1100	51.1	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	622850	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	772912	50.9778	51.0	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	575633	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	243708	47.1490	47.1	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	291455	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6370.D
Date : 02-NOV-2018 23:49
Client ID: WVA-SA-MW-38-102518 Instrument: gcms-w.i
Sample Info: TL0579-6



Katahdin Analytical Services 1000053

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-7
Client ID: WVA-SA-MW-EA-6-10251
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6371.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.1	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.6	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.1	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-7
Client ID: WVA-SA-MW-EA-6-10251
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6371.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6371.D
Report Date: 27-Nov-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6371.D
Lab Smp Id: TL0579-7 Client Smp ID: VA-SA-MW-EA-6-10251
Inj Date : 03-NOV-2018 00:19
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-7
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

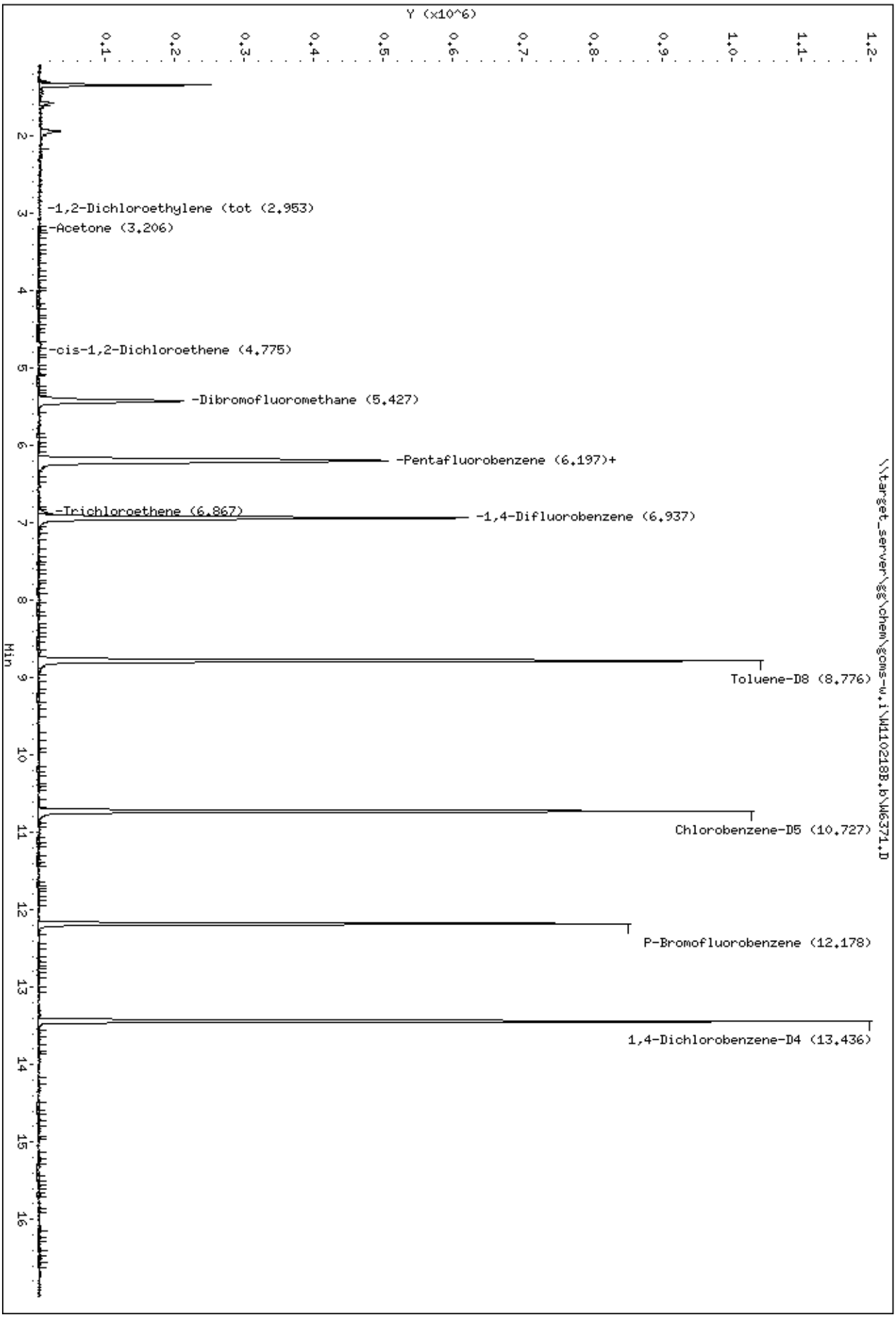
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.135	3.136	(0.507)	1662	8.23179	8.2(M)	M10
M	22 1,2-Dichloroethylene (total)	96				2473	1.08017	1.1(a)	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.760)	2473	1.08017	1.1(M)	M10
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	175428	50.8842	50.9	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	372709	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	218252	51.9117	51.9	
	48 Trichloroethene	95	6.860	6.867	(0.989)	3578	1.62033	1.6	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	624382	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	771058	50.7307	50.7	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	586435	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	246447	47.5619	47.6	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	290662	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6371.D
Date : 03-NOV-2018 00:19
Client ID: WA-SA-MW-EA-6-10251
Sample Info: TL0579-7
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6371.D
Y (x10^6)
Min
-1,2-Dichloroethylene (tot (2.953)
-Acetone (3.206)
-cis-1,2-Dichloroethene (4.775)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-Trichloroethene (6.867)
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.436)

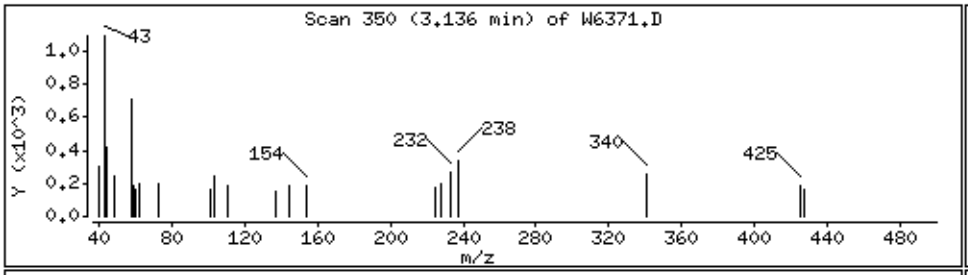
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6371.D

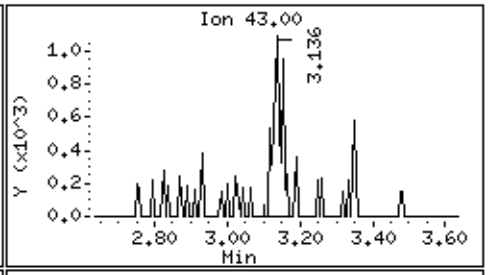
Date : 03-NOV-2018 00:19

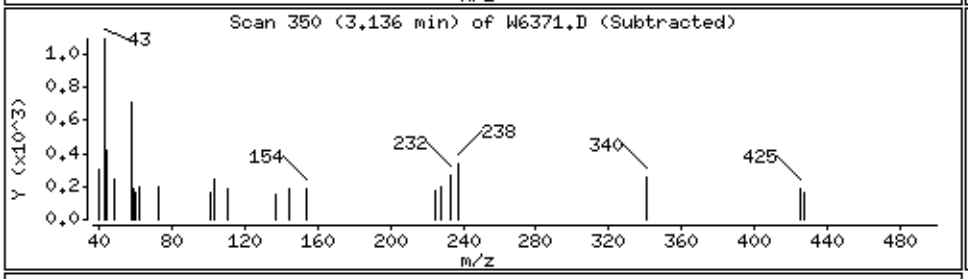
Client ID: VA-SA-MW-EA-6-10251 Instrument: gcms-w.i

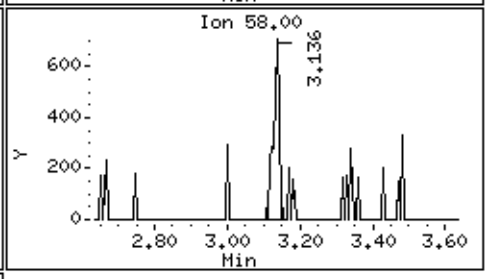
Sample Info: TL0579-7

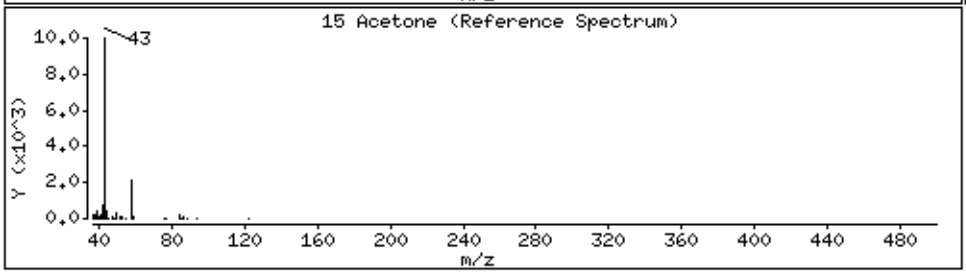
15 Acetone Concentration: 8.2 ug/l



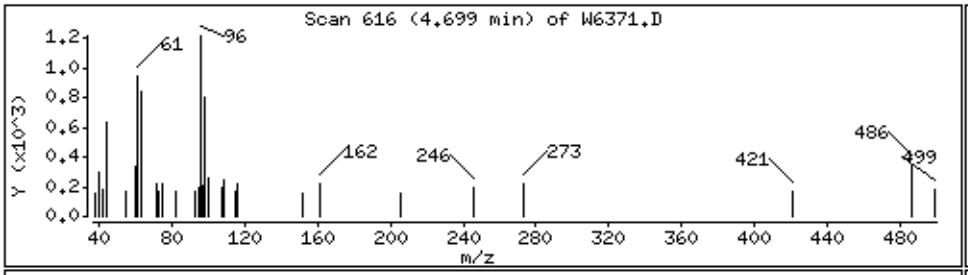


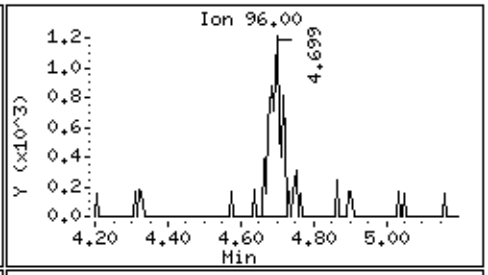


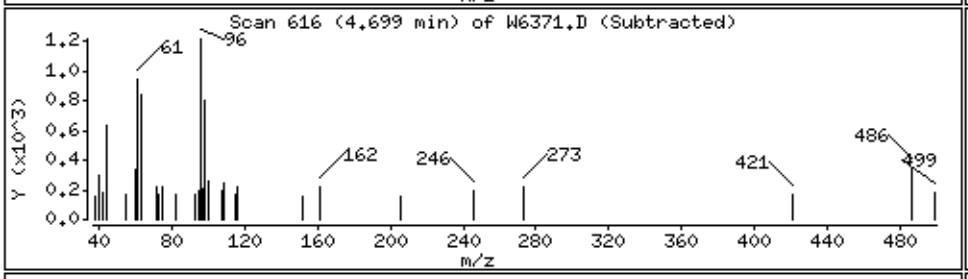


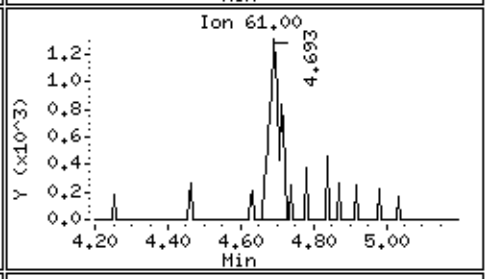


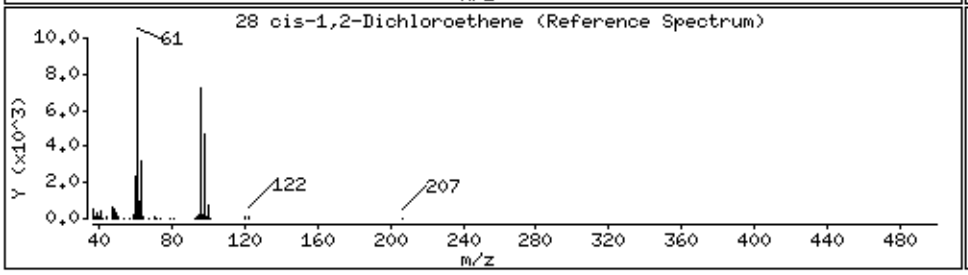
28 cis-1,2-Dichloroethene Concentration: 1.1 ug/l

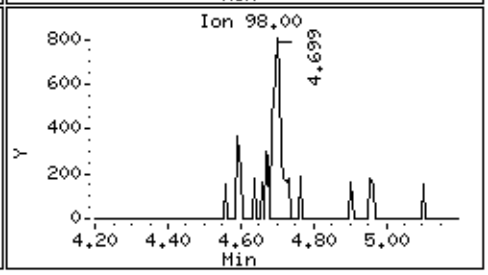












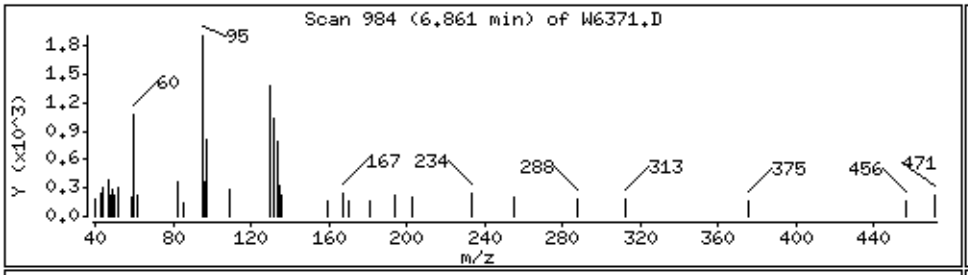
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6371.D

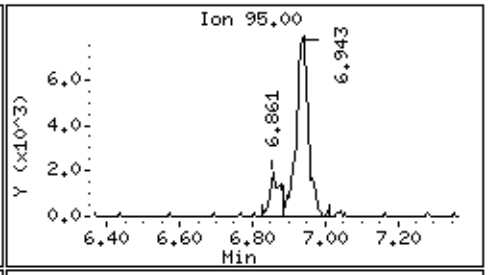
Date : 03-NOV-2018 00:19

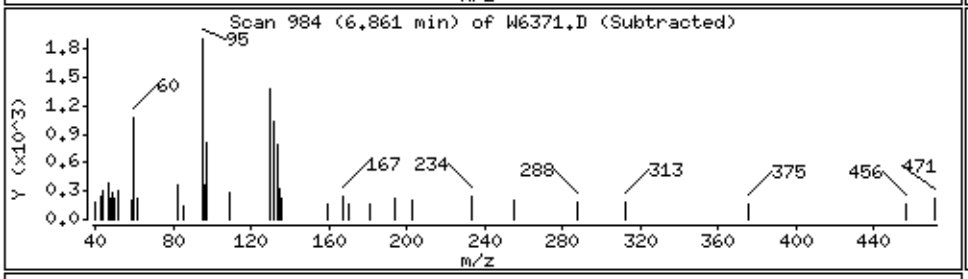
Client ID: VA-SA-MW-EA-6-10251 Instrument: gcms-w.i

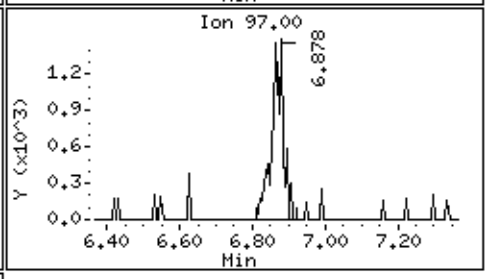
Sample Info: TL0579-7

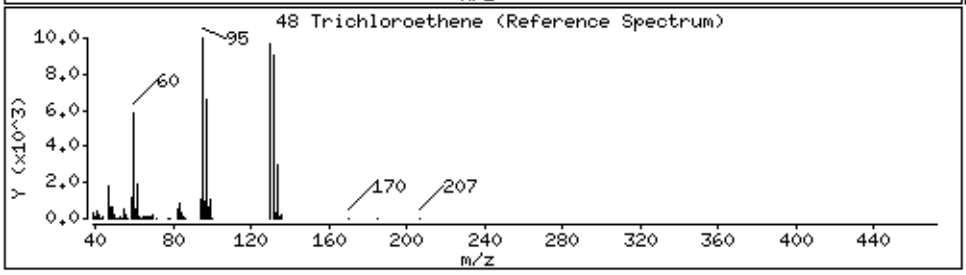
48 Trichloroethene Concentration: 1.6 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-8
Client ID: WVA-SA-MW-23-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6372.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-8
Client ID: WVA-SA-MW-23-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6372.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6372.D
Report Date: 27-Nov-2018 12:39

Katahdin Analytical Services

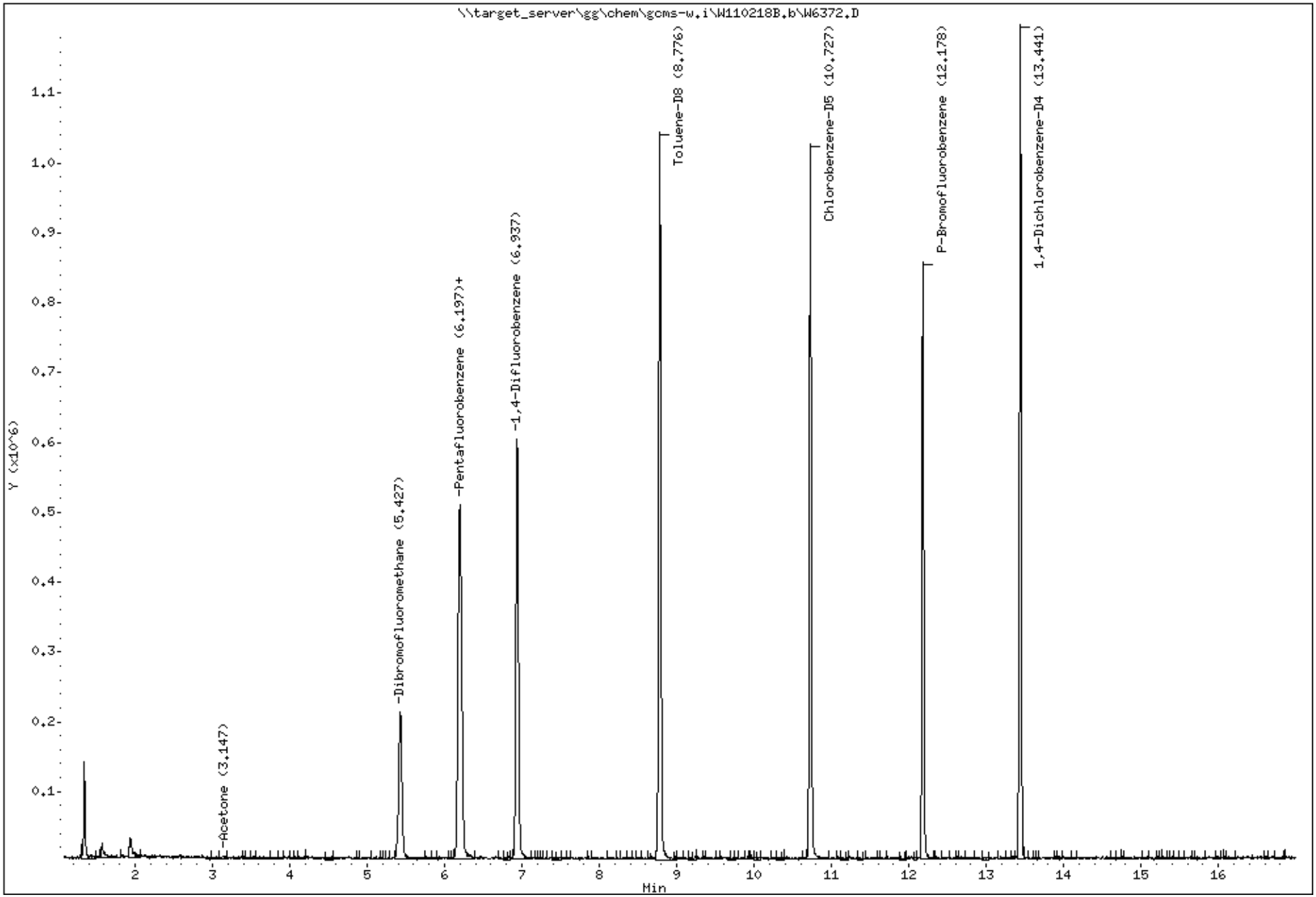
Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6372.D
Lab Smp Id: TL0579-8 Client Smp ID: WVA-SA-MW-23-102518
Inj Date : 03-NOV-2018 00:49
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-8
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.135	3.136	(0.507)	1993	8.65513	8.6	
$	35 Dibromofluoromethane	113	5.432	5.427	(0.878)	180798	52.1885	52.2	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	374518	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	221898	52.5240	52.5	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	623358	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	764727	50.3968	50.4	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	585272	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.756)	252210	48.7541	48.8	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	298268	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6372.D
Date : 03-NOV-2018 00:49
Client ID: WVA-SA-MW-23-102518 Instrument: gcms-w.i
Sample Info: TL0579-8



Katahdin Analytical Services 1000063

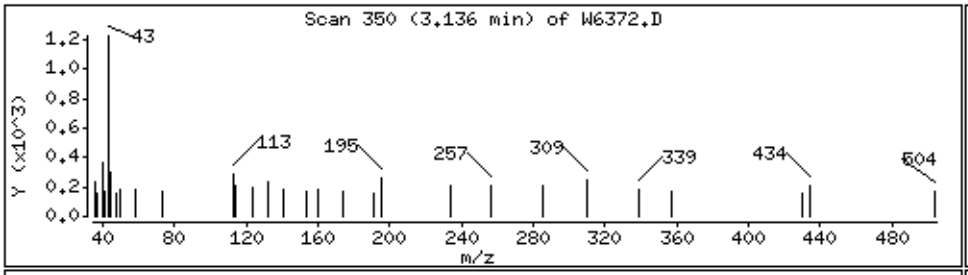
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6372.D

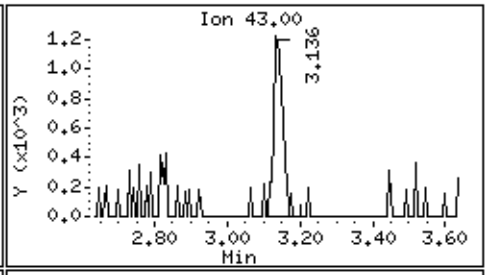
Date : 03-NOV-2018 00:49

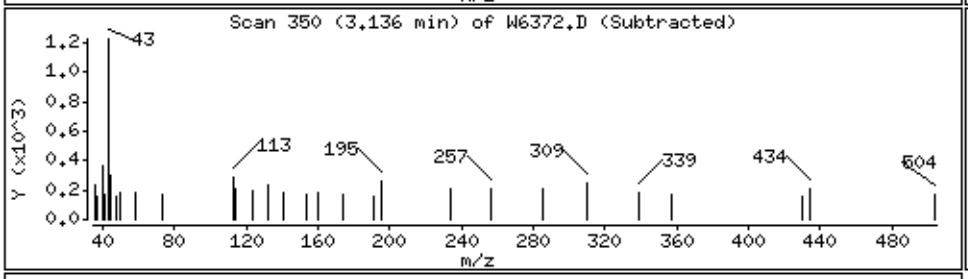
Client ID: WVA-SA-MW-23-102518 Instrument: gcms-w.i

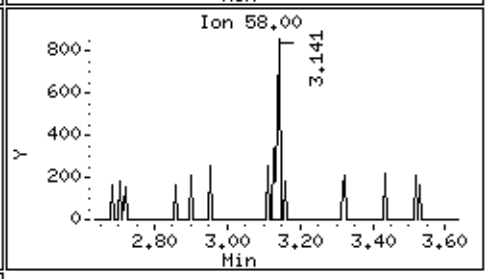
Sample Info: TL0579-8

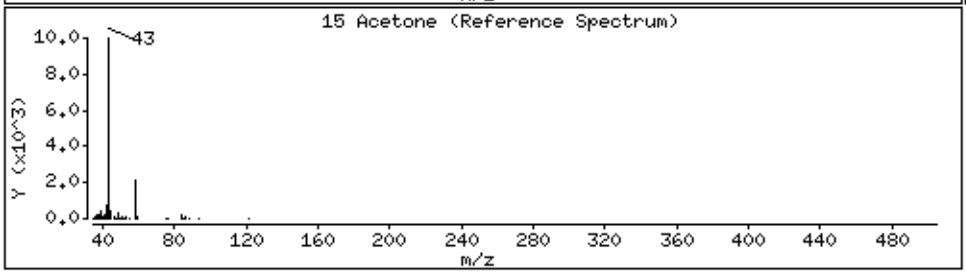
15 Acetone Concentration: 8.6 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-9
Client ID: DUP-02-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6373.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.6	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-9
Client ID: DUP-02-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6373.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6373.D
Report Date: 27-Nov-2018 12:39

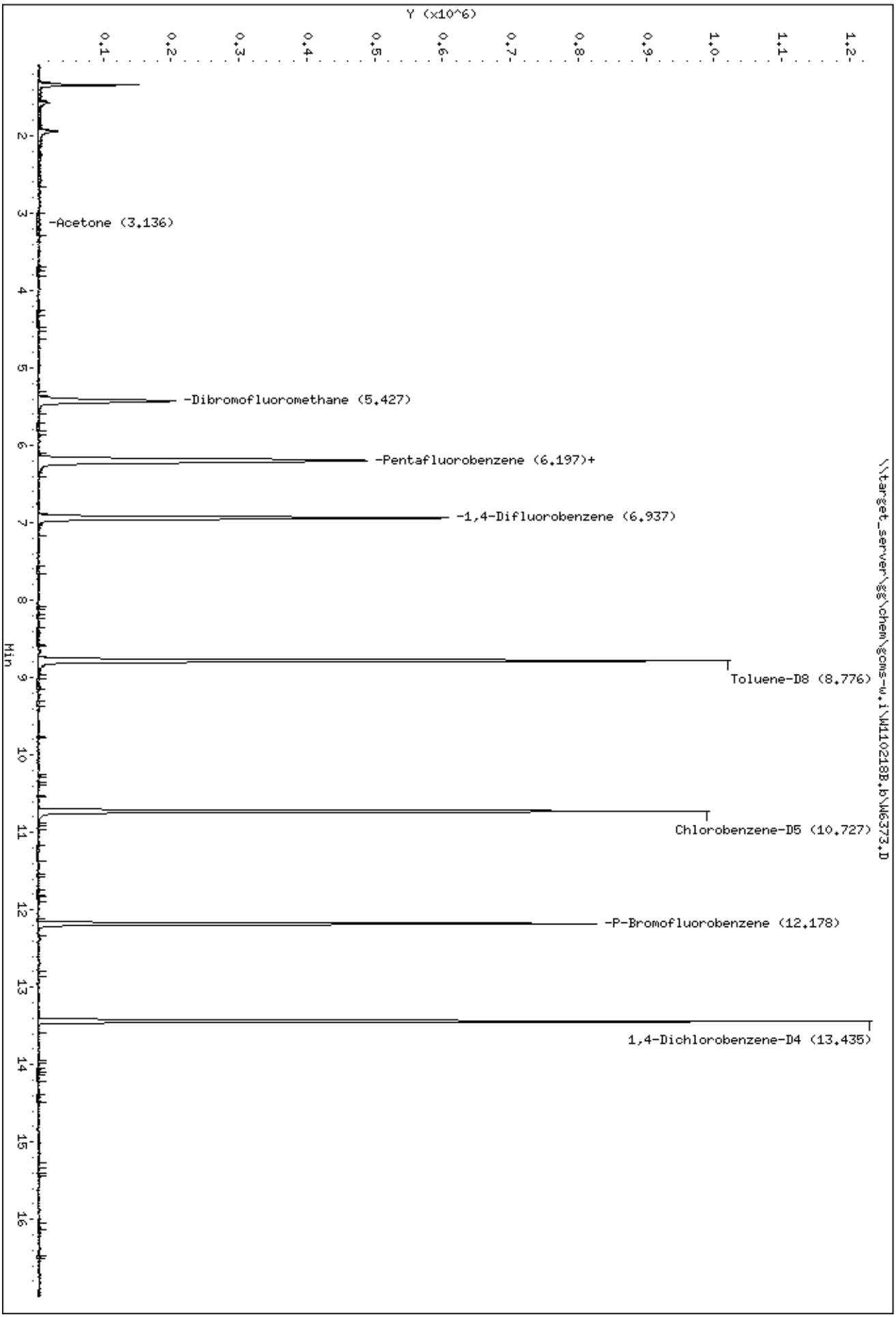
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6373.D
Lab Smp Id: TL0579-9 Client Smp ID: DUP-02-102518
Inj Date : 03-NOV-2018 01:19
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-9
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.135	3.136	(0.507)	1647	8.25100	8.2	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	174145	51.4197	51.4	
*	42 Pentafluorobenzene	168	6.184	6.185	(1.000)	366130	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	213045	51.5837	51.6	
*	49 1,4-Difluorobenzene	114	6.942	6.937	(1.000)	605280	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.264)	747835	50.7556	50.8	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	572320	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.754)	239981	47.7757	47.8	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	283691	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6373.D
Date : 03-NOV-2018 01:19
Client ID: DUP-02-102518
Sample Info: TL0579-9
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6373.D
Y (x10^6)
Min
-Acetone (3.136)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.435)

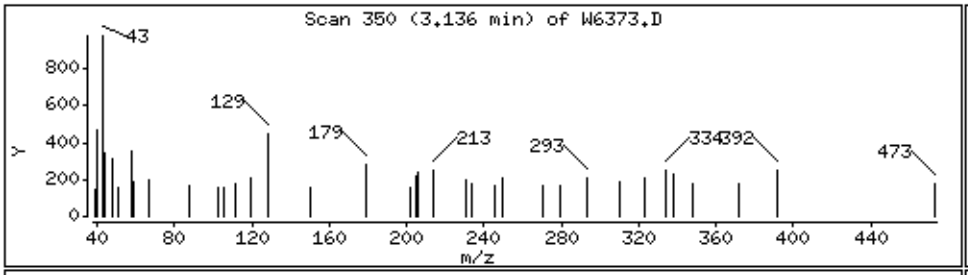
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6373.D

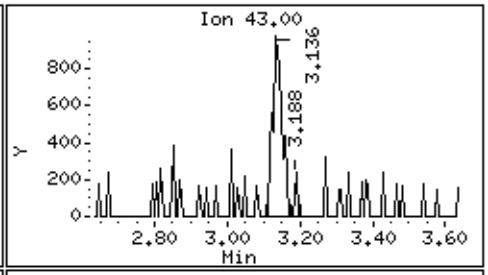
Date : 03-NOV-2018 01:19

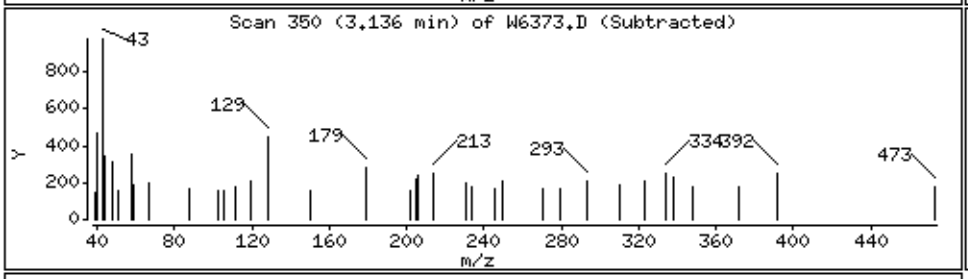
Client ID: DUP-02-102518 Instrument: gcms-w.i

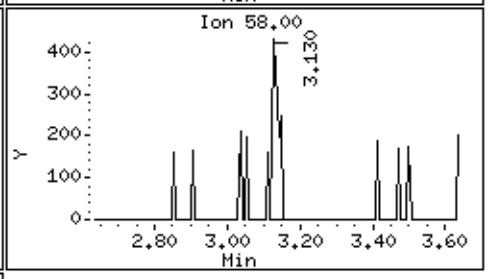
Sample Info: TL0579-9

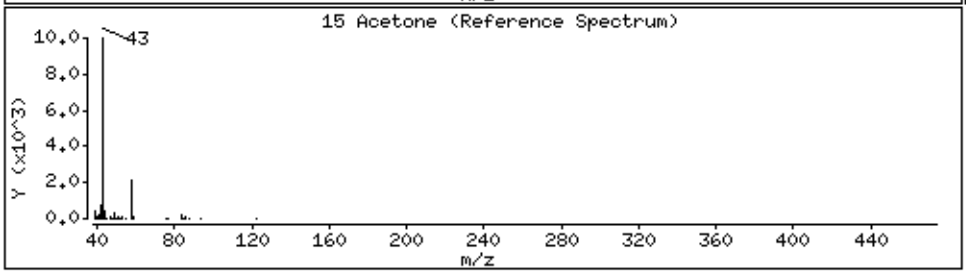
15 Acetone Concentration: 8.2 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-10
Client ID: WVA-SA-MW-83-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6374.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		32.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		5.8	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.7	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-10
Client ID: WVA-SA-MW-83-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6374.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6374.D
Report Date: 27-Nov-2018 12:39

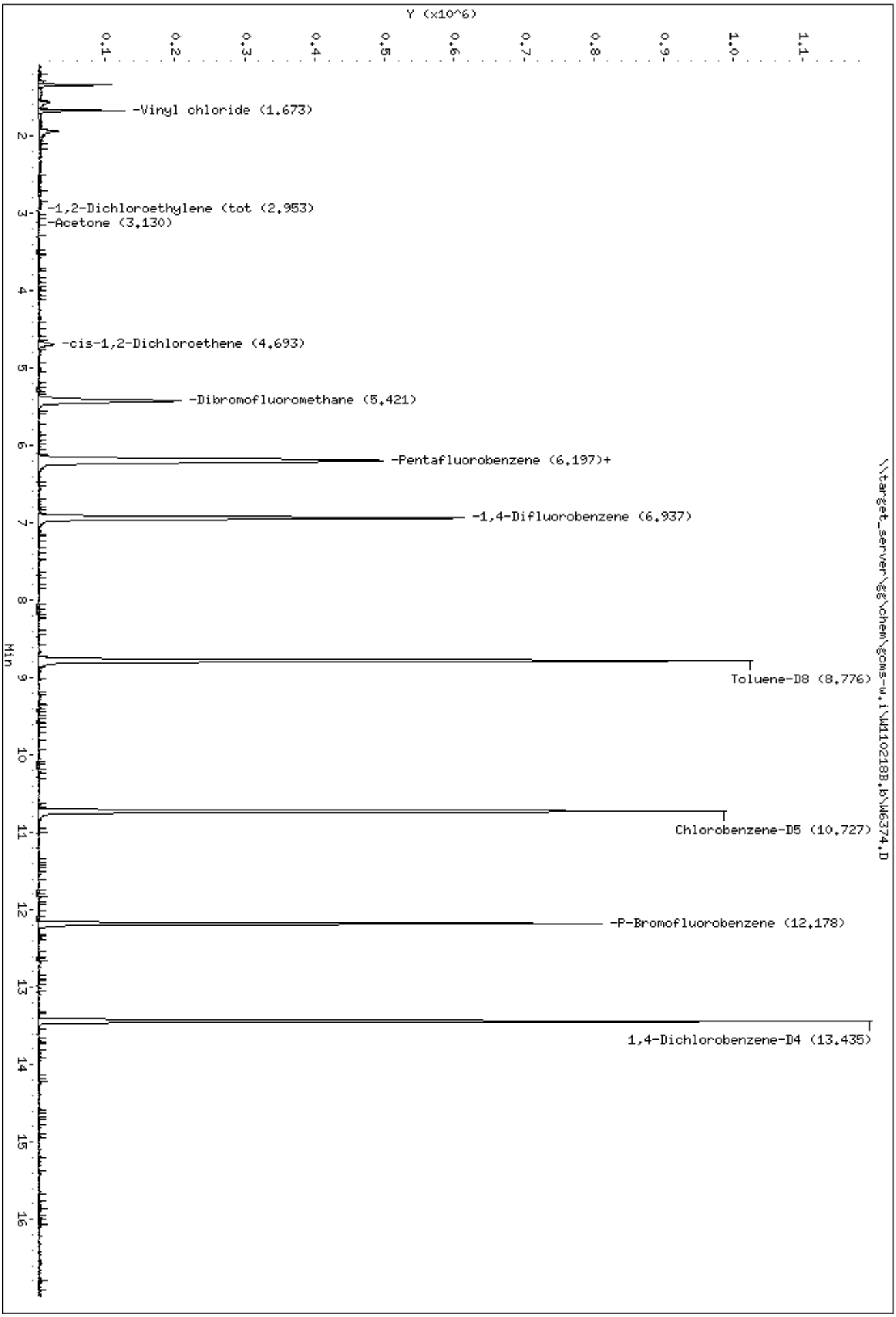
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6374.D
Lab Smp Id: TL0579-10 Client Smp ID: WVA-SA-MW-83-102518
Inj Date : 03-NOV-2018 01:49
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-10
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3	Vinyl chloride	62	1.672	1.673	(0.270)	75375	32.5162	32.5	
	15	Acetone	43	3.135	3.136	(0.507)	1651	8.22577	8.2	
M	22	1,2-Dichloroethylene (total)	96				13123	5.75428	5.8	
	28	cis-1,2-Dichloroethene	96	4.698	4.698	(0.760)	13123	5.75428	5.8	
$	35	Dibromofluoromethane	113	5.421	5.427	(0.877)	177185	51.5940	51.6	
*	42	Pentafluorobenzene	168	6.184	6.185	(1.000)	371263	50.0000		
$	44	1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	216905	51.7922	51.8	
*	49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	614935	50.0000		
$	58	Toluene-D8	98	8.776	8.782	(1.265)	759016	50.7056	50.7	
*	69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	574644	50.0000		
$	78	P-Bromofluorobenzene	95	12.178	12.184	(1.756)	241544	47.3318	47.3	
*	94	1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	285196	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6374.D
Date : 03-NOV-2018 01:49
Client ID: WWA-SA-MW-83-102518
Sample Info: TL0579-10
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6374.D
Y (x10^6)
Min
-Vinyl chloride (1.673)
-1,2-Dichloroethylene (tot (2.953)
-Acetone (3.130)
-cis-1,2-Dichloroethene (4.693)
-Dibromofluoromethane (5.421)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.435)

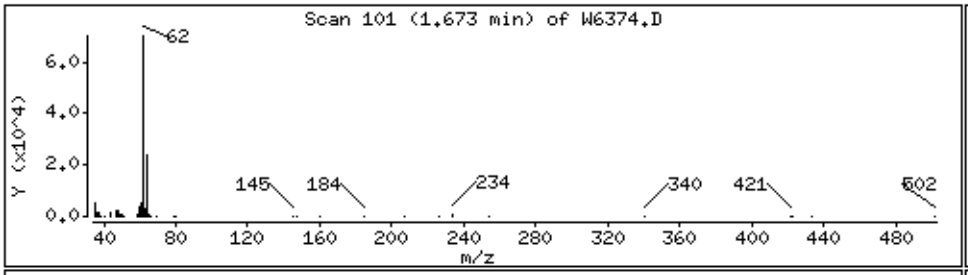
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6374.D

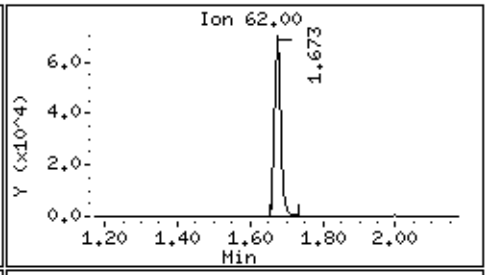
Date : 03-NOV-2018 01:49

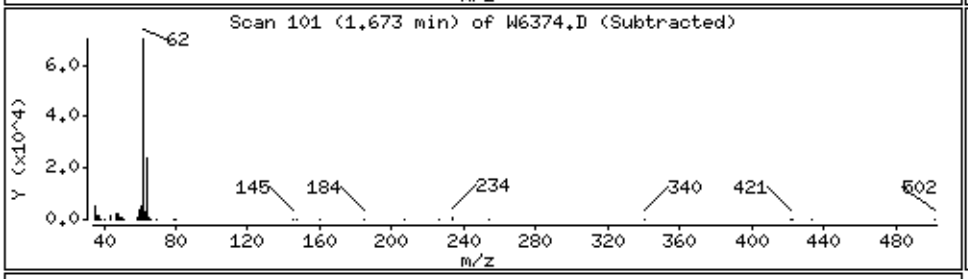
Client ID: WVA-SA-MW-83-102518 Instrument: gcms-w.i

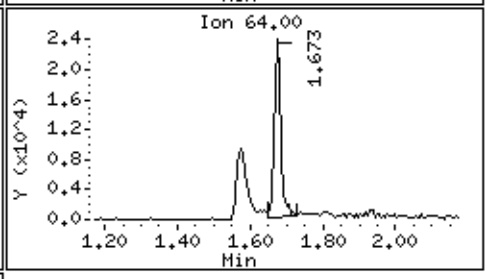
Sample Info: TL0579-10

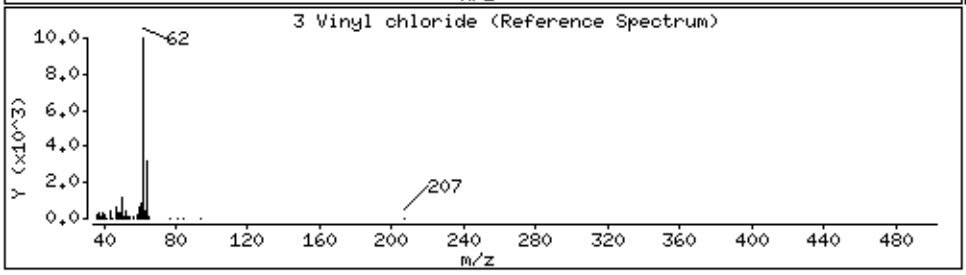
3 Vinyl chloride Concentration: 32.5 ug/l



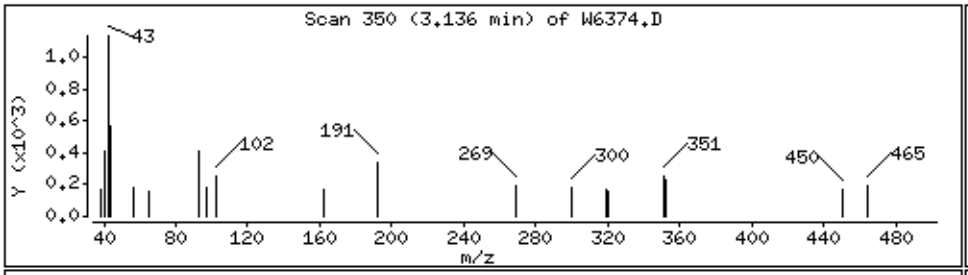


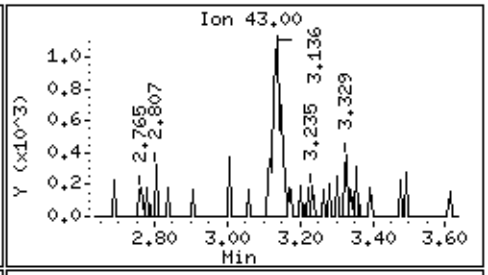


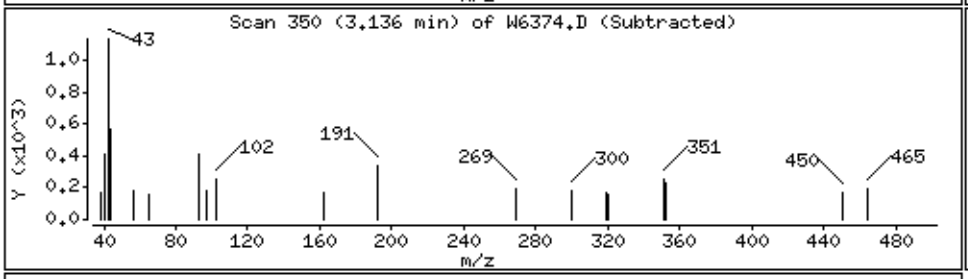


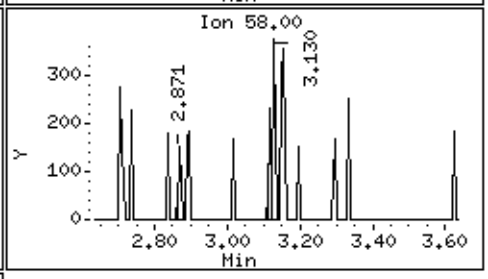


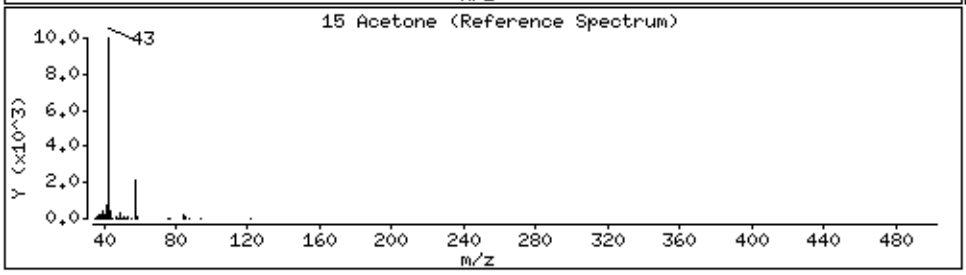
15 Acetone Concentration: 8.2 ug/l











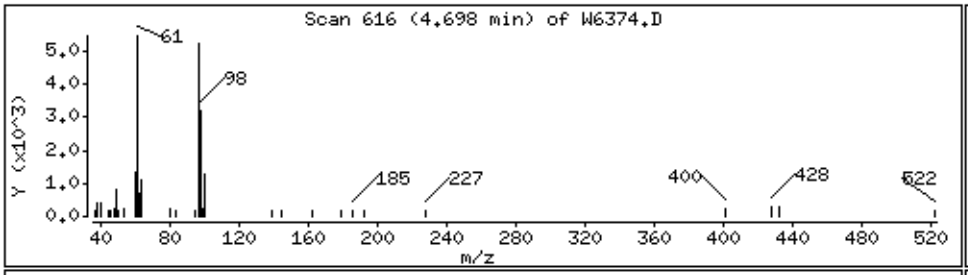
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6374.D

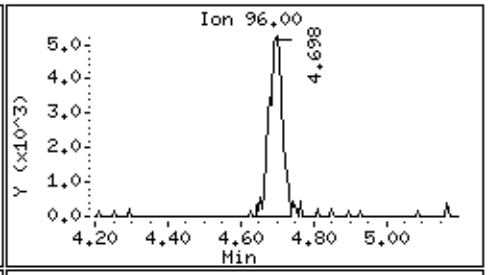
Date : 03-NOV-2018 01:49

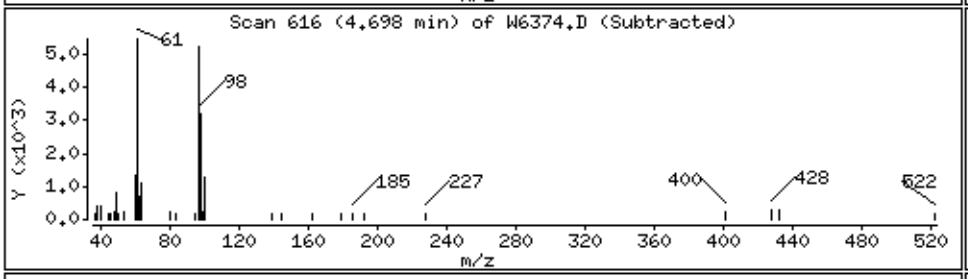
Client ID: WVA-SA-MW-83-102518 Instrument: gcms-w.i

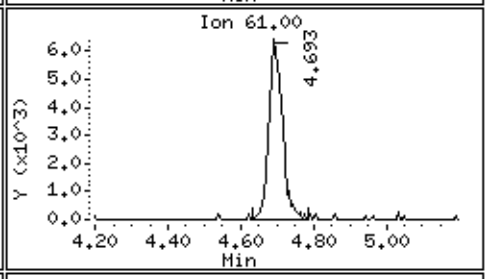
Sample Info: TL0579-10

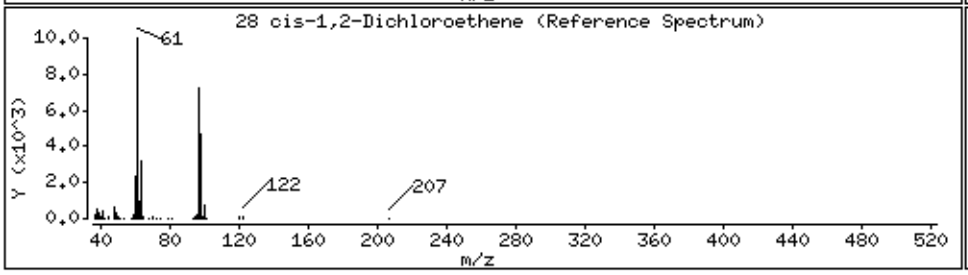
28 cis-1,2-Dichloroethene Concentration: 5.8 ug/l

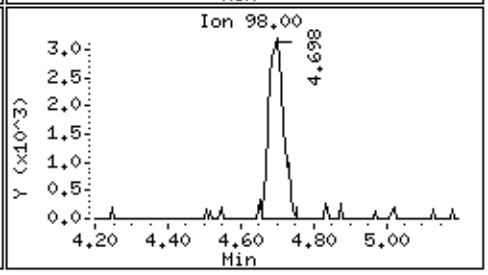












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-11
Client ID: WVA-SA-MW-84-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6375.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	350	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		2.3	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	E	370	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.5	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-11
Client ID: WVA-SA-MW-84-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6375.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 03-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6375.D
Report Date: 27-Nov-2018 12:39

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6375.D
Lab Smp Id: TL0579-11 Client Smp ID: WVA-SA-MW-84-102518
Inj Date : 03-NOV-2018 02:19
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : TL0579-11
Misc Info : WG239918,WG239918-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

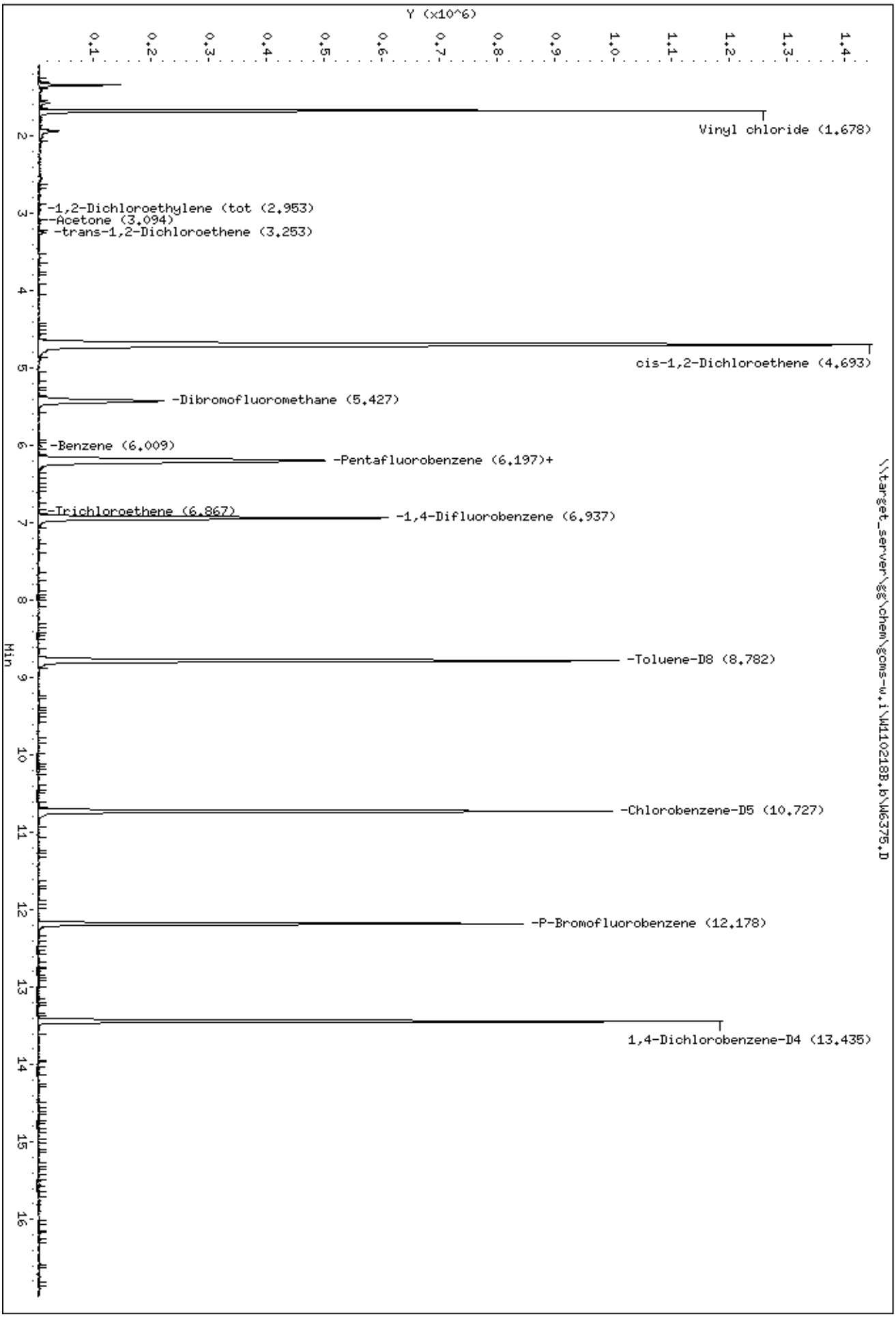
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.678	1.673	(0.271)	821769	346.548	346(A)	
	15 Acetone	43	3.129	3.136	(0.506)	1786	8.35124	8.4	
	16 trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	4620	2.29720	2.3	
M	22 1,2-Dichloroethylene (total)	96				874107	375.000	375	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	869487	372.703	373(A)	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	178175	50.7178	50.7	
	39 Benzene	78	6.008	6.009	(0.866)	6260	0.71953	0.72(aM)	M9
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	379787	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	214393	50.0434	50.0	
	48 Trichloroethene	95	6.860	6.867	(0.989)	1114	0.51301	0.51(a)	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	614012	50.0000		
$	58 Toluene-D8	98	8.781	8.782	(1.266)	769131	51.4586	51.4	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	584610	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.756)	245968	48.2712	48.3	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	288388	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6375.D
Date : 03-NOV-2018 02:19
Client ID: WWA-SA-MW-84-102518
Sample Info: TL0579-11

Instrument: gcms-w.i

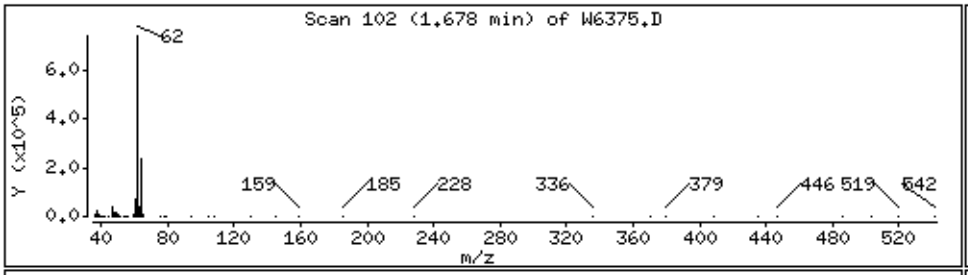
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6375.D

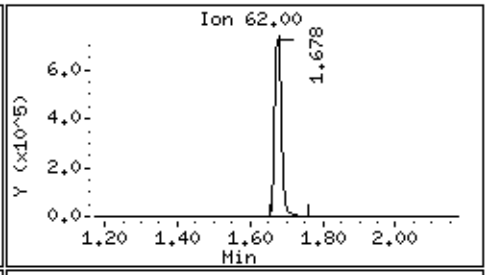
Date : 03-NOV-2018 02:19

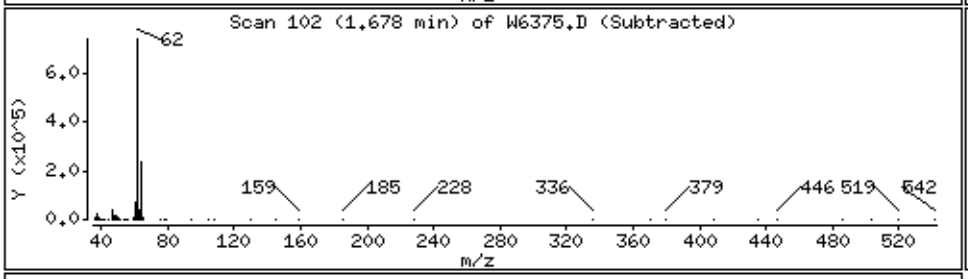
Client ID: WVA-SA-MW-84-102518 Instrument: gcms-w.i

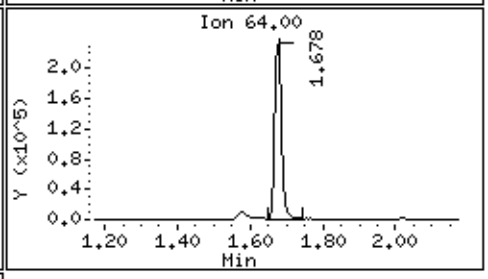
Sample Info: TL0579-11

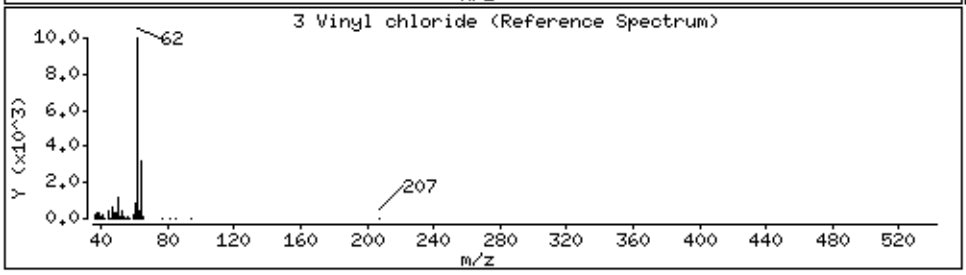
3 Vinyl chloride Concentration: 346 ug/l



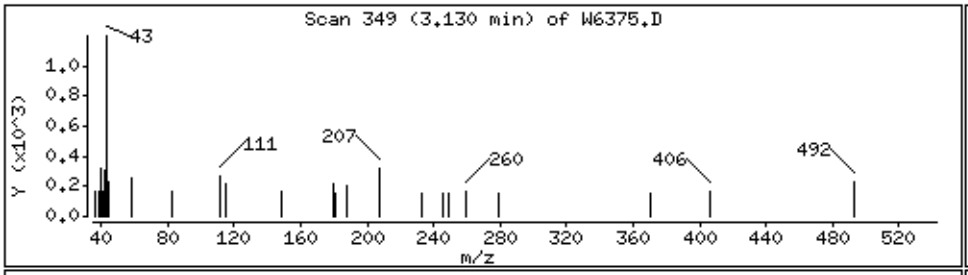


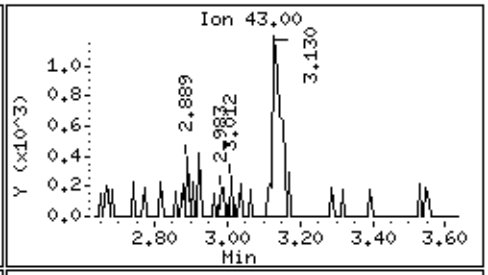


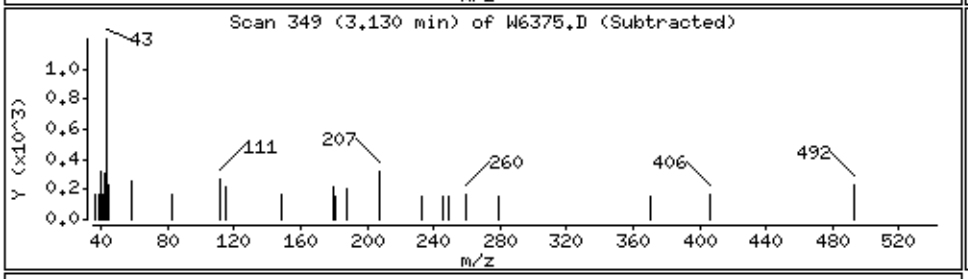


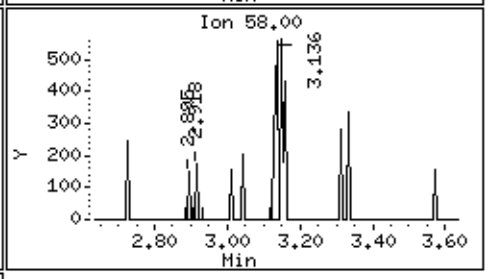


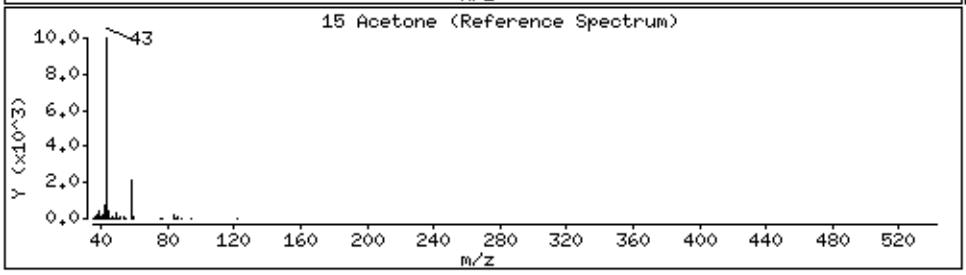
15 Acetone Concentration: 8.4 ug/l











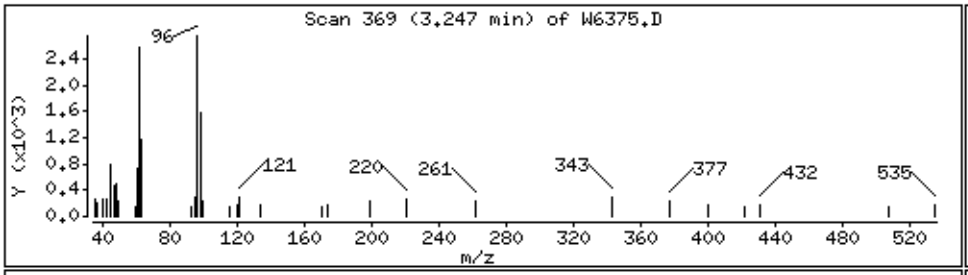
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6375.D

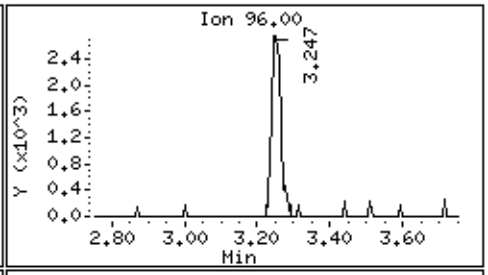
Date : 03-NOV-2018 02:19

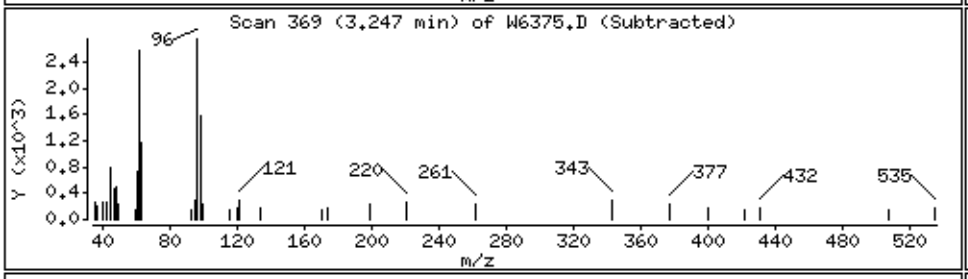
Client ID: WVA-SA-MW-84-102518 Instrument: gcms-w.i

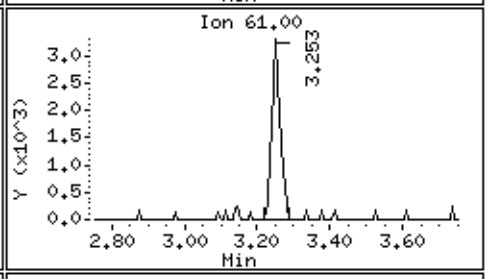
Sample Info: TL0579-11

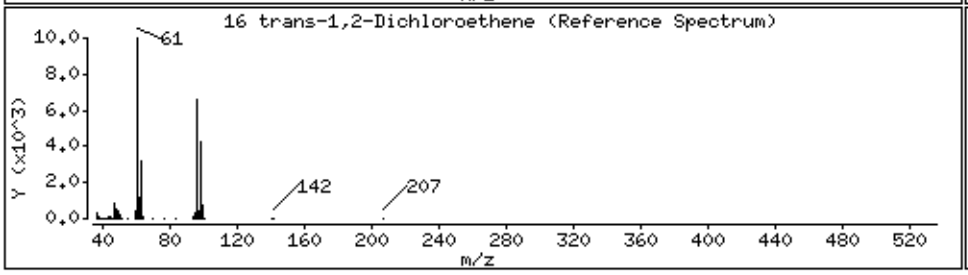
16 trans-1,2-Dichloroethene Concentration: 2.3 ug/l

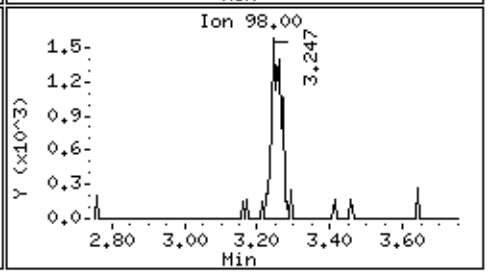




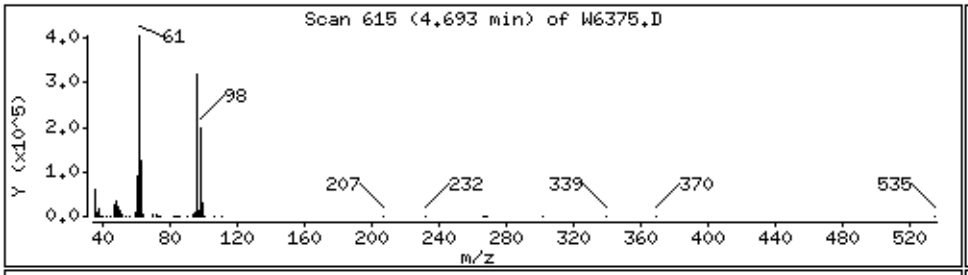


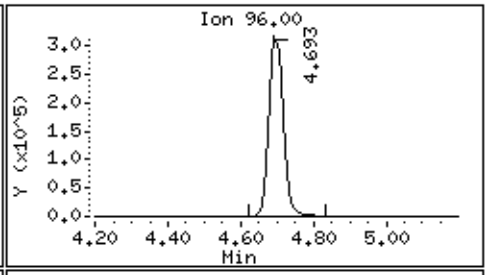


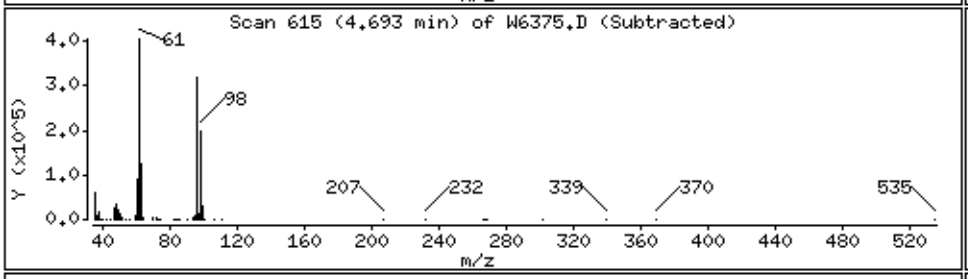


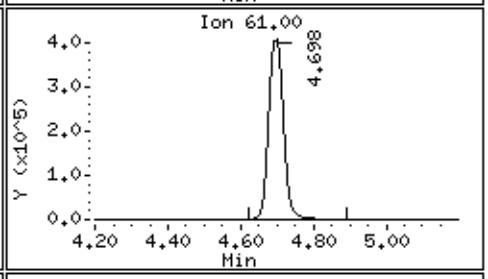


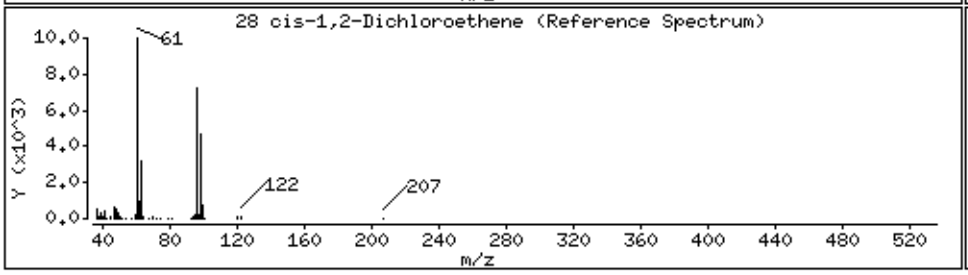
28 cis-1,2-Dichloroethene Concentration: 373 ug/l

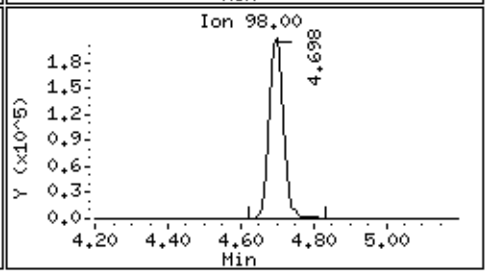












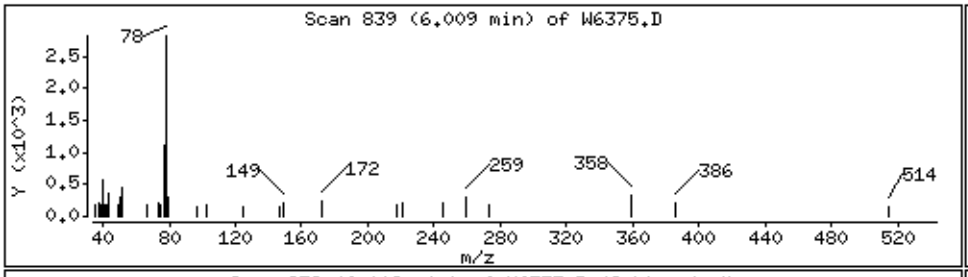
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6375.D

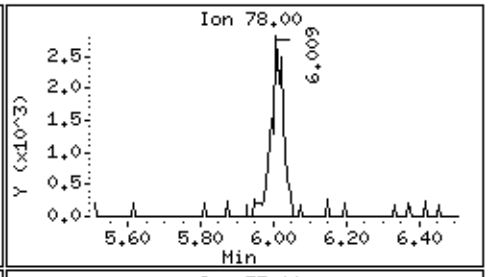
Date : 03-NOV-2018 02:19

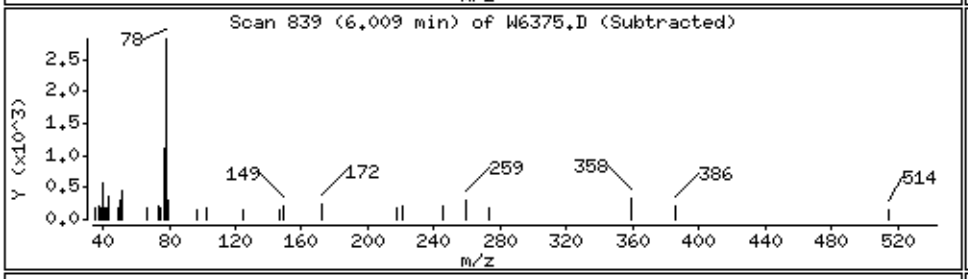
Client ID: WVA-SA-MW-84-102518 Instrument: gcms-w.i

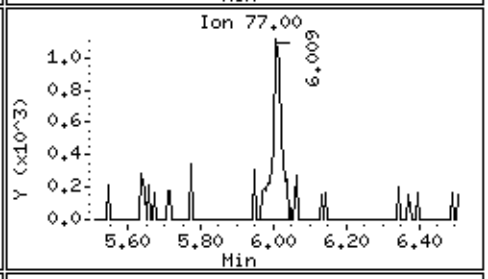
Sample Info: TL0579-11

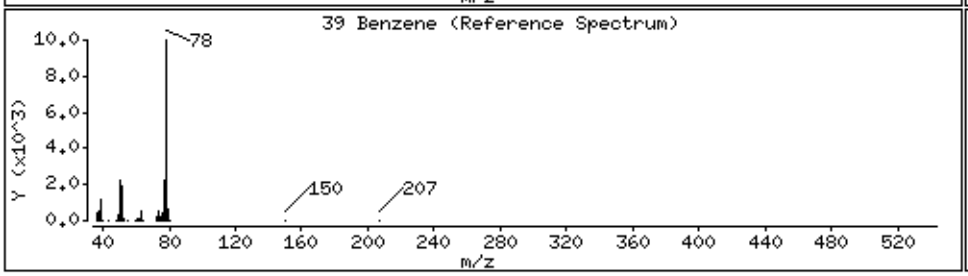
39 Benzene Concentration: 0.72 ug/l

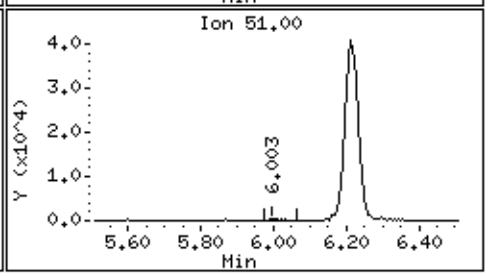




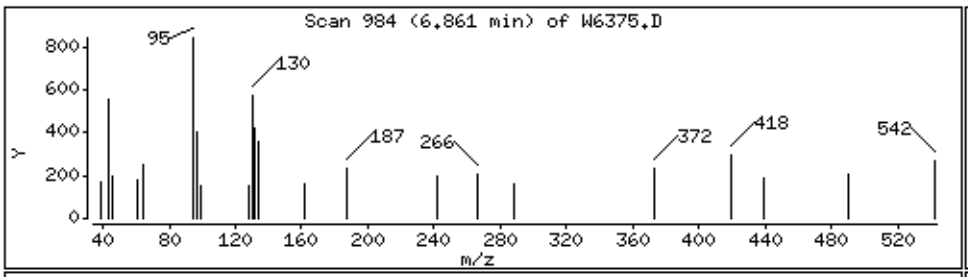


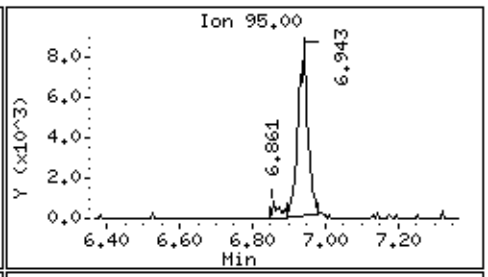


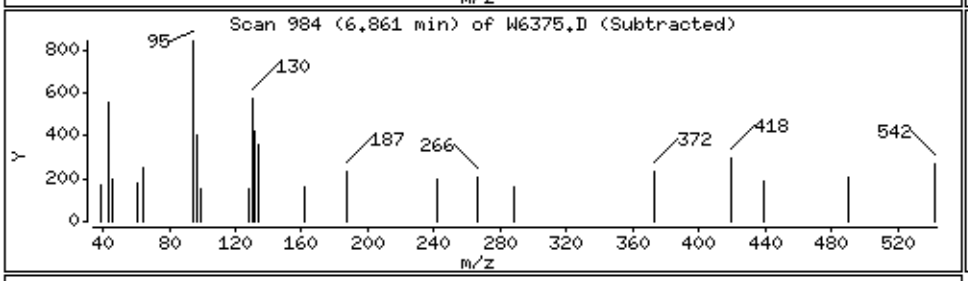


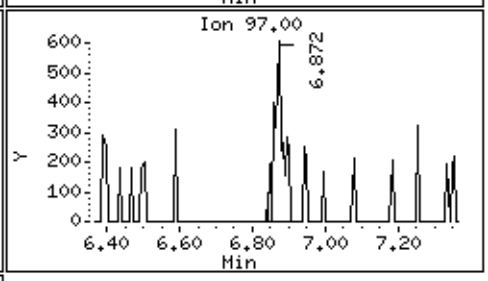


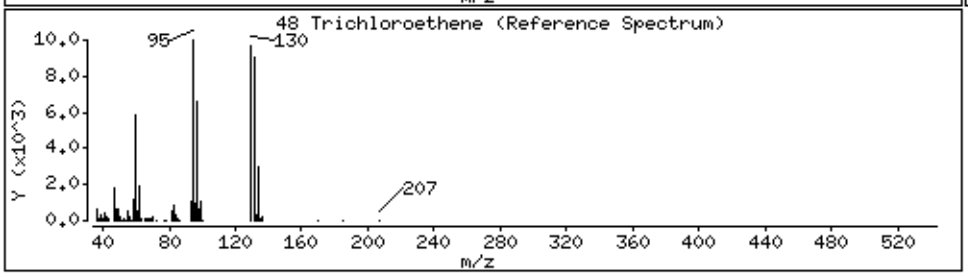
48 Trichloroethene Concentration: 0.51 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-11DL
Client ID: WVA-SA-MW-84-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6388.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	8.0	ug/L	4	2	8.0
Vinyl Chloride		310	ug/L	4	2	8.0
Bromomethane	U	8.0	ug/L	4	2	8.0
Chloroethane	U	8.0	ug/L	4	2	8.0
Trichlorofluoromethane	U	8.0	ug/L	4	2	8.0
1,1-Dichloroethene	U	4.0	ug/L	4	1	4.0
Carbon Disulfide	U	4.0	ug/L	4	1	4.0
Methylene Chloride	U	20.	ug/L	4	5	20.
trans-1,2-Dichloroethene	U	4.0	ug/L	4	1	4.0
1,1-Dichloroethane	U	4.0	ug/L	4	1	4.0
cis-1,2-Dichloroethene		340	ug/L	4	1	4.0
Chloroform	U	4.0	ug/L	4	1	4.0
Carbon Tetrachloride	U	4.0	ug/L	4	1	4.0
1,1,1-Trichloroethane	U	4.0	ug/L	4	1	4.0
2-Butanone	U	20.	ug/L	4	5	20.
Benzene	U	4.0	ug/L	4	1	4.0
1,2-Dichloroethane	U	4.0	ug/L	4	1	4.0
Trichloroethene	U	4.0	ug/L	4	1	4.0
1,2-Dichloropropane	U	4.0	ug/L	4	1	4.0
Bromodichloromethane	U	4.0	ug/L	4	1	4.0
cis-1,3-Dichloropropene	U	4.0	ug/L	4	1	4.0
Toluene	U	4.0	ug/L	4	1	4.0
4-Methyl-2-Pentanone	U	20.	ug/L	4	5	20.
Tetrachloroethene	U	4.0	ug/L	4	1	4.0
trans-1,3-Dichloropropene	U	4.0	ug/L	4	1	4.0
1,1,2-Trichloroethane	U	4.0	ug/L	4	1	4.0
Dibromochloromethane	U	4.0	ug/L	4	1	4.0
Chlorobenzene	U	4.0	ug/L	4	1	4.0
Ethylbenzene	U	4.0	ug/L	4	1	4.0
m+p-Xylenes	U	8.0	ug/L	4	2	8.0
o-Xylene	U	4.0	ug/L	4	1	4.0
Bromoform	U	4.0	ug/L	4	1	4.0
1,1,2,2-Tetrachloroethane	U	4.0	ug/L	4	1	4.0
P-Bromofluorobenzene		97.8	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-11DL
Client ID: WVA-SA-MW-84-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6388.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6388.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6388.D
Lab Smp Id: TL0579-11DL Client Smp ID: WVA-SA-MW-84-102518
Inj Date : 03-NOV-2018 09:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-11DL
Misc Info : WG239941,WG239941-4
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 6
Dil Factor: 4.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

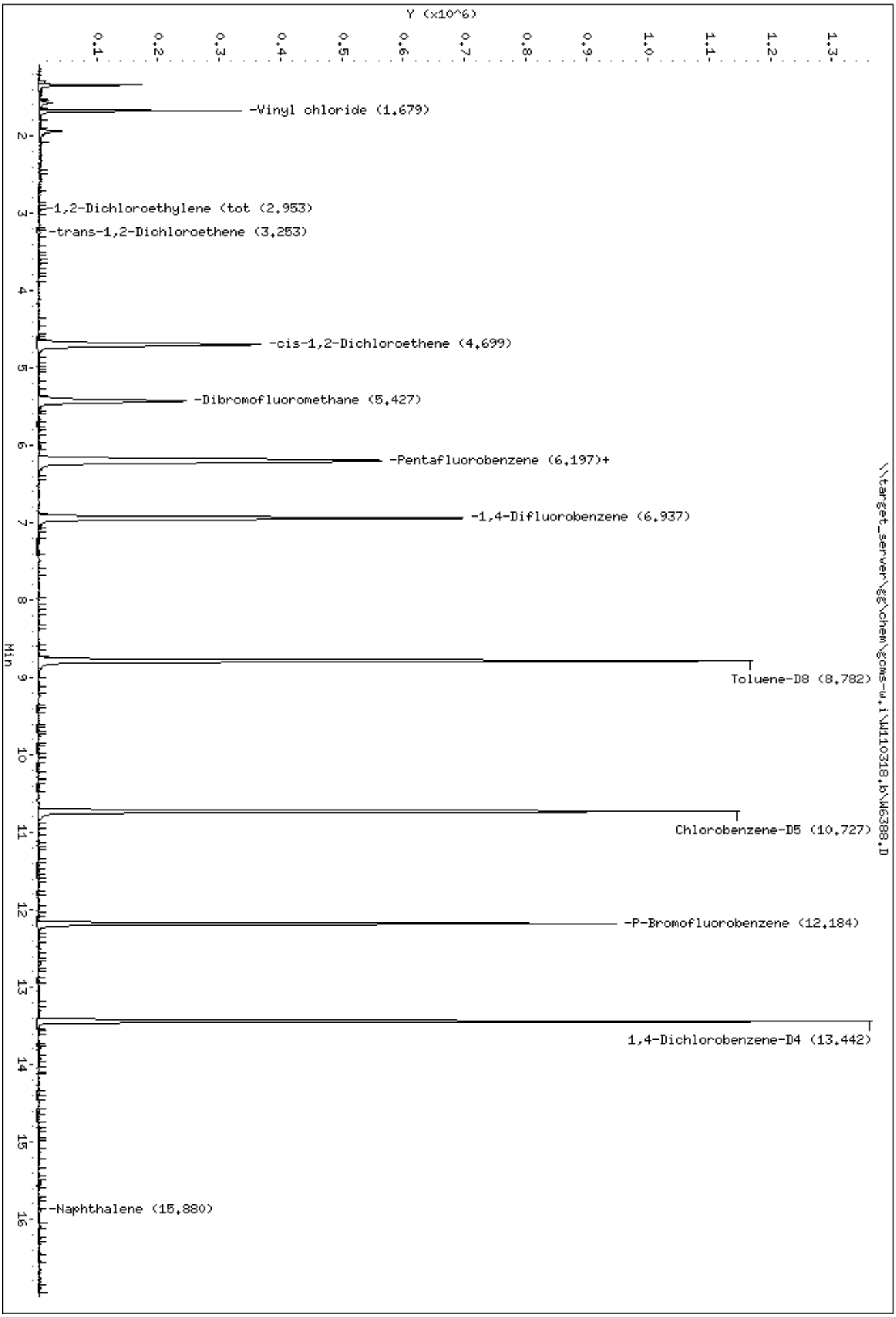
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	4.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.678	1.673	(0.271)	209848	77.8501	311	
	16 trans-1,2-Dichloroethene	96	3.253	3.253	(0.525)	1254	0.54852	2.2(a)	
M	22 1,2-Dichloroethylene (total)	96				228987	86.4232	346	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	227733	85.8747	343	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	206178	51.6293	51.6	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	431718	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	245691	50.4505	50.4	
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	714532	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.265)	877177	50.4312	50.4	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	675799	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.755)	289873	48.8846	48.9	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	329489	50.0000		
	103 Naphthalene	128	15.879	15.886	(1.181)	2833	0.75596	3.0(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Vinyl chloride (1,679)
-1,2-Dichloroethylene (tot (2,953)
-trans-1,2-Dichloroethene (3,253)
-cis-1,2-Dichloroethene (4,699)
-Dibromofluoromethane (5,427)
-Pentafluorobenzene (6,197)+
-1,4-Difluorobenzene (6,937)
Toluene-D8 (8,782)
Chlorobenzene-D5 (10,727)
-P-Bromofluorobenzene (12,184)
1,4-Dichlorobenzene-D4 (13,442)
-Naphthalene (15,880)
\\target_server\gg\chem\gcms-w,i\W110318,b\W6388,D
Data File: \\target_server\gg\chem\gcms-w,i\W110318,b\W6388,D
Date : 03-NOV-2018 09:49
Client ID: WWA-SA-MW-84-102518
Sample Info: TL0579-11DL
Instrument: gcms-w,i

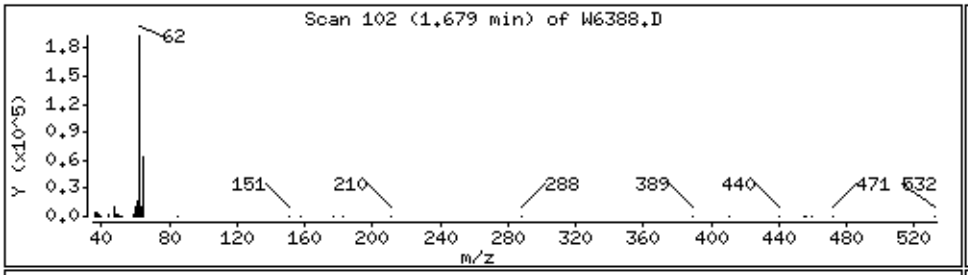
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6388.D

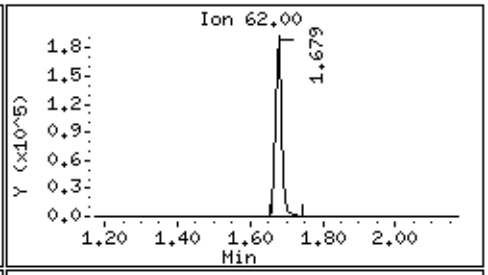
Date : 03-NOV-2018 09:49

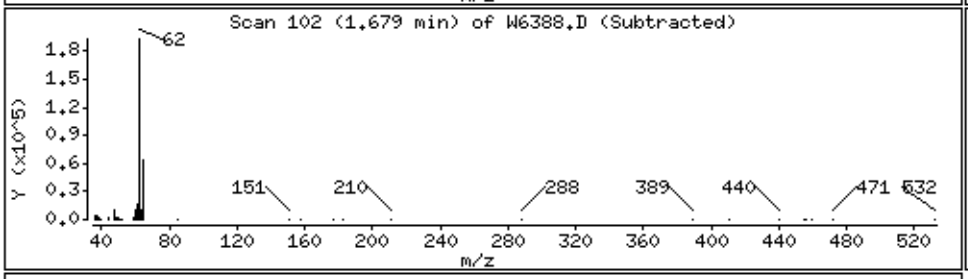
Client ID: WVA-SA-MW-84-102518 Instrument: gcms-w.i

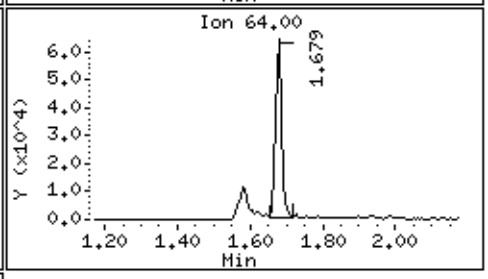
Sample Info: TL0579-11DL

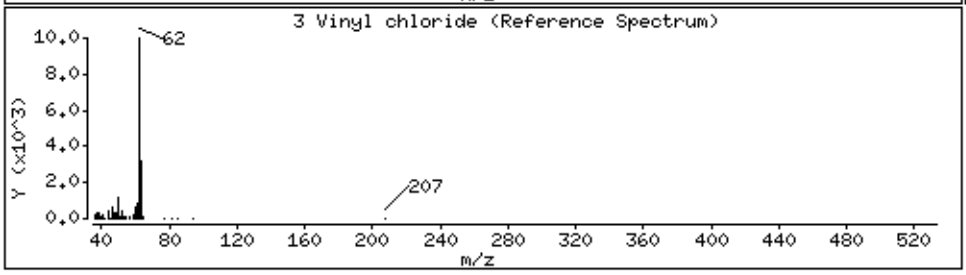
3 Vinyl chloride Concentration: 311 ug/l



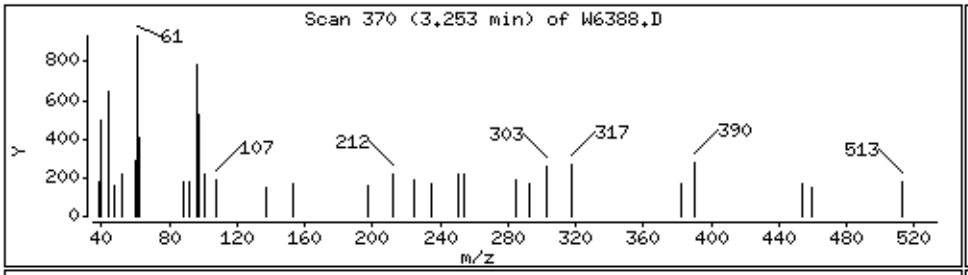


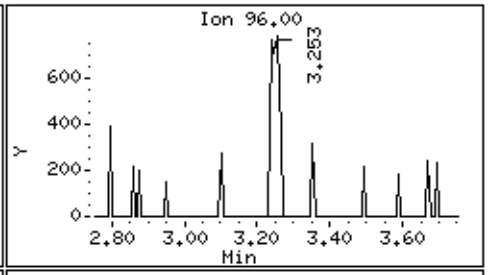


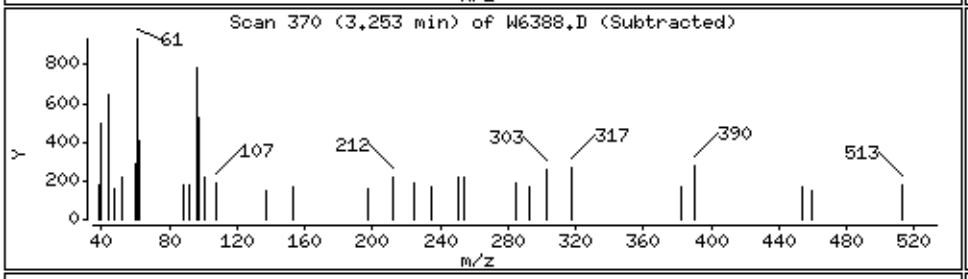


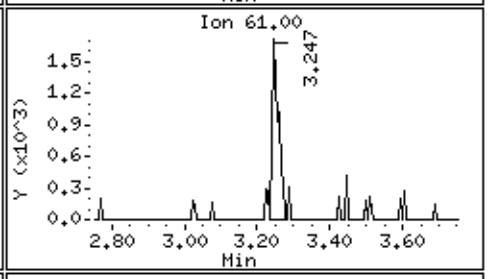


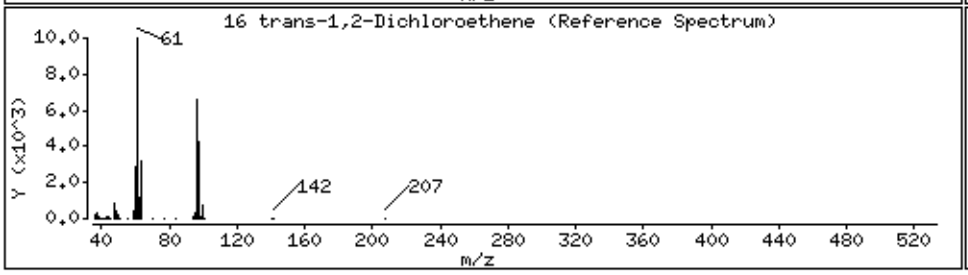
16 trans-1,2-Dichloroethene Concentration: 2.2 ug/l

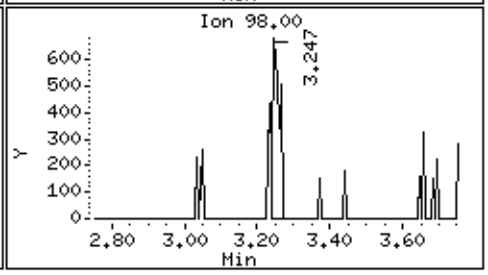












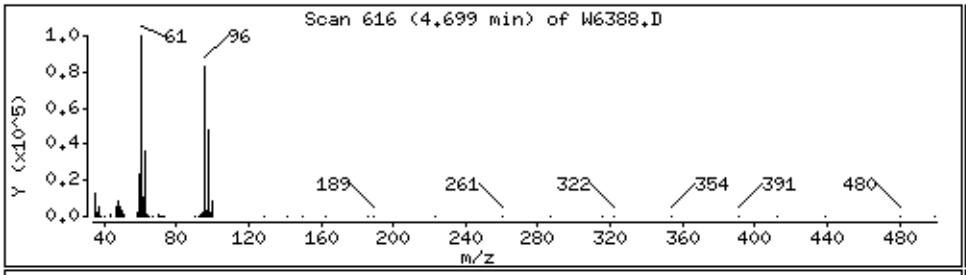
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6388.D

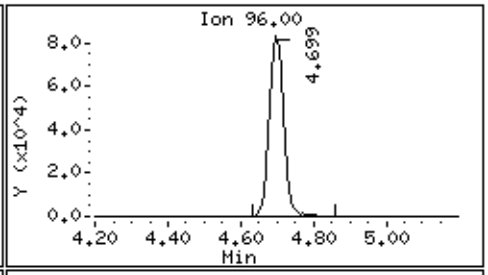
Date : 03-NOV-2018 09:49

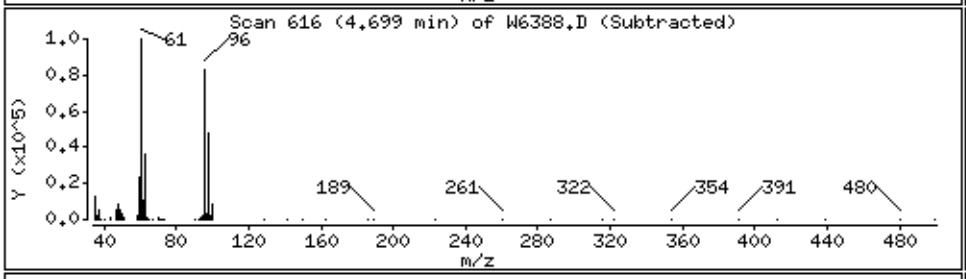
Client ID: WVA-SA-MW-84-102518 Instrument: gcms-w.i

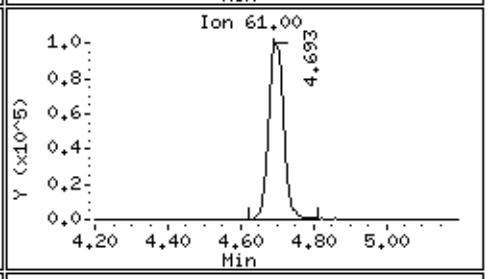
Sample Info: TL0579-11DL

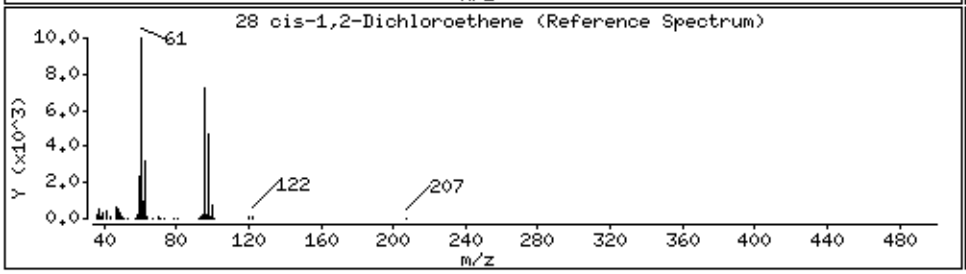
28 cis-1,2-Dichloroethene Concentration: 343 ug/l

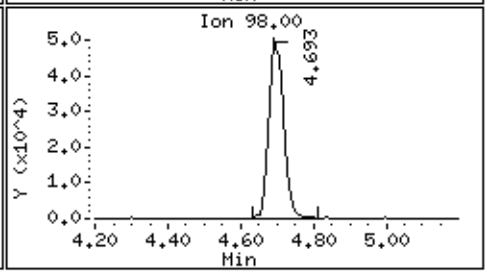




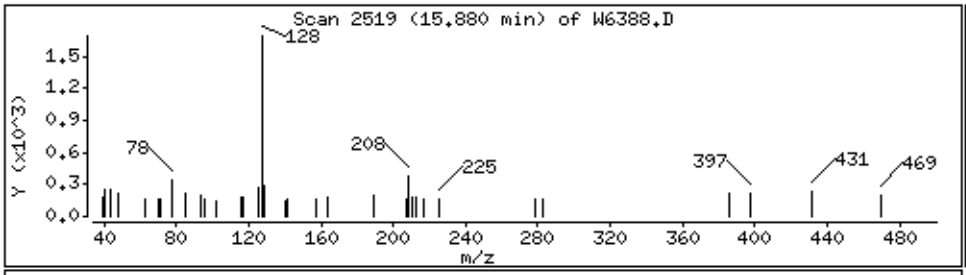


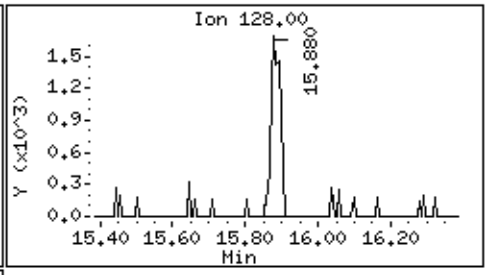


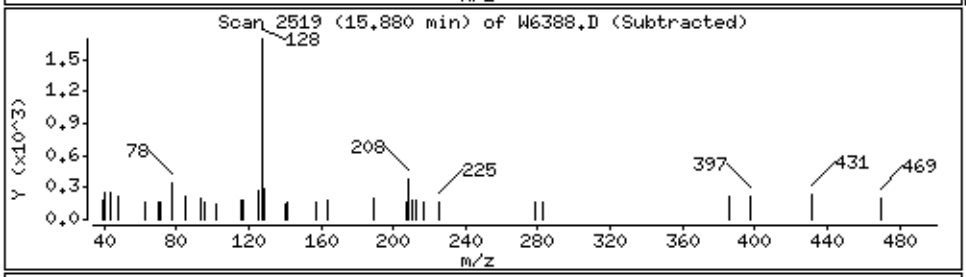


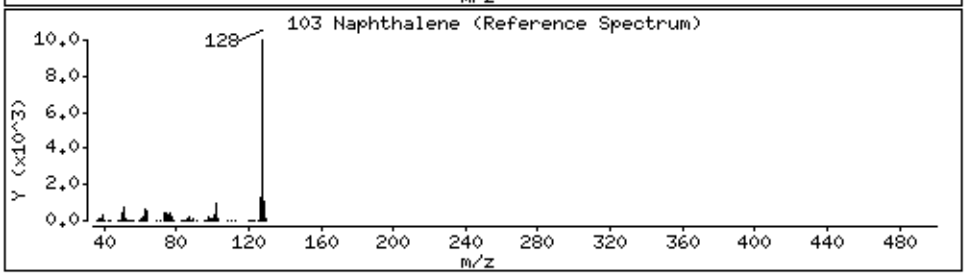


103 Naphthalene Concentration: 3.0 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-12RA
Client ID: WVA-SA-MW-32-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6387.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.3	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		3.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.0	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-12RA
Client ID: WVA-SA-MW-32-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6387.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6387.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6387.D
Lab Smp Id: TL0579-12RA Client Smp ID: WVA-SA-MW-32-102518
Inj Date : 03-NOV-2018 09:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-12RA
Misc Info : WG239941,WG239941-4
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

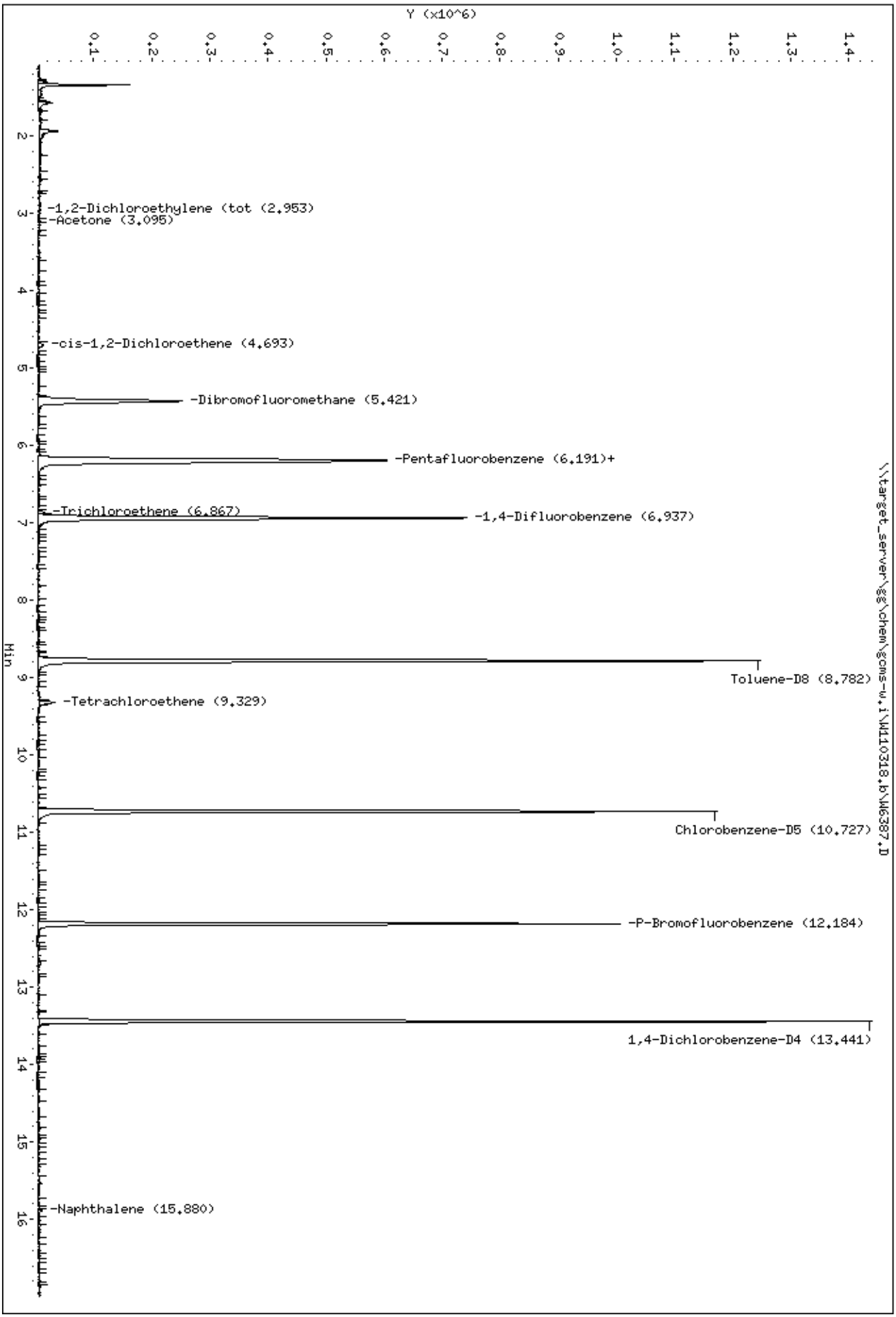
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.141	3.136	(0.507)	2157	8.35247	8.4	
M	22 1,2-Dichloroethylene (total)	96				5728	2.03406	2.0	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	5728	2.03406	2.0	
$	35 Dibromofluoromethane	113	5.421	5.427	(0.876)	218790	51.5945	51.6	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	458435	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	260888	50.4491	50.4	
	48 Trichloroethene	95	6.866	6.867	(0.989)	3544	1.30745	1.3	
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	766449	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.265)	944298	50.6128	50.6	
	60 Tetrachloroethene	164	9.316	9.328	(0.869)	6938	3.04135	3.0	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	714202	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.755)	302202	47.5117	47.5	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	348150	50.0000		
	103 Naphthalene	128	15.885	15.886	(1.182)	3741	0.83882	0.84(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gc\chem\gcms-w.i\W110318.b\W6387.D
Date : 03-NOV-2018 09:19
Client ID: WVA-SA-MW-32-102518
Sample Info: TL0579-12RA
Instrument: gcms-w.i
\\target_server\gc\chem\gcms-w.i\W110318.b\W6387.D
Y (x10^6)
Min
-1,2-Dichloroethylene (tot (2.953)
-Acetone (3.095)
-cis-1,2-Dichloroethene (4.693)
-Dibromofluoromethane (5.421)
-Pentafluorobenzene (6.191)+
-Trichloroethene (6.867)
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
-Tetrachloroethene (9.329)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.880)

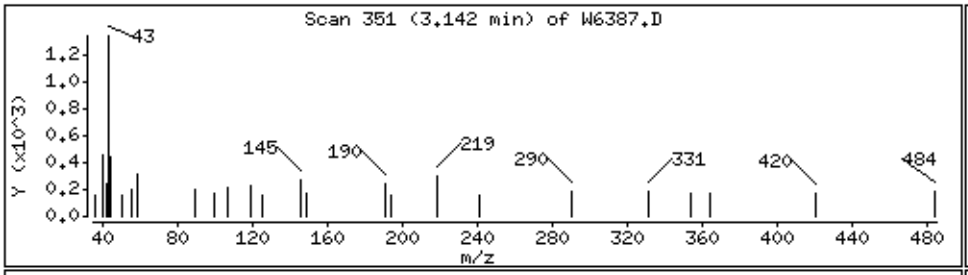
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6387.D

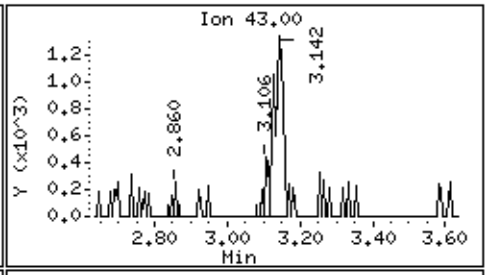
Date : 03-NOV-2018 09:19

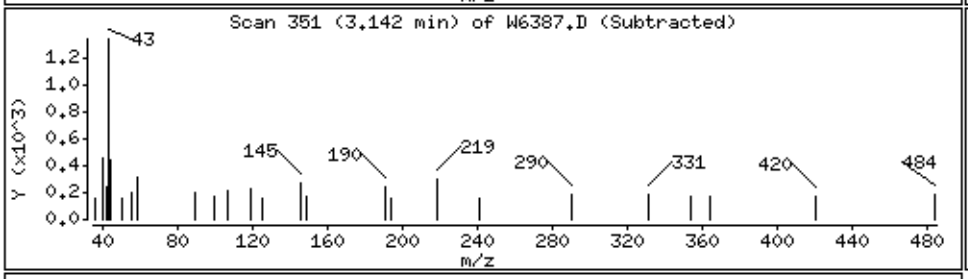
Client ID: WVA-SA-MW-32-102518 Instrument: gcms-w.i

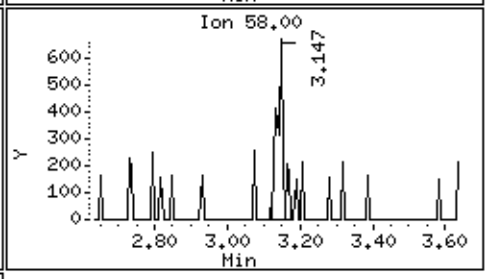
Sample Info: TL0579-12RA

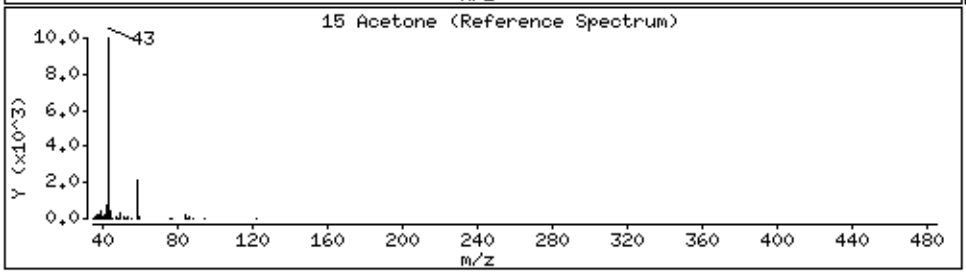
15 Acetone Concentration: 8.4 ug/l



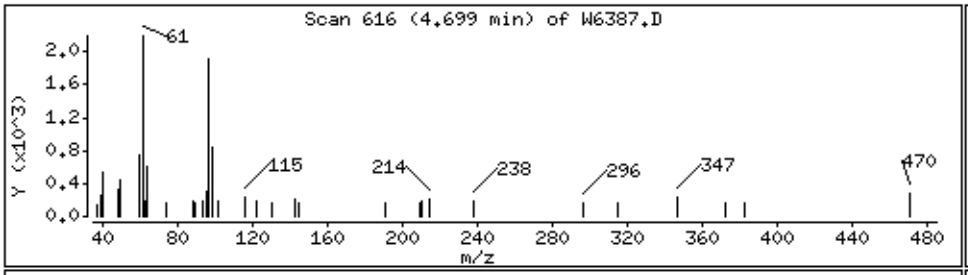


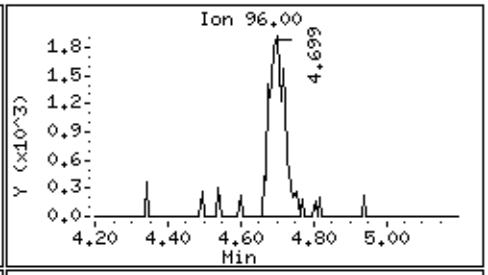


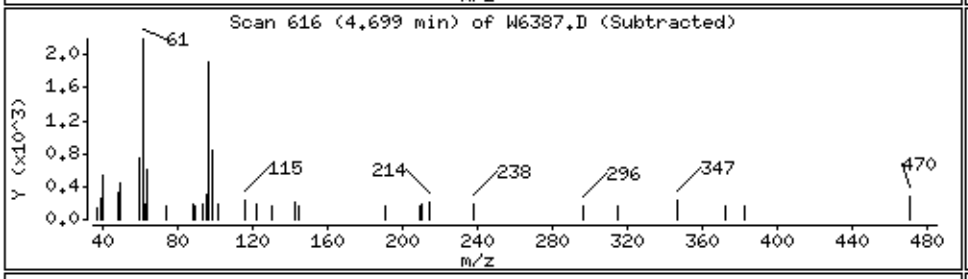


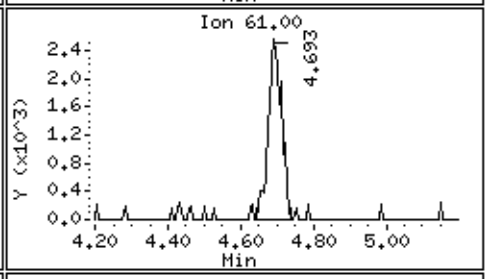


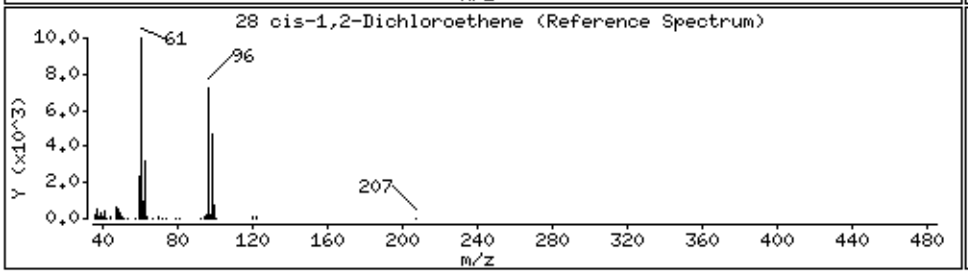
28 cis-1,2-Dichloroethene Concentration: 2.0 ug/l

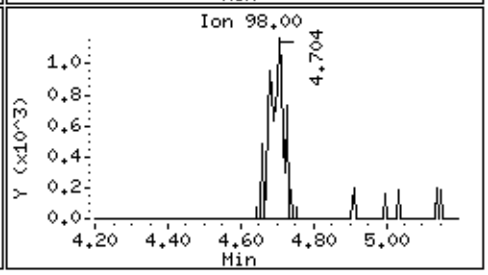












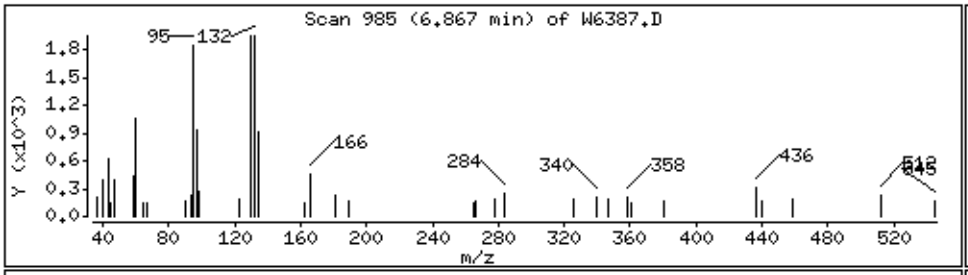
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6387.D

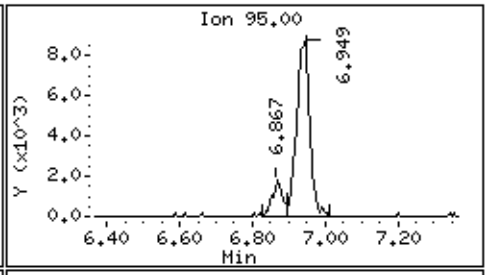
Date : 03-NOV-2018 09:19

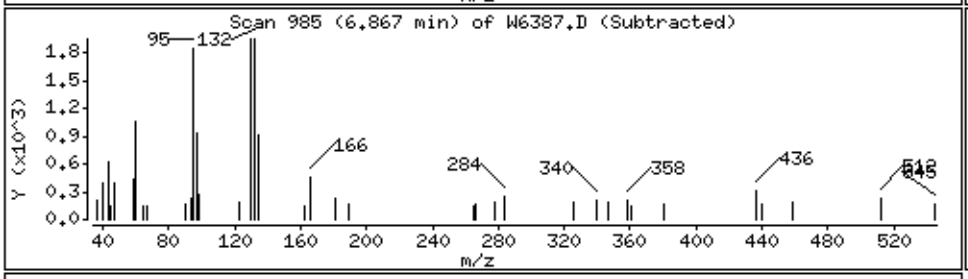
Client ID: WVA-SA-MW-32-102518 Instrument: gcms-w.i

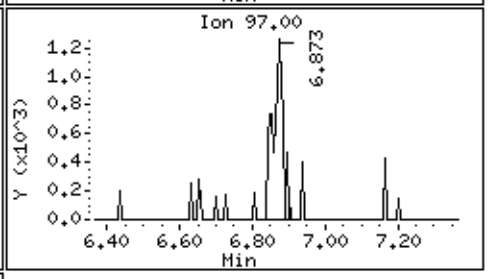
Sample Info: TL0579-12RA

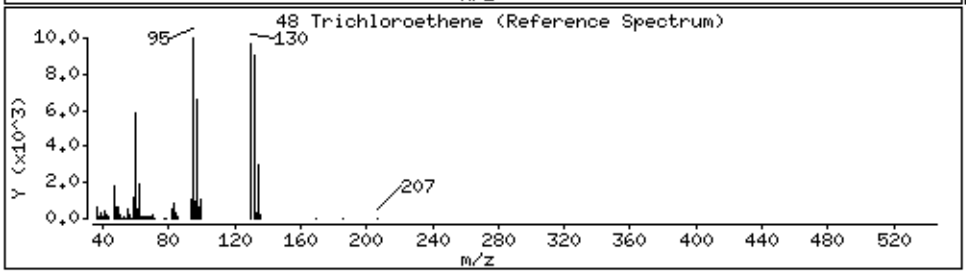
48 Trichloroethene Concentration: 1.3 ug/l



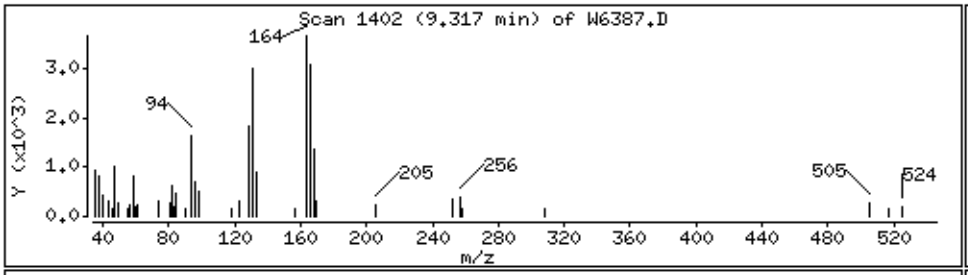


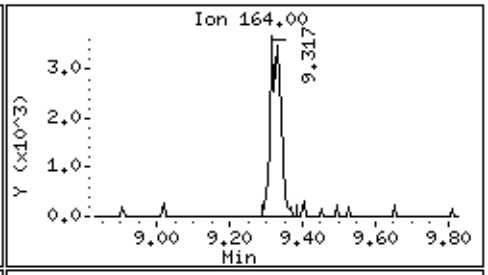


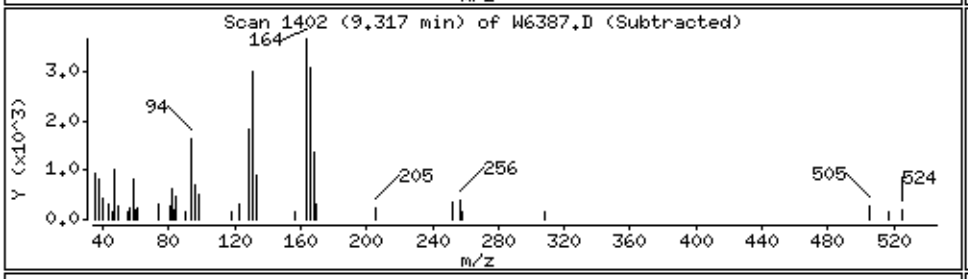


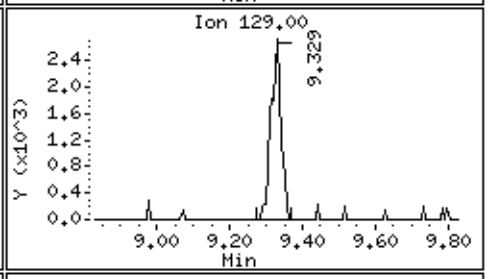


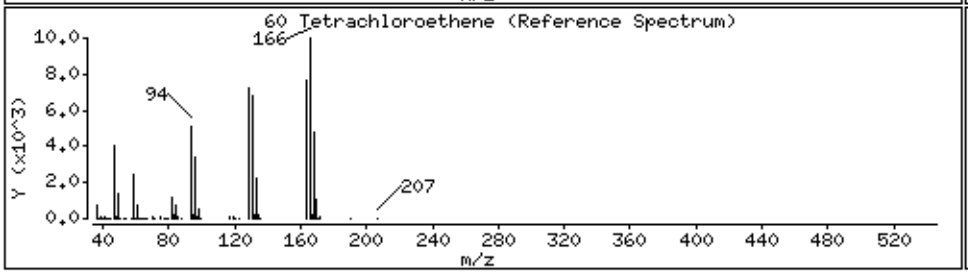
60 Tetrachloroethene Concentration: 3.0 ug/l

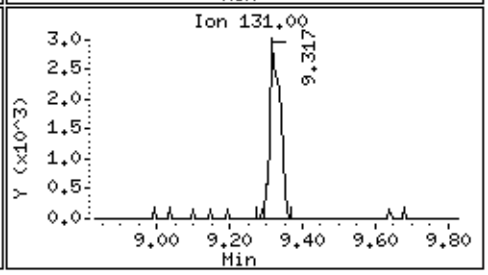












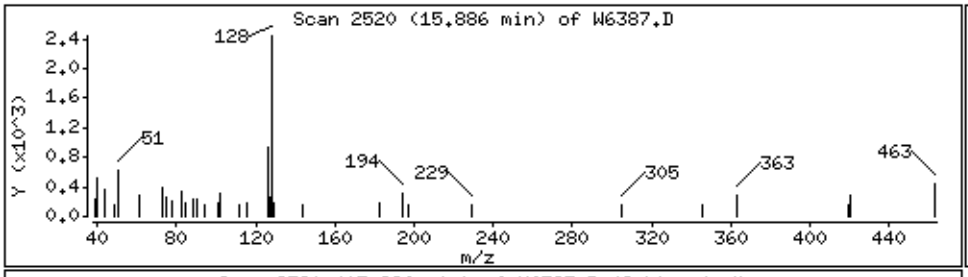
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6387.D

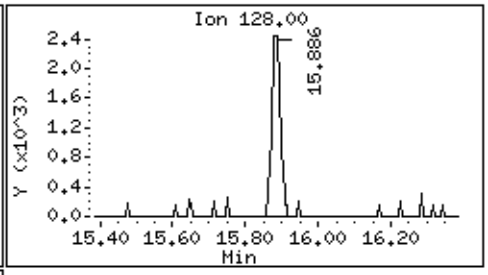
Date : 03-NOV-2018 09:19

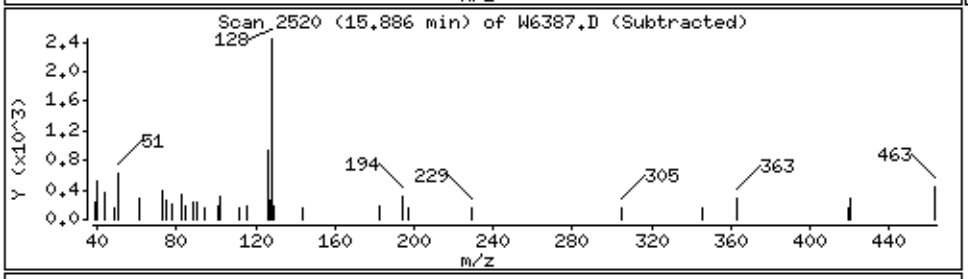
Client ID: WVA-SA-MW-32-102518 Instrument: gcms-w.i

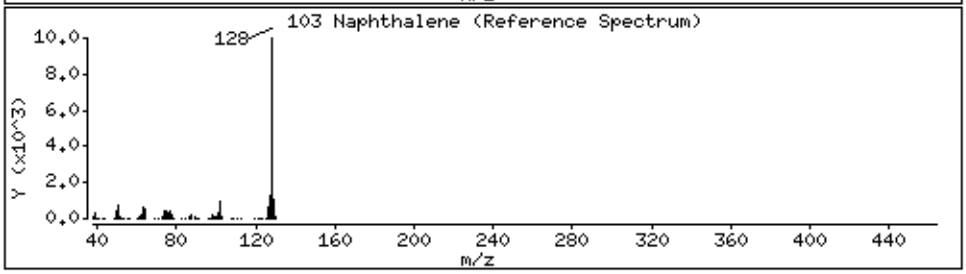
Sample Info: TL0579-12RA

103 Naphthalene Concentration: 0.84 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-13DL
Client ID: WVA-SA-MW-39-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6389.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	80.	ug/L	40	2	80.
Vinyl Chloride		940	ug/L	40	2	80.
Bromomethane	U	80.	ug/L	40	2	80.
Chloroethane	U	80.	ug/L	40	2	80.
Trichlorofluoromethane	U	80.	ug/L	40	2	80.
1,1-Dichloroethene	U	40.	ug/L	40	1	40.
Carbon Disulfide	U	40.	ug/L	40	1	40.
Methylene Chloride	U	200	ug/L	40	5	200
trans-1,2-Dichloroethene	U	40.	ug/L	40	1	40.
1,1-Dichloroethane	U	40.	ug/L	40	1	40.
cis-1,2-Dichloroethene		2600	ug/L	40	1	40.
Chloroform	U	40.	ug/L	40	1	40.
Carbon Tetrachloride	U	40.	ug/L	40	1	40.
1,1,1-Trichloroethane	U	40.	ug/L	40	1	40.
2-Butanone	U	200	ug/L	40	5	200
Benzene	U	40.	ug/L	40	1	40.
1,2-Dichloroethane	U	40.	ug/L	40	1	40.
Trichloroethene		240	ug/L	40	1	40.
1,2-Dichloropropane	U	40.	ug/L	40	1	40.
Bromodichloromethane	U	40.	ug/L	40	1	40.
cis-1,3-Dichloropropene	U	40.	ug/L	40	1	40.
Toluene	U	40.	ug/L	40	1	40.
4-Methyl-2-Pentanone	U	200	ug/L	40	5	200
Tetrachloroethene		83.	ug/L	40	1	40.
trans-1,3-Dichloropropene	U	40.	ug/L	40	1	40.
1,1,2-Trichloroethane	U	40.	ug/L	40	1	40.
Dibromochloromethane	U	40.	ug/L	40	1	40.
Chlorobenzene	U	40.	ug/L	40	1	40.
Ethylbenzene	U	40.	ug/L	40	1	40.
m+p-Xylenes	U	80.	ug/L	40	2	80.
o-Xylene	U	40.	ug/L	40	1	40.
Bromoform	U	40.	ug/L	40	1	40.
1,1,2,2-Tetrachloroethane	U	40.	ug/L	40	1	40.
P-Bromofluorobenzene		97.9	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-13DL
Client ID: WVA-SA-MW-39-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6389.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6389.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6389.D
Lab Smp Id: TL0579-13DL Client Smp ID: WVA-SA-MW-39-102518
Inj Date : 03-NOV-2018 10:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-13DL
Misc Info : WG239941,WG239941-4
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 7
Dil Factor: 40.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

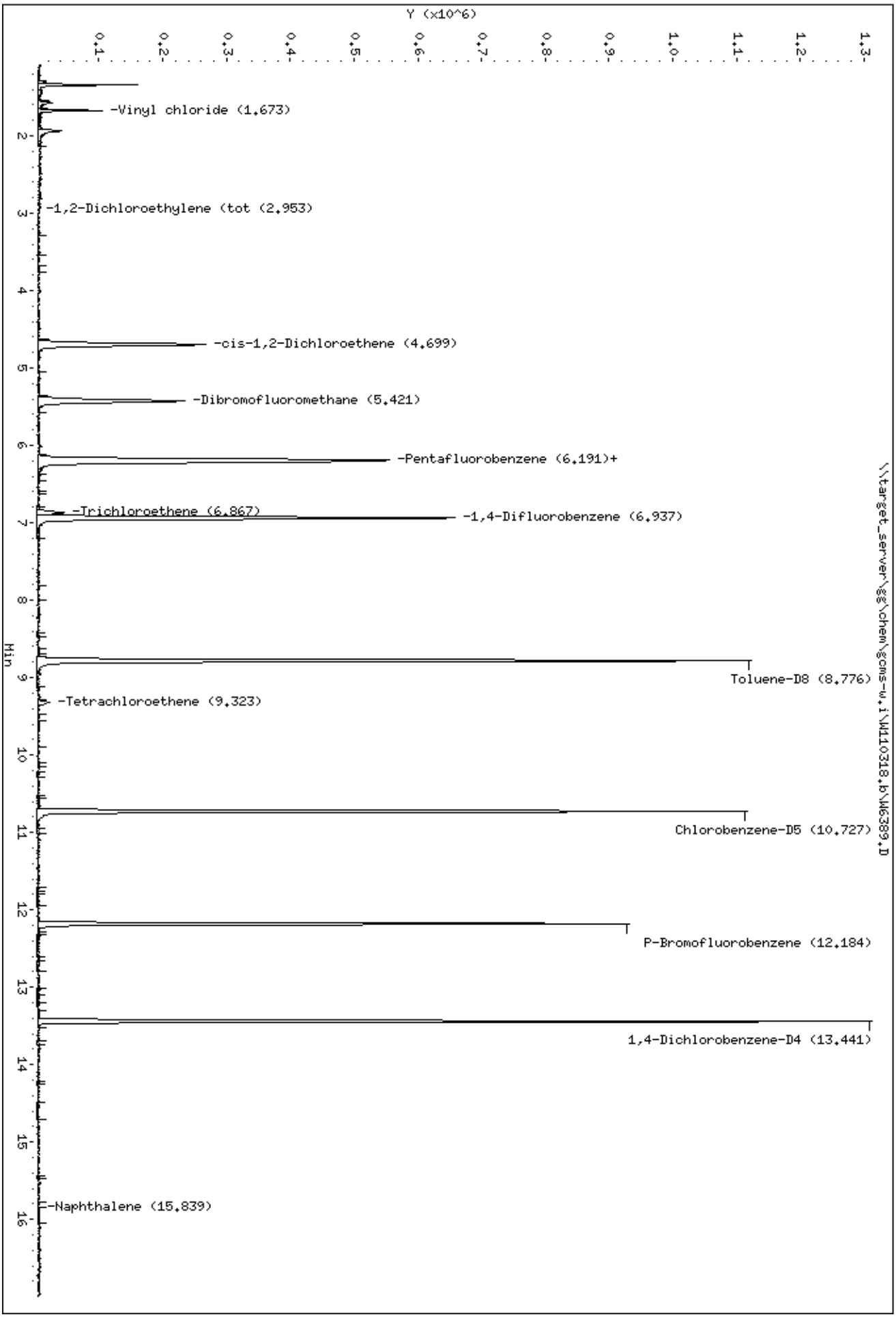
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	40.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.672	1.673	(0.270)	61587	23.5213	941	
M	22 1,2-Dichloroethylene (total)	96				165533	64.2600	2570	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	165533	64.2600	2570	
$	35 Dibromofluoromethane	113	5.421	5.427	(0.876)	196634	50.6909	50.7	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	419356	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	241767	51.1082	51.1	
	48 Trichloroethene	95	6.872	6.867	(0.991)	14462	5.97765	239	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	684088	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	837870	50.3152	50.3	
	60 Tetrachloroethene	164	9.322	9.328	(0.869)	4219	2.06540	82.6	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	639525	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.756)	278003	48.9693	49.0	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	316128	50.0000		
	103 Naphthalene	128	15.891	15.886	(1.182)	1760	0.63905	25.6(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6389.D
Date : 03-NOV-2018 10:19
Client ID: WWA-SA-MW-39-102518
Sample Info: TL0579-13DL
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6389.D
Y (x10^6)
Min
-Vinyl chloride (1.673)
-1,2-Dichloroethylene (tot (2.953)
-cis-1,2-Dichloroethene (4.699)
-Dibromofluoromethane (5.421)
-Pentafluorobenzene (6.191)+
-Trichloroethene (6.867)
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
-Tetrachloroethene (9.323)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.839)

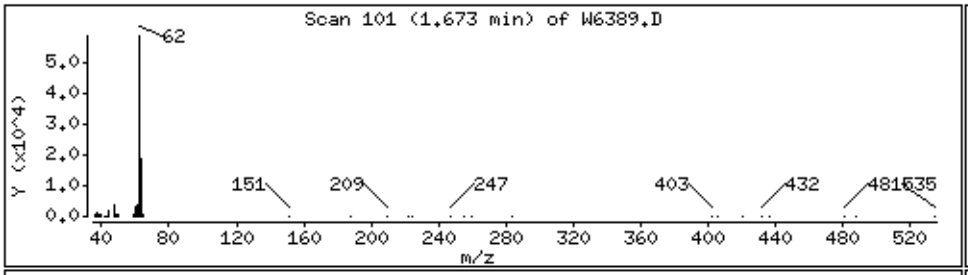
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6389.D

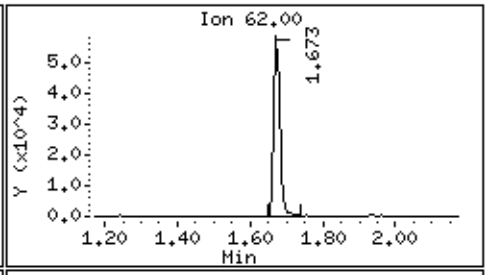
Date : 03-NOV-2018 10:19

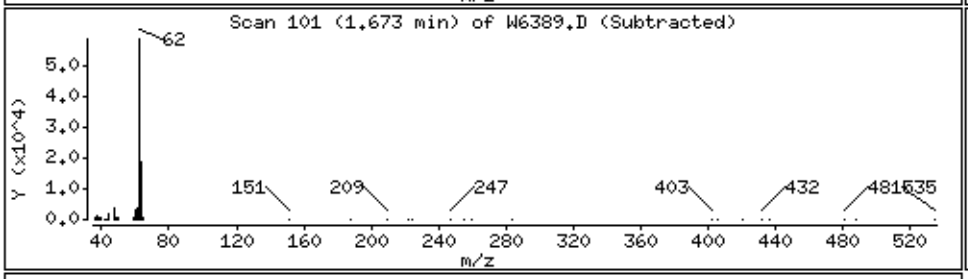
Client ID: WVA-SA-MW-39-102518 Instrument: gcms-w.i

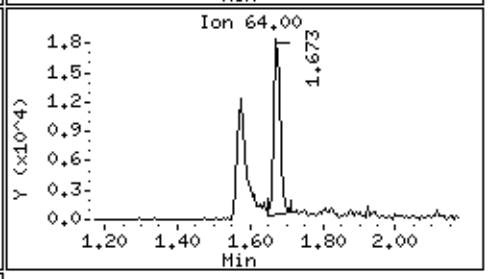
Sample Info: TL0579-13DL

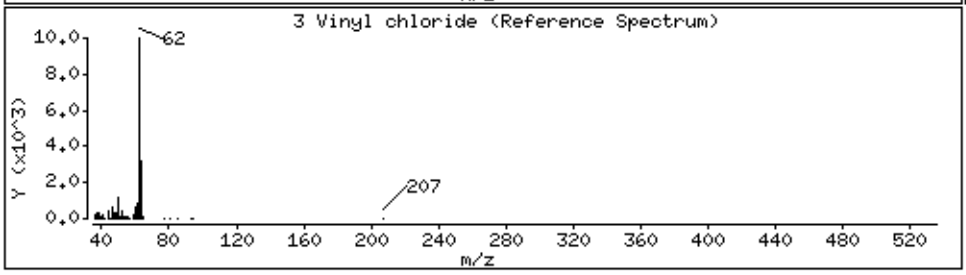
3 Vinyl chloride Concentration: 941 ug/l



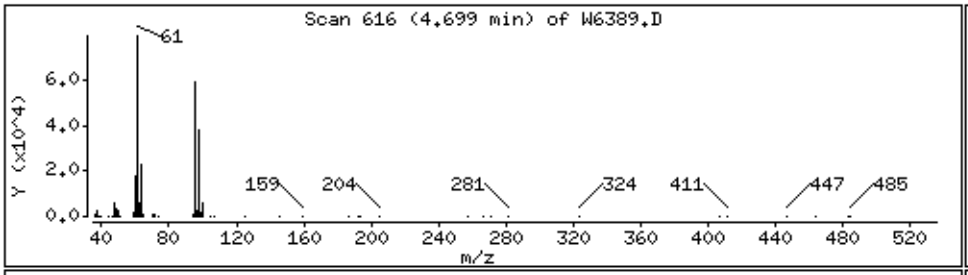


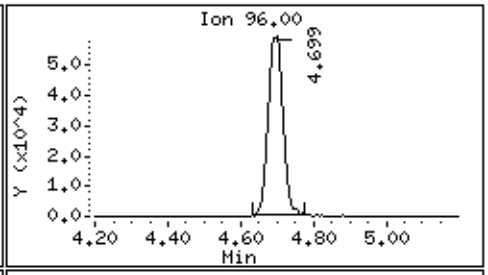


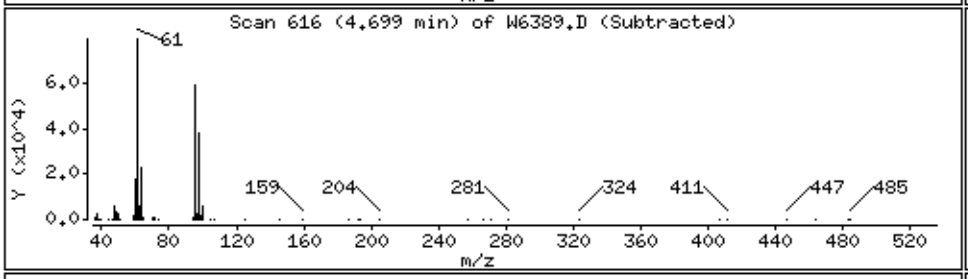


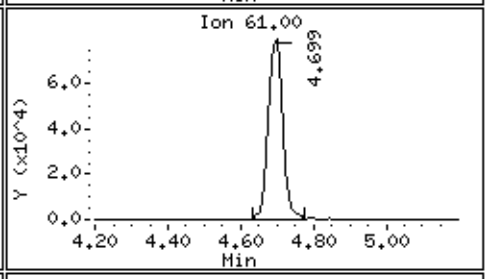


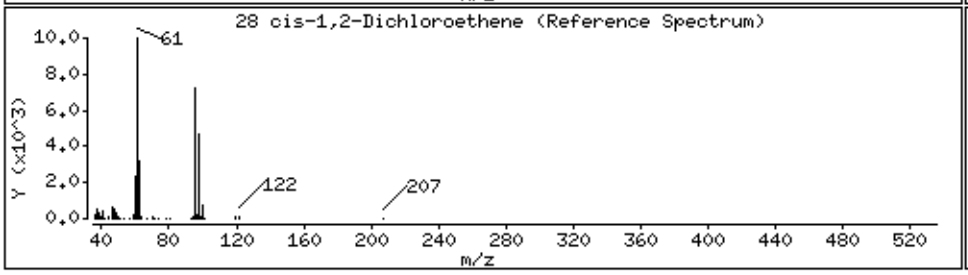
28 cis-1,2-Dichloroethene Concentration: 2570 ug/l

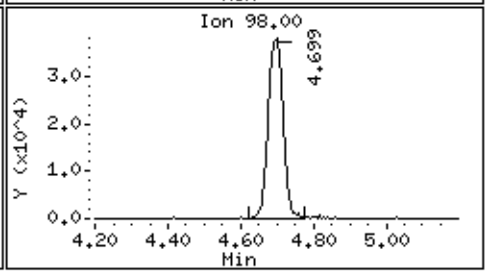












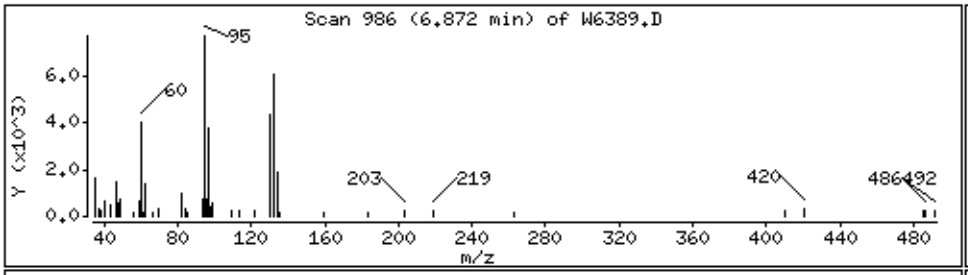
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6389.D

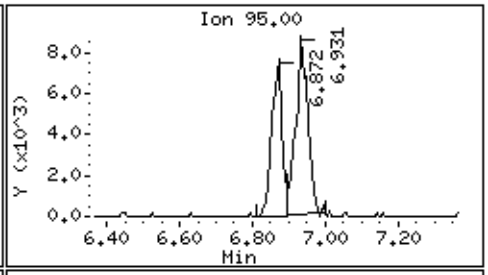
Date : 03-NOV-2018 10:19

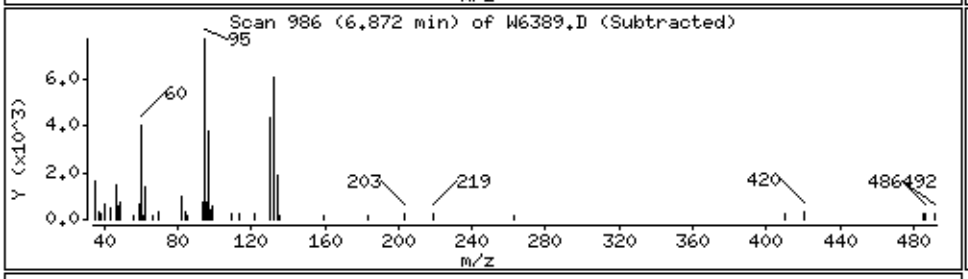
Client ID: WVA-SA-MW-39-102518 Instrument: gcms-w.i

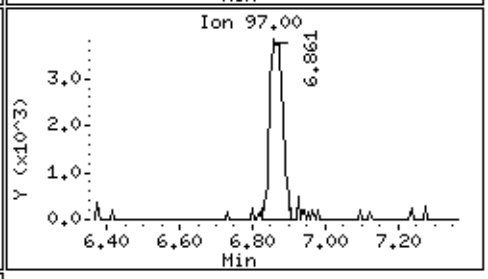
Sample Info: TL0579-13DL

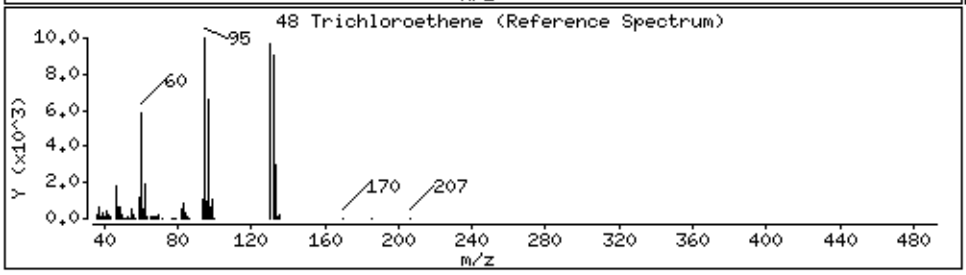
48 Trichloroethene Concentration: 239 ug/l



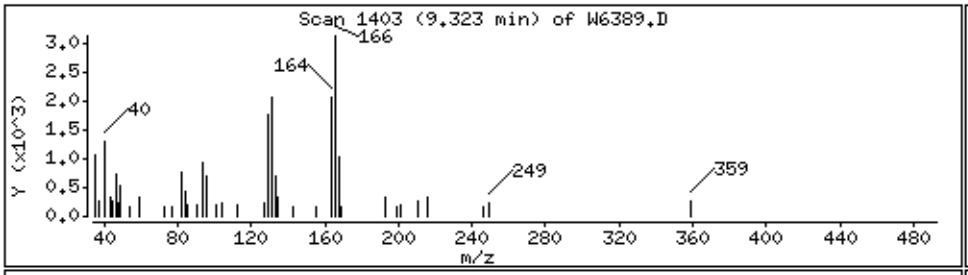


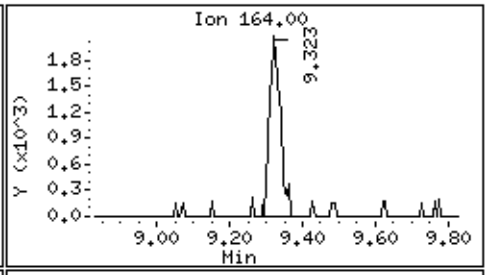


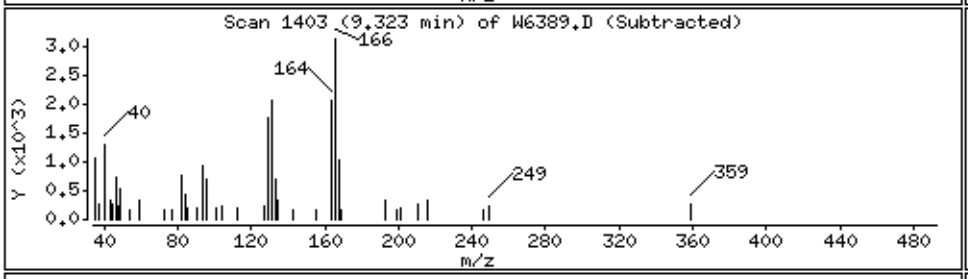


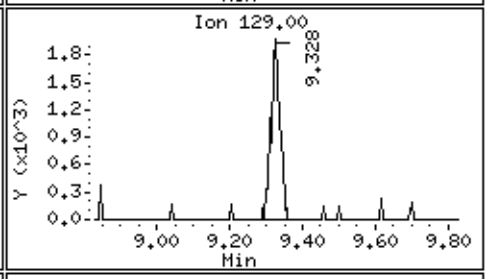


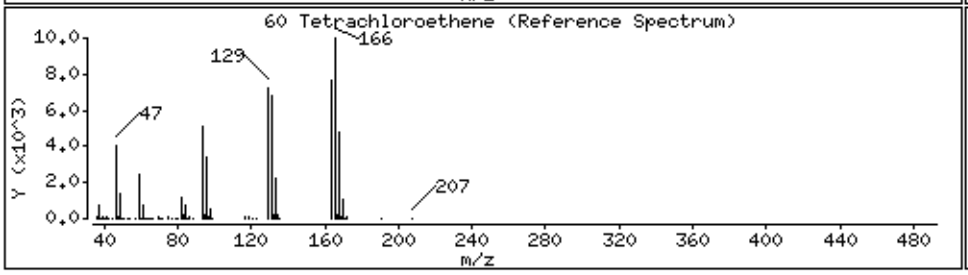
60 Tetrachloroethene Concentration: 82.6 ug/l

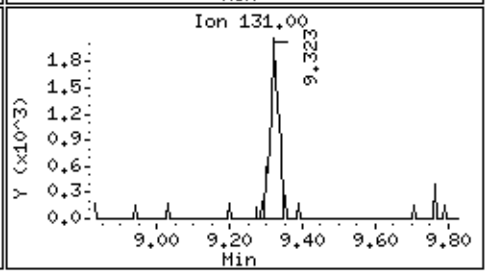












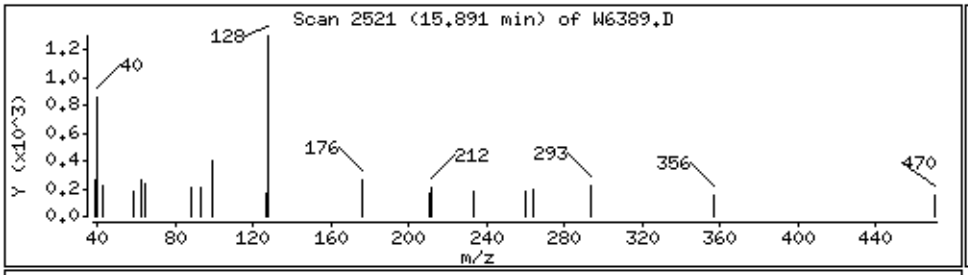
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6389.D

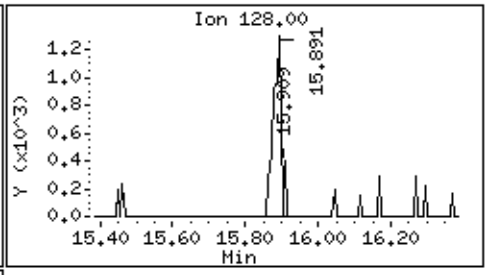
Date : 03-NOV-2018 10:19

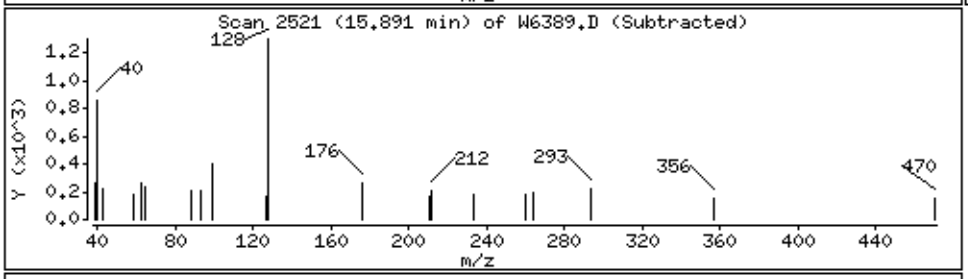
Client ID: WVA-SA-MW-39-102518 Instrument: gcms-w.i

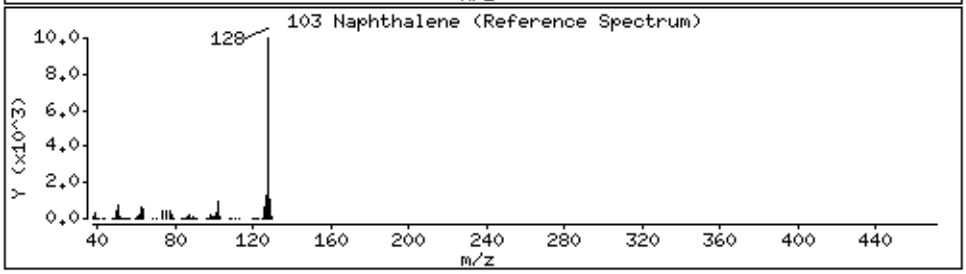
Sample Info: TL0579-13DL

103 Naphthalene Concentration: 25.6 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-13DL2
Client ID: WVA-SA-MW-39-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6426.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	8.0	ug/L	4	2	8.0
Vinyl Chloride	E	1100	ug/L	4	2	8.0
Bromomethane	U	8.0	ug/L	4	2	8.0
Chloroethane	U	8.0	ug/L	4	2	8.0
Trichlorofluoromethane	U	8.0	ug/L	4	2	8.0
1,1-Dichloroethene		7.4	ug/L	4	1	4.0
Carbon Disulfide	U	4.0	ug/L	4	1	4.0
Methylene Chloride	U	20.	ug/L	4	5	20.
trans-1,2-Dichloroethene		17.	ug/L	4	1	4.0
1,1-Dichloroethane	U	4.0	ug/L	4	1	4.0
cis-1,2-Dichloroethene	E	3500	ug/L	4	1	4.0
Chloroform	U	4.0	ug/L	4	1	4.0
Carbon Tetrachloride	U	4.0	ug/L	4	1	4.0
1,1,1-Trichloroethane	U	4.0	ug/L	4	1	4.0
2-Butanone	U	20.	ug/L	4	5	20.
Benzene		15.	ug/L	4	1	4.0
1,2-Dichloroethane	U	4.0	ug/L	4	1	4.0
Trichloroethene		430	ug/L	4	1	4.0
1,2-Dichloropropane	U	4.0	ug/L	4	1	4.0
Bromodichloromethane	U	4.0	ug/L	4	1	4.0
cis-1,3-Dichloropropene	U	4.0	ug/L	4	1	4.0
Toluene	U	4.0	ug/L	4	1	4.0
4-Methyl-2-Pentanone	U	20.	ug/L	4	5	20.
Tetrachloroethene		140	ug/L	4	1	4.0
trans-1,3-Dichloropropene	U	4.0	ug/L	4	1	4.0
1,1,2-Trichloroethane	U	4.0	ug/L	4	1	4.0
Dibromochloromethane	U	4.0	ug/L	4	1	4.0
Chlorobenzene	U	4.0	ug/L	4	1	4.0
Ethylbenzene	U	4.0	ug/L	4	1	4.0
m+p-Xylenes	U	8.0	ug/L	4	2	8.0
o-Xylene	U	4.0	ug/L	4	1	4.0
Bromoform	U	4.0	ug/L	4	1	4.0
1,1,2,2-Tetrachloroethane	U	4.0	ug/L	4	1	4.0
P-Bromofluorobenzene		94.3	%			
Toluene-d8		99.7	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-13DL2
Client ID: WVA-SA-MW-39-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6426.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6426.D
Report Date: 28-Nov-2018 13:01

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6426.D
Lab Smp Id: TL0579-13DL2 Client Smp ID: WVA-SA-MW-39-102518
Inj Date : 05-NOV-2018 13:44
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-13DL2
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 20
Dil Factor: 4.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

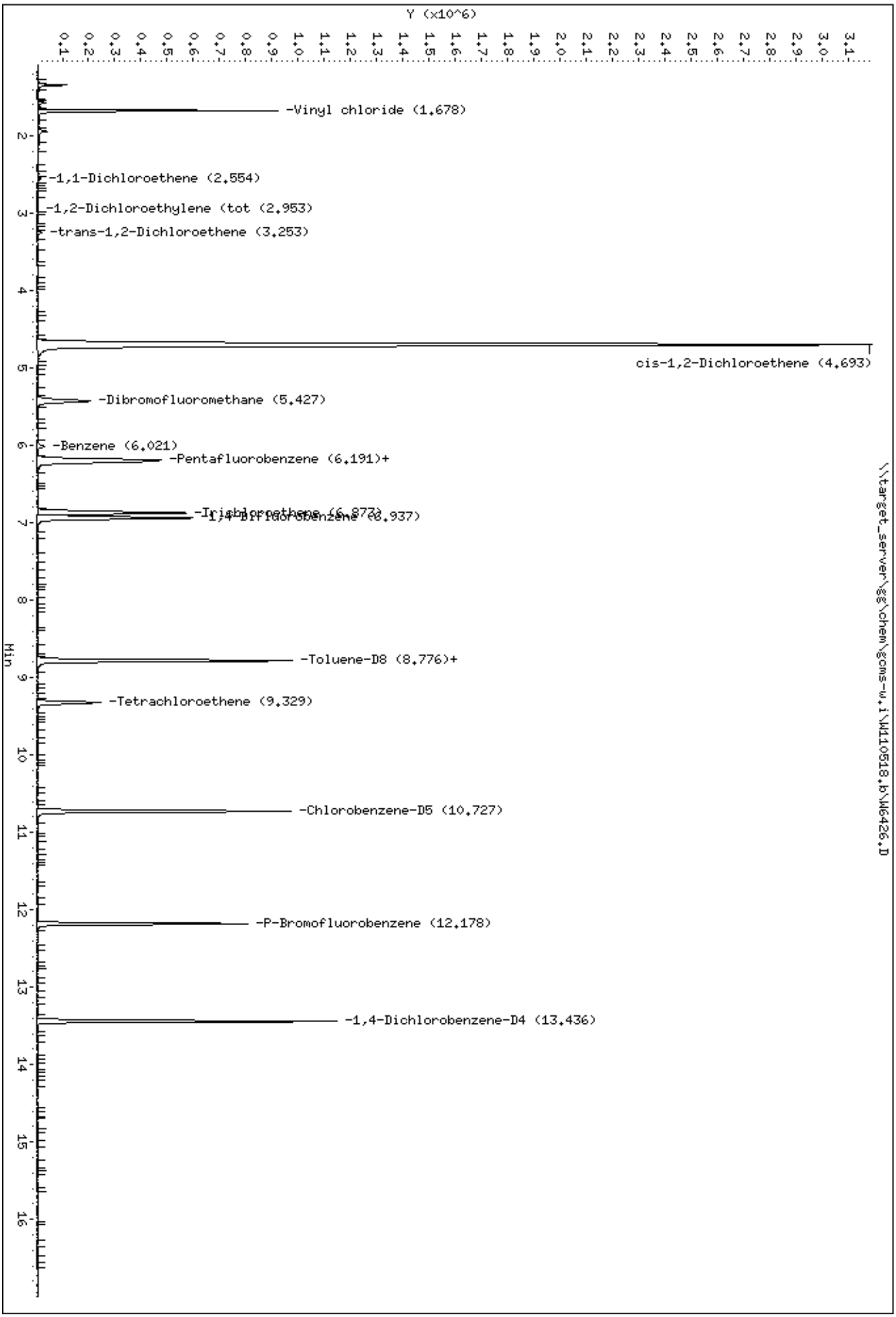
Name	Value	Description
DF	4.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.678	1.673	(0.271)	601703	277.217	1110(A)	
	8 1,1-Dichloroethene	96	2.553	2.548	(0.413)	3498	1.86412	7.4(H)	
	16 trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	7694	4.17959	16.7	
M	22 1,2-Dichloroethylene (total)	96				1867843	875.286	3500	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	1860149	871.106	3480(A)	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	166018	51.6289	51.6	
	39 Benzene	78	6.014	6.009	(0.866)	31263	3.69716	14.8(M)	M10
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	347629	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	203304	51.8450	51.8	
	48 Trichloroethene	95	6.872	6.867	(0.990)	227878	107.970	432	
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	596778	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.264)	724086	49.8438	49.8	
	59 Toluene	92	8.846	8.847	(1.274)	1647	0.30933	1.2(aM)	M10
	60 Tetrachloroethene	164	9.322	9.328	(0.869)	62972	35.1678	141	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	560602	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.755)	233631	47.1742	47.2	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	280434	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.



Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6426.D
Date : 05-NOV-2018 13:44
Client ID: WWA-SA-MW-39-102518
Sample Info: TL0579-13DL2

Instrument: gcms-w.i

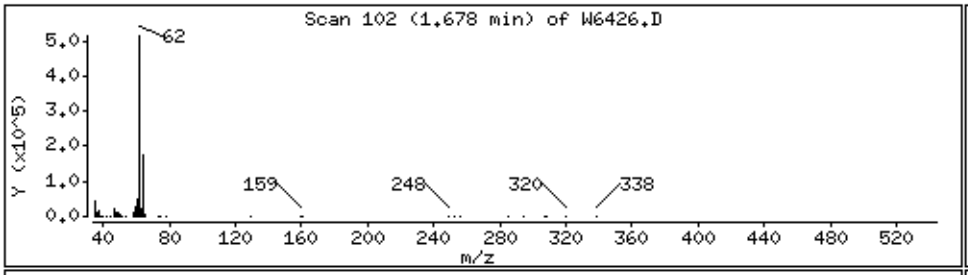
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6426.D

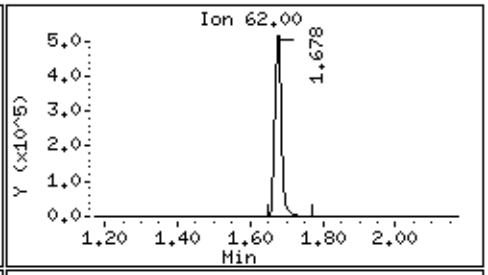
Date : 05-NOV-2018 13:44

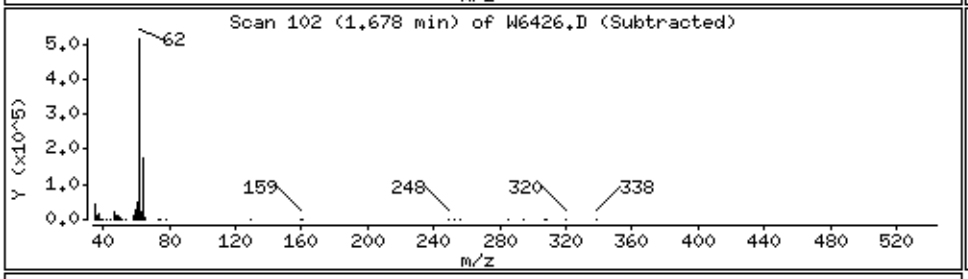
Client ID: WVA-SA-MW-39-102518 Instrument: gcms-w.i

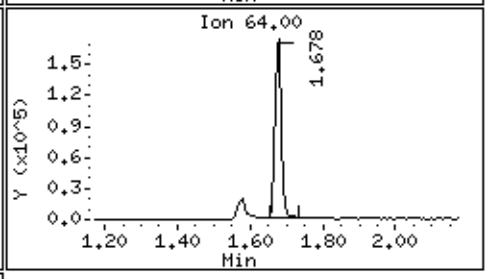
Sample Info: TL0579-13DL2

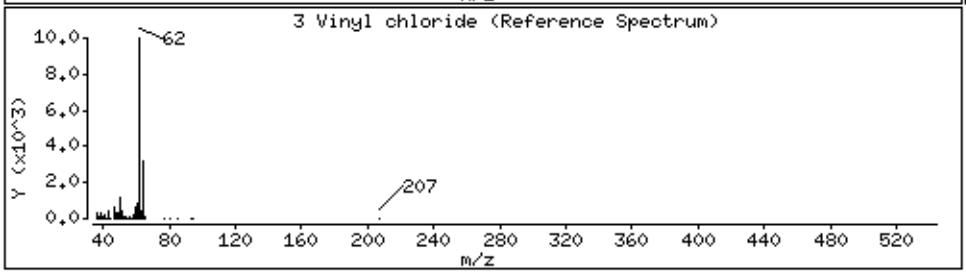
3 Vinyl chloride Concentration: 1110 ug/l



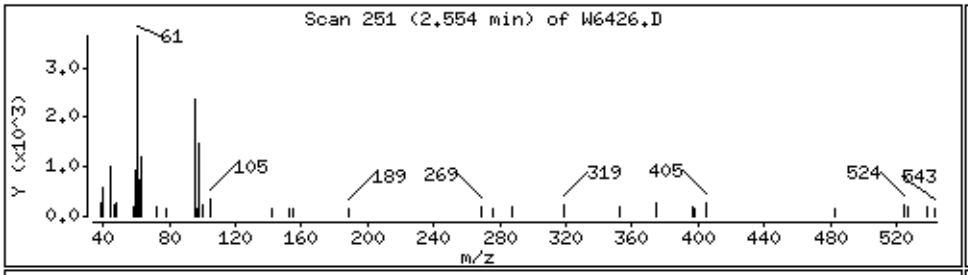


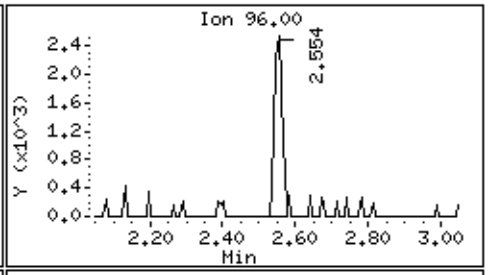


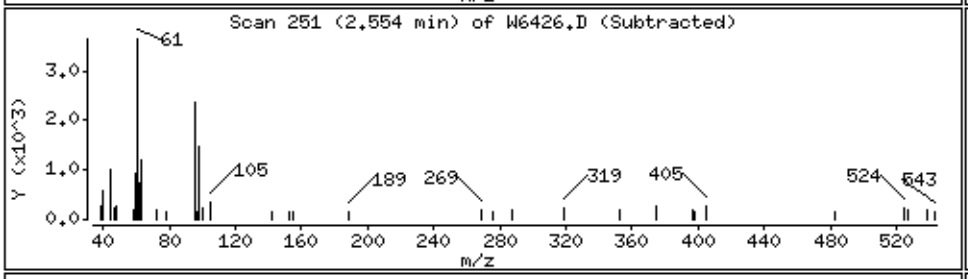


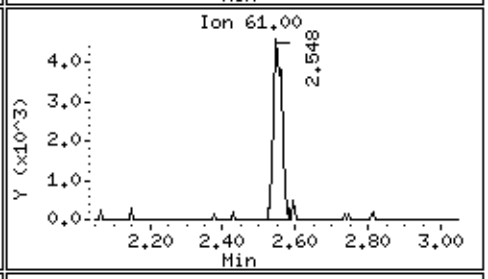


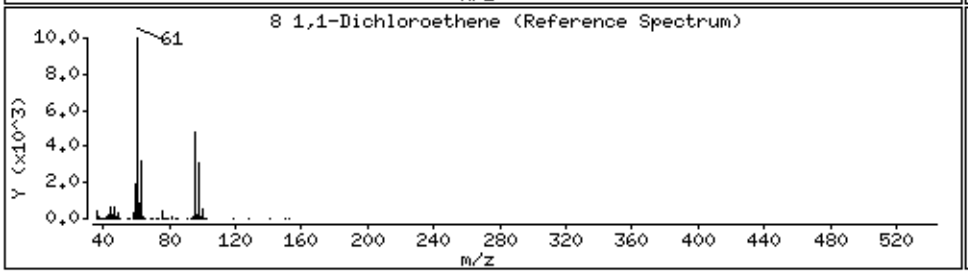
8 1,1-Dichloroethene Concentration: 7.4 ug/l

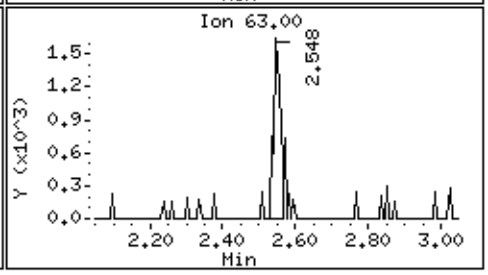












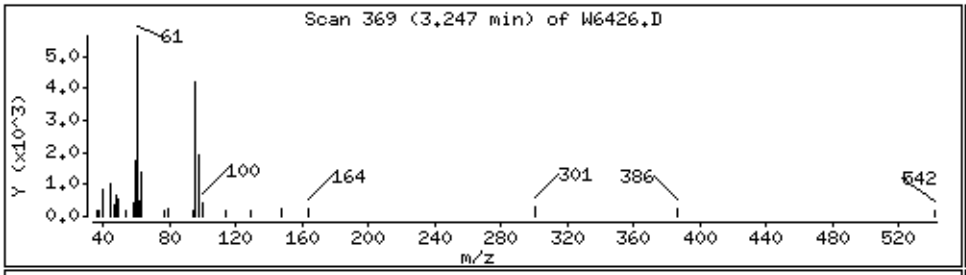
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6426.D

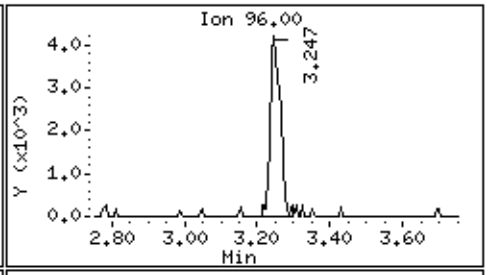
Date : 05-NOV-2018 13:44

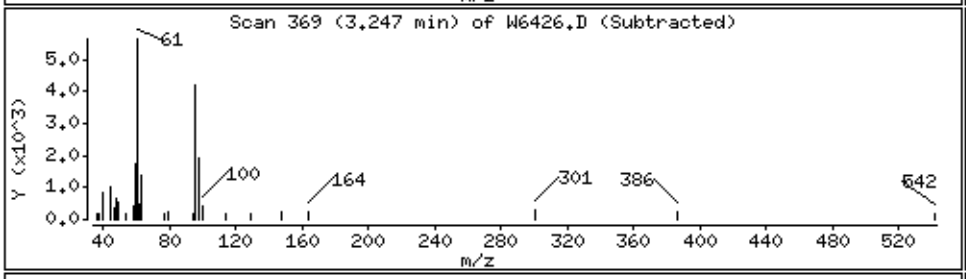
Client ID: WVA-SA-MW-39-102518 Instrument: gcms-w.i

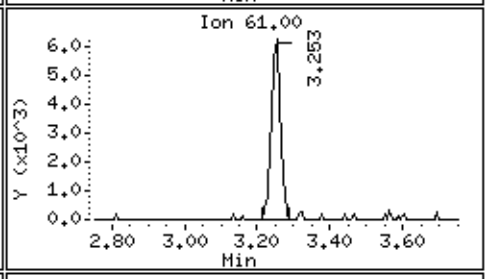
Sample Info: TL0579-13DL2

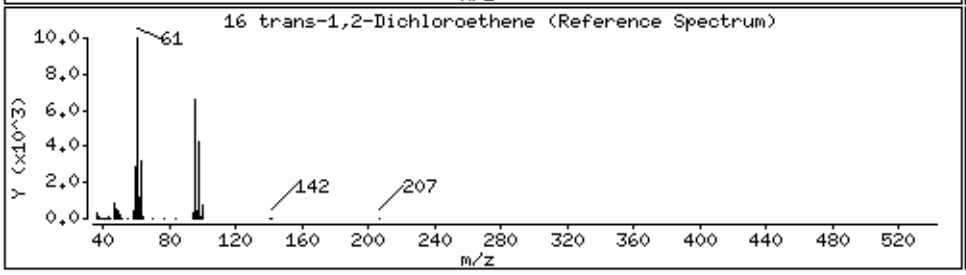
16 trans-1,2-Dichloroethene Concentration: 16.7 ug/l

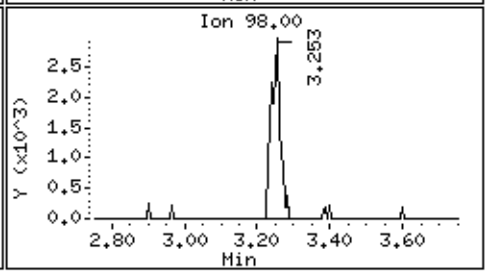




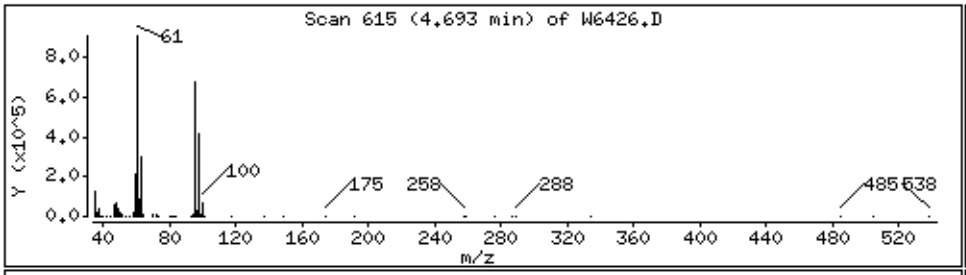


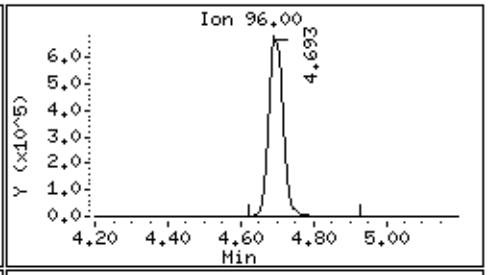


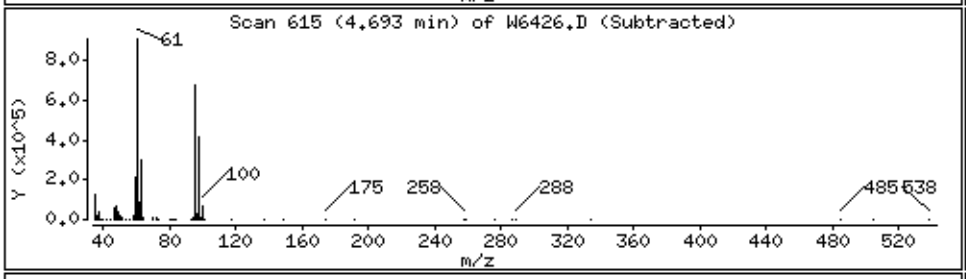


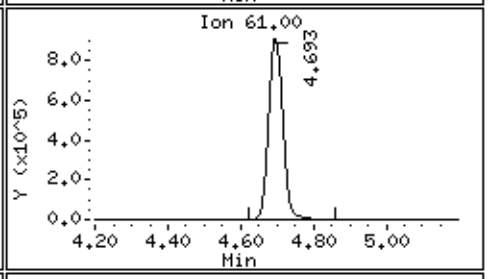


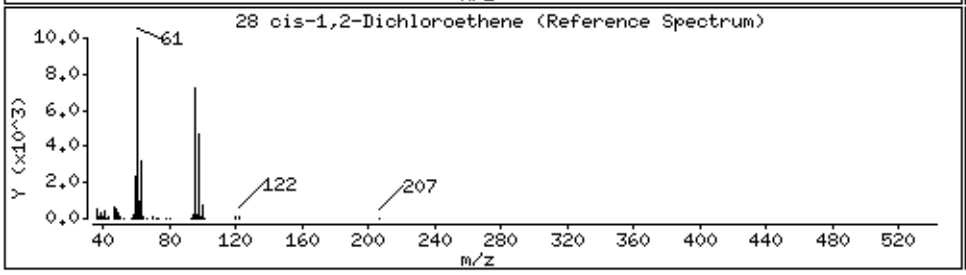
28 cis-1,2-Dichloroethene Concentration: 3480 ug/l

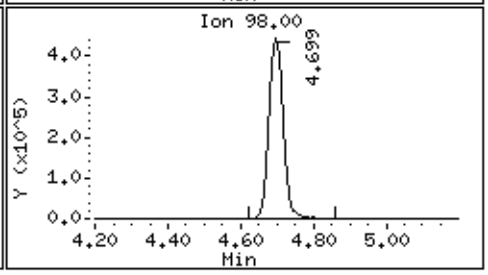












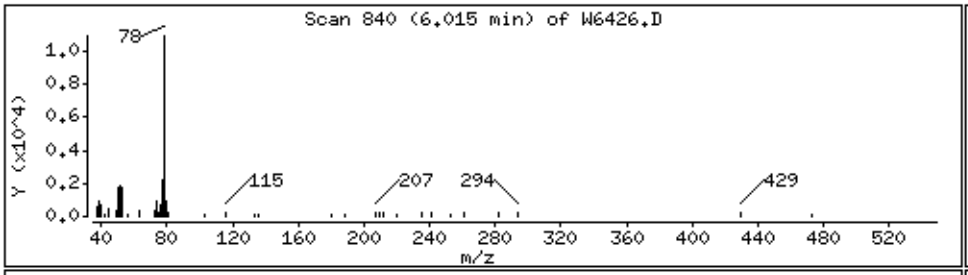
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6426.D

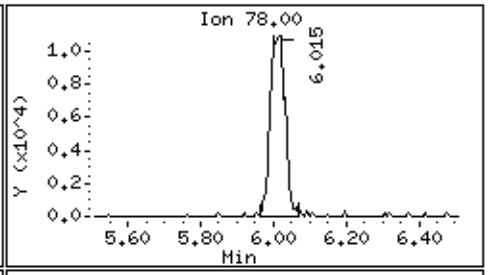
Date : 05-NOV-2018 13:44

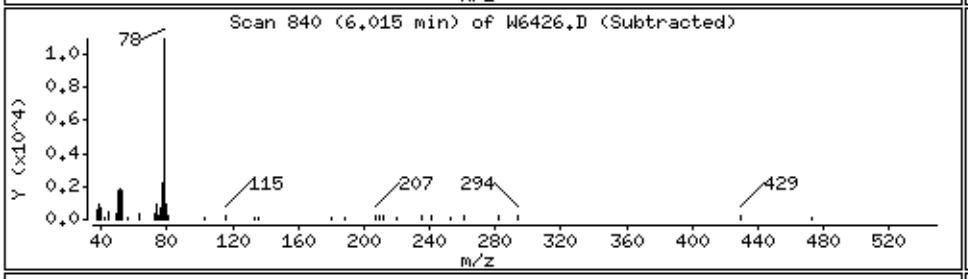
Client ID: WVA-SA-MW-39-102518 Instrument: gcms-w.i

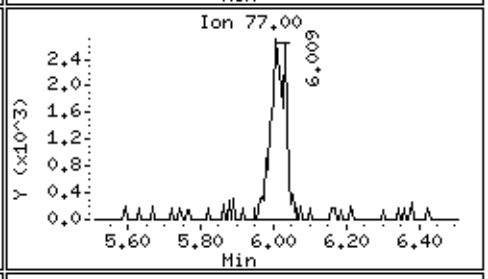
Sample Info: TL0579-13DL2

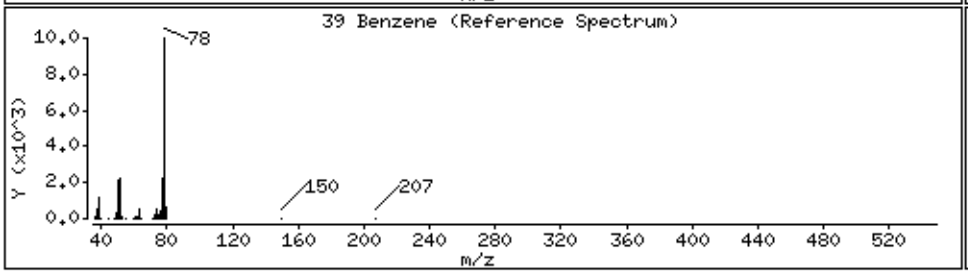
39 Benzene Concentration: 14.8 ug/l

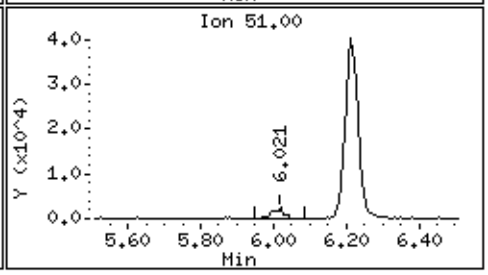




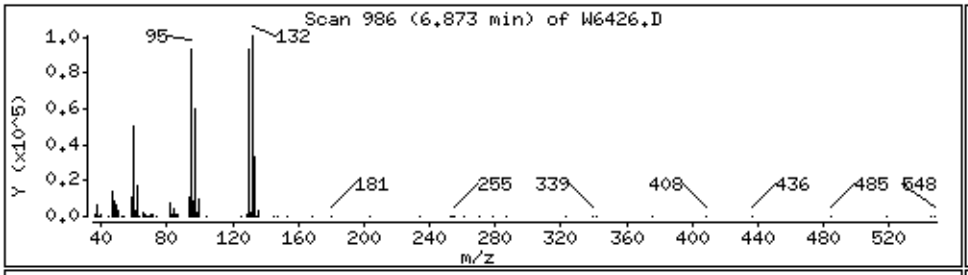


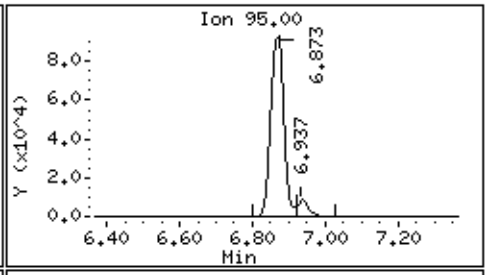


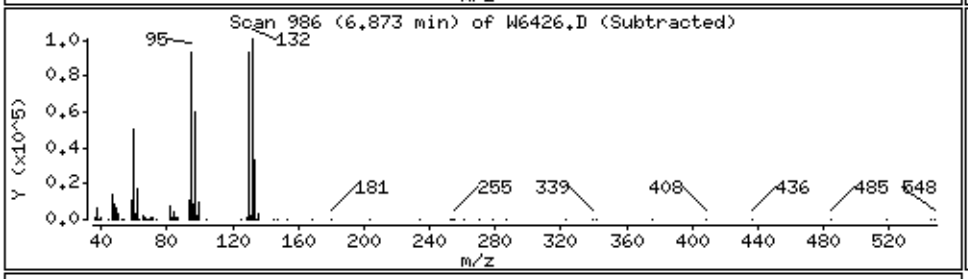


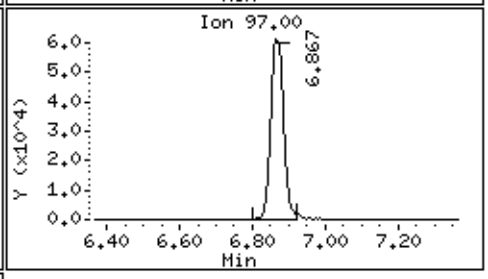


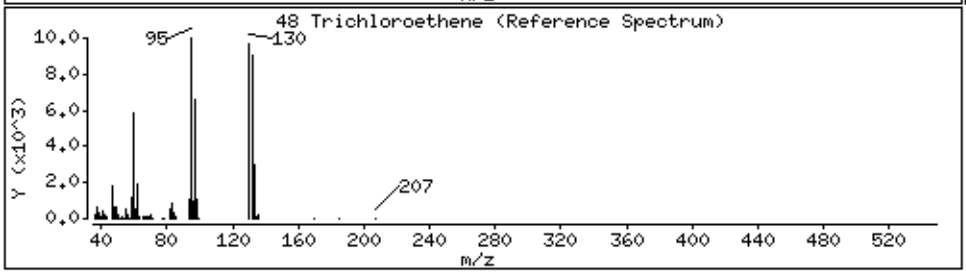
48 Trichloroethene Concentration: 432 ug/l











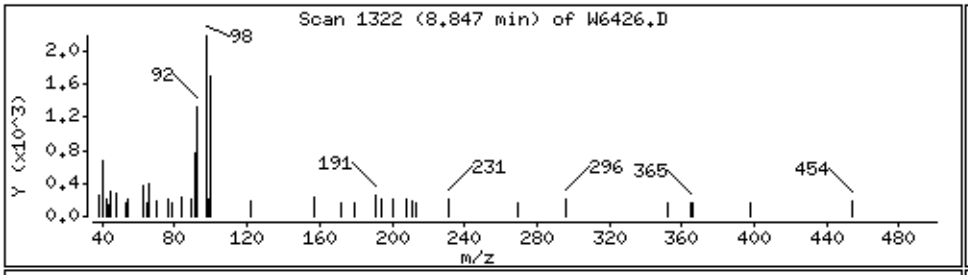
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6426.D

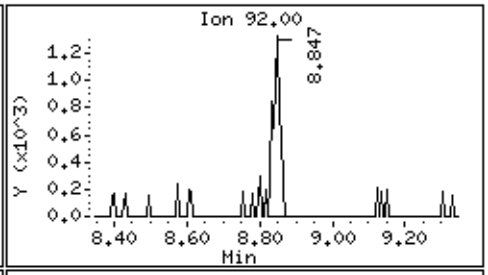
Date : 05-NOV-2018 13:44

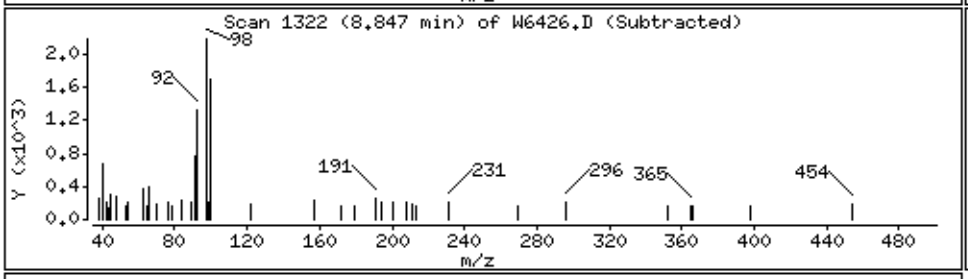
Client ID: WVA-SA-MW-39-102518 Instrument: gcms-w.i

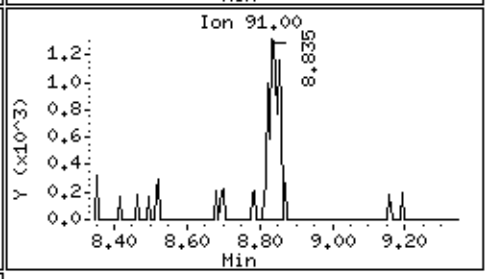
Sample Info: TL0579-13DL2

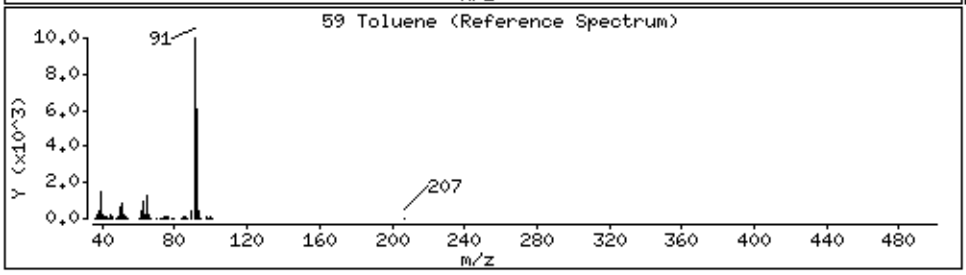
59 Toluene Concentration: 1.2 ug/l



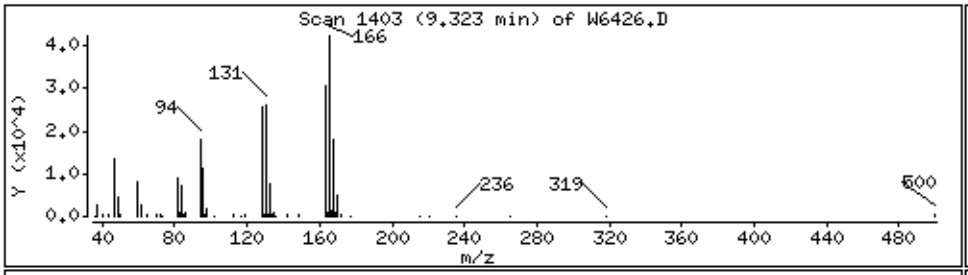


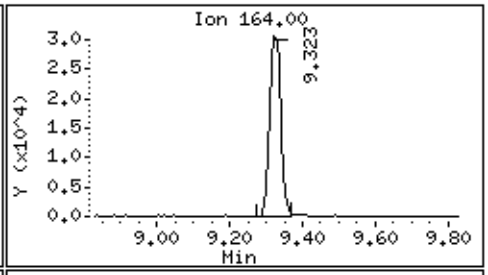


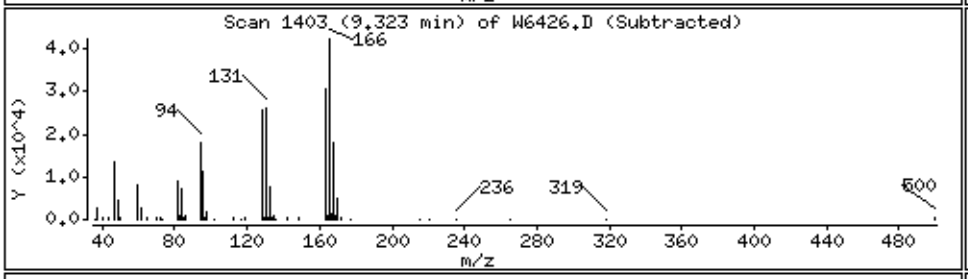


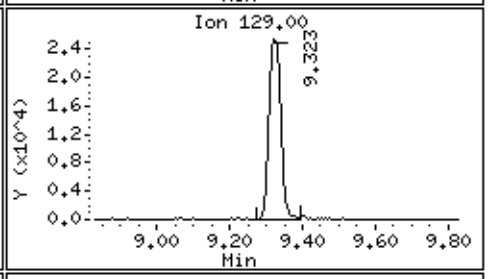


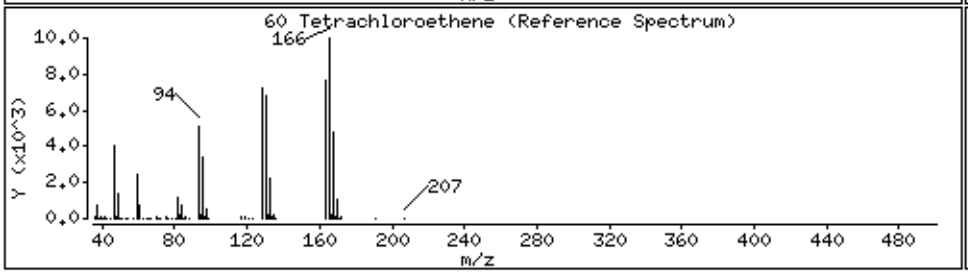
60 Tetrachloroethene Concentration: 141 ug/l

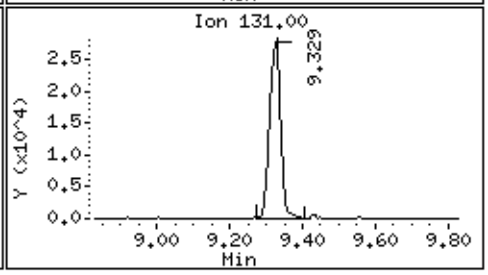












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-14
Client ID: WVA-SA-MW-41-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6390.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		93.9	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-14
Client ID: WVA-SA-MW-41-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6390.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6390.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6390.D
Lab Smp Id: TL0579-14 Client Smp ID: WVA-SA-MW-41-102518
Inj Date : 03-NOV-2018 10:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-14
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

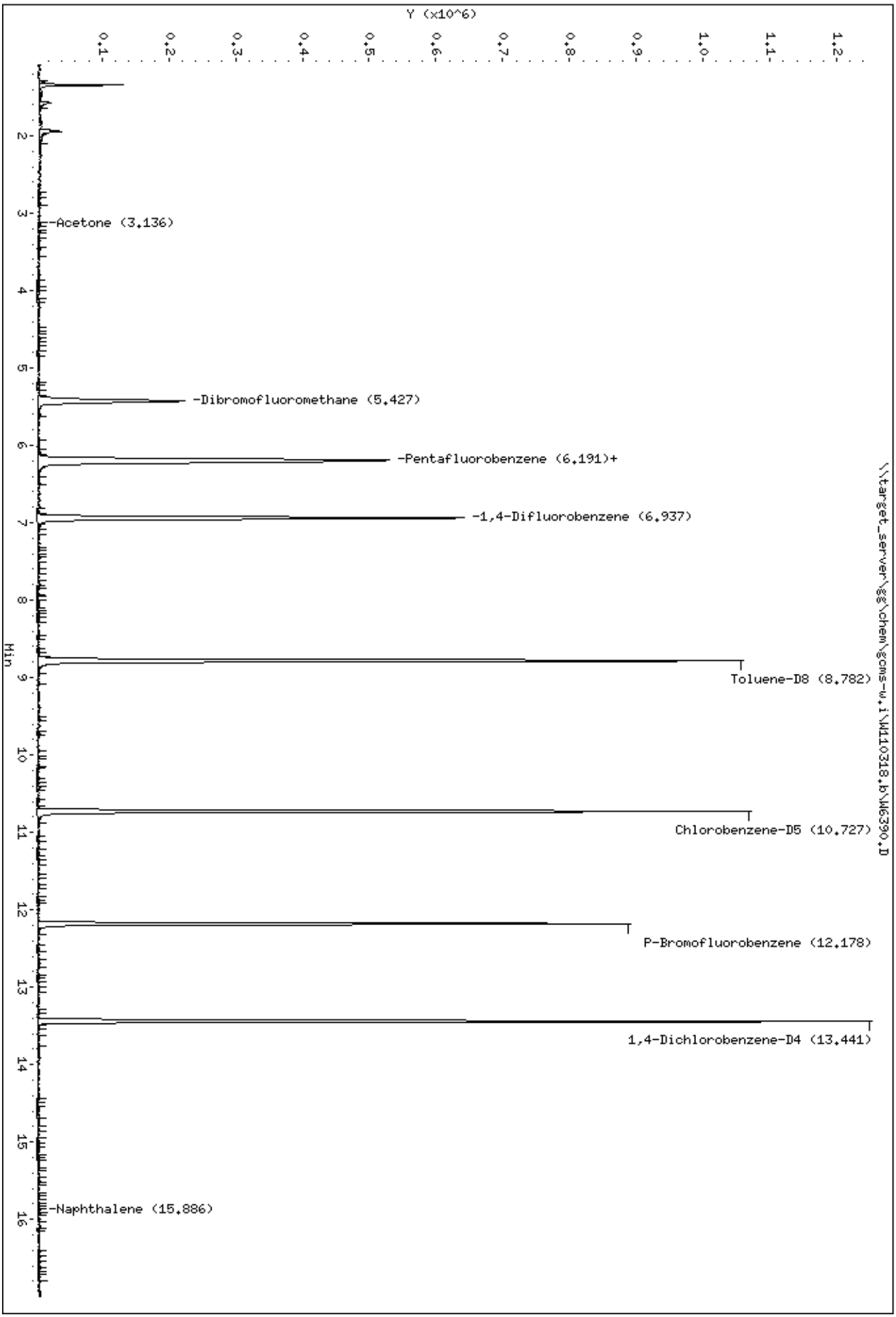
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.141	3.136	(0.507)	1806	8.29401	8.3	
$	35 Dibromofluoromethane	113	5.421	5.427	(0.876)	186457	51.1862	51.2	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	393804	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	228330	51.3996	51.4(M)	M10
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	654625	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.264)	803671	50.4336	50.4	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	611879	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.754)	255195	46.9749	47.0	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	306874	50.0000		
	103 Naphthalene	128	15.891	15.886	(1.182)	1522	0.61561	0.62(aM)	M9

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6390.D
Date : 03-NOV-2018 10:49
Client ID: WWA-SA-MW-41-102518
Sample Info: TL0579-14
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6390.D
Y (x10^6)
Min
-Acetone (3.136)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.191)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.886)

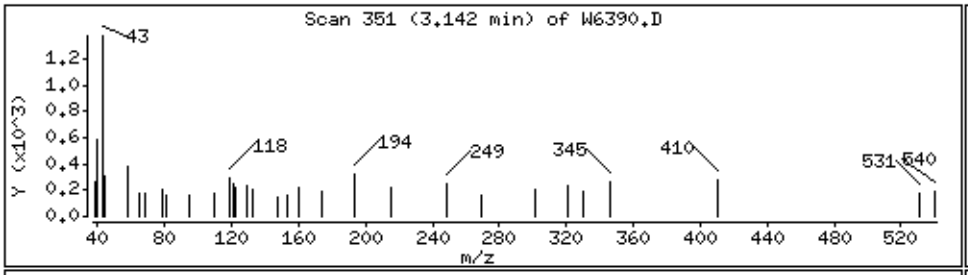
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6390.D

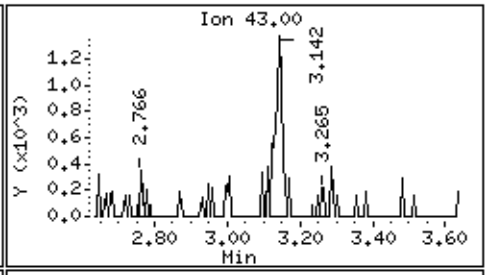
Date : 03-NOV-2018 10:49

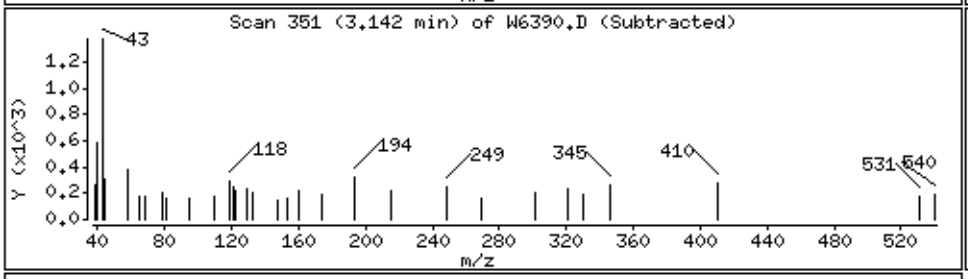
Client ID: WVA-SA-MW-41-102518 Instrument: gcms-w.i

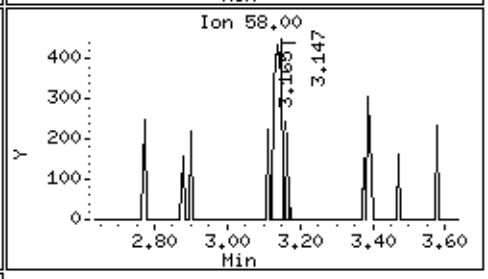
Sample Info: TL0579-14

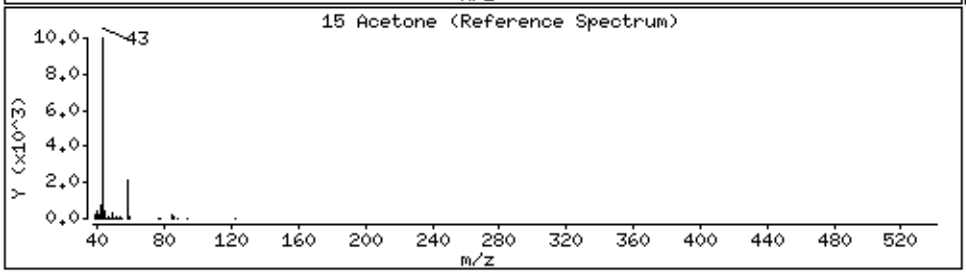
15 Acetone Concentration: 8.3 ug/l



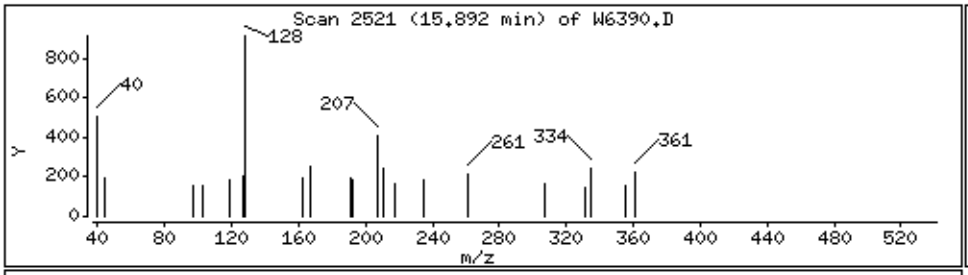


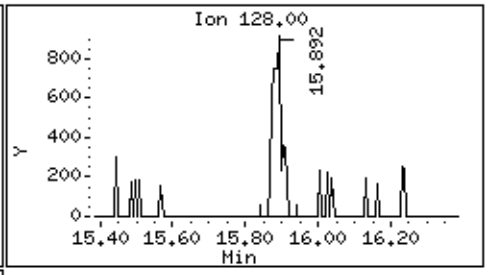


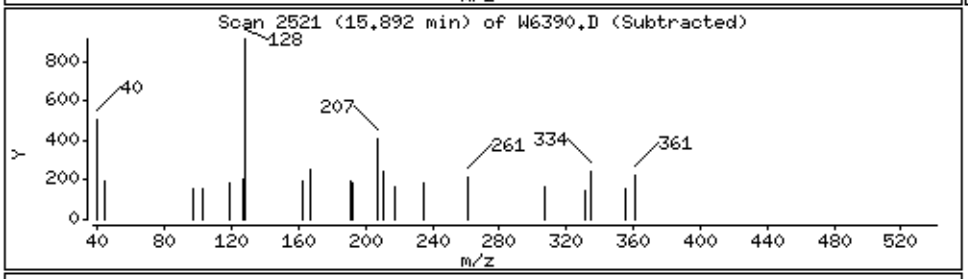


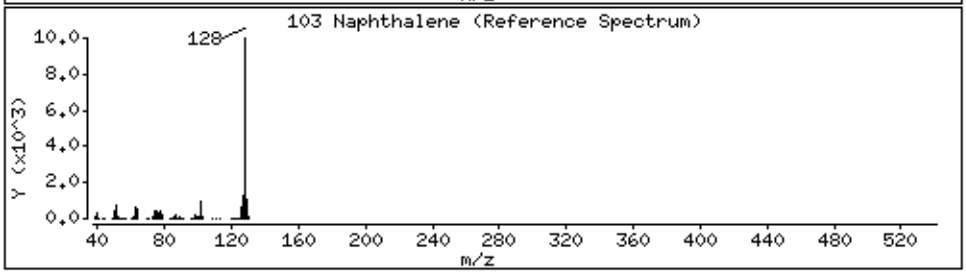


103 Naphthalene Concentration: 0.62 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-15
Client ID: WVA-SA-MW-78-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6391.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		39.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		28.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene		1.5	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		3.5	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		2.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.2	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-15
Client ID: WVA-SA-MW-78-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6391.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6391.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6391.D
Lab Smp Id: TL0579-15 Client Smp ID: WVA-SA-MW-78-102518
Inj Date : 03-NOV-2018 11:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-15
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

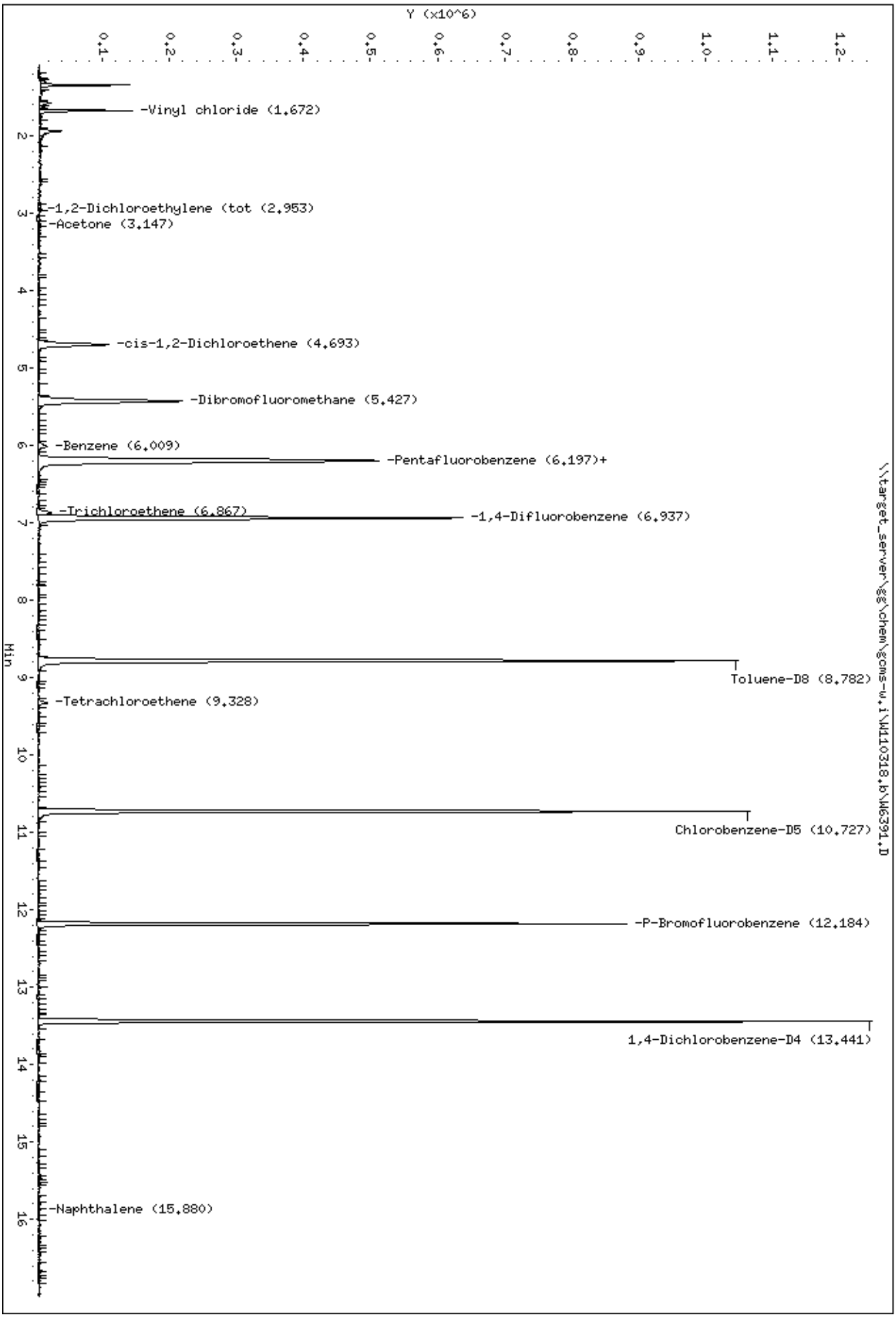
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.672	1.673	(0.270)	94397	38.9893	39.0	
	15 Acetone	43	3.141	3.136	(0.507)	2497	9.20465	9.2	
M	22 1,2-Dichloroethylene (total)	96				67342	28.2721	28.3	
	28 cis-1,2-Dichloroethene	96	4.704	4.698	(0.760)	67342	28.2721	28.3	
$	35 Dibromofluoromethane	113	5.426	5.427	(0.877)	182196	50.7955	50.8	
	39 Benzene	78	6.008	6.009	(0.866)	13223	1.46383	1.5(M)	M10
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	387764	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	221542	50.6483	50.6	
	48 Trichloroethene	95	6.860	6.867	(0.989)	7912	3.50923	3.5	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	637513	50.0000		
$	58 Toluene-D8	98	8.781	8.782	(1.266)	786898	50.7065	50.7	
	60 Tetrachloroethene	164	9.328	9.328	(0.870)	3971	2.04133	2.0	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	609030	50.0000		
$	78 P-Bromofluorobenzene	95	12.183	12.184	(1.756)	259826	49.1111	49.1	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	306400	50.0000		
	103 Naphthalene	128	15.879	15.886	(1.181)	1254	0.58218	0.58(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Vinyl chloride (1.672)
-1,2-Dichloroethylene (tot (2.953)
-Acetone (3.147)
-cis-1,2-Dichloroethene (4.693)
-Dibromofluoromethane (5.427)
-Benzene (6.009)
-Pentafluorobenzene (6.197)+
-Trichloroethene (6.867)
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
-Tetrachloroethene (9.328)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.880)
\\target_server\gg\chem\gcms-w.i\W110318.b\W6391.D
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6391.D
Date : 03-NOV-2018 11:19
Client ID: WWA-SA-MW-78-102518
Sample Info: TL0579-15
Instrument: gcms-w.i

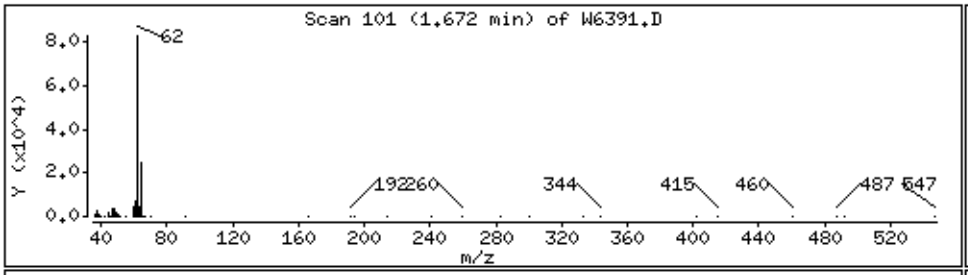
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6391.D

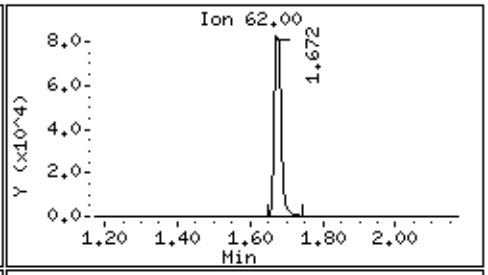
Date : 03-NOV-2018 11:19

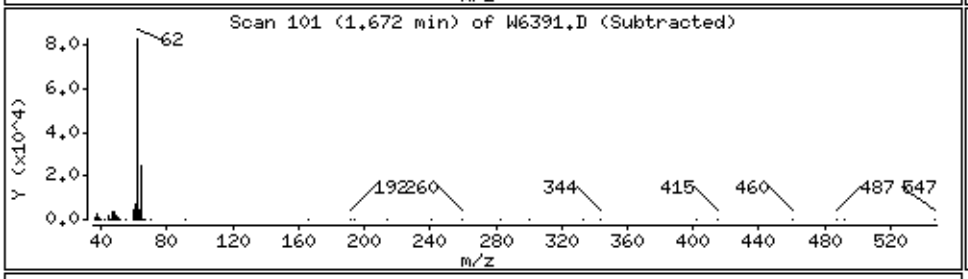
Client ID: WVA-SA-MW-78-102518 Instrument: gcms-w.i

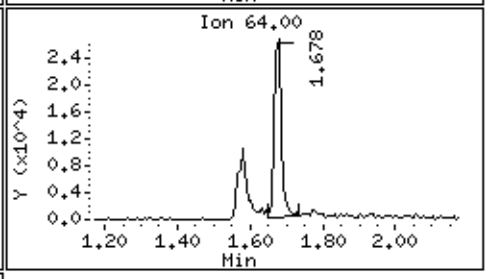
Sample Info: TL0579-15

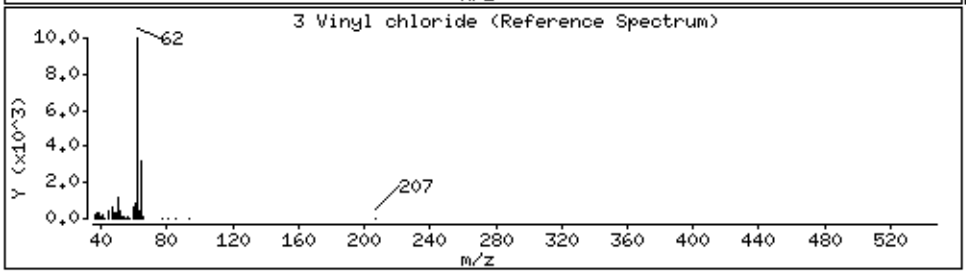
3 Vinyl chloride Concentration: 39.0 ug/l



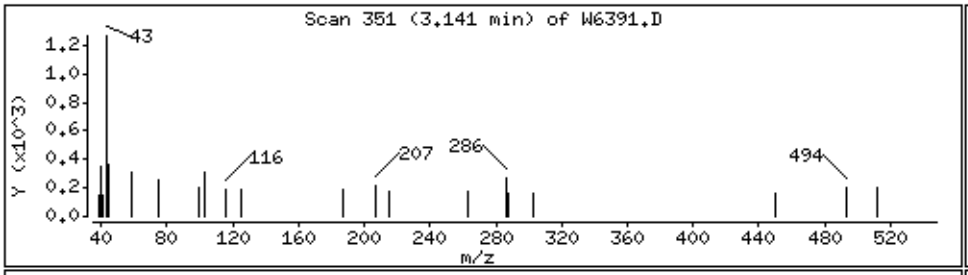


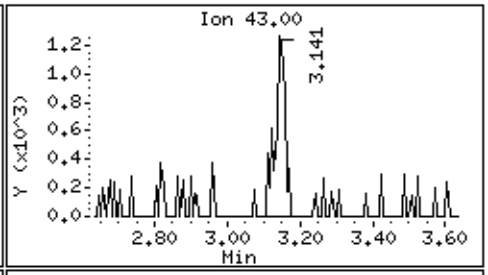


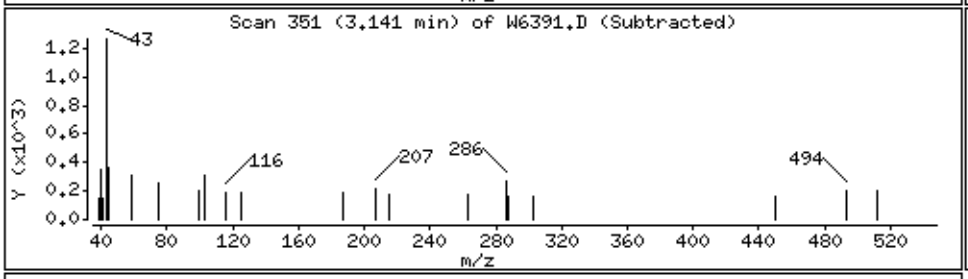


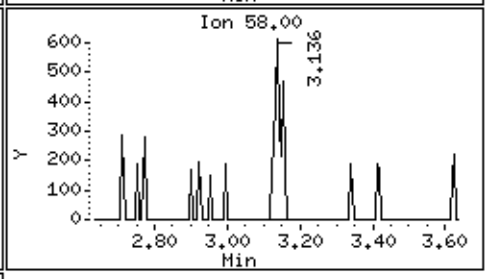


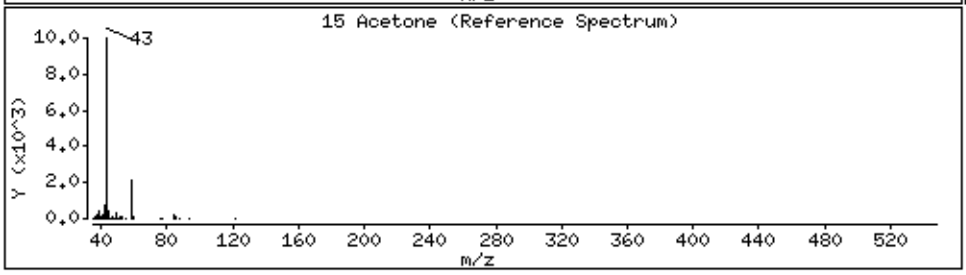
15 Acetone Concentration: 9.2 ug/l











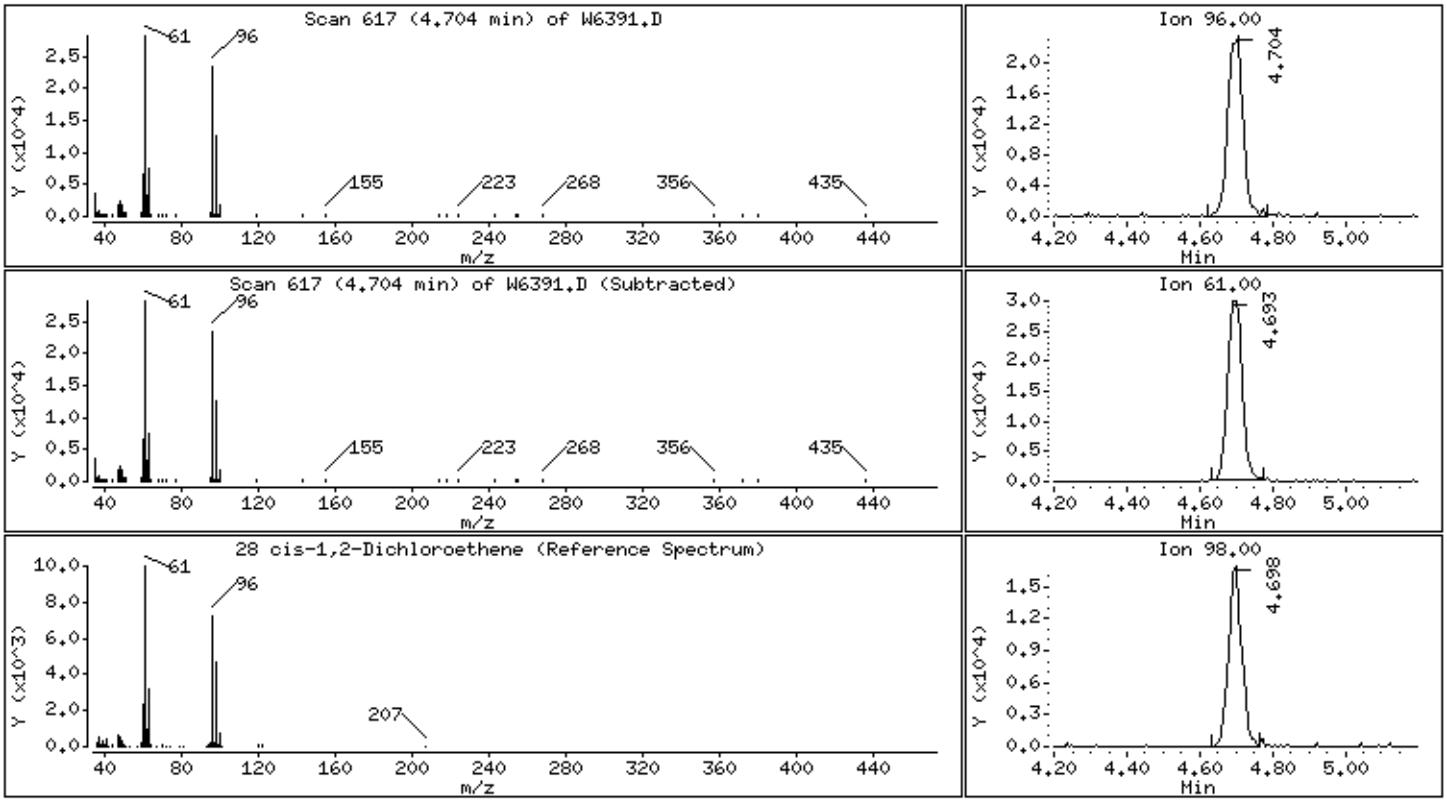
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6391.D

Date : 03-NOV-2018 11:19

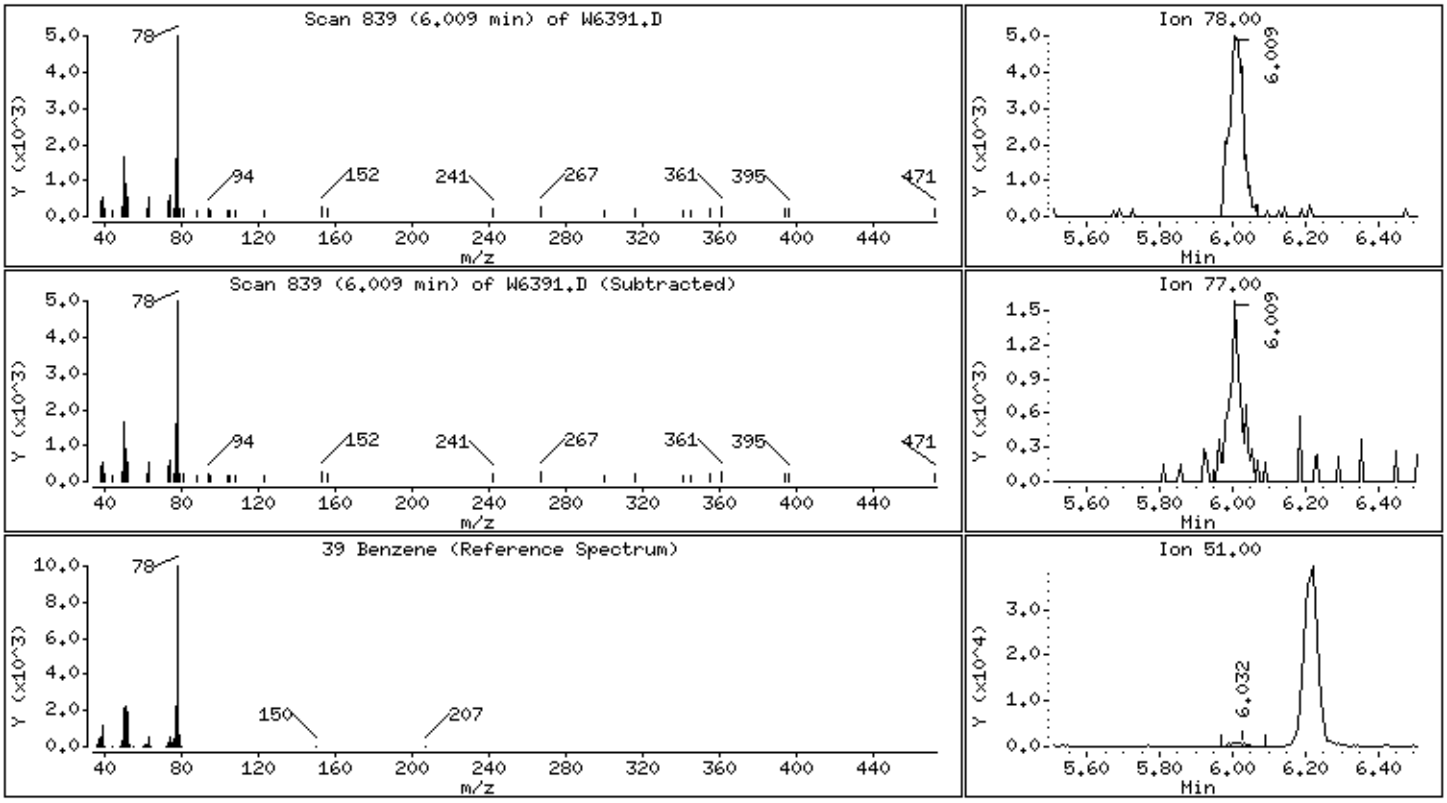
Client ID: WVA-SA-MW-78-102518 Instrument: gcms-w.i

Sample Info: TL0579-15

28 cis-1,2-Dichloroethene Concentration: 28.3 ug/l



39 Benzene Concentration: 1.5 ug/l



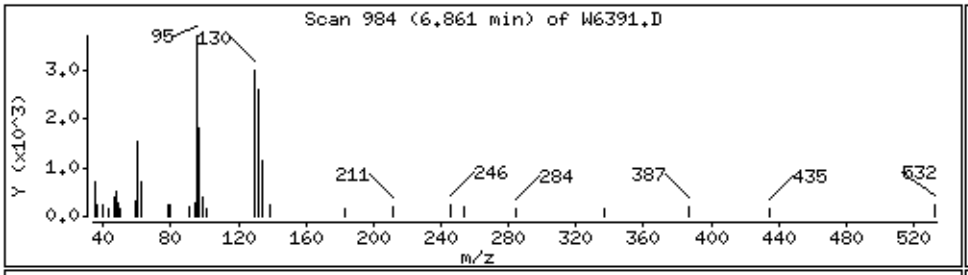
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6391.D

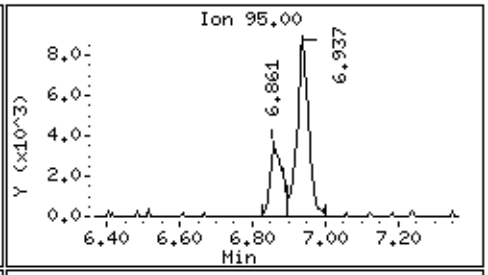
Date : 03-NOV-2018 11:19

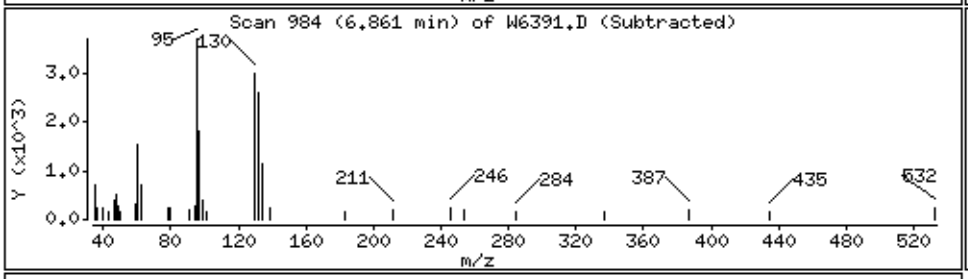
Client ID: WVA-SA-MW-78-102518 Instrument: gcms-w.i

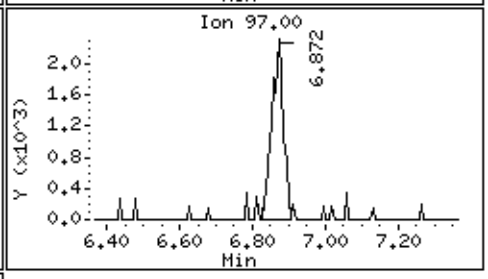
Sample Info: TL0579-15

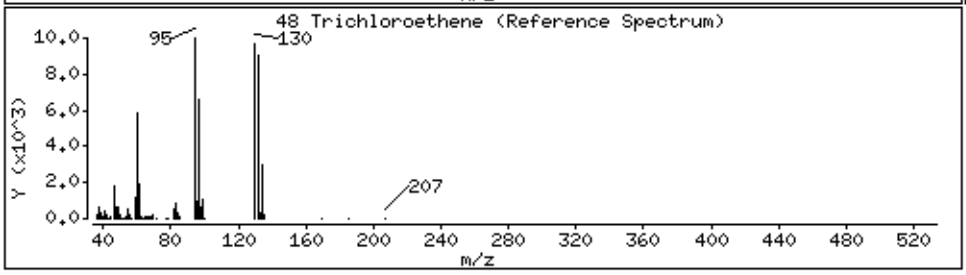
48 Trichloroethene Concentration: 3.5 ug/l



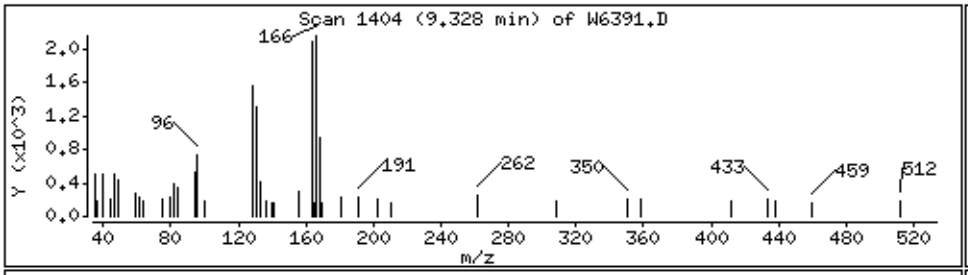


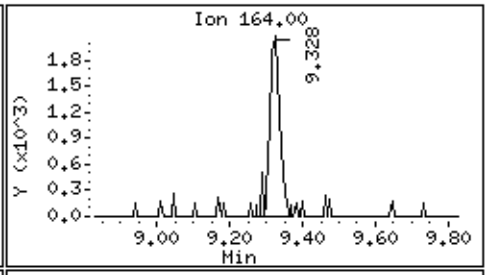


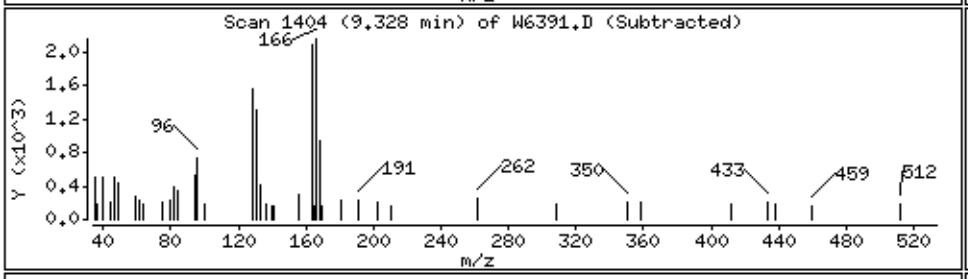


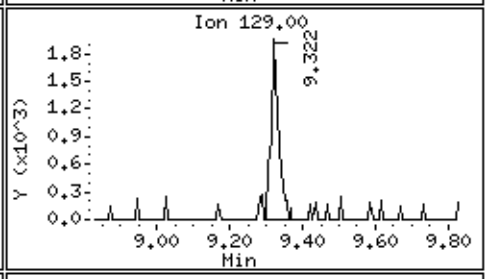


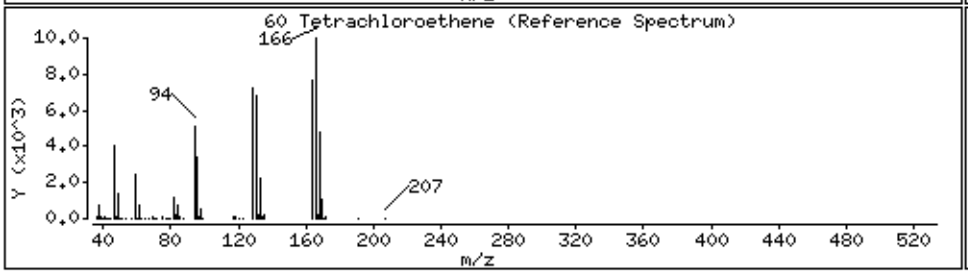
60 Tetrachloroethene Concentration: 2.0 ug/l

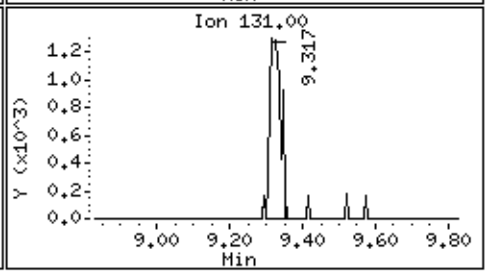












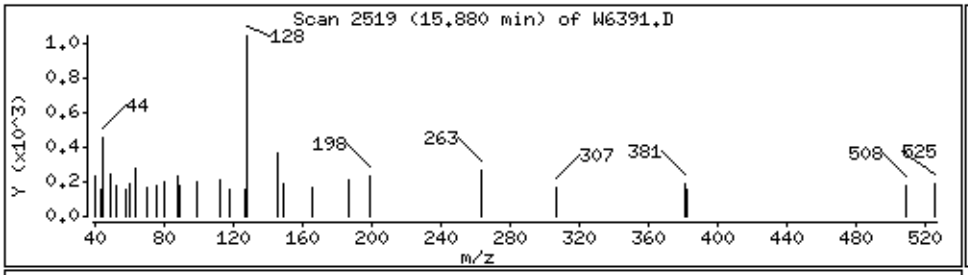
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6391.D

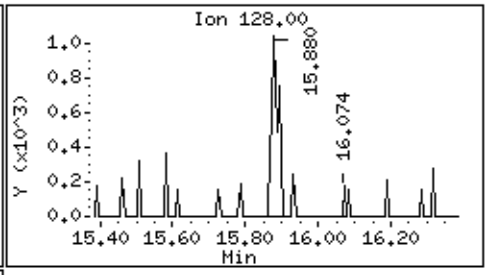
Date : 03-NOV-2018 11:19

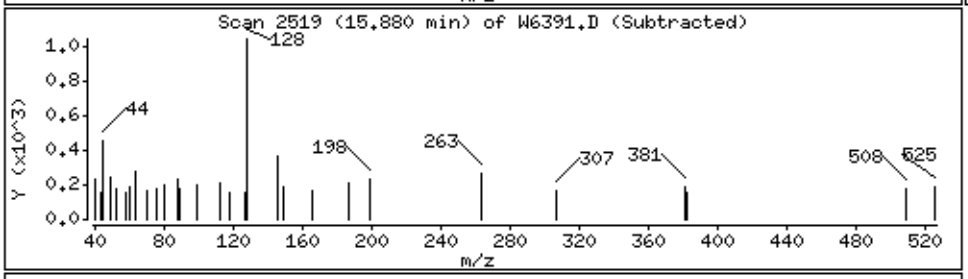
Client ID: WVA-SA-MW-78-102518 Instrument: gcms-w.i

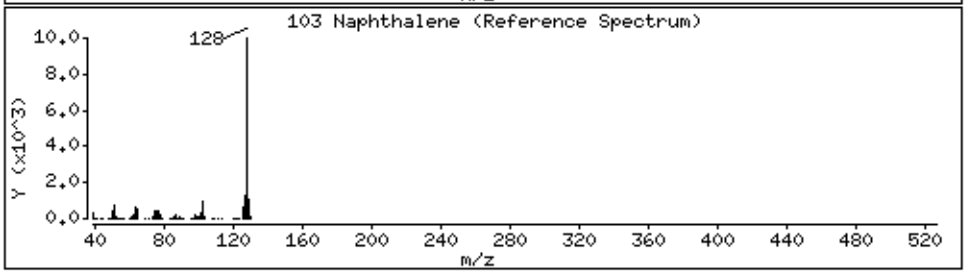
Sample Info: TL0579-15

103 Naphthalene Concentration: 0.58 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-16
Client ID: WVA-SA-MW-79-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6392.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene		1.1	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.6	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-16
Client ID: WVA-SA-MW-79-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6392.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6392.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6392.D
Lab Smp Id: TL0579-16 Client Smp ID: WVA-SA-MW-79-102518
Inj Date : 03-NOV-2018 11:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-16
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

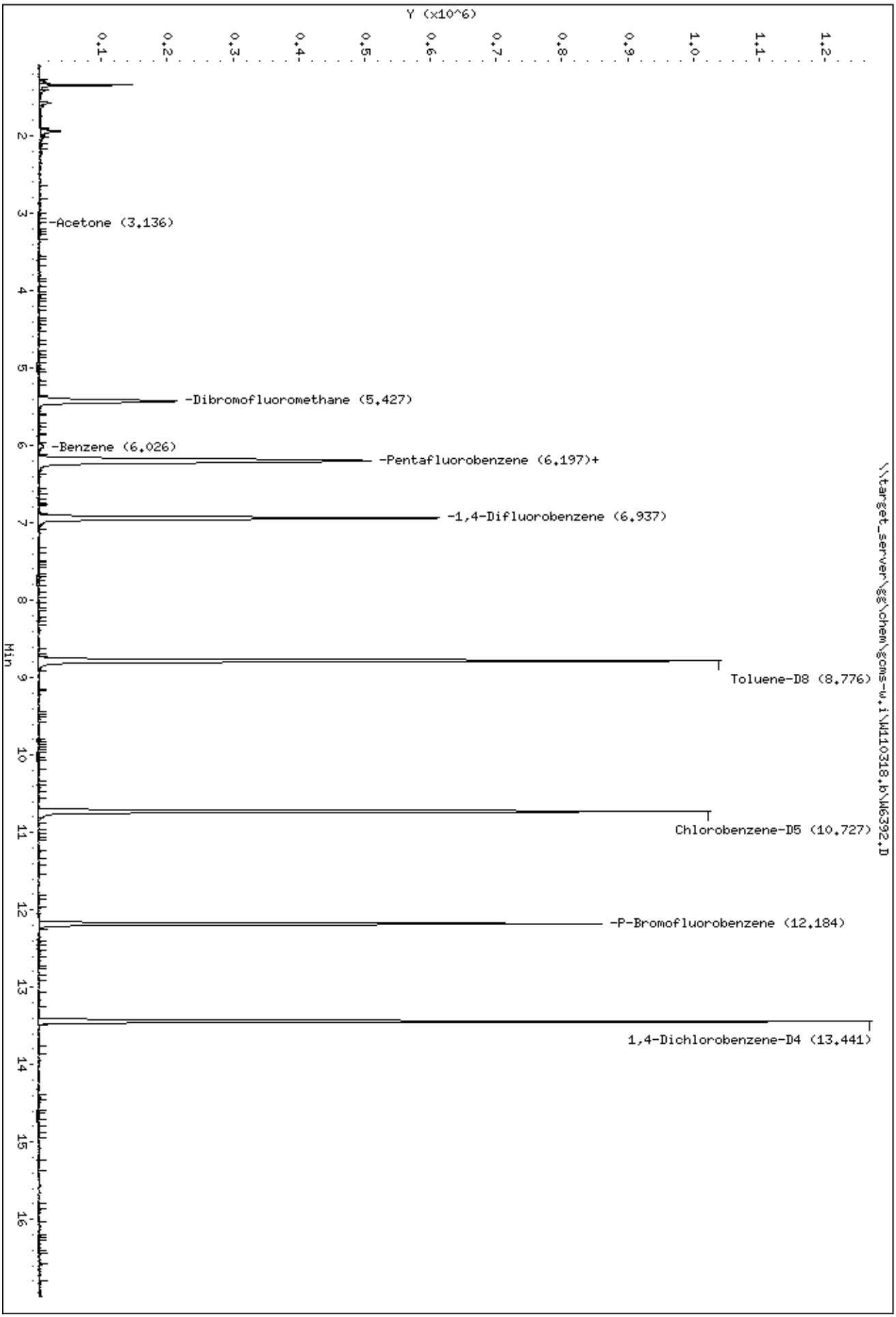
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.141	3.136	(0.507)	1567	8.06958	8.1	
$	35 Dibromofluoromethane	113	5.432	5.427	(0.878)	183260	52.1984	52.2	
	39 Benzene	78	6.008	6.009	(0.865)	9529	1.06898	1.1(M)	M10
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	379546	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	222607	51.9937	52.0	
*	49 1,4-Difluorobenzene	114	6.942	6.937	(1.000)	629111	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.264)	788399	51.4817	51.5	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	604751	50.0000		
$	78 P-Bromofluorobenzene	95	12.183	12.184	(1.755)	252076	48.2826	48.3	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	302901	50.0000		

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6392.D
Date : 03-NOV-2018 11:49
Client ID: WWA-SA-MW-79-102518
Sample Info: TL0579-16
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6392.D
Y (x10^6)
Min
-Acetone (3.136)
-Dibromofluoromethane (5.427)
-Benzene (6.026)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)

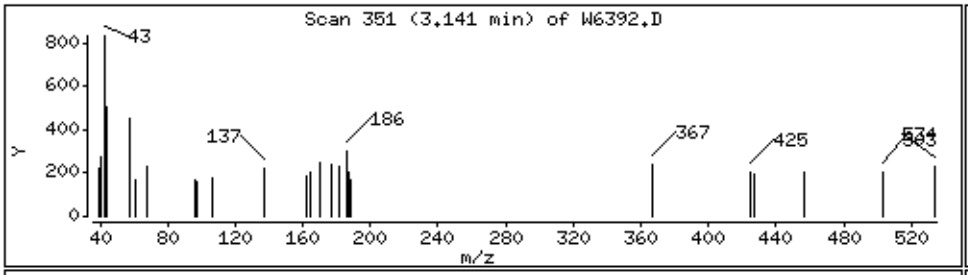
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6392.D

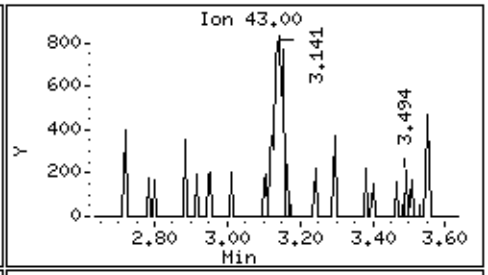
Date : 03-NOV-2018 11:49

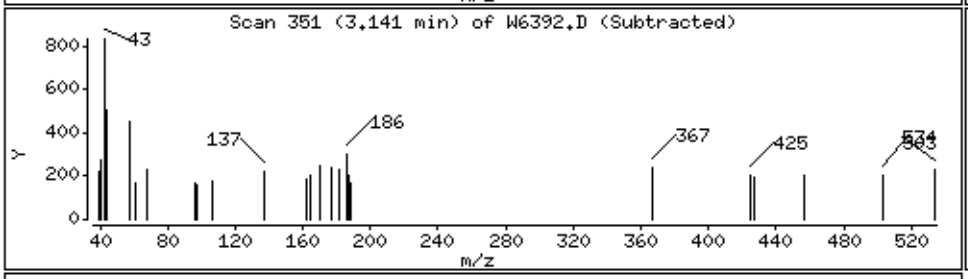
Client ID: WVA-SA-MW-79-102518 Instrument: gcms-w.i

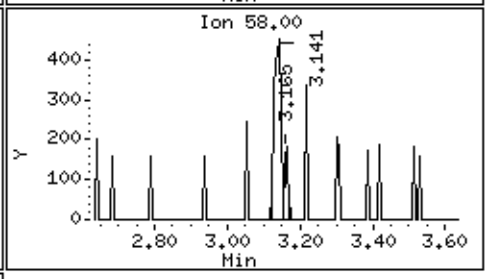
Sample Info: TL0579-16

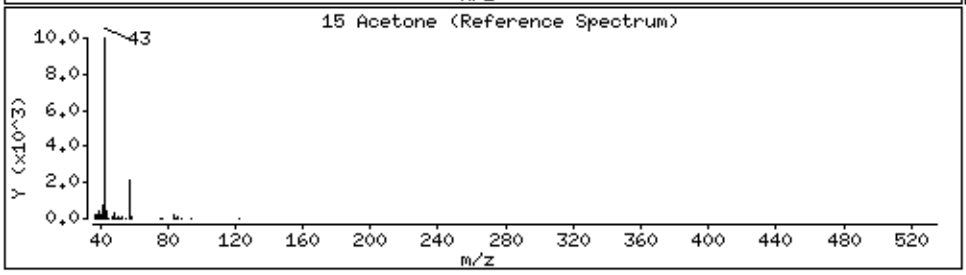
15 Acetone Concentration: 8.1 ug/l



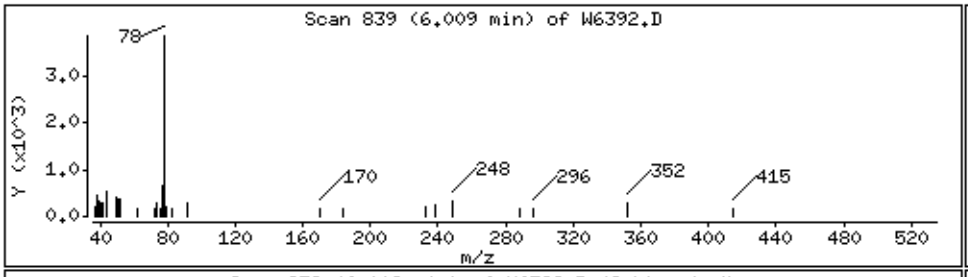


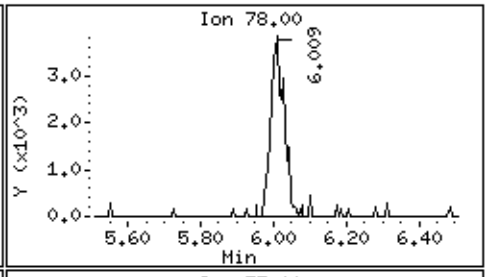


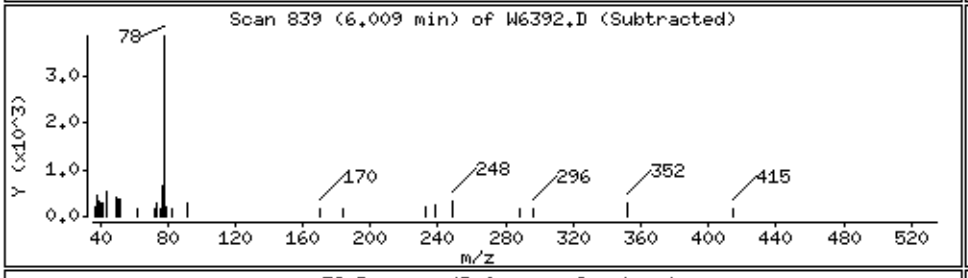


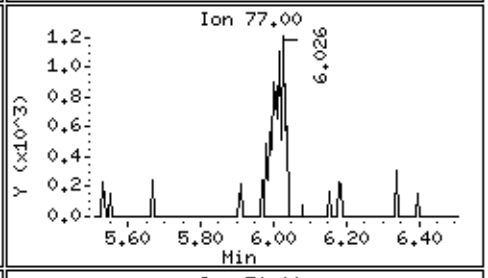


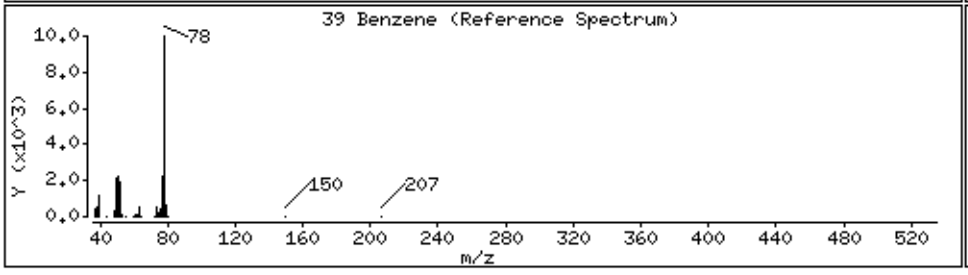
39 Benzene Concentration: 1.1 ug/l

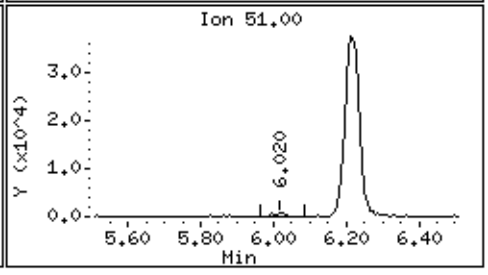












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-17
Client ID: WVA-SA-MW-80-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6393.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		93.9	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-17
Client ID: WVA-SA-MW-80-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6393.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6393.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6393.D
Lab Smp Id: TL0579-17 Client Smp ID: WVA-SA-MW-80-102518
Inj Date : 03-NOV-2018 12:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-17
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

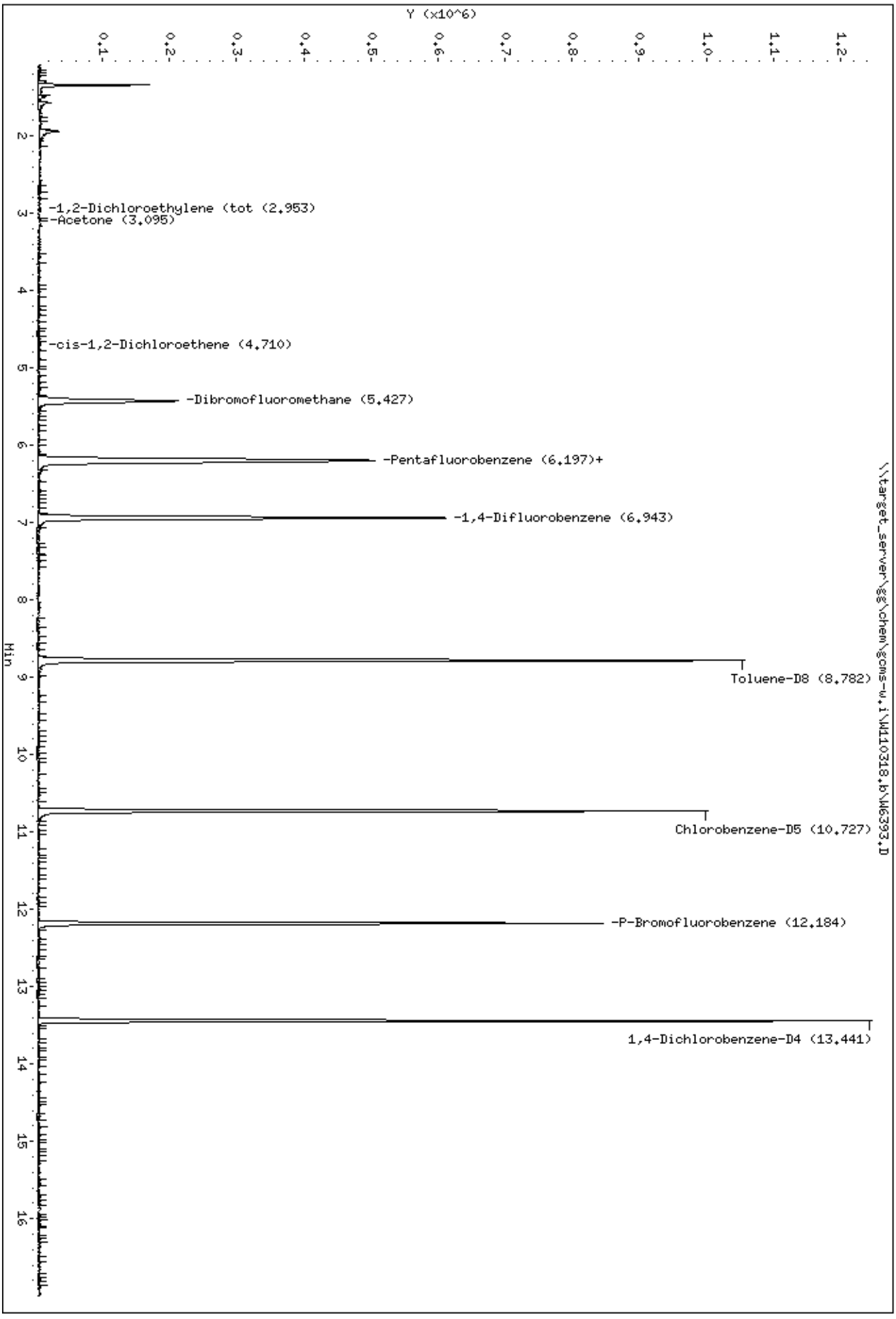
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.141	3.136	(0.507)	2397	9.14736	9.1	
M	22 1,2-Dichloroethylene (total)	96				1807	0.77598	0.78(a)	
	28 cis-1,2-Dichloroethene	96	4.704	4.698	(0.760)	1807	0.77598	0.78(a)	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	178548	50.9172	50.9	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	379092	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	220144	51.4800	51.5	
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	632254	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.265)	779074	50.6199	50.6	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	588018	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.755)	246323	46.9461	46.9	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	293387	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6393.D
Date : 03-NOV-2018 12:19
Client ID: WWA-SA-MW-80-102518
Sample Info: TL0579-17

Instrument: gcms-w.i

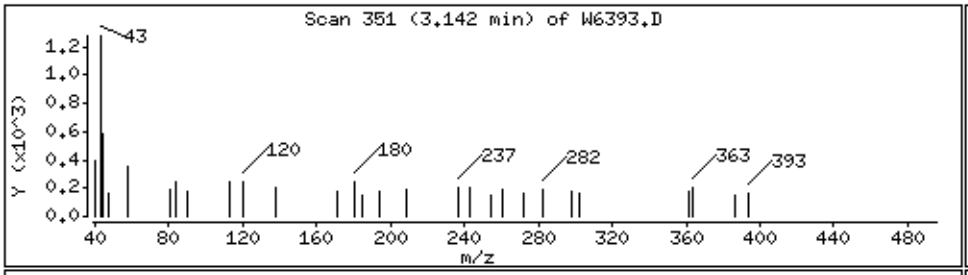
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6393.D

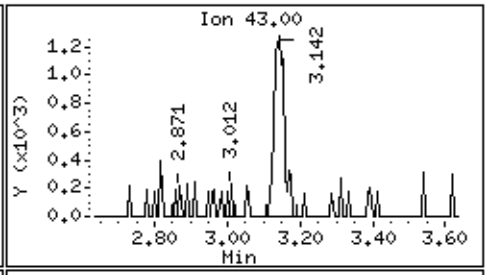
Date : 03-NOV-2018 12:19

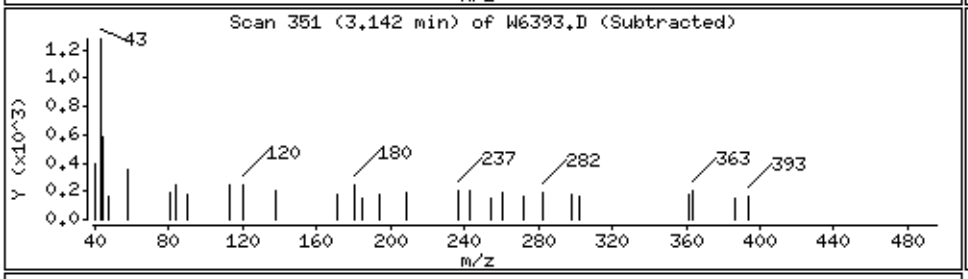
Client ID: WVA-SA-MW-80-102518 Instrument: gcms-w.i

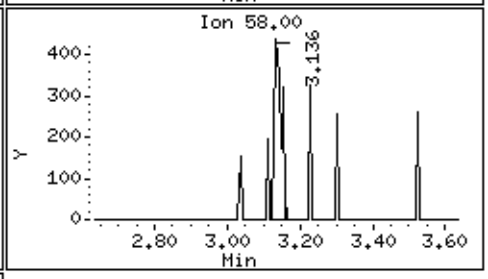
Sample Info: TL0579-17

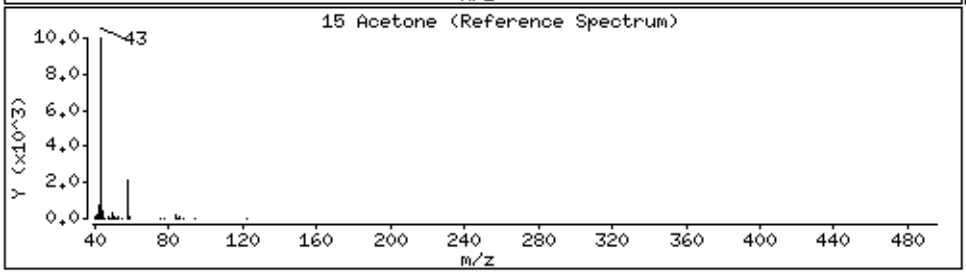
15 Acetone Concentration: 9.1 ug/l



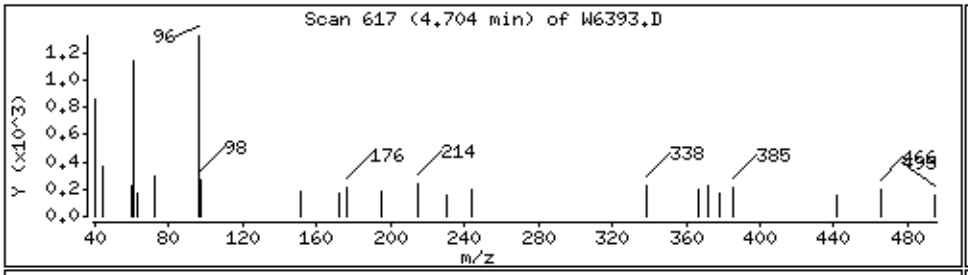


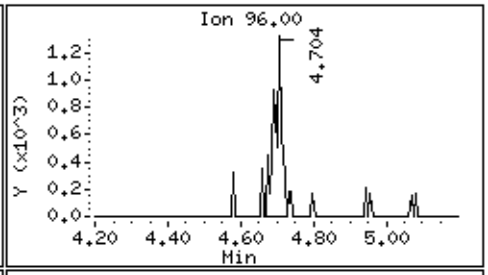


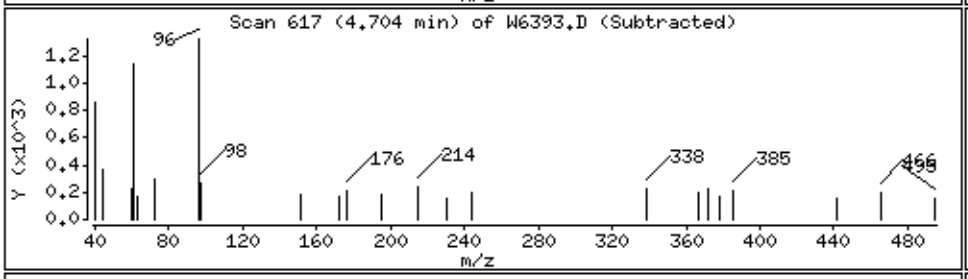


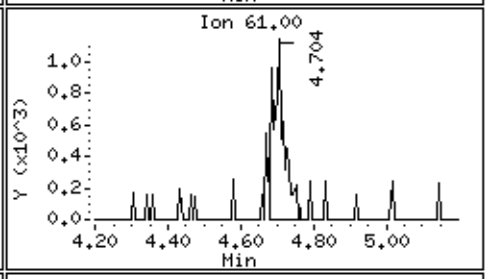


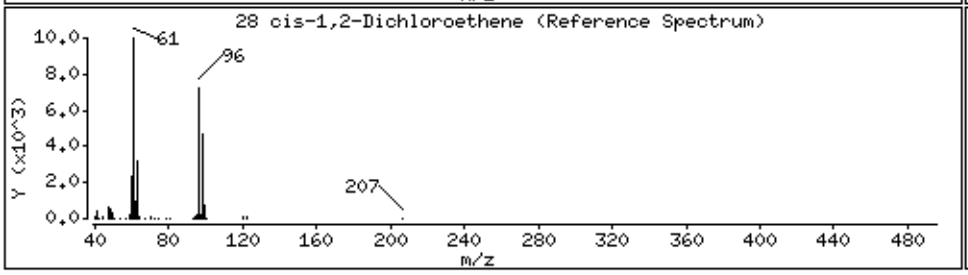
28 cis-1,2-Dichloroethene Concentration: 0.78 ug/l

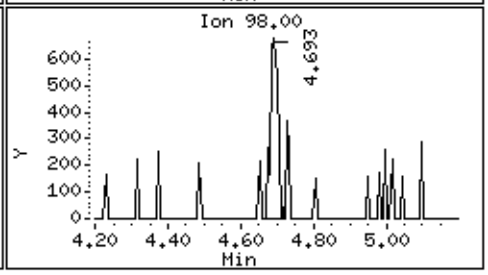












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-18
Client ID: WVA-SA-MW-81-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6394.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	E	620	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		28.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.6	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-18
Client ID: WVA-SA-MW-81-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6394.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6394.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6394.D
Lab Smp Id: TL0579-18 Client Smp ID: WVA-SA-MW-81-102518
Inj Date : 03-NOV-2018 12:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-18
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

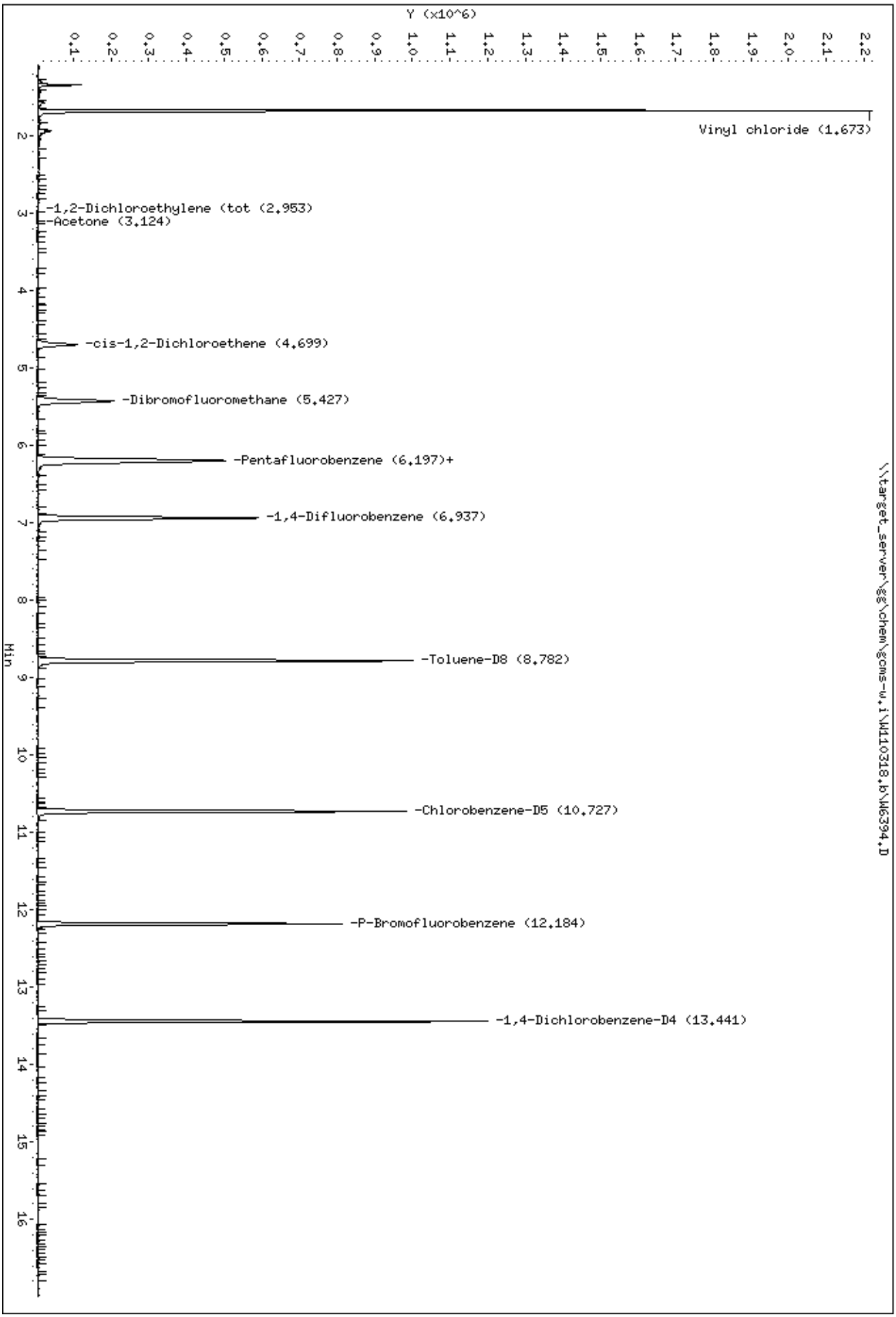
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.672	1.673	(0.270)	1418228	619.367	619(A)	
	15 Acetone	43	3.141	3.136	(0.507)	1832	8.49499	8.5(M)	M9
M	22 1,2-Dichloroethylene (total)	96				63098	28.0093	28.0	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	63098	28.0093	28.0	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	178245	52.5435	52.5	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	366735	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	212271	51.3115	51.3	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	605956	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	756964	51.3178	51.3	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	574156	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	240283	47.7824	47.8	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	285375	50.0000		

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.



Data File: \\target_server\gc\chem\gcms-w.i\W110318.b\W6394.D
Date : 03-NOV-2018 12:49
Client ID: WWA-SA-MW-81-102518
Sample Info: TL0579-18

Instrument: gcms-w.i

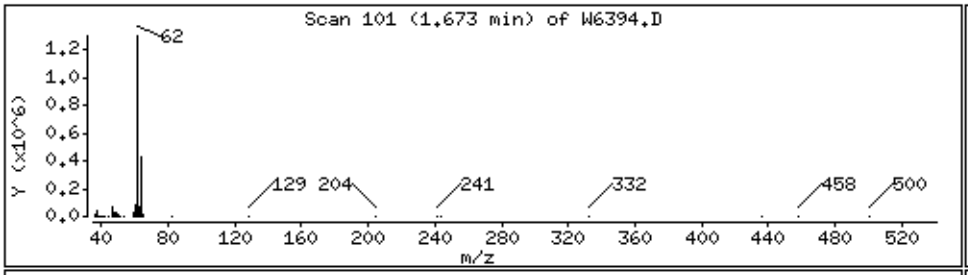
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6394.D

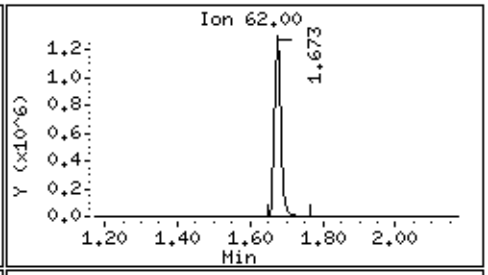
Date : 03-NOV-2018 12:49

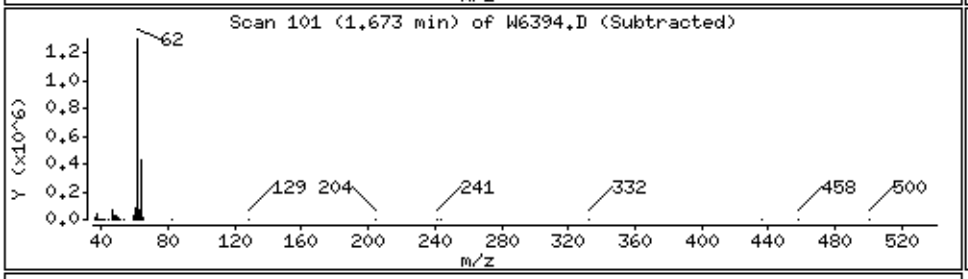
Client ID: WVA-SA-MW-81-102518 Instrument: gcms-w.i

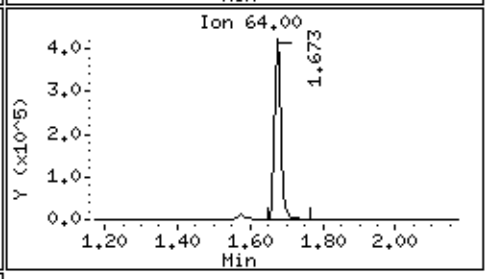
Sample Info: TL0579-18

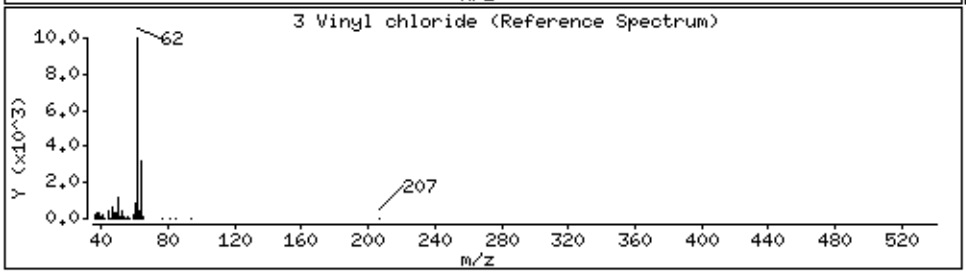
3 Vinyl chloride Concentration: 619 ug/l



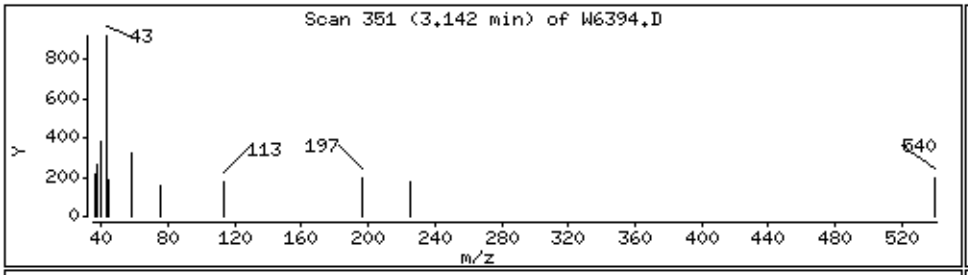


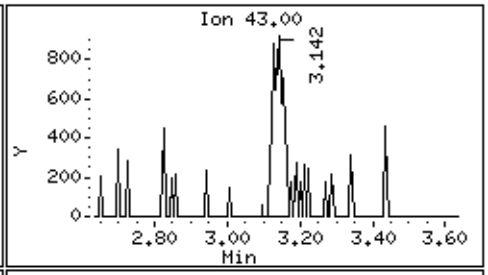


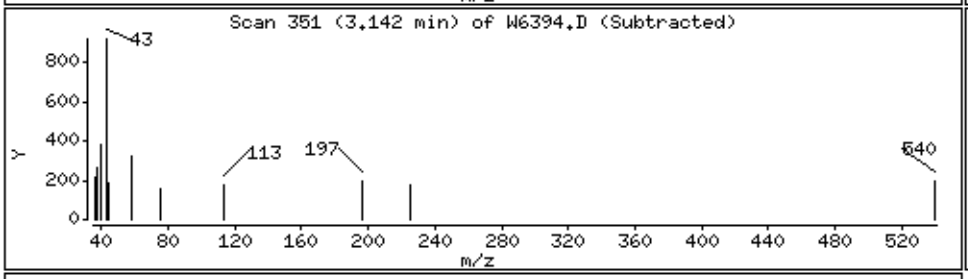


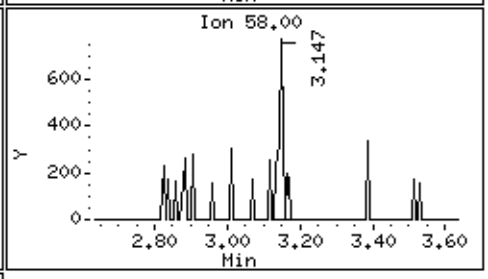


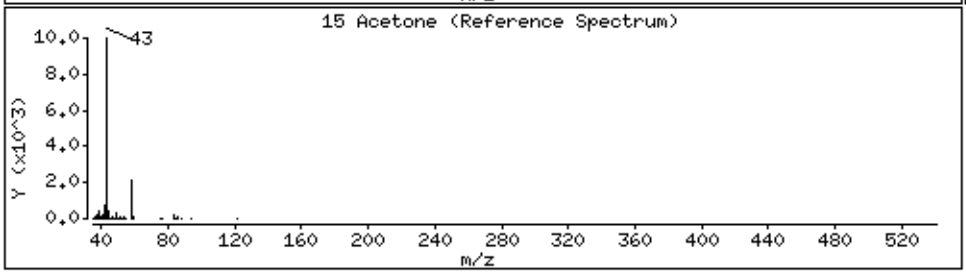
15 Acetone Concentration: 8.5 ug/l











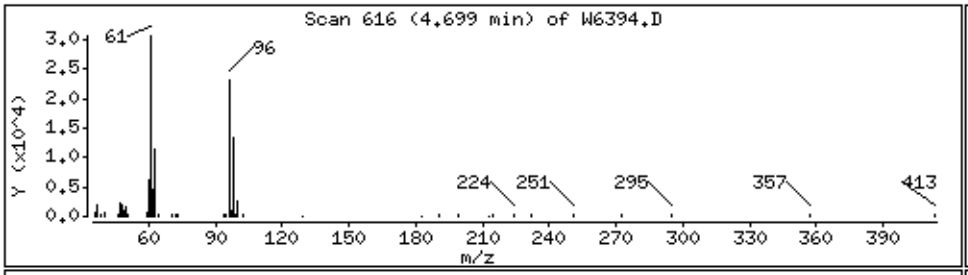
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6394.D

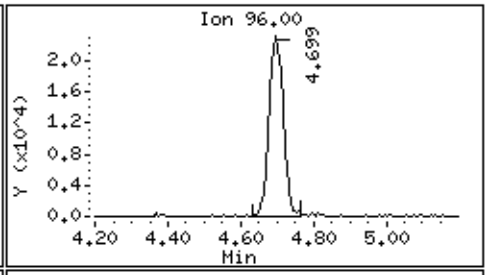
Date : 03-NOV-2018 12:49

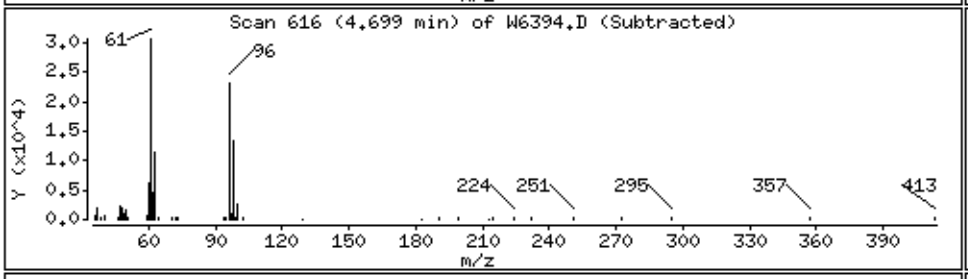
Client ID: WVA-SA-MW-81-102518 Instrument: gcms-w.i

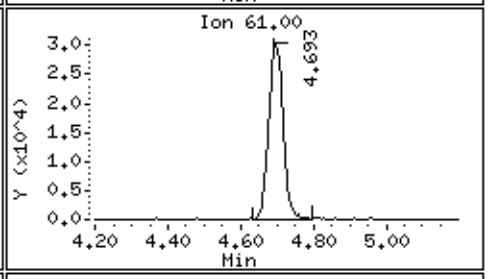
Sample Info: TL0579-18

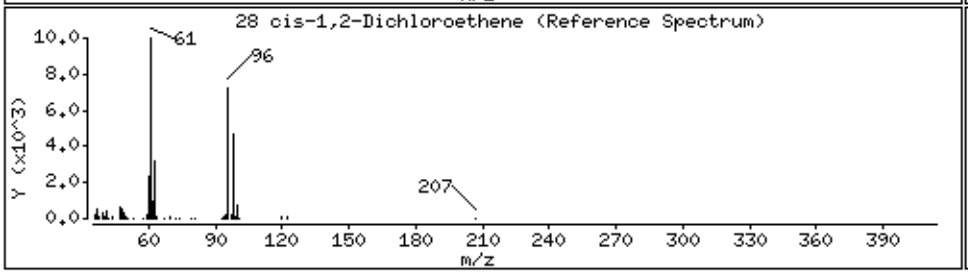
28 cis-1,2-Dichloroethene Concentration: 28.0 ug/l

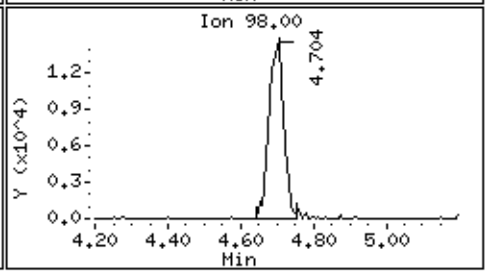












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-18DL
Client ID: WVA-SA-MW-81-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6411.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	20.	ug/L	10	2	20.
Vinyl Chloride		540	ug/L	10	2	20.
Bromomethane	U	20.	ug/L	10	2	20.
Chloroethane	U	20.	ug/L	10	2	20.
Trichlorofluoromethane	U	20.	ug/L	10	2	20.
1,1-Dichloroethene	U	10.	ug/L	10	1	10.
Carbon Disulfide	U	10.	ug/L	10	1	10.
Methylene Chloride	U	50.	ug/L	10	5	50.
trans-1,2-Dichloroethene	U	10.	ug/L	10	1	10.
1,1-Dichloroethane	U	10.	ug/L	10	1	10.
cis-1,2-Dichloroethene		25.	ug/L	10	1	10.
Chloroform	U	10.	ug/L	10	1	10.
Carbon Tetrachloride	U	10.	ug/L	10	1	10.
1,1,1-Trichloroethane	U	10.	ug/L	10	1	10.
2-Butanone	U	50.	ug/L	10	5	50.
Benzene	U	10.	ug/L	10	1	10.
1,2-Dichloroethane	U	10.	ug/L	10	1	10.
Trichloroethene	U	10.	ug/L	10	1	10.
1,2-Dichloropropane	U	10.	ug/L	10	1	10.
Bromodichloromethane	U	10.	ug/L	10	1	10.
cis-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
Toluene	U	10.	ug/L	10	1	10.
4-Methyl-2-Pentanone	U	50.	ug/L	10	5	50.
Tetrachloroethene	U	10.	ug/L	10	1	10.
trans-1,3-Dichloropropene	U	10.	ug/L	10	1	10.
1,1,2-Trichloroethane	U	10.	ug/L	10	1	10.
Dibromochloromethane	U	10.	ug/L	10	1	10.
Chlorobenzene	U	10.	ug/L	10	1	10.
Ethylbenzene	U	10.	ug/L	10	1	10.
m+p-Xylenes	U	20.	ug/L	10	2	20.
o-Xylene	U	10.	ug/L	10	1	10.
Bromoform	U	10.	ug/L	10	1	10.
1,1,2,2-Tetrachloroethane	U	10.	ug/L	10	1	10.
P-Bromofluorobenzene		97.9	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-18DL
Client ID: WVA-SA-MW-81-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6411.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		106.	%			
Dibromofluoromethane		111.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6411.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6411.D
Lab Smp Id: TL0579-18DL Client Smp ID: WVA-SA-MW-81-102518
Inj Date : 05-NOV-2018 06:15
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-18DL
Misc Info : WG240010,WG240010-4
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 5
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

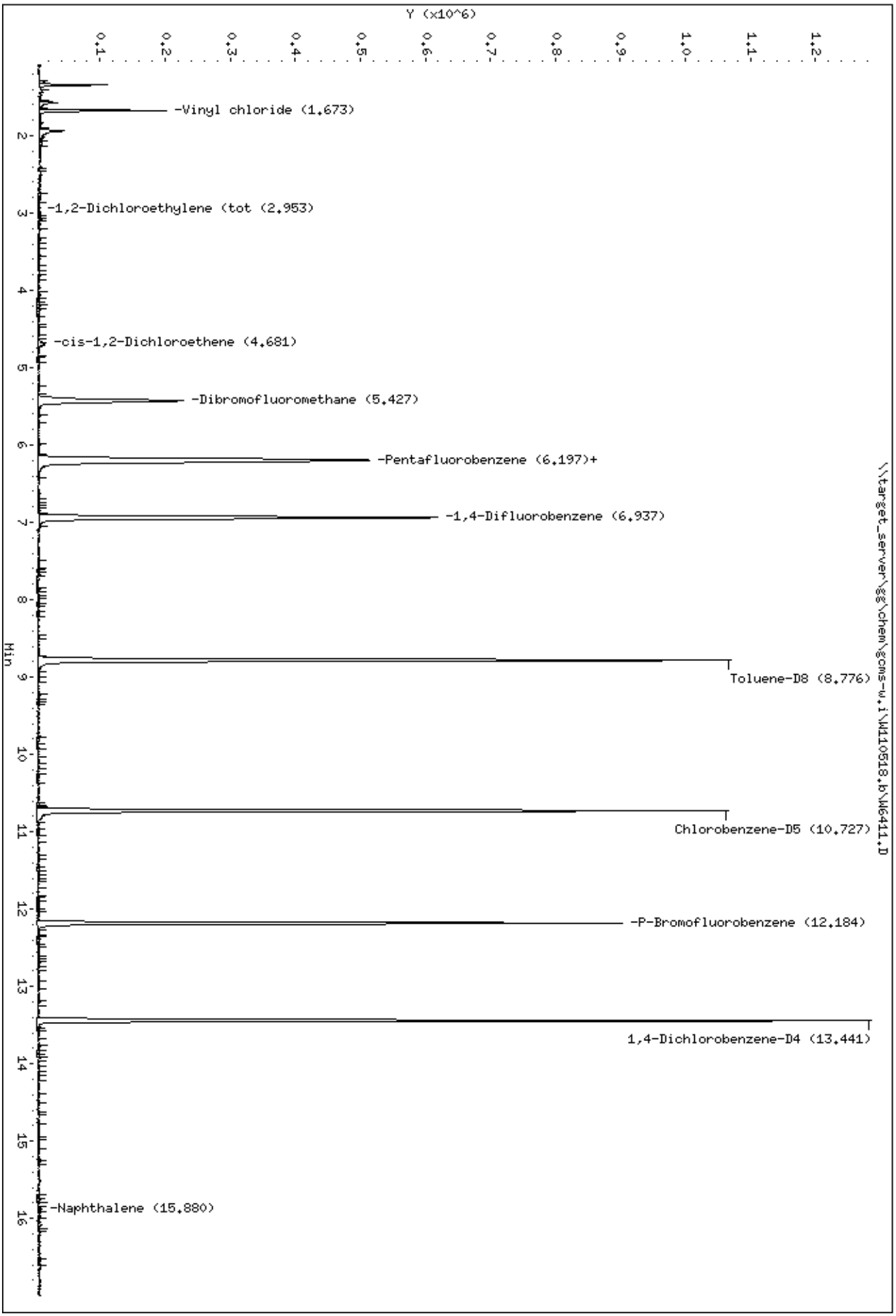
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.672	1.673	(0.270)	126602	53.8516	538(H)	
M	22 1,2-Dichloroethylene (total)	96				5790	2.50335	25.0	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	5790	2.50335	25.0	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	192733	55.3368	55.3	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	376527	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	224832	52.9345	52.9	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	640461	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	805349	51.6566	51.6	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	607546	50.0000		
$	78 P-Bromofluorobenzene	95	12.183	12.184	(1.756)	260164	48.9487	48.9	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	301765	50.0000		
	103 Naphthalene	128	15.885	15.886	(1.182)	2346	0.72417	7.2(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Vinyl chloride (1.673)
-1,2-Dichloroethylene (tot (2.953)
-cis-1,2-Dichloroethene (4.681)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.880)
\\target_server\gg\chem\gcms-w.i\W110518.b\W6411.D
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6411.D
Date : 05-NOV-2018 06:15
Client ID: WWA-SA-MW-81-102518
Sample Info: TL0579-18DL
Instrument: gcms-w.i

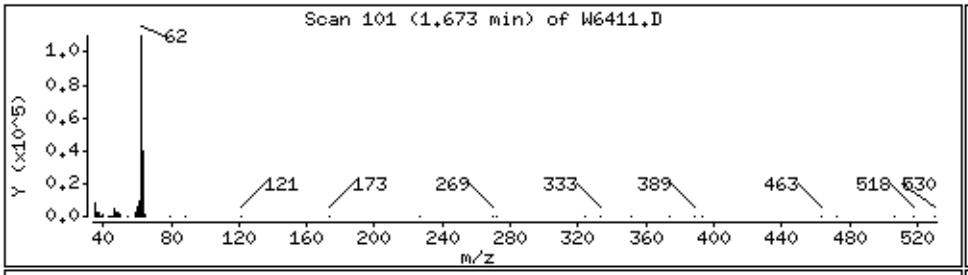
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6411.D

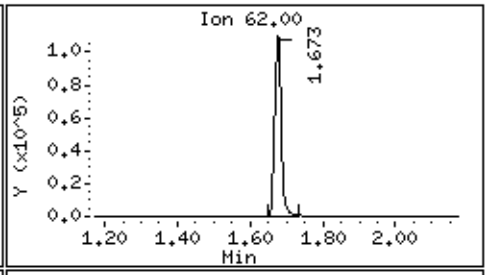
Date : 05-NOV-2018 06:15

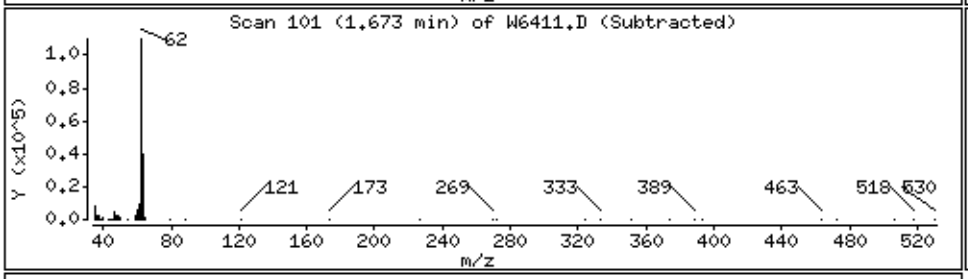
Client ID: WVA-SA-MW-81-102518 Instrument: gcms-w.i

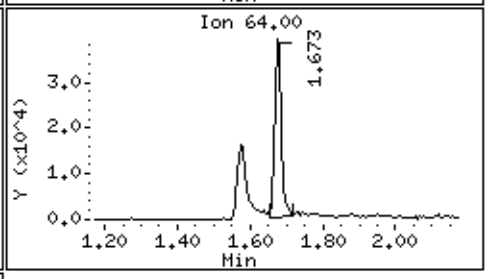
Sample Info: TL0579-18DL

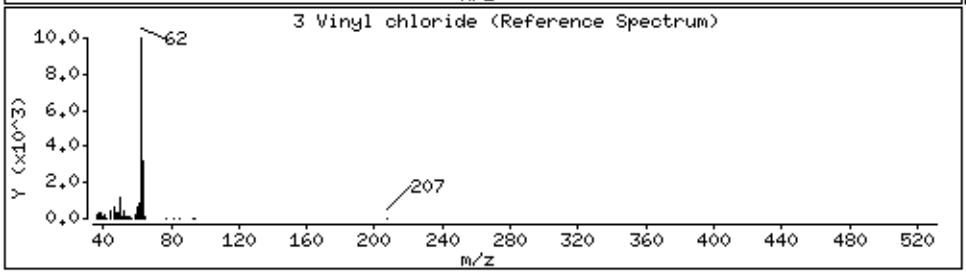
3 Vinyl chloride Concentration: 538 ug/l



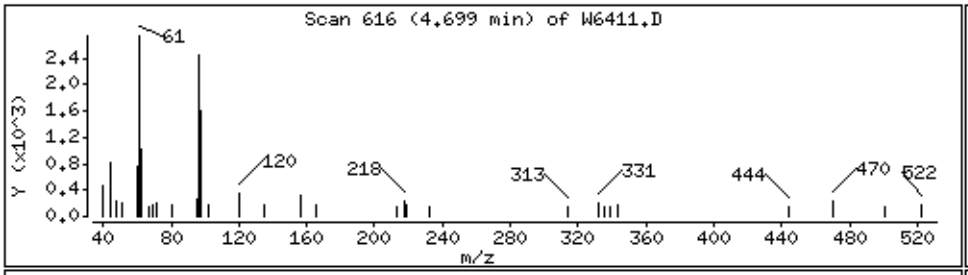


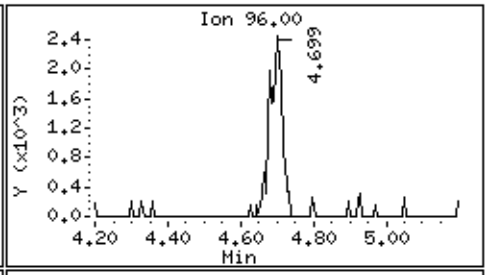


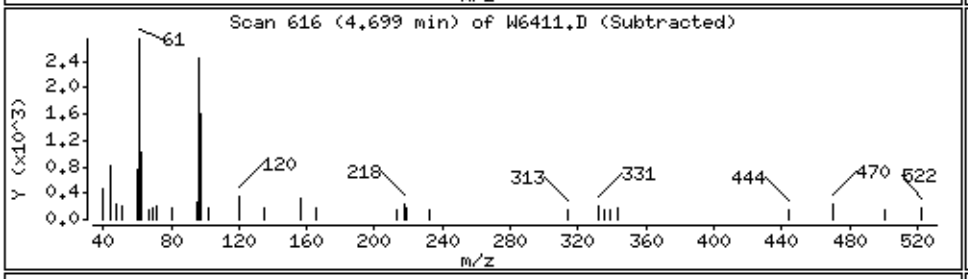


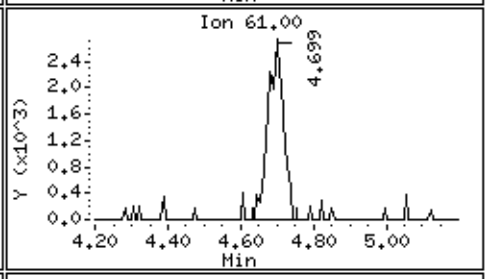


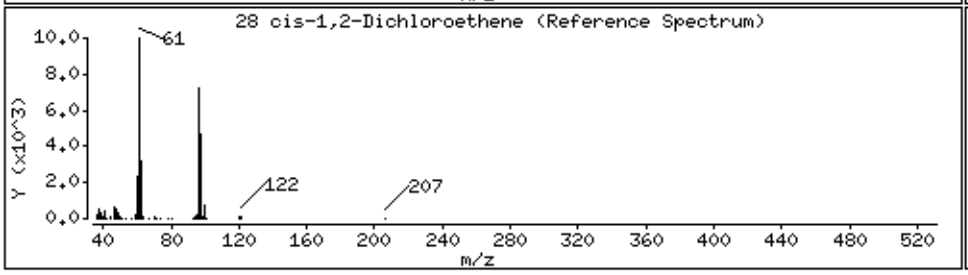
28 cis-1,2-Dichloroethene Concentration: 25.0 ug/l

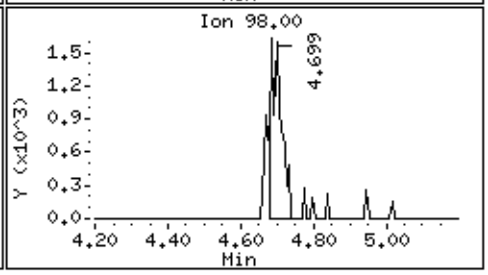












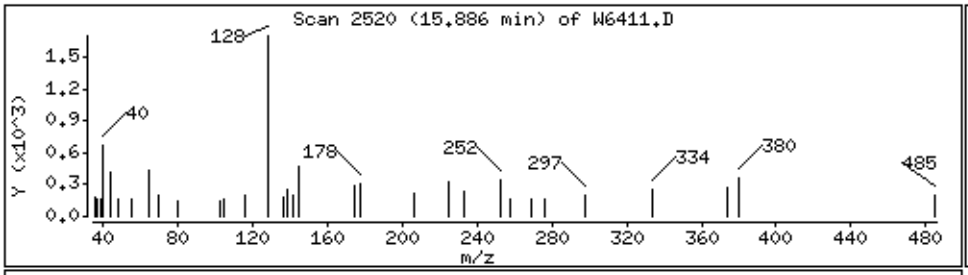
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6411.D

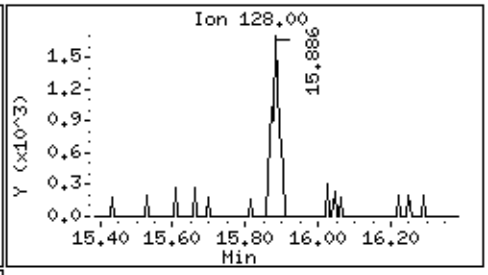
Date : 05-NOV-2018 06:15

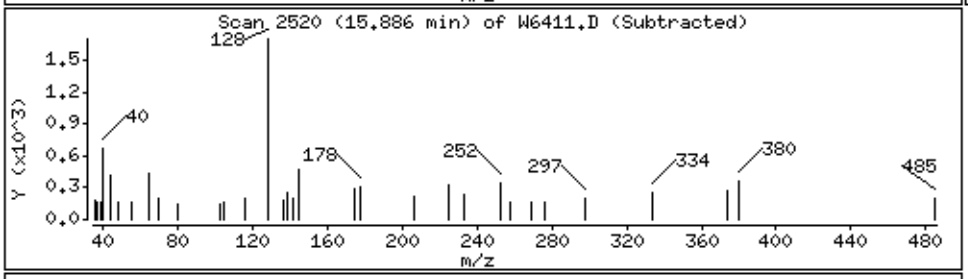
Client ID: WVA-SA-MW-81-102518 Instrument: gcms-w.i

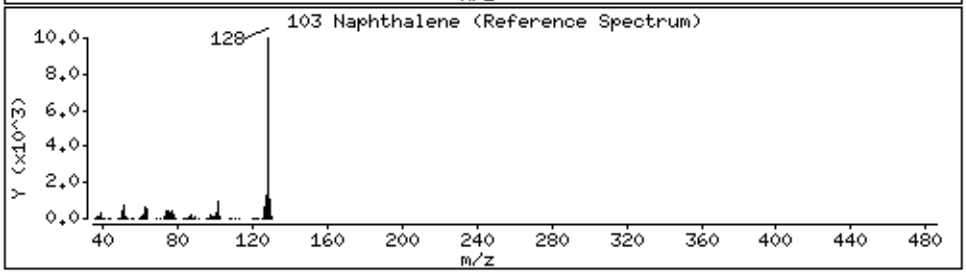
Sample Info: TL0579-18DL

103 Naphthalene Concentration: 7.2 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-19
Client ID: WVA-SA-MW-82-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6395.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-19
Client ID: WVA-SA-MW-82-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6395.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6395.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6395.D
Lab Smp Id: TL0579-19 Client Smp ID: WVA-SA-MW-82-102518
Inj Date : 03-NOV-2018 13:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-19
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

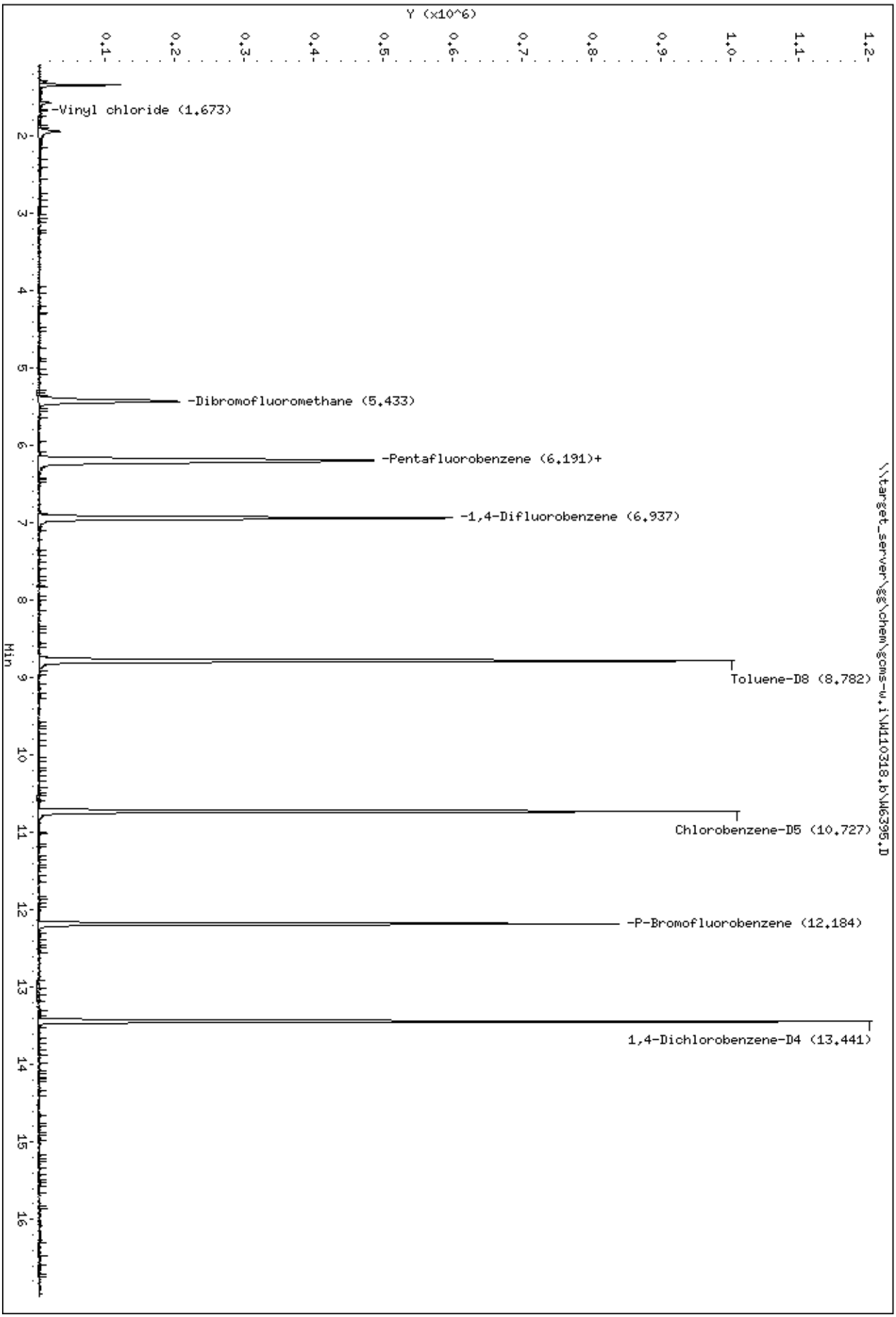
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.672	1.673	(0.270)	1533	0.65877	0.66(aH)	
$	35 Dibromofluoromethane	113	5.433	5.427	(0.878)	179165	51.9693	52.0	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	372701	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	213416	50.7625	50.8	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	608744	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	758319	51.1742	51.2	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	571589	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	241074	47.7202	47.7	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	282824	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6395.D
Date : 03-NOV-2018 13:19
Client ID: WWA-SA-MW-82-102518
Sample Info: TL0579-19
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6395.D
Y (x10^6)
Min
-Vinyl chloride (1,673)
-Dibromofluoromethane (5,433)
-Pentafluorobenzene (6,191)+
-1,4-Difluorobenzene (6,937)
Toluene-D8 (8,782)
Chlorobenzene-D5 (10,727)
-P-Bromofluorobenzene (12,184)
1,4-Dichlorobenzene-D4 (13,441)

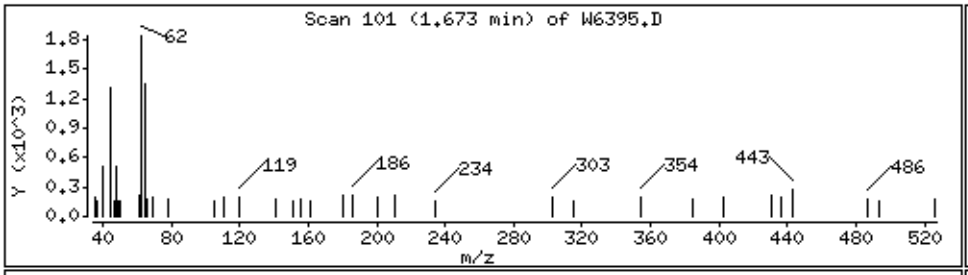
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6395.D

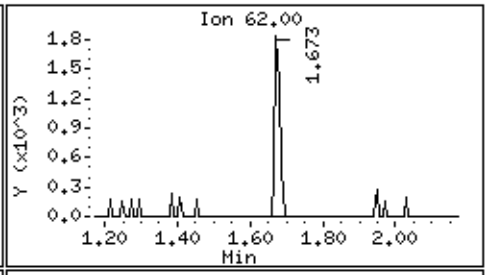
Date : 03-NOV-2018 13:19

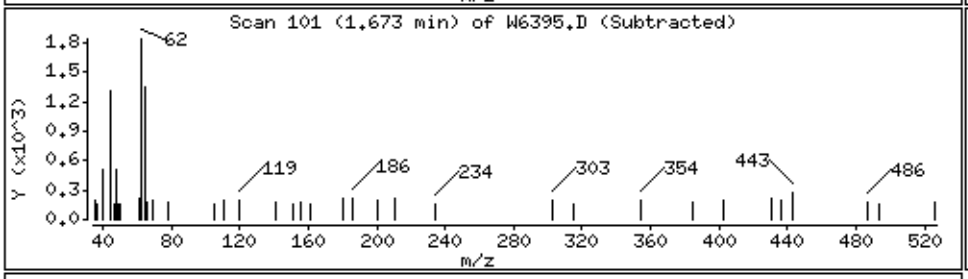
Client ID: WVA-SA-MW-82-102518 Instrument: gcms-w.i

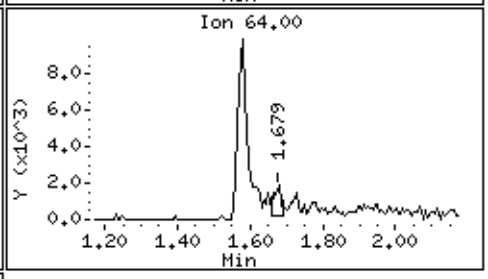
Sample Info: TL0579-19

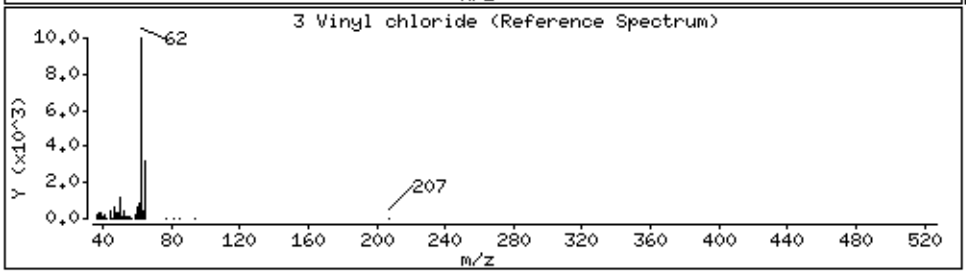
3 Vinyl chloride Concentration: 0.66 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-20
Client ID: WVA-SA-MW-70-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6396.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.4	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.1	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-20
Client ID: WVA-SA-MW-70-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6396.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6396.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

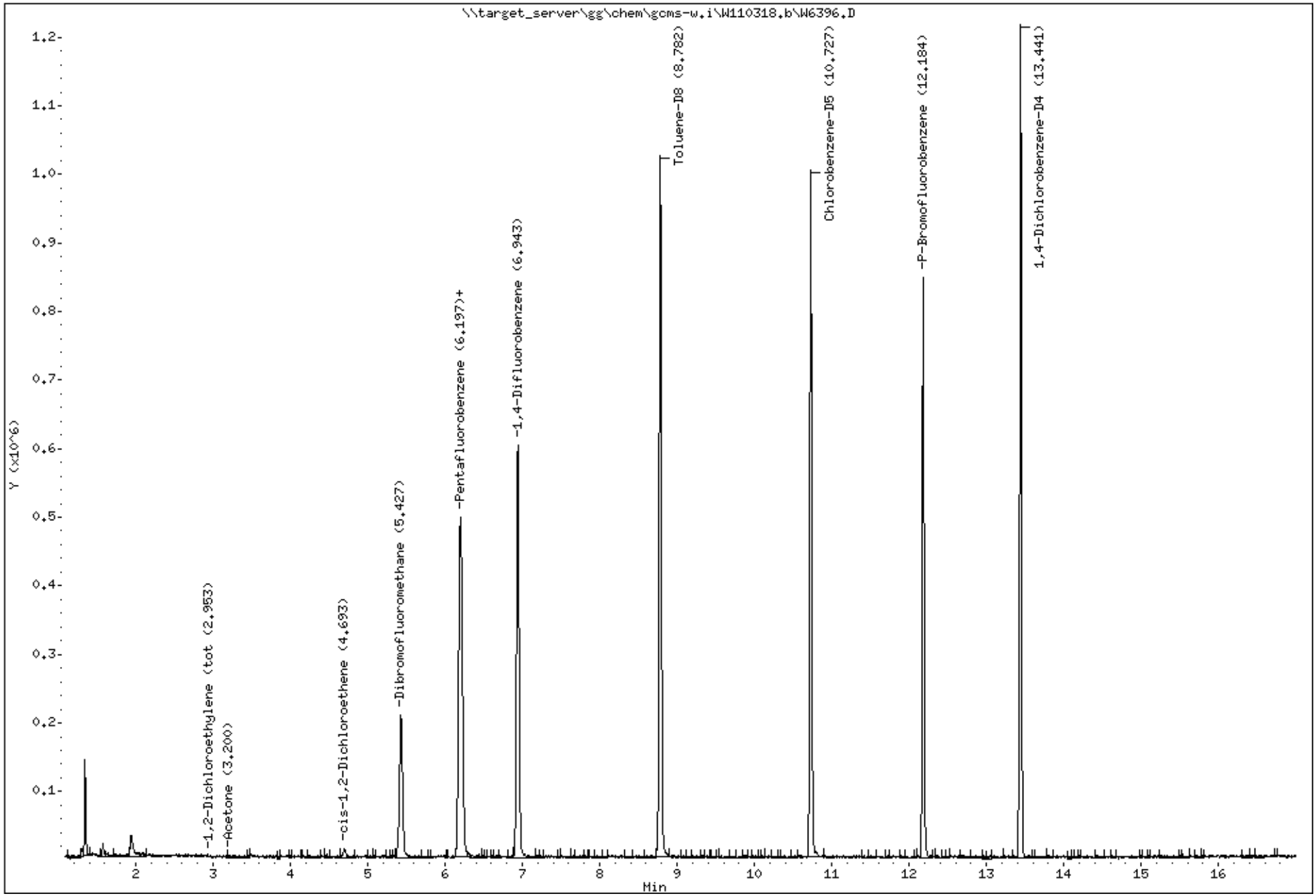
Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6396.D
Lab Smp Id: TL0579-20 Client Smp ID: WVA-SA-MW-70-102518
Inj Date : 03-NOV-2018 13:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-20
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.129	3.136	(0.506)	1431	7.97313	8.0	
M	22 1,2-Dichloroethylene (total)	96				5487	2.45440	2.4	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	5487	2.45440	2.4	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	172712	51.3035	51.3	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	363940	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	212877	51.8532	51.8	
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	610005	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.265)	760372	51.2067	51.2	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	577111	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.755)	243317	48.0646	48.1	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	289154	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6396.D
Date : 03-NOV-2018 13:49
Client ID: WVA-SA-MW-70-102518 Instrument: gcms-w.i
Sample Info: TL0579-20



Katahdin Analytical Services 1000154

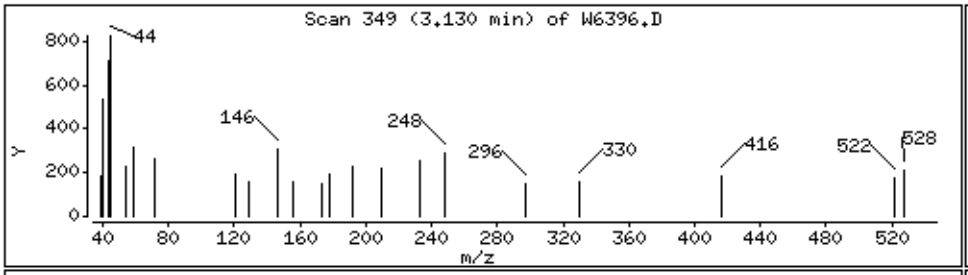
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6396.D

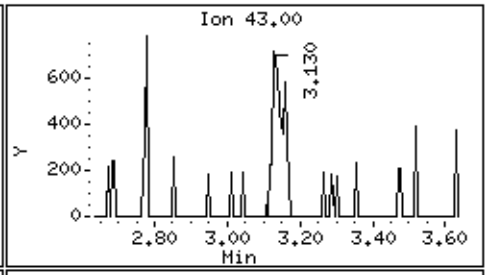
Date : 03-NOV-2018 13:49

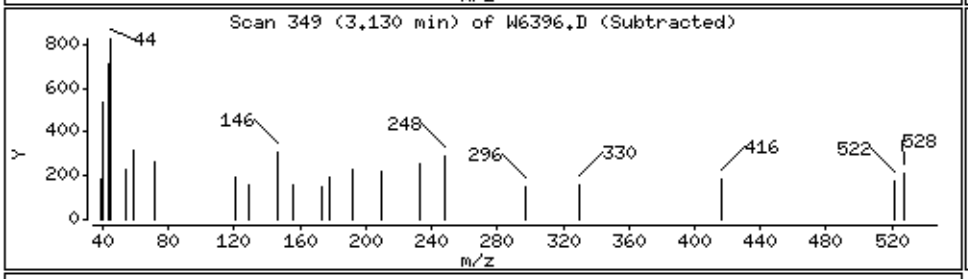
Client ID: WVA-SA-MW-70-102518 Instrument: gcms-w.i

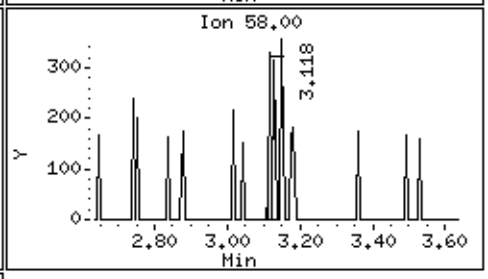
Sample Info: TL0579-20

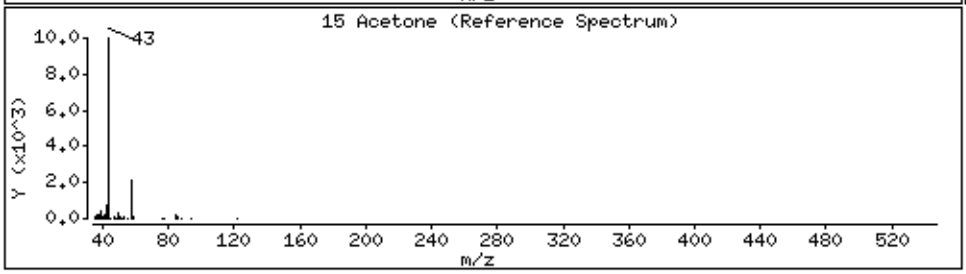
15 Acetone Concentration: 8.0 ug/l



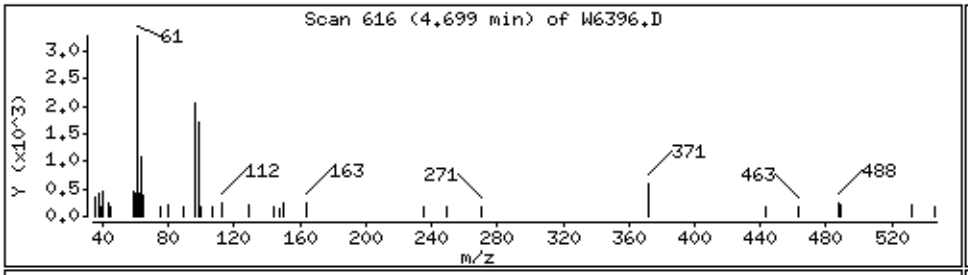


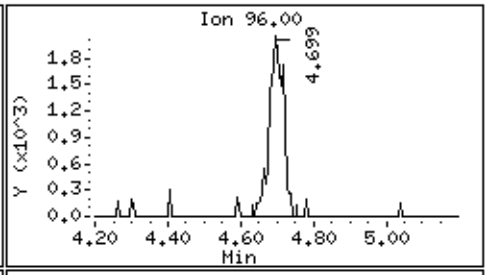


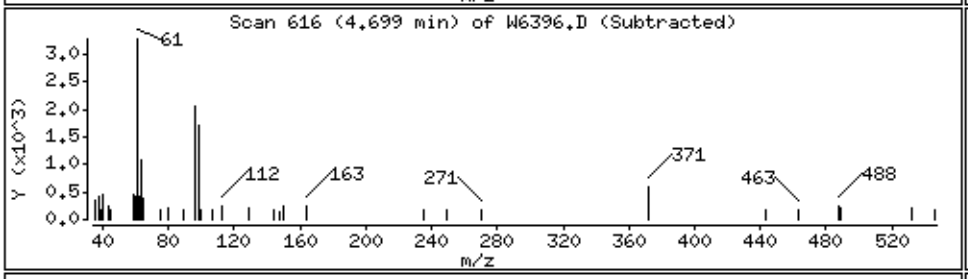


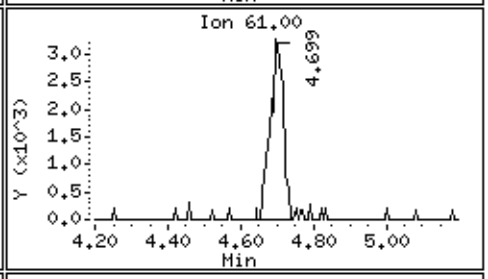


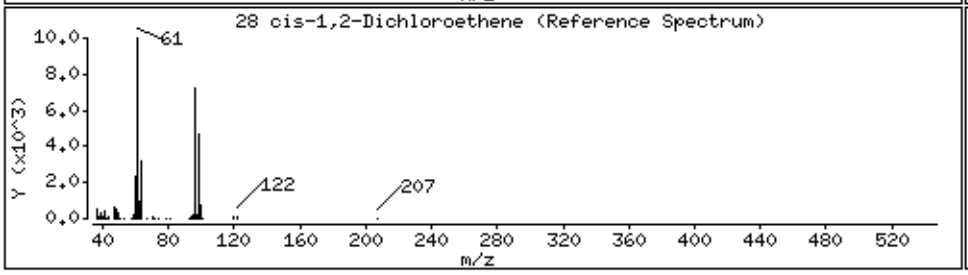
28 cis-1,2-Dichloroethene Concentration: 2.4 ug/l

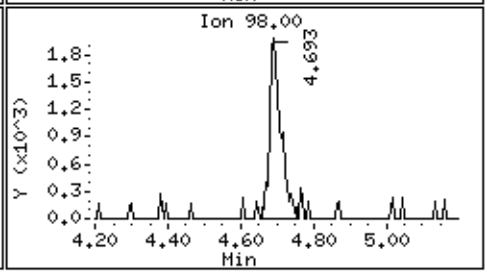












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-21
Client ID: WVA-SA-MW-60-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6397.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-21
Client ID: WVA-SA-MW-60-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6397.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6397.D
Report Date: 27-Nov-2018 16:13

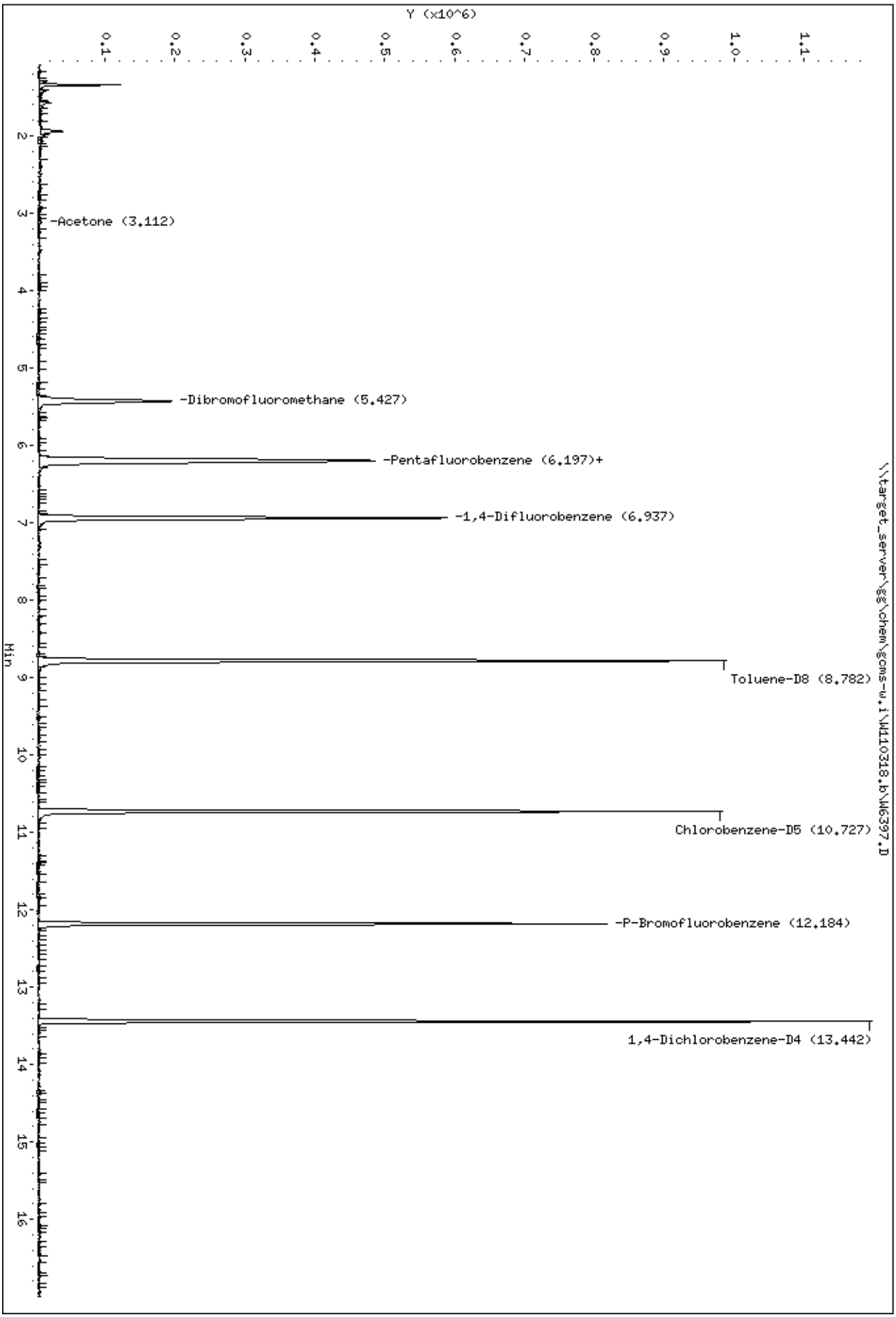
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6397.D
Lab Smp Id: TL0579-21 Client Smp ID: WVA-SA-MW-60-102518
Inj Date : 03-NOV-2018 14:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-21
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.147	3.136	(0.508)	1586	8.20615	8.2	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	167301	50.2564	50.2	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	359883	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	211792	52.1705	52.2	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	599675	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	743202	50.9126	50.9	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	559404	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	239725	48.1708	48.2	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	280801	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6397.D
Date : 03-NOV-2018 14:19
Client ID: WWA-SA-MW-60-102518
Sample Info: TL0579-21
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6397.D
Y (x10^6)
Min
-Acetone (3.112)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.442)

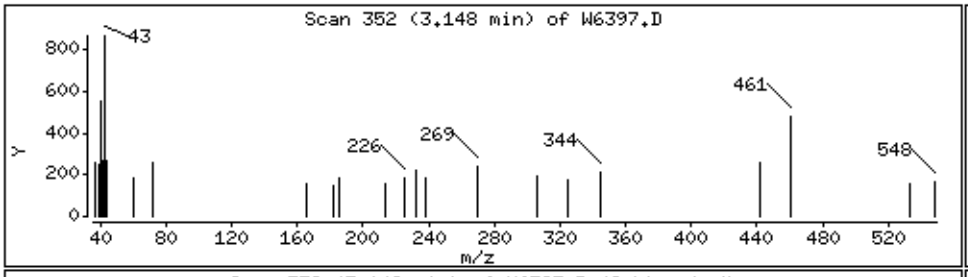
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6397.D

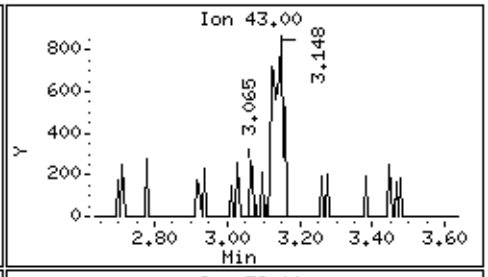
Date : 03-NOV-2018 14:19

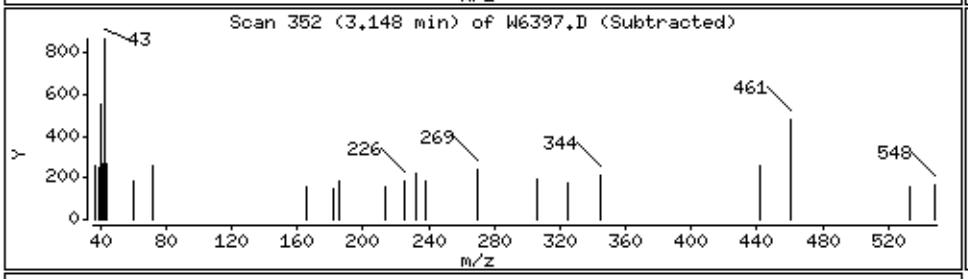
Client ID: WVA-SA-MW-60-102518 Instrument: gcms-w.i

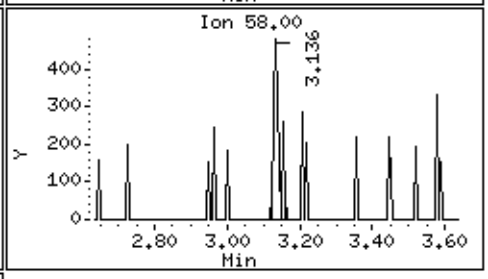
Sample Info: TL0579-21

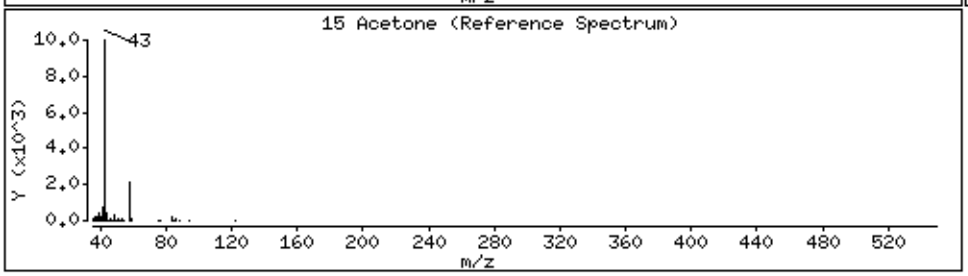
15 Acetone Concentration: 8.2 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-22
Client ID: WVA-AW-MW-27-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6398.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		92.6	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-22
Client ID: WVA-AW-MW-27-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6398.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		99.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6398.D
Report Date: 27-Nov-2018 16:13

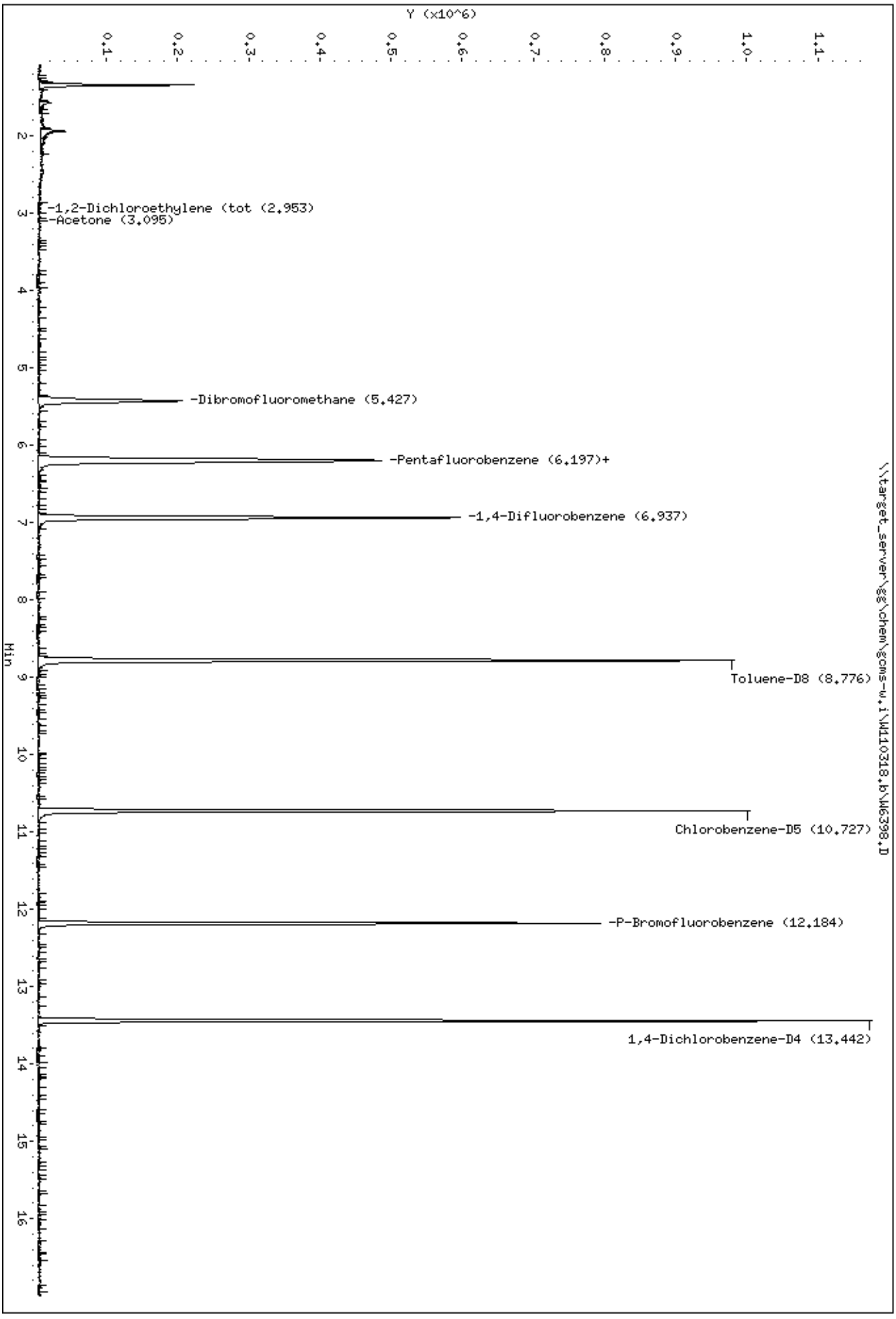
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6398.D
Lab Smp Id: TL0579-22 Client Smp ID: WVA-AW-MW-27-102518
Inj Date : 03-NOV-2018 14:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-22
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.129	3.136	(0.506)	1555	8.13207	8.1	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	168882	49.9701	50.0	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	365365	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	206218	50.0353	50.0	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	603323	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	742522	50.5584	50.6	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	558262	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	231860	46.3087	46.3	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	284143	50.0000		


Data File: \\target_server\gc\chem\gcms-w.i\W110318.b\W6398.D
Date : 03-NOV-2018 14:49
Client ID: WVP-AW-MW-27-102518
Sample Info: TL0579-22
Instrument: gcms-w.i
\\target_server\gc\chem\gcms-w.i\W110318.b\W6398.D
Y (x10^6)
Min
-1,2-Dichloroethylene (tot (2.953)
-Acetone (3.095)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.442)

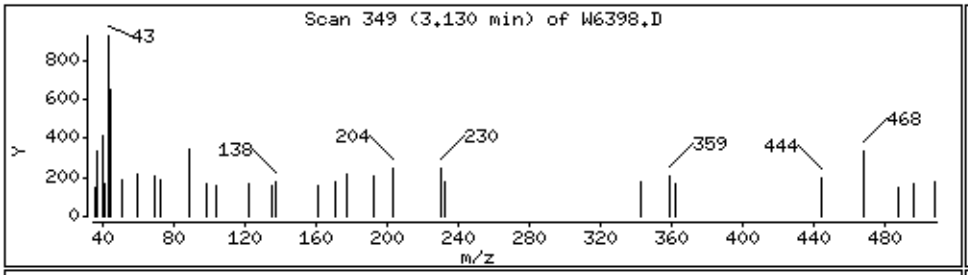
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6398.D

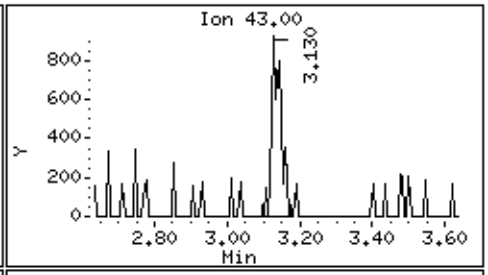
Date : 03-NOV-2018 14:49

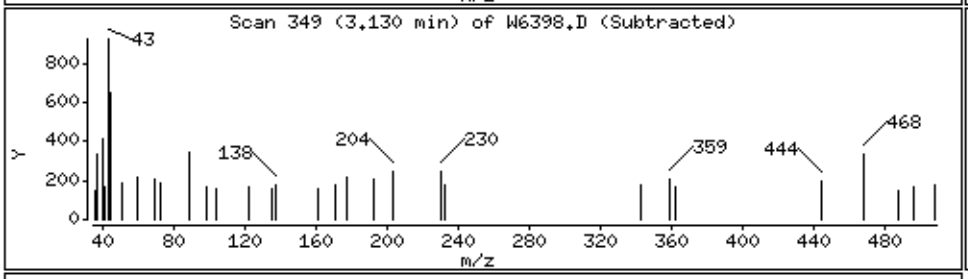
Client ID: WVA-AW-MW-27-102518 Instrument: gcms-w.i

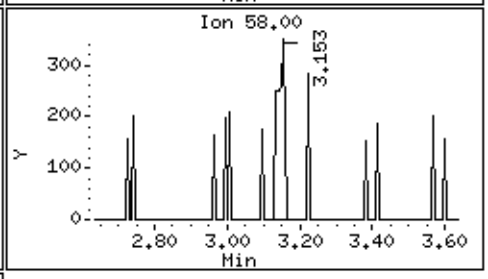
Sample Info: TL0579-22

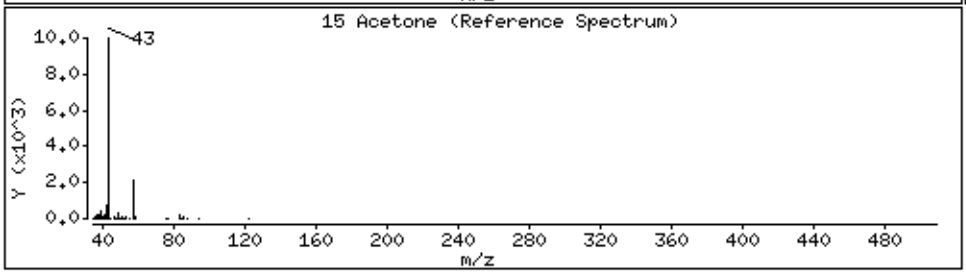
15 Acetone Concentration: 8.1 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-23
Client ID: 93EM-RW-2-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6399.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		65.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		58.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		29.	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.8	%			
Toluene-d8		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-23
Client ID: 93EM-RW-2-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6399.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6399.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6399.D
Lab Smp Id: TL0579-23 Client Smp ID: 93EM-RW-2-102518
Inj Date : 03-NOV-2018 15:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-23
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

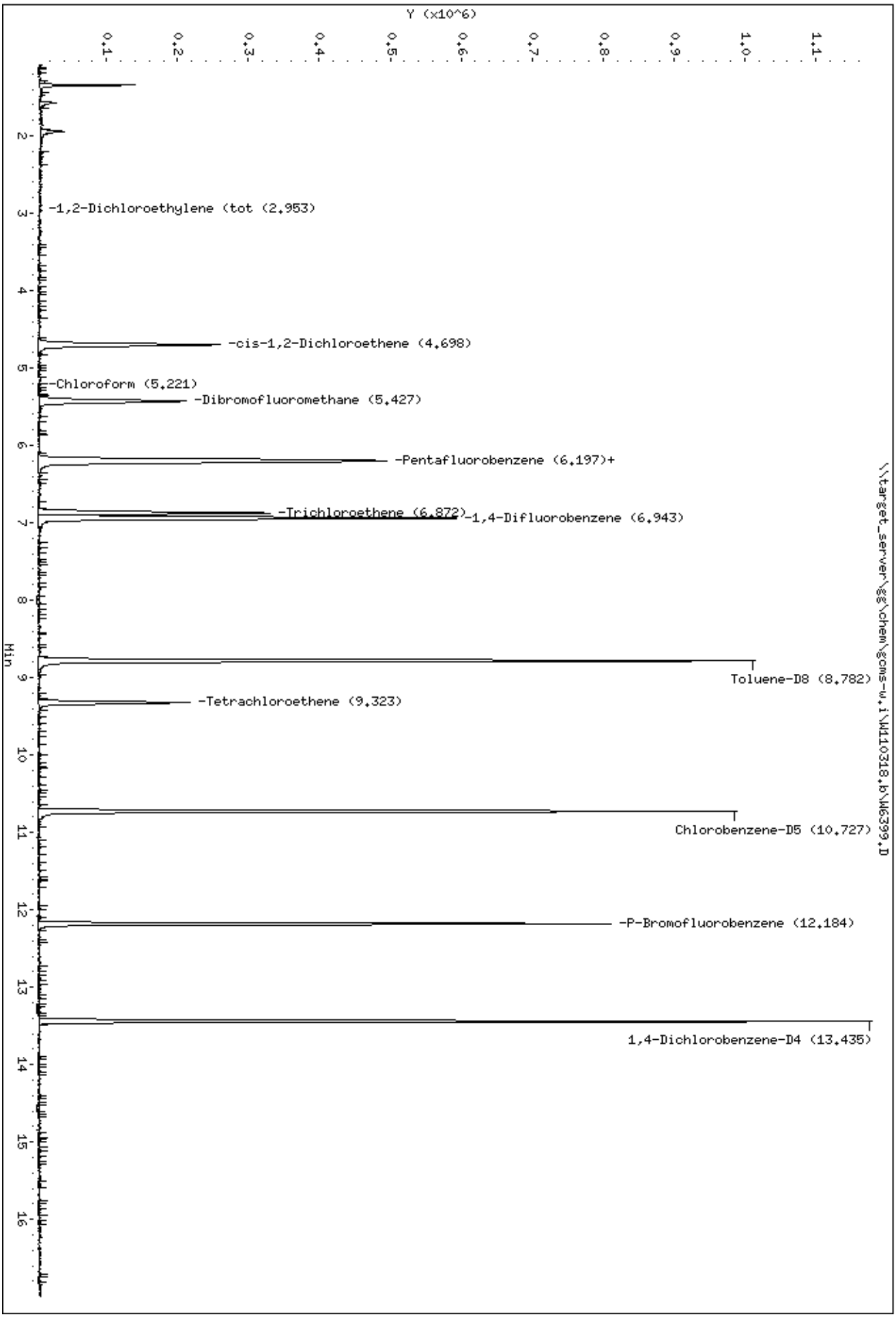
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
M	22 1,2-Dichloroethylene (total)	96				145101	65.1401	65.1	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	145101	65.1401	65.1	
	32 Chloroform	83	5.156	5.139	(0.833)	1599	0.46463	0.46(a)	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	170916	50.9537	51.0	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	362628	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	211563	51.7196	51.7	
	48 Trichloroethene	95	6.872	6.867	(0.990)	124760	57.7415	57.7	
*	49 1,4-Difluorobenzene	114	6.942	6.937	(1.000)	610944	50.0000		
$	58 Toluene-D8	98	8.781	8.782	(1.265)	747416	50.2568	50.2	
	60 Tetrachloroethene	164	9.328	9.328	(0.870)	51572	28.7125	28.7	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	562336	50.0000		
$	78 P-Bromofluorobenzene	95	12.183	12.184	(1.755)	242807	47.8902	47.9	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	285964	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6399.D
Date : 03-NOV-2018 15:19
Client ID: 93EM-RW-2-102518
Sample Info: TL0579-23
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6399.D
Y (x10^6)
Min
-1,2-Dichloroethylene (tot (2.953)
-cis-1,2-Dichloroethene (4.698)
-Chloroform (5.221)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-Trichloroethene (6.872)
-1,4-Difluorobenzene (6.943)
Toluene-D8 (8.782)
-Tetrachloroethene (9.323)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.435)

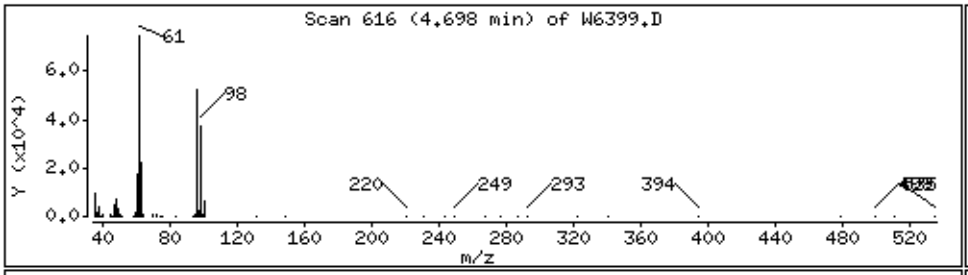
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6399.D

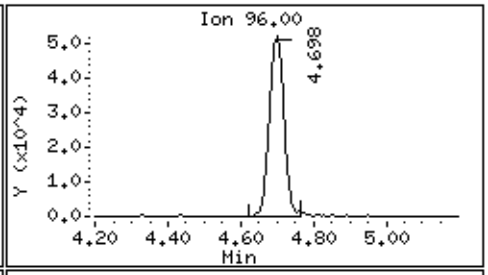
Date : 03-NOV-2018 15:19

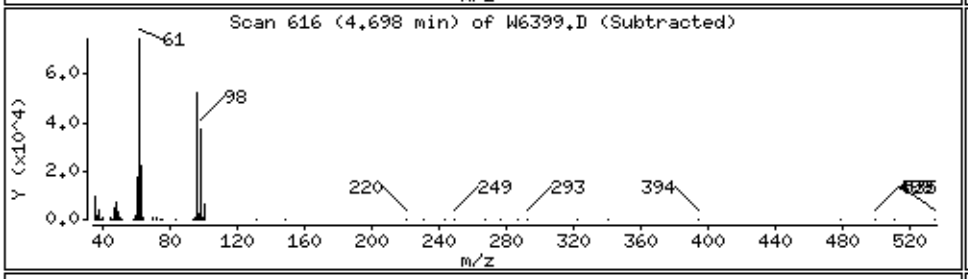
Client ID: 93EM-RW-2-102518 Instrument: gcms-w.i

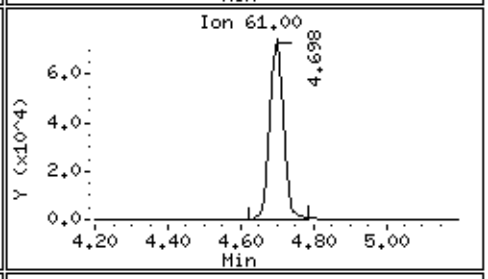
Sample Info: TL0579-23

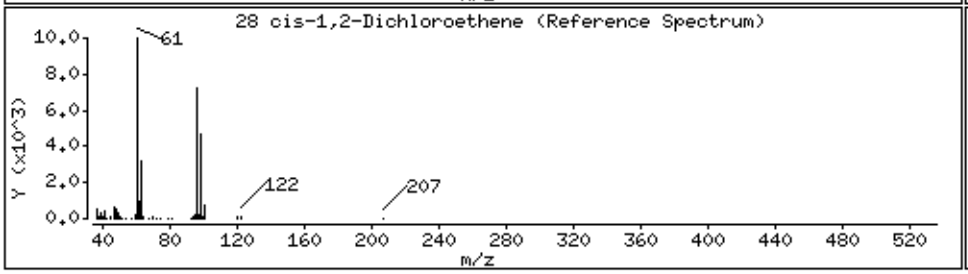
28 cis-1,2-Dichloroethene Concentration: 65.1 ug/l

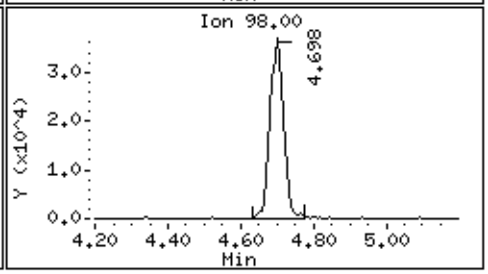




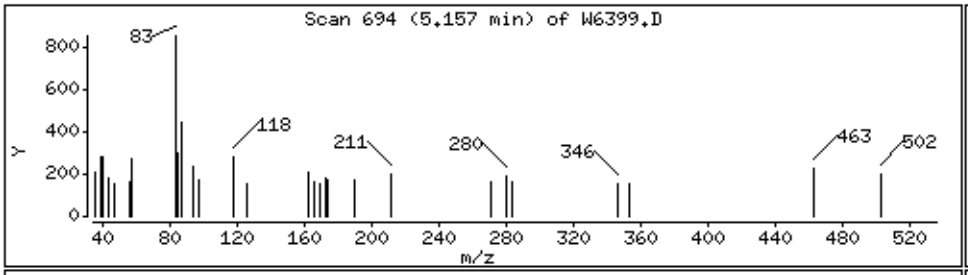


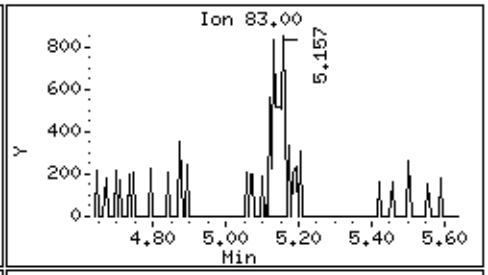


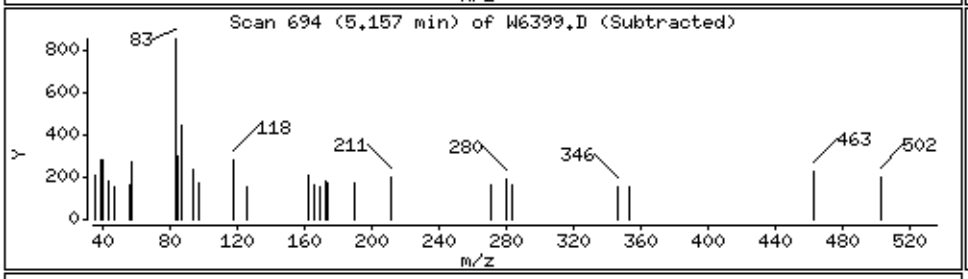


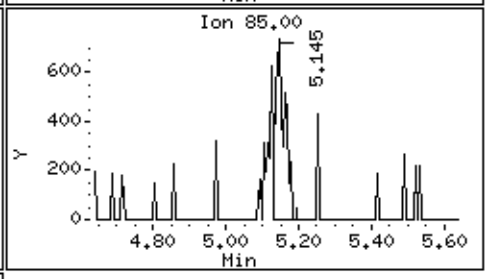


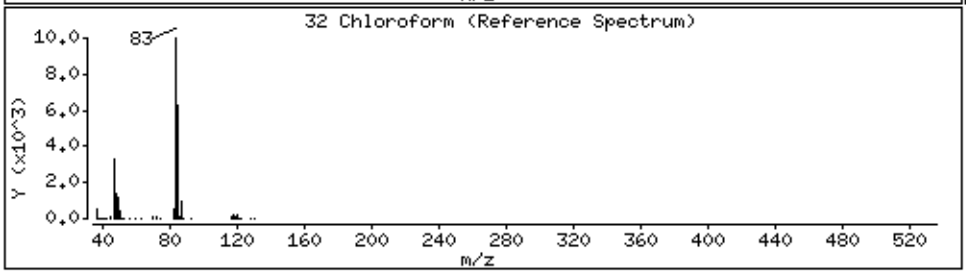
32 Chloroform Concentration: 0.46 ug/l











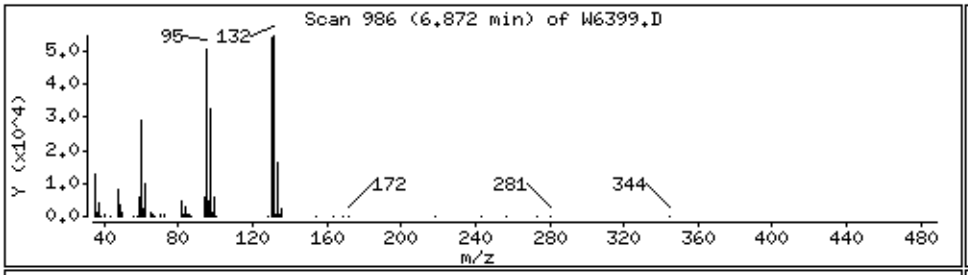
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6399.D

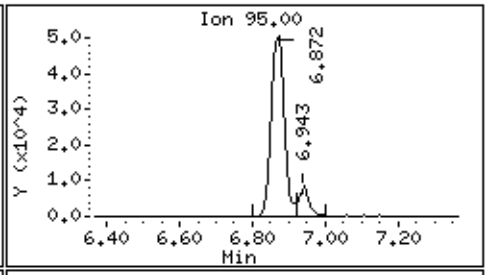
Date : 03-NOV-2018 15:19

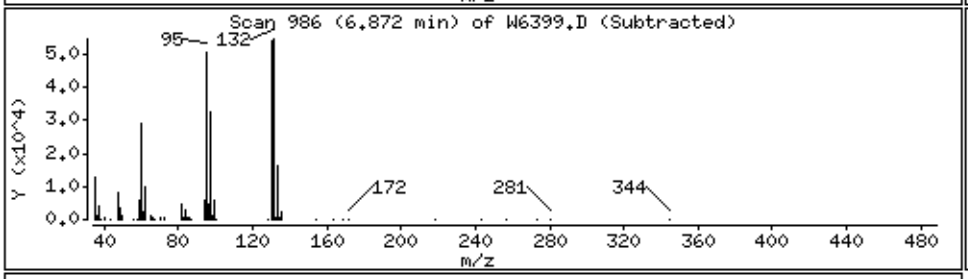
Client ID: 93EM-RW-2-102518 Instrument: gcms-w.i

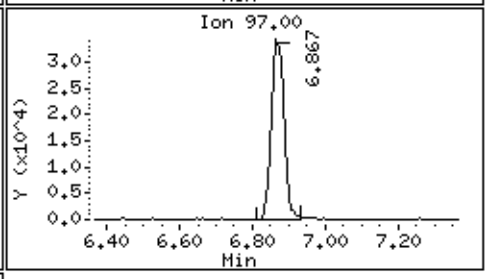
Sample Info: TL0579-23

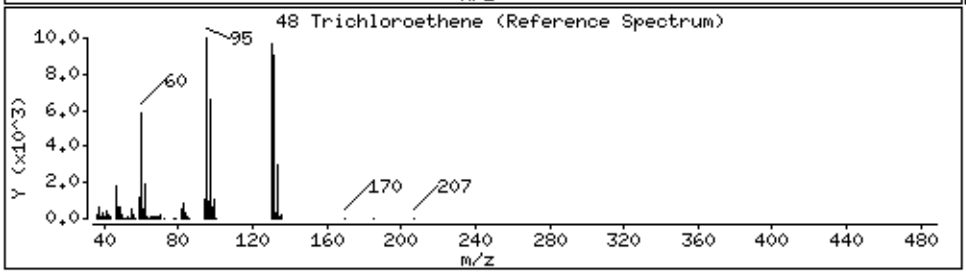
48 Trichloroethene Concentration: 57.7 ug/l



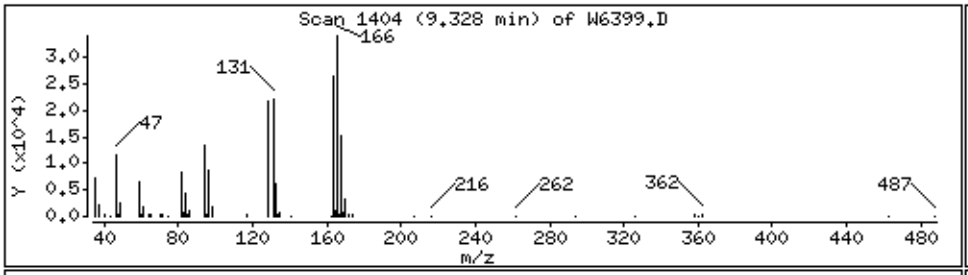


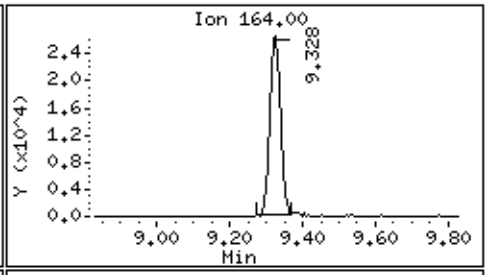


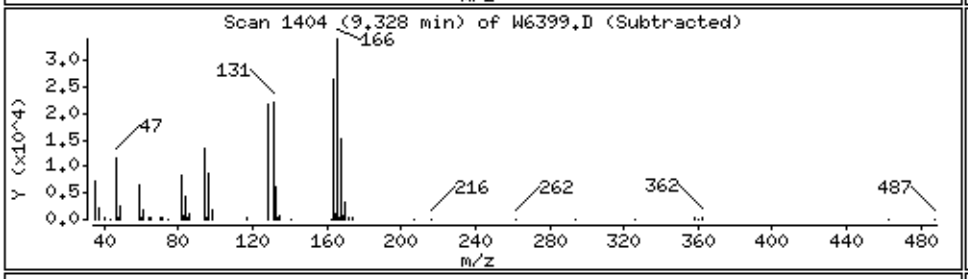


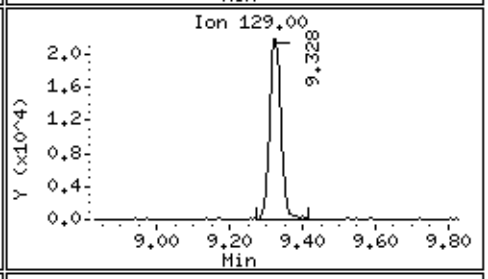


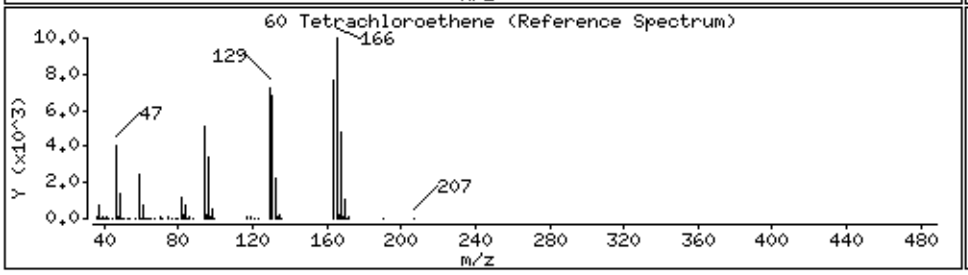
60 Tetrachloroethene Concentration: 28.7 ug/l

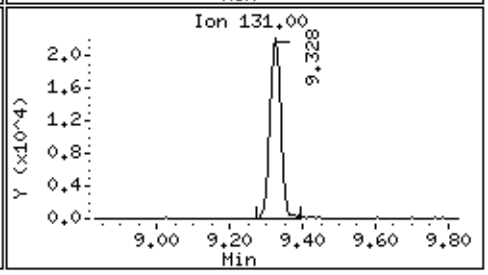












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-24
Client ID: WVA-AW-MW-52-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6400.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene		2.3	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.0	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-24
Client ID: WVA-AW-MW-52-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6400.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		100.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6400.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6400.D
Lab Smp Id: TL0579-24 Client Smp ID: WVA-AW-MW-52-102518
Inj Date : 03-NOV-2018 15:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-24
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

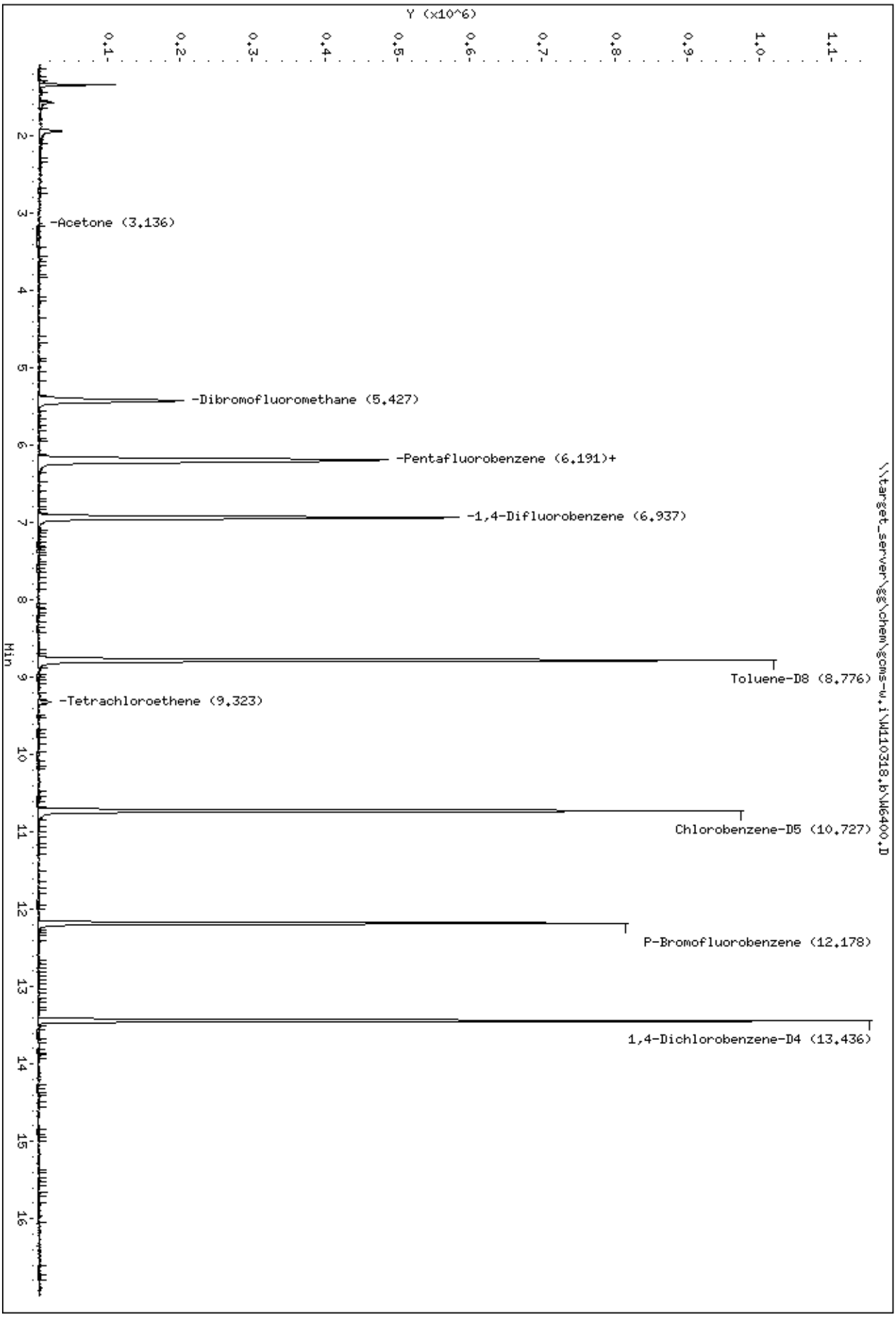
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.135	3.136	(0.506)	1384	7.92996	7.9	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	167437	50.2743	50.3	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	360047	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	208090	51.2352	51.2(M)	M10
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	586689	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	731431	51.2153	51.2	
	60 Tetrachloroethene	164	9.328	9.328	(0.870)	4093	2.27577	2.3	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	563076	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	241052	49.5096	49.5	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	279830	50.0000		

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6400.D
Date : 03-NOV-2018 15:49
Client ID: WWA-MW-52-102518
Sample Info: TL0579-24
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6400.D
Y (x10^6)
Min
-Acetone (3.136)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.191)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
-Tetrachloroethene (9.323)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.436)

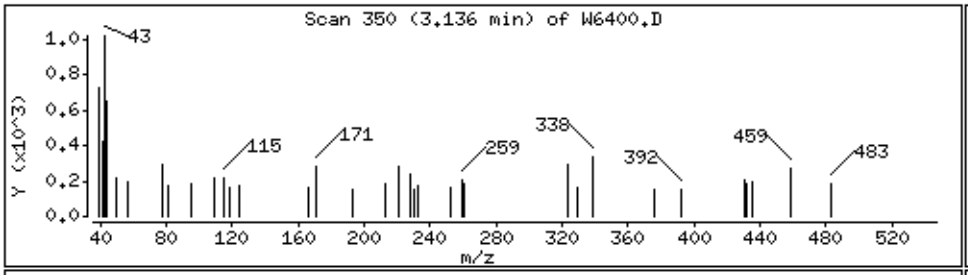
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6400.D

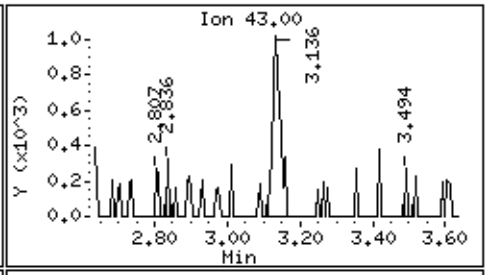
Date : 03-NOV-2018 15:49

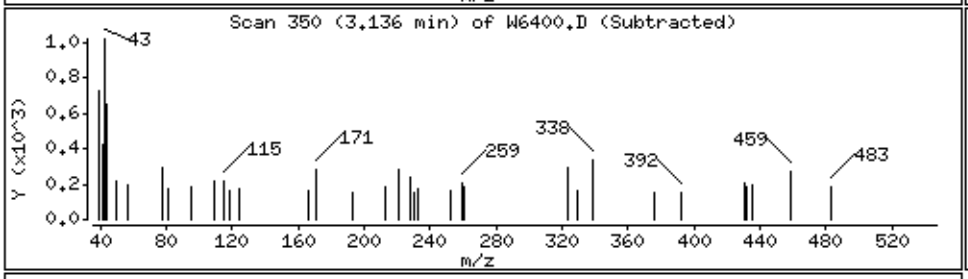
Client ID: WVA-AW-MW-52-102518 Instrument: gcms-w.i

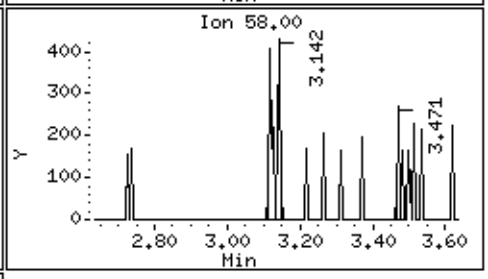
Sample Info: TL0579-24

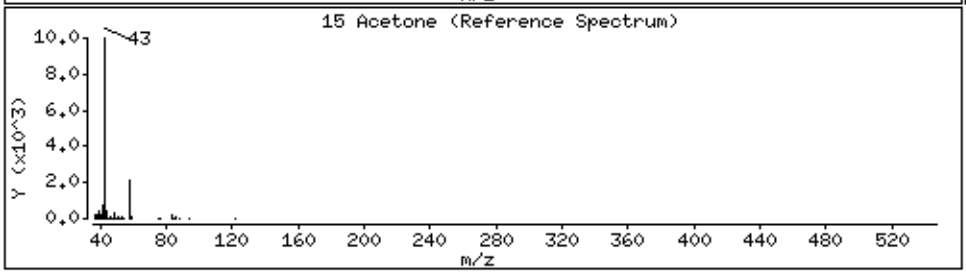
15 Acetone Concentration: 7.9 ug/l



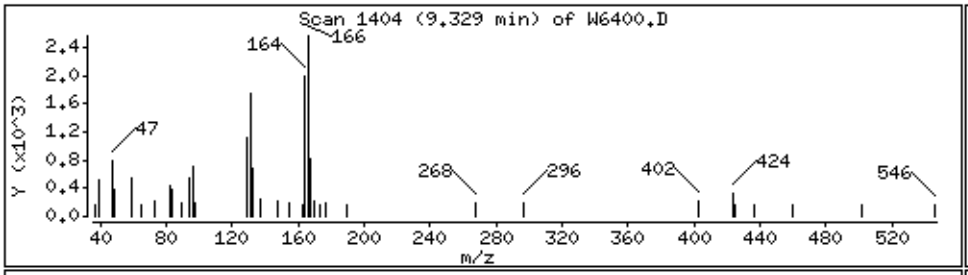


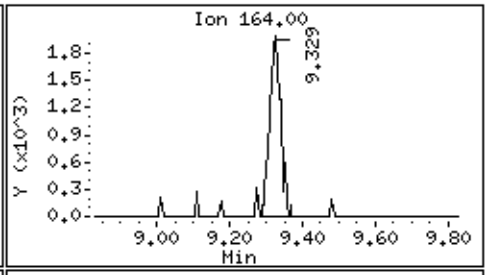


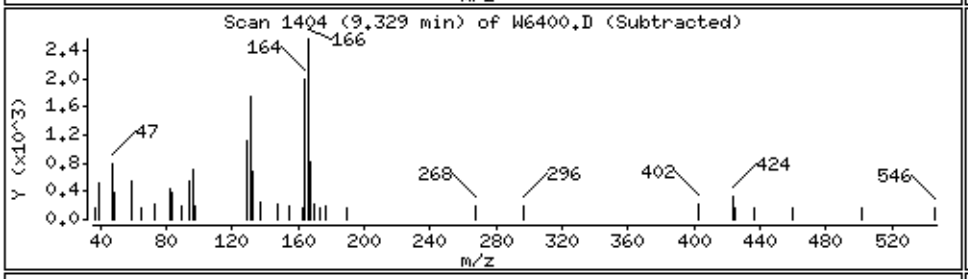


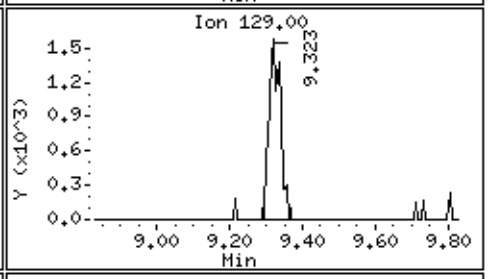


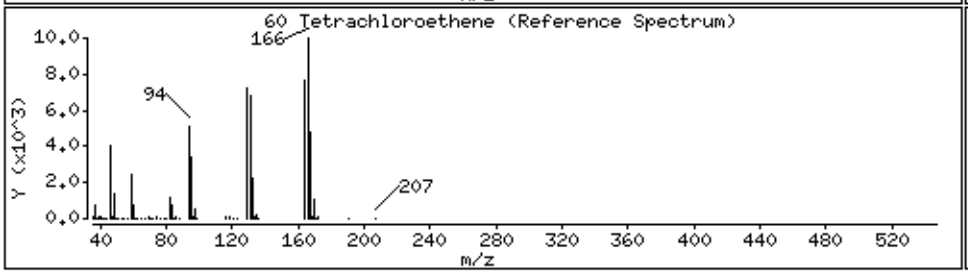
60 Tetrachloroethene Concentration: 2.3 ug/l

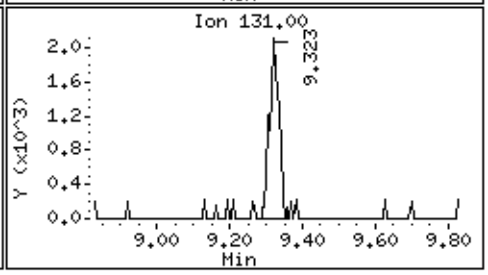












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-25
Client ID: WVA-AW-MW-64-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6451.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 06-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 06-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		23.	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		130	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		97.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	E	230	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.0	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-25
Client ID: WVA-AW-MW-64-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6451.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 06-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 06-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6451.D
Report Date: 27-Nov-2018 17:57

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6451.D
Lab Smp Id: TL0579-25 Client Smp ID: WVA-AW-MW-64-102518
Inj Date : 06-NOV-2018 03:17
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-25
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

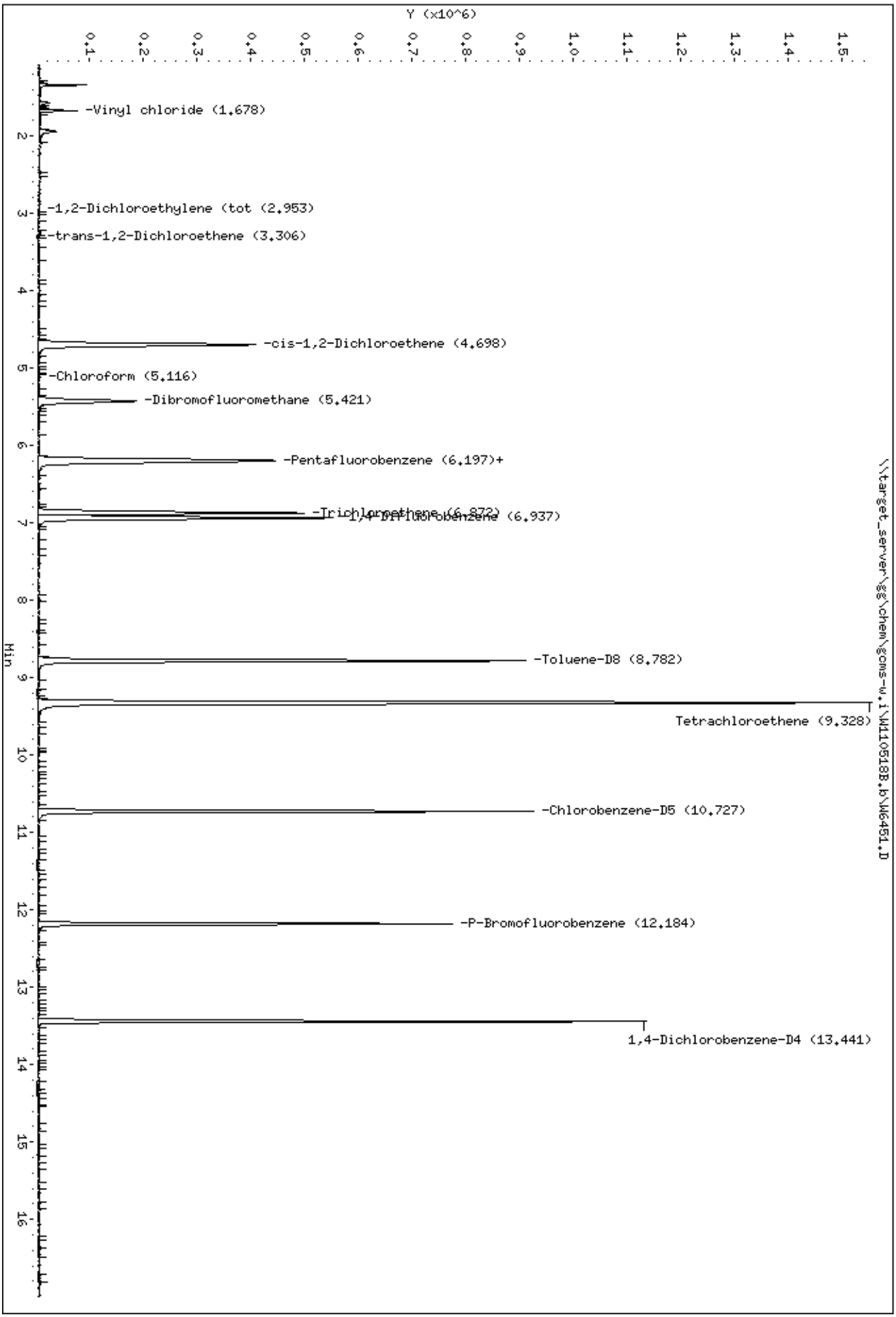
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.678	1.673	(0.271)	46510	22.9956	23.0	
	16 trans-1,2-Dichloroethene	96	3.253	3.253	(0.525)	1309	0.76310	0.76(a)	
M	22 1,2-Dichloroethylene (total)	96				251450	126.472	126	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	250141	125.709	126	
	32 Chloroform	83	5.139	5.139	(0.830)	1346	0.43783	0.44(a)	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	157379	52.5224	52.5	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	323934	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	187862	51.4114	51.4	
	48 Trichloroethene	95	6.866	6.867	(0.990)	188349	96.8131	96.8	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	550102	50.0000		
$	58 Toluene-D8	98	8.781	8.782	(1.266)	676470	50.5172	50.5	
	60 Tetrachloroethene	164	9.328	9.328	(0.870)	372483	226.447	226(A)	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	514982	50.0000		
$	78 P-Bromofluorobenzene	95	12.183	12.184	(1.756)	223658	48.9923	49.0	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	267003	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.


Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Vinyl chloride (1.678)
-1,2-Dichloroethylene (tot (2.953)
-trans-1,2-Dichloroethene (3.306)
-cis-1,2-Dichloroethene (4.698)
-Chloroform (5.116)
-Dibromofluoromethane (5.421)
-Pentafluorobenzene (6.197)+
-Trichloroethene (6.872)
1,4-Difluorobenzene (6.937)
-Toluene-D8 (8.782)
Tetrachloroethene (9.328)
-Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6451.D
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6451.D
Date : 06-NOV-2018 03:17
Client ID: WVA-AW-MW-64-102518
Sample Info: TL0579-25
Instrument: gcms-w.i

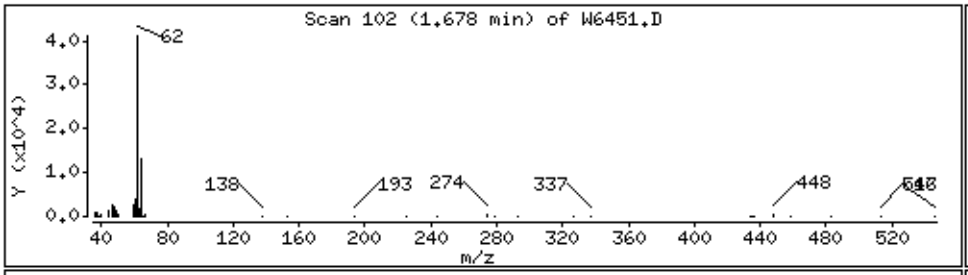
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6451.D

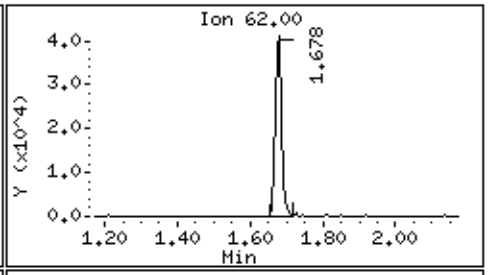
Date : 06-NOV-2018 03:17

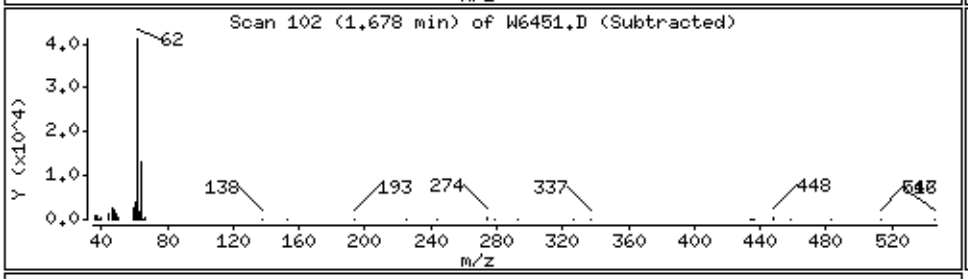
Client ID: WVA-AW-MW-64-102518 Instrument: gcms-w.i

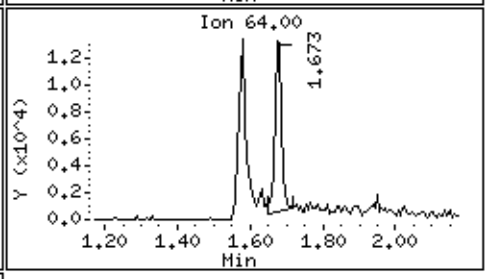
Sample Info: TL0579-25

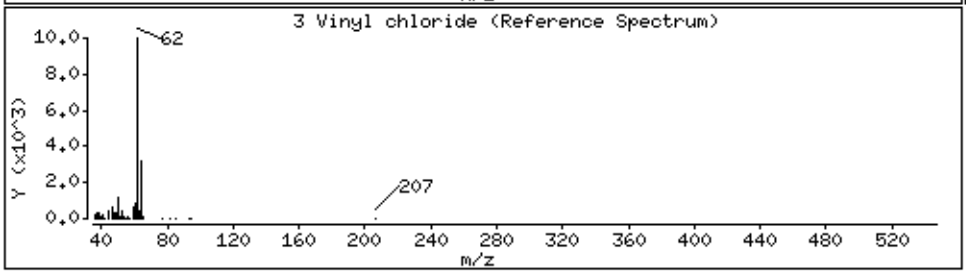
3 Vinyl chloride Concentration: 23.0 ug/l



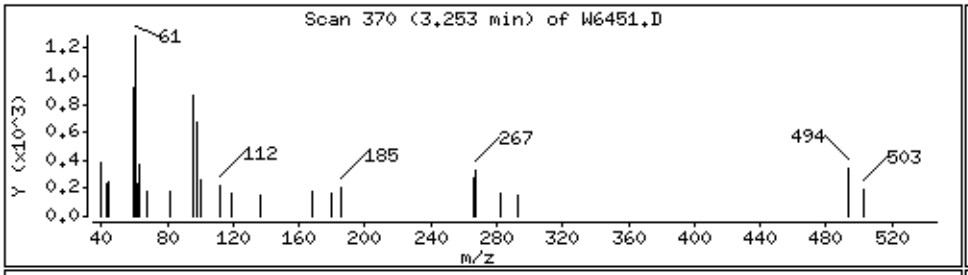


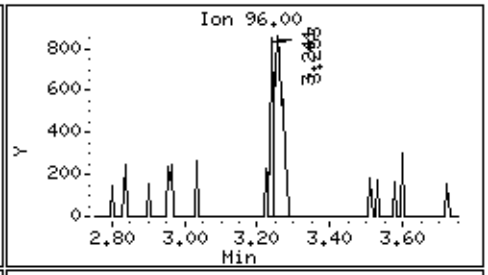


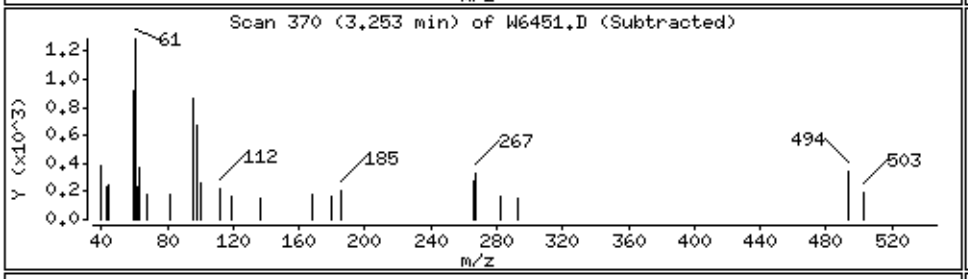


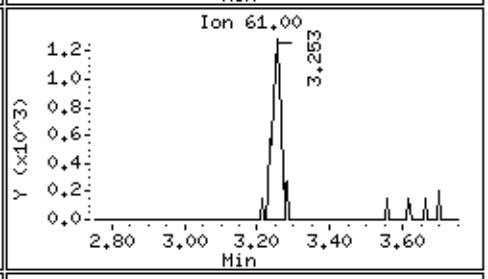


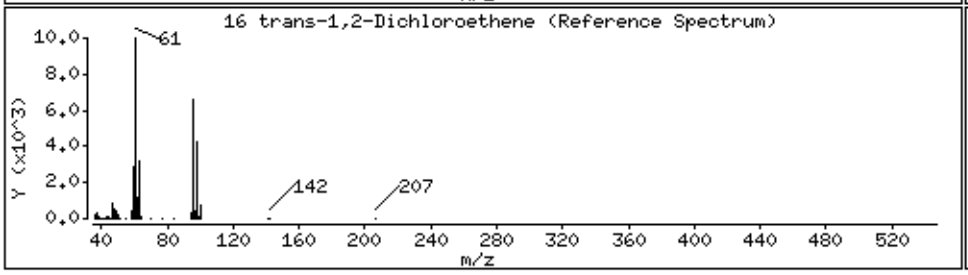
16 trans-1,2-Dichloroethene Concentration: 0.76 ug/l

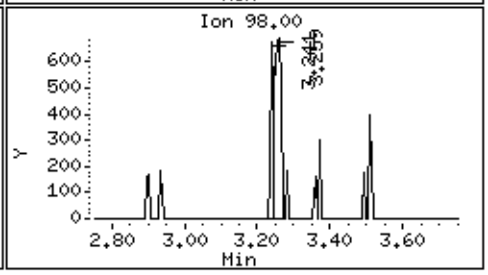












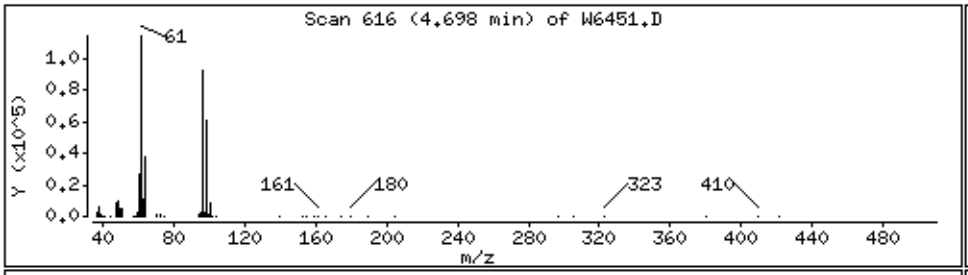
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6451.D

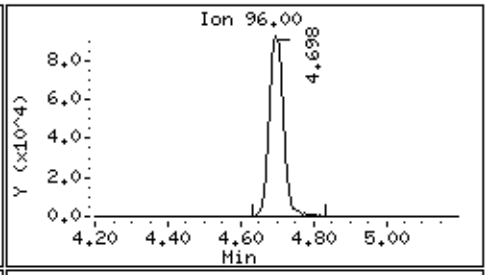
Date : 06-NOV-2018 03:17

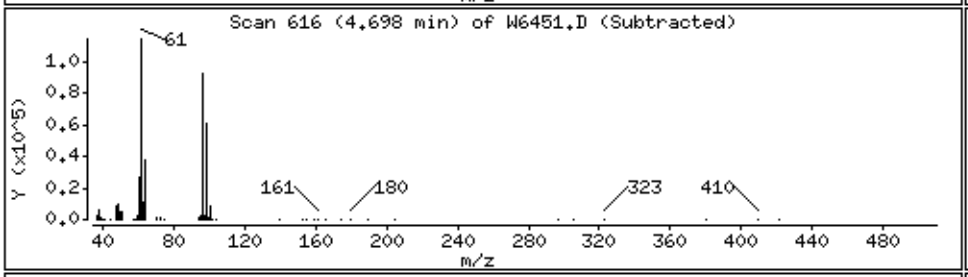
Client ID: WVA-AW-MW-64-102518 Instrument: gcms-w.i

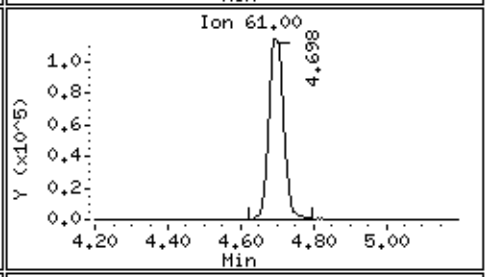
Sample Info: TL0579-25

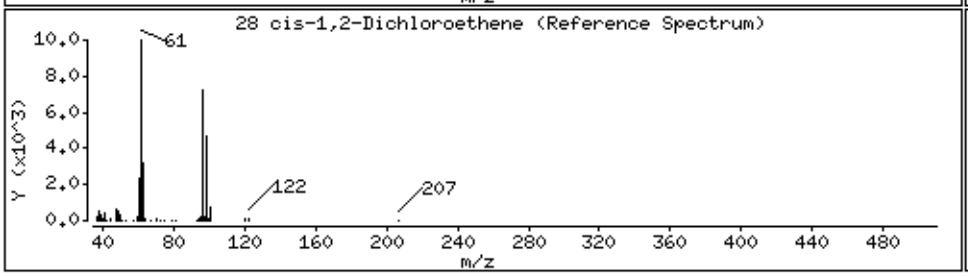
28 cis-1,2-Dichloroethene Concentration: 126 ug/l

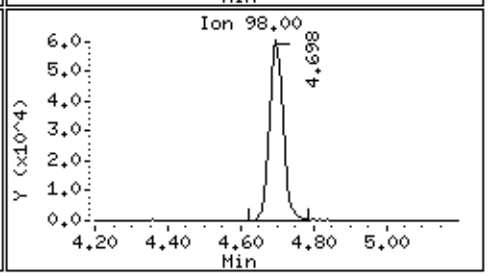




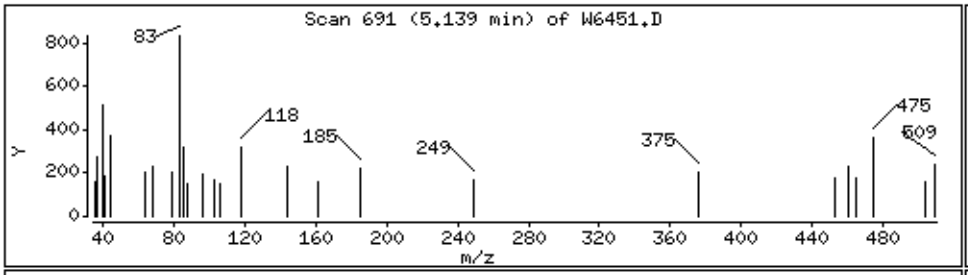


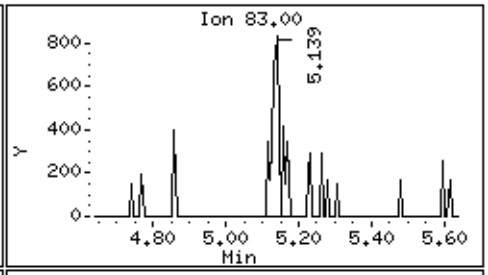


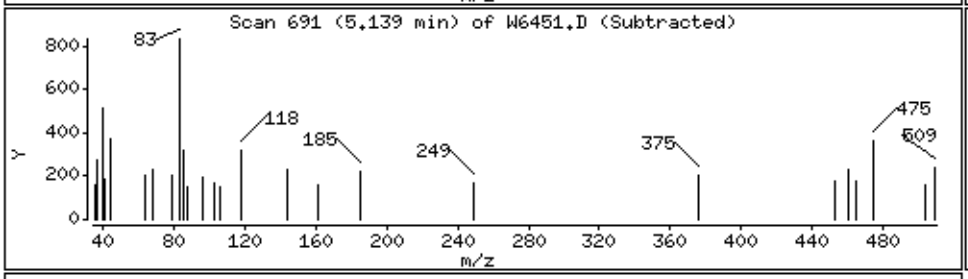


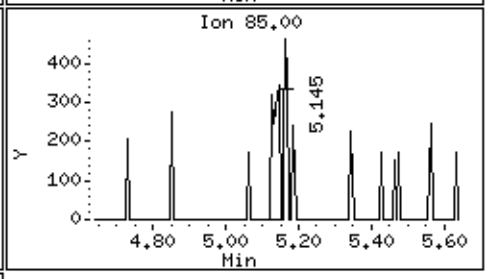


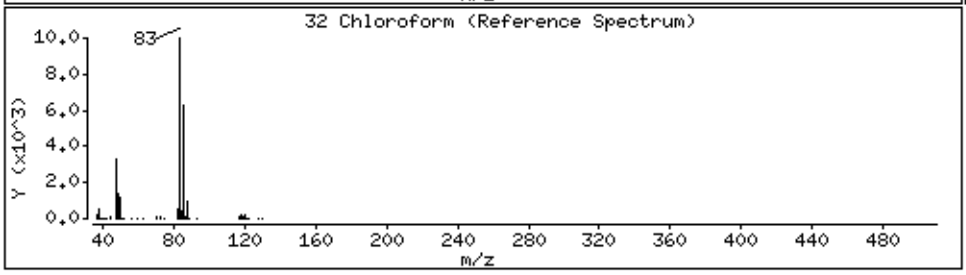
32 Chloroform Concentration: 0.44 ug/l











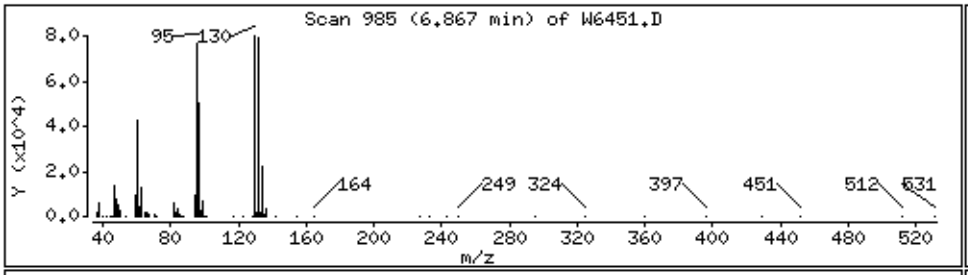
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6451.D

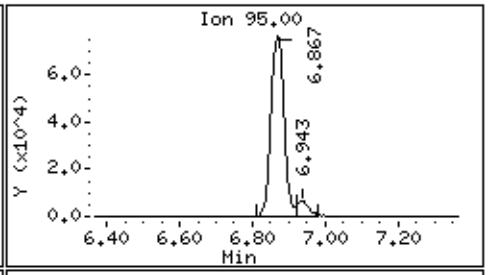
Date : 06-NOV-2018 03:17

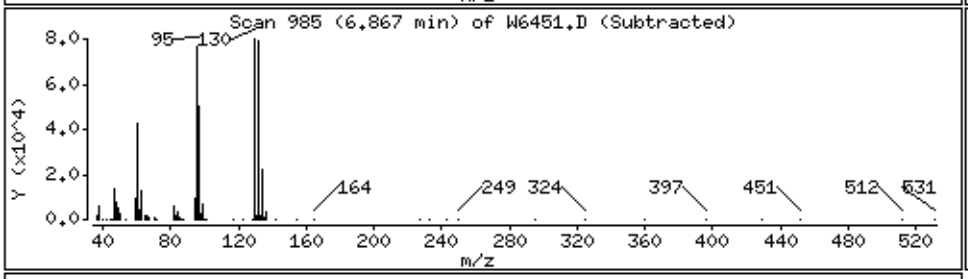
Client ID: WVA-AW-MW-64-102518 Instrument: gcms-w.i

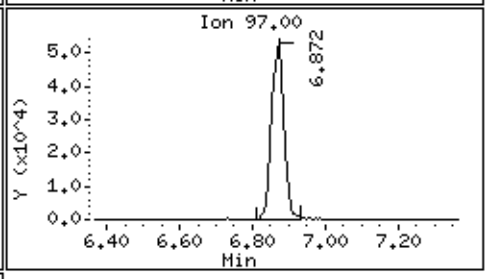
Sample Info: TL0579-25

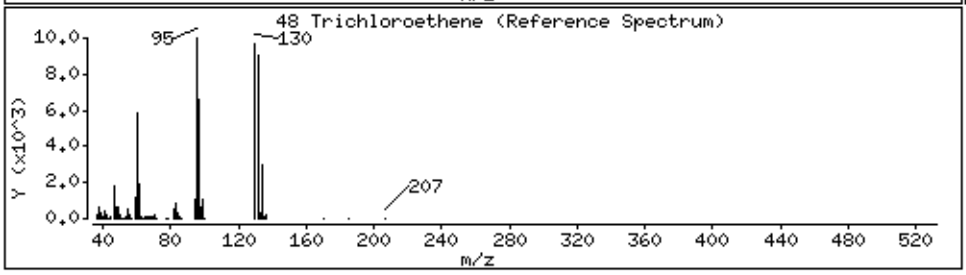
48 Trichloroethene Concentration: 96.8 ug/l



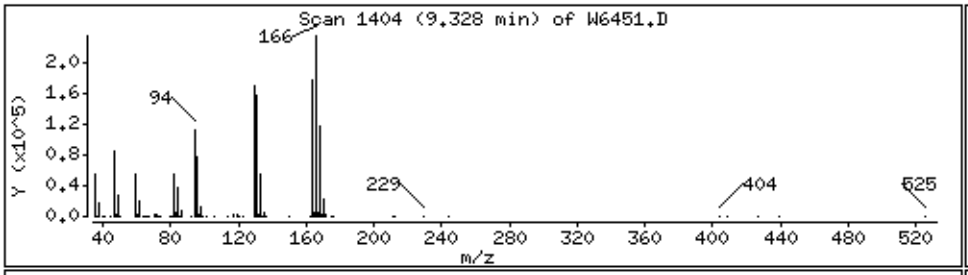


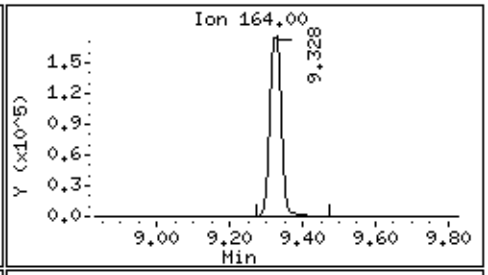


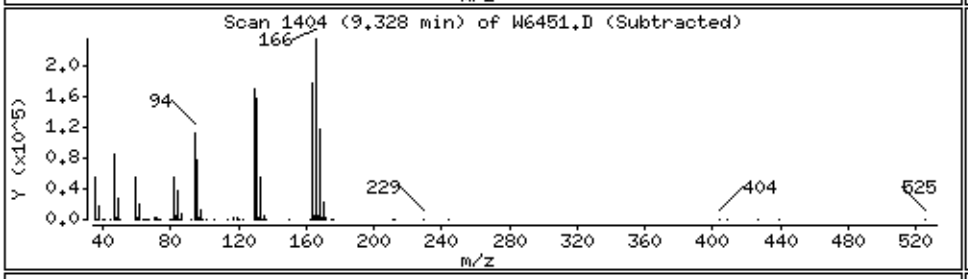


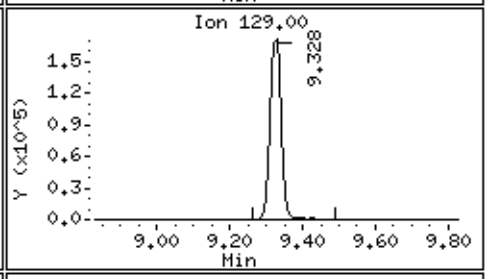


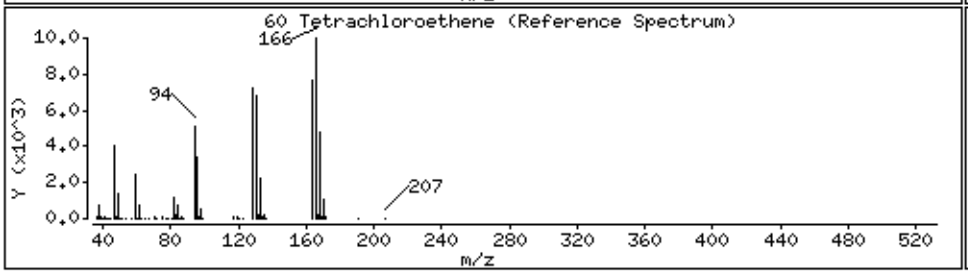
60 Tetrachloroethene Concentration: 226 ug/l

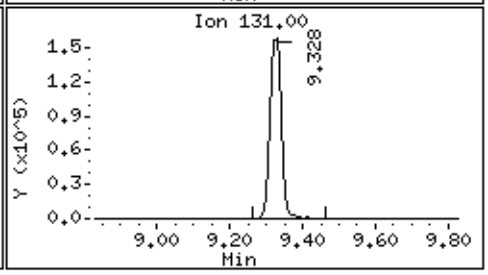












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-25DL2
Client ID: WVA-AW-MW-64-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6427.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	10.	ug/L	5	2	10.
Vinyl Chloride		22.	ug/L	5	2	10.
Bromomethane	U	10.	ug/L	5	2	10.
Chloroethane	U	10.	ug/L	5	2	10.
Trichlorofluoromethane	U	10.	ug/L	5	2	10.
1,1-Dichloroethene	U	5.0	ug/L	5	1	5.0
Carbon Disulfide	U	5.0	ug/L	5	1	5.0
Methylene Chloride	U	25.	ug/L	5	5	25.
trans-1,2-Dichloroethene	U	5.0	ug/L	5	1	5.0
1,1-Dichloroethane	U	5.0	ug/L	5	1	5.0
cis-1,2-Dichloroethene		110	ug/L	5	1	5.0
Chloroform	U	5.0	ug/L	5	1	5.0
Carbon Tetrachloride	U	5.0	ug/L	5	1	5.0
1,1,1-Trichloroethane	U	5.0	ug/L	5	1	5.0
2-Butanone	U	25.	ug/L	5	5	25.
Benzene	U	5.0	ug/L	5	1	5.0
1,2-Dichloroethane	U	5.0	ug/L	5	1	5.0
Trichloroethene		88.	ug/L	5	1	5.0
1,2-Dichloropropane	U	5.0	ug/L	5	1	5.0
Bromodichloromethane	U	5.0	ug/L	5	1	5.0
cis-1,3-Dichloropropene	U	5.0	ug/L	5	1	5.0
Toluene	U	5.0	ug/L	5	1	5.0
4-Methyl-2-Pentanone	U	25.	ug/L	5	5	25.
Tetrachloroethene		200	ug/L	5	1	5.0
trans-1,3-Dichloropropene	U	5.0	ug/L	5	1	5.0
1,1,2-Trichloroethane	U	5.0	ug/L	5	1	5.0
Dibromochloromethane	U	5.0	ug/L	5	1	5.0
Chlorobenzene	U	5.0	ug/L	5	1	5.0
Ethylbenzene	U	5.0	ug/L	5	1	5.0
m+p-Xylenes	U	10.	ug/L	5	2	10.
o-Xylene	U	5.0	ug/L	5	1	5.0
Bromoform	U	5.0	ug/L	5	1	5.0
1,1,2,2-Tetrachloroethane	U	5.0	ug/L	5	1	5.0
P-Bromofluorobenzene		98.8	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-25DL2
Client ID: WVA-AW-MW-64-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6427.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6427.D
Report Date: 27-Nov-2018 17:11

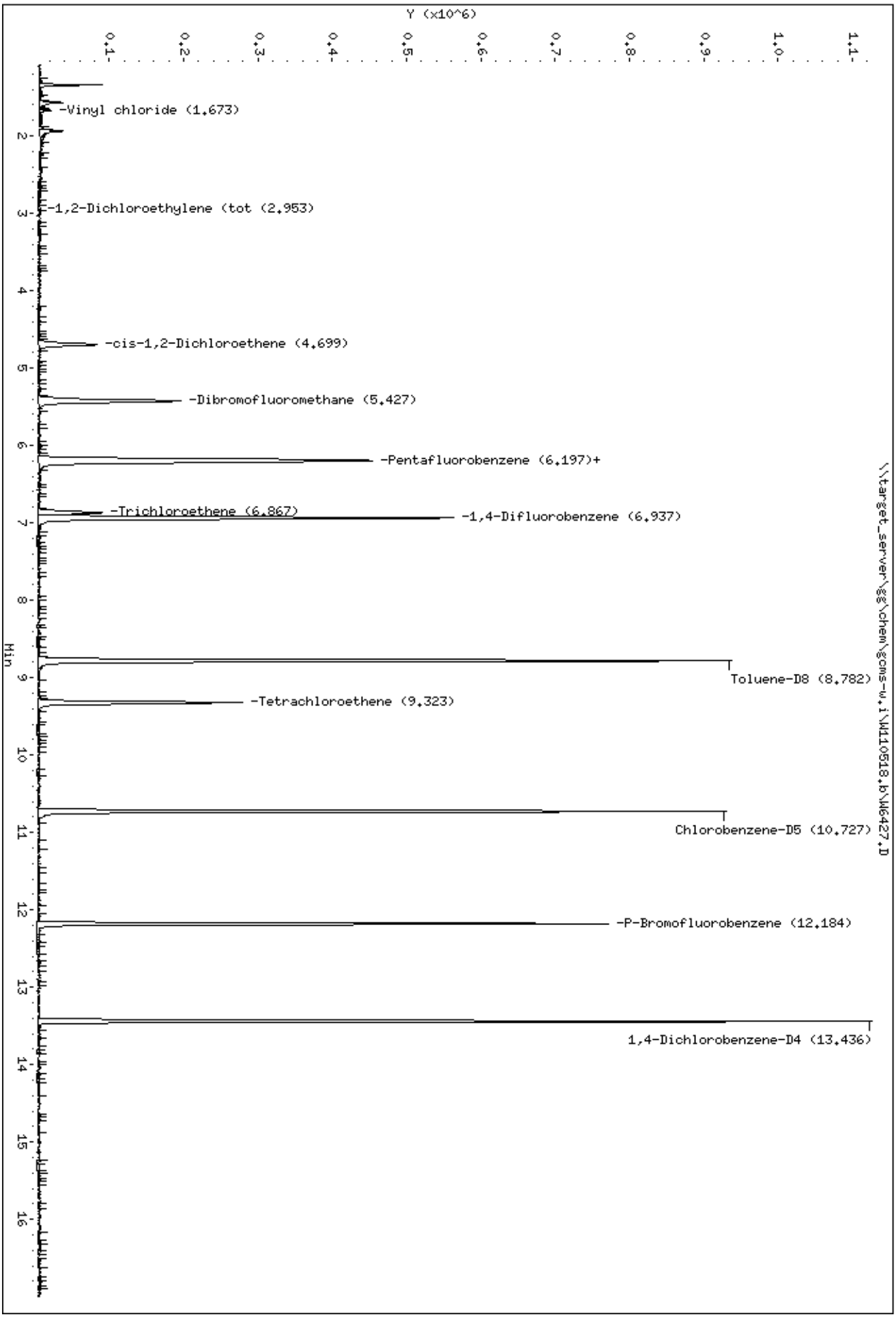
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6427.D
Lab Smp Id: TL0579-25DL2 Client Smp ID: WVA-AW-MW-64-102518
Inj Date : 05-NOV-2018 14:14
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-25DL2
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 21
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	5.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.672	1.673	(0.270)	9106	4.29635	21.5	
M	22 1,2-Dichloroethylene (total)	96				47511	22.7851	114	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	47511	22.7851	114	
$	35 Dibromofluoromethane	113	5.421	5.427	(0.876)	160881	51.2362	51.2	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	339455	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	195910	51.1624	51.2	
	48 Trichloroethene	95	6.872	6.867	(0.991)	35239	17.6589	88.3	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	564253	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	694948	50.5956	50.6	
	60 Tetrachloroethene	164	9.322	9.328	(0.869)	67647	40.3123	202	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	525369	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	231232	49.3811	49.4	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	264597	50.0000		


Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Vinyl chloride (1.673)
-1,2-Dichloroethylene (tot (2.953)
-cis-1,2-Dichloroethene (4.699)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-Trichloroethene (6.867)
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
-Tetrachloroethene (9.323)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.436)
\\target_server\gg\chem\gcms-w.i\W110518.b\W6427.D
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6427.D
Date : 05-NOV-2018 14:14
Client ID: WVA-AW-MW-64-102518
Sample Info: TL0579-25DL2
Instrument: gcms-w.i

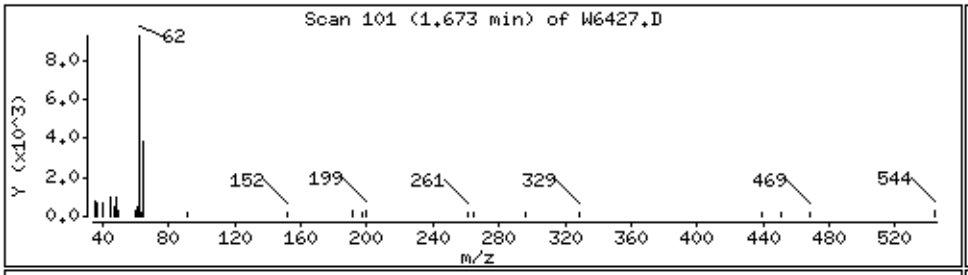
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6427.D

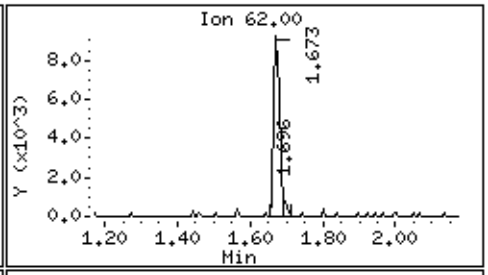
Date : 05-NOV-2018 14:14

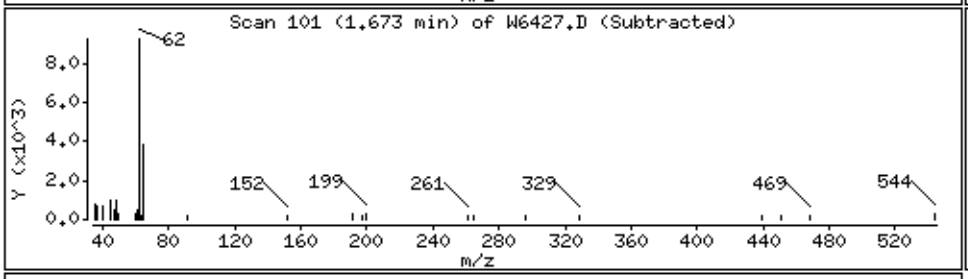
Client ID: WVA-AW-MW-64-102518 Instrument: gcms-w.i

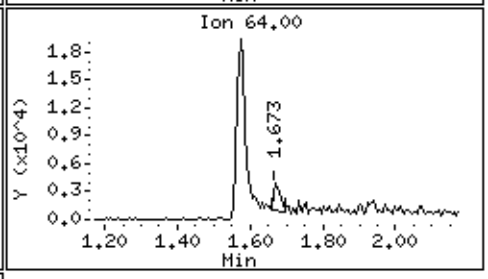
Sample Info: TL0579-25DL2

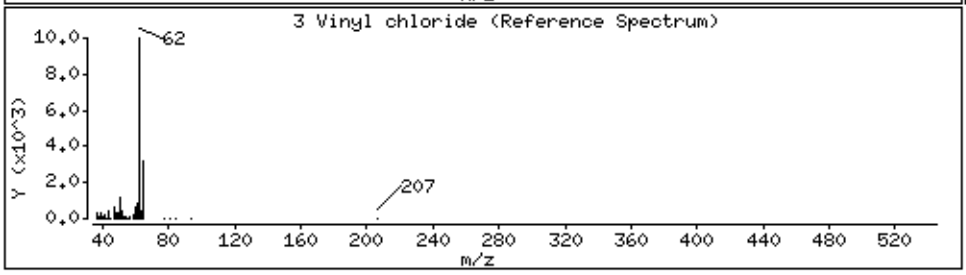
3 Vinyl chloride Concentration: 21.5 ug/l



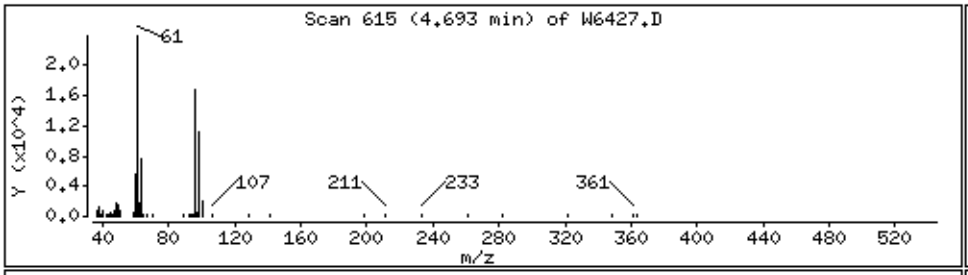


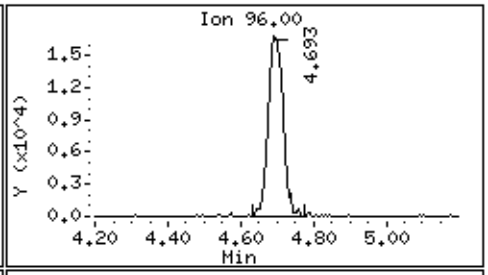


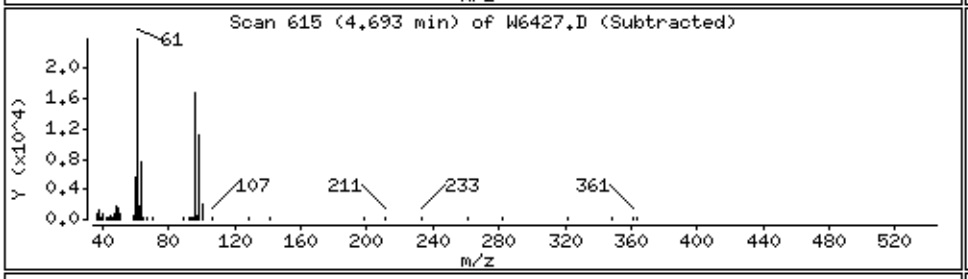


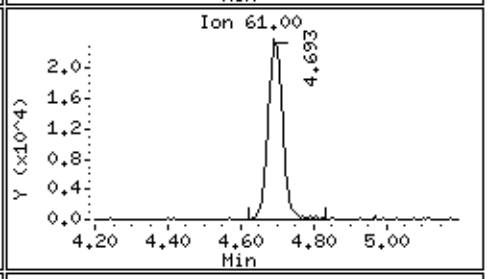


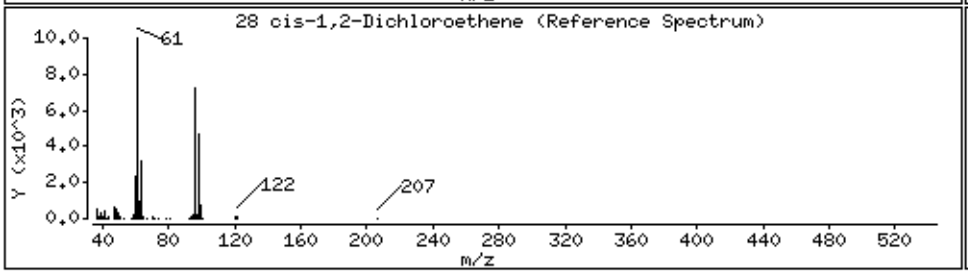
28 cis-1,2-Dichloroethene Concentration: 114 ug/l

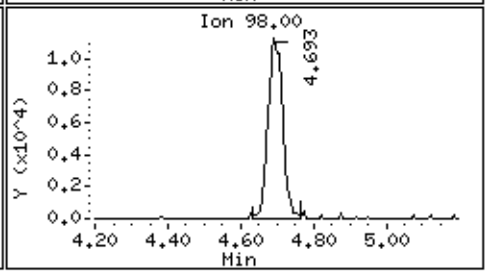












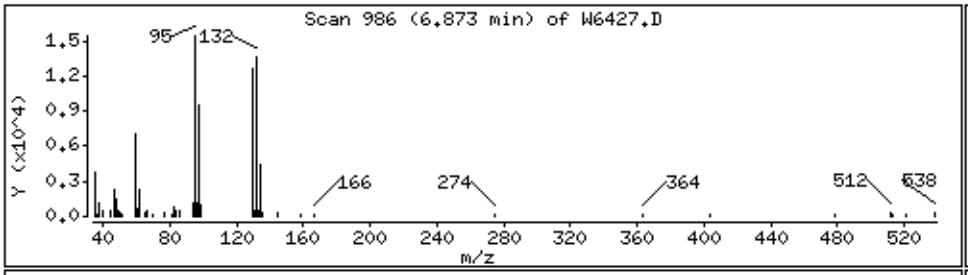
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6427.D

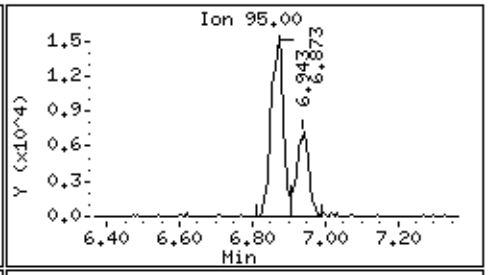
Date : 05-NOV-2018 14:14

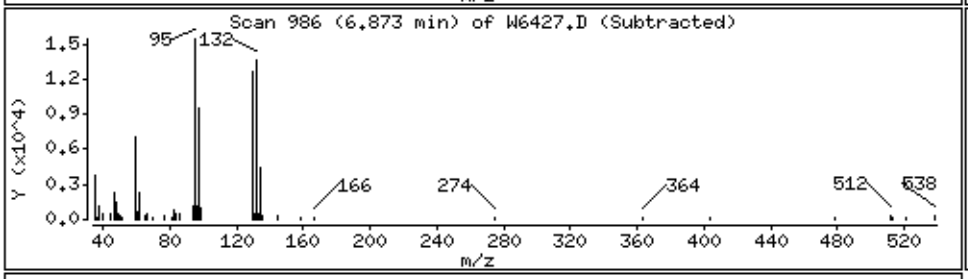
Client ID: WVA-AW-MW-64-102518 Instrument: gcms-w.i

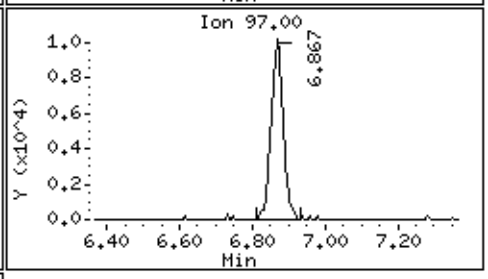
Sample Info: TL0579-25DL2

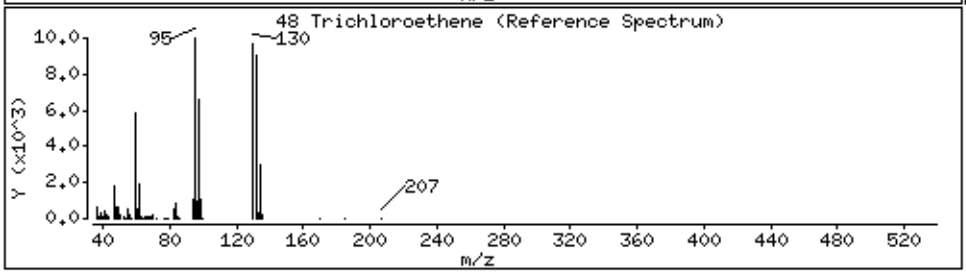
48 Trichloroethene Concentration: 88.3 ug/l



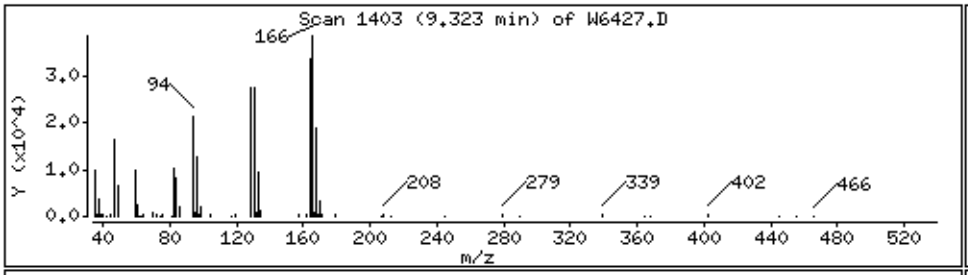


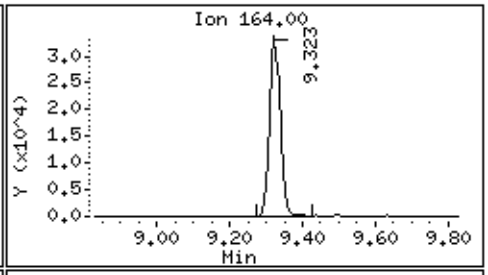


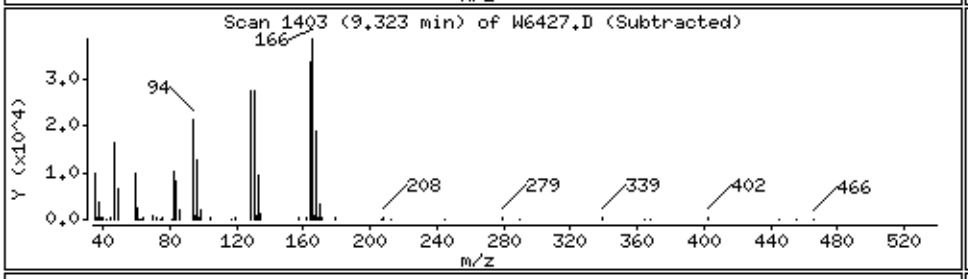


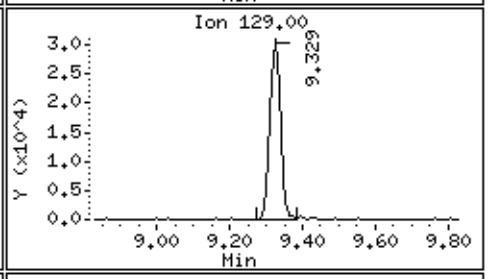


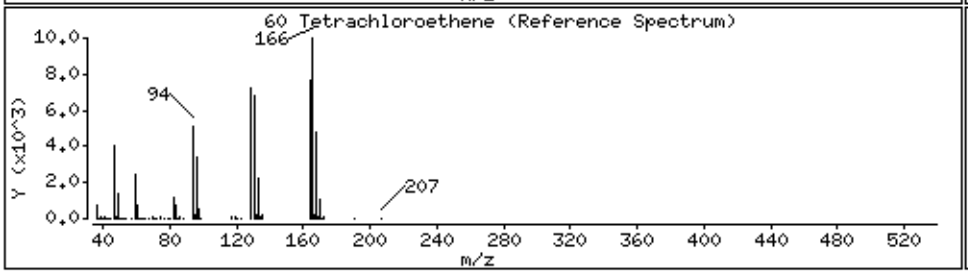
60 Tetrachloroethene Concentration: 202 ug/l

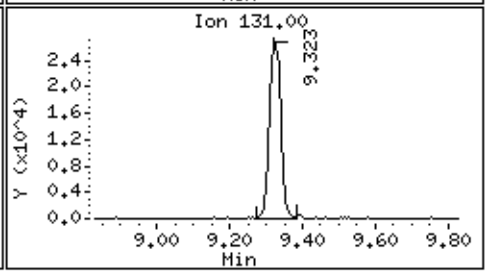












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-26
Client ID: WVA-AW-MW-BLD-110-10
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6401.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.7	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-26
Client ID: WVA-AW-MW-BLD-110-10
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6401.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 29-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6401.D
Report Date: 29-Nov-2018 10:04

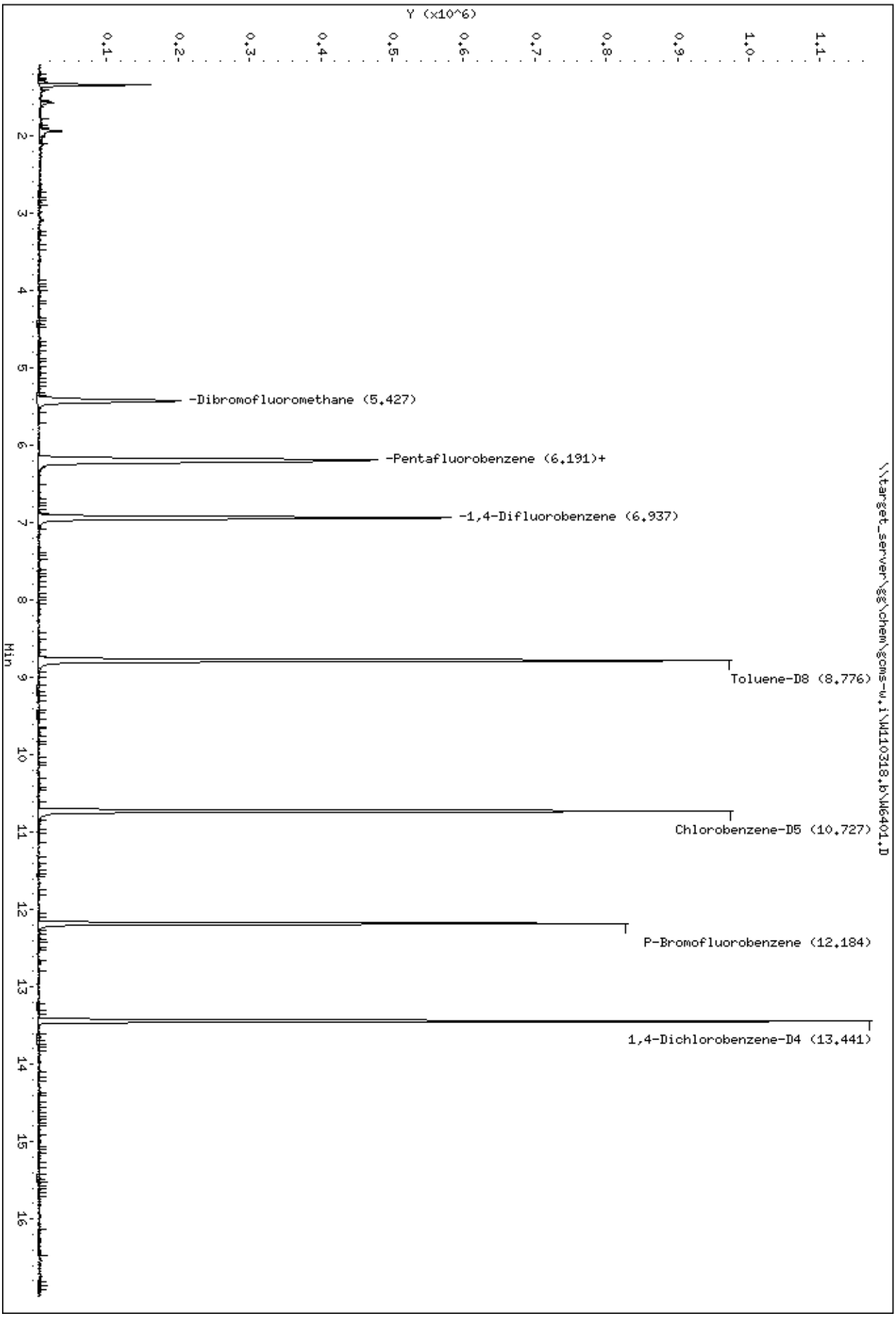
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6401.D
Lab Smp Id: TL0579-26 Client Smp ID: VA-AW-MW-BLD-110-10
Inj Date : 03-NOV-2018 16:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-26
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	166848	50.8399	50.8	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	354789	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	209065	52.2382	52.2	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	598424	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	751355	51.5787	51.6	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	567680	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	240175	48.3621	48.4	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	284840	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6401.D
Date : 03-NOV-2018 16:19
Client ID: VA-AW-MW-BLD-110-10
Sample Info: TL0579-26
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6401.D
Y (x10^6)
Min
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.191)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-27
Client ID: WVA-B35-PW-1-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6402.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.7	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-27
Client ID: WVA-B35-PW-1-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6402.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6402.D
Report Date: 27-Nov-2018 16:14

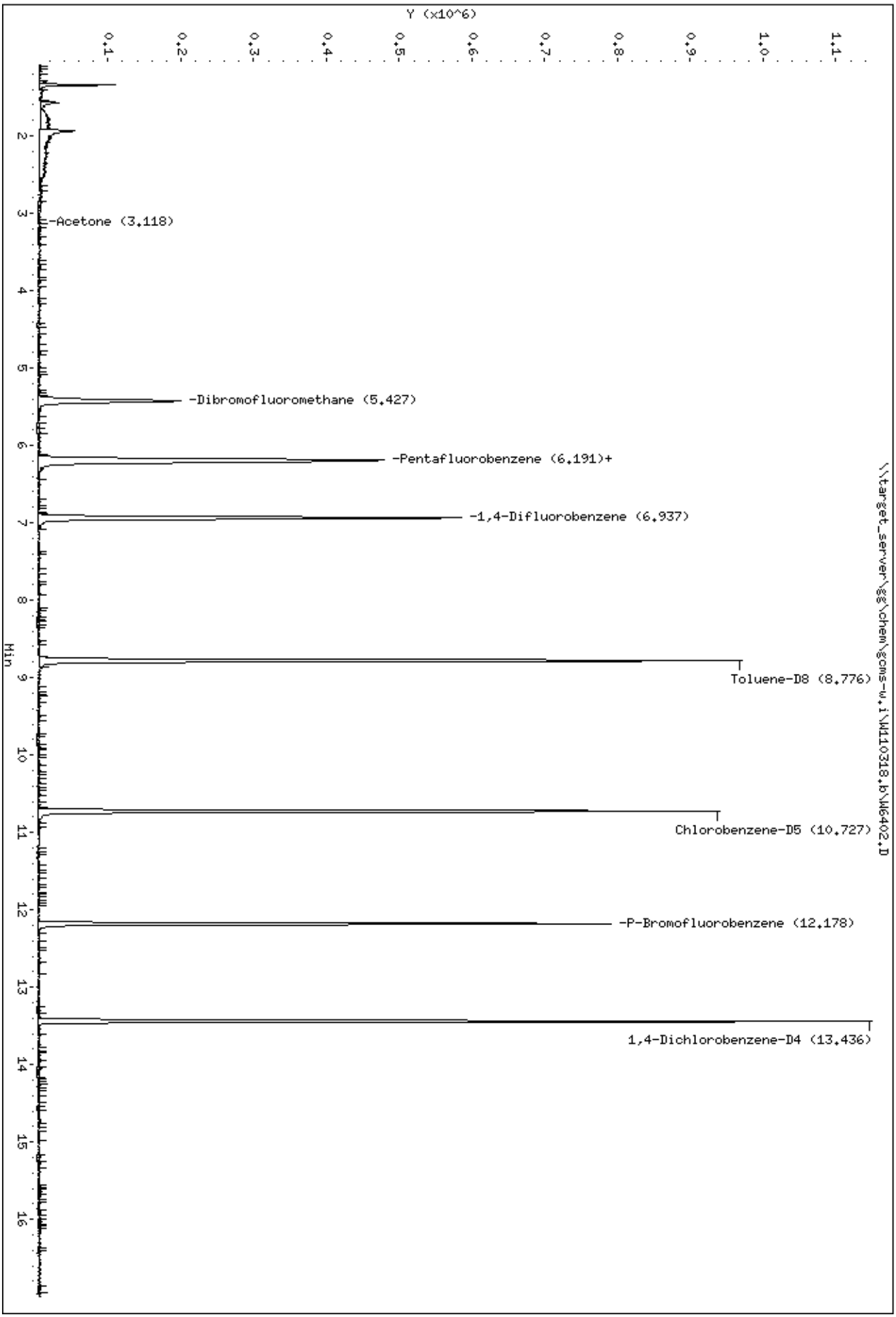
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6402.D
Lab Smp Id: TL0579-27 Client Smp ID: WVA-B35-PW-1-102518
Inj Date : 03-NOV-2018 16:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-27
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.129	3.136	(0.506)	1359	7.93817	7.9	
$	35 Dibromofluoromethane	113	5.421	5.427	(0.876)	168643	51.7927	51.8	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	352009	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	202106	50.8982	50.9	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	585406	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	725172	50.8883	50.9	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	544450	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	232443	47.8460	47.8	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	275631	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6402.D
Date : 03-NOV-2018 16:49
Client ID: WWA-B35-PW-1-102518
Sample Info: TL0579-27
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6402.D
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Acetone (3.118)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.191)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.436)

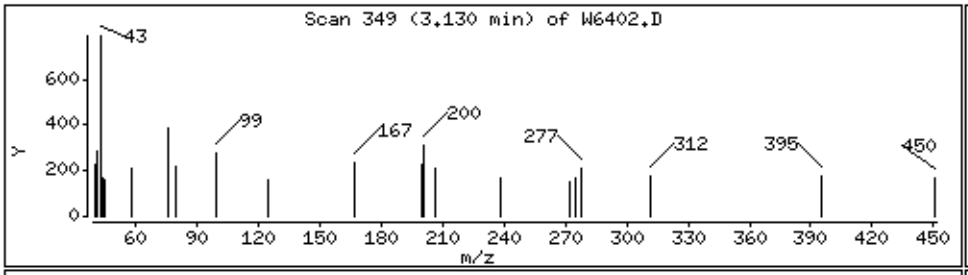
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6402.D

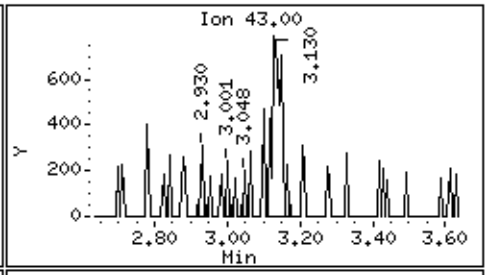
Date : 03-NOV-2018 16:49

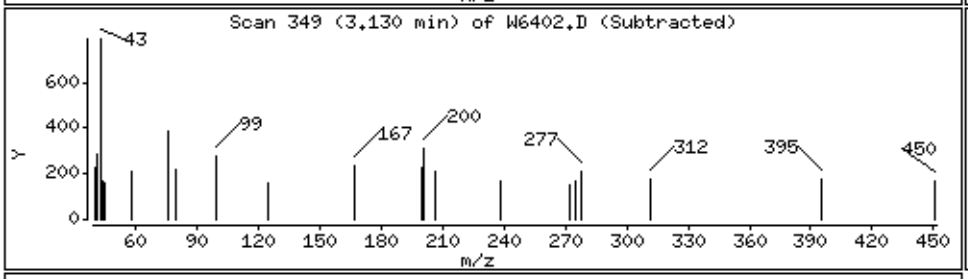
Client ID: WVA-B35-PW-1-102518 Instrument: gcms-w.i

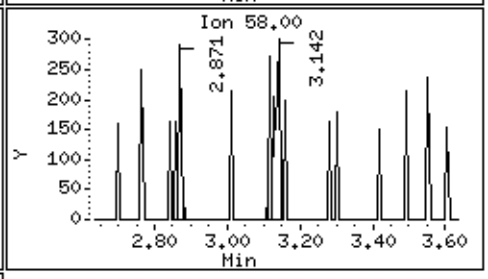
Sample Info: TL0579-27

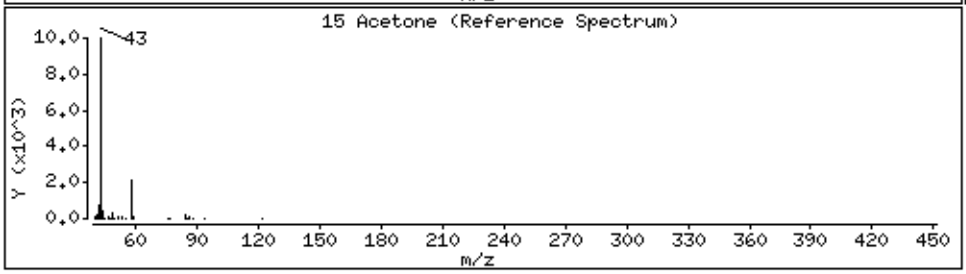
15 Acetone Concentration: 7.9 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-28
Client ID: DUP-3-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6403.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.2	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-28
Client ID: DUP-3-102518
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6403.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6403.D
Report Date: 27-Nov-2018 16:14

Katahdin Analytical Services

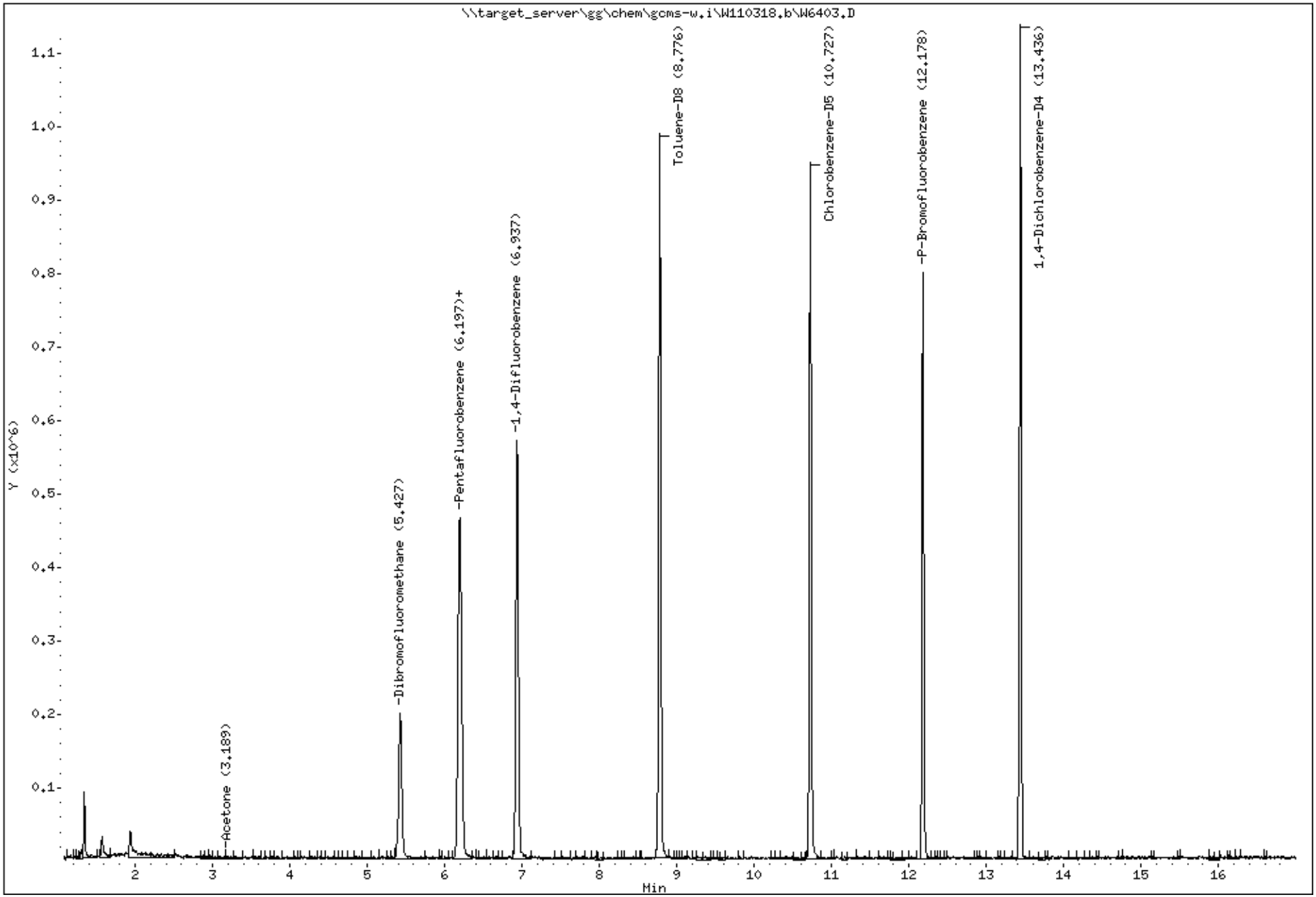
Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6403.D
Lab Smp Id: TL0579-28 Client Smp ID: DUP-3-102518
Inj Date : 03-NOV-2018 17:19
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-28
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.147	3.136	(0.508)	1096	7.59571	7.6	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	166932	52.0655	52.1	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	346612	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	201921	51.6434	51.6	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	579801	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	720149	51.0244	51.0	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	543860	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	226699	47.1148	47.1	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	269823	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6403.D
Date : 03-NOV-2018 17:19
Client ID: DUP-3-102518
Instrument: gcms-w.i
Sample Info: TL0579-28



Katahdin Analytical Services 1000202

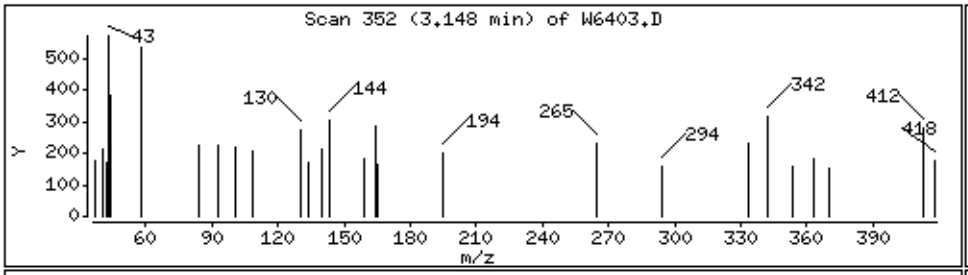
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6403.D

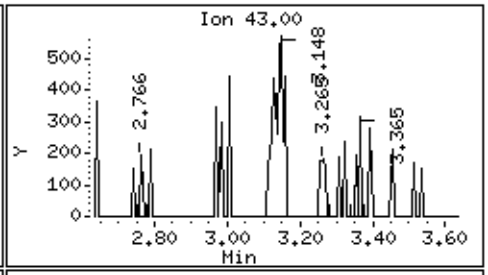
Date : 03-NOV-2018 17:19

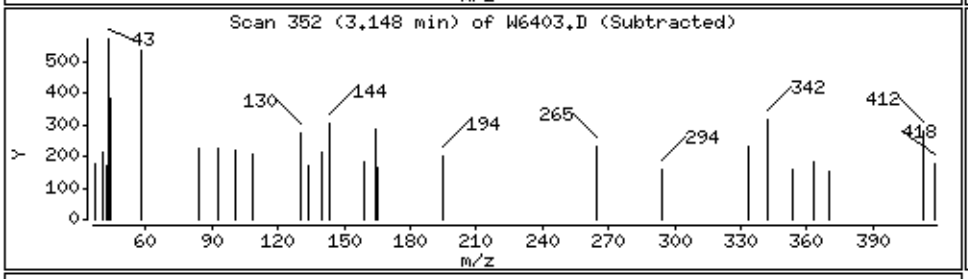
Client ID: DUP-3-102518 Instrument: gcms-w.i

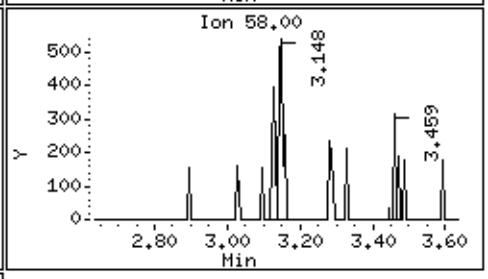
Sample Info: TL0579-28

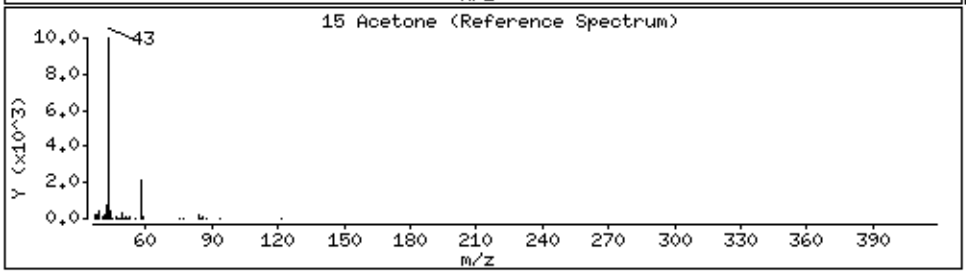
15 Acetone Concentration: 7.6 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-29
Client ID: WVA-AW-35-MW-8-10251
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6404.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-29
Client ID: WVA-AW-35-MW-8-10251
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6404.D

Sample Date: 25-OCT-18
Received Date: 27-OCT-18
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6404.D
Report Date: 27-Nov-2018 16:14

Katahdin Analytical Services

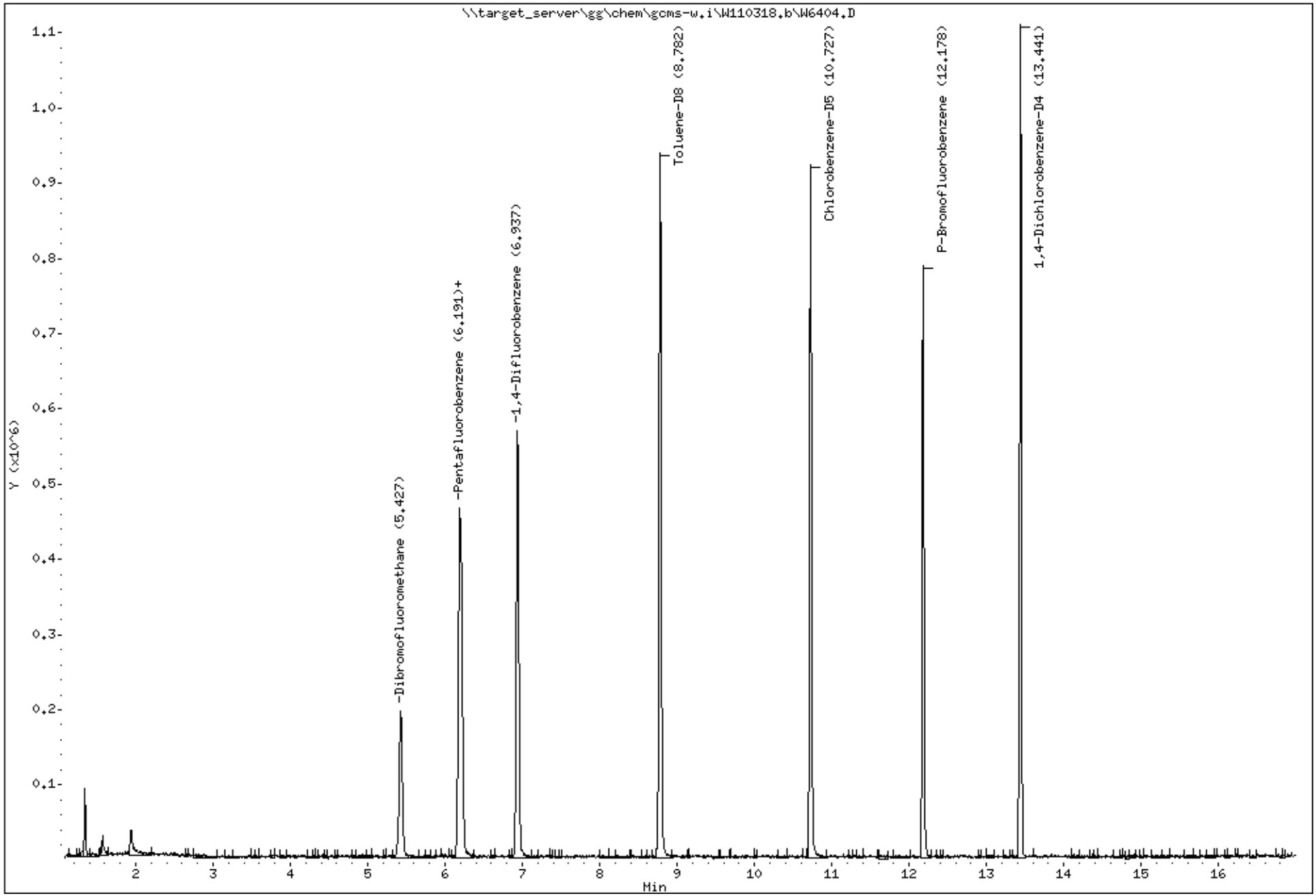
Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6404.D
Lab Smp Id: TL0579-29 Client Smp ID: VA-AW-35-MW-8-10251
Inj Date : 03-NOV-2018 17:49
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-29
Misc Info : WG239941,WG239941-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.421	5.427	(0.876)	165211	51.5503	51.6	
* 42 Pentafluorobenzene	168	6.190	6.185	(1.000)	346467	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	205375	52.5488	52.5	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	572655	50.0000		
$ 58 Toluene-D8	98	8.781	8.782	(1.266)	711405	51.0338	51.0	
* 69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	539541	50.0000		
$ 78 P-Bromofluorobenzene	95	12.178	12.184	(1.756)	231187	48.6471	48.6	
* 94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	271661	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6404.D
Date : 03-NOV-2018 17:49
Client ID: VA-AW-35-MW-8-10251 Instrument: gcms-w.i
Sample Info: TL0579-29



Katahdin Analytical Services 1000207

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-30
Client ID: WVA-AW-MW-32-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6413.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		93.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-30
Client ID: WVA-AW-MW-32-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6413.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6413.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6413.D
Lab Smp Id: TL0579-30 Client Smp ID: WVA-AW-MW-32-102618
Inj Date : 05-NOV-2018 07:15
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-30
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

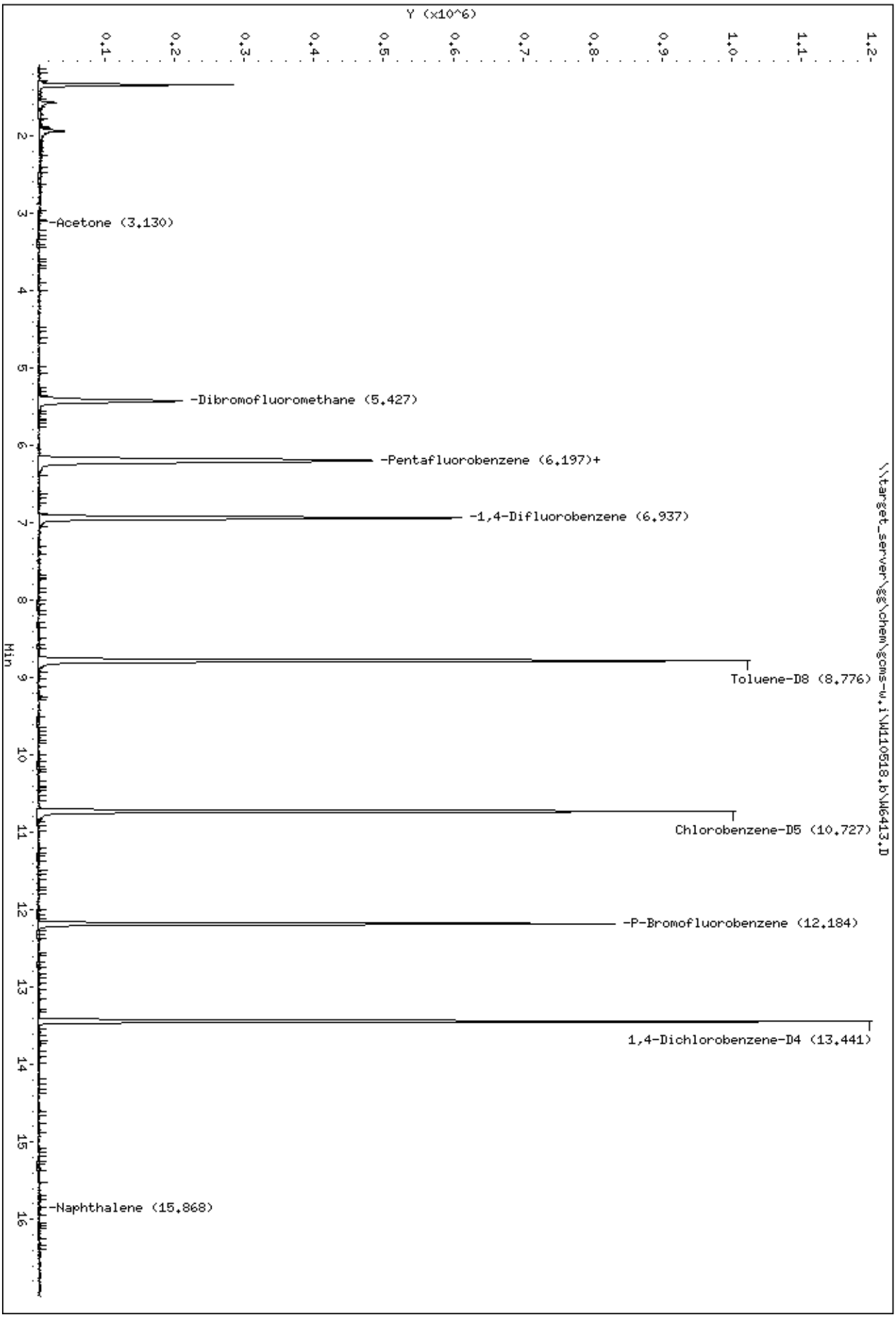
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
15	Acetone	43	3.123	3.136	(0.505)	1744	8.38727	8.4	
$ 35	Dibromofluoromethane	113	5.421	5.427	(0.877)	176009	52.1087	52.1	
* 42	Pentafluorobenzene	168	6.184	6.185	(1.000)	365156	50.0000		
$ 44	1,2-Dichloroethane-D4	65	6.220	6.214	(1.006)	215637	52.3506	52.4	
* 49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	623236	50.0000		
$ 58	Toluene-D8	98	8.776	8.782	(1.265)	763378	50.3178	50.3	
* 69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	581640	50.0000		
$ 78	P-Bromofluorobenzene	95	12.183	12.184	(1.756)	241896	46.7695	46.8	
* 94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	297452	50.0000		
103	Naphthalene	128	15.885	15.886	(1.182)	1144	0.57267	0.57(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6413.D
Date : 05-NOV-2018 07:15
Client ID: WWA-AW-MW-32-102618
Sample Info: TL0579-30
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518.b\W6413.D
Y (x10^6)
Min
-Acetone (3.130)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.868)

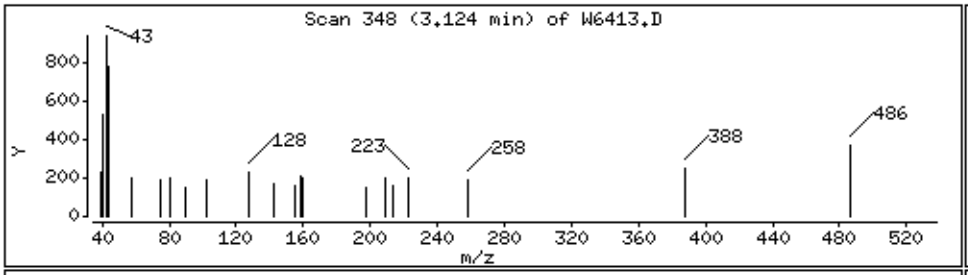
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6413.D

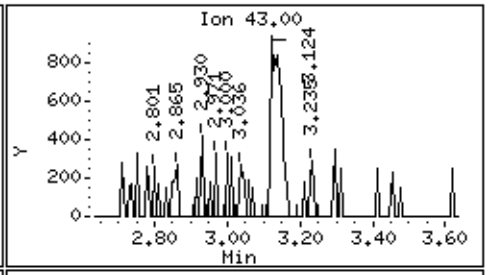
Date : 05-NOV-2018 07:15

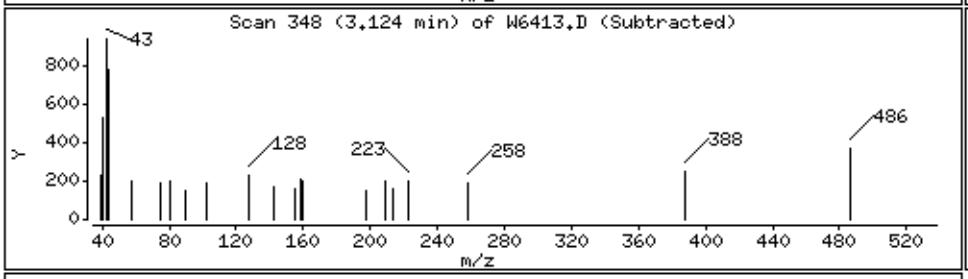
Client ID: WVA-AW-MW-32-102618 Instrument: gcms-w.i

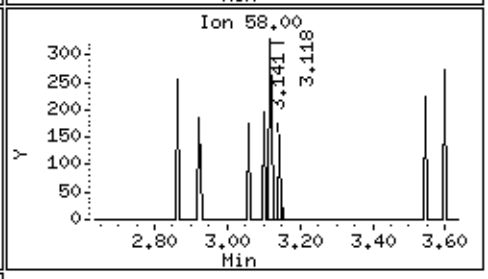
Sample Info: TL0579-30

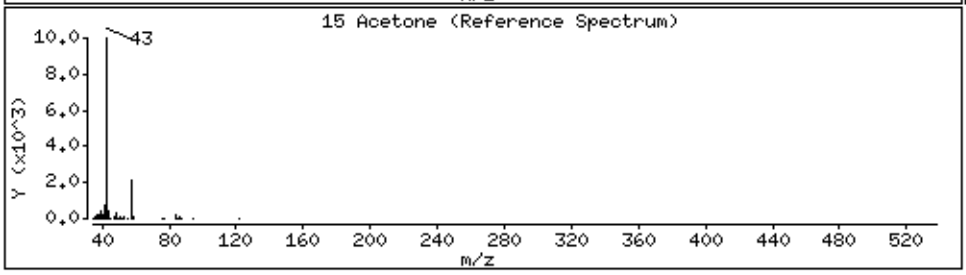
15 Acetone Concentration: 8.4 ug/l



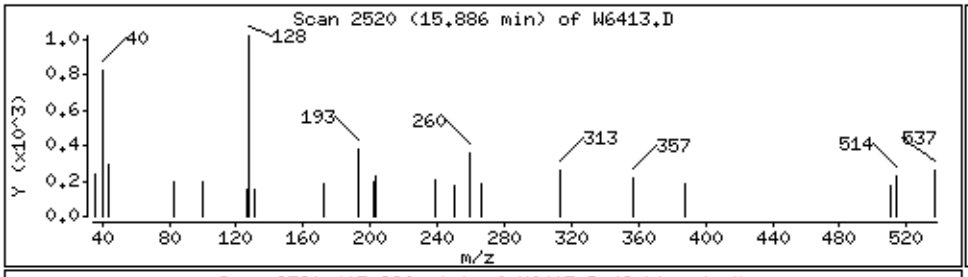


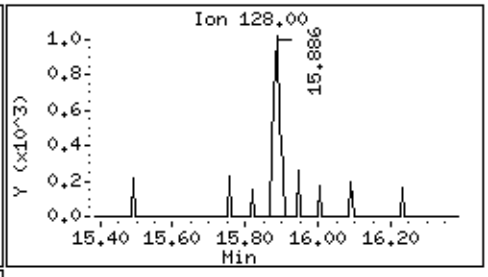


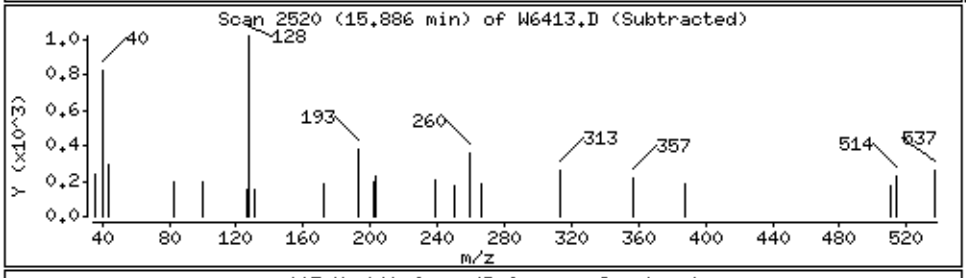


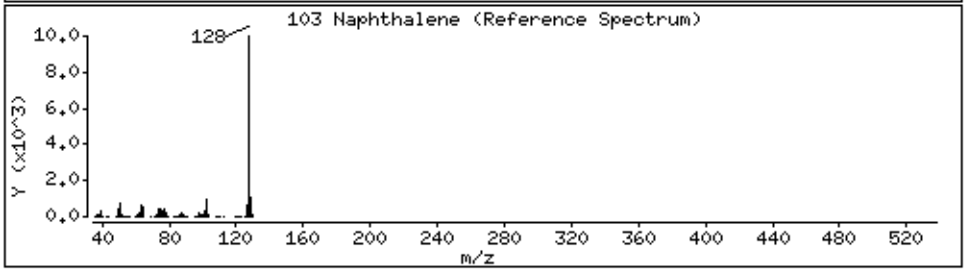


103 Naphthalene Concentration: 0.57 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-31
Client ID: WVA-AW-MW-47-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6414.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		3.8	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		1.2	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		70.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.6	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.1	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-31
Client ID: WVA-AW-MW-47-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6414.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		109.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6414.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6414.D
Lab Smp Id: TL0579-31 Client Smp ID: WVA-AW-MW-47-102618
Inj Date : 05-NOV-2018 07:45
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-31
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

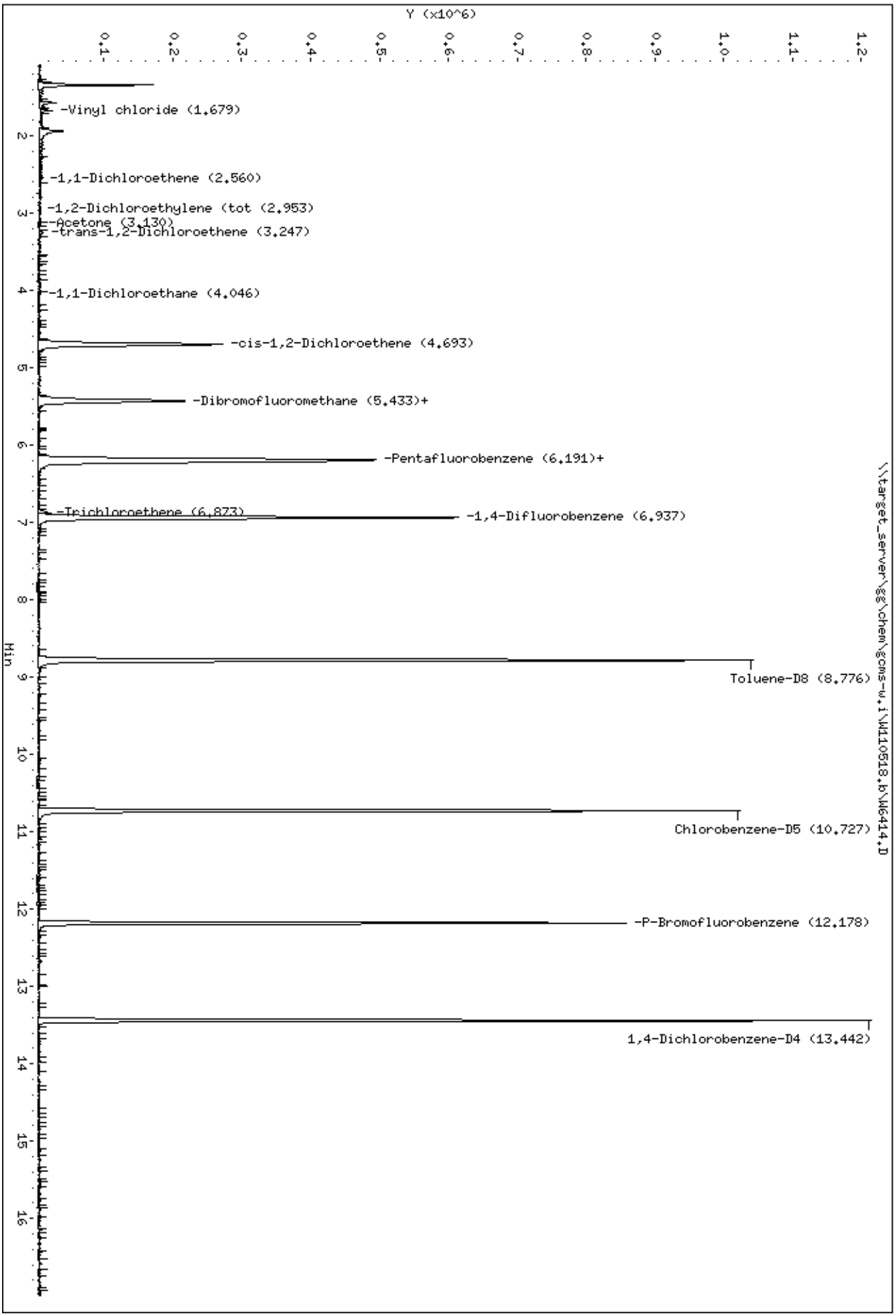
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.678	1.673	(0.271)	8854	3.85957	3.8	
	8 1,1-Dichloroethene	96	2.559	2.548	(0.413)	1360	0.68573	0.68(a)	
	15 Acetone	43	3.135	3.136	(0.506)	1401	7.91486	7.9	
	16 trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	2401	1.23406	1.2	
M	22 1,2-Dichloroethylene (total)	96				161454	71.7077	71.7	
	24 1,1-Dichloroethane	63	3.958	3.952	(0.639)	1903	0.49713	0.50(a)	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	159053	70.4736	70.5	
$	35 Dibromofluoromethane	113	5.433	5.427	(0.878)	186035	54.7387	54.7	
	36 1,1,1-Trichloroethane	97	5.438	5.439	(0.879)	1656	0.53313	0.53(a)	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	367413	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	216066	52.1325	52.1	
	48 Trichloroethene	95	6.866	6.867	(0.990)	5758	2.58187	2.6	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	630597	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	790907	51.5238	51.5	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	598191	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	248748	47.5329	47.5	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	294834	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\target_server\gg\chem\gcms-w,i\W110518,b\W6414,D
Date : 05-NOV-2018 07:45
Client ID: WWA-AW-MW-47-102618
Sample Info: TL0579-31

Instrument: gcms-w,i

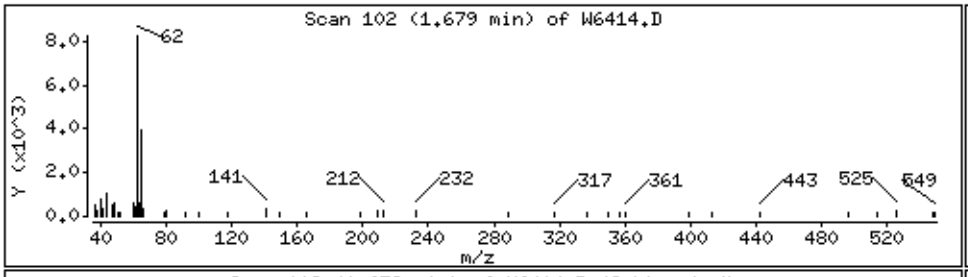
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6414.D

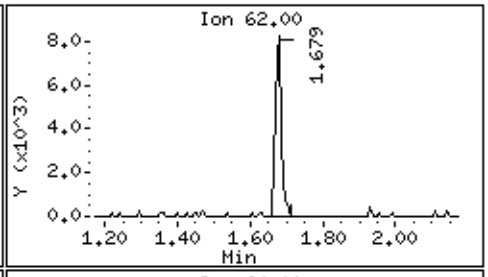
Date : 05-NOV-2018 07:45

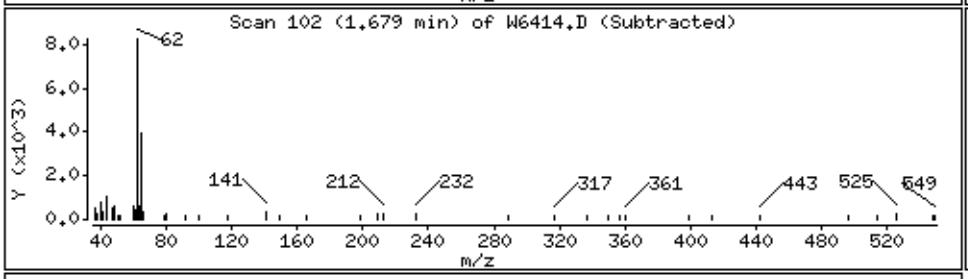
Client ID: WVA-AW-MW-47-102618 Instrument: gcms-w.i

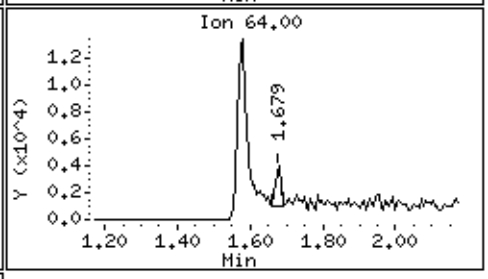
Sample Info: TL0579-31

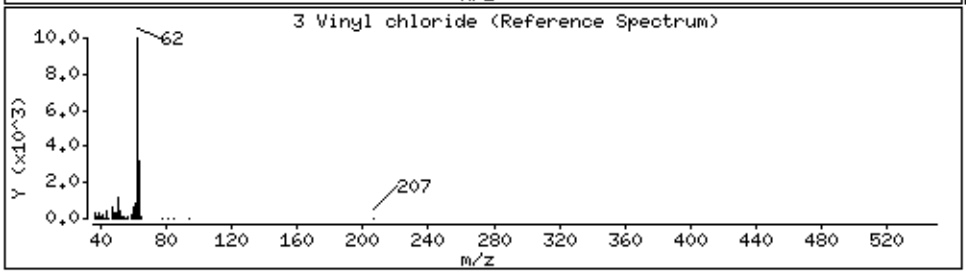
3 Vinyl chloride Concentration: 3.8 ug/l



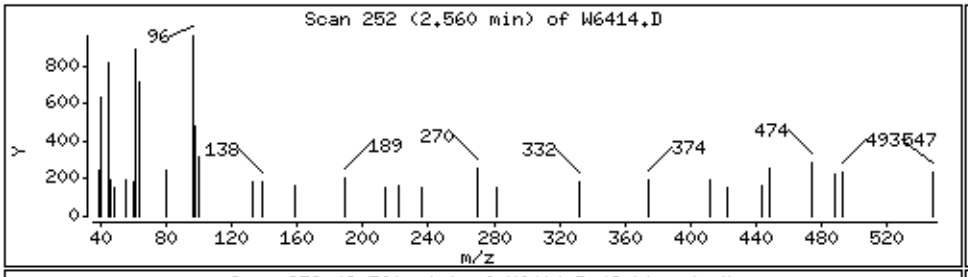


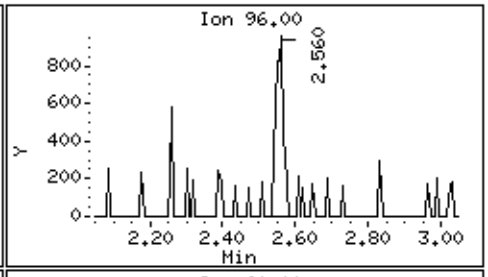


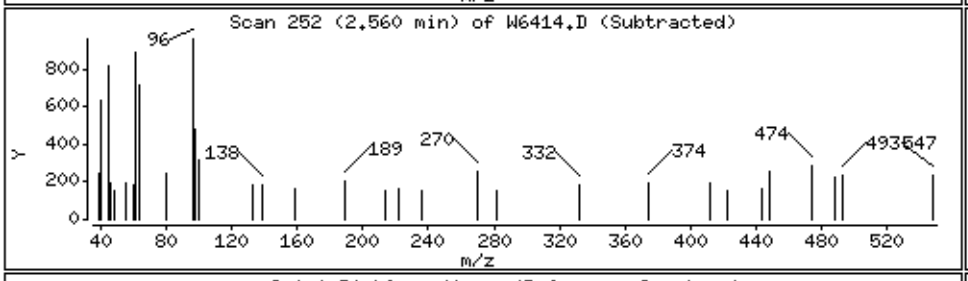


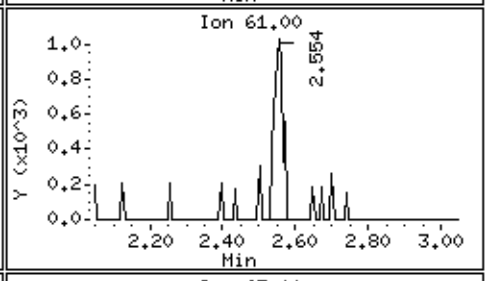


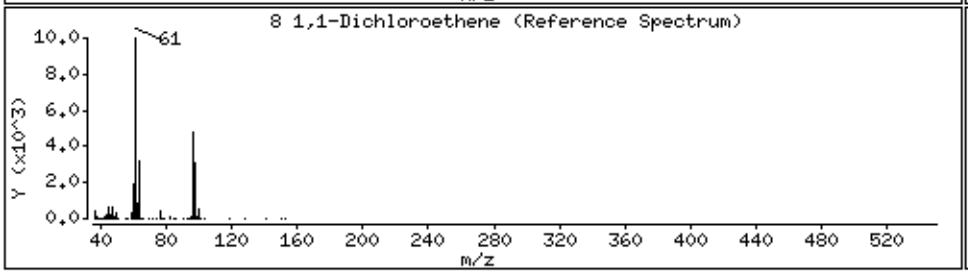
8 1,1-Dichloroethene Concentration: 0.68 ug/l

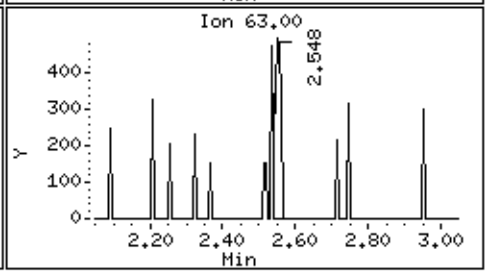












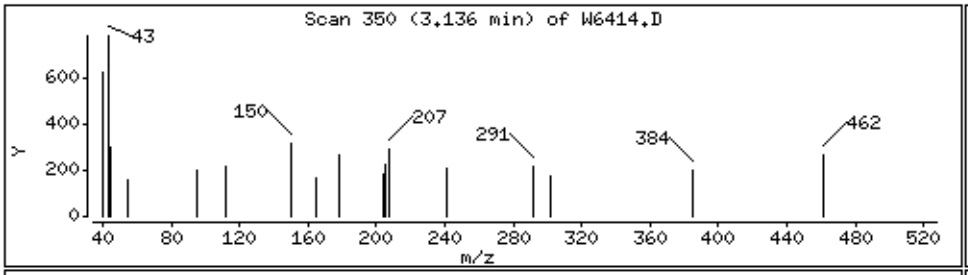
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6414.D

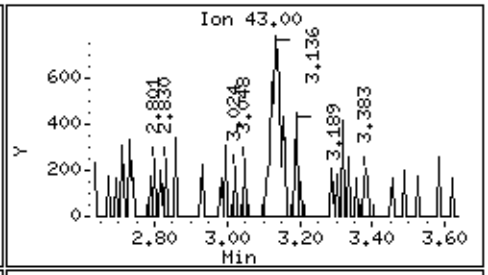
Date : 05-NOV-2018 07:45

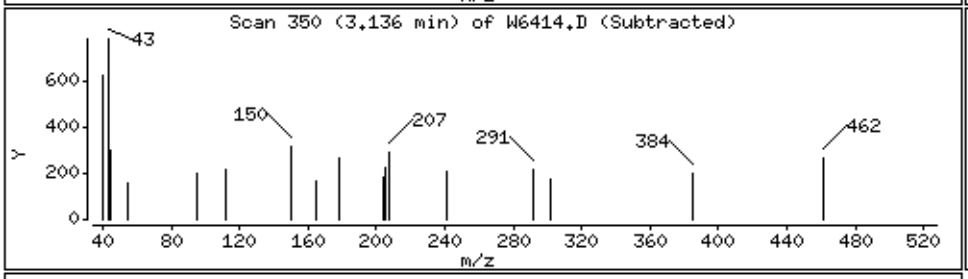
Client ID: WVA-AW-MW-47-102618 Instrument: gcms-w.i

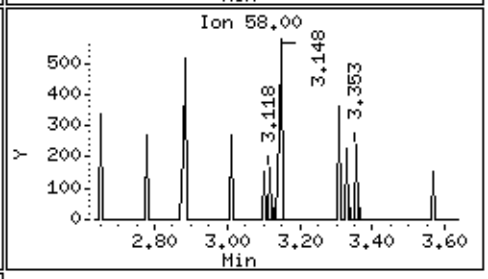
Sample Info: TL0579-31

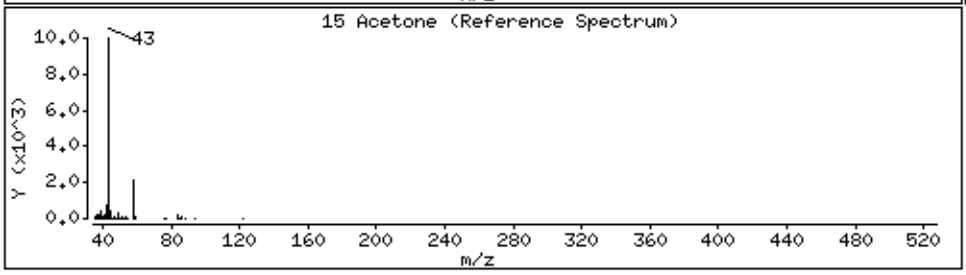
15 Acetone Concentration: 7.9 ug/l



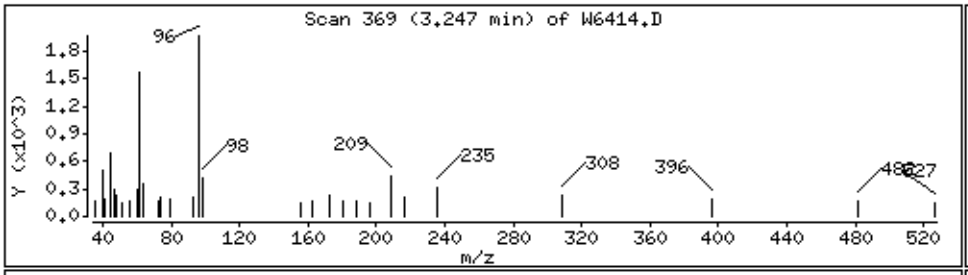


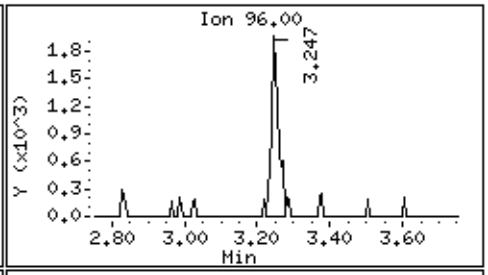


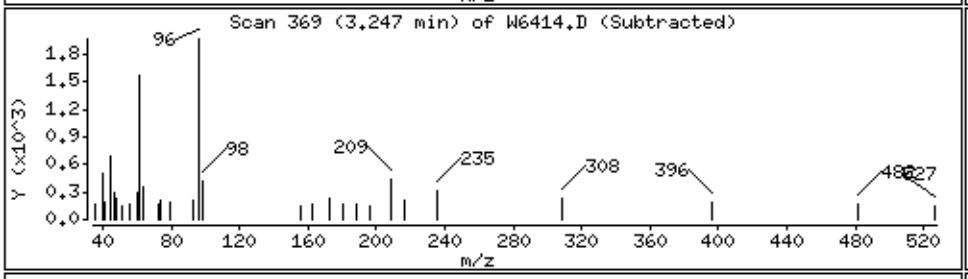


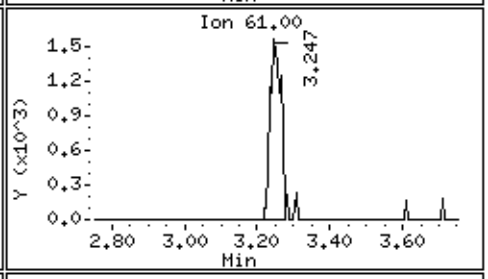


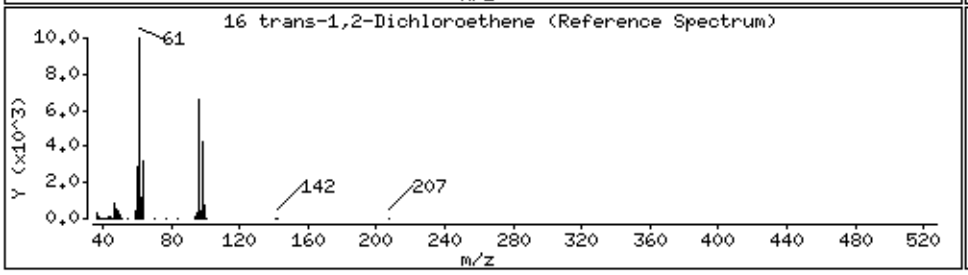
16 trans-1,2-Dichloroethene Concentration: 1.2 ug/l

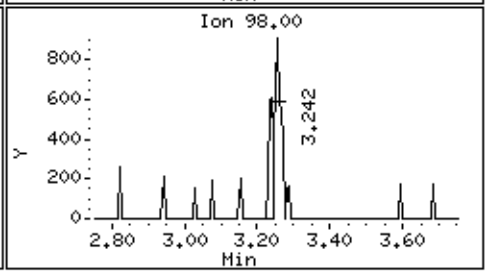












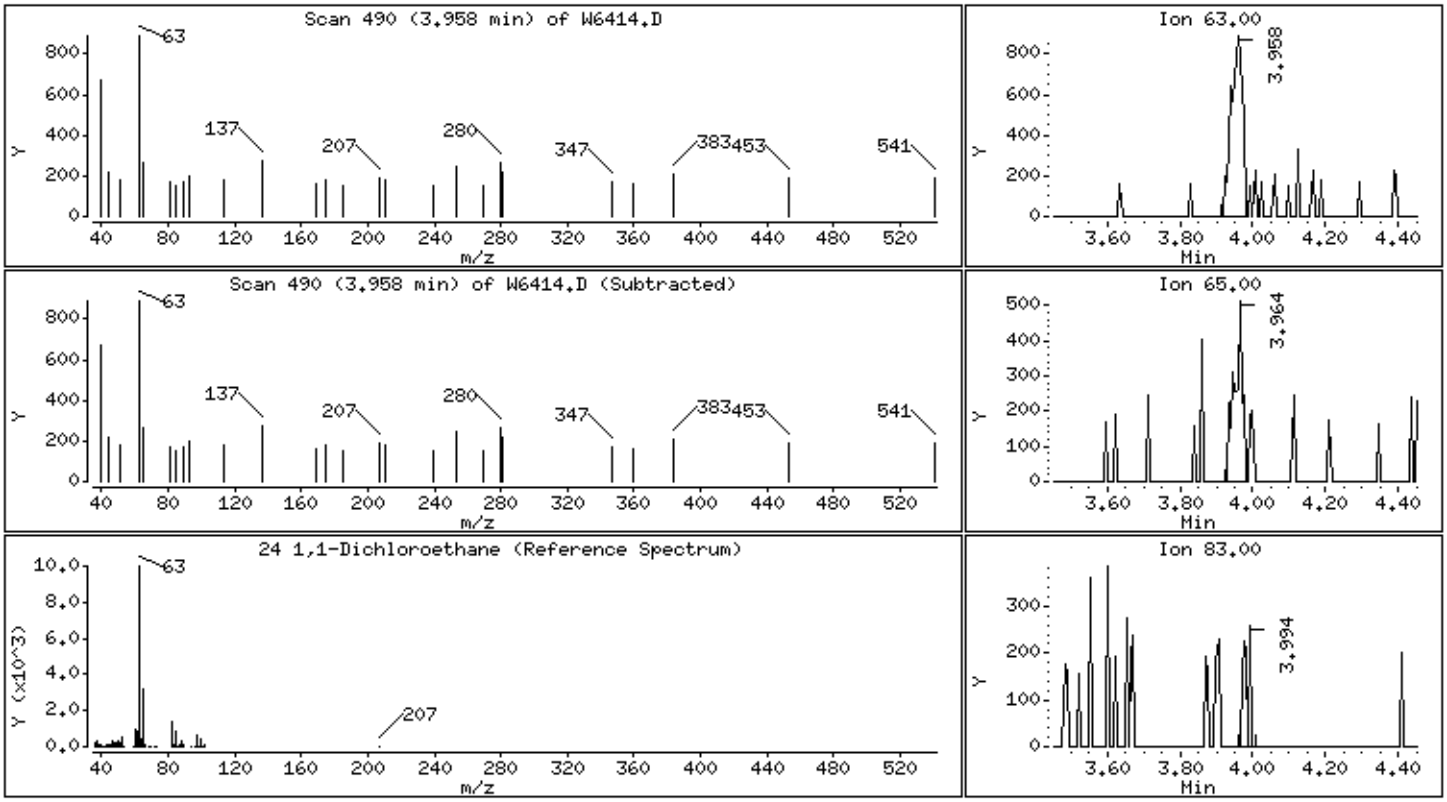
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6414.D

Date : 05-NOV-2018 07:45

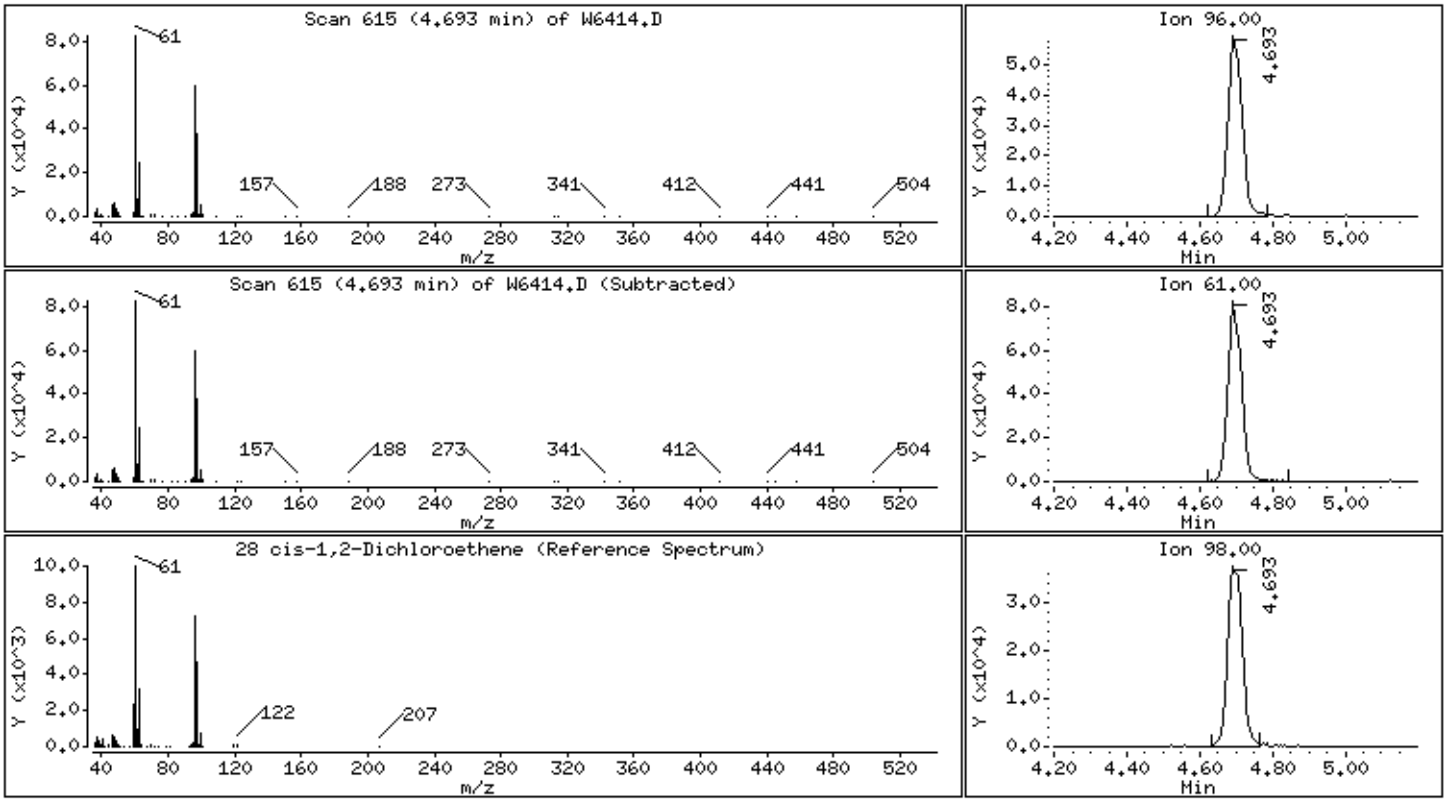
Client ID: WVA-AW-MW-47-102618 Instrument: gcms-w.i

Sample Info: TL0579-31

24 1,1-Dichloroethane Concentration: 0.50 ug/l



28 cis-1,2-Dichloroethene Concentration: 70.5 ug/l



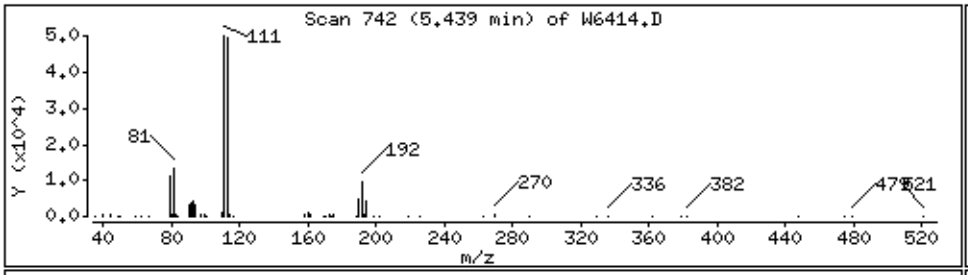
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6414.D

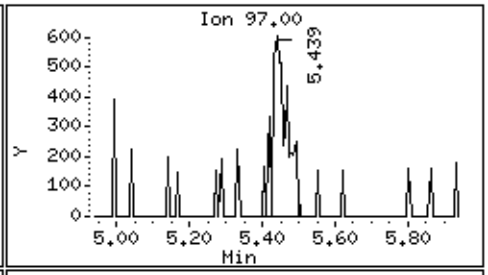
Date : 05-NOV-2018 07:45

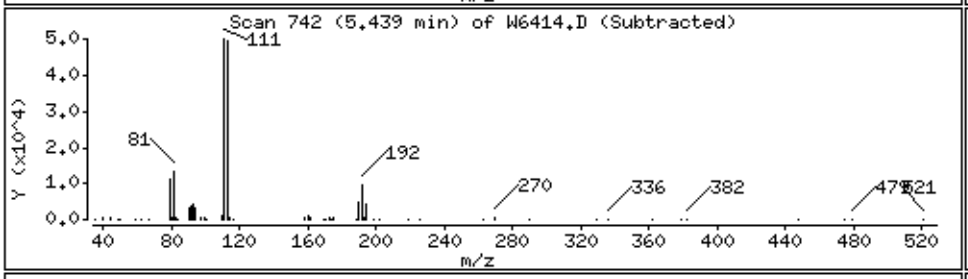
Client ID: WVA-AW-MW-47-102618 Instrument: gcms-w.i

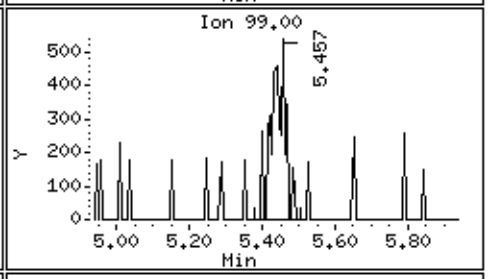
Sample Info: TL0579-31

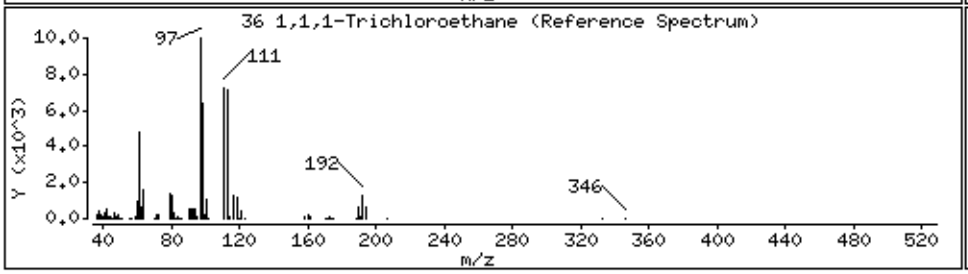
36 1,1,1-Trichloroethane Concentration: 0.53 ug/l

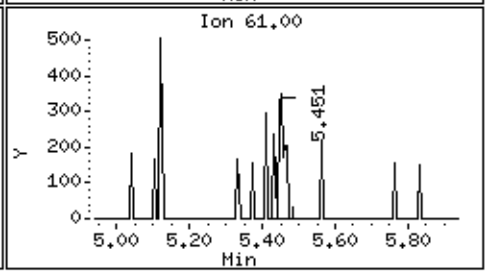




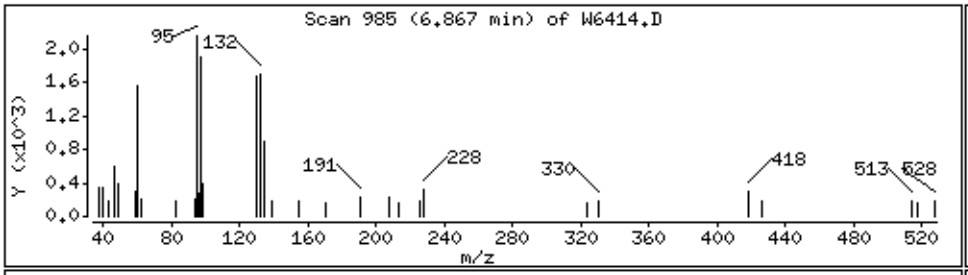


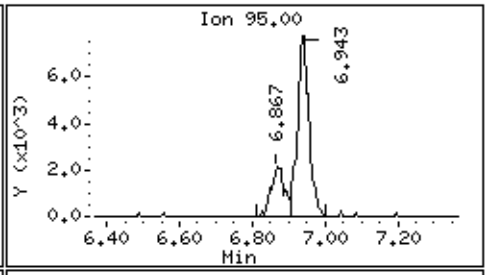


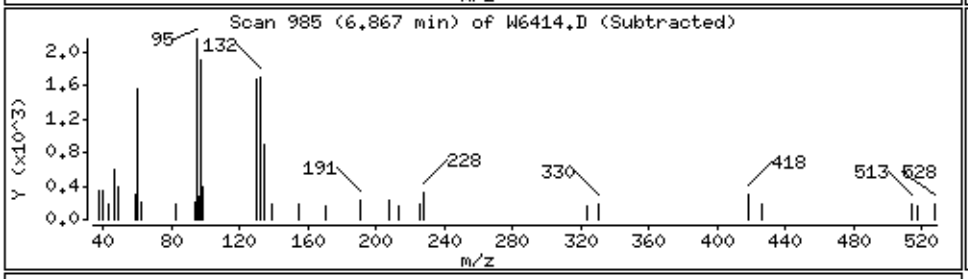


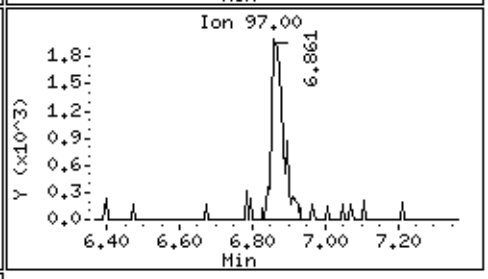


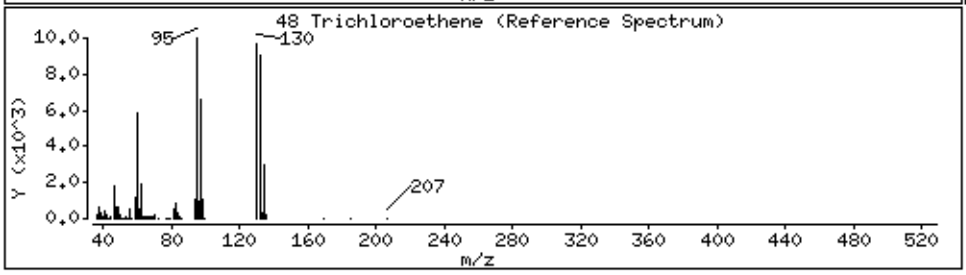
48 Trichloroethene Concentration: 2.6 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-32
Client ID: 86EM-SP-1B-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6415.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-32
Client ID: 86EM-SP-1B-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6415.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		107.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6415.D
Report Date: 28-Nov-2018 17:21

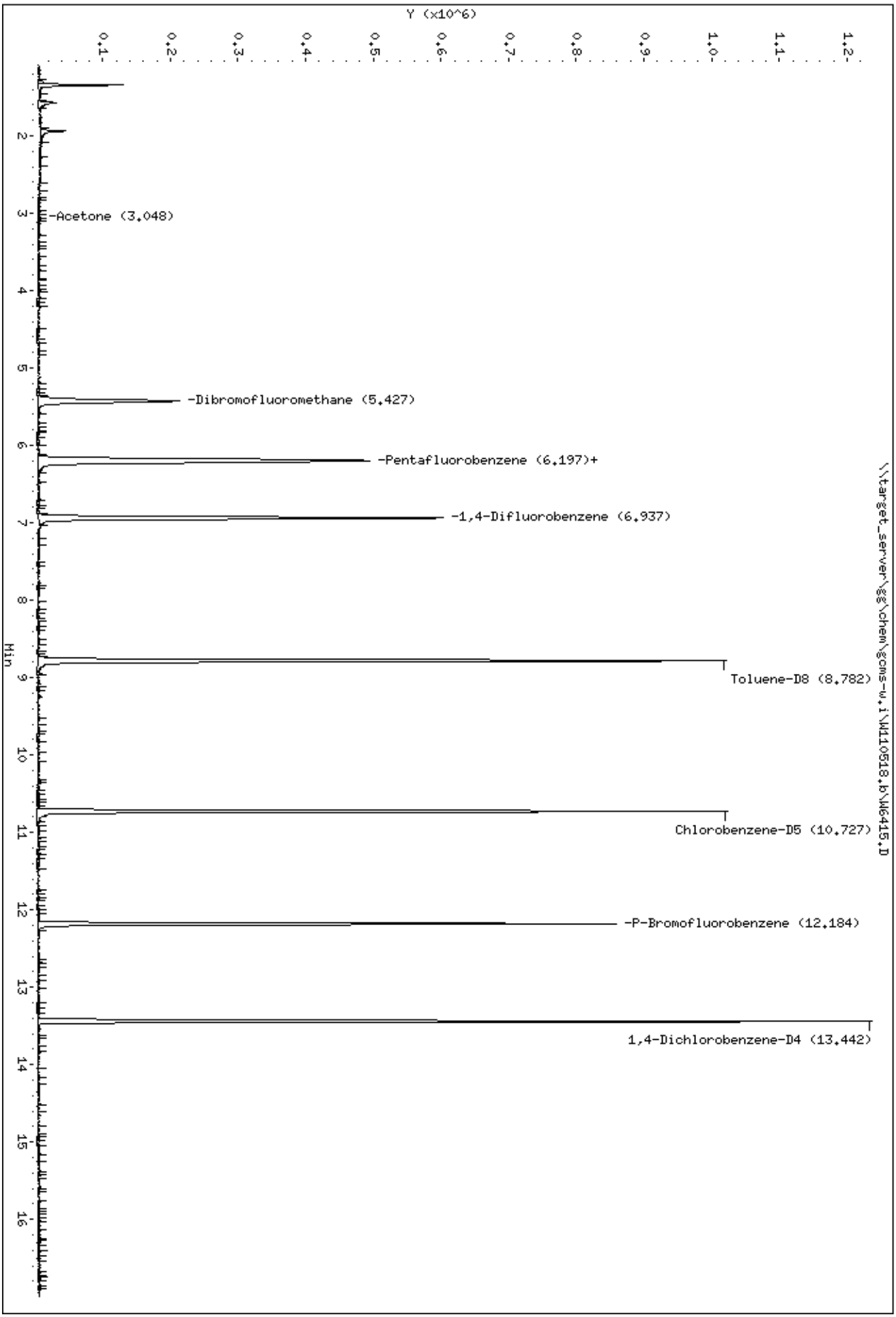
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6415.D
Lab Smp Id: TL0579-32 Client Smp ID: 86EM-SP-1B-102618
Inj Date : 05-NOV-2018 08:15
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-32
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.129	3.136	(0.506)	1222	7.71642	7.7	
$	35 Dibromofluoromethane	113	5.421	5.427	(0.877)	175705	52.9801	53.0	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	358530	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	216877	53.6247	53.6	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	610122	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	754301	50.7881	50.8	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	571974	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	241204	47.6381	47.6	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	294855	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6415.D
Date : 05-NOV-2018 08:15
Client ID: 86EM-SP-1B-102618
Sample Info: TL0579-32
Instrument: gcms-w.i
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Acetone (3.048)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.442)
\\target_server\gg\chem\gcms-w.i\W110518.b\W6415.D

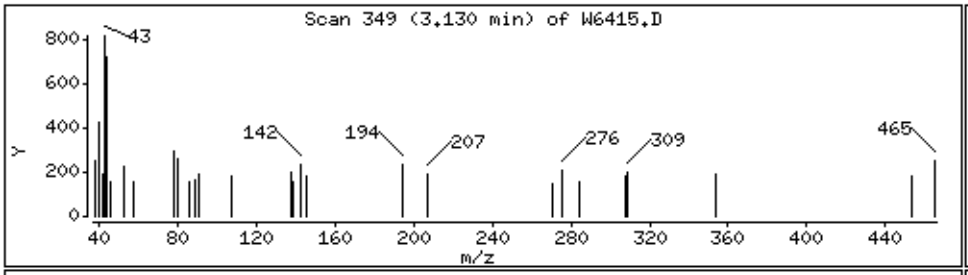
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6415.D

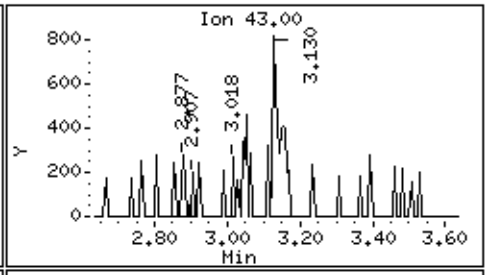
Date : 05-NOV-2018 08:15

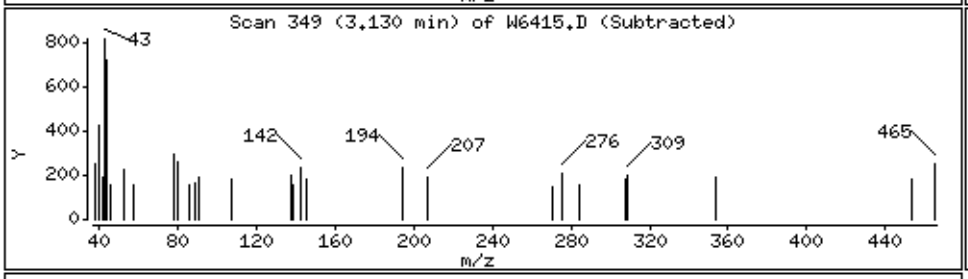
Client ID: 86EM-SP-1B-102618 Instrument: gcms-w.i

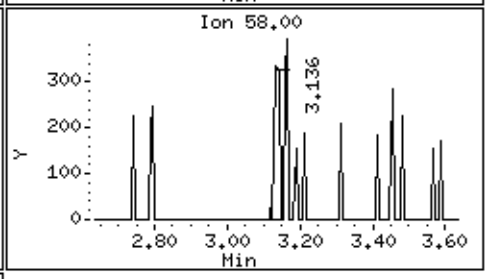
Sample Info: TL0579-32

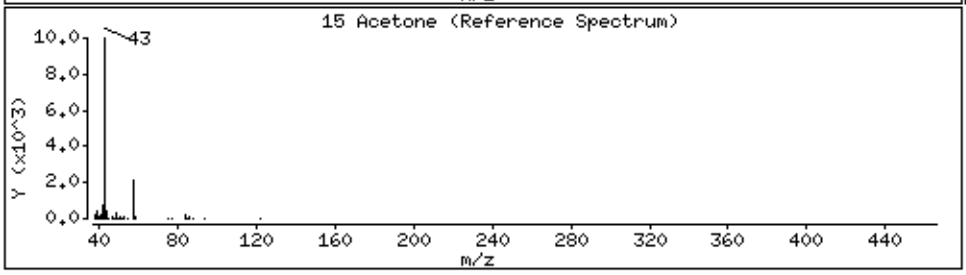
15 Acetone Concentration: 7.7 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-33
Client ID: WVA-AW-25-MW-7-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6416.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.6	%			
Toluene-d8		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-33
Client ID: WVA-AW-25-MW-7-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6416.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6416.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

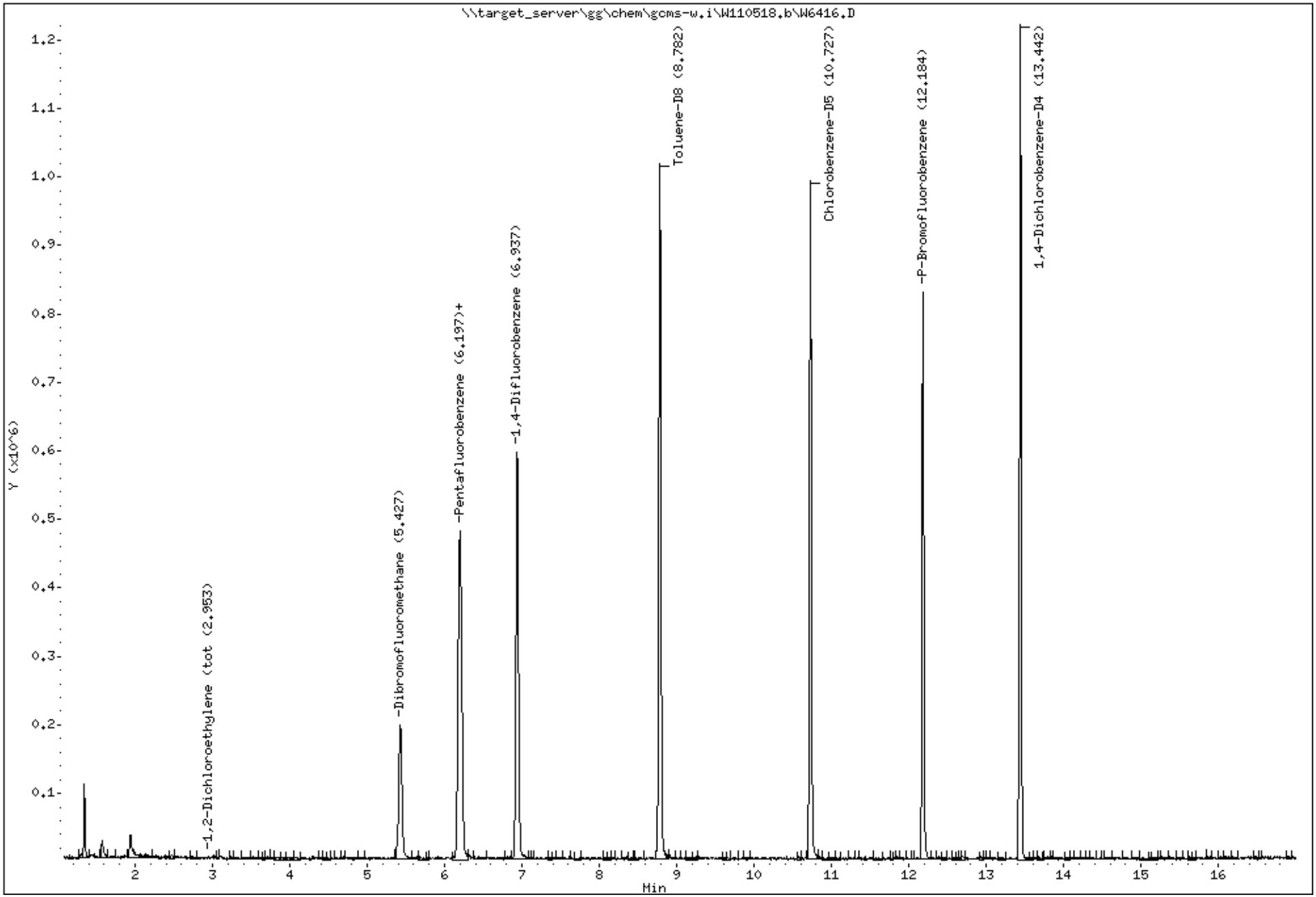
Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6416.D
Lab Smp Id: TL0579-33 Client Smp ID: VA-AW-25-MW-7-10261
Inj Date : 05-NOV-2018 08:45
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-33
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.427	5.427	(0.877)	172380	52.5605	52.6	
* 42 Pentafluorobenzene	168	6.185	6.185	(1.000)	354553	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.006)	209273	52.3249	52.3	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	592241	50.0000		
$ 58 Toluene-D8	98	8.782	8.782	(1.266)	746450	51.7769	51.8	
* 69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	570699	50.0000		
$ 78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	244801	49.8082	49.8	
* 94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	285745	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6416.D
Date : 05-NOV-2018 08:45
Client ID: VA-AW-25-MW-7-10261 Instrument: gcms-w.i
Sample Info: TL0579-33



Katahdin Analytical Services 1000229

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-34
Client ID: WVA-AW-25-MW-5-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6417.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.2	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-34
Client ID: WVA-AW-25-MW-5-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6417.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		107.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6417.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

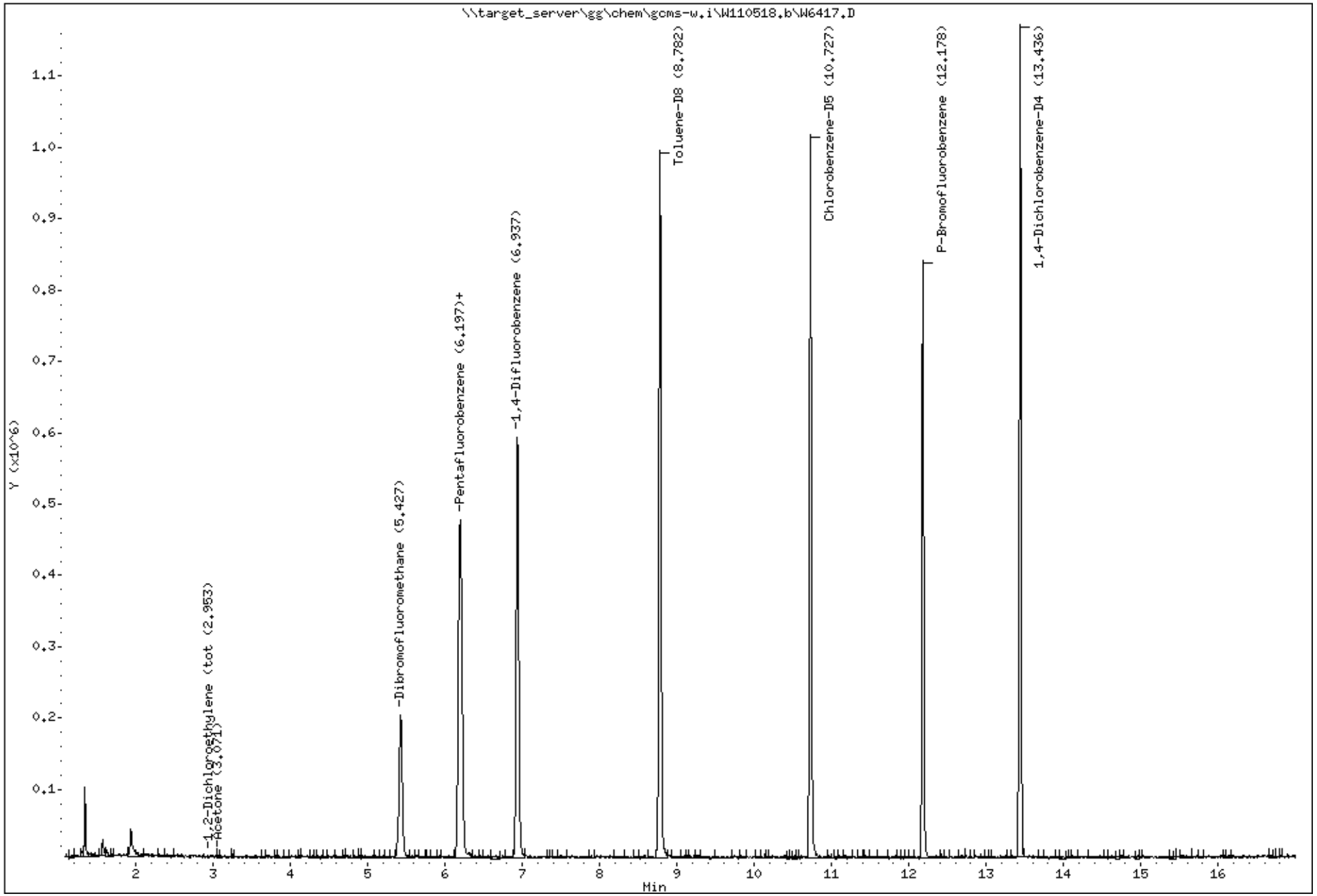
Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6417.D
Lab Smp Id: TL0579-34 Client Smp ID: VA-AW-25-MW-5-10261
Inj Date : 05-NOV-2018 09:15
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-34
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.129	3.136	(0.506)	1272	7.81770	7.8	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	168702	51.8313	51.8	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	351870	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	212850	53.6251	53.6	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	591913	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	745451	51.7363	51.7	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	570503	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	238817	48.6176	48.6	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	282771	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6417.D
Date : 05-NOV-2018 09:15
Client ID: VA-AW-25-MW-5-10261 Instrument: gcms-w.i
Sample Info: TL0579-34



Katahdin Analytical Services 1000233

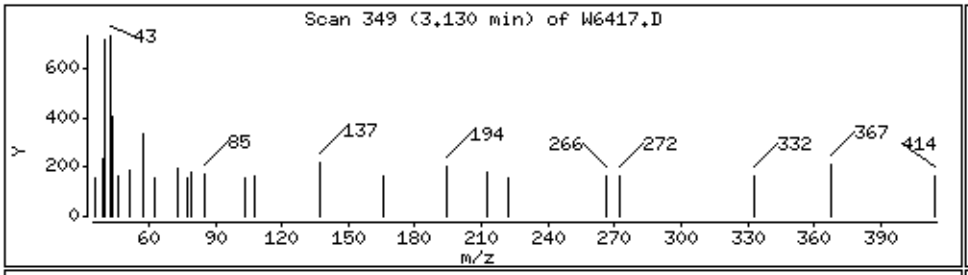
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6417.D

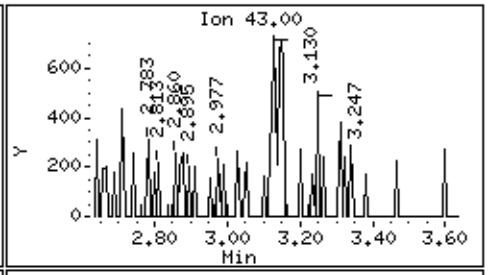
Date : 05-NOV-2018 09:15

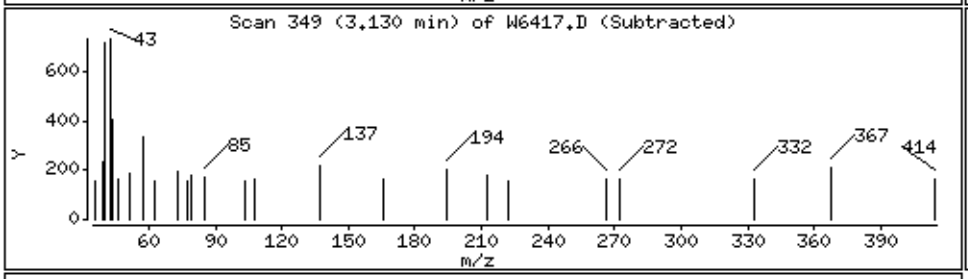
Client ID: VA-AW-25-MW-5-10261 Instrument: gcms-w.i

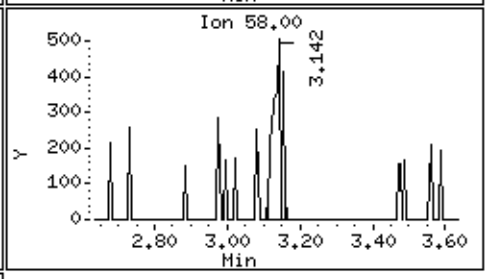
Sample Info: TL0579-34

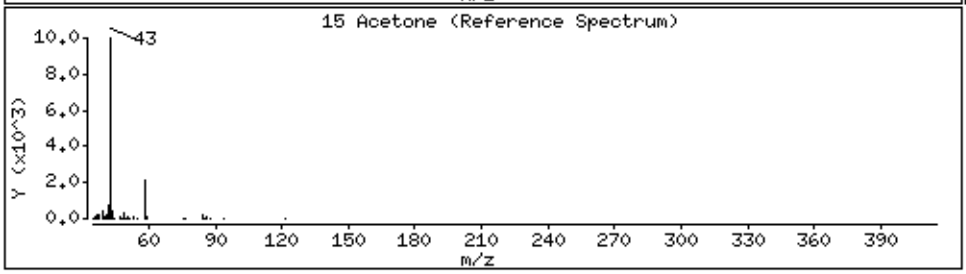
15 Acetone Concentration: 7.8 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-35
Client ID: WVA-AW-25-MW-6-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6428.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		27.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.3	%			
Toluene-d8		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-35
Client ID: WVA-AW-25-MW-6-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6428.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6428.D
Report Date: 27-Nov-2018 17:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6428.D
Lab Smp Id: TL0579-35 Client Smp ID: VA-AW-25-MW-6-10261
Inj Date : 05-NOV-2018 14:44
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-35
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

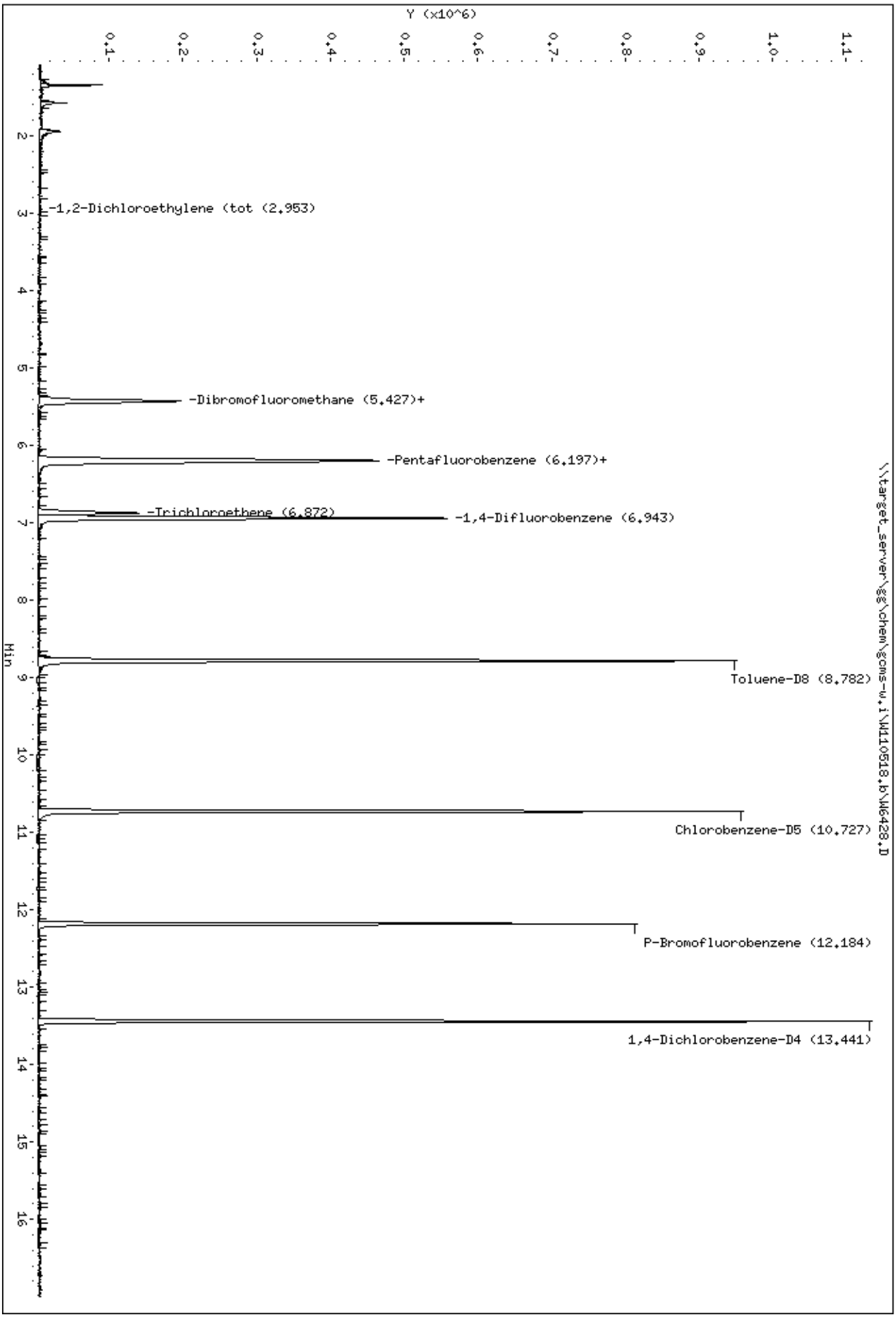
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	160234	50.6517	50.6	
	36 1,1,1-Trichloroethane	97	5.438	5.439	(0.879)	2348	0.81211	0.81(a)	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	341991	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	196735	50.9969	51.0	
	48 Trichloroethene	95	6.872	6.867	(0.990)	53915	27.2968	27.3	
*	49 1,4-Difluorobenzene	114	6.942	6.937	(1.000)	558486	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.264)	708300	52.1002	52.1	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	535480	50.0000		
$	78 P-Bromofluorobenzene	95	12.183	12.184	(1.755)	225588	48.6732	48.7	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	274871	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6428.D
Date : 05-NOV-2018 14:44
Client ID: VA-AW-25-MW-6-10261
Sample Info: TL0579-35
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518.b\W6428.D
Y (x10^6)
Min
-1,2-Dichloroethylene (tot (2.953)
-Dibromofluoromethane (5.427)+
-Pentafluorobenzene (6.197)+
-Trichloroethene (6.872)
-1,4-Difluorobenzene (6.943)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)

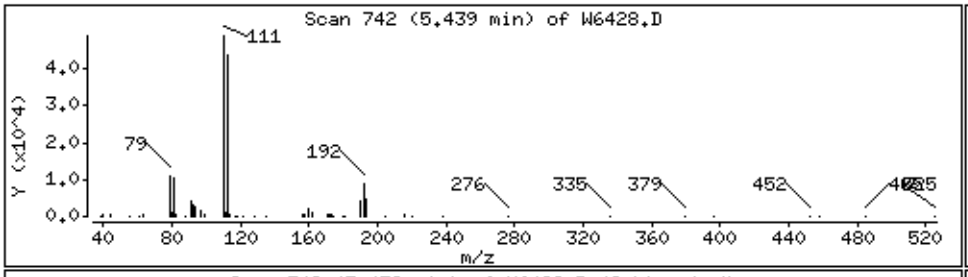
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6428.D

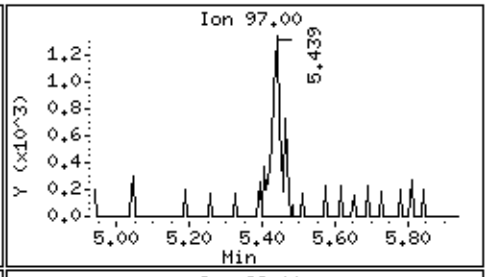
Date : 05-NOV-2018 14:44

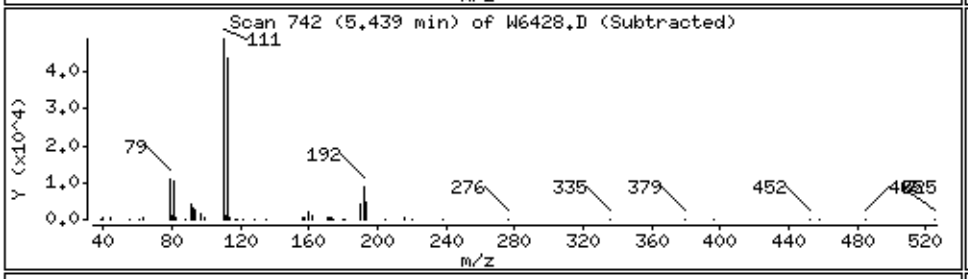
Client ID: VA-AW-25-MW-6-10261 Instrument: gcms-w.i

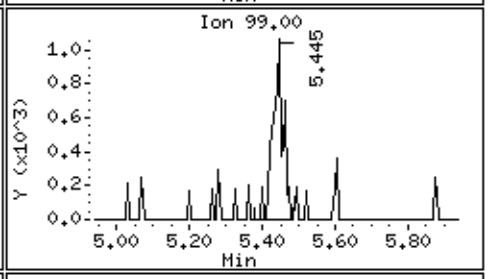
Sample Info: TL0579-35

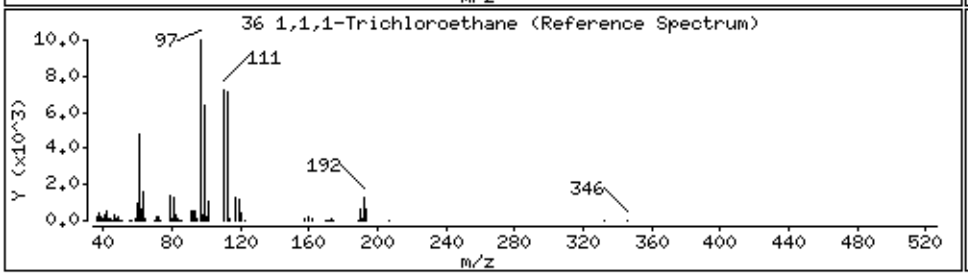
36 1,1,1-Trichloroethane Concentration: 0.81 ug/l

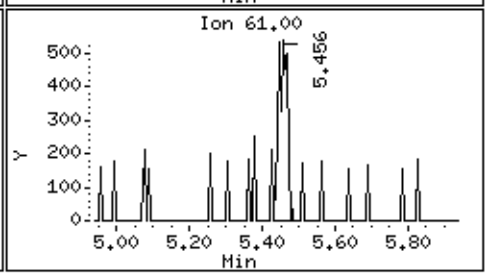




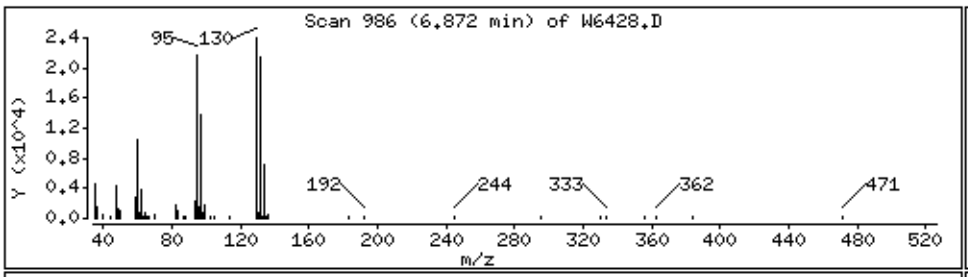


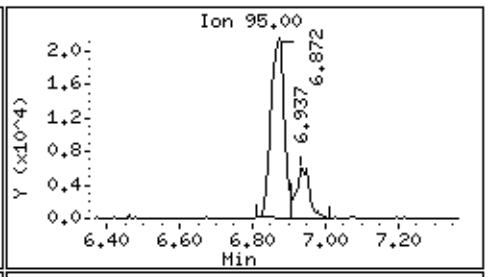


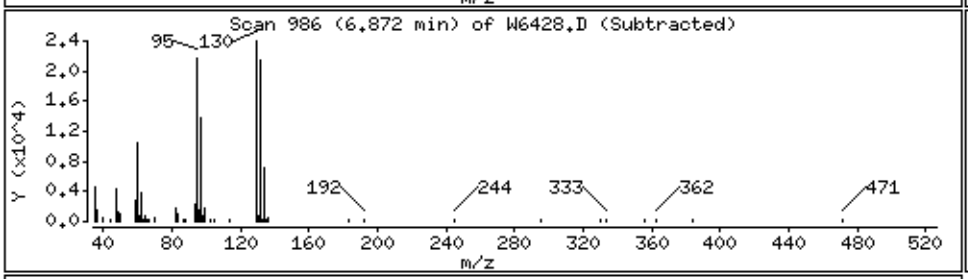


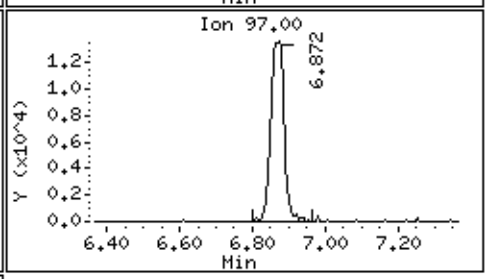


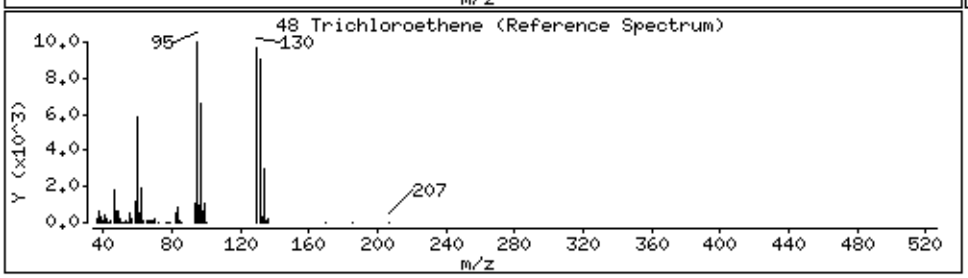
48 Trichloroethene Concentration: 27.3 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-36
Client ID: 86EM-SP-1A-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6419.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform		3.9	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		6.6	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.8	%			
Toluene-d8		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-36
Client ID: 86EM-SP-1A-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6419.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		106.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6419.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6419.D
Lab Smp Id: TL0579-36 Client Smp ID: 86EM-SP-1A-102618
Inj Date : 05-NOV-2018 10:15
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-36
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

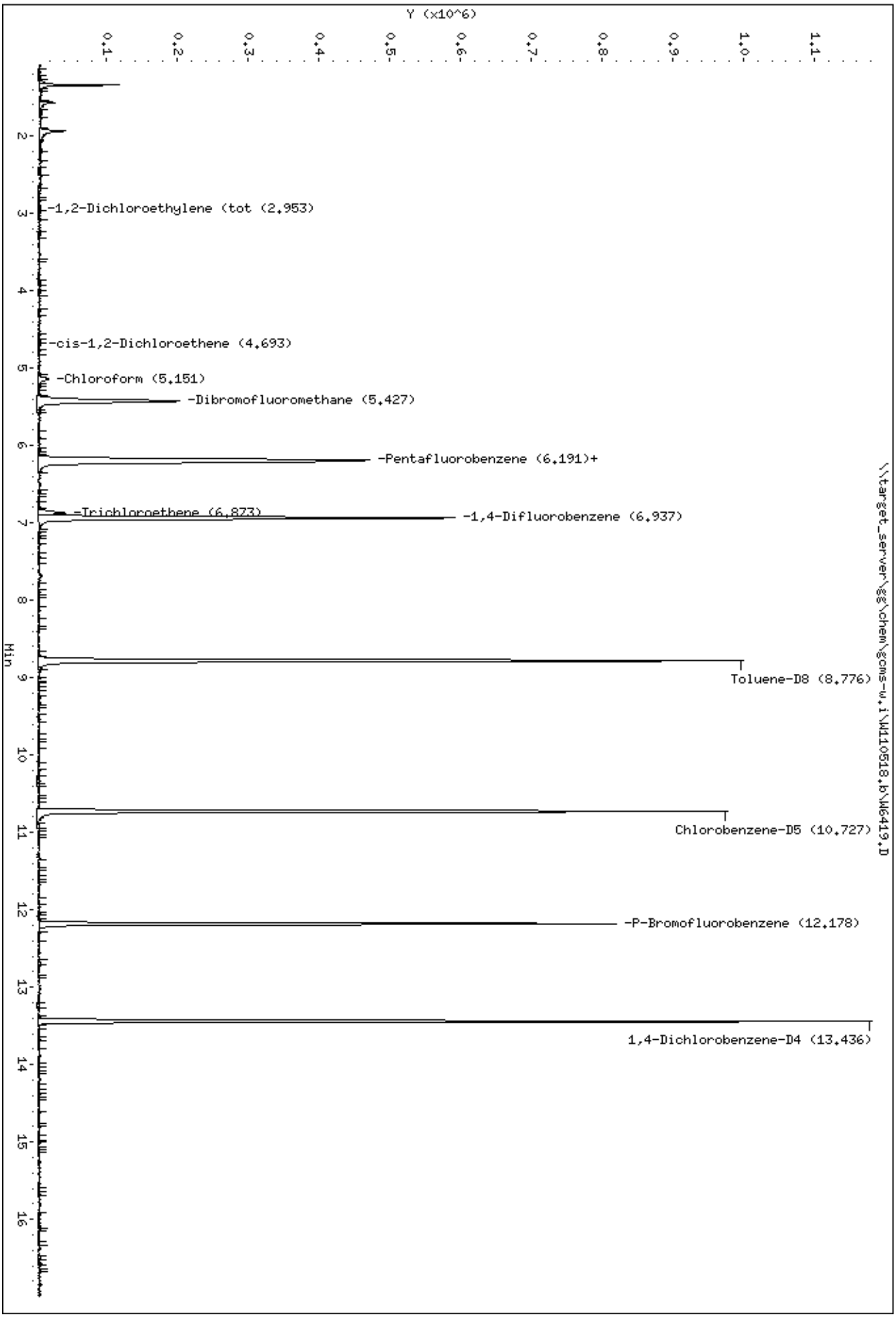
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
M	22 1,2-Dichloroethylene (total)	96				1323	0.61896	0.62(a)	
	28 cis-1,2-Dichloroethene	96	4.704	4.698	(0.760)	1323	0.61896	0.62(a)	
	32 Chloroform	83	5.151	5.139	(0.832)	12961	3.92481	3.9	
$	35 Dibromofluoromethane	113	5.433	5.427	(0.878)	171034	53.1375	53.1	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	347965	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	207262	52.8033	52.8	
	48 Trichloroethene	95	6.872	6.867	(0.991)	13590	6.56229	6.6	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	585569	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	741199	51.9985	52.0	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	560953	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	242404	49.8825	49.9	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	281338	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6419.D
Date : 05-NOV-2018 10:15
Client ID: 86EM-SP-1A-102618
Sample Info: TL0579-36
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518.b\W6419.D
Y (x10^6)
Min
-1,2-Dichloroethylene (tot (2.953)
-cis-1,2-Dichloroethene (4.693)
-Chloroform (5.151)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.191)+
-Trichloroethene (6.873)
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.436)

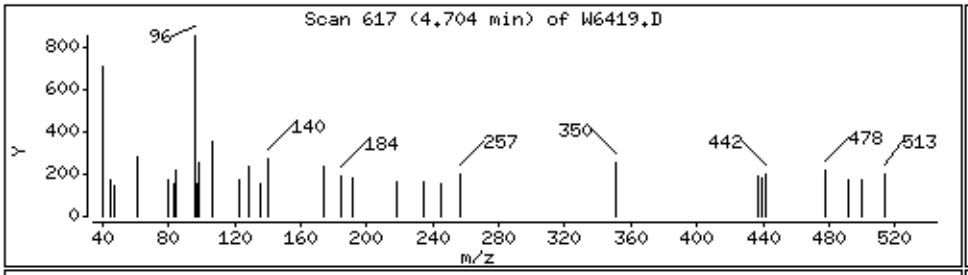
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6419.D

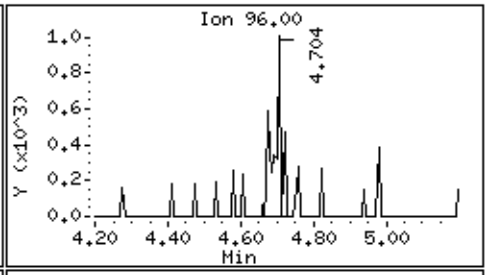
Date : 05-NOV-2018 10:15

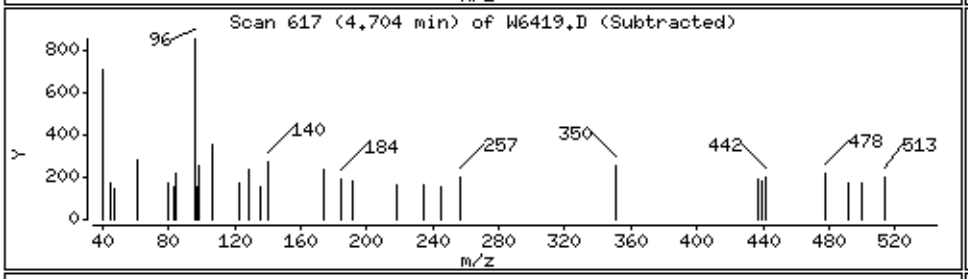
Client ID: 86EM-SP-1A-102618 Instrument: gcms-w.i

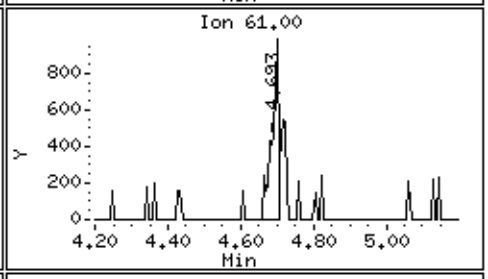
Sample Info: TL0579-36

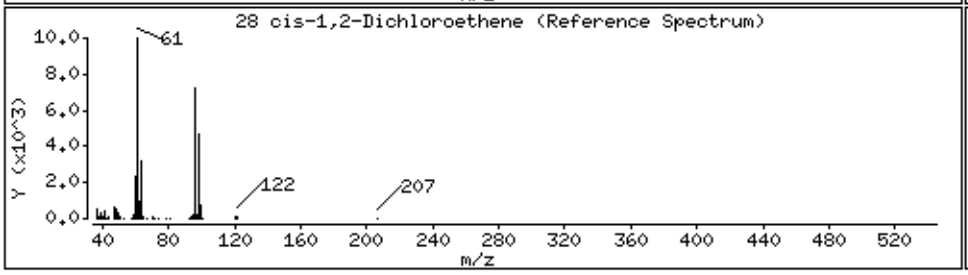
28 cis-1,2-Dichloroethene Concentration: 0.62 ug/l

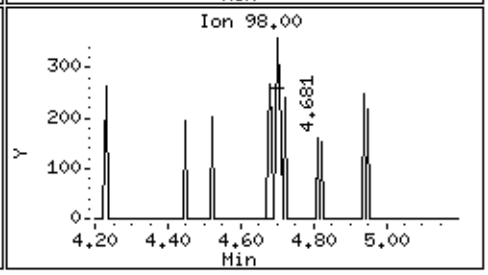




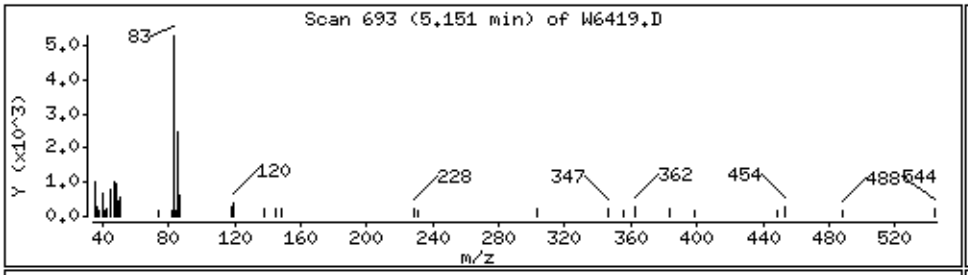


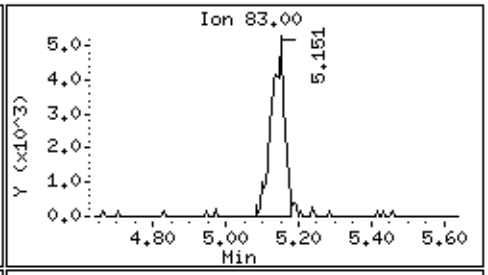


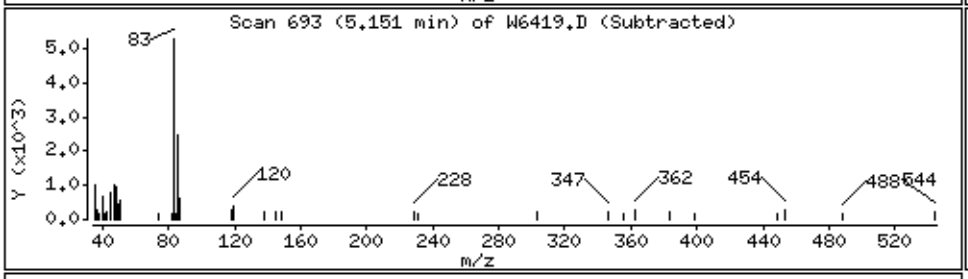


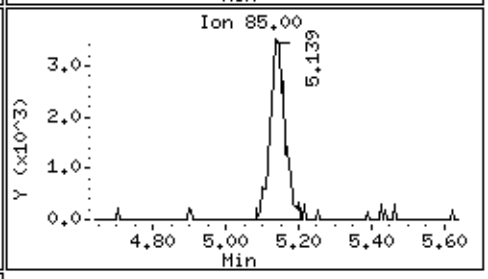


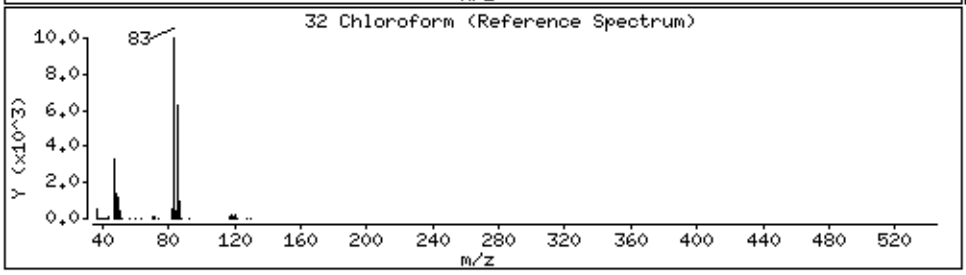
32 Chloroform Concentration: 3.9 ug/l











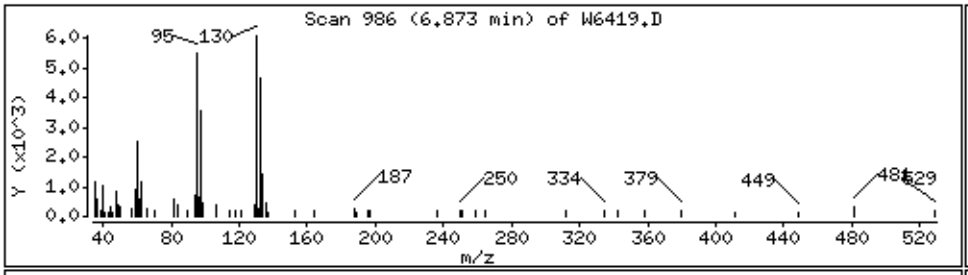
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6419.D

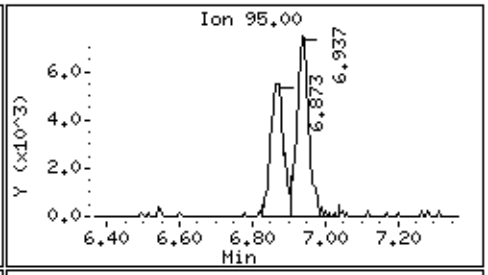
Date : 05-NOV-2018 10:15

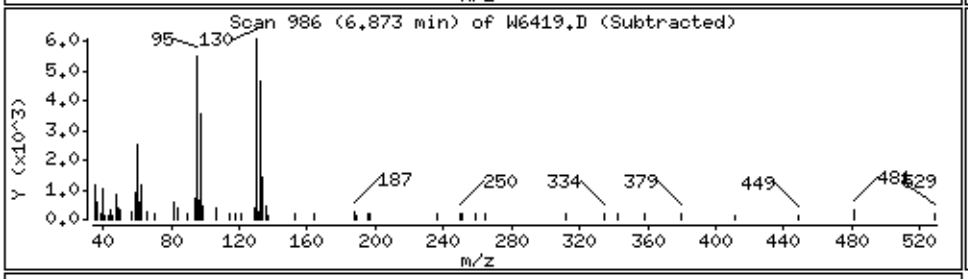
Client ID: 86EM-SP-1A-102618 Instrument: gcms-w.i

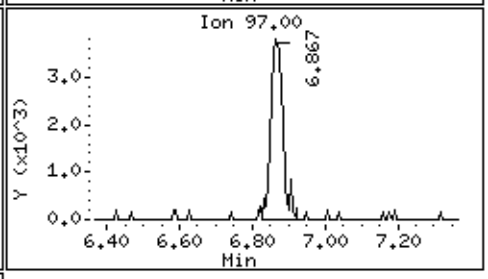
Sample Info: TL0579-36

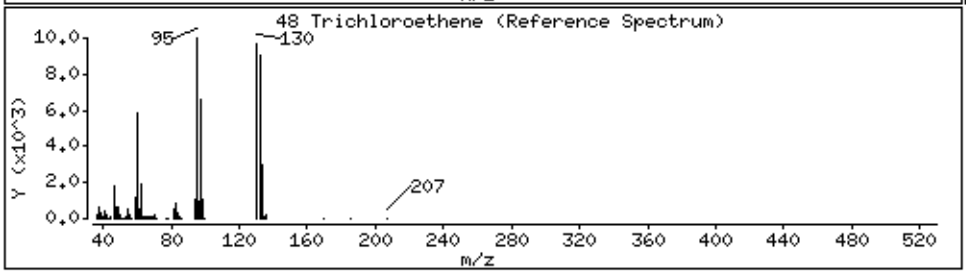
48 Trichloroethene Concentration: 6.6 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-37
Client ID: 83DM-SP-1-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6420.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform		1.4	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		2.4	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-37
Client ID: 83DM-SP-1-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6420.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		106.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6420.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6420.D
Lab Smp Id: TL0579-37 Client Smp ID: 83DM-SP-1-102618
Inj Date : 05-NOV-2018 10:44
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-37
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

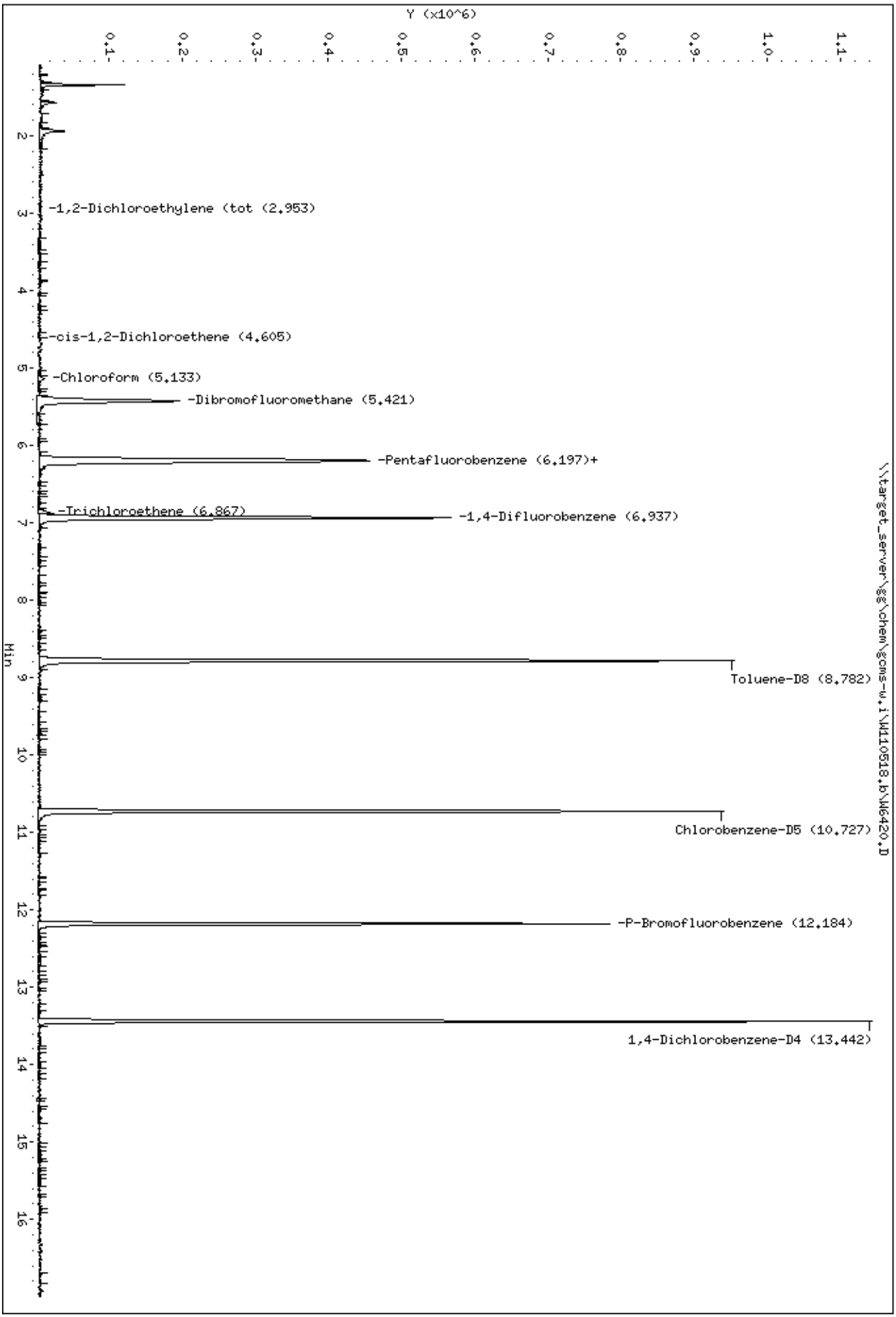
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
M	22 1,2-Dichloroethylene (total)	96				1218	0.57777	0.58(a)	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	1218	0.57777	0.58(a)	
	32 Chloroform	83	5.121	5.139	(0.827)	4472	1.37304	1.4	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	167770	52.8486	52.8	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	343190	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	203664	52.6086	52.6	
	48 Trichloroethene	95	6.866	6.867	(0.990)	4952	2.43700	2.4	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	574566	50.0000		
$	58 Toluene-D8	98	8.782	8.782	(1.266)	716409	51.2219	51.2	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	542319	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	229736	48.1810	48.2	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	271796	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-1,2-Dichloroethylene (tot (2.953)
-cis-1,2-Dichloroethene (4.605)
-Chloroform (5.133)
-Dibromofluoromethane (5.421)
-Pentafluorobenzene (6.197)+
-Trichloroethene (6.867)
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.442)
\\target_server\gg\chem\gcms-w.i\W110518.b\W6420.D
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6420.D
Date : 05-NOV-2018 10:44
Client ID: 83DH-SP-1-102618
Sample Info: TL0579-37
Instrument: gcms-w.i

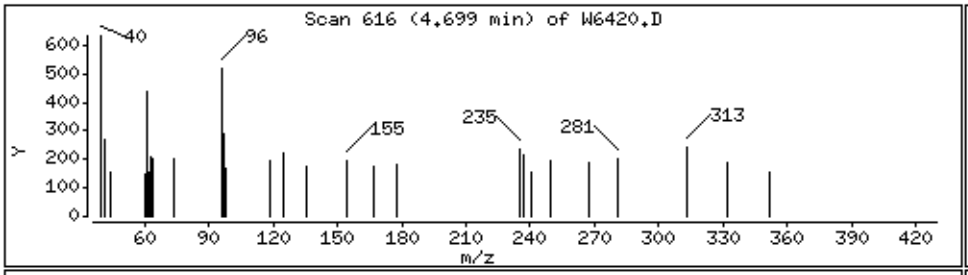
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6420.D

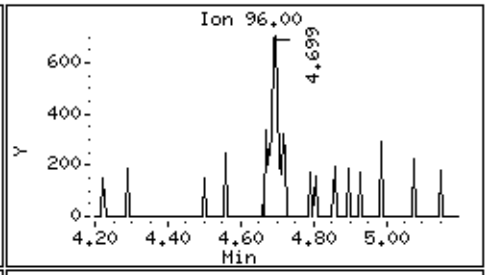
Date : 05-NOV-2018 10:44

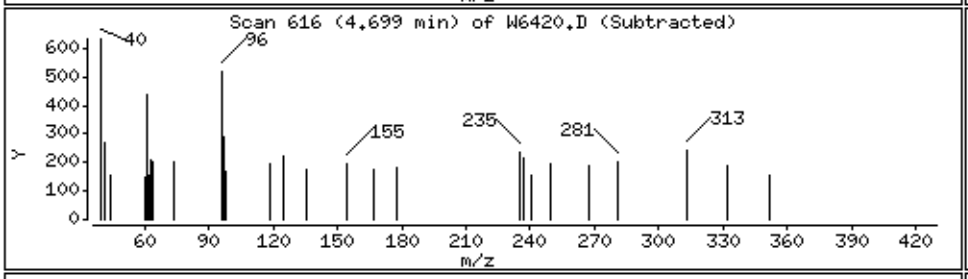
Client ID: 83DM-SP-1-102618 Instrument: gcms-w.i

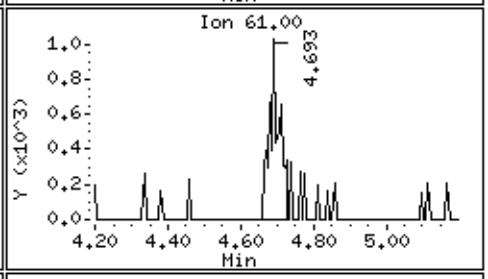
Sample Info: TL0579-37

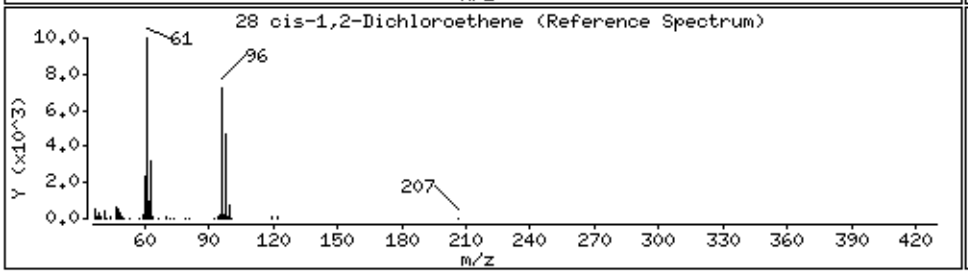
28 cis-1,2-Dichloroethene Concentration: 0.58 ug/l

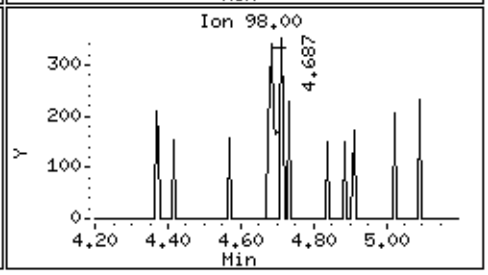




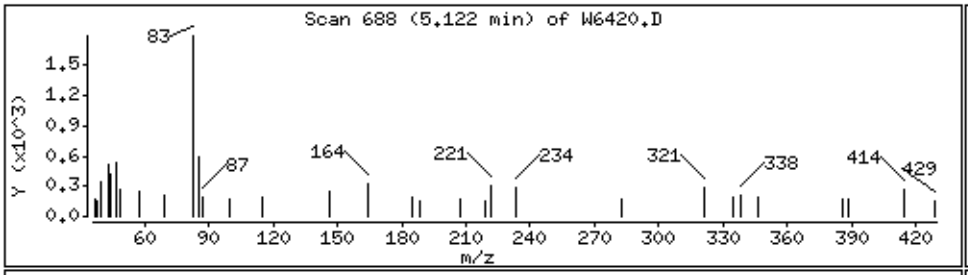


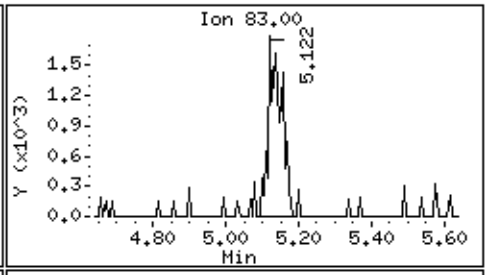


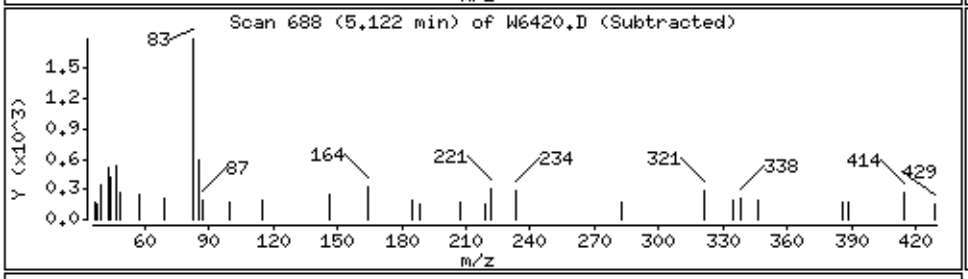


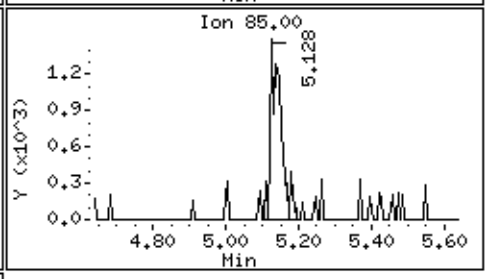


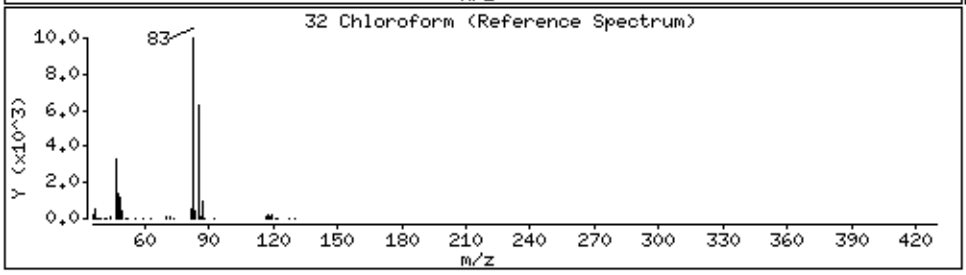
32 Chloroform Concentration: 1.4 ug/l











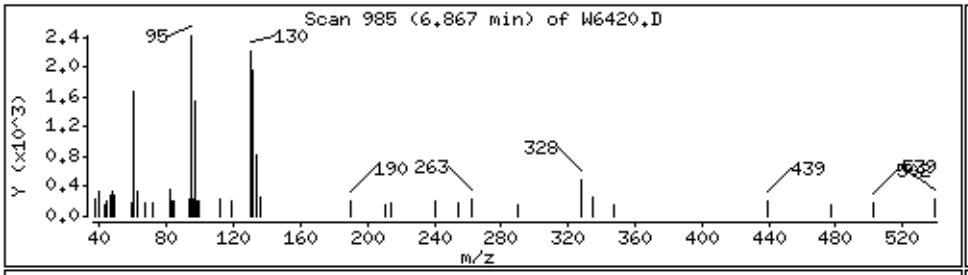
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6420.D

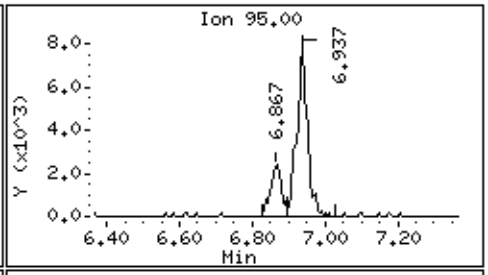
Date : 05-NOV-2018 10:44

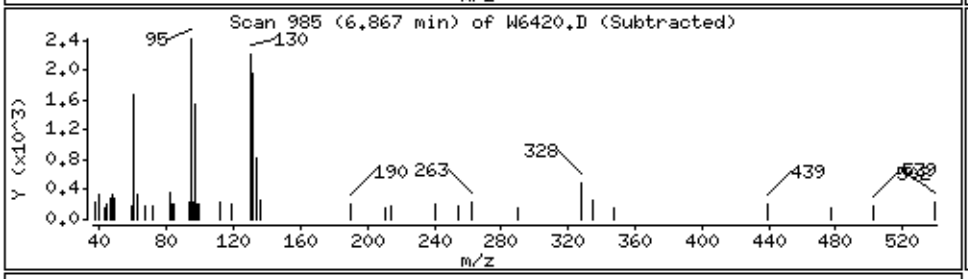
Client ID: 83DM-SP-1-102618 Instrument: gcms-w.i

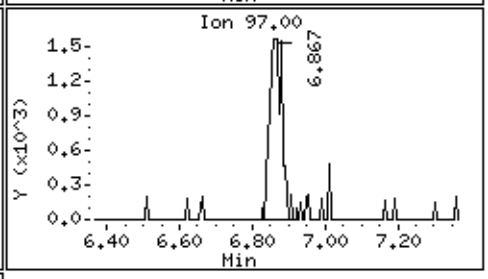
Sample Info: TL0579-37

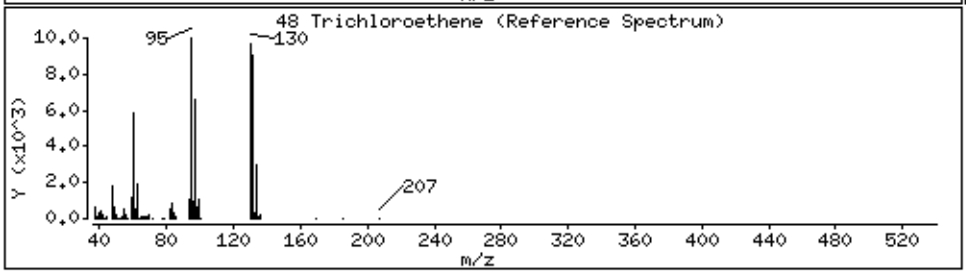
48 Trichloroethene Concentration: 2.4 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-38
Client ID: WVA-AW-25-MW-3-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6421.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride		4.8	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane		1.6	ug/L	1	1	1.0
cis-1,2-Dichloroethene		21.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		3.4	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.2	%			
Toluene-d8		99.8	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-38
Client ID: WVA-AW-25-MW-3-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6421.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6421.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6421.D
Lab Smp Id: TL0579-38 Client Smp ID: VA-AW-25-MW-3-10261
Inj Date : 05-NOV-2018 11:14
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-38
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

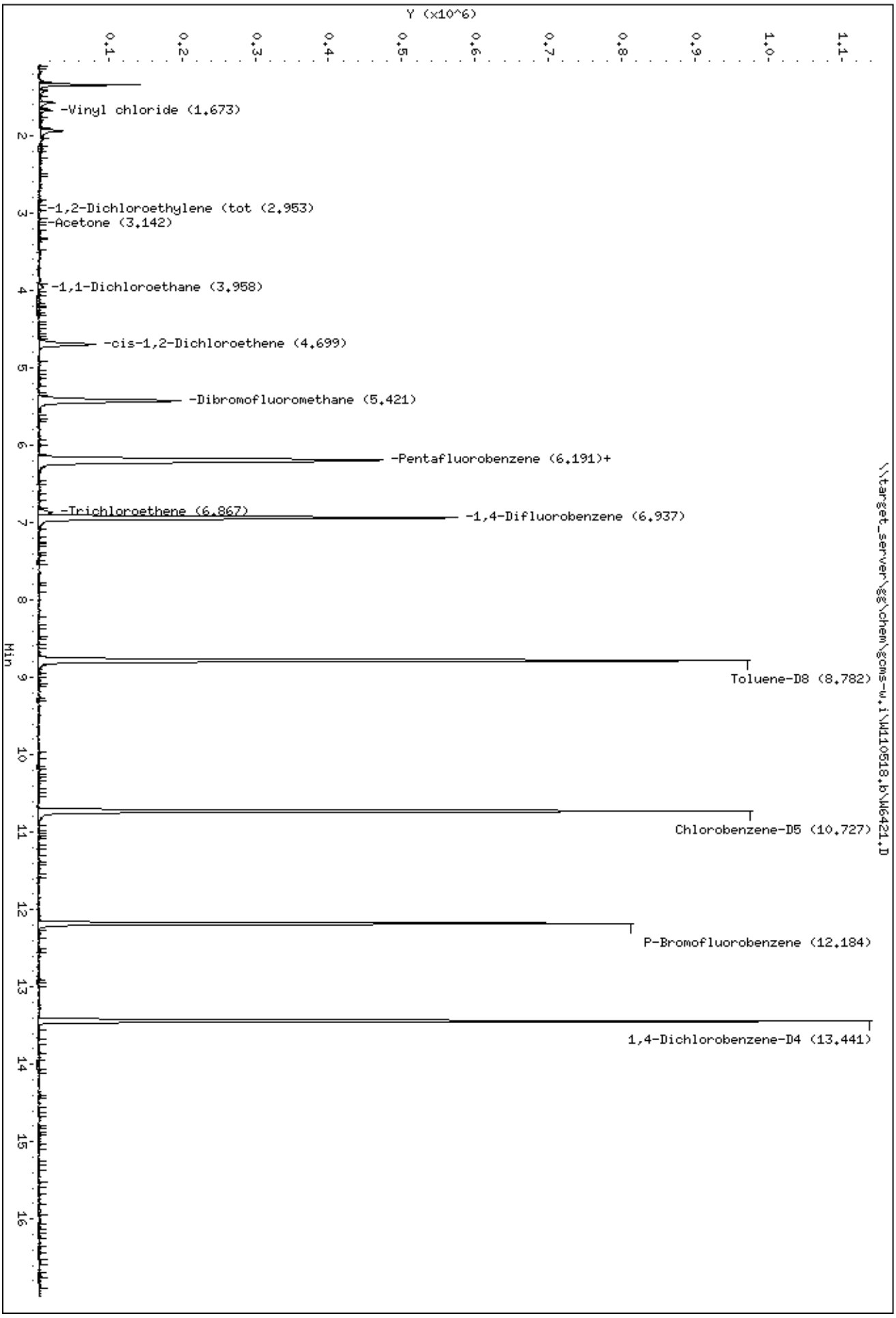
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	3 Vinyl chloride	62	1.672	1.673	(0.270)	10542	4.78133	4.8	
	15 Acetone	43	3.129	3.136	(0.506)	1222	7.74199	7.7	
M	22 1,2-Dichloroethylene (total)	96				45991	21.2023	21.2	
	24 1,1-Dichloroethane	63	3.958	3.952	(0.639)	5759	1.56534	1.6(M)	M10
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	45991	21.2023	21.2	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	167523	51.2861	51.3	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	353125	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	207224	52.0221	52.0	
	48 Trichloroethene	95	6.872	6.867	(0.991)	7193	3.40393	3.4	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	597507	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	726169	49.9262	49.9	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	559109	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	241025	48.6078	48.6	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	273439	50.0000		

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6421.D
Date : 05-NOV-2018 11:14
Client ID: VA-AW-25-MW-3-10261
Sample Info: TL0579-38
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518.b\W6421.D
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Vinyl chloride (1.673)
-1,2-Dichloroethylene (tot (2.953)
-Acetone (3.142)
-1,1-Dichloroethane (3.958)
-cis-1,2-Dichloroethene (4.699)
-Dibromofluoromethane (5.421)
-Pentafluorobenzene (6.191)+
-Trichloroethene (6.867)
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)

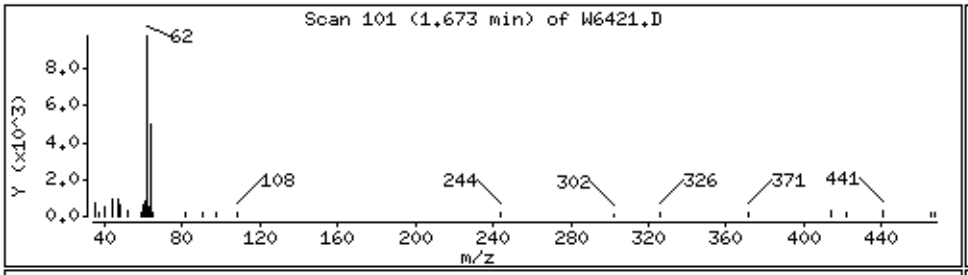
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6421.D

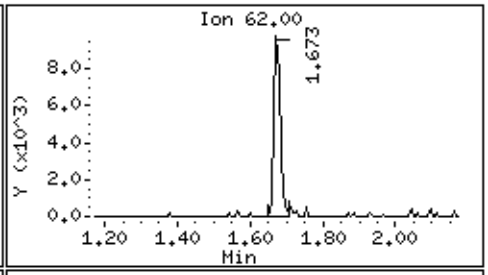
Date : 05-NOV-2018 11:14

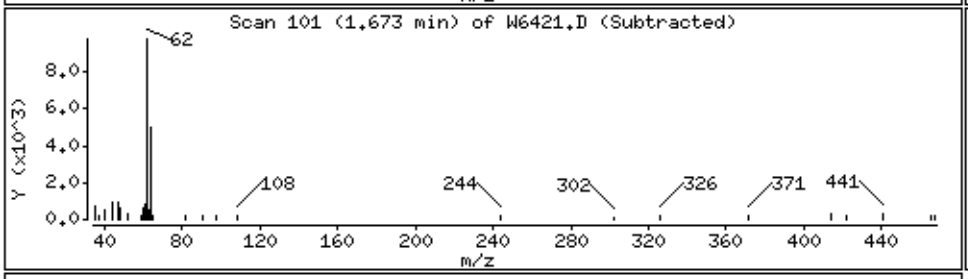
Client ID: VA-AW-25-MW-3-10261 Instrument: gcms-w.i

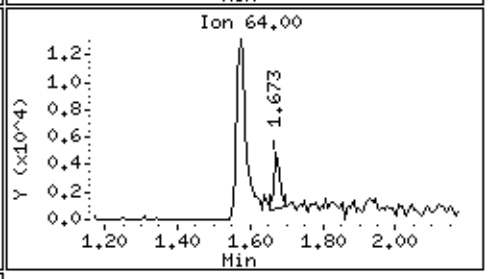
Sample Info: TL0579-38

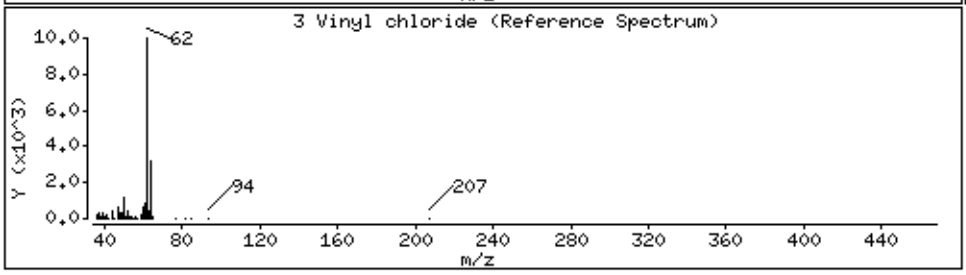
3 Vinyl chloride Concentration: 4.8 ug/l



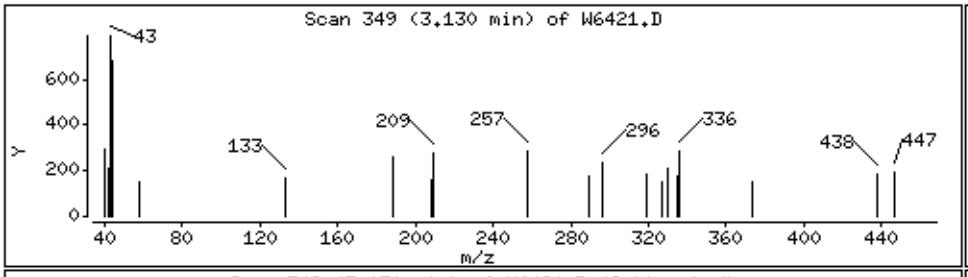


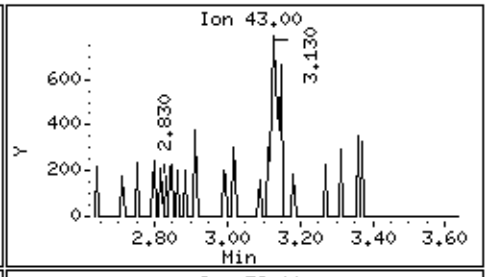


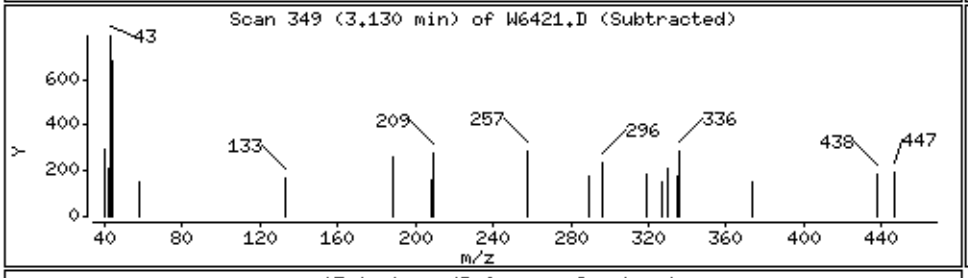


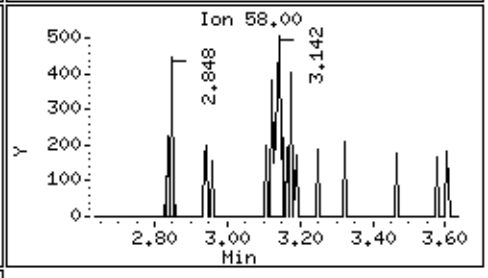


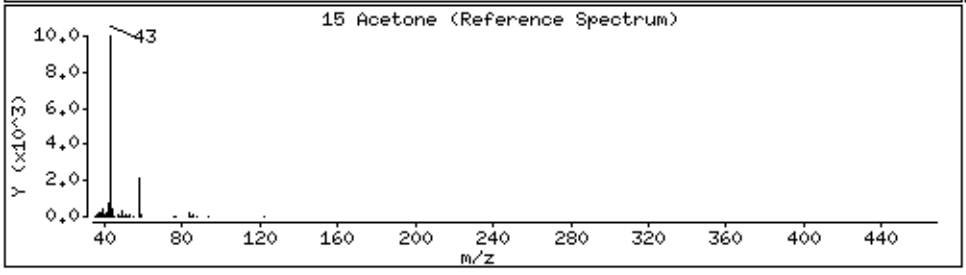
15 Acetone Concentration: 7.7 ug/l











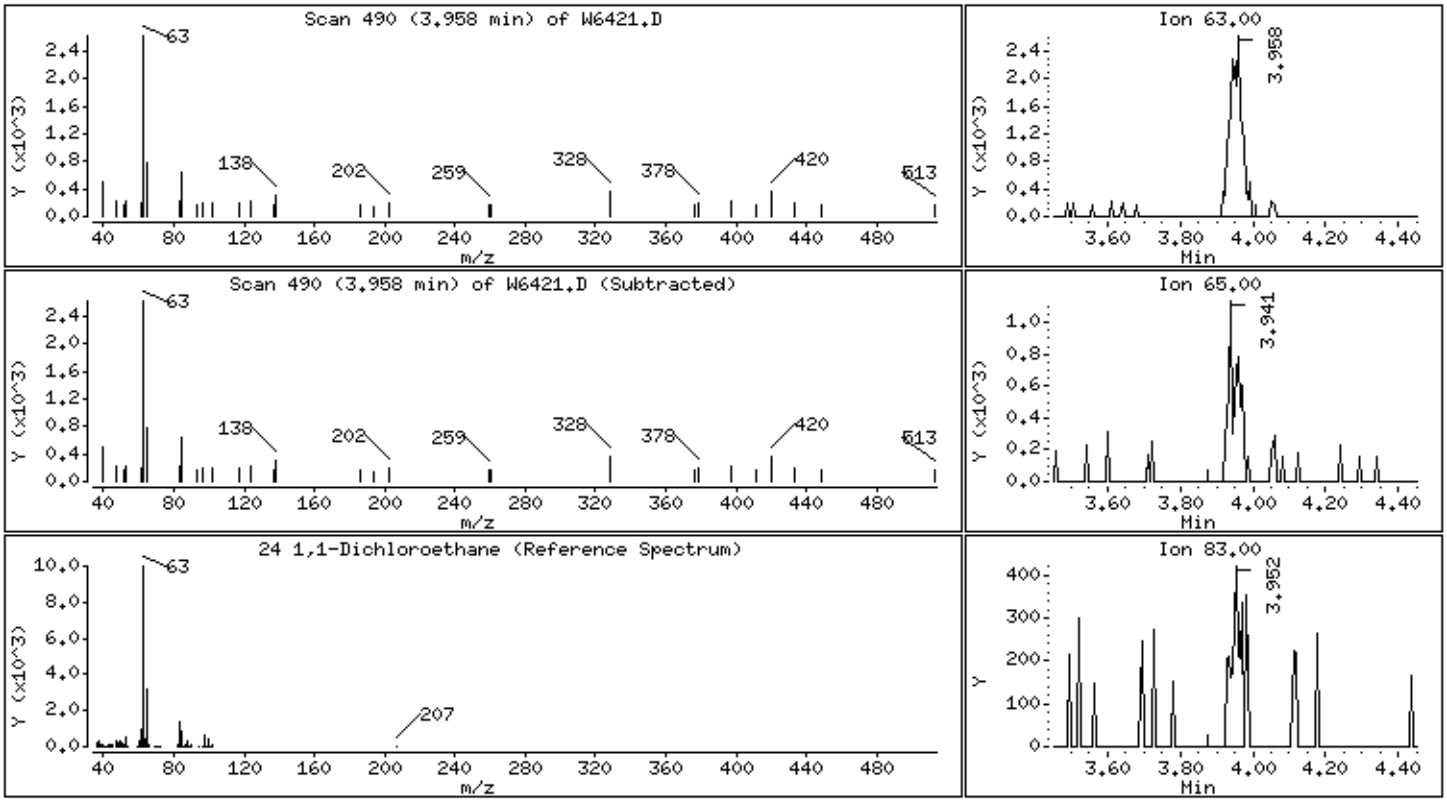
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6421.D

Date : 05-NOV-2018 11:14

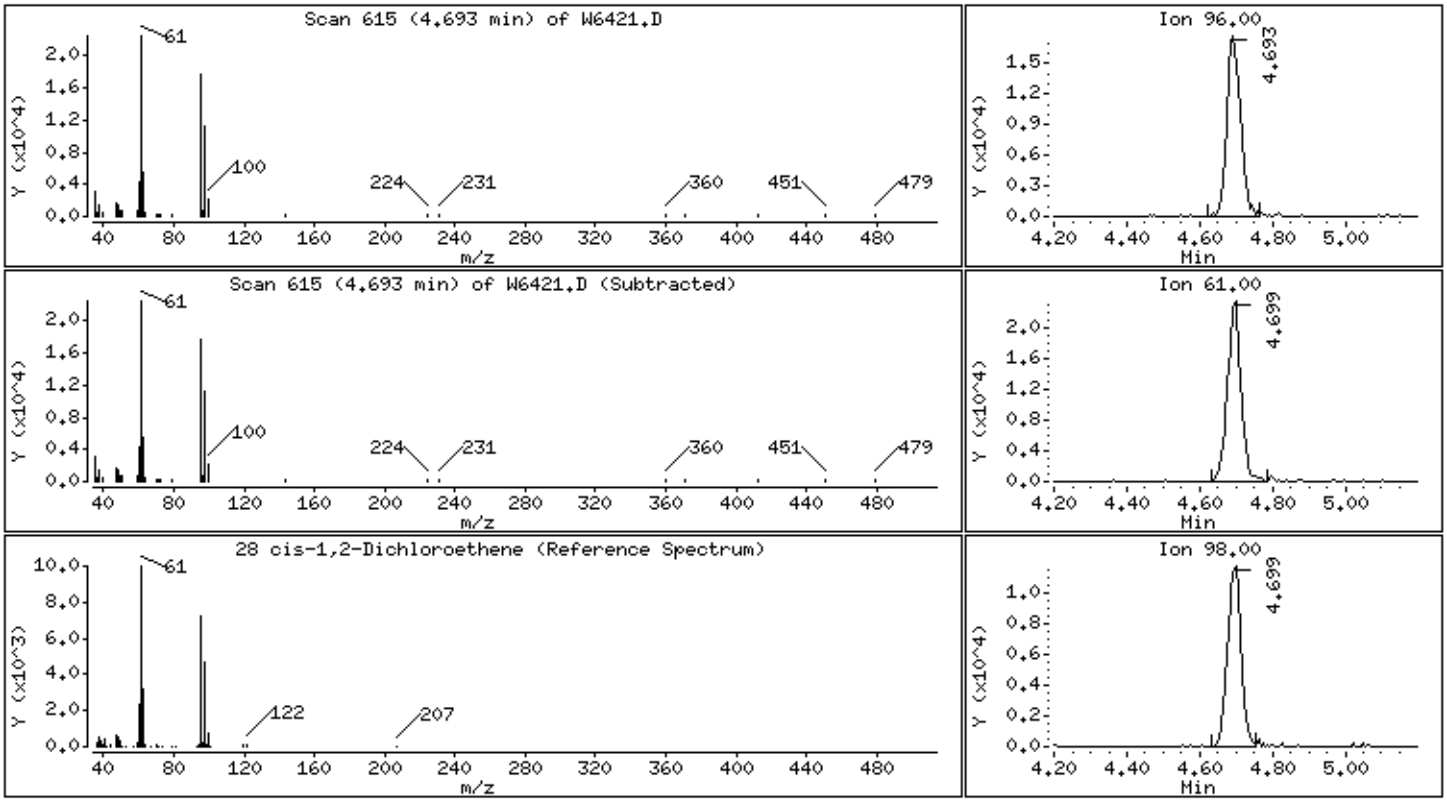
Client ID: VA-AW-25-MW-3-10261 Instrument: gcms-w.i

Sample Info: TL0579-38

24 1,1-Dichloroethane Concentration: 1.6 ug/l



28 cis-1,2-Dichloroethene Concentration: 21.2 ug/l



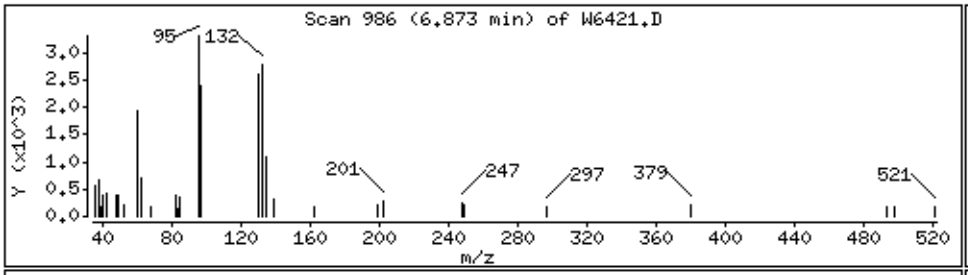
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6421.D

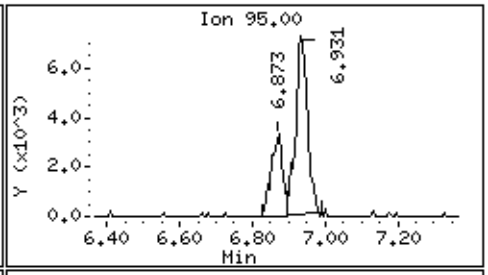
Date : 05-NOV-2018 11:14

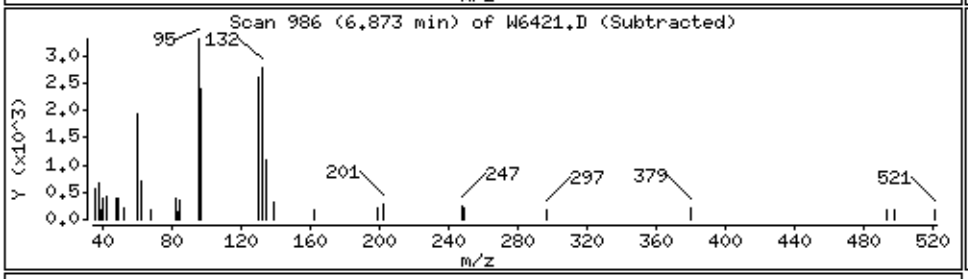
Client ID: VA-AW-25-MW-3-10261 Instrument: gcms-w.i

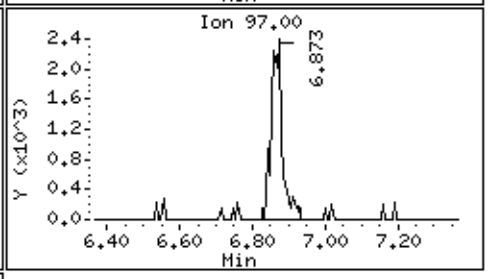
Sample Info: TL0579-38

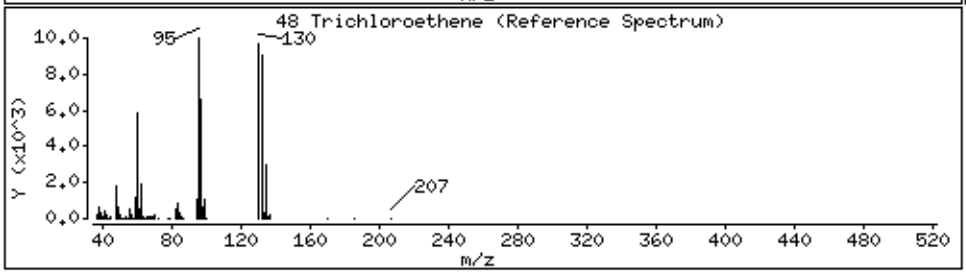
48 Trichloroethene Concentration: 3.4 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-39
Client ID: WVA-AW-25-MW-2-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6422.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		2.7	ug/L	1	1	1.0
1,1-Dichloroethane		9.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		6.1	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane		1.7	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		1.8	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.0	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-39
Client ID: WVA-AW-25-MW-2-10261
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6422.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		108.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6422.D
Report Date: 28-Nov-2018 17:29

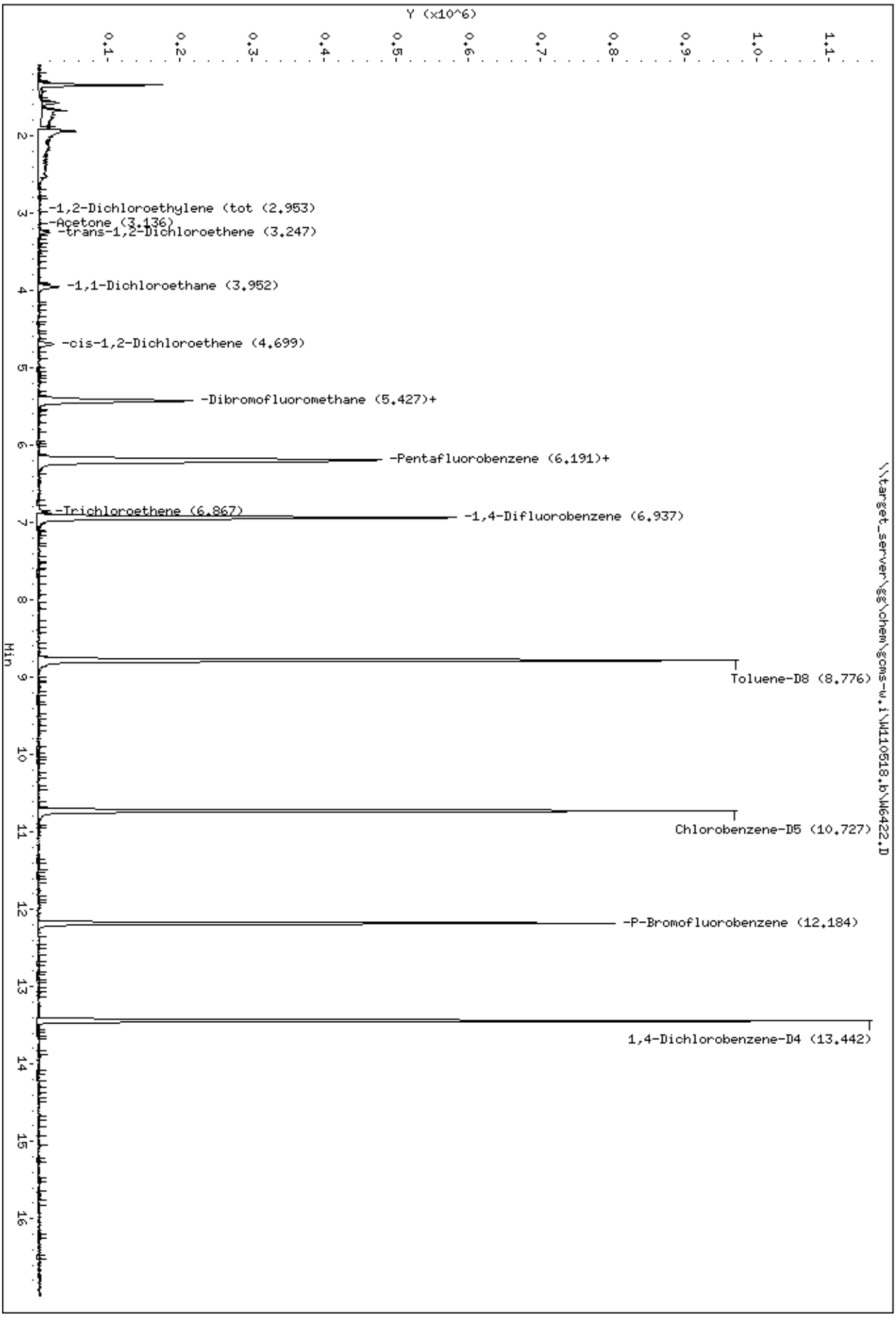
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6422.D
Lab Smp Id: TL0579-39 Client Smp ID: VA-AW-25-MW-2-10261
Inj Date : 05-NOV-2018 11:44
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-39
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.135	3.136	(0.506)	1221	7.76926	7.8	
	16 trans-1,2-Dichloroethene	96	3.253	3.253	(0.525)	4953	2.69352	2.7	
M	22 1,2-Dichloroethylene (total)	96				18047	8.83206	8.8	
	24 1,1-Dichloroethane	63	3.952	3.952	(0.638)	32558	8.99914	9.0	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	13094	6.13855	6.1	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	168580	52.4824	52.5	
	36 1,1,1-Trichloroethane	97	5.444	5.439	(0.879)	5076	1.72905	1.7	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	347253	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	211000	53.8658	53.9	
	48 Trichloroethene	95	6.860	6.867	(0.989)	3684	1.76497	1.8	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	590197	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	731590	50.9219	50.9	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	560805	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	237635	48.5177	48.5	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	282739	50.0000		



Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6422.D
Date : 05-NOV-2018 11:44
Client ID: VA-AW-25-MW-2-10261
Sample Info: TL0579-39

Instrument: gcms-w.i

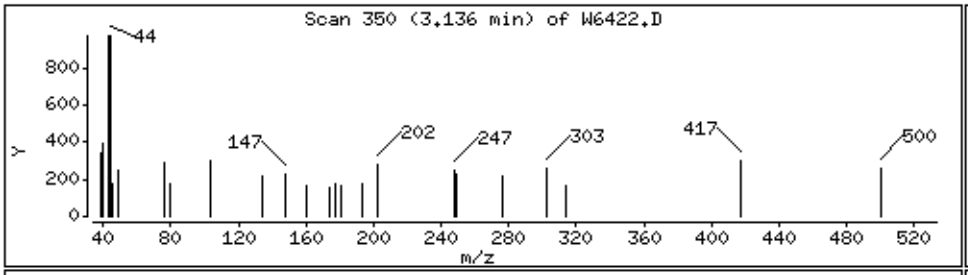
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6422.D

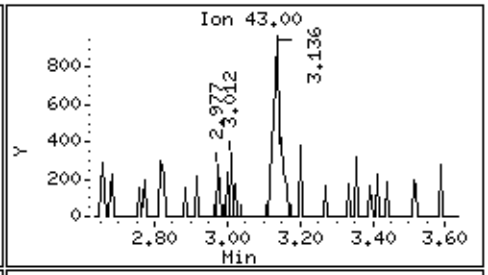
Date : 05-NOV-2018 11:44

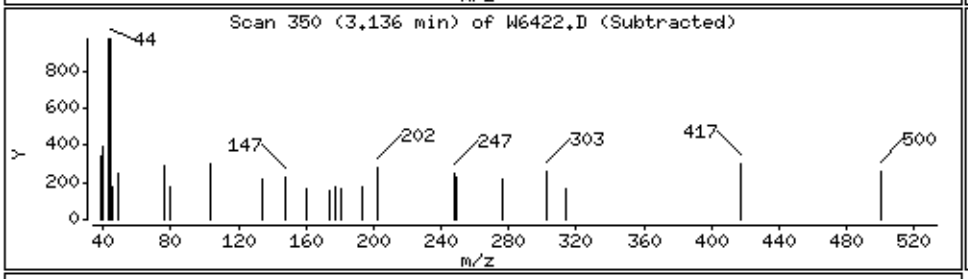
Client ID: VA-AW-25-MW-2-10261 Instrument: gcms-w.i

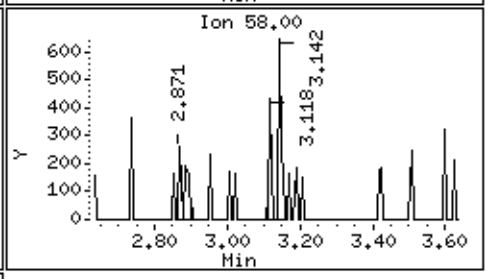
Sample Info: TL0579-39

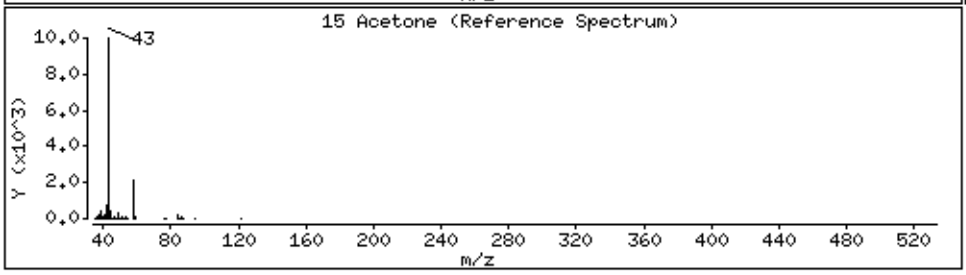
15 Acetone Concentration: 7.8 ug/l



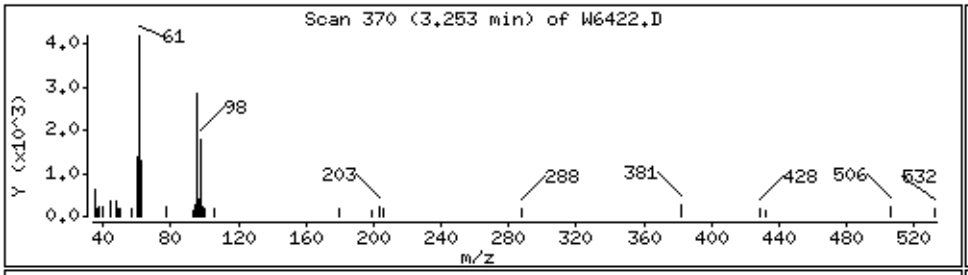


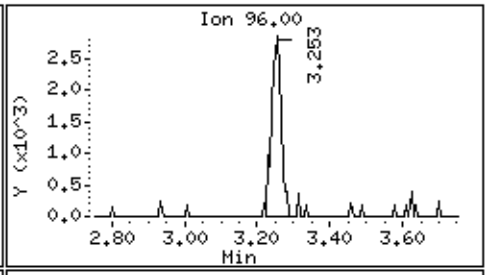


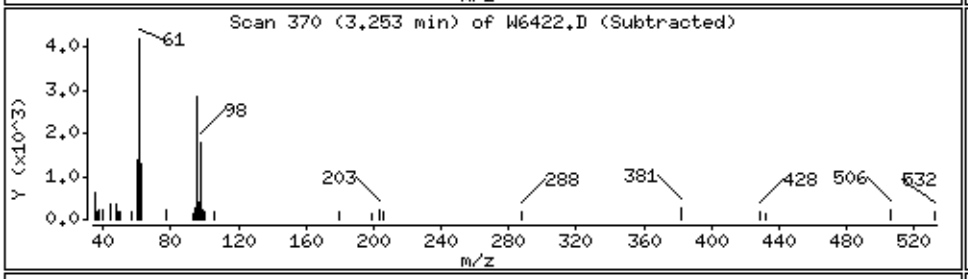


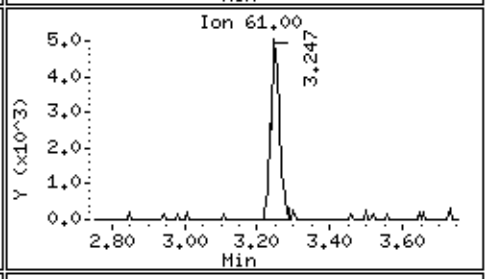


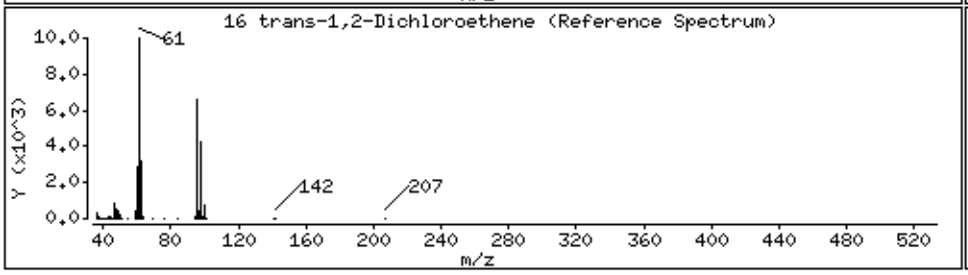
16 trans-1,2-Dichloroethene Concentration: 2.7 ug/l

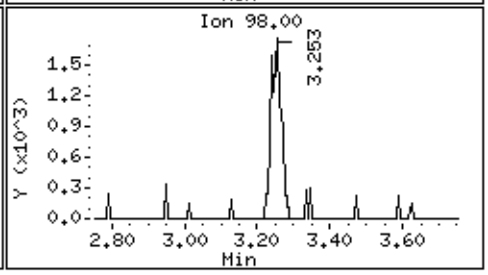












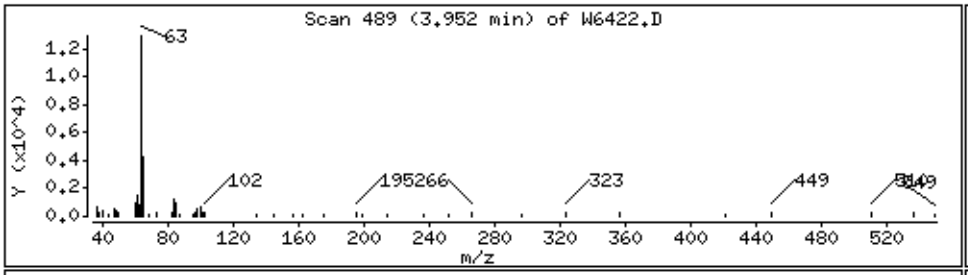
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6422.D

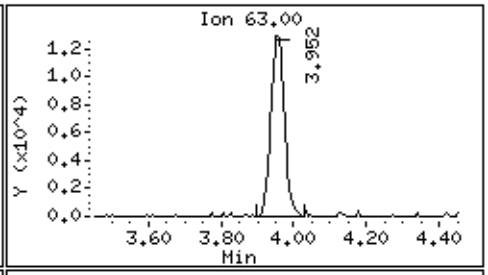
Date : 05-NOV-2018 11:44

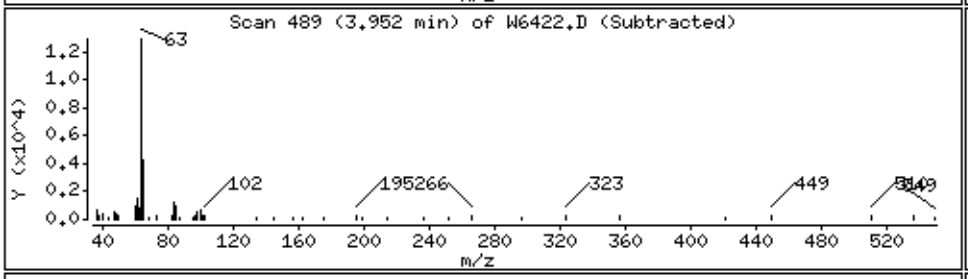
Client ID: VA-AW-25-MW-2-10261 Instrument: gcms-w.i

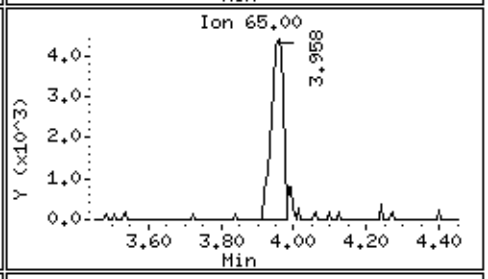
Sample Info: TL0579-39

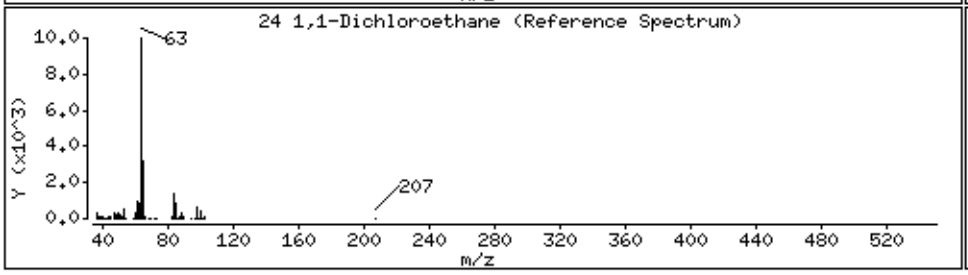
24 1,1-Dichloroethane Concentration: 9.0 ug/l

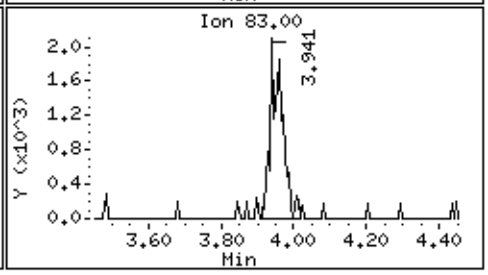




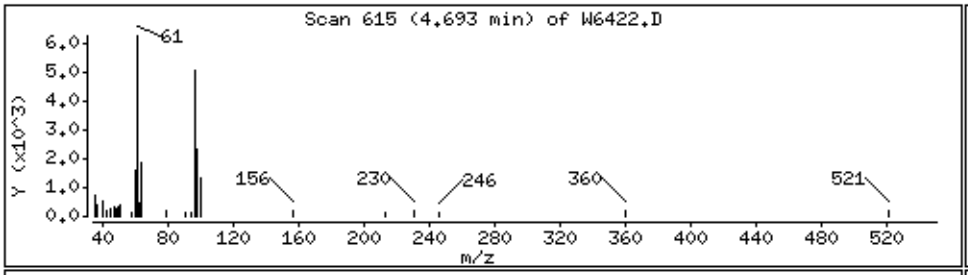


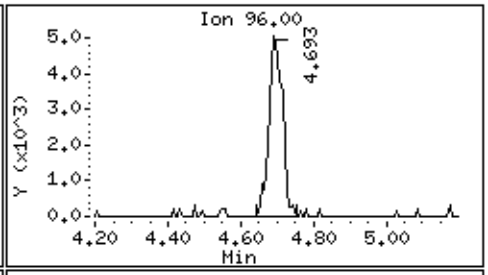


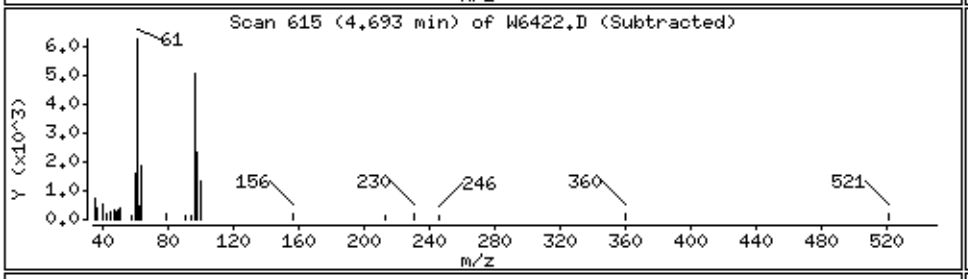


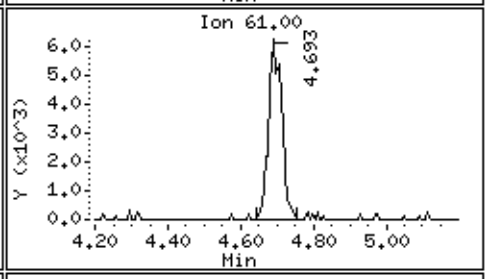


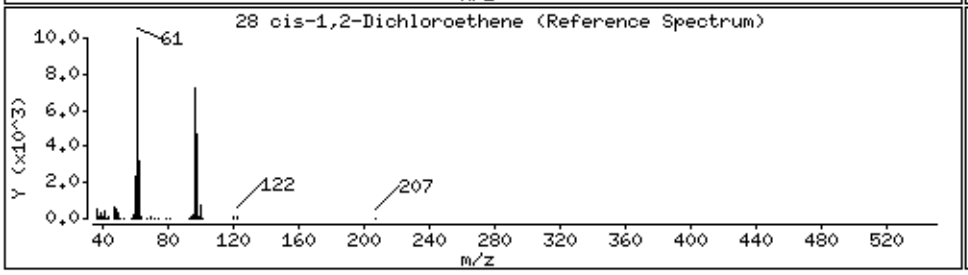
28 cis-1,2-Dichloroethene Concentration: 6.1 ug/l

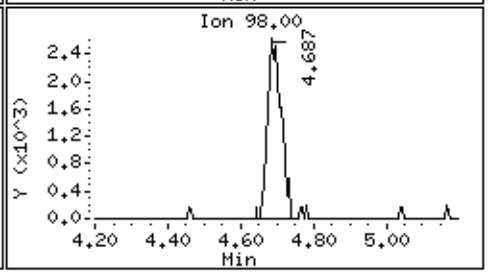












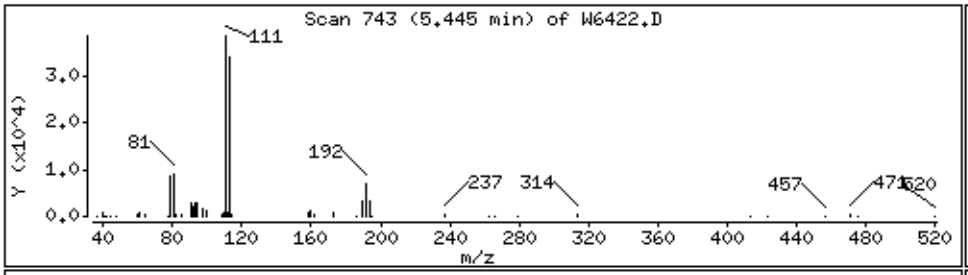
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6422.D

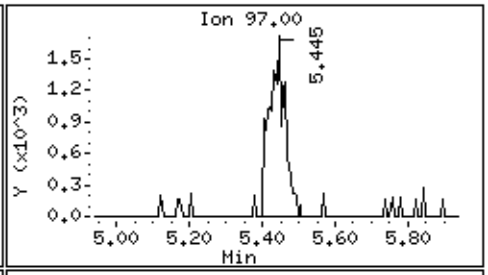
Date : 05-NOV-2018 11:44

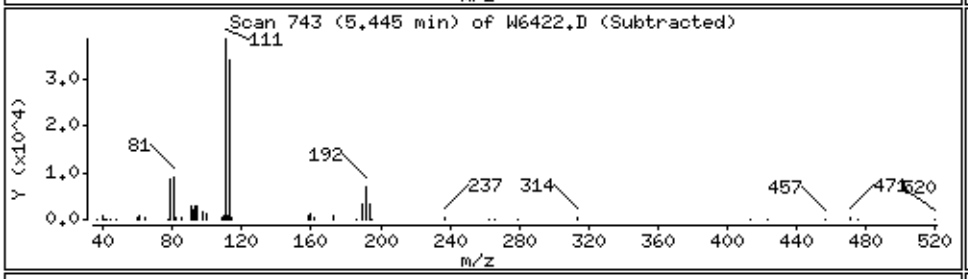
Client ID: VA-AW-25-MW-2-10261 Instrument: gcms-w.i

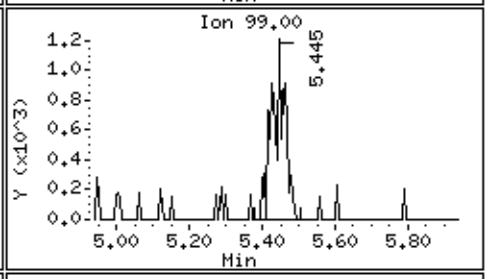
Sample Info: TL0579-39

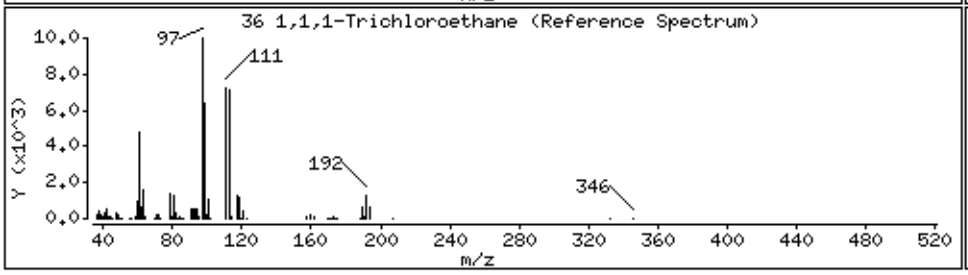
36 1,1,1-Trichloroethane Concentration: 1.7 ug/l

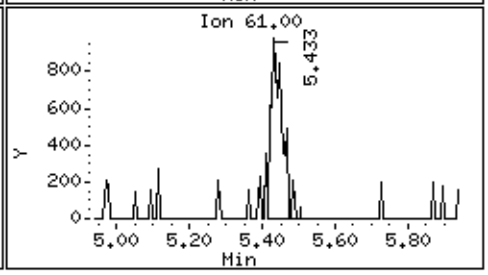




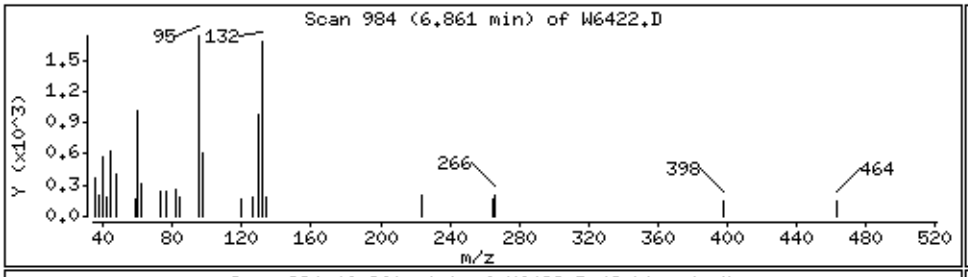


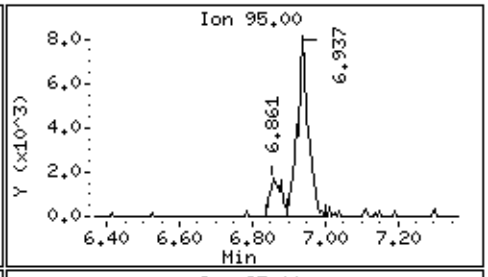


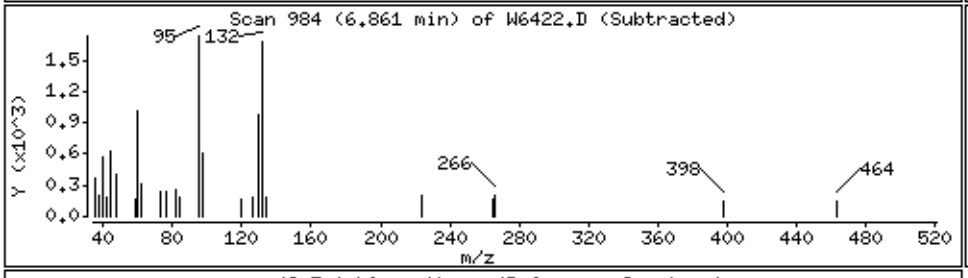


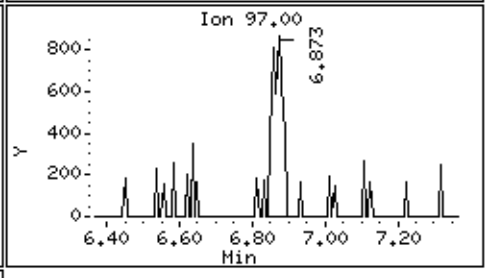


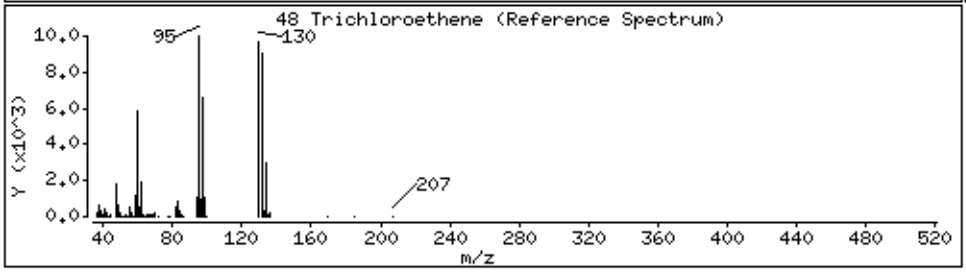
48 Trichloroethene Concentration: 1.8 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-40
Client ID: 93EM-SP-13-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6423.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-40
Client ID: 93EM-SP-13-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6423.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		106.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6423.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

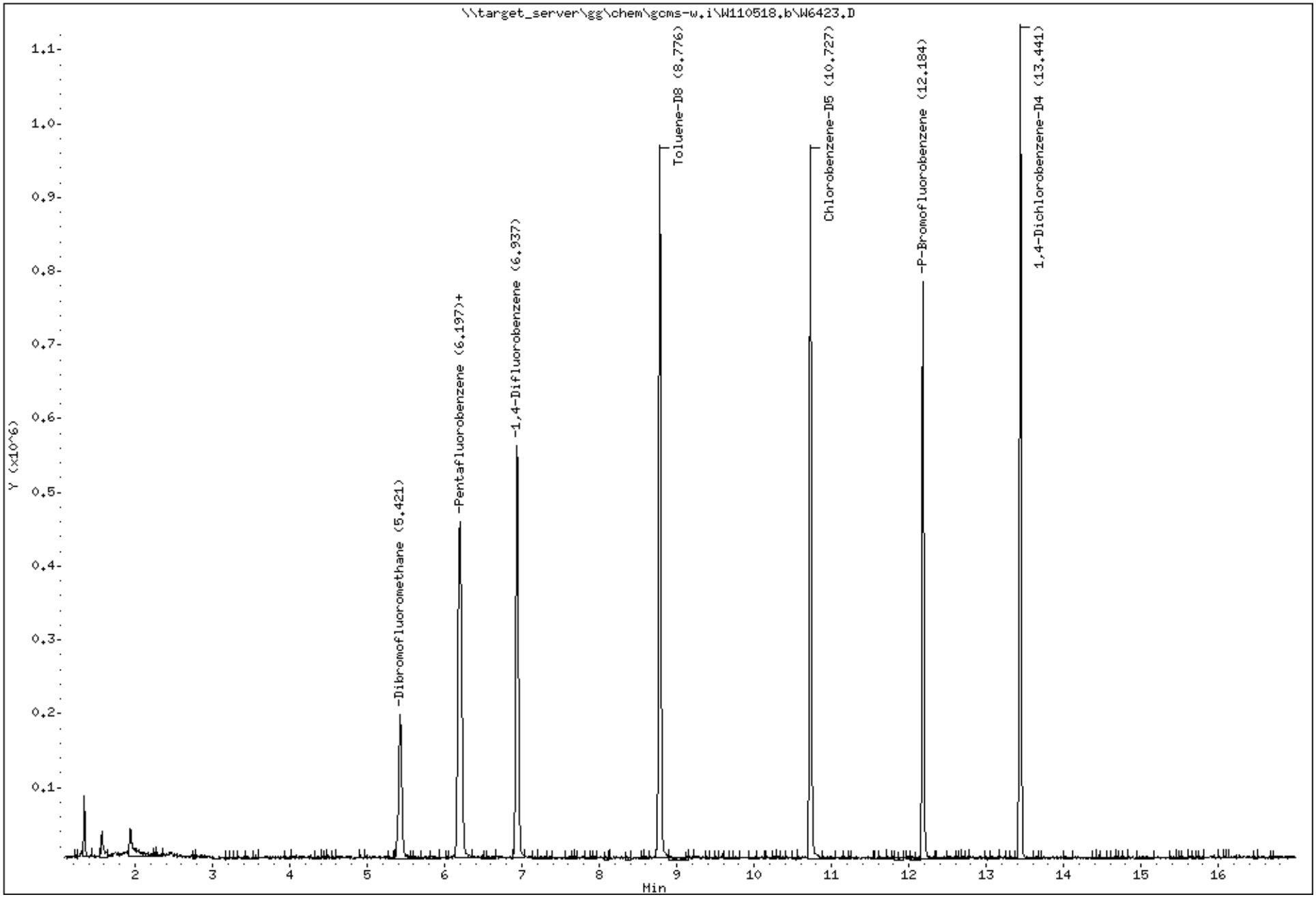
Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6423.D
Lab Smp Id: TL0579-40 Client Smp ID: 93EM-SP-13-102618
Inj Date : 05-NOV-2018 12:14
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-40
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	35 Dibromofluoromethane	113	5.421	5.427	(0.877)	164226	51.7552	51.8	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	343038	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	205024	52.9833	53.0	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	576519	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	715822	51.0065	51.0	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	535882	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	230635	48.2057	48.2	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	267917	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6423.D
Date : 05-NOV-2018 12:14
Client ID: 93EM-SP-13-102618 Instrument: gcms-w.i
Sample Info: TL0579-40



Katahdin Analytical Services 1000269

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-41
Client ID: 93EM-SP-11-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6424.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-41
Client ID: 93EM-SP-11-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6424.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		105.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6424.D
Report Date: 28-Nov-2018 17:32

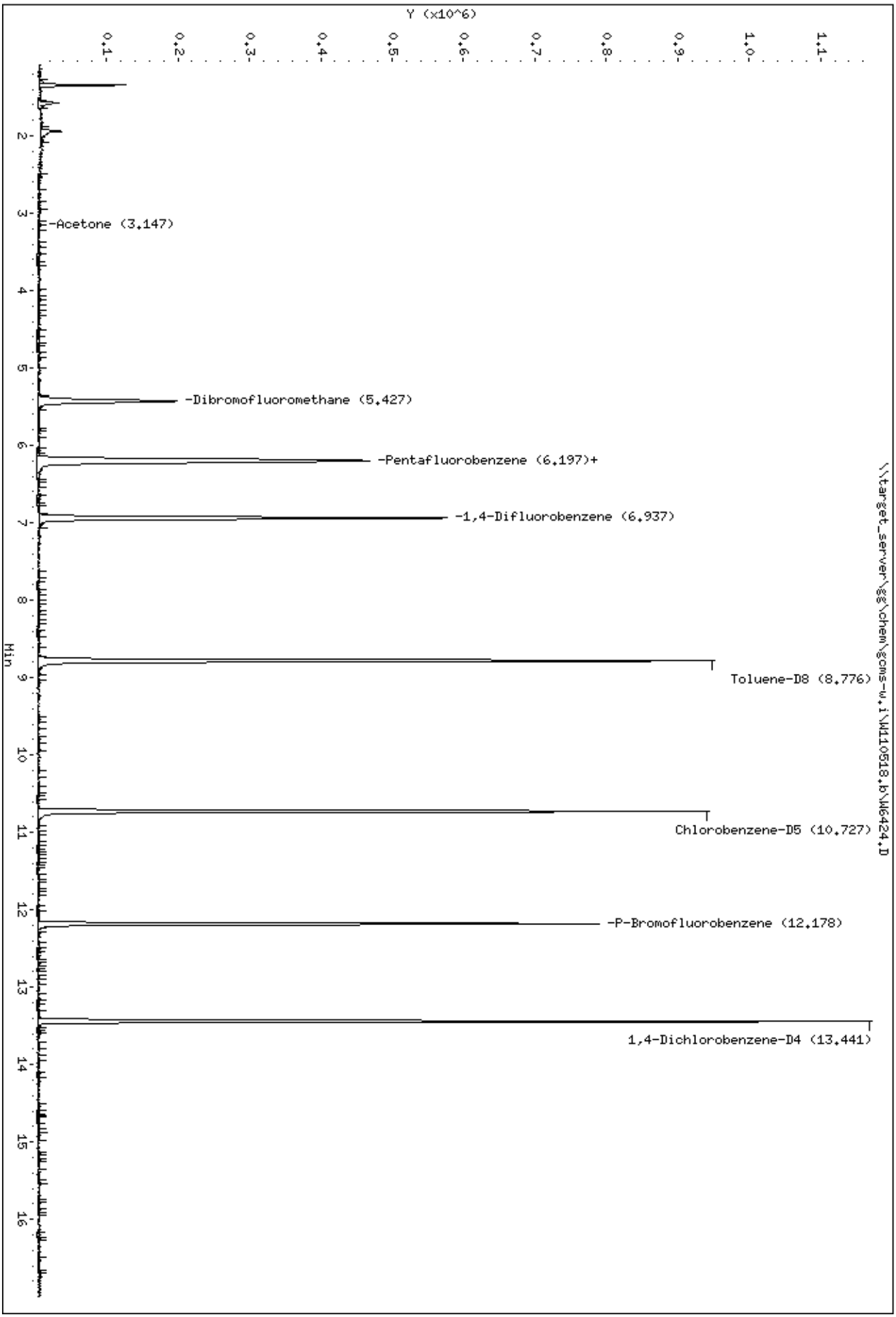
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6424.D
Lab Smp Id: TL0579-41 Client Smp ID: 93EM-SP-11-102618
Inj Date : 05-NOV-2018 12:44
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-41
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.129	3.136	(0.506)	1528	8.20278	8.2	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	165071	51.3885	51.4	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	347263	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.208	6.214	(1.003)	205339	52.4191	52.4	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	579339	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	713252	50.5760	50.6	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	545356	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.756)	229623	47.7605	47.8	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	274615	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6424.D
Date : 05-NOV-2018 12:44
Client ID: 93EM-SP-11-102618
Sample Info: TL0579-41
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518.b\W6424.D
Y (x10^6)
Min
-Acetone (3.147)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.441)

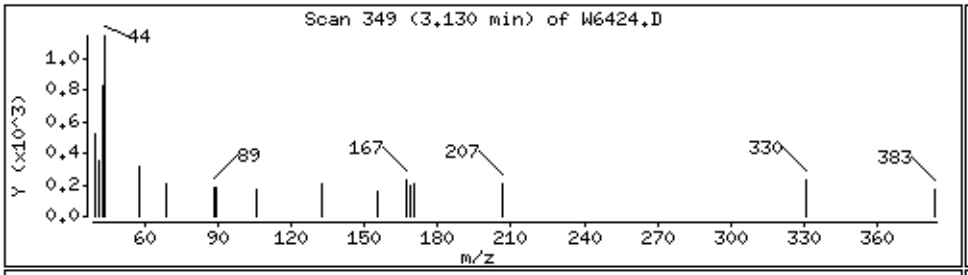
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6424.D

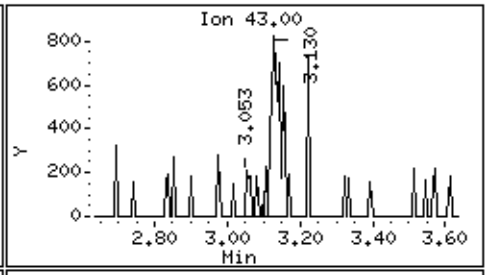
Date : 05-NOV-2018 12:44

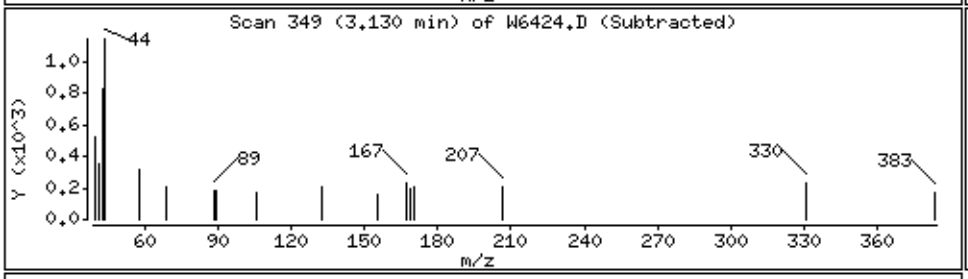
Client ID: 93EM-SP-11-102618 Instrument: gcms-w.i

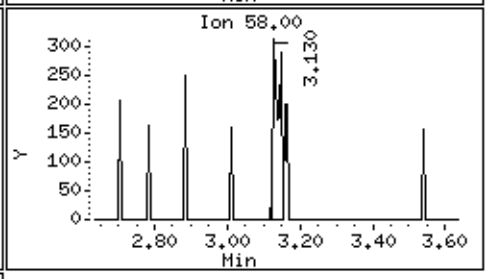
Sample Info: TL0579-41

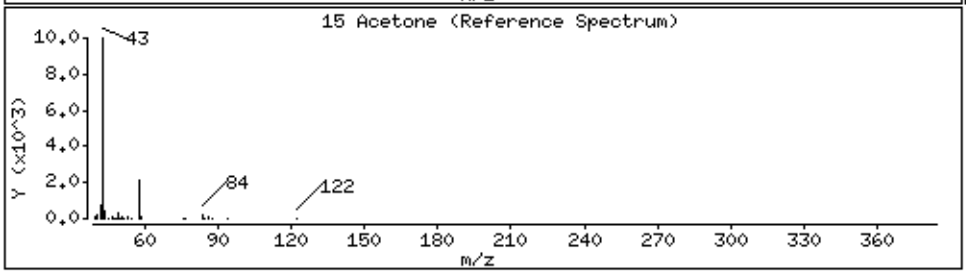
15 Acetone Concentration: 8.2 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-42
Client ID: WVA-MW-79-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6425.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.9	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-42
Client ID: WVA-MW-79-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6425.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6425.D
Report Date: 27-Nov-2018 17:11

Katahdin Analytical Services

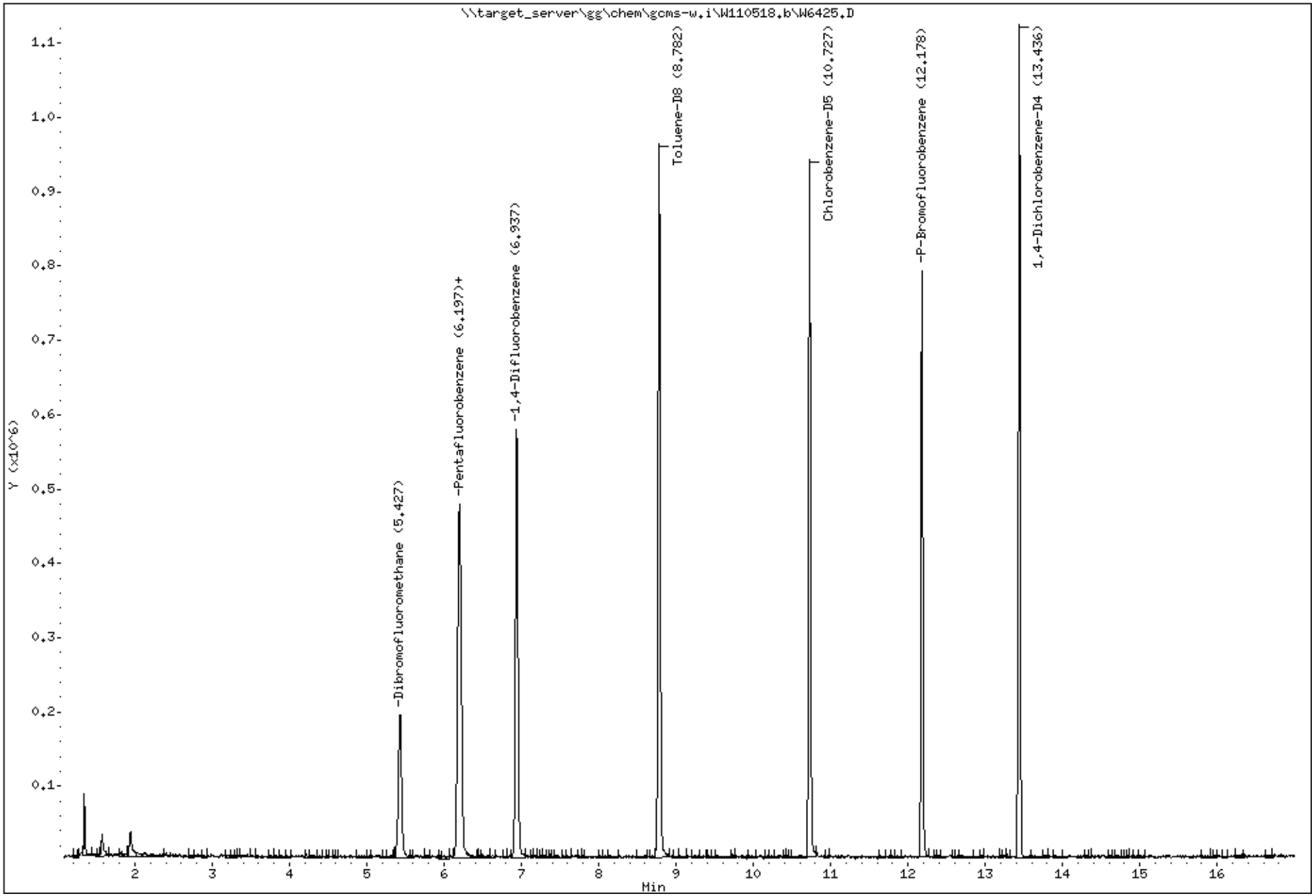
Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6425.D
Lab Smp Id: TL0579-42 Client Smp ID: WVA-MW-79-102618
Inj Date : 05-NOV-2018 13:14
Operator : TTC Inst ID: gcms-w.i
Smp Info : TL0579-42
Misc Info : WG240010,WG240010-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.427	5.427	(0.877)	166043	51.4445	51.4	
* 42 Pentafluorobenzene	168	6.191	6.185	(1.000)	348928	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.208	6.214	(1.003)	201135	51.1009	51.1	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	573161	50.0000		
$ 58 Toluene-D8	98	8.776	8.782	(1.265)	709940	50.8838	50.9	
* 69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	542622	50.0000		
$ 78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	228098	47.9547	48.0	
* 94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	268828	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6425.D
Date : 05-NOV-2018 13:14
Client ID: WVA-MW-79-102618 Instrument: gcms-w.i
Sample Info: TL0579-42



Katahdin Analytical Services 1000278

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-43
Client ID: WVA-AW-MW-36-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6436.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		2.3	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		4.5	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.7	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-43
Client ID: WVA-AW-MW-36-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6436.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6436.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6436.D
Lab Smp Id: TL0579-43 Client Smp ID: WVA-AW-MW-36-102618
Inj Date : 05-NOV-2018 19:47
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-43
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

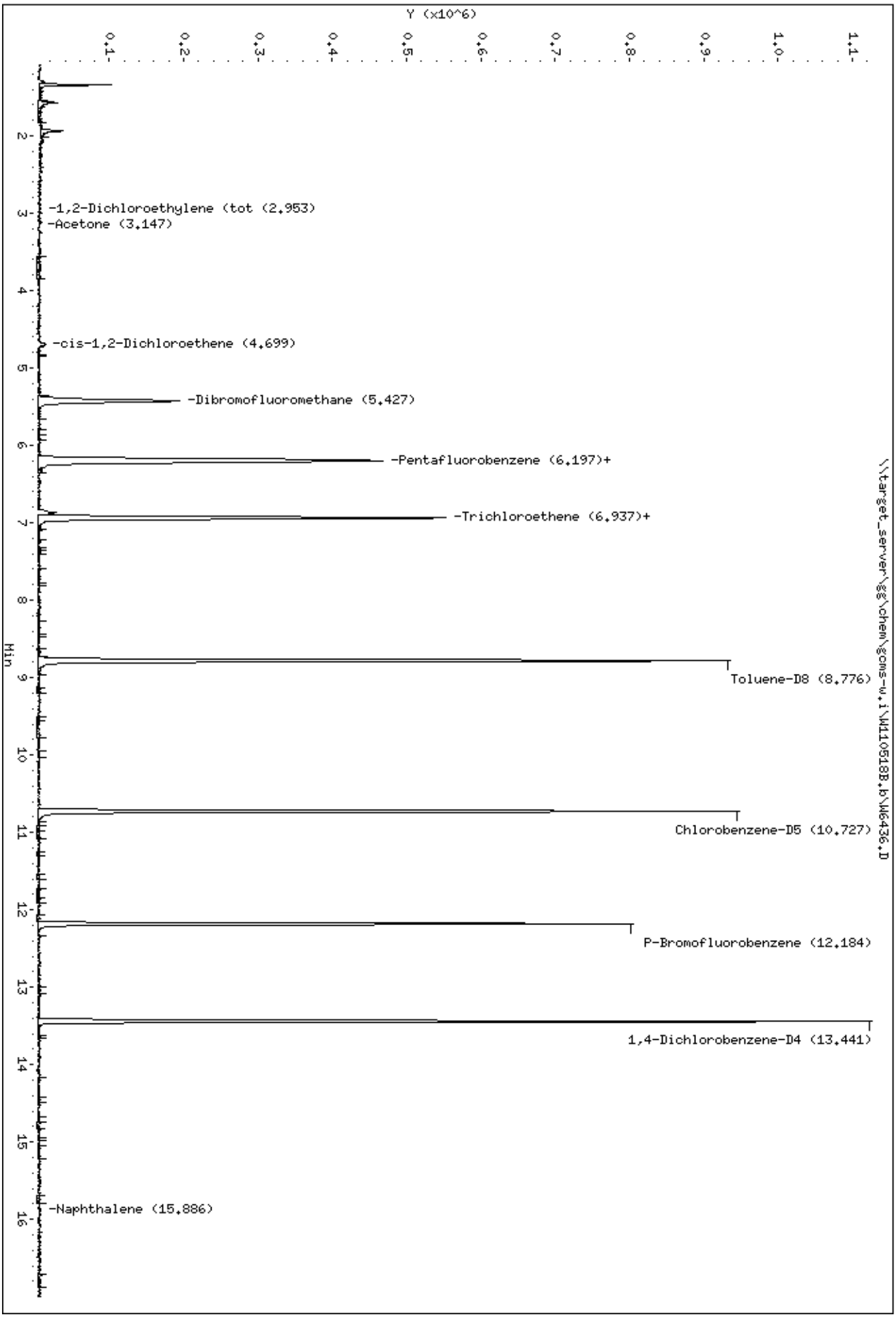
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.147	3.136	(0.508)	1464	8.17369	8.2	
M	22 1,2-Dichloroethylene (total)	96				4859	2.34541	2.3	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	4859	2.34541	2.3	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	163200	52.3126	52.3	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	337262	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	196853	51.7430	51.7(M)	M10
	48 Trichloroethene	95	6.866	6.867	(0.990)	9052	4.49298	4.5	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	569671	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	703938	50.7627	50.8	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	543776	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	228505	48.3346	48.3	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	269938	50.0000		
	103 Naphthalene	128	15.885	15.886	(1.182)	1368	0.61978	0.62(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6436.D
Date : 05-NOV-2018 19:47
Client ID: WVA-AW-MW-36-102618
Sample Info: TL0579-43
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6436.D
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-1,2-Dichloroethylene (tot (2.953)
-Acetone (3.147)
-cis-1,2-Dichloroethene (4.699)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-Trichloroethene (6.937)+
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.886)

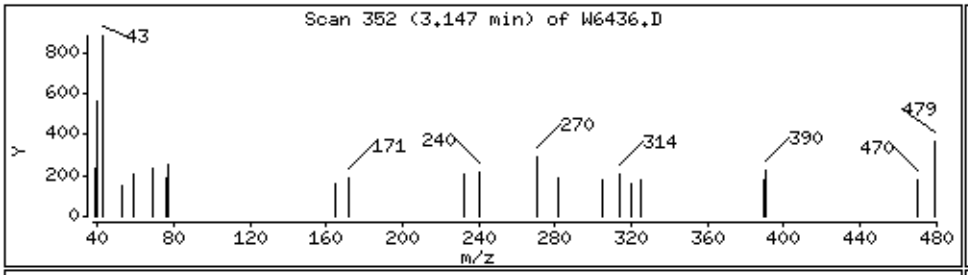
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6436.D

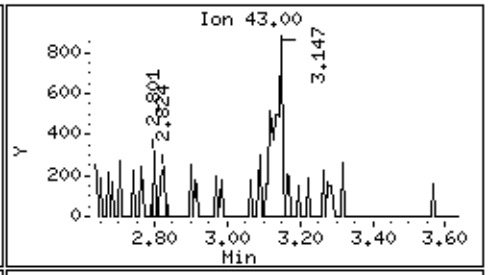
Date : 05-NOV-2018 19:47

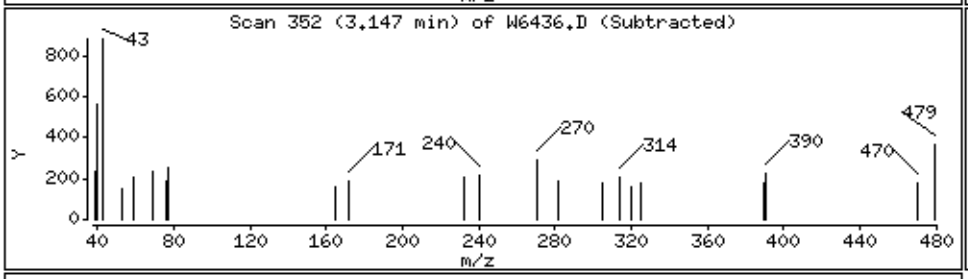
Client ID: WVA-AW-MW-36-102618 Instrument: gcms-w.i

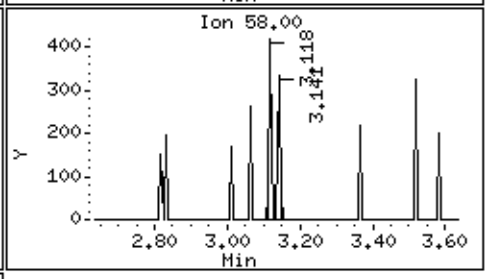
Sample Info: TL0579-43

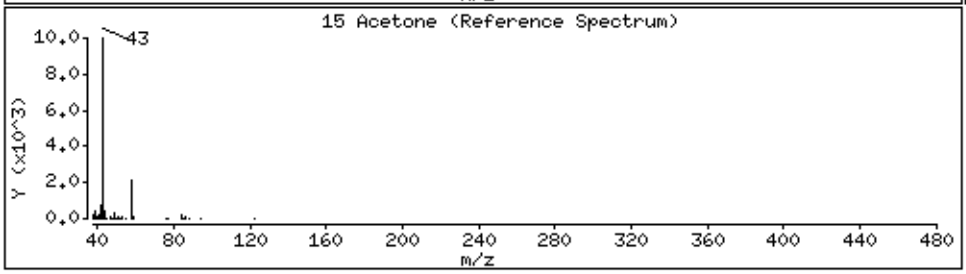
15 Acetone Concentration: 8.2 ug/l



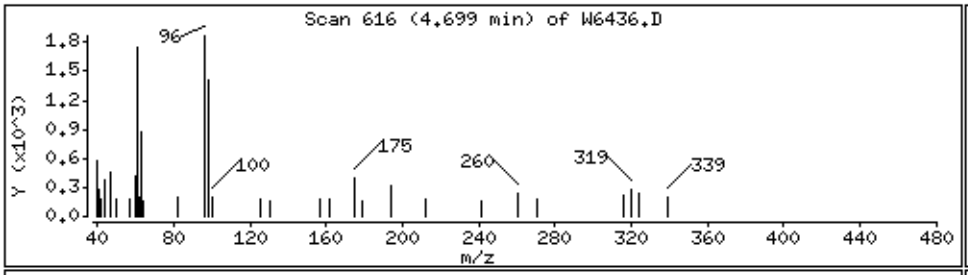


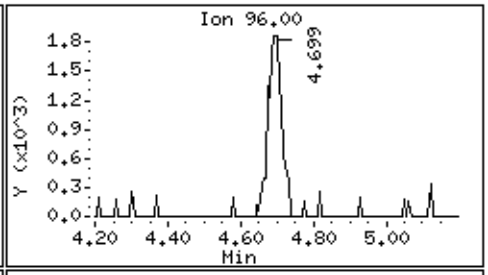


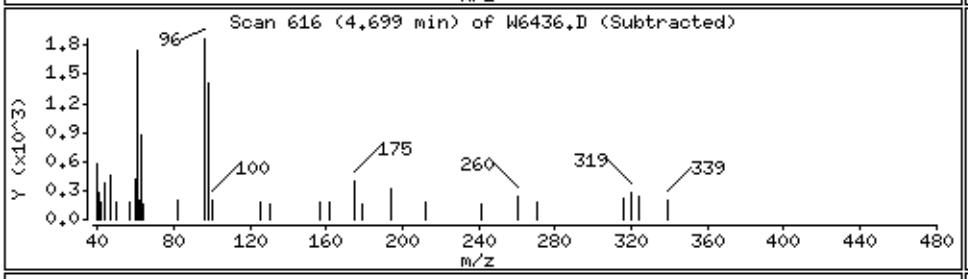


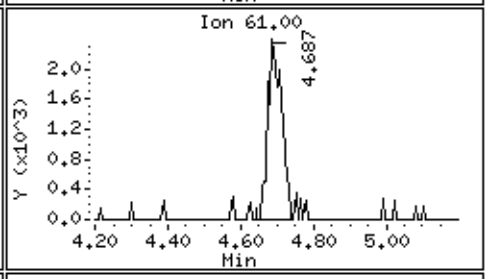


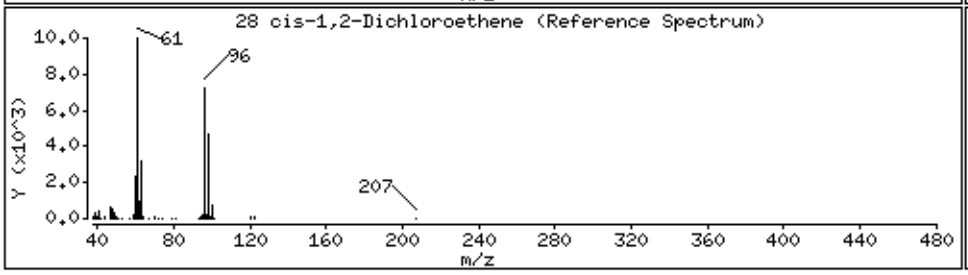
28 cis-1,2-Dichloroethene Concentration: 2.3 ug/l

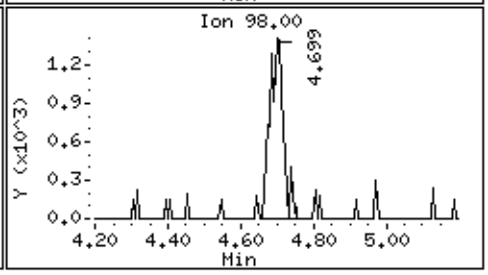












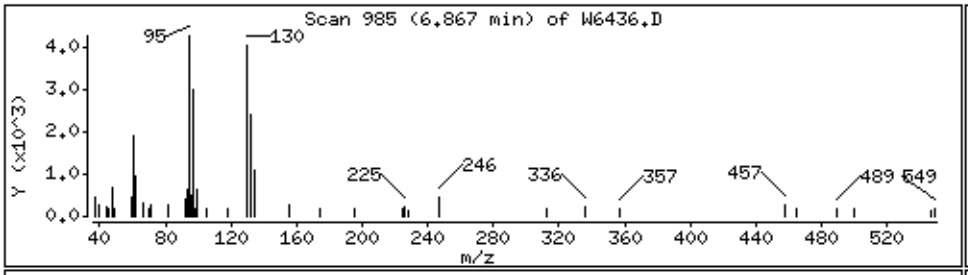
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6436.D

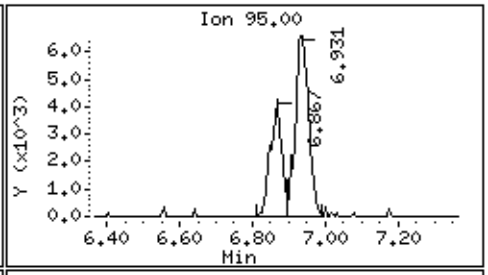
Date : 05-NOV-2018 19:47

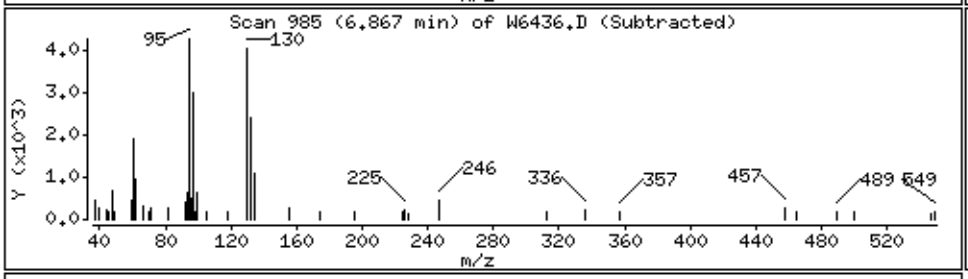
Client ID: WVA-AW-MW-36-102618 Instrument: gcms-w.i

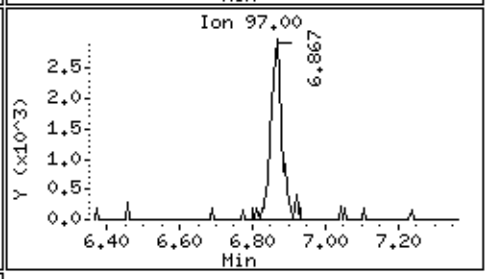
Sample Info: TL0579-43

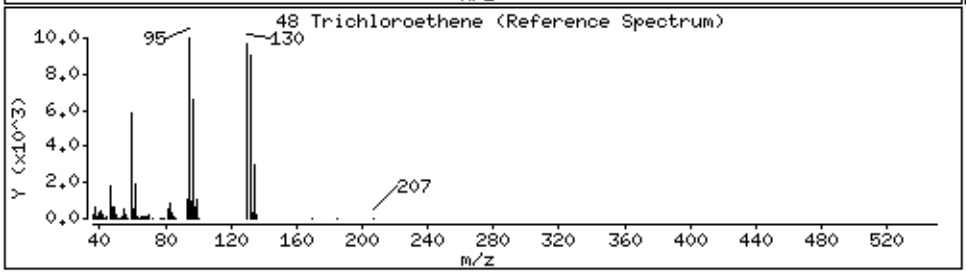
48 Trichloroethene Concentration: 4.5 ug/l



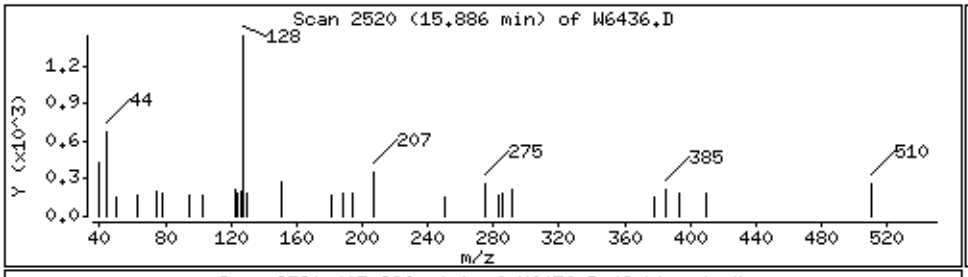


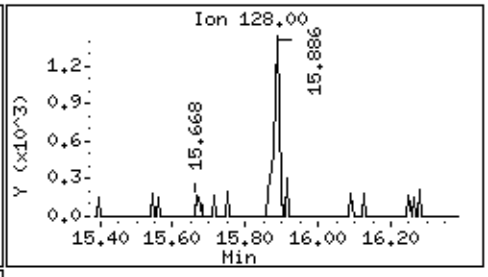


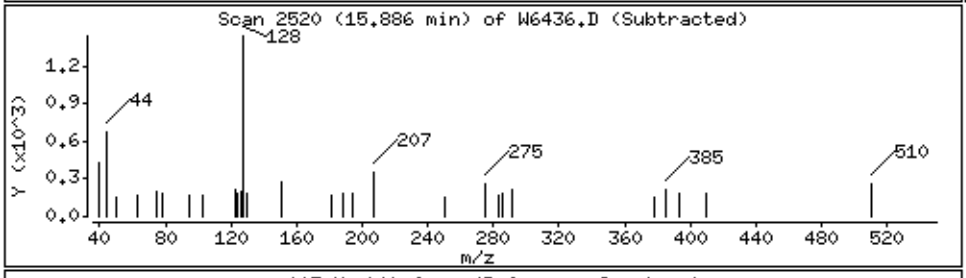


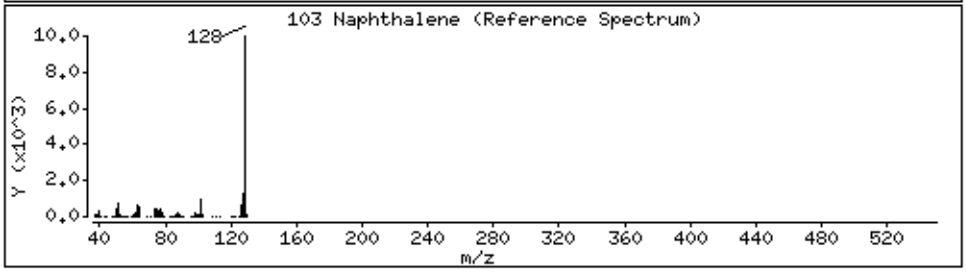


103 Naphthalene Concentration: 0.62 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-44
Client ID: WVA-AW-MW-35-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6437.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene		2.7	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		45.	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene		40.	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.2	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-44
Client ID: WVA-AW-MW-35-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6437.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6437.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6437.D
Lab Smp Id: TL0579-44 Client Smp ID: WVA-AW-MW-35-102618
Inj Date : 05-NOV-2018 20:17
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-44
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

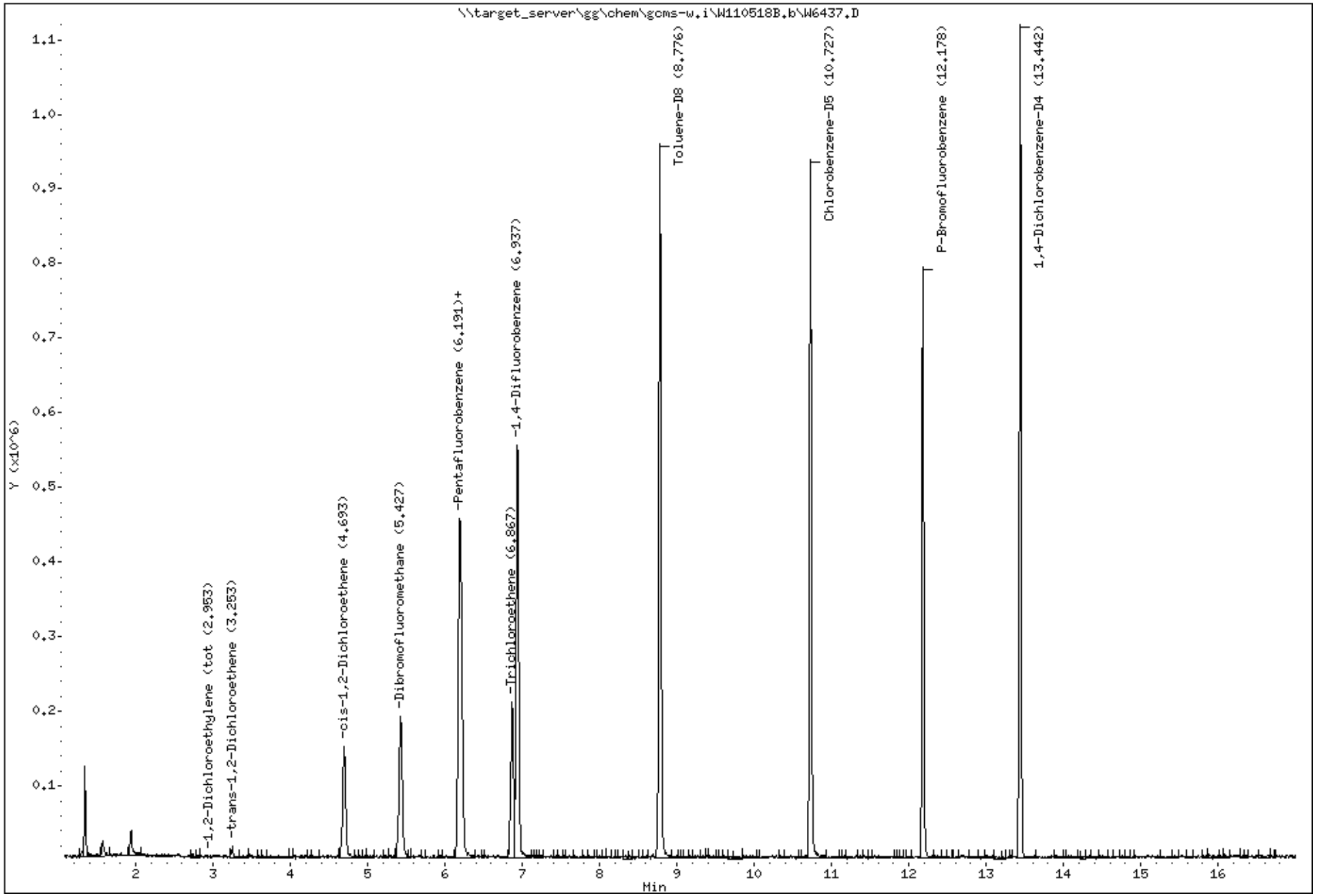
9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	16 trans-1,2-Dichloroethene	96	3.253	3.253	(0.526)	4944	2.72194	2.7(M)	M9
M	22 1,2-Dichloroethylene (total)	96				98941	47.3345	47.3	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.759)	93997	44.6125	44.6	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	161626	50.9411	50.9	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	343002	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	196060	50.6721	50.7	
	48 Trichloroethene	95	6.866	6.867	(0.989)	81523	39.9561	40.0	
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	576914	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.264)	712942	50.7665	50.8	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	535088	50.0000		
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.755)	230211	48.0841	48.1	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	270446	50.0000		

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6437.D
Date : 05-NOV-2018 20:17
Client ID: WVA-AW-MW-35-102618 Instrument: gcms-w.i
Sample Info: TL0579-44



Katahdin Analytical Services 1000288

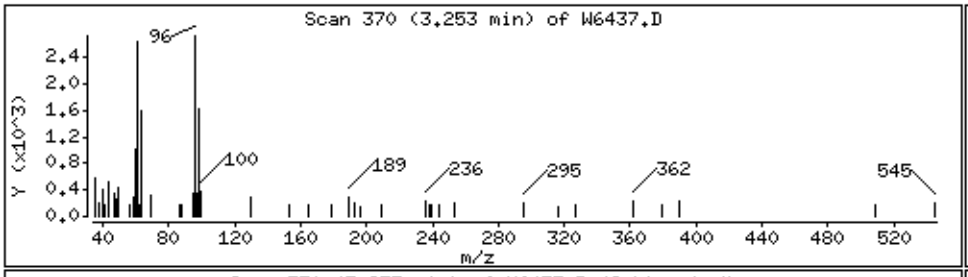
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6437.D

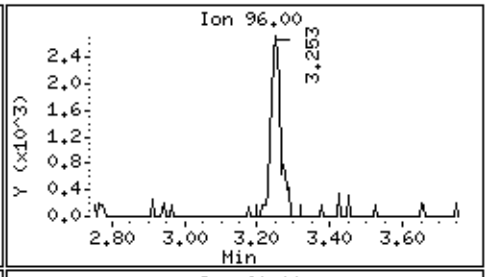
Date : 05-NOV-2018 20:17

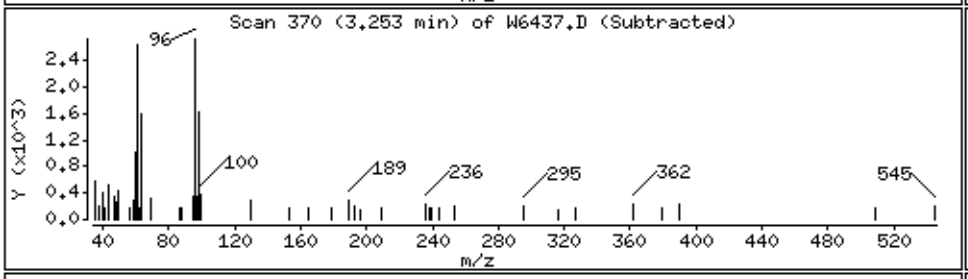
Client ID: WVA-AW-MW-35-102618 Instrument: gcms-w.i

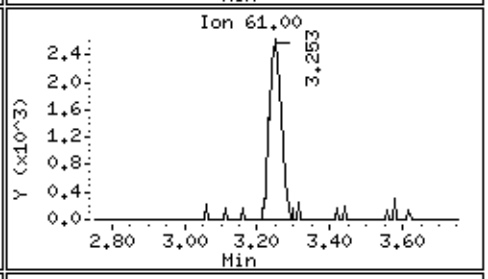
Sample Info: TL0579-44

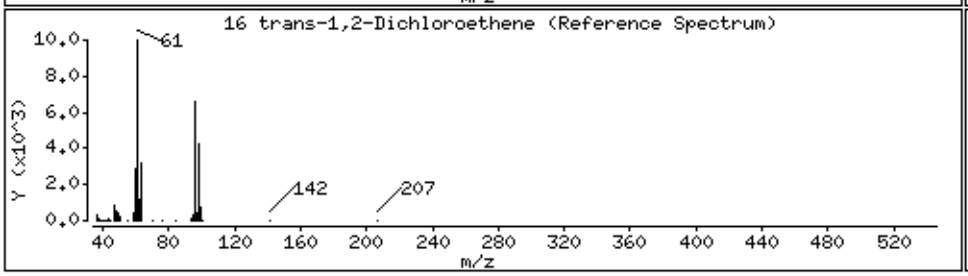
16 trans-1,2-Dichloroethene Concentration: 2.7 ug/l

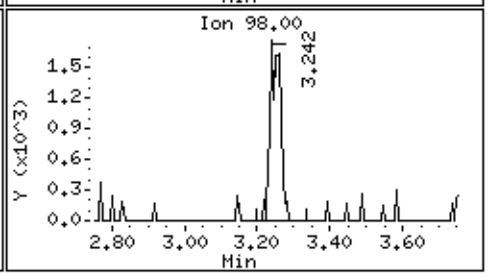




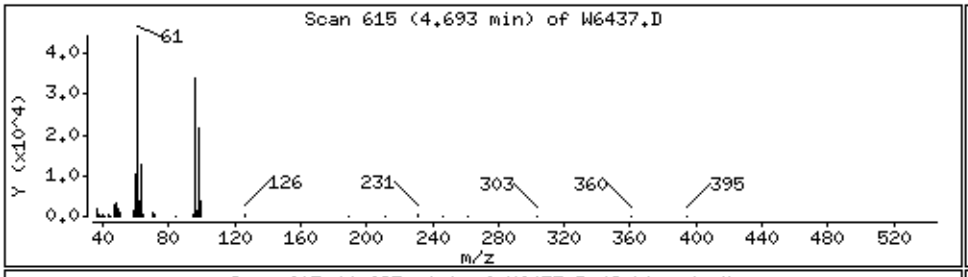


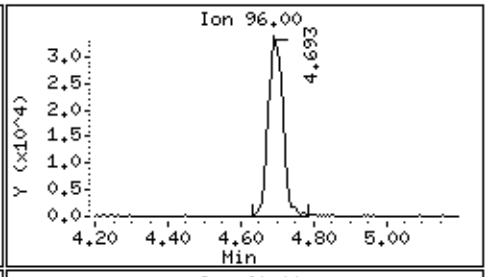


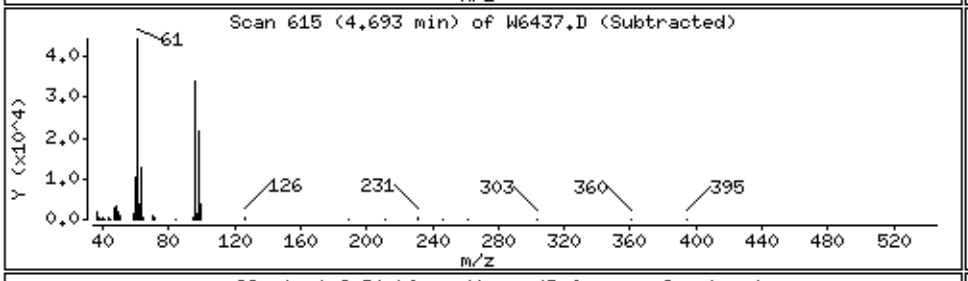


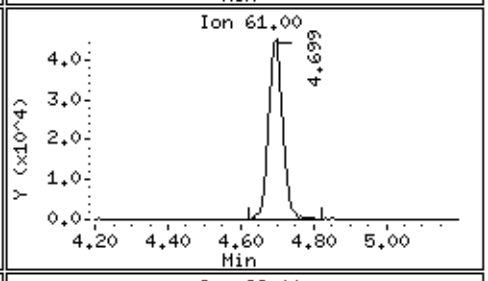


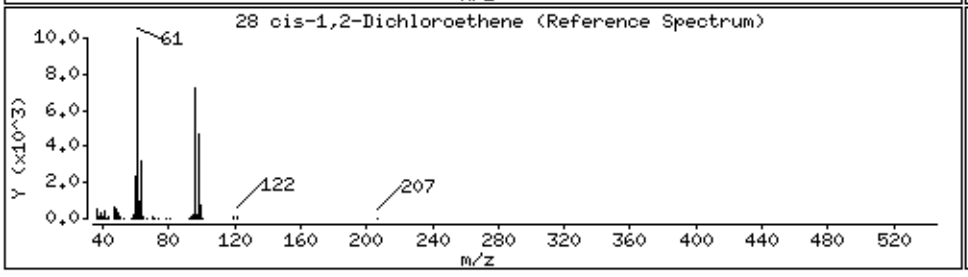
28 cis-1,2-Dichloroethene Concentration: 44.6 ug/l

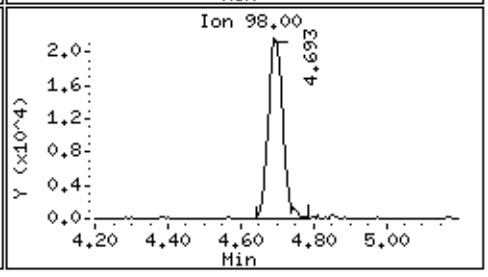












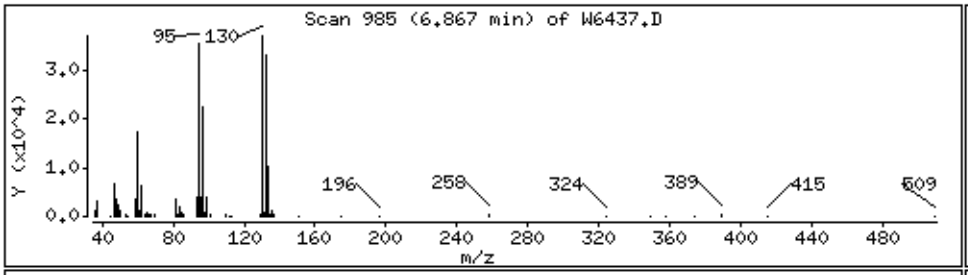
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6437.D

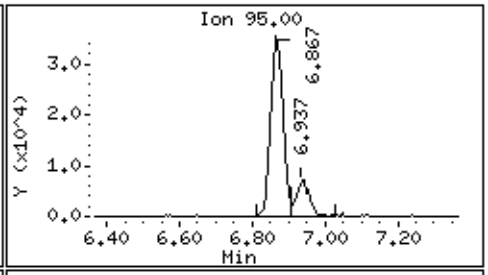
Date : 05-NOV-2018 20:17

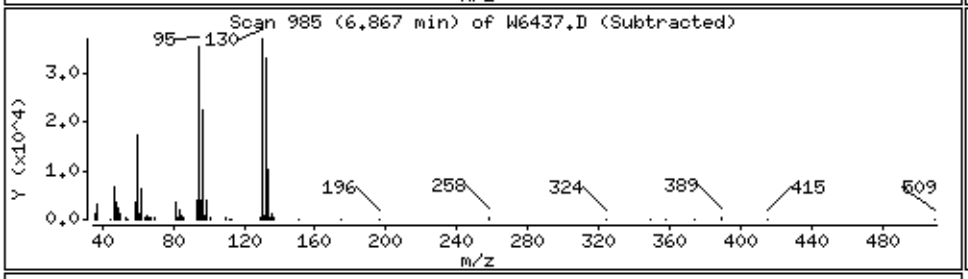
Client ID: WVA-AW-MW-35-102618 Instrument: gcms-w.i

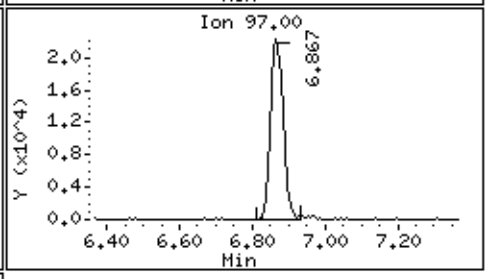
Sample Info: TL0579-44

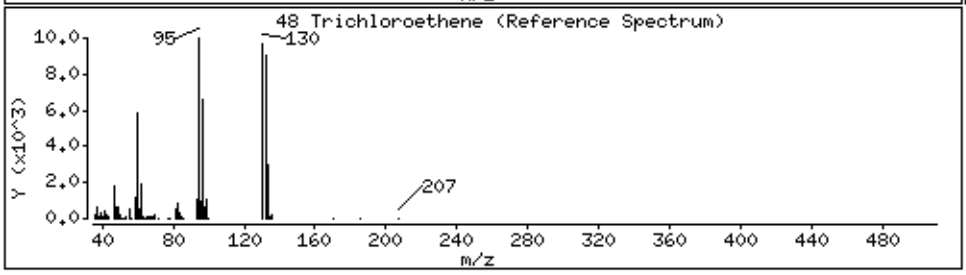
48 Trichloroethene Concentration: 40.0 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-45
Client ID: WVA-AW-MW-43-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6438.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane		1.9	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.3	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-45
Client ID: WVA-AW-MW-43-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6438.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6438.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

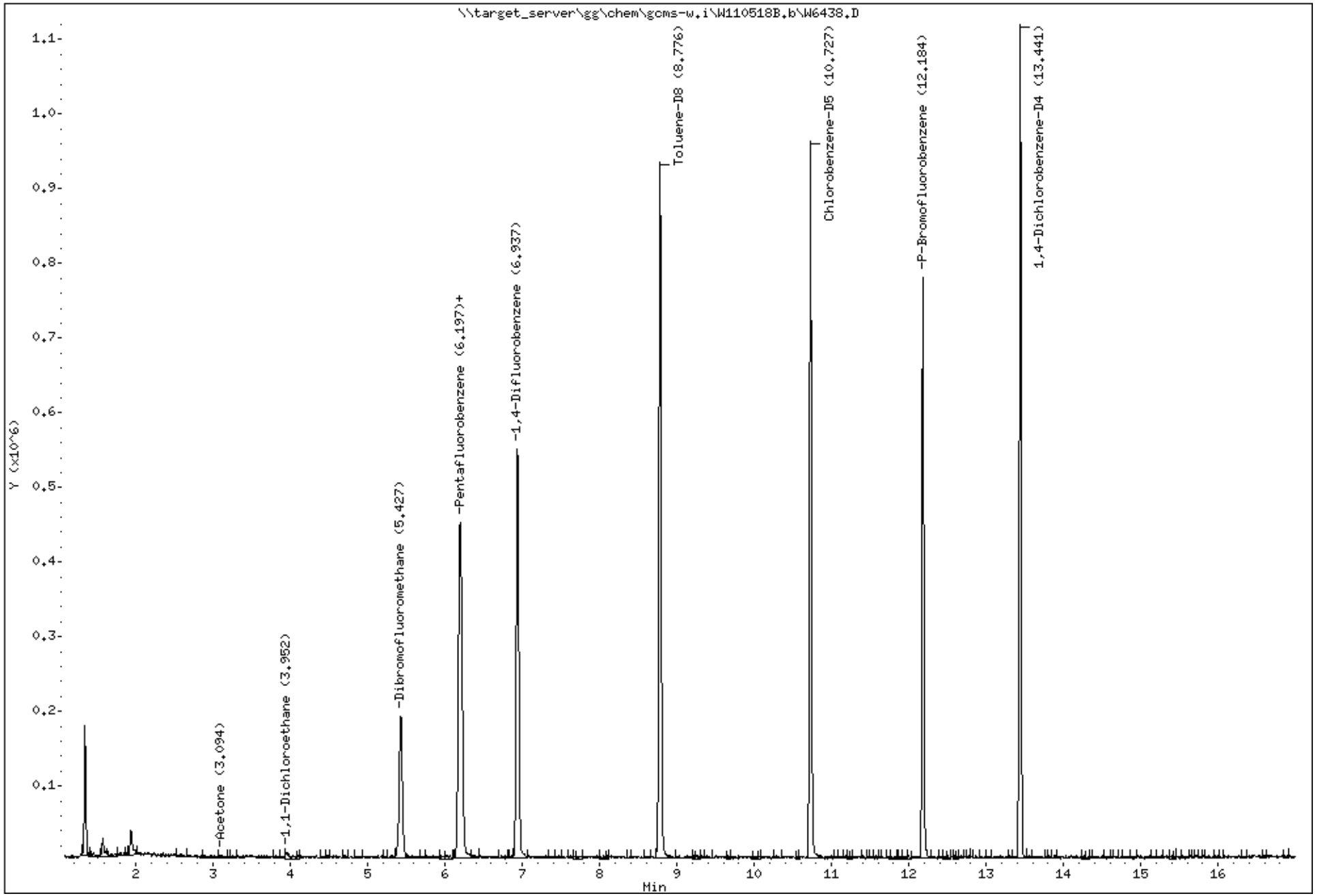
Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6438.D
Lab Smp Id: TL0579-45 Client Smp ID: WVA-AW-MW-43-102618
Inj Date : 05-NOV-2018 20:47
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-45
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.135	3.136	(0.506)	1615	8.41801	8.4	
	24 1,1-Dichloroethane	63	3.952	3.952	(0.638)	6554	1.88472	1.9	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	160546	52.0002	52.0	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	333771	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	193080	51.2821	51.3	
*	49 1,4-Difluorobenzene	114	6.942	6.937	(1.000)	567423	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.264)	702468	50.8574	50.8	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	540017	50.0000		
$	78 P-Bromofluorobenzene	95	12.183	12.184	(1.755)	226687	48.1400	48.1	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	271039	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6438.D
Date : 05-NOV-2018 20:47
Client ID: WVA-AW-MW-43-102618 Instrument: gcms-w.i
Sample Info: TL0579-45



Katahdin Analytical Services 1000294

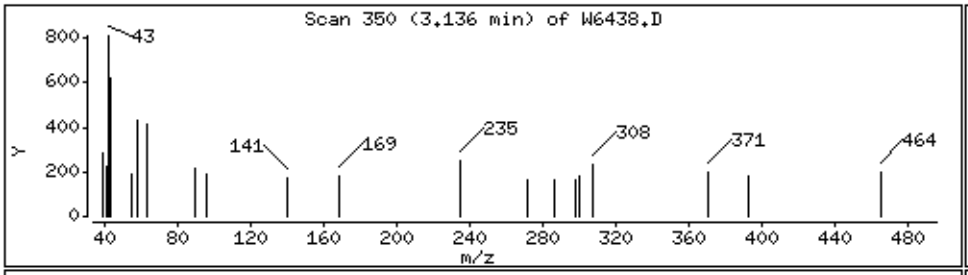
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6438.D

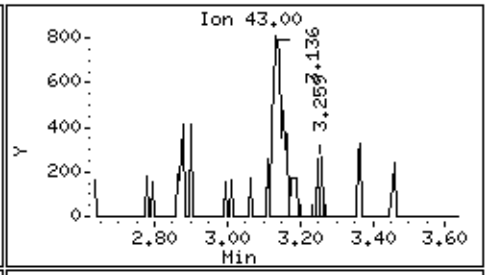
Date : 05-NOV-2018 20:47

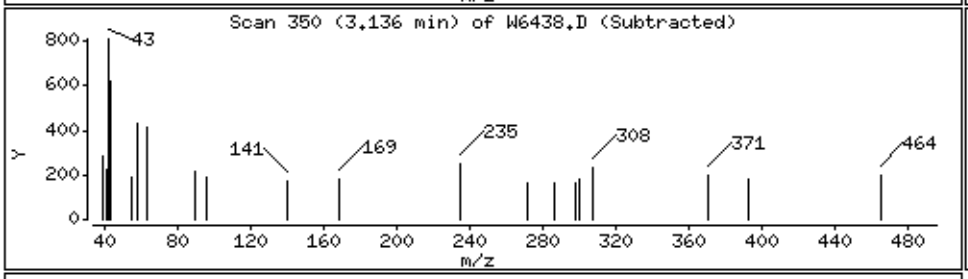
Client ID: WVA-AW-MW-43-102618 Instrument: gcms-w.i

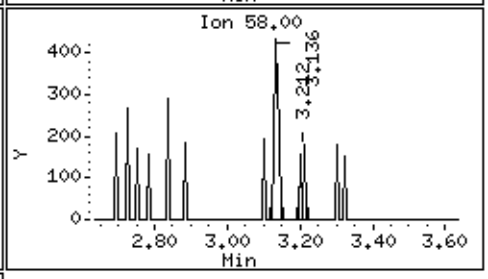
Sample Info: TL0579-45

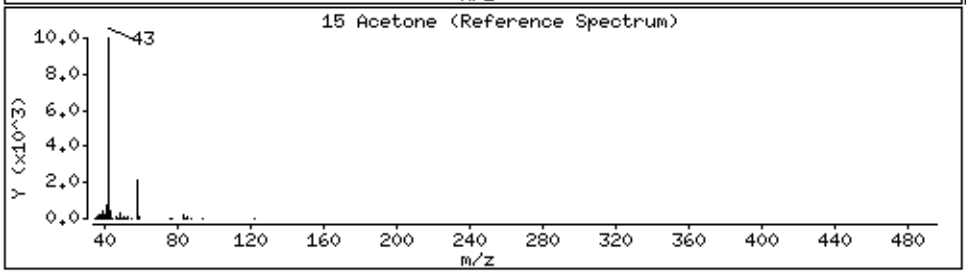
15 Acetone Concentration: 8.4 ug/l



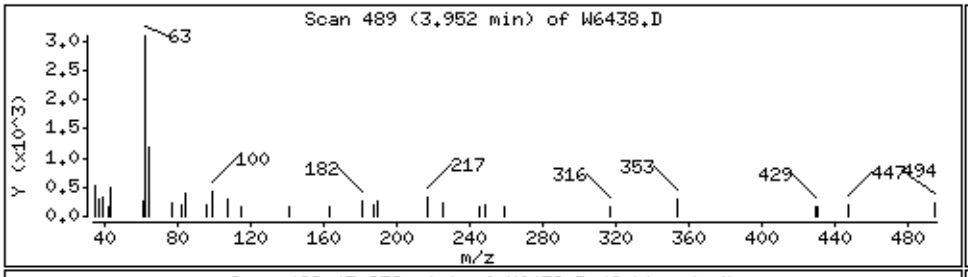


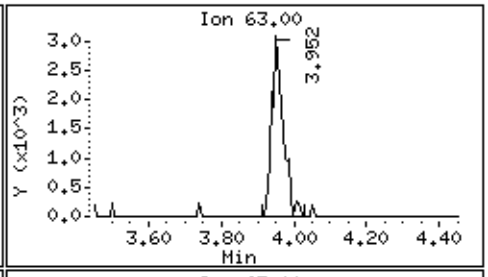


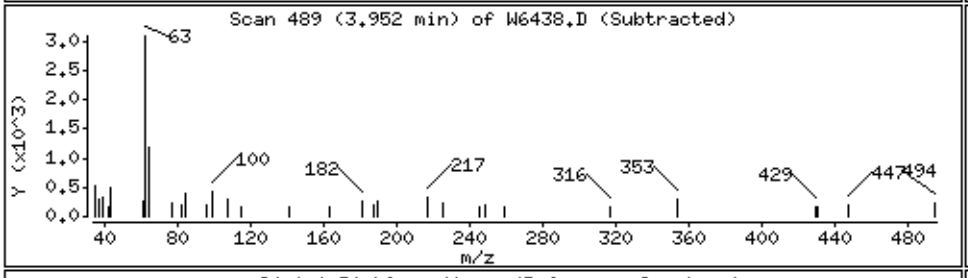


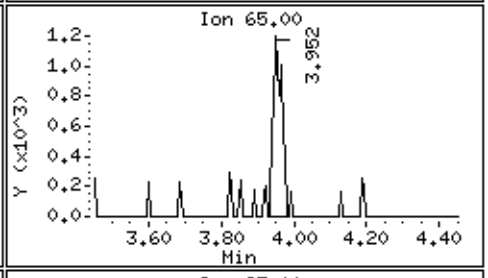


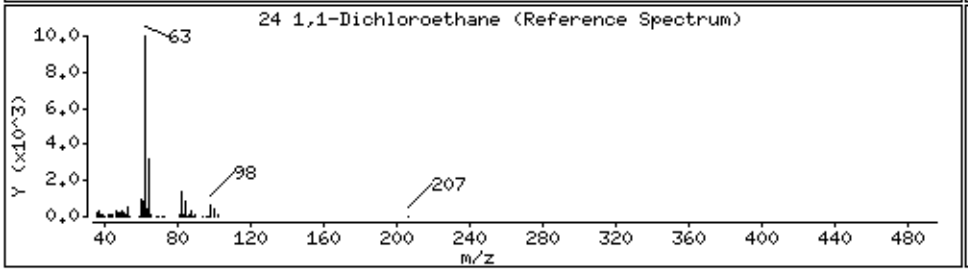
24 1,1-Dichloroethane Concentration: 1.9 ug/l

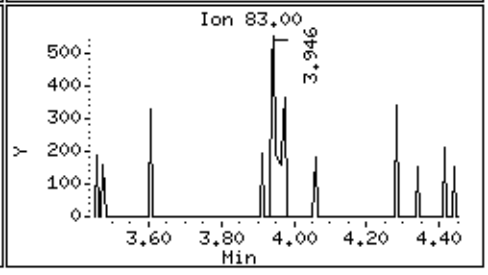












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-46
Client ID: WVA-AW-MW-44-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6439.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.1	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-46
Client ID: WVA-AW-MW-44-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6439.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		103.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6439.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6439.D
Lab Smp Id: TL0579-46 Client Smp ID: WVA-AW-MW-44-102618
Inj Date : 05-NOV-2018 21:17
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-46
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

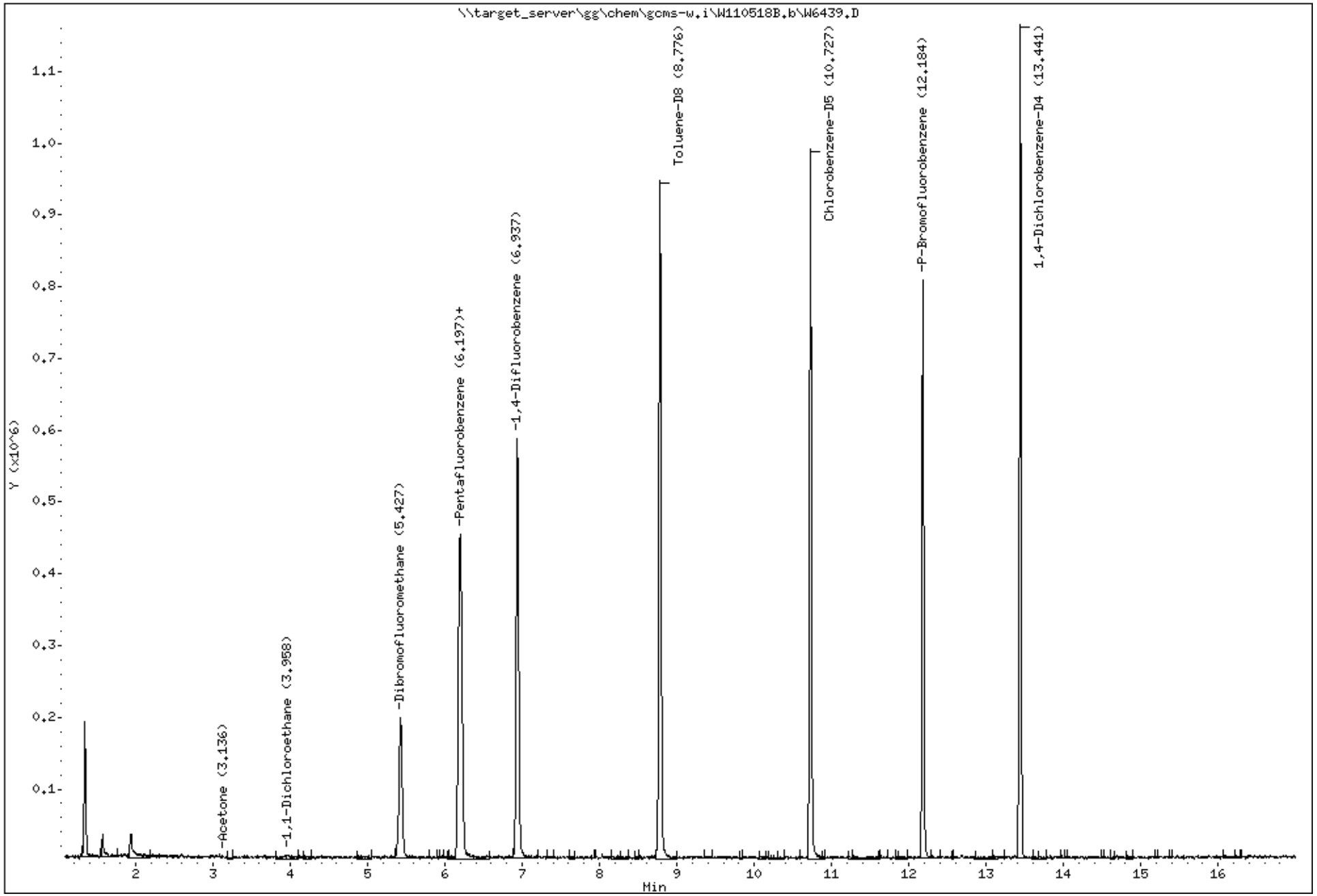
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
15	Acetone	43	3.135	3.136	(0.507)	1814	8.67941	8.7	
24	1,1-Dichloroethane	63	3.958	3.952	(0.640)	3203	0.91025	0.91(a)	
$ 35	Dibromofluoromethane	113	5.427	5.427	(0.877)	161868	51.8118	51.8	
* 42	Pentafluorobenzene	168	6.185	6.185	(1.000)	337743	50.0000		
$ 44	1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	197012	51.7110	51.7	
* 49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	581486	50.0000		
$ 58	Toluene-D8	98	8.776	8.782	(1.265)	717580	50.6950	50.7	
* 69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	553909	50.0000		
$ 78	P-Bromofluorobenzene	95	12.178	12.184	(1.756)	234245	48.5420	48.5	
* 94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	273092	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6439.D
Date : 05-NOV-2018 21:17
Client ID: WVA-AW-MW-44-102618 Instrument: gcms-w.i
Sample Info: TL0579-46



Katahdin Analytical Services 1000299

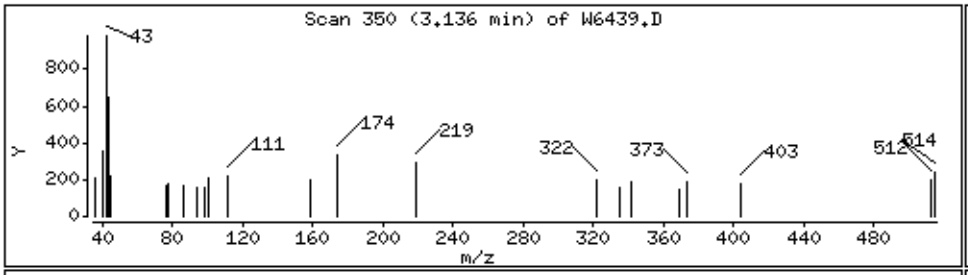
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6439.D

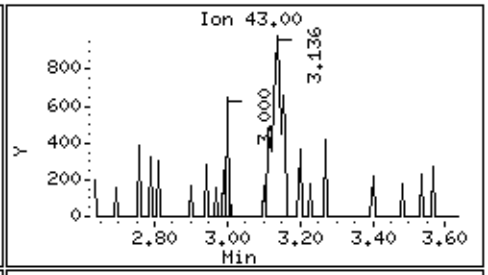
Date : 05-NOV-2018 21:17

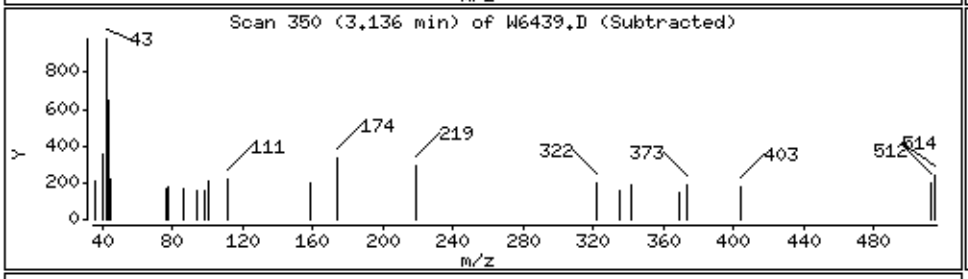
Client ID: WVA-AW-MW-44-102618 Instrument: gcms-w.i

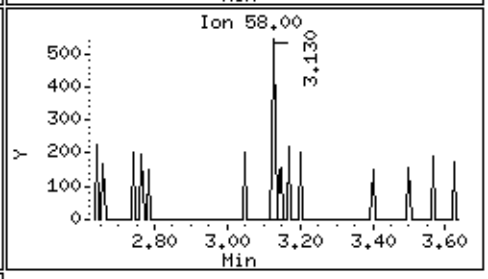
Sample Info: TL0579-46

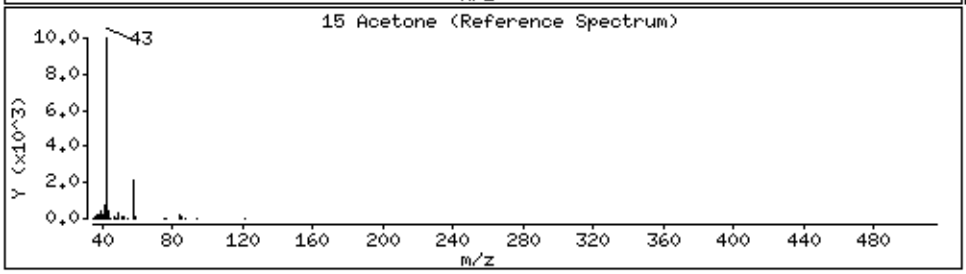
15 Acetone Concentration: 8.7 ug/l



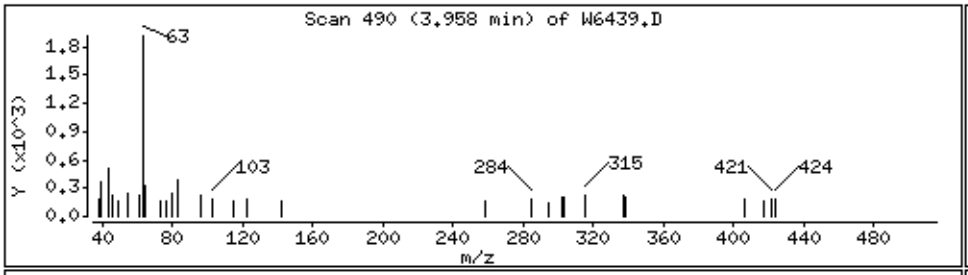


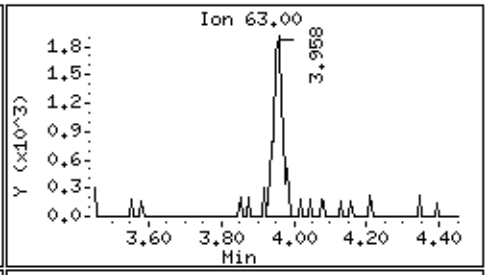


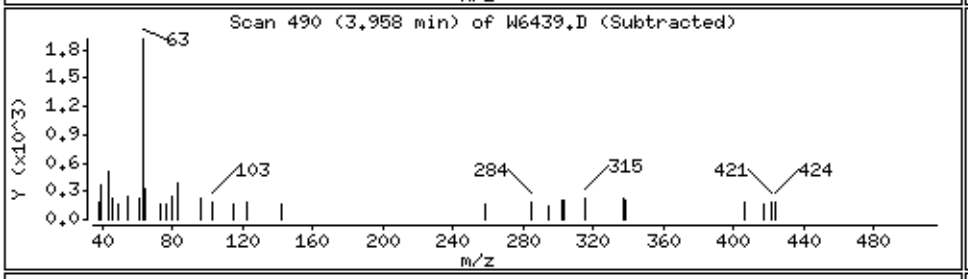


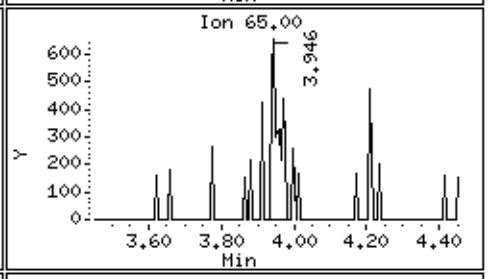


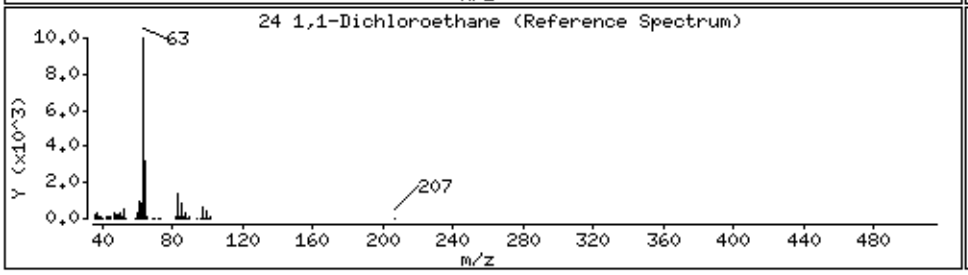
24 1,1-Dichloroethane Concentration: 0.91 ug/l

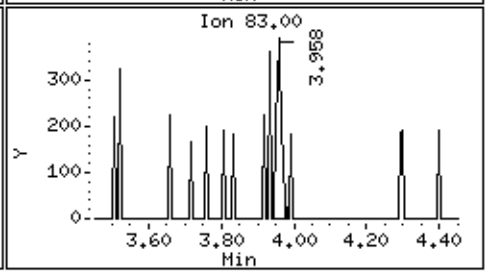












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-47
Client ID: 86EM-SP-5-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6440.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.9	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-47
Client ID: 86EM-SP-5-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6440.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		98.8	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6440.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

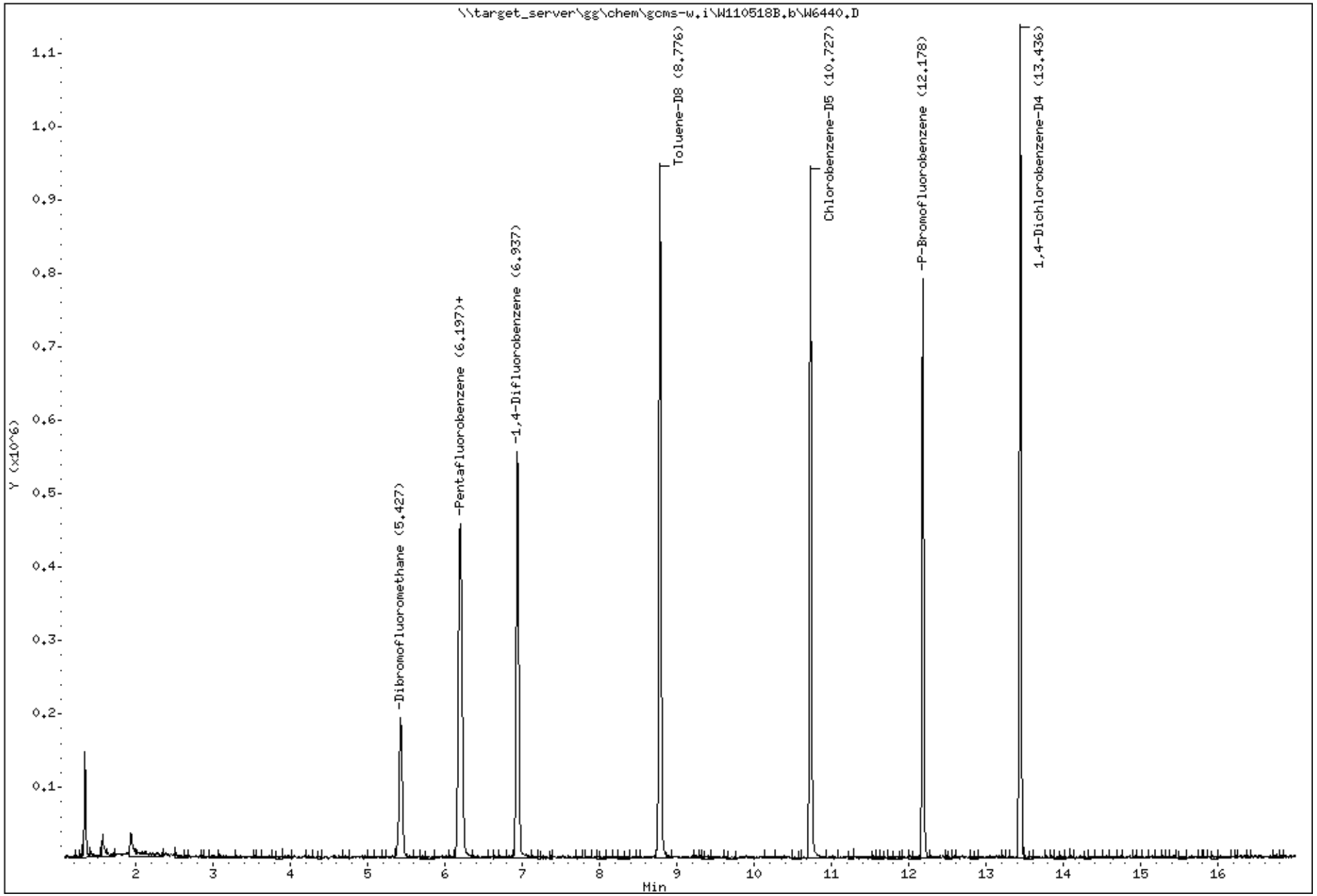
Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6440.D
Lab Smp Id: TL0579-47 Client Smp ID: 86EM-SP-5-102618
Inj Date : 05-NOV-2018 21:47
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-47
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	163009	51.8441	51.8	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	339912	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	189480	49.4167	49.4	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	553846	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	687838	51.0189	51.0	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	535343	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	227386	49.4722	49.5	
*	94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	271098	50.0000		

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6440.D
Date : 05-NOV-2018 21:47
Client ID: 86EM-SP-5-102618 Instrument: gcms-w.i
Sample Info: TL0579-47



Katahdin Analytical Services 1000304

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-48
Client ID: 83DM-SP-4-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6441.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.4	%			
Toluene-d8		99.3	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-48
Client ID: 83DM-SP-4-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6441.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6441.D
Report Date: 27-Nov-2018 17:55

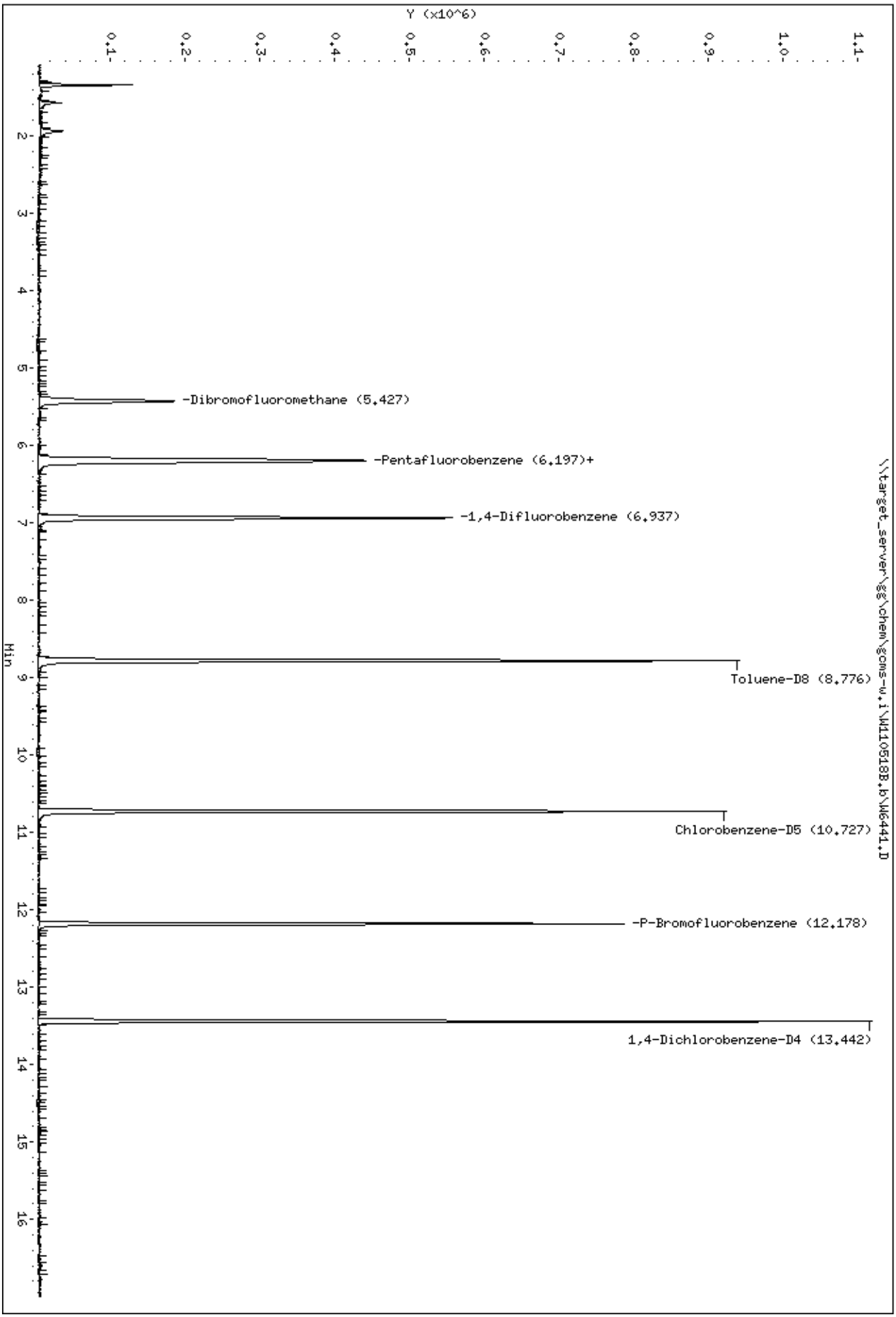
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6441.D
Lab Smp Id: TL0579-48 Client Smp ID: 83DM-SP-4-102618
Inj Date : 05-NOV-2018 22:17
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-48
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.433	5.427	(0.878)	159500	51.8779	51.9	
* 42 Pentafluorobenzene	168	6.191	6.185	(1.000)	332378	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	188047	50.1546	50.2	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	563200	50.0000		
$ 58 Toluene-D8	98	8.776	8.782	(1.265)	680817	49.6595	49.6	
* 69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	523143	50.0000		
$ 78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	223030	47.7185	47.7	
* 94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	270283	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6441.D
Date : 05-NOV-2018 22:17
Client ID: 83DH-SP-4-102618
Sample Info: TL0579-48
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6441.D
Y (x10^6)
Min
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.442)

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-49
Client ID: 92EM-SP-7-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6442.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		94.5	%			
Toluene-d8		101.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-49
Client ID: 92EM-SP-7-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6442.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6442.D
Report Date: 27-Nov-2018 17:53

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6442.D
Lab Smp Id: TL0579-49 Client Smp ID: 92EM-SP-7-102618
Inj Date : 05-NOV-2018 22:47
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-49
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

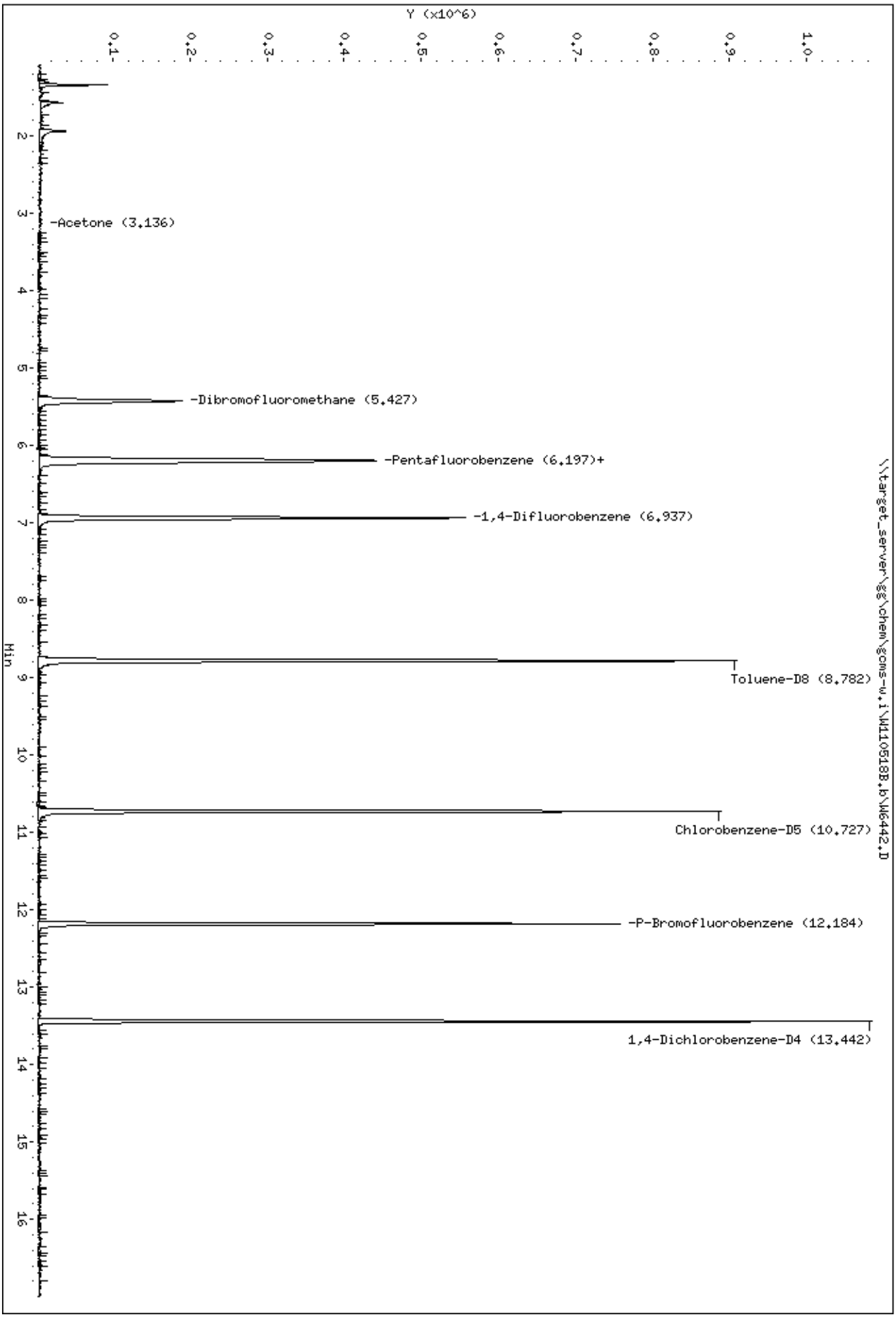
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
15 Acetone	43	3.135	3.136	(0.506)	1915	8.92654	8.9(M)	M10
$ 35 Dibromofluoromethane	113	5.427	5.427	(0.877)	155961	51.7161	51.7	
* 42 Pentafluorobenzene	168	6.191	6.185	(1.000)	326020	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	184253	50.1011	50.1	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	547746	50.0000		
$ 58 Toluene-D8	98	8.782	8.782	(1.266)	675165	50.6366	50.6	
* 69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	505458	50.0000		
$ 78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	214736	47.2402	47.2	
* 94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	257582	50.0000		

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6442.D
Date : 05-NOV-2018 22:47
Client ID: 92EM-SP-7-102618
Sample Info: TL0579-49
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6442.D
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Acetone (3.136)
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.442)

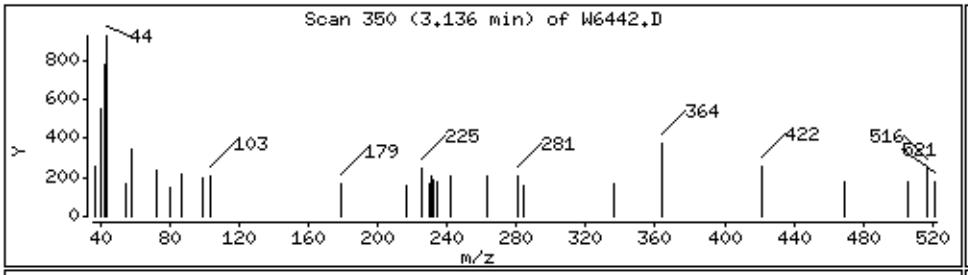
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6442.D

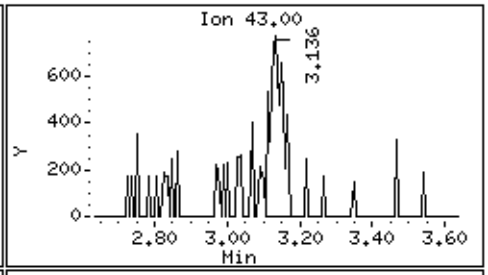
Date : 05-NOV-2018 22:47

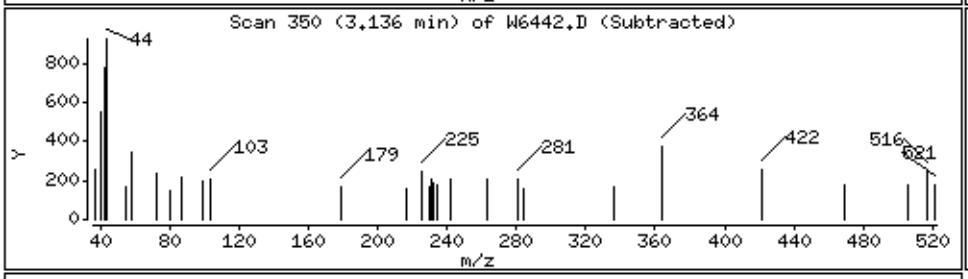
Client ID: 92EM-SP-7-102618 Instrument: gcms-w.i

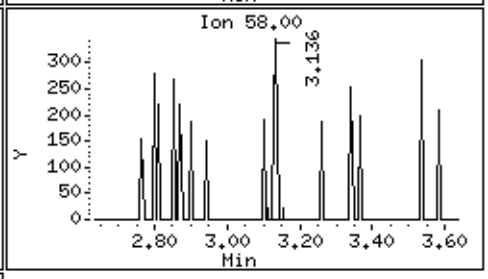
Sample Info: TL0579-49

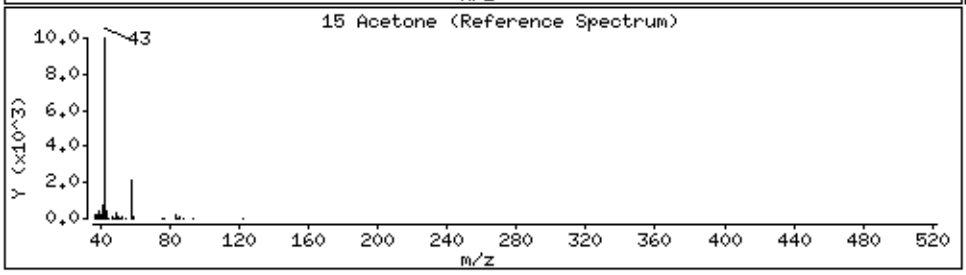
15 Acetone Concentration: 8.9 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-50
Client ID: 92EM-SP-8-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6443.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		99.9	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-50
Client ID: 92EM-SP-8-102618
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6443.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6443.D
Report Date: 27-Nov-2018 17:53

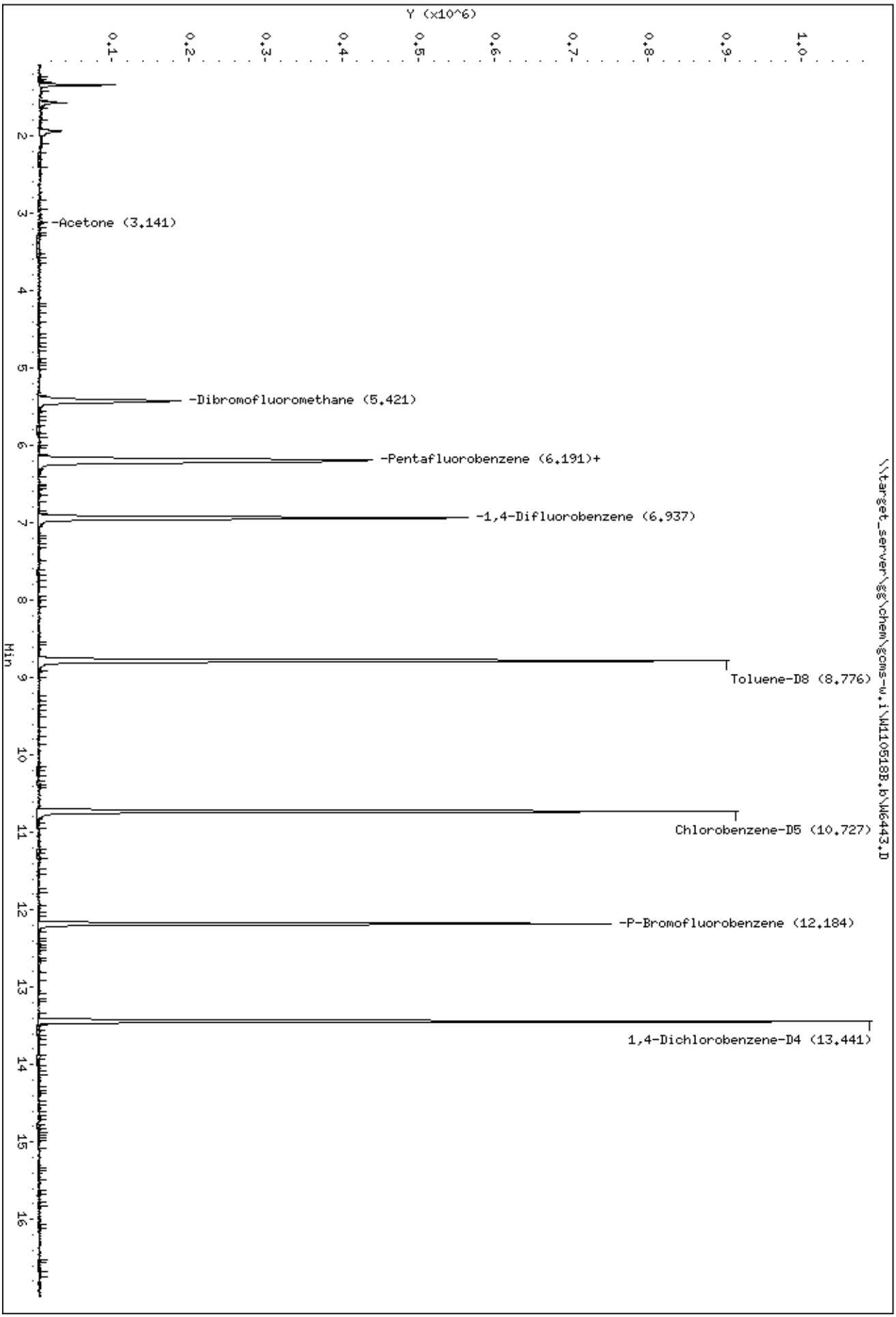
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6443.D
Lab Smp Id: TL0579-50 Client Smp ID: 92EM-SP-8-102618
Inj Date : 05-NOV-2018 23:17
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-50
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	3.141	3.136	(0.507)	2197	9.37021	9.4	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	153363	51.1352	51.1	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	324231	50.0000		
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	187625	51.2995	51.3	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	540992	50.0000		
$	58 Toluene-D8	98	8.776	8.782	(1.265)	669282	50.8221	50.8	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	524586	50.0000		
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.756)	224180	49.9336	49.9	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	260264	50.0000		


Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6443.D
Date : 05-NOV-2018 23:17
Client ID: 92EM-SP-8-102618
Sample Info: TL0579-50
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6443.D
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Acetone (3.141)
-Dibromofluoromethane (5.421)
-Pentafluorobenzene (6.191)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)

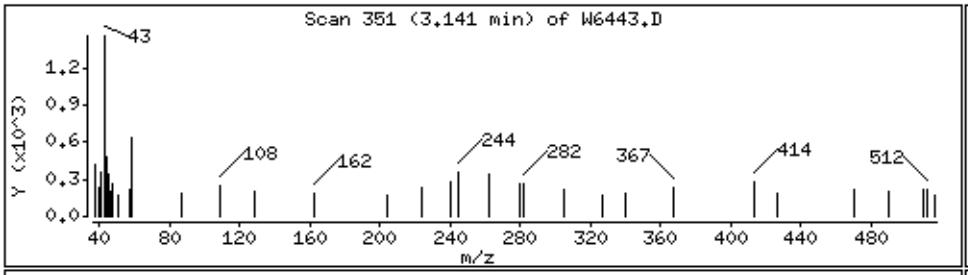
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6443.D

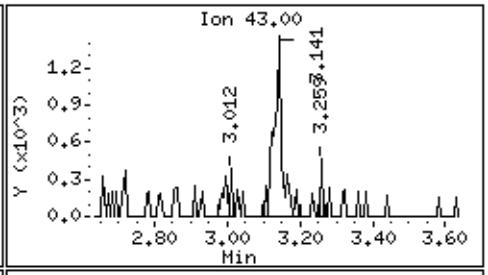
Date : 05-NOV-2018 23:17

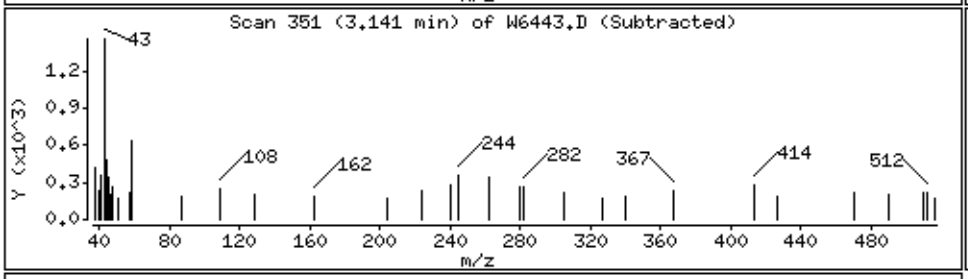
Client ID: 92EM-SP-8-102618 Instrument: gcms-w.i

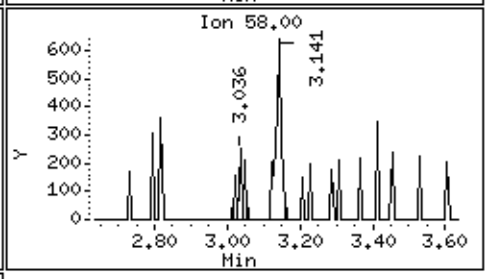
Sample Info: TL0579-50

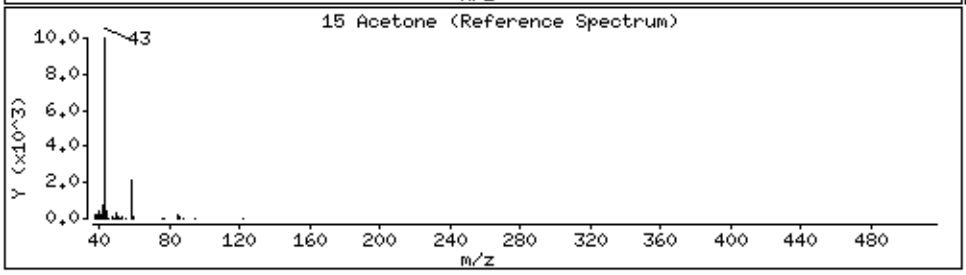
15 Acetone Concentration: 9.4 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-51
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6434.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.0	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-51
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6434.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		100.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6434.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6434.D
Lab Smp Id: TL0579-51 Client Smp ID: TRIP BLANK
Inj Date : 05-NOV-2018 18:48
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-51
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

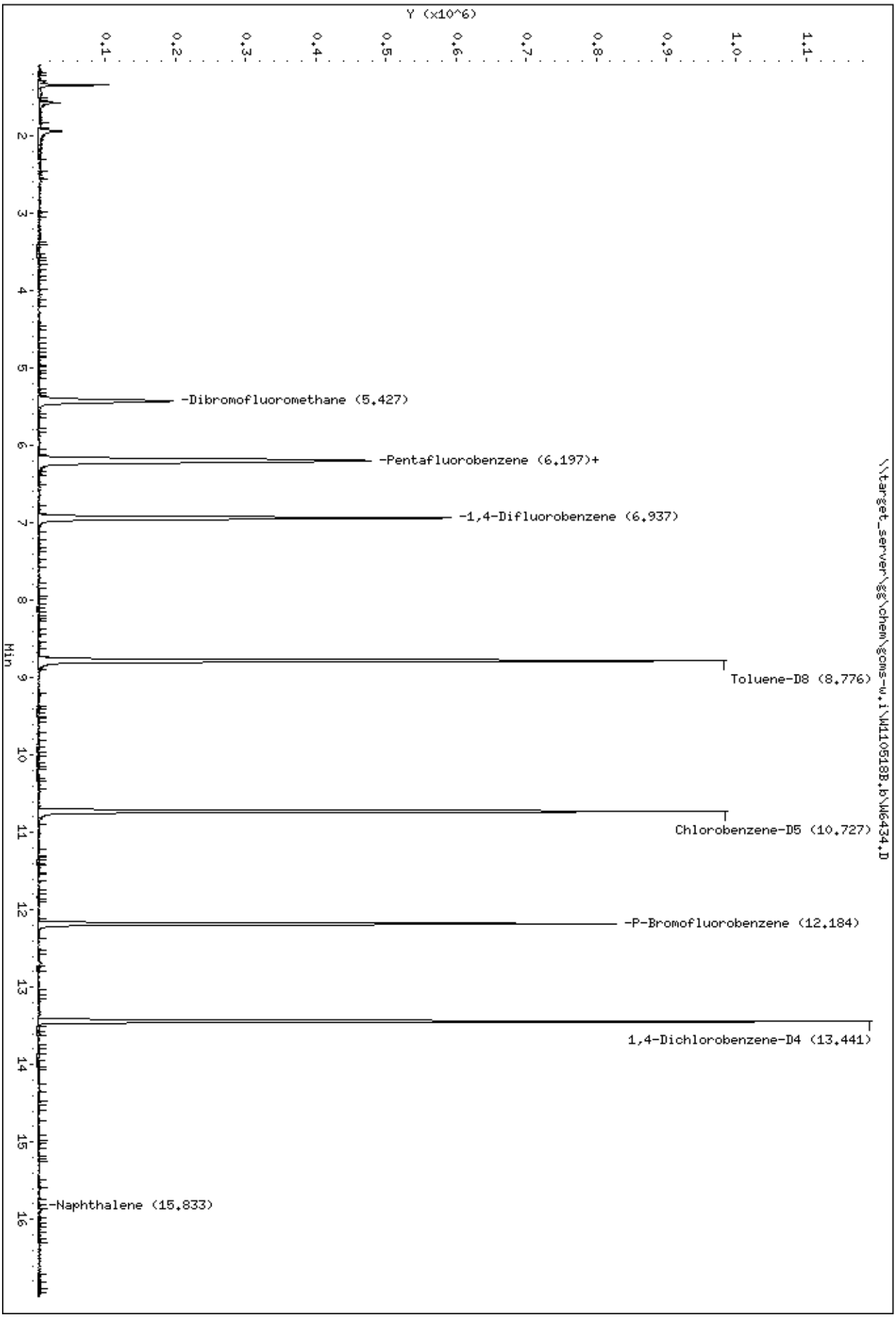
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.427	5.427	(0.877)	169534	51.0509	51.0	
* 42 Pentafluorobenzene	168	6.190	6.185	(1.000)	359011	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	202579	50.0223	50.0	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	589556	50.0000		
$ 58 Toluene-D8	98	8.776	8.782	(1.265)	734521	51.1815	51.2	
* 69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	565750	50.0000		
$ 78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	237407	48.5238	48.5	
* 94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	289589	50.0000		
103 Naphthalene	128	15.879	15.886	(1.181)	1703	0.65113	0.65(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6434.D
Date : 05-NOV-2018 18:48
Client ID: TRIP BLANK
Sample Info: TL0579-51
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6434.D
Y (x10^6)
Min
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.833)

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6434.D

Date : 05-NOV-2018 18:48

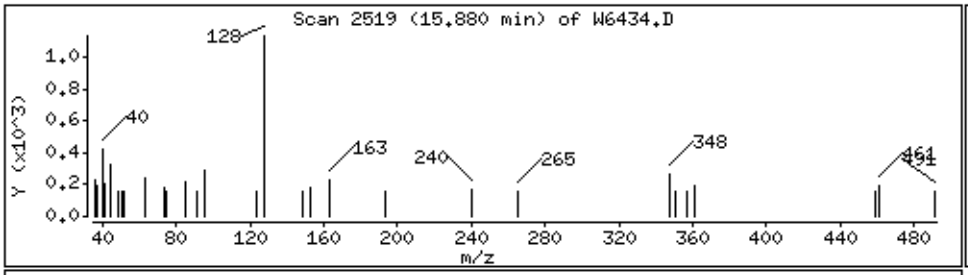
Client ID: TRIP BLANK

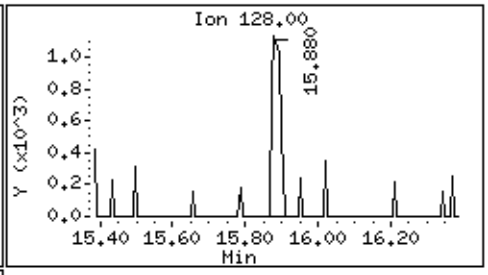
Instrument: gcms-w.i

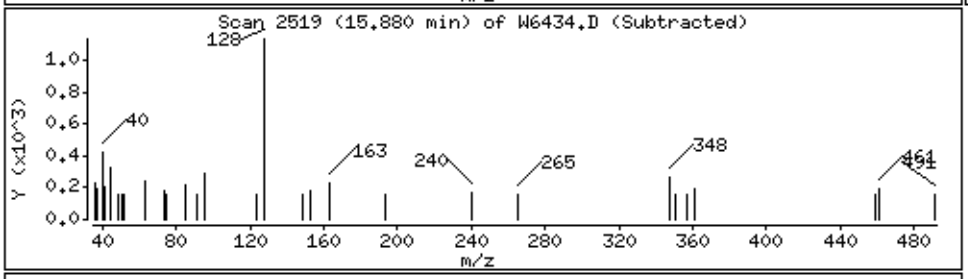
Sample Info: TL0579-51

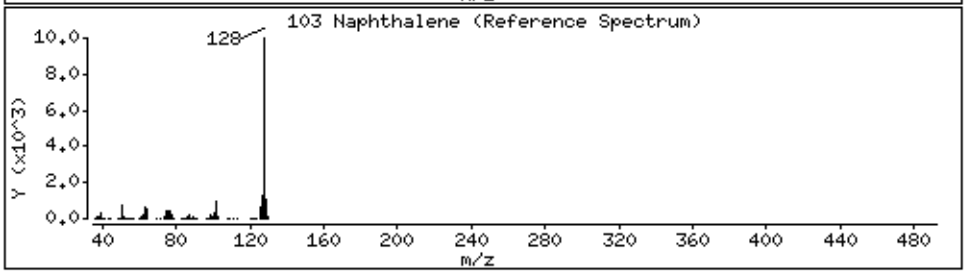
103 Naphthalene

Concentration: 0.65 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-52
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6435.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		98.4	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0579-52
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0579
Lab File ID: W6435.D

Sample Date: 26-OCT-18
Received Date: 27-OCT-18
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		101.	%			
Dibromofluoromethane		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6435.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6435.D
Lab Smp Id: TL0579-52 Client Smp ID: TRIP BLANK
Inj Date : 05-NOV-2018 19:17
Operator : HG Inst ID: gcms-w.i
Smp Info : TL0579-52
Misc Info : WG240057,WG240057-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

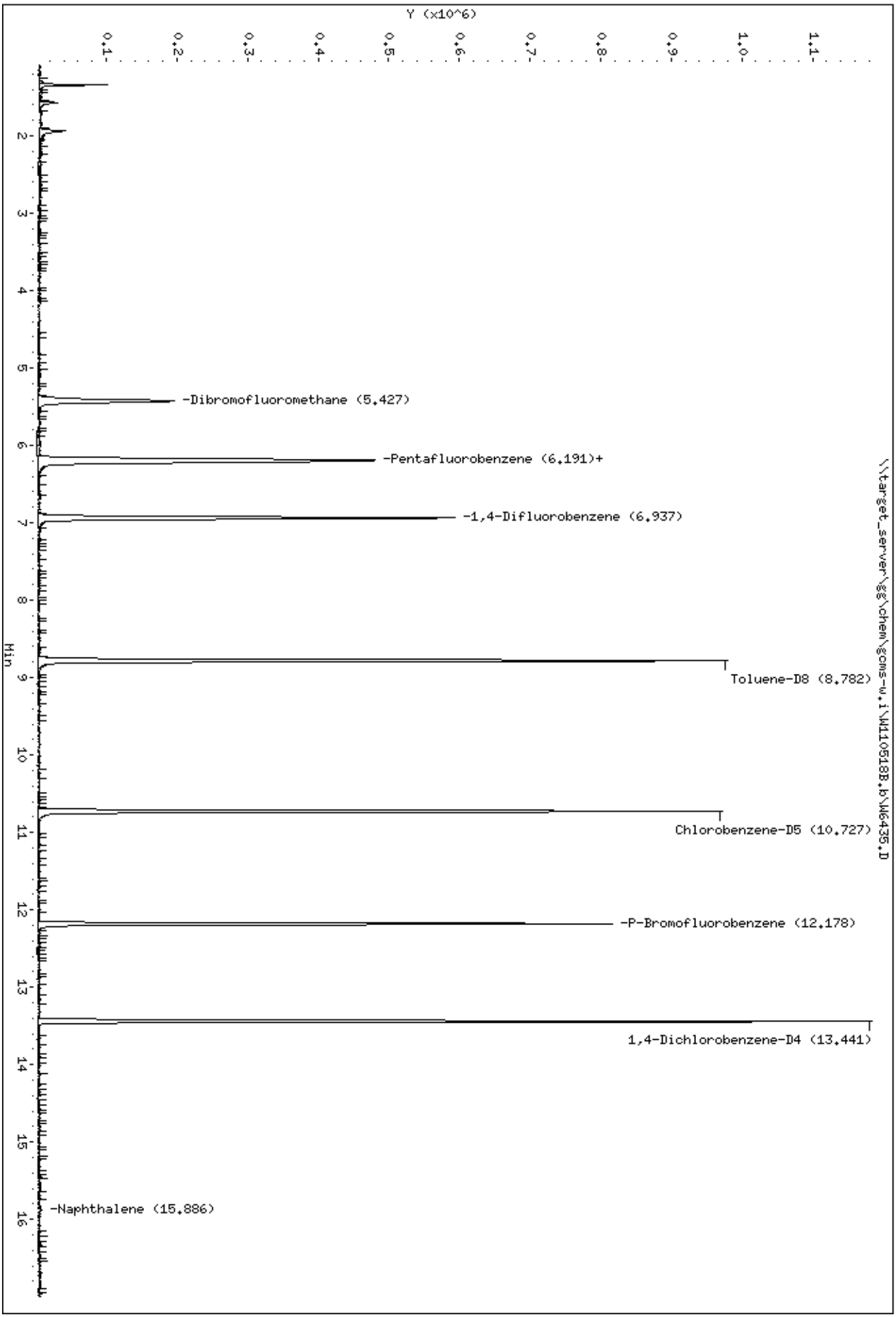
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.432	5.427	(0.878)	168049	51.0572	51.0	
* 42 Pentafluorobenzene	168	6.190	6.185	(1.000)	355822	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	202392	50.4240	50.4	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	583784	50.0000		
$ 58 Toluene-D8	98	8.782	8.782	(1.266)	726559	51.1273	51.1	
* 69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	561385	50.0000		
$ 78 P-Bromofluorobenzene	95	12.178	12.184	(1.756)	238360	49.2003	49.2	
* 94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	284924	50.0000		
103 Naphthalene	128	15.885	15.886	(1.182)	1275	0.59692	0.60(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6435.D
Date : 05-NOV-2018 19:17
Client ID: TRIP BLANK
Sample Info: TL0579-52
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6435.D
Y (x10^6)
Min
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.191)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.886)

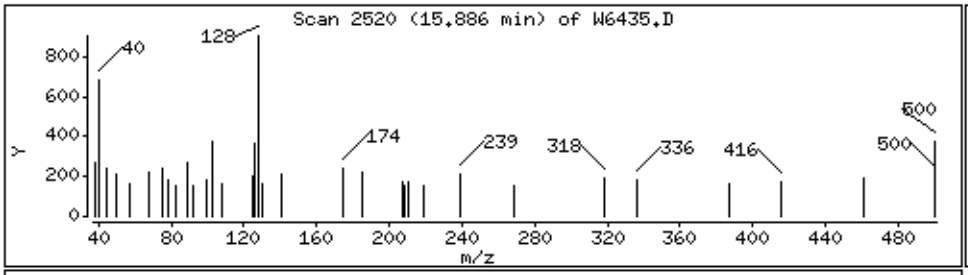
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6435.D

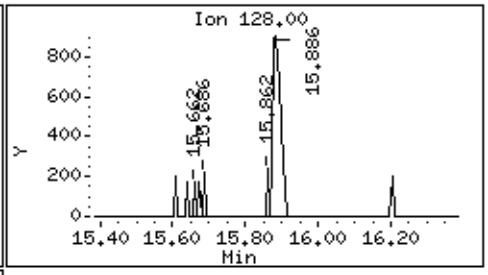
Date : 05-NOV-2018 19:17

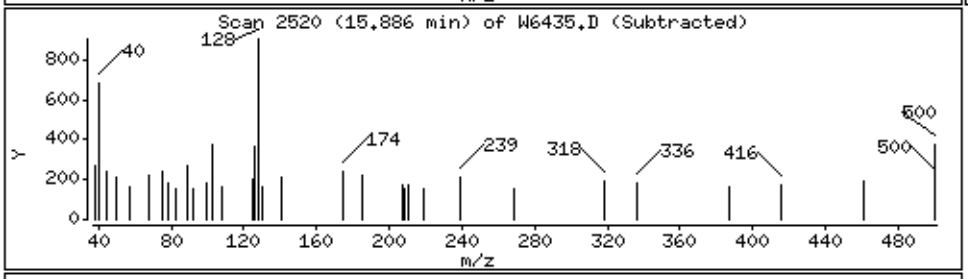
Client ID: TRIP BLANK Instrument: gcms-w.i

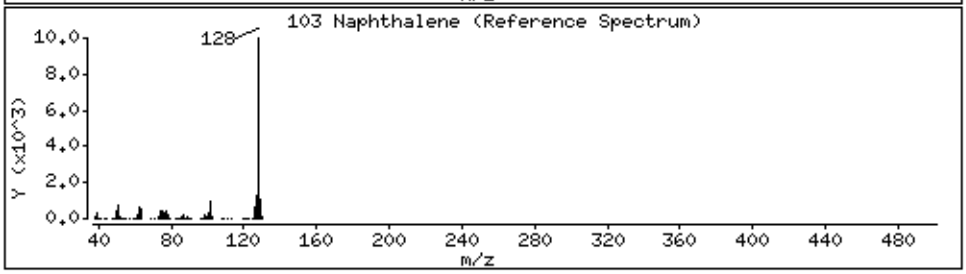
Sample Info: TL0579-52

103 Naphthalene Concentration: 0.60 ug/l









Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: TL0579
Project : Watervliet Arsenal LTM 2018
Instrument ID: GCMS-W
Lab File IDs : W6326.D W6325.D W6324.D W6323.D W6328.D W6327.D W6329.D
Calibration Date(s): 01-NOV-18 16:31 01-NOV-18 19:31

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		Crv				Max	
	1.0000	5.0000	20.0000	50.0000	100.0000	150.0000	75.0000		New	b	m1	%RSD	%RSD	
Chloromethane	0.35454	0.33137	0.30694	0.30836	0.28215	0.25457	0.27648		AVG		0.30206	11.2945(	15.00000	O
Vinyl chloride	0.32630	0.32917	0.34808	0.33039	0.30592	0.25837	0.28709		AVG		0.31219	9.84971	15.00000	O
Bromomethane	1305	4330	17994	47232	140782	+++++	106759		QUA	-0.00314	12.73528	0.99935	0.99000	O
Chloroethane	1440	12334	42949	104522	223674	240598	173587		QUA	0.00793	4.20806	0.99614	0.99000	O
Trichlorofluoromethane	0.66519	0.66066	0.69766	0.68167	0.65089	0.56034	0.64703		AVG		0.65192	6.75645	15.00000	O
1,1-Dichloroethene	0.30717	0.28783	0.27127	0.27301	0.27037	0.22866	0.25098		AVG		0.26990	9.30045	15.00000	O
Carbon Disulfide	11121	45413	178206	432839	1024335	1138933	787997		QUA	0.00537	1.11959	0.99747	0.99000	O
Methylene Chloride	0.34912	0.28226	0.27627	0.26359	0.27367	0.23797	0.26085		AVG		0.27768	12.47607	15.00000	O
trans-1,2-Dichloroethene	0.26082	0.28004	0.27213	0.26084	0.27466	0.23427	0.27065		AVG		0.26477	5.73015	15.00000	O
1,1-Dichloroethane	0.56696	0.55295	0.50398	0.51292	0.52546	0.47303	0.51122		AVG		0.52093	6.02191	15.00000	O
cis-1,2-Dichloroethene	0.37265	0.32328	0.28944	0.29858	0.30180	0.27260	0.29160		AVG		0.30714	10.63512	15.00000	O
Chloroform	0.50465	0.50475	0.47482	0.45915	0.47462	0.44118	0.46248		AVG		0.47452	4.95297	15.00000	O
Carbon Tetrachloride	0.20047	0.20712	0.21609	0.21827	0.23219	0.21381	0.22566		AVG		0.21623	4.94121	15.00000	O
1,1,1-Trichloroethane	0.40580	0.44513	0.43181	0.41487	0.43627	0.39982	0.42525		AVG		0.42271	3.91913	15.00000	O
2-Butanone	0.17626	0.15923	0.13915	0.12358	0.13123	0.11842	0.13252		AVG		0.14005	14.72935	15.00000	O
Benzene	0.72024	0.71982	0.70208	0.70239	0.72874	0.68593	0.70008		AVG		0.70847	2.10510	15.00000	O
1,2-Dichloroethane	0.31987	0.23895	0.22620	0.21860	0.22424	0.22179	0.22228		AVG		0.23885	15.20497	15.00000	W(
Trichloroethene	0.19133	0.17834	0.17497	0.17838	0.17749	0.17364	0.16367		AVG		0.17683	4.62950	15.00000	O
1,2-Dichloropropane	0.25229	0.17783	0.19208	0.18156	0.18797	0.18650	0.18311		AVG		0.19448	13.32145	15.00000	O
Bromodichloromethane	0.19391	0.20814	0.21528	0.22412	0.22467	0.22743	0.21108		AVG		0.21495	5.49844	15.00000	O
cis-1,3-dichloropropene	0.28703	0.28005	0.28571	0.28225	0.29999	0.30321	0.28912		AVG		0.28962	3.02414	15.00000	O
Toluene	0.41304	0.46751	0.44541	0.44446	0.45518	0.45279	0.44428		AVG		0.44610	3.75613	15.00000	O
4-methyl-2-pentanone	0.18907	0.18009	0.17717	0.16725	0.17160	0.16885	0.17030		AVG		0.17491	4.42952	15.00000	O
Tetrachloroethene	0.17290	0.16102	0.16320	0.15711	0.15835	0.14908	0.15628		AVG		0.15970	4.58162	15.00000	O
trans-1,3-Dichloropropene	0.23357	0.22868	0.21889	0.24629	0.25038	0.25770	0.24334		AVG		0.23984	5.61237	15.00000	O
1,1,2-Trichloroethane	0.12161	0.13373	0.12120	0.12531	0.12370	0.13047	0.12646		AVG		0.12607	3.66304	15.00000	O
Dibromochloromethane	0.15016	0.15936	0.17757	0.17599	0.18177	0.18088	0.18063		AVG		0.17234	7.23102	15.00000	O
Chlorobenzene	0.50353	0.55350	0.53111	0.52834	0.52319	0.51445	0.51995		AVG		0.52487	2.97394	15.00000	O
Ethylbenzene	0.94813	0.90536	0.91060	0.92105	0.90680	0.89613	0.90002		AVG		0.91258	1.92583	15.00000	O
m+p-Xylenes	0.60353	0.67776	0.70548	0.70264	0.70302	0.69736	0.68776		AVG		0.68251	5.30378	15.00000	O
o-Xylene	0.61231	0.66068	0.70287	0.70247	0.69157	0.69825	0.68416		AVG		0.67890	4.83325	15.00000	O
Bromoform	0.12844	0.10208	0.11739	0.11846	0.12141	0.12336	0.11881		AVG		0.11856	6.90382	15.00000	O
1,1,2,2-Tetrachloroethane	0.48018	0.42276	0.39858	0.36746	0.37332	0.35693	0.37896		AVG		0.39688	10.76295	15.00000	O
Dibromofluoromethane	0.46008	0.47114	0.46096	0.45944	0.46273	0.45101	0.47217		AVG		0.46250	1.57356	15.00000	
1,2-Dichloroethane-D4	0.55986	0.56064	0.55768	0.57087	0.56171	0.57971	0.55766		AVG		0.56402	1.46154	15.00000	
Toluene-D8	1.21772	1.22265	1.18824	1.20747	1.22907	1.24967	1.20506		AVG		1.21713	1.61054	15.00000	

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: TL0579
Project : Watervliet Arsenal LTM 2018
Instrument ID: GCMS-W
Lab File IDs : W6326.D W6325.D W6324.D W6323.D W6328.D W6327.D W6329.D
Calibration Date(s): 01-NOV-18 16:31 01-NOV-18 19:31

P-Bromofluorobenzene	0.39023	0.40428	0.40927	0.41978	0.42284	0.43840	0.41976		AVG		0.41494	3.70219	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa02236
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: WG239831-8
Level: LOW Operator: HG
Data Type: MS DATA SampleType: LCS
SpikeList File: IND_CHECK.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Misc Info: WG239831,WG239831-4,TL0579-1

	SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	1	Dichlorodifluorome	50.0	58.4	116.89	80-120
	2	Chloromethane	50.0	58.2	116.39	80-120
	3	Vinyl chloride	50.0	53.9	107.82	80-120
	4	Bromomethane	50.0	55.3	110.68	80-120
	5	Chloroethane	50.0	53.4	106.89	80-120
	6	Trichlorofluoromet	50.0	46.6	93.10	80-120
	7	Diethyl Ether	50.0	48.4	96.90	80-120
	19	Tertiary-butyl alc	250	147	58.65*	80-120
	8	1,1-Dichloroethene	50.0	43.7	87.45	80-120
	10	Carbon Disulfide	50.0	49.2	98.38	80-120
	9	Freon-113	50.0	49.2	98.50	80-120
	11	Iodomethane	50.0	61.2	122.41*	80-120
	12	Acrolein	250	236	94.47	80-120
	14	Methylene Chloride	50.0	44.1	88.23	80-120
	15	Acetone	50.0	58.3	116.69	80-120
	46	Isobutyl Alcohol	1000	841	84.10	80-120
	16	trans-1,2-Dichloro	50.0	48.5	97.09	80-120
	13	Allyl Chloride	50.0	49.0	98.02	80-120
	18	Methyl tert-butyl	50.0	44.5	89.04	80-120
	20	Acetonitrile	500	409	81.80	80-120
	21	Di-isopropyl ether	50.0	52.3	104.68	80-120
	23	Chloroprene	50.0	50.5	100.96	80-120
	40	Propionitrile	500	468	93.62	80-120
	41	Methacrylonitrile	500	480	96.10	80-120
	24	1,1-Dichloroethane	50.0	48.4	96.79	80-120
	25	Acrylonitrile	250	239	95.77	80-120
	26	Ethyl tertiary-but	50.0	52.1	104.16	80-120
	27	Vinyl Acetate	50.0	49.3	98.67	80-120
	28	cis-1,2-Dichloroet	50.0	45.2	90.43	80-120
M	22	1,2-Dichloroethyle	100	93.8	93.76	80-120
	53	Methyl Methacrylat	50.0	51.3	102.62	80-120
	29	2,2-Dichloropropan	50.0	45.2	90.39	80-120
	31	Bromochloromethane	50.0	53.1	106.12	80-120
	32	Chloroform	50.0	46.4	92.73	80-120
	33	Carbon Tetrachlori	50.0	49.4	98.88	80-120
	34	Tetrahydrofuran	50.0	52.9	105.74	80-120
	36	1,1,1-Trichloroeth	50.0	47.3	94.54	80-120
	37	1,1-Dichloropropen	50.0	50.0	100.03	80-120
	38	2-Butanone	50.0	53.8	107.69	80-120
	39	Benzene	50.0	47.8	95.50	80-120

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D
Report Date: 27-Nov-2018 11:49

	SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	30	Cyclohexane	50.0	50.7	101.45	80-120
	64	Ethyl Methacrylate	50.0	52.8	105.66	80-120
	43	Tertiary-amyl meth	50.0	48.1	96.16	80-120
	45	1,2-Dichloroethane	50.0	46.4	92.92	80-120
	48	Trichloroethene	50.0	46.9	93.76	80-120
	50	Dibromomethane	50.0	46.0	91.91	80-120
	51	1,2-Dichloropropan	50.0	44.9	89.85	80-120
	52	Bromodichlorometha	50.0	50.0	99.97	80-120
	57	cis-1,3-dichloropr	50.0	47.3	94.57	80-120
	54	1,4-Dioxane	1000	672	67.21*	80-120
	55	2-Chloroethylvinyl	50.0	0.00	0.00*	80-120
	59	Toluene	50.0	48.0	95.95	80-120
	61	4-methyl-2-pentano	50.0	52.7	105.38	80-120
	60	Tetrachloroethene	50.0	48.1	96.16	80-120
	62	trans-1,3-Dichloro	50.0	49.1	98.25	80-120
	63	1,1,2-Trichloroeth	50.0	47.8	95.59	80-120
	65	Dibromochlorometha	50.0	52.4	104.80	80-120
	66	1,3-Dichloropropan	50.0	48.6	97.12	80-120
	67	1,2-Dibromoethane	50.0	46.3	92.54	80-120
	68	2-Hexanone	50.0	54.1	108.20	80-120
	70	Chlorobenzene	50.0	48.7	97.37	80-120
	71	Ethylbenzene	50.0	48.0	96.01	80-120
	72	1,1,1,2-Tetrachlor	50.0	49.4	98.88	80-120
M	56	Xylenes (total)	150	148	98.40	80-120
	73	m+p-Xylenes	100	98.8	98.75	80-120
	74	o-Xylene	50.0	48.8	97.69	80-120
	75	Styrene	50.0	47.6	95.29	80-120
	76	Bromoform	50.0	48.2	96.50	80-120
	77	Isopropylbenzene	50.0	53.1	106.16	80-120
	79	cis-1,4-Dichloro-2	50.0	47.1	94.15	80-120
	86	trans-1,4-Dichloro	50.0	45.4	90.80	80-120
	80	Bromobenzene	50.0	47.7	95.37	80-120
	81	N-Propylbenzene	50.0	49.2	98.31	80-120
	82	1,1,2,2-Tetrachlor	50.0	46.8	93.59	80-120
	85	1,3,5-Trimethylben	50.0	49.8	99.58	80-120
	83	2-Chlorotoluene	50.0	48.8	97.53	80-120
	84	1,2,3-Trichloropro	50.0	46.1	92.18	80-120
	87	4-Chlorotoluene	50.0	48.3	96.52	80-120
	88	tert-Butylbenzene	50.0	48.5	97.06	80-120
	89	Pentachloroethane	50.0	48.3	96.57	80-120
	90	1,2,4-Trimethylben	50.0	49.9	99.73	80-120
	92	P-Isopropyltoluene	50.0	49.2	98.37	80-120
	93	1,3-Dichlorobenzen	50.0	48.3	96.59	80-120
	95	1,4-Dichlorobenzen	50.0	46.2	92.31	80-120
	97	N-Butylbenzene	50.0	47.2	94.43	80-120
	91	sec-Butylbenzene	50.0	48.9	97.85	80-120
	98	1,2-Dichlorobenzen	50.0	47.2	94.45	80-120
	99	1,2-Dibromo-3-Chlo	50.0	46.3	92.54	80-120
	100	1,3,5-Trichloroben	50.0	47.2	94.48	80-120
	101	Hexachlorobutadien	50.0	44.2	88.43	80-120
	102	1,2,4-Trichloroben	50.0	47.6	95.26	80-120
	96	1,2,3-Trimethylben	50.0	49.9	99.88	80-120
	103	Naphthalene	50.0	45.4	90.78	80-120
	104	1,2,3-Trichloroben	50.0	48.1	96.22	80-120

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D
Report Date: 27-Nov-2018 11:49

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
17 Methyl Acetate	50.0	48.1	96.17	80-120
47 Methylcyclohexane	50.0	51.1	102.22	80-120
M 105 Total Alkylbenzene	350	343	97.90	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/l	AMOUNT RECOVERED ug/l	% RECOVERED	LIMITS
$ 35 Dibromofluorometha	50.0	49.4	98.79	68-128
$ 44 1,2-Dichloroethane	50.0	48.9	97.81	67-135
$ 58 Toluene-D8	50.0	48.8	97.56	65-128
$ 78 P-Bromofluorobenze	50.0	49.8	99.69	56-133

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D
Lab Smp Id: WG239831-8
Inj Date : 01-NOV-2018 20:31
Operator : HG Inst ID: gcms-w.i
Smp Info : WG239831-8,
TL0579
Misc Info : WG239831,WG239831-4,TL0579-1
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:24 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	226943	58.4426	58.4	
2	Chloromethane	50	1.613	1.614	(0.261)	267992	58.1943	58.2	
3	Vinyl chloride	62	1.678	1.673	(0.271)	256584	53.9092	53.9	
4	Bromomethane	94	1.919	1.919	(0.310)	75271	55.3385	55.3	
5	Chloroethane	64	2.013	2.013	(0.325)	146959	53.4450	53.4	
6	Trichlorofluoromethane	101	2.125	2.125	(0.343)	462670	46.5507	46.6	
7	Diethyl Ether	59	2.377	2.378	(0.384)	180837	48.4499	48.4	
8	1,1-Dichloroethene	96	2.553	2.548	(0.413)	179911	43.7226	43.7	
9	Freon-113	151	2.583	2.577	(0.417)	189434	49.2485	49.2	
10	Carbon Disulfide	76	2.589	2.583	(0.418)	590582	49.1914	49.2	
11	Iodomethane	142	2.689	2.683	(0.434)	78385	61.2030	61.2(R)	
12	Acrolein	56	2.853	2.854	(0.461)	119426	236.187	236	
13	Allyl Chloride	41	2.982	2.983	(0.482)	337502	49.0098	49.0	
14	Methylene Chloride	84	3.088	3.089	(0.499)	186747	44.1126	44.1	
15	Acetone	43	3.135	3.136	(0.506)	77076	58.3448	58.3	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	195961	48.5452	48.5	
17	Methyl Acetate	43	3.264	3.265	(0.527)	179862	48.0855	48.1	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.544)	404513	44.5180	44.5	
19	Tertiary-butyl alcohol	59	3.476	3.482	(0.562)	38670	146.631	147(R)	
20	Acetonitrile	39	3.640	3.635	(0.588)	57610	409.011	409	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	732601	52.3386	52.3	
M 22	1,2-Dichloroethylene (total)	96				407674	93.7585	93.8	
23	Chloroprene	53	3.922	3.923	(0.634)	323813	50.4781	50.5	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D
Report Date: 27-Nov-2018 11:49

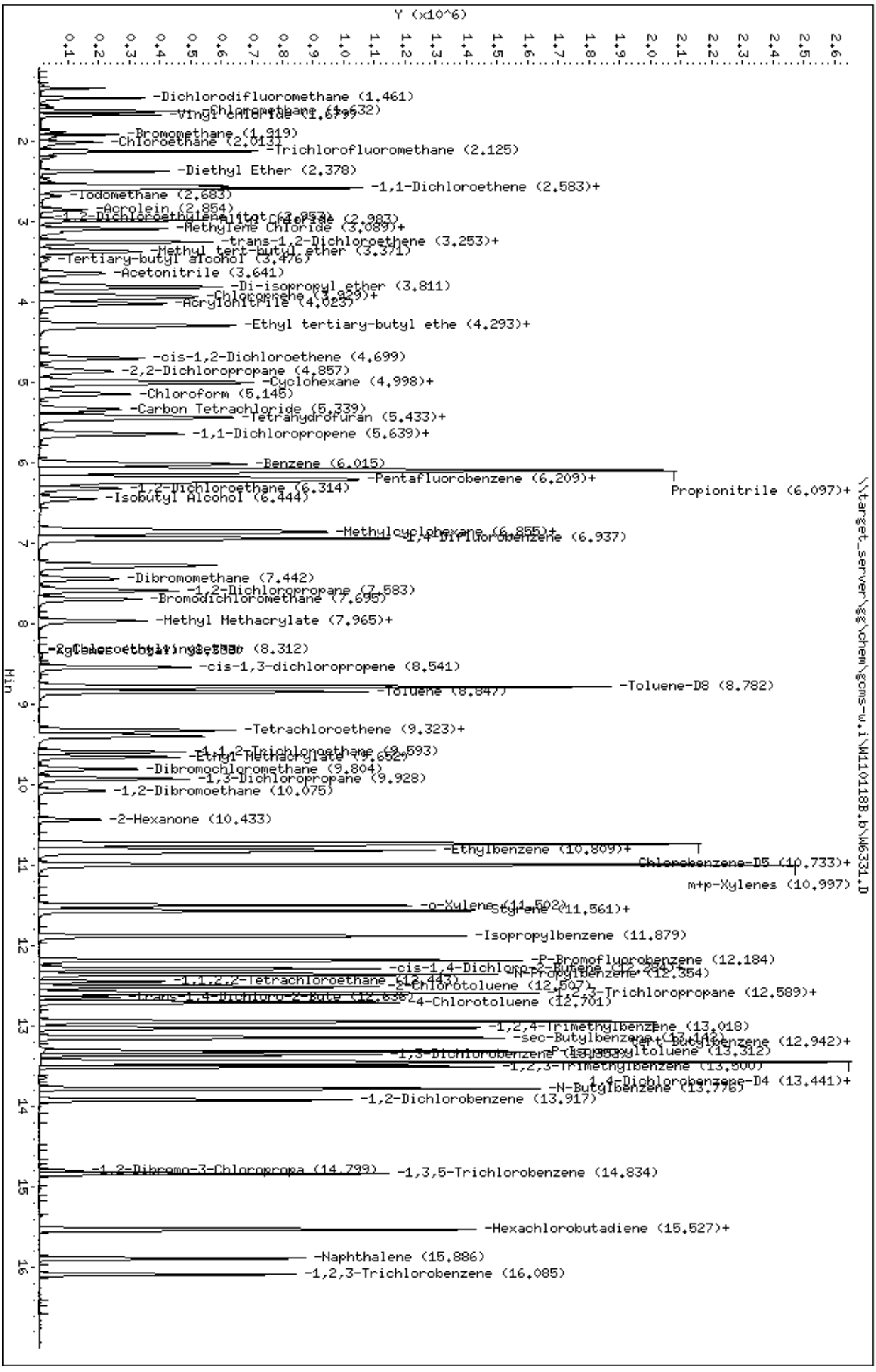
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 1,1-Dichloroethane	63	3.952	3.952	(0.638)	384345	48.3938	48.4	
	25 Acrylonitrile	52	4.022	4.022	(0.650)	345133	239.434	239	
	26 Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	588744	52.0810	52.1	
	27 Vinyl Acetate	43	4.299	4.299	(0.619)	508804	49.3327	49.3	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	211713	45.2133	45.2	
	29 2,2-Dichloropropane	77	4.857	4.857	(0.785)	240495	45.1935	45.2	
	30 Cyclohexane	56	4.998	4.992	(0.807)	385845	50.7269	50.7	
	31 Bromochloromethane	128	5.004	4.998	(0.808)	98724	53.0610	53.1	
	32 Chloroform	83	5.145	5.139	(0.831)	335434	46.3663	46.4	
	33 Carbon Tetrachloride	117	5.333	5.333	(0.768)	259882	49.4409	49.4	
	34 Tetrahydrofuran	42	5.386	5.380	(0.870)	77442	52.8725	52.9	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	348290	49.3940	49.4	
	36 1,1,1-Trichloroethane	97	5.444	5.439	(0.879)	304619	47.2680	47.3	
	37 1,1-Dichloropropene	75	5.638	5.639	(0.812)	287777	50.0164	50.0	
	38 2-Butanone	43	5.632	5.633	(0.910)	114971	53.8446	53.8	
	39 Benzene	78	6.014	6.009	(0.866)	822370	47.7502	47.8	
	40 Propionitrile	54	6.061	6.067	(0.979)	307735	468.123	468	
	41 Methacrylonitrile	41	6.096	6.097	(0.985)	1396895	480.502	480	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	762291	50.0000		
	43 Tertiary-amyl methyl ether	73	6.232	6.238	(1.007)	512651	48.0822	48.1	
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	420532	48.9052	48.9	
	45 1,2-Dichloroethane	62	6.314	6.314	(0.909)	269752	46.4593	46.4	
	46 Isobutyl Alcohol	43	6.443	6.449	(1.041)	164745	840.970	841	
	47 Methylcyclohexane	83	6.849	6.843	(1.106)	425930	51.1125	51.1	
	48 Trichloroethene	95	6.872	6.867	(0.990)	201515	46.8791	46.9	
*	49 1,4-Difluorobenzene	114	6.943	6.937	(1.000)	1215465	50.0000		
	50 Dibromomethane	93	7.442	7.442	(1.072)	118485	45.9546	46.0	
	51 1,2-Dichloropropane	63	7.583	7.589	(1.092)	212382	44.9238	44.9	
	52 Bromodichloromethane	83	7.695	7.695	(1.108)	261185	49.9855	50.0	
	53 Methyl Methacrylate	41	7.959	7.959	(1.146)	197758	51.3116	51.3	
	54 1,4-Dioxane	88	7.983	7.983	(1.150)	44463	672.125	672(R)	
	55 2-Chloroethylvinylether	63	8.317	8.311	(1.198)	1255		(aR)	
M	56 Xylenes (total)	91				2231269	147.598	148	
	57 cis-1,3-dichloropropene	75	8.541	8.541	(1.230)	332917	47.2859	47.3	
$	58 Toluene-D8	98	8.782	8.782	(1.265)	1443237	48.7786	48.8	
	59 Toluene	92	8.846	8.847	(1.274)	520240	47.9737	48.0	
	60 Tetrachloroethene	164	9.328	9.328	(0.870)	170371	48.0791	48.1	
	61 4-methyl-2-pentanone	43	9.369	9.370	(1.350)	224025	52.6891	52.7	
	62 trans-1,3-Dichloropropene	75	9.399	9.399	(1.354)	286413	49.1255	49.1	
	63 1,1,2-Trichloroethane	83	9.592	9.593	(1.382)	146480	47.7971	47.8	
	64 Ethyl Methacrylate	69	9.657	9.657	(1.391)	267264	52.8310	52.8	
	65 Dibromochloromethane	129	9.804	9.804	(0.914)	200374	52.4008	52.4	
	66 1,3-Dichloropropane	76	9.927	9.922	(0.925)	314752	48.5607	48.6	
	67 1,2-Dibromoethane	107	10.074	10.075	(1.451)	169359	46.2696	46.3	
	68 2-Hexanone	43	10.433	10.433	(0.973)	151062	54.0976	54.1	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	1109410	50.0000		
	70 Chlorobenzene	112	10.750	10.750	(1.002)	566984	48.6853	48.7	
	71 Ethylbenzene	91	10.809	10.809	(1.008)	972008	48.0038	48.0	
	72 1,1,1,2-Tetrachloroethane	131	10.844	10.844	(1.011)	192110	49.4386	49.4	
	73 m+p-Xylenes	91	10.997	10.997	(1.025)	1495458	98.7516	98.8	
	74 o-Xylene	91	11.502	11.497	(1.072)	735811	48.8469	48.8	
	75 Styrene	104	11.567	11.561	(1.078)	596812	47.6468	47.6	
	76 Bromoform	173	11.567	11.567	(1.078)	126933	48.2507	48.2	
	77 Isopropylbenzene	105	11.878	11.878	(0.884)	977333	53.0798	53.1	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D
Report Date: 27-Nov-2018 11:49

							CONCENTRATIONS		
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.754)	502780	49.8450	49.8	
	79 cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	67562	47.0774	47.1	
	80 Bromobenzene	156	12.283	12.284	(0.914)	230176	47.6861	47.7	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	1179828	49.1530	49.2	
	82 1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	212979	46.7925	46.8	
	83 2-Chlorotoluene	91	12.507	12.507	(0.930)	632990	48.7637	48.8	
	84 1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	176323	46.0878	46.1	
	85 1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	781520	49.7886	49.8	
	86 trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	52083	45.3985	45.4	
	87 4-Chlorotoluene	91	12.701	12.701	(0.945)	647654	48.2604	48.3	
	88 tert-Butylbenzene	119	12.941	12.942	(0.963)	783599	48.5302	48.5	
	89 Pentachloroethane	117	12.947	12.942	(0.963)	155170	48.2872	48.3	
	90 1,2,4-Trimethylbenzene	105	13.018	13.024	(0.969)	783118	49.8669	49.9	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	1077664	48.9274	48.9	
	92 P-Isopropyltoluene	119	13.312	13.312	(0.990)	911157	49.1844	49.2	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	440442	48.2968	48.3	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	573412	50.0000		
	95 1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	438859	46.1564	46.2	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	793226	49.9397	49.9	
	97 N-Butylbenzene	91	13.776	13.776	(1.025)	885639	47.2169	47.2	
	98 1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	398072	47.2228	47.2	
	99 1,2-Dibromo-3-Chloropropane	157	14.792	14.799	(1.101)	40239	46.2682	46.3	
	100 1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	329558	47.2422	47.2	
	101 Hexachlorobutadiene	225	15.515	15.515	(1.154)	153412	44.2153	44.2	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	283964	47.6307	47.6	
	103 Naphthalene	128	15.885	15.886	(1.182)	620648	45.3881	45.4	
	104 1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	245951	48.1098	48.1	
M	105 Total Alkylbenzenes	100				6402525	342.667	343	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D
Date : 01-NOV-2018 20:31
Client ID:
Sample Info: WG239831-8,rTL0579
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.632)
-Vinyl chloride (1.679)
-Bromomethane (1.919)
-Chloroethane (2.013)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.583)+
-Iodomethane (2.683)
-Acrolein (2.854)
-1,2-Dichloroethylene,total (2.953)
-Acetone (2.983)
-Methylene Chloride (3.089)+
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.476)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.811)
-Chloroprene (3.929)+
-Acrylonitrile (4.023)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.699)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.998)+
-Chloroform (5.145)
-Carbon Tetrachloride (5.339)
-Tetrahydrofuran (5.433)+
-1,1-Dichloropropene (5.639)+
-Benzene (6.015)
-Pentafluorobenzene (6.209)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.444)
Propionitrile (6.097)+
-Methylcyclohexane (6.855)+
1,4-Difluorobenzene (6.937)
-Dibromomethane (7.442)
-1,2-Dichloropropane (7.583)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.965)+
-2-Chloroethylvinylether (8.312)
-cis-1,3-dichloropropene (8.541)
-Toluene (8.847)
-Toluene-D8 (8.782)
-Tetrachloroethene (9.323)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.652)
-Dibromochloromethane (9.804)
-1,3-Dichloropropane (9.928)
-1,2-Dibromoethane (10.075)
-2-Hexanone (10.433)
-Ethylbenzene (10.809)+
Chlorobenzene-D5 (10.733)+
m+p-Xylenes (10.997)
-o-Xylene (11.502)
Styrene (11.561)+
-Isopropylbenzene (11.879)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.241)+
-N-Propylbenzene (12.354)
-1,1,2,2-Tetrachloroethane (12.443)
-2-Chlorotoluene (12.507)
-1,2,3-Trichloropropane (12.589)+
-trans-1,4-Dichloro-2-Bute (12.636)+
4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.018)
-sec-Butylbenzene (12.942)+
-tert-Butylbenzene (13.142)
-P-Isopropyltoluene (13.312)
-1,3-Dichlorobenzene (13.353)
-1,2,3-Trimethylbenzene (13.500)
1,4-Dichlorobenzene-D4 (13.441)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.799)
-1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.085)
\\target_server\gg\chem\gcms-w.i\W110118B.b\W6331.D

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6323.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110118B.b\W6323.D
Lab Smp Id: WG239831-4
Inj Date : 01-NOV-2018 16:31
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG239831-4
Misc Info :
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:24 jsampson   Quant Type: ISTD
Cal Date : 24-OCT-2018 10:55   Cal File: W6101.D
Als bottle: 1   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)		REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	146098	50.0000		(a)	
2	Chloromethane	50	1.613	1.614	(0.261)	171545	50.0000		(a)	
3	Vinyl chloride	62	1.672	1.673	(0.270)	183802	50.0000		(a)	
4	Bromomethane	94	1.919	1.919	(0.310)	47232	50.0000		(a)	
5	Chloroethane	64	2.013	2.013	(0.326)	104522	50.0000		(a)	
6	Trichlorofluoromethane	101	2.124	2.125	(0.344)	379225	50.0000		(a)	
7	Diethyl Ether	59	2.377	2.378	(0.384)	134614	50.0000		(a)	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	151880	50.0000		(a)	
9	Freon-113	151	2.577	2.577	(0.417)	141609	50.0000		(a)	
10	Carbon Disulfide	76	2.583	2.583	(0.418)	432839	50.0000		(a)	
11	Iodomethane	142	2.683	2.683	(0.434)	60436	50.0000		(a)	
12	Acrolein	56	2.853	2.854	(0.461)	85424	250.000		(a)	
13	Allyl Chloride	41	2.982	2.983	(0.482)	251583	50.0000		(a)	
14	Methylene Chloride	84	3.088	3.089	(0.499)	146639	50.0000		(a)	
15	Acetone	43	3.135	3.136	(0.507)	192615	250.000		(a)	
16	trans-1,2-Dichloroethene	96	3.253	3.253	(0.526)	145108	50.0000		(a)	
17	Methyl Acetate	43	3.264	3.265	(0.528)	119006	50.0000		(a)	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.545)	317838	50.0000		(a)	
19	Tertiary-butyl alcohol	59	3.482	3.482	(0.563)	42616	250.000		(a)	
20	Acetonitrile	39	3.634	3.635	(0.588)	38022	500.000		(a)	
21	Di-isopropyl ether	45	3.817	3.817	(0.617)	512195	50.0000		(a)	
M 22	1,2-Dichloroethylene (total)	96				311214	50.0000		(a)	
23	Chloroprene	53	3.922	3.923	(0.634)	227281	50.0000		(a)	
24	1,1-Dichloroethane	63	3.952	3.952	(0.639)	285346	50.0000		(a)	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6323.D
Report Date: 27-Nov-2018 11:49

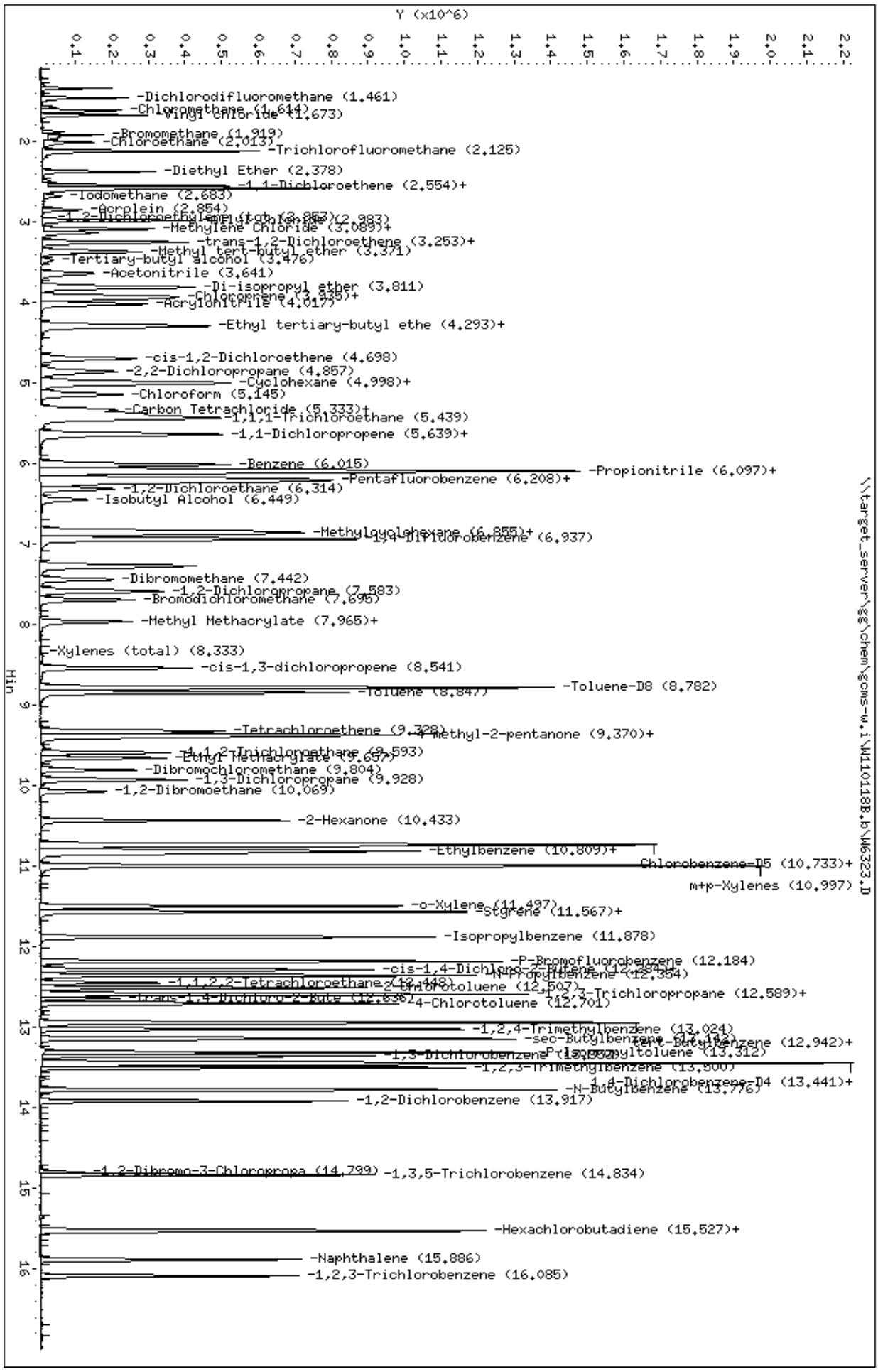
			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25	Acrylonitrile	52	4.022	4.022	(0.650)	236096	250.000	(a)	
	26	Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	418940	50.0000	(a)	
	27	Vinyl Acetate	43	4.298	4.299	(0.620)	376364	50.0000	(a)	
	28	cis-1,2-Dichloroethene	96	4.698	4.698	(0.760)	166106	50.0000	(a)	
	29	2,2-Dichloropropane	77	4.857	4.857	(0.785)	204667	50.0000	(a)	
	30	Cyclohexane	56	4.992	4.992	(0.807)	279475	50.0000	(a)	
	31	Bromochloromethane	128	4.998	4.998	(0.808)	72123	50.0000	(a)	
	32	Chloroform	83	5.139	5.139	(0.831)	255432	50.0000	(a)	
	33	Carbon Tetrachloride	117	5.333	5.333	(0.769)	197856	50.0000	(a)	
	34	Tetrahydrofuran	42	5.380	5.380	(0.870)	240327	250.000	(a)	
$	35	Dibromofluoromethane	113	5.427	5.427	(0.877)	255595	50.0000	(a)	
	36	1,1,1-Trichloroethane	97	5.438	5.439	(0.879)	230798	50.0000	(a)	
	37	1,1-Dichloropropene	75	5.638	5.639	(0.813)	211446	50.0000	(a)	
	38	2-Butanone	43	5.632	5.633	(0.911)	343746	250.000	(a)	
	39	Benzene	78	6.008	6.009	(0.866)	636696	50.0000	(a)	
	40	Propionitrile	54	6.067	6.067	(0.981)	215872	500.000	(a)	
	41	Methacrylonitrile	41	6.096	6.097	(0.986)	1015109	500.000	(a)	
*	42	Pentafluorobenzene	168	6.184	6.185	(1.000)	556317	50.0000		
	43	Tertiary-amyl methyl ether	73	6.237	6.238	(1.009)	389343	50.0000	(a)	
$	44	1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	317587	50.0000	(a)	
	45	1,2-Dichloroethane	62	6.314	6.314	(0.910)	198154	50.0000	(a)	
	46	Isobutyl Alcohol	43	6.449	6.449	(1.043)	119511	1000.00	(a)	
	47	Methylcyclohexane	83	6.843	6.843	(1.106)	318072	50.0000	(a)	
	48	Trichloroethene	95	6.866	6.867	(0.990)	161693	50.0000	(a)	
*	49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	906477	50.0000		
	50	Dibromomethane	93	7.442	7.442	(1.073)	95983	50.0000	(a)	
	51	1,2-Dichloropropane	63	7.589	7.589	(1.094)	164584	50.0000	(a)	
	52	Bromodichloromethane	83	7.695	7.695	(1.109)	203158	50.0000	(a)	
	53	Methyl Methacrylate	41	7.959	7.959	(1.147)	139332	50.0000	(a)	
	54	1,4-Dioxane	88	7.982	7.983	(1.151)	29695	1000.00	(a)	
M	56	Xylenes (total)	91				1779649	150.000	(a)	
	57	cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	255850	50.0000	(a)	
$	58	Toluene-D8	98	8.781	8.782	(1.266)	1094543	50.0000	(a)	
	59	Toluene	92	8.846	8.847	(1.275)	402889	50.0000	(a)	
	60	Tetrachloroethene	164	9.328	9.328	(0.870)	132652	50.0000	(a)	
	61	4-methyl-2-pentanone	43	9.369	9.370	(1.351)	758036	250.000	(a)	
	62	trans-1,3-Dichloropropene	75	9.398	9.399	(1.355)	223256	50.0000	(a)	
	63	1,1,2-Trichloroethane	83	9.592	9.593	(1.383)	113588	50.0000	(a)	
	64	Ethyl Methacrylate	69	9.657	9.657	(1.392)	187925	50.0000	(a)	
	65	Dibromochloromethane	129	9.804	9.804	(0.914)	148598	50.0000	(a)	
	66	1,3-Dichloropropane	76	9.921	9.922	(0.925)	253311	50.0000	(a)	
	67	1,2-Dibromoethane	107	10.074	10.075	(1.452)	132914	50.0000	(a)	
	68	2-Hexanone	43	10.433	10.433	(0.973)	495506	250.000	(a)	
*	69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	844337	50.0000		
	70	Chlorobenzene	112	10.750	10.750	(1.002)	446095	50.0000	(a)	
	71	Ethylbenzene	91	10.809	10.809	(1.008)	777674	50.0000	(a)	
	72	1,1,1,2-Tetrachloroethane	131	10.844	10.844	(1.011)	147186	50.0000	(a)	
	73	m+p-Xylenes	91	10.997	10.997	(1.025)	1186524	100.000	(a)	
	74	o-Xylene	91	11.496	11.497	(1.072)	593125	50.0000	(a)	
	75	Styrene	104	11.561	11.561	(1.078)	487869	50.0000	(a)	
	76	Bromoform	173	11.567	11.567	(1.078)	100019	50.0000	(a)	
	77	Isopropylbenzene	105	11.878	11.878	(0.884)	746768	50.0000	(a)	
$	78	P-Bromofluorobenzene	95	12.183	12.184	(1.756)	380522	50.0000	(a)	
	79	cis-1,4-Dichloro-2-Butene	53	12.277	12.278	(0.913)	58597	50.0000	(a)	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6323.D
Report Date: 27-Nov-2018 11:49

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	80	Bromobenzene	156	12.283	12.284	(0.914)	184507	50.0000	(a)	
	81	N-Propylbenzene	91	12.354	12.354	(0.919)	971856	50.0000	(a)	
	82	1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	170832	50.0000	(a)	
	83	2-Chlorotoluene	91	12.507	12.507	(0.930)	499800	50.0000	(a)	
	84	1,2,3-Trichloropropane	75	12.571	12.572	(0.935)	145821	50.0000	(a)	
	85	1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	637051	50.0000	(a)	
	86	trans-1,4-Dichloro-2-Butene	53	12.636	12.636	(0.940)	44774	50.0000	(a)	
	87	4-Chlorotoluene	91	12.701	12.701	(0.945)	534456	50.0000	(a)	
	88	tert-Butylbenzene	119	12.941	12.942	(0.963)	647585	50.0000	(a)	
	89	Pentachloroethane	117	12.941	12.942	(0.963)	128142	50.0000	(a)	
	90	1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	629259	50.0000	(a)	
	91	sec-Butylbenzene	105	13.141	13.142	(0.978)	889921	50.0000	(a)	
	92	P-Isopropyltoluene	119	13.312	13.312	(0.990)	767621	50.0000	(a)	
	93	1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	362340	50.0000	(a)	
*	94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	464903	50.0000		
	95	1,4-Dichlorobenzene	146	13.458	13.459	(1.001)	366304	50.0000	(a)	
	96	1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	621593	50.0000	(a)	
	97	N-Butylbenzene	91	13.776	13.776	(1.025)	762280	50.0000	(a)	
	98	1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	334257	50.0000	(a)	
	99	1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	31811	50.0000	(a)	
	100	1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	272135	50.0000	(a)	
	101	Hexachlorobutadiene	225	15.515	15.515	(1.154)	131845	50.0000	(a)	
	102	1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	232736	50.0000	(a)	
	103	Naphthalene	128	15.885	15.886	(1.182)	496928	50.0000	(a)	
	104	1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	198522	50.0000	(a)	
M	105	Total Alkylbenzenes	100				5305573	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6323.D
Date : 01-NOV-2018 16:31
Client ID:
Sample Info: WG239831-4
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-w.i\W110118B.b\W6323.D
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.614)
-Vinyl chloride (1.673)
-Bromomethane (1.919)
-Chloroethane (2.013)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.554)+
-Iodomethane (2.683)
-Acrolein (2.854)
-1,2-Dichloroethylene, total (2.857)
-Methylene Chloride (3.089)+
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.476)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.811)
-Chloroprene (3.935)+
-Acrylonitrile (4.017)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.698)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.998)+
-Chloroform (5.145)
-Carbon Tetrachloride (5.333)+
-1,1,1-Trichloroethane (5.439)
-1,1-Dichloropropene (5.639)+
-Benzene (6.015)
-Propionitrile (6.097)+
-Pentafluorobenzene (6.208)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.449)
-Methylcyclohexane (6.855)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.442)
-1,2-Dichloropropane (7.583)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.965)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.541)
-Toluene (8.847)
-Toluene-D8 (8.782)
-Tetrachloroethene (9.328)
-4-methyl-2-pentanone (9.370)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.697)
-Dibromochloromethane (9.804)
-1,3-Dichloropropane (9.928)
-1,2-Dibromoethane (10.069)
-2-Hexanone (10.433)
-Ethylbenzene (10.809)+
Chlorobenzene-D5 (10.733)+
m+p-Xylenes (10.997)
-o-Xylene (11.497)
-Styrene (11.567)+
-Isopropylbenzene (11.878)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.354)
-n-Propylbenzene (12.354)
-1,1,2,2-Tetrachloroethane (12.448)
-Bromotoluene (12.507)
-1,2,3-Trichloropropane (12.589)+
-trans-1,4-Dichloro-2-Bute (12.636)
-4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.024)
-sec-Butylbenzene (12.912)
-tert-Butylbenzene (12.942)+
-1,3-Dichlorobenzene (13.000)
-p-Isopropyltoluene (13.312)
-1,2,3-Trimethylbenzene (13.500)
-1,4-Dichlorobenzene-D4 (13.441)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.799)
-1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.085)

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6324.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110118B.b\W6324.D
Lab Smp Id: WG239831-3
Inj Date : 01-NOV-2018 17:01
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG239831-3
Misc Info :
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:24 jsampson   Quant Type: ISTD
Cal Date : 01-NOV-2018 17:01   Cal File: W6324.D
Als bottle: 2   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

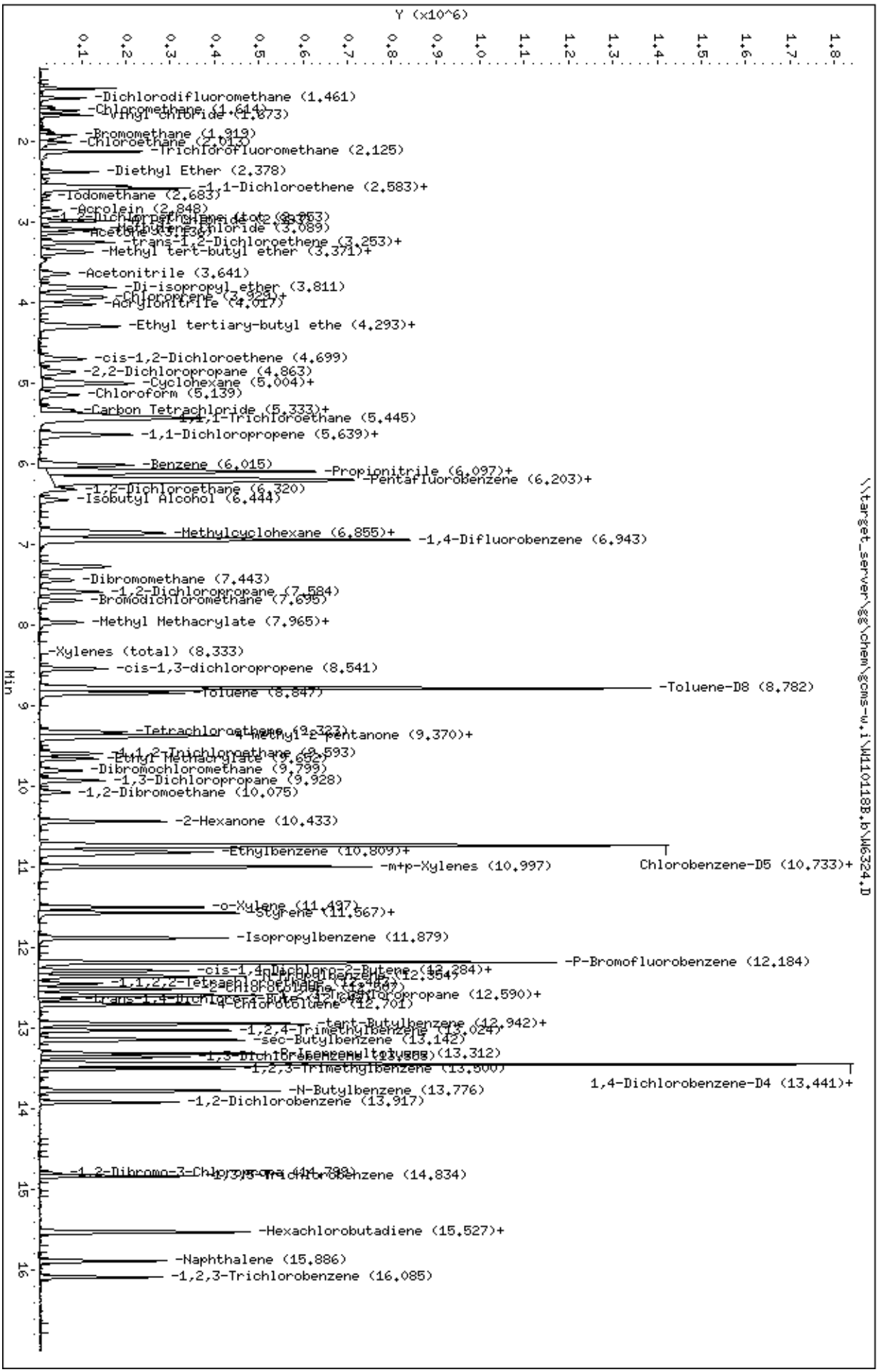
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	56325	20.0000	20.2	
2	Chloromethane	50	1.613	1.614	(0.261)	67104	20.0000	20.3	
3	Vinyl chloride	62	1.672	1.673	(0.270)	76099	20.0000	22.3	
4	Bromomethane	94	1.919	1.919	(0.310)	17994	20.0000	17.3	
5	Chloroethane	64	2.013	2.013	(0.325)	42949	20.0000	22.4	
6	Trichlorofluoromethane	101	2.125	2.125	(0.343)	152526	20.0000	21.4	
7	Diethyl Ether	59	2.377	2.378	(0.384)	55594	20.0000	20.8	
8	1,1-Dichloroethene	96	2.554	2.548	(0.413)	59307	20.0000	20.1	
9	Freon-113	151	2.577	2.577	(0.416)	56550	20.0000	20.5	
10	Carbon Disulfide	76	2.583	2.583	(0.417)	178206	20.0000	19.9	
11	Iodomethane	142	2.683	2.683	(0.433)	16900	20.0000	17.6	
12	Acrolein	56	2.853	2.854	(0.461)	37511	100.000	96.1	
13	Allyl Chloride	41	2.982	2.983	(0.482)	103931	20.0000	21.0	
14	Methylene Chloride	84	3.088	3.089	(0.499)	60400	20.0000	19.9	
15	Acetone	43	3.135	3.136	(0.506)	89798	100.000	99.3	
16	trans-1,2-Dichloroethene	96	3.253	3.253	(0.525)	59494	20.0000	20.6	
17	Methyl Acetate	43	3.264	3.265	(0.527)	52363	20.0000	19.4	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.544)	134770	20.0000	22.9	
19	Tertiary-butyl alcohol	59	3.470	3.482	(0.561)	17162	100.000	87.4	
20	Acetonitrile	39	3.641	3.635	(0.588)	19127	200.000	212	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	203480	20.0000	20.3	
M 22	1,2-Dichloroethylene (total)	96				122773	20.0000	39.4	
23	Chloroprene	53	3.928	3.923	(0.635)	89550	20.0000	19.5	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6324.D
Report Date: 27-Nov-2018 11:49

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24	1,1-Dichloroethane	63	3.952	3.952	(0.638)	110182	20.0000	19.3	
	25	Acrylonitrile	52	4.017	4.022	(0.649)	103616	100.000	99.0	
	26	Ethyl tertiary-butyl ether	59	4.293	4.287	(0.693)	166157	20.0000	20.5	
	27	Vinyl Acetate	43	4.299	4.299	(0.619)	148749	20.0000	19.8	
	28	cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	63279	20.0000	18.8	
	29	2,2-Dichloropropane	77	4.863	4.857	(0.786)	75799	20.0000	20.8	
	30	Cyclohexane	56	4.998	4.992	(0.807)	109181	20.0000	20.0	
	31	Bromochloromethane	128	5.004	4.998	(0.808)	30449	20.0000	24.8	
	32	Chloroform	83	5.145	5.139	(0.831)	103807	20.0000	20.0	
	33	Carbon Tetrachloride	117	5.327	5.333	(0.767)	76614	20.0000	20.0	
	34	Tetrahydrofuran	42	5.380	5.380	(0.869)	105030	100.000	100	
$	35	Dibromofluoromethane	113	5.427	5.427	(0.877)	251941	50.0000	49.8	
	36	1,1,1-Trichloroethane	97	5.444	5.439	(0.879)	94404	20.0000	20.4	
	37	1,1-Dichloropropene	75	5.638	5.639	(0.812)	85428	20.0000	20.4	
	38	2-Butanone	43	5.632	5.633	(0.910)	152106	100.000	99.4	
	39	Benzene	78	6.014	6.009	(0.866)	248916	20.0000	21.0	
	40	Propionitrile	54	6.067	6.067	(0.980)	97014	200.000	206	
	41	Methacrylonitrile	41	6.097	6.097	(0.985)	419845	200.000	201	
*	42	Pentafluorobenzene	168	6.191	6.185	(1.000)	546563	50.0000		
	43	Tertiary-amyl methyl ether	73	6.232	6.238	(1.007)	150976	20.0000	19.7	
$	44	1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	304808	50.0000	49.4	
	45	1,2-Dichloroethane	62	6.320	6.314	(0.910)	80198	20.0000	18.9	
	46	Isobutyl Alcohol	43	6.449	6.449	(1.042)	55466	400.000	391	
	47	Methylcyclohexane	83	6.843	6.843	(1.105)	120269	20.0000	20.1	
	48	Trichloroethene	95	6.866	6.867	(0.989)	62035	20.0000	19.8	
*	49	1,4-Difluorobenzene	114	6.943	6.937	(1.000)	886354	50.0000		
	50	Dibromomethane	93	7.436	7.442	(1.071)	36248	20.0000	20.4	
	51	1,2-Dichloropropane	63	7.583	7.589	(1.092)	68099	20.0000	19.8	
	52	Bromodichloromethane	83	7.695	7.695	(1.108)	76326	20.0000	20.6	
	53	Methyl Methacrylate	41	7.965	7.959	(1.147)	54493	20.0000	19.4	
	54	1,4-Dioxane	88	7.977	7.983	(1.149)	17240	400.000	357	
M	56	Xylenes (total)	91				684894	60.0000	62.0	
	57	cis-1,3-dichloropropene	75	8.541	8.541	(1.230)	101297	20.0000	19.7	
$	58	Toluene-D8	98	8.782	8.782	(1.265)	1053204	50.0000	48.8	
	59	Toluene	92	8.840	8.847	(1.273)	157917	20.0000	20.0	
	60	Tetrachloroethene	164	9.334	9.328	(0.870)	52877	20.0000	20.4	
	61	4-methyl-2-pentanone	43	9.369	9.370	(1.350)	314076	100.000	101	
	62	trans-1,3-Dichloropropene	75	9.399	9.399	(1.354)	77604	20.0000	18.2	
	63	1,1,2-Trichloroethane	83	9.592	9.593	(1.382)	42971	20.0000	19.2	
	64	Ethyl Methacrylate	69	9.651	9.657	(1.390)	72847	20.0000	19.7	
	65	Dibromochloromethane	129	9.798	9.804	(0.913)	57535	20.0000	20.6	
	66	1,3-Dichloropropane	76	9.927	9.922	(0.925)	95369	20.0000	20.2	
	67	1,2-Dibromoethane	107	10.074	10.075	(1.451)	53635	20.0000	20.1	
	68	2-Hexanone	43	10.433	10.433	(0.973)	208310	100.000	102	
*	69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	810011	50.0000		
	70	Chlorobenzene	112	10.750	10.750	(1.002)	172083	20.0000	20.2	
	71	Ethylbenzene	91	10.809	10.809	(1.008)	295039	20.0000	20.0	
	72	1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	59461	20.0000	21.0	
	73	m+p-Xylenes	91	10.997	10.997	(1.025)	457160	40.0000	41.3	
	74	o-Xylene	91	11.496	11.497	(1.072)	227734	20.0000	20.7	
	75	Styrene	104	11.561	11.561	(1.078)	185682	20.0000	20.3	
	76	Bromoform	173	11.567	11.567	(1.078)	38034	20.0000	19.8	
	77	Isopropylbenzene	105	11.878	11.878	(0.884)	288740	20.0000	21.1	
$	78	P-Bromofluorobenzene	95	12.184	12.184	(1.755)	362762	50.0000	49.3	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6324.D
Report Date: 27-Nov-2018 11:49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
79	cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	22341	20.0000	21.0	
80	Bromobenzene	156	12.283	12.284	(0.914)	69715	20.0000	19.4	
81	N-Propylbenzene	91	12.354	12.354	(0.919)	367268	20.0000	20.6	
82	1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	67853	20.0000	20.1	
83	2-Chlorotoluene	91	12.513	12.507	(0.931)	199025	20.0000	20.6	
84	1,2,3-Trichloropropane	75	12.571	12.572	(0.935)	59607	20.0000	1.9	
85	1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	238682	20.0000	20.5	
86	trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	15935	20.0000	18.7	
87	4-Chlorotoluene	91	12.701	12.701	(0.945)	204899	20.0000	20.6	
88	tert-Butylbenzene	119	12.942	12.942	(0.963)	240701	20.0000	20.1	
89	Pentachloroethane	117	12.947	12.942	(0.963)	47051	20.0000	19.7	
90	1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	236305	20.0000	20.3	
91	sec-Butylbenzene	105	13.141	13.142	(0.978)	340142	20.0000	20.8	
92	P-Isopropyltoluene	119	13.312	13.312	(0.990)	287946	20.0000	20.9	
93	1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	135613	20.0000	20.0	
* 94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	425597	50.0000		
95	1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	143072	20.0000	20.3	
96	1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	238941	20.0000	20.3	
97	N-Butylbenzene	91	13.776	13.776	(1.025)	291393	20.0000	20.9	
98	1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	124674	20.0000	19.9	
99	1,2-Dibromo-3-Chloropropane	157	14.792	14.799	(1.101)	13333	20.0000	20.6	
100	1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	101188	20.0000	19.5	
101	Hexachlorobutadiene	225	15.515	15.515	(1.154)	48691	20.0000	18.9	
102	1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	88850	20.0000	18.7	
103	Naphthalene	128	15.885	15.886	(1.182)	208374	20.0000	19.5	
104	1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	79373	20.0000	19.1	
M 105	Total Alkylbenzenes	100				2002437	20.0000	144	



Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6324.D
Date : 01-NOV-2018 17:01
Client ID:
Sample Info: WG239831-3
Purge Volume: 5.0
Column phase: RTX-VMS

Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18

\\target_server\gg\chem\gcms-w.i\W110118B.b\W6324.D

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6325.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110118B.b\W6325.D
Lab Smp Id: WG239831-2
Inj Date : 01-NOV-2018 17:31
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG239831-2
Misc Info :
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:24 jsampson   Quant Type: ISTD
Cal Date : 01-NOV-2018 17:31   Cal File: W6325.D
Als bottle: 3   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

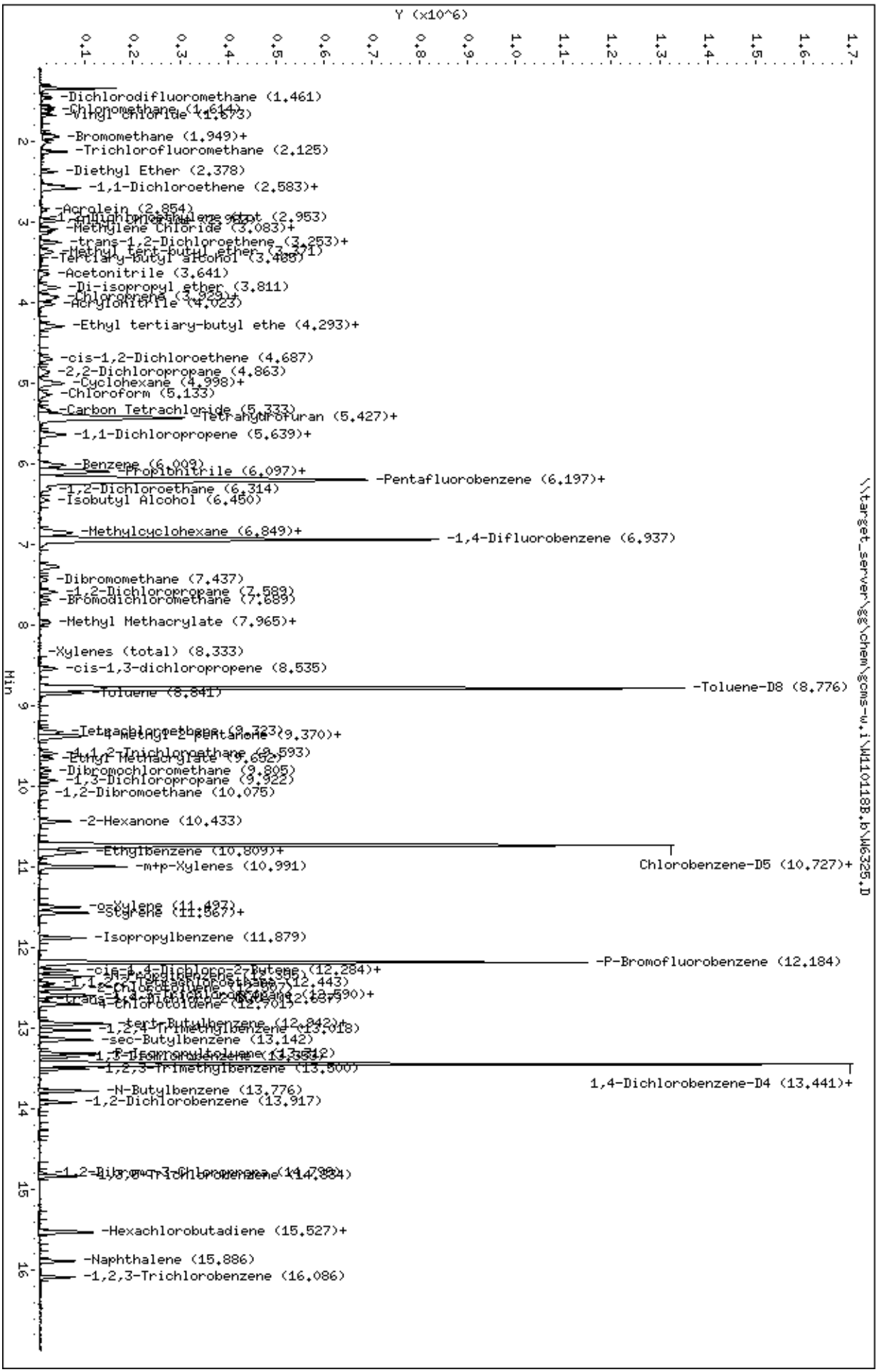
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	13653	5.00000	5.0	
2	Chloromethane	50	1.613	1.614	(0.261)	17435	5.00000	5.2	
3	Vinyl chloride	62	1.672	1.673	(0.270)	17319	5.00000	4.9	
4	Bromomethane	94	1.919	1.919	(0.310)	4330	5.00000	4.9	
5	Chloroethane	64	2.019	2.013	(0.326)	12334	5.00000	5.7	
6	Trichlorofluoromethane	101	2.131	2.125	(0.345)	34760	5.00000	4.8	
7	Diethyl Ether	59	2.377	2.378	(0.384)	13283	5.00000	5.0	
8	1,1-Dichloroethene	96	2.554	2.548	(0.413)	15144	5.00000	5.2	
9	Freon-113	151	2.589	2.577	(0.419)	13428	5.00000	5.0	
10	Carbon Disulfide	76	2.583	2.583	(0.418)	45413	5.00000	5.3	
11	Iodomethane	142	2.683	2.683	(0.434)	2225	5.00000	2.8	
12	Acrolein	56	2.853	2.854	(0.461)	10113	25.0000	27.9	
13	Allyl Chloride	41	2.982	2.983	(0.482)	25071	5.00000	5.1	
14	Methylene Chloride	84	3.082	3.089	(0.498)	14851	5.00000	5.1	
15	Acetone	43	3.135	3.136	(0.507)	24084	25.0000	28.3	
16	trans-1,2-Dichloroethene	96	3.253	3.253	(0.526)	14734	5.00000	5.2	
17	Methyl Acetate	43	3.264	3.265	(0.528)	12818	5.00000	5.2	
18	Methyl tert-butyl ether	73	3.376	3.371	(0.546)	35061	5.00000	5.4	
19	Tertiary-butyl alcohol	59	3.470	3.482	(0.561)	5350	25.0000	29.7	
20	Acetonitrile	39	3.641	3.635	(0.589)	5970	50.0000	63.2	
21	Di-isopropyl ether	45	3.817	3.817	(0.617)	47421	5.00000	4.9	
M 22	1,2-Dichloroethylene (total)	96				31743	5.00000	10.5	
23	Chloroprene	53	3.923	3.923	(0.634)	23505	5.00000	5.3	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6325.D
Report Date: 27-Nov-2018 11:49

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24	1,1-Dichloroethane	63	3.952	3.952	(0.639)	29093	5.00000	5.3	
	25	Acrylonitrile	52	4.017	4.022	(0.649)	23581	25.0000	25.0	
	26	Ethyl tertiary-butyl ether	59	4.293	4.287	(0.694)	38583	5.00000	4.9	
	27	Vinyl Acetate	43	4.293	4.299	(0.619)	36229	5.00000	5.0	
	28	cis-1,2-Dichloroethene	96	4.692	4.698	(0.759)	17009	5.00000	5.3	
	29	2,2-Dichloropropane	77	4.863	4.857	(0.786)	16565	5.00000	4.6	
	30	Cyclohexane	56	5.004	4.992	(0.809)	25014	5.00000	4.8	
	31	Bromochloromethane	128	4.998	4.998	(0.808)	6908	5.00000	4.9	
	32	Chloroform	83	5.133	5.139	(0.830)	26557	5.00000	5.3	
	33	Carbon Tetrachloride	117	5.327	5.333	(0.768)	17671	5.00000	4.8	
	34	Tetrahydrofuran	42	5.391	5.380	(0.872)	28725	25.0000	28.1	
$	35	Dibromofluoromethane	113	5.427	5.427	(0.877)	247888	50.0000	50.8	
	36	1,1,1-Trichloroethane	97	5.438	5.439	(0.879)	23420	5.00000	5.2	
	37	1,1-Dichloropropene	75	5.638	5.639	(0.813)	20685	5.00000	5.1	
	38	2-Butanone	43	5.632	5.633	(0.911)	41888	25.0000	28.3	
	39	Benzene	78	6.008	6.009	(0.866)	61412	5.00000	5.1	
	40	Propionitrile	54	6.061	6.067	(0.980)	26317	50.0000	56.3	
	41	Methacrylonitrile	41	6.091	6.097	(0.985)	105436	50.0000	52.3	
*	42	Pentafluorobenzene	168	6.185	6.185	(1.000)	526142	50.0000		
	43	Tertiary-amyl methyl ether	73	6.243	6.238	(1.009)	34222	5.00000	4.8	
$	44	1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	294974	50.0000	49.8	
	45	1,2-Dichloroethane	62	6.314	6.314	(0.910)	20386	5.00000	5.2	
	46	Isobutyl Alcohol	43	6.443	6.449	(1.042)	17160	100.000	123	
	47	Methylcyclohexane	83	6.843	6.843	(1.106)	29028	5.00000	4.9	
	48	Trichloroethene	95	6.866	6.867	(0.990)	15215	5.00000	5.0	
*	49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	853161	50.0000		
	50	Dibromomethane	93	7.442	7.442	(1.073)	8517	5.00000	4.9	
	51	1,2-Dichloropropane	63	7.577	7.589	(1.092)	15172	5.00000	4.8	
	52	Bromodichloromethane	83	7.695	7.695	(1.109)	17758	5.00000	4.8	
	53	Methyl Methacrylate	41	7.965	7.959	(1.148)	12791	5.00000	4.9	
	54	1,4-Dioxane	88	7.971	7.983	(1.149)	6005	100.000	139	
M	56	Xylenes (total)	91				159044	15.0000	14.5	
	57	cis-1,3-dichloropropene	75	8.535	8.541	(1.230)	23893	5.00000	5.0	
$	58	Toluene-D8	98	8.782	8.782	(1.266)	1043119	50.0000	50.7	
	59	Toluene	92	8.846	8.847	(1.275)	39886	5.00000	5.2	
	60	Tetrachloroethene	164	9.328	9.328	(0.870)	12702	5.00000	5.0	
	61	4-methyl-2-pentanone	43	9.369	9.370	(1.351)	76823	25.0000	25.8	
	62	trans-1,3-Dichloropropene	75	9.393	9.399	(1.354)	19510	5.00000	4.9	
	63	1,1,2-Trichloroethane	83	9.587	9.593	(1.382)	11409	5.00000	5.3	
	64	Ethyl Methacrylate	69	9.651	9.657	(1.391)	17434	5.00000	5.0	
	65	Dibromochloromethane	129	9.798	9.804	(0.913)	12571	5.00000	4.7	
	66	1,3-Dichloropropane	76	9.922	9.922	(0.925)	21895	5.00000	4.8	
	67	1,2-Dibromoethane	107	10.068	10.075	(1.451)	12605	5.00000	5.0	
	68	2-Hexanone	43	10.433	10.433	(0.973)	51663	25.0000	26.1	
*	69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	788828	50.0000		
	70	Chlorobenzene	112	10.744	10.750	(1.002)	43662	5.00000	5.1	
	71	Ethylbenzene	91	10.809	10.809	(1.008)	71417	5.00000	5.0	
	72	1,1,1,2-Tetrachloroethane	131	10.844	10.844	(1.011)	14100	5.00000	5.0	
	73	m+p-Xylenes	91	10.991	10.997	(1.025)	106928	10.0000	9.7	
	74	o-Xylene	91	11.496	11.497	(1.072)	52116	5.00000	4.8	
	75	Styrene	104	11.567	11.561	(1.078)	44162	5.00000	4.9	
	76	Bromoform	173	11.573	11.567	(1.079)	8052	5.00000	4.5	
	77	Isopropylbenzene	105	11.878	11.878	(0.884)	65937	5.00000	5.0	
$	78	P-Bromofluorobenzene	95	12.184	12.184	(1.756)	344913	50.0000	49.2	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6325.D
Report Date: 27-Nov-2018 11:49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.284	12.278	(0.914)	4834	5.00000	4.8	
	80 Bromobenzene	156	12.284	12.284	(0.914)	18200	5.00000	5.5	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	89536	5.00000	5.2	
	82 1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	16671	5.00000	5.3	
	83 2-Chlorotoluene	91	12.507	12.507	(0.930)	47662	5.00000	5.2	
	84 1,2,3-Trichloropropane	75	12.571	12.572	(0.935)	14525	5.00000	5.4	
	85 1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	56087	5.00000	5.1	
	86 trans-1,4-Dichloro-2-Butene	53	12.636	12.636	(0.940)	3579	5.00000	4.8	
	87 4-Chlorotoluene	91	12.701	12.701	(0.945)	48276	5.00000	5.1	
	88 tert-Butylbenzene	119	12.942	12.942	(0.963)	55351	5.00000	5.0	
	89 Pentachloroethane	117	12.947	12.942	(0.963)	10507	5.00000	4.9	
	90 1,2,4-Trimethylbenzene	105	13.018	13.024	(0.969)	58818	5.00000	5.3	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	77496	5.00000	5.0	
	92 P-Isopropyltoluene	119	13.312	13.312	(0.990)	67115	5.00000	5.1	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	31338	5.00000	5.0	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	394340	50.0000		
	95 1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	32498	5.00000	5.0	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	53938	5.00000	5.0	
	97 N-Butylbenzene	91	13.776	13.776	(1.025)	66887	5.00000	5.0	
	98 1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	30472	5.00000	5.2	
	99 1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	3091	5.00000	5.2	
	100 1,3,5-Trichlorobenzene	180	14.834	14.834	(1.104)	25659	5.00000	5.3	
	101 Hexachlorobutadiene	225	15.521	15.515	(1.155)	11741	5.00000	5.1	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	22526	5.00000	5.4	
	103 Naphthalene	128	15.885	15.886	(1.182)	52669	5.00000	5.5	
	104 1,2,3-Trichlorobenzene	180	16.079	16.085	(1.196)	20388	5.00000	5.5	
M	105 Total Alkylbenzenes	100				471290	5.00000	35.7	


Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6325.D
Date : 01-NOV-2018 17:31
Client ID:
Sample Info: WG239831-2
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W110118B.b\W6325.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.614)
-Vinyl Chloride (1.673)
-Bromomethane (1.949)+
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.583)+
-Acrolein (2.854)
-Methylene Chloride (3.083)+
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.271)
-Tertiary-butyl alcohol (3.488)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.811)
-Chloroprene (3.929)+
-Acrylonitrile (4.023)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.687)
-2,2-Dichloropropane (4.863)
-Cyclohexane (4.998)+
-Chloroform (5.133)
-Carbon Tetrachloride (5.333)
-Tetrahydrofuran (5.427)+
-1,1-Dichloropropene (5.639)+
-Benzene (6.009)
-Propionitrile (6.097)+
-Pentafluorobenzene (6.197)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.450)
-Methylcyclohexane (6.849)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.437)
-1,2-Dichloropropane (7.583)
-Bromodichloromethane (7.689)
-Methyl Methacrylate (7.965)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.535)
-Toluene-D8 (8.776)
-Toluene (8.841)
-Tetrachloroethene (9.323)
-4-Methyl-2-pentanone (9.370)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.692)
-Dibromochloromethane (9.805)
-1,3-Dichloropropane (9.922)
-1,2-Dibromoethane (10.075)
-2-Hexanone (10.433)
-Ethylbenzene (10.809)+
-m+p-Xylenes (10.991)
Chlorobenzene-D5 (10.727)+
-o-Xylene (11.497)
-Styrene (11.567)+
-Isopropylbenzene (11.879)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.284)+
-Bromoform (12.358)
-1,1,2,2-Tetrachloroethane (12.443)
-Chlorotoluene-2 (12.567)
-trans-1,4-Dichloro-2-Butene (12.590)+
-4-Chlorotoluene (12.701)
-tert-Butylbenzene (12.842)+
-1,2,4-Trimethylbenzene (13.018)
-sec-Butylbenzene (13.142)
-P-Isopropyltoluene (13.312)
-1,3-Dichlorobenzene (13.388)
-1,2,3-Trimethylbenzene (13.500)
1,4-Dichlorobenzene-D4 (13.441)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropane (14.738)
-1,3,5-Trichlorobenzene (14.884)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.086)

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6326.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110118B.b\W6326.D
Lab Smp Id: WG239831-1
Inj Date : 01-NOV-2018 18:01
Operator : HG Inst ID: gcms-w.i
Smp Info : WG239831-1
Misc Info :
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:24 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 18:01 Cal File: W6326.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	2052	1.00000	0.82(a)	
2	Chloromethane	50	1.613	1.614	(0.261)	3465	1.00000	1.2	
3	Vinyl chloride	62	1.672	1.673	(0.270)	3189	1.00000	1.0	
4	Bromomethane	94	1.919	1.919	(0.310)	1305	1.00000	1.4	
5	Chloroethane	64	2.013	2.013	(0.325)	1440	1.00000	0.84(a)	
6	Trichlorofluoromethane	101	2.130	2.125	(0.344)	6501	1.00000	1.0	
7	Diethyl Ether	59	2.377	2.378	(0.384)	2864	1.00000	1.2	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	3002	1.00000	1.1	
9	Freon-113	151	2.571	2.577	(0.415)	2935	1.00000	1.2	
10	Carbon Disulfide	76	2.583	2.583	(0.417)	11121	1.00000	1.4	
11	Iodomethane	142	2.689	2.683	(0.434)	583	1.00000	0.71(aM)	M6
12	Acrolein	56	2.847	2.854	(0.460)	2750	5.00000	7.9	
13	Allyl Chloride	41	2.982	2.983	(0.482)	4701	1.00000	1.1	
14	Methylene Chloride	84	3.088	3.089	(0.499)	3412	1.00000	1.2(a)	
15	Acetone	43	3.141	3.136	(0.507)	5826	5.00000	7.2	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	2549	1.00000	0.98(a)	
17	Methyl Acetate	43	3.264	3.265	(0.527)	3455	1.00000	1.4	
18	Methyl tert-butyl ether	73	3.376	3.371	(0.545)	6570	1.00000	1.2(M)	M9
19	Tertiary-butyl alcohol	59	3.476	3.482	(0.562)	1197	5.00000	6.8	
20	Acetonitrile	39	3.641	3.635	(0.588)	1591	10.0000	17.6(aM)	M9
21	Di-isopropyl ether	45	3.805	3.817	(0.615)	8740	1.00000	0.97(a)	
M 22	1,2-Dichloroethylene (total)	96				6191	1.00000	2.2	
23	Chloroprene	53	3.917	3.923	(0.633)	4411	1.00000	1.1	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6326.D
Report Date: 27-Nov-2018 11:49

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24 1,1-Dichloroethane	63	3.952	3.952	(0.638)	5541	1.00000	1.1	
	25 Acrylonitrile	52	4.017	4.022	(0.649)	6655	5.00000	7.1	
	26 Ethyl tertiary-butyl ether	59	4.281	4.287	(0.692)	7098	1.00000	0.98(a)	
	27 Vinyl Acetate	43	4.293	4.299	(0.619)	6605	1.00000	0.98(a)	
	28 cis-1,2-Dichloroethene	96	4.710	4.698	(0.761)	3642	1.00000	1.2	
	29 2,2-Dichloropropane	77	4.874	4.857	(0.787)	3492	1.00000	1.0(M)	M9
	30 Cyclohexane	56	4.992	4.992	(0.806)	4743	1.00000	0.97(a)	
	31 Bromochloromethane	128	4.998	4.998	(0.807)	1154	1.00000	0.97(aM)	M9
	32 Chloroform	83	5.145	5.139	(0.831)	4932	1.00000	1.1	
	33 Carbon Tetrachloride	117	5.327	5.333	(0.768)	3180	1.00000	0.93(a)	
	34 Tetrahydrofuran	42	5.391	5.380	(0.871)	5452	5.00000	5.8	
$	35 Dibromofluoromethane	113	5.421	5.427	(0.876)	224824	50.0000	49.7	
	36 1,1,1-Trichloroethane	97	5.462	5.439	(0.882)	3966	1.00000	0.96(a)	
	37 1,1-Dichloropropene	75	5.644	5.639	(0.814)	3459	1.00000	0.92(a)	
	38 2-Butanone	43	5.632	5.633	(0.910)	8613	5.00000	6.3	
	39 Benzene	78	6.002	6.009	(0.865)	11425	1.00000	1.0(M)	M9
	40 Propionitrile	54	6.073	6.067	(0.981)	5093	10.0000	12.1	
	41 Methacrylonitrile	41	6.097	6.097	(0.985)	20822	10.0000	11.2	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	488660	50.0000		
	43 Tertiary-amyl methyl ether	73	6.243	6.238	(1.009)	7986	1.00000	1.2	
$	44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	273583	50.0000	49.6	
	45 1,2-Dichloroethane	62	6.308	6.314	(0.909)	5074	1.00000	1.3	
	46 Isobutyl Alcohol	43	6.431	6.449	(1.039)	3364	20.0000	26.5	
	47 Methylcyclohexane	83	6.843	6.843	(1.105)	4653	1.00000	0.87(a)	
	48 Trichloroethene	95	6.872	6.867	(0.991)	3035	1.00000	1.1	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	793135	50.0000		
	50 Dibromomethane	93	7.448	7.442	(1.074)	1920	1.00000	1.1(M)	M9
	51 1,2-Dichloropropane	63	7.583	7.589	(1.093)	4002	1.00000	1.3	
	52 Bromodichloromethane	83	7.689	7.695	(1.108)	3076	1.00000	0.90(aM)	M9
	53 Methyl Methacrylate	41	7.953	7.959	(1.147)	2675	1.00000	1.1	
	54 1,4-Dioxane	88	7.971	7.983	(1.149)	1356	20.0000	31.4	
M	56 Xylenes (total)	91				26644	3.00000	2.7(a)	
	57 cis-1,3-dichloropropene	75	8.535	8.541	(1.230)	4553	1.00000	0.99(a)	
$	58 Toluene-D8	98	8.782	8.782	(1.266)	965817	50.0000	50.0	
	59 Toluene	92	8.840	8.847	(1.274)	6552	1.00000	0.92(a)	
	60 Tetrachloroethene	164	9.322	9.328	(0.869)	2532	1.00000	1.1	
	61 4-methyl-2-pentanone	43	9.375	9.370	(1.351)	14996	5.00000	5.4	
	62 trans-1,3-Dichloropropene	75	9.393	9.399	(1.354)	3705	1.00000	0.97(a)	
	63 1,1,2-Trichloroethane	83	9.592	9.593	(1.383)	1929	1.00000	0.96(a)	
	64 Ethyl Methacrylate	69	9.663	9.657	(1.393)	2664	1.00000	0.81(a)	
	65 Dibromochloromethane	129	9.804	9.804	(0.914)	2199	1.00000	0.87(a)	
	66 1,3-Dichloropropane	76	9.922	9.922	(0.925)	4128	1.00000	0.96(a)	
	67 1,2-Dibromoethane	107	10.074	10.075	(1.452)	2605	1.00000	1.1(T)	
	68 2-Hexanone	43	10.433	10.433	(0.973)	10545	5.00000	5.7	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	732233	50.0000		
	70 Chlorobenzene	112	10.744	10.750	(1.002)	7374	1.00000	0.96(a)	
	71 Ethylbenzene	91	10.809	10.809	(1.008)	13885	1.00000	1.0	
	72 1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	2160	1.00000	0.84(a)	
	73 m+p-Xylenes	91	10.997	10.997	(1.025)	17677	2.00000	1.8(a)	
	74 o-Xylene	91	11.496	11.497	(1.072)	8967	1.00000	0.90(a)	
	75 Styrene	104	11.561	11.561	(1.078)	7686	1.00000	0.93(a)	
	76 Bromoform	173	11.567	11.567	(1.078)	1881	1.00000	1.1(T)	
	77 Isopropylbenzene	105	11.878	11.878	(0.884)	10318	1.00000	0.88(a)	
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	309507	50.0000	47.0	

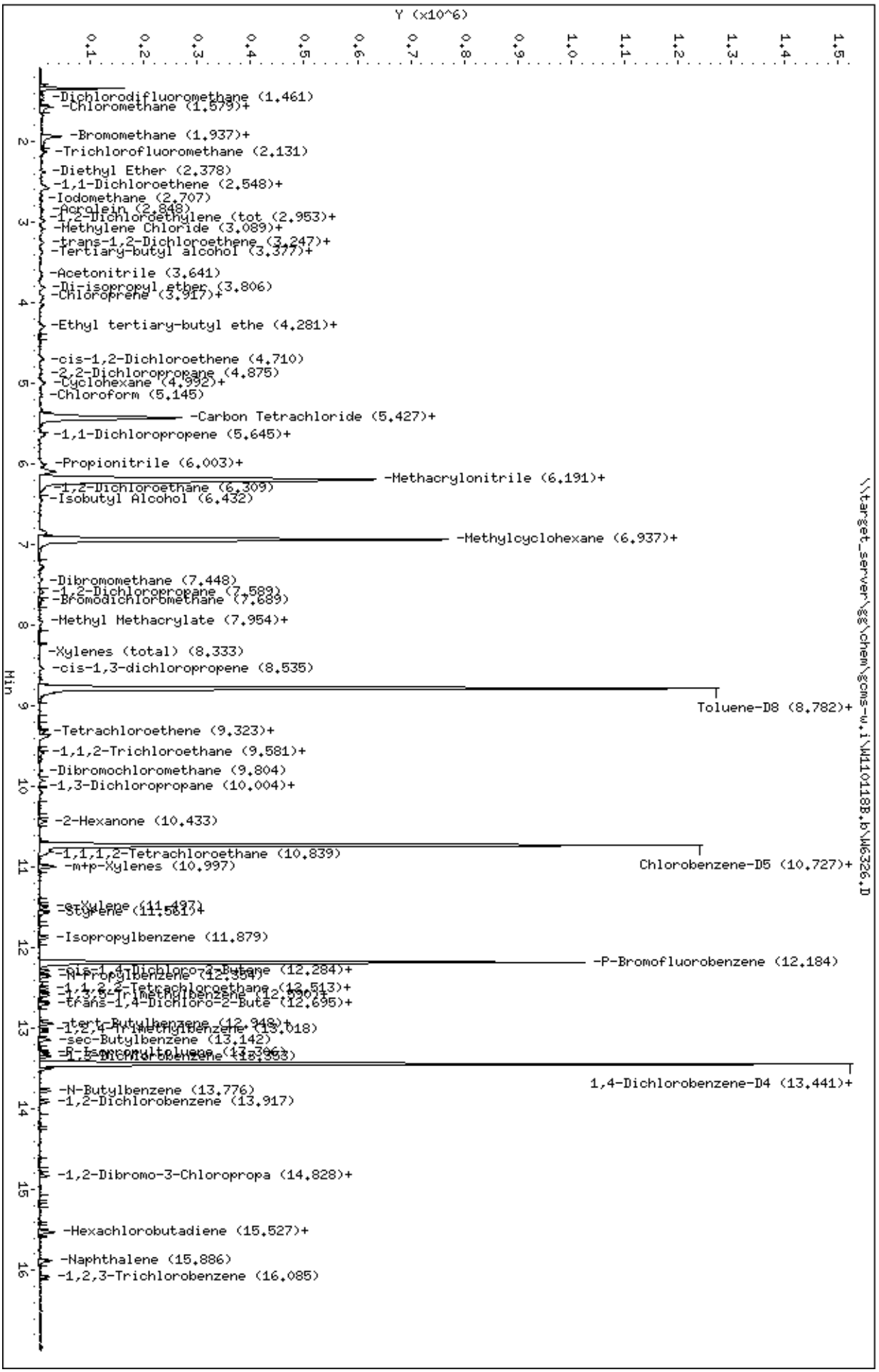
Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6326.D
Report Date: 27-Nov-2018 11:49

9:38 am, Nov 02, 2017

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	759	1.00000	0.83(a)	
	80 Bromobenzene	156	12.283	12.284	(0.914)	3423	1.00000	1.1	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	14468	1.00000	0.95(a)	
	82 1,1,2,2-Tetrachloroethane	83	12.436	12.442	(0.925)	3496	1.00000	1.2	
	83 2-Chlorotoluene	91	12.513	12.507	(0.931)	8531	1.00000	1.0	
	84 1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	2440	1.00000	1.0(M)	M6
	85 1,3,5-Trimethylbenzene	105	12.583	12.589	(0.936)	9230	1.00000	0.93(a)	
	86 trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	948	1.00000	1.3	
	87 4-Chlorotoluene	91	12.695	12.701	(0.944)	8507	1.00000	1.00	
	88 tert-Butylbenzene	119	12.942	12.942	(0.963)	10270	1.00000	1.0	
	89 Pentachloroethane	117	12.942	12.942	(0.963)	2096	1.00000	1.0	
	90 1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	9146	1.00000	0.92(a)	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	13789	1.00000	0.99(a)	
	92 P-Isopropyltoluene	119	13.312	13.312	(0.990)	10166	1.00000	0.86(a)	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	6576	1.00000	1.1	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	364032	50.0000		
	95 1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	7238	1.00000	1.2	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	11144	1.00000	1.1	
	97 N-Butylbenzene	91	13.776	13.776	(1.025)	11541	1.00000	0.97(a)	
	98 1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	5584	1.00000	1.0	
	99 1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	608	1.00000	1.1	
	100 1,3,5-Trichlorobenzene	180	14.839	14.834	(1.104)	4850	1.00000	1.1	
	101 Hexachlorobutadiene	225	15.515	15.515	(1.154)	2791	1.00000	1.3	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	5489	1.00000	1.3	
	103 Naphthalene	128	15.885	15.886	(1.182)	12952	1.00000	1.4	
	104 1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	4887	1.00000	1.4	
M	105 Total Alkylbenzenes	100				78610	1.00000	6.6(a)	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6326.D
Date : 01-NOV-2018 18:01
Client ID:
Sample Info: WG239831-1
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W110118B.b\W6326.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.579)+
-Bromomethane (1.937)+
-Trichlorofluoromethane (2.131)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.548)+
-Iodomethane (2.707)
-Acrolein (2.848)
-1,2-Dichloroethylene (tot (2.953)+
-Methylene Chloride (3.089)+
-trans-1,2-Dichloroethene (3.247)+
-Tertiary-butyl alcohol (3.377)+
-Acetonitrile (3.641)
-Di-isopropyl ether (3.806)
-Chloroprene (3.917)+
-Ethyl tertiary-butyl ethe (4.281)+
-cis-1,2-Dichloroethene (4.710)
-2,2-Dichloropropane (4.875)
-Cyclohexane (4.992)+
-Chloroform (5.145)
-Carbon Tetrachloride (5.427)+
-1,1-Dichloropropene (5.645)+
-Propionitrile (6.003)+
-Methacrylonitrile (6.191)+
-1,2-Dichloroethane (6.309)
-Isobutyl Alcohol (6.432)
-Methylcyclohexane (6.937)+
-Dibromomethane (7.448)
-1,2-Dichloropropane (7.589)
-Bromodichloromethane (7.689)
-Methyl Methacrylate (7.954)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.535)
Toluene-D8 (8.782)+
-Tetrachloroethene (9.323)+
-1,1,2-Trichloroethane (9.581)+
-Dibromochloromethane (9.804)
-1,3-Dichloropropane (10.004)+
-2-Hexanone (10.433)
-1,1,1,2-Tetrachloroethane (10.839)
-m+p-Xylenes (10.997)
Chlorobenzene-D5 (10.727)+
-o-Xylene (11.497)
-Styrene (11.561)+
-Isopropylbenzene (11.879)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.284)+
-N-Propylbenzene (12.364)
-1,1,2,2-Tetrachloroethane (12.513)+
-2-Chlorotoluene (12.590)+
-trans-1,4-Dichloro-2-Bute (12.695)+
-tert-Butylbenzene (12.948)+
-1,2,4-Trimethylbenzene (13.018)
-sec-Butylbenzene (13.142)
-P-Isopropyltoluene (13.306)
-1,3-Dichlorobenzene (13.353)
1,4-Dichlorobenzene-D4 (13.441)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.828)+
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.085)

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6327.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110118B.b\W6327.D
Lab Smp Id: WG239831-6
Inj Date : 01-NOV-2018 18:31
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG239831-6
Misc Info :
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:24 jsampson   Quant Type: ISTD
Cal Date : 01-NOV-2018 18:31   Cal File: W6327.D
Als bottle: 5   Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	346435	150.000	118	
2	Chloromethane	50	1.613	1.614	(0.261)	438414	150.000	126	
3	Vinyl chloride	62	1.672	1.673	(0.270)	444956	150.000	124	
4	Bromomethane	94	1.919	1.919	(0.310)	140221	150.000	128	
5	Chloroethane	64	2.001	2.013	(0.323)	240598	150.000	119	
6	Trichlorofluoromethane	101	2.125	2.125	(0.343)	965022	150.000	129	
7	Diethyl Ether	59	2.371	2.378	(0.383)	361821	150.000	129	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	393801	150.000	127	
9	Freon-113	151	2.577	2.577	(0.416)	370872	150.000	128	
10	Carbon Disulfide	76	2.583	2.583	(0.417)	1138933	150.000	121	
11	Iodomethane	142	2.683	2.683	(0.433)	163652	150.000	170(A)	
12	Acrolein	56	2.853	2.854	(0.461)	234955	750.000	573	
13	Allyl Chloride	41	2.982	2.983	(0.482)	663144	150.000	128	
14	Methylene Chloride	84	3.088	3.089	(0.499)	409833	150.000	128	
15	Acetone	43	3.141	3.136	(0.507)	543432	750.000	572	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	403459	150.000	133	
17	Methyl Acetate	43	3.258	3.265	(0.526)	347225	150.000	123	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.544)	674033	150.000	104	
19	Tertiary-butyl alcohol	59	3.482	3.482	(0.562)	114753	750.000	556	
20	Acetonitrile	39	3.640	3.635	(0.588)	104399	1500.00	984	
21	Di-isopropyl ether	45	3.805	3.817	(0.615)	1453300	150.000	138	
M 22	1,2-Dichloroethylene (total)	96				872932	150.000	266	
23	Chloroprene	53	3.922	3.923	(0.634)	650242	150.000	134	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6327.D
Report Date: 27-Nov-2018 11:49

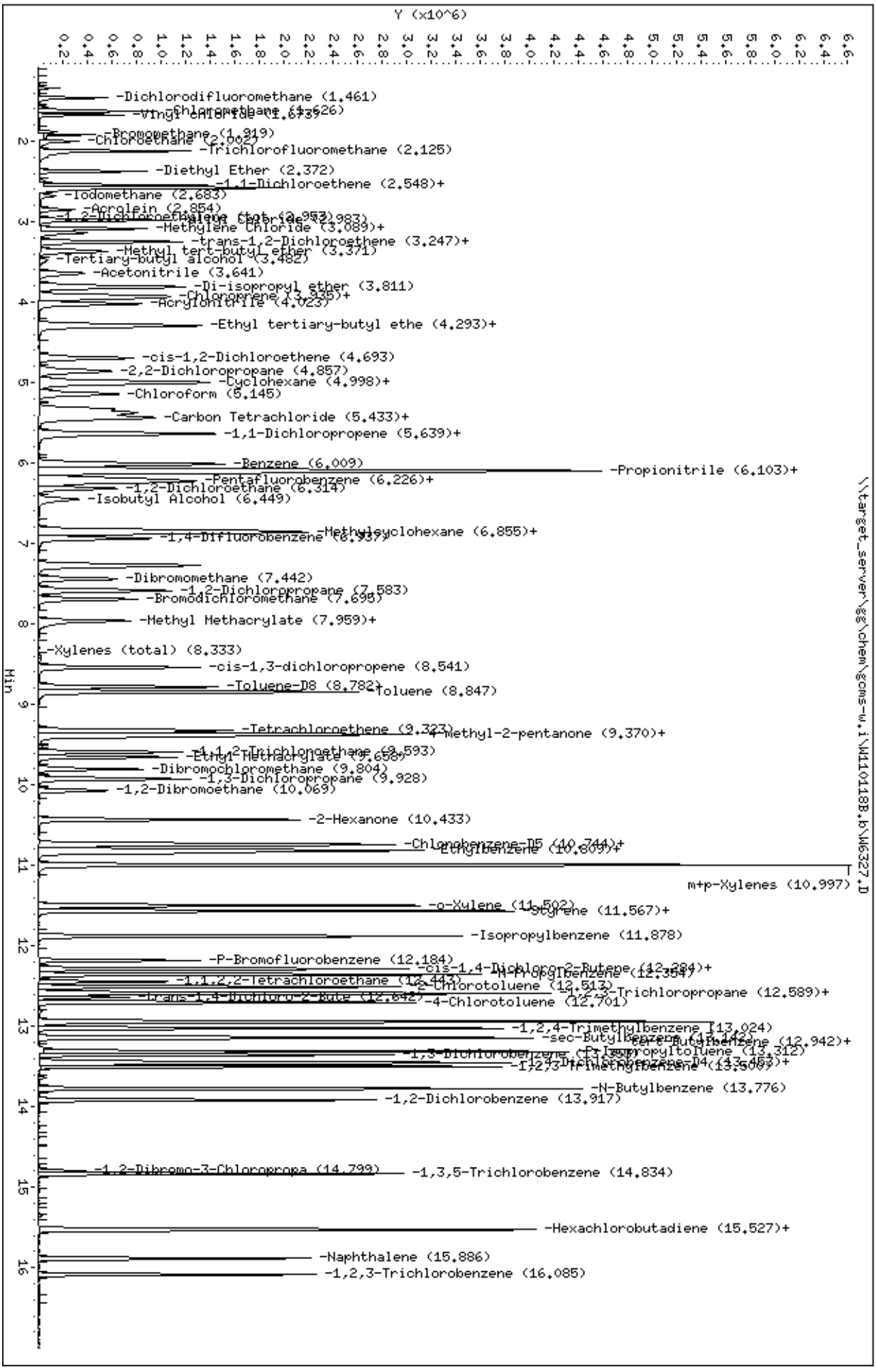
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24 1,1-Dichloroethane	63	3.952	3.952	(0.638)	814655	150.000	136	
	25 Acrylonitrile	52	4.022	4.022	(0.650)	698140	750.000	635	
	26 Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	1172393	150.000	138	
	27 Vinyl Acetate	43	4.298	4.299	(0.620)	1147331	150.000	147	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	469473	150.000	133	
	29 2,2-Dichloropropane	77	4.863	4.857	(0.786)	586293	150.000	146	
	30 Cyclohexane	56	4.992	4.992	(0.806)	833597	150.000	146	
	31 Bromochloromethane	128	5.004	4.998	(0.808)	172333	150.000	123	
	32 Chloroform	83	5.139	5.139	(0.830)	759799	150.000	139	
	33 Carbon Tetrachloride	117	5.333	5.333	(0.769)	588103	150.000	148	
	34 Tetrahydrofuran	42	5.380	5.380	(0.869)	708999	750.000	643	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	258910	50.0000	48.8	
	36 1,1,1-Trichloroethane	97	5.444	5.439	(0.879)	688574	150.000	142	
	37 1,1-Dichloropropene	75	5.638	5.639	(0.813)	642748	150.000	148	
	38 2-Butanone	43	5.638	5.633	(0.911)	1019685	750.000	634	
	39 Benzene	78	6.008	6.009	(0.866)	1886719	150.000	145	
	40 Propionitrile	54	6.073	6.067	(0.981)	624317	1500.00	1260	
	41 Methacrylonitrile	41	6.102	6.097	(0.986)	3061479	1500.00	1400	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	574065	50.0000		
	43 Tertiary-amyl methyl ether	73	6.232	6.238	(1.007)	1145576	150.000	143	
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	332789	50.0000	51.4	
	45 1,2-Dichloroethane	62	6.314	6.314	(0.910)	610047	150.000	139	
	46 Isobutyl Alcohol	43	6.449	6.449	(1.042)	338674	3000.00	2270	
	47 Methylcyclohexane	83	6.843	6.843	(1.105)	955567	150.000	152(A)	
	48 Trichloroethene	95	6.866	6.867	(0.990)	477608	150.000	147	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	916872	50.0000		
	50 Dibromomethane	93	7.436	7.442	(1.072)	292131	150.000	150(A)	
	51 1,2-Dichloropropane	63	7.583	7.589	(1.093)	512979	150.000	144	
	52 Bromodichloromethane	83	7.695	7.695	(1.109)	625569	150.000	159(A)	
	53 Methyl Methacrylate	41	7.959	7.959	(1.147)	448067	150.000	154(A)	
	54 1,4-Dioxane	88	7.988	7.983	(1.152)	71545	3000.00	1430	
M	56 Xylenes (total)	91				5598577	450.000	461	
	57 cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	834013	150.000	157(A)	
$	58 Toluene-D8	98	8.782	8.782	(1.266)	1145784	50.0000	51.3	
	59 Toluene	92	8.846	8.847	(1.275)	1245445	150.000	152(A)	
	60 Tetrachloroethene	164	9.328	9.328	(0.870)	398768	150.000	140	
	61 4-methyl-2-pentanone	43	9.369	9.370	(1.351)	2322223	750.000	724	
	62 trans-1,3-Dichloropropene	75	9.398	9.399	(1.355)	708844	150.000	161(A)	
	63 1,1,2-Trichloroethane	83	9.592	9.593	(1.383)	358873	150.000	155(A)	
	64 Ethyl Methacrylate	69	9.657	9.657	(1.392)	622748	150.000	163(A)	
	65 Dibromochloromethane	129	9.804	9.804	(0.914)	483853	150.000	157(A)	
	66 1,3-Dichloropropane	76	9.921	9.922	(0.925)	792489	150.000	152(A)	
	67 1,2-Dibromoethane	107	10.068	10.075	(1.451)	417940	150.000	151(A)	
	68 2-Hexanone	43	10.433	10.433	(0.973)	1530965	750.000	682	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	891643	50.0000		
	70 Chlorobenzene	112	10.750	10.750	(1.002)	1376129	150.000	147	
	71 Ethylbenzene	91	10.809	10.809	(1.008)	2397071	150.000	147	
	72 1,1,1,2-Tetrachloroethane	131	10.844	10.844	(1.011)	485373	150.000	155(A)	
	73 m+p-Xylenes	91	10.997	10.997	(1.025)	3730801	300.000	306(A)	
	74 o-Xylene	91	11.502	11.497	(1.072)	1867776	150.000	154(A)	
	75 Styrene	104	11.567	11.561	(1.078)	1535638	150.000	152(A)	
	76 Bromoform	173	11.567	11.567	(1.078)	329978	150.000	156(A)	
	77 Isopropylbenzene	105	11.878	11.878	(0.884)	2309169	150.000	145	
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	401960	50.0000	52.8	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6327.D
Report Date: 27-Nov-2018 11:49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
79	cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	191595	150.000	154(A)	
80	Bromobenzene	156	12.283	12.284	(0.914)	580994	150.000	139	
81	N-Propylbenzene	91	12.354	12.354	(0.919)	2924858	150.000	141	
82	1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	531593	150.000	135	
83	2-Chlorotoluene	91	12.513	12.507	(0.931)	1590192	150.000	141	
84	1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	462114	150.000	140	
85	1,3,5-Trimethylbenzene	105	12.595	12.589	(0.937)	1986465	150.000	146	
86	trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	142449	150.000	143	
87	4-Chlorotoluene	91	12.701	12.701	(0.945)	1653602	150.000	142	
88	tert-Butylbenzene	119	12.941	12.942	(0.963)	2073166	150.000	148	
89	Pentachloroethane	117	12.947	12.942	(0.963)	425426	150.000	153(A)	
90	1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	1995552	150.000	147	
91	sec-Butylbenzene	105	13.141	13.142	(0.978)	2733293	150.000	143	
92	P-Isopropyltoluene	119	13.312	13.312	(0.990)	2379448	150.000	148	
93	1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	1122624	150.000	142	
* 94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	496443	50.0000		
95	1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	1163482	150.000	141	
96	1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	1976298	150.000	144	
97	N-Butylbenzene	91	13.776	13.776	(1.025)	2348360	150.000	145	
98	1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	1053285	150.000	144	
99	1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	104043	150.000	138	
100	1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	865940	150.000	143	
101	Hexachlorobutadiene	225	15.521	15.515	(1.155)	424278	150.000	141	
102	1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	770928	150.000	139	
103	Naphthalene	128	15.885	15.886	(1.182)	1549099	150.000	124	
104	1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	646201	150.000	133	
M 105	Total Alkylbenzenes	100				16441142	150.000	1020	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6327.D
Date : 01-NOV-2018 18:31
Client ID:
Sample Info: WG239831-6
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W110118B.b\W6327.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.626)
-Vinyl Chloride (1.673)
-Bromomethane (1.919)
-Chloroethane (2.002)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.372)
-1,1-Dichloroethene (2.548)+
-Iodomethane (2.683)
-Acrolein (2.854)
-1,2-Dichloroethene, total (2.953)
-Methylene Chloride (3.089)+
-trans-1,2-Dichloroethene (3.247)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.482)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.811)
-Chloroprene (3.935)+
-Acrylonitrile (4.023)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.693)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.998)+
-Chloroform (5.145)
-Carbon Tetrachloride (5.433)+
-1,1-Dichloropropene (5.639)+
-Benzene (6.009)
-Propionitrile (6.103)+
-Pentafluorobenzene (6.226)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.449)
-Methylcyclohexane (6.855)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.442)
-1,2-Dichloropropane (7.583)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.959)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.541)
-Toluene-D8 (8.782)
Toluene (8.847)
-Tetrachloroethene (9.323)
4-Methyl-2-pentanone (9.370)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.658)
-Dibromochloromethane (9.804)
-1,3-Dichloropropane (9.928)
-1,2-Dibromoethane (10.069)
-2-Hexanone (10.433)
-Chlorobenzene-D5 (10.744)+
Ethylbenzene (10.809)+
m+p-Xylenes (10.997)
-o-Xylene (11.502)
Styrene (11.567)+
-Isopropylbenzene (11.878)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.284)+
n-Propylbenzene (12.354)
-1,1,2,2-Tetrachloroethane (12.443)
2-Chlorotoluene (12.513)
1,2,3-Trichloropropane (12.589)+
-trans-1,4-Dichloro-2-Bute (12.642)
-4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.024)
-sec-Butylbenzene (12.942)+
tert-Butylbenzene
-1,3-Dichlorobenzene
p-Isopropyltoluene (13.312)
-1,4-Dichlorobenzene-D4 (13.463)+
-1,2,3-Trimethylbenzene (13.509)
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.799)
-1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.085)

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6328.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110118B.b\W6328.D
Lab Smp Id: WG239831-5
Inj Date : 01-NOV-2018 19:01
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG239831-5
Misc Info :
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:24 jsampson   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:01   Cal File: W6328.D
Als bottle: 6   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

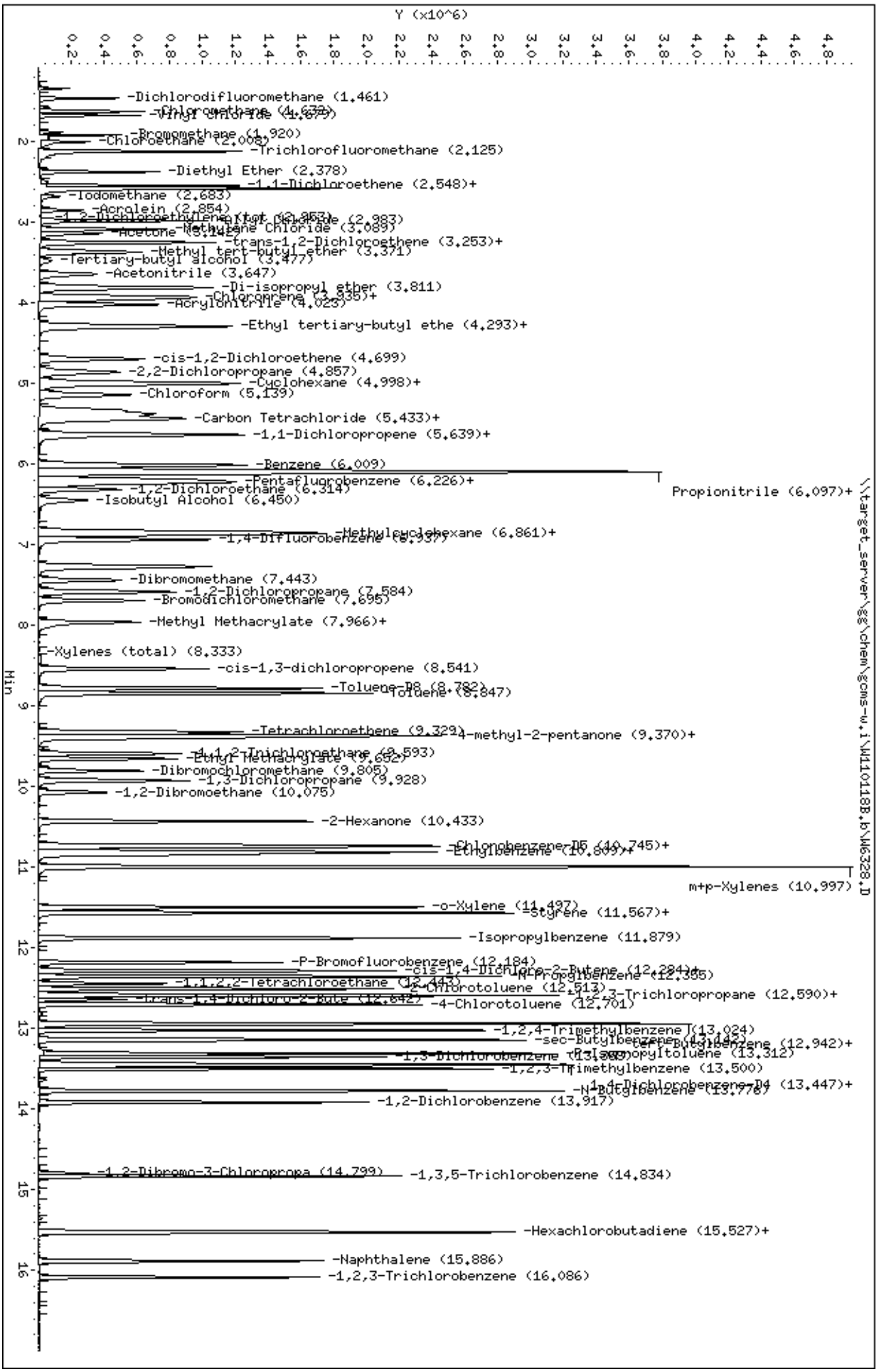
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	329460	100.000	102	
2	Chloromethane	50	1.614	1.614	(0.261)	382860	100.000	92.1	
3	Vinyl chloride	62	1.678	1.673	(0.271)	415112	100.000	96.7	
4	Bromomethane	94	1.919	1.919	(0.310)	140782	100.000	110	
5	Chloroethane	64	2.007	2.013	(0.324)	223674	100.000	92.4	
6	Trichlorofluoromethane	101	2.125	2.125	(0.343)	883213	100.000	99.7	
7	Diethyl Ether	59	2.377	2.378	(0.384)	317022	100.000	94.4	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	366875	100.000	99.0	
9	Freon-113	151	2.583	2.577	(0.417)	335734	100.000	96.9	
10	Carbon Disulfide	76	2.583	2.583	(0.417)	1024335	100.000	90.4	
11	Iodomethane	142	2.683	2.683	(0.433)	157954	100.000	132	
12	Acrolein	56	2.853	2.854	(0.461)	218454	500.000	441	
13	Allyl Chloride	41	2.983	2.983	(0.482)	616096	100.000	100	
14	Methylene Chloride	84	3.088	3.089	(0.499)	371360	100.000	97.6	
15	Acetone	43	3.141	3.136	(0.507)	511162	500.000	451	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	372701	100.000	104	
17	Methyl Acetate	43	3.265	3.265	(0.527)	320765	100.000	95.3	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.544)	746382	100.000	101	
19	Tertiary-butyl alcohol	59	3.476	3.482	(0.562)	127334	500.000	496	
20	Acetonitrile	39	3.646	3.635	(0.589)	104453	1000.00	920	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	1322640	100.000	107	
M 22	1,2-Dichloroethylene (total)	96				782228	100.000	202	
23	Chloroprene	53	3.928	3.923	(0.635)	578510	100.000	102	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6328.D
Report Date: 27-Nov-2018 11:49

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24	1,1-Dichloroethane	63	3.952	3.952	(0.638)	713023	100.000	100	
	25	Acrylonitrile	52	4.022	4.022	(0.650)	619838	500.000	474	
	26	Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	1034517	100.000	104	
	27	Vinyl Acetate	43	4.299	4.299	(0.619)	967171	100.000	105	
	28	cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	409527	100.000	97.4	
	29	2,2-Dichloropropane	77	4.863	4.857	(0.786)	501714	100.000	112	
	30	Cyclohexane	56	4.998	4.992	(0.807)	730492	100.000	108	
	31	Bromochloromethane	128	5.004	4.998	(0.808)	157224	100.000	104	
	32	Chloroform	83	5.139	5.139	(0.830)	644027	100.000	99.6	
	33	Carbon Tetrachloride	117	5.339	5.333	(0.769)	504657	100.000	108	
	34	Tetrahydrofuran	42	5.380	5.380	(0.869)	628619	500.000	481	
$	35	Dibromofluoromethane	113	5.427	5.427	(0.877)	313948	50.0000	50.2	
	36	1,1,1-Trichloroethane	97	5.444	5.439	(0.879)	591989	100.000	103	
	37	1,1-Dichloropropene	75	5.638	5.639	(0.812)	547987	100.000	106	
	38	2-Butanone	43	5.638	5.633	(0.911)	890370	500.000	464	
	39	Benzene	78	6.014	6.009	(0.866)	1583903	100.000	110	
	40	Propionitrile	54	6.073	6.067	(0.981)	538475	1000.00	911	
	41	Methacrylonitrile	41	6.097	6.097	(0.985)	2494265	1000.00	959	
*	42	Pentafluorobenzene	168	6.191	6.185	(1.000)	678469	50.0000		
	43	Tertiary-amyl methyl ether	73	6.238	6.238	(1.008)	942399	100.000	98.8	
$	44	1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	381100	50.0000	49.7	
	45	1,2-Dichloroethane	62	6.314	6.314	(0.909)	487391	100.000	92.8	
	46	Isobutyl Alcohol	43	6.443	6.449	(1.041)	322933	2000.00	1810	
	47	Methylcyclohexane	83	6.843	6.843	(1.105)	778927	100.000	105	
	48	Trichloroethene	95	6.866	6.867	(0.989)	385767	100.000	99.1	
*	49	1,4-Difluorobenzene	114	6.943	6.937	(1.000)	1086746	50.0000		
	50	Dibromomethane	93	7.436	7.442	(1.071)	228329	100.000	105	
	51	1,2-Dichloropropane	63	7.583	7.589	(1.092)	408551	100.000	95.7	
	52	Bromodichloromethane	83	7.695	7.695	(1.108)	488309	100.000	108	
	53	Methyl Methacrylate	41	7.959	7.959	(1.146)	347311	100.000	101	
	54	1,4-Dioxane	88	7.977	7.983	(1.149)	83784	2000.00	1530	
M	56	Xylenes (total)	91				4255339	300.000	308	
	57	cis-1,3-dichloropropene	75	8.541	8.541	(1.230)	652017	100.000	104	
$	58	Toluene-D8	98	8.782	8.782	(1.265)	1335691	50.0000	50.4	
	59	Toluene	92	8.846	8.847	(1.274)	989321	100.000	102	
	60	Tetrachloroethene	164	9.322	9.328	(0.869)	321241	100.000	98.8	
	61	4-methyl-2-pentanone	43	9.369	9.370	(1.349)	1864879	500.000	488	
	62	trans-1,3-Dichloropropene	75	9.399	9.399	(1.354)	544200	100.000	105	
	63	1,1,2-Trichloroethane	83	9.593	9.593	(1.382)	268865	100.000	98.2	
	64	Ethyl Methacrylate	69	9.651	9.657	(1.390)	484403	100.000	108	
	65	Dibromochloromethane	129	9.804	9.804	(0.914)	368742	100.000	106	
	66	1,3-Dichloropropane	76	9.927	9.922	(0.925)	604593	100.000	102	
	67	1,2-Dibromoethane	107	10.068	10.075	(1.450)	321140	100.000	97.5	
	68	2-Hexanone	43	10.433	10.433	(0.973)	1239689	500.000	484	
*	69	Chlorobenzene-D5	117	10.727	10.727	(1.000)	1014328	50.0000		
	70	Chlorobenzene	112	10.750	10.750	(1.002)	1061378	100.000	99.5	
	71	Ethylbenzene	91	10.809	10.809	(1.008)	1839580	100.000	99.1	
	72	1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	369896	100.000	104	
	73	m+p-Xylenes	91	10.997	10.997	(1.025)	2852382	200.000	206	
	74	o-Xylene	91	11.496	11.497	(1.072)	1402957	100.000	102	
	75	Styrene	104	11.567	11.561	(1.078)	1185220	100.000	103	
	76	Bromoform	173	11.567	11.567	(1.078)	246295	100.000	102	
	77	Isopropylbenzene	105	11.878	11.878	(0.884)	1759218	100.000	103	
$	78	P-Bromofluorobenzene	95	12.184	12.184	(1.755)	459523	50.0000	51.0	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6328.D
Report Date: 27-Nov-2018 11:49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.284	12.278	(0.914)	141551	100.000	107	
	80 Bromobenzene	156	12.284	12.284	(0.914)	440650	100.000	97.4	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	2226733	100.000	99.7	
	82 1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	398631	100.000	93.4	
	83 2-Chlorotoluene	91	12.513	12.507	(0.931)	1185163	100.000	97.9	
	84 1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	350874	100.000	7.8	
	85 1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	1493722	100.000	102	
	86 trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	105191	100.000	97.7	
	87 4-Chlorotoluene	91	12.701	12.701	(0.945)	1239457	100.000	99.2	
	88 tert-Butylbenzene	119	12.942	12.942	(0.963)	1528156	100.000	102	
	89 Pentachloroethane	117	12.948	12.942	(0.963)	309214	100.000	103	
	90 1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	1483454	100.000	101	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	2069784	100.000	101	
	92 P-Isopropyltoluene	119	13.312	13.312	(0.990)	1770190	100.000	102	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	823119	100.000	96.4	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	533897	50.0000		
	95 1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	845483	100.000	94.6	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	1470868	100.000	99.0	
	97 N-Butylbenzene	91	13.776	13.776	(1.025)	1762173	100.000	100	
	98 1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	766417	100.000	97.5	
	99 1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	81814	100.000	101	
	100 1,3,5-Trichlorobenzene	180	14.834	14.834	(1.104)	642471	100.000	98.1	
	101 Hexachlorobutadiene	225	15.521	15.515	(1.155)	312237	100.000	96.0	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	565891	100.000	93.6	
	103 Naphthalene	128	15.885	15.886	(1.182)	1237450	100.000	91.4	
	104 1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	489603	100.000	92.5	
M	105 Total Alkylbenzenes	100				12334212	100.000	709	


Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6328.D
Date : 01-NOV-2018 19:01
Client ID:
Sample Info: WG239831-5
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W110118B.b\W6328.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.632)
-Vinyl Chloride (1.679)
-Bromomethane (1.920)
-Chloroethane (2.008)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.548)+
-Iodomethane (2.683)
-Acrolein (2.854)
-1,2-Dichloroethylene, tot (2.952)
-Carbon Disulfide (2.983)
-Methylene Chloride (3.089)
-Acetone (3.142)
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.477)
-Acetonitrile (3.647)
-Di-isopropyl ether (3.811)
-Chloroprene (3.935)+
-Acrylonitrile (4.023)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.699)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.998)+
-Chloroform (5.139)
-Carbon Tetrachloride (5.433)+
-1,1-Dichloropropene (5.639)+
-Benzene (6.009)
-Pentafluorobenzene (6.226)+
-1,2-Dichloroethane (6.314)
Propionitrile (6.097)+
-Isobutyl Alcohol (6.450)
-Methylcyclohexane (6.861)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.443)
-1,2-Dichloropropane (7.584)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.966)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.541)
-Toluene-D8 (8.782)
Toluene (8.847)
-Tetrachloroethene (9.329)
4-methyl-2-pentanone (9.370)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.652)
-Dibromochloromethane (9.805)
-1,3-Dichloropropane (9.928)
-1,2-Dibromoethane (10.075)
-2-Hexanone (10.433)
-Chlorobenzene-D5 (10.745)+
-Ethylbenzene (10.809)+
m+p-Xylenes (10.997)
-o-Xylene (11.497)
-Styrene (11.567)+
-Isopropylbenzene (11.879)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.284)+
-N-Propylbenzene (12.355)
-1,1,2,2-Tetrachloroethane (12.443)
-2-Chlorotoluene (12.513)
-1,2,3-Trichloropropane (12.590)+
-trans-1,4-Dichloro-2-Bute (12.642)
-4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.024)
-sec-Butylbenzene (12.942)+
-1,3-Dichlorobenzene (13.288)
-p-Isopropyltoluene (13.312)
-1,2,3-Trimethylbenzene (13.500)
-1,4-Dichlorobenzene-D4 (13.447)+
-N-Butylbenzene (13.787)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.799)
-1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.086)

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6329.D
Report Date: 27-Nov-2018 11:49

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110118B.b\W6329.D
Lab Smp Id: WG239831-7
Inj Date : 01-NOV-2018 19:31
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG239831-7
Misc Info :
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110118B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:24 jsampson   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 7   Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

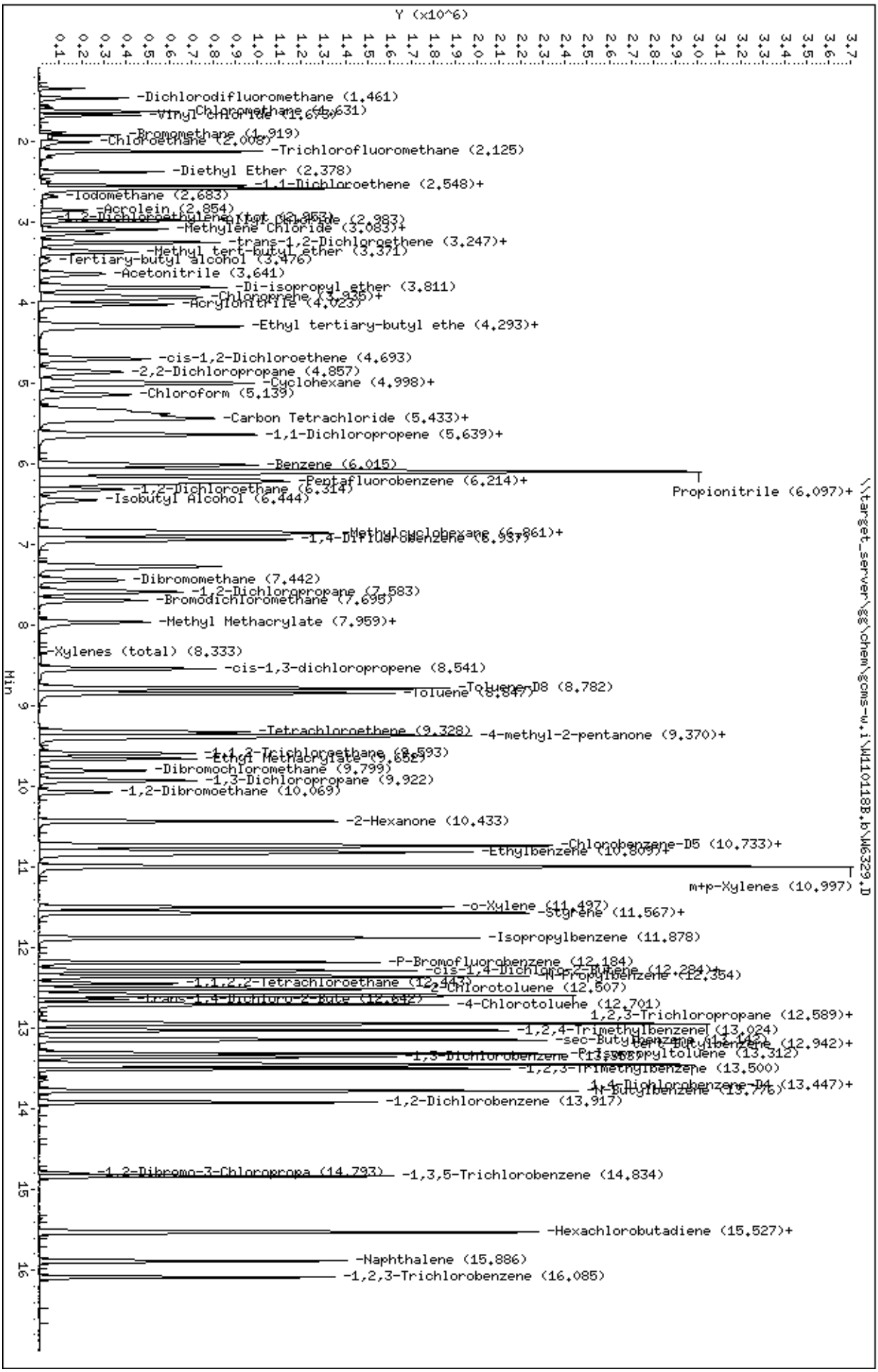
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	254987	50.0000	68.6	
2	Chloromethane	50	1.613	1.614	(0.261)	302768	75.0000	68.6	
3	Vinyl chloride	62	1.678	1.673	(0.271)	314386	75.0000	69.0	
4	Bromomethane	94	1.919	1.919	(0.310)	106759	75.0000	76.9	
5	Chloroethane	64	2.007	2.013	(0.324)	173587	75.0000	67.7	
6	Trichlorofluoromethane	101	2.125	2.125	(0.343)	708556	75.0000	74.4	
7	Diethyl Ether	59	2.377	2.378	(0.384)	249935	75.0000	69.9	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	274844	75.0000	69.7	
9	Freon-113	151	2.577	2.577	(0.416)	256888	75.0000	69.7	
10	Carbon Disulfide	76	2.583	2.583	(0.417)	787997	75.0000	65.9	
11	Iodomethane	142	2.689	2.683	(0.434)	97169	75.0000	79.2	
12	Acrolein	56	2.853	2.854	(0.461)	167772	375.000	322	
13	Allyl Chloride	41	2.982	2.983	(0.482)	479232	75.0000	72.7	
14	Methylene Chloride	84	3.088	3.089	(0.499)	285655	75.0000	70.4	
15	Acetone	43	3.141	3.136	(0.507)	428792	375.000	355	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	296389	75.0000	76.7	
17	Methyl Acetate	43	3.264	3.265	(0.527)	260334	75.0000	72.3	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.544)	547054	75.0000	66.1	
19	Tertiary-butyl alcohol	59	3.476	3.482	(0.562)	71944	375.000	274	
20	Acetonitrile	39	3.646	3.635	(0.589)	84344	750.000	625	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	1052573	75.0000	78.5	
M 22	1,2-Dichloroethylene (total)	96				615711	75.0000	148	
23	Chloroprene	53	3.922	3.923	(0.634)	465664	75.0000	75.8	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6329.D
Report Date: 27-Nov-2018 11:49

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24	1,1-Dichloroethane	63	3.952	3.952	(0.638)	559826	75.0000	73.6	
	25	Acrylonitrile	52	4.022	4.022	(0.650)	505454	375.000	362	
	26	Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	848162	75.0000	78.3	
	27	Vinyl Acetate	43	4.298	4.299	(0.620)	767082	75.0000	76.4	
	28	cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	319322	75.0000	71.2	
	29	2,2-Dichloropropane	77	4.857	4.857	(0.785)	379316	75.0000	74.4	
	30	Cyclohexane	56	4.998	4.992	(0.807)	555775	75.0000	76.3	
	31	Bromochloromethane	128	4.998	4.998	(0.807)	131458	75.0000	73.8	
	32	Chloroform	83	5.139	5.139	(0.830)	506451	75.0000	73.1	
	33	Carbon Tetrachloride	117	5.338	5.333	(0.770)	400682	75.0000	78.3	
	34	Tetrahydrofuran	42	5.385	5.380	(0.870)	516171	375.000	368	
$	35	Dibromofluoromethane	113	5.427	5.427	(0.877)	344709	50.0000	51.0	
	36	1,1,1-Trichloroethane	97	5.444	5.439	(0.879)	465682	75.0000	75.4	
	37	1,1-Dichloropropene	75	5.638	5.639	(0.813)	419524	75.0000	74.9	
	38	2-Butanone	43	5.632	5.633	(0.910)	725583	375.000	355	
	39	Benzene	78	6.014	6.009	(0.867)	1243053	75.0000	74.1	
	40	Propionitrile	54	6.067	6.067	(0.980)	444470	750.000	706	
	41	Methacrylonitrile	41	6.096	6.097	(0.985)	2028789	750.000	729	
*	42	Pentafluorobenzene	168	6.190	6.185	(1.000)	730055	50.0000		
	43	Tertiary-amyl methyl ether	73	6.232	6.238	(1.007)	742112	75.0000	72.7	
$	44	1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	407124	50.0000	49.4	
	45	1,2-Dichloroethane	62	6.314	6.314	(0.910)	394681	75.0000	69.8	
	46	Isobutyl Alcohol	43	6.443	6.449	(1.041)	265378	1500.00	1400	
	47	Methylcyclohexane	83	6.843	6.843	(1.105)	599622	75.0000	75.1	
	48	Trichloroethene	95	6.866	6.867	(0.990)	290613	75.0000	69.4	
*	49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	1183720	50.0000		
	50	Dibromomethane	93	7.442	7.442	(1.073)	181443	75.0000	72.3	
	51	1,2-Dichloropropane	63	7.583	7.589	(1.093)	325128	75.0000	70.6	
	52	Bromodichloromethane	83	7.695	7.695	(1.109)	374789	75.0000	73.6	
	53	Methyl Methacrylate	41	7.959	7.959	(1.147)	286119	75.0000	76.2	
	54	1,4-Dioxane	88	7.977	7.983	(1.150)	70286	750.000	1090	
M	56	Xylenes (total)	91				3358409	75.0000	227	
	57	cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	513360	75.0000	74.9	
$	58	Toluene-D8	98	8.782	8.782	(1.266)	1426457	50.0000	49.5	
	59	Toluene	92	8.846	8.847	(1.275)	788862	75.0000	74.7	
	60	Tetrachloroethene	164	9.328	9.328	(0.870)	254819	75.0000	73.4	
	61	4-methyl-2-pentanone	43	9.369	9.370	(1.351)	1511897	375.000	365	
	62	trans-1,3-Dichloropropene	75	9.398	9.399	(1.355)	432076	75.0000	76.1	
	63	1,1,2-Trichloroethane	83	9.592	9.593	(1.383)	224545	75.0000	75.2	
	64	Ethyl Methacrylate	69	9.651	9.657	(1.391)	394857	75.0000	80.1	
	65	Dibromochloromethane	129	9.804	9.804	(0.914)	294522	75.0000	78.6	
	66	1,3-Dichloropropane	76	9.921	9.922	(0.925)	483871	75.0000	76.2	
	67	1,2-Dibromoethane	107	10.068	10.075	(1.451)	256437	75.0000	71.9	
	68	2-Hexanone	43	10.427	10.433	(0.972)	1005345	375.000	367	
*	69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	1087035	50.0000		
	70	Chlorobenzene	112	10.750	10.750	(1.002)	847810	75.0000	74.3	
	71	Ethylbenzene	91	10.809	10.809	(1.008)	1467537	75.0000	74.0	
	72	1,1,1,2-Tetrachloroethane	131	10.844	10.844	(1.011)	290310	75.0000	76.2	
	73	m+p-Xylenes	91	10.997	10.997	(1.025)	2242848	150.000	151	
	74	o-Xylene	91	11.496	11.497	(1.072)	1115561	75.0000	75.6	
	75	Styrene	104	11.567	11.561	(1.078)	909463	75.0000	74.1	
	76	Bromoform	173	11.567	11.567	(1.078)	193723	75.0000	75.2	
	77	Isopropylbenzene	105	11.878	11.878	(0.884)	1388475	75.0000	77.0	
$	78	P-Bromofluorobenzene	95	12.184	12.184	(1.756)	496875	50.0000	50.6	

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6329.D
Report Date: 27-Nov-2018 11:49

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	110013	75.0000	78.3	
	80 Bromobenzene	156	12.283	12.284	(0.914)	341349	75.0000	72.2	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	1765091	75.0000	75.1	
	82 1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	319088	75.0000	71.6	
	83 2-Chlorotoluene	91	12.507	12.507	(0.930)	943912	75.0000	74.3	
	84 1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	277063	75.0000	74.0	
	85 1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	1166966	75.0000	75.9	
	86 trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	80172	75.0000	71.4	
	87 4-Chlorotoluene	91	12.701	12.701	(0.945)	988830	75.0000	75.3	
	88 tert-Butylbenzene	119	12.941	12.942	(0.963)	1188385	75.0000	75.2	
	89 Pentachloroethane	117	12.947	12.942	(0.963)	235652	75.0000	74.9	
	90 1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	1151011	75.0000	74.9	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	1599064	75.0000	74.2	
	92 P-Isopropyltoluene	119	13.312	13.312	(0.990)	1356653	75.0000	74.8	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	646503	75.0000	72.4	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	561333	50.0000		
	95 1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	660093	75.0000	70.9	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	1138055	75.0000	73.2	
	97 N-Butylbenzene	91	13.776	13.776	(1.025)	1337995	75.0000	72.9	
	98 1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	614069	75.0000	74.4	
	99 1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	63762	75.0000	74.9	
	100 1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	486918	75.0000	71.3	
	101 Hexachlorobutadiene	225	15.521	15.515	(1.155)	244036	75.0000	71.8	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	434825	75.0000	69.3	
	103 Naphthalene	128	15.885	15.886	(1.182)	978415	75.0000	69.6	
	104 1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	379316	75.0000	69.1	
M	105 Total Alkylbenzenes	100				9565165	75.0000	523	



Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\W6329.D
Date : 01-NOV-2018 19:31
Client ID:
Sample Info: WG239831-7
Purge Volume: 5.0
Column phase: RTX-VMS

Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018 **SDG:** TL0579
Lab ID : WG239918-4 **Analytical Date:** 11/02/18 17:19
Lab File ID : W6358.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 11/01/18 16:31 11/01/18 19:31 **Column ID:**

	Compound	$\overline{\text{RRF}}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
2	Chloromethane	0.30206	0.29013	0.29013	0.100	-3.94854	20.00000	Averaged
3	Vinyl chloride	0.31219	0.30908	0.30908	0.010	-0.99509	20.00000	Averaged
4	Bromomethane	50.00000	45.47359	0.07910	0.010	-9.05282	20.00000	Quadratic
5	Chloroethane	50.00000	48.71293	0.17867	0.010	-2.57414	20.00000	Quadratic
6	Trichlorofluoromethane	0.65192	0.62285	0.62285	0.010	-4.45953	20.00000	Averaged
8	1,1-Dichloroethene	0.26990	0.23946	0.23946	0.010	-11.27707	20.00000	Averaged
10	Carbon Disulfide	50.00000	43.46038	0.69235	0.010	-13.07924	20.00000	Quadratic
14	Methylene Chloride	0.27768	0.24727	0.24727	0.010	-10.95171	20.00000	Averaged
16	trans-1,2-Dichloroethene	0.26477	0.24686	0.24686	0.010	-6.76349	20.00000	Averaged
24	1,1-Dichloroethane	0.52093	0.47584	0.47584	0.100	-8.65654	20.00000	Averaged
28	cis-1,2-Dichloroethene	0.30714	0.26975	0.26975	0.010	-12.17208	20.00000	Averaged
32	Chloroform	0.47452	0.42963	0.42963	0.010	-9.45966	20.00000	Averaged
33	Carbon Tetrachloride	0.21623	0.20130	0.20130	0.010	-6.90648	20.00000	Averaged
36	1,1,1-Trichloroethane	0.42271	0.38193	0.38193	0.010	-9.64544	20.00000	Averaged
38	2-Butanone	0.14005	0.11459	0.11459	0.010	-18.17890	20.00000	Averaged
39	Benzene	0.70847	0.64547	0.64547	0.010	-8.89254	20.00000	Averaged
45	1,2-Dichloroethane	0.23885	0.21188	0.21188	0.010	-11.29203	20.00000	Averaged
48	Trichloroethene	0.17683	0.16294	0.16294	0.010	-7.85586	20.00000	Averaged
51	1,2-Dichloropropane	0.19448	0.17503	0.17503	0.010	-9.99835	20.00000	Averaged
52	Bromodichloromethane	0.21495	0.20491	0.20491	0.010	-4.67079	20.00000	Averaged
57	cis-1,3-dichloropropene	0.28962	0.28573	0.28573	0.010	-1.34451	20.00000	Averaged
59	Toluene	0.44610	0.42590	0.42590	0.010	-4.52609	20.00000	Averaged
60	Tetrachloroethene	0.15970	0.14321	0.14321	0.010	-10.32917	20.00000	Averaged
61	4-methyl-2-pentanone	0.17491	0.15780	0.15780	0.010	-9.77990	20.00000	Averaged
62	trans-1,3-Dichloropropene	0.23984	0.24037	0.24037	0.010	0.22396	20.00000	Averaged
63	1,1,2-Trichloroethane	0.12607	0.11983	0.11983	0.010	-4.95150	20.00000	Averaged
65	Dibromochloromethane	0.17234	0.16773	0.16773	0.010	-2.67142	20.00000	Averaged
70	Chlorobenzene	0.52487	0.50034	0.50034	0.300	-4.67353	20.00000	Averaged
71	Ethylbenzene	0.91258	0.87212	0.87212	0.010	-4.43390	20.00000	Averaged
73	m+p-Xylenes	0.68251	0.65334	0.65334	0.010	-4.27372	20.00000	Averaged
74	o-Xylene	0.67890	0.65725	0.65725	0.010	-3.18968	20.00000	Averaged
76	Bromoform	0.11856	0.11390	0.11390	0.100	-3.92923	20.00000	Averaged
82	1,1,2,2-Tetrachloroethane	0.39688	0.34960	0.34960	0.300	-11.91264	20.00000	Averaged
35	Dibromofluoromethane	0.46250	0.44540	0.44540	0.010	-3.69768	20.00000	Averaged
44	1,2-Dichloroethane-D4	0.56402	0.55731	0.55731	0.010	-1.18996	20.00000	Averaged
58	Toluene-D8	1.21713	1.22243	1.22243	0.010	0.43538	20.00000	Averaged
78	P-Bromofluorobenzene	0.41494	0.43555	0.43555	0.010	4.96770	20.00000	Averaged

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239918-4
Lab File ID : W6358.D
Initial Calibration Date(s): 11/01/18 16:31 11/01/18 19:31

SDG: TL0579
Analytical Date: 11/02/18 17:19
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6358.D
Report Date: 27-Nov-2018 12:38

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6358.D
Lab Smp Id: WG239918-4
Inj Date : 02-NOV-2018 17:19
Operator : JR/HG   Inst ID: gcms-w.i
Smp Info : WG239918-4,TL0579
Misc Info : WG239918,WG239831-4,TL0579-1
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 1   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	138585	50.0000	50.7	
2	Chloromethane	50	1.614	1.614	(0.261)	155799	50.0000	48.0	
3	Vinyl chloride	62	1.672	1.673	(0.270)	165975	50.0000	49.5	
4	Bromomethane	94	1.919	1.919	(0.310)	42475	50.0000	45.5	
5	Chloroethane	64	2.013	2.013	(0.325)	95944	50.0000	48.7	
6	Trichlorofluoromethane	101	2.125	2.125	(0.343)	334466	50.0000	47.8	
7	Diethyl Ether	59	2.377	2.378	(0.384)	118215	50.0000	45.0	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	128590	50.0000	44.4	
9	Freon-113	151	2.577	2.577	(0.416)	119187	50.0000	44.0	
10	Carbon Disulfide	76	2.583	2.583	(0.417)	371787	50.0000	43.5	
11	Iodomethane	142	2.677	2.683	(0.432)	71013	50.0000	78.7	
12	Acrolein	56	2.853	2.854	(0.461)	73217	250.000	203	
13	Allyl Chloride	41	2.983	2.983	(0.482)	233782	50.0000	48.2	
14	Methylene Chloride	84	3.088	3.089	(0.499)	132781	50.0000	44.5	
15	Acetone	43	3.135	3.136	(0.507)	176614	250.000	198	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	132565	50.0000	46.6	
17	Methyl Acetate	43	3.265	3.265	(0.527)	114382	50.0000	43.0	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.544)	296867	50.0000	46.4	
19	Tertiary-butyl alcohol	59	3.470	3.482	(0.561)	35857	250.000	193	
20	Acetonitrile	39	3.641	3.635	(0.588)	35176	500.000	354	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	467528	50.0000	47.4	
M 22	1,2-Dichloroethylene (total)	96				277420	50.0000	(a)	
23	Chloroprene	53	3.929	3.923	(0.635)	208214	50.0000	46.1	
24	1,1-Dichloroethane	63	3.952	3.952	(0.638)	255522	50.0000	45.7	

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6358.D
Report Date: 27-Nov-2018 12:38

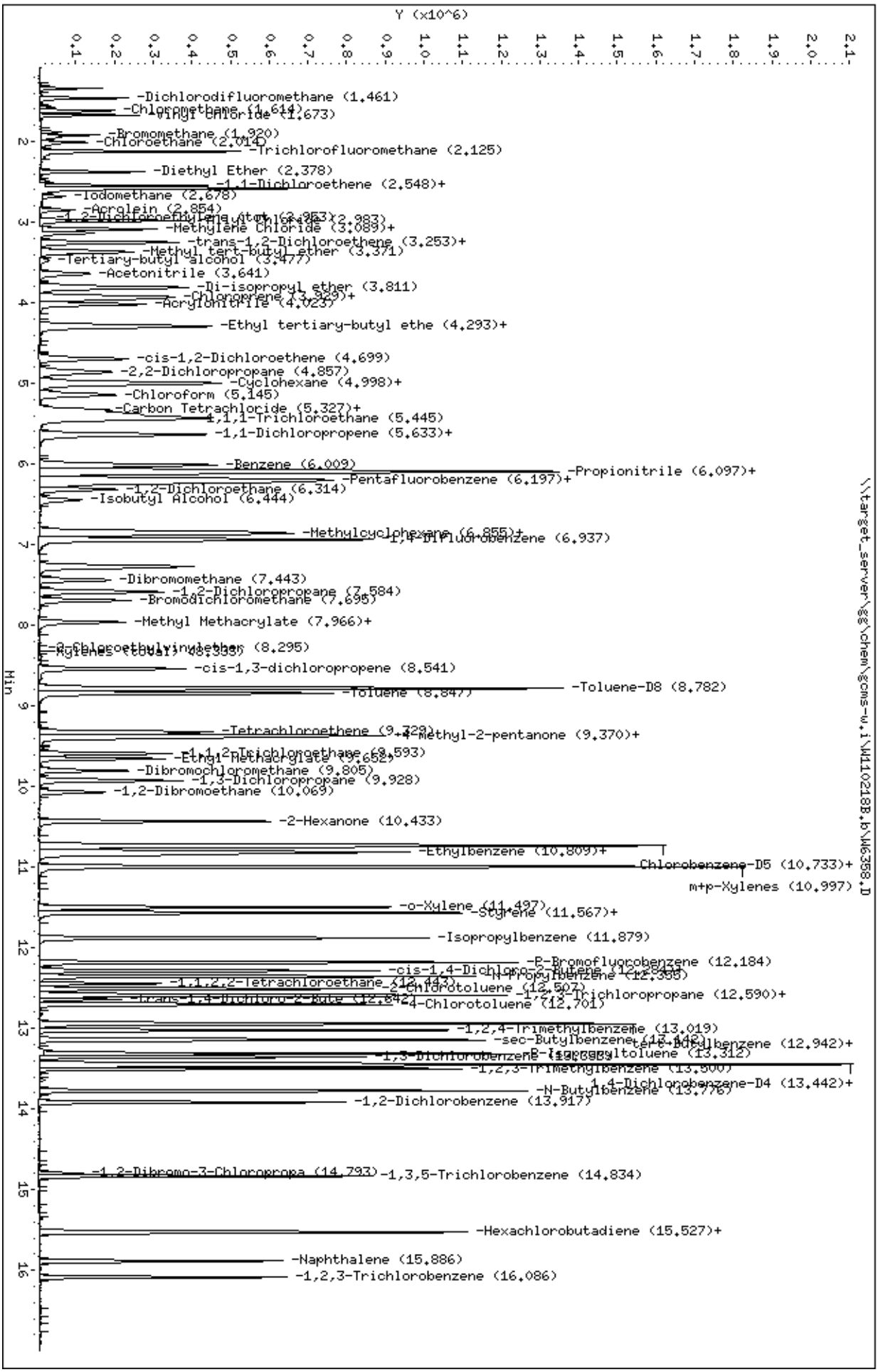
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	25 Acrylonitrile	52	4.023	4.022	(0.650)	216180	250.000	211	
	26 Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	386932	50.0000	48.6	
	27 Vinyl Acetate	43	4.299	4.299	(0.620)	358857	50.0000	48.4	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	144855	50.0000	43.9	
	29 2,2-Dichloropropane	77	4.857	4.857	(0.785)	184919	50.0000	49.3	
	30 Cyclohexane	56	4.998	4.992	(0.807)	247983	50.0000	46.3	
	31 Bromochloromethane	128	4.998	4.998	(0.807)	66884	50.0000	51.0	
	32 Chloroform	83	5.139	5.139	(0.830)	230710	50.0000	45.3	
	33 Carbon Tetrachloride	117	5.327	5.333	(0.768)	175828	50.0000	46.5	
	34 Tetrahydrofuran	42	5.386	5.380	(0.870)	217980	250.000	211	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	239179	50.0000	48.2	
	36 1,1,1-Trichloroethane	97	5.444	5.439	(0.879)	205097	50.0000	45.2	
	37 1,1-Dichloropropene	75	5.644	5.639	(0.814)	191243	50.0000	46.2	
	38 2-Butanone	43	5.632	5.633	(0.910)	307681	250.000	204	
	39 Benzene	78	6.008	6.009	(0.866)	563800	50.0000	45.6	
	40 Propionitrile	54	6.061	6.067	(0.979)	193497	500.000	418	
	41 Methacrylonitrile	41	6.097	6.097	(0.985)	934369	500.000	456	
*	42 Pentafluorobenzene	168	6.191	6.185	(1.000)	536995	50.0000		
	43 Tertiary-amyl methyl ether	73	6.232	6.238	(1.007)	358304	50.0000	47.7	
$	44 1,2-Dichloroethane-D4	65	6.220	6.214	(1.005)	299271	50.0000	49.4	
	45 1,2-Dichloroethane	62	6.314	6.314	(0.910)	185069	50.0000	44.4	
	46 Isobutyl Alcohol	43	6.443	6.449	(1.041)	97528	1000.00	692	
	47 Methylcyclohexane	83	6.843	6.843	(1.105)	280887	50.0000	47.8	
	48 Trichloroethene	95	6.872	6.867	(0.991)	142323	50.0000	46.1	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	873477	50.0000		
	50 Dibromomethane	93	7.436	7.442	(1.072)	87653	50.0000	47.3	
	51 1,2-Dichloropropane	63	7.583	7.589	(1.093)	152887	50.0000	45.0	
	52 Bromodichloromethane	83	7.695	7.695	(1.109)	178982	50.0000	47.7	
	53 Methyl Methacrylate	41	7.959	7.959	(1.147)	125070	50.0000	45.2	
	54 1,4-Dioxane	88	7.971	7.983	(1.149)	19510	1000.00	410	
	55 2-Chloroethylvinylether	63	8.306	8.311	(1.197)	264	50.0000	(a)	
M	56 Xylenes (total)	91				1632982	150.000	(a)	
	57 cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	249577	50.0000	49.3	
$	58 Toluene-D8	98	8.782	8.782	(1.266)	1067761	50.0000	50.2	
	59 Toluene	92	8.846	8.847	(1.275)	372018	50.0000	47.7	
	60 Tetrachloroethene	164	9.328	9.328	(0.870)	119076	50.0000	44.8	
	61 4-methyl-2-pentanone	43	9.369	9.370	(1.351)	689172	250.000	226	
	62 trans-1,3-Dichloropropene	75	9.399	9.399	(1.355)	209960	50.0000	50.1	
	63 1,1,2-Trichloroethane	83	9.593	9.593	(1.383)	104665	50.0000	47.5	
	64 Ethyl Methacrylate	69	9.651	9.657	(1.391)	178846	50.0000	49.2	
	65 Dibromochloromethane	129	9.804	9.804	(0.914)	139469	50.0000	48.7	
	66 1,3-Dichloropropane	76	9.927	9.922	(0.925)	240072	50.0000	49.4	
	67 1,2-Dibromoethane	107	10.068	10.075	(1.451)	126956	50.0000	48.3	
	68 2-Hexanone	43	10.433	10.433	(0.973)	455743	250.000	218	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	831488	50.0000		
	70 Chlorobenzene	112	10.744	10.750	(1.002)	416026	50.0000	47.7	
	71 Ethylbenzene	91	10.809	10.809	(1.008)	725157	50.0000	47.8	
	72 1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	139915	50.0000	48.0	
	73 m+p-Xylenes	91	10.997	10.997	(1.025)	1086489	100.000	95.7	
	74 o-Xylene	91	11.496	11.497	(1.072)	546493	50.0000	48.4	
	75 Styrene	104	11.561	11.561	(1.078)	453024	50.0000	48.2	
	76 Bromoform	173	11.567	11.567	(1.078)	94710	50.0000	48.0	
	77 Isopropylbenzene	105	11.878	11.878	(0.884)	687728	50.0000	47.0	
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	380444	50.0000	52.5	

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6358.D
Report Date: 27-Nov-2018 12:38

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
79	cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	53547	50.0000	47.0	
80	Bromobenzene	156	12.284	12.284	(0.914)	176152	50.0000	46.0	
81	N-Propylbenzene	91	12.354	12.354	(0.919)	898464	50.0000	47.2	
82	1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	159139	50.0000	44.0	
83	2-Chlorotoluene	91	12.507	12.507	(0.930)	467238	50.0000	45.3	
84	1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	134509	50.0000	44.3	
85	1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	580933	50.0000	46.6	
86	trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	41144	50.0000	45.2	
87	4-Chlorotoluene	91	12.701	12.701	(0.945)	492706	50.0000	46.2	
88	tert-Butylbenzene	119	12.942	12.942	(0.963)	600683	50.0000	46.9	
89	Pentachloroethane	117	12.948	12.942	(0.963)	124956	50.0000	49.0	
90	1,2,4-Trimethylbenzene	105	13.018	13.024	(0.969)	581780	50.0000	46.7	
91	sec-Butylbenzene	105	13.141	13.142	(0.978)	818569	50.0000	46.8	
92	P-Isopropyltoluene	119	13.312	13.312	(0.990)	702038	50.0000	47.7	
93	1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	335939	50.0000	46.4	
* 94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	455197	50.0000		
95	1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	341384	50.0000	45.2	
96	1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	574242	50.0000	45.5	
97	N-Butylbenzene	91	13.776	13.776	(1.025)	687297	50.0000	46.2	
98	1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	311476	50.0000	46.5	
99	1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	28218	50.0000	40.9	
100	1,3,5-Trichlorobenzene	180	14.834	14.834	(1.104)	249596	50.0000	45.1	
101	Hexachlorobutadiene	225	15.515	15.515	(1.154)	114620	50.0000	41.6	
102	1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	209314	50.0000	44.2	
103	Naphthalene	128	15.885	15.886	(1.182)	430802	50.0000	39.4	
104	1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	187373	50.0000	46.1	
M 105	Total Alkylbenzenes	100				4869764	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6358.D
Date : 02-NOV-2018 17:19
Client ID:
Sample Info: WG239918-4,TL0579
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: JR/HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6358.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.614)
-Vinyl Chloride (1.673)
-Bromomethane (1.920)
-Chloroethane (2.014)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.548)+
-Iodomethane (2.678)
-Acrolein (2.854)
-1,2-Dichloroethylene, total (2.953)
-Methylene Chloride (3.089)+
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.477)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.811)
-Chloroprene (3.929)+
-Acrylonitrile (4.023)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.699)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.998)+
-Chloroform (5.145)
-Carbon Tetrachloride (5.327)+
-1,1,1-Trichloroethane (5.445)
-1,1-Dichloropropene (5.633)+
-Benzene (6.009)
-Propionitrile (6.097)+
-Pentafluorobenzene (6.197)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.444)
-Methylcyclohexane (6.855)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.443)
-1,2-Dichloropropane (7.584)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.966)+
-2-Chloroethylvinylether (8.295)
-Xylenes, total (8.338)
-cis-1,3-dichloropropene (8.541)
-Toluene-D8 (8.782)
-Toluene (8.847)
-Tetrachloroethene (9.329)
-4-Methyl-2-pentanone (9.370)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.652)
-Dibromochloromethane (9.805)
-1,3-Dichloropropane (9.928)
-1,2-Dibromoethane (10.069)
-2-Hexanone (10.433)
-Ethylbenzene (10.809)+
Chlorobenzene-D5 (10.733)+
m+p-Xylenes (10.997)
-o-Xylene (11.497)
-Styrene (11.567)+
-Isopropylbenzene (11.879)
-4-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.284)
-N-Propylbenzene (12.355)
-1,1,2,2-Tetrachloroethane (12.443)
-2-Chlorotoluene (12.507)
-trans-1,4-Dichloro-2-Bute (12.642)
-1,2,3-Trichloropropane (12.590)+
-4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.019)
-sec-Butylbenzene (12.942)+
-tert-Butylbenzene (13.312)
-1,3-Dichlorobenzene (13.385)
-p-Isopropyltoluene (13.500)
-1,2,3-Trimethylbenzene (13.500)
1,4-Dichlorobenzene-D4 (13.442)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.793)
-1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.086)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018 **SDG:** TL0579
Lab ID : WG239941-4 **Analytical Date:** 11/03/18 06:57
Lab File ID : W6383.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 11/01/18 16:31 11/01/18 19:31 **Column ID:**

	Compound	$\overline{\text{RRF}}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
2	Chloromethane	0.30206	0.30001	0.30001	0.100	-0.67942	20.00000	Averaged
3	Vinyl chloride	0.31219	0.32396	0.32396	0.010	3.77237	20.00000	Averaged
4	Bromomethane	50.00000	59.11867	0.10660	0.010	18.23734	20.00000	Quadratic
5	Chloroethane	50.00000	47.91743	0.17626	0.010	-4.16513	20.00000	Quadratic
6	Trichlorofluoromethane	0.65192	0.65621	0.65621	0.010	0.65774	20.00000	Averaged
8	1,1-Dichloroethene	0.26990	0.24882	0.24882	0.010	-7.80966	20.00000	Averaged
10	Carbon Disulfide	50.00000	44.92075	0.71352	0.010	-10.15849	20.00000	Quadratic
14	Methylene Chloride	0.27768	0.24982	0.24982	0.010	-10.03307	20.00000	Averaged
16	trans-1,2-Dichloroethene	0.26477	0.24704	0.24704	0.010	-6.69633	20.00000	Averaged
24	1,1-Dichloroethane	0.52093	0.48110	0.48110	0.100	-7.64555	20.00000	Averaged
28	cis-1,2-Dichloroethene	0.30714	0.28493	0.28493	0.010	-7.23143	20.00000	Averaged
32	Chloroform	0.47452	0.46004	0.46004	0.010	-3.05135	20.00000	Averaged
33	Carbon Tetrachloride	0.21623	0.21866	0.21866	0.010	1.12269	20.00000	Averaged
36	1,1,1-Trichloroethane	0.42271	0.40330	0.40330	0.010	-4.59073	20.00000	Averaged
38	2-Butanone	0.14005	0.11493	0.11493	0.010	-17.93676	20.00000	Averaged
39	Benzene	0.70847	0.67449	0.67449	0.010	-4.79516	20.00000	Averaged
45	1,2-Dichloroethane	0.23885	0.21212	0.21212	0.010	-11.18945	20.00000	Averaged
48	Trichloroethene	0.17683	0.16329	0.16329	0.010	-7.65595	20.00000	Averaged
51	1,2-Dichloropropane	0.19448	0.17864	0.17864	0.010	-8.14408	20.00000	Averaged
52	Bromodichloromethane	0.21495	0.20401	0.20401	0.010	-5.09048	20.00000	Averaged
57	cis-1,3-dichloropropene	0.28962	0.27384	0.27384	0.010	-5.45037	20.00000	Averaged
59	Toluene	0.44610	0.42267	0.42267	0.010	-5.25172	20.00000	Averaged
60	Tetrachloroethene	0.15970	0.13901	0.13901	0.010	-12.95967	20.00000	Averaged
61	4-methyl-2-pentanone	0.17491	0.15933	0.15933	0.010	-8.90606	20.00000	Averaged
62	trans-1,3-Dichloropropene	0.23984	0.23080	0.23080	0.010	-3.76566	20.00000	Averaged
63	1,1,2-Trichloroethane	0.12607	0.11609	0.11609	0.010	-7.91820	20.00000	Averaged
65	Dibromochloromethane	0.17234	0.16366	0.16366	0.010	-5.03815	20.00000	Averaged
70	Chlorobenzene	0.52487	0.49458	0.49458	0.300	-5.77069	20.00000	Averaged
71	Ethylbenzene	0.91258	0.86349	0.86349	0.010	-5.37911	20.00000	Averaged
73	m+p-Xylenes	0.68251	0.64865	0.64865	0.010	-4.96055	20.00000	Averaged
74	o-Xylene	0.67890	0.66410	0.66410	0.010	-2.18006	20.00000	Averaged
76	Bromoform	0.11856	0.10915	0.10915	0.100	-7.93921	20.00000	Averaged
82	1,1,2,2-Tetrachloroethane	0.39688	0.35026	0.35026	0.300	-11.74650	20.00000	Averaged
35	Dibromofluoromethane	0.46250	0.45856	0.45856	0.010	-0.85307	20.00000	Averaged
44	1,2-Dichloroethane-D4	0.56402	0.55201	0.55201	0.010	-2.12893	20.00000	Averaged
58	Toluene-D8	1.21713	1.22073	1.22073	0.010	0.29611	20.00000	Averaged
78	P-Bromofluorobenzene	0.41494	0.42703	0.42703	0.010	2.91389	20.00000	Averaged

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG239941-4
Lab File ID : W6383.D
Initial Calibration Date(s): 11/01/18 16:31 11/01/18 19:31

SDG: TL0579
Analytical Date: 11/03/18 06:57
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6383.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6383.D
Lab Smp Id: WG239941-4
Inj Date : 03-NOV-2018 06:57
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG239941-4,TL0579
Misc Info : WG239941,WG239831-4,TL0579-11
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 1   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

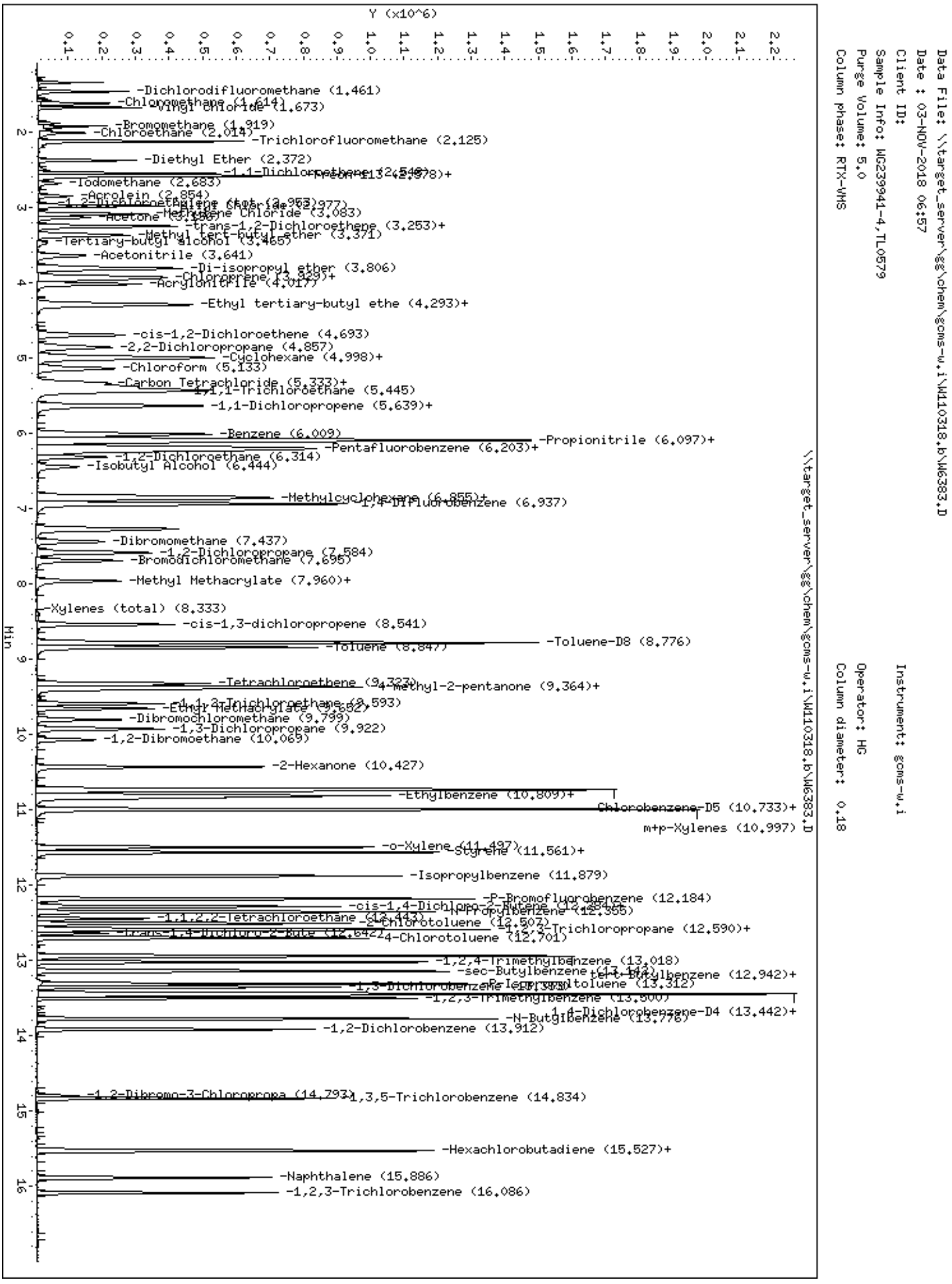
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	160112	50.0000	52.5	
2	Chloromethane	50	1.613	1.614	(0.261)	179663	50.0000	49.7	
3	Vinyl chloride	62	1.672	1.673	(0.270)	194011	50.0000	51.9	
4	Bromomethane	94	1.919	1.919	(0.310)	63837	50.0000	59.1	
5	Chloroethane	64	2.013	2.013	(0.326)	105553	50.0000	47.9	
6	Trichlorofluoromethane	101	2.125	2.125	(0.344)	392980	50.0000	50.3	
7	Diethyl Ether	59	2.377	2.378	(0.384)	132005	50.0000	45.0	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	149010	50.0000	46.1	
9	Freon-113	151	2.577	2.577	(0.417)	139286	50.0000	46.1	
10	Carbon Disulfide	76	2.583	2.583	(0.418)	427300	50.0000	44.9	
11	Iodomethane	142	2.677	2.683	(0.433)	76683	50.0000	76.2	
12	Acrolein	56	2.853	2.854	(0.461)	82269	250.000	204	
13	Allyl Chloride	41	2.977	2.983	(0.481)	252603	50.0000	46.7	
14	Methylene Chloride	84	3.088	3.089	(0.499)	149607	50.0000	45.0	
15	Acetone	43	3.135	3.136	(0.507)	203128	250.000	205	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	147945	50.0000	46.6	
17	Methyl Acetate	43	3.264	3.265	(0.528)	126243	50.0000	42.5	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.545)	327121	50.0000	45.8	
19	Tertiary-butyl alcohol	59	3.464	3.482	(0.560)	44296	250.000	214	
20	Acetonitrile	39	3.641	3.635	(0.589)	40972	500.000	370	
21	Di-isopropyl ether	45	3.805	3.817	(0.615)	527587	50.0000	48.0	
M 22	1,2-Dichloroethylene (total)	96				318577	50.0000	93.0	
23	Chloroprene	53	3.923	3.923	(0.634)	232033	50.0000	46.0	

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6383.D
Report Date: 27-Nov-2018 16:13

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24 1,1-Dichloroethane	63	3.952	3.952	(0.639)	288116	50.0000	46.2	
	25 Acrylonitrile	52	4.017	4.022	(0.649)	240151	250.000	210	
	26 Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	431630	50.0000	48.6	
	27 Vinyl Acetate	43	4.299	4.299	(0.620)	393390	50.0000	48.6	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.759)	170632	50.0000	46.4	
	29 2,2-Dichloropropane	77	4.857	4.857	(0.785)	214954	50.0000	51.4	
	30 Cyclohexane	56	4.992	4.992	(0.807)	284362	50.0000	47.6	
	31 Bromochloromethane	128	5.004	4.998	(0.809)	75811	50.0000	51.9	
	32 Chloroform	83	5.139	5.139	(0.831)	275502	50.0000	48.5	
	33 Carbon Tetrachloride	117	5.333	5.333	(0.769)	208559	50.0000	50.6	
	34 Tetrahydrofuran	42	5.380	5.380	(0.870)	242865	250.000	211	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	274615	50.0000	49.6	
	36 1,1,1-Trichloroethane	97	5.444	5.439	(0.880)	241523	50.0000	47.7	
	37 1,1-Dichloropropene	75	5.638	5.639	(0.813)	218820	50.0000	48.5	
	38 2-Butanone	43	5.626	5.633	(0.910)	344146	250.000	205	
	39 Benzene	78	6.008	6.009	(0.866)	643342	50.0000	47.6	
	40 Propionitrile	54	6.067	6.067	(0.981)	216254	500.000	419	
	41 Methacrylonitrile	41	6.097	6.097	(0.986)	1008245	500.000	441	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	598865	50.0000		
	43 Tertiary-amyl methyl ether	73	6.226	6.238	(1.007)	383457	50.0000	45.8	
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	330580	50.0000	48.9	
	45 1,2-Dichloroethane	62	6.314	6.314	(0.910)	202324	50.0000	44.4	
	46 Isobutyl Alcohol	43	6.437	6.449	(1.041)	121336	1000.00	782	
	47 Methylcyclohexane	83	6.843	6.843	(1.106)	302838	50.0000	46.2	
	48 Trichloroethene	95	6.866	6.867	(0.990)	155750	50.0000	46.2	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	953813	50.0000		
	50 Dibromomethane	93	7.442	7.442	(1.073)	91566	50.0000	45.2	
	51 1,2-Dichloropropane	63	7.583	7.589	(1.093)	170388	50.0000	45.9	
	52 Bromodichloromethane	83	7.695	7.695	(1.109)	194583	50.0000	47.4	
	53 Methyl Methacrylate	41	7.959	7.959	(1.147)	137977	50.0000	45.6	
	54 1,4-Dioxane	88	7.977	7.983	(1.150)	31934	1000.00	615	
M	56 Xylenes (total)	91				1781710	150.000	144	
	57 cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	261189	50.0000	47.3	
$	58 Toluene-D8	98	8.782	8.782	(1.266)	1164349	50.0000	50.1	
	59 Toluene	92	8.846	8.847	(1.275)	403146	50.0000	47.4	
	60 Tetrachloroethene	164	9.322	9.328	(0.869)	126272	50.0000	43.5	
	61 4-methyl-2-pentanone	43	9.363	9.370	(1.350)	759846	250.000	228	
	62 trans-1,3-Dichloropropene	75	9.393	9.399	(1.354)	220144	50.0000	48.1	
	63 1,1,2-Trichloroethane	83	9.592	9.593	(1.383)	110724	50.0000	46.0	
	64 Ethyl Methacrylate	69	9.651	9.657	(1.391)	197188	50.0000	49.7	
	65 Dibromochloromethane	129	9.804	9.804	(0.914)	148662	50.0000	47.5	
	66 1,3-Dichloropropane	76	9.922	9.922	(0.925)	247533	50.0000	46.6	
	67 1,2-Dibromoethane	107	10.068	10.075	(1.451)	131492	50.0000	45.8	
	68 2-Hexanone	43	10.427	10.433	(0.972)	500864	250.000	219	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	908384	50.0000		
	70 Chlorobenzene	112	10.744	10.750	(1.002)	449269	50.0000	47.1	
	71 Ethylbenzene	91	10.809	10.809	(1.008)	784384	50.0000	47.3	
	72 1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	154153	50.0000	48.4	
	73 m+p-Xylenes	91	10.997	10.997	(1.025)	1178451	100.000	95.0	
	74 o-Xylene	91	11.496	11.497	(1.072)	603259	50.0000	48.9	
	75 Styrene	104	11.567	11.561	(1.078)	491325	50.0000	47.9	
	76 Bromoform	173	11.567	11.567	(1.078)	99150	50.0000	46.0	
	77 Isopropylbenzene	105	11.878	11.878	(0.884)	746238	50.0000	48.5	
$	78 P-Bromofluorobenzene	95	12.184	12.184	(1.756)	407306	50.0000	51.4	

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6383.D
Report Date: 27-Nov-2018 16:13

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	57605	50.0000	48.0	
	80 Bromobenzene	156	12.284	12.284	(0.914)	186029	50.0000	46.1	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	961139	50.0000	47.9	
	82 1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	167918	50.0000	44.1	
	83 2-Chlorotoluene	91	12.507	12.507	(0.930)	502763	50.0000	46.3	
	84 1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	140953	50.0000	44.1	
	85 1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	625369	50.0000	47.6	
	86 trans-1,4-Dichloro-2-Butene	53	12.636	12.636	(0.940)	42496	50.0000	44.3	
	87 4-Chlorotoluene	91	12.701	12.701	(0.945)	536081	50.0000	47.8	
	88 tert-Butylbenzene	119	12.942	12.942	(0.963)	645381	50.0000	47.8	
	89 Pentachloroethane	117	12.947	12.942	(0.963)	128420	50.0000	47.8	
	90 1,2,4-Trimethylbenzene	105	13.018	13.024	(0.969)	622231	50.0000	47.4	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	869508	50.0000	47.2	
	92 P-Isopropyltoluene	119	13.312	13.312	(0.990)	755681	50.0000	48.8	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	347101	50.0000	45.5	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	479404	50.0000		
	95 1,4-Dichlorobenzene	146	13.453	13.459	(1.001)	367351	50.0000	46.2	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	617096	50.0000	46.5	
	97 N-Butylbenzene	91	13.776	13.776	(1.025)	747114	50.0000	47.6	
	98 1,2-Dichlorobenzene	146	13.911	13.917	(1.035)	326346	50.0000	46.3	
	99 1,2-Dibromo-3-Chloropropane	157	14.792	14.799	(1.101)	31105	50.0000	42.8	
	100 1,3,5-Trichlorobenzene	180	14.834	14.834	(1.104)	259768	50.0000	44.5	
	101 Hexachlorobutadiene	225	15.515	15.515	(1.154)	129581	50.0000	44.7	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	231424	50.0000	46.4	
	103 Naphthalene	128	15.885	15.886	(1.182)	486186	50.0000	42.4	
	104 1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	196984	50.0000	46.0	
M	105 Total Alkylbenzenes	100				5226423	50.0000	334	


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6383.D
Date : 03-NOV-2018 06:57
Client ID:
Sample Info: WG239941-4,TL0579
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.614)
-Vinyl chloride (1.673)
-Bromomethane (1.919)
-Chloroethane (2.014)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.372)
-1,1-Dichloroethene (2.548)
-Freon 113 (2.578)+
-Iodomethane (2.683)
-Acrolein (2.854)
-1,2-Dichloroethylene (tot) (2.953)+
-Methylene Chloride (3.083)
-Acetone (3.150)
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.465)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.806)
-Chloroprene (3.829)+
-Acrylonitrile (4.017)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.693)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.998)+
-Chloroform (5.133)
-Carbon Tetrachloride (5.333)+
-1,1,1-Trichloroethane (5.445)
-1,1-Dichloropropene (5.639)+
-Benzene (6.009)
-Propionitrile (6.097)+
-Pentafluorobenzene (6.203)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.444)
-Methylcyclohexane (6.855)+
1,4-Difluorobenzene (6.937)
-Dibromomethane (7.437)
-1,2-Dichloropropane (7.584)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.960)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.541)
-Toluene-D8 (8.776)
-Toluene (8.847)
-Tetrachloroethene (9.327)
4-Methyl-2-pentanone (9.364)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.652)
-Dibromochloromethane (9.799)
-1,3-Dichloropropane (9.922)
-1,2-Dibromoethane (10.069)
-2-Hexanone (10.427)
-Ethylbenzene (10.809)+
Chlorobenzene-D5 (10.733)+
m+p-Xylenes (10.997)
-o-Xylene (11.497)
-Styrene (11.561)+
-Isopropylbenzene (11.879)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.284)+
-N-Propylbenzene (12.355)
-1,1,2,2-Tetrachloroethane (12.443)
-2-Chlorotoluene (12.507)
-1,2,3-Trichloropropane (12.590)+
-trans-1,4-Dichloro-2-Bute (12.642)+
4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.018)
-sec-Butylbenzene (13.114)+
tert-Butylbenzene (12.942)+
-1,3-Dichlorobenzene (13.183)
-P-Isopropyltoluene (13.312)
-1,2,3-Trimethylbenzene (13.500)
1,4-Dichlorobenzene-D4 (13.442)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.912)
-1,2-Dibromo-3-Chloropropa (14.293)+
1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.086)
\\target_server\gg\chem\gcms-w.i\W110318.b\W6383.D

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018 **SDG:** TL0579
Lab ID : WG240010-4 **Analytical Date:** 11/05/18 04:05
Lab File ID : W6407.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 11/01/18 16:31 11/01/18 19:31 **Column ID:**

	Compound	$\overline{\text{RRF}}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	0.30206	0.25032	0.25032	0.100	-17.13002	20.00000	Averaged	
3	Vinyl chloride	0.31219	0.26574	0.26574	0.010	-14.87846	20.00000	Averaged	
4	Bromomethane	50.00000	20.90005	0.03448	0.010	-58.19989	20.00000	Quadratic	*
5	Chloroethane	50.00000	45.77025	0.16968	0.010	-8.45950	20.00000	Quadratic	
6	Trichlorofluoromethane	0.65192	0.62371	0.62371	0.010	-4.32757	20.00000	Averaged	
8	1,1-Dichloroethene	0.26990	0.22997	0.22997	0.010	-14.79506	20.00000	Averaged	
10	Carbon Disulfide	50.00000	40.92149	0.65525	0.010	-18.15702	20.00000	Quadratic	
14	Methylene Chloride	0.27768	0.23549	0.23549	0.010	-15.19432	20.00000	Averaged	
16	trans-1,2-Dichloroethene	0.26477	0.23061	0.23061	0.010	-12.90424	20.00000	Averaged	
24	1,1-Dichloroethane	0.52093	0.46942	0.46942	0.100	-9.88865	20.00000	Averaged	
28	cis-1,2-Dichloroethene	0.30714	0.26794	0.26794	0.010	-12.76339	20.00000	Averaged	
32	Chloroform	0.47452	0.42925	0.42925	0.010	-9.54091	20.00000	Averaged	
33	Carbon Tetrachloride	0.21623	0.20709	0.20709	0.010	-4.22760	20.00000	Averaged	
36	1,1,1-Trichloroethane	0.42271	0.39724	0.39724	0.010	-6.02395	20.00000	Averaged	
38	2-Butanone	0.14005	0.11682	0.11682	0.010	-16.58717	20.00000	Averaged	
39	Benzene	0.70847	0.63889	0.63889	0.010	-9.82104	20.00000	Averaged	
45	1,2-Dichloroethane	0.23885	0.20731	0.20731	0.010	-13.20388	20.00000	Averaged	
48	Trichloroethene	0.17683	0.16026	0.16026	0.010	-9.36842	20.00000	Averaged	
51	1,2-Dichloropropane	0.19448	0.17072	0.17072	0.010	-12.21446	20.00000	Averaged	
52	Bromodichloromethane	0.21495	0.20678	0.20678	0.010	-3.79852	20.00000	Averaged	
57	cis-1,3-dichloropropene	0.28962	0.27854	0.27854	0.010	-3.82550	20.00000	Averaged	
59	Toluene	0.44610	0.42252	0.42252	0.010	-5.28483	20.00000	Averaged	
60	Tetrachloroethene	0.15970	0.14109	0.14109	0.010	-11.65612	20.00000	Averaged	
61	4-methyl-2-pentanone	0.17491	0.16251	0.16251	0.010	-7.08808	20.00000	Averaged	
62	trans-1,3-Dichloropropene	0.23984	0.24359	0.24359	0.010	1.56437	20.00000	Averaged	
63	1,1,2-Trichloroethane	0.12607	0.12787	0.12787	0.010	1.42926	20.00000	Averaged	
65	Dibromochloromethane	0.17234	0.17226	0.17226	0.010	-0.04479	20.00000	Averaged	
70	Chlorobenzene	0.52487	0.49166	0.49166	0.300	-6.32632	20.00000	Averaged	
71	Ethylbenzene	0.91258	0.86084	0.86084	0.010	-5.67030	20.00000	Averaged	
73	m+p-Xylenes	0.68251	0.65410	0.65410	0.010	-4.16179	20.00000	Averaged	
74	o-Xylene	0.67890	0.65409	0.65409	0.010	-3.65438	20.00000	Averaged	
76	Bromoform	0.11856	0.11667	0.11667	0.100	-1.59751	20.00000	Averaged	
82	1,1,2,2-Tetrachloroethane	0.39688	0.34075	0.34075	0.300	-14.14273	20.00000	Averaged	
35	Dibromofluoromethane	0.46250	0.44038	0.44038	0.010	-4.78347	20.00000	Averaged	
44	1,2-Dichloroethane-D4	0.56402	0.54639	0.54639	0.010	-3.12630	20.00000	Averaged	
58	Toluene-D8	1.21713	1.20986	1.20986	0.010	-0.59710	20.00000	Averaged	
78	P-Bromofluorobenzene	0.41494	0.44562	0.44562	0.010	7.39477	20.00000	Averaged	

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240010-4
Lab File ID : W6407.D
Initial Calibration Date(s): 11/01/18 16:31 11/01/18 19:31

SDG: TL0579
Analytical Date: 11/05/18 04:05
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6407.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6407.D
Lab Smp Id: WG240010-4
Inj Date : 05-NOV-2018 04:05
Operator : TTC   Inst ID: gcms-w.i
Smp Info : WG240010-4,TL0579
Misc Info : WG240010,WG239831-4,TL0579-18
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 1   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

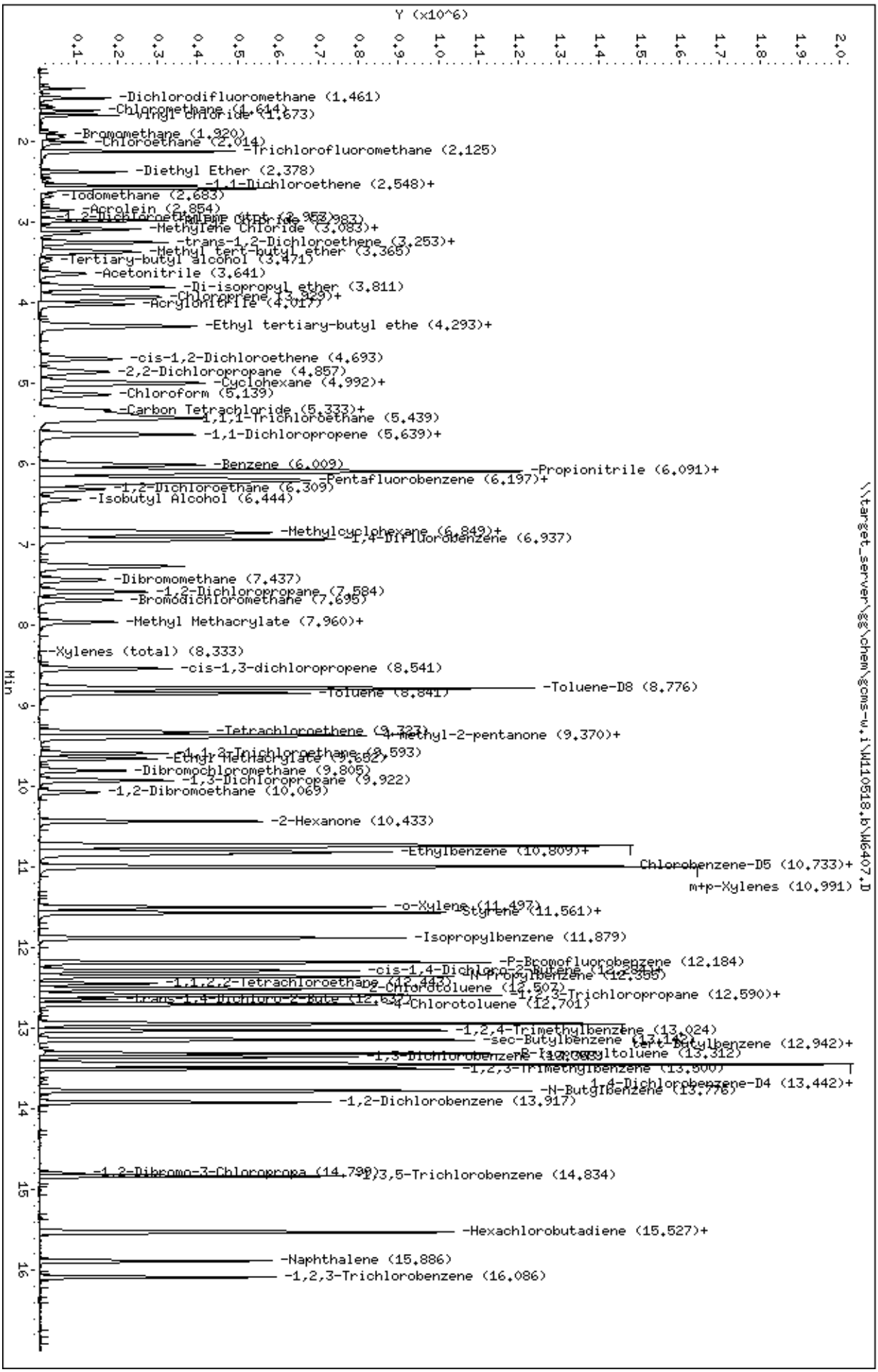
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	111225	50.0000	46.2	
2	Chloromethane	50	1.614	1.614	(0.261)	118427	50.0000	41.4	
3	Vinyl chloride	62	1.672	1.673	(0.270)	125724	50.0000	42.6	
4	Bromomethane	94	1.919	1.919	(0.310)	16314	50.0000	20.9	
5	Chloroethane	64	2.013	2.013	(0.326)	80278	50.0000	45.8	
6	Trichlorofluoromethane	101	2.125	2.125	(0.344)	295083	50.0000	47.8	
7	Diethyl Ether	59	2.377	2.378	(0.384)	95333	50.0000	41.2	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	108800	50.0000	42.6	
9	Freon-113	151	2.577	2.577	(0.417)	104372	50.0000	43.7	
10	Carbon Disulfide	76	2.583	2.583	(0.418)	310008	50.0000	40.9	
11	Iodomethane	142	2.677	2.683	(0.433)	31795	50.0000	40.0	
12	Acrolein	56	2.853	2.854	(0.461)	63822	250.000	200	
13	Allyl Chloride	41	2.977	2.983	(0.481)	189150	50.0000	44.2	
14	Methylene Chloride	84	3.082	3.089	(0.498)	111411	50.0000	42.4	
15	Acetone	43	3.135	3.136	(0.507)	154328	250.000	196	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	109102	50.0000	43.5	
17	Methyl Acetate	43	3.265	3.265	(0.528)	100045	50.0000	42.6	
18	Methyl tert-butyl ether	73	3.364	3.371	(0.544)	293274	50.0000	52.0	
19	Tertiary-butyl alcohol	59	3.470	3.482	(0.561)	37972	250.000	232	
20	Acetonitrile	39	3.635	3.635	(0.588)	30863	500.000	353	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	396814	50.0000	45.7	
M 22	1,2-Dichloroethylene (total)	96				235865	50.0000	87.2	
23	Chloroprene	53	3.923	3.923	(0.634)	177022	50.0000	44.5	

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6407.D
Report Date: 27-Nov-2018 17:10

							AMOUNTS		
		QUANT SIG					CAL-AMT	ON-COL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	24 1,1-Dichloroethane	63	3.946	3.952	(0.638)	222087	50.0000	45.0	
	25 Acrylonitrile	52	4.023	4.022	(0.650)	192439	250.000	213	
	26 Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	337424	50.0000	48.1	
	27 Vinyl Acetate	43	4.299	4.299	(0.620)	314088	50.0000	48.3	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.759)	126763	50.0000	43.6	
	29 2,2-Dichloropropane	77	4.857	4.857	(0.785)	172124	50.0000	52.1	
	30 Cyclohexane	56	4.998	4.992	(0.808)	215161	50.0000	45.6	
	31 Bromochloromethane	128	4.992	4.998	(0.807)	56074	50.0000	48.6	
	32 Chloroform	83	5.139	5.139	(0.831)	203081	50.0000	45.2	
	33 Carbon Tetrachloride	117	5.333	5.333	(0.769)	158638	50.0000	47.9	
	34 Tetrahydrofuran	42	5.380	5.380	(0.870)	186293	250.000	205	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	208349	50.0000	47.6	
	36 1,1,1-Trichloroethane	97	5.439	5.439	(0.879)	187940	50.0000	47.0	
	37 1,1-Dichloropropene	75	5.632	5.639	(0.812)	167269	50.0000	46.1	
	38 2-Butanone	43	5.632	5.633	(0.911)	276351	250.000	208	
	39 Benzene	78	6.008	6.009	(0.866)	489412	50.0000	45.1	
	40 Propionitrile	54	6.061	6.067	(0.980)	168769	500.000	414	
	41 Methacrylonitrile	41	6.091	6.097	(0.985)	823805	500.000	456	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	473111	50.0000		
	43 Tertiary-amyl methyl ether	73	6.232	6.238	(1.008)	322857	50.0000	48.8	
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	258501	50.0000	48.4	
	45 1,2-Dichloroethane	62	6.308	6.314	(0.909)	158807	50.0000	43.4	
	46 Isobutyl Alcohol	43	6.443	6.449	(1.042)	88422	1000.00	715	
	47 Methylcyclohexane	83	6.849	6.843	(1.107)	241610	50.0000	46.7	
	48 Trichloroethene	95	6.866	6.867	(0.990)	122768	50.0000	45.3	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	766037	50.0000		
	50 Dibromomethane	93	7.436	7.442	(1.072)	77349	50.0000	47.6	
	51 1,2-Dichloropropane	63	7.583	7.589	(1.093)	130780	50.0000	43.9	
	52 Bromodichloromethane	83	7.689	7.695	(1.108)	158403	50.0000	48.1	
	53 Methyl Methacrylate	41	7.959	7.959	(1.147)	107372	50.0000	44.2	
	54 1,4-Dioxane	88	7.971	7.983	(1.149)	19931	1000.00	478	
M	56 Xylenes (total)	91				1483758	150.000	144	
	57 cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	213374	50.0000	48.1	
$	58 Toluene-D8	98	8.776	8.782	(1.265)	926797	50.0000	49.7	
	59 Toluene	92	8.846	8.847	(1.275)	323666	50.0000	47.4	
	60 Tetrachloroethene	164	9.322	9.328	(0.869)	106682	50.0000	44.2	
	61 4-methyl-2-pentanone	43	9.363	9.370	(1.350)	622435	250.000	232	
	62 trans-1,3-Dichloropropene	75	9.399	9.399	(1.355)	186597	50.0000	50.8	
	63 1,1,2-Trichloroethane	83	9.593	9.593	(1.383)	97953	50.0000	50.7	
	64 Ethyl Methacrylate	69	9.657	9.657	(1.392)	158643	50.0000	49.8	
	65 Dibromochloromethane	129	9.804	9.804	(0.914)	130252	50.0000	50.0	
	66 1,3-Dichloropropane	76	9.922	9.922	(0.925)	208351	50.0000	47.2	
	67 1,2-Dibromoethane	107	10.068	10.075	(1.451)	112754	50.0000	48.9	
	68 2-Hexanone	43	10.433	10.433	(0.973)	415308	250.000	218	
*	69 Chlorobenzene-D5	117	10.727	10.727	(1.000)	756132	50.0000		
	70 Chlorobenzene	112	10.744	10.750	(1.002)	371763	50.0000	46.8	
	71 Ethylbenzene	91	10.809	10.809	(1.008)	650906	50.0000	47.2	
	72 1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	135337	50.0000	51.1	
	73 m+p-Xylenes	91	10.991	10.997	(1.025)	989178	100.000	95.8	
	74 o-Xylene	91	11.496	11.497	(1.072)	494580	50.0000	48.2	
	75 Styrene	104	11.561	11.561	(1.078)	415346	50.0000	48.6	
	76 Bromoform	173	11.567	11.567	(1.078)	88217	50.0000	49.2	
	77 Isopropylbenzene	105	11.878	11.878	(0.884)	628084	50.0000	45.6	
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	341363	50.0000	53.7	

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6407.D
Report Date: 27-Nov-2018 17:10

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79	cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	49104	50.0000	45.8	
	80	Bromobenzene	156	12.284	12.284	(0.914)	157943	50.0000	43.8	
	81	N-Propylbenzene	91	12.354	12.354	(0.919)	821612	50.0000	45.8	
	82	1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	146074	50.0000	42.9	
	83	2-Chlorotoluene	91	12.507	12.507	(0.930)	425782	50.0000	43.9	
	84	1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	120847	50.0000	42.2	
	85	1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	532173	50.0000	45.4	
	86	trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	39820	50.0000	46.4	
	87	4-Chlorotoluene	91	12.701	12.701	(0.945)	454716	50.0000	45.3	
	88	tert-Butylbenzene	119	12.942	12.942	(0.963)	556118	50.0000	46.1	
	89	Pentachloroethane	117	12.948	12.942	(0.963)	112857	50.0000	47.0	
	90	1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	539233	50.0000	45.9	
	91	sec-Butylbenzene	105	13.141	13.142	(0.978)	756181	50.0000	45.9	
	92	P-Isopropyltoluene	119	13.312	13.312	(0.990)	654853	50.0000	47.3	
	93	1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	303687	50.0000	44.5	
*	94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	428679	50.0000		
	95	1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	311515	50.0000	43.8	
	96	1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	538956	50.0000	45.4	
	97	N-Butylbenzene	91	13.776	13.776	(1.025)	649983	50.0000	46.4	
	98	1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	291962	50.0000	46.3	
	99	1,2-Dibromo-3-Chloropropane	157	14.792	14.799	(1.101)	26392	50.0000	40.6	
	100	1,3,5-Trichlorobenzene	180	14.834	14.834	(1.104)	223240	50.0000	42.8	
	101	Hexachlorobutadiene	225	15.521	15.515	(1.155)	106026	50.0000	40.9	
	102	1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	193986	50.0000	43.5	
	103	Naphthalene	128	15.885	15.886	(1.182)	403940	50.0000	39.2	
	104	1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	169871	50.0000	44.4	
M	105	Total Alkylbenzenes	100				4510153	50.0000	323	


Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6407.D
Date : 05-NOV-2018 04:05
Client ID:
Sample Info: WG240010-4,TL0579
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: TTC
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W110518.b\W6407.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.644)
-Vinyl chloride (1.673)
-Bromomethane (1.920)
-Chloroethane (2.014)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.548)+
-Iodomethane (2.683)
-Acrolein (2.854)
-Methylene Chloride (3.083)+
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.365)
-Tertiary-butyl alcohol (3.471)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.811)
-Chloroprene (3.929)+
-Acrylonitrile (4.017)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.693)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.992)+
-Chloroform (5.139)
-Carbon Tetrachloride (5.333)+
-1,1,1-Trichloroethane (5.439)
-1,1-Dichloropropene (5.639)+
-Benzene (6.009)
-Propionitrile (6.091)+
-Pentafluorobenzene (6.197)+
-1,2-Dichloroethane (6.309)
-Isobutyl Alcohol (6.444)
-Methylcyclohexane (6.849)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.437)
-1,2-Dichloropropane (7.584)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.960)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.541)
-Toluene (8.841)
-Toluene-D8 (8.776)
-Tetrachloroethene (9.727)
-4-Methyl-2-pentanone (9.370)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.652)
-Dibromochloromethane (9.805)
-1,3-Dichloropropane (9.922)
-1,2-Dibromoethane (10.069)
-2-Hexanone (10.433)
-Ethylbenzene (10.809)+
Chlorobenzene-D5 (10.733)+
m+p-Xylenes (10.991)
-o-Xylene (11.497)
-Styrene (11.561)+
-Isopropylbenzene (11.879)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.284)+
-N-Propylbenzene (12.355)
-1,1,2,2-Tetrachloroethane (12.443)
-2-Chlorotoluene (12.507)
-1,2,3-Trichloropropane (12.590)+
-trans-1,4-Dichloro-2-Bute (12.622)
-4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.024)
-sec-Butylbenzene (12.942)+
-1,3-Dichlorobenzene (13.083)
-P-Isopropyltoluene (13.312)
-1,2,3-Trimethylbenzene (13.500)
-1,4-Dichlorobenzene-D4 (13.442)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.790)
-1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.086)

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018 **SDG:** TL0579
Lab ID : WG240057-4 **Analytical Date:** 11/05/18 16:31
Lab File ID : W6430.D **Instrument ID:** GCMS-W
Initial Calibration Date(s): 11/01/18 16:31 11/01/18 19:31 **Column ID:**

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	0.30206	0.25443	0.25443	0.100	-15.76685	20.00000	Averaged	
3	Vinyl chloride	0.31219	0.28578	0.28578	0.010	-8.45988	20.00000	Averaged	
4	Bromomethane	50.00000	17.47634	0.02867	0.010	-65.04731	20.00000	Quadratic	*
5	Chloroethane	50.00000	48.60152	0.17833	0.010	-2.79695	20.00000	Quadratic	
6	Trichlorofluoromethane	0.65192	0.63075	0.63075	0.010	-3.24657	20.00000	Averaged	
8	1,1-Dichloroethene	0.26990	0.24086	0.24086	0.010	-10.75744	20.00000	Averaged	
10	Carbon Disulfide	50.00000	42.66875	0.68082	0.010	-14.66250	20.00000	Quadratic	
14	Methylene Chloride	0.27768	0.24426	0.24426	0.010	-12.03461	20.00000	Averaged	
16	trans-1,2-Dichloroethene	0.26477	0.24106	0.24106	0.010	-8.95399	20.00000	Averaged	
24	1,1-Dichloroethane	0.52093	0.48108	0.48108	0.100	-7.64936	20.00000	Averaged	
28	cis-1,2-Dichloroethene	0.30714	0.27100	0.27100	0.010	-11.76424	20.00000	Averaged	
32	Chloroform	0.47452	0.43898	0.43898	0.010	-7.48990	20.00000	Averaged	
33	Carbon Tetrachloride	0.21623	0.21198	0.21198	0.010	-1.96687	20.00000	Averaged	
36	1,1,1-Trichloroethane	0.42271	0.39390	0.39390	0.010	-6.81482	20.00000	Averaged	
38	2-Butanone	0.14005	0.11670	0.11670	0.010	-16.67174	20.00000	Averaged	
39	Benzene	0.70847	0.66112	0.66112	0.010	-6.68364	20.00000	Averaged	
45	1,2-Dichloroethane	0.23885	0.21987	0.21987	0.010	-7.94567	20.00000	Averaged	
48	Trichloroethene	0.17683	0.16997	0.16997	0.010	-3.88000	20.00000	Averaged	
51	1,2-Dichloropropane	0.19448	0.18037	0.18037	0.010	-7.25354	20.00000	Averaged	
52	Bromodichloromethane	0.21495	0.21177	0.21177	0.010	-1.47850	20.00000	Averaged	
57	cis-1,3-dichloropropene	0.28962	0.28161	0.28161	0.010	-2.76608	20.00000	Averaged	
59	Toluene	0.44610	0.44817	0.44817	0.010	0.46422	20.00000	Averaged	
60	Tetrachloroethene	0.15970	0.14197	0.14197	0.010	-11.10483	20.00000	Averaged	
61	4-methyl-2-pentanone	0.17491	0.16624	0.16624	0.010	-4.95401	20.00000	Averaged	
62	trans-1,3-Dichloropropene	0.23984	0.24346	0.24346	0.010	1.51288	20.00000	Averaged	
63	1,1,2-Trichloroethane	0.12607	0.13346	0.13346	0.010	5.86733	20.00000	Averaged	
65	Dibromochloromethane	0.17234	0.17179	0.17179	0.010	-0.31778	20.00000	Averaged	
70	Chlorobenzene	0.52487	0.50191	0.50191	0.300	-4.37464	20.00000	Averaged	
71	Ethylbenzene	0.91258	0.87775	0.87775	0.010	-3.81684	20.00000	Averaged	
73	m+p-Xylenes	0.68251	0.66433	0.66433	0.010	-2.66418	20.00000	Averaged	
74	o-Xylene	0.67890	0.65996	0.65996	0.010	-2.78981	20.00000	Averaged	
76	Bromoform	0.11856	0.11168	0.11168	0.100	-5.80792	20.00000	Averaged	
82	1,1,2,2-Tetrachloroethane	0.39688	0.35723	0.35723	0.300	-9.99236	20.00000	Averaged	
35	Dibromofluoromethane	0.46250	0.44864	0.44864	0.010	-2.99701	20.00000	Averaged	
44	1,2-Dichloroethane-D4	0.56402	0.56245	0.56245	0.010	-0.27886	20.00000	Averaged	
58	Toluene-D8	1.21713	1.23605	1.23605	0.010	1.55489	20.00000	Averaged	
78	P-Bromofluorobenzene	0.41494	0.46303	0.46303	0.010	11.58954	20.00000	Averaged	

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240057-4
Lab File ID : W6430.D
Initial Calibration Date(s): 11/01/18 16:31 11/01/18 19:31

SDG: TL0579
Analytical Date: 11/05/18 16:31
Instrument ID: GCMS-W
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6430.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6430.D
Lab Smp Id: WG240057-4
Inj Date : 05-NOV-2018 16:31
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG240057-4,TL0579
Misc Info : WG240057,WG239831-4,TL0579-51
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 1   Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

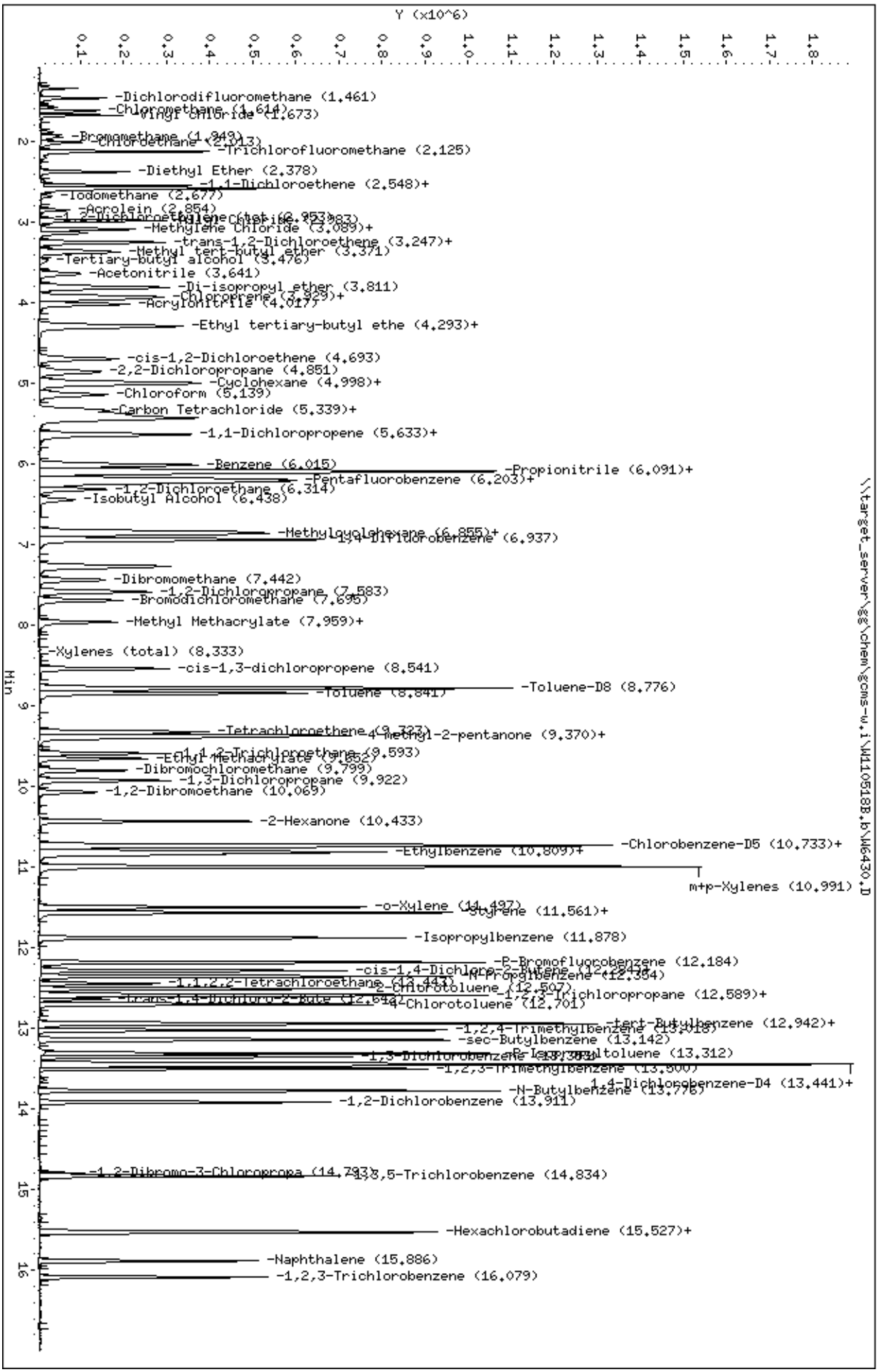
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	99860	50.0000	47.2	
2	Chloromethane	50	1.613	1.614	(0.261)	105592	50.0000	42.1	
3	Vinyl chloride	62	1.672	1.673	(0.270)	118600	50.0000	45.8	
4	Bromomethane	94	1.919	1.919	(0.310)	11898	50.0000	17.5	
5	Chloroethane	64	2.013	2.013	(0.325)	74009	50.0000	48.6	
6	Trichlorofluoromethane	101	2.124	2.125	(0.343)	261769	50.0000	48.4	
7	Diethyl Ether	59	2.377	2.378	(0.384)	87948	50.0000	43.3	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	99961	50.0000	44.6	
9	Freon-113	151	2.583	2.577	(0.417)	90352	50.0000	43.1	
10	Carbon Disulfide	76	2.583	2.583	(0.417)	282547	50.0000	42.7	
11	Iodomethane	142	2.683	2.683	(0.433)	27306	50.0000	39.2	
12	Acrolein	56	2.853	2.854	(0.461)	53088	250.000	189	
13	Allyl Chloride	41	2.982	2.983	(0.482)	165457	50.0000	44.1	
14	Methylene Chloride	84	3.088	3.089	(0.499)	101370	50.0000	44.0	
15	Acetone	43	3.135	3.136	(0.506)	133891	250.000	193	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	100044	50.0000	45.5	
17	Methyl Acetate	43	3.258	3.265	(0.526)	85446	50.0000	41.4	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.544)	215860	50.0000	43.6	
19	Tertiary-butyl alcohol	59	3.476	3.482	(0.562)	25539	250.000	178	
20	Acetonitrile	39	3.635	3.635	(0.587)	27207	500.000	355	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	354147	50.0000	46.5	
M 22	1,2-Dichloroethylene (total)	96				212513	50.0000	89.6	
23	Chloroprene	53	3.922	3.923	(0.634)	161594	50.0000	46.3	

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6430.D
Report Date: 27-Nov-2018 17:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24 1,1-Dichloroethane	63	3.946	3.952	(0.637)	199654	50.0000	46.2	
	25 Acrylonitrile	52	4.016	4.022	(0.649)	164691	250.000	208	
	26 Ethyl tertiary-butyl ether	59	4.281	4.287	(0.692)	293648	50.0000	47.7	
	27 Vinyl Acetate	43	4.293	4.299	(0.619)	264210	50.0000	46.3	
	28 cis-1,2-Dichloroethene	96	4.698	4.698	(0.759)	112469	50.0000	44.1	
	29 2,2-Dichloropropane	77	4.851	4.857	(0.784)	140099	50.0000	48.4	
	30 Cyclohexane	56	4.992	4.992	(0.806)	197966	50.0000	47.8	
	31 Bromochloromethane	128	4.998	4.998	(0.807)	49889	50.0000	49.2	
	32 Chloroform	83	5.139	5.139	(0.830)	182180	50.0000	46.2	
	33 Carbon Tetrachloride	117	5.338	5.333	(0.770)	142450	50.0000	49.0	
	34 Tetrahydrofuran	42	5.380	5.380	(0.869)	162895	250.000	204	
$	35 Dibromofluoromethane	113	5.421	5.427	(0.876)	186191	50.0000	48.5	
	36 1,1,1-Trichloroethane	97	5.438	5.439	(0.879)	163472	50.0000	46.6	
	37 1,1-Dichloropropene	75	5.638	5.639	(0.813)	153217	50.0000	48.2	
	38 2-Butanone	43	5.638	5.633	(0.911)	242167	250.000	208	
	39 Benzene	78	6.014	6.009	(0.867)	444273	50.0000	46.6	
	40 Propionitrile	54	6.067	6.067	(0.980)	150098	500.000	419	
	41 Methacrylonitrile	41	6.091	6.097	(0.984)	731386	500.000	462	
*	42 Pentafluorobenzene	168	6.190	6.185	(1.000)	415009	50.0000		
	43 Tertiary-amyl methyl ether	73	6.232	6.238	(1.007)	271594	50.0000	46.8	
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	233420	50.0000	49.9	
	45 1,2-Dichloroethane	62	6.314	6.314	(0.910)	147753	50.0000	46.0	
	46 Isobutyl Alcohol	43	6.449	6.449	(1.042)	70525	1000.00	644	
	47 Methylcyclohexane	83	6.843	6.843	(1.105)	230738	50.0000	50.8	
	48 Trichloroethene	95	6.866	6.867	(0.990)	114220	50.0000	48.1	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	672005	50.0000		
	50 Dibromomethane	93	7.442	7.442	(1.073)	71424	50.0000	50.1	
	51 1,2-Dichloropropane	63	7.583	7.589	(1.093)	121210	50.0000	46.4	
	52 Bromodichloromethane	83	7.689	7.695	(1.108)	142310	50.0000	49.3	
	53 Methyl Methacrylate	41	7.959	7.959	(1.147)	98123	50.0000	46.0	
	54 1,4-Dioxane	88	7.971	7.983	(1.149)	14961	1000.00	409	
M	56 Xylenes (total)	91				1361245	150.000	146	
	57 cis-1,3-dichloropropene	75	8.535	8.541	(1.230)	189244	50.0000	48.6	
$	58 Toluene-D8	98	8.776	8.782	(1.265)	830633	50.0000	50.8	
	59 Toluene	92	8.840	8.847	(1.274)	301170	50.0000	50.2	
	60 Tetrachloroethene	164	9.322	9.328	(0.869)	97181	50.0000	44.4	
	61 4-methyl-2-pentanone	43	9.369	9.370	(1.351)	558572	250.000	238	
	62 trans-1,3-Dichloropropene	75	9.398	9.399	(1.355)	163609	50.0000	50.8	
	63 1,1,2-Trichloroethane	83	9.592	9.593	(1.383)	89689	50.0000	52.9	
	64 Ethyl Methacrylate	69	9.657	9.657	(1.392)	136022	50.0000	48.6	
	65 Dibromochloromethane	129	9.804	9.804	(0.914)	117594	50.0000	49.8	
	66 1,3-Dichloropropane	76	9.921	9.922	(0.925)	186128	50.0000	46.5	
	67 1,2-Dibromoethane	107	10.074	10.075	(1.452)	97064	50.0000	48.0	
	68 2-Hexanone	43	10.433	10.433	(0.973)	364934	250.000	212	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	684520	50.0000		
	70 Chlorobenzene	112	10.744	10.750	(1.002)	343566	50.0000	47.8	
	71 Ethylbenzene	91	10.809	10.809	(1.008)	600838	50.0000	48.1	
	72 1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	120026	50.0000	50.1	
	73 m+p-Xylenes	91	10.997	10.997	(1.025)	909488	100.000	97.3	
	74 o-Xylene	91	11.496	11.497	(1.072)	451757	50.0000	48.6	
	75 Styrene	104	11.561	11.561	(1.078)	375337	50.0000	48.6	
	76 Bromoform	173	11.567	11.567	(1.078)	76445	50.0000	47.1	
	77 Isopropylbenzene	105	11.878	11.878	(0.884)	579404	50.0000	47.1	
$	78 P-Bromofluorobenzene	95	12.178	12.184	(1.756)	311157	50.0000	55.8	

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6430.D
Report Date: 27-Nov-2018 17:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.277	12.278	(0.913)	43790	50.0000	45.6	
	80 Bromobenzene	156	12.283	12.284	(0.914)	144366	50.0000	44.8	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	741387	50.0000	46.2	
	82 1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	136899	50.0000	45.0	
	83 2-Chlorotoluene	91	12.507	12.507	(0.930)	388008	50.0000	44.7	
	84 1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	116763	50.0000	45.7	
	85 1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	482713	50.0000	46.0	
	86 trans-1,4-Dichloro-2-Butene	53	12.636	12.636	(0.940)	34110	50.0000	44.5	
	87 4-Chlorotoluene	91	12.701	12.701	(0.945)	417651	50.0000	46.6	
	88 tert-Butylbenzene	119	12.941	12.942	(0.963)	505740	50.0000	46.9	
	89 Pentachloroethane	117	12.947	12.942	(0.963)	101167	50.0000	47.1	
	90 1,2,4-Trimethylbenzene	105	13.018	13.024	(0.969)	490123	50.0000	46.7	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	681187	50.0000	46.3	
	92 P-Isopropyltoluene	119	13.306	13.312	(0.990)	581659	50.0000	47.0	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	281146	50.0000	46.1	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	383228	50.0000		
	95 1,4-Dichlorobenzene	146	13.453	13.459	(1.001)	289834	50.0000	45.6	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	481078	50.0000	45.3	
	97 N-Butylbenzene	91	13.776	13.776	(1.025)	587535	50.0000	46.9	
	98 1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	262183	50.0000	46.5	
	99 1,2-Dibromo-3-Chloropropane	157	14.792	14.799	(1.101)	24295	50.0000	41.8	
	100 1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	202196	50.0000	43.4	
	101 Hexachlorobutadiene	225	15.515	15.515	(1.154)	95929	50.0000	41.4	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	175152	50.0000	44.0	
	103 Naphthalene	128	15.885	15.886	(1.182)	358040	50.0000	38.8	
	104 1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	152757	50.0000	44.6	
M	105 Total Alkylbenzenes	100				4070344	50.0000	326	



Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6430.D
Date : 05-NOV-2018 16:31
Client ID:
Sample Info: WG240057-4,TL0579
Purge Volume: 5.0
Column phase: RTX-VMS

Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18

\\target_server\gg\chem\gcms-w.i\W110518B.b\W6430.D

Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\WB977a.D

Date : 01-NOV-2018 16:07

Client ID:

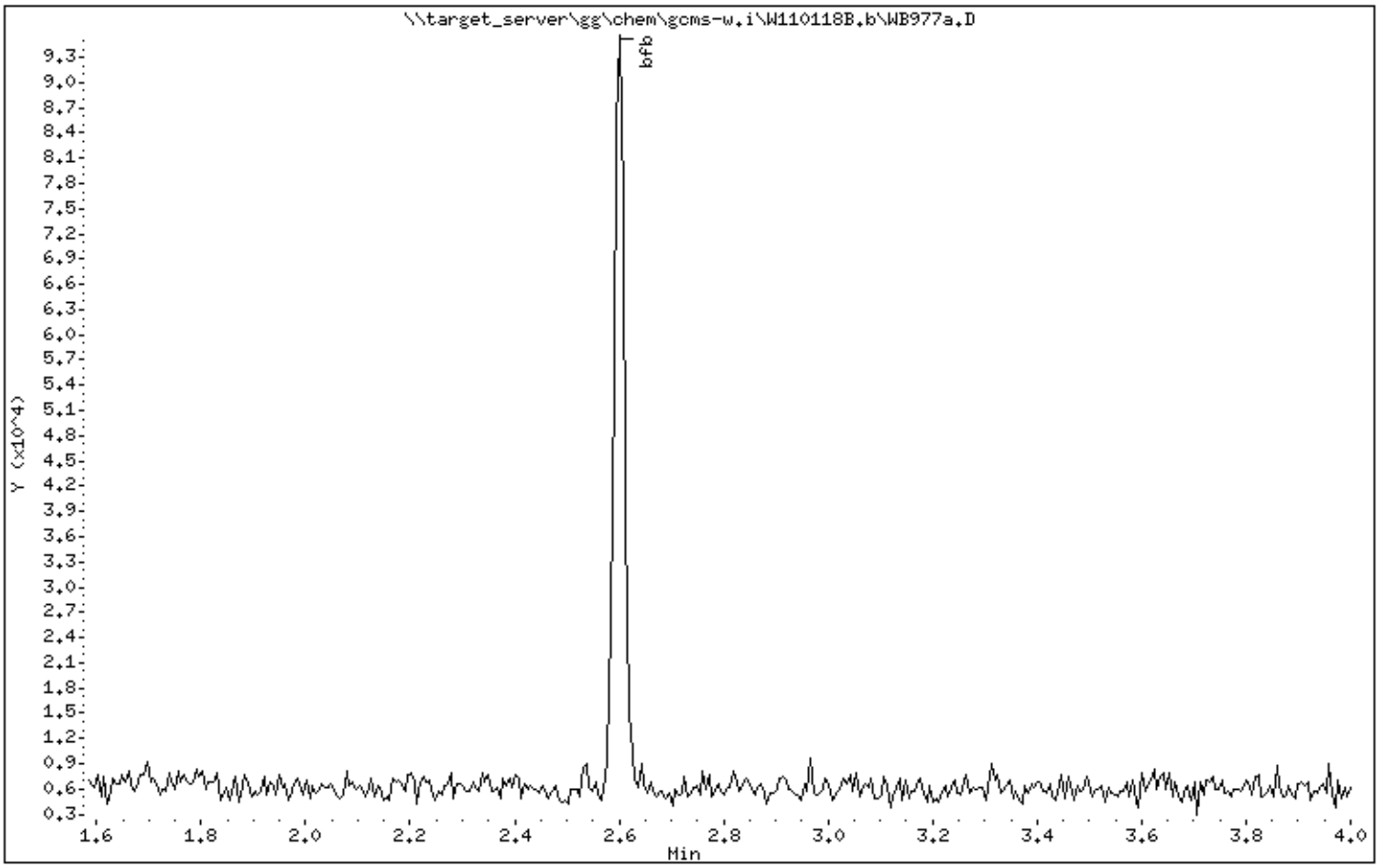
Instrument: gcms-w.i

Sample Info: WG239831-11,TL0579

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W110118B.b\WB977a.D

Date : 01-NOV-2018 16:07

Client ID:

Instrument: gcms-w.i

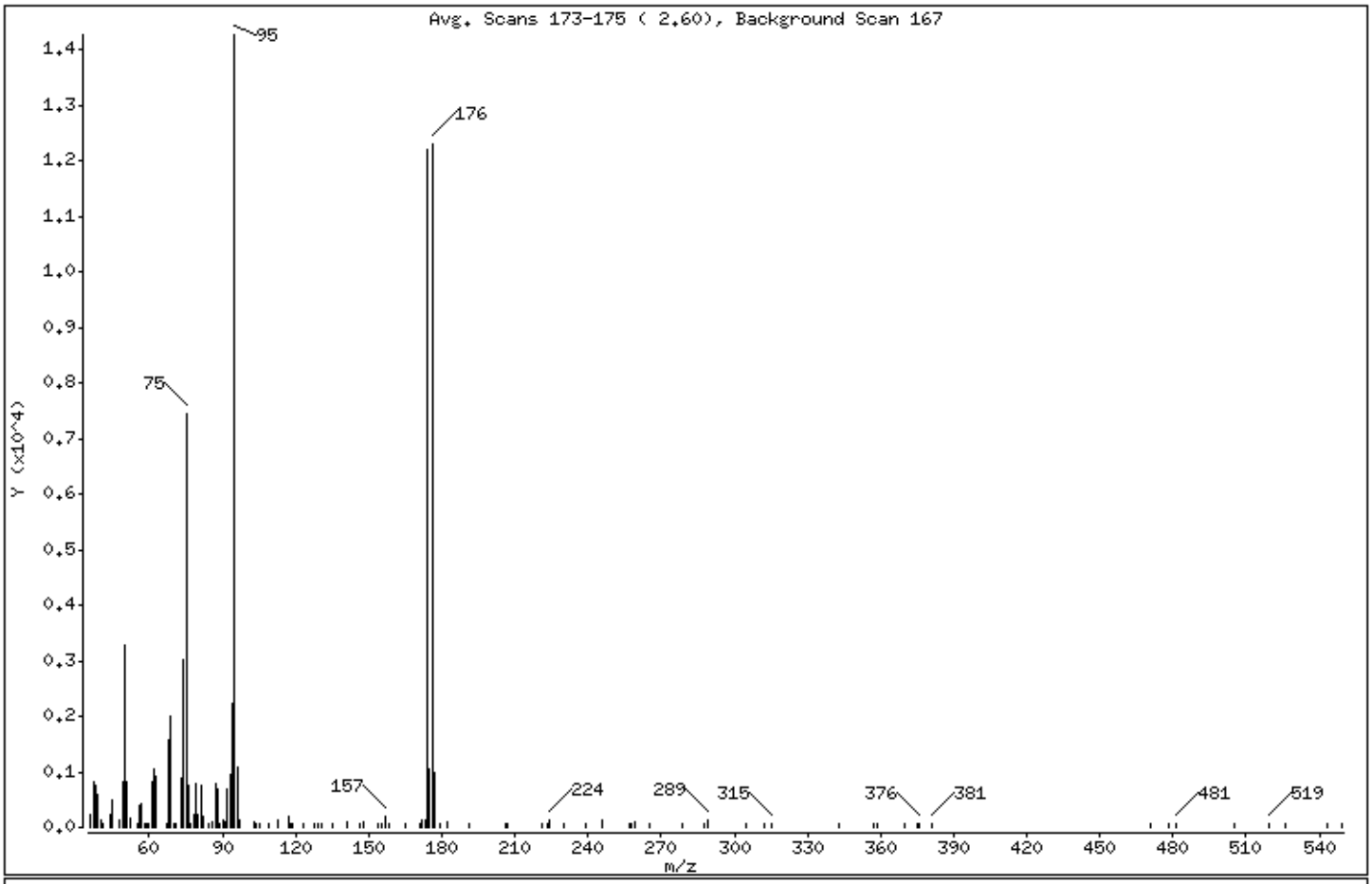
Sample Info: WG239831-11,TL0579

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.03
75	30.00 - 60.00% of mass 95	52.27
96	5.00 - 9.00% of mass 95	7.67
173	Less than 2.00% of mass 174	1.03 (1.20)
174	Greater than 50.00% of mass 95	85.52
175	5.00 - 9.00% of mass 174	7.25 (8.47)
176	95.00 - 101.00% of mass 174	86.31 (100.93)
177	5.00 - 9.00% of mass 176	6.83 (7.91)

Date : 01-NOV-2018 16:07

Client ID: Instrument: gcms-w.i

Sample Info: WG239831-11,TL0579

Operator: HG

Column phase: RTX-VMS Column diameter: 0.18

Data File: WB977a.D
Spectrum: Avg. Scans 173-175 (2.60), Background Scan 167
Location of Maximum: 95.00
Number of points: 114

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	239	75.00	7458	123.00	55	239.00	54
37.00	835	76.00	769	128.00	82	246.00	117
38.00	751	77.00	57	129.00	62	257.00	53
39.00	595	78.00	236	131.00	53	258.00	59
40.00	144	79.00	777	135.00	68	259.00	100
41.00	53	80.00	220	141.00	87	265.00	53
44.00	232	81.00	759	146.00	82	279.00	55
45.00	500	82.00	195	148.00	89	288.00	52
48.00	119	84.00	50	154.00	60	289.00	118
49.00	816	86.00	86	155.00	73	305.00	52
50.00	3286	87.00	777	157.00	197	312.00	64
51.00	819	88.00	697	158.00	66	315.00	67
52.00	158	89.00	64	165.00	50	343.00	53
55.00	53	90.00	125	171.00	53	357.00	58
56.00	398	91.00	86	172.00	119	359.00	56
57.00	431	92.00	681	173.00	147	370.00	50
58.00	61	93.00	939	174.00	12203	375.00	64
59.00	59	94.00	2228	175.00	1034	376.00	73
60.00	60	95.00	14269	176.00	12316	381.00	72
61.00	832	96.00	1095	177.00	974	471.00	64
62.00	1037	97.00	118	179.00	62	478.00	75
63.00	915	103.00	89	182.00	86	481.00	82
67.00	65	104.00	75	191.00	54	505.00	67
68.00	1575	105.00	59	206.00	73	519.00	77
69.00	1988	109.00	65	207.00	59	526.00	72
70.00	64	113.00	125	221.00	58	543.00	72
71.00	57	117.00	209	223.00	78	549.00	70
73.00	894	118.00	60	224.00	118		
74.00	3027	119.00	66	230.00	50		

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\WB979.D

Date : 02-NOV-2018 16:54

Client ID:

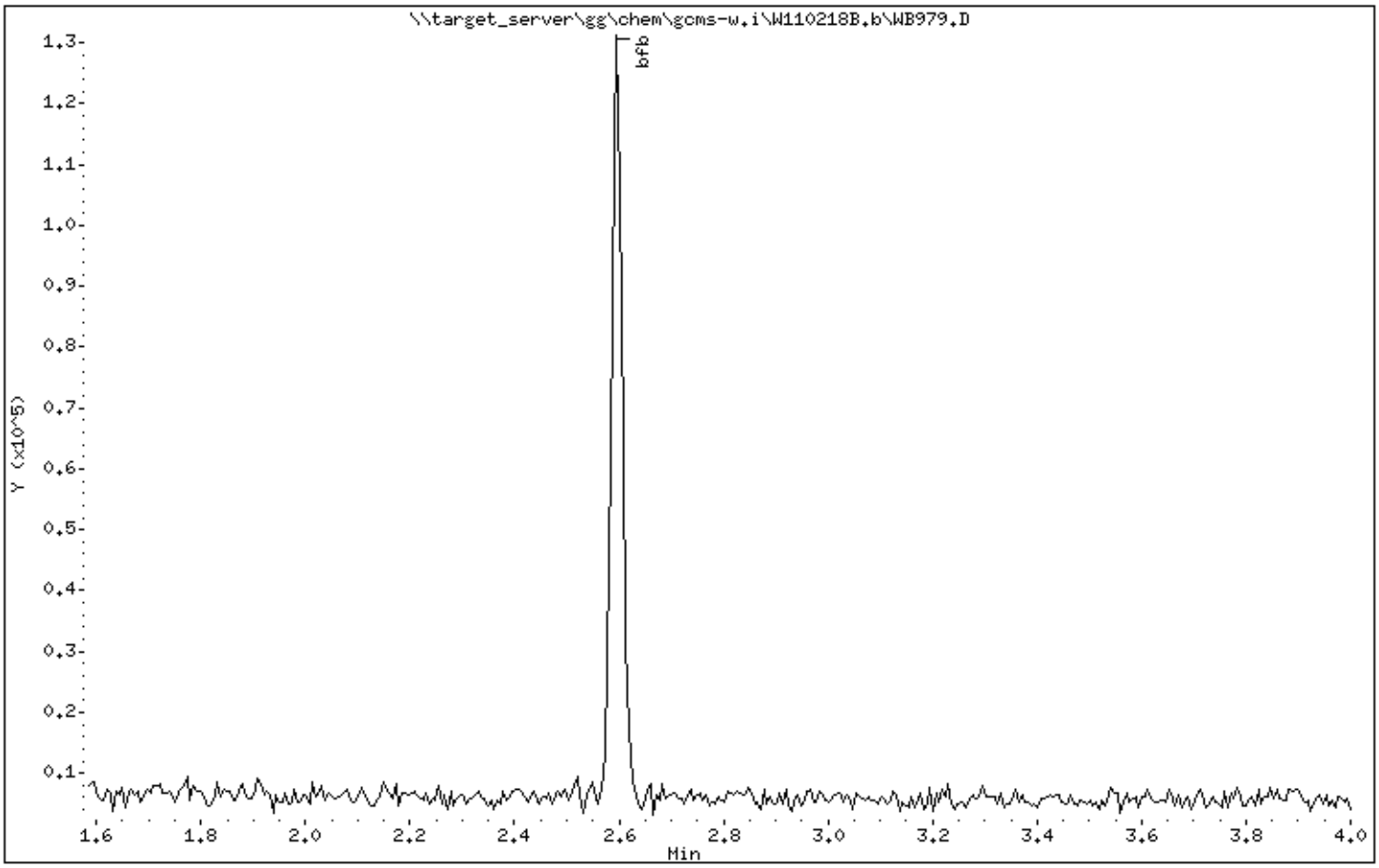
Instrument: gcms-w.i

Sample Info: WG239918-3,TL0579

Operator: JR/HG

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\WB979.D

Date : 02-NOV-2018 16:54

Client ID:

Instrument: gcms-w.i

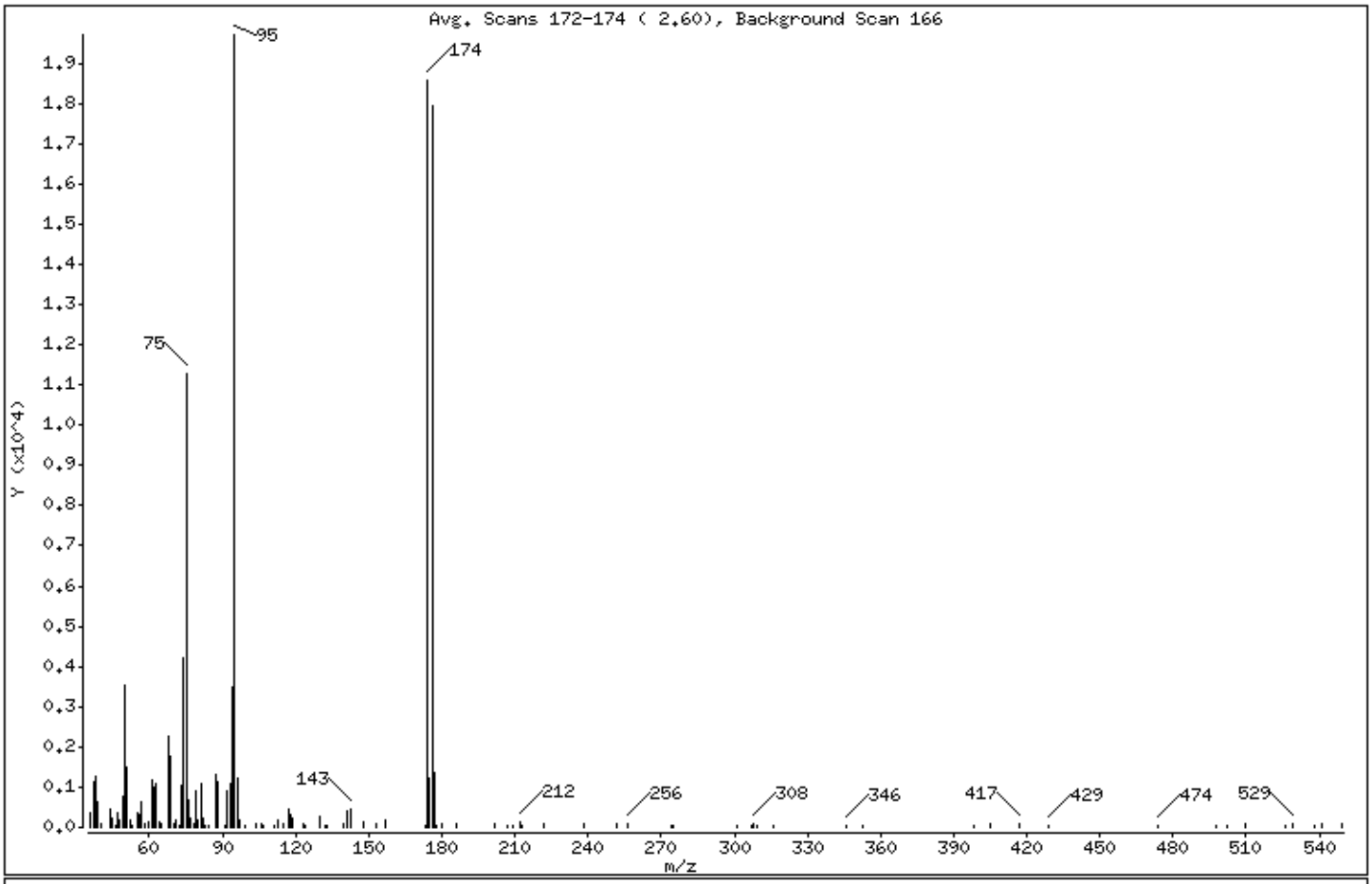
Sample Info: WG239918-3,TL0579

Operator: JR/HG

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.03
75	30.00 - 60.00% of mass 95	57.35
96	5.00 - 9.00% of mass 95	6.21
173	Less than 2.00% of mass 174	0.29 (0.31)
174	Greater than 50.00% of mass 95	94.19
175	5.00 - 9.00% of mass 174	6.17 (6.55)
176	95.00 - 101.00% of mass 174	91.15 (96.77)
177	5.00 - 9.00% of mass 176	6.89 (7.56)

Date : 02-NOV-2018 16:54

Client ID: Instrument: gcms-w.i

Sample Info: WG239918-3,TL0579

Operator: JR/HG

Column phase: RTX-VMS Column diameter: 0.18

Data File: WB979.D
Spectrum: Avg. Scans 172-174 (2.60), Background Scan 166
Location of Maximum: 95.00
Number of points: 111

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	354	71.00	178	113.00	195	213.00	58
37.00	1134	72.00	65	115.00	76	222.00	79
38.00	1251	73.00	1058	117.00	438	238.00	77
39.00	645	74.00	4214	118.00	320	252.00	75
40.00	69	75.00	11300	119.00	237	256.00	85
44.00	448	76.00	677	123.00	96	274.00	53
45.00	213	77.00	221	124.00	51	275.00	53
46.00	62	78.00	104	130.00	254	301.00	57
47.00	348	79.00	917	132.00	64	307.00	59
48.00	159	80.00	182	133.00	63	308.00	82
49.00	754	81.00	1070	140.00	72	309.00	65
50.00	3553	82.00	245	141.00	393	316.00	67
51.00	1493	83.00	57	143.00	462	346.00	60
52.00	168	84.00	64	148.00	127	353.00	54
53.00	60	87.00	1302	153.00	103	398.00	53
55.00	356	88.00	1139	157.00	180	405.00	69
56.00	335	91.00	52	173.00	58	417.00	73
57.00	628	92.00	905	174.00	18560	429.00	50
58.00	112	93.00	1096	175.00	1215	474.00	66
60.00	151	94.00	3482	176.00	17960	498.00	65
61.00	1172	95.00	19704	177.00	1357	502.00	51
62.00	992	96.00	1224	178.00	50	510.00	79
63.00	1108	97.00	169	180.00	72	526.00	66
64.00	123	99.00	64	186.00	92	529.00	86
65.00	88	104.00	102	202.00	80	538.00	55
68.00	2283	106.00	99	207.00	63	541.00	80
69.00	1746	107.00	53	209.00	51	549.00	72
70.00	74	111.00	59	212.00	126		

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\WB980a.D

Date : 03-NOV-2018 06:29

Client ID:

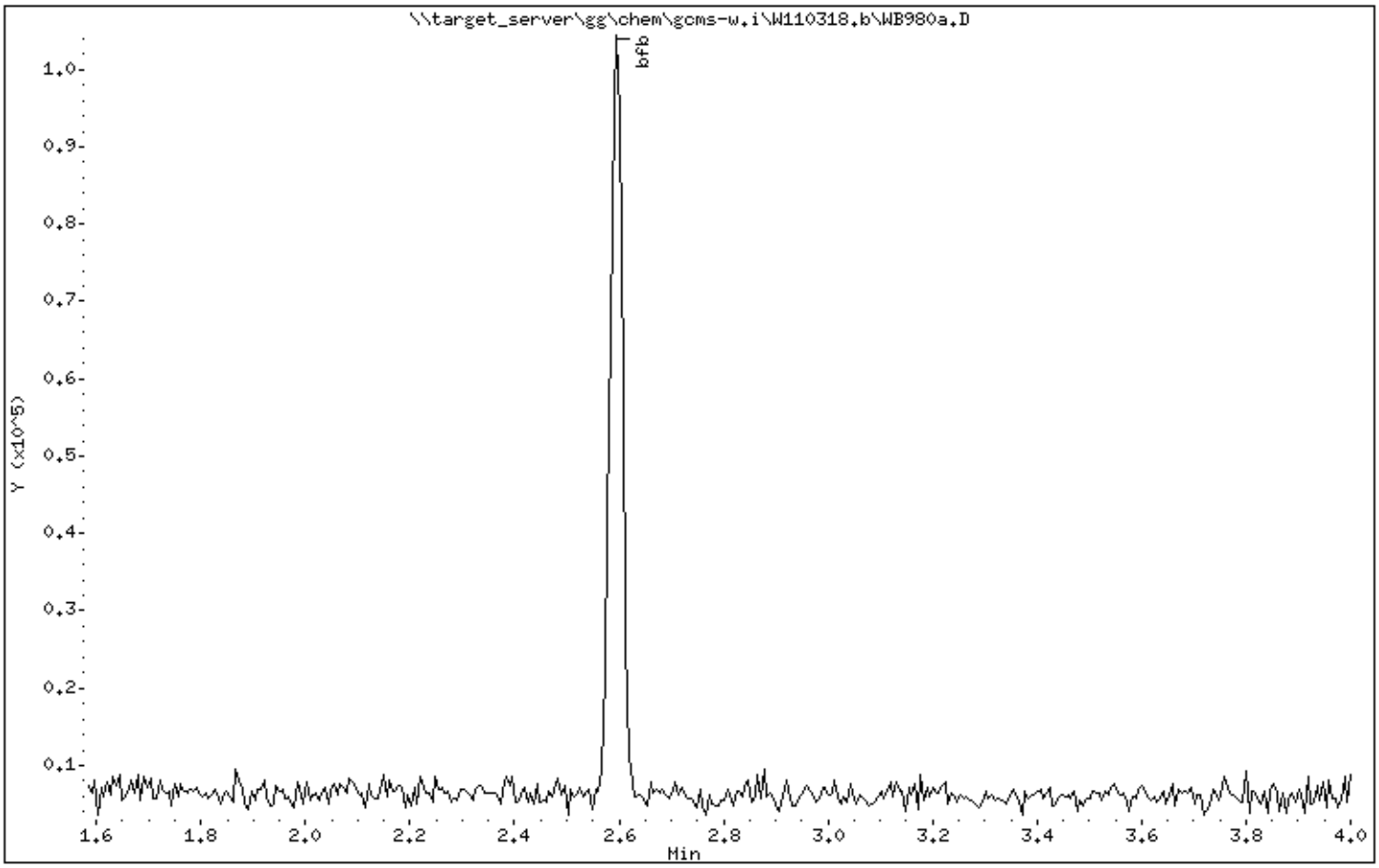
Instrument: gcms-w.i

Sample Info: WG239941-3,TL0579

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\WB980a.D

Date : 03-NOV-2018 06:29

Client ID:

Instrument: gcms-w.i

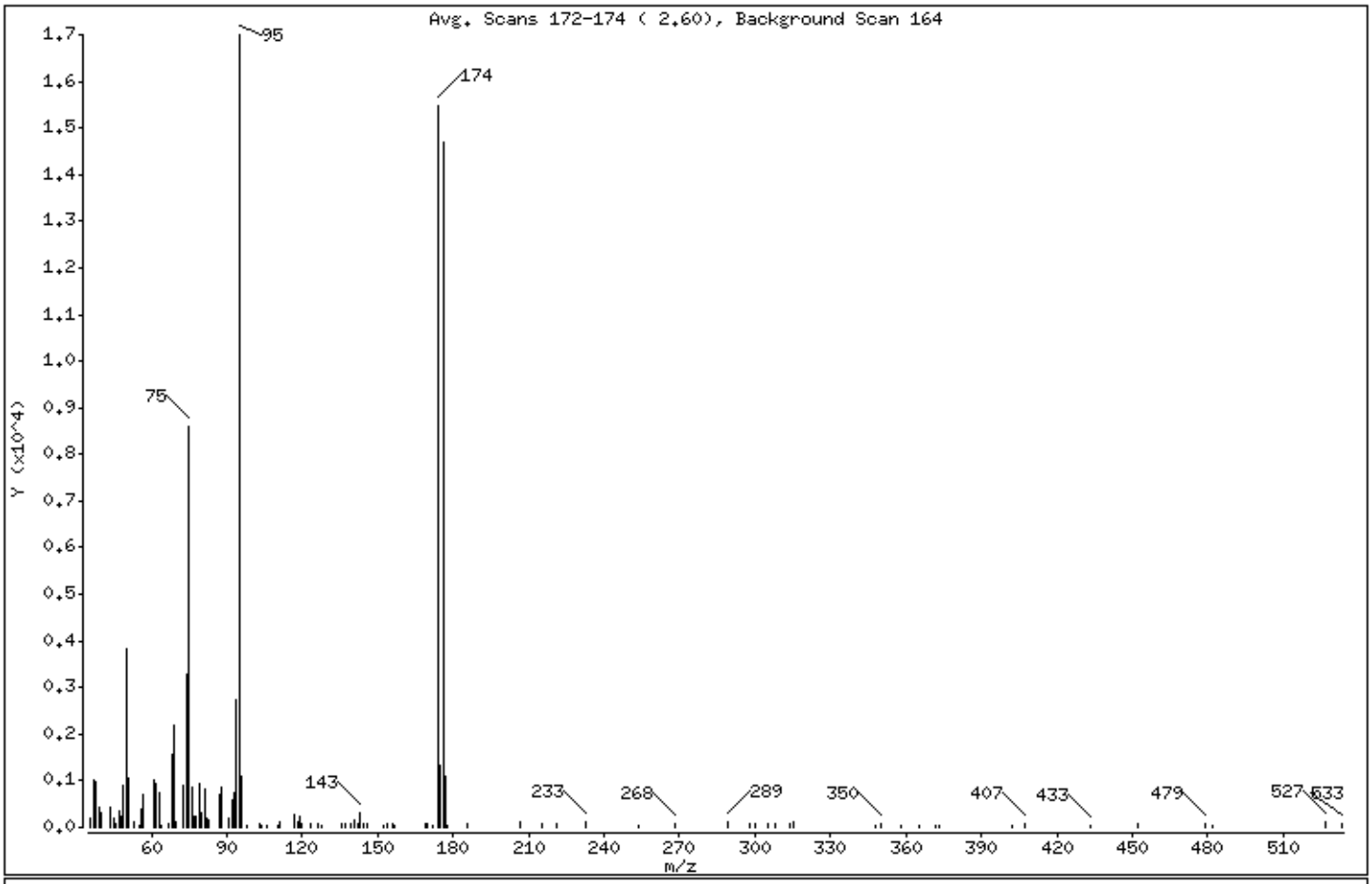
Sample Info: WG239941-3,TL0579

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.55
75	30.00 - 60.00% of mass 95	50.62
96	5.00 - 9.00% of mass 95	6.33
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	90.98
175	5.00 - 9.00% of mass 174	7.72 (8.48)
176	95.00 - 101.00% of mass 174	86.52 (95.10)
177	5.00 - 9.00% of mass 176	6.35 (7.34)

Date : 03-NOV-2018 06:29

Client ID: Instrument: gcms-w.i

Sample Info: WG239941-3,TL0579

Operator: HG

Column phase: RTX-VMS Column diameter: 0.18

Data File: WB980a.D
Spectrum: Avg. Scans 172-174 (2.60), Background Scan 164
Location of Maximum: 95.00
Number of points: 105

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	195	75.00	8606	123.00	64	233.00	118
37.00	1028	76.00	860	126.00	75	254.00	53
38.00	987	77.00	216	128.00	57	268.00	62
39.00	422	78.00	231	136.00	61	289.00	131
40.00	313	79.00	938	137.00	77	298.00	64
44.00	431	80.00	311	139.00	63	300.00	62
45.00	205	81.00	813	141.00	164	305.00	73
46.00	68	82.00	213	142.00	64	308.00	59
47.00	350	83.00	155	143.00	331	314.00	65
48.00	249	87.00	713	144.00	93	315.00	102
49.00	897	88.00	870	146.00	70	348.00	51
50.00	3834	91.00	201	152.00	56	350.00	66
51.00	1047	92.00	583	154.00	82	358.00	55
53.00	126	93.00	738	156.00	66	365.00	50
55.00	56	94.00	2730	157.00	52	372.00	50
56.00	398	95.00	17000	169.00	93	373.00	57
57.00	701	96.00	1076	170.00	76	402.00	55
61.00	1009	98.00	53	172.00	51	407.00	91
62.00	924	103.00	77	174.00	15466	433.00	56
63.00	758	104.00	55	175.00	1312	452.00	67
64.00	50	106.00	55	176.00	14708	479.00	94
67.00	66	110.00	53	177.00	1080	482.00	50
68.00	1574	111.00	128	178.00	55	527.00	107
69.00	2195	117.00	270	186.00	78	533.00	60
70.00	133	118.00	115	207.00	105		
73.00	882	119.00	223	215.00	65		
74.00	3286	120.00	76	221.00	63		

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\WB981a.D

Date : 05-NOV-2018 03:34

Client ID:

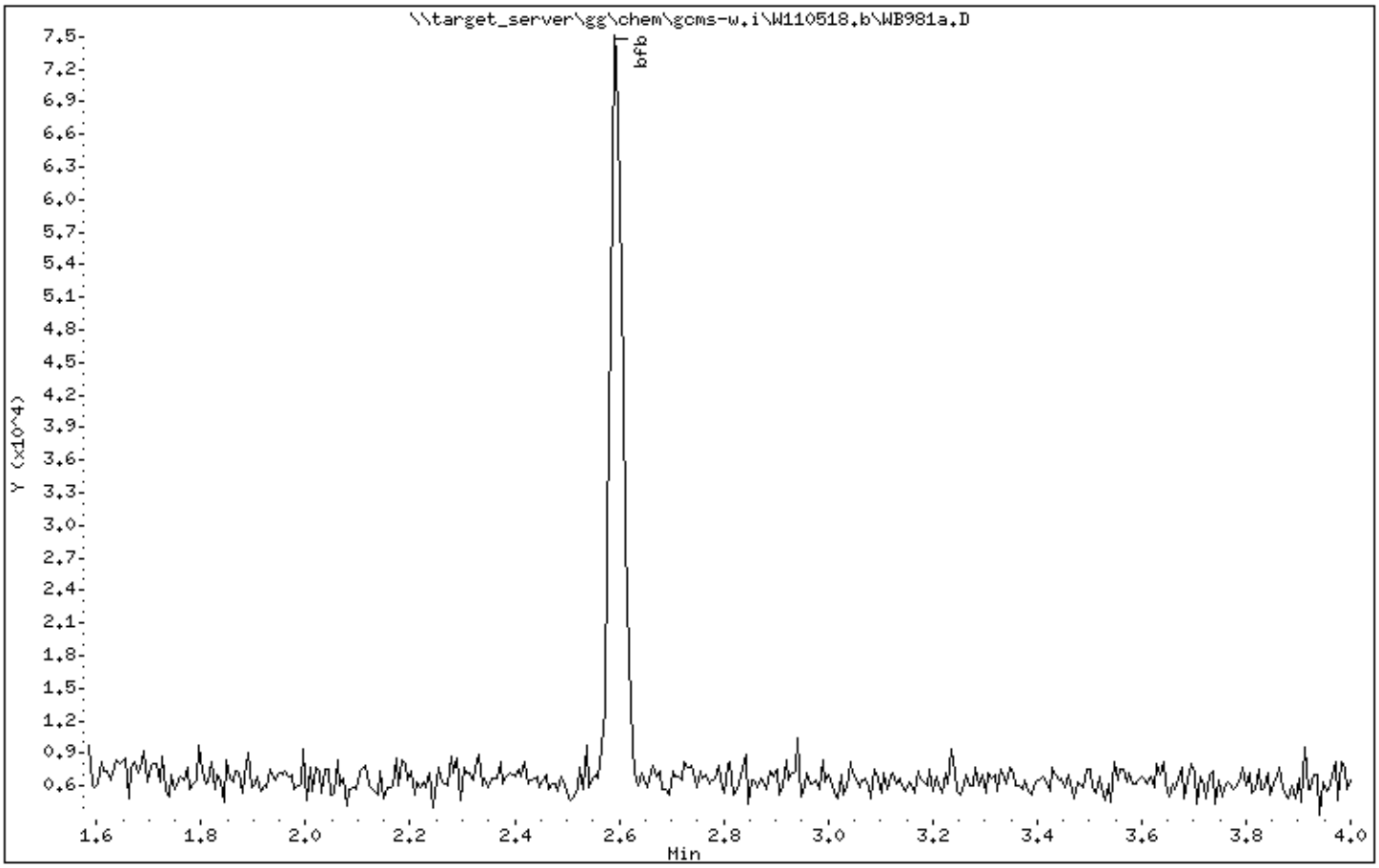
Instrument: gcms-w.i

Sample Info: WG240010-3,TL0579

Operator: TTC

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\WB981a.D

Date : 05-NOV-2018 03:34

Client ID:

Instrument: gcms-w.i

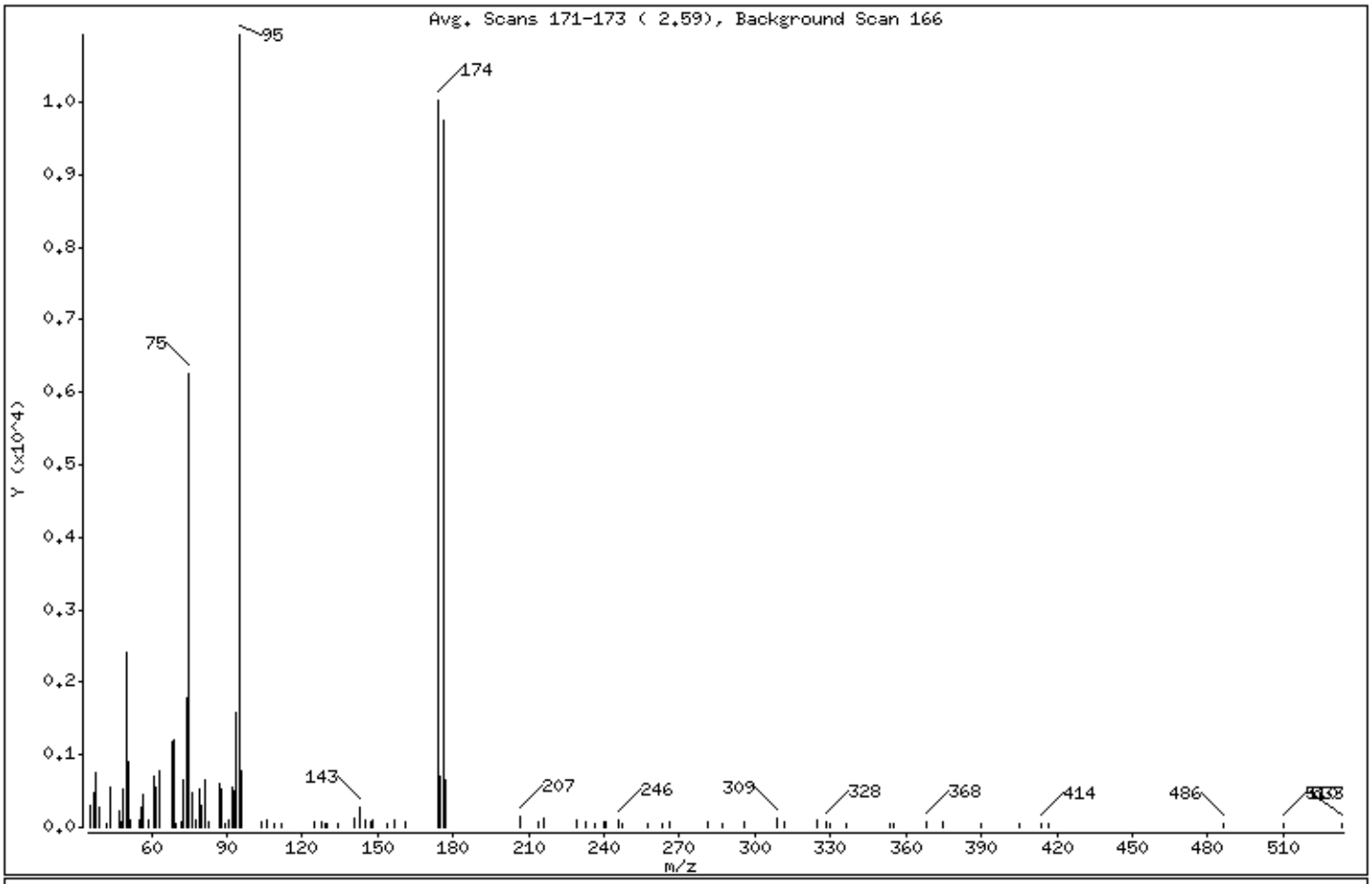
Sample Info: WG240010-3,TL0579

Operator: TTC

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.07
75	30.00 - 60.00% of mass 95	57.21
96	5.00 - 9.00% of mass 95	7.18
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	91.81
175	5.00 - 9.00% of mass 174	6.52 (7.10)
176	95.00 - 101.00% of mass 174	89.21 (97.17)
177	5.00 - 9.00% of mass 176	6.03 (6.76)

Date : 05-NOV-2018 03:34

Client ID:

Instrument: gcms-w.i

Sample Info: WG240010-3,TL0579

Operator: TTC

Column phase: RTX-VMS

Column diameter: 0.18

Data File: WB981a.D
Spectrum: Avg. Scans 171-173 (2.59), Background Scan 166
Location of Maximum: 95.00
Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	290	74.00	1775	130.00	58	257.00	56
37.00	484	75.00	6251	134.00	60	263.00	52
38.00	758	76.00	470	141.00	121	266.00	69
39.00	284	78.00	96	143.00	268	281.00	82
42.00	54	79.00	523	145.00	101	287.00	52
44.00	550	80.00	313	147.00	82	296.00	77
47.00	230	81.00	665	148.00	91	309.00	137
48.00	64	83.00	80	154.00	53	312.00	85
49.00	540	87.00	609	157.00	96	325.00	91
50.00	2412	88.00	524	161.00	65	328.00	70
51.00	903	89.00	51	174.00	10032	330.00	54
52.00	109	91.00	106	175.00	712	336.00	60
55.00	90	92.00	565	176.00	9748	354.00	52
56.00	272	93.00	504	177.00	659	355.00	53
57.00	449	94.00	1572	207.00	155	368.00	83
59.00	89	95.00	10927	214.00	65	375.00	63
61.00	715	96.00	785	216.00	137	390.00	54
62.00	556	104.00	80	229.00	110	405.00	52
63.00	781	106.00	92	233.00	71	414.00	61
68.00	1180	109.00	55	236.00	60	417.00	51
69.00	1205	112.00	56	240.00	79	486.00	53
70.00	56	125.00	64	241.00	73	510.00	62
72.00	82	128.00	65	246.00	98	533.00	61
73.00	663	129.00	56	247.00	50		

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\WB982a.D

Date : 05-NOV-2018 16:04

Client ID:

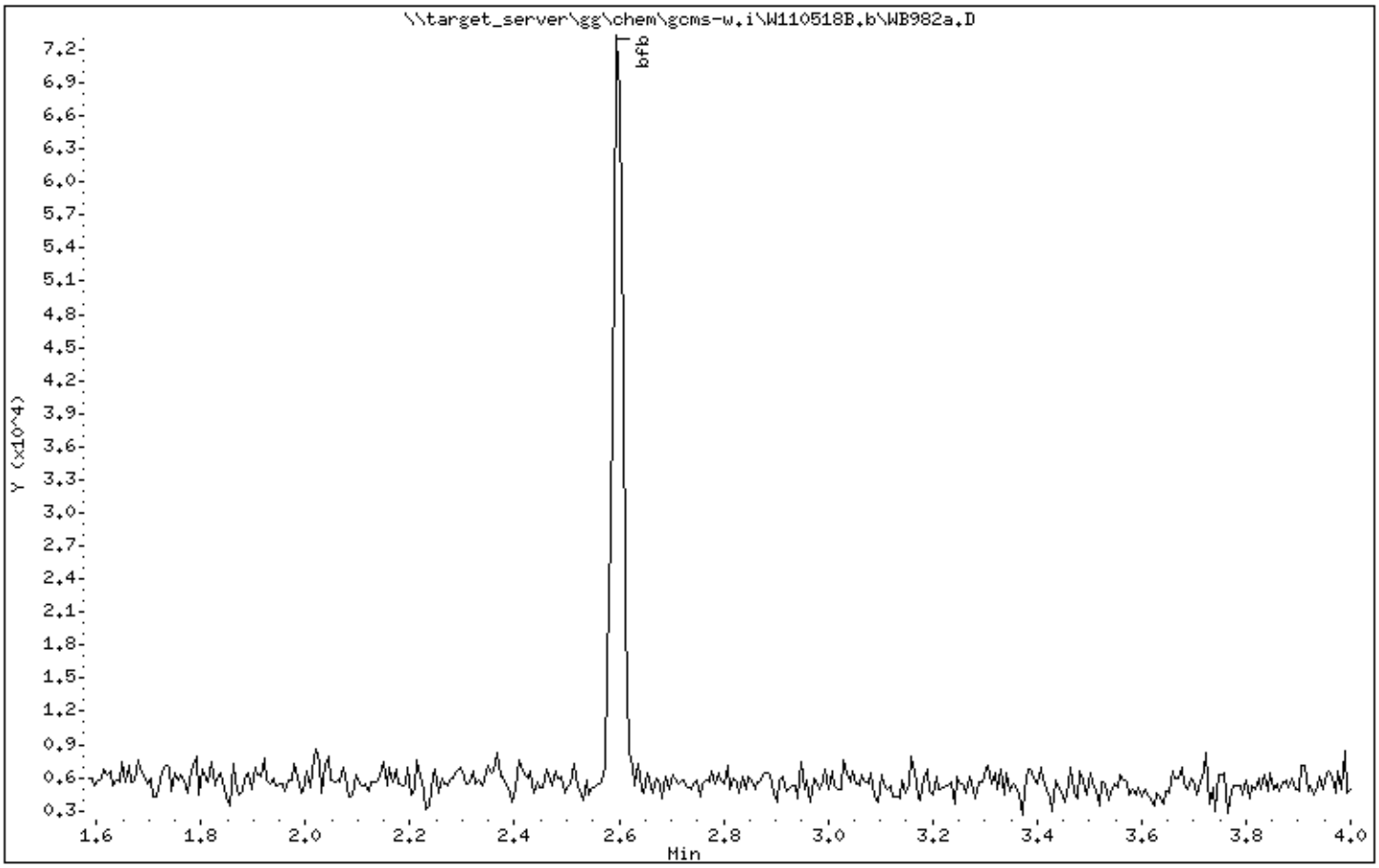
Instrument: gcms-w.i

Sample Info: WG240057-3,TL0579

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\WB982a.D

Date : 05-NOV-2018 16:04

Client ID:

Instrument: gcms-w.i

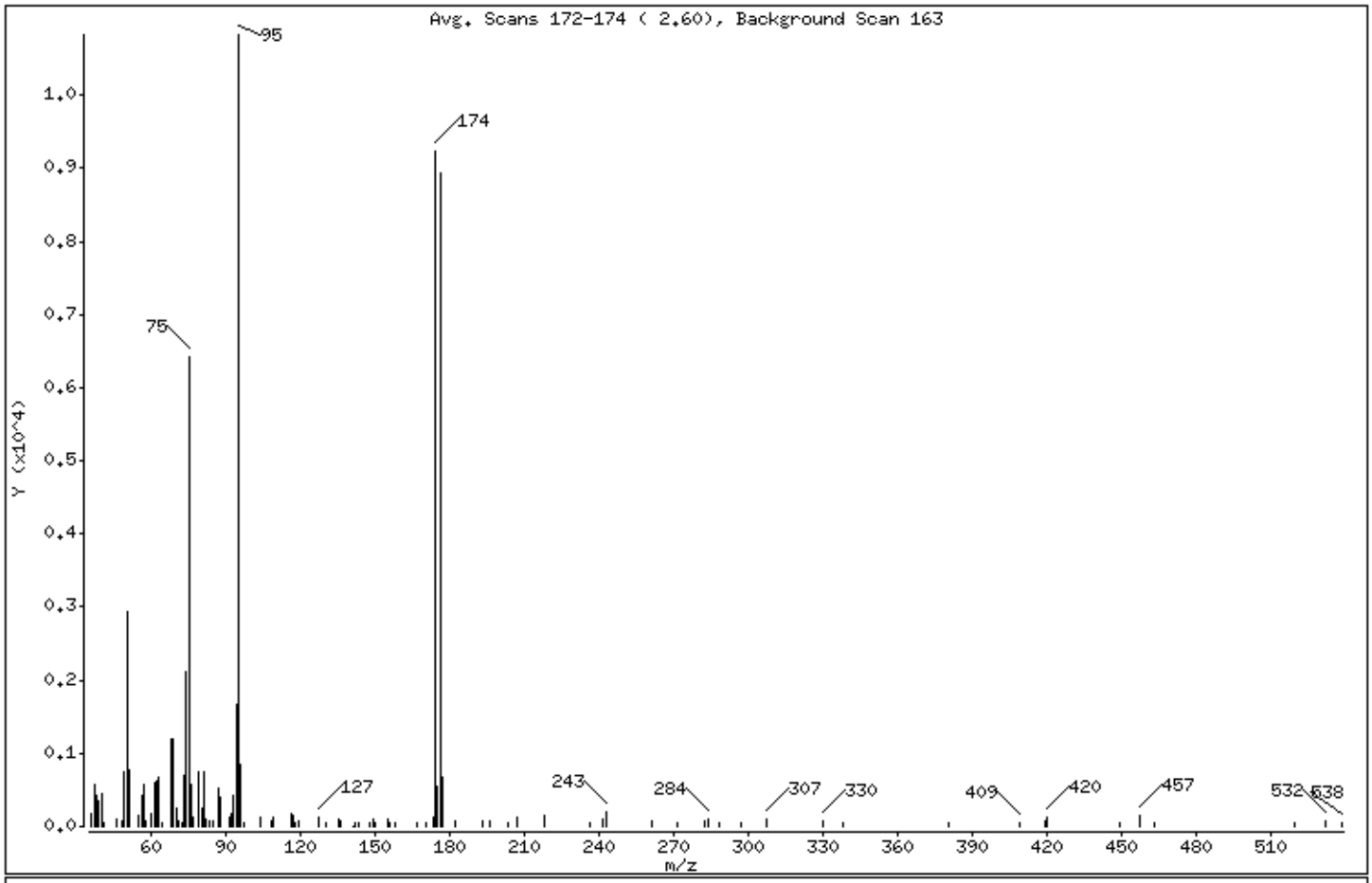
Sample Info: WG240057-3,TL0579

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	27.12
75	30.00 - 60.00% of mass 95	59.39
96	5.00 - 9.00% of mass 95	7.87
173	Less than 2.00% of mass 174	1.17 (1.38)
174	Greater than 50.00% of mass 95	85.23
175	5.00 - 9.00% of mass 174	5.13 (6.02)
176	95.00 - 101.00% of mass 174	82.55 (96.86)
177	5.00 - 9.00% of mass 176	6.19 (7.50)

Date : 05-NOV-2018 16:04

Client ID: Instrument: gcms-w.i

Sample Info: WG240057-3,TL0579

Operator: HG

Column phase: RTX-VMS Column diameter: 0.18

Data File: WB982a.D
Spectrum: Avg. Scans 172-174 (2.60), Background Scan 163
Location of Maximum: 95.00
Number of points: 100

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	171	74.00	2104	127.00	117	236.00	60
37.00	569	75.00	6431	130.00	56	241.00	91
38.00	435	76.00	574	135.00	104	243.00	203
39.00	355	77.00	116	136.00	69	261.00	68
40.00	439	79.00	750	141.00	6	271.00	50
41.00	53	80.00	241	142.00	54	282.00	67
46.00	95	81.00	740	143.00	59	284.00	109
48.00	84	82.00	103	148.00	61	288.00	62
49.00	737	83.00	74	149.00	110	297.00	60
50.00	2937	85.00	64	150.00	58	307.00	94
51.00	780	87.00	523	155.00	104	330.00	68
55.00	143	88.00	399	156.00	60	338.00	59
56.00	417	91.00	114	158.00	59	380.00	54
57.00	583	92.00	182	167.00	54	409.00	58
58.00	87	93.00	432	170.00	60	419.00	63
60.00	184	94.00	1657	173.00	127	420.00	136
61.00	597	95.00	10828	174.00	9229	449.00	59
62.00	627	96.00	852	175.00	556	457.00	137
63.00	671	97.00	60	176.00	8939	463.00	53
64.00	55	104.00	131	177.00	670	519.00	57
68.00	1188	108.00	76	182.00	63	532.00	63
69.00	1203	109.00	126	193.00	63	538.00	54
70.00	242	116.00	162	196.00	80		
71.00	68	117.00	142	203.00	59		
72.00	62	118.00	56	207.00	116		
73.00	692	119.00	72	218.00	144		

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG239918-2
Client ID: Method Blank Sample
Project:
SDG: TL0579
Lab File ID: W6361.D

Sample Date:
Received Date:
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		95.2	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG239918-2
Client ID: Method Blank Sample
Project:
SDG: TL0579
Lab File ID: W6361.D

Sample Date:
Received Date:
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Toluene-d8		100.	%			
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6361.D
Report Date: 27-Nov-2018 12:38

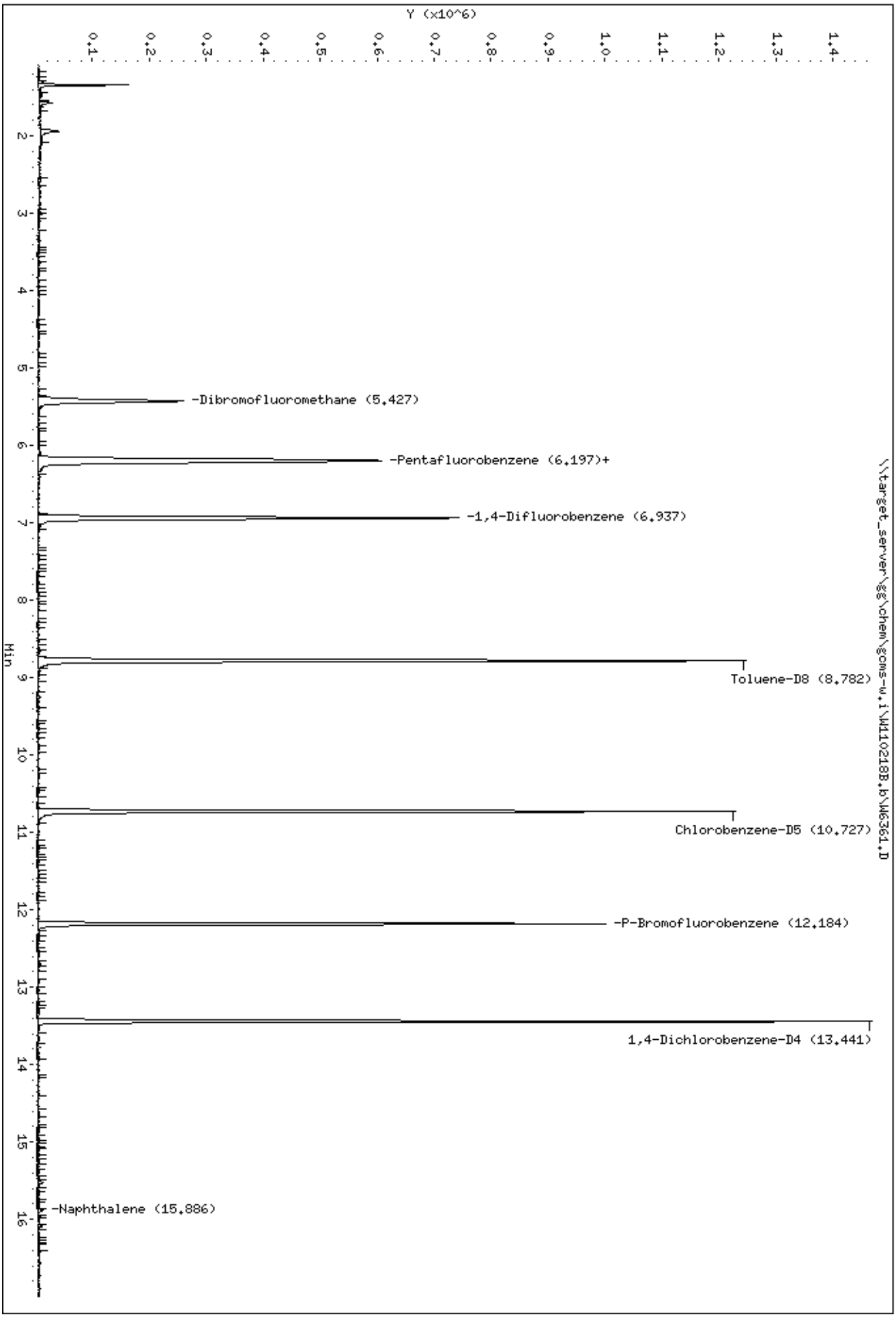
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6361.D
Lab Smp Id: WG239918-2 Client Smp ID: WG239918-Blank
Inj Date : 02-NOV-2018 19:20
Operator : JR/HG Inst ID: gcms-w.i
Smp Info : WG239918-2,TL0579
Misc Info : WG239918,WG239918-4,TL0579-1
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35	Dibromofluoromethane	113	5.427	5.427	(0.877)	222286	52.1790	52.2	
* 42	Pentafluorobenzene	168	6.190	6.185	(1.000)	460543	50.0000		
$ 44	1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	269520	51.8797	51.9	
* 49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	765148	50.0000		
$ 58	Toluene-D8	98	8.782	8.782	(1.266)	934577	50.1769	50.2	
* 69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	714271	50.0000		
$ 78	P-Bromofluorobenzene	95	12.183	12.184	(1.756)	302244	47.5991	47.6	
* 94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	349180	50.0000		
103	Naphthalene	128	15.879	15.886	(1.181)	5894	1.07567	1.1	


Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6361.D
Date : 02-NOV-2018 19:20
Client ID: WG239918-Blank
Sample Info: WG239918-2,TL0579
Instrument: gcms-w.i
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-Naphthalene (15.886)
\\target_server\gg\chem\gcms-w.i\W110218B.b\W6361.D

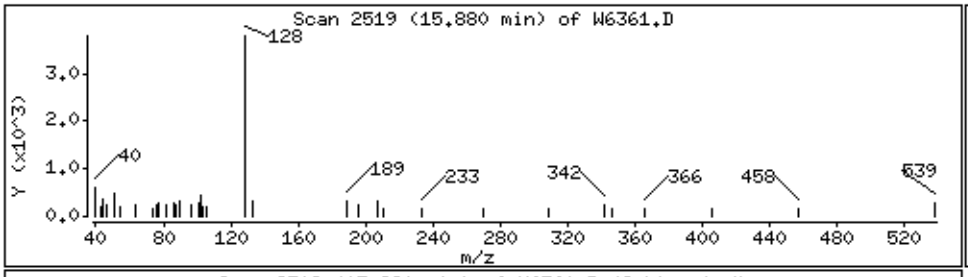
Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6361.D

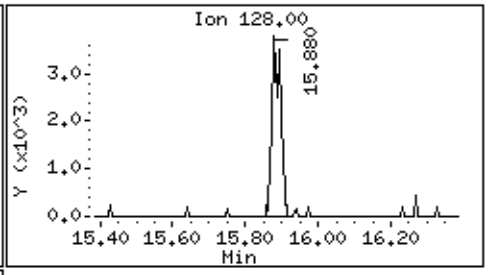
Date : 02-NOV-2018 19:20

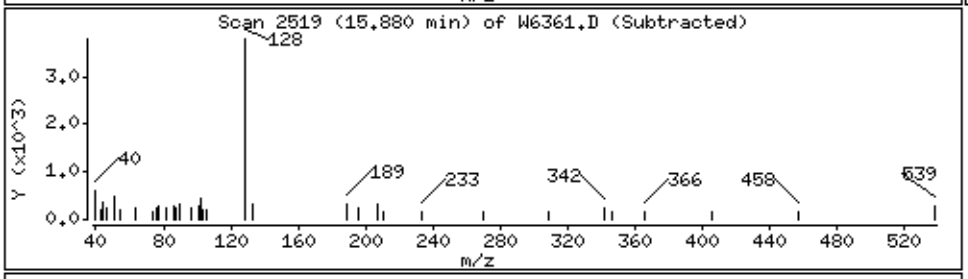
Client ID: WG239918-Blank Instrument: gcms-w.i

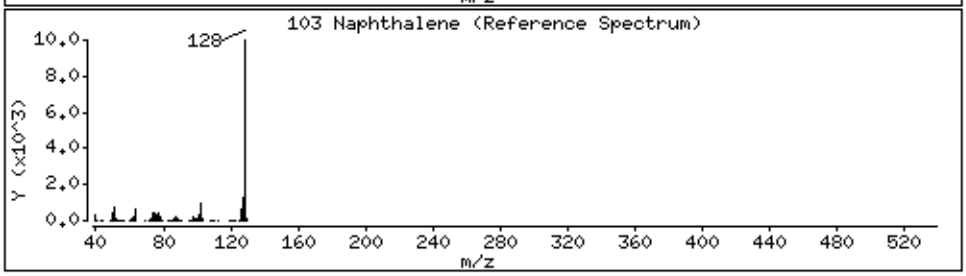
Sample Info: WG239918-2,TL0579

103 Naphthalene Concentration: 1.1 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG239941-2
Client ID: Method Blank Sample
Project:
SDG: TL0579
Lab File ID: W6386.D

Sample Date:
Received Date:
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.5	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG239941-2
Client ID: Method Blank Sample
Project:
SDG: TL0579
Lab File ID: W6386.D

Sample Date:
Received Date:
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Toluene-d8		99.9	%			
1,2-Dichloroethane-d4		98.9	%			
Dibromofluoromethane		105.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6386.D
Report Date: 27-Nov-2018 16:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6386.D
Lab Smp Id: WG239941-2 Client Smp ID: WG239941-Blank
Inj Date : 03-NOV-2018 08:49
Operator : HG Inst ID: gcms-w.i
Smp Info : WG239941-2,TL0579
Misc Info : WG239941,WG239941-4,TL0579-11
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

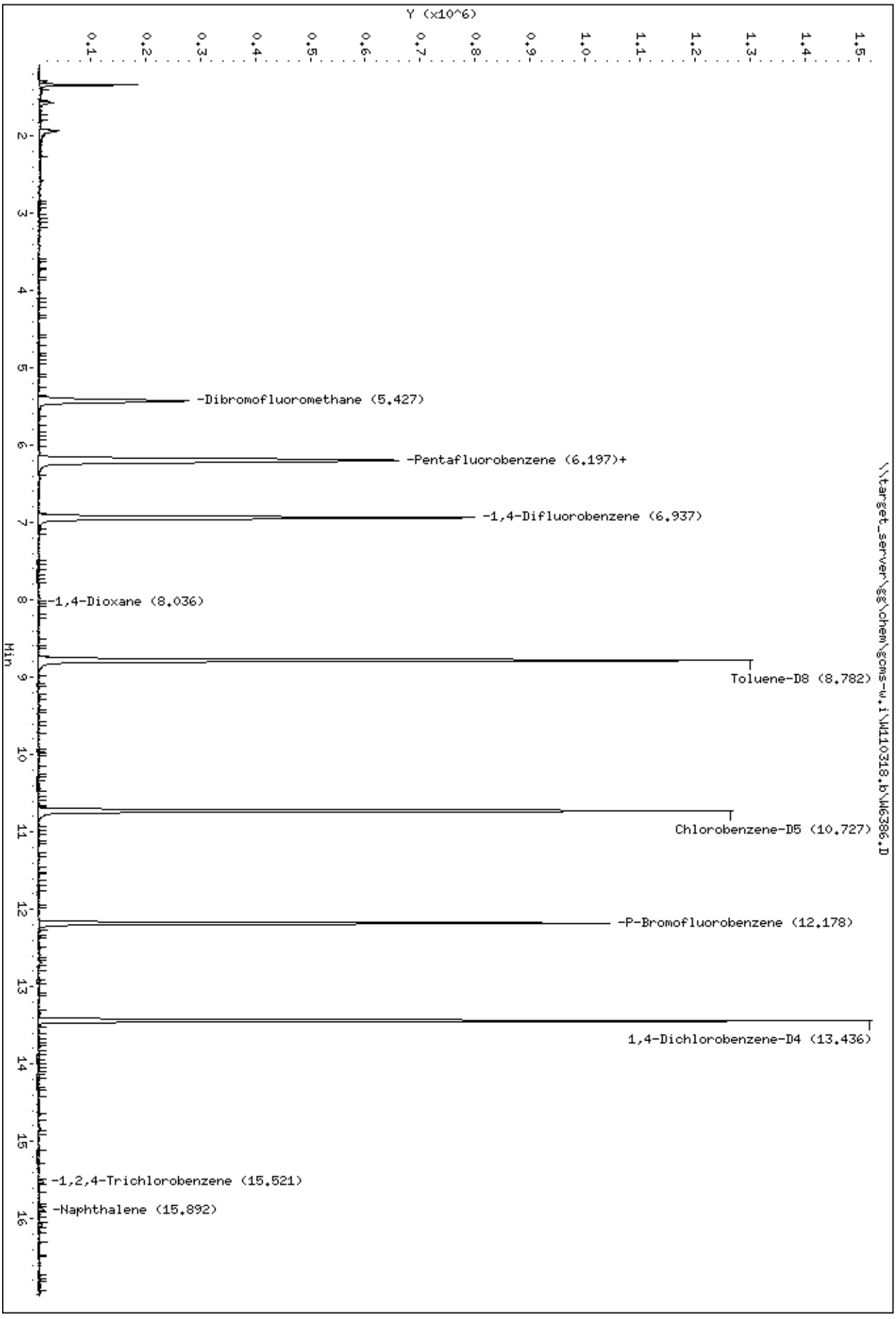
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.427	5.427	(0.877)	239536	52.3666	52.4	
* 42 Pentafluorobenzene	168	6.191	6.185	(1.000)	494505	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	275918	49.4636	49.5	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	812627	50.0000		
54 1,4-Dioxane	88	7.971	7.983	(1.149)	1376	31.1115	31.1	
$ 58 Toluene-D8	98	8.776	8.782	(1.265)	987948	49.9433	49.9	
* 69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	742754	50.0000		
$ 78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	325445	48.2584	48.2	
* 94 1,4-Dichlorobenzene-D4	152	13.435	13.441	(1.000)	370805	50.0000		
102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	1947	0.46564	0.46(a)	
103 Naphthalene	128	15.891	15.886	(1.183)	7296	1.18372	1.2	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6386.D
Date : 03-NOV-2018 08:49
Client ID: WG239941-Blank
Sample Info: WG239941-2,TL0579
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110318.b\W6386.D
Y (x10^6)
Min
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
-1,4-Dioxane (8.036)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.178)
1,4-Dichlorobenzene-D4 (13.436)
-1,2,4-Trichlorobenzene (15.521)
-Naphthalene (15.892)

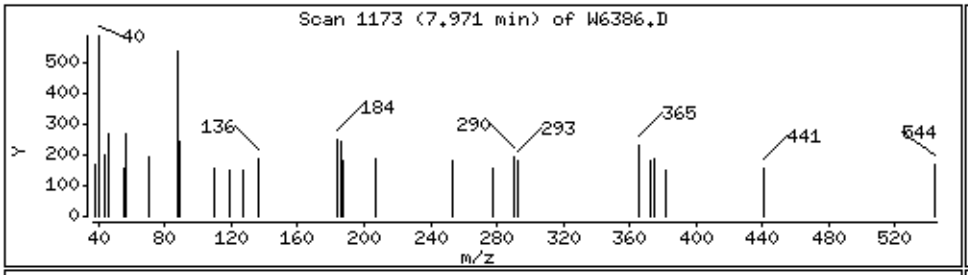
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6386.D

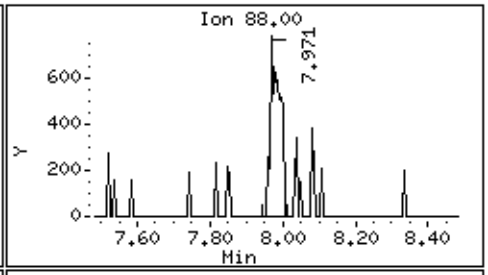
Date : 03-NOV-2018 08:49

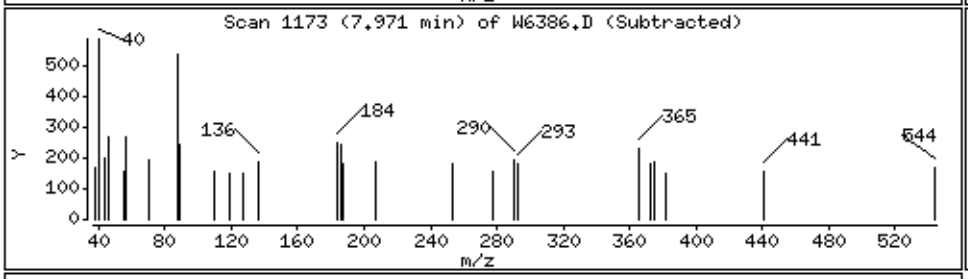
Client ID: WG239941-Blank Instrument: gcms-w.i

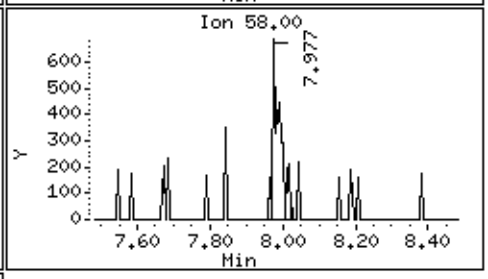
Sample Info: WG239941-2,TL0579

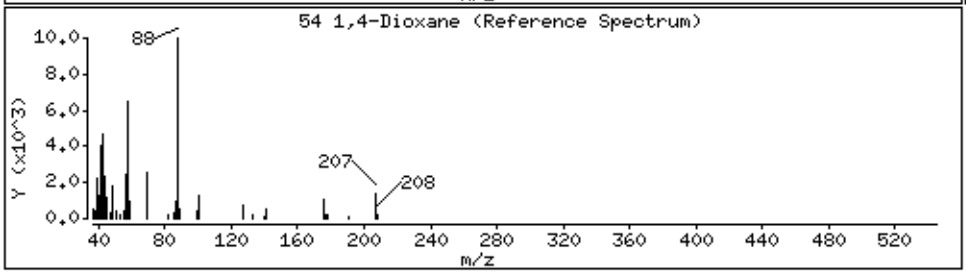
54 1,4-Dioxane Concentration: 31.1 ug/l



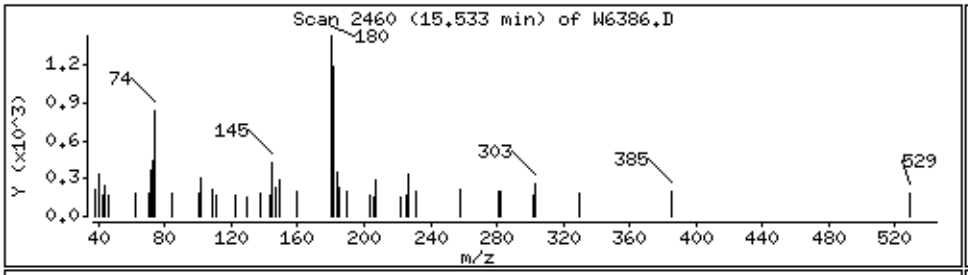


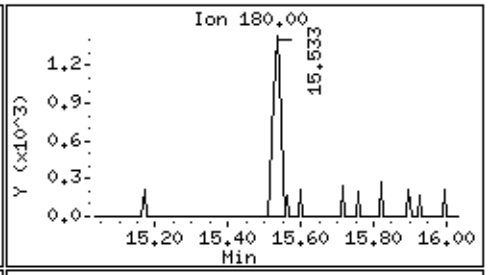


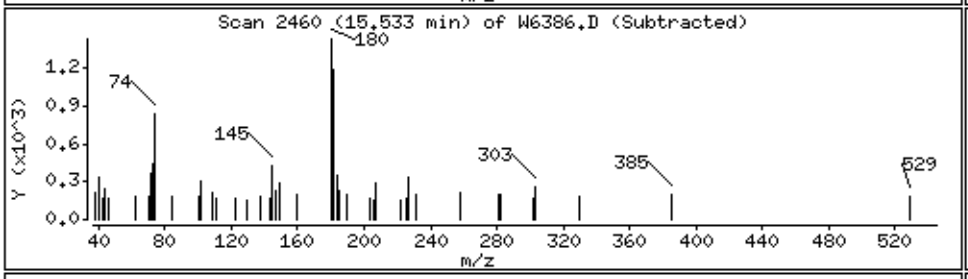


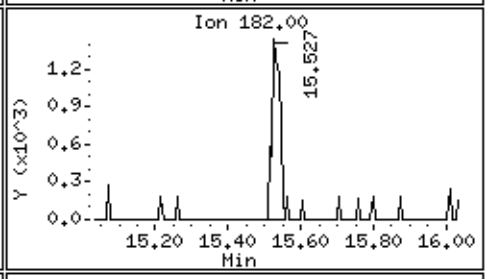


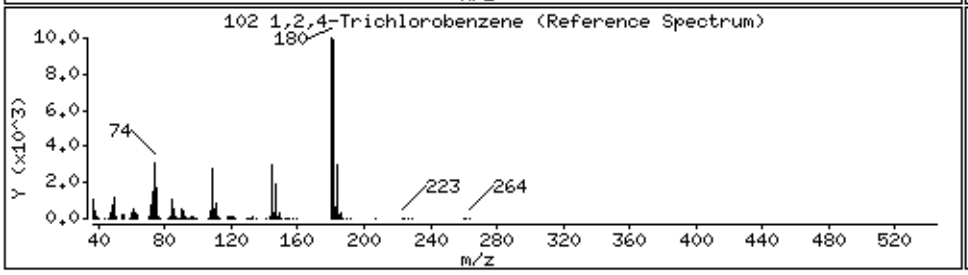
102 1,2,4-Trichlorobenzene Concentration: 0.46 ug/l

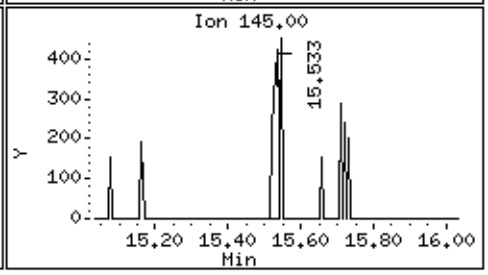












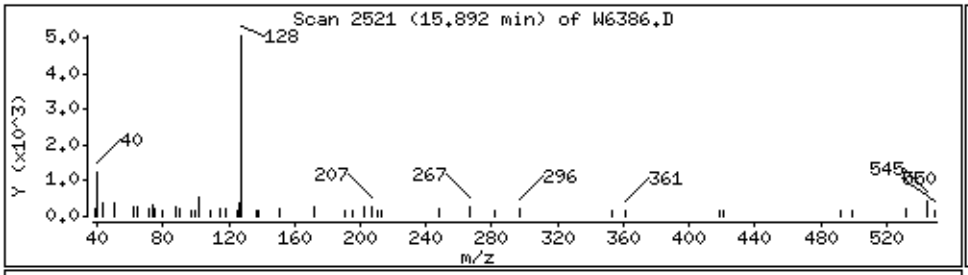
Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6386.D

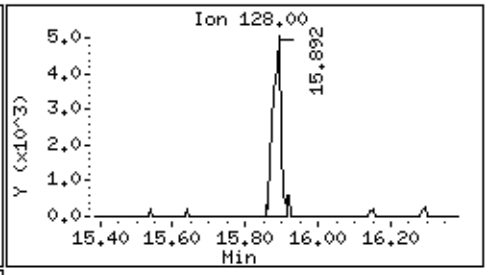
Date : 03-NOV-2018 08:49

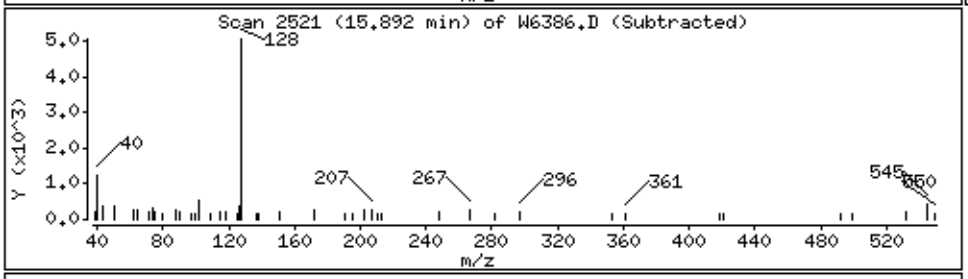
Client ID: WG239941-Blank Instrument: gcms-w.i

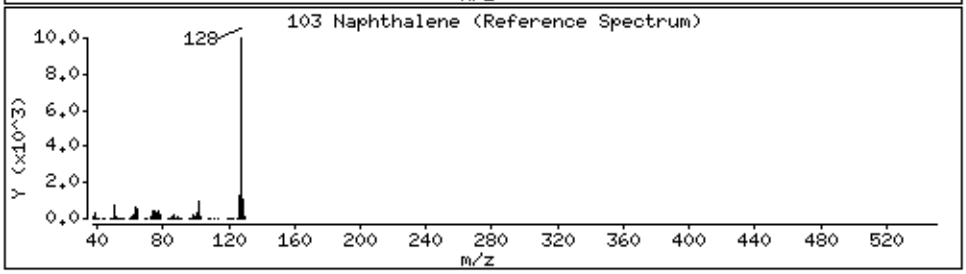
Sample Info: WG239941-2,TL0579

103 Naphthalene Concentration: 1.2 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG240010-2
Client ID: Method Blank Sample
Project:
SDG: TL0579
Lab File ID: W6410.D

Sample Date:
Received Date:
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		97.6	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG240010-2
Client ID: Method Blank Sample
Project:
SDG: TL0579
Lab File ID: W6410.D

Sample Date:
Received Date:
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Toluene-d8		100.	%			
1,2-Dichloroethane-d4		104.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6410.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6410.D
Lab Smp Id: WG240010-2 Client Smp ID: WG240010-Blank
Inj Date : 05-NOV-2018 05:45
Operator : TTC Inst ID: gcms-w.i
Smp Info : WG240010-2,TL0579
Misc Info : WG240010,WG240010-4,TL0579-18
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

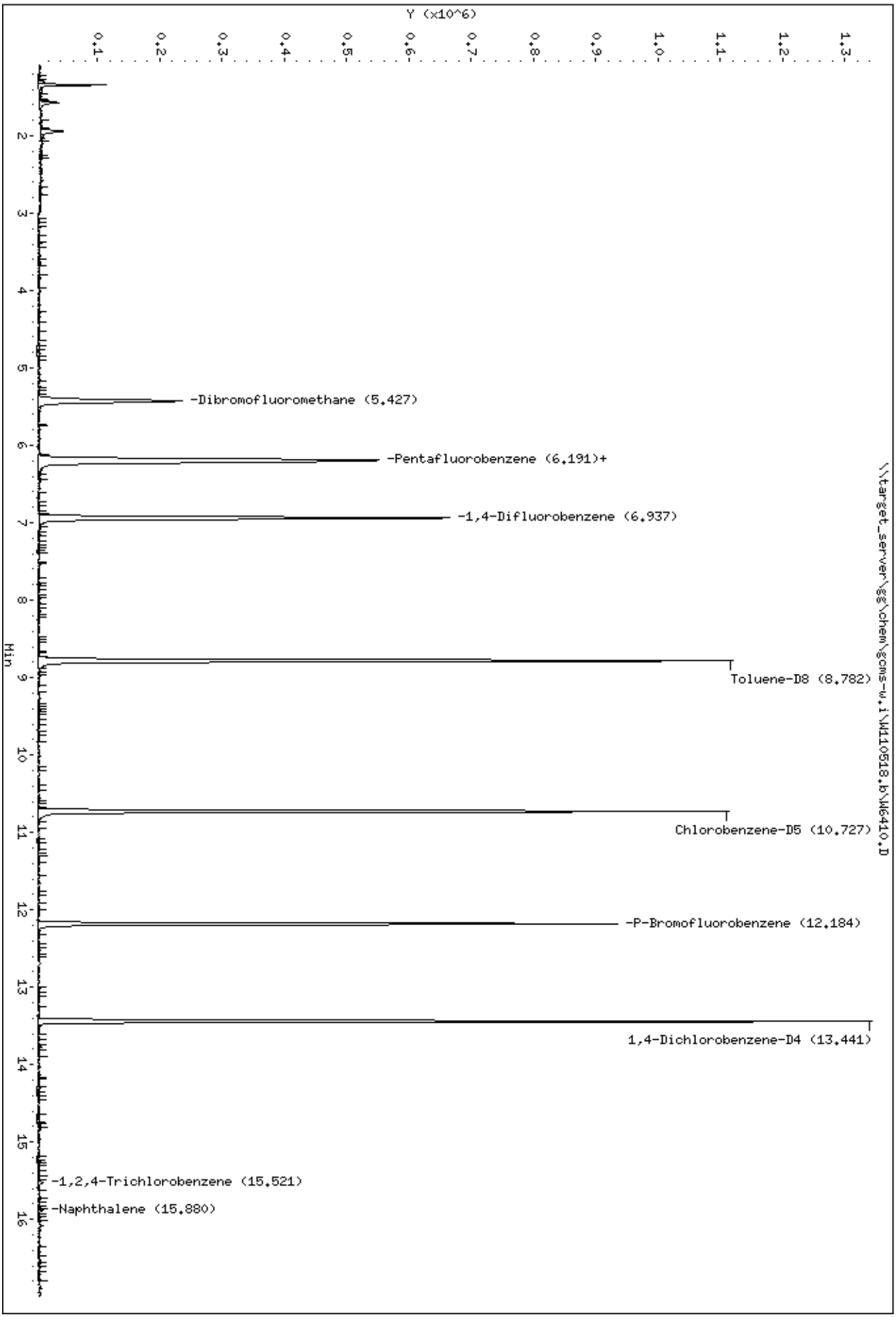
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.427	5.427	(0.877)	197896	51.9107	51.9	
* 42 Pentafluorobenzene	168	6.184	6.185	(1.000)	412130	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	242865	52.2405	52.2	
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	682999	50.0000		
$ 58 Toluene-D8	98	8.781	8.782	(1.266)	833891	50.1561	50.2	
* 69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	642305	50.0000		
$ 78 P-Bromofluorobenzene	95	12.183	12.184	(1.756)	276668	48.8119	48.8	
* 94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	329256	50.0000		
102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	1571	0.41950	0.42(a)	
103 Naphthalene	128	15.885	15.886	(1.182)	3945	0.88653	0.89(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6410.D
Date : 05-NOV-2018 05:45
Client ID: WG240010-Blank
Sample Info: WG240010-2,TL0579
Instrument: gcms-w.i
\\target_server\gg\chem\gcms-w.i\W110518.b\W6410.D
Y (x10^6)
Min
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.191)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.782)
Chlorobenzene-D5 (10.727)
-P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.441)
-1,2,4-Trichlorobenzene (15.521)
-Naphthalene (15.880)

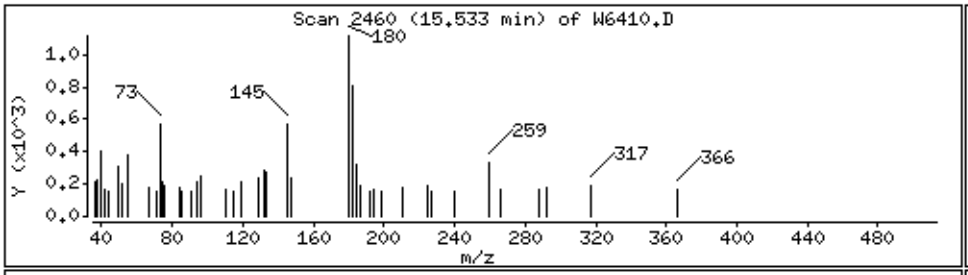
Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6410.D

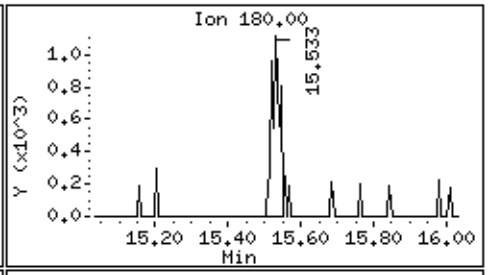
Date : 05-NOV-2018 05:45

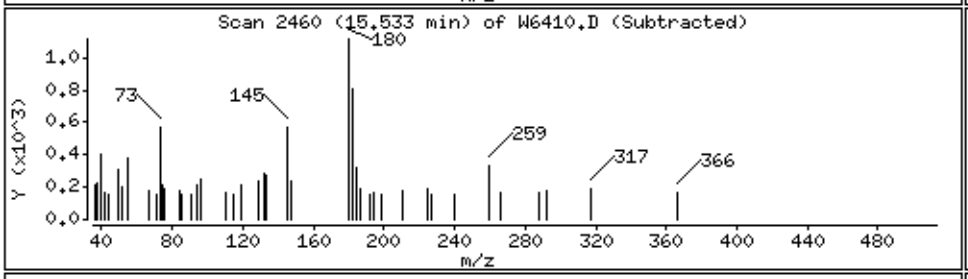
Client ID: WG240010-Blank Instrument: gcms-w.i

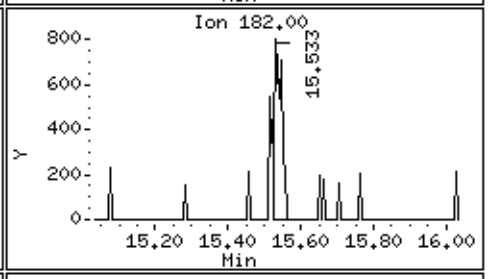
Sample Info: WG240010-2,TL0579

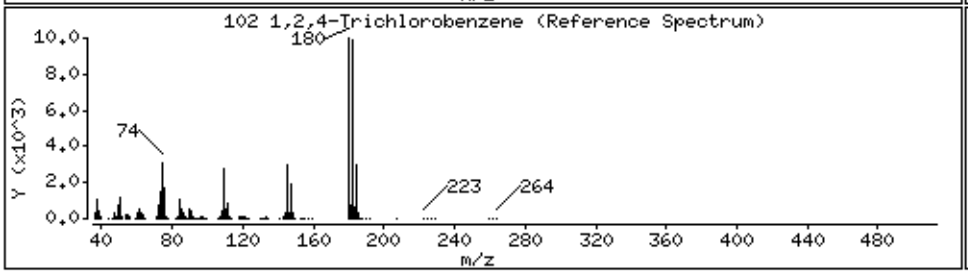
102 1,2,4-Trichlorobenzene Concentration: 0.42 ug/l

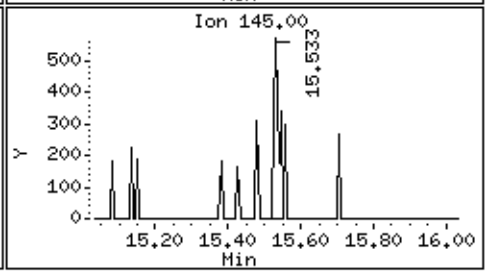




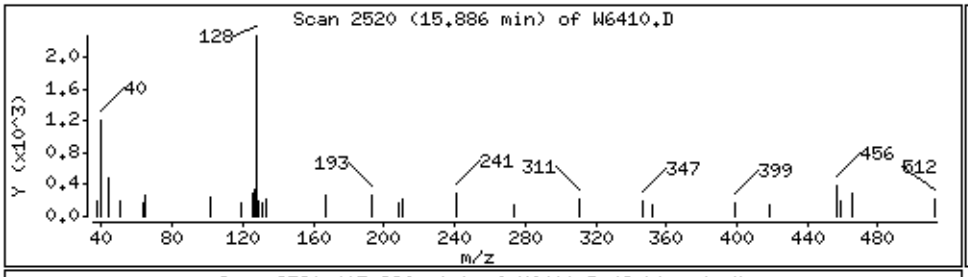


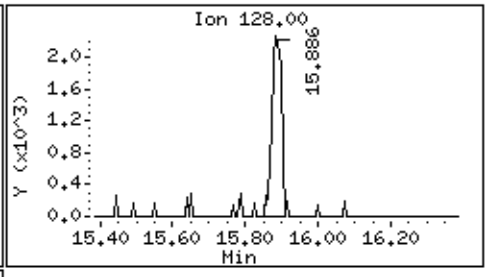


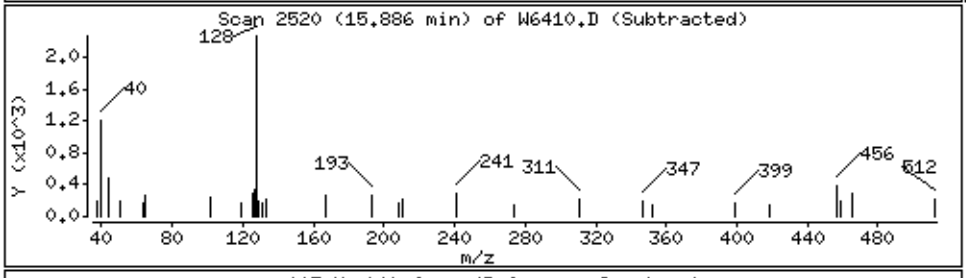


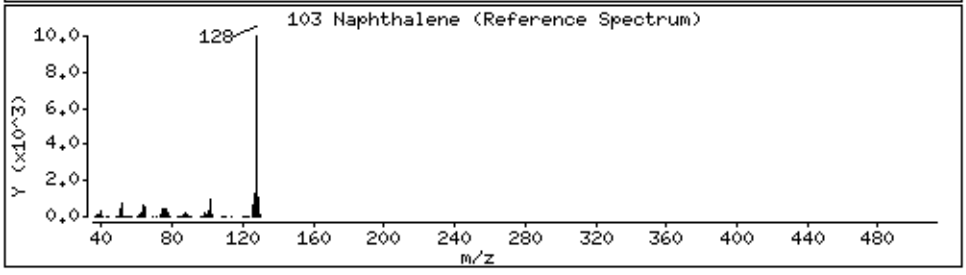


103 Naphthalene Concentration: 0.89 ug/l









Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG240057-2
Client ID: Method Blank Sample
Project:
SDG: TL0579
Lab File ID: W6433.D

Sample Date:
Received Date:
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		96.9	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG240057-2
Client ID: Method Blank Sample
Project:
SDG: TL0579
Lab File ID: W6433.D

Sample Date:
Received Date:
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Toluene-d8		101.	%			
1,2-Dichloroethane-d4		102.	%			
Dibromofluoromethane		104.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6433.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6433.D
Lab Smp Id: WG240057-2 Client Smp ID: WG240057-Blank
Inj Date : 05-NOV-2018 18:18
Operator : HG Inst ID: gcms-w.i
Smp Info : WG240057-2,TL0579
Misc Info : WG240057,WG240057-4,TL0579-51
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31 Cal File: W6329.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: MIS_GUEST

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

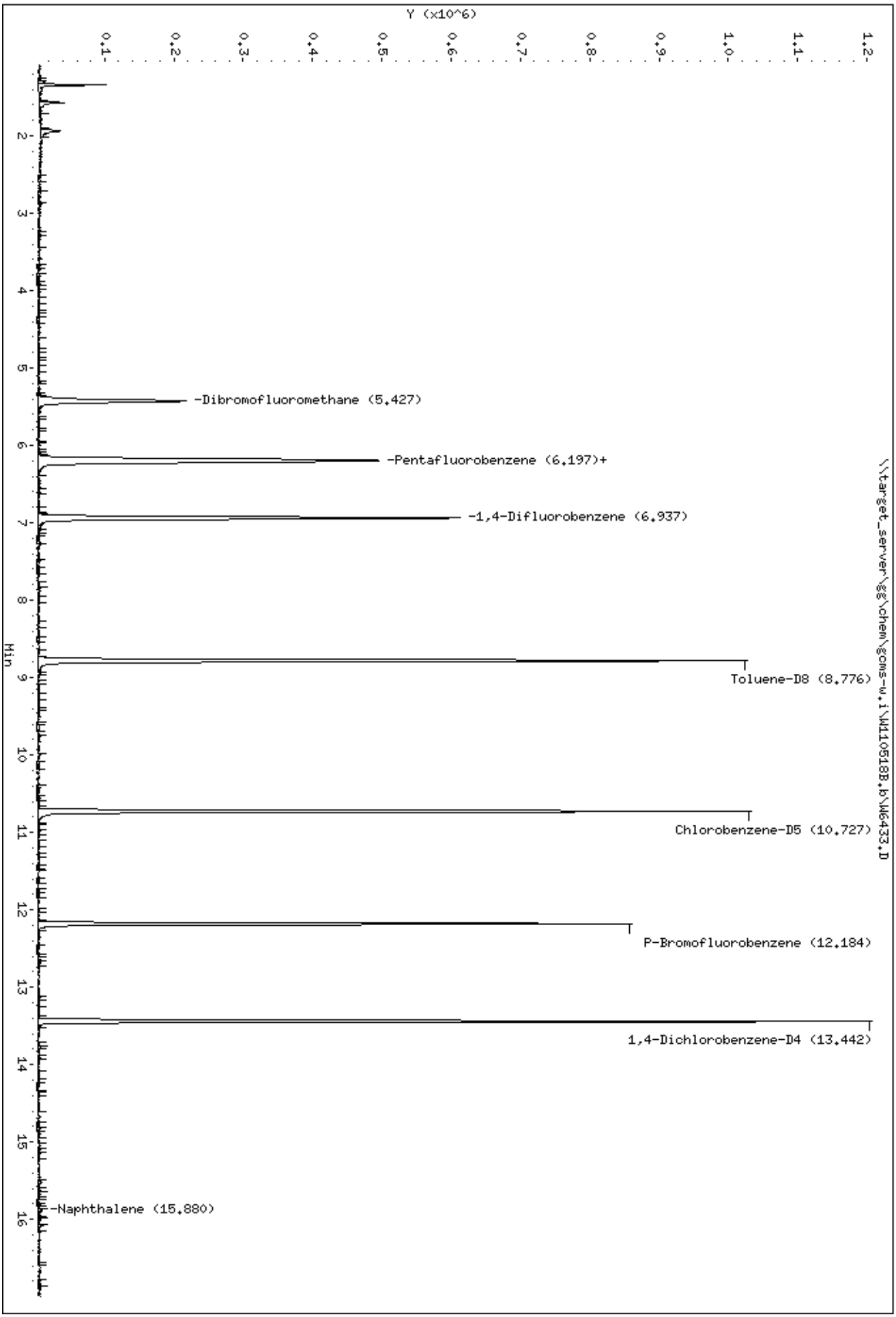
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

9:38 am, Nov 02, 2017

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 35 Dibromofluoromethane	113	5.427	5.427	(0.877)	180034	51.8649	51.9	
* 42 Pentafluorobenzene	168	6.191	6.185	(1.000)	375262	50.0000		
$ 44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	215012	50.7931	50.8(M)	M10
* 49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	624812	50.0000		
$ 58 Toluene-D8	98	8.776	8.782	(1.265)	767161	50.4396	50.4	
* 69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	581321	50.0000		
$ 78 P-Bromofluorobenzene	95	12.178	12.184	(1.755)	251227	48.4511	48.4	
* 94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	294727	50.0000		
103 Naphthalene	128	15.879	15.886	(1.181)	3597	0.89514	0.90(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6433.D
Date : 05-NOV-2018 18:18
Client ID: WG240057-Blank
Sample Info: WG240057-2,TL0579
Instrument: gcms-w.i
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Dibromofluoromethane (5.427)
-Pentafluorobenzene (6.197)+
-1,4-Difluorobenzene (6.937)
Toluene-D8 (8.776)
Chlorobenzene-D5 (10.727)
P-Bromofluorobenzene (12.184)
1,4-Dichlorobenzene-D4 (13.442)
-Naphthalene (15.880)
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6433.D

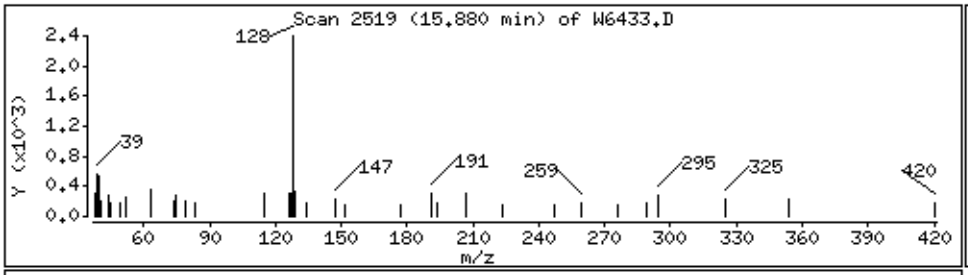
Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6433.D

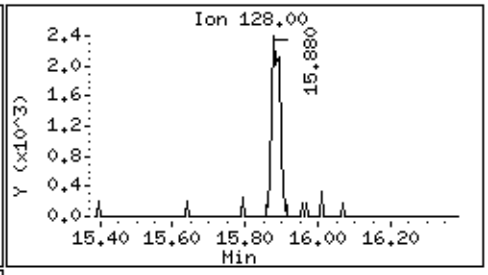
Date : 05-NOV-2018 18:18

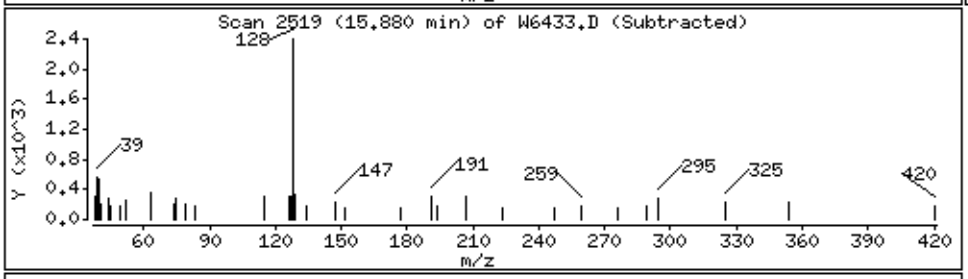
Client ID: WG240057-Blank Instrument: gcms-w.i

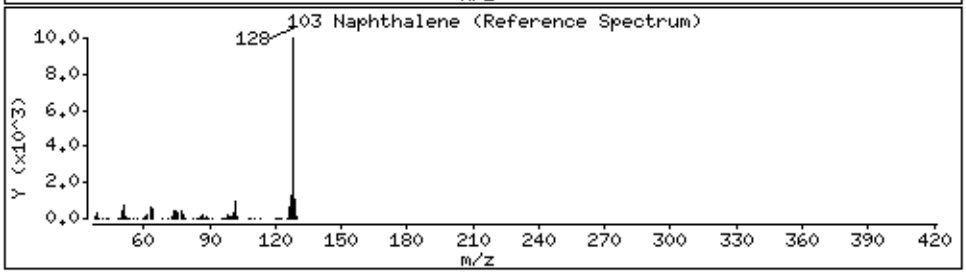
Sample Info: WG240057-2,TL0579

103 Naphthalene Concentration: 0.90 ug/l









Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG239918-1
Client ID: LCS
Project:
SDG: TL0579
LCS File ID: W6359.D

Sample Date:
Received Date:
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	* 130.	50.0	64.8	ug/L	59-123
Vinyl Chloride	121.	50.0	60.5	ug/L	64-131
Bromomethane	130.	50.0	64.9	ug/L	57-135
Chloroethane	127.	50.0	63.3	ug/L	53-157
Trichlorofluoromethane	91.4	50.0	45.7	ug/L	70-149
1,1-Dichloroethene	91.6	50.0	45.8	ug/L	88-127
Carbon Disulfide	107.	50.0	53.4	ug/L	71-129
Methylene Chloride	91.8	50.0	45.9	ug/L	72-129
trans-1,2-Dichloroethene	91.2	50.0	45.6	ug/L	78-125
1,1-Dichloroethane	94.8	50.0	47.4	ug/L	76-130
cis-1,2-Dichloroethene	88.0	50.0	44.0	ug/L	85-123
Chloroform	95.2	50.0	47.6	ug/L	78-128
Carbon Tetrachloride	94.8	50.0	47.4	ug/L	87-126
1,1,1-Trichloroethane	90.0	50.0	45.0	ug/L	77-129
2-Butanone	104.	50.0	52.1	ug/L	71-132
Benzene	93.4	50.0	46.7	ug/L	86-116
1,2-Dichloroethane	91.0	50.0	45.5	ug/L	81-125
Trichloroethene	93.0	50.0	46.5	ug/L	79-121
1,2-Dichloropropane	90.8	50.0	45.4	ug/L	84-118
Bromodichloromethane	99.6	50.0	49.8	ug/L	85-122
cis-1,3-Dichloropropene	94.8	50.0	47.4	ug/L	83-119
Toluene	97.4	50.0	48.7	ug/L	84-118
4-Methyl-2-Pentanone	105.	50.0	52.4	ug/L	83-122
Tetrachloroethene	91.6	50.0	45.8	ug/L	47-155
trans-1,3-Dichloropropene	104.	50.0	52.1	ug/L	85-135
1,1,2-Trichloroethane	95.8	50.0	47.9	ug/L	84-115
Dibromochloromethane	102.	50.0	50.9	ug/L	85-119
Chlorobenzene	98.6	50.0	49.3	ug/L	89-113
Ethylbenzene	96.8	50.0	48.4	ug/L	88-113
m+p-Xylenes	96.8	100.	96.8	ug/L	88-116
o-Xylene	98.2	50.0	49.1	ug/L	90-116
Bromoform	99.4	50.0	49.7	ug/L	86-117
1,1,2,2-Tetrachloroethane	92.4	50.0	46.2	ug/L	79-121
P-Bromofluorobenzene	106.				56-133
Toluene-d8	99.8				65-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG239918-1
Client ID: LCS
Project:
SDG: TL0579
LCS File ID: W6359.D

Sample Date:
Received Date:
Extract Date: 02-NOV-18
Extracted By: JR/HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239918

Analysis Date: 02-NOV-18
Analyst: JR/HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,2-Dichloroethane-d4	98.2				67-135
Dibromofluoromethane	99.6				68-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6359.D
Report Date: 27-Nov-2018 12:38

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110218B.b\W6359.D
Lab Smp Id: WG239918-1
Inj Date : 02-NOV-2018 18:02
Operator : JR/HG   Inst ID: gcms-w.i
Smp Info : WG239918-1,TL0579
Misc Info : WG239918,WG239918-4,TL0579-1
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110218B.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 06:28 gcms-w.i   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 2   QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	164268	59.0767	59.1	
2	Chloromethane	50	1.614	1.614	(0.261)	213736	64.8167	64.8	
3	Vinyl chloride	62	1.678	1.673	(0.271)	206244	60.5153	60.5	
4	Bromomethane	94	1.919	1.919	(0.310)	64971	64.9114	64.9	
5	Chloroethane	64	2.013	2.013	(0.326)	120649	63.3146	63.3	
6	Trichlorofluoromethane	101	2.125	2.125	(0.344)	325306	45.7086	45.7	
7	Diethyl Ether	59	2.377	2.378	(0.384)	137854	51.5793	51.6	
8	1,1-Dichloroethene	96	2.554	2.548	(0.413)	135063	45.8390	45.8	
9	Freon-113	151	2.583	2.577	(0.418)	133527	48.4791	48.5	
10	Carbon Disulfide	76	2.583	2.583	(0.418)	455223	53.3887	53.4	
11	Iodomethane	142	2.683	2.683	(0.434)	77444	84.4458	84.4(R)	
12	Acrolein	56	2.853	2.854	(0.461)	83194	229.103	229	
13	Allyl Chloride	41	2.983	2.983	(0.482)	237983	48.2618	48.3	
14	Methylene Chloride	84	3.088	3.089	(0.499)	139196	45.9184	45.9	
15	Acetone	43	3.141	3.136	(0.508)	48577	51.7679	51.8	
16	trans-1,2-Dichloroethene	96	3.253	3.253	(0.526)	131718	45.5693	45.6	
17	Methyl Acetate	43	3.265	3.265	(0.528)	120594	44.7390	44.7	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.545)	310831	47.7725	47.8	
19	Tertiary-butyl alcohol	59	3.470	3.482	(0.561)	38784	205.378	205	
20	Acetonitrile	39	3.641	3.635	(0.589)	39659	393.215	393	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	495712	49.4578	49.4	
M 22	1,2-Dichloroethylene (total)	96				279341	89.5967	89.6	
23	Chloroprene	53	3.928	3.923	(0.635)	219178	47.7151	47.7	
24	1,1-Dichloroethane	63	3.952	3.952	(0.639)	269689	47.4223	47.4	

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6359.D
Report Date: 27-Nov-2018 12:38

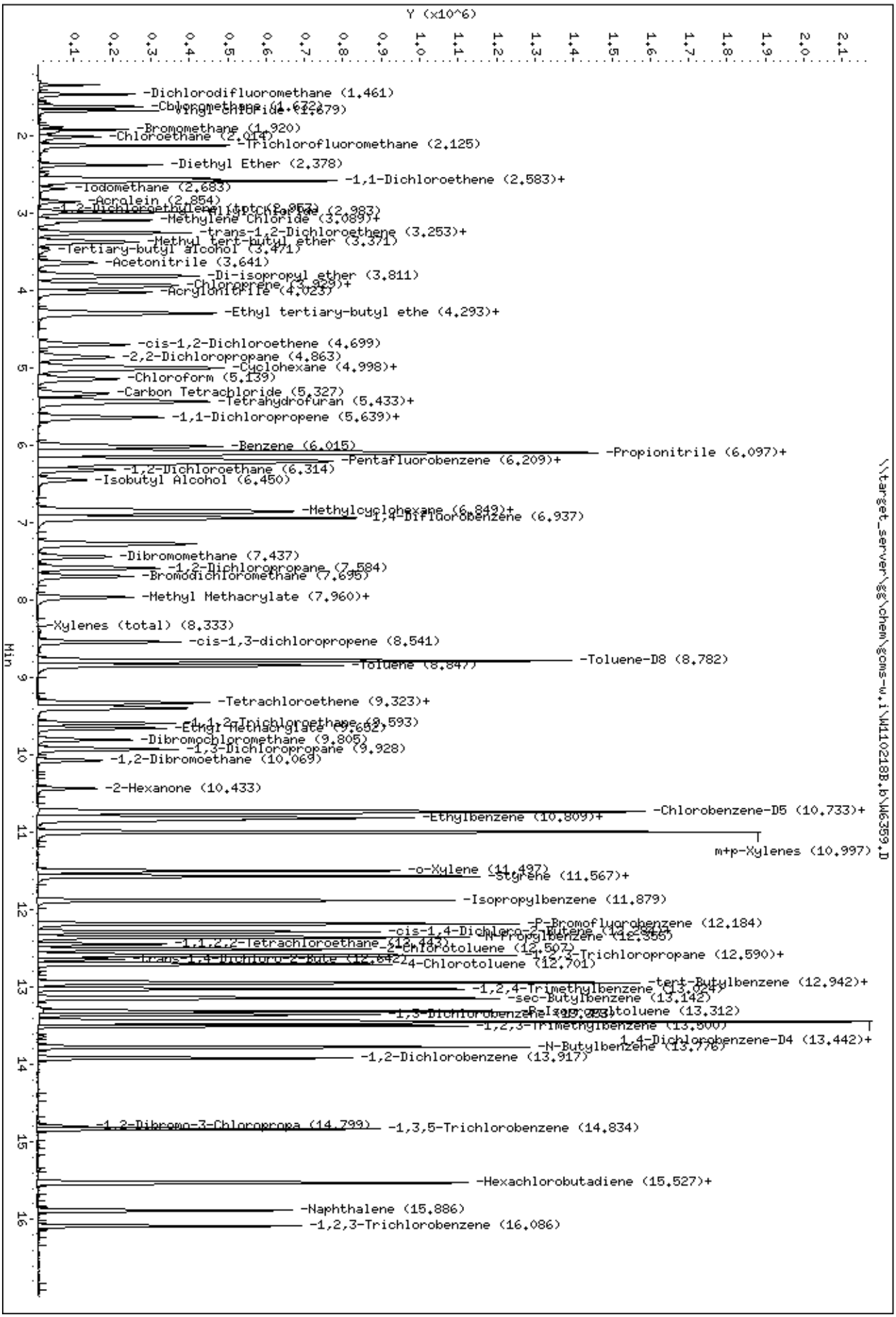
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	25	Acrylonitrile	52	4.022	4.022	(0.650)	241740	233.822	234	
	26	Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	420338	51.9281	51.9	
	27	Vinyl Acetate	43	4.299	4.299	(0.620)	366764	49.0513	49.0	
	28	cis-1,2-Dichloroethene	96	4.698	4.698	(0.760)	147623	44.0274	44.0	
	29	2,2-Dichloropropane	77	4.857	4.857	(0.785)	192828	50.6047	50.6	
	30	Cyclohexane	56	4.998	4.992	(0.808)	255934	46.9898	47.0	
	31	Bromochloromethane	128	4.998	4.998	(0.808)	70177	52.6742	52.7	
	32	Chloroform	83	5.145	5.139	(0.832)	246746	47.6317	47.6	
	33	Carbon Tetrachloride	117	5.333	5.333	(0.769)	180723	47.4246	47.4	
	34	Tetrahydrofuran	42	5.386	5.380	(0.871)	57010	54.3569	54.4	
$	35	Dibromofluoromethane	113	5.427	5.427	(0.877)	251414	49.7936	49.8	
	36	1,1,1-Trichloroethane	97	5.444	5.439	(0.880)	207460	44.9568	45.0	
	37	1,1-Dichloropropene	75	5.638	5.639	(0.813)	195519	46.8733	46.9	
	38	2-Butanone	43	5.638	5.633	(0.912)	79731	52.1473	52.1	
	39	Benzene	78	6.014	6.009	(0.867)	583403	46.7258	46.7	
	40	Propionitrile	54	6.067	6.067	(0.981)	217162	461.336	461	
	41	Methacrylonitrile	41	6.097	6.097	(0.986)	1006747	483.617	484	
*	42	Pentafluorobenzene	168	6.185	6.185	(1.000)	545846	50.0000		
	43	Tertiary-amyl methyl ether	73	6.238	6.238	(1.009)	375124	49.1347	49.1	
$	44	1,2-Dichloroethane-D4	65	6.220	6.214	(1.006)	302376	49.1082	49.1	
	45	1,2-Dichloroethane	62	6.314	6.314	(0.910)	191401	45.4707	45.5	
	46	Isobutyl Alcohol	43	6.449	6.449	(1.043)	121998	873.662	874	
	47	Methylcyclohexane	83	6.849	6.843	(1.107)	294720	49.3911	49.4	
	48	Trichloroethene	95	6.872	6.867	(0.991)	144996	46.5273	46.5	
*	49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	881176	50.0000		
	50	Dibromomethane	93	7.436	7.442	(1.072)	89809	48.0469	48.0	
	51	1,2-Dichloropropane	63	7.583	7.589	(1.093)	155781	45.4520	45.4	
	52	Bromodichloromethane	83	7.695	7.695	(1.109)	188794	49.8383	49.8	
	53	Methyl Methacrylate	41	7.959	7.959	(1.147)	137335	49.1521	49.2	
	54	1,4-Dioxane	88	7.977	7.983	(1.150)	30968	645.720	646	
M	56	Xylenes (total)	91				1641978	145.837	146	
	57	cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	242018	47.4158	47.4	
$	58	Toluene-D8	98	8.782	8.782	(1.266)	1070525	49.9078	49.9	
	59	Toluene	92	8.846	8.847	(1.275)	382793	48.6904	48.7	
	60	Tetrachloroethene	164	9.322	9.328	(0.869)	120943	45.8246	45.8	
	61	4-methyl-2-pentanone	43	9.369	9.370	(1.351)	161676	52.4506	52.4	
	62	trans-1,3-Dichloropropene	75	9.399	9.399	(1.355)	220373	52.1377	52.1	
	63	1,1,2-Trichloroethane	83	9.593	9.593	(1.383)	106369	47.8760	47.9	
	64	Ethyl Methacrylate	69	9.657	9.657	(1.392)	188958	51.5221	51.5	
	65	Dibromochloromethane	129	9.798	9.804	(0.913)	145061	50.9336	50.9	
	66	1,3-Dichloropropane	76	9.927	9.922	(0.925)	231123	47.8758	47.9	
	67	1,2-Dibromoethane	107	10.068	10.075	(1.451)	124422	46.8883	46.9	
	68	2-Hexanone	43	10.433	10.433	(0.973)	112897	54.2828	54.3	
*	69	Chlorobenzene-D5	117	10.727	10.727	(1.000)	826295	50.0000		
	70	Chlorobenzene	112	10.750	10.750	(1.002)	427767	49.3164	49.3	
	71	Ethylbenzene	91	10.809	10.809	(1.008)	730392	48.4305	48.4	
	72	1,1,1,2-Tetrachloroethane	131	10.844	10.844	(1.011)	144133	49.8008	49.8	
	73	m+p-Xylenes	91	10.997	10.997	(1.025)	1091494	96.7716	96.8	
	74	o-Xylene	91	11.496	11.497	(1.072)	550484	49.0651	49.1	
	75	Styrene	104	11.567	11.561	(1.078)	456026	48.8813	48.9	
	76	Bromoform	173	11.567	11.567	(1.078)	97302	49.6602	49.7	
	77	Isopropylbenzene	105	11.878	11.878	(0.884)	725059	49.5403	49.5	
$	78	P-Bromofluorobenzene	95	12.184	12.184	(1.756)	385790	52.7563	52.8	
	79	cis-1,4-Dichloro-2-Butene	53	12.284	12.278	(0.914)	61239	53.6830	53.7	

Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6359.D
Report Date: 27-Nov-2018 12:38

			QUANT SIG					CONCENTRATIONS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	80	Bromobenzene	156	12.284	12.284	(0.914)	176894	46.1046	46.1	
	81	N-Propylbenzene	91	12.354	12.354	(0.919)	917090	48.0665	48.1	
	82	1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	167008	46.1611	46.2	
	83	2-Chlorotoluene	91	12.507	12.507	(0.930)	486102	47.1114	47.1	
	84	1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	138098	45.4112	45.4	
	85	1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	586346	46.9941	47.0	
	86	trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	46491	50.9816	51.0	
	87	4-Chlorotoluene	91	12.701	12.701	(0.945)	507469	47.5725	47.6	
	88	tert-Butylbenzene	119	12.942	12.942	(0.963)	606945	47.2897	47.3	
	89	Pentachloroethane	117	12.947	12.942	(0.963)	128403	50.2688	50.3	
	90	1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	608769	48.7682	48.8	
	91	sec-Butylbenzene	105	13.141	13.142	(0.978)	835952	47.7473	47.7	
	92	P-Isopropyltoluene	119	13.312	13.312	(0.990)	711416	48.3122	48.3	
	93	1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	340914	47.0299	47.0	
*	94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	455793	50.0000		
	95	1,4-Dichlorobenzene	146	13.459	13.459	(1.001)	355923	47.0936	47.1	
	96	1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	609513	48.2759	48.3	
	97	N-Butylbenzene	91	13.776	13.776	(1.025)	701146	47.0271	47.0	
	98	1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	322113	48.0726	48.1	
	99	1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	30248	43.7553	43.8	
	100	1,3,5-Trichlorobenzene	180	14.834	14.834	(1.104)	262113	47.2700	47.3	
	101	Hexachlorobutadiene	225	15.515	15.515	(1.154)	118043	42.8008	42.8	
	102	1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	223858	47.2381	47.2	
	103	Naphthalene	128	15.885	15.886	(1.182)	473262	43.4311	43.4	
	104	1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	190477	46.8555	46.8	
M	105	Total Alkylbenzenes	100				4967664	334.205	334	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.



Data File: \\target_server\gg\chem\gcms-w.i\W110218B.b\W6359.D
Date : 02-NOV-2018 18:02
Client ID:
Sample Info: WG239918-1,TL0579

\\target_server\gg\chem\gcms-w.i\W110218B.b\W6359.D

Instrument: gcms-w.i

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG239941-1
Client ID: LCS
Project:
SDG: TL0579
LCS File ID: W6384.D

Sample Date:
Received Date:
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	117.	50.0	58.3	ug/L	59-123
Vinyl Chloride	108.	50.0	53.8	ug/L	64-131
Bromomethane	123.	50.0	61.6	ug/L	57-135
Chloroethane	112.	50.0	56.1	ug/L	53-157
Trichlorofluoromethane	88.0	50.0	44.0	ug/L	70-149
1,1-Dichloroethene	* 84.6	50.0	42.3	ug/L	88-127
Carbon Disulfide	96.0	50.0	48.0	ug/L	71-129
Methylene Chloride	87.0	50.0	43.5	ug/L	72-129
trans-1,2-Dichloroethene	85.0	50.0	42.5	ug/L	78-125
1,1-Dichloroethane	92.8	50.0	46.4	ug/L	76-130
cis-1,2-Dichloroethene	87.8	50.0	43.9	ug/L	85-123
Chloroform	90.0	50.0	45.0	ug/L	78-128
Carbon Tetrachloride	93.6	50.0	46.8	ug/L	87-126
1,1,1-Trichloroethane	89.0	50.0	44.5	ug/L	77-129
2-Butanone	99.8	50.0	49.9	ug/L	71-132
Benzene	90.0	50.0	45.0	ug/L	86-116
1,2-Dichloroethane	85.6	50.0	42.8	ug/L	81-125
Trichloroethene	90.6	50.0	45.3	ug/L	79-121
1,2-Dichloropropane	88.4	50.0	44.2	ug/L	84-118
Bromodichloromethane	94.8	50.0	47.4	ug/L	85-122
cis-1,3-Dichloropropene	93.4	50.0	46.7	ug/L	83-119
Toluene	91.4	50.0	45.7	ug/L	84-118
4-Methyl-2-Pentanone	99.2	50.0	49.6	ug/L	83-122
Tetrachloroethene	88.2	50.0	44.1	ug/L	47-155
trans-1,3-Dichloropropene	98.0	50.0	49.0	ug/L	85-135
1,1,2-Trichloroethane	93.2	50.0	46.6	ug/L	84-115
Dibromochloromethane	96.4	50.0	48.2	ug/L	85-119
Chlorobenzene	91.0	50.0	45.5	ug/L	89-113
Ethylbenzene	91.8	50.0	45.9	ug/L	88-113
m+p-Xylenes	91.8	100.	91.8	ug/L	88-116
o-Xylene	93.0	50.0	46.5	ug/L	90-116
Bromoform	87.8	50.0	43.9	ug/L	86-117
1,1,2,2-Tetrachloroethane	87.4	50.0	43.7	ug/L	79-121
P-Bromofluorobenzene	102.				56-133
Toluene-d8	101.				65-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG239941-1
Client ID: LCS
Project:
SDG: TL0579
LCS File ID: W6384.D

Sample Date:
Received Date:
Extract Date: 03-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG239941

Analysis Date: 03-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,2-Dichloroethane-d4	98.9				67-135
Dibromofluoromethane	99.4				68-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6384.D
Report Date: 27-Nov-2018 16:18

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110318.b\W6384.D
Lab Smp Id: WG239941-1
Inj Date : 03-NOV-2018 07:39
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG239941-1,TL0579
Misc Info : WG239941,WG239941-4,TL0579-11
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110318.b\W8A05(92)D.m
Meth Date : 03-Nov-2018 07:14 jsampson   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 2   QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.467	1.461	(0.237)	172260	55.9079	55.9	
2	Chloromethane	50	1.613	1.614	(0.261)	213180	58.3420	58.3	
3	Vinyl chloride	62	1.678	1.673	(0.271)	203320	53.8381	53.8	
4	Bromomethane	94	1.919	1.919	(0.310)	67661	61.6021	61.6	
5	Chloroethane	64	2.013	2.013	(0.325)	121358	56.1366	56.1	
6	Trichlorofluoromethane	101	2.125	2.125	(0.343)	347043	44.0062	44.0	
7	Diethyl Ether	59	2.377	2.378	(0.384)	136531	46.1013	46.1	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	138260	42.3468	42.3(R)	
9	Freon-113	151	2.583	2.577	(0.417)	141977	46.5188	46.5	
10	Carbon Disulfide	76	2.583	2.583	(0.417)	458804	48.0548	48.0	
11	Iodomethane	142	2.689	2.683	(0.434)	73700	72.5242	72.5	
12	Acrolein	56	2.853	2.854	(0.461)	84549	208.315	208	
13	Allyl Chloride	41	2.982	2.983	(0.482)	257698	47.1622	47.2	
14	Methylene Chloride	84	3.088	3.089	(0.499)	146265	43.5437	43.5	
15	Acetone	43	3.141	3.136	(0.507)	52752	50.8097	50.8	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	136062	42.4805	42.5	
17	Methyl Acetate	43	3.264	3.265	(0.527)	126538	42.1611	42.2	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.544)	315388	43.7446	43.7	
19	Tertiary-butyl alcohol	59	3.482	3.482	(0.562)	39374	188.164	188	
20	Acetonitrile	39	3.641	3.635	(0.588)	42532	380.565	380	
21	Di-isopropyl ether	45	3.811	3.817	(0.616)	552974	49.7893	49.8	
M 22	1,2-Dichloroethylene (total)	96				299214	86.3929	86.4	
23	Chloroprene	53	3.928	3.923	(0.635)	242432	47.6293	47.6	

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6384.D
Report Date: 27-Nov-2018 16:18

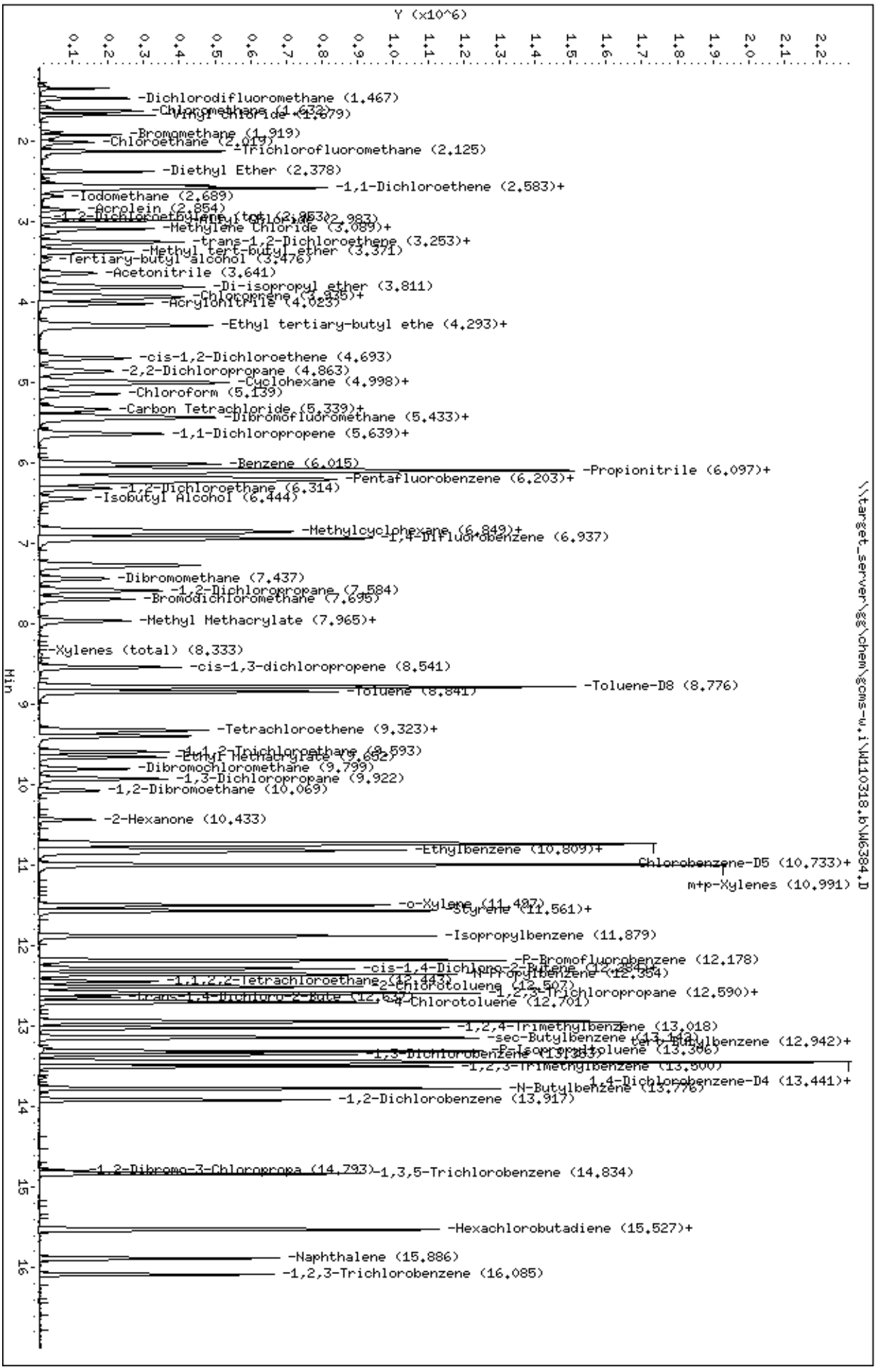
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24	1,1-Dichloroethane	63	3.952	3.952	(0.638)	292689	46.4463	46.4	
	25	Acrylonitrile	52	4.022	4.022	(0.650)	257039	223.712	224	
	26	Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	445187	49.6331	49.6	
	27	Vinyl Acetate	43	4.299	4.299	(0.620)	383245	46.7498	46.7	
	28	cis-1,2-Dichloroethene	96	4.692	4.698	(0.758)	163152	43.9124	43.9	
	29	2,2-Dichloropropane	77	4.863	4.857	(0.786)	210726	49.9073	49.9	
	30	Cyclohexane	56	4.998	4.992	(0.807)	277412	45.9649	46.0	
	31	Bromochloromethane	128	4.998	4.998	(0.807)	73938	50.0837	50.1	
	32	Chloroform	83	5.145	5.139	(0.831)	258480	45.0296	45.0	
	33	Carbon Tetrachloride	117	5.339	5.333	(0.770)	195675	46.8344	46.8	
	34	Tetrahydrofuran	42	5.380	5.380	(0.869)	55412	47.6796	47.7	
$	35	Dibromofluoromethane	113	5.427	5.427	(0.877)	278092	49.7047	49.7	
	36	1,1,1-Trichloroethane	97	5.444	5.439	(0.879)	227558	44.5019	44.5	
	37	1,1-Dichloropropene	75	5.638	5.639	(0.813)	210993	46.1364	46.1	
	38	2-Butanone	43	5.632	5.633	(0.910)	84622	49.9475	49.9	
	39	Benzene	78	6.014	6.009	(0.867)	616808	45.0586	45.0	
	40	Propionitrile	54	6.067	6.067	(0.980)	222729	427.008	427	
	41	Methacrylonitrile	41	6.096	6.097	(0.985)	1040794	451.203	451	
*	42	Pentafluorobenzene	168	6.191	6.185	(1.000)	604846	50.0000		
	43	Tertiary-amyl methyl ether	73	6.238	6.238	(1.008)	394621	46.6465	46.6	
$	44	1,2-Dichloroethane-D4	65	6.214	6.214	(1.004)	337270	49.4322	49.4	
	45	1,2-Dichloroethane	62	6.314	6.314	(0.910)	197376	42.7683	42.8	
	46	Isobutyl Alcohol	43	6.443	6.449	(1.041)	123968	792.151	792	
	47	Methylcyclohexane	83	6.843	6.843	(1.105)	321499	48.6233	48.6	
	48	Trichloroethene	95	6.872	6.867	(0.991)	154857	45.3233	45.3	
*	49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	966102	50.0000		
	50	Dibromomethane	93	7.436	7.442	(1.072)	91860	44.8241	44.8	
	51	1,2-Dichloropropane	63	7.583	7.589	(1.093)	166284	44.2516	44.2	
	52	Bromodichloromethane	83	7.695	7.695	(1.109)	196976	47.4273	47.4	
	53	Methyl Methacrylate	41	7.959	7.959	(1.147)	138284	45.1412	45.1	
	54	1,4-Dioxane	88	7.977	7.983	(1.150)	30047	571.441	571	
M	56	Xylenes (total)	91				1718015	138.288	138	
	57	cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	261519	46.7324	46.7	
$	58	Toluene-D8	98	8.776	8.782	(1.265)	1187851	50.5095	50.5	
	59	Toluene	92	8.846	8.847	(1.275)	394107	45.7229	45.7	
	60	Tetrachloroethene	164	9.322	9.328	(0.869)	128366	44.0783	44.1	
	61	4-methyl-2-pentanone	43	9.369	9.370	(1.351)	167554	49.5791	49.6	
	62	trans-1,3-Dichloropropene	75	9.399	9.399	(1.355)	226886	48.9600	49.0	
	63	1,1,2-Trichloroethane	83	9.592	9.593	(1.383)	113449	46.5739	46.6	
	64	Ethyl Methacrylate	69	9.651	9.657	(1.391)	196418	48.8483	48.8	
	65	Dibromochloromethane	129	9.798	9.804	(0.913)	151353	48.1617	48.2	
	66	1,3-Dichloropropane	76	9.921	9.922	(0.925)	238624	44.7965	44.8	
	67	1,2-Dibromoethane	107	10.068	10.075	(1.451)	127338	43.7688	43.8	
	68	2-Hexanone	43	10.433	10.433	(0.973)	115691	50.4123	50.4	
*	69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	911755	50.0000		
	70	Chlorobenzene	112	10.744	10.750	(1.002)	435739	45.5268	45.5	
	71	Ethylbenzene	91	10.809	10.809	(1.008)	764405	45.9349	45.9	
	72	1,1,1,2-Tetrachloroethane	131	10.844	10.844	(1.011)	146519	45.8801	45.9	
	73	m+p-Xylenes	91	10.991	10.997	(1.025)	1142338	91.7864	91.8	
	74	o-Xylene	91	11.496	11.497	(1.072)	575677	46.5012	46.5	
	75	Styrene	104	11.561	11.561	(1.078)	470174	45.6740	45.7	
	76	Bromoform	173	11.567	11.567	(1.078)	94985	43.9338	43.9	
	77	Isopropylbenzene	105	11.878	11.878	(0.884)	744030	48.1692	48.2	
$	78	P-Bromofluorobenzene	95	12.178	12.184	(1.755)	410283	51.1737	51.2	

Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6384.D
Report Date: 27-Nov-2018 16:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	59543	49.4576	49.4	
	80 Bromobenzene	156	12.283	12.284	(0.914)	177936	43.9429	43.9	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	925570	45.9657	46.0	
	82 1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	166759	43.6739	43.7	
	83 2-Chlorotoluene	91	12.507	12.507	(0.930)	492102	45.1905	45.2	
	84 1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	138144	43.0429	43.0	
	85 1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	605095	45.9522	46.0	
	86 trans-1,4-Dichloro-2-Butene	53	12.636	12.636	(0.940)	46269	48.0760	48.1	
	87 4-Chlorotoluene	91	12.701	12.701	(0.945)	516790	45.9044	45.9	
	88 tert-Butylbenzene	119	12.942	12.942	(0.963)	629299	46.4588	46.4	
	89 Pentachloroethane	117	12.947	12.942	(0.963)	127769	47.3961	47.4	
	90 1,2,4-Trimethylbenzene	105	13.018	13.024	(0.969)	613758	46.5881	46.6	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	866925	46.9184	46.9	
	92 P-Isopropyltoluene	119	13.312	13.312	(0.990)	722334	46.4798	46.5	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	349060	45.6271	45.6	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	481032	50.0000		
	95 1,4-Dichlorobenzene	146	13.453	13.459	(1.001)	349619	43.8323	43.8	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	619065	46.4598	46.4	
	97 N-Butylbenzene	91	13.776	13.776	(1.025)	720850	45.8119	45.8	
	98 1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	321100	45.4070	45.4	
	99 1,2-Dibromo-3-Chloropropane	157	14.792	14.799	(1.101)	30359	41.6117	41.6	
	100 1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	267794	45.7606	45.8	
	101 Hexachlorobutadiene	225	15.515	15.515	(1.154)	118639	40.7599	40.8	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	221372	44.2600	44.3	
	103 Naphthalene	128	15.885	15.886	(1.182)	470052	40.7322	40.7	
	104 1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	186086	43.3218	43.3	
M	105 Total Alkylbenzenes	100				5083831	324.175	324	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W110318.b\W6384.D
Date : 03-NOV-2018 07:39
Client ID:
Sample Info: WG239941-1,TL0579
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\W110318.b\W6384.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.467)
-Chloromethane (1.672)
-Vinyl Chloride (1.779)
-Bromomethane (1.919)
-Chloroethane (2.017)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.583)+
-Iodomethane (2.689)
-Acrolein (2.854)
-1,2-Dichloroethylene (tot) (2.853)+2.983)
-Methylene Chloride (3.089)+
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.476)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.811)
-Chloroprene (3.935)+
-Acrylonitrile (4.023)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.693)
-2,2-Dichloropropane (4.863)
-Cyclohexane (4.998)+
-Chloroform (5.139)
-Carbon Tetrachloride (5.339)+
-Dibromofluoromethane (5.433)+
-1,1-Dichloropropene (5.639)+
-Benzene (6.015)
-Propionitrile (6.097)+
-Pentafluorobenzene (6.203)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.444)
-Methylcyclohexane (6.849)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.437)
-1,2-Dichloropropane (7.584)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.965)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.541)
-Toluene-D8 (8.776)
-Toluene (8.841)
-Tetrachloroethene (9.323)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.652)
-Dibromochloromethane (9.799)
-1,3-Dichloropropane (9.922)
-1,2-Dibromoethane (10.069)
-2-Hexanone (10.433)
-Ethylbenzene (10.809)+
Chlorobenzene-D5 (10.733)+
m+p-Xylenes (10.991)
-o-Xylene (11.407)
-Styrene (11.561)+
-Isopropylbenzene (11.879)
-P-Bromofluorobenzene (12.178)
-cis-1,4-Dichloro-2-Butene (12.284)
-N-Propylbenzene (12.354)
-1,1,2,2-Tetrachloroethane (12.443)
-2-Chlorotoluene (12.507)
-1,2,3-Trichloropropane (12.590)+
-trans-1,4-Dichloro-2-Bute (12.642)
-4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.018)
-sec-Butylbenzene (13.142)
-tert-Butylbenzene (12.942)+
-P-Isopropyltoluene (13.306)
-1,3-Dichlorobenzene (13.383)
-1,2,3-Trimethylbenzene (13.500)
1,4-Dichlorobenzene-D4 (13.441)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.793)
-1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.085)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG240010-1
Client ID: LCS
Project:
SDG: TL0579
LCS File ID: W6408.D

Sample Date:
Received Date:
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	111.	50.0	55.7	ug/L	59-123
Vinyl Chloride	114.	50.0	57.2	ug/L	64-131
Bromomethane	95.2	50.0	47.6	ug/L	57-135
Chloroethane	120.	50.0	59.9	ug/L	53-157
Trichlorofluoromethane	94.8	50.0	47.4	ug/L	70-149
1,1-Dichloroethene	91.8	50.0	45.9	ug/L	88-127
Carbon Disulfide	103.	50.0	51.7	ug/L	71-129
Methylene Chloride	85.8	50.0	42.9	ug/L	72-129
trans-1,2-Dichloroethene	81.8	50.0	40.9	ug/L	78-125
1,1-Dichloroethane	91.0	50.0	45.5	ug/L	76-130
cis-1,2-Dichloroethene	85.4	50.0	42.7	ug/L	85-123
Chloroform	89.6	50.0	44.8	ug/L	78-128
Carbon Tetrachloride	92.6	50.0	46.3	ug/L	87-126
1,1,1-Trichloroethane	87.4	50.0	43.7	ug/L	77-129
2-Butanone	106.	50.0	53.2	ug/L	71-132
Benzene	88.4	50.0	44.2	ug/L	86-116
1,2-Dichloroethane	88.2	50.0	44.1	ug/L	81-125
Trichloroethene	89.2	50.0	44.6	ug/L	79-121
1,2-Dichloropropane	87.6	50.0	43.8	ug/L	84-118
Bromodichloromethane	99.2	50.0	49.6	ug/L	85-122
cis-1,3-Dichloropropene	91.2	50.0	45.6	ug/L	83-119
Toluene	95.4	50.0	47.7	ug/L	84-118
4-Methyl-2-Pentanone	105.	50.0	52.4	ug/L	83-122
Tetrachloroethene	88.2	50.0	44.1	ug/L	47-155
trans-1,3-Dichloropropene	102.	50.0	51.0	ug/L	85-135
1,1,2-Trichloroethane	94.2	50.0	47.1	ug/L	84-115
Dibromochloromethane	102.	50.0	51.0	ug/L	85-119
Chlorobenzene	93.0	50.0	46.5	ug/L	89-113
Ethylbenzene	94.4	50.0	47.2	ug/L	88-113
m+p-Xylenes	95.3	100.	95.3	ug/L	88-116
o-Xylene	96.4	50.0	48.2	ug/L	90-116
Bromoform	94.4	50.0	47.2	ug/L	86-117
1,1,2,2-Tetrachloroethane	90.4	50.0	45.2	ug/L	79-121
P-Bromofluorobenzene	103.				56-133
Toluene-d8	99.6				65-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG240010-1
Client ID: LCS
Project:
SDG: TL0579
LCS File ID: W6408.D

Sample Date:
Received Date:
Extract Date: 05-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030C
Lab Prep Batch: WG240010

Analysis Date: 05-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,2-Dichloroethane-d4	97.1				67-135
Dibromofluoromethane	94.8				68-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6408.D
Report Date: 27-Nov-2018 17:10

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518.b\W6408.D
Lab Smp Id: WG240010-1
Inj Date : 05-NOV-2018 04:40
Operator : TTC   Inst ID: gcms-w.i
Smp Info : WG240010-1,TL0579
Misc Info : WG240010,WG240010-4,TL0579-18
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110518.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 04:16 tcote   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 2   QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	149994	58.5048	58.5	
2	Chloromethane	50	1.613	1.614	(0.261)	169476	55.7407	55.7	
3	Vinyl chloride	62	1.672	1.673	(0.270)	179715	57.1904	57.2	
4	Bromomethane	94	1.919	1.919	(0.310)	41844	47.5520	47.6	
5	Chloroethane	64	2.013	2.013	(0.326)	106399	59.8919	59.9	
6	Trichlorofluoromethane	101	2.124	2.125	(0.344)	311104	47.4095	47.4	
7	Diethyl Ether	59	2.377	2.378	(0.384)	118929	48.2612	48.3	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	124772	45.9272	45.9	
9	Freon-113	151	2.583	2.577	(0.418)	123090	48.4688	48.5	
10	Carbon Disulfide	76	2.583	2.583	(0.418)	407747	51.6937	51.7	
11	Iodomethane	142	2.683	2.683	(0.434)	50383	59.5839	59.6	
12	Acrolein	56	2.853	2.854	(0.461)	79392	237.992	238	
13	Allyl Chloride	41	2.982	2.983	(0.482)	220541	48.5067	48.5	
14	Methylene Chloride	84	3.088	3.089	(0.499)	119967	42.9216	42.9	
15	Acetone	43	3.135	3.136	(0.507)	45006	51.9999	52.0	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	109080	40.9286	40.9	
17	Methyl Acetate	43	3.264	3.265	(0.528)	108149	43.4060	43.4	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.545)	312972	52.1692	52.2	
19	Tertiary-butyl alcohol	59	3.482	3.482	(0.563)	40923	235.030	235	
20	Acetonitrile	39	3.646	3.635	(0.590)	39702	426.928	427	
21	Di-isopropyl ether	45	3.805	3.817	(0.615)	444363	48.0837	48.1	
M 22	1,2-Dichloroethylene (total)	96				241189	83.6609	83.7(R)	
23	Chloroprene	53	3.928	3.923	(0.635)	197829	46.7093	46.7	

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6408.D
Report Date: 27-Nov-2018 17:10

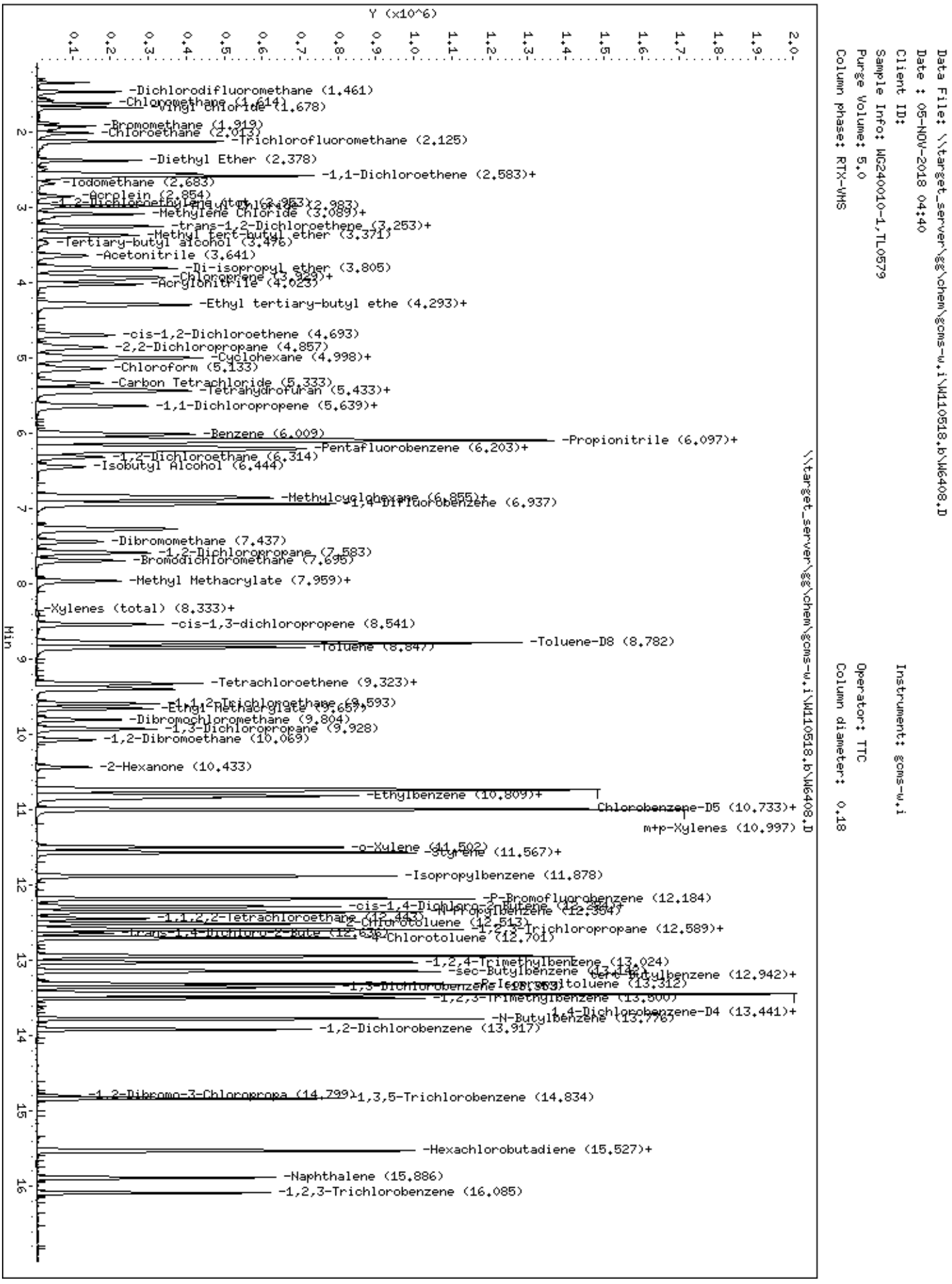
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 1,1-Dichloroethane	63	3.952	3.952	(0.639)	238609	45.5051	45.5	
	25 Acrylonitrile	52	4.022	4.022	(0.650)	225160	236.378	236	
	26 Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	374377	50.1611	50.2	
	27 Vinyl Acetate	43	4.298	4.299	(0.620)	333272	48.4530	48.4	
	28 cis-1,2-Dichloroethene	96	4.692	4.698	(0.759)	132109	42.7323	42.7	
	29 2,2-Dichloropropane	77	4.857	4.857	(0.785)	170070	48.4064	48.4	
	30 Cyclohexane	56	4.998	4.992	(0.808)	229558	45.7112	45.7	
	31 Bromochloromethane	128	5.004	4.998	(0.809)	61286	49.8907	49.9	
	32 Chloroform	83	5.139	5.139	(0.831)	213859	44.7742	44.8	
	33 Carbon Tetrachloride	117	5.333	5.333	(0.769)	162408	46.3293	46.3	
	34 Tetrahydrofuran	42	5.385	5.380	(0.871)	50560	52.2836	52.3	
$	35 Dibromofluoromethane	113	5.427	5.427	(0.877)	220664	47.3991	47.4(M)	M10
	36 1,1,1-Trichloroethane	97	5.444	5.439	(0.880)	185815	43.6713	43.7	
	37 1,1-Dichloropropene	75	5.638	5.639	(0.813)	177287	46.2031	46.2	
	38 2-Butanone	43	5.632	5.633	(0.911)	74935	53.1550	53.2	
	39 Benzene	78	6.008	6.009	(0.866)	507974	44.2269	44.2	
	40 Propionitrile	54	6.061	6.067	(0.980)	199174	458.903	459	
	41 Methacrylonitrile	41	6.096	6.097	(0.986)	918762	478.673	479	
*	42 Pentafluorobenzene	168	6.185	6.185	(1.000)	503287	50.0000		
	43 Tertiary-amyl methyl ether	73	6.232	6.238	(1.008)	349734	49.6828	49.7	
$	44 1,2-Dichloroethane-D4	65	6.214	6.214	(1.005)	275568	48.5389	48.5	
	45 1,2-Dichloroethane	62	6.314	6.314	(0.910)	170673	44.0768	44.1	
	46 Isobutyl Alcohol	43	6.443	6.449	(1.042)	114759	893.810	894	
	47 Methylcyclohexane	83	6.843	6.843	(1.106)	272735	49.5718	49.6	
	48 Trichloroethene	95	6.866	6.867	(0.990)	127738	44.5584	44.6	
*	49 1,4-Difluorobenzene	114	6.937	6.937	(1.000)	810597	50.0000		
	50 Dibromomethane	93	7.436	7.442	(1.072)	81336	47.3027	47.3	
	51 1,2-Dichloropropane	63	7.583	7.589	(1.093)	137994	43.7680	43.8	
	52 Bromodichloromethane	83	7.695	7.695	(1.109)	172891	49.6141	49.6	
	53 Methyl Methacrylate	41	7.959	7.959	(1.147)	128343	49.9334	49.9	
	54 1,4-Dioxane	88	7.977	7.983	(1.150)	30008	680.183	680	
	55 2-Chloroethylvinylether	63	8.294	8.311	(1.196)	525		(aR)	
M	56 Xylenes (total)	91				1481088	143.436	143	
	57 cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	214227	45.6255	45.6	
$	58 Toluene-D8	98	8.782	8.782	(1.266)	983191	49.8273	49.8	
	59 Toluene	92	8.846	8.847	(1.275)	344923	47.6935	47.7	
	60 Tetrachloroethene	164	9.322	9.328	(0.869)	106838	44.1390	44.1	
	61 4-methyl-2-pentanone	43	9.369	9.370	(1.351)	148620	52.4130	52.4	
	62 trans-1,3-Dichloropropene	75	9.398	9.399	(1.355)	198273	50.9935	51.0	
	63 1,1,2-Trichloroethane	83	9.592	9.593	(1.383)	96241	47.0891	47.1	
	64 Ethyl Methacrylate	69	9.651	9.657	(1.391)	175629	52.0574	52.0	
	65 Dibromochloromethane	129	9.798	9.804	(0.913)	133187	50.9911	51.0	
	66 1,3-Dichloropropane	76	9.927	9.922	(0.925)	204752	46.2467	46.2	
	67 1,2-Dibromoethane	107	10.068	10.075	(1.451)	111016	45.4789	45.5	
	68 2-Hexanone	43	10.433	10.433	(0.973)	100004	52.4296	52.4	
*	69 Chlorobenzene-D5	117	10.726	10.727	(1.000)	757802	50.0000		
	70 Chlorobenzene	112	10.744	10.750	(1.002)	369945	46.5051	46.5	
	71 Ethylbenzene	91	10.809	10.809	(1.008)	653037	47.2150	47.2	
	72 1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	128136	48.2752	48.3	
	73 m+p-Xylenes	91	10.997	10.997	(1.025)	985457	95.2673	95.3	
	74 o-Xylene	91	11.502	11.497	(1.072)	495631	48.1688	48.2	
	75 Styrene	104	11.567	11.561	(1.078)	406701	47.5344	47.5	
	76 Bromoform	173	11.572	11.567	(1.079)	84858	47.2235	47.2	
	77 Isopropylbenzene	105	11.878	11.878	(0.884)	649703	48.0003	48.0	

Data File: \\target_server\gg\chem\gcms-w.i\W110518.b\W6408.D
Report Date: 27-Nov-2018 17:10

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$	78	P-Bromofluorobenzene	95	12.183	12.184	(1.756)	346417	51.4968	51.5	
	79	cis-1,4-Dichloro-2-Butene	53	12.277	12.278	(0.913)	54767	51.9124	51.9	
	80	Bromobenzene	156	12.283	12.284	(0.914)	158191	44.5817	44.6	
	81	N-Propylbenzene	91	12.354	12.354	(0.919)	811363	45.9822	46.0	
	82	1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	151123	45.1661	45.2	
	83	2-Chlorotoluene	91	12.513	12.507	(0.931)	432684	45.3432	45.3	
	84	1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	125238	44.5303	44.5	
	85	1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	528483	45.7998	45.8	
	86	trans-1,4-Dichloro-2-Butene	53	12.642	12.636	(0.941)	42446	50.3297	50.3	
	87	4-Chlorotoluene	91	12.701	12.701	(0.945)	452682	45.8863	45.9	
	88	tert-Butylbenzene	119	12.941	12.942	(0.963)	544349	45.8604	45.9	
	89	Pentachloroethane	117	12.941	12.942	(0.963)	116875	49.4753	49.5	
	90	1,2,4-Trimethylbenzene	105	13.024	13.024	(0.969)	541146	46.8750	46.9	
	91	sec-Butylbenzene	105	13.141	13.142	(0.978)	742365	45.8489	45.8	
	92	P-Isopropyltoluene	119	13.312	13.312	(0.990)	635882	46.6931	46.7	
	93	1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	306034	45.6501	45.6	
*	94	1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	421526	50.0000		
	95	1,4-Dichlorobenzene	146	13.458	13.459	(1.001)	310203	44.3808	44.4	
	96	1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	548826	47.0030	47.0	
	97	N-Butylbenzene	91	13.776	13.776	(1.025)	636072	46.1306	46.1	
	98	1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	277620	44.8005	44.8	
	99	1,2-Dibromo-3-Chloropropane	157	14.798	14.799	(1.101)	29058	45.4510	45.4	
	100	1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	238429	46.4943	46.5	
	101	Hexachlorobutadiene	225	15.521	15.515	(1.155)	104538	40.9854	41.0	
	102	1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	197360	45.0303	45.0	
	103	Naphthalene	128	15.885	15.886	(1.182)	439831	43.6571	43.6	
	104	1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	170602	45.3560	45.4	
M	105	Total Alkylbenzenes	100				4439660	323.190	323	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-w.i\M110518.b\M6408.D
Date : 05-NOV-2018 04:40
Client ID:
Sample Info: WG240010-1,TL0579
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: TTC
Column diameter: 0.18
\\target_server\gg\chem\gcms-w.i\M110518.b\M6408.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.614)
-Vinyl chloride (1.678)
-Bromomethane (1.919)
-Chloroethane (2.017)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.378)
-1,1-Dichloroethene (2.583)+
-Iodomethane (2.683)
-Acrolein (2.854)
-Methylene Chloride (3.089)+
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.476)
-Acetonitrile (3.641)
-Di-isopropyl ether (3.805)
-Chloroprene (3.929)+
-Acrylonitrile (4.023)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.693)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.998)+
-Chloroform (5.133)
-Carbon Tetrachloride (5.333)
-Tetrahydrofuran (5.433)+
-1,1-Dichloropropene (5.639)+
-Benzene (6.009)
-Propionitrile (6.097)+
-Pentafluorobenzene (6.203)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.444)
-Methylcyclohexane (6.855)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.437)
-1,2-Dichloropropane (7.583)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.959)+
-Xylenes (total) (8.333)+
-cis-1,3-dichloropropene (8.541)
-Toluene-D8 (8.782)
-Toluene (8.847)
-Tetrachloroethene (9.323)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.657)
-Dibromochloromethane (9.804)
-1,3-Dichloropropane (9.928)
-1,2-Dibromoethane (10.069)
-2-Hexanone (10.433)
-Ethylbenzene (10.809)+
Chlorobenzene-D5 (10.733)+
m+p-Xylenes (10.997)
-o-Xylene (11.502)
-Styrene (11.567)+
-Isopropylbenzene (11.878)
-P-Bromofluorobenzene (12.184)
-cis-1,4-Dichloro-2-Butene (12.247)
-N-Propylbenzene (12.354)
-1,1,2,2-Tetrachloroethane (12.443)
-2-Chlorotoluene (12.513)
-1,2,3-Trichloropropane (12.589)+
-trans-1,4-Dichloro-2-Bute (12.636)
-4-Chlorotoluene (12.701)
-1,2,4-Trimethylbenzene (13.024)
-sec-Butylbenzene (13.144)
-tert-Butylbenzene (12.942)+
-P-Isopropyltoluene (13.312)
-1,3-Dichlorobenzene (13.363)
-1,2,3-Trimethylbenzene (13.500)
1,4-Dichlorobenzene-D4 (13.441)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.799)
1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.085)

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG240057-1
Client ID: LCS
Project:
SDG: TL0579
LCS File ID: W6431.D

Sample Date:
Received Date:
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	112.	50.0	55.9	ug/L	59-123
Vinyl Chloride	114.	50.0	56.9	ug/L	64-131
Bromomethane	78.6	50.0	39.3	ug/L	57-135
Chloroethane	123.	50.0	61.7	ug/L	53-157
Trichlorofluoromethane	93.0	50.0	46.5	ug/L	70-149
1,1-Dichloroethene	92.2	50.0	46.1	ug/L	88-127
Carbon Disulfide	104.	50.0	52.2	ug/L	71-129
Methylene Chloride	85.6	50.0	42.8	ug/L	72-129
trans-1,2-Dichloroethene	85.6	50.0	42.8	ug/L	78-125
1,1-Dichloroethane	91.6	50.0	45.8	ug/L	76-130
cis-1,2-Dichloroethene	86.0	50.0	43.0	ug/L	85-123
Chloroform	90.6	50.0	45.3	ug/L	78-128
Carbon Tetrachloride	91.8	50.0	45.9	ug/L	87-126
1,1,1-Trichloroethane	88.8	50.0	44.4	ug/L	77-129
2-Butanone	102.	50.0	50.8	ug/L	71-132
Benzene	90.4	50.0	45.2	ug/L	86-116
1,2-Dichloroethane	90.8	50.0	45.4	ug/L	81-125
Trichloroethene	93.8	50.0	46.9	ug/L	79-121
1,2-Dichloropropane	88.8	50.0	44.4	ug/L	84-118
Bromodichloromethane	98.6	50.0	49.3	ug/L	85-122
cis-1,3-Dichloropropene	93.4	50.0	46.7	ug/L	83-119
Toluene	93.6	50.0	46.8	ug/L	84-118
4-Methyl-2-Pentanone	107.	50.0	53.3	ug/L	83-122
Tetrachloroethene	89.0	50.0	44.5	ug/L	47-155
trans-1,3-Dichloropropene	99.6	50.0	49.8	ug/L	85-135
1,1,2-Trichloroethane	93.4	50.0	46.7	ug/L	84-115
Dibromochloromethane	97.4	50.0	48.7	ug/L	85-119
Chlorobenzene	91.6	50.0	45.8	ug/L	89-113
Ethylbenzene	91.4	50.0	45.7	ug/L	88-113
m+p-Xylenes	92.7	100.	92.7	ug/L	88-116
o-Xylene	90.8	50.0	45.4	ug/L	90-116
Bromoform	91.2	50.0	45.6	ug/L	86-117
1,1,2,2-Tetrachloroethane	89.2	50.0	44.6	ug/L	79-121
P-Bromofluorobenzene	104.				56-133
Toluene-d8	101.				65-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG240057-1
Client ID: LCS
Project:
SDG: TL0579
LCS File ID: W6431.D

Sample Date:
Received Date:
Extract Date: 05-NOV-18
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG240057

Analysis Date: 05-NOV-18
Analyst: HG
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 28-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,2-Dichloroethane-d4	98.8				67-135
Dibromofluoromethane	92.9				68-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6431.D
Report Date: 27-Nov-2018 17:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-w.i\W110518B.b\W6431.D
Lab Smp Id: WG240057-1
Inj Date : 05-NOV-2018 17:09
Operator : HG   Inst ID: gcms-w.i
Smp Info : WG240057-1,TL0579
Misc Info : WG240057,WG240057-4,TL0579-51
Comment   : SW846 5030C
Method   : \\target_server\gg\chem\gcms-w.i\W110518B.b\W8A05(92)D.m
Meth Date : 05-Nov-2018 16:41 hgould   Quant Type: ISTD
Cal Date : 01-NOV-2018 19:31   Cal File: W6329.D
Als bottle: 2   QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.461	1.461	(0.236)	128867	56.1189	56.1	
2	Chloromethane	50	1.613	1.614	(0.261)	152303	55.9270	55.9	
3	Vinyl chloride	62	1.672	1.673	(0.270)	160202	56.9188	56.9	
4	Bromomethane	94	1.919	1.919	(0.310)	30376	39.3142	39.3	
5	Chloroethane	64	2.013	2.013	(0.326)	97593	61.6941	61.7	
6	Trichlorofluoromethane	101	2.125	2.125	(0.344)	273310	46.5012	46.5	
7	Diethyl Ether	59	2.377	2.378	(0.384)	109950	49.8144	49.8	
8	1,1-Dichloroethene	96	2.548	2.548	(0.412)	112155	46.0915	46.1	
9	Freon-113	151	2.583	2.577	(0.418)	103201	45.3704	45.4	
10	Carbon Disulfide	76	2.583	2.583	(0.418)	368202	52.1653	52.2	
11	Iodomethane	142	2.683	2.683	(0.434)	44475	58.7232	58.7	
12	Acrolein	56	2.853	2.854	(0.461)	63927	211.629	212	
13	Allyl Chloride	41	2.982	2.983	(0.482)	188365	46.2553	46.2	
14	Methylene Chloride	84	3.088	3.089	(0.499)	107106	42.7836	42.8	
15	Acetone	43	3.135	3.136	(0.507)	38713	50.0911	50.1	
16	trans-1,2-Dichloroethene	96	3.247	3.253	(0.525)	102299	42.8551	42.8	
17	Methyl Acetate	43	3.264	3.265	(0.528)	96993	43.4677	43.5	
18	Methyl tert-butyl ether	73	3.370	3.371	(0.545)	249304	46.3967	46.4	
19	Tertiary-butyl alcohol	59	3.476	3.482	(0.562)	34925	223.945	224	
20	Acetonitrile	39	3.640	3.635	(0.589)	33199	398.581	398	
21	Di-isopropyl ether	45	3.805	3.817	(0.615)	396295	47.8771	47.9	
M 22	1,2-Dichloroethylene (total)	96				221387	85.8622	85.9	
23	Chloroprene	53	3.923	3.923	(0.634)	172983	45.6001	45.6	

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6431.D
Report Date: 27-Nov-2018 17:52

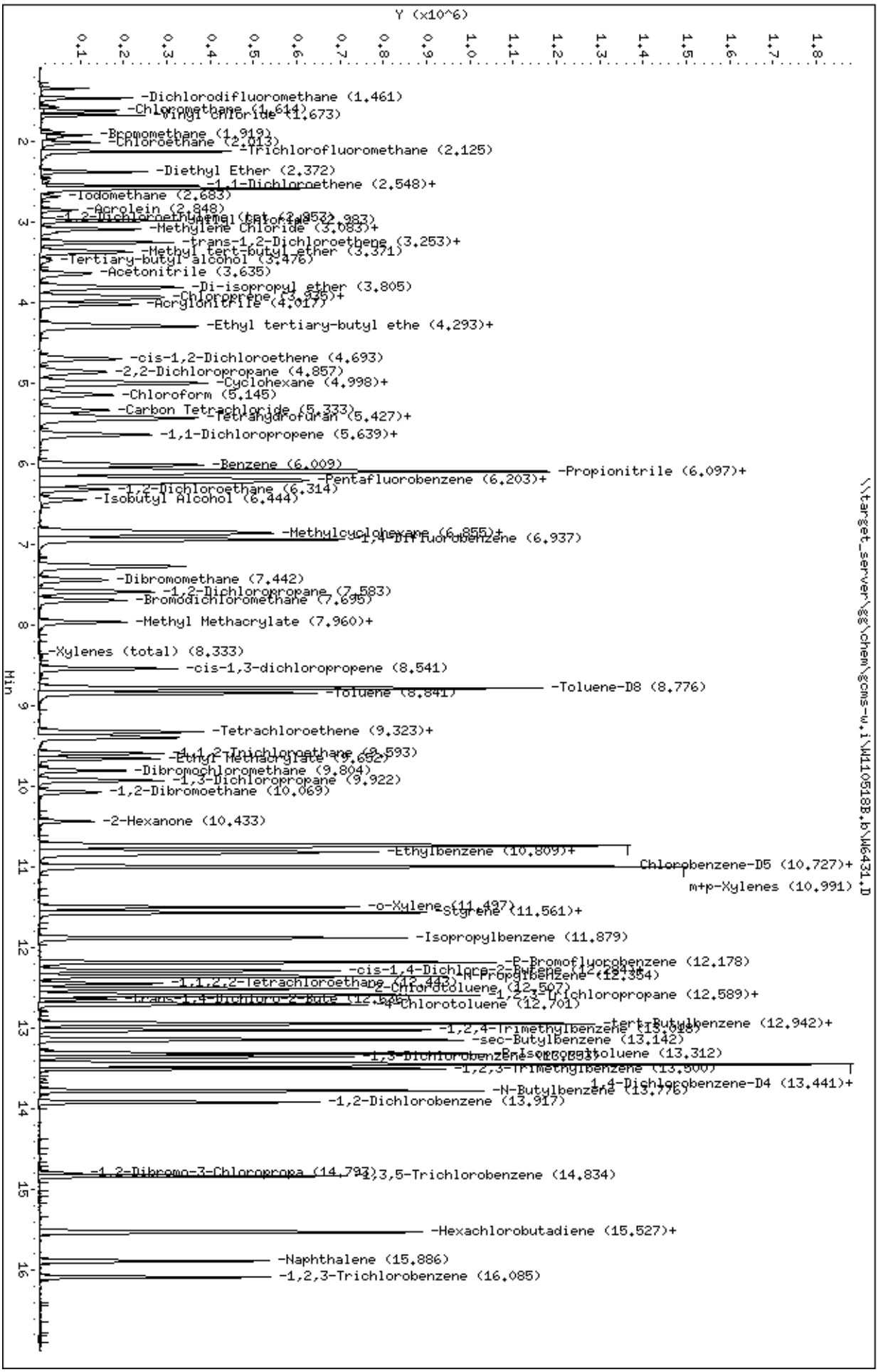
			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24	1,1-Dichloroethane	63	3.952	3.952	(0.639)	215266	45.8351	45.8	
	25	Acrylonitrile	52	4.017	4.022	(0.649)	190820	222.780	223	
	26	Ethyl tertiary-butyl ether	59	4.287	4.287	(0.693)	323079	48.3299	48.3	
	27	Vinyl Acetate	43	4.299	4.299	(0.620)	286723	46.3840	46.4	
	28	cis-1,2-Dichloroethene	96	4.698	4.698	(0.760)	119088	43.0072	43.0	
	29	2,2-Dichloropropane	77	4.863	4.857	(0.786)	154623	49.1359	49.1	
	30	Cyclohexane	56	4.998	4.992	(0.808)	200202	44.5090	44.5	
	31	Bromochloromethane	128	4.998	4.998	(0.808)	52421	47.6445	47.6	
	32	Chloroform	83	5.133	5.139	(0.830)	193750	45.2888	45.3	
	33	Carbon Tetrachloride	117	5.339	5.333	(0.770)	144715	45.9352	45.9	
	34	Tetrahydrofuran	42	5.386	5.380	(0.871)	43435	50.1472	50.1	
$	35	Dibromofluoromethane	113	5.427	5.427	(0.877)	193701	46.4536	46.4	
	36	1,1,1-Trichloroethane	97	5.444	5.439	(0.880)	169252	44.4118	44.4	
	37	1,1-Dichloropropene	75	5.638	5.639	(0.813)	157439	45.6552	45.6	
	38	2-Butanone	43	5.638	5.633	(0.912)	64188	50.8349	50.8	
	39	Benzene	78	6.008	6.009	(0.866)	467078	45.2501	45.2	
	40	Propionitrile	54	6.061	6.067	(0.980)	168362	433.093	433	
	41	Methacrylonitrile	41	6.096	6.097	(0.986)	800345	465.546	466	
*	42	Pentafluorobenzene	168	6.185	6.185	(1.000)	450782	50.0000		
	43	Tertiary-amyl methyl ether	73	6.232	6.238	(1.008)	293865	46.6085	46.6	
$	44	1,2-Dichloroethane-D4	65	6.220	6.214	(1.006)	251259	49.4119	49.4	
	45	1,2-Dichloroethane	62	6.314	6.314	(0.910)	157826	45.3532	45.4	
	46	Isobutyl Alcohol	43	6.443	6.449	(1.042)	94420	811.751	812	
	47	Methylcyclohexane	83	6.843	6.843	(1.106)	230565	46.7882	46.8	
	48	Trichloroethene	95	6.866	6.867	(0.990)	120939	46.9418	46.9	
*	49	1,4-Difluorobenzene	114	6.937	6.937	(1.000)	728485	50.0000		
	50	Dibromomethane	93	7.442	7.442	(1.073)	69328	44.8638	44.9	
	51	1,2-Dichloropropane	63	7.577	7.589	(1.092)	125799	44.3974	44.4	
	52	Bromodichloromethane	83	7.695	7.695	(1.109)	154547	49.3490	49.3	
	53	Methyl Methacrylate	41	7.959	7.959	(1.147)	110028	47.6328	47.6	
	54	1,4-Dioxane	88	7.977	7.983	(1.150)	22694	572.379	572	
M	56	Xylenes (total)	91				1321392	138.100	138	
	57	cis-1,3-dichloropropene	75	8.541	8.541	(1.231)	197075	46.7035	46.7	
$	58	Toluene-D8	98	8.782	8.782	(1.266)	894414	50.4373	50.4	
	59	Toluene	92	8.840	8.847	(1.274)	303931	46.7624	46.8	
	60	Tetrachloroethene	164	9.322	9.328	(0.869)	99783	44.4892	44.5	
	61	4-methyl-2-pentanone	43	9.369	9.370	(1.351)	135950	53.3489	53.3	
	62	trans-1,3-Dichloropropene	75	9.399	9.399	(1.355)	174173	49.8444	49.8	
	63	1,1,2-Trichloroethane	83	9.598	9.593	(1.384)	85861	46.7456	46.7	
	64	Ethyl Methacrylate	69	9.651	9.657	(1.391)	148575	49.0023	49.0	
	65	Dibromochloromethane	129	9.804	9.804	(0.914)	117875	48.7029	48.7	
	66	1,3-Dichloropropane	76	9.927	9.922	(0.925)	182772	44.5515	44.6	
	67	1,2-Dibromoethane	107	10.068	10.075	(1.451)	103343	47.1075	47.1	
	68	2-Hexanone	43	10.433	10.433	(0.973)	88472	50.0571	50.0	
*	69	Chlorobenzene-D5	117	10.726	10.727	(1.000)	702191	50.0000		
	70	Chlorobenzene	112	10.744	10.750	(1.002)	337485	45.7845	45.8	
	71	Ethylbenzene	91	10.809	10.809	(1.008)	585527	45.6867	45.7	
	72	1,1,1,2-Tetrachloroethane	131	10.838	10.844	(1.010)	115871	47.1116	47.1	
	73	m+p-Xylenes	91	10.991	10.997	(1.025)	888980	92.7467	92.7	
	74	o-Xylene	91	11.496	11.497	(1.072)	432412	45.3529	45.4	
	75	Styrene	104	11.561	11.561	(1.078)	365764	46.1354	46.1	
	76	Bromoform	173	11.567	11.567	(1.078)	75948	45.6124	45.6	
	77	Isopropylbenzene	105	11.878	11.878	(0.884)	592877	47.9146	47.9(R)	
$	78	P-Bromofluorobenzene	95	12.184	12.184	(1.756)	313545	51.8640	51.9	

Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6431.D
Report Date: 27-Nov-2018 17:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.278	12.278	(0.913)	47389	49.1365	49.1	
	80 Bromobenzene	156	12.283	12.284	(0.914)	141972	43.7675	43.8	
	81 N-Propylbenzene	91	12.354	12.354	(0.919)	728053	45.1348	45.1	
	82 1,1,2,2-Tetrachloroethane	83	12.442	12.442	(0.926)	136481	44.6199	44.6	
	83 2-Chlorotoluene	91	12.507	12.507	(0.930)	390759	44.7946	44.8	
	84 1,2,3-Trichloropropane	75	12.577	12.572	(0.936)	110864	43.1205	43.1	
	85 1,3,5-Trimethylbenzene	105	12.589	12.589	(0.937)	475008	45.0306	45.0	
	86 trans-1,4-Dichloro-2-Butene	53	12.636	12.636	(0.940)	36464	47.2962	47.3	
	87 4-Chlorotoluene	91	12.701	12.701	(0.945)	408038	45.2444	45.2	
	88 tert-Butylbenzene	119	12.942	12.942	(0.963)	494430	45.5659	45.6	
	89 Pentachloroethane	117	12.947	12.942	(0.963)	103476	47.9160	47.9	
	90 1,2,4-Trimethylbenzene	105	13.018	13.024	(0.969)	491100	46.5341	46.5	
	91 sec-Butylbenzene	105	13.141	13.142	(0.978)	675892	45.6629	45.7	
	92 P-Isopropyltoluene	119	13.312	13.312	(0.990)	567458	45.5811	45.6	
	93 1,3-Dichlorobenzene	146	13.353	13.353	(0.993)	270996	44.2191	44.2	
*	94 1,4-Dichlorobenzene-D4	152	13.441	13.441	(1.000)	385345	50.0000		
	95 1,4-Dichlorobenzene	146	13.453	13.459	(1.001)	283071	44.3016	44.3	
	96 1,2,3-Trimethylbenzene	105	13.500	13.500	(1.004)	494002	46.2801	46.3	
	97 N-Butylbenzene	91	13.770	13.776	(1.024)	568346	45.0890	45.1	
	98 1,2-Dichlorobenzene	146	13.917	13.917	(1.035)	251798	44.4487	44.4	
	99 1,2-Dibromo-3-Chloropropane	157	14.792	14.799	(1.101)	24386	41.7246	41.7	
	100 1,3,5-Trichlorobenzene	180	14.833	14.834	(1.104)	214398	45.7336	45.7	
	101 Hexachlorobutadiene	225	15.521	15.515	(1.155)	92693	39.7536	39.8	
	102 1,2,4-Trichlorobenzene	180	15.533	15.533	(1.156)	177429	44.2831	44.3	
	103 Naphthalene	128	15.885	15.886	(1.182)	375616	40.6258	40.6	
	104 1,2,3-Trichlorobenzene	180	16.085	16.085	(1.197)	148561	43.1716	43.2	
M	105 Total Alkylbenzenes	100				4000287	318.598	318	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-w.i\W110518B.b\W6431.D
Date : 05-NOV-2018 17:09
Client ID:
Sample Info: WG240057-1,TL0579
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-w.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.461)
-Chloromethane (1.614)
-Vinyl chloride (1.673)
-Bromomethane (1.919)
-Chloroethane (2.013)
-Trichlorofluoromethane (2.125)
-Diethyl Ether (2.372)
-1,1-Dichloroethene (2.548)+
-Iodomethane (2.683)
-Acrolein (2.848)
-1,2-Dichloroethylene (tot (2.952) 983)
-Methylene Chloride (3.083)+
-trans-1,2-Dichloroethene (3.253)+
-Methyl tert-butyl ether (3.371)
-Tertiary-butyl alcohol (3.476)
-Acetonitrile (3.635)
-Di-isopropyl ether (3.805)
-Chloroprene (3.936)+
-Acrylonitrile (4.017)
-Ethyl tertiary-butyl ethe (4.293)+
-cis-1,2-Dichloroethene (4.693)
-2,2-Dichloropropane (4.857)
-Cyclohexane (4.998)+
-Chloroform (5.145)
-Carbon Tetrachloride (5.333)
-Tetrahydrofuran (5.427)+
-1,1-Dichloropropene (5.639)+
-Benzene (6.009)
-Propionitrile (6.097)+
-Pentafluorobenzene (6.203)+
-1,2-Dichloroethane (6.314)
-Isobutyl Alcohol (6.444)
-Methylcyclohexane (6.855)+
-1,4-Difluorobenzene (6.937)
-Dibromomethane (7.442)
-1,2-Dichloropropane (7.583)
-Bromodichloromethane (7.695)
-Methyl Methacrylate (7.960)+
-Xylenes (total) (8.333)
-cis-1,3-dichloropropene (8.541)
-Toluene-D8 (8.776)
-Toluene (8.841)
-Tetrachloroethene (9.323)+
-1,1,2-Trichloroethane (9.593)
-Ethyl Methacrylate (9.652)
-Dibromochloromethane (9.804)
-1,3-Dichloropropane (9.922)
-1,2-Dibromoethane (10.069)
-2-Hexanone (10.433)
-Ethylbenzene (10.809)+
Chlorobenzene-D5 (10.727)+
m+p-Xylenes (10.991)
-o-Xylene (11.497)
-Styrene (11.561)+
-Isopropylbenzene (11.879)
-4-Bromofluorobenzene (12.178)
-cis-1,4-Dichloro-2-Butene (12.243)
-N-Propylbenzene (12.354)
-1,1,2,2-Tetrachloroethane (12.443)
-2-Chlorotoluene (12.507)
-1,2,3-Trichloropropane (12.589)+
-trans-1,4-Dichloro-2-Bute (12.595)
-4-Chlorotoluene (12.701)
-tert-Butylbenzene (12.942)+
-1,2,4-Trimethylbenzene (13.088)
-sec-Butylbenzene (13.142)
-1,3-Dichlorobenzene (13.253)
-p-Isopropyltoluene (13.312)
-1,2,3-Trimethylbenzene (13.500)
1,4-Dichlorobenzene-D4 (13.441)+
-N-Butylbenzene (13.776)
-1,2-Dichlorobenzene (13.917)
-1,2-Dibromo-3-Chloropropa (14.793)
1,3,5-Trichlorobenzene (14.834)
-Hexachlorobutadiene (15.527)+
-Naphthalene (15.886)
-1,2,3-Trichlorobenzene (16.085)
\\target_server\gg\chem\gcms-w.i\W110518B.b\W6431.D

Logbooks and Supporting Documents

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 11-1-18 B

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	PREP METHOD 5035	PREP METHOD 1311	Criteria KAS	Criteria DoD	Criteria QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
WG239831-TB11	W10322	1	—	[illegible]	✓						Y	[illegible]	NA	NA	
VSTD050	W10323	1	1	W8A05(92)							Y				
20 -3	24	1	2								Y				
5 -2	25	1	3								Y				
1 -1	26	1	4								Y				
150 -6	27	1	5								Y				
100 -5	28	1	6								Y				
75 -7	29	1	7								Y				
50	30	1	8								—				Not used
Tol -8	31	1	9								Y				Tol
RMCL	32	1	10								—				
↓	33	1	11								—				

TTC 11/2/18

STANDARD	CODE
BFB	V1228
CAL. STD.	V1233/V1234A
LCS/MS MIX	V1218
EXTRAS MIX	V1275

STANDARD	CODE
IS MIX	V1262
SS MIX	✓

Circle Methods:
- SW846 8260 (circled)
- SW846 8260 SIM
- SW846 8260 SIM (heated purge)
- EPA 624
- EPA 524

VOA-023 – Revision 2 – 12/07/2017

QAMS662

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 11-2-18 16:54

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	5035	1311	Criteria KAS	DoD	QAPP	PH # 5746 Y/N	ANALYST	PH	TRCV	COMMENTS
WG239915-3	W0979	1	1	8260B/8260C	✓						Y	HB/JR	NA	NA	
VSTD50	W63558		1	WTAS (92)							Y				
LCS	59		2								Y				
MBLK A	60		3								N				Target hits
B	61		4								Y		✓		
TL0566-10 B	62		5						5.0		Y		<2		
-15 B	63		6						5.0		Y		<2		
-20 B	64		7						5.0		Y		<2		
TL0579-1 A	65		8					✓			Y		<2		
2 A	66		9					✓			Y		<2		
3 A	67		10					✓			Y		<2		
4 A	68		11					✓			Y		<2		
5 A	69		12					✓			Y		<2		
6 A	70		13					✓			Y		<2		
7 A	71		14					✓			Y		<2		
8 A	72		15					✓			Y		<2		
9 A	73		16					✓			Y		<2		
10 A	74		17					✓			Y		<2		
11 A	75		18					✓			Y		<2		DL 114
12 A	76		19					✓			N		<2		RA CO
TL0566-10G	77		20						5.0		Y		<2		
-10MS E	78		21								Y		<2		
-10MSD F	79		22								Y		<2		
CCV1	80		23								Y		NA		449 ✓
↓	81		24								2		↓		Not needed
↓	82		25	↓	↓						↓	↓	↓	↓	↓

STANDARD	CODE
BFB	V1225
CAL. STD.	V1273 V1274B
LCS/MS MIX	V1265
EXTRAS MIX	V1275

STANDARD	CODE
IS MIX	V1262
SS MIX	↓

Circle Methods:

SW846 8260 — EPA 624

SW846 8260 SIM — EPA 524

SW846 8260 SIM (heated purge)

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 11-03-18 629

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	5035	1311	Criteria KAS	DoD	QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
WG239941-3	WB980	1	-1	V0AABFBAQ							Y			NA	
VSTD050 -4	W6383	1	1	W8A05(92)							Y				
LCS -1	84	1	2								Y				
VBLK	85	1	3								N				Target hits
WG239941-2	86	1	4								Y				
JL0579-12RA B	87	1	5					/			Y		<2		
-11 DL	88	4	6					/			Y		<2		
-13 DL	89	40	7					/			Y		<2		
-14	90	1	9					/			Y		<2		
-15	91	1	9					/			Y		<2		
-16	92	1	10					/			Y		<2		
-17	93	1	11					/			Y		<2		
-18	94	1	12					/			Y		<2		
-19	95	1	13					/			Y		<2		DL 1:10
-20	96	1	14					/			Y		<2		
-21	97	1	15					/			Y		<2		
-22	98	1	16					/			Y		<2		
-23	99	1	17					/			Y		<2		
-24	W6400	1	18					/			Y		<2		
-26	01	1	19					/			Y		<2		
-27	02	1	20					/			Y		<2		
-28	03	1	21					/			Y		<2		
-29	04	1	22					/			Y		<2		
Rinse	05	1	23					/			Y		<2		1749
											-		-		
															TIC 11/5/18

STANDARD	CODE
BFB	V1228
CAL. STD.	V1273/V1274B
LCS/MS MIX	V1268
EXTRAS MIX	V1275

STANDARD	CODE
IS MIX	V1262
SS MIX	

Circle Methods:

SW846 8260

SW846 8260 SIM

SW846 8260 SIM (heated purge)

EPA 624

EPA 524

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 11-5-15 334

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	5035	1311	Criteria KAS	DoD	QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
W5240010-3	W1481	1	—	VOA8260B	✓						Y		NA	NA	
VSTD50-4	W1407		1	VOA8260(92)							Y				
LCS-2	05		2								Y				
VBLKA	04		3								Y				
B-2	10		4								Y				target hits
TL0579-18DL3	11	10	5					✓			Y		2		
-25DL A	12	50	6					✓			N				dont need 2 exp'd.
TL0579-30 A	13	1	7					✓			Y				
-31 A	14		8					✓			Y				
-32 A	15		9					✓			Y				
-33 A	16		10					✓			Y				
-34 A	17							✓			Y				
-35DL A	18	2						✓			Y				
-36 A	19	1						✓			N				
-37 A	20							✓			Y				exp'd. late
-38 A	21							✓			Y				
-39 A	22							✓			Y				
-40 A	23							✓			Y				
-41 A	24							✓			Y				
-42 A	25							✓			Y				
-13DL2	26	4						✓			Y				
-25DL2	27	5						✓			Y				
-35	28	1						✓			Y/~~N~~				
											Y	✓	✓	✓	Run St: ~~over-night~~ 1444 ✓ TTF 11/6/15

STANDARD	CODE
BFB	V1224
CAL. STD.	V1273
LCS/MS MIX	V1268
EXTRAS MIX	V1275

STANDARD	CODE
IS MIX	V1262
SS MIX	

11-5-15

Circle ~~Methods~~:

SW846 8260 (circled)

SW846 8260 SIM

SW846 8260 SIM (heated purge)

EPA 624

EPA 524

Katahdin Analytical Services 1000456

GCMS-W INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 11-5-18B 16:04

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD 5030	5035	1311	Criteria KAS	DoD	QAPP	Y/N	ANALYST	PH	TRCv	COMMENTS
W6240057 -3	WB982	—	—	VOABFBAQ							Y	JR/HG	N/A	N/A	
Vstd -4	W6430	1	1	W826AQ27							Y				
LCS -1	31		2								Y				
VBlank A	32		3								N				Target hits
VBlank -2	33		4								Y				
TL0579 -S1A	34		5		✓			✓			Y		<2		
-S2A	35		6								Y		<2		
-43A	36		7								Y		<2		
-44A	37		8								Y		<2		
-45A	38		9								Y		<2		
-46A	39		10								Y		<2		
-47A	40		11								Y		<2		
-48A	41		12								Y		<2		
-49A	42		13								Y		<2		
-50A	43		14								Y		<2		
TL0668 -1A	44		15								Y		<2		
-2A	45		16								Y		<2		
-3A	46		17								Y		<2		
-4A	47		18								Y		<2		
-5A	48		19								Y		<2		DL 1:40
-6A	49		20								N		<2		RA EO
-7A	50		21								Y		<2		DL 1:40
TL0579 -25B	51		22								N		<2		RA EO
Rinse	52	✓	23	✓							Y		<2		
											—	✓	N/A		
														✓	
															TOC 11/6/18

STANDARD	CODE
BFB	V1228
CAL. STD.	V1273
LCS/MS MIX	V1268
EXTRAS MIX	V1275

STANDARD	CODE
IS MIX	V1262
SS MIX	✓

Circle Methods:

SW846 8260 — EPA 624

SW846 8260 SIM — EPA 524

SW846 8260 SIM (heated purge)

ARCADIS
WATERVLIET ARSENAL LTM 2018
TL0880

KATAHDIN ANALYTICAL SERVICES
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

TABLE OF CONTENTS

Total number of pages: 137

SAMPLE DATA PACKAGE		0000001		
Narrative	----------	0000002	to	0000003
Supporting Documents	----------	0000004	to	0000006
Chain of Custody Record	----------	0000007	to	0000007
Login Report	----------	0000008	to	0000008
SAMPLE DATA SUMMARY				
Report of Analytical Results	----------	A000001	to	A000008
VOLATILES DATA		1000001		
QC Summary	----------	1000002	to	1000009
Sample Data	----------	1000010	to	1000026
Standards Data	----------	1000027	to	1000107
Raw QC Data	----------	1000108	to	1000118
Logbooks and Supporting Documents	----------	1000119	to	1000121

SAMPLE DATA PACKAGE

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
ARCADIS
WATERVLIET ARSENAL LTM 2018
TL0880

Sample Receipt

The following samples were received on November 05, 2018 and were logged in under Katahdin Analytical Services work order number TL0880 for a hardcopy due date of November 22, 2018.

KATAHDIN Sample No.	ARCADIS Sample Identification
TL0880-1	B121-S-103118
TL0880-2	B121-N-103118
TL0880-3	TRIP BLANK

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAP standards unless otherwise noted in this narrative or in the Report of Analysis.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Heather Manz**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of Work Order # TL0880 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846, 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA, and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA and/or for the specific methods listed below or on the Report of Analysis.

8260B Analysis

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are statistically derived for the full list of spiked compounds. The recoveries of the spiked analytes in the LCS are compared to these acceptance limits. Katahdin standard operating procedure is to take corrective action only if the number of spiked analytes in the LCS that are outside of the QC limits is greater than ten percent of the client compound list.

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Quality Assurance Officer, or their designee, as verified by the following signature.

Leslie Dimond
12.04.18

Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, Inc.

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

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

Katahdin Analytical Services, LLC. Sample Receipt Condition Report

Client:	Arcadis	KAS PM:	HHM	Sampled By:	Client
Project:	Watervliet	KIMS Entry By:	JCB	Delivered By:	FedEx
KAS Work Order#:	170880	KIMS Review By:	SR	Received By:	CM
SDG #:		Cooler: 1 of 1		Date/Time Rec.:	11-5-18 / 1235

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		✓			Temp (°C): 2.2
Samples received at <6 °C w/o freezing?		✓			Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present? melted	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements? melted	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?	✓				
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?	✓				
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2				✓	
Sulfide - >9				✓	
Cyanide – pH >12				✓	

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Shipped to 9S Hutchins. ~~Arrived 11/10 Picked up 11/5~~

Samples arrived in Portland on Nov. 01. fedex notified KAS that samples were waiting for pick up on Nov. 05.

Heather Manz

From: Bagnato, Stefan [Stefan.Bagnato@arcadis.com]
Sent: Monday, November 05, 2018 1:26 PM
To: Heather Manz
Cc: 'Jennifer Prescott'; MFlanders@katahdinlab.com; 'Greg Lull'; 'Sara Colby'; Giroux, Danielle
Subject: RE: Samples received today
Attachments: S65BW-5e18110508480.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Heather-
Sorry about that, definitely a screw up on our end.
Please proceed with analysis.
Also FYI, Terry Huber only needs to be copied on contracting/accounting correspondence. Please add Danielle Giroux to all technical correspondence.
Thanks,
-Stefan

From: Heather Manz <hmanz@katahdinlab.com>
Sent: Monday, November 5, 2018 1:06 PM
To: Huber, Terry <Terry.Huber@arcadis.com>; Bagnato, Stefan <Stefan.Bagnato@arcadis.com>
Cc: 'Jennifer Prescott' <jprescott@katahdinlab.com>; MFlanders@katahdinlab.com; 'Greg Lull' <glull@katahdinlab.com>; 'Sara Colby' <scolby@katahdinlab.com>; 'Heather Manz' <hmanz@katahdinlab.com>
Subject: Samples received today

Good Afternoon, The attached samples were received today. They were shipped to the FedEx location at 95 Hutchins Dr, instead of the lab address. FedEx did not notify us until today that the samples needed to be picked up. The samples were taken on 10/31 and are now out of temperature at 21.2 decC. Please let us know if you would like us to proceed with analysis.

Thank you,

Heather Manz

Federal Programs Project Manager
Katahdin Analytical Services
A Small Business Enterprise
DoD ELAP Accredited
600 Technology Way
Scarborough, Maine 04074
Office - 207.874.2400 x77
Fax - 207.775.4029
www.katahdinlab.com

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

This email and any files transmitted with it are the property of Arcadis and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of Arcadis are neither given nor endorsed by it.

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Page 1 of 1

Client	Contact	Phone #	Fax #
Arcadis	Stefan Bagnato	(518) 250-7300	( )

Address	City	State	Zip Code
855 NY-140 Suite 210	Clifton Park	NY	12065

Purchase Order #	Proj. Name / No.	Katahdin Quote #
	WVA LTM 02118227.0008	

Bill (if different than above) — Address

Sampler (Print / Sign): Kim Stilson / K Stilson

Copies To: Danielle Giroux

LAB USE ONLY — WORK ORDER #: TL0880

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☒ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: Filt. ☐Y ☒N — VOA 8260	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N	Filt. ☐Y ☐N
	B121-S-103118	10/31/1020	GW	3	X								
	B121-N-103118	10/31/1040	GW	3	X								
	Trip blank	9/25/900	GW	2	X								
		/											
		/											
		/											
		/											
		/											
		/											
		/											
		/											
		/											
		/											
		/											
		/											
		/											

K Stilson 10/31/18

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
K Stilson	10/31 1120	11-5-18/1235			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Nov. 05, 2018
03:25 PM

Login Number: TL0880

Account: ARCADIS002
ARCADIS

Project: ARCADIS-WATERVLIET

Quote/Incoming: ARCADIS-WATERVl

NoWeb

Primary Report Address:
Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146
Suite 210
Clifton Park,NY 12065
stefan.bagnato@arcadis-us.com

Primary Invoice Address:
Report CC Addresses:
Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	Not DOD, NELAP. ND to PQL, no J flags.
CHECK NO.	:	
CLIENT PO#	:	02118227.0000
CLIENT PROJECT MANAGE	:	Stefan Bagnato
CONTRACT	:	W912DR-18-D-0004
COOLER TEMPERATURE	:	21.2
DELIVERY SERVICES	:	FedEx
EDD FORMAT	:	KAS121-CSV & KAS136QC-CSV
LOGIN INITIALS	:	JCB
PM	:	HHM
PROJECT NAME	:	Watervliet Arsenal LTM 2018
QC LEVEL	:	IV
REPORT INSTRUCTIONS	:	Email PDF & EDD to Stefan and Danielle.Giroux@arcadis.com. No HC. Email invoices to Terry Huber (Terry.Huber@arcadis.com), stefan.bagnato@arcadis.com and AccountsPayable.Administration@arcadis.com
SDG ID	:	
SDG STATUS	:	
VERBAL TAT	:	

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0880-1	B121-S-103118	31-OCT-18 10:20	05-NOV-18			22-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	14-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0880-2	B121-N-103118	31-OCT-18 10:40	05-NOV-18			22-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	14-NOV-18	40mL Vial+HCl		

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TL0880-3	TRIP BLANK	31-OCT-18 00:00	05-NOV-18			22-NOV-18	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW8260-S	14-NOV-18	40mL Vial+HCl		

Total Samples: **3** ***Total Analyses:*** **3**

SAMPLE DATA SUMMARY PACKAGE

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-1
Client ID: B121-S-103118
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8450.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		105.	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-1
Client ID: B121-S-103118
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8450.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		134.	%			
Dibromofluoromethane		117.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-2
Client ID: B121-N-103118
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8451.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.3	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		106.	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-2
Client ID: B121-N-103118
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8451.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		133.	%			
Dibromofluoromethane		116.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-3
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8449.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		103.	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-3
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8449.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		127.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

VOLATILES DATA

QC Summary Section

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** Watervliet Arsenal LTM 2018 **Matrix:** AQ
Lab Code: KAS **SDG:** TL0880

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
B121-S-103118	TL0880-1		105.		117.		134.		102.	
B121-N-103118	TL0880-2		106.		116.		133.		103.	
TRIP BLANK	TL0880-3		103.		110.		127.		102.	
Laboratory Control S	WG240630-1		105.		104.		112.		101.	
Method Blank Sample	WG240630-2		102.		112.		126.		101.	

		QC Limits
DBF	DIBROMOFLUOROMETHANE	68-128
BFB	P-BROMOFLUOROBENZENE	56-133
TOL	TOLUENE-D8	65-128
DCA	1,2-DICHLOROETHANE-D4	67-135

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : T8446.D
Instrument ID : GCMS-T
Heated Purge : No

SDG : TL0880
Lab Sample ID : WG240630-2
Date Analyzed : 09-NOV-18
Time Analyzed : 08:45

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG240630-1	T8444.D	11/09/18	07:36
TRIP BLANK	TL0880-3	T8449.D	11/09/18	10:15
B121-S-103118	TL0880-1	T8450.D	11/09/18	10:46
B121-N-103118	TL0880-2	T8451.D	11/09/18	11:16

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : TB786A.D
Instrument ID : GCMS-T

SDG : TL0880
Date Analyzed : 07-NOV-18
Time Analyzed : 07:13
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	19.3		
75	30.0 - 60.0% of mass 95	50.2		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.3		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	66.2		
175	5.0 - 9.0% of mass 174	3.7	5.56	1
176	95.0 - 101.0% of mass 174	66.1	99.87	1
177	5.0 - 9.0% of mass 176	3.6	5.39	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG240169-4	T8379.D	11/07/18	08:48
Initial Calibration	WG240169-3	T8380.D	11/07/18	09:31
Initial Calibration	WG240169-2	T8381.D	11/07/18	10:02
Initial Calibration	WG240169-1	T8382.D	11/07/18	10:32
Initial Calibration	WG240169-6	T8383.D	11/07/18	11:02
Initial Calibration	WG240169-5	T8384.D	11/07/18	11:32

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : TB787A.D
Instrument ID : GCMS-T

SDG : TL0880
Date Analyzed : 07-NOV-18
Time Analyzed : 14:41
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	17.9		
75	30.0 - 60.0% of mass 95	52.2		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.9		
173	Less than 2.0% of mass 174	0.5	0.76	1
174	Greater than 50.0% of mass 95	70.8		
175	5.0 - 9.0% of mass 174	5.8	8.17	1
176	95.0 - 101.0% of mass 174	68.9	97.35	1
177	5.0 - 9.0% of mass 176	5.6	8.06	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Independent Source	WG240200-8	T8388A.D	11/07/18	15:42

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab File ID : TB789A.D
Instrument ID : GCMS-T

SDG : TL0880
Date Analyzed : 09-NOV-18
Time Analyzed : 05:58
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	21.0		
75	30.0 - 60.0% of mass 95	56.9		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.1		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	65.2		
175	5.0 - 9.0% of mass 174	5.9	8.98	1
176	95.0 - 101.0% of mass 174	65.6	100.66	1
177	5.0 - 9.0% of mass 176	4.1	6.29	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG240630-4	T8442.D	11/09/18	06:21
Laboratory Control S	WG240630-1	T8444.D	11/09/18	07:36
Method Blank Sample	WG240630-2	T8446.D	11/09/18	08:45
TRIP BLANK	TL0880-3	T8449.D	11/09/18	10:15
B121-S-103118	TL0880-1	T8450.D	11/09/18	10:46
B121-N-103118	TL0880-2	T8451.D	11/09/18	11:16

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240630-4
Lab File ID : T8442.D

SDG: TL0880
Analytical Date: 11/09/18 06:21
Instrument ID: GCMS-T

		PENTAFLUOROBENZENE				1,4-DIFLUOROBENZENE				CHLOROBENZENE-D5			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	453161		5.78		669873		6.58		627811		10.64	
	Upper Limit	906322		5.95		1339746		6.74		1255622		10.81	
	Lower Limit	226580.5		5.62		334936.5		6.41		313905.5		10.47	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG240630-1	479951		5.79		717875		6.59		669404		10.64	
Method Blank Sample	WG240630-2	413700		5.79		647404		6.59		608019		10.64	
TRIP BLANK	TL0880-3	393563		5.79		607266		6.59		563288		10.64	
B121-S-103118	TL0880-1	381135		5.79		600913		6.59		559414		10.64	
B121-N-103118	TL0880-2	376650		5.79		586872		6.59		551038		10.64	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240630-4
Lab File ID : T8442.D

SDG: TL0880
Analytical Date: 11/09/18 06:21
Instrument ID: GCMS-T

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	331854		13.73	
	Upper Limit	663708		13.89	
	Lower Limit	165927		13.56	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG240630-1	348108		13.73	
Method Blank Sample	WG240630-2	290321		13.73	
TRIP BLANK	TL0880-3	271173		13.73	
B121-S-103118	TL0880-1	273198		13.73	
B121-N-103118	TL0880-2	271319		13.73	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Sample Data Section

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

Katahdin Analytical Services, Inc.

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

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

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-1
Client ID: B121-S-103118
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8450.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		105.	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-1
Client ID: B121-S-103118
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8450.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		134.	%			
Dibromofluoromethane		117.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8450.D
Report Date: 27-Nov-2018 12:19

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110918.b\T8450.D
Lab Smp Id: TL0880-1 Client Smp ID: B121-S-103118
Inj Date : 09-NOV-2018 10:46
Operator : TTC Inst ID: gcms-t.i
Smp Info : TL0880-1
Misc Info : WG240630,WG240630-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T110918.b\T8A05(61)D.m
Meth Date : 09-Nov-2018 16:25 tcote Quant Type: ISTD
Cal Date : 07-NOV-2018 11:32 Cal File: T8384.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

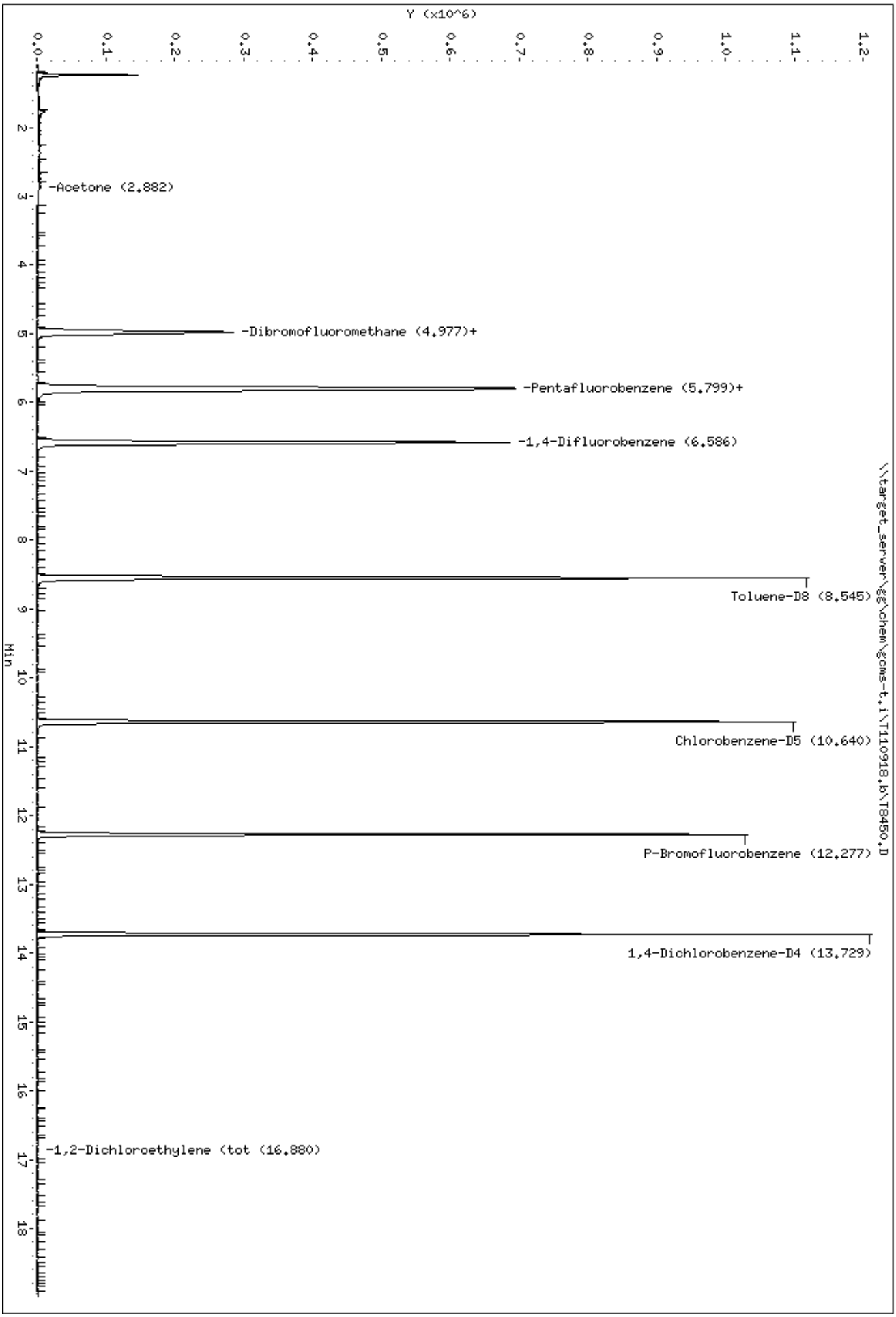
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	2.881	2.875	(0.498)	3227	6.24805	6.2	
$	34 Dibromofluoromethane	113	4.976	4.977	(0.859)	262067	58.4691	58.5	
	35 1,1,1-Trichloroethane	97	5.005	4.991	(0.864)	2306	0.29515	0.30(a)	
*	41 Pentafluorobenzene	168	5.791	5.792	(1.000)	381135	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	457672	66.9163	66.9	
*	48 1,4-Difluorobenzene	114	6.585	6.586	(1.000)	600913	50.0000		
$	56 Toluene-D8	98	8.544	8.545	(1.297)	832235	51.2568	51.2	
*	68 Chlorobenzene-D5	117	10.639	10.640	(1.000)	559414	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	356485	52.7130	52.7	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	273198	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8450.D
Date : 09-NOV-2018 10:46
Client ID: B121-S-103118
Sample Info: TL0880-1
Instrument: gcms-t.i
Y (x10^6)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
-Acetone (2.882)
-Dibromofluoromethane (4.977)+
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.586)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T110918.b\T8450.D

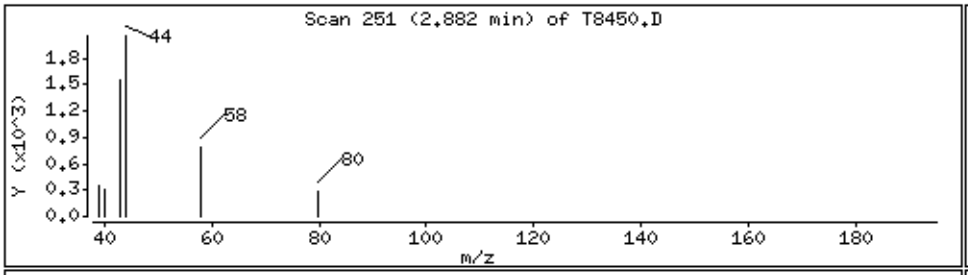
Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8450.D

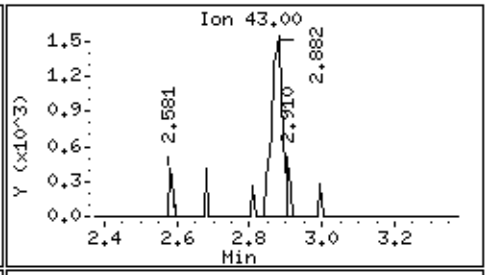
Date : 09-NOV-2018 10:46

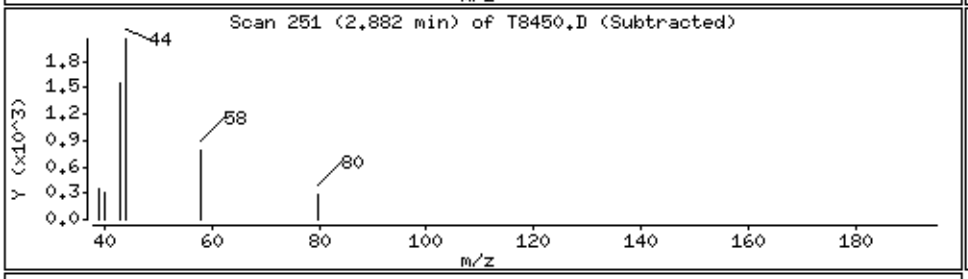
Client ID: B121-S-103118 Instrument: gcms-t.i

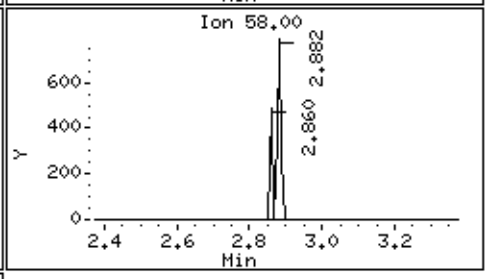
Sample Info: TL0880-1

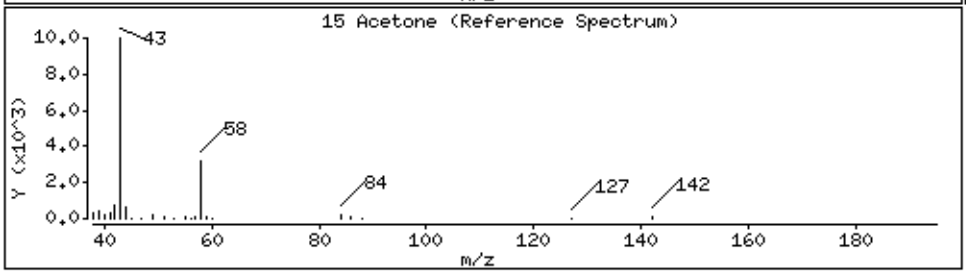
15 Acetone Concentration: 6.2 ug/l



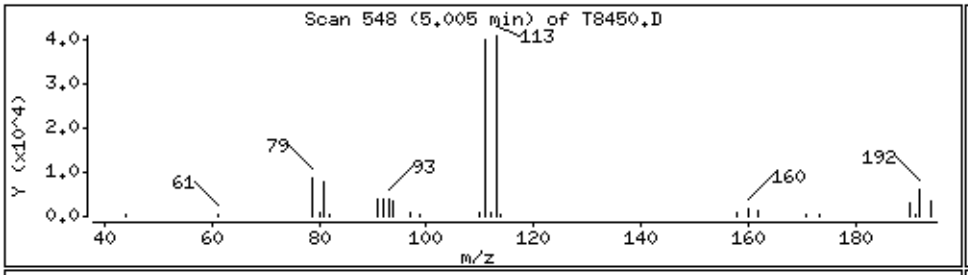


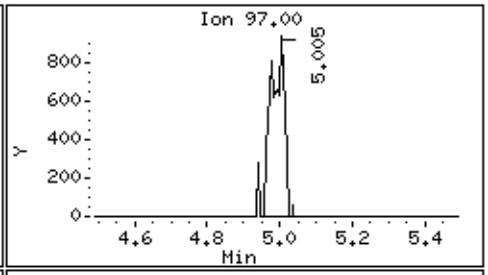


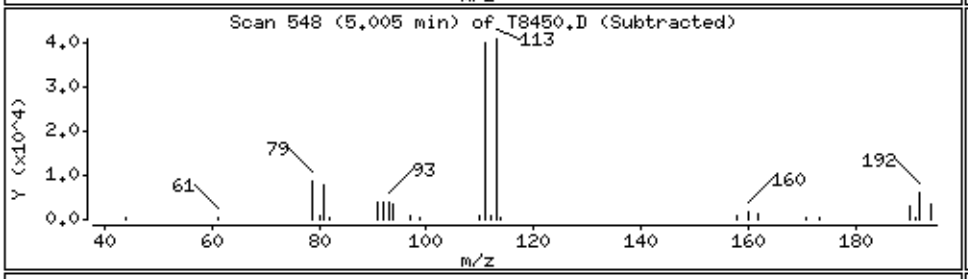


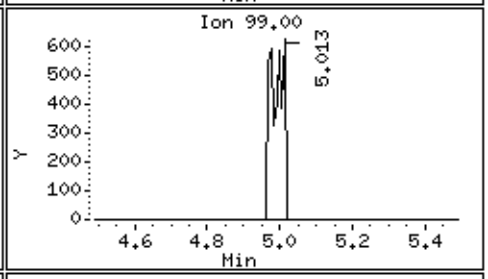


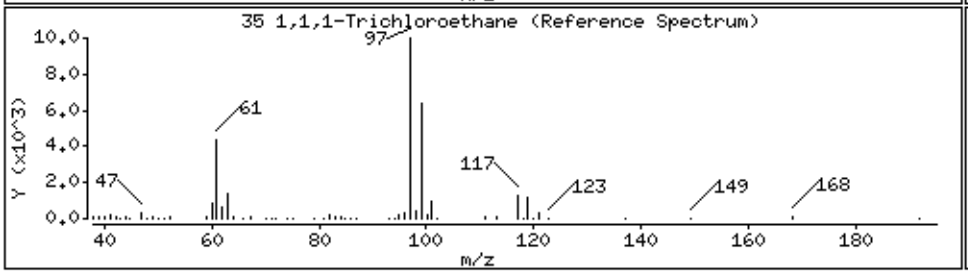
35 1,1,1-Trichloroethane Concentration: 0.30 ug/l

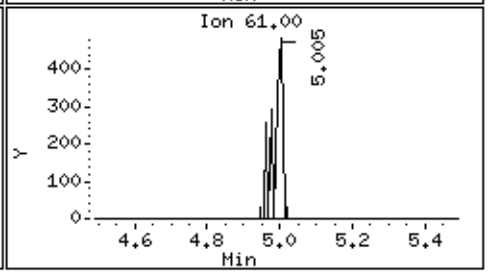












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-2
Client ID: B121-N-103118
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8451.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene		1.3	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		106.	%			
Toluene-d8		103.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-2
Client ID: B121-N-103118
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8451.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		133.	%			
Dibromofluoromethane		116.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8451.D
Report Date: 27-Nov-2018 12:19

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110918.b\T8451.D
Lab Smp Id: TL0880-2 Client Smp ID: B121-N-103118
Inj Date : 09-NOV-2018 11:16
Operator : TTC Inst ID: gcms-t.i
Smp Info : TL0880-2
Misc Info : WG240630,WG240630-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T110918.b\T8A05(61)D.m
Meth Date : 09-Nov-2018 16:25 tcote Quant Type: ISTD
Cal Date : 07-NOV-2018 11:32 Cal File: T8384.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

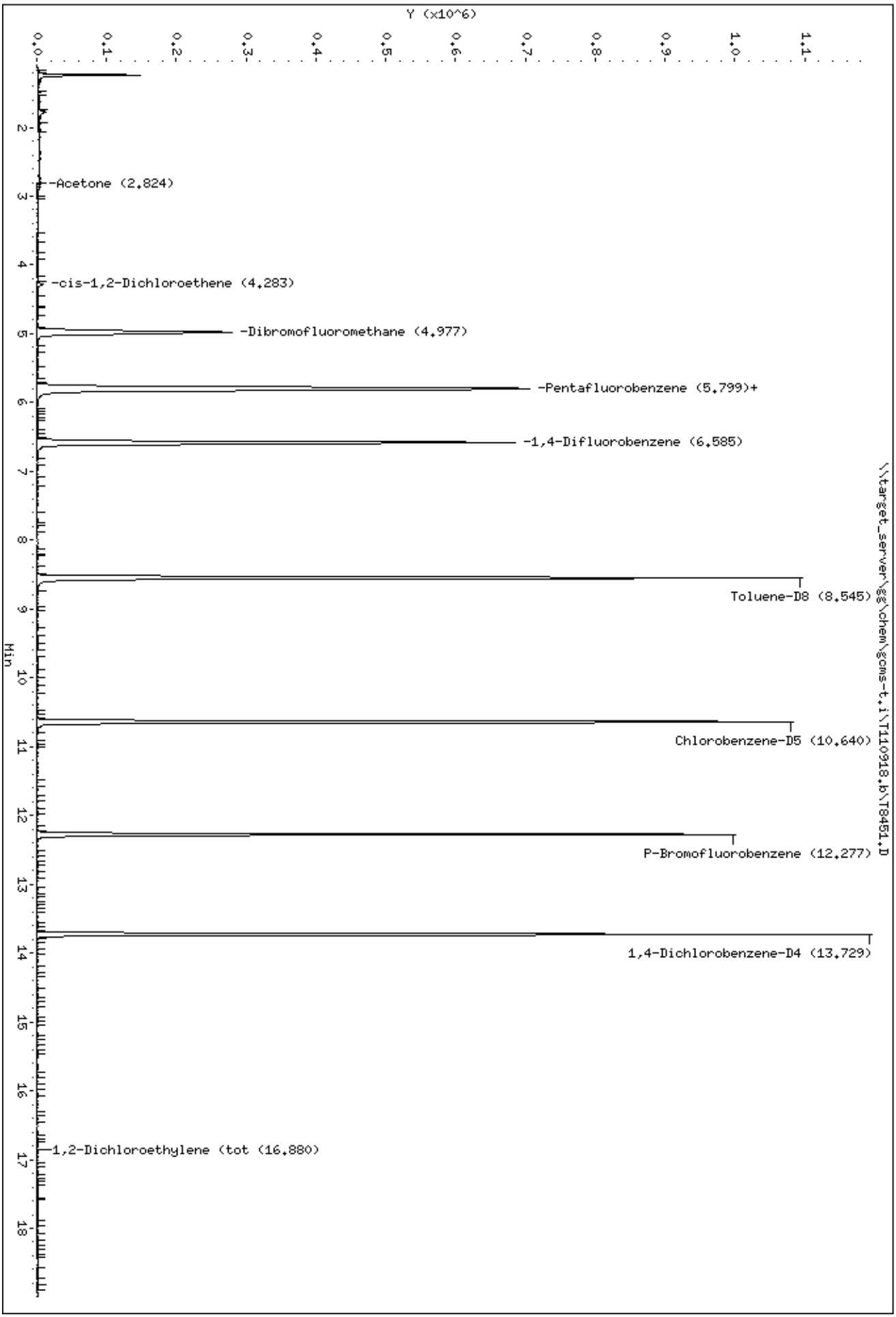
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	15 Acetone	43	2.874	2.875	(0.496)	3552	6.43295	6.4	
	27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	4670	1.27380	1.3	
$	34 Dibromofluoromethane	113	4.976	4.977	(0.859)	255860	57.7640	57.8	
*	41 Pentafluorobenzene	168	5.791	5.792	(1.000)	376650	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	449938	66.5689	66.6	
*	48 1,4-Difluorobenzene	114	6.585	6.586	(1.000)	586872	50.0000		
$	56 Toluene-D8	98	8.544	8.545	(1.297)	817862	51.5767	51.6	
*	68 Chlorobenzene-D5	117	10.639	10.640	(1.000)	551038	50.0000		
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	348780	52.8076	52.8	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	271319	50.0000		
M	103 1,2-Dichloroethylene (total)	96				4670	1.27380	1.3(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8451.D
Date : 09-NOV-2018 11:16
Client ID: B121-N-103118
Sample Info: TL0880-2
Instrument: gcms-t.i
\\target_server\gg\chem\gcms-t.i\T110918.b\T8451.D
Y (x10^6)
Min
-Acetone (2.824)
-cis-1,2-Dichloroethene (4.283)
-Dibromofluoromethane (4.977)
-Pentafluorobenzene (5.799)+
-1,4-Difluorobenzene (6.585)
Toluene-D8 (8.545)
Chlorobenzene-D5 (10.640)
P-Bromofluorobenzene (12.277)
1,4-Dichlorobenzene-D4 (13.729)
1,2-Dichloroethylene (tot (16.880)

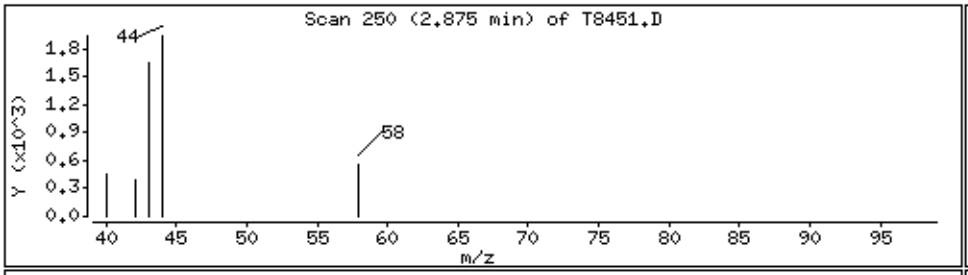
Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8451.D

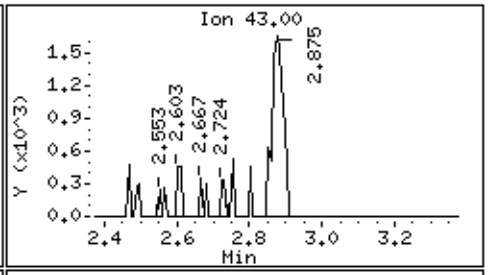
Date : 09-NOV-2018 11:16

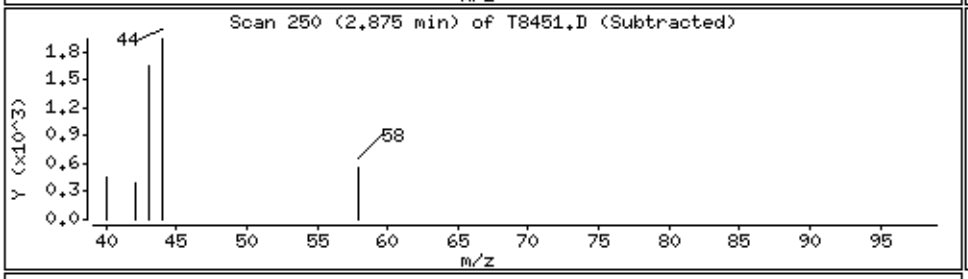
Client ID: B121-N-103118 Instrument: gcms-t.i

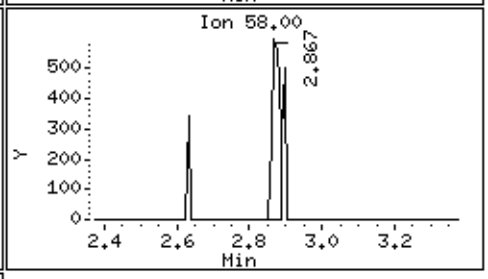
Sample Info: TL0880-2

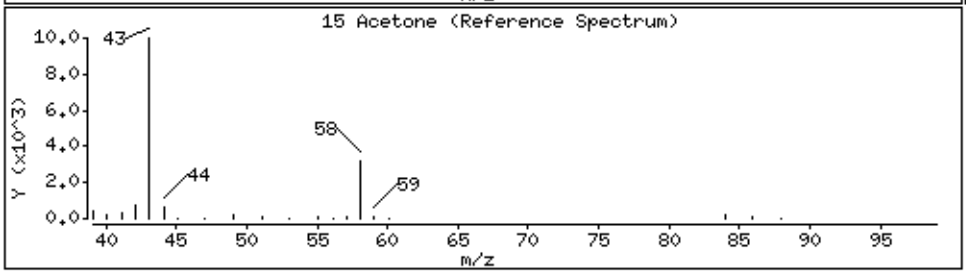
15 Acetone Concentration: 6.4 ug/l



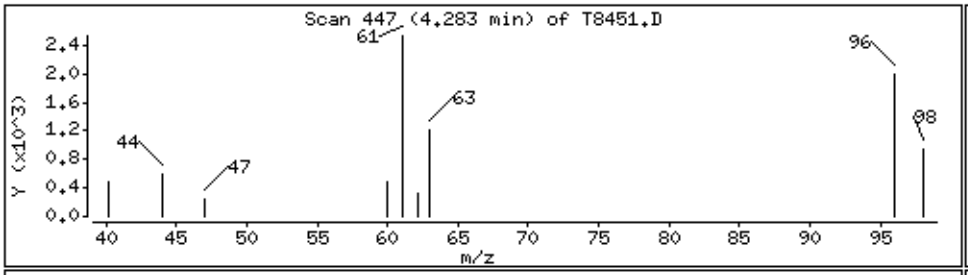


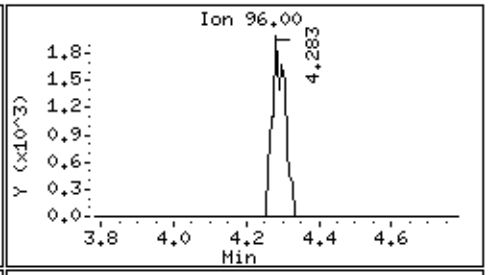


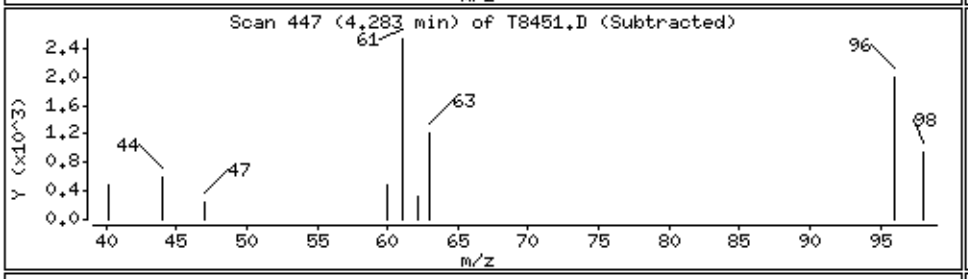


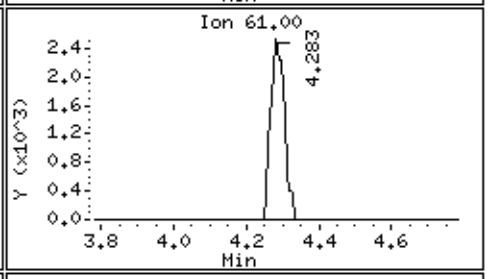


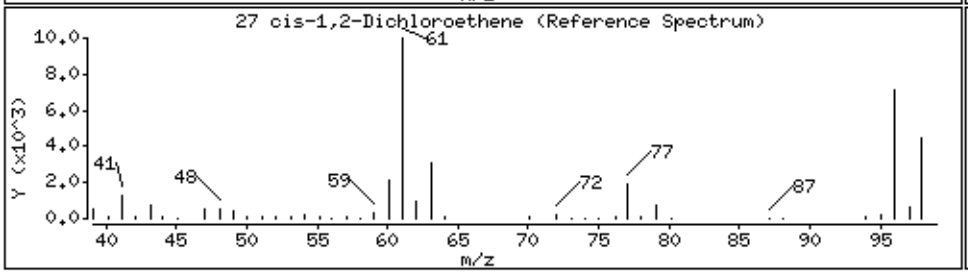
27 cis-1,2-Dichloroethene Concentration: 1.3 ug/l

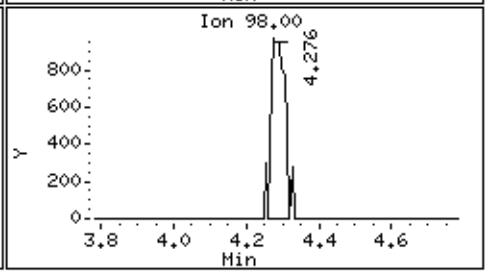












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-3
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8449.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		103.	%			
Toluene-d8		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: TL0880-3
Client ID: TRIP BLANK
Project: Watervliet Arsenal LTM 2018
SDG: TL0880
Lab File ID: T8449.D

Sample Date: 31-OCT-18
Received Date: 05-NOV-18
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
1,2-Dichloroethane-d4		127.	%			
Dibromofluoromethane		110.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8449.D
Report Date: 27-Nov-2018 12:19

Katahdin Analytical Services

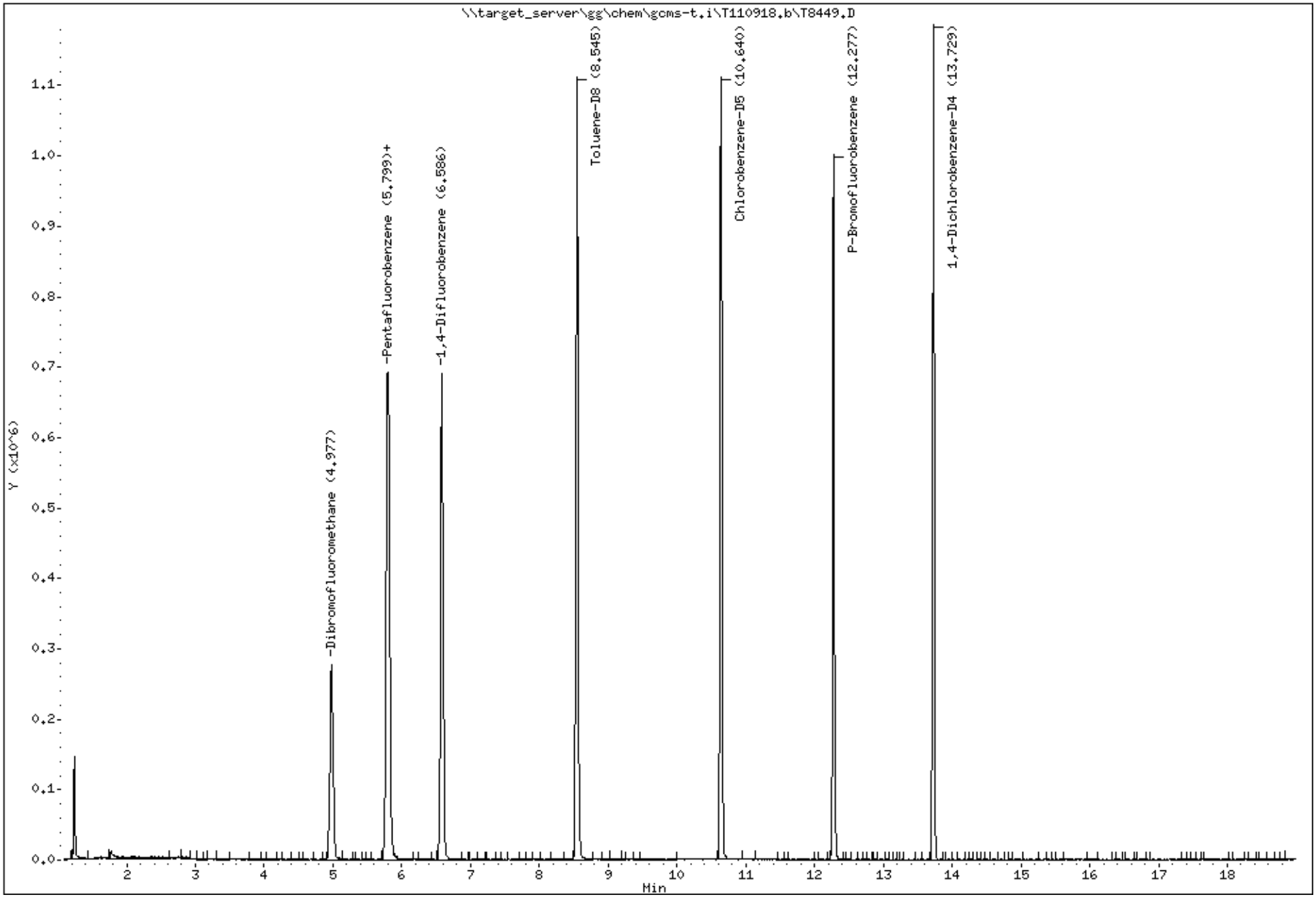
Data file : \\target_server\gg\chem\gcms-t.i\T110918.b\T8449.D
Lab Smp Id: TL0880-3 Client Smp ID: TRIP BLANK
Inj Date : 09-NOV-2018 10:15
Operator : TTC Inst ID: gcms-t.i
Smp Info : TL0880-3
Misc Info : WG240630,WG240630-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T110918.b\T8A05(61)D.m
Meth Date : 09-Nov-2018 16:25 tcote Quant Type: ISTD
Cal Date : 07-NOV-2018 11:32 Cal File: T8384.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 34 Dibromofluoromethane	113	4.976	4.977	(0.859)	255838	55.2769	55.3	
* 41 Pentafluorobenzene	168	5.791	5.792	(1.000)	393563	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	448017	63.4361	63.4	
* 48 1,4-Difluorobenzene	114	6.585	6.586	(1.000)	607266	50.0000		
$ 56 Toluene-D8	98	8.544	8.545	(1.297)	833957	50.8255	50.8	
* 68 Chlorobenzene-D5	117	10.639	10.640	(1.000)	563288	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	352178	51.5314	51.5	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	271173	50.0000		

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8449.D
Date : 09-NOV-2018 10:15
Client ID: TRIP BLANK
Instrument: gcms-t.i
Sample Info: TL0880-3



Katahdin Analytical Services 1000026

Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: TL0880
Project : Watervliet Arsenal LTM 2018
Instrument ID: GCMS-T
Lab File IDs : T8382.D T8381.D T8380.D T8379.D T8384.D T8383.D
Column ID:
Calibration Date(s): 07-NOV-18 08:48, 07-NOV-18 11:32

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Crv					Max	
	1.0000	5.0000	20.0000	50.0000	100.0000	150.0000	New	b	m1	m2	%RSD	%RSD	
Chloromethane	0.47128	0.43565	0.44652	0.44263	0.41214	0.39771	AVG		0.43432		6.01929	15.00000	O
Vinyl chloride	0.51608	0.52997	0.49344	0.50825	0.46327	0.46639	AVG		0.49623		5.45321	15.00000	O
Bromomethane	3924	17667	58133	135964	262096	365523	LNR	-0.03590	0.21328		0.99928	0.99000	O
Chloroethane	0.32366	0.28926	0.27385	0.27458	0.24308	0.22721	AVG		0.27194		12.5449	15.00000	O
Trichlorofluoromethane	0.98861	0.98123	0.84093	0.90165	0.76118	0.80807	AVG		0.88028		10.5751	15.00000	O
1,1-Dichloroethene	0.46354	0.46014	0.41764	0.45621	0.40231	0.42436	AVG		0.43737		5.91464	15.00000	O
Carbon Disulfide	1.47176	1.17616	1.14531	1.13670	1.00317	1.02890	AVG		1.16033		14.4208	15.00000	O
Methylene Chloride	8253	35231	119479	290520	564365	845638	LNR	-0.00596	0.48676		0.99905	0.99000	O
trans-1,2-Dichloroethene	0.52300	0.42371	0.45534	0.45254	0.42868	0.43440	AVG		0.45295		8.08258	15.00000	O
1,1-Dichloroethane	1.00759	1.03462	0.97689	0.99977	0.93025	0.94585	AVG		0.98249		4.00691	15.00000	O
cis-1,2-Dichloroethene	0.46939	0.51196	0.46616	0.50817	0.48103	0.48342	AVG		0.48669		3.96648	15.00000	O
Chloroform	1.36130	1.18181	1.08077	1.10315	1.02824	1.05835	AVG		1.13560		10.7582	15.00000	O
Carbon Tetrachloride	0.55599	0.55070	0.55152	0.56293	0.52899	0.56147	AVG		0.55193		2.22867	15.00000	O
1,1,1-Trichloroethane	1.00957	1.02840	1.03068	1.07338	0.97822	1.02943	AVG		1.02495		3.03247	15.00000	O
2-Butanone	0.19283	0.22109	0.22858	0.22877	0.21237	0.21894	AVG		0.21710		6.17584	15.00000	O
Benzene	1.24302	1.30900	1.22420	1.23734	1.16475	1.15141	AVG		1.22162		4.70394	15.00000	O
1,2-Dichloroethane	0.74250	0.68163	0.59707	0.59699	0.56227	0.58938	AVG		0.62831		10.9614	15.00000	O
Trichloroethene	0.33515	0.36804	0.35247	0.34222	0.33179	0.34235	AVG		0.34534		3.82417	15.00000	O
1,2-Dichloropropane	0.28182	0.35750	0.33012	0.34353	0.32890	0.32906	AVG		0.32849		7.76018	15.00000	O
Bromodichloromethane	0.55349	0.53419	0.51842	0.53876	0.51887	0.53850	AVG		0.53371		2.50505	15.00000	O
cis-1,3-dichloropropene	0.51801	0.56597	0.60236	0.61320	0.59586	0.60162	AVG		0.58284		6.09605	15.00000	O
Toluene	0.75235	0.78623	0.76700	0.77116	0.72861	0.73551	AVG		0.75681		2.92115	15.00000	O
Tetrachloroethene	0.30807	0.23794	0.25045	0.25458	0.24763	0.24796	AVG		0.25777		9.79328	15.00000	O
4-methyl-2-pentanone	0.21246	0.29118	0.28323	0.29794	0.26794	0.26967	AVG		0.27040		11.3607	15.00000	O
trans-1,3-Dichloropropene	0.48314	0.55569	0.55503	0.57253	0.55574	0.56478	AVG		0.54782		5.91991	15.00000	O
1,1,2-Trichloroethane	0.19188	0.27010	0.24428	0.25359	0.25161	0.25426	AVG		0.24429		11.0637	15.00000	O
Dibromochloromethane	0.31432	0.32546	0.34242	0.38183	0.35929	0.36778	AVG		0.34852		7.41075	15.00000	O
Chlorobenzene	0.83742	0.87538	0.83842	0.85012	0.78672	0.77970	AVG		0.82796		4.50903	15.00000	O
Ethylbenzene	1.54825	1.64346	1.63198	1.63378	1.47643	1.41608	AVG		1.55833		6.11539	15.00000	O
m+p-Xylenes	1.09910	1.31254	1.30986	1.25810	1.08478	0.98818	AVG		1.17543		11.5908	15.00000	O
o-Xylene	0.89824	1.19393	1.26720	1.32365	1.23753	1.19328	AVG		1.18564		12.5733	15.00000	O
Bromoform	0.21614	0.21760	0.22301	0.25677	0.24447	0.25533	AVG		0.23555		8.00401	15.00000	O
1,1,2,2-Tetrachloroethane	0.78501	0.77876	0.73534	0.83292	0.74687	0.76028	AVG		0.77320		4.49184	15.00000	O
Dibromofluoromethane	0.60134	0.58250	0.58818	0.59231	0.58450	0.57918	AVG		0.58800		1.35424	15.00000	
1,2-Dichloroethane-D4	0.94111	0.90791	0.87140	0.87934	0.87794	0.90581	AVG		0.89725		2.93691	15.00000	
Toluene-D8	1.35666	1.37499	1.35902	1.33114	1.34806	1.33610	AVG		1.35099		1.19211	15.00000	
P-Bromofluorobenzene	0.55551	0.56884	0.56464	0.55435	0.57036	0.56253	AVG		0.56271		1.18335	15.00000	

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: TL0880
Project : Watervliet Arsenal LTM 2018
Instrument ID: GCMS-T
Lab File IDs : T8382.D T8381.D T8380.D T8379.D T8384.D T8383.D
Column ID:
Calibration Date(s): 07-NOV-18 08:48, 07-NOV-18 11:32

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Report Date: 09-Nov-2018 10:52

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa02236
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: WG240200-8
Level: LOW Operator: HG/JR
Data Type: MS DATA SampleType: LCS
SpikeList File: IND_CHECK.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-t.i\T110718B.b\T8A05(61)D.m
Misc Info: WG240200,WG240169-4,TL0907-2

SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
1	Dichlorodifluorome	50.0	57.2	114.52	80-120
2	Chloromethane	50.0	61.7	123.47*	80-120
3	Vinyl chloride	50.0	55.8	111.67	80-120
4	Bromomethane	50.0	68.0	136.01*	80-120
5	Chloroethane	50.0	59.1	118.20	80-120
6	Trichlorofluoromet	50.0	46.3	92.56	80-120
7	Diethyl Ether	50.0	46.5	93.09	80-120
19	Tertiary-butyl alc	250	227	90.81	80-120
8	1,1-Dichloroethene	50.0	46.9	93.74	80-120
10	Carbon Disulfide	50.0	56.4	112.74	80-120
9	Freon-113	50.0	47.3	94.55	80-120
11	Iodomethane	50.0	59.1	118.27	80-120
12	Acrolein	250	238	95.11	80-120
14	Methylene Chloride	50.0	49.2	98.45	80-120
15	Acetone	50.0	39.8	79.60*	80-120
45	Isobutyl Alcohol	1000	1010	100.88	80-120
16	trans-1,2-Dichloro	50.0	49.3	98.69	80-120
13	Allyl Chloride	50.0	46.6	93.29	80-120
18	Methyl tert-butyl	50.0	59.3	118.64	80-120
20	Acetonitrile	500	473	94.67	80-120
21	Di-isopropyl ether	50.0	49.2	98.52	80-120
22	Chloroprene	50.0	50.3	100.62	80-120
39	Propionitrile	500	495	99.04	80-120
40	Methacrylonitrile	500	500	100.05	80-120
23	1,1-Dichloroethane	50.0	50.7	101.35	80-120
24	Acrylonitrile	250	246	98.47	80-120
25	Ethyl tertiary-but	50.0	51.8	103.60	80-120
26	Vinyl Acetate	50.0	53.3	106.58	80-120
27	cis-1,2-Dichloroet	50.0	50.1	100.20	80-120
M 103	1,2-Dichloroethyle	100	99.4	99.45	80-120
52	Methyl Methacrylat	50.0	55.6	111.18	80-120
28	2,2-Dichloropropan	50.0	49.6	99.17	80-120
30	Bromochloromethane	50.0	53.5	106.93	80-120
31	Chloroform	50.0	47.5	95.03	80-120
32	Carbon Tetrachlori	50.0	48.8	97.67	80-120
33	Tetrahydrofuran	50.0	52.2	104.36	80-120
35	1,1,1-Trichloroeth	50.0	47.5	94.95	80-120
36	1,1-Dichloropropen	50.0	52.2	104.37	80-120
37	2-Butanone	50.0	48.7	97.47	80-120
38	Benzene	50.0	50.6	101.18	80-120

Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Report Date: 09-Nov-2018 10:52

	SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	29 Cyclohexane	50.0	58.7	117.44	80-120
	62 Ethyl Methacrylate	50.0	54.3	108.54	80-120
	43 Tertiary-amyl meth	50.0	49.9	99.78	80-120
	44 1,2-Dichloroethane	50.0	47.3	94.66	80-120
	47 Trichloroethene	50.0	51.0	102.03	80-120
	49 Dibromomethane	50.0	50.5	100.99	80-120
	50 1,2-Dichloropropan	50.0	51.4	102.78	80-120
	51 Bromodichlorometha	50.0	53.2	106.43	80-120
	55 cis-1,3-dichloropr	50.0	53.1	106.21	80-120
	53 1,4-Dioxane	1000	900	89.99	80-120
	54 2-Chloroethylviny	50.0	0.00	*	80-120
	57 Toluene	50.0	51.4	102.72	80-120
	59 4-methyl-2-pentano	50.0	55.7	111.46	80-120
	58 Tetrachloroethene	50.0	56.3	112.63	80-120
	60 trans-1,3-Dichloro	50.0	54.4	108.79	80-120
	61 1,1,2-Trichloroeth	50.0	54.0	107.98	80-120
	63 Dibromochlorometha	50.0	54.6	109.19	80-120
	64 1,3-Dichloropropan	50.0	50.0	99.96	80-120
	65 1,2-Dibromoethane	50.0	52.0	103.99	80-120
	67 2-Hexanone	50.0	52.8	105.51	80-120
	69 Chlorobenzene	50.0	51.4	102.76	80-120
	70 Ethylbenzene	50.0	52.6	105.25	80-120
	71 1,1,1,2-Tetrachlor	50.0	51.6	103.16	80-120
M	105 Xylenes (total)	150	161	107.50	80-120
	72 m+p-Xylenes	100	105	105.22	80-120
	73 o-Xylene	50.0	56.0	112.05	80-120
	74 Styrene	50.0	55.6	111.19	80-120
	75 Bromoform	50.0	52.7	105.42	80-120
	76 Isopropylbenzene	50.0	58.0	115.96	80-120
	79 cis-1,4-Dichloro-2	50.0	52.1	104.29	80-120
	85 trans-1,4-Dichloro	50.0	51.2	102.34	80-120
	78 Bromobenzene	50.0	51.1	102.25	80-120
	80 N-Propylbenzene	50.0	53.3	106.61	80-120
	81 1,1,2,2-Tetrachlor	50.0	51.2	102.45	80-120
	84 1,3,5-Trimethylben	50.0	54.7	109.47	80-120
	82 2-Chlorotoluene	50.0	52.3	104.57	80-120
	83 1,2,3-Trichloropro	50.0	49.0	97.99	80-120
	86 4-Chlorotoluene	50.0	53.5	107.03	80-120
	87 tert-Butylbenzene	50.0	54.2	108.36	80-120
	88 Pentachloroethane	50.0	45.2	90.40	80-120
	89 1,2,4-Trimethylben	50.0	55.3	110.62	80-120
	91 P-Isopropyltoluene	50.0	56.4	112.72	80-120
	92 1,3-Dichlorobenzen	50.0	52.4	104.82	80-120
	94 1,4-Dichlorobenzen	50.0	49.1	98.17	80-120
	96 N-Butylbenzene	50.0	55.6	111.14	80-120
	90 sec-Butylbenzene	50.0	56.2	112.30	80-120
	97 1,2-Dichlorobenzen	50.0	50.8	101.72	80-120
	98 1,2-Dibromo-3-Chlo	50.0	51.7	103.37	80-120
	99 1,3,5-Trichloroben	50.0	50.0	100.04	80-120
	100 Hexachlorobutadien	50.0	52.2	104.33	80-120
	101 1,2,4-Trichloroben	50.0	54.9	109.73	80-120
	95 1,2,3-Trimethylben	50.0	50.4	100.71	80-120
	102 Naphthalene	50.0	52.0	103.98	80-120
	104 1,2,3-Trichloroben	50.0	52.7	105.50	80-120

Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Report Date: 09-Nov-2018 10:52

	SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	17 Methyl Acetate	50.0	44.5	88.94	80-120
	46 Methylcyclohexane	50.0	52.4	104.82	80-120
M	66 Total Alkylbenzene	350	386	110.18	80-120

	SURROGATE COMPOUND	AMOUNT ADDED ug/l	AMOUNT RECOVERED ug/l	% RECOVERED	LIMITS
$	34 Dibromofluorometha	50.0	49.4	98.78	68-128
$	42 1,2-Dichloroethane	50.0	48.8	97.59	67-135
$	56 Toluene-D8	50.0	50.3	100.70	65-128
$	77 P-Bromofluorobenze	50.0	50.3	100.68	56-133

Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Report Date: 09-Nov-2018 10:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Lab Smp Id: WG240200-8
Inj Date : 07-NOV-2018 15:42
Operator : HG/JR   Inst ID: gcms-t.i
Smp Info : WG240200-8,TL0907
Misc Info : WG240200,WG240169-4,TL0907-2
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T110718B.b\T8A05(61)D.m
Meth Date : 09-Nov-2018 10:10 hgould   Quant Type: ISTD
Cal Date : 07-NOV-2018 11:32   Cal File: T8384.D
Als bottle: 2   QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	358743	57.2575	57.2	
2	Chloromethane	50	1.480	1.480	(0.256)	327003	61.7333	61.7(R)	
3	Vinyl chloride	62	1.537	1.538	(0.265)	337928	55.8365	55.8	
4	Bromomethane	94	1.766	1.759	(0.305)	181569	68.0061	68.0(R)	
5	Chloroethane	64	1.852	1.845	(0.320)	196008	59.0989	59.1	
6	Trichlorofluoromethane	101	1.952	1.952	(0.337)	496848	46.2788	46.3	
7	Diethyl Ether	59	2.173	2.174	(0.375)	237894	46.5431	46.5	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	250020	46.8715	46.9	
9	Freon-113	151	2.359	2.360	(0.407)	199287	47.2758	47.3	
10	Carbon Disulfide	76	2.366	2.367	(0.409)	797732	56.3707	56.4	
11	Iodomethane	142	2.459	2.453	(0.425)	204542	59.1330	59.1	
12	Acrolein	56	2.617	2.617	(0.452)	163722	237.778	238	
13	Allyl Chloride	41	2.731	2.724	(0.472)	351060	46.6433	46.6	
14	Methylene Chloride	84	2.824	2.825	(0.488)	294005	49.2260	49.2	
15	Acetone	43	2.874	2.875	(0.496)	101704	39.8006	39.8(R)	
16	trans-1,2-Dichloroethene	96	2.974	2.968	(0.514)	272603	49.3475	49.3	
17	Methyl Acetate	43	2.989	2.982	(0.516)	230782	44.4678	44.5	
18	Methyl tert-butyl ether	73	3.074	3.075	(0.531)	975441	59.3203	59.3	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.549)	164468	227.023	227	
20	Acetonitrile	41	3.339	3.339	(0.577)	342873	473.339	473	
21	Di-isopropyl ether	45	3.475	3.468	(0.600)	931782	49.2576	49.2	
22	Chloroprene	53	3.582	3.582	(0.619)	519679	50.3103	50.3	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	607202	50.6737	50.7	
24	Acrylonitrile	52	3.682	3.683	(0.636)	493290	246.183	246	

Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Report Date: 09-Nov-2018 10:52

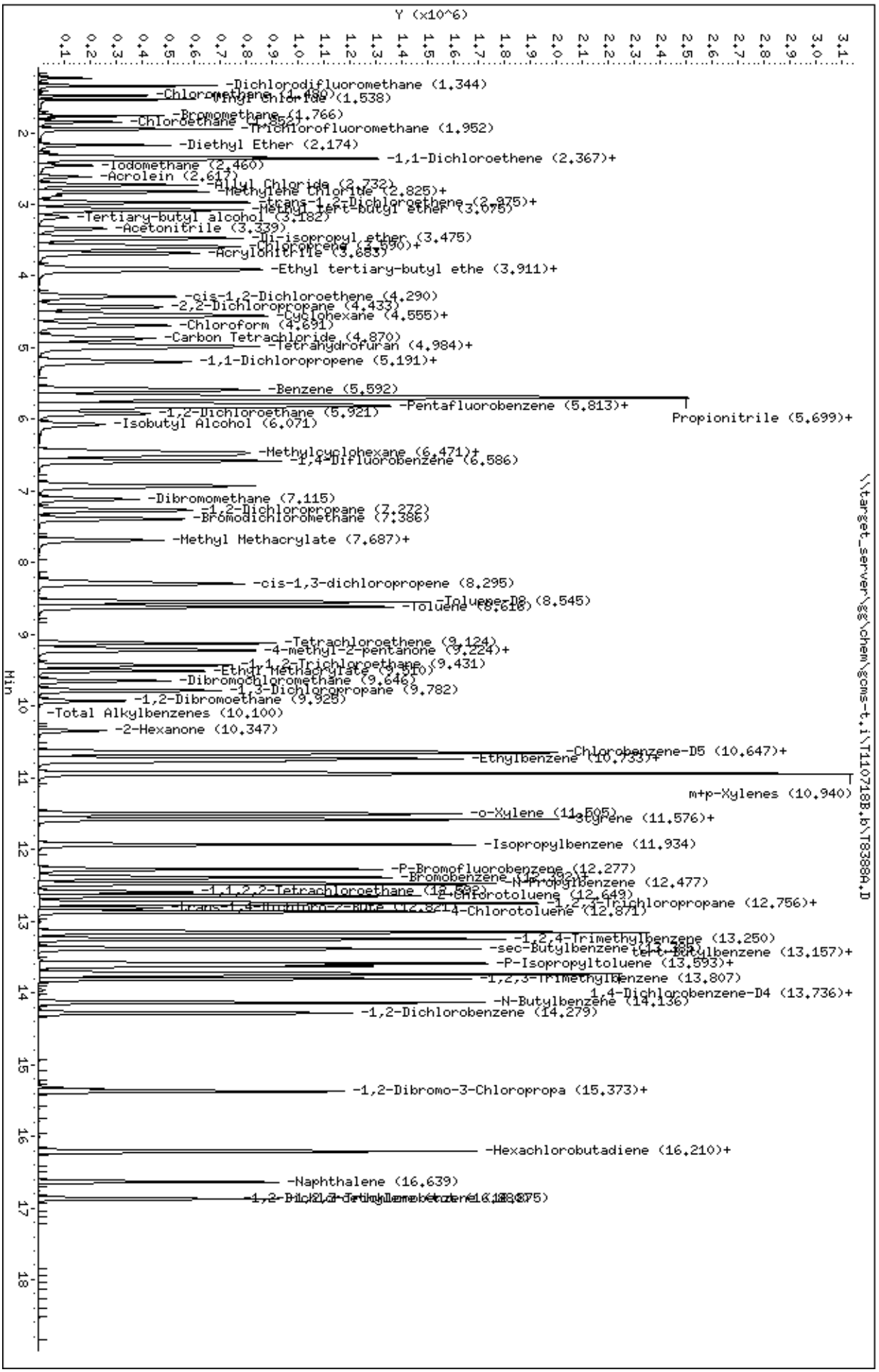
							CONCENTRATIONS		
		QUANT SIG					ON-COLUMN	FINAL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	25 Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	991497	51.7983	51.8	
	26 Vinyl Acetate	43	3.925	3.926	(0.596)	660768	53.2887	53.3	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	297367	50.0984	50.1	
	28 2,2-Dichloropropane	77	4.433	4.433	(0.765)	556356	49.5829	49.6	
	29 Cyclohexane	56	4.547	4.548	(0.785)	501996	58.7191	58.7	
	30 Bromochloromethane	128	4.562	4.562	(0.788)	123184	53.4645	53.5	
	31 Chloroform	83	4.690	4.691	(0.810)	658051	47.5130	47.5	
	32 Carbon Tetrachloride	117	4.869	4.870	(0.739)	493193	48.8364	48.8	
	33 Tetrahydrofuran	42	4.933	4.927	(0.852)	79034	52.1797	52.2	
$	34 Dibromofluoromethane	113	4.976	4.977	(0.859)	354193	49.3904	49.4	
	35 1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	593456	47.4751	47.5	
	36 1,1-Dichloropropene	75	5.191	5.191	(0.788)	458892	52.1841	52.2	
	37 2-Butanone	43	5.212	5.206	(0.900)	129036	48.7346	48.7	
	38 Benzene	78	5.591	5.592	(0.849)	1130815	50.5907	50.6	
	39 Propionitrile	54	5.670	5.670	(0.979)	448084	495.198	495	
	40 Methacrylonitrile	41	5.698	5.699	(0.984)	1774855	500.236	500	
*	41 Pentafluorobenzene	168	5.791	5.792	(1.000)	609804	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	533941	48.7932	48.8	
	43 Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	832514	49.8915	49.9	
	44 1,2-Dichloroethane	62	5.920	5.921	(0.899)	544111	47.3294	47.3	
	45 Isobutyl Alcohol	43	6.077	6.071	(1.049)	248271	1008.81	1010	
	46 Methylcyclohexane	83	6.456	6.464	(1.115)	484950	52.4080	52.4	
	47 Trichloroethene	95	6.499	6.500	(0.987)	322340	51.0136	51.0	
*	48 1,4-Difluorobenzene	114	6.585	6.586	(1.000)	914862	50.0000		
	49 Dibromomethane	93	7.114	7.115	(1.080)	214645	50.4965	50.5	
	50 1,2-Dichloropropane	63	7.272	7.265	(1.104)	308880	51.3908	51.4	
	51 Bromodichloromethane	83	7.386	7.394	(1.122)	519661	53.2149	53.2	
	52 Methyl Methacrylate	41	7.679	7.687	(1.166)	276424	55.5919	55.6	
	53 1,4-Dioxane	88	7.701	7.701	(1.169)	54951	899.850	900	
	55 cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	566326	53.1049	53.1	
$	56 Toluene-D8	98	8.544	8.545	(1.297)	1244572	50.3479	50.3	
	57 Toluene	92	8.616	8.616	(1.308)	711210	51.3599	51.4	
	58 Tetrachloroethene	164	9.123	9.124	(0.858)	247399	56.3170	56.3	
	59 4-methyl-2-pentanone	43	9.195	9.195	(1.396)	275738	55.7312	55.7	
	60 trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	545225	54.3945	54.4	
	61 1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	241315	53.9883	54.0	
	62 Ethyl Methacrylate	69	9.510	9.510	(1.444)	396988	54.2684	54.3	
	63 Dibromochloromethane	129	9.645	9.653	(0.907)	324262	54.5943	54.6	
	64 1,3-Dichloropropane	76	9.781	9.782	(0.919)	475280	49.9816	50.0	
	65 1,2-Dibromoethane	107	9.931	9.925	(1.508)	282238	51.9952	52.0	
M	66 Total Alkylbenzenes	100				8137807	385.613	386	
	67 2-Hexanone	43	10.346	10.339	(0.972)	188235	52.7560	52.8	
*	68 Chlorobenzene-D5	117	10.639	10.640	(1.000)	852105	50.0000		
	69 Chlorobenzene	112	10.661	10.661	(1.002)	724980	51.3800	51.4	
	70 Ethylbenzene	91	10.732	10.733	(1.009)	1397525	52.6232	52.6	
	71 1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	281642	51.5812	51.6	
	72 m+p-Xylenes	91	10.940	10.940	(1.028)	2107772	105.221	105	
	73 o-Xylene	91	11.504	11.505	(1.081)	1132008	56.0239	56.0	
	74 Styrene	104	11.583	11.576	(1.089)	788111	55.5946	55.6	
	75 Bromoform	173	11.576	11.576	(1.088)	211604	52.7122	52.7	
	76 Isopropylbenzene	105	11.933	11.934	(0.869)	1273402	57.9804	58.0	
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	518302	50.3403	50.3	
	78 Bromobenzene	156	12.384	12.384	(0.902)	291479	51.1275	51.1	
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.399	(0.903)	147185	52.1428	52.1	

Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Report Date: 09-Nov-2018 10:52

			QUANT SIG					CONCENTRATIONS ON-COLUMN	CONCENTRATIONS FINAL	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)	REVIEW CODE
	80	N-Propylbenzene	91	12.477	12.477	(0.909)	1582749	53.3073	53.3	
	81	1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	342052	51.2255	51.2	
	82	2-Chlorotoluene	91	12.649	12.649	(0.921)	986672	52.2871	52.3	
	83	1,2,3-Trichloropropane	75	12.734	12.735	(0.928)	319196	48.9954	49.0	
	84	1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	1103744	54.7357	54.7	
	85	trans-1,4-Dichloro-2-Butene	53	12.820	12.821	(0.934)	116352	51.1719	51.2	
	86	4-Chlorotoluene	91	12.870	12.871	(0.938)	1049605	53.5169	53.5	
	87	tert-Butylbenzene	119	13.156	13.149	(0.958)	924388	54.1804	54.2	
	88	Pentachloroethane	165	13.156	13.157	(0.958)	148226	45.1979	45.2	
	89	1,2,4-Trimethylbenzene	105	13.249	13.250	(0.965)	1115490	55.3105	55.3	
	90	sec-Butylbenzene	105	13.385	13.385	(0.975)	1307280	56.1502	56.2	
	91	P-Isopropyltoluene	119	13.592	13.586	(0.990)	1013112	56.3578	56.4	
	92	1,3-Dichlorobenzene	146	13.628	13.629	(0.993)	528454	52.4094	52.4	
*	93	1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	431802	50.0000		
	94	1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	528783	49.0859	49.1	
	95	1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	1081118	50.3555	50.4	
	96	N-Butylbenzene	91	14.136	14.136	(1.030)	1091044	55.5713	55.6	
	97	1,2-Dichlorobenzene	146	14.286	14.279	(1.041)	498769	50.8579	50.8	
	98	1,2-Dibromo-3-Chloropropane	75	15.330	15.330	(1.117)	76007	51.6863	51.7	
	99	1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	371207	50.0181	50.0	
	100	Hexachlorobutadiene	225	16.209	16.210	(1.181)	182047	52.1656	52.2	
	101	1,2,4-Trichlorobenzene	180	16.216	16.216	(1.181)	327986	54.8664	54.9	
	102	Naphthalene	128	16.638	16.639	(1.212)	665317	51.9910	52.0	
M	103	1,2-Dichloroethylene (total)	96				569970	99.4459	99.4	
	104	1,2,3-Trichlorobenzene	180	16.874	16.875	(1.229)	287507	52.7482	52.7	
M	105	Xylenes (total)	91				3239780	161.245	161	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Date : 07-NOV-2018 15:42
Client ID:
Sample Info: WG240200-8,TL0907
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: HG/JR
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T110718B.b\T8388A.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.344)
-Chloromethane (1.489)
-Vinyl Chloride (1.538)
-Bromomethane (1.766)
-Chloroethane (1.884)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.367)+
-Iodomethane (2.460)
-Acrolein (2.617)
-Allyl Chloride (2.732)
-Methylene Chloride (2.825)+
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.475)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.290)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.191)+
-Benzene (5.592)
-Pentafluorobenzene (5.813)+
Propionitrile (5.699)+
-1,2-Dichloroethane (5.921)
-Isobutyl Alcohol (6.071)
-Methylcyclohexane (6.471)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.272)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-cis-1,3-dichloropropene (8.295)
-Toluene-D8 (8.545)
-Toluene (8.618)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.224)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.646)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.925)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.576)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.392)
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.595)
-2-Chlorotoluene (12.649)
-1,2,4-Trichloropropane (12.756)+
-trans-1,4-Dichloro-2-Bute (12.821)
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.428)
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.279)
-1,2-Dibromo-3-Chloropropa (15.373)+
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.875)

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8379.D
Report Date: 27-Nov-2018 11:25

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110718.b\T8379.D
Lab Smp Id: WG240169-4
Inj Date : 07-NOV-2018 08:48
Operator : HG/JR   Inst ID: gcms-t.i
Smp Info : WG240169-4
Misc Info :
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T110718.b\T8A05(61)D.m
Meth Date : 07-Nov-2018 12:21 hgould   Quant Type: ISTD
Cal Date : 07-NOV-2018 08:48   Cal File: T8379.D
Als bottle: 3   Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

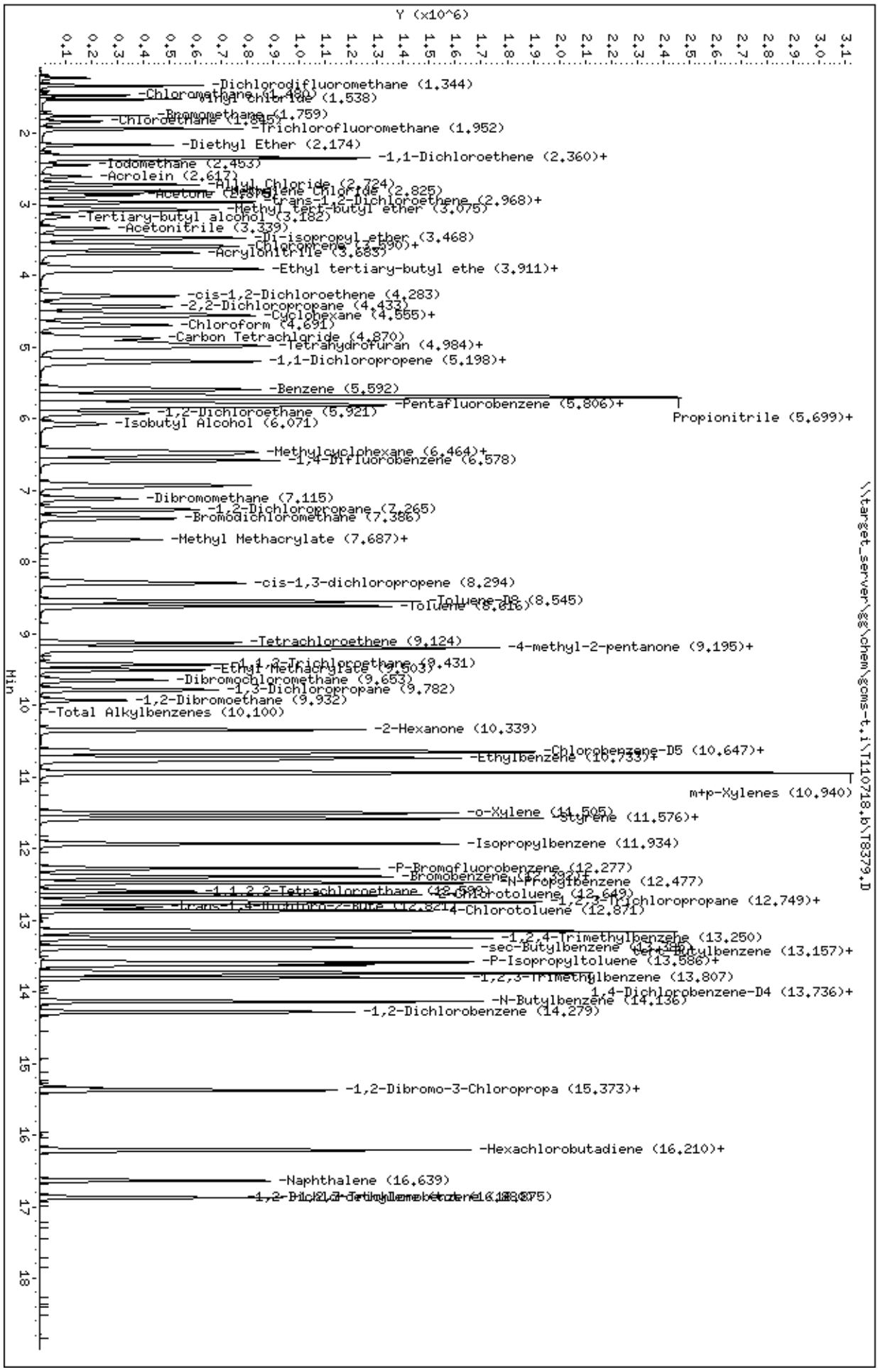
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	311986	50.0000	50.5	
2	Chloromethane	50	1.480	1.480	(0.256)	259601	50.0000	54.2	
3	Vinyl chloride	62	1.537	1.538	(0.265)	298085	50.0000	50.5	
4	Bromomethane	94	1.759	1.759	(0.304)	135964	50.0000	52.7	
5	Chloroethane	64	1.844	1.845	(0.319)	161037	50.0000	50.7	
6	Trichlorofluoromethane	101	1.952	1.952	(0.337)	528810	50.0000	49.9	
7	Diethyl Ether	59	2.173	2.174	(0.375)	235765	50.0000	47.1	
8	1,1-Dichloroethene	96	2.331	2.331	(0.402)	267562	50.0000	51.3	
9	Freon-113	151	2.359	2.360	(0.407)	208094	50.0000	50.3	
10	Carbon Disulfide	76	2.366	2.367	(0.409)	666669	50.0000	47.7	
11	Iodomethane	142	2.452	2.453	(0.423)	178471	50.0000	51.5	
12	Acrolein	56	2.617	2.617	(0.452)	160760	250.000	239	
13	Allyl Chloride	41	2.724	2.724	(0.470)	352450	50.0000	47.6	
14	Methylene Chloride	84	2.824	2.825	(0.488)	290520	50.0000	50.0	
15	Acetone	43	2.874	2.875	(0.496)	479510	250.000	239	
16	trans-1,2-Dichloroethene	96	2.967	2.968	(0.512)	265414	50.0000	49.4	
17	Methyl Acetate	43	2.981	2.982	(0.515)	249253	50.0000	49.3	
18	Methyl tert-butyl ether	73	3.074	3.075	(0.531)	841638	50.0000	53.0	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.549)	162327	250.000	230	
20	Acetonitrile	41	3.339	3.339	(0.577)	341712	500.000	480	
21	Di-isopropyl ether	45	3.468	3.468	(0.599)	928402	50.0000	50.6	
22	Chloroprene	53	3.582	3.582	(0.619)	530921	50.0000	53.2	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	586358	50.0000	50.3	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8379.D
Report Date: 27-Nov-2018 11:25

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.683	(0.636)	478930	250.000	246	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	982903	50.0000	53.5	
	26	Vinyl Acetate	43	3.925	3.926	(0.596)	644036	50.0000	55.7	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	298036	50.0000	54.0	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.765)	564147	50.0000	51.7	
	29	Cyclohexane	56	4.547	4.548	(0.785)	466358	50.0000	57.0	
	30	Bromochloromethane	128	4.562	4.562	(0.788)	111589	50.0000	49.4	
	31	Chloroform	83	4.690	4.691	(0.810)	646991	50.0000	47.7	
	32	Carbon Tetrachloride	117	4.869	4.870	(0.739)	506275	50.0000	50.6	
	33	Tetrahydrofuran	42	4.926	4.927	(0.851)	384157	250.000	263	
$	34	Dibromofluoromethane	113	4.976	4.977	(0.859)	347384	50.0000	50.3	
	35	1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	629532	50.0000	51.9	
	36	1,1-Dichloropropene	75	5.191	5.191	(0.788)	451475	50.0000	52.1	
	37	2-Butanone	43	5.205	5.206	(0.899)	670864	250.000	262	
	38	Benzene	78	5.591	5.592	(0.849)	1112810	50.0000	50.2	
	39	Propionitrile	54	5.670	5.670	(0.979)	438281	500.000	500	
	40	Methacrylonitrile	41	5.698	5.699	(0.984)	1738270	500.000	500	
*	41	Pentafluorobenzene	168	5.791	5.792	(1.000)	586494	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	515728	50.0000	48.8	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	796463	50.0000	49.5	
	44	1,2-Dichloroethane	62	5.920	5.921	(0.899)	536907	50.0000	46.5	
	45	Isobutyl Alcohol	43	6.070	6.071	(1.048)	239670	1000.00	967	
	46	Methylcyclohexane	83	6.464	6.464	(1.116)	486569	50.0000	54.8	
	47	Trichloroethene	95	6.499	6.500	(0.987)	307780	50.0000	49.2	
*	48	1,4-Difluorobenzene	114	6.585	6.586	(1.000)	899356	50.0000		
	49	Dibromomethane	93	7.114	7.115	(1.080)	208843	50.0000	49.5	
	50	1,2-Dichloropropane	63	7.264	7.265	(1.103)	308955	50.0000	53.8	
	51	Bromodichloromethane	83	7.393	7.394	(1.123)	484541	50.0000	50.2	
	52	Methyl Methacrylate	41	7.686	7.687	(1.167)	264546	50.0000	48.1	
	53	1,4-Dioxane	88	7.701	7.701	(1.169)	58163	1000.00	963	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	551482	50.0000	52.8	
$	56	Toluene-D8	98	8.544	8.545	(1.297)	1197169	50.0000	49.2	
	57	Toluene	92	8.616	8.616	(1.308)	693546	50.0000	50.6	
	58	Tetrachloroethene	164	9.123	9.124	(0.858)	210974	50.0000	49.0	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	1339762	250.000	275	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	514906	50.0000	52.4	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	228069	50.0000	52.2	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	387495	50.0000	49.5	
	63	Dibromochloromethane	129	9.653	9.653	(0.907)	316435	50.0000	55.1	
	64	1,3-Dichloropropane	76	9.781	9.782	(0.919)	475968	50.0000	51.4	
	65	1,2-Dibromoethane	107	9.924	9.925	(1.507)	266888	50.0000	49.8	
M	66	Total Alkylbenzenes	100				7925023	50.0000	396	
	67	2-Hexanone	43	10.339	10.339	(0.972)	961896	250.000	277	
*	68	Chlorobenzene-D5	117	10.639	10.640	(1.000)	828724	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	704513	50.0000	50.8	
	70	Ethylbenzene	91	10.732	10.733	(1.009)	1353956	50.0000	51.9	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	269931	50.0000	50.4	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	2085237	100.000	105	
	73	o-Xylene	91	11.504	11.505	(1.081)	1096943	50.0000	56.3	
	74	Styrene	104	11.576	11.576	(1.088)	765426	50.0000	56.1	
	75	Bromoform	173	11.576	11.576	(1.088)	212790	50.0000	54.9	
	76	Isopropylbenzene	105	11.933	11.934	(0.869)	1201074	50.0000	57.9	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	498560	50.0000	49.4	
	78	Bromobenzene	156	12.384	12.384	(0.902)	284726	50.0000	52.5	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8379.D
Report Date: 27-Nov-2018 11:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.399	(0.903)	142187	50.0000	53.0	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	1534309	50.0000	53.6	
	81 1,1,2,2-Tetrachloroethane	83	12.598	12.599	(0.918)	341595	50.0000	53.5	
	82 2-Chlorotoluene	91	12.648	12.649	(0.921)	981260	50.0000	54.4	
	83 1,2,3-Trichloropropane	75	12.734	12.735	(0.928)	322194	50.0000	51.5	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	1063949	50.0000	55.6	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.821	(0.934)	121298	50.0000	56.6	
	86 4-Chlorotoluene	91	12.870	12.871	(0.938)	1026087	50.0000	54.9	
	87 tert-Butylbenzene	119	13.149	13.149	(0.958)	920812	50.0000	57.1	
	88 Pentachloroethane	165	13.156	13.157	(0.958)	170038	50.0000	55.1	
	89 1,2,4-Trimethylbenzene	105	13.249	13.250	(0.965)	1084877	50.0000	56.6	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	1253978	50.0000	56.7	
	91 P-Isopropyltoluene	119	13.585	13.586	(0.990)	991680	50.0000	58.6	
	92 1,3-Dichlorobenzene	146	13.628	13.629	(0.993)	502544	50.0000	52.0	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	410115	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	506101	50.0000	48.8	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	1053642	50.0000	51.0	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	1075418	50.0000	57.8	
	97 1,2-Dichlorobenzene	146	14.279	14.279	(1.040)	479312	50.0000	51.0	
	98 1,2-Dibromo-3-Chloropropane	75	15.330	15.330	(1.117)	76566	50.0000	54.7	
	99 1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	363613	50.0000	51.4	
	100 Hexachlorobutadiene	225	16.209	16.210	(1.181)	172981	50.0000	52.2	
	101 1,2,4-Trichlorobenzene	180	16.216	16.216	(1.181)	309883	50.0000	55.1	
	102 Naphthalene	128	16.638	16.639	(1.212)	633296	50.0000	59.7	
M	103 1,2-Dichloroethylene (total)	96				563450	50.0000	103	
	104 1,2,3-Trichlorobenzene	180	16.874	16.875	(1.229)	279776	50.0000	54.1	
M	105 Xylenes (total)	91				3182180	150.000	162	



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8379.D
Date : 07-NOV-2018 08:48
Client ID:
Sample Info: WG240169-4
Purge Volume: 5.0
Column phase: RTX-VMS

Instrument: gcms-t.i
Operator: HG/JR
Column diameter: 0.18

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8380.D
Report Date: 27-Nov-2018 11:25

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110718.b\T8380.D
Lab Smp Id: WG240169-3
Inj Date : 07-NOV-2018 09:31
Operator : HG/JR   Inst ID: gcms-t.i
Smp Info : WG240169-3
Misc Info :
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T110718.b\T8A05(61)D.m
Meth Date : 07-Nov-2018 12:21 hgould   Quant Type: ISTD
Cal Date : 07-NOV-2018 09:31   Cal File: T8380.D
Als bottle: 4   Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

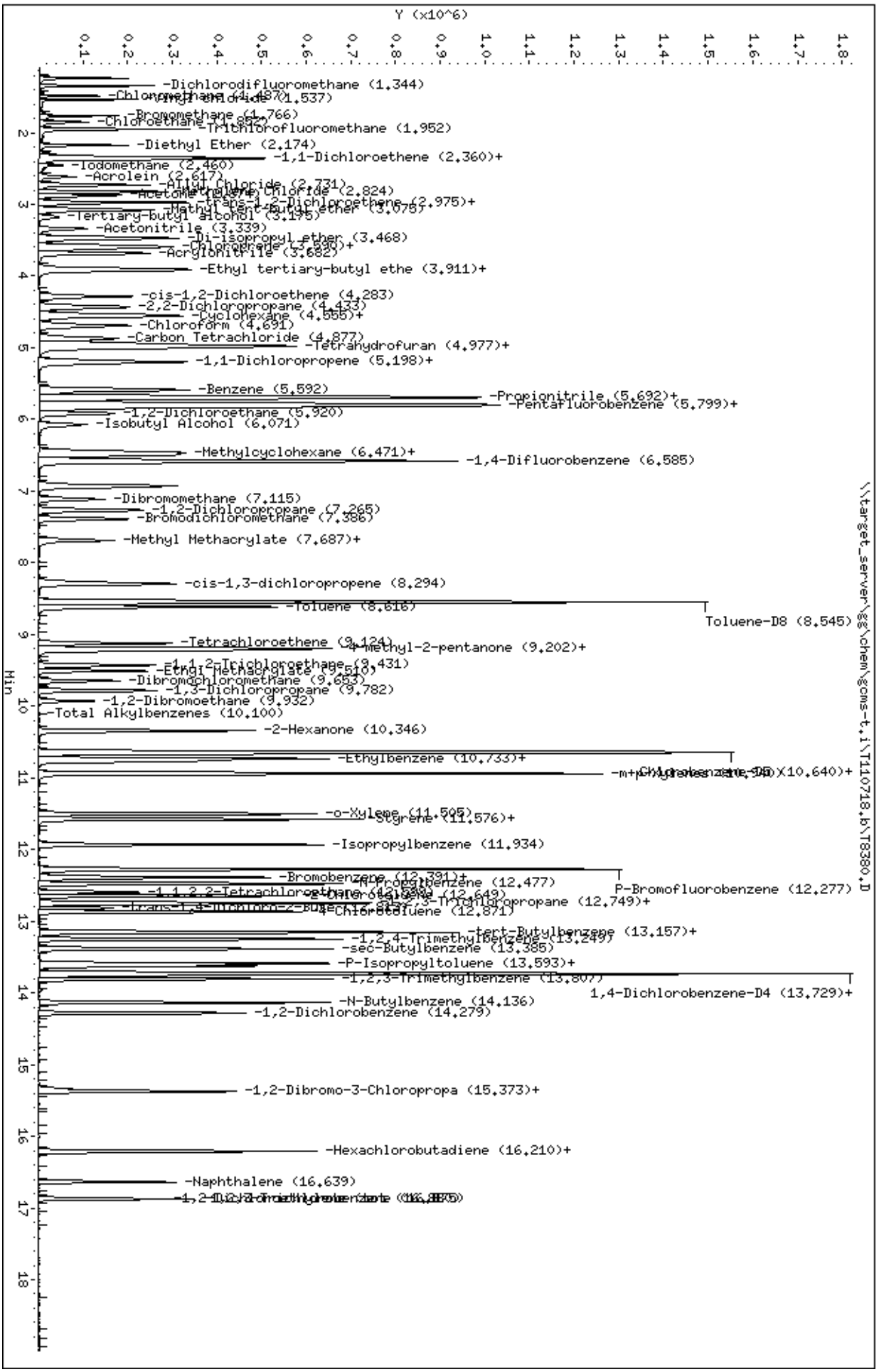
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	123554	20.0000	19.6	
2	Chloromethane	50	1.487	1.480	(0.257)	106833	20.0000	21.0	
3	Vinyl chloride	62	1.537	1.538	(0.266)	118061	20.0000	19.6	
4	Bromomethane	94	1.766	1.759	(0.305)	58133	20.0000	21.0	
5	Chloroethane	64	1.852	1.845	(0.320)	65522	20.0000	18.8	
6	Trichlorofluoromethane	101	1.952	1.952	(0.337)	201200	20.0000	18.6	
7	Diethyl Ether	59	2.173	2.174	(0.376)	91899	20.0000	18.0	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	99923	20.0000	18.8	
9	Freon-113	151	2.366	2.360	(0.409)	81264	20.0000	19.2	
10	Carbon Disulfide	76	2.366	2.367	(0.409)	274025	20.0000	19.2	
11	Iodomethane	142	2.459	2.453	(0.425)	47996	20.0000	15.6	
12	Acrolein	56	2.617	2.617	(0.452)	62290	100.000	90.8	
13	Allyl Chloride	41	2.731	2.724	(0.472)	142323	20.0000	18.9	
14	Methylene Chloride	84	2.824	2.825	(0.488)	119479	20.0000	19.9	
15	Acetone	43	2.874	2.875	(0.497)	221803	100.000	108	
16	trans-1,2-Dichloroethene	96	2.967	2.968	(0.513)	108944	20.0000	19.9	
17	Methyl Acetate	43	2.988	2.982	(0.517)	98173	20.0000	19.0	
18	Methyl tert-butyl ether	73	3.081	3.075	(0.533)	317728	20.0000	19.6	
19	Tertiary-butyl alcohol	59	3.174	3.182	(0.549)	64217	100.000	89.1	
20	Acetonitrile	41	3.339	3.339	(0.577)	133855	200.000	184	
21	Di-isopropyl ether	45	3.467	3.468	(0.600)	367072	20.0000	19.6	
22	Chloroprene	53	3.582	3.582	(0.619)	207042	20.0000	20.3	
23	1,1-Dichloroethane	63	3.610	3.611	(0.624)	233730	20.0000	19.7	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8380.D
Report Date: 27-Nov-2018 11:25

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.683	(0.637)	189061	100.000	95.2	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.675)	374466	20.0000	20.0	
	26	Vinyl Acetate	43	3.925	3.926	(0.596)	245154	20.0000	21.3	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	111532	20.0000	19.8	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.766)	225035	20.0000	20.2	
	29	Cyclohexane	56	4.554	4.548	(0.787)	174127	20.0000	20.8	
	30	Bromochloromethane	128	4.561	4.562	(0.789)	45033	20.0000	19.6	
	31	Chloroform	83	4.690	4.691	(0.811)	258584	20.0000	18.7	
	32	Carbon Tetrachloride	117	4.869	4.870	(0.739)	197077	20.0000	19.8	
	33	Tetrahydrofuran	42	4.940	4.927	(0.854)	143421	100.000	96.3	
$	34	Dibromofluoromethane	113	4.976	4.977	(0.860)	351817	50.0000	50.0	
	35	1,1,1-Trichloroethane	97	4.990	4.991	(0.863)	246600	20.0000	19.9	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	176184	20.0000	20.5	
	37	2-Butanone	43	5.205	5.206	(0.900)	273451	100.000	105	
	38	Benzene	78	5.584	5.592	(0.848)	437448	20.0000	19.8	
	39	Propionitrile	54	5.670	5.670	(0.980)	168652	200.000	188	
	40	Methacrylonitrile	41	5.691	5.699	(0.984)	703283	200.000	198	
*	41	Pentafluorobenzene	168	5.784	5.792	(1.000)	598147	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.005)	521223	50.0000	48.4	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.006)	312586	20.0000	19.0	
	44	1,2-Dichloroethane	62	5.920	5.921	(0.899)	213353	20.0000	18.6	
	45	Isobutyl Alcohol	43	6.070	6.071	(1.049)	91084	400.000	373	
	46	Methylcyclohexane	83	6.463	6.464	(1.117)	184803	20.0000	20.4	
	47	Trichloroethene	95	6.499	6.500	(0.987)	125950	20.0000	20.2	
*	48	1,4-Difluorobenzene	114	6.585	6.586	(1.000)	893336	50.0000		
	49	Dibromomethane	93	7.114	7.115	(1.080)	80664	20.0000	19.2	
	50	1,2-Dichloropropane	63	7.271	7.265	(1.104)	117962	20.0000	20.7	
	51	Bromodichloromethane	83	7.386	7.394	(1.122)	185251	20.0000	19.3	
	52	Methyl Methacrylate	41	7.686	7.687	(1.167)	97845	20.0000	18.7	
	53	1,4-Dioxane	88	7.708	7.701	(1.170)	28335	400.000	472	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	215244	20.0000	20.8	
$	56	Toluene-D8	98	8.544	8.545	(1.297)	1214062	50.0000	50.3	
	57	Toluene	92	8.616	8.616	(1.308)	274077	20.0000	20.1	
	58	Tetrachloroethene	164	9.123	9.124	(0.858)	82929	20.0000	19.3	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	506043	100.000	104	
	60	trans-1,3-Dichloropropene	75	9.223	9.224	(1.401)	198330	20.0000	20.3	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	87289	20.0000	20.1	
	62	Ethyl Methacrylate	69	9.509	9.510	(1.444)	141895	20.0000	18.8	
	63	Dibromochloromethane	129	9.652	9.653	(0.907)	113382	20.0000	19.8	
	64	1,3-Dichloropropane	76	9.781	9.782	(0.919)	184008	20.0000	19.9	
	65	1,2-Dibromoethane	107	9.924	9.925	(1.507)	101669	20.0000	19.1	
M	66	Total Alkylbenzenes	100				3105561	20.0000	150	
	67	2-Hexanone	43	10.339	10.339	(0.972)	373487	100.000	108	
*	68	Chlorobenzene-D5	117	10.639	10.640	(1.000)	827794	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	277615	20.0000	20.0	
	70	Ethylbenzene	91	10.732	10.733	(1.009)	540376	20.0000	20.7	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	103695	20.0000	19.4	
	72	m+p-Xylenes	91	10.939	10.940	(1.028)	867434	40.0000	43.9	
	73	o-Xylene	91	11.504	11.505	(1.081)	419593	20.0000	21.6	
	74	Styrene	104	11.583	11.576	(1.089)	282597	20.0000	20.7	
	75	Bromoform	173	11.576	11.576	(1.088)	73843	20.0000	19.1	
	76	Isopropylbenzene	105	11.933	11.934	(0.869)	459750	20.0000	21.6	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	504410	50.0000	50.3	
	78	Bromobenzene	156	12.384	12.384	(0.902)	109141	20.0000	19.6	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8380.D
Report Date: 27-Nov-2018 11:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.399	(0.903)	51825	20.0000	18.8	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	617734	20.0000	21.0	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	124015	20.0000	18.9	
	82 2-Chlorotoluene	91	12.648	12.649	(0.921)	375846	20.0000	20.3	
	83 1,2,3-Trichloropropane	75	12.741	12.735	(0.928)	121730	20.0000	18.9	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	421869	20.0000	21.4	
	85 trans-1,4-Dichloro-2-Butene	53	12.813	12.821	(0.933)	43885	20.0000	19.9	
	86 4-Chlorotoluene	91	12.870	12.871	(0.938)	405790	20.0000	21.1	
	87 tert-Butylbenzene	119	13.149	13.149	(0.958)	348025	20.0000	21.0	
	88 Pentachloroethane	165	13.156	13.157	(0.958)	66555	20.0000	21.0	
	89 1,2,4-Trimethylbenzene	105	13.249	13.250	(0.965)	427661	20.0000	21.7	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	495158	20.0000	21.8	
	91 P-Isopropyltoluene	119	13.585	13.586	(0.990)	376238	20.0000	21.6	
	92 1,3-Dichlorobenzene	146	13.628	13.629	(0.993)	198713	20.0000	20.0	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	421625	50.0000		
	94 1,4-Dichlorobenzene	146	13.742	13.750	(1.001)	204743	20.0000	19.2	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	419959	20.0000	19.8	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	418876	20.0000	21.9	
	97 1,2-Dichlorobenzene	146	14.279	14.279	(1.040)	183950	20.0000	19.0	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.330	(1.117)	26054	20.0000	18.1	
	99 1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	139650	20.0000	19.2	
	100 Hexachlorobutadiene	225	16.202	16.210	(1.180)	67856	20.0000	19.9	
	101 1,2,4-Trichlorobenzene	180	16.216	16.216	(1.181)	111102	20.0000	19.2	
	102 Naphthalene	128	16.638	16.639	(1.212)	221583	20.0000	20.3	
M	103 1,2-Dichloroethylene (total)	96				220476	20.0000	39.7	
	104 1,2,3-Trichlorobenzene	180	16.874	16.875	(1.229)	105326	20.0000	19.8	
M	105 Xylenes (total)	91				1287027	60.0000	65.5	


Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8380.D
Date : 07-NOV-2018 09:31
Client ID:
Sample Info: WG240169-3
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: HG/JR
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T110718.b\T8380.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.344)
-Chloromethane (1.487)
-Vinyl chloride (1.537)
-Bromomethane (1.766)
-Chloroethane (1.846)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.460)
-Acrolein (2.617)
-Allyl Chloride (2.731)
-Methylene Chloride (2.824)
Acetone-D6
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.175)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.468)
-Chloroprene (3.590)+
-Acrylonitrile (3.682)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.877)
-Tetrahydrofuran (4.977)+
-1,1-Dichloropropene (5.198)+
-Benzene (5.592)
-Propionitrile (5.692)+
-Pentafluorobenzene (5.799)+
-1,2-Dichloroethane (5.920)
-Isobutyl Alcohol (6.071)
-Methylcyclohexane (6.471)+
-1,4-Difluorobenzene (6.585)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-cis-1,3-dichloropropene (8.294)
-Toluene (8.616)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
-4-Methyl-2-pentanone (9.202)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.346)
-Ethylbenzene (10.733)+
-m+p-Xylenes (10.640)+
-o-Xylene (11.505)
-Styrene (11.576)+
-Isopropylbenzene (11.934)
-Bromobenzene (12.391)+
-n-Propylbenzene (12.477)
P-Bromofluorobenzene (12.277)
-1,1,2,2-Tetrachloroethane (12.649)
-trans-1,4-Dichloro-2-Butene (12.749)+
-2-Chlorotoluene (12.871)
-tert-Butylbenzene (13.157)+
-1,2,4-Trimethylbenzene (13.249)
-sec-Butylbenzene (13.385)
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.729)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.279)
-1,2-Dibromo-3-Chloropropa (15.373)+
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8381.D
Report Date: 09-Nov-2018 10:51

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110718.b\T8381.D
Lab Smp Id: WG240169-2
Inj Date : 07-NOV-2018 10:02
Operator : HG/JR   Inst ID: gcms-t.i
Smp Info : WG240169-2
Misc Info :
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T110718.b\T8A05(61)D.m
Meth Date : 07-Nov-2018 12:21 hgould   Quant Type: ISTD
Cal Date : 07-NOV-2018 10:02   Cal File: T8381.D
Als bottle: 5   Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

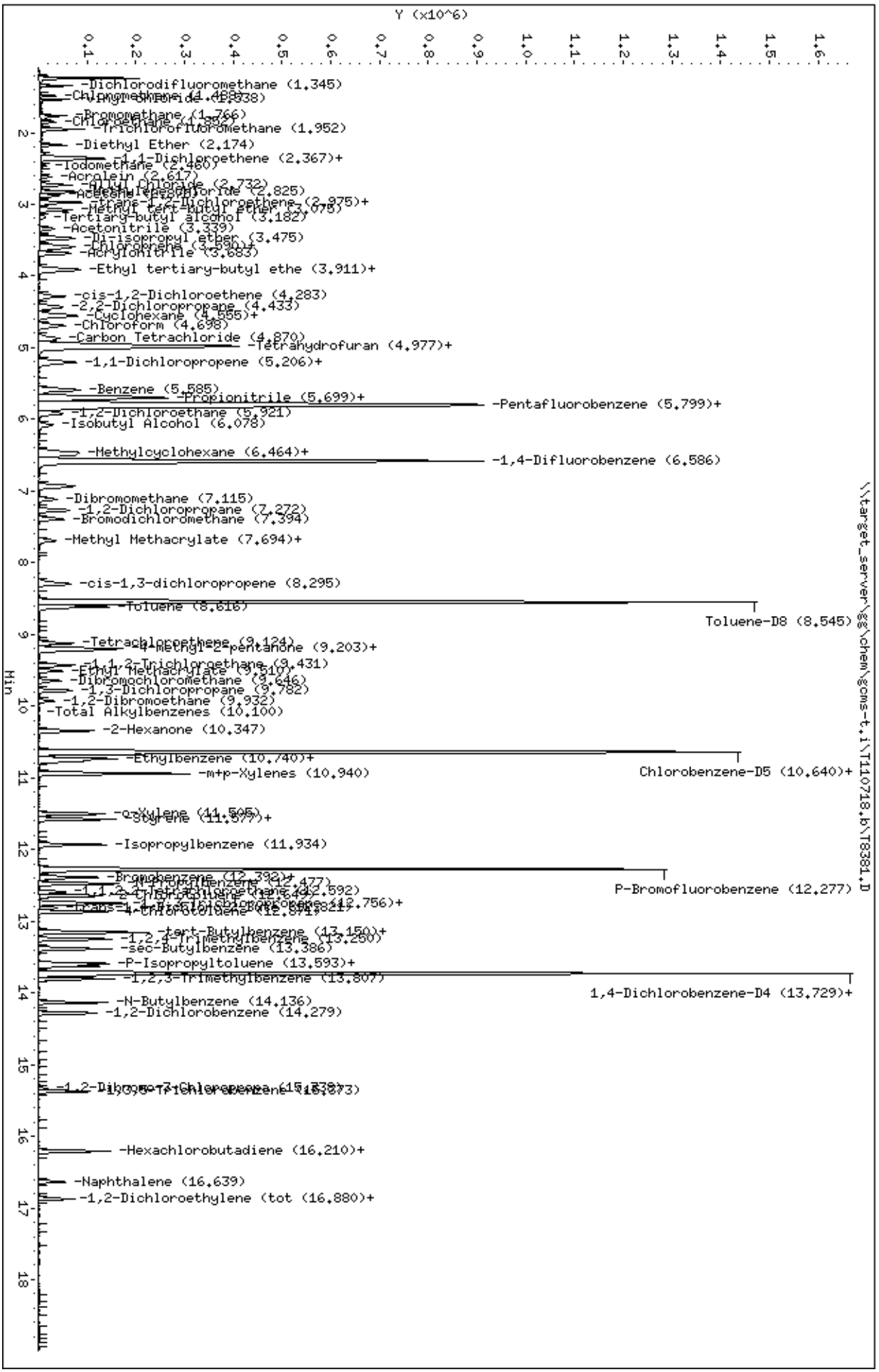
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	32101	5.00000	5.2	
2	Chloromethane	50	1.487	1.480	(0.257)	25510	5.00000	4.1	
3	Vinyl chloride	62	1.537	1.538	(0.265)	31033	5.00000	5.3	
4	Bromomethane	94	1.766	1.759	(0.305)	17667	5.00000	5.3	
5	Chloroethane	64	1.852	1.845	(0.320)	16938	5.00000	5.0	
6	Trichlorofluoromethane	101	1.952	1.952	(0.337)	57457	5.00000	5.4	
7	Diethyl Ether	59	2.181	2.174	(0.377)	26416	5.00000	5.3	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	26944	5.00000	5.2	
9	Freon-113	151	2.367	2.360	(0.409)	21271	5.00000	5.1	
10	Carbon Disulfide	76	2.367	2.367	(0.409)	68871	5.00000	4.9	
11	Iodomethane	142	2.459	2.453	(0.425)	8740	5.00000	4.5	
12	Acrolein	56	2.617	2.617	(0.452)	17967	25.0000	26.7	
13	Allyl Chloride	41	2.731	2.724	(0.472)	36683	5.00000	5.0	
14	Methylene Chloride	84	2.824	2.825	(0.488)	35231	5.00000	5.6	
15	Acetone	43	2.881	2.875	(0.498)	50277	25.0000	25.1	
16	trans-1,2-Dichloroethene	96	2.967	2.968	(0.512)	24811	5.00000	4.6	
17	Methyl Acetate	43	2.989	2.982	(0.516)	26042	5.00000	5.2	
18	Methyl tert-butyl ether	73	3.082	3.075	(0.532)	77801	5.00000	4.9	
19	Tertiary-butyl alcohol	59	3.182	3.182	(0.549)	18255	25.0000	25.9	
20	Acetonitrile	41	3.339	3.339	(0.577)	38555	50.0000	54.3	
21	Di-isopropyl ether	45	3.482	3.468	(0.601)	86673	5.00000	4.7	
22	Chloroprene	53	3.582	3.582	(0.619)	48681	5.00000	4.9	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	60583	5.00000	5.2	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8381.D
Report Date: 09-Nov-2018 10:51

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.682	3.683	(0.636)	48670	25.0000	25.0	
	25 Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	88416	5.00000	4.8	
	26 Vinyl Acetate	43	3.925	3.926	(0.596)	60135	5.00000	5.4	
	27 cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	29978	5.00000	5.4	
	28 2,2-Dichloropropane	77	4.433	4.433	(0.765)	55443	5.00000	5.1	
	29 Cyclohexane	56	4.547	4.548	(0.785)	41110	5.00000	5.0	
	30 Bromochloromethane	128	4.562	4.562	(0.788)	10919	5.00000	4.8	
	31 Chloroform	83	4.698	4.691	(0.811)	69202	5.00000	5.1	
	32 Carbon Tetrachloride	117	4.869	4.870	(0.739)	47510	5.00000	4.9	
	33 Tetrahydrofuran	42	4.948	4.927	(0.854)	37225	25.0000	25.5	
$	34 Dibromofluoromethane	113	4.976	4.977	(0.859)	341087	50.0000	49.5	
	35 1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	60219	5.00000	5.0	
	36 1,1-Dichloropropene	75	5.191	5.191	(0.788)	43796	5.00000	5.3	
	37 2-Butanone	43	5.219	5.206	(0.901)	64730	25.0000	25.3	
	38 Benzene	78	5.584	5.592	(0.848)	112929	5.00000	5.3	
	39 Propionitrile	54	5.670	5.670	(0.979)	45703	50.0000	52.2	
	40 Methacrylonitrile	41	5.706	5.699	(0.985)	187464	50.0000	54.0	
*	41 Pentafluorobenzene	168	5.792	5.792	(1.000)	585559	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	531633	50.0000	50.4	
	43 Tertiary-amyl methyl ether	73	5.827	5.820	(1.006)	79848	5.00000	5.0	
	44 1,2-Dichloroethane	62	5.920	5.921	(0.899)	58805	5.00000	5.3	
	45 Isobutyl Alcohol	43	6.085	6.071	(1.051)	24515	100.000	118	
	46 Methylcyclohexane	83	6.464	6.464	(1.116)	44772	5.00000	5.0	
	47 Trichloroethene	95	6.492	6.500	(0.986)	31751	5.00000	5.3	
*	48 1,4-Difluorobenzene	114	6.585	6.586	(1.000)	862714	50.0000		
	49 Dibromomethane	93	7.121	7.115	(1.081)	21628	5.00000	5.3	
	50 1,2-Dichloropropane	63	7.272	7.265	(1.104)	30842	5.00000	5.6	
	51 Bromodichloromethane	83	7.393	7.394	(1.123)	46085	5.00000	5.0	
	52 Methyl Methacrylate	41	7.686	7.687	(1.167)	22072	5.00000	5.3	
	53 1,4-Dioxane	88	7.701	7.701	(1.169)	7865	100.000	136	
	55 cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	48827	5.00000	4.9	
$	56 Toluene-D8	98	8.544	8.545	(1.297)	1186221	50.0000	50.9	
	57 Toluene	92	8.616	8.616	(1.308)	67829	5.00000	5.2	
	58 Tetrachloroethene	164	9.131	9.124	(0.858)	19169	5.00000	4.6	
	59 4-methyl-2-pentanone	43	9.195	9.195	(1.396)	125604	25.0000	26.9	
	60 trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	47940	5.00000	5.1	
	61 1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	23302	5.00000	5.6	
	62 Ethyl Methacrylate	69	9.510	9.510	(1.444)	33087	5.00000	5.1	
	63 Dibromochloromethane	129	9.653	9.653	(0.907)	26220	5.00000	4.7	
	64 1,3-Dichloropropane	76	9.788	9.782	(0.920)	46852	5.00000	5.2	
	65 1,2-Dibromoethane	107	9.932	9.925	(1.508)	26800	5.00000	5.2	
M	66 Total Alkylbenzenes	100				706541	5.00000	35.7	
	67 2-Hexanone	43	10.346	10.339	(0.972)	83157	25.0000	24.6	
*	68 Chlorobenzene-D5	117	10.639	10.640	(1.000)	805623	50.0000		
	69 Chlorobenzene	112	10.661	10.661	(1.002)	70523	5.00000	5.2	
	70 Ethylbenzene	91	10.732	10.733	(1.009)	132401	5.00000	5.2	
	71 1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	26380	5.00000	5.1	
	72 m+p-Xylenes	91	10.940	10.940	(1.028)	211483	10.0000	11.0	
	73 o-Xylene	91	11.505	11.505	(1.081)	96186	5.00000	5.1	
	74 Styrene	104	11.583	11.576	(1.089)	66735	5.00000	5.0	
	75 Bromoform	173	11.576	11.576	(1.088)	17530	5.00000	4.6	
	76 Isopropylbenzene	105	11.934	11.934	(0.869)	98997	5.00000	4.9	
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	490749	50.0000	50.7	
	78 Bromobenzene	156	12.384	12.384	(0.902)	27556	5.00000	5.2	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8381.D
Report Date: 09-Nov-2018 10:51

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.399	(0.903)	12130	5.00000	4.6	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	149831	5.00000	5.3	
	81 1,1,2,2-Tetrachloroethane	83	12.599	12.599	(0.918)	31346	5.00000	5.0	
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	92292	5.00000	5.2	
	83 1,2,3-Trichloropropane	75	12.742	12.735	(0.928)	32220	5.00000	5.2	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	96839	5.00000	5.2	
	85 trans-1,4-Dichloro-2-Butene	53	12.813	12.821	(0.933)	9546	5.00000	4.5	
	86 4-Chlorotoluene	91	12.870	12.871	(0.938)	95097	5.00000	5.2	
	87 tert-Butylbenzene	119	13.149	13.149	(0.958)	80923	5.00000	5.1	
	88 Pentachloroethane	165	13.156	13.157	(0.958)	15549	5.00000	5.1	
	89 1,2,4-Trimethylbenzene	105	13.249	13.250	(0.965)	97243	5.00000	5.2	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	110165	5.00000	5.1	
	91 P-Isopropyltoluene	119	13.592	13.586	(0.990)	81511	5.00000	4.9	
	92 1,3-Dichlorobenzene	146	13.628	13.629	(0.993)	49679	5.00000	5.2	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	402510	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	53062	5.00000	5.2	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	103377	5.00000	5.1	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	90029	5.00000	4.9	
	97 1,2-Dichlorobenzene	146	14.286	14.279	(1.041)	47744	5.00000	5.2	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.330	(1.117)	6580	5.00000	4.8	
	99 1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	33575	5.00000	4.8	
	100 Hexachlorobutadiene	225	16.209	16.210	(1.181)	17520	5.00000	5.4	
	101 1,2,4-Trichlorobenzene	180	16.217	16.216	(1.181)	25157	5.00000	4.6	
	102 Naphthalene	128	16.638	16.639	(1.212)	42658	5.00000	4.1	
M	103 1,2-Dichloroethylene (total)	96				54789	5.00000	10.1	
	104 1,2,3-Trichlorobenzene	180	16.882	16.875	(1.230)	23941	5.00000	4.7	
M	105 Xylenes (total)	91				307669	15.0000	16.1	


Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8381.D
Date : 07-NOV-2018 10:02
Client ID:
Sample Info: WG240169-2
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: HG/JR
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T110718.b\T8381.D
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.488)
-Vinyl Chloride (1.538)
-Bromomethane (1.766)
-Chloroethane (1.856)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.367)+
-Iodomethane (2.460)
-Acrolein (2.617)
-Allyl Chloride (2.732)
-Acetone (2.825)
-Methylene Chloride (2.975)+
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-Butyl Ether (3.078)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Diisopropyl ether (3.475)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.698)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.977)+
-1,1-Dichloropropene (5.206)+
-Benzene (5.585)
-Propionitrile (5.699)+
-Pentafluorobenzene (5.799)+
-1,2-Dichloroethane (5.921)
-Isobutyl Alcohol (6.078)
-Methylcyclohexane (6.464)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.272)
-Bromodichloromethane (7.394)
-Methyl Methacrylate (7.694)+
-cis-1,3-dichloropropene (8.295)
-Toluene (8.616)
Toluene-D8 (8.545)
-Tetrachloroethene (9.124)
-4-Methyl-2-pentanone (9.203)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.646)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Ethylbenzene (10.740)+
-m+p-Xylenes (10.940)
Chlorobenzene-D5 (10.640)+
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-Bromobenzene (12.392)+
-n-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.592)
-2-Chlorotoluene (12.648)+
-trans-1,4-Dichloro-2-butene (12.756)+
-4-Chlorotoluene (12.871)
P-Bromofluorobenzene (12.277)
-tert-Butylbenzene (13.150)+
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.386)
-P-Isopropyltoluene (13.593)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.729)+
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.279)
-1,2-Dibromo-3-Chloropropane (15.378)
-1,3,5-Trichlorobenzene (15.573)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2-Dichloroethylene (tot (16.880)+

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Report Date: 27-Nov-2018 11:25

JR

Katahdin Analytical Services

1:24 pm, Nov 27, 2018

Data file : \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Lab Smp Id: WG240169-1
Inj Date : 07-NOV-2018 10:32
Operator : HG/JR Inst ID: gcms-t.i
Smp Info : WG240169-1
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T110718.b\T8A05(61)D.m
Meth Date : 07-Nov-2018 12:21 hgould Quant Type: ISTD
Cal Date : 07-NOV-2018 10:32 Cal File: T8382.D
Als bottle: 6 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	6075	1.00000	1.0	
2	Chloromethane	50	1.487	1.480	(0.257)	5239	1.00000	(a)	
3	Vinyl chloride	62	1.537	1.538	(0.265)	5737	1.00000	1.0	
4	Bromomethane	94	1.766	1.759	(0.305)	3924	1.00000	(a)	
5	Chloroethane	64	1.852	1.845	(0.320)	3598	1.00000	1.3	
6	Trichlorofluoromethane	101	1.952	1.952	(0.337)	10990	1.00000	1.1	
7	Diethyl Ether	59	2.173	2.174	(0.375)	5558	1.00000	1.2	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	5153	1.00000	1.0	
9	Freon-113	151	2.359	2.360	(0.407)	4152	1.00000	1.0	
10	Carbon Disulfide	76	2.366	2.367	(0.409)	16361	1.00000	1.2	
11	Iodomethane	142	2.452	2.453	(0.423)	1596	1.00000	2.5	
12	Acrolein	56	2.617	2.617	(0.452)	3435	5.00000	5.4	
13	Allyl Chloride	41	2.731	2.724	(0.472)	8405	1.00000	1.2	
14	Methylene Chloride	84	2.824	2.825	(0.488)	8253	1.00000	1.0(a)	
15	Acetone	43	2.881	2.875	(0.498)	11976	5.00000	6.3	
16	trans-1,2-Dichloroethene	96	2.974	2.968	(0.514)	5814	1.00000	1.1	
17	Methyl Acetate	43	2.996	2.982	(0.517)	5010	1.00000	1.0	
18	Methyl tert-butyl ether	73	3.082	3.075	(0.532)	14584	1.00000	0.97(a)	
19	Tertiary-butyl alcohol	59	3.174	3.182	(0.548)	4065	5.00000	6.1	
20	Acetonitrile	41	3.346	3.339	(0.578)	7373	10.0000	10.9(a)	
21	Di-isopropyl ether	45	3.475	3.468	(0.600)	19138	1.00000	1.1	
22	Chloroprene	53	3.582	3.582	(0.619)	8910	1.00000	0.94(aM)	M10
23	1,1-Dichloroethane	63	3.618	3.611	(0.625)	11201	1.00000	1.0	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Report Date: 27-Nov-2018 11:25

JR

1:25 pm, Nov 27, 2018

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.689	3.683	(0.637)	10128	5.00000	5.5	
	25	Ethyl tertiary-butyl ether	59	3.897	3.904	(0.673)	16474	1.00000	0.94(aM)	M10
	26	Vinyl Acetate	43	3.932	3.926	(0.597)	9953	1.00000	0.88(aM)	M10
	27	cis-1,2-Dichloroethene	96	4.290	4.283	(0.741)	5218	1.00000	0.96(aM)	M10
	28	2,2-Dichloropropane	77	4.426	4.433	(0.764)	9646	1.00000	0.93(aM)	M10
	29	Cyclohexane	56	4.547	4.548	(0.785)	5788	1.00000	0.75(a)	
	30	Bromochloromethane	128	4.583	4.562	(0.791)	2639	1.00000	1.2	
	31	Chloroform	83	4.690	4.691	(0.810)	15133	1.00000	1.2	
	32	Carbon Tetrachloride	117	4.876	4.870	(0.741)	9310	1.00000	1.00	
	33	Tetrahydrofuran	42	4.969	4.927	(0.858)	6292	5.00000	4.5(a)	
$	34	Dibromofluoromethane	113	4.983	4.977	(0.860)	334245	50.0000	51.1	
	35	1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	11223	1.00000	0.98(a)	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	6906	1.00000	0.86(a)	
	37	2-Butanone	43	5.205	5.206	(0.899)	10718	5.00000	4.4(aM)	M10
	38	Benzene	78	5.591	5.592	(0.849)	20814	1.00000	1.0(M)	M10
	39	Propionitrile	54	5.670	5.670	(0.979)	8429	10.0000	10.1	
	40	Methacrylonitrile	41	5.698	5.699	(0.984)	34165	10.0000	10.4	
*	41	Pentafluorobenzene	168	5.791	5.792	(1.000)	555830	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	523095	50.0000	52.2	
	43	Tertiary-amyl methyl ether	73	5.827	5.820	(1.006)	16078	1.00000	1.0	
	44	1,2-Dichloroethane	62	5.913	5.921	(0.898)	12433	1.00000	1.2	
	45	Isobutyl Alcohol	43	6.077	6.071	(1.049)	4079	20.0000	35.5(TM)	M9
	46	Methylcyclohexane	83	6.464	6.464	(1.116)	6831	1.00000	0.81(aM)	M10
	47	Trichloroethene	95	6.506	6.500	(0.988)	5612	1.00000	0.96(a)	
*	48	1,4-Difluorobenzene	114	6.585	6.586	(1.000)	837238	50.0000		
	49	Dibromomethane	93	7.107	7.115	(1.079)	3931	1.00000	1.0(M)	M10
	50	1,2-Dichloropropane	63	7.264	7.265	(1.103)	4719	1.00000	0.86(TaM)	M9
	51	Bromodichloromethane	83	7.386	7.394	(1.122)	9268	1.00000	1.0	
	52	Methyl Methacrylate	41	7.693	7.687	(1.168)	3332	1.00000	1.9(M)	M9
	53	1,4-Dioxane	88	7.722	7.701	(1.173)	1687	20.0000	25.1(M)	M9
	55	cis-1,3-dichloropropene	75	8.301	8.294	(1.261)	8674	1.00000	0.89(aM)	M10
$	56	Toluene-D8	98	8.544	8.545	(1.297)	1135846	50.0000	50.2	
	57	Toluene	92	8.616	8.616	(1.308)	12598	1.00000	0.99(a)	
	58	Tetrachloroethene	164	9.138	9.124	(0.859)	4685	1.00000	1.2	
	59	4-methyl-2-pentanone	43	9.202	9.195	(1.397)	17788	5.00000	3.9(a)	
	60	trans-1,3-Dichloropropene	75	9.216	9.224	(1.400)	8090	1.00000	0.88(a)	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	3213	1.00000	0.79(a)	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	5398	1.00000	1.5	
	63	Dibromochloromethane	129	9.653	9.653	(0.907)	4780	1.00000	0.91(a)	
	64	1,3-Dichloropropane	76	9.781	9.782	(0.919)	8181	1.00000	0.96(a)	
	65	1,2-Dibromoethane	107	9.931	9.925	(1.508)	4950	1.00000	0.99(Ta)	
M	66	Total Alkylbenzenes	100				104323	1.00000	5.6(a)	
	67	2-Hexanone	43	10.346	10.339	(0.972)	13184	5.00000	4.1(aM)	M10
*	68	Chlorobenzene-D5	117	10.639	10.640	(1.000)	760373	50.0000		
	69	Chlorobenzene	112	10.668	10.661	(1.003)	12735	1.00000	1.0	
	70	Ethylbenzene	91	10.732	10.733	(1.009)	23545	1.00000	0.98(a)	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	5065	1.00000	1.0	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	33429	2.00000	1.8(a)	
	73	o-Xylene	91	11.504	11.505	(1.081)	13660	1.00000	0.76(a)	
	74	Styrene	104	11.583	11.576	(1.089)	9846	1.00000	0.79(a)	
	75	Bromoform	173	11.576	11.576	(1.088)	3287	1.00000	0.92(a)	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	15094	1.00000	0.80(a)	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	465091	50.0000	49.5	
	78	Bromobenzene	156	12.384	12.384	(0.902)	4703	1.00000	0.96(a)	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Report Date: 27-Nov-2018 11:25

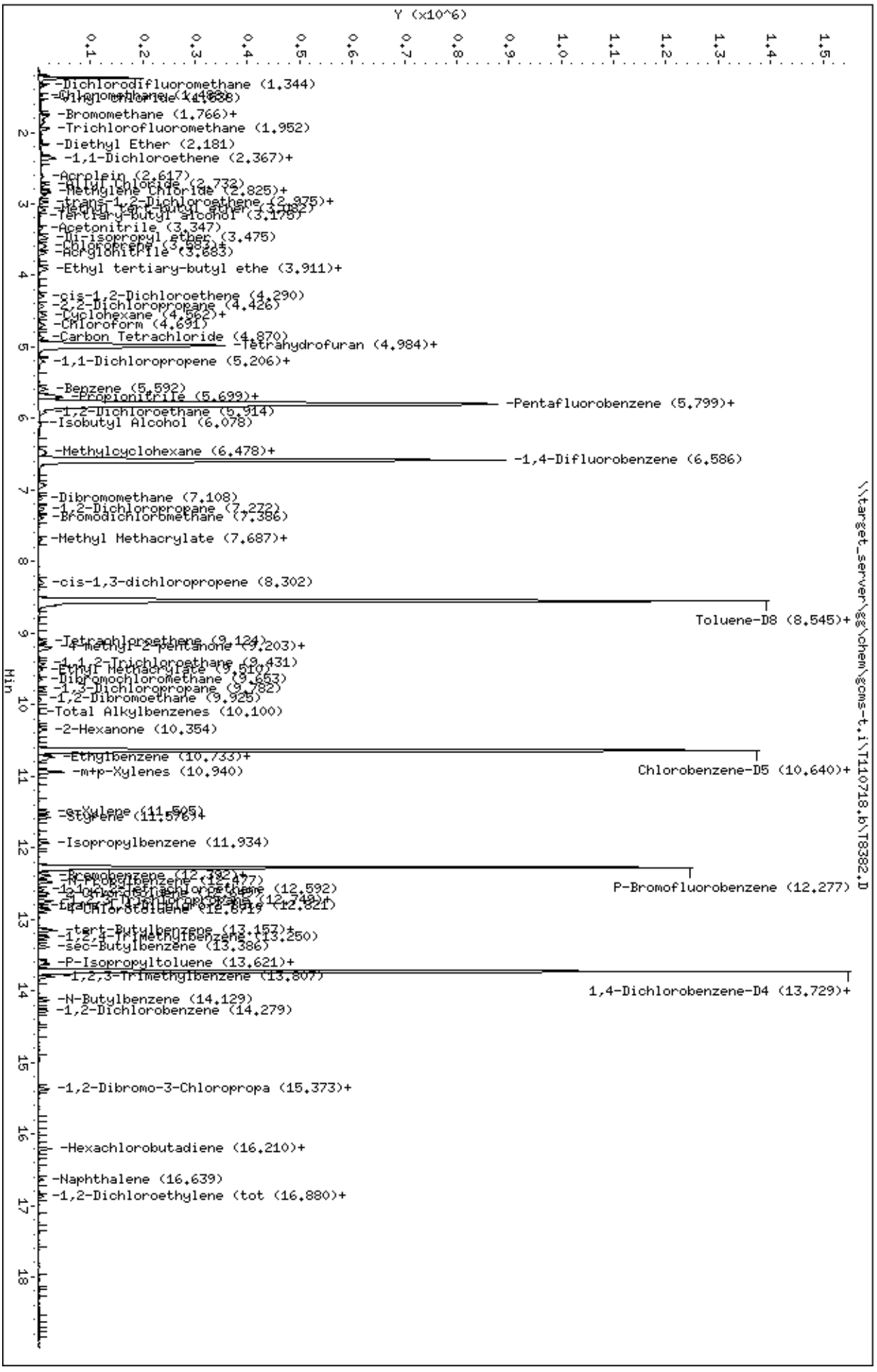
JR

1:26 pm, Nov 27, 2018

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.405	12.399	(0.904)	2438	1.00000	1.0	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	24482	1.00000	0.94(a)	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	5845	1.00000	1.0(M)	M10
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	14963	1.00000	0.91(a)	
	83 1,2,3-Trichloropropane	75	12.727	12.735	(0.927)	5751	1.00000	1.0	
	84 1,3,5-Trimethylbenzene	105	12.749	12.756	(0.929)	14186	1.00000	0.82(a)	
	85 trans-1,4-Dichloro-2-Butene	53	12.813	12.821	(0.933)	1698	1.00000	0.87(a)	
	86 4-Chlorotoluene	91	12.870	12.871	(0.938)	14653	1.00000	0.86(a)	
	87 tert-Butylbenzene	119	13.156	13.149	(0.958)	11350	1.00000	0.78(a)	
	88 Pentachloroethane	165	13.156	13.157	(0.958)	2078	1.00000	0.74(aM)	M10
	89 1,2,4-Trimethylbenzene	105	13.249	13.250	(0.965)	13602	1.00000	0.78(a)	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	16157	1.00000	0.80(a)	
	91 P-Isopropyltoluene	119	13.592	13.586	(0.990)	11404	1.00000	0.74(a)	
	92 1,3-Dichlorobenzene	146	13.621	13.629	(0.992)	8355	1.00000	0.95(a)	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	372287	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	10556	1.00000	1.1	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	20111	1.00000	1.1	
	96 N-Butylbenzene	91	14.129	14.136	(1.029)	13142	1.00000	0.78(a)	
	97 1,2-Dichlorobenzene	146	14.279	14.279	(1.040)	9061	1.00000	1.1	
	98 1,2-Dibromo-3-Chloropropane	75	15.330	15.330	(1.117)	1229	1.00000	0.97(a)	
	99 1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	6708	1.00000	1.0	
	100 Hexachlorobutadiene	225	16.202	16.210	(1.180)	2625	1.00000	0.87(aM)	M10
	101 1,2,4-Trichlorobenzene	180	16.209	16.216	(1.181)	4709	1.00000	0.92(a)	
	102 Naphthalene	128	16.638	16.639	(1.212)	7875	1.00000	0.82(a)	
M	103 1,2-Dichloroethylene (total)	96				11032	1.00000	2.1	
	104 1,2,3-Trichlorobenzene	180	16.874	16.875	(1.229)	4366	1.00000	0.93(a)	
M	105 Xylenes (total)	91				47089	5.00000	2.6(a)	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Date : 07-NOV-2018 10:32
Client ID:
Sample Info: WG240169-1
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: HG/JR
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.344)
-Chloromethane (1.488)
-Vinyl Chloride (1.638)
-Bromomethane (1.766)+
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.181)
-1,1-Dichloroethene (2.367)+
-Acrolein (2.617)
-Allyl Chloride (2.772)
-Methylene Chloride (2.825)+
-trans-1,2-Dichloroethene (2.975)+
-Methyl tert-butyl ether (3.102)
-Tertiary-butyl alcohol (3.178)
-Acetonitrile (3.347)
-Di-isopropyl ether (3.475)
-Chloroprene (3.583)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.290)
-2,2-Dichloropropane (4.426)
-Cyclohexane (4.562)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.206)+
-Benzene (5.592)
-Propionitrile (5.699)+
-Pentafluorobenzene (5.799)+
-1,2-Dichloroethane (5.914)
-Isobutyl Alcohol (6.078)
-Methylcyclohexane (6.478)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.108)
-1,2-Dichloropropane (7.272)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-cis-1,3-dichloropropene (8.302)
Toluene-D8 (8.545)+
-Tetrachloroethene (9.124)
-4-Methyl-2-pentanone (9.203)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.925)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.354)
-Ethylbenzene (10.733)+
-m+p-Xylenes (10.940)
Chlorobenzene-D5 (10.640)+
-o-Xylene (11.505)
-Styrene (11.576)+
-Isopropylbenzene (11.934)
-Bromobenzene (12.192)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.592)
-2-Chlorotoluene (12.749)+
-4-Chlorotoluene (12.821)
P-Bromofluorobenzene (12.277)
-tert-Butylbenzene (13.157)+
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.386)
-P-Isopropyltoluene (13.621)+
-1,2,3-Trimethylbenzene (13.807)
1,4-Dichlorobenzene-D4 (13.729)+
-N-Butylbenzene (14.129)
-1,2-Dichlorobenzene (14.279)
-1,2-Dibromo-3-Chloropropa (15.373)+
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2-Dichloroethylene (tot (16.880)+

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8383.D
Report Date: 27-Nov-2018 11:25

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110718.b\T8383.D
Lab Smp Id: WG240169-6
Inj Date : 07-NOV-2018 11:02
Operator : HG/JR Inst ID: gcms-t.i
Smp Info : WG240169-6
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T110718.b\T8A05(61)D.m
Meth Date : 07-Nov-2018 12:21 hgould Quant Type: ISTD
Cal Date : 07-NOV-2018 11:02 Cal File: T8383.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	840238	150.000	140	
2	Chloromethane	50	1.487	1.480	(0.257)	680155	150.000	148	
3	Vinyl chloride	62	1.537	1.538	(0.265)	797607	150.000	139	
4	Bromomethane	94	1.759	1.759	(0.304)	365523	150.000	149	
5	Chloroethane	64	1.837	1.845	(0.317)	388574	150.000	150	
6	Trichlorofluoromethane	101	1.945	1.952	(0.336)	1381944	150.000	134	
7	Diethyl Ether	59	2.173	2.174	(0.375)	679434	150.000	140	
8	1,1-Dichloroethene	96	2.331	2.331	(0.402)	725733	150.000	143	
9	Freon-113	151	2.359	2.360	(0.407)	570041	150.000	142	
10	Carbon Disulfide	76	2.359	2.367	(0.407)	1759596	150.000	130	
11	Iodomethane	142	2.452	2.453	(0.423)	605871	150.000	150	
12	Acrolein	56	2.617	2.617	(0.452)	484914	750.000	742	
13	Allyl Chloride	41	2.724	2.724	(0.470)	981620	150.000	136	
14	Methylene Chloride	84	2.824	2.825	(0.488)	845638	150.000	150(A)	
15	Acetone	43	2.874	2.875	(0.496)	1010804	750.000	519	
16	trans-1,2-Dichloroethene	96	2.967	2.968	(0.512)	742889	150.000	142	
17	Methyl Acetate	43	2.989	2.982	(0.516)	726734	150.000	148	
18	Methyl tert-butyl ether	73	3.074	3.075	(0.531)	2338326	150.000	151(A)	
19	Tertiary-butyl alcohol	59	3.189	3.182	(0.551)	485130	750.000	706	
20	Acetonitrile	41	3.339	3.339	(0.577)	973028	1500.00	1410	
21	Di-isopropyl ether	45	3.475	3.468	(0.600)	2558676	150.000	144	
22	Chloroprene	53	3.582	3.582	(0.619)	1452453	150.000	150	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	1617565	150.000	143	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8383.D
Report Date: 27-Nov-2018 11:25

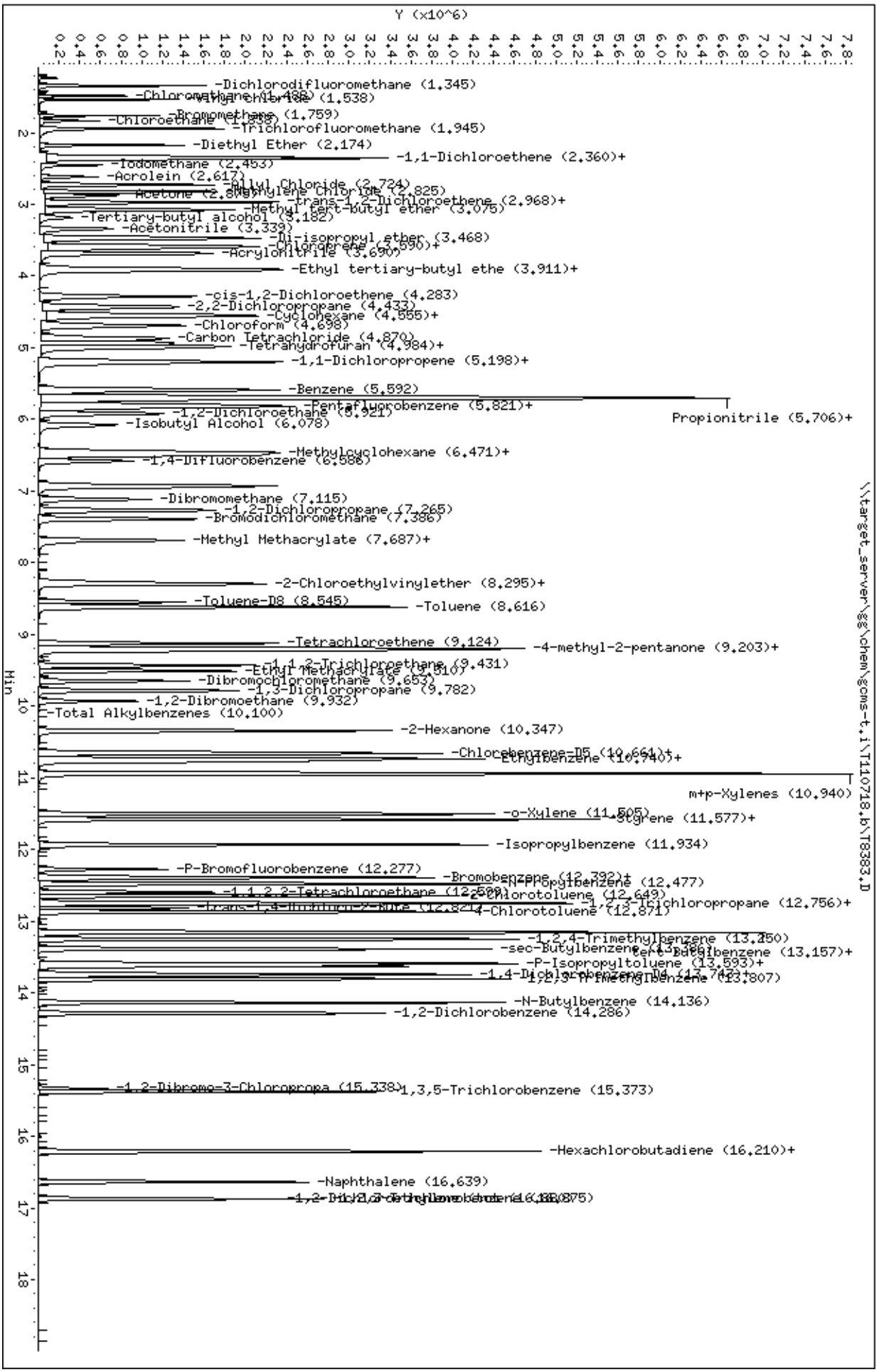
		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.689	3.683	(0.637)	1366719	750.000	722	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	2736858	150.000	153(A)	
	26	Vinyl Acetate	43	3.925	3.926	(0.596)	1807283	150.000	162(A)	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	826732	150.000	154(A)	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.765)	1595590	150.000	150(A)	
	29	Cyclohexane	56	4.547	4.548	(0.785)	1271436	150.000	160(A)	
	30	Bromochloromethane	128	4.569	4.562	(0.789)	273957	150.000	125	
	31	Chloroform	83	4.690	4.691	(0.810)	1809949	150.000	137	
	32	Carbon Tetrachloride	117	4.869	4.870	(0.739)	1456207	150.000	151(A)	
	33	Tetrahydrofuran	42	4.933	4.927	(0.852)	1124049	750.000	792(A)	
$	34	Dibromofluoromethane	113	4.983	4.977	(0.860)	330163	50.0000	49.2	
	35	1,1,1-Trichloroethane	97	4.983	4.991	(0.860)	1760493	150.000	149	
	36	1,1-Dichloropropene	75	5.198	5.191	(0.789)	1279760	150.000	154(A)	
	37	2-Butanone	43	5.205	5.206	(0.899)	1872136	750.000	753(A)	
	38	Benzene	78	5.591	5.592	(0.849)	2986247	150.000	140	
	39	Propionitrile	54	5.677	5.670	(0.980)	1279003	1500.00	1500(A)	
	40	Methacrylonitrile	41	5.706	5.699	(0.985)	4515680	1500.00	1340	
*	41	Pentafluorobenzene	168	5.791	5.792	(1.000)	570056	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	516360	50.0000	50.3	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	2375213	150.000	152(A)	
	44	1,2-Dichloroethane	62	5.920	5.921	(0.899)	1528596	150.000	138	
	45	Isobutyl Alcohol	43	6.077	6.071	(1.049)	736833	3000.00	3010(A)	
	46	Methylcyclohexane	83	6.456	6.464	(1.115)	1374109	150.000	159(A)	
	47	Trichloroethene	95	6.499	6.500	(0.987)	887898	150.000	148	
*	48	1,4-Difluorobenzene	114	6.585	6.586	(1.000)	864522	50.0000		
	49	Dibromomethane	93	7.114	7.115	(1.080)	594392	150.000	146	
	50	1,2-Dichloropropane	63	7.272	7.265	(1.104)	853437	150.000	154(A)	
	51	Bromodichloromethane	83	7.393	7.394	(1.123)	1396638	150.000	150(A)	
	52	Methyl Methacrylate	41	7.686	7.687	(1.167)	810707	150.000	151(A)	
	53	1,4-Dioxane	88	7.701	7.701	(1.169)	168621	3000.00	2900	
	54	2-Chloroethylvinylether	63	8.265	8.266	(1.255)	447026	150.000	(a)	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	1560340	150.000	156(A)	
$	56	Toluene-D8	98	8.544	8.545	(1.297)	1155086	50.0000	49.4	
	57	Toluene	92	8.616	8.616	(1.308)	1907594	150.000	145	
	58	Tetrachloroethene	164	9.123	9.124	(0.857)	609019	150.000	143	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	3497064	750.000	747	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	1464789	150.000	155(A)	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	659434	150.000	157(A)	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	1142710	150.000	150(A)	
	63	Dibromochloromethane	129	9.653	9.653	(0.907)	903317	150.000	159(A)	
	64	1,3-Dichloropropane	76	9.781	9.782	(0.919)	1341555	150.000	146	
	65	1,2-Dibromoethane	107	9.931	9.925	(1.508)	779651	150.000	152(A)	
M	66	Total Alkylbenzenes	100				20386883	150.000	1020	
	67	2-Hexanone	43	10.346	10.339	(0.972)	2577817	750.000	751(A)	
*	68	Chlorobenzene-D5	117	10.646	10.640	(1.000)	818704	50.0000		
	69	Chlorobenzene	112	10.668	10.661	(1.002)	1915038	150.000	140	
	70	Ethylbenzene	91	10.739	10.733	(1.009)	3478058	150.000	135	
	71	1,1,1,2-Tetrachloroethane	131	10.775	10.768	(1.012)	772968	150.000	146	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	4854183	300.000	248	
	73	o-Xylene	91	11.505	11.505	(1.081)	2930823	150.000	152(A)	
	74	Styrene	104	11.583	11.576	(1.088)	2122063	150.000	157(A)	
	75	Bromoform	173	11.583	11.576	(1.088)	627129	150.000	164(A)	
	76	Isopropylbenzene	105	11.934	11.934	(0.869)	3102057	150.000	148	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	486323	50.0000	50.1	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8383.D
Report Date: 27-Nov-2018 11:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.384	12.384	(0.902)	804392	150.000	147	
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.399	(0.903)	438711	150.000	162(A)	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	3747713	150.000	130	
	81 1,1,2,2-Tetrachloroethane	83	12.599	12.599	(0.918)	943727	150.000	146	
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	2566077	150.000	141	
	83 1,2,3-Trichloropropane	75	12.734	12.735	(0.928)	912862	150.000	144	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	2800202	150.000	145	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.821	(0.934)	354187	150.000	164(A)	
	86 4-Chlorotoluene	91	12.870	12.871	(0.938)	2678855	150.000	142	
	87 tert-Butylbenzene	119	13.156	13.149	(0.958)	2456561	150.000	151(A)	
	88 Pentachloroethane	165	13.156	13.157	(0.958)	506232	150.000	162(A)	
	89 1,2,4-Trimethylbenzene	105	13.249	13.250	(0.965)	2792856	150.000	144	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	3199153	150.000	143	
	91 P-Isopropyltoluene	119	13.592	13.586	(0.990)	2627712	150.000	154(A)	
	92 1,3-Dichlorobenzene	146	13.628	13.629	(0.993)	1397286	150.000	143	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	413763	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	1408953	150.000	135	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	2803378	150.000	134	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	2762686	150.000	147	
	97 1,2-Dichlorobenzene	146	14.286	14.279	(1.041)	1328698	150.000	140	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.330	(1.117)	226891	150.000	161(A)	
	99 1,3,5-Trichlorobenzene	180	15.380	15.373	(1.120)	1067164	150.000	150	
	100 Hexachlorobutadiene	225	16.209	16.210	(1.181)	508311	150.000	152(A)	
	101 1,2,4-Trichlorobenzene	180	16.217	16.216	(1.181)	940690	150.000	166(A)	
	102 Naphthalene	128	16.638	16.639	(1.212)	1852021	150.000	173(A)	
M	103 1,2-Dichloroethylene (total)	96				1569621	150.000	296	
	104 1,2,3-Trichlorobenzene	180	16.874	16.875	(1.229)	822614	150.000	158(A)	
M	105 Xylenes (total)	91				7785006	150.000	401	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.


Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8383.D
Date : 07-NOV-2018 11:02
Client ID:
Sample Info: WG240169-6
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: HG/JR
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T110718.b\T8383.D
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.488)
-Vinyl Chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.838)
-Trichlorofluoromethane (1.945)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.617)
-Allyl Chloride (2.724)
-Methylene Chloride (2.825)
Acetone (2.8
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.468)
-Chloroprene (3.590)+
-Acrylonitrile (3.690)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.698)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.198)+
-Benzene (5.592)
-Pentafluorobenzene (5.821)+
-1,2-Dichloroethane (5.921)
Propionitrile (5.706)+
-Isobutyl Alcohol (6.078)
-Methylcyclohexane (6.471)+
-1,4-Difluorobenzene (6.588)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
-Toluene-D8 (8.545)
-Toluene (8.616)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.203)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.653)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.664)+
-Ethylbenzene (10.740)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.392)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.509)
-2-Chlorotoluene (12.649)
-1,2,3-Trichloropropane (12.756)+
-trans-1,4-Dichloro-2-Bute (12.82
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.386)
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,4-Dichlorobenzene-D4 (13.742)+
1,2,3-Trimethylbenzene (13.807)
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.286)
-1,2-Dibromo-3-Chloropropa (15.338)
1,3,5-Trichlorobenzene (15.373)
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.875)

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8384.D
Report Date: 27-Nov-2018 11:25

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110718.b\T8384.D
Lab Smp Id: WG240169-5
Inj Date : 07-NOV-2018 11:32
Operator : HG/JR   Inst ID: gcms-t.i
Smp Info : WG240169-5
Misc Info :
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T110718.b\T8A05(61)D.m
Meth Date : 07-Nov-2018 12:21 hgould   Quant Type: ISTD
Cal Date : 07-NOV-2018 11:32   Cal File: T8384.D
Als bottle: 8   Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: D2400TARGET-1

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

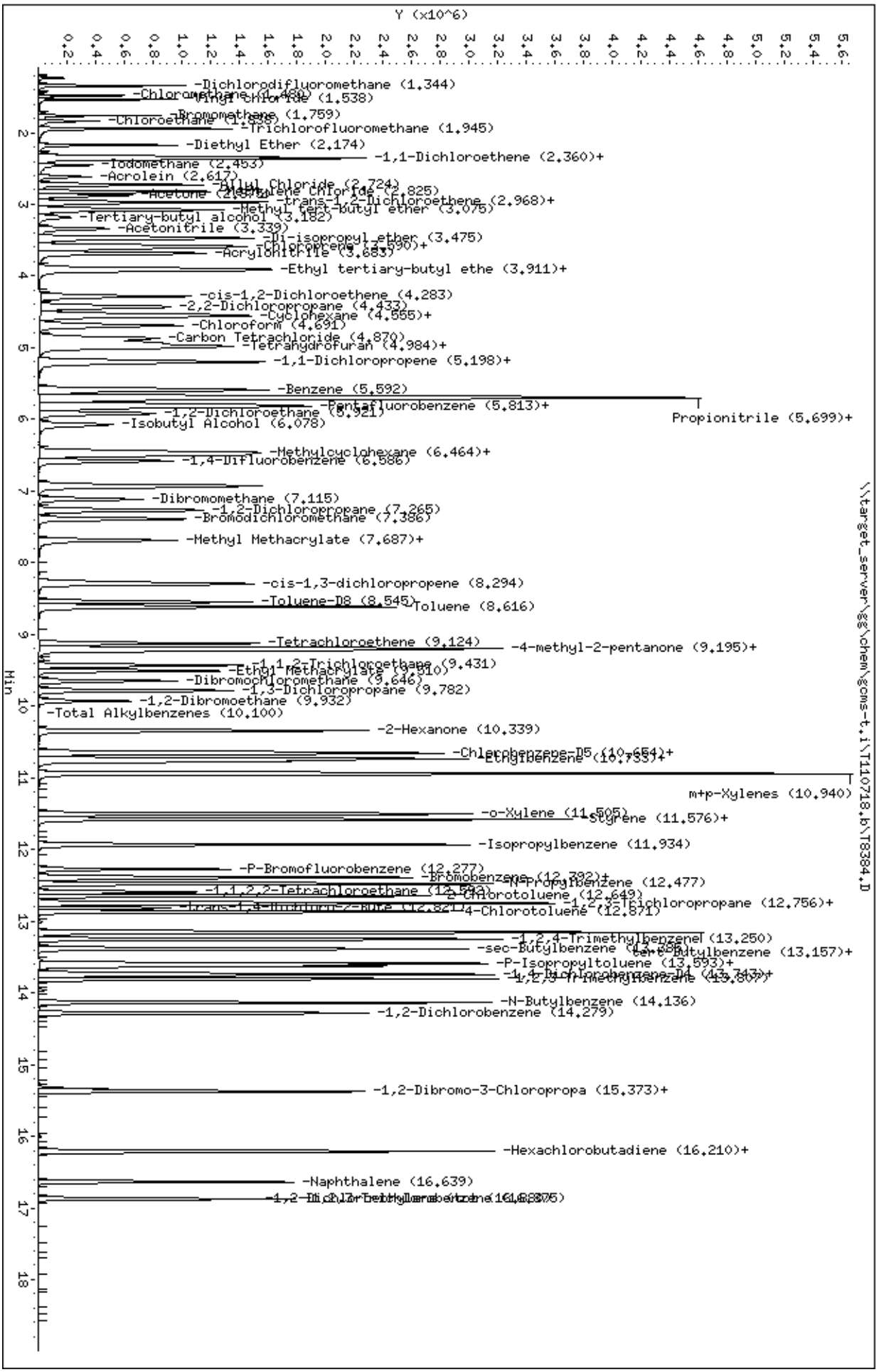
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	537660	100.000	87.2	
2	Chloromethane	50	1.480	1.480	(0.256)	494646	100.000	101	
3	Vinyl chloride	62	1.537	1.538	(0.266)	556004	100.000	93.4	
4	Bromomethane	94	1.759	1.759	(0.304)	262096	100.000	100	
5	Chloroethane	64	1.837	1.845	(0.318)	291735	100.000	99.2	
6	Trichlorofluoromethane	101	1.945	1.952	(0.336)	913555	100.000	86.5	
7	Diethyl Ether	59	2.173	2.174	(0.376)	456147	100.000	90.7	
8	1,1-Dichloroethene	96	2.331	2.331	(0.403)	482845	100.000	92.0	
9	Freon-113	151	2.359	2.360	(0.408)	371190	100.000	89.5	
10	Carbon Disulfide	76	2.359	2.367	(0.408)	1203985	100.000	86.4	
11	Iodomethane	142	2.452	2.453	(0.424)	359820	100.000	97.6	
12	Acrolein	56	2.617	2.617	(0.452)	311889	500.000	460	
13	Allyl Chloride	41	2.724	2.724	(0.471)	660599	100.000	89.2	
14	Methylene Chloride	84	2.824	2.825	(0.488)	564365	100.000	97.7	
15	Acetone	43	2.874	2.875	(0.497)	835012	500.000	420	
16	trans-1,2-Dichloroethene	96	2.967	2.968	(0.513)	514486	100.000	94.6	
17	Methyl Acetate	43	2.989	2.982	(0.517)	477116	100.000	93.4	
18	Methyl tert-butyl ether	73	3.074	3.075	(0.532)	1582734	100.000	97.8	
19	Tertiary-butyl alcohol	59	3.189	3.182	(0.551)	330943	500.000	464	
20	Acetonitrile	41	3.339	3.339	(0.577)	637165	1000.00	894	
21	Di-isopropyl ether	45	3.475	3.468	(0.601)	1789615	100.000	96.1	
22	Chloroprene	53	3.582	3.582	(0.619)	994879	100.000	97.9	
23	1,1-Dichloroethane	63	3.611	3.611	(0.624)	1116460	100.000	94.7	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8384.D
Report Date: 27-Nov-2018 11:25

			QUANT SIG					AMOUNTS		
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24	Acrylonitrile	52	3.682	3.683	(0.637)	936907	500.000	475	
	25	Ethyl tertiary-butyl ether	59	3.904	3.904	(0.675)	1900661	100.000	101	
	26	Vinyl Acetate	43	3.925	3.926	(0.596)	1224200	100.000	99.7	
	27	cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	577316	100.000	98.8	
	28	2,2-Dichloropropane	77	4.433	4.433	(0.766)	1044351	100.000	94.6	
	29	Cyclohexane	56	4.547	4.548	(0.786)	860175	100.000	102	
	30	Bromochloromethane	128	4.569	4.562	(0.790)	205176	100.000	90.5	
	31	Chloroform	83	4.690	4.691	(0.811)	1234070	100.000	90.5	
	32	Carbon Tetrachloride	117	4.869	4.870	(0.739)	958438	100.000	95.8	
	33	Tetrahydrofuran	42	4.926	4.927	(0.852)	734878	500.000	493	
$	34	Dibromofluoromethane	113	4.976	4.977	(0.860)	350749	50.0000	49.7	
	35	1,1,1-Trichloroethane	97	4.991	4.991	(0.863)	1174042	100.000	95.4	
	36	1,1-Dichloropropene	75	5.191	5.191	(0.788)	860715	100.000	98.8	
	37	2-Butanone	43	5.205	5.206	(0.900)	1274402	500.000	489	
	38	Benzene	78	5.591	5.592	(0.849)	2110332	100.000	95.3	
	39	Propionitrile	54	5.677	5.670	(0.981)	855430	1000.00	961	
	40	Methacrylonitrile	41	5.698	5.699	(0.985)	3164195	1000.00	906	
*	41	Pentafluorobenzene	168	5.784	5.792	(1.000)	600088	50.0000		
$	42	1,2-Dichloroethane-D4	65	5.813	5.813	(1.005)	526844	50.0000	48.9	
	43	Tertiary-amyl methyl ether	73	5.820	5.820	(1.006)	1615227	100.000	98.4	
	44	1,2-Dichloroethane	62	5.920	5.921	(0.899)	1018735	100.000	89.5	
	45	Isobutyl Alcohol	43	6.077	6.071	(1.051)	498901	2000.00	1960	
	46	Methylcyclohexane	83	6.464	6.464	(1.117)	921359	100.000	101	
	47	Trichloroethene	95	6.499	6.500	(0.987)	601153	100.000	96.1	
*	48	1,4-Difluorobenzene	114	6.585	6.586	(1.000)	905917	50.0000		
	49	Dibromomethane	93	7.114	7.115	(1.080)	400940	100.000	95.2	
	50	1,2-Dichloropropane	63	7.271	7.265	(1.104)	595912	100.000	100	
	51	Bromodichloromethane	83	7.386	7.394	(1.122)	940105	100.000	97.2	
	52	Methyl Methacrylate	41	7.686	7.687	(1.167)	534763	100.000	96.6	
	53	1,4-Dioxane	88	7.701	7.701	(1.169)	119736	2000.00	1700	
	55	cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	1079599	100.000	102	
$	56	Toluene-D8	98	8.544	8.545	(1.297)	1221226	50.0000	49.9	
	57	Toluene	92	8.616	8.616	(1.308)	1320129	100.000	96.3	
	58	Tetrachloroethene	164	9.123	9.124	(0.858)	419385	100.000	96.1	
	59	4-methyl-2-pentanone	43	9.195	9.195	(1.396)	2427283	500.000	495	
	60	trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	1006910	100.000	101	
	61	1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	455873	100.000	103	
	62	Ethyl Methacrylate	69	9.510	9.510	(1.444)	768897	100.000	97.7	
	63	Dibromochloromethane	129	9.645	9.653	(0.907)	608492	100.000	103	
	64	1,3-Dichloropropane	76	9.781	9.782	(0.919)	934985	100.000	98.9	
	65	1,2-Dibromoethane	107	9.931	9.925	(1.508)	528774	100.000	98.4	
M	66	Total Alkylbenzenes	100				14539938	100.000	702	
	67	2-Hexanone	43	10.339	10.339	(0.972)	1767458	500.000	498	
*	68	Chlorobenzene-D5	117	10.639	10.640	(1.000)	846800	50.0000		
	69	Chlorobenzene	112	10.661	10.661	(1.002)	1332381	100.000	95.0	
	70	Ethylbenzene	91	10.732	10.733	(1.009)	2500474	100.000	94.7	
	71	1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	522056	100.000	96.2	
	72	m+p-Xylenes	91	10.940	10.940	(1.028)	3674383	200.000	184	
	73	o-Xylene	91	11.504	11.505	(1.081)	2095887	100.000	104	
	74	Styrene	104	11.583	11.576	(1.089)	1480312	100.000	105	
	75	Bromoform	173	11.576	11.576	(1.088)	414030	100.000	104	
	76	Isopropylbenzene	105	11.933	11.934	(0.869)	2228703	100.000	103	
$	77	P-Bromofluorobenzene	95	12.277	12.277	(1.864)	516703	50.0000	50.7	
	78	Bromobenzene	156	12.384	12.384	(0.902)	557681	100.000	99.2	

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8384.D
Report Date: 27-Nov-2018 11:25

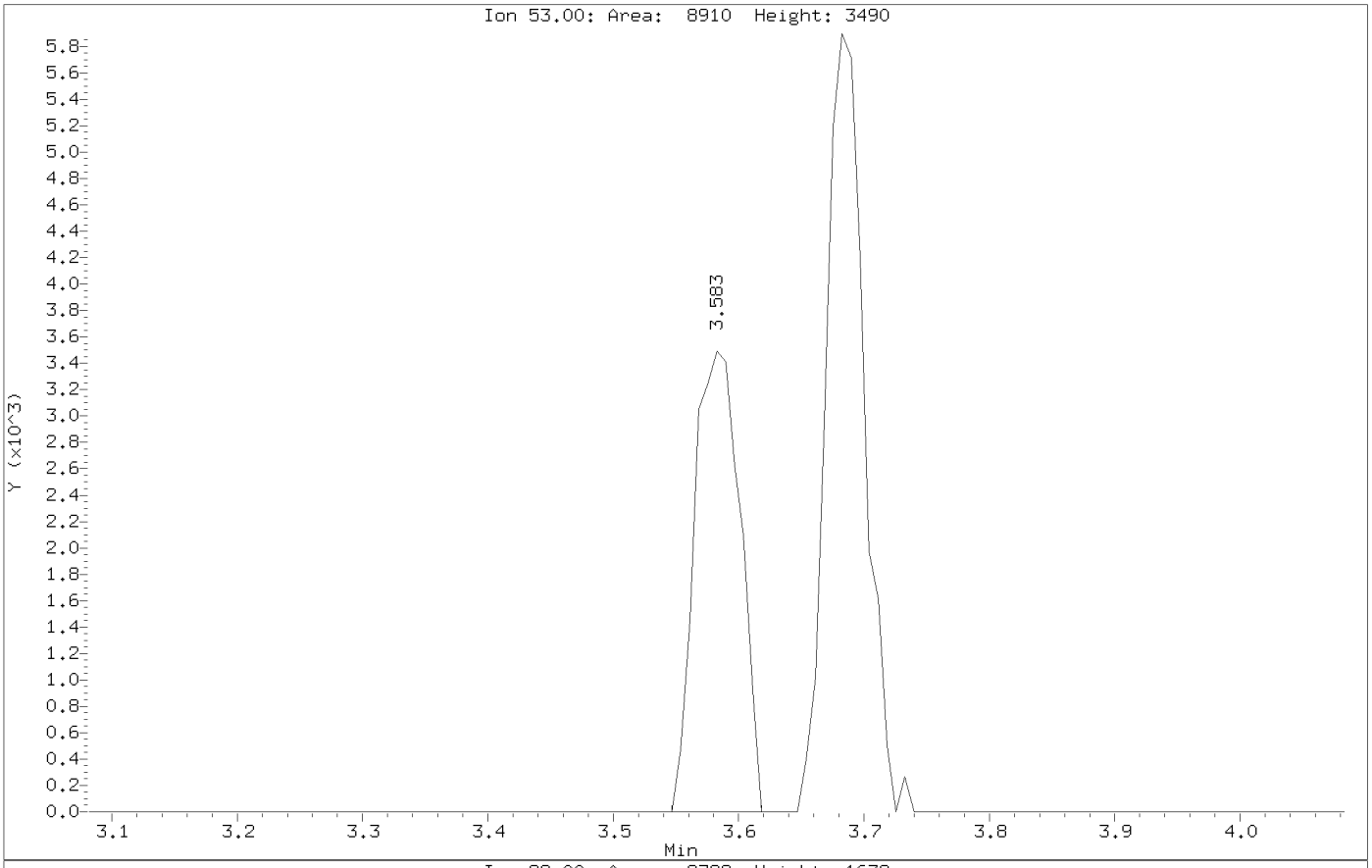
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.399	(0.903)	276556	100.000	99.4	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	2719144	100.000	92.9	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	635721	100.000	96.6	
	82 2-Chlorotoluene	91	12.648	12.649	(0.921)	1803976	100.000	97.0	
	83 1,2,3-Trichloropropane	75	12.734	12.735	(0.928)	604820	100.000	94.2	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	1997851	100.000	100	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.821	(0.934)	232531	100.000	104	
	86 4-Chlorotoluene	91	12.870	12.871	(0.938)	1897575	100.000	98.2	
	87 tert-Butylbenzene	119	13.156	13.149	(0.958)	1728622	100.000	103	
	88 Pentachloroethane	165	13.156	13.157	(0.958)	337076	100.000	104	
	89 1,2,4-Trimethylbenzene	105	13.249	13.250	(0.965)	1990097	100.000	100	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	2296091	100.000	100	
	91 P-Isopropyltoluene	119	13.592	13.586	(0.990)	1844355	100.000	104	
	92 1,3-Dichlorobenzene	146	13.628	13.629	(0.993)	953126	100.000	95.9	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	425590	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	991855	100.000	93.4	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	1982686	100.000	93.7	
	96 N-Butylbenzene	91	14.136	14.136	(1.030)	1963778	100.000	101	
	97 1,2-Dichlorobenzene	146	14.286	14.279	(1.041)	919835	100.000	95.2	
	98 1,2-Dibromo-3-Chloropropane	75	15.337	15.330	(1.117)	144002	100.000	99.4	
	99 1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	720707	100.000	98.5	
	100 Hexachlorobutadiene	225	16.209	16.210	(1.181)	343128	100.000	99.8	
	101 1,2,4-Trichlorobenzene	180	16.216	16.216	(1.181)	615894	100.000	104	
	102 Naphthalene	128	16.638	16.639	(1.212)	1265344	100.000	112	
M	103 1,2-Dichloroethylene (total)	96				1091802	100.000	193	
	104 1,2,3-Trichlorobenzene	180	16.874	16.875	(1.229)	541564	100.000	101	
M	105 Xylenes (total)	91				5770270	100.000	289	

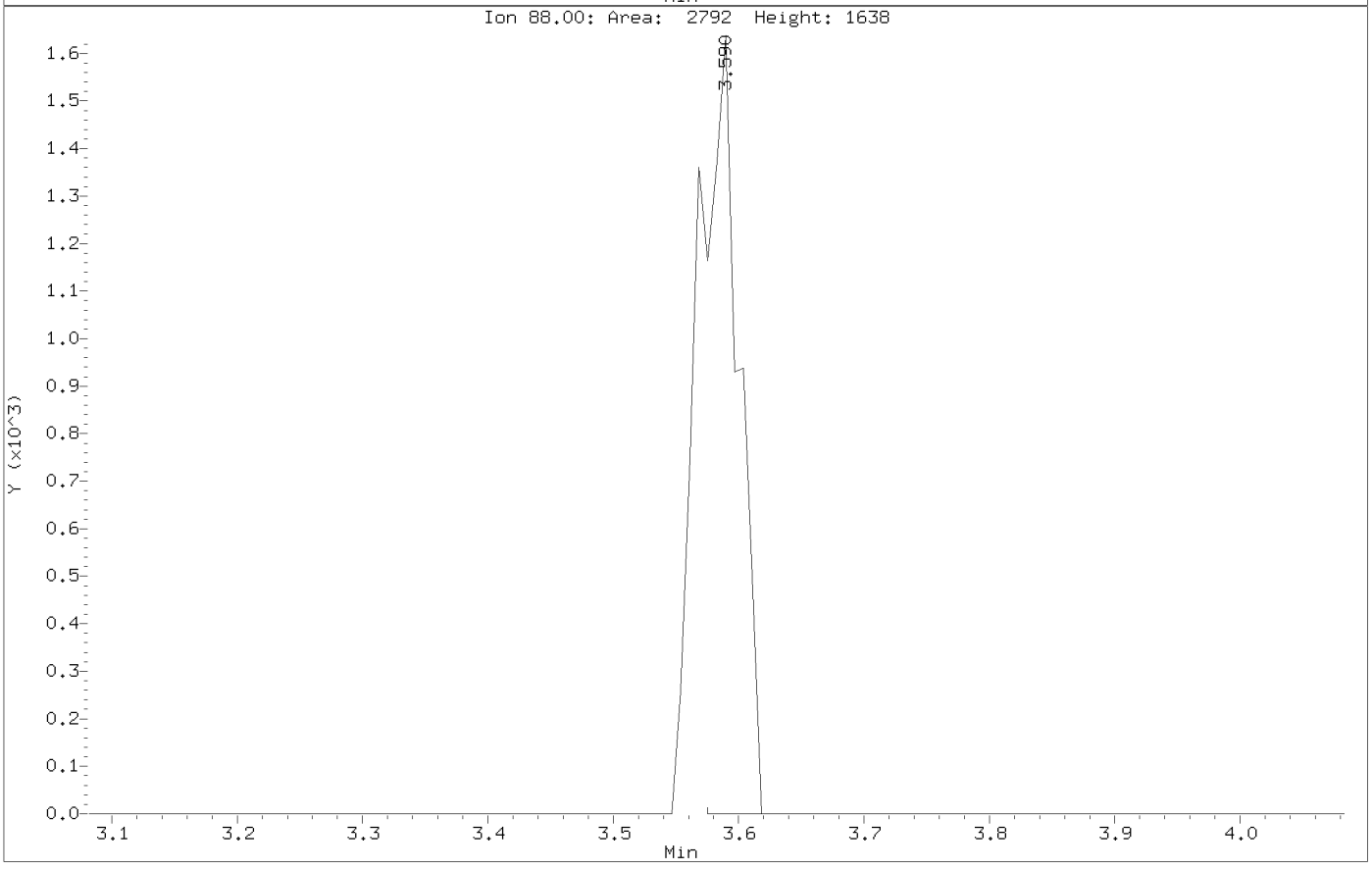

Y (x10^6)
Min
-Dichlorodifluoromethane (1.344)
-Chloromethane (1.489)
-Vinyl Chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.836)
-Trichlorofluoromethane (1.945)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.617)
-Allyl Chloride (2.724)
-Acetone (2.868)
-Methylene Chloride (2.825)
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.182)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.475)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.198)+
-Benzene (5.592)
-Pentafluorobenzene (5.813)+
-1,2-Dichloroethane (5.921)
Propionitrile (5.699)+
-Isobutyl Alcohol (6.078)
-Methylcyclohexane (6.464)+
-1,4-Difluorobenzene (6.586)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-cis-1,3-dichloropropene (8.294)
-Toluene-D8 (8.545)
Toluene (8.616)
-Tetrachloroethene (9.124)
-4-methyl-2-pentanone (9.195)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.510)
-Dibromochloromethane (9.646)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.932)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.339)
-Chlorobenzene-D5 (10.654)+
Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.505)
Styrene (11.576)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.392)+
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.542)
-2-Chlorotoluene (12.649)
-1,2,3-Trichloropropane (12.756)+
-trans-1,4-Dichloro-2-Bute (12.821)
4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.296)
ter-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.593)+
-1,4-Dichlorobenzene-D4 (13.743)+
1,2,3-Trimethylbenzene (13.807)
-N-Butylbenzene (14.136)
-1,2-Dichlorobenzene (14.279)
-1,2-Dibromo-3-Chloropropa (15.373)+
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.8375)
Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8384.D
Date : 07-NOV-2018 11:32
Client ID:
Sample Info: WG240169-5
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: HG/JR
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T110718.b\T8384.D

BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Chloroprene
CAS Number: 126-99-8

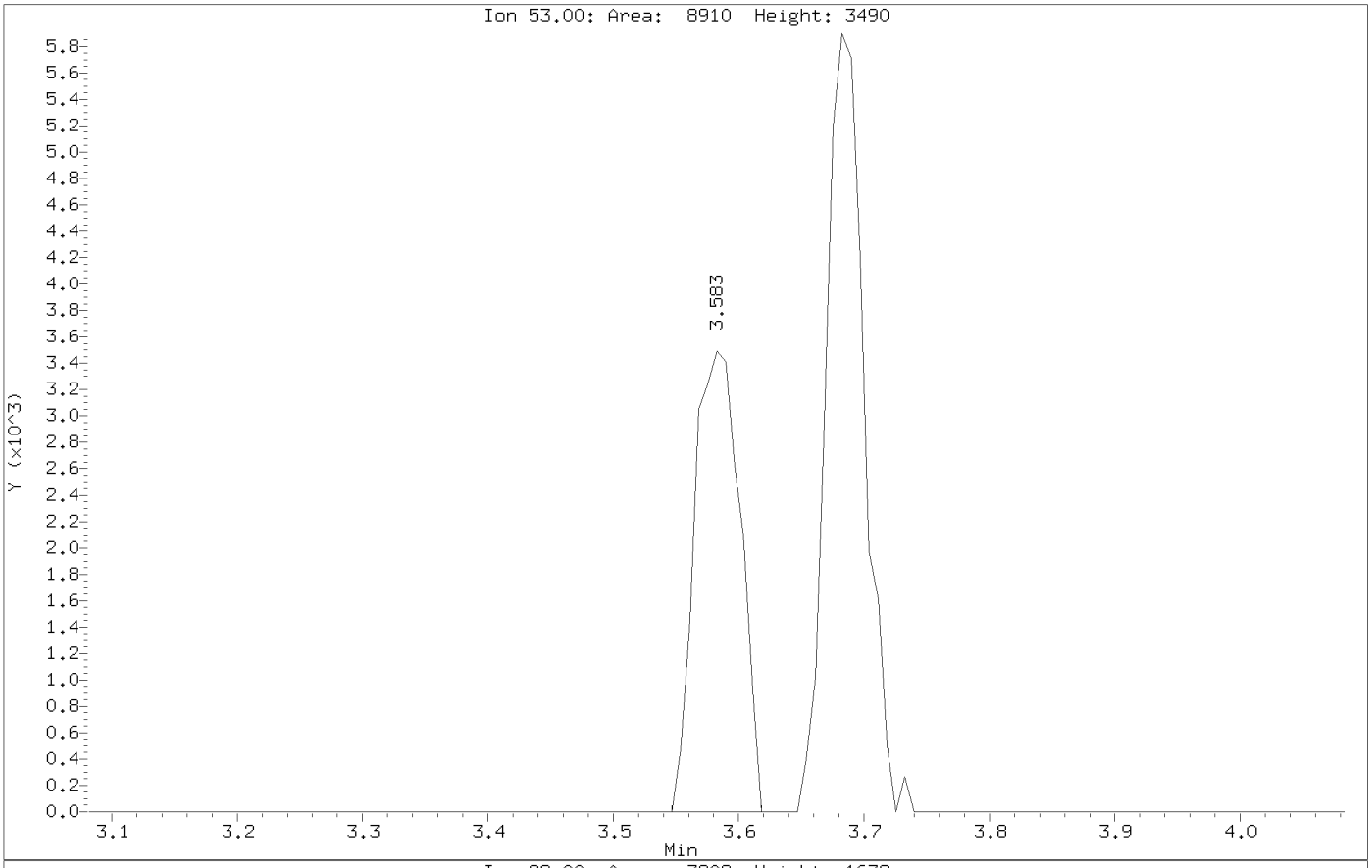


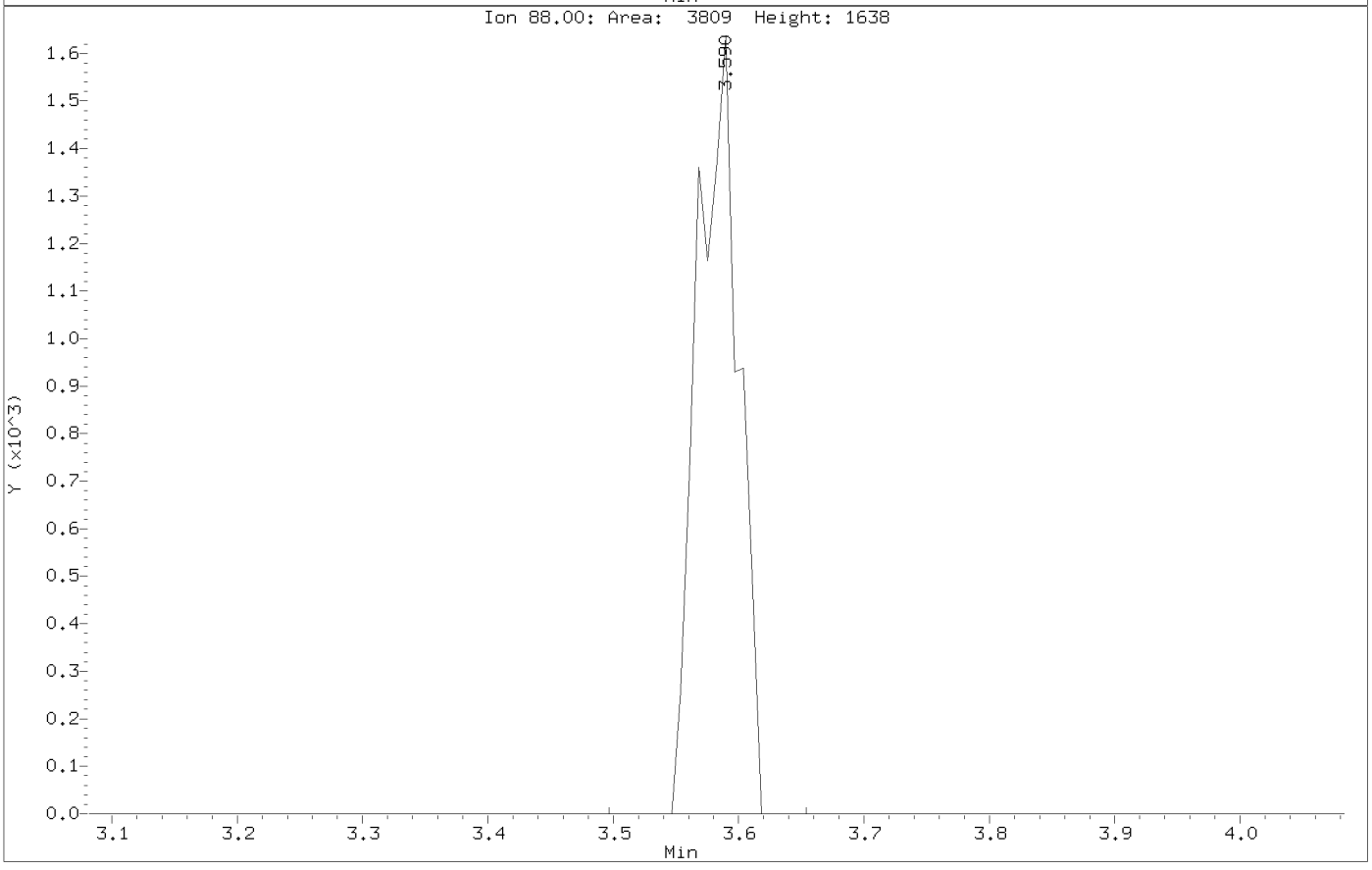


AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Chloroprene
CAS Number: 126-99-8

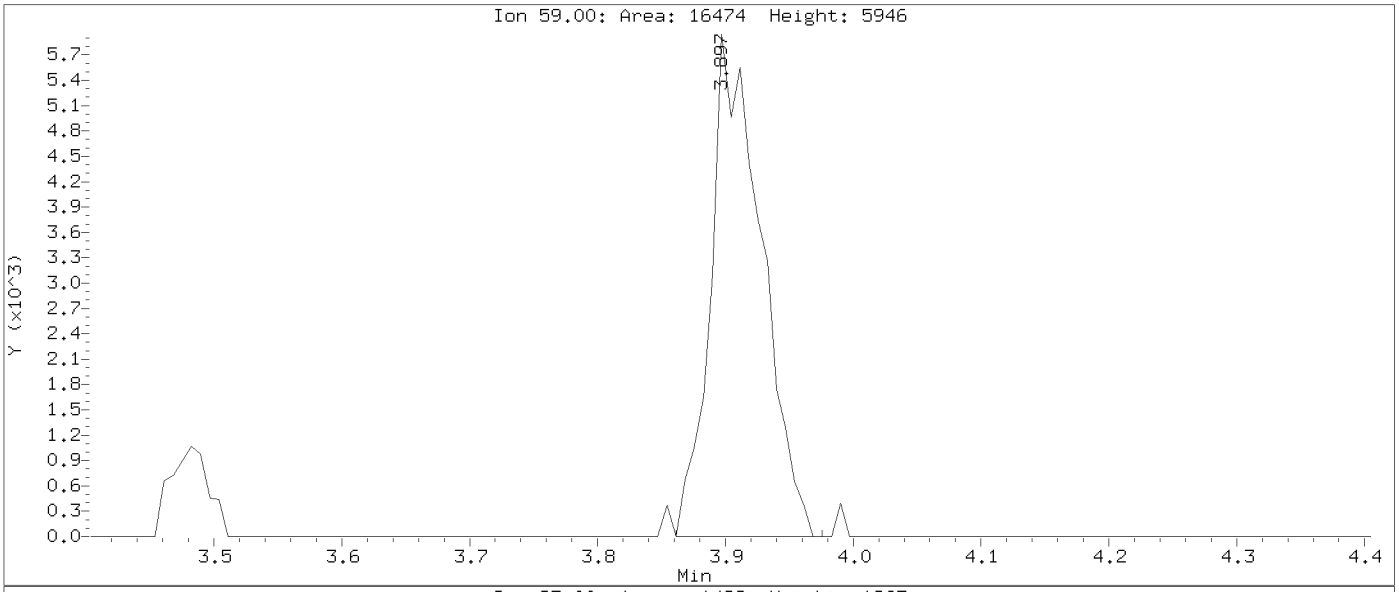


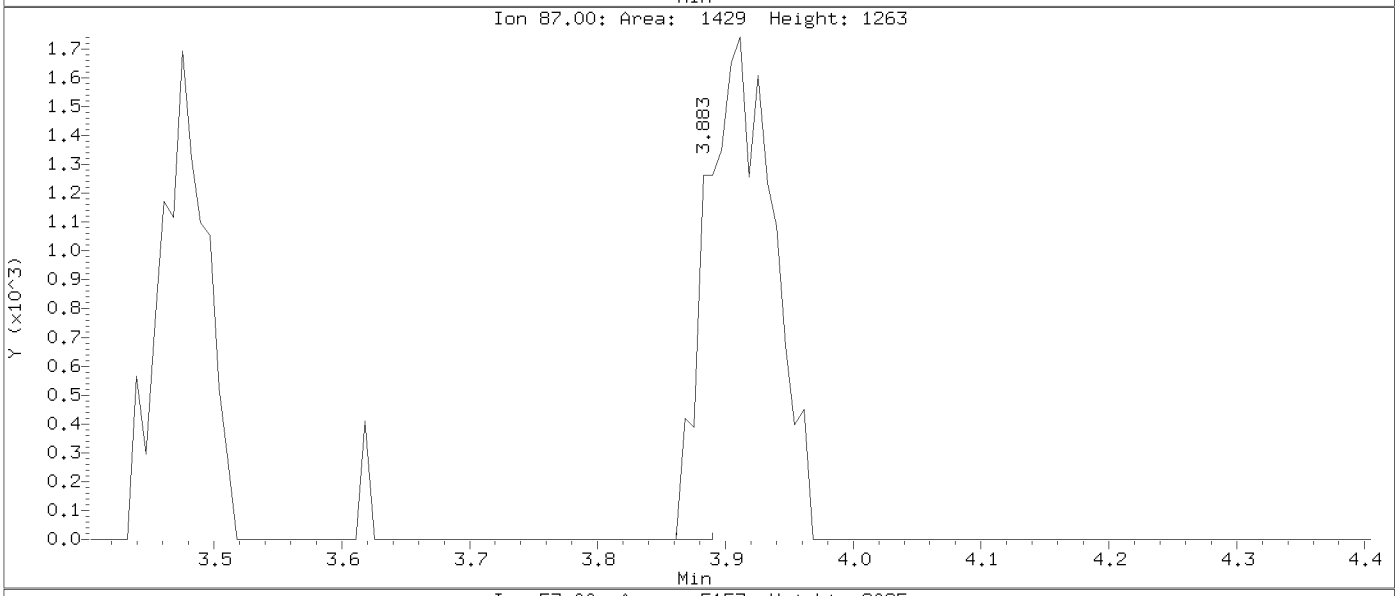


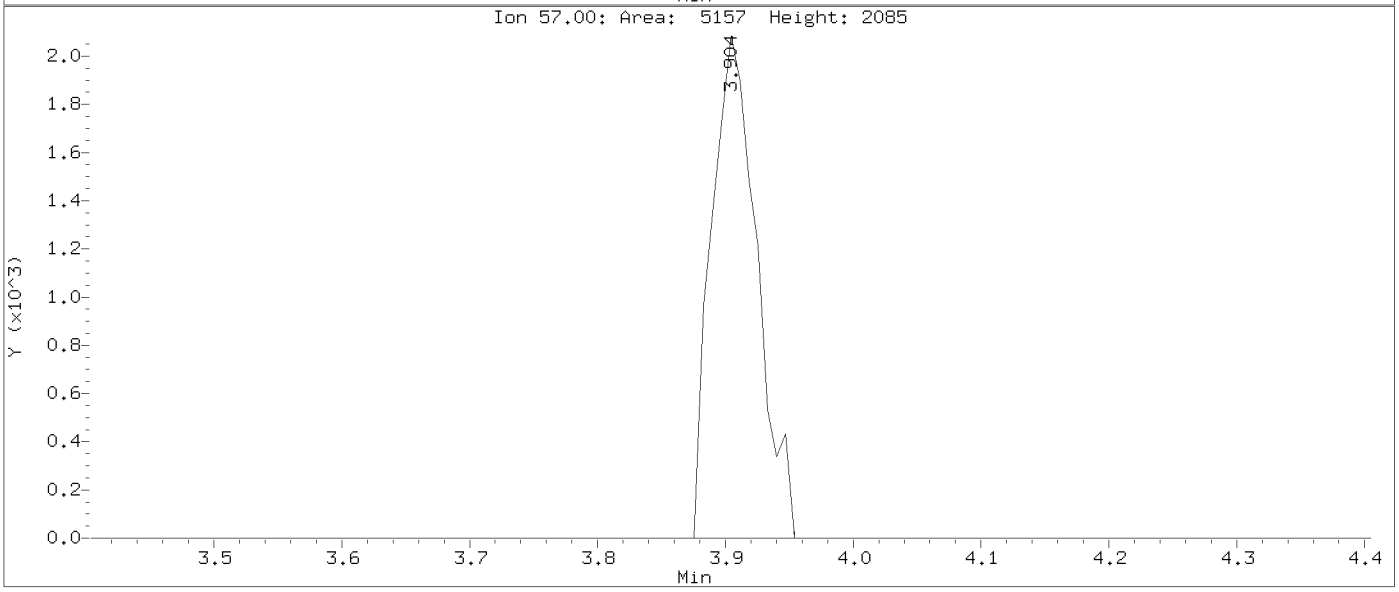
Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Ethyl tertiary-butyl ether
CAS Number: 637-92-3

BEFORE MANUAL INTEGRATION



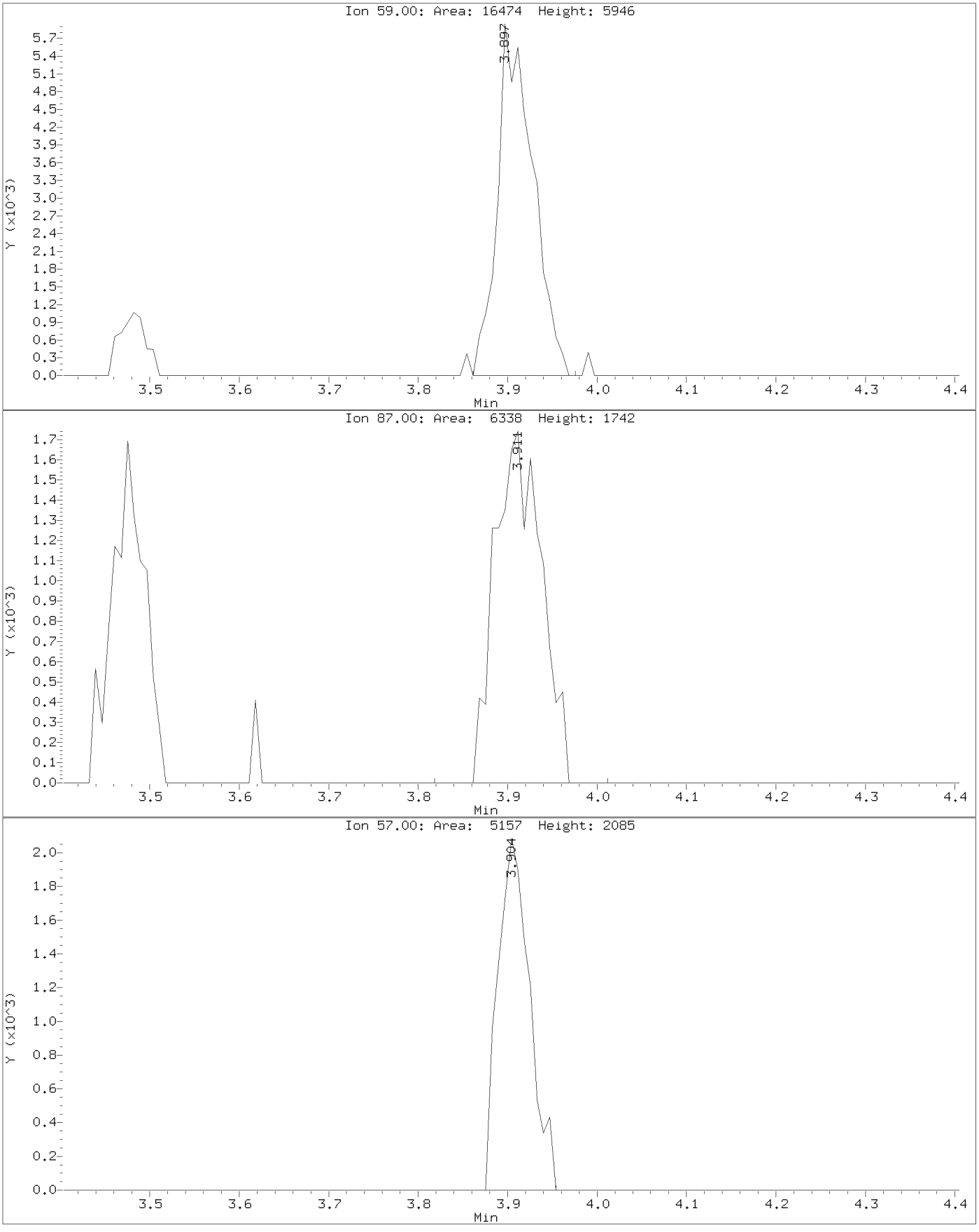




AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

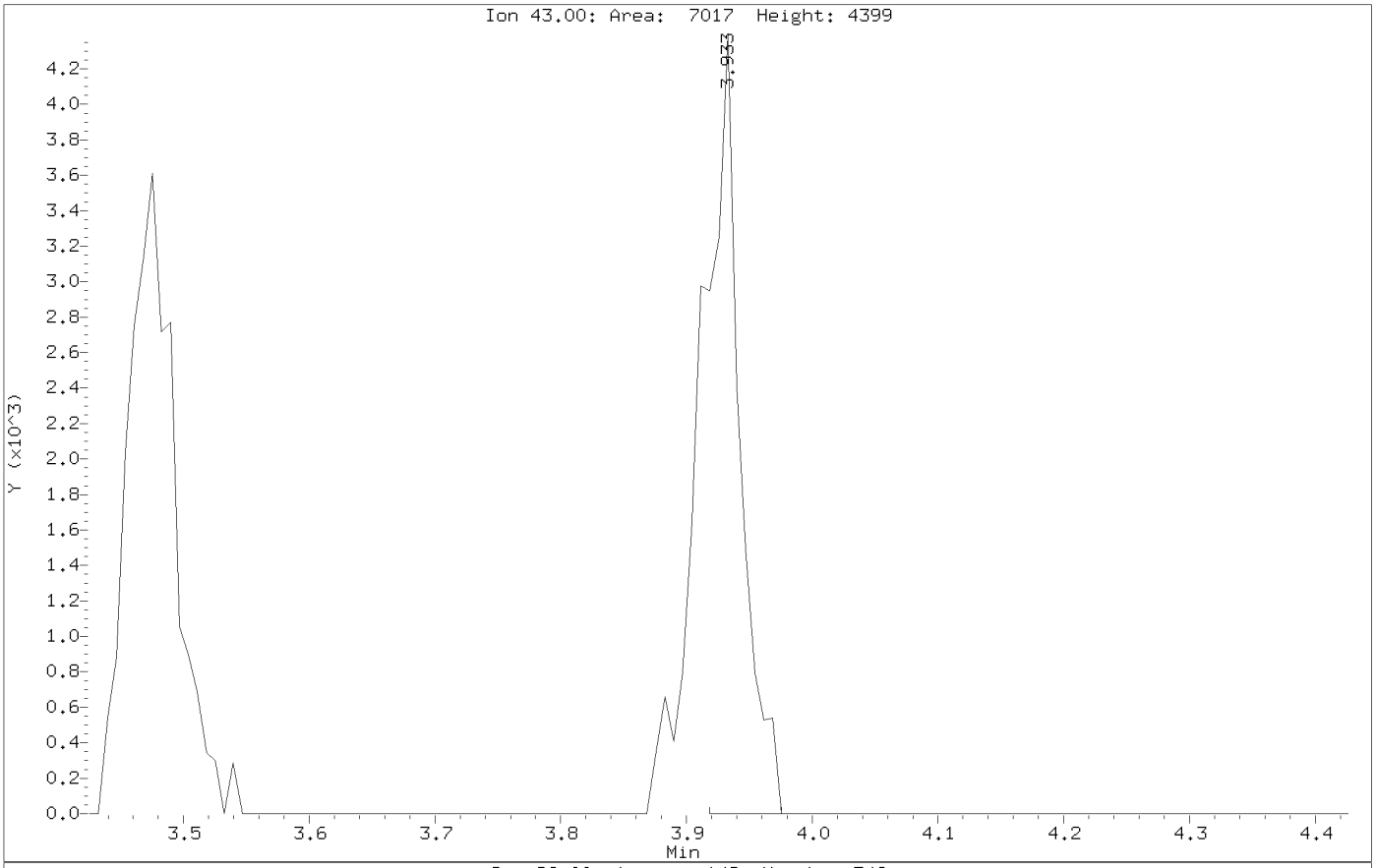
Compound: Ethyl tertiary-butyl ether
CAS Number: 637-92-3

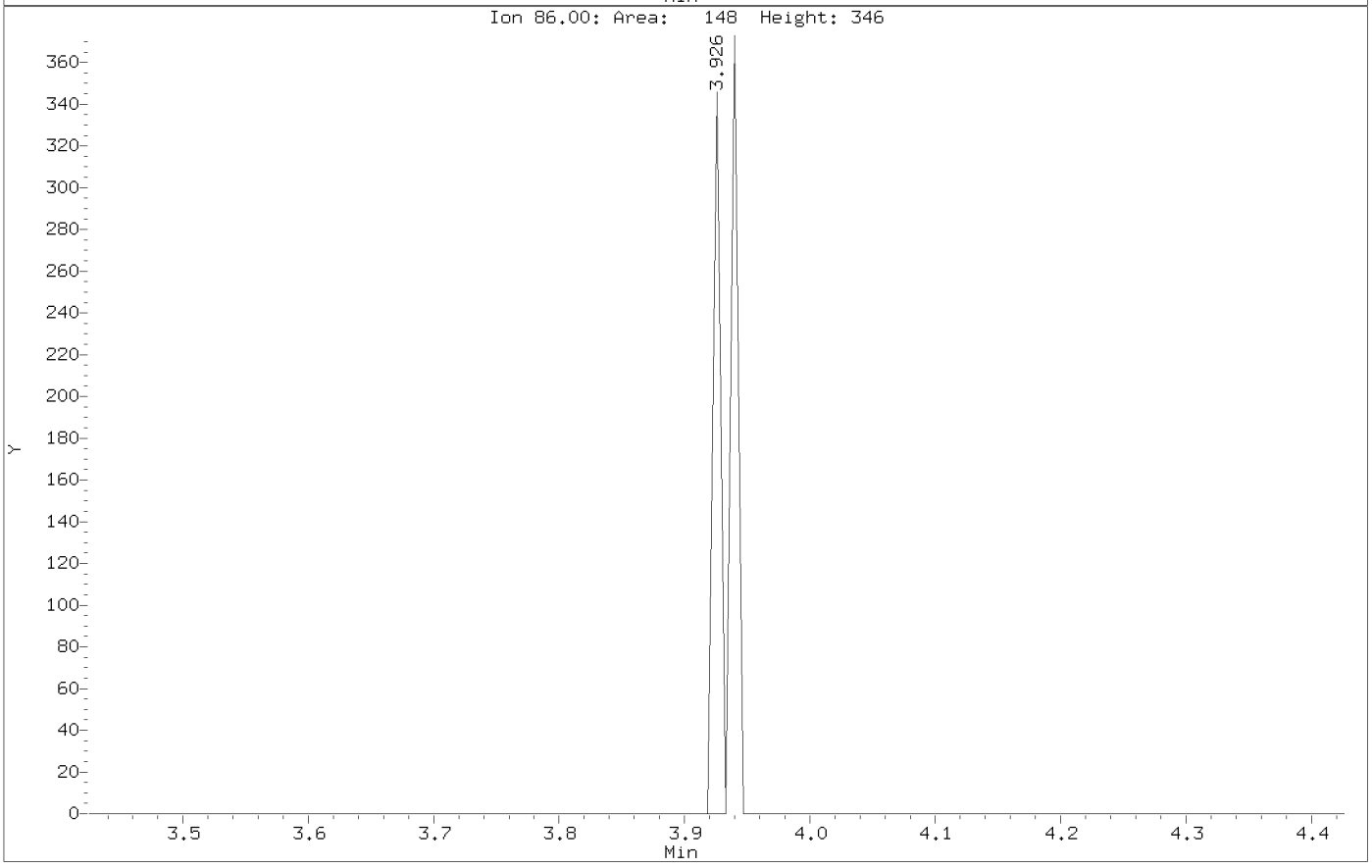


Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Vinyl Acetate
CAS Number: 108-05-4

BEFORE MANUAL INTEGRATION

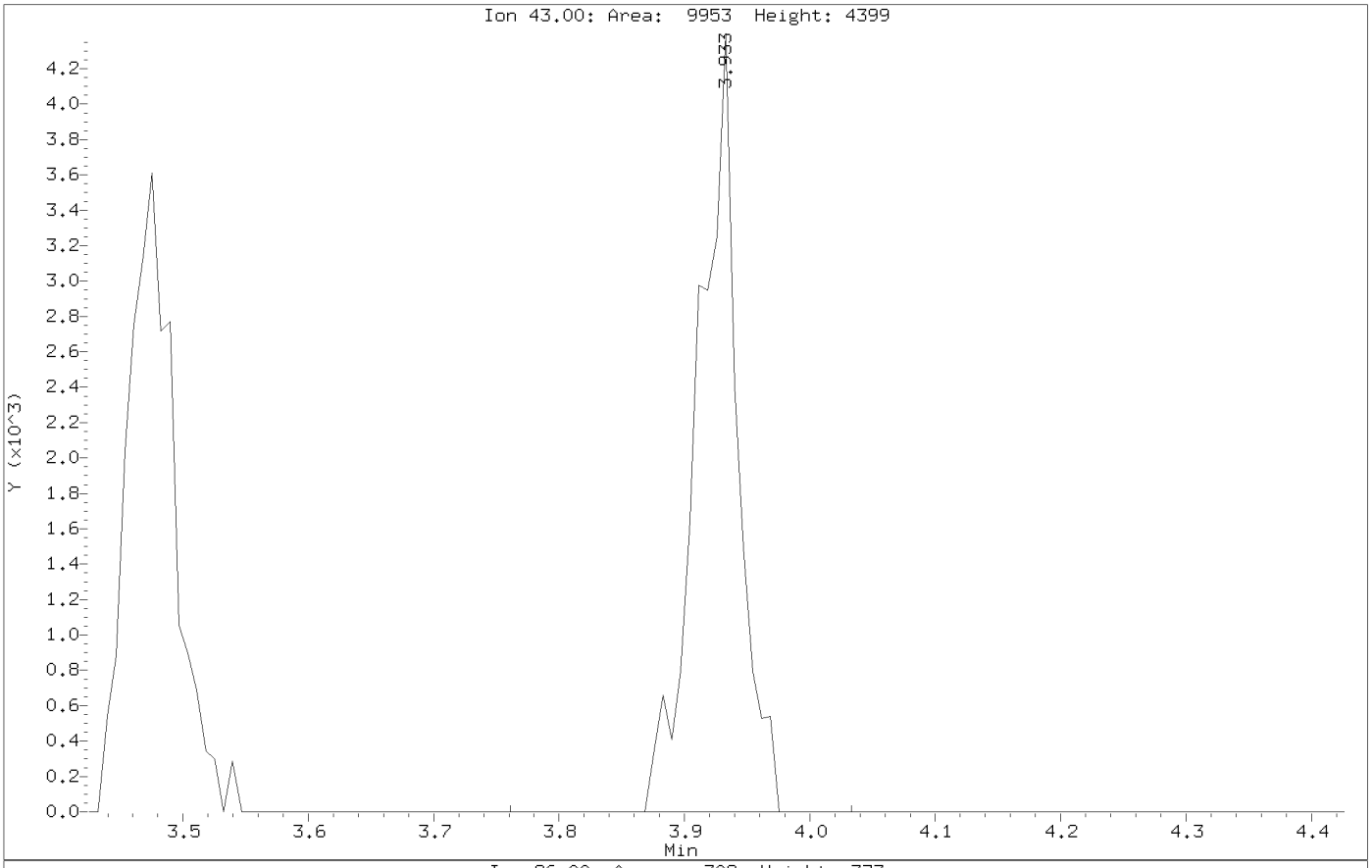


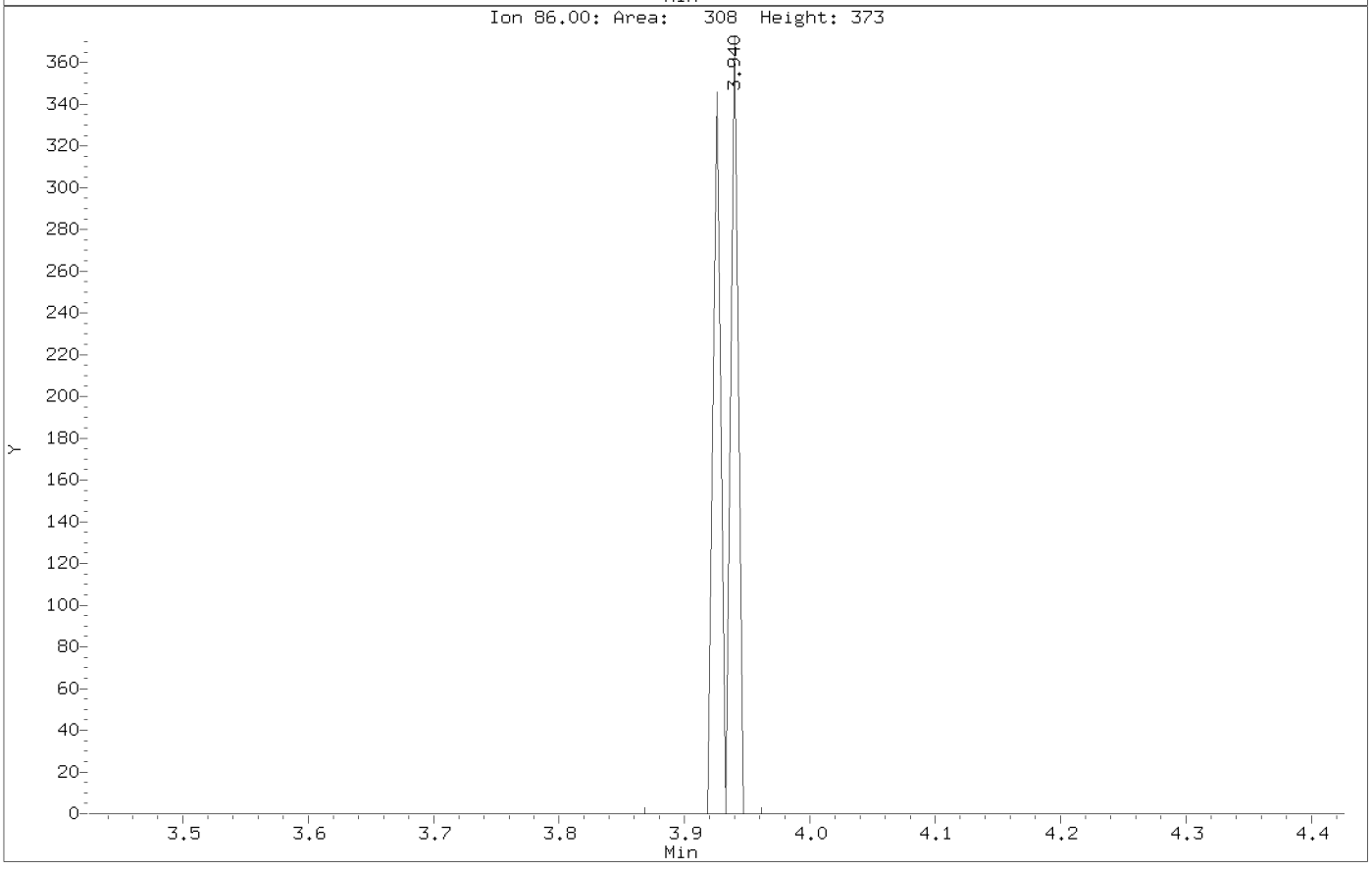


Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Vinyl Acetate
CAS Number: 108-05-4

AFTER MANUAL INTEGRATION

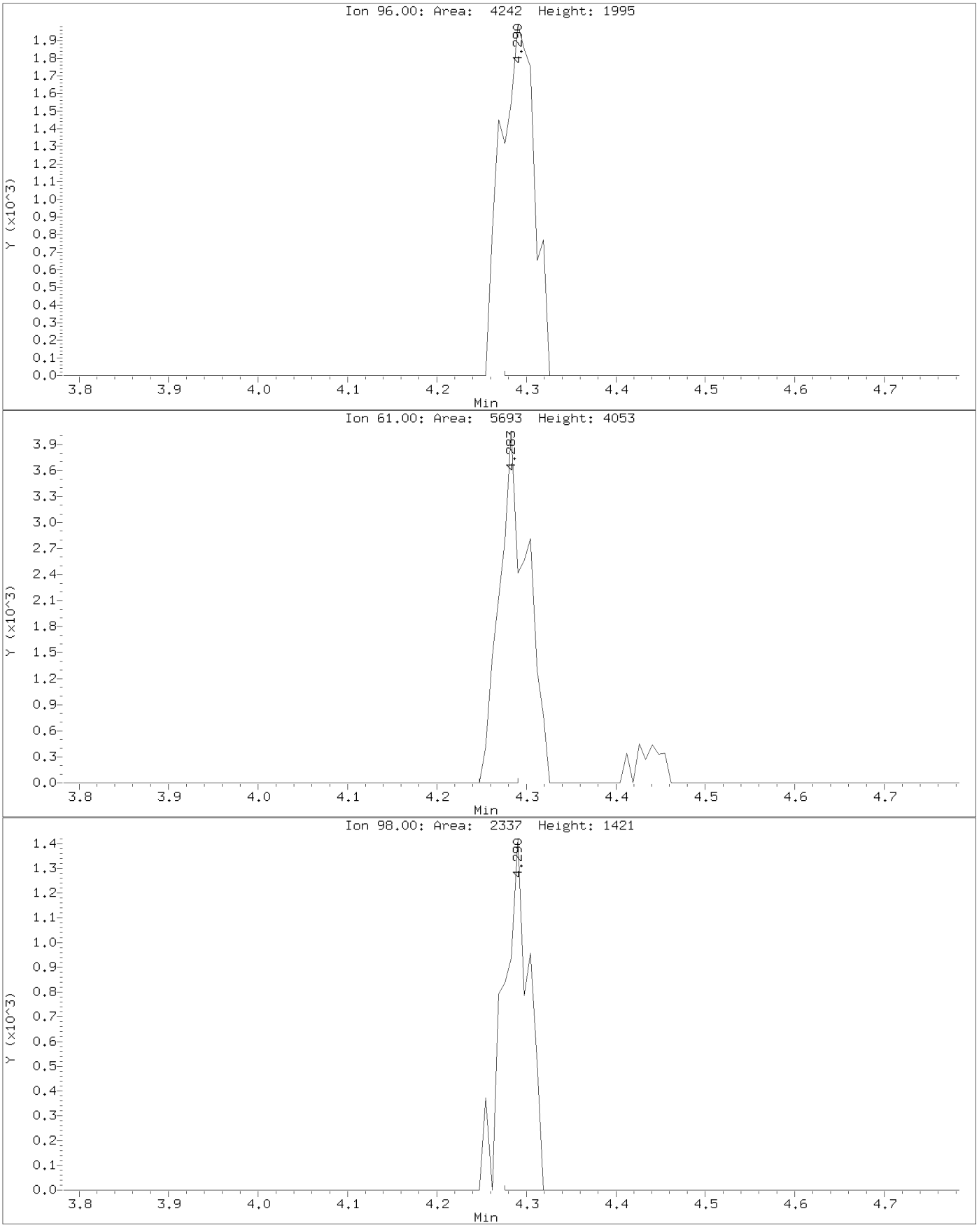




Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2

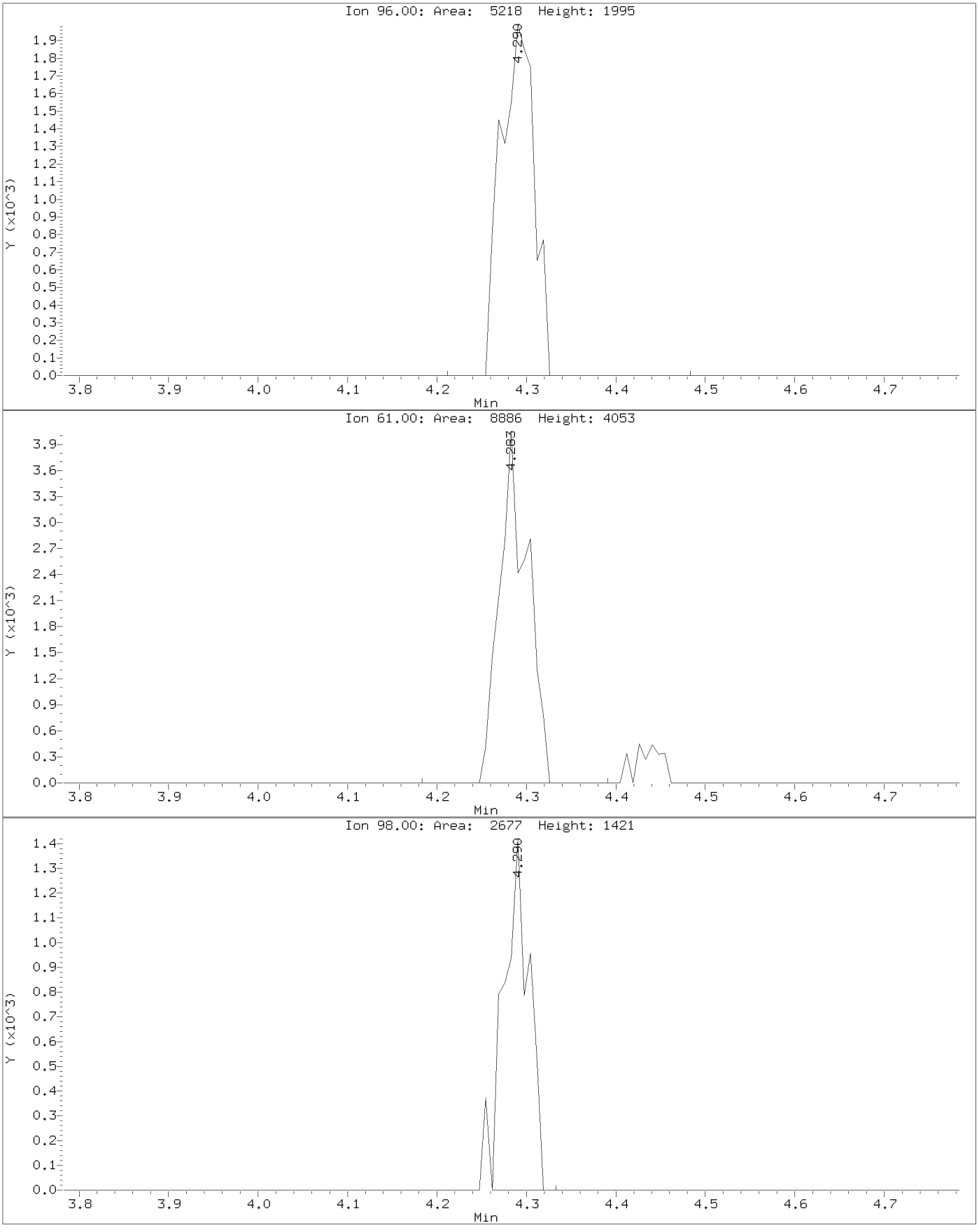
BEFORE MANUAL INTEGRATION



AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

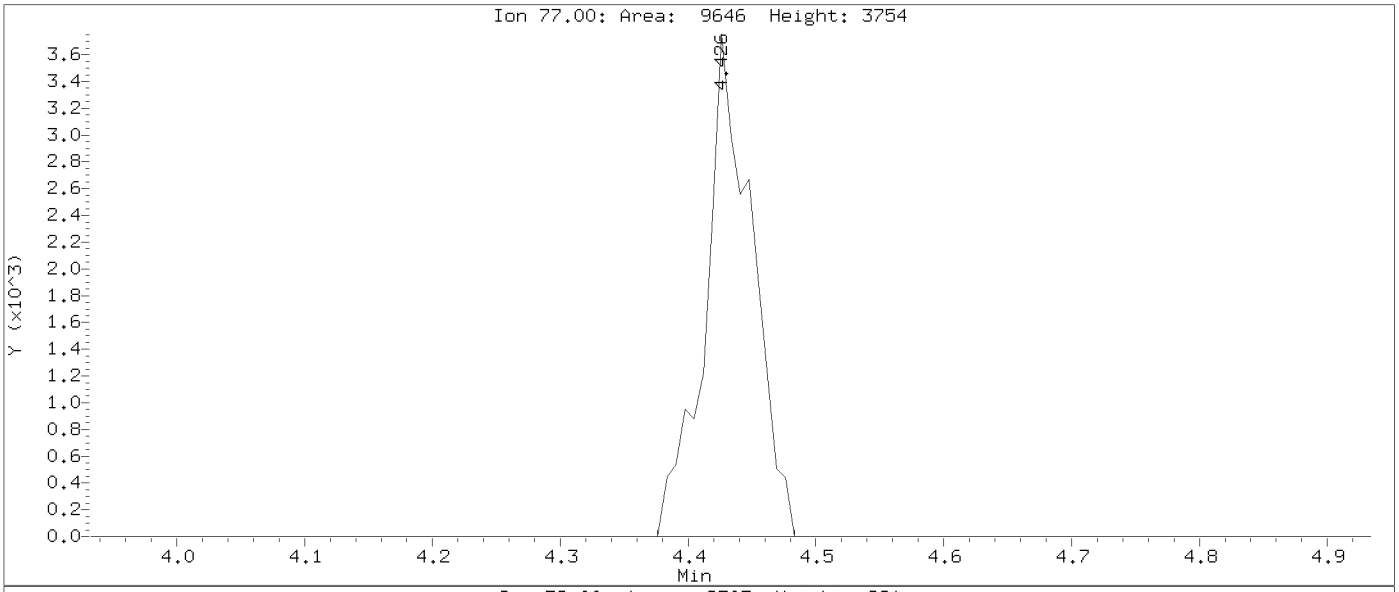
Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2

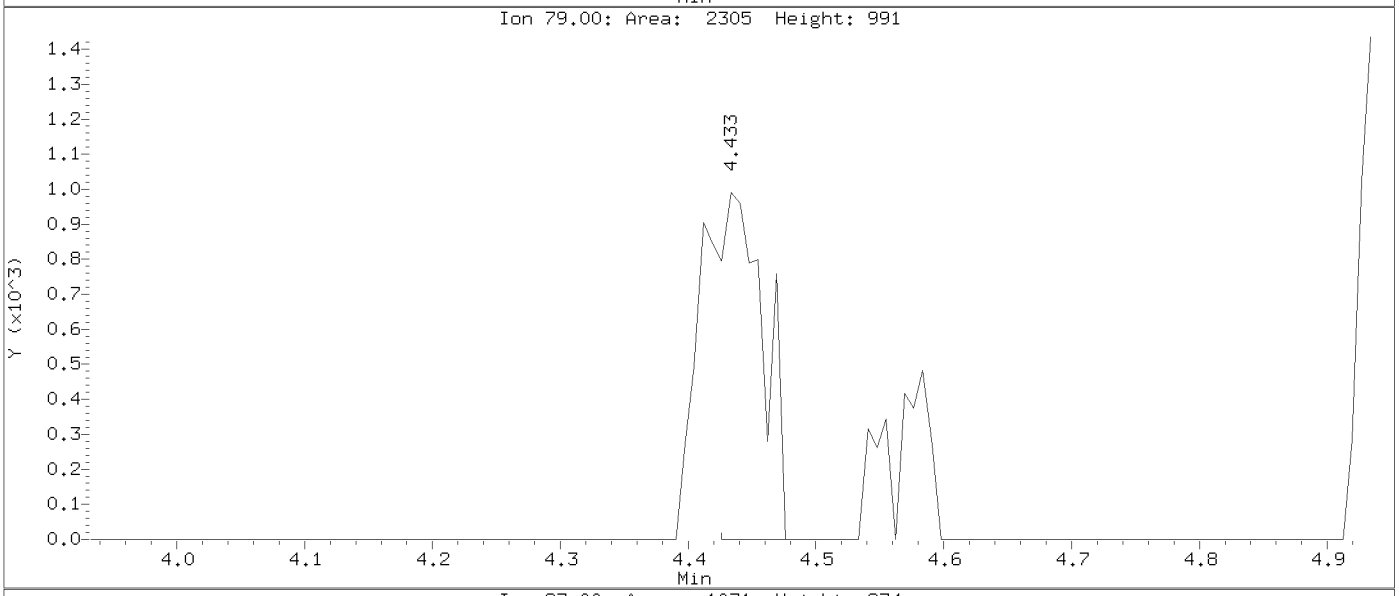


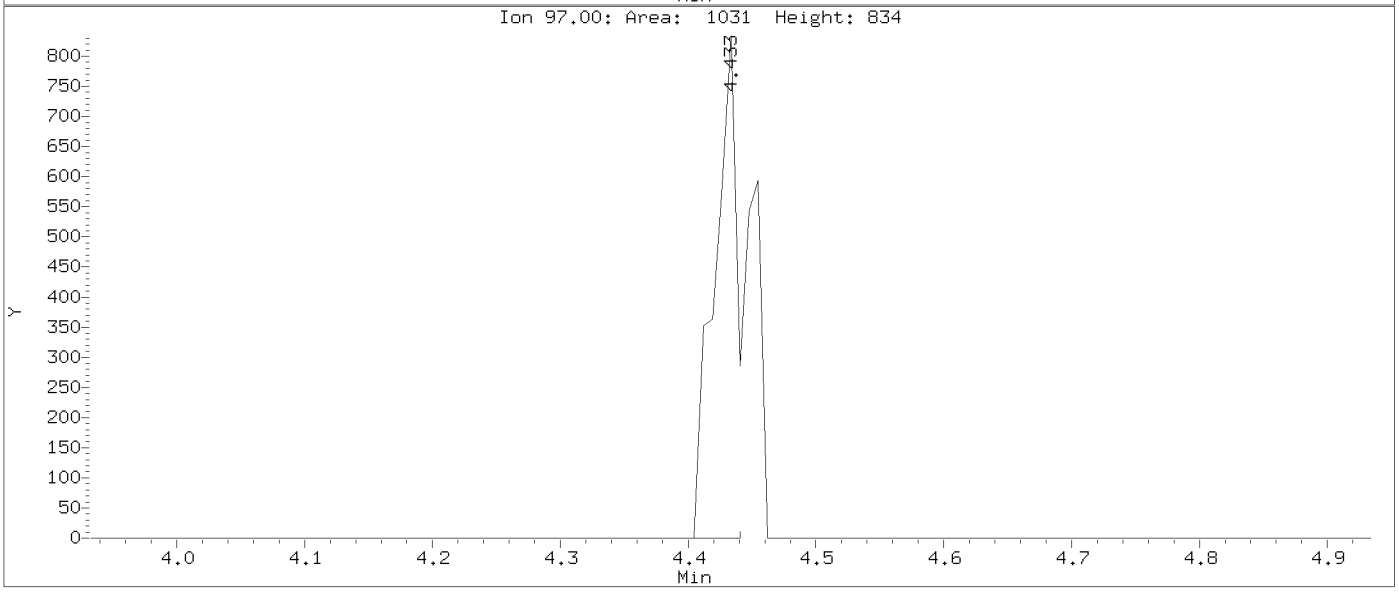
BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 2,2-Dichloropropane
CAS Number: 594-20-7



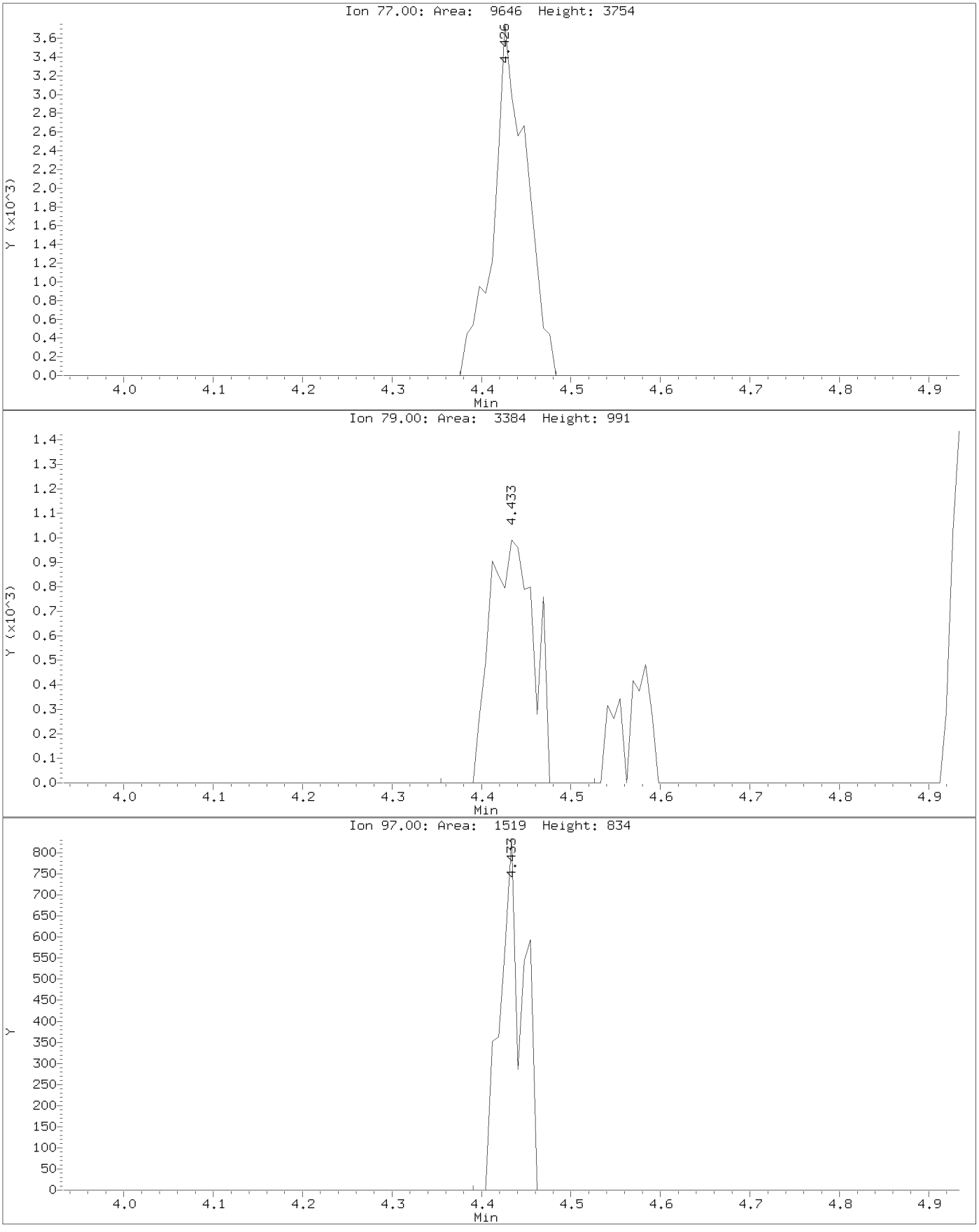




AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

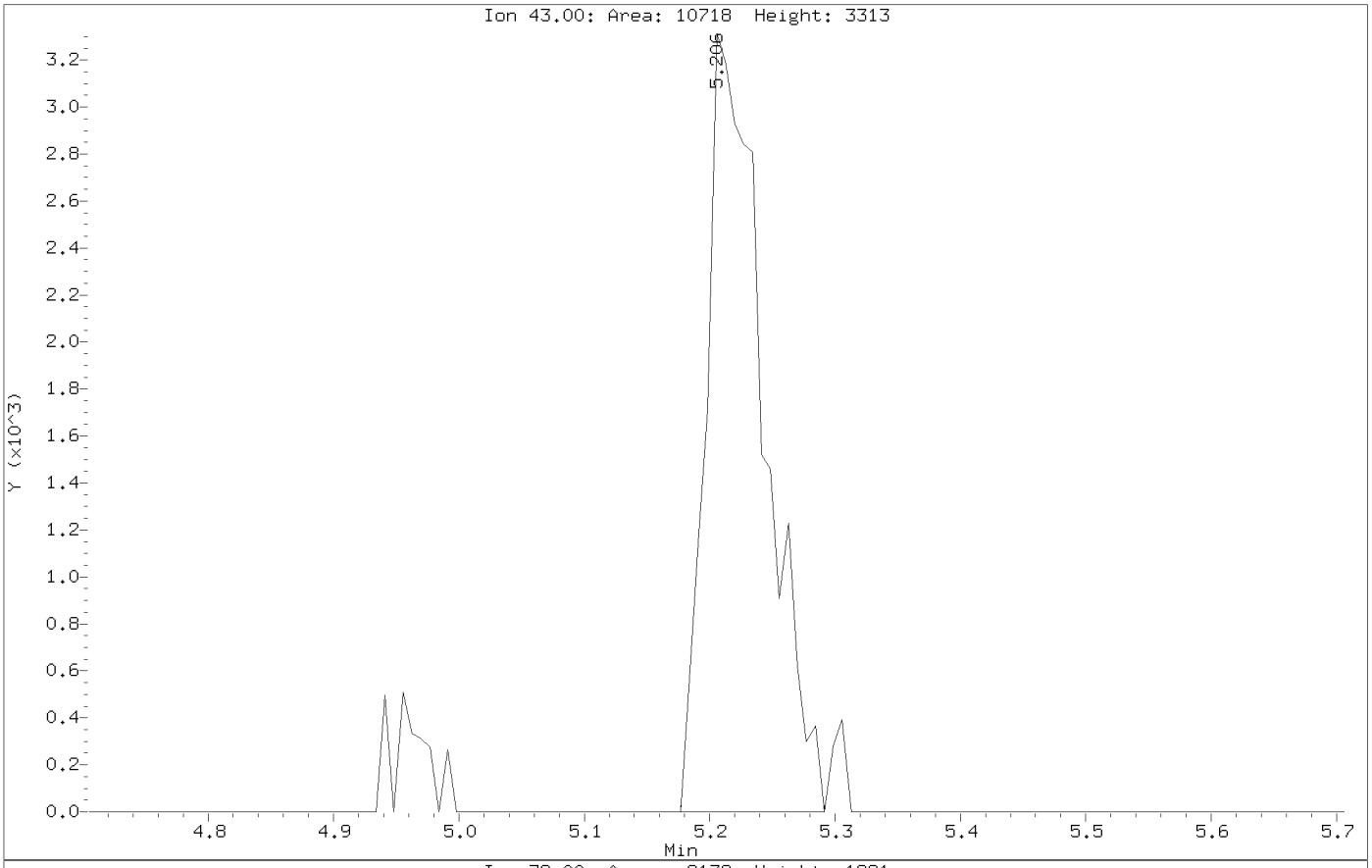
Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

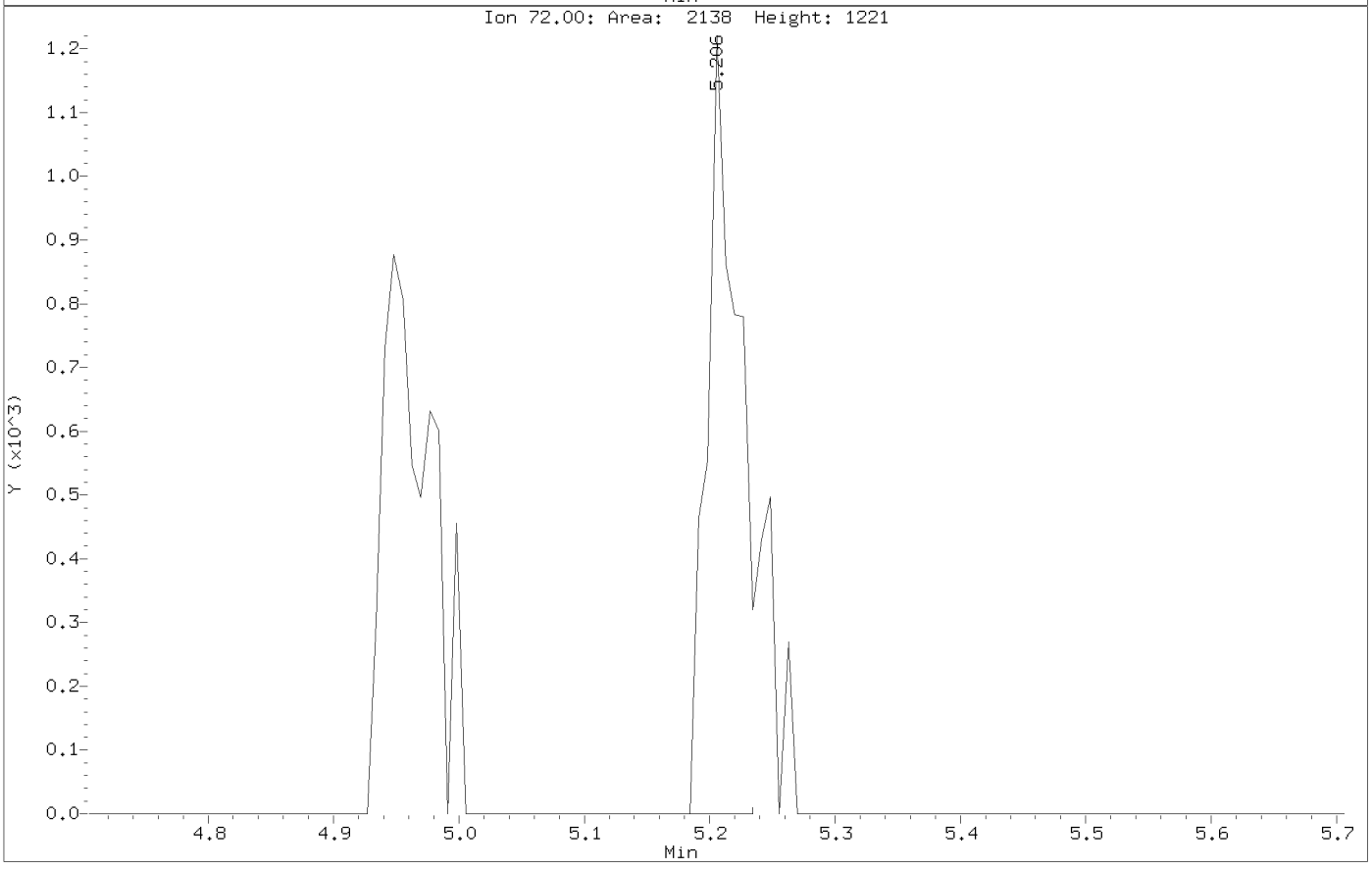


Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 2-Butanone
CAS Number: 78-93-3

BEFORE MANUAL INTEGRATION

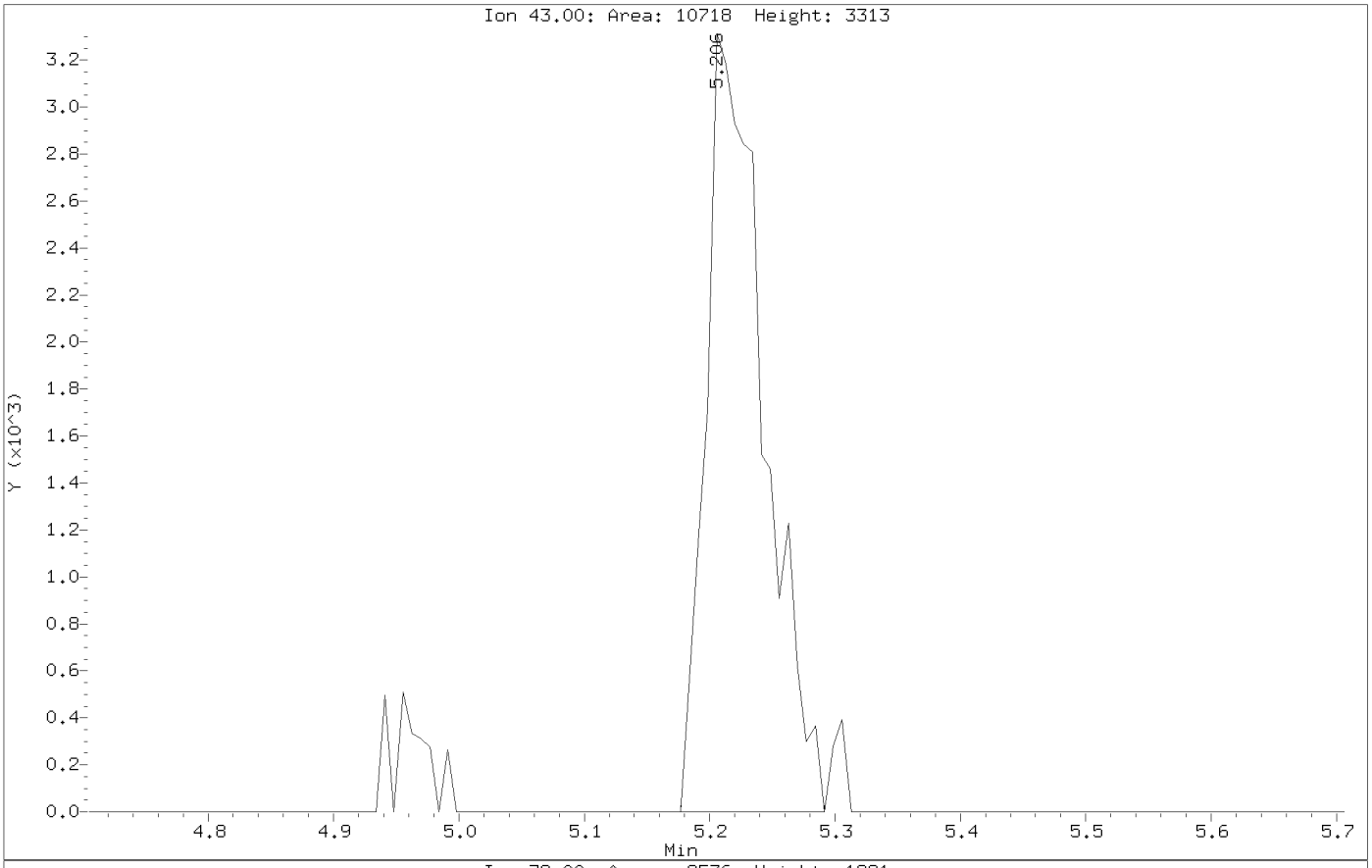


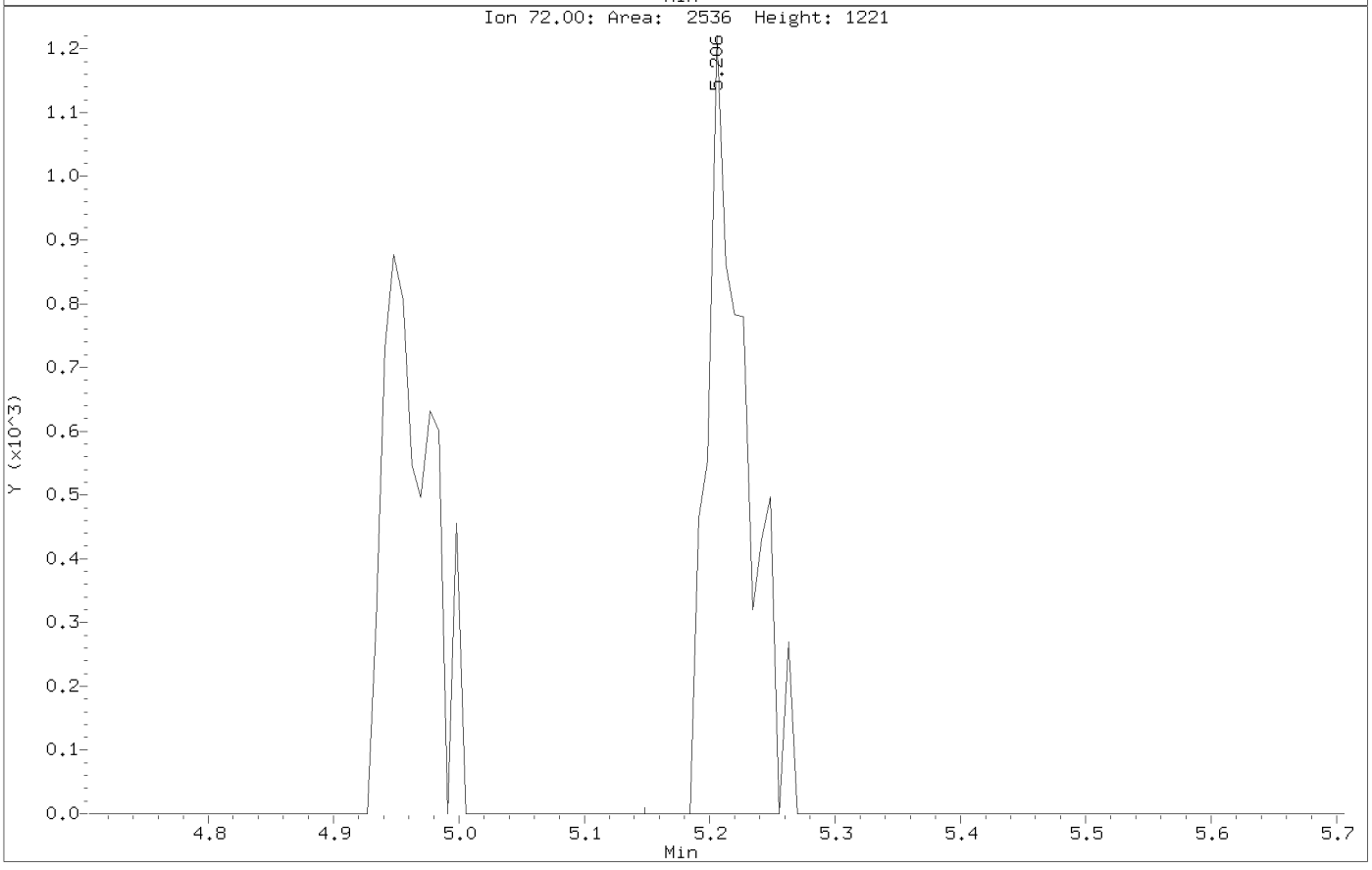


Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 2-Butanone
CAS Number: 78-93-3

AFTER MANUAL INTEGRATION

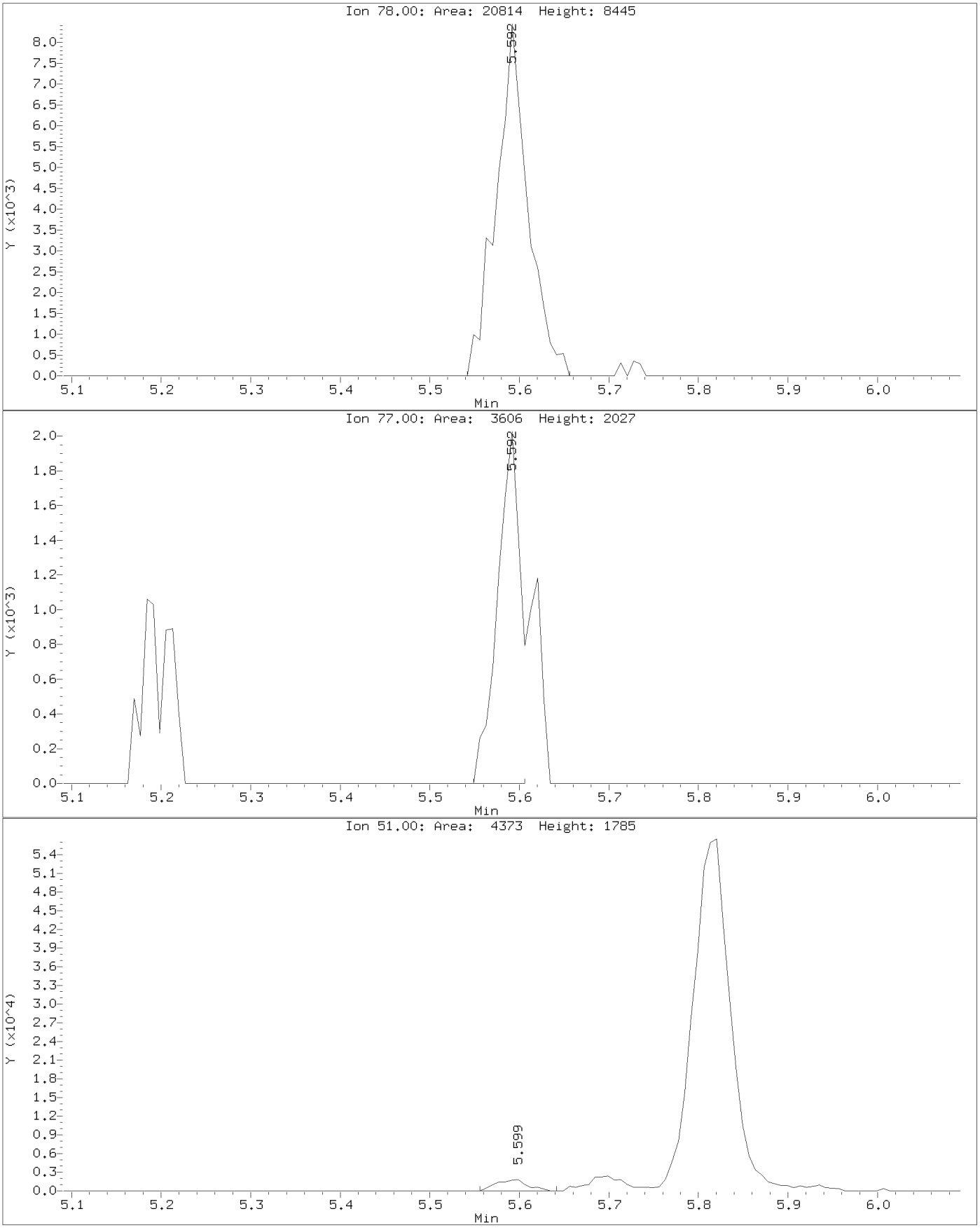




BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

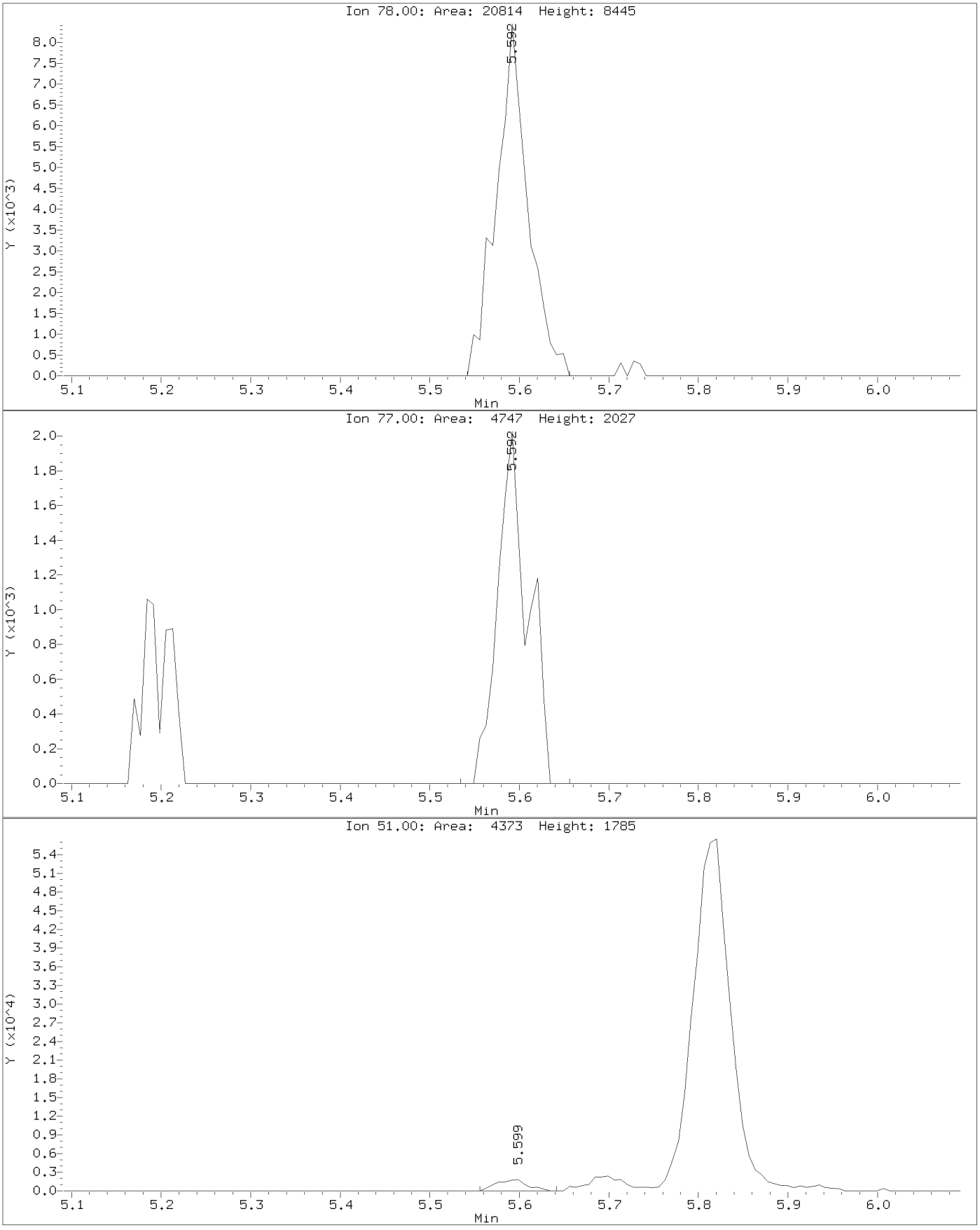
Compound: Benzene
CAS Number: 71-43-2



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Benzene
CAS Number: 71-43-2

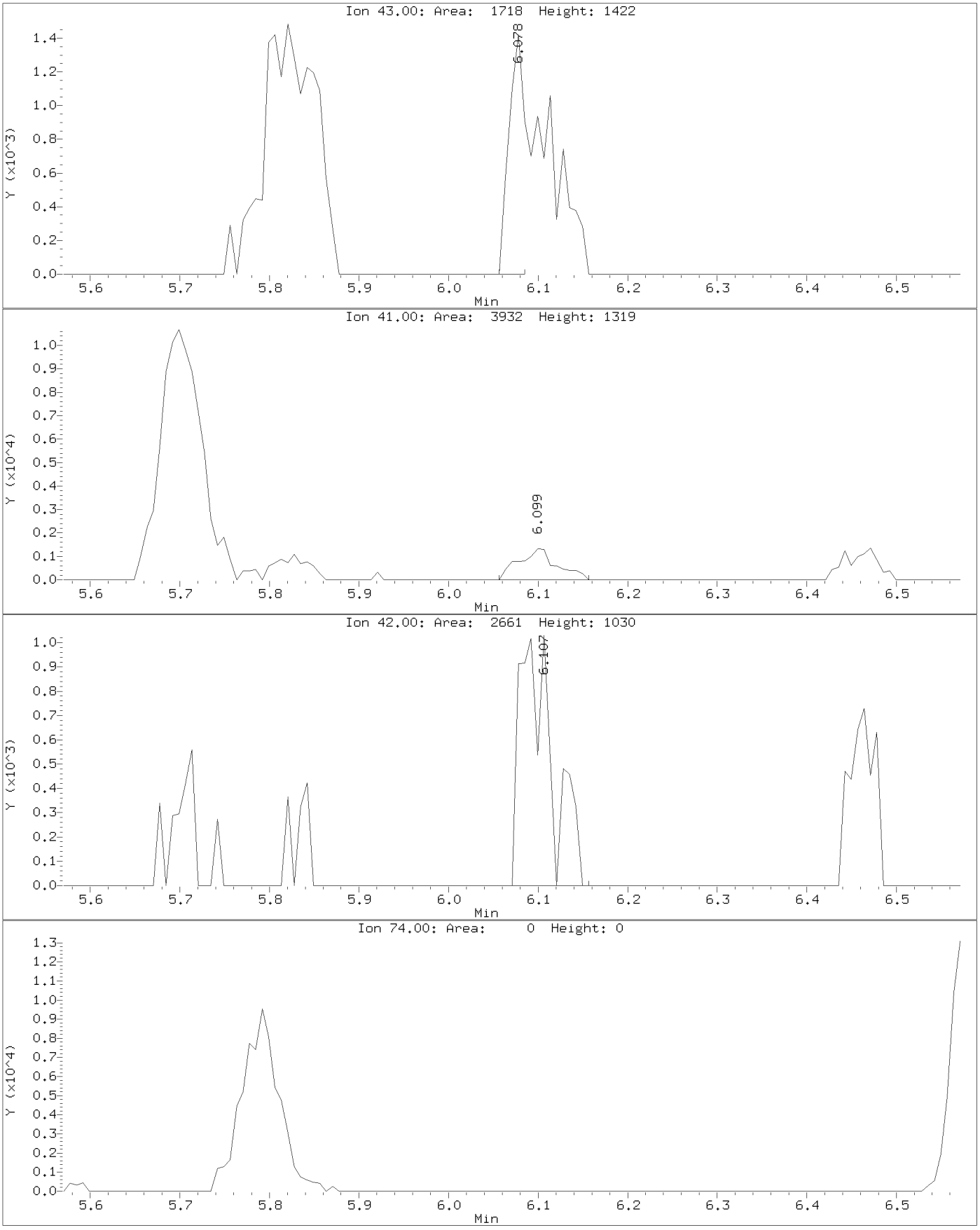
AFTER MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Isobutyl Alcohol
CAS Number: 78-83-1

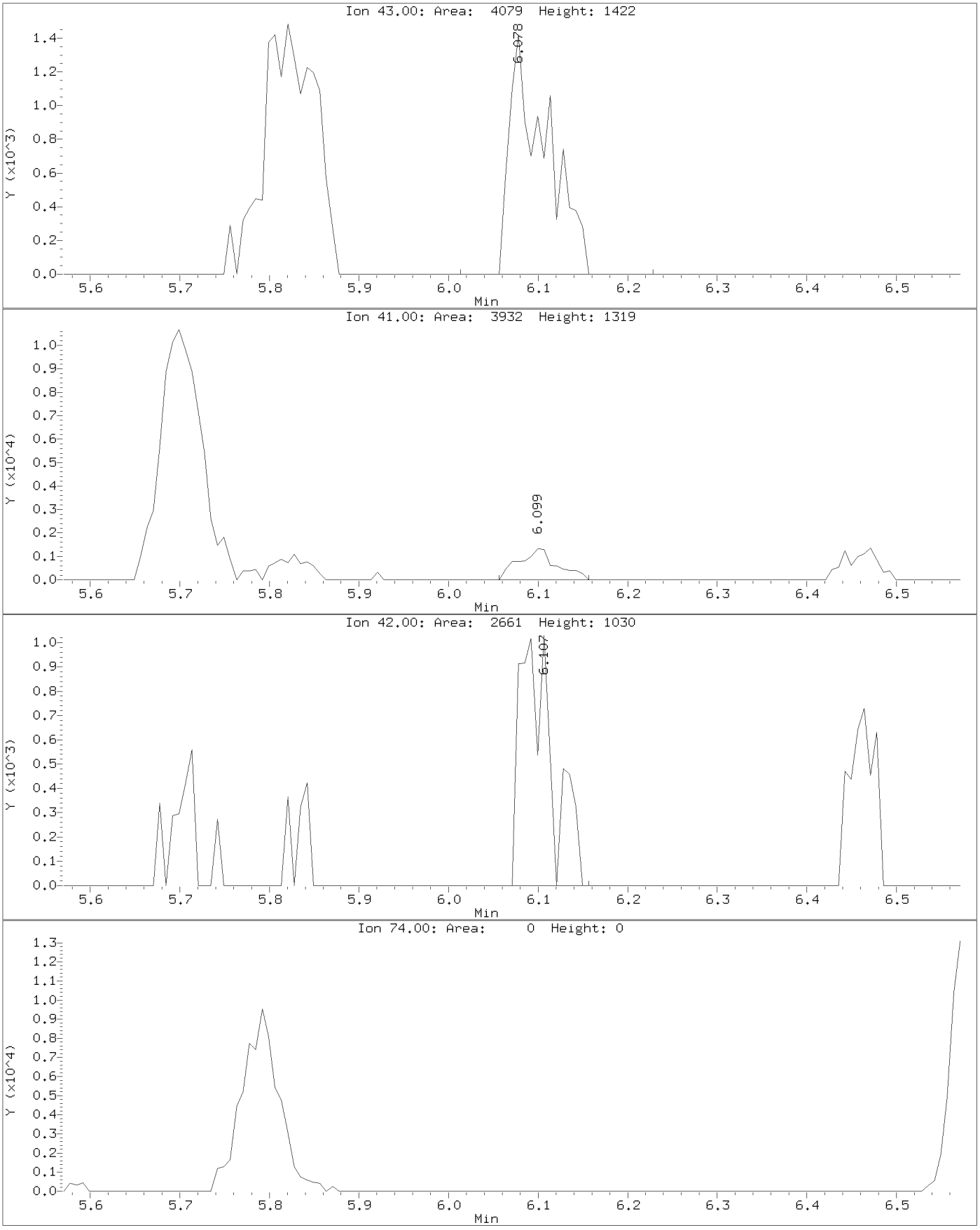
BEFORE MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Isobutyl Alcohol
CAS Number: 78-83-1

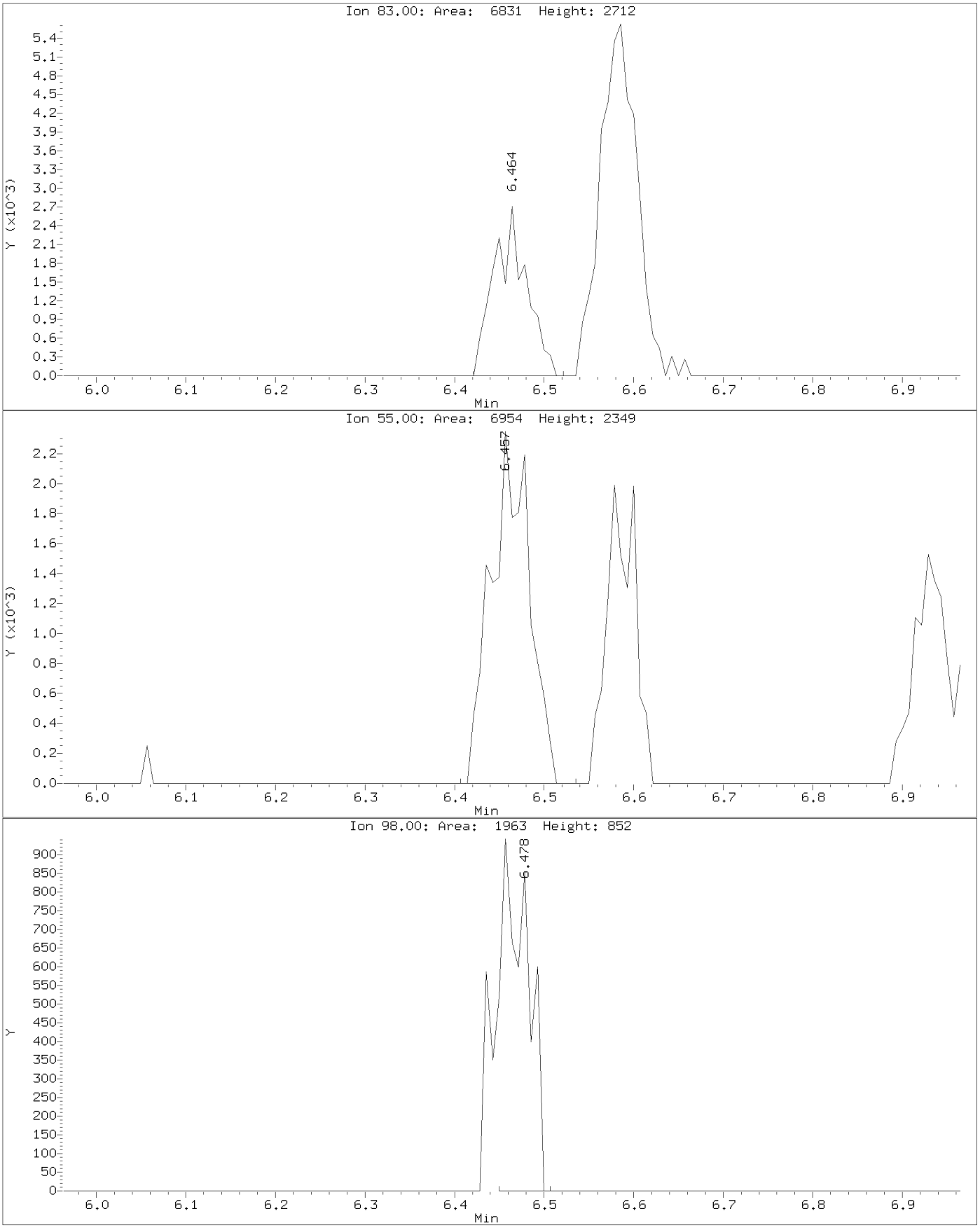
AFTER MANUAL INTEGRATION



BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

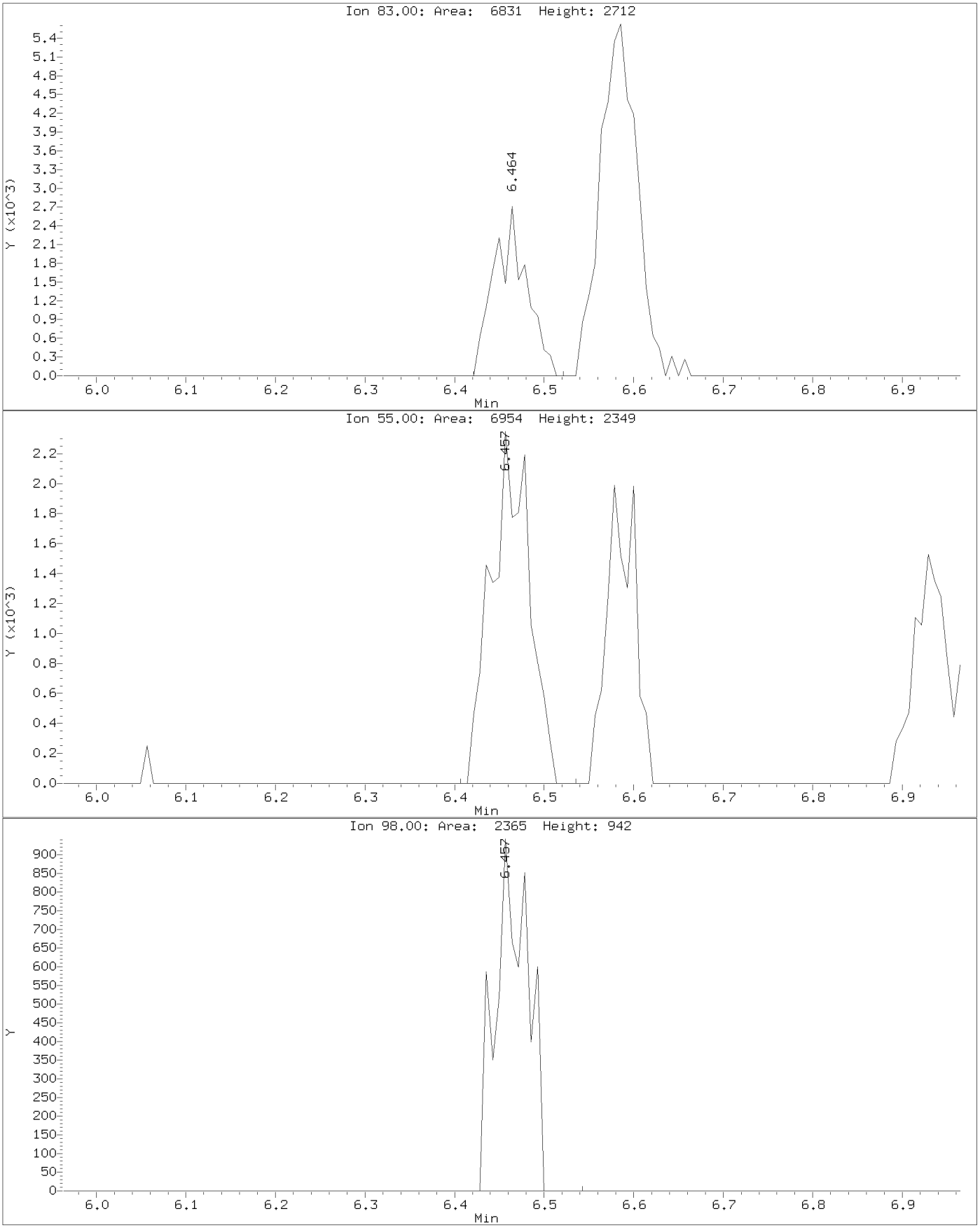
Compound: Methylcyclohexane
CAS Number: 108-87-2



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Methylcyclohexane
CAS Number: 108-87-2

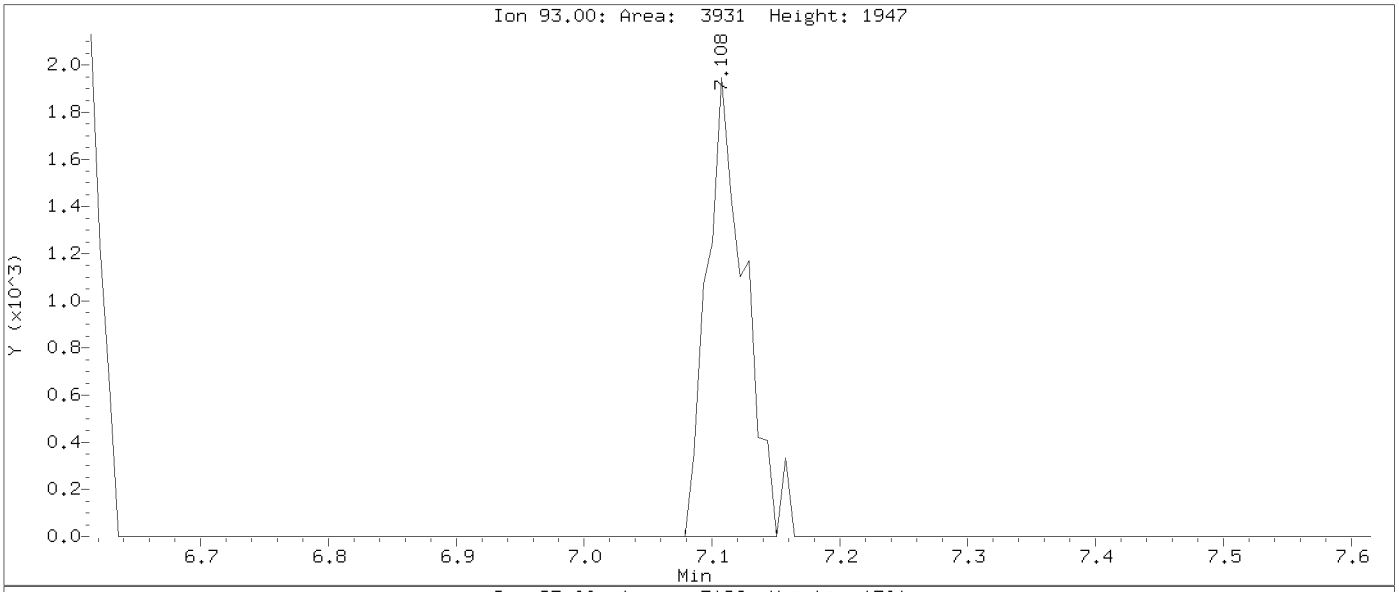
AFTER MANUAL INTEGRATION

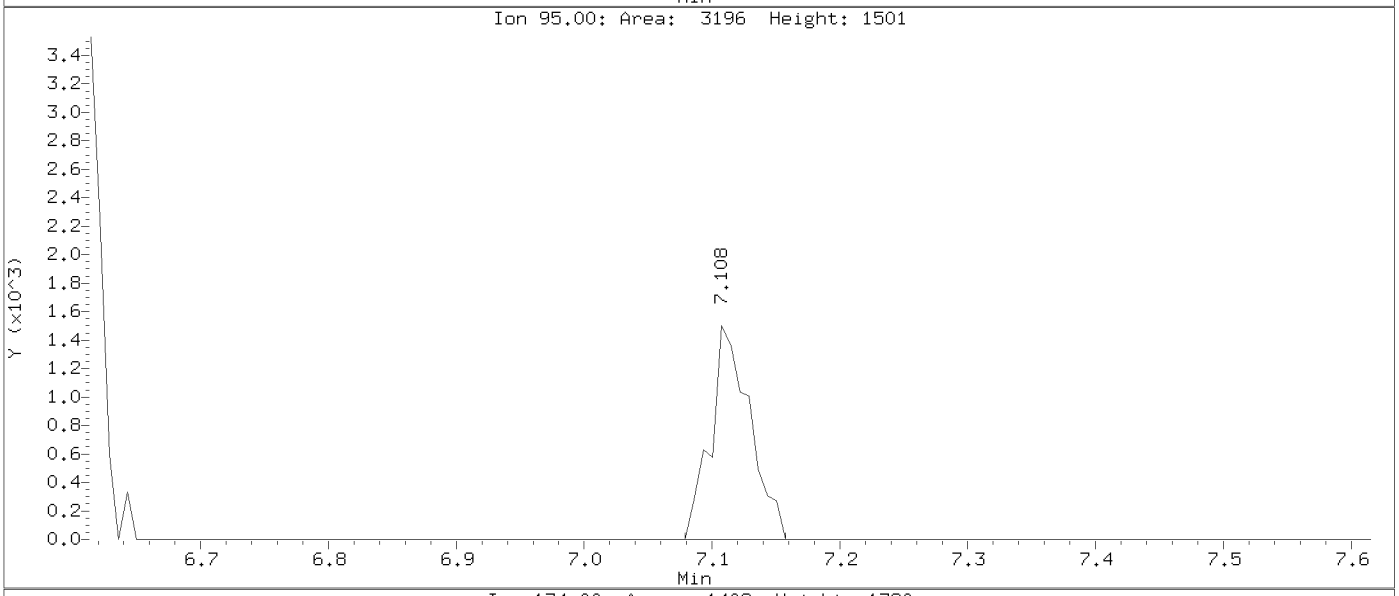


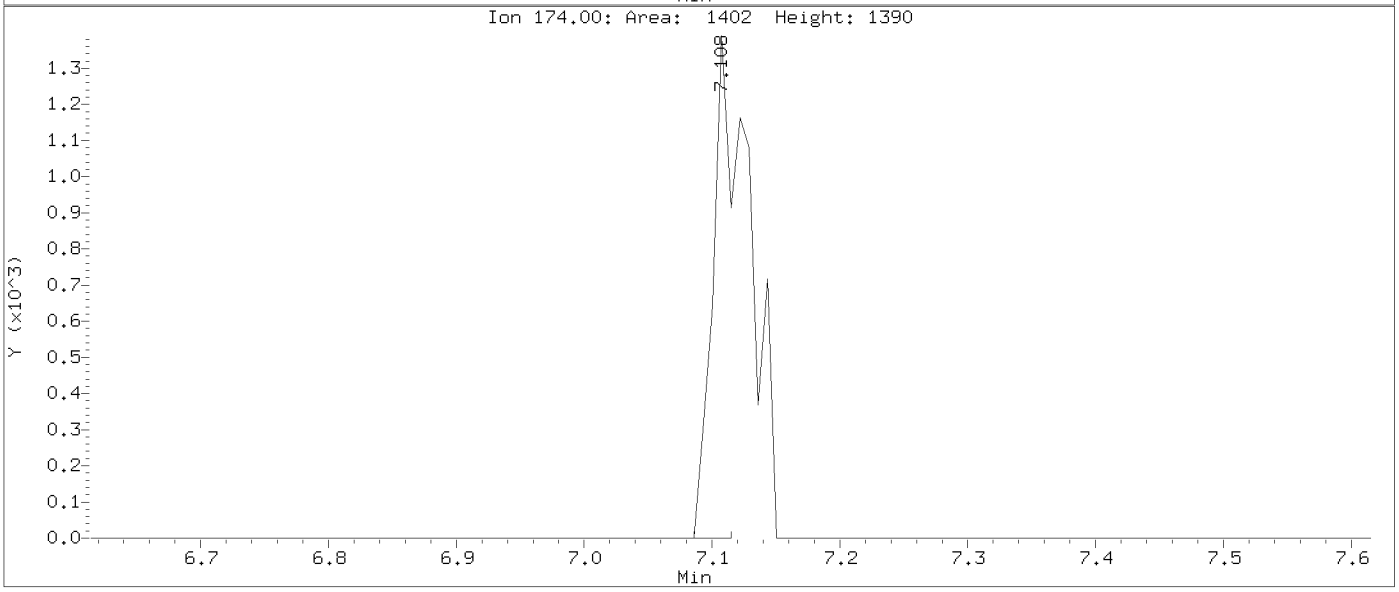
BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Dibromomethane
CAS Number: 74-95-3



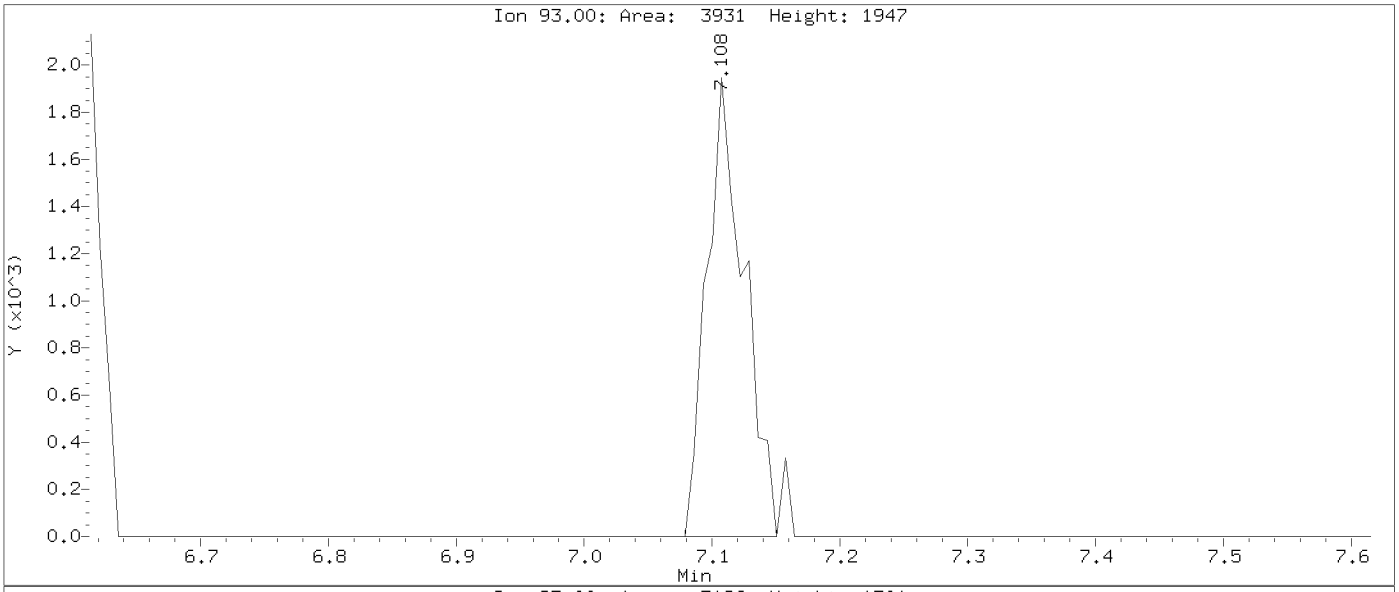


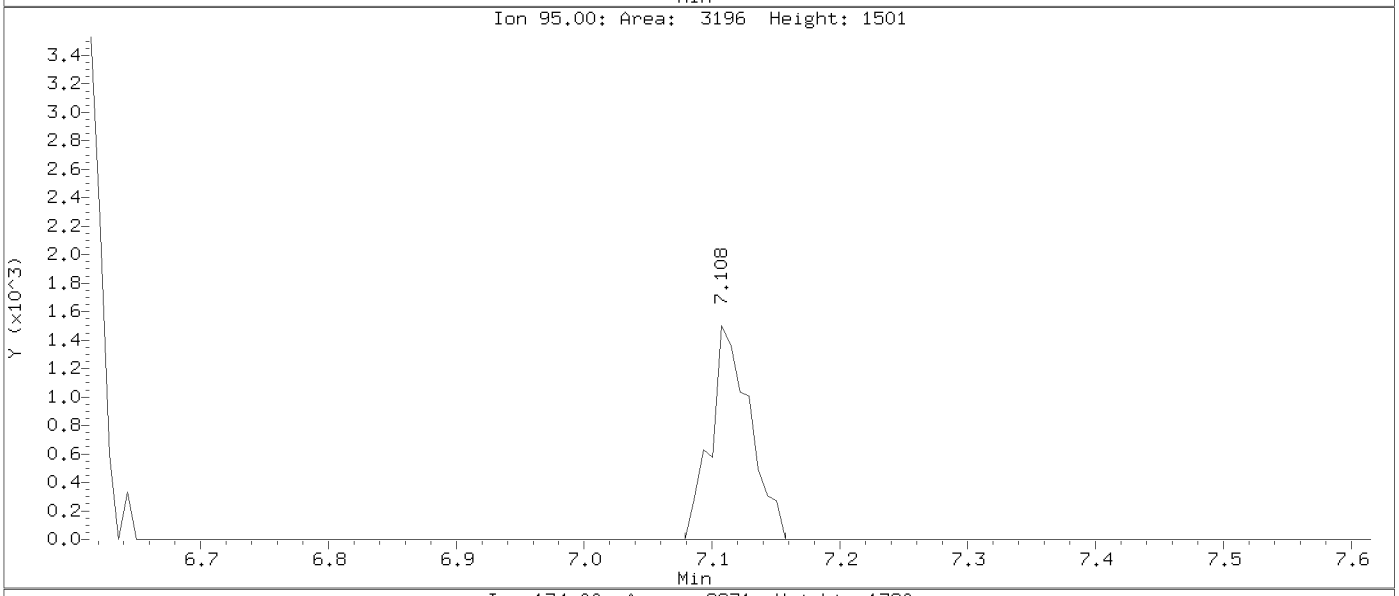


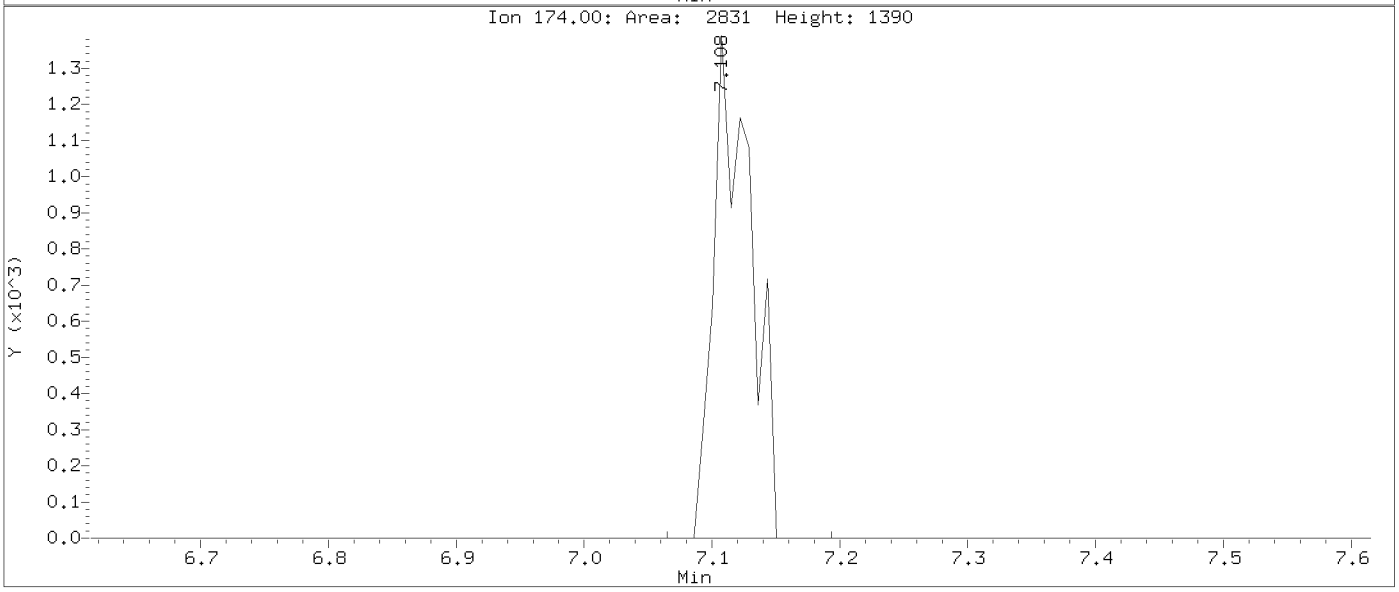
AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Dibromomethane
CAS Number: 74-95-3



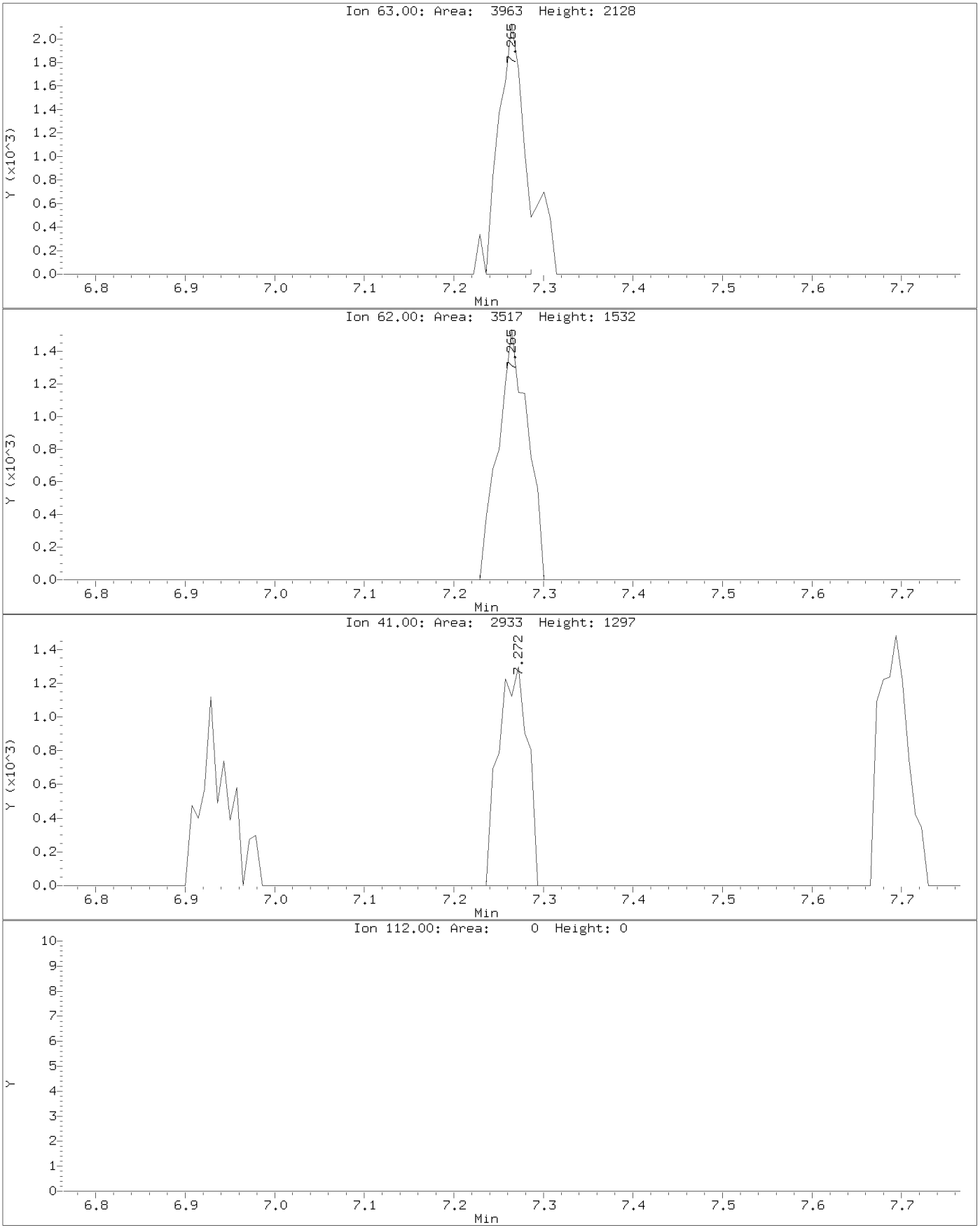




Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

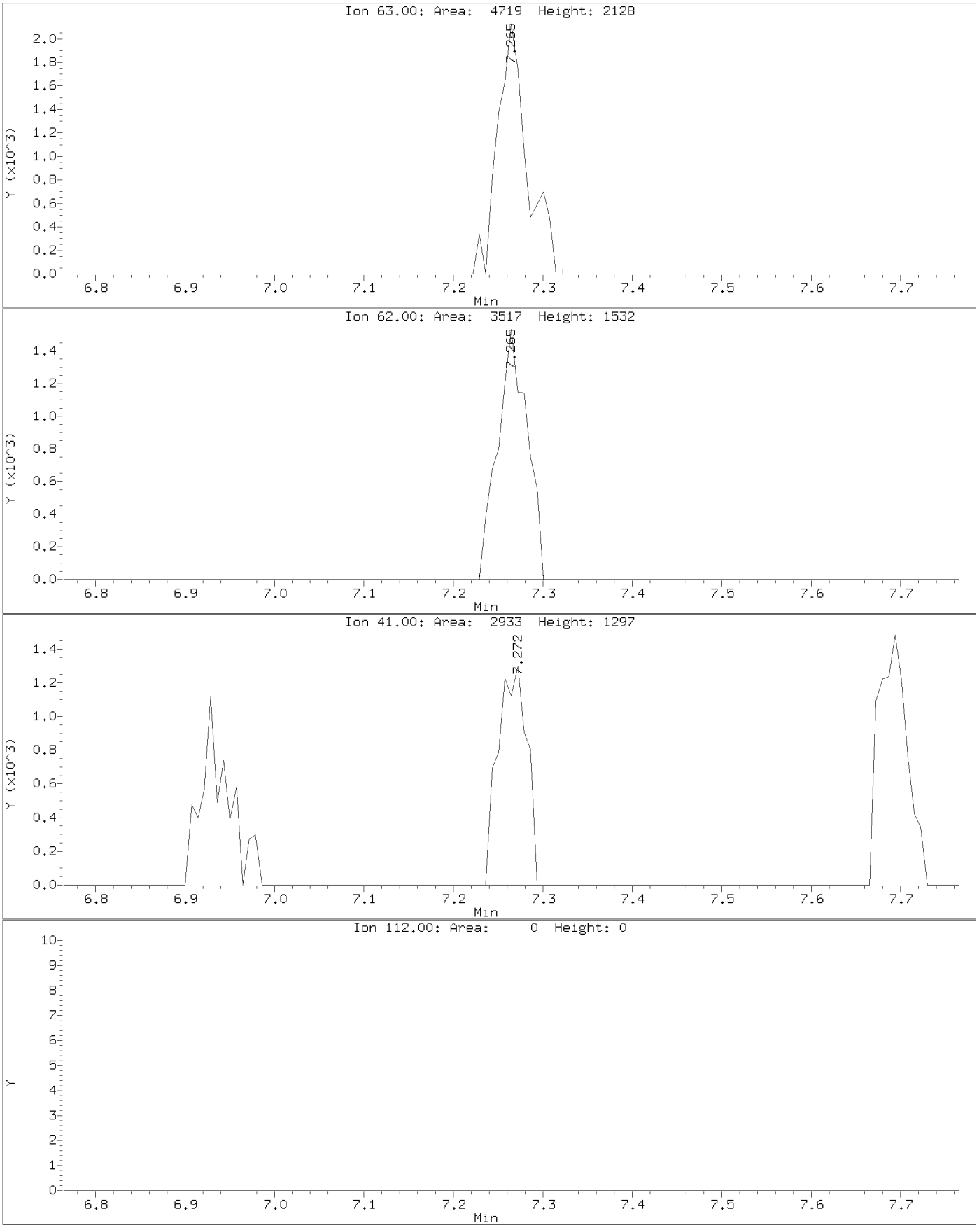
BEFORE MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

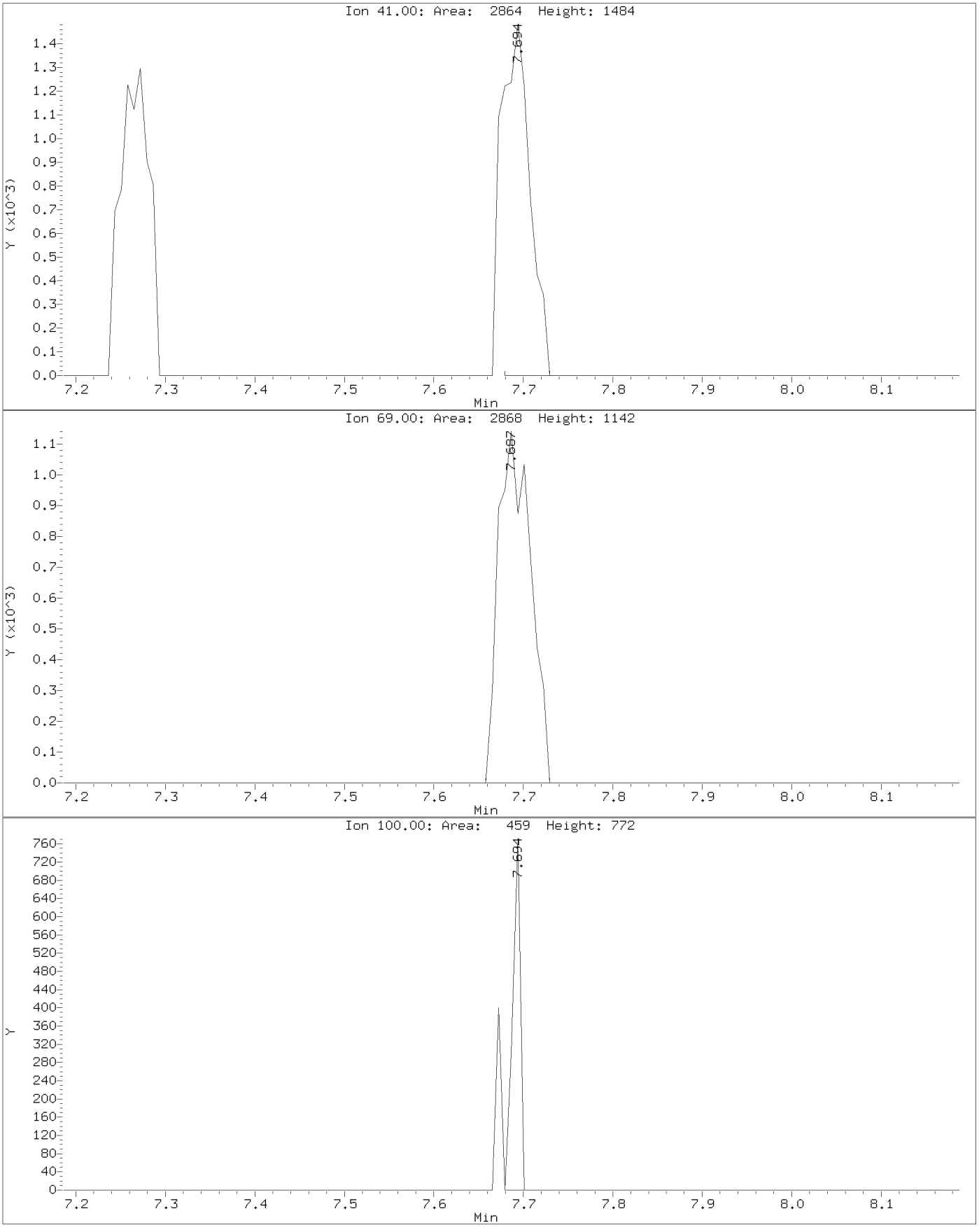
AFTER MANUAL INTEGRATION



BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

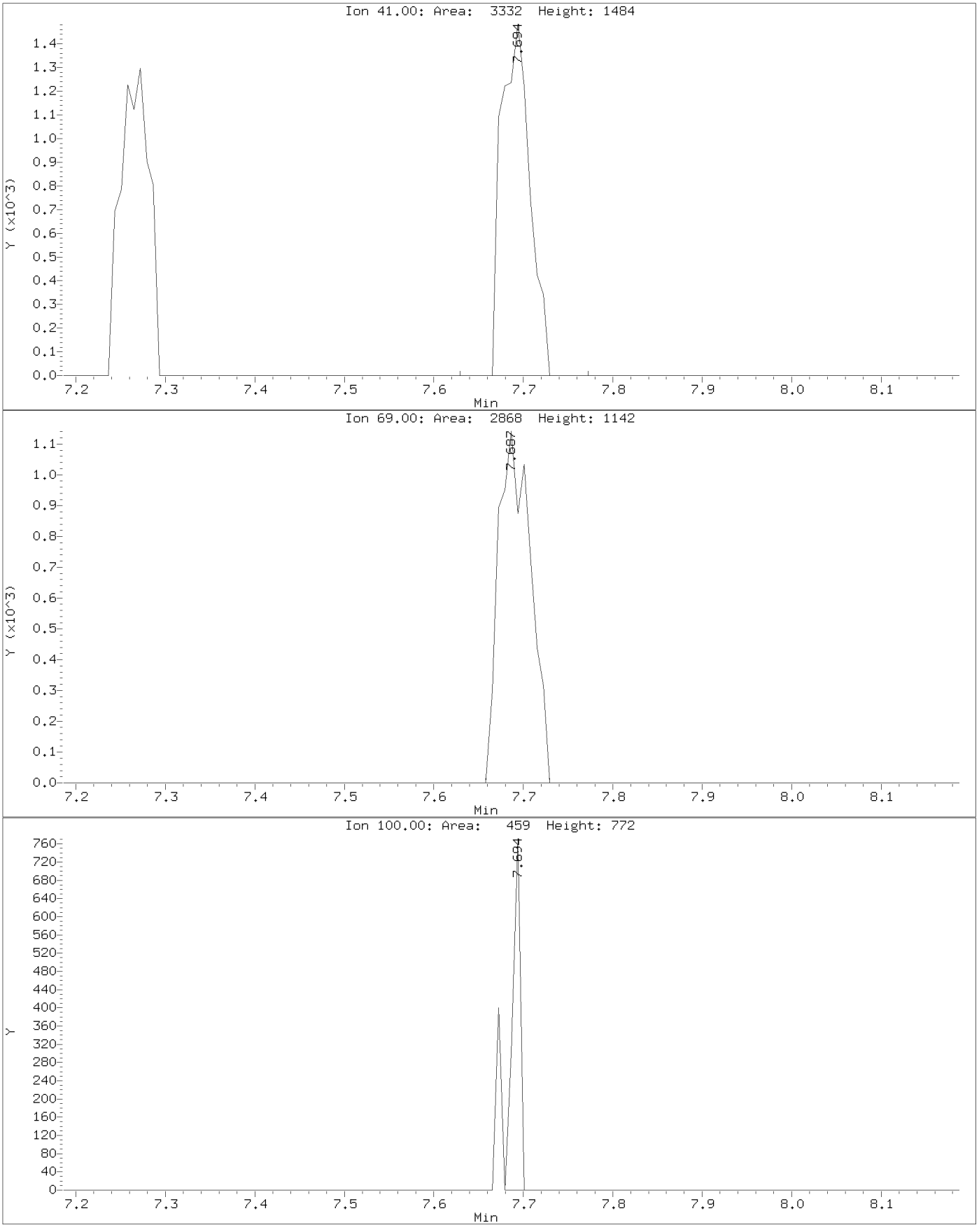
Compound: Methyl Methacrylate
CAS Number: 80-62-6



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Methyl Methacrylate
CAS Number: 80-62-6

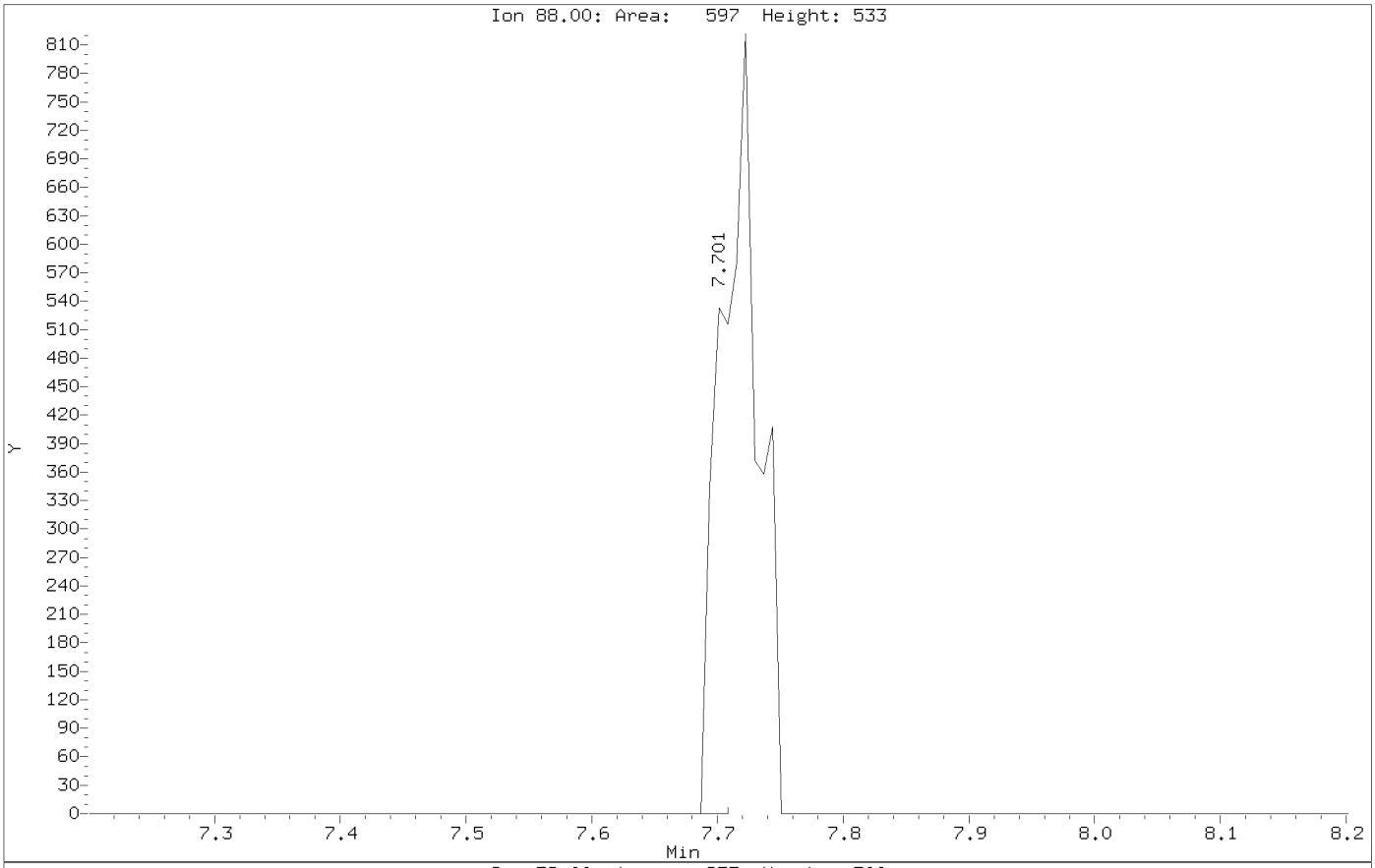
AFTER MANUAL INTEGRATION

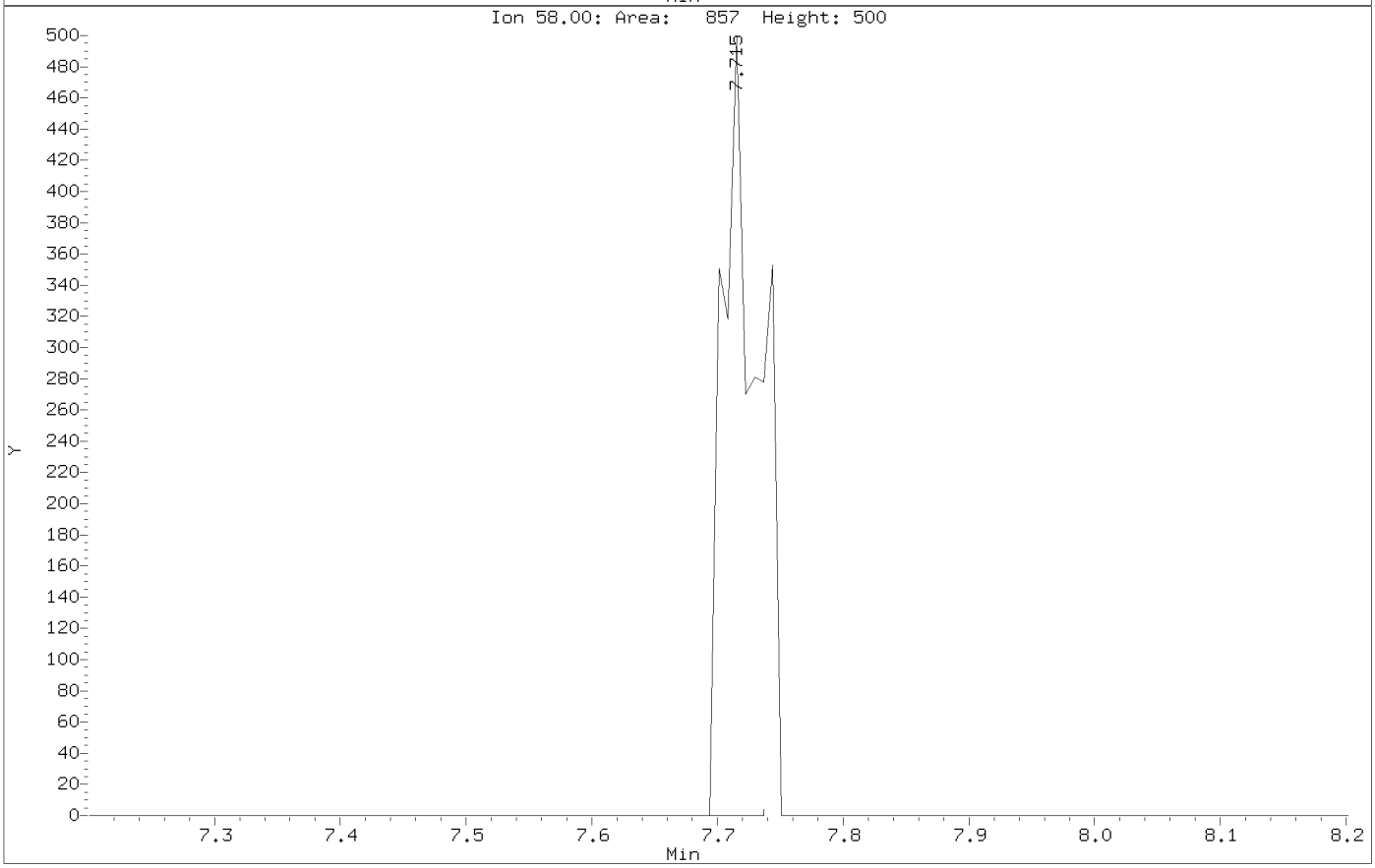


BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 1,4-Dioxane
CAS Number: 123-91-1

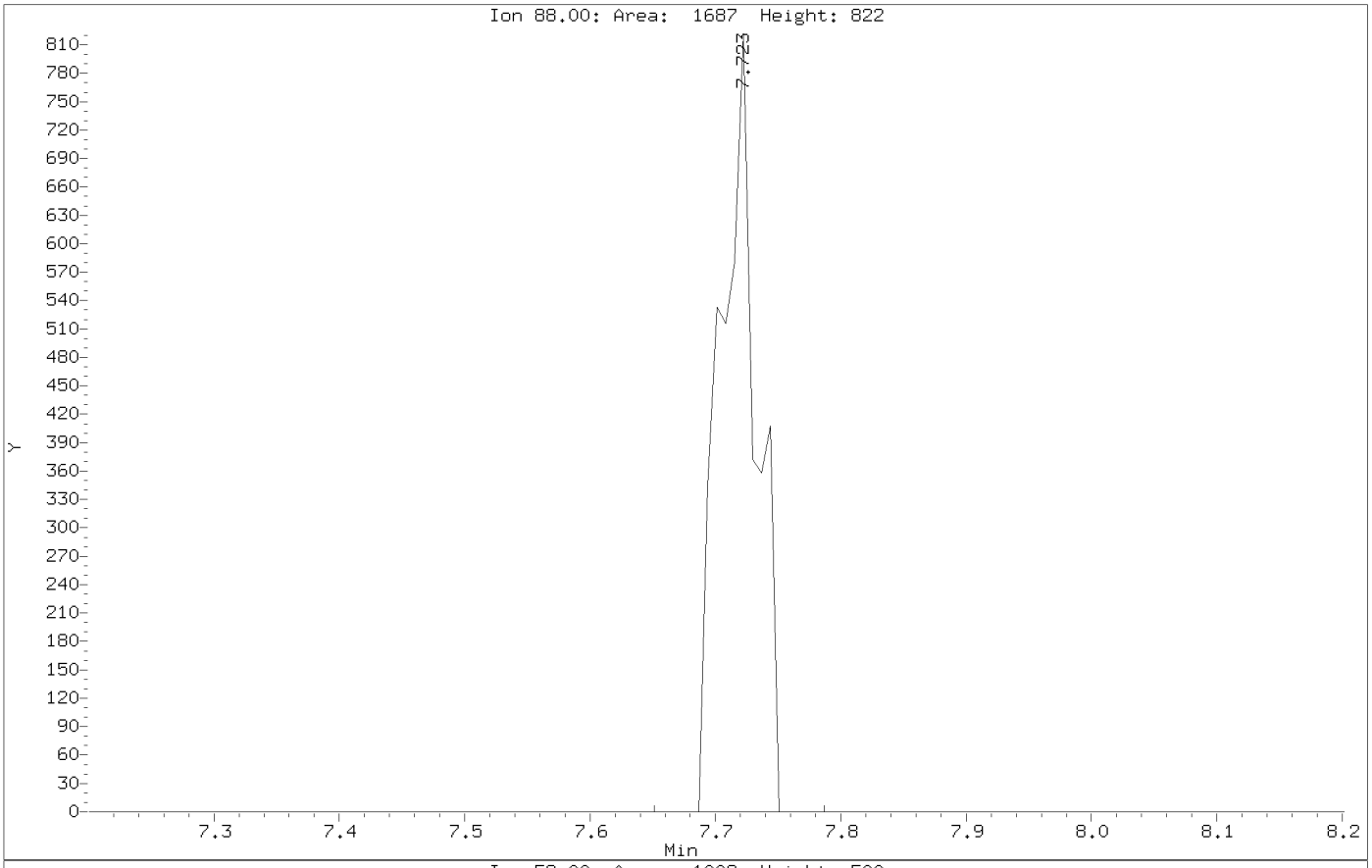


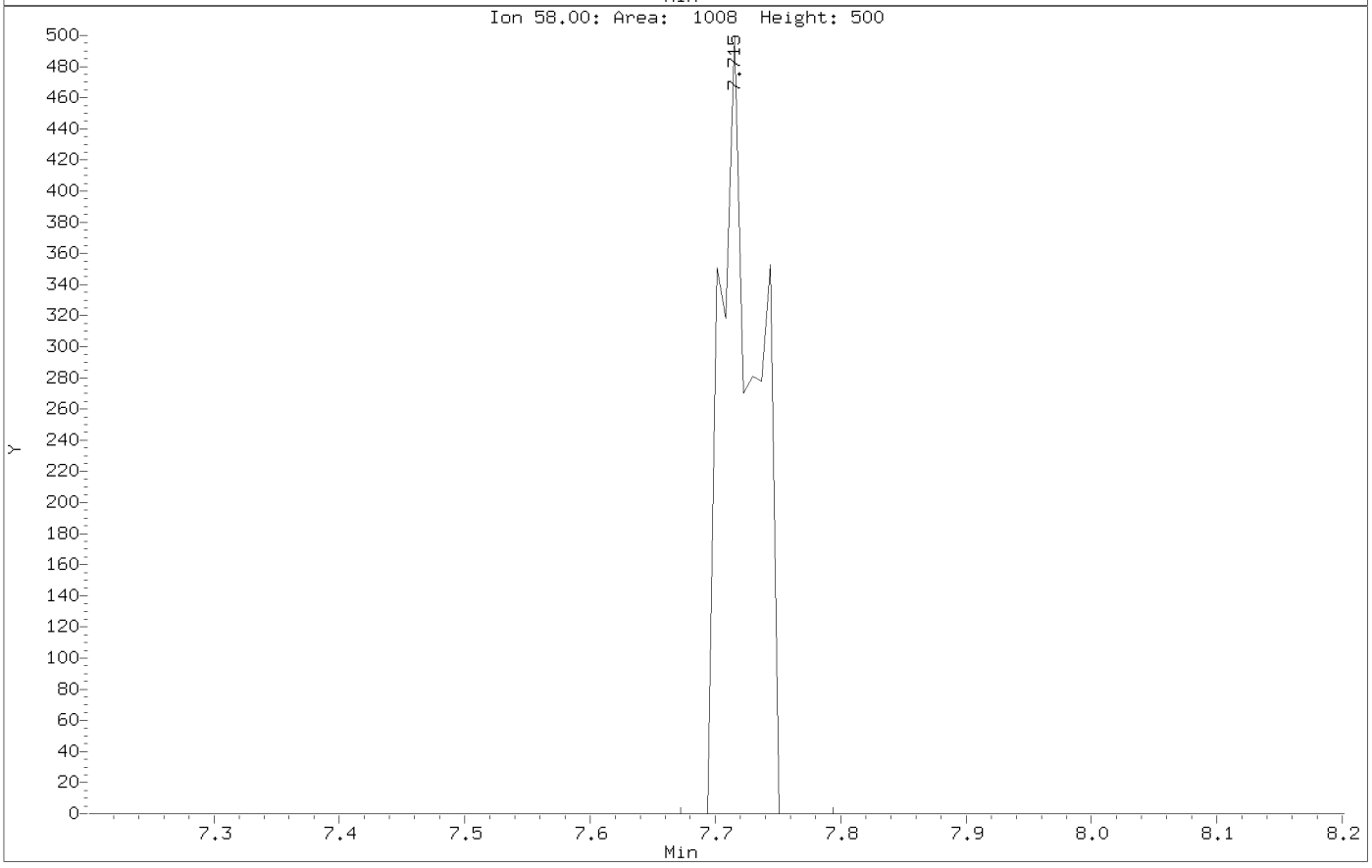


AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 1,4-Dioxane
CAS Number: 123-91-1

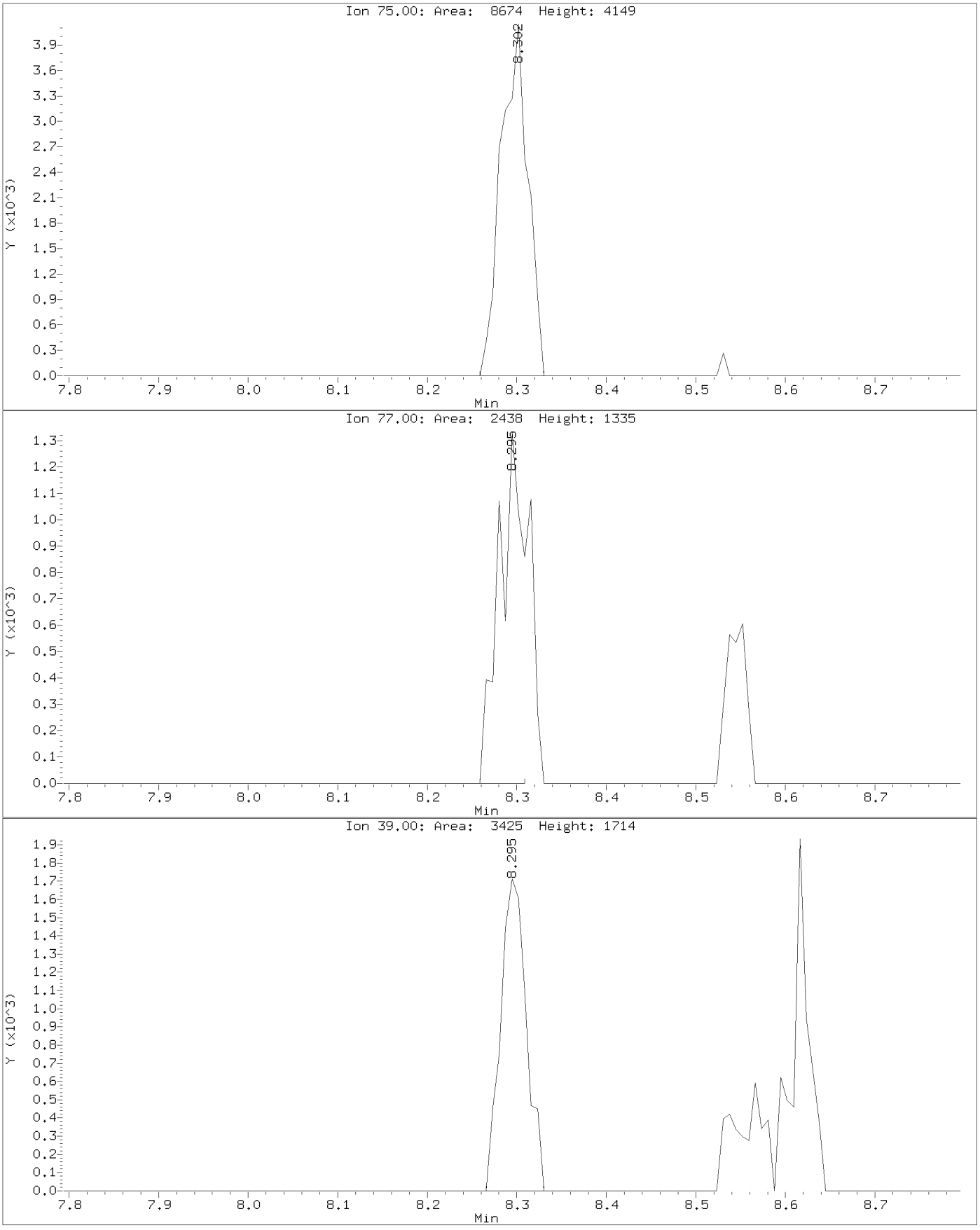




Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: cis-1,3-dichloropropene
CAS Number: 10061-01-5

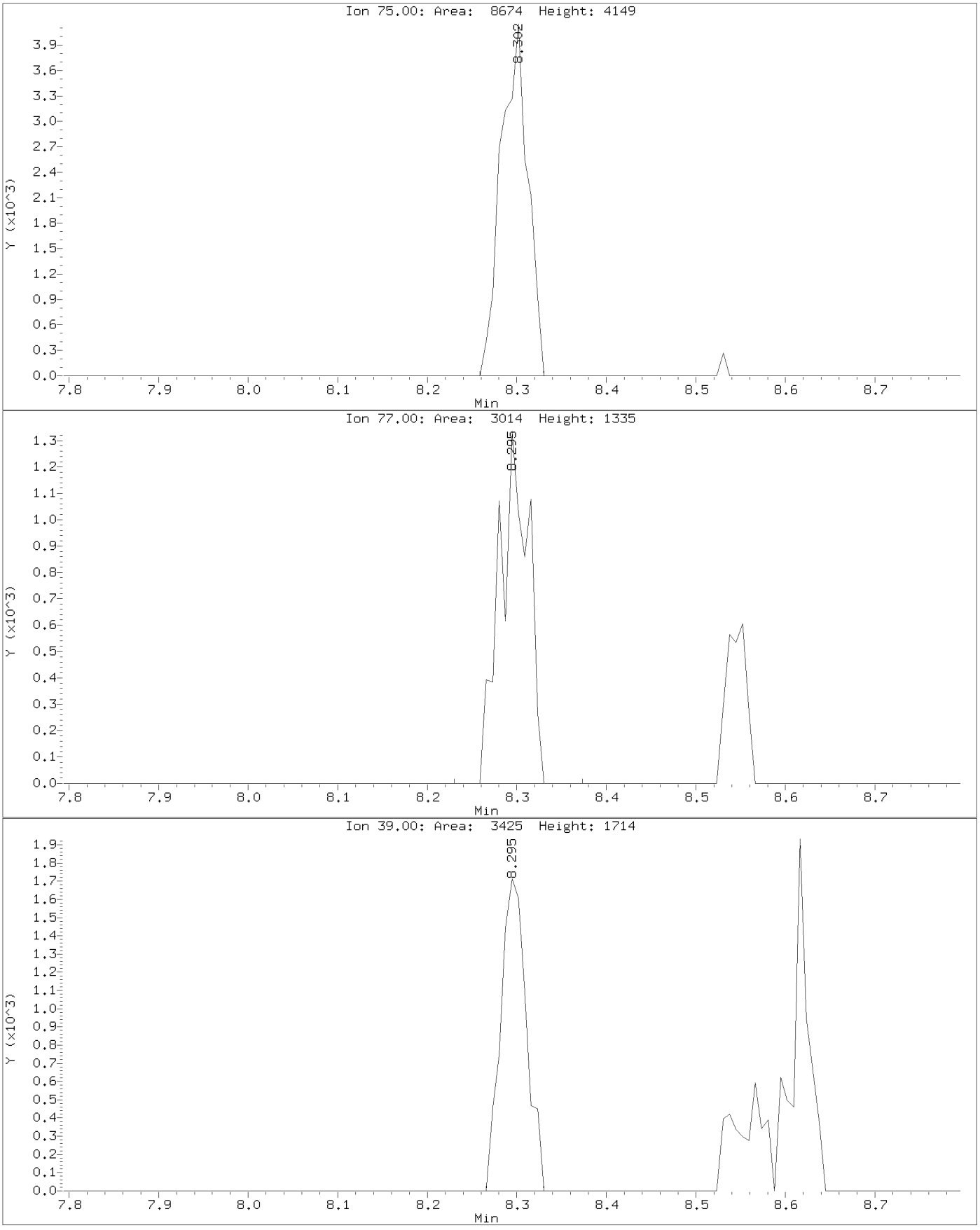
BEFORE MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: cis-1,3-dichloropropene
CAS Number: 10061-01-5

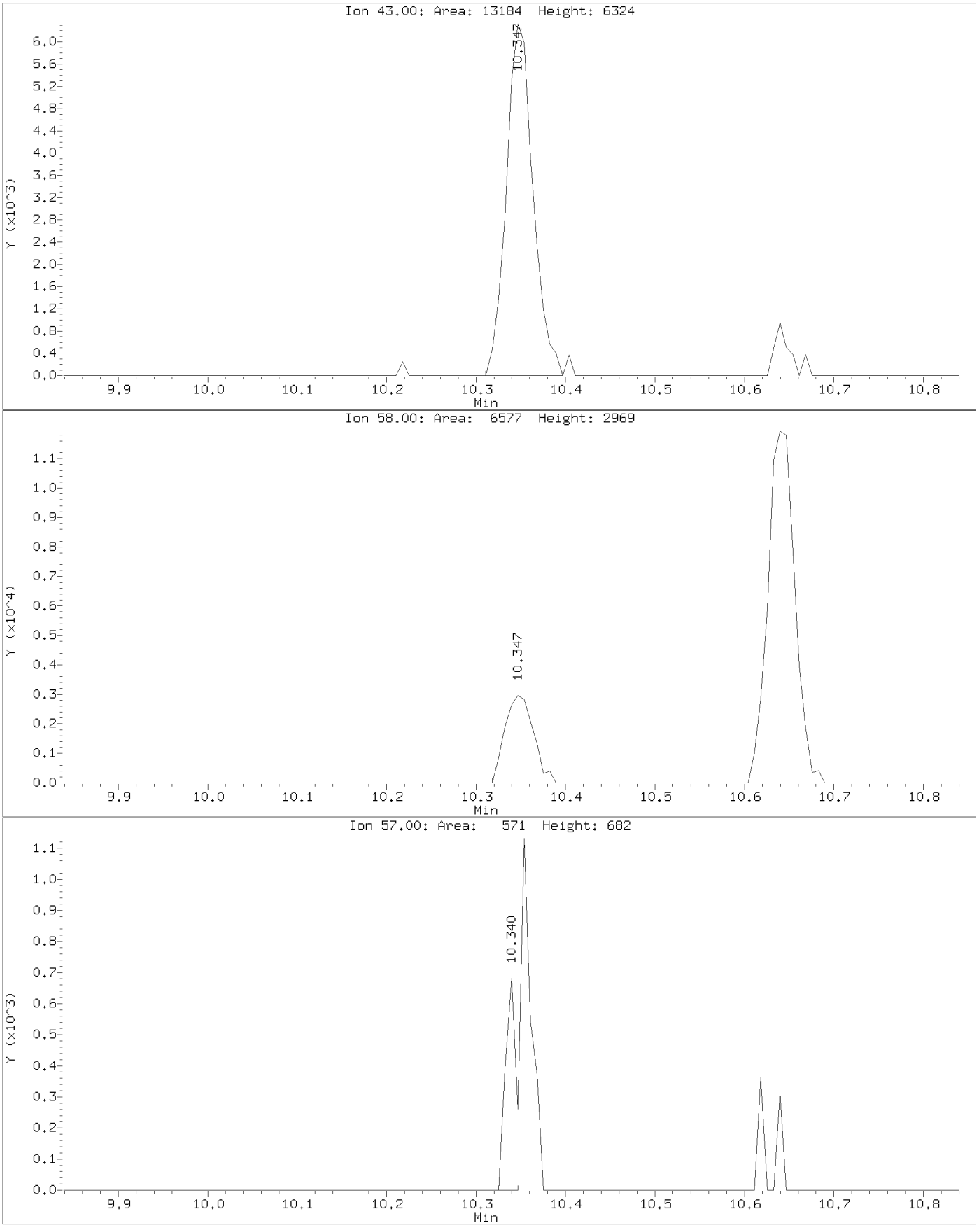
AFTER MANUAL INTEGRATION



BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

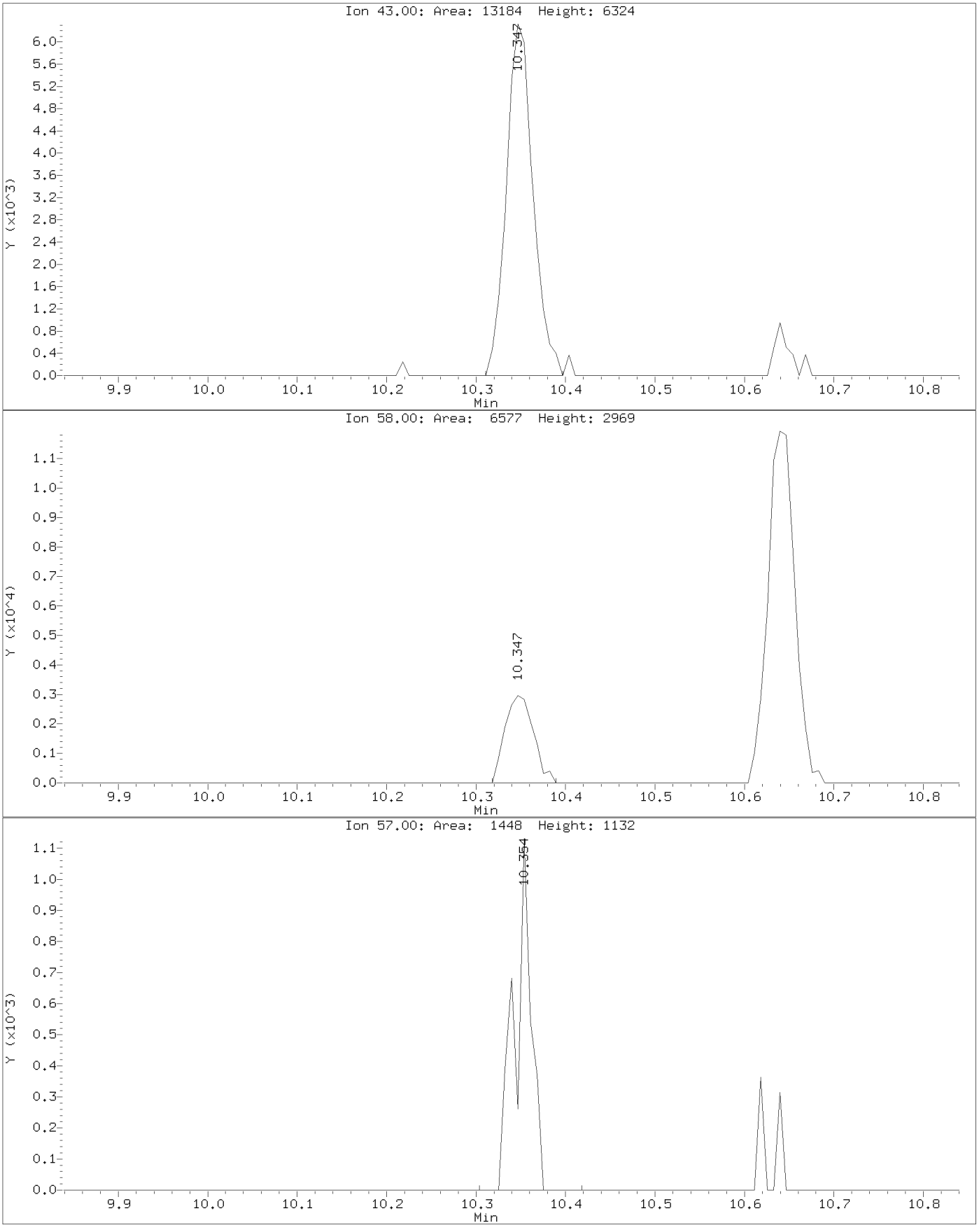
Compound: 2-Hexanone
CAS Number: 591-78-6



AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

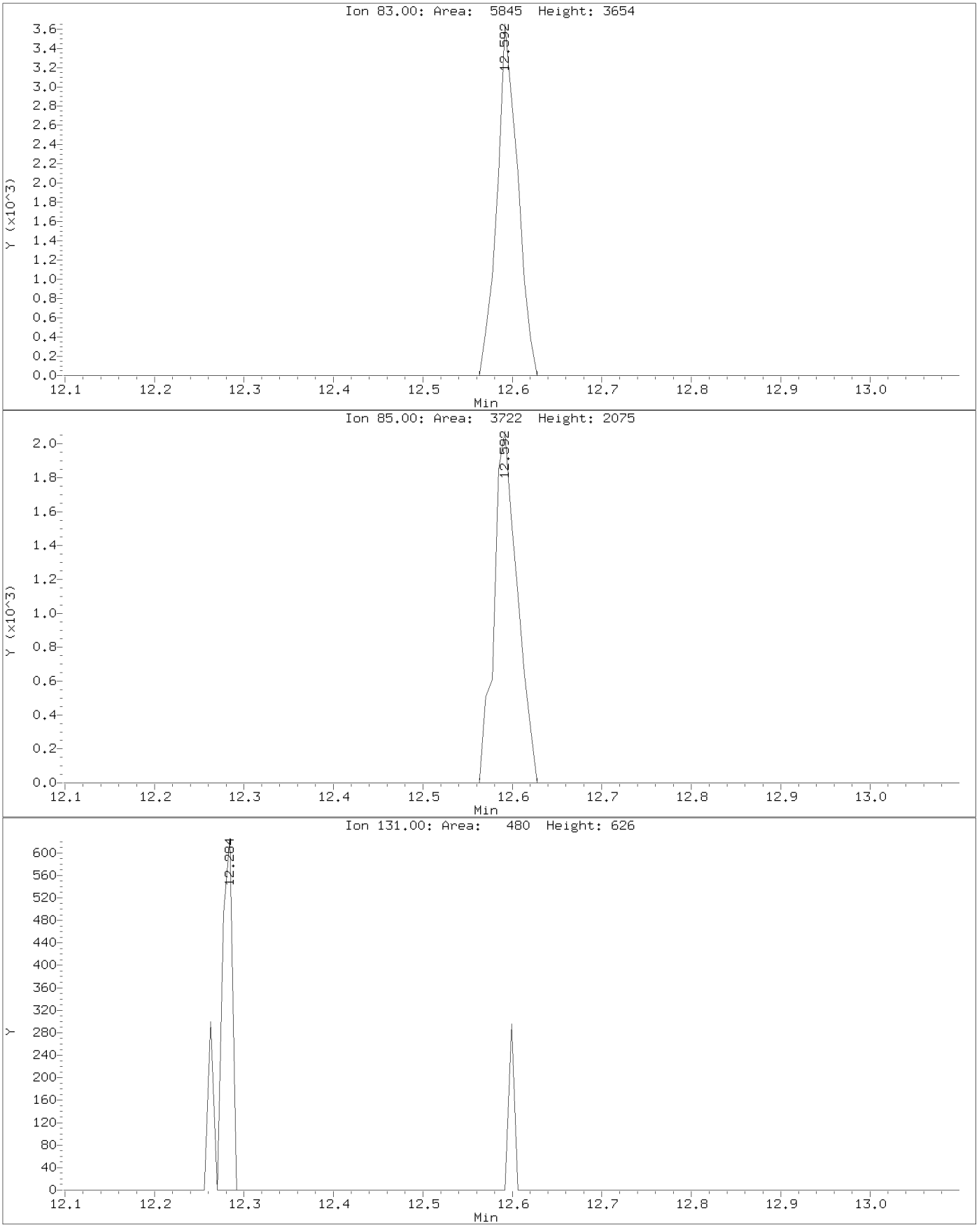
Compound: 2-Hexanone
CAS Number: 591-78-6



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

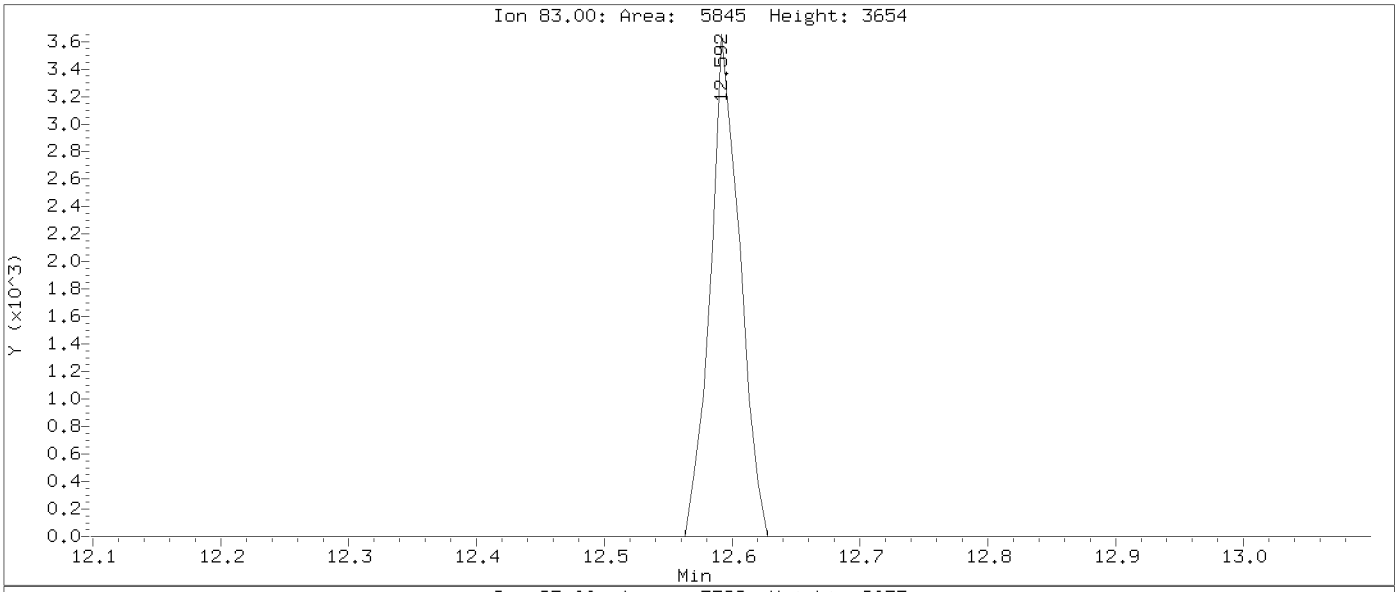
BEFORE MANUAL INTEGRATION

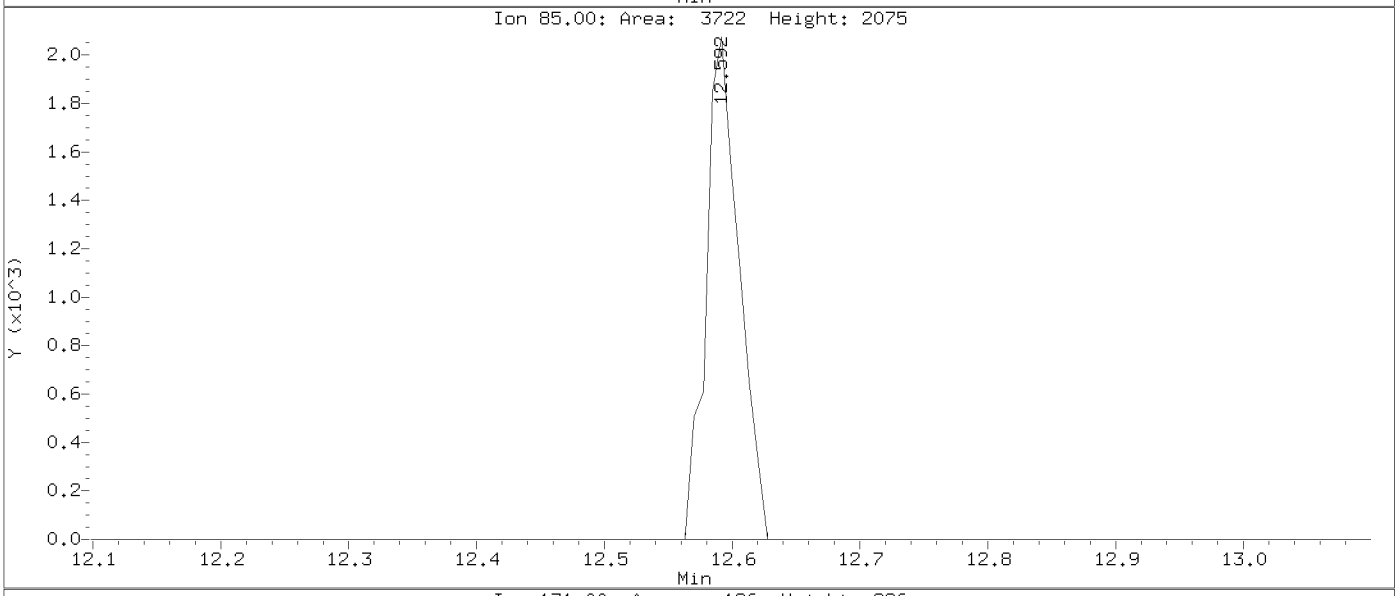


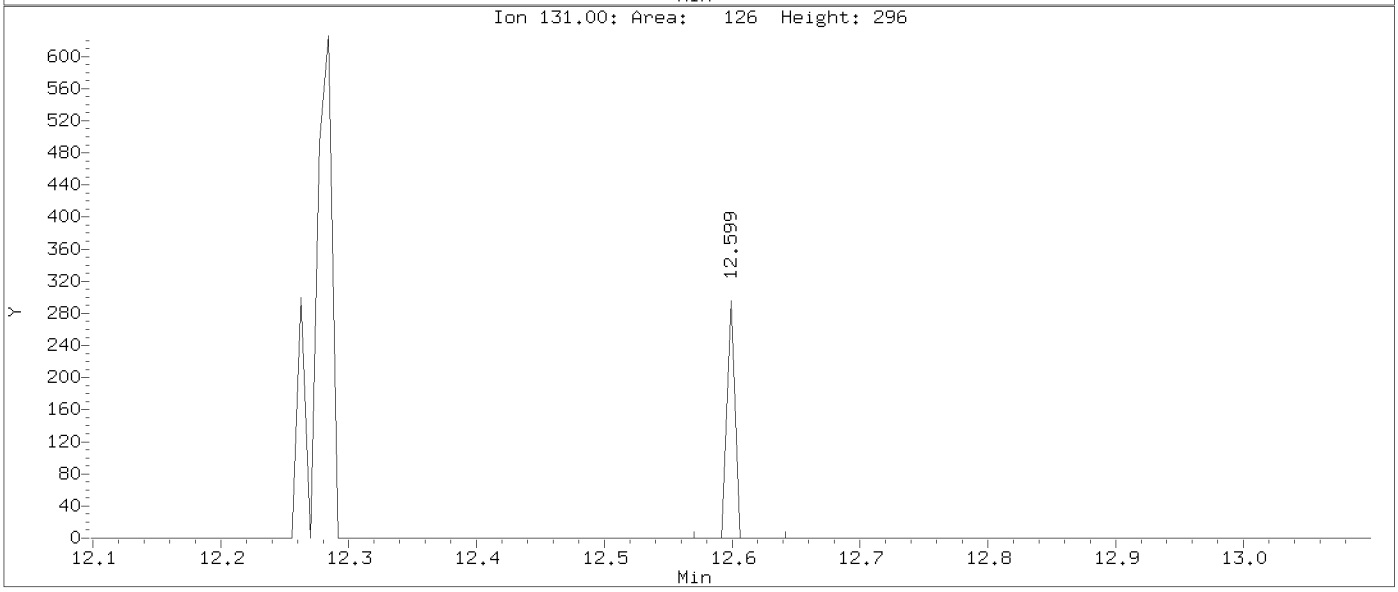
Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: 1,1,2,2-Tetrachloroethane
CAS Number: 79-34-5

AFTER MANUAL INTEGRATION



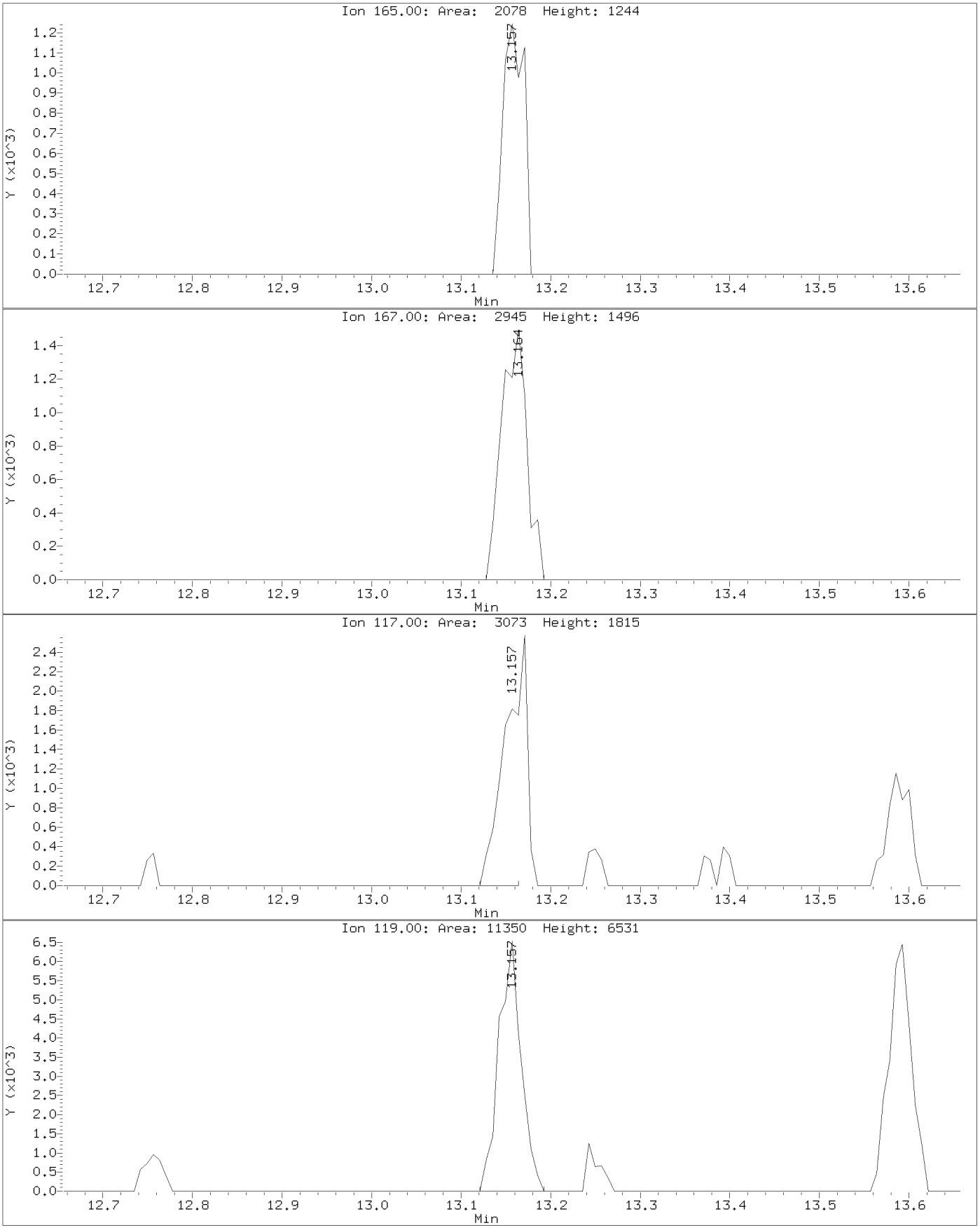




Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Pentachloroethane
CAS Number: 76-01-1

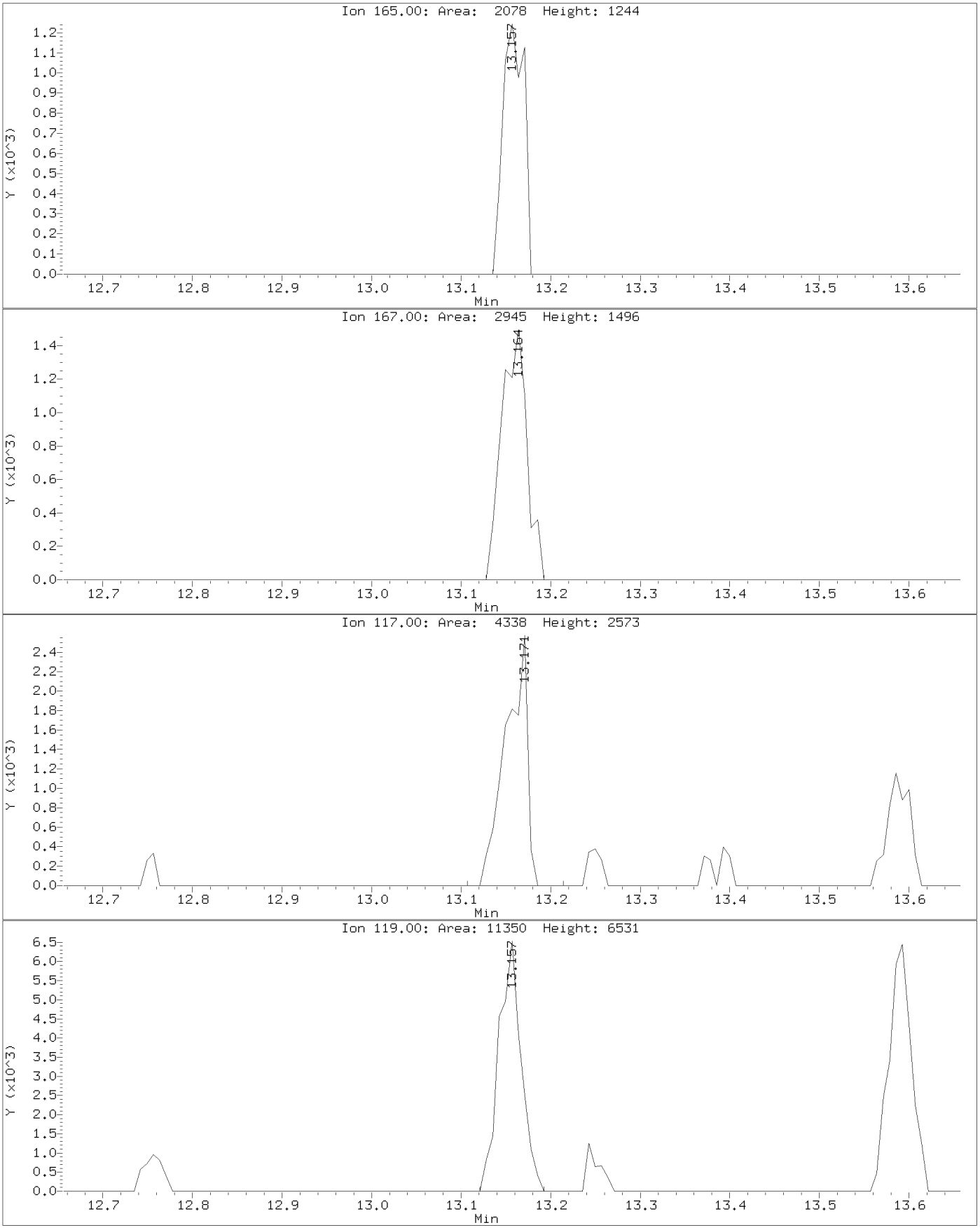
BEFORE MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Pentachloroethane
CAS Number: 76-01-1

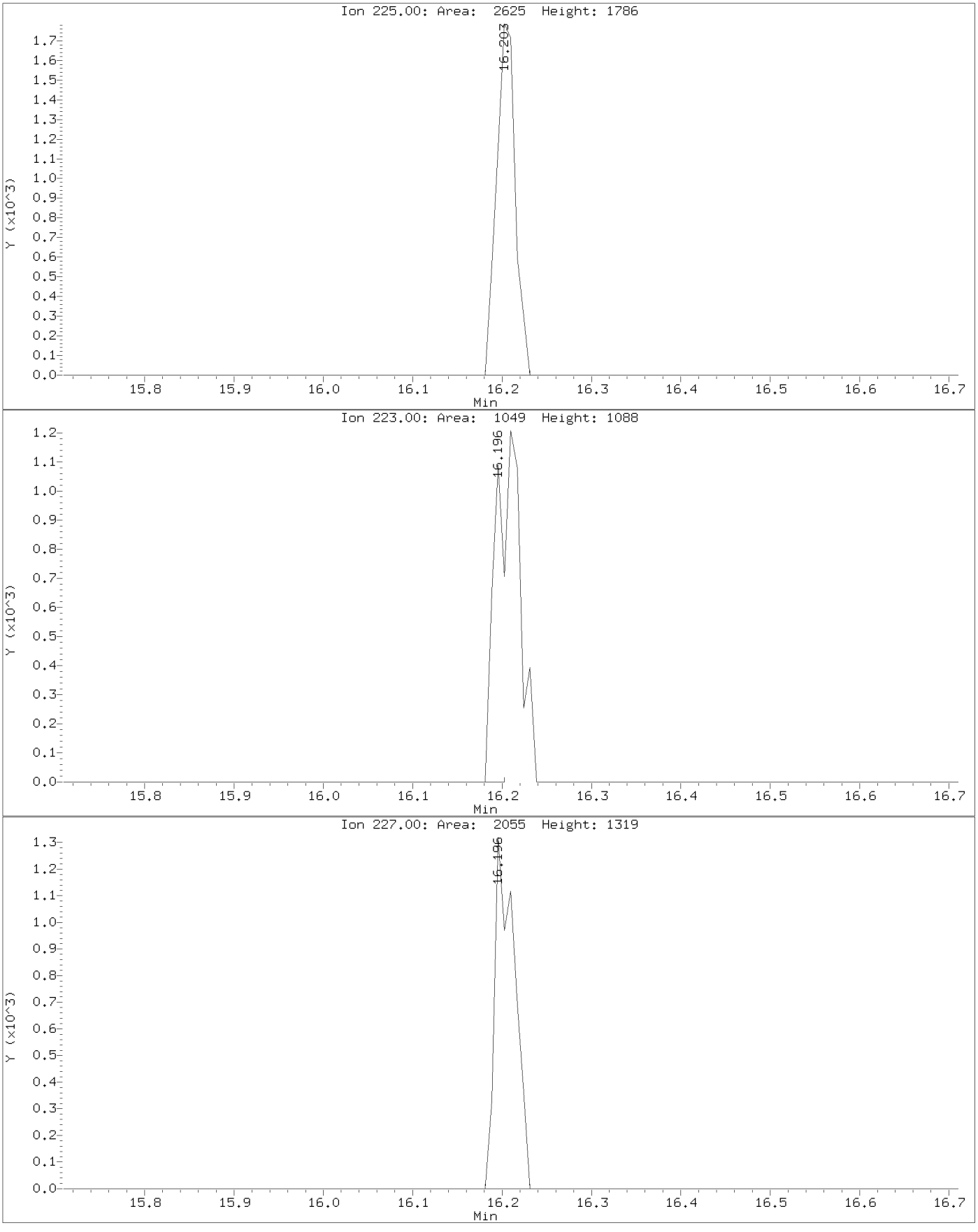
AFTER MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Hexachlorobutadiene
CAS Number: 87-68-3

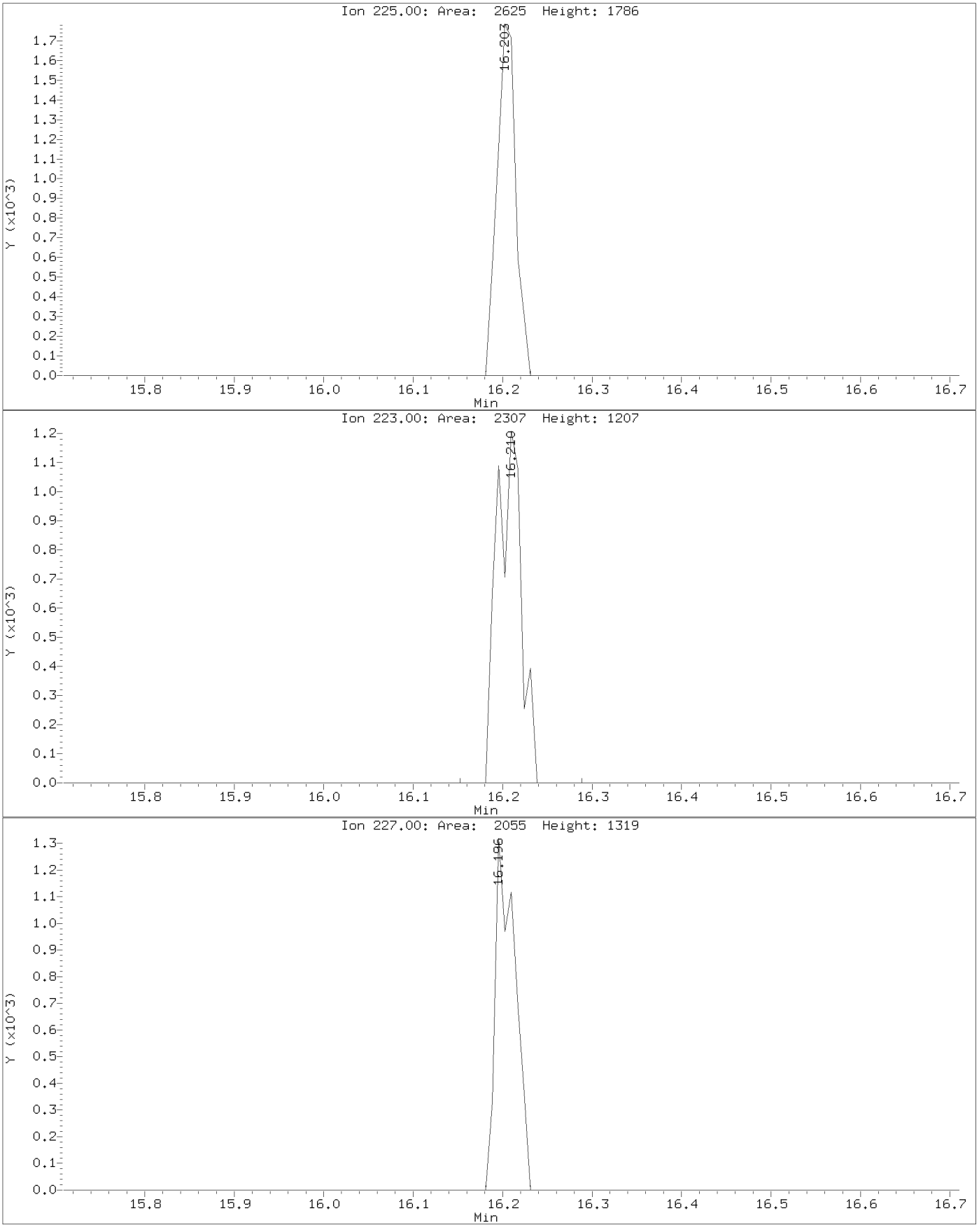
BEFORE MANUAL INTEGRATION



AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\T8382.D
Injection Date: 07-NOV-2018 10:32
Instrument: gcms-t.i
Client Sample ID:

Compound: Hexachlorobutadiene
CAS Number: 87-68-3



Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018 **SDG:** TL0880
Lab ID : WG240630-4 **Analytical Date:** 11/09/18 06:21
Lab File ID : T8442.D **Instrument ID:** GCMS-T
Initial Calibration Date(s): 11/07/18 08:48 11/07/18 11:32 **Column ID:**

	Compound	$\overline{\text{RRF}}$/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	0.43432	0.42764	0.42764	0.100	-1.53847	20.00000	Averaged	
3	Vinyl chloride	0.49623	0.52924	0.52924	0.010	6.65100	20.00000	Averaged	
4	Bromomethane	50.00000	46.76004	0.20712	0.010	-6.47991	20.00000	Linear	
5	Chloroethane	0.27194	0.32672	0.32672	0.010	20.14414	20.00000	Averaged	*
6	Trichlorofluoromethane	0.88028	1.13429	1.13429	0.010	28.85508	20.00000	Averaged	*
8	1,1-Dichloroethene	0.43737	0.47841	0.47841	0.100	9.38384	20.00000	Averaged	
10	Carbon Disulfide	1.16033	1.23702	1.23702	0.010	6.60925	20.00000	Averaged	
14	Methylene Chloride	50.00000	50.28122	0.49240	0.010	0.56244	20.00000	Linear	
16	trans-1,2-Dichloroethene	0.45295	0.44208	0.44208	0.010	-2.39847	20.00000	Averaged	
23	1,1-Dichloroethane	0.98249	1.04231	1.04231	0.100	6.08781	20.00000	Averaged	
27	cis-1,2-Dichloroethene	0.48669	0.48609	0.48609	0.010	-0.12282	20.00000	Averaged	
31	Chloroform	1.13560	1.19042	1.19042	0.010	4.82756	20.00000	Averaged	
32	Carbon Tetrachloride	0.55193	0.66919	0.66919	0.010	21.24468	20.00000	Averaged	*
35	1,1,1-Trichloroethane	1.02495	1.17884	1.17884	0.010	15.01430	20.00000	Averaged	
37	2-Butanone	0.21710	0.21713	0.21713	0.010	0.01447	20.00000	Averaged	
38	Benzene	1.22162	1.23875	1.23875	0.010	1.40253	20.00000	Averaged	
44	1,2-Dichloroethane	0.62831	0.71571	0.71571	0.010	13.91185	20.00000	Averaged	
47	Trichloroethene	0.34534	0.37512	0.37512	0.010	8.62376	20.00000	Averaged	
50	1,2-Dichloropropane	0.32849	0.34030	0.34030	0.010	3.59617	20.00000	Averaged	
51	Bromodichloromethane	0.53371	0.60551	0.60551	0.010	13.45487	20.00000	Averaged	
55	cis-1,3-dichloropropene	0.58284	0.64485	0.64485	0.010	10.64032	20.00000	Averaged	
57	Toluene	0.75681	0.77376	0.77376	0.010	2.23885	20.00000	Averaged	
58	Tetrachloroethene	0.25777	0.25829	0.25829	0.010	0.20082	20.00000	Averaged	
59	4-methyl-2-pentanone	0.27040	0.31210	0.31210	0.010	15.42098	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.54782	0.62297	0.62297	0.010	13.71832	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.24429	0.24739	0.24739	0.010	1.27180	20.00000	Averaged	
63	Dibromochloromethane	0.34852	0.39254	0.39254	0.010	12.63247	20.00000	Averaged	
69	Chlorobenzene	0.82796	0.84208	0.84208	0.300	1.70602	20.00000	Averaged	
70	Ethylbenzene	1.55833	1.71117	1.71117	0.010	9.80807	20.00000	Averaged	
72	m+p-Xylenes	1.17543	1.35218	1.35218	0.010	15.03756	20.00000	Averaged	
73	o-Xylene	1.18564	1.38526	1.38526	0.010	16.83650	20.00000	Averaged	
75	Bromoform	0.23555	0.26162	0.26162	0.100	11.06480	20.00000	Averaged	
81	1,1,2,2-Tetrachloroethane	0.77320	0.74266	0.74266	0.300	-3.94989	20.00000	Averaged	
34	Dibromofluoromethane	0.58800	0.61413	0.61413	0.010	4.44325	20.00000	Averaged	
42	1,2-Dichloroethane-D4	0.89725	1.03398	1.03398	0.010	15.23844	20.00000	Averaged	
56	Toluene-D8	1.35099	1.36339	1.36339	0.010	0.91725	20.00000	Averaged	
77	P-Bromofluorobenzene	0.56271	0.60128	0.60128	0.010	6.85447	20.00000	Averaged	

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : Watervliet Arsenal LTM 2018
Lab ID : WG240630-4
Lab File ID : T8442.D
Initial Calibration Date(s): 11/07/18 08:48 11/07/18 11:32

SDG: TL0880
Analytical Date: 11/09/18 06:21
Instrument ID: GCMS-T
Column ID:

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\TB786a.D

Date : 07-NOV-2018 07:13

Client ID:

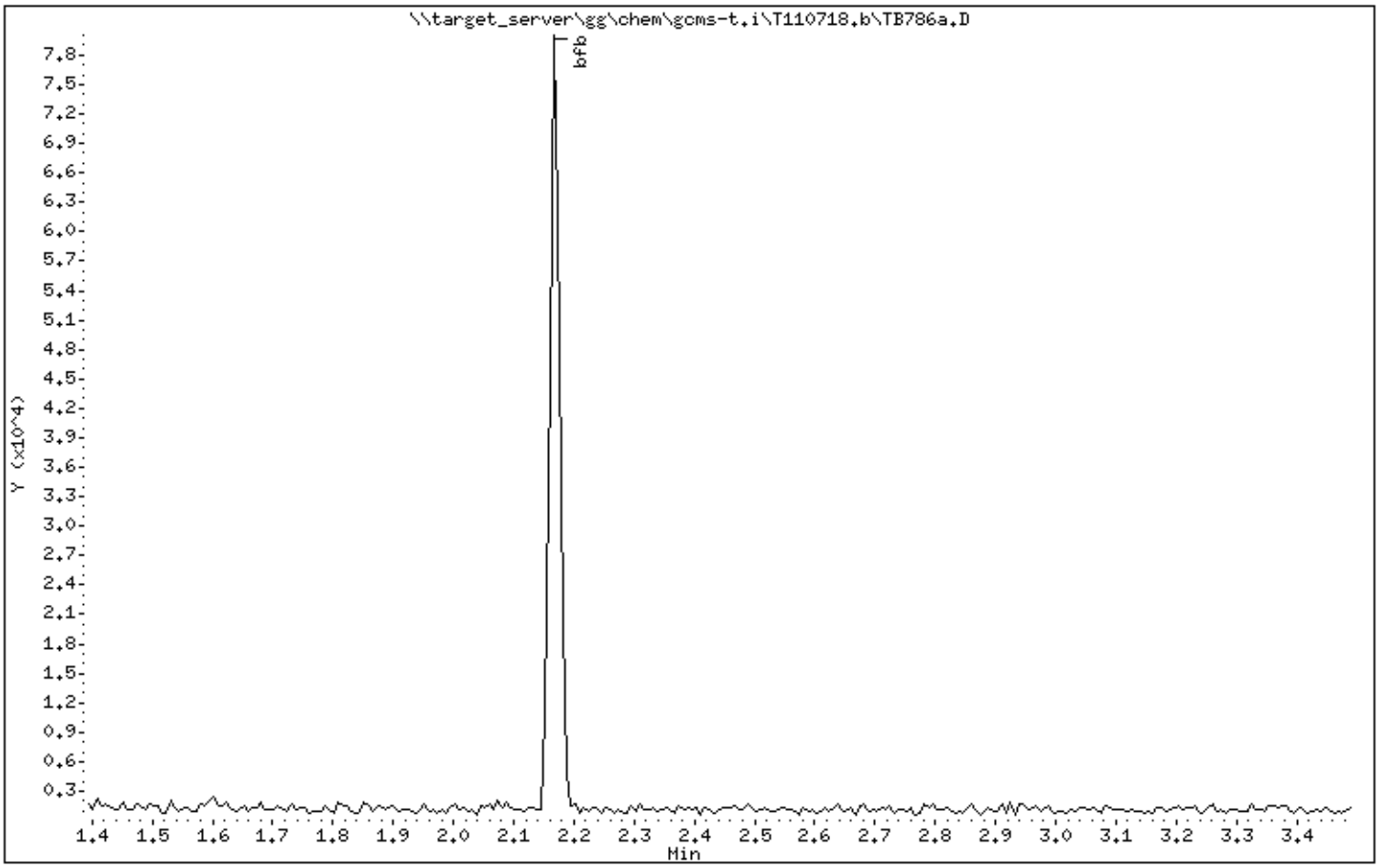
Instrument: gcms-t.i

Sample Info: WG240169-10,TL0880

Operator: HG/JR

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-t.i\T110718.b\TB786a.D

Date : 07-NOV-2018 07:13

Client ID:

Instrument: gcms-t.i

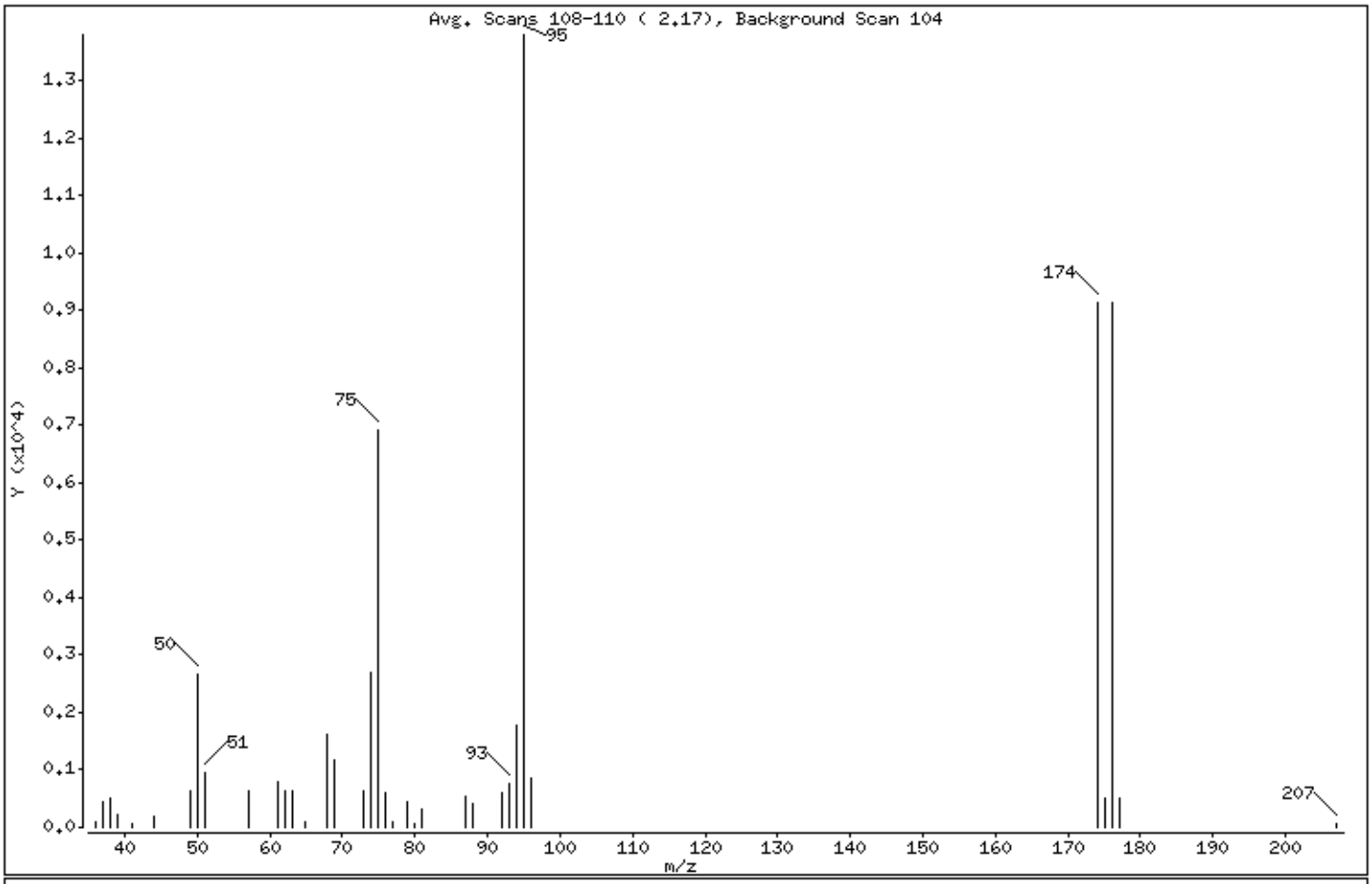
Sample Info: WG240169-10,TL0880

Operator: HG/JR

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.31
75	30.00 - 60.00% of mass 95	50.18
96	5.00 - 9.00% of mass 95	6.28
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	66.21
175	5.00 - 9.00% of mass 174	3.68 (5.56)
176	95.00 - 101.00% of mass 174	66.12 (99.87)
177	5.00 - 9.00% of mass 176	3.57 (5.39)

Date : 07-NOV-2018 07:13

Client ID:

Instrument: gcms-t.i

Sample Info: WG240169-10,TL0880

Operator: HG/JR

Column phase: RTX-VMS

Column diameter: 0.18

Data File: TB786a.D
Spectrum: Avg. Scans 108-110 (2.17), Background Scan 104
Location of Maximum: 95.00
Number of points: 36

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	96	61.00	806	77.00	82	96.00	866
37.00	441	62.00	650	79.00	450	174.00	9136
38.00	507	63.00	620	80.00	69	175.00	508
39.00	224	65.00	81	81.00	331	176.00	9124
41.00	67	68.00	1611	87.00	534	177.00	492
44.00	192	69.00	1167	88.00	427	207.00	74
49.00	633	73.00	630	92.00	613		
50.00	2665	74.00	2702	93.00	750		
51.00	963	75.00	6924	94.00	1788		
57.00	639	76.00	614	95.00	13799		

Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\TB787a.D

Date : 07-NOV-2018 14:41

Client ID:

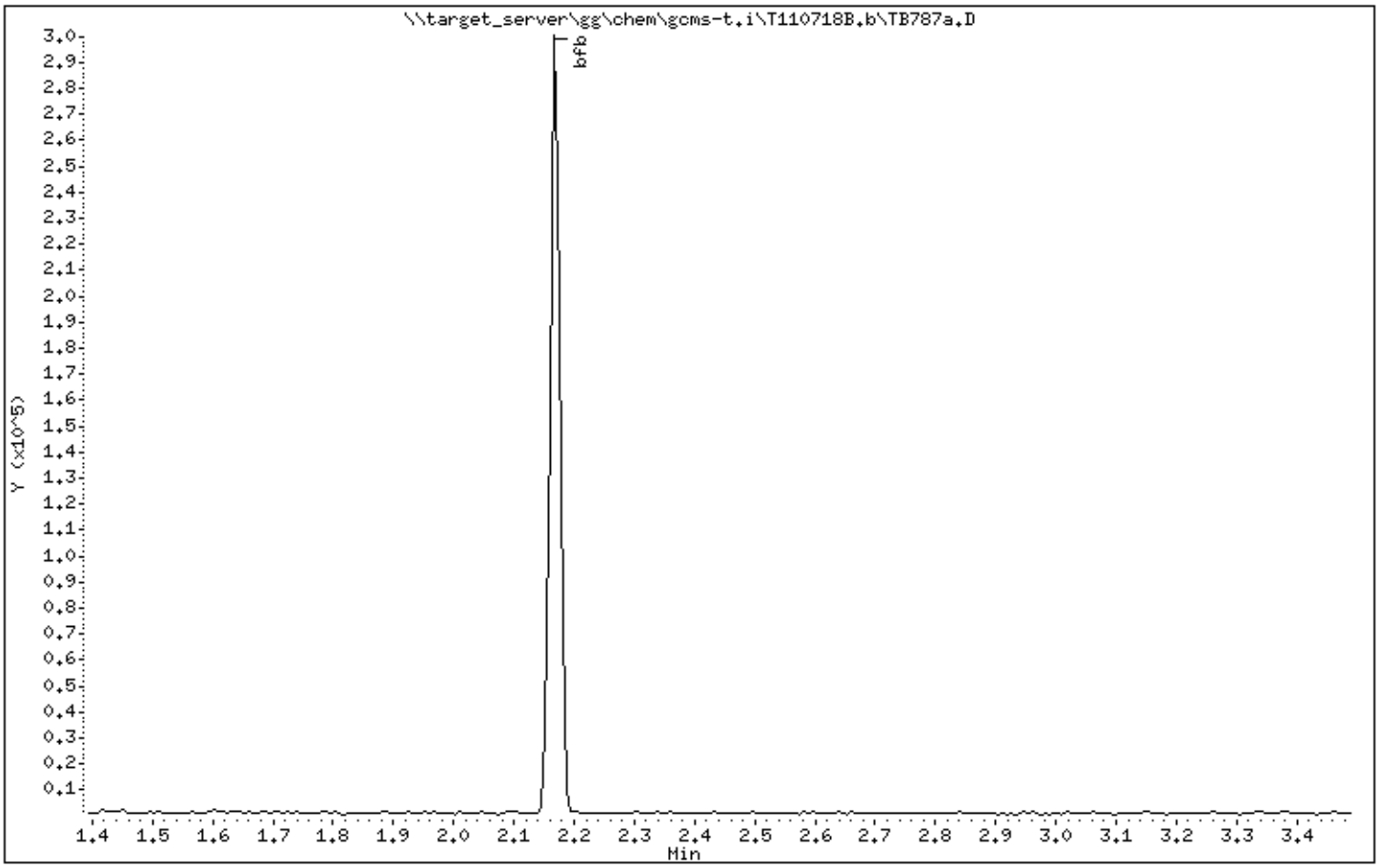
Instrument: gcms-t.i

Sample Info: WG240200-3,TL0880

Operator: HG/JR

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-t.i\T110718B.b\TB787a.D

Date : 07-NOV-2018 14:41

Client ID:

Instrument: gcms-t.i

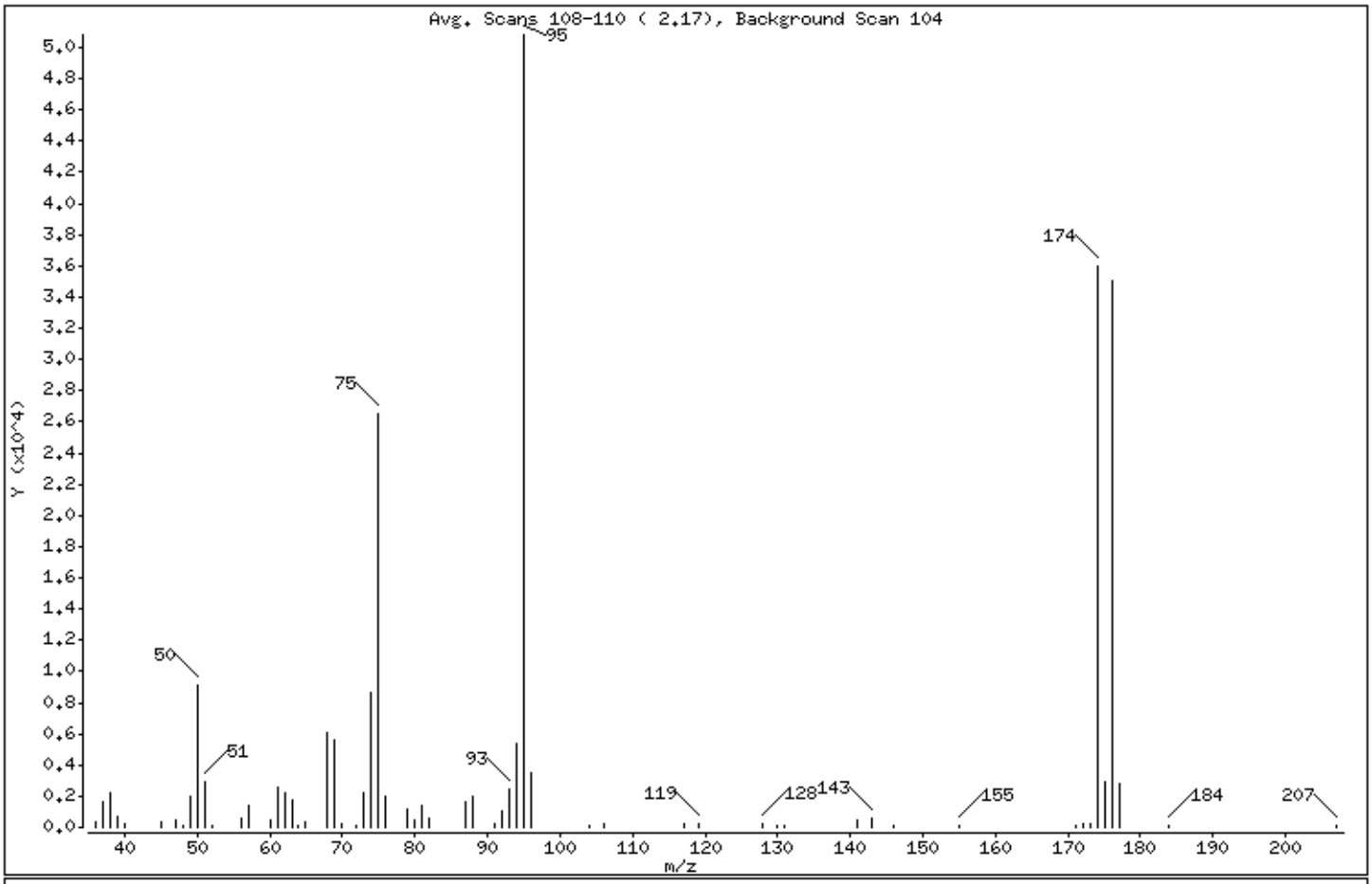
Sample Info: WG240200-3,TL0880

Operator: HG/JR

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.88
75	30.00 - 60.00% of mass 95	52.17
96	5.00 - 9.00% of mass 95	6.91
173	Less than 2.00% of mass 174	0.54 (0.76)
174	Greater than 50.00% of mass 95	70.79
175	5.00 - 9.00% of mass 174	5.78 (8.17)
176	95.00 - 101.00% of mass 174	68.92 (97.35)
177	5.00 - 9.00% of mass 176	5.55 (8.06)

Date : 07-NOV-2018 14:41

Client ID: Instrument: gcms-t.i

Sample Info: WG240200-3,TL0880

Operator: HG/JR

Column phase: RTX-VMS Column diameter: 0.18

Data File: TB787a.D
Spectrum: Avg. Scans 108-110 (2.17), Background Scan 104
Location of Maximum: 95.00
Number of points: 60

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	344	62.00	2198	87.00	1621	143.00	530
37.00	1693	63.00	1720	88.00	2033	146.00	69
38.00	2274	64.00	162	91.00	192	155.00	69
39.00	748	65.00	320	92.00	1087	171.00	112
40.00	205	68.00	6071	93.00	2397	172.00	252
45.00	386	69.00	5637	94.00	5379	173.00	274
47.00	520	70.00	256	95.00	50808	174.00	35968
48.00	105	72.00	70	96.00	3513	175.00	2939
49.00	1984	73.00	2233	104.00	110	176.00	35016
50.00	9086	74.00	8613	106.00	215	177.00	2822
51.00	2948	75.00	26504	117.00	230	184.00	67
52.00	67	76.00	1947	119.00	251	207.00	72
56.00	604	79.00	1190	128.00	190		
57.00	1361	80.00	443	130.00	68		
60.00	455	81.00	1432	131.00	89		
61.00	2595	82.00	533	141.00	456		

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\TB789a.D

Date : 09-NOV-2018 05:58

Client ID:

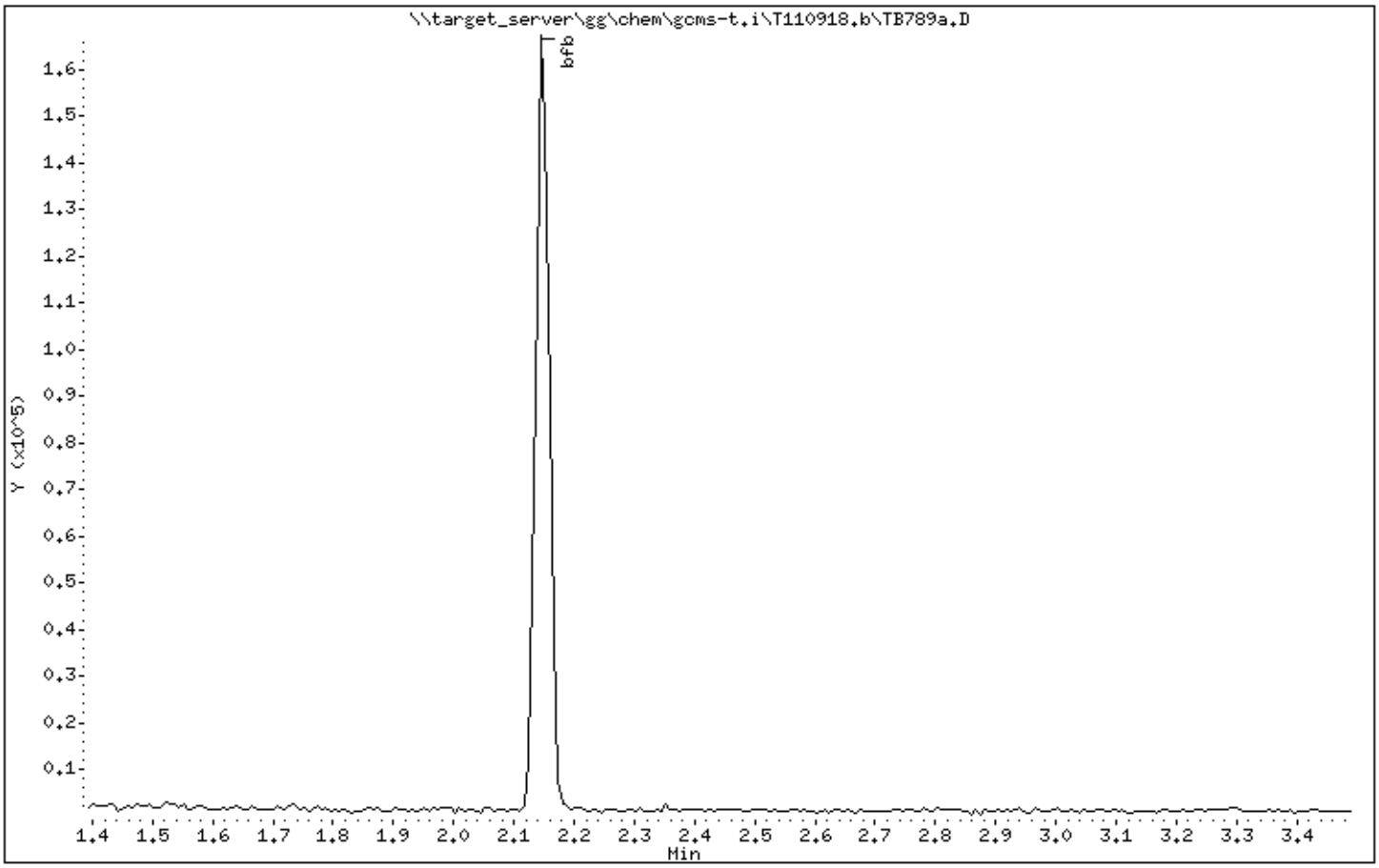
Instrument: gcms-t.i

Sample Info: WG240630-3,TL0880

Operator: TTC

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\TB789a.D

Date : 09-NOV-2018 05:58

Client ID:

Instrument: gcms-t.i

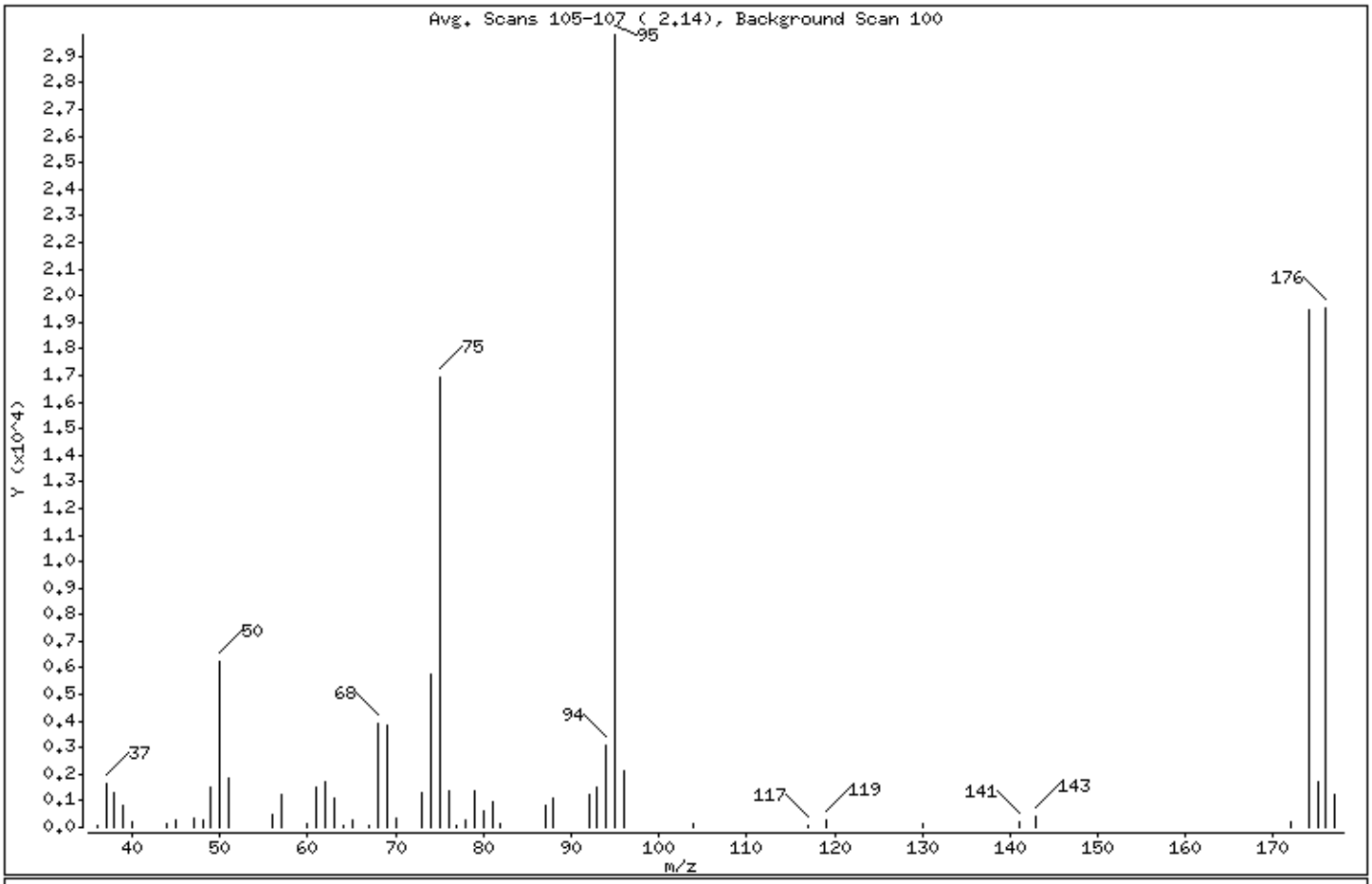
Sample Info: WG240630-3,TL0880

Operator: TTC

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	21.01
75	30.00 - 60.00% of mass 95	56.86
96	5.00 - 9.00% of mass 95	7.06
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	65.17
175	5.00 - 9.00% of mass 174	5.85 (8.98)
176	95.00 - 101.00% of mass 174	65.60 (100.66)
177	5.00 - 9.00% of mass 176	4.13 (6.29)

Date : 09-NOV-2018 05:58

Client ID: Instrument: gcms-t.i

Sample Info: WG240630-3,TL0880

Operator: TTC

Column phase: RTX-VMS Column diameter: 0.18

Data File: TB789a.D
Spectrum: Avg. Scans 105-107 (2.14), Background Scan 100
Location of Maximum: 95.00
Number of points: 52

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	67	60.00	153	77.00	101	117.00	90
37.00	1673	61.00	1527	78.00	249	119.00	306
38.00	1278	62.00	1719	79.00	1344	130.00	106
39.00	853	63.00	1073	80.00	630	141.00	221
40.00	199	64.00	69	81.00	945	143.00	390
44.00	121	65.00	264	82.00	118	172.00	229
45.00	248	67.00	72	87.00	808	174.00	19432
47.00	358	68.00	3901	88.00	1089	175.00	1745
48.00	258	69.00	3858	92.00	1223	176.00	19560
49.00	1475	70.00	363	93.00	1511	177.00	1231
50.00	6265	73.00	1297	94.00	3118		
51.00	1823	74.00	5760	95.00	29816		
56.00	465	75.00	16952	96.00	2106		
57.00	1233	76.00	1395	104.00	165		

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG240630-2
Client ID: Method Blank Sample
Project:
SDG: TL0880
Lab File ID: T8446.D

Sample Date:
Received Date:
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Chloromethane	U	2.0	ug/L	1	2	2.0
Vinyl Chloride	U	2.0	ug/L	1	2	2.0
Bromomethane	U	2.0	ug/L	1	2	2.0
Chloroethane	U	2.0	ug/L	1	2	2.0
Trichlorofluoromethane	U	2.0	ug/L	1	2	2.0
1,1-Dichloroethene	U	1.0	ug/L	1	1	1.0
Carbon Disulfide	U	1.0	ug/L	1	1	1.0
Methylene Chloride	U	5.0	ug/L	1	5	5.0
trans-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
1,1-Dichloroethane	U	1.0	ug/L	1	1	1.0
cis-1,2-Dichloroethene	U	1.0	ug/L	1	1	1.0
Chloroform	U	1.0	ug/L	1	1	1.0
Carbon Tetrachloride	U	1.0	ug/L	1	1	1.0
1,1,1-Trichloroethane	U	1.0	ug/L	1	1	1.0
2-Butanone	U	5.0	ug/L	1	5	5.0
Benzene	U	1.0	ug/L	1	1	1.0
1,2-Dichloroethane	U	1.0	ug/L	1	1	1.0
Trichloroethene	U	1.0	ug/L	1	1	1.0
1,2-Dichloropropane	U	1.0	ug/L	1	1	1.0
Bromodichloromethane	U	1.0	ug/L	1	1	1.0
cis-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
Toluene	U	1.0	ug/L	1	1	1.0
4-Methyl-2-Pentanone	U	5.0	ug/L	1	5	5.0
Tetrachloroethene	U	1.0	ug/L	1	1	1.0
trans-1,3-Dichloropropene	U	1.0	ug/L	1	1	1.0
1,1,2-Trichloroethane	U	1.0	ug/L	1	1	1.0
Dibromochloromethane	U	1.0	ug/L	1	1	1.0
Chlorobenzene	U	1.0	ug/L	1	1	1.0
Ethylbenzene	U	1.0	ug/L	1	1	1.0
m+p-Xylenes	U	2.0	ug/L	1	2	2.0
o-Xylene	U	1.0	ug/L	1	1	1.0
Bromoform	U	1.0	ug/L	1	1	1.0
1,1,2,2-Tetrachloroethane	U	1.0	ug/L	1	1	1.0
P-Bromofluorobenzene		102.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG240630-2
Client ID: Method Blank Sample
Project:
SDG: TL0880
Lab File ID: T8446.D

Sample Date:
Received Date:
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Qualifier	Result	Units	Dilution	PQL	ADJ PQL
Toluene-d8		101.	%			
1,2-Dichloroethane-d4		126.	%			
Dibromofluoromethane		112.	%			

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8446.D
Report Date: 27-Nov-2018 12:13

Katahdin Analytical Services

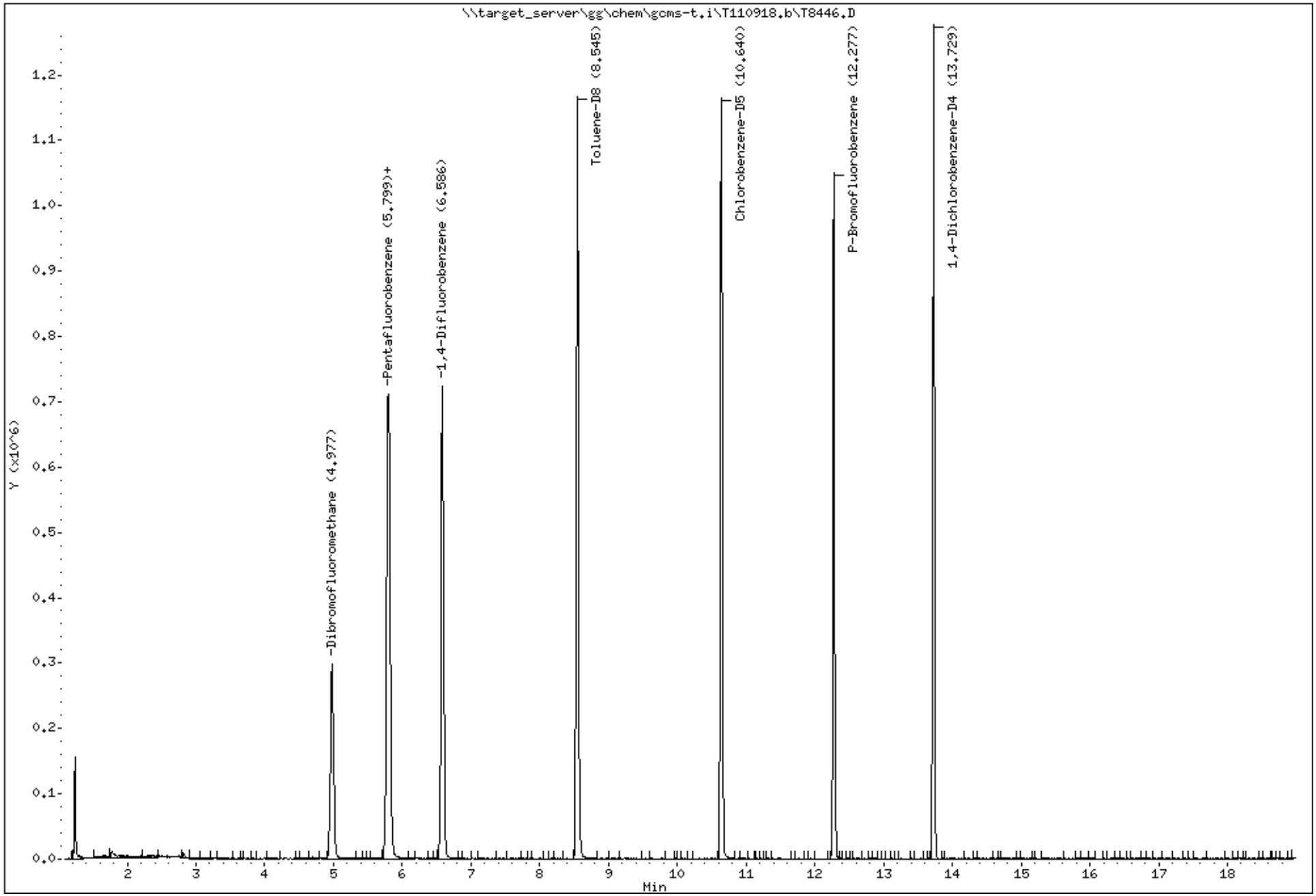
Data file : \\target_server\gg\chem\gcms-t.i\T110918.b\T8446.D
Lab Smp Id: WG240630-2
Inj Date : 09-NOV-2018 08:45
Operator : TTC   Inst ID: gcms-t.i
Smp Info : WG240630-2,TL0880
Misc Info : WG240630,WG240630-4,TL0880-1
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T110918.b\T8A05(61)D.m
Meth Date : 09-Nov-2018 16:25 tcote   Quant Type: ISTD
Cal Date : 07-NOV-2018 11:32   Cal File: T8384.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$ 34 Dibromofluoromethane	113	4.976	4.977	(0.859)	272097	55.9282	55.9	
* 41 Pentafluorobenzene	168	5.791	5.792	(1.000)	413700	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	466383	62.8223	62.8	
* 48 1,4-Difluorobenzene	114	6.585	6.586	(1.000)	647404	50.0000		
$ 56 Toluene-D8	98	8.544	8.545	(1.297)	882300	50.4380	50.4	
* 68 Chlorobenzene-D5	117	10.639	10.640	(1.000)	608019	50.0000		
$ 77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	373518	51.2654	51.3	
* 93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	290321	50.0000		

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8446.D
Date : 09-NOV-2018 08:45
Client ID:
Instrument: gcms-t.i
Sample Info: WG240630-2,TL0880



Katahdin Analytical Services 1000112

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG240630-1
Client ID: LCS
Project:
SDG: TL0880
LCS File ID: T8444.D

Sample Date:
Received Date:
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	* 145.	50.0	72.6	ug/L	59-123
Vinyl Chloride	* 131.	50.0	65.3	ug/L	64-131
Bromomethane	* 145.	50.0	72.7	ug/L	57-135
Chloroethane	140.	50.0	69.9	ug/L	53-157
Trichlorofluoromethane	122.	50.0	61.0	ug/L	70-149
1,1-Dichloroethene	115.	50.0	57.6	ug/L	88-127
Carbon Disulfide	122.	50.0	61.1	ug/L	71-129
Methylene Chloride	115.	50.0	57.6	ug/L	72-129
trans-1,2-Dichloroethene	104.	50.0	52.1	ug/L	78-125
1,1-Dichloroethane	113.	50.0	56.3	ug/L	76-130
cis-1,2-Dichloroethene	103.	50.0	51.3	ug/L	85-123
Chloroform	104.	50.0	52.2	ug/L	78-128
Carbon Tetrachloride	118.	50.0	59.1	ug/L	87-126
1,1,1-Trichloroethane	114.	50.0	57.1	ug/L	77-129
2-Butanone	96.6	50.0	48.3	ug/L	71-132
Benzene	104.	50.0	51.9	ug/L	86-116
1,2-Dichloroethane	115.	50.0	57.3	ug/L	81-125
Trichloroethene	111.	50.0	55.4	ug/L	79-121
1,2-Dichloropropane	110.	50.0	55.1	ug/L	84-118
Bromodichloromethane	118.	50.0	59.1	ug/L	85-122
cis-1,3-Dichloropropene	111.	50.0	55.3	ug/L	83-119
Toluene	105.	50.0	52.3	ug/L	84-118
4-Methyl-2-Pentanone	112.	50.0	55.8	ug/L	83-122
Tetrachloroethene	98.8	50.0	49.4	ug/L	47-155
trans-1,3-Dichloropropene	120.	50.0	59.9	ug/L	85-135
1,1,2-Trichloroethane	108.	50.0	53.9	ug/L	84-115
Dibromochloromethane	113.	50.0	56.5	ug/L	85-119
Chlorobenzene	104.	50.0	51.9	ug/L	89-113
Ethylbenzene	111.	50.0	55.7	ug/L	88-113
m+p-Xylenes	114.	100.	114.	ug/L	88-116
o-Xylene	* 118.	50.0	58.9	ug/L	90-116
Bromoform	112.	50.0	56.2	ug/L	86-117
1,1,2,2-Tetrachloroethane	100.	50.0	50.1	ug/L	79-121
P-Bromofluorobenzene	105.				56-133
Toluene-d8	101.				65-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG240630-1
Client ID: LCS
Project:
SDG: TL0880
LCS File ID: T8444.D

Sample Date:
Received Date:
Extract Date: 09-NOV-18
Extracted By: TTC
Extraction Method: SW846 5030
Lab Prep Batch: WG240630

Analysis Date: 09-NOV-18
Analyst: TTC
Analysis Method: SW846 8260B
Matrix: AQ
% Solids: NA
Report Date: 27-NOV-18

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,2-Dichloroethane-d4	112.				67-135
Dibromofluoromethane	104.				68-128

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8444.D
Report Date: 27-Nov-2018 12:13

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T110918.b\T8444.D
Lab Smp Id: WG240630-1
Inj Date : 09-NOV-2018 07:36
Operator : TTC   Inst ID: gcms-t.i
Smp Info : WG240630-1,TL0880
Misc Info : WG240630,WG240630-4,TL0880-1
Comment   : SW846 5030
Method   : \\target_server\gg\chem\gcms-t.i\T110918.b\T8A05(61)D.m
Meth Date : 09-Nov-2018 16:25 tcote   Quant Type: ISTD
Cal Date : 07-NOV-2018 11:32   Cal File: T8384.D
Als bottle: 3   QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE   Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1	Dichlorodifluoromethane	85	1.344	1.344	(0.232)	447938	90.8365	90.8(R)	
2	Chloromethane	50	1.480	1.480	(0.256)	302538	72.5673	72.6(R)	
3	Vinyl chloride	62	1.537	1.538	(0.265)	311246	65.3418	65.3	
4	Bromomethane	94	1.759	1.759	(0.304)	152594	72.7385	72.7(R)	
5	Chloroethane	64	1.852	1.845	(0.320)	182414	69.8807	69.9	
6	Trichlorofluoromethane	101	1.952	1.952	(0.337)	515289	60.9822	61.0	
7	Diethyl Ether	59	2.173	2.174	(0.375)	205418	51.0627	51.1	
8	1,1-Dichloroethene	96	2.338	2.331	(0.404)	241848	57.6063	57.6	
9	Freon-113	151	2.359	2.360	(0.407)	174179	52.4988	52.5	
10	Carbon Disulfide	76	2.367	2.367	(0.409)	680536	61.1000	61.1	
11	Iodomethane	142	2.452	2.453	(0.423)	122269	46.1548	46.2	
12	Acrolein	56	2.610	2.617	(0.451)	127766	235.762	236	
13	Allyl Chloride	41	2.724	2.724	(0.470)	301663	50.9241	50.9	
14	Methylene Chloride	84	2.824	2.825	(0.488)	270488	57.5919	57.6	
15	Acetone	43	2.874	2.875	(0.496)	69590	34.8035	34.8	
16	trans-1,2-Dichloroethene	96	2.967	2.968	(0.512)	226535	52.1030	52.1	
17	Methyl Acetate	43	2.989	2.982	(0.516)	179302	43.8958	43.9	
18	Methyl tert-butyl ether	73	3.074	3.075	(0.531)	798171	61.6725	61.7	
19	Tertiary-butyl alcohol	59	3.174	3.182	(0.548)	122842	215.442	215	
20	Acetonitrile	41	3.339	3.339	(0.577)	256237	449.443	449	
21	Di-isopropyl ether	45	3.468	3.468	(0.599)	766785	51.5022	51.5	
22	Chloroprene	53	3.582	3.582	(0.619)	435919	53.6192	53.6	
23	1,1-Dichloroethane	63	3.611	3.611	(0.623)	531268	56.3322	56.3	

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8444.D
Report Date: 27-Nov-2018 12:13

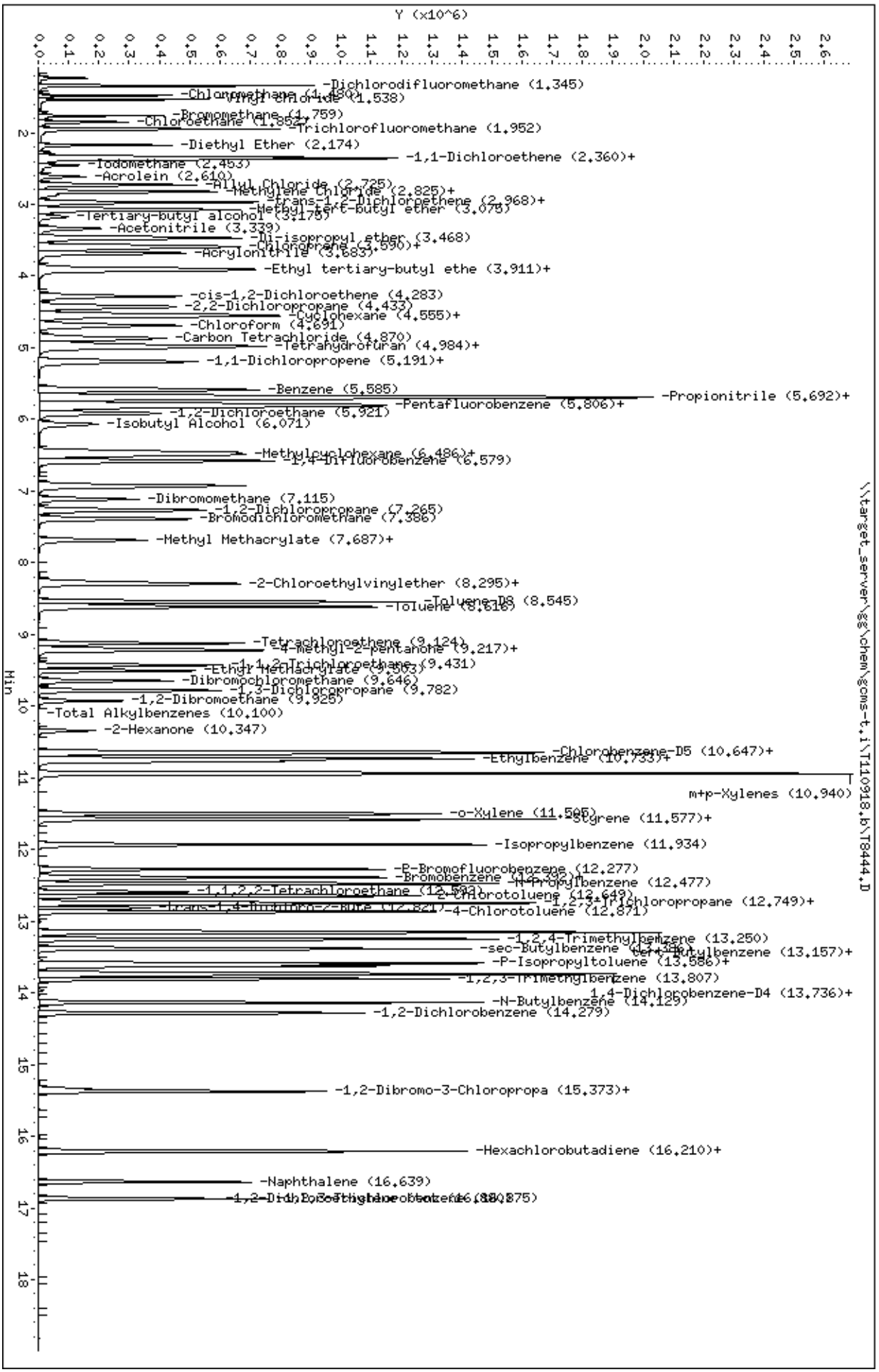
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.682	3.683	(0.636)	378438	239.963	240	
	25 Ethyl tertiary-butyl ether	59	3.904	3.904	(0.674)	809687	53.7446	53.7	
	26 Vinyl Acetate	43	3.925	3.926	(0.596)	586521	60.2805	60.3	
	27 cis-1,2-Dichloroethene	96	4.283	4.283	(0.740)	239794	51.3290	51.3	
	28 2,2-Dichloropropane	77	4.426	4.433	(0.764)	510509	57.8064	57.8	
	29 Cyclohexane	56	4.547	4.548	(0.785)	435077	64.6605	64.7	
	30 Bromochloromethane	128	4.562	4.562	(0.788)	99796	55.0323	55.0	
	31 Chloroform	83	4.690	4.691	(0.810)	569153	52.2126	52.2	
	32 Carbon Tetrachloride	117	4.869	4.870	(0.739)	468642	59.1391	59.1	
	33 Tetrahydrofuran	42	4.941	4.927	(0.853)	64146	53.8085	53.8	
$	34 Dibromofluoromethane	113	4.976	4.977	(0.859)	293935	52.0772	52.1	
	35 1,1,1-Trichloroethane	97	4.991	4.991	(0.862)	561948	57.1172	57.1	
	36 1,1-Dichloropropene	75	5.191	5.191	(0.788)	395115	57.2609	57.3	
	37 2-Butanone	43	5.212	5.206	(0.900)	100614	48.2812	48.3	
	38 Benzene	78	5.584	5.592	(0.848)	911157	51.9492	51.9	
	39 Propionitrile	54	5.663	5.670	(0.978)	331904	466.042	466	
	40 Methacrylonitrile	41	5.691	5.699	(0.983)	1443287	516.842	517	
*	41 Pentafluorobenzene	168	5.791	5.792	(1.000)	479951	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.813	5.813	(1.004)	481203	55.8712	55.9	
	43 Tertiary-amyl methyl ether	73	5.820	5.820	(1.005)	652357	49.6722	49.7	
	44 1,2-Dichloroethane	62	5.920	5.921	(0.899)	516694	57.2774	57.3	
	45 Isobutyl Alcohol	43	6.070	6.071	(1.048)	176540	911.418	911	
	46 Methylcyclohexane	83	6.456	6.464	(1.115)	363735	49.9436	49.9	
	47 Trichloroethene	95	6.499	6.500	(0.987)	274634	55.3902	55.4	
*	48 1,4-Difluorobenzene	114	6.585	6.586	(1.000)	717875	50.0000		
	49 Dibromomethane	93	7.114	7.115	(1.080)	176583	52.9415	52.9	
	50 1,2-Dichloropropane	63	7.264	7.265	(1.103)	259769	55.0795	55.1	
	51 Bromodichloromethane	83	7.386	7.394	(1.122)	453014	59.1196	59.1	
	52 Methyl Methacrylate	41	7.679	7.687	(1.166)	218721	56.0574	56.0	
	53 1,4-Dioxane	88	7.693	7.701	(1.168)	35408	733.629	734	
	54 2-Chloroethylvinylether	63	8.258	8.266	(1.254)	129072		(aR)	
	55 cis-1,3-dichloropropene	75	8.294	8.294	(1.259)	462520	55.2720	55.3	
$	56 Toluene-D8	98	8.544	8.545	(1.297)	983430	50.7004	50.7	
	57 Toluene	92	8.616	8.616	(1.308)	568824	52.3493	52.3	
	58 Tetrachloroethene	164	9.123	9.124	(0.858)	170366	49.3661	49.4	
	59 4-methyl-2-pentanone	43	9.195	9.195	(1.396)	216798	55.8423	55.8	
	60 trans-1,3-Dichloropropene	75	9.224	9.224	(1.401)	470901	59.8709	59.9	
	61 1,1,2-Trichloroethane	83	9.431	9.431	(1.432)	189058	53.9035	53.9	
	62 Ethyl Methacrylate	69	9.510	9.510	(1.444)	291888	50.8502	50.8	
	63 Dibromochloromethane	129	9.653	9.653	(0.907)	263516	56.4759	56.5	
	64 1,3-Dichloropropane	76	9.781	9.782	(0.919)	390087	52.2188	52.2	
	65 1,2-Dibromoethane	107	9.924	9.925	(1.507)	215672	50.6347	50.6	
M	66 Total Alkylbenzenes	100				6752544	396.670	397	
	67 2-Hexanone	43	10.346	10.339	(0.972)	142222	50.7392	50.7	
*	68 Chlorobenzene-D5	117	10.639	10.640	(1.000)	669404	50.0000		
	69 Chlorobenzene	112	10.661	10.661	(1.002)	575076	51.8797	51.9	
	70 Ethylbenzene	91	10.732	10.733	(1.009)	1162743	55.7322	55.7	
	71 1,1,1,2-Tetrachloroethane	131	10.768	10.768	(1.012)	237842	55.4482	55.4	
	72 m+p-Xylenes	91	10.940	10.940	(1.028)	1798395	114.280	114	
	73 o-Xylene	91	11.505	11.505	(1.081)	934440	58.8681	58.9(R)	
	74 Styrene	104	11.576	11.576	(1.088)	645548	57.9667	58.0	
	75 Bromoform	173	11.576	11.576	(1.088)	177181	56.1836	56.2	
	76 Isopropylbenzene	105	11.934	11.934	(0.869)	1053598	59.5061	59.5	
$	77 P-Bromofluorobenzene	95	12.277	12.277	(1.864)	424747	52.5739	52.6	

Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8444.D
Report Date: 27-Nov-2018 12:13

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.384	12.384	(0.902)	235545	51.2497	51.2	
	79 cis-1,4-Dichloro-2-Butene	53	12.398	12.399	(0.903)	118042	51.8726	51.9	
	80 N-Propylbenzene	91	12.477	12.477	(0.909)	1322167	55.2372	55.2	
	81 1,1,2,2-Tetrachloroethane	83	12.591	12.599	(0.917)	269730	50.1065	50.1	
	82 2-Chlorotoluene	91	12.649	12.649	(0.921)	827125	54.3705	54.4	
	83 1,2,3-Trichloropropane	75	12.734	12.735	(0.928)	264232	50.3099	50.3	
	84 1,3,5-Trimethylbenzene	105	12.756	12.756	(0.929)	922901	56.7712	56.8	
	85 trans-1,4-Dichloro-2-Butene	53	12.820	12.821	(0.934)	96050	52.3993	52.4	
	86 4-Chlorotoluene	91	12.870	12.871	(0.938)	899169	56.8692	56.9	
	87 tert-Butylbenzene	119	13.149	13.149	(0.958)	765300	55.6404	55.6	
	88 Pentachloroethane	165	13.156	13.157	(0.958)	138249	52.2909	52.3	
	89 1,2,4-Trimethylbenzene	105	13.249	13.250	(0.965)	944210	58.0739	58.1	
	90 sec-Butylbenzene	105	13.385	13.385	(0.975)	1073513	57.1953	57.2	
	91 P-Isopropyltoluene	119	13.585	13.586	(0.990)	824480	56.8915	56.9	
	92 1,3-Dichlorobenzene	146	13.621	13.629	(0.992)	427661	52.6105	52.6	
*	93 1,4-Dichlorobenzene-D4	152	13.728	13.729	(1.000)	348108	50.0000		
	94 1,4-Dichlorobenzene	146	13.750	13.750	(1.002)	434185	49.9948	50.0	
	95 1,2,3-Trimethylbenzene	105	13.807	13.807	(1.006)	868531	50.1799	50.2	
	96 N-Butylbenzene	91	14.129	14.136	(1.029)	899973	56.8602	56.9	
	97 1,2-Dichlorobenzene	146	14.279	14.279	(1.040)	393374	49.7548	49.8	
	98 1,2-Dibromo-3-Chloropropane	75	15.330	15.330	(1.117)	66337	55.9562	56.0	
	99 1,3,5-Trichlorobenzene	180	15.373	15.373	(1.120)	282221	47.1705	47.2	
	100 Hexachlorobutadiene	225	16.202	16.210	(1.180)	144108	51.2223	51.2	
	101 1,2,4-Trichlorobenzene	180	16.217	16.216	(1.181)	248665	51.5984	51.6	
	102 Naphthalene	128	16.638	16.639	(1.212)	489336	47.4934	47.5	
M	103 1,2-Dichloroethylene (total)	96				466329	103.432	103	
	104 1,2,3-Trichlorobenzene	180	16.874	16.875	(1.229)	221040	50.3038	50.3	
M	105 Xylenes (total)	91				2732835	173.148	173	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-t.i\T110918.b\T8444.D
Date : 09-NOV-2018 07:36
Client ID:
Sample Info: WG240630-1,TL0880
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: TTC
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T110918.b\T8444.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.345)
-Chloromethane (1.490)
-Vinyl Chloride (1.538)
-Bromomethane (1.759)
-Chloroethane (1.862)
-Trichlorofluoromethane (1.952)
-Diethyl Ether (2.174)
-1,1-Dichloroethene (2.360)+
-Iodomethane (2.453)
-Acrolein (2.610)
-Allyl Chloride (2.725)
-Methylene Chloride (2.825)+
-trans-1,2-Dichloroethene (2.968)+
-Methyl tert-butyl ether (3.075)
-Tertiary-butyl alcohol (3.175)
-Acetonitrile (3.339)
-Di-isopropyl ether (3.468)
-Chloroprene (3.590)+
-Acrylonitrile (3.683)
-Ethyl tertiary-butyl ethe (3.911)+
-cis-1,2-Dichloroethene (4.283)
-2,2-Dichloropropane (4.433)
-Cyclohexane (4.555)+
-Chloroform (4.691)
-Carbon Tetrachloride (4.870)
-Tetrahydrofuran (4.984)+
-1,1-Dichloropropene (5.191)+
-Benzene (5.585)
-Propionitrile (5.692)+
-Pentafluorobenzene (5.806)+
-1,2-Dichloroethane (5.921)
-Isobutyl Alcohol (6.071)
-Methylcyclohexane (6.486)+
-1,4-Difluorobenzene (6.579)
-Dibromomethane (7.115)
-1,2-Dichloropropane (7.265)
-Bromodichloromethane (7.386)
-Methyl Methacrylate (7.687)+
-2-Chloroethylvinylether (8.295)+
-Toluene-D8 (8.545)
-Toluene (8.616)
-Tetrachloroethene (9.124)
-4-Methyl-2-pentanone (9.217)+
-1,1,2-Trichloroethane (9.431)
-Ethyl Methacrylate (9.503)
-Dibromochloromethane (9.646)
-1,3-Dichloropropane (9.782)
-1,2-Dibromoethane (9.925)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.347)
-Chlorobenzene-D5 (10.647)+
-Ethylbenzene (10.733)+
m+p-Xylenes (10.940)
-o-Xylene (11.506)
-Styrene (11.577)+
-Isopropylbenzene (11.934)
-P-Bromofluorobenzene (12.277)
-Bromobenzene (12.295)
-N-Propylbenzene (12.477)
-1,1,2,2-Tetrachloroethane (12.593)
-2-Chlorotoluene (12.649)
-1,2,3-Trichloropropane (12.749)+
-trans-1,4-Dichloro-2-Butene (12.821)
-4-Chlorotoluene (12.871)
-1,2,4-Trimethylbenzene (13.250)
-sec-Butylbenzene (13.436)
-tert-Butylbenzene (13.157)+
-P-Isopropyltoluene (13.586)+
-1,2,3-Trimethylbenzene (13.807)
-1,4-Dichlorobenzene-D4 (13.736)+
-N-Butylbenzene (14.129)
-1,2-Dichlorobenzene (14.279)
-1,2-Dibromo-3-Chloropropa (15.373)+
-Hexachlorobutadiene (16.210)+
-Naphthalene (16.639)
-1,2,3-Trichlorobenzene (16.875)

Logbooks and Supporting Documents

KATAHDIN ANALYTICAL SERVICES

GCMS-T INSTRUMENT RUNLOG — **DATE/TIME OF BFB INJECTION:** 11-7-18

Method - Check One:	8260 ✓	8260 - 10 mL	8260 SIM	624	524
STD IDs: * BFB STD: V1278	CAL STD: 1279	GAS STD: V1284	XTRAs STD: V1281	LCS/MS STD: V1284	
SURR STD:	IS STD:	Prep Method	Criteria	pH Paper Lot #: —	KI Paper Lot # —

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
W240169-BS10	T8576	1	—	8260-5030	✓						Y	TB	NA	NA	
VSTD50	T8577		1	TM05(61)							N				
	78		2								N				
-4	79		3								Y				
20 -3	80		4								Y				
5 -2	81		5								Y				
1 -1	82		6								Y				
150 -6	83		7								Y				
100 -5	84		8								Y				
75 -7	85		9								N				Not reported
Ind -8	86	↓	10	↓	↓						N	↓	↓	↓	Chloromethane?, Bromo? + Acetone ↓ Indicates

TB 11-7-18

* Refer to page 1 for standard preparation instructions.

KATAHDIN ANALYTICAL SERVICES

GCMS-T INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 11-9-18 5:58

Method - Check One:	8260 ✓	8260 - 10 mL	8260 SIM	624	524
STD IDs: * BFB STD: V1277	CAL STD: V1279	GAS STD: V1280	XTRAs STD: V1281	LCS/MS STD: V1282	
SURR STD: V1272	IS STD: V1272	Prep Method	Criteria	pH Paper Lot #: HC57466	KI Paper Lot #

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
WG240630-3	T5789	1	1	V8260D(61)	✓						Y	RB	NA	NA	WG240630
VSTD50	T5842		2	T8260C(61)							Y				
LCS	43		3								N				
LCS	44		4								Y				
VBLKA	45		5								N				target lic
D	46		6								Y		✓		Iss↑ OOC
TL0876-2D	47		7						5.1		Y		<2		Iss↑
TL0894-1A	48		8					✓			Y				
TL0880-3A	49		9					✓			Y				
-1A	50		10					✓			Y				
-2A	51		11					✓			Y				
TL0651-1B	52		12					✓			Y				
-2B	53		13					✓			Y				
-3B	54		14					✓			Y				
TL0872-1A	55		15					✓			Y/N				Iss↑ RA
TL0839-1A	56		16					✓			Y				
-2A	57		17					✓			Y				
TL0894-4A	58		15					✓							Iss RA ~~no target lic >LOQ~~
-5A	59		15					✓			Y				Iss not target lic >LOQ
-7A	60		20					✓							Iss RA
-4MS B	61		21					✓			Y				
-4MSD B	62		22					✓			Y				
CCV1	63		23								Y		-		10:35 ✓

11-9-18

* Refer to page 1 for standard preparation instructions.

Appendix C

Operation and Maintenance Field Checklists

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 1/24/18

Inspector ES

AFU	AFU Location	System Data				Notes
		Δ P	RPF	RAF	FF	
1	South Conference Room	—	—	—	—	No Access
2	East Body Forge	5.5	0.10	0.04	0.67	All filters OK
3	West Body Forge	5.7	0.10	0.07	0.70	↓
4	West Turret Lab	—	—	—	—	No Access
5	East Turret Lab	—	—	—	—	↓
6	North Mechanical Closet	4.5	0.06	0.05	0.65	↑
7	South Mechanical Closet	5.6	0.04	0.08	0.51	All filters OK
8	South Mechanical Closet	5.3	0.08	0.06	0.36	↓

Site Contact (Sheila) Not Present. No Access to Afus 1, 4+5
* Conference in Progress *

Δ P - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 1/24/18

Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_2O)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	−2.5	12.1
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	−2.0	ES ~~ES~~ 45.7
		Notes:				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	< −10	8.93
	EW-2	Main floor, north end of wood shop	Wood Shop		< −10	20.20
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	−1.8	47.6
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	−1.9	48.2
		Notes:				

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 1/24/18

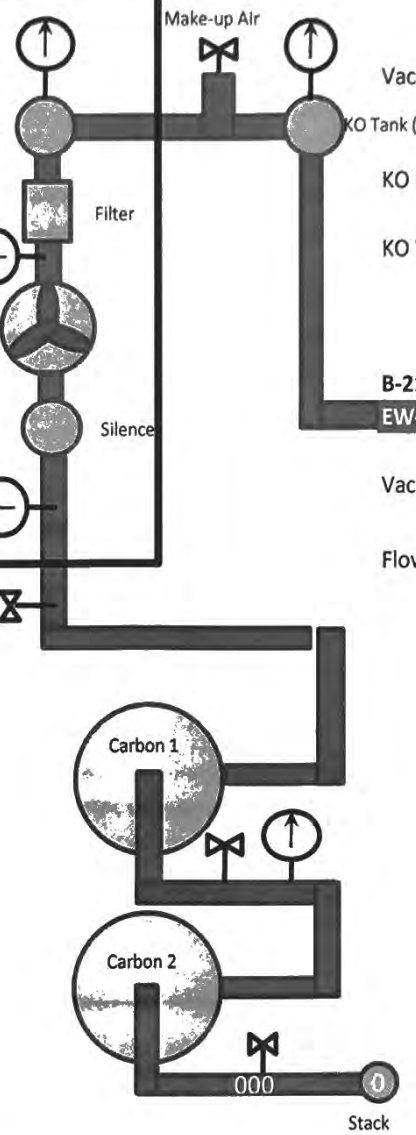
Inspector ES

Control Panel

Flow (cfm)	42
Temp (°F)	96
Run Time (hours)	57430.0
VFD Speed (%)	100
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-29
KO Level (inches)	0
Vacuum ("H_2O)	-34
Pressure ("H_2O)	3
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	—
PID (ppm)	—



Vacuum ("H_2O)	-24
KO Level (inches)	0
KO Total (Gallons)	2771.

B-21 Extraction Well
EW-1

Vacuum ("H_2O)	-28
Flow (cfm)	8.49

Carbon Bypassed

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 1/24/18

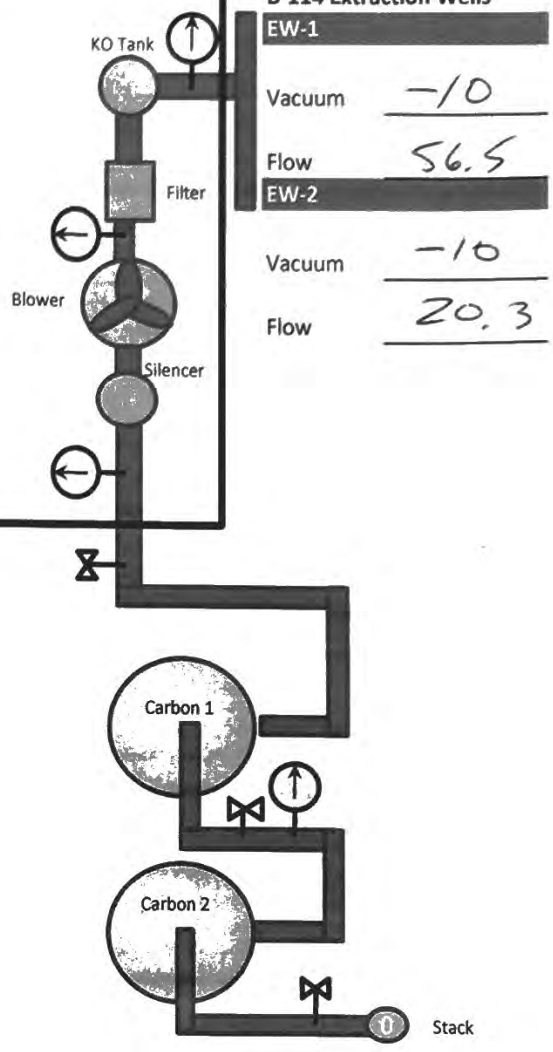
Inspector ES

Control Panel

Flow (cfm)	101
Temp (°F)	73
Run Time (hours)	56511.0
VFD Speed (%)	96.5
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-7
KO Level (inches)	0
Vacuum ("H_2O)	-21
Pressure ("H_2O)	6
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	4.5
PID (ppm)	—



B-114 Extraction Wells

EW-1	
Vacuum	-10
Flow	56.5
EW-2	
Vacuum	-10
Flow	20.3

Notes: _____

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 1/24/18

Inspector ES

Building 25 System	Control Panel Room	Building 20 System
483	Flow (cfm)	336
	Pressure ("H_2O) 29	
	Temp (°F) 119	
6166.10	Run Time (hours)	63101.10
100	VFD Speed (%)	100
None	Alarms?	None

B-25 Extraction Wells

EW-1	
Vacuum	-17
Flow	194
EW-2	
Vacuum	-20
Flow	226
EW-3	
Vacuum	-19
Flow	25.9
EW-4	
Vacuum	-20
Flow	67.8

Mechanical Room

-24	Vacuum ("H_2O)	-85
0	KO Level (inches)	0
-35	Vacuum ("H_2O)	<-100
-40	Vacuum ("H_2O)	<-100
34	Pressure ("H_2O)	30
112	Temp °F	147
—	PID (ppm)	—

KO Tank, Filter, Blower, Silencer

B-20 Extraction Wells

EW-1	
Vacuum	-78
Flow	167.5
EW-2	
Vacuum	-80
Flow	70.9
EW-3	
Vacuum	-78
Flow	94.9

Flow (cfm) —

"H_2O 26

PID (ppm) —

"H_2O —

PID (ppm) —

Flow Monitoring Port

Carbon 1

Carbon 2

Stack

Notes: C2 offline

ARCADIS

Control Number: TGM - 06261062 0002

TGM + *project number plus date as follows xxxxxxxx xxxx xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			Project Location: Waterviet, NY
Date: 1/24/18	Time: 0800	Conducted by: ES	Signature/Title: Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Monthly OMM

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e., traffic, moving water) (L M H) h: c:	☐ Mechanical (i.e., augers, motors) (L M H) h: c:
☐ Electrical (i.e., utilities, lightning) (L M H) h: c:	☐ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☐ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e., machinery) (L M H) h: c:	☑ Personal (i.e., alone, night) (L M H) h: c:	☑ Driving (i.e., car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sousa EEC + ARCADIS	0800	

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party protperty damage - field supervisor will immediately notify the Project or Task Manager

Place any additional signatures on the back of this form.

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 2/15/18

Inspector ES

AFU	AFU Location	System Data				Notes
		Δ P	RPF	RAF	FF	
1	South Conference Room	5.9	0.10	0.08	0.65	All Filters OK
2	East Body Forge	5.5	0.11	0.04	0.75	↑
3	West Body Forge	5.7	0.10	0.07	0.76	
4	West Turret Lab	6.8	0.10	0.08	0.51	RAFs Rotated to RPFs, RAFs New
5	East Turret Lab	5.9	0.12	0.04	0.63	↓
6	North Mechanical Closet	4.5	0.06	0.05	0.66	↑
7	South Mechanical Closet	5.6	0.06	0.08	0.54	All Filters OK
8	South Mechanical Closet	5.3	0.08	0.06	0.40	↓

* AFUs 4 + 5 @ Turret Lab offline upon arrival

Δ P - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 2/15/18

Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_2O)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.8	14.80
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-2.0	52.70
		Notes: Condensate Present in Drain				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	<-10	6.57
	EW-2	Main floor, north end of wood shop	Wood Shop		<-10	21.40
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	-1.8	53.4
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-1.8	52.9
		Notes:				

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 2/15/18

Inspector ES

Building 25 System	Control Panel Room	Building 20 System
473	Flow (cfm)	343
	Pressure ("H_2O) 29	
	Temp (°F) 118	
62162.20	Run Time (hours)	63597.10
100	VFD Speed (%)	100
None	Alarms?	None

B-25 Extraction Wells

EW-1	
Vacuum	-17
Flow	196
EW-2	
Vacuum	-20
Flow	231
EW-3	
Vacuum	-19
Flow	24.3
EW-4	
Vacuum	-20
Flow	70.8

Mechanical Room

-24	Vacuum ("H_2O)	-85
0	KO Level (inches)	0
-35	Vacuum ("H_2O)	<-100
-40	Vacuum ("H_2O)	<-100
32	Pressure ("H_2O)	30
114	Temp °F	147
—	PID (ppm)	—

KO Tank, Filter, Blower, Silencer

B-20 Extraction Wells

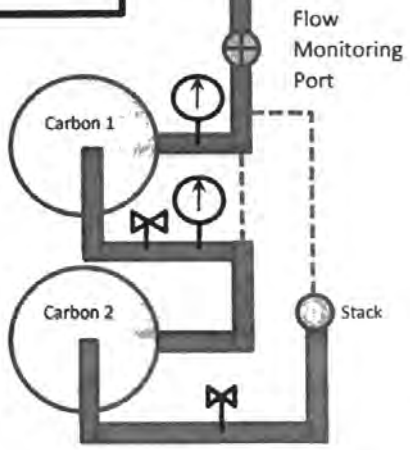
EW-1	
Vacuum	-79
Flow	169
EW-2	
Vacuum	-80
Flow	72.5
EW-3	
Vacuum	-78
Flow	94.2

Flow (cfm) —

"H_2O 26

PID (ppm) — "H_2O —

PID (ppm) —



Notes: C2 offline

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 2/15/18

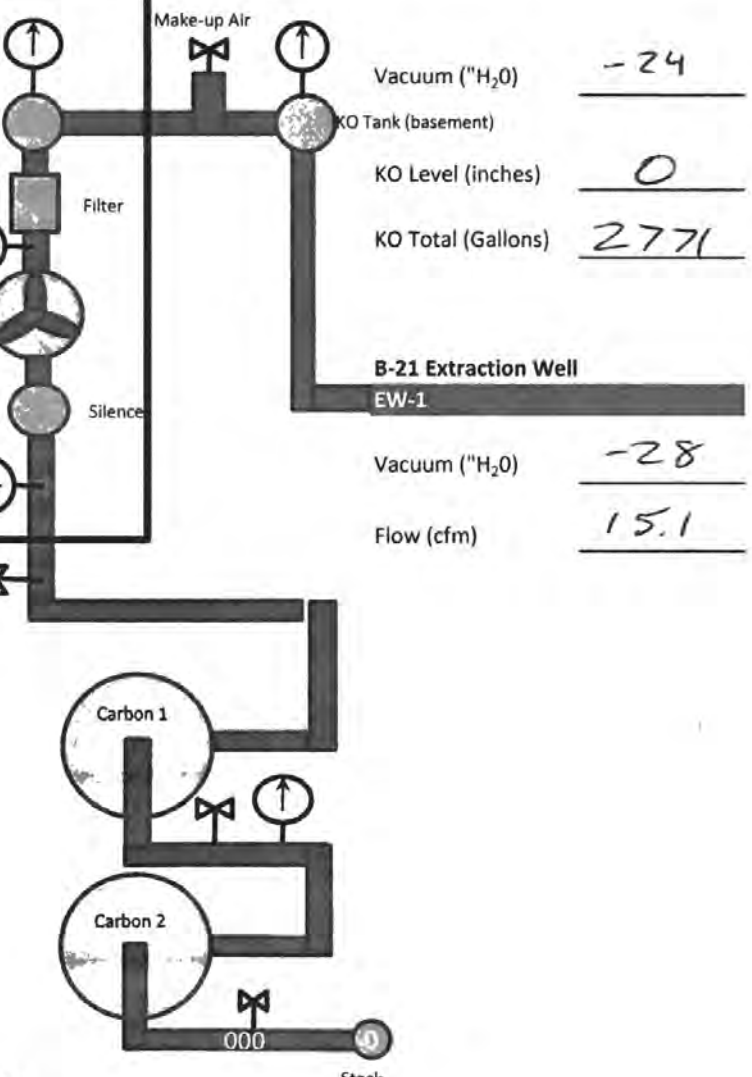
Inspector ES

Control Panel

Flow (cfm)	41
Temp (°F)	103
Run Time (hours)	57925.90
VFD Speed (%)	100
Alarms?	None

System Enclosure

Vacuum ("$H_2$0)	-29
KO Level (inches)	0
Vacuum ("$H_2$0)	-34
Pressure ("$H_2$0)	3
PID (ppm)	—
PID (ppm)	—
Pressure ("$H_2$0)	—
PID (ppm)	—



Vacuum ("$H_2$0)	-24
KO Level (inches)	0
KO Total (Gallons)	2771

B-21 Extraction Well
EW-1

Vacuum ("$H_2$0)	-28
Flow (cfm)	15.1

Carbon Bypassed

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 2/15/18

Inspector ES

Control Panel

Flow (cfm) 73

Temp (°F) 108

Run Time (hours) 57006.90

VFD Speed (%) 96.6

Alarms? None

System Enclosure

Vacuum ("H_2O) -7

KO Level (inches) 0

Vacuum ("H_2O) -20

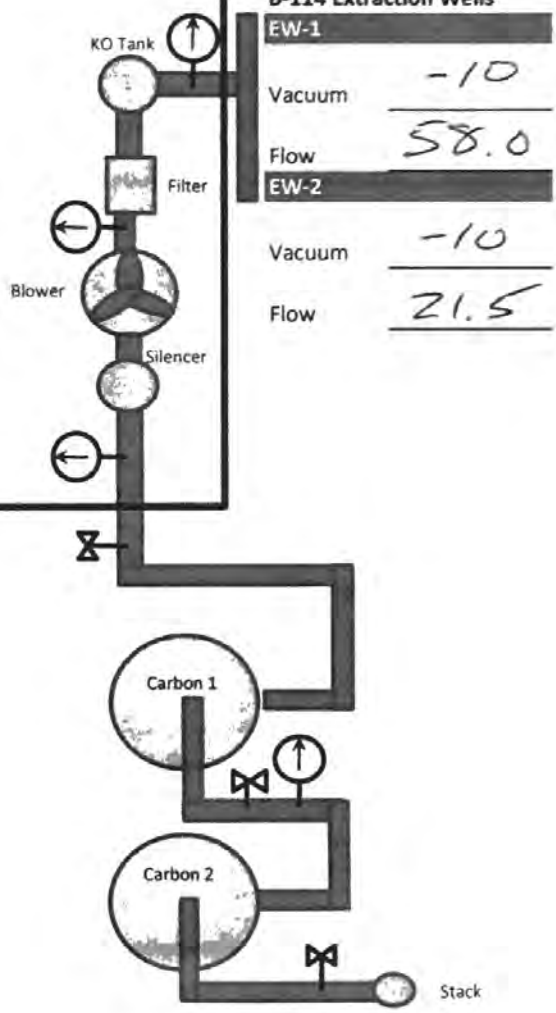
Pressure ("H_2O) 6

PID (ppm) —

PID (ppm) —

Pressure ("H_2O) 4.5

PID (ppm) —



B-114 Extraction Wells

EW-1

Vacuum -10

Flow 58.0

EW-2

Vacuum -10

Flow 21.5

Notes: _____

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

ARCADIS

Control Number:TGM - 06261067.0000
TGM + *project number plus date as follows: xxxxxxxx xxxx xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			**Project Location:** Watervliet, NY
Date: 2/15/18	**Time:** 0815	**Conducted by:**	**Signature/Title:** Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Routine Monthly OMM

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e., traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☑ Electrical (i.e., utilities, lightning) (L M H) h: c:	☐ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☐ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e. machinery) (L M H) h: c:	☑ Personal (i.e. alone, night) (L M H) h: c:	☑ Driving (i.e. car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sarba ARCADIS	0815	

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party protperty damage - field supervisor will immediately notify the Project or Task Manager

Place any additional signatures on the back of this form.

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 3/21/18

Inspector ES

AFU	AFU Location	System Data				Notes
		Δ P	RPF	RAF	FF	
1	South Conference Room	4.9	0.10	0.08	0.69	All Filters 06
2	East Body Forge	5.6	0.09	0.05	0.79	RAFs Rotated to RPFs, RAFs New
3	West Body Forge	5.8	0.10	0.06	0.82	↓
4	West Turret Lab	6.9	0.10	0.09	0.58	↑
5	East Turret Lab	~~6~~ 6.0	0.07	0.04	0.70	
6	North Mechanical Closet	4.5	0.07	0.06	0.69	All Filters 06
7	South Mechanical Closet	5.6	0.07	0.09	0.55	↓
8	South Mechanical Closet	5.3	0.10	0.06	0.43	

Δ P - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 3/21/18

Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_2O)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.7	11.45
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-0.5	52.6
		Notes: Condensate Present in Drain				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	< -10	4.96
	EW-2	Main floor, north end of wood shop	Wood Shop		< -10	19.60
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	-1.8	49.5
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-2.0	51.5
		Notes:				

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 3/21/18

Inspector ES

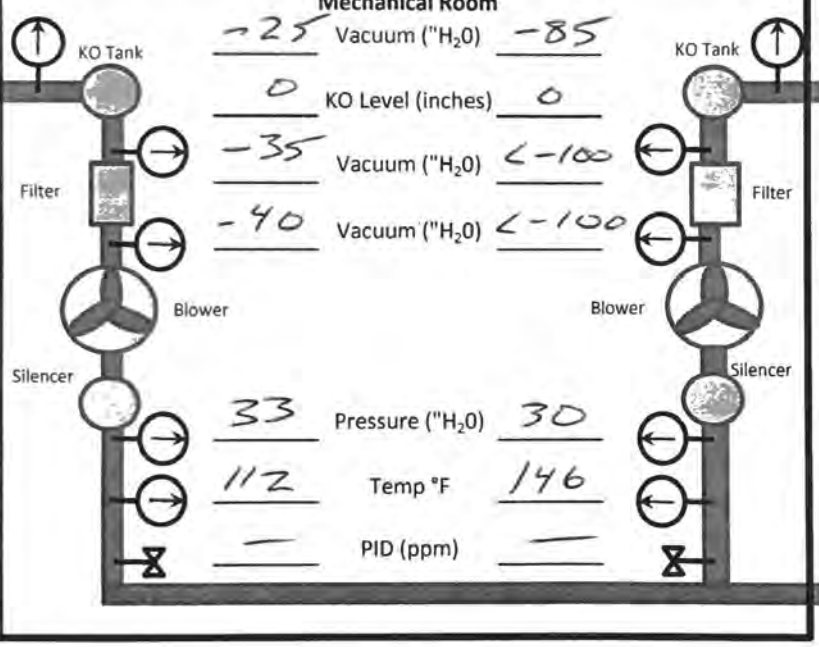
Building 25 System	Control Panel Room	Building 20 System
483	Flow (cfm)	336
	Pressure ("H_2O) 26	
	Temp (°F) 118	
62926.10	Run Time (hours)	64361.10
100	VFD Speed (%)	100
None	Alarms?	None

B-25 Extraction Wells

EW-1	
Vacuum	-17
Flow	198
EW-2	
Vacuum	-21
Flow	230
EW-3	
Vacuum	-19
Flow	21.0
EW-4	
Vacuum	-20
Flow	67.1

Mechanical Room

-25	Vacuum ("H_2O)	-85
0	KO Level (inches)	0
-35	Vacuum ("H_2O)	<-100
-40	Vacuum ("H_2O)	<-100
33	Pressure ("H_2O)	30
112	Temp °F	146
—	PID (ppm)	—



B-20 Extraction Wells

EW-1	
Vacuum	-80
Flow	165
EW-2	
Vacuum	-80
Flow	72.8
EW-3	
Vacuum	-78
Flow	94.1

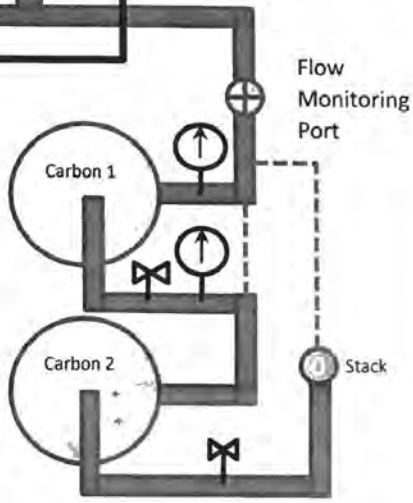
Flow (cfm) —

"H_2O 27

PID (ppm) —

"H_2O —

PID (ppm) —



Notes: _____

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 3/21/18

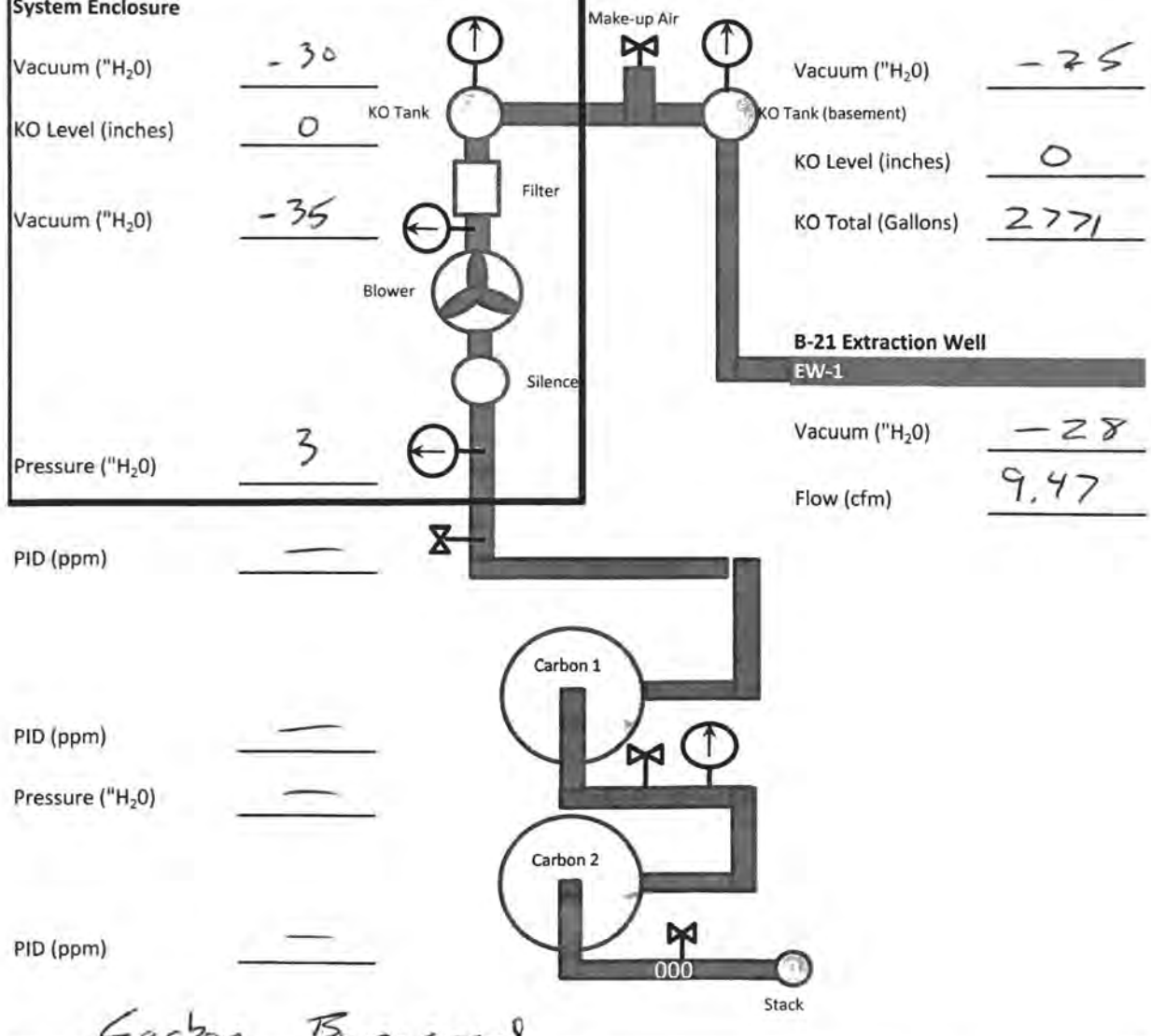
Inspector ES

Control Panel

Flow (cfm)	40
Temp (°F)	94
Run Time (hours)	58690.10
VFD Speed (%)	100
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-30
KO Level (inches)	0
Vacuum ("H_2O)	-35
Pressure ("H_2O)	3
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	—
PID (ppm)	—



Vacuum ("H_2O)	-25
KO Level (inches)	0
KO Total (Gallons)	2771

B-21 Extraction Well
EW-1

Vacuum ("H_2O)	-28
Flow (cfm)	9.47

Carbon Bypassed

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 3/21/18

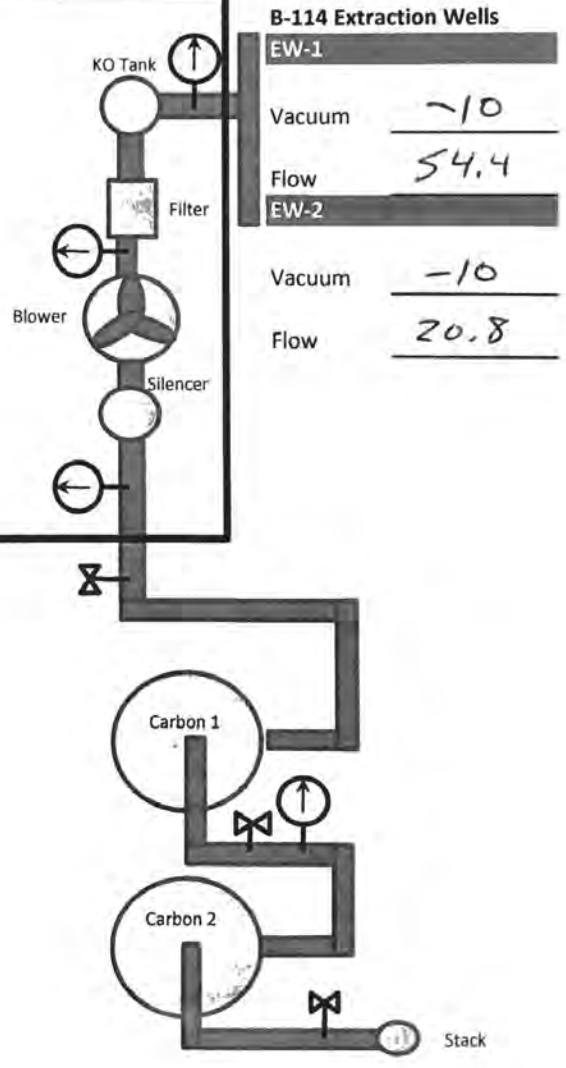
Inspector ES

Control Panel

Flow (cfm)	74
Temp (°F)	105
Run Time (hours)	57747.70
VFD Speed (%)	96.5
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-7
KO Level (inches)	0
Vacuum ("H_2O)	-21
Pressure ("H_2O)	6
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	4
PID (ppm)	—



B-114 Extraction Wells

EW-1	
Vacuum	-10
Flow	54.4
EW-2	
Vacuum	-10
Flow	20.8

Notes: _____

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

ARCADIS

Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			**Project Location:** Watervliet, NY
Date: 3/21/18	**Time:** 0840	**Conducted by:** ES	**Signature/Title:** Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Routine Monthly OMM Badge Renewal

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e., traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☑ Electrical (i.e., utilities, lightning) (L M H) h: c:	☑ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☐ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e., machinery) (L M H) h: c:	☑ Personal (i.e., alone, night) (L M H) h: c:	☑ Driving (i.e., car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sousa ARCADIS	0840	

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party protperty damage - field supervisor will immediately notify the Project or Task Manager

Place any additional signatures on the back of this form.

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 4/12/18

Inspector ES

AFU	AFU Location	System Data				Notes
		ΔP	RPF	RAF	FF	
1	South Conference Room	5.0	0.10	0.08	0.73	RAFs Rotated to RPFs, RAFs New
2	East Body Forge	5.5	0.09	0.04	0.82	
3	West Body Forge	5.8	0.11	0.06	0.85	
4	West Turret Lab	6.8	0.10	0.09	0.60	
5	East Turret Lab	5.9	0.08	0.04	0.73	
6	North Mechanical Closet	4.5	0.07	0.05	0.70	
7	South Mechanical Closet	5.7	0.04	0.06	0.55	RAFs Rotated to RPFs, RAFs New
8	South Mechanical Closet	5.3	0.06	0.04	0.45	

Elevator back in Service!!

* only 3 final filters left *

* Final Filters Changed @ AFU-03

	ΔP	RPF	RAF	FF
↳	5.7	0.11	0.06	0.43

* Need to order more Final Filters & Regular Filters *

ΔP - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 4/12/18

Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_20)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.6	12.95
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-1.9	60.8
		Notes: Condensate Present in Drain				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	<-10	33.9
	EW-2	Main floor, north end of wood shop	Wood Shop		<-10	20.1
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	-1.7	50.4
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-1.9	53.8
		Notes:				

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 4/12/18

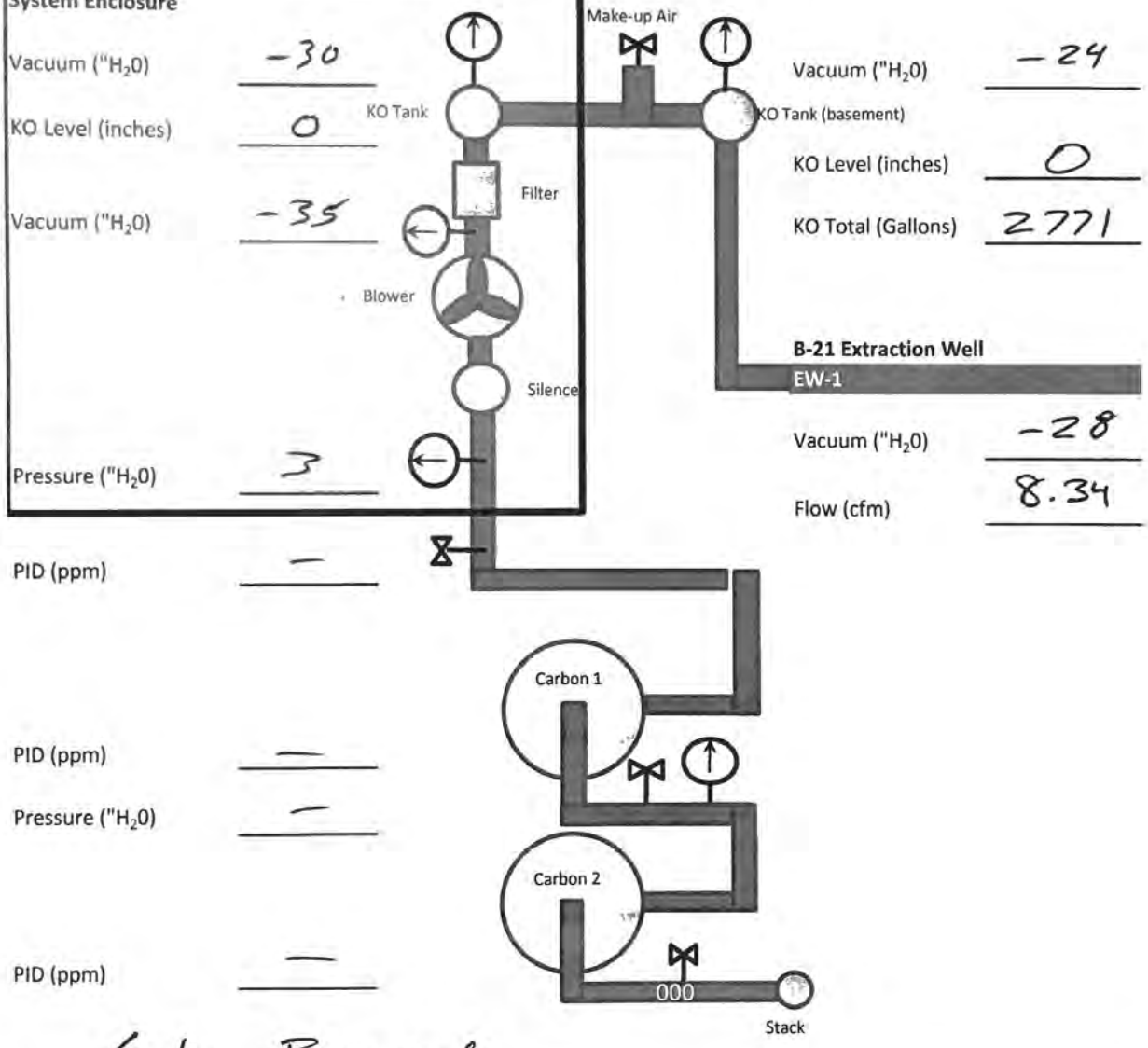
Inspector ES

Control Panel

Flow (cfm)	42
Temp (°F)	110
Run Time (hours)	59184.5
VFD Speed (%)	100
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-30
KO Level (inches)	0
Vacuum ("H_2O)	-35
Pressure ("H_2O)	3
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	—
PID (ppm)	—



Vacuum ("H_2O)	-24
KO Level (inches)	0
KO Total (Gallons)	2771

B-21 Extraction Well
EW-1

Vacuum ("H_2O)	-28
Flow (cfm)	8.34

Carbon Bypassed

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 4/12/18

Inspector ES

Control Panel

Flow (cfm) 73

Temp (°F) 111

Run Time (hours) 58220.2

VFD Speed (%) ~~96.5~~ 96.5

Alarms? None

System Enclosure

Vacuum ("H_2O) -7

KO Level (inches) 0

Vacuum ("H_2O) -21

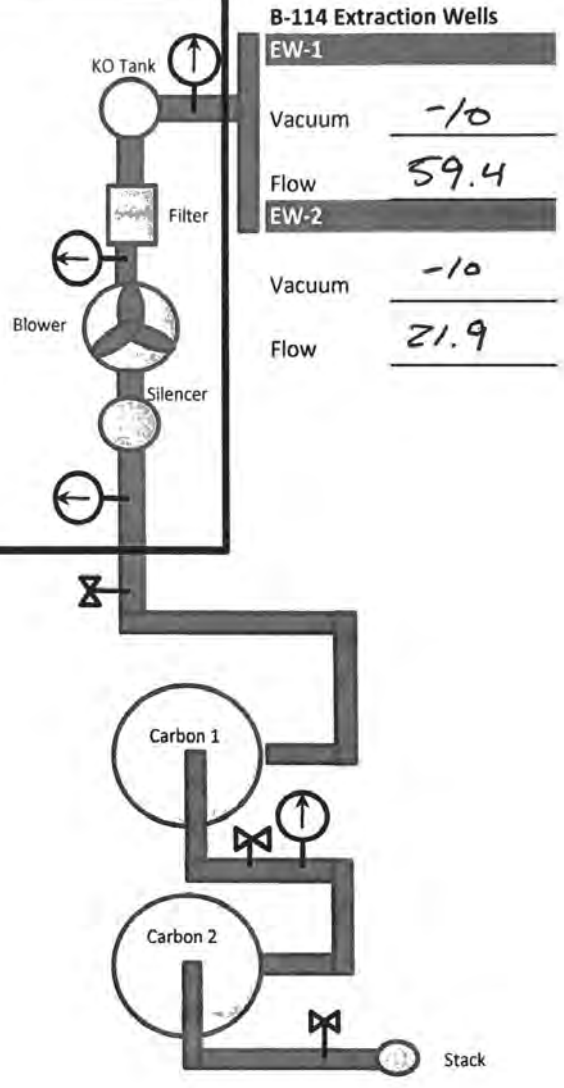
Pressure ("H_2O) 5

PID (ppm) —

PID (ppm) —

Pressure ("H_2O) 4

PID (ppm) —



B-114 Extraction Wells

EW-1

Vacuum -10

Flow 59.4

EW-2

Vacuum -10

Flow 21.9

Notes:

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 4/12/18

Inspector ES

Building 25 System	Control Panel Room	Building 20 System
473	Flow (cfm)	343
	Pressure ("H_2O) 28	
	Temp (°F) 119	
63420.7	Run Time (hours)	64855.6
100	VFD Speed (%)	100
None	Alarms?	None

B-25 Extraction Wells

EW-1	
Vacuum	-18
Flow	207
EW-2	
Vacuum	-21
Flow	240
EW-3	
Vacuum	-20
Flow	18.8
EW-4	
Vacuum	-21
Flow	72.4

Mechanical Room

-26	Vacuum ("H_2O)	-86
0	KO Level (inches)	0
-35	Vacuum ("H_2O)	<-100
-40	Vacuum ("H_2O)	<-100
34	Pressure ("H_2O)	30
115	Temp °F	148
—	PID (ppm)	—

KO Tank, Filter, Blower, Silencer

B-20 Extraction Wells

EW-1	
Vacuum	-80
Flow	173
EW-2	
Vacuum	-80
Flow	69.6
EW-3	
Vacuum	-80
Flow	93.7

Flow (cfm) —

"H_2O 26

PID (ppm) —

"H_2O —

PID (ppm) —

Flow Monitoring Port

Carbon 1

Carbon 2

Stack

Notes: C2 offline

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

ARCADIS

Control Number:TGM - 06261067.0000
TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			Project Location: Waterviet, NY
Date: 4/12/18	Time: 0830	Conducted by: ES	Signature/Title: / Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Monthly O+M

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e. traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☑ Electrical (i.e., utilities, lightning) (L M H) h: c:	☑ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☐ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e. machinery) (L M H) h: c:	☑ Personal (i.e. alone, night) (L M H) h: c:	☑ Driving (i.e. car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sosa EEC ARCADIS	0830	

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party protperty damage - field supervisor will immediately notify the Project or Task Manager

Place any additional signatures on the back of this form.

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 5/22/18

Inspector ES

AFU	AFU Location	System Data				Notes
		ΔP	RPF	RAF	FF	
1	South Conference Room	5.7	0.09	0.07	0.45	All Filters OK
2	East Body Forge	5.5	0.08	0.04	0.82	
3	West Body Forge	4.9	0.08	0.06	0.75	
4	West Turret Lab	6.8	0.06	0.08	0.53	
5	East Turret Lab	6.0	0.04	0.02	0.67	
6	North Mechanical Closet	4.5	0.06	0.05	0.74	
7	South Mechanical Closet	5.6	0.04	0.06	0.60	
8	South Mechanical Closet	5.3	0.06	0.04	0.48	

Δ P - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 5/22/18

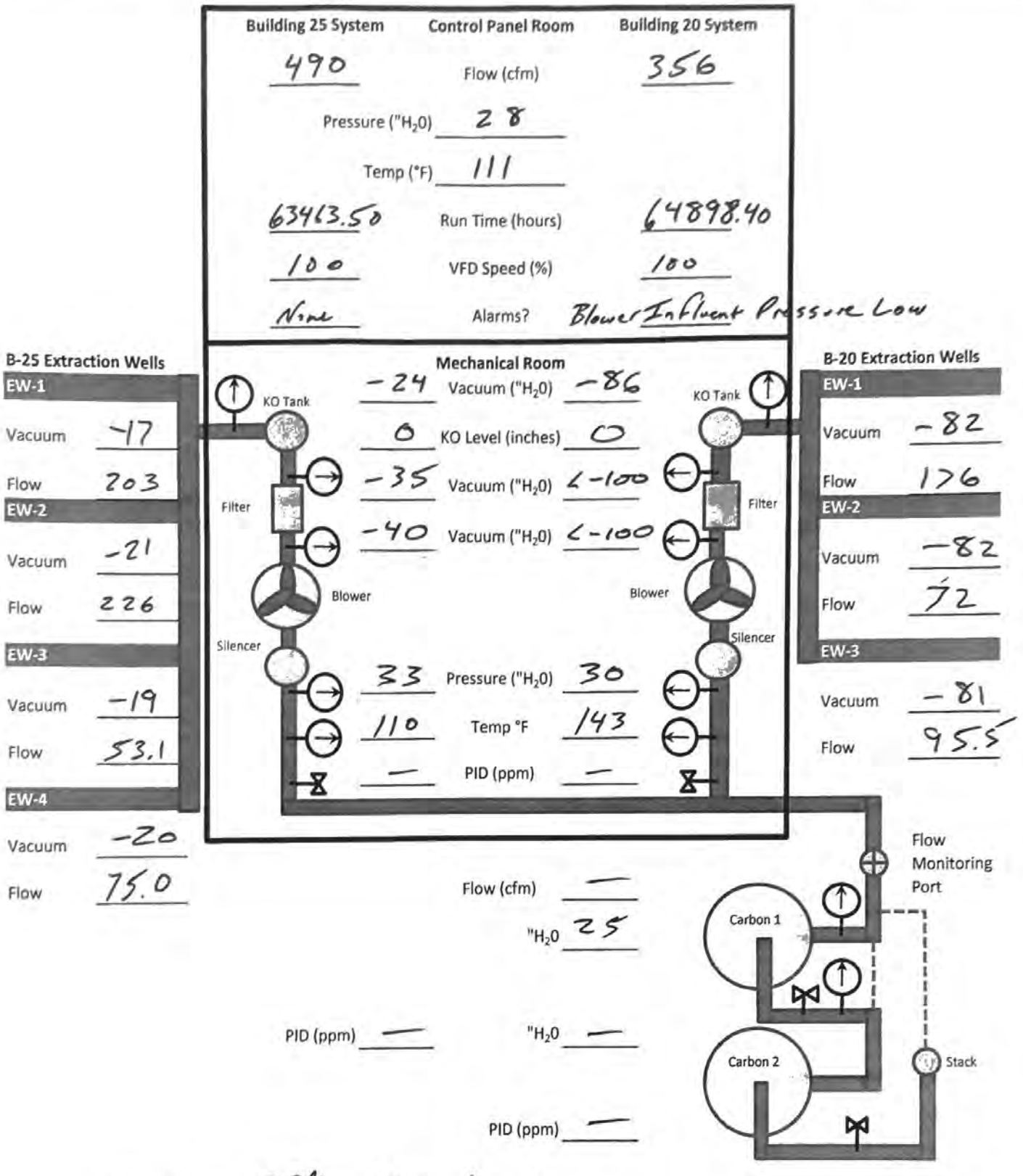
Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_20)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.6	17.5
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-2.0	67.2
		Notes: * No Condensate				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	< -10	10.4
	EW-2	Main floor, north end of wood shop	Wood Shop		< -10	20.9
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	-1.7	51.7
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-1.8	51.1
		Notes:				

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 5/22/18

Inspector ES



Notes: System Offline Upon Arrival

*Annual Blower Maintenance Performed
& Oil + Belts

C:\Users\Fsousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

* Need New Battery for Surge Protector
Minuteman EnSpire 600

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 5/22/18

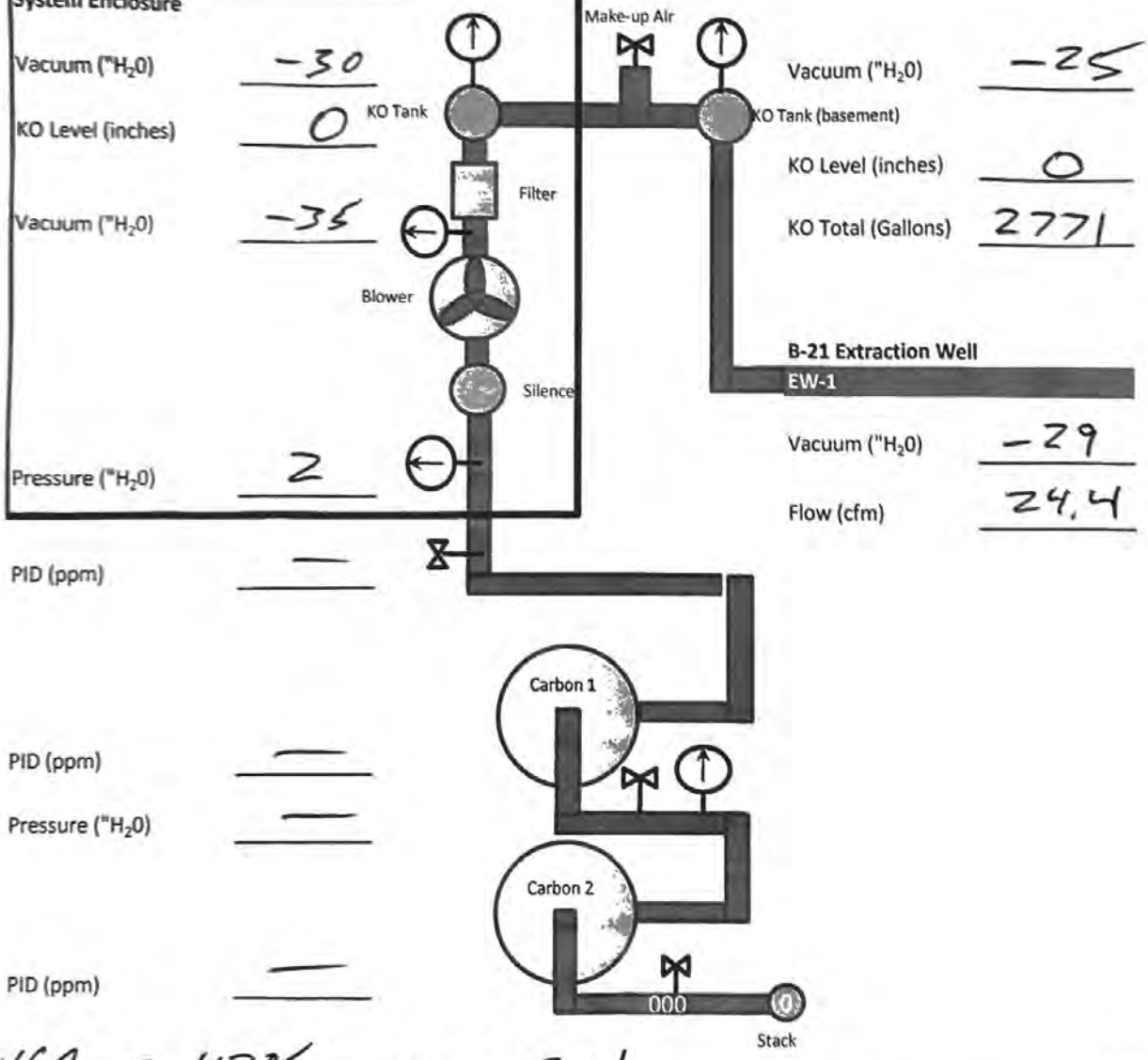
Inspector ES

Control Panel

Flow (cfm)	~~78~~ 39
Temp (°F)	84
Run Time (hours)	6008 6.00
VFD Speed (%)	100
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-30
KO Level (inches)	0
Vacuum ("H_2O)	-35
Pressure ("H_2O)	2



Vacuum ("H_2O)	-25
KO Level (inches)	0
KO Total (Gallons)	2771
Vacuum ("H_2O)	-29
Flow (cfm)	24.4

PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	—
PID (ppm)	—

VFD @ 43% upon arrival

Carbon offline

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 5/22/18

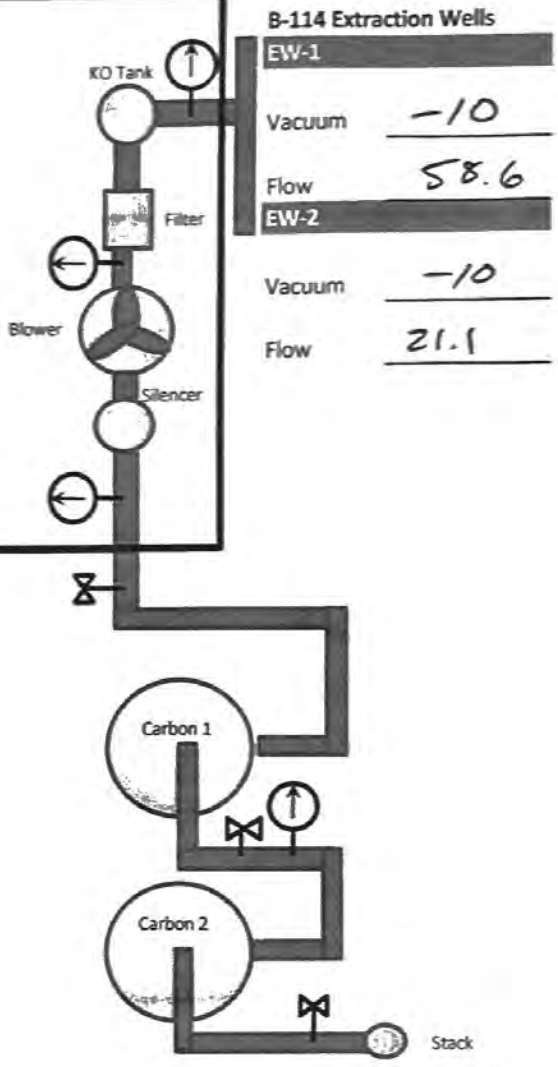
Inspector ES

Control Panel

Flow (cfm)	74
Temp (°F)	98
Run Time (hours)	58953.10
VFD Speed (%)	96.5
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-7
KO Level (inches)	0
Vacuum ("H_2O)	-21
Pressure ("H_2O)	4
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	3
PID (ppm)	—



B-114 Extraction Wells

EW-1	
Vacuum	-10
Flow	58.6
EW-2	
Vacuum	-10
Flow	21.1

Notes: _____

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

ARCADIS

Control Number: TGM - 06261067.0000.0000

TGM + project number plus date as follows: xxxxxxxx xxxx xxxx - ddmmyy

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: NVA	Project Location: Watervliet, NY
Date: 5/22/18 Time: 0800 Conducted by: ES	Signature/Title: Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Monthly OMM, Annual Blower Maintenance @ B20/25

☐ Additional permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, slips) (L M H)	☐ Motion (i.e., traffic, moving water) (L M H)	☑ Mechanical (i.e., auger, motors) (L M H)
h:	h:	h:
c:	c:	c:
☑ Electrical (i.e., utilities, lightning) (L M H)	☑ Pressure (i.e., gas cyl., lines) (L M H)	☑ Environment (i.e., heat, cold, ice) (L M H)
h:	h:	h: Rain
c:	c:	c:
☐ Chemical (i.e., fuel, acid, paint) (L M H)	☐ Biological (i.e., ticks, poison ivy) (L M H)	☐ Radiation (i.e., alpha, sun, laser) (L M H)
h:	h:	h:
c:	c:	c:
☑ Sound (i.e., machinery) (L M H)	☑ Personal (i.e., work, night) (L M H)	☑ Driving (i.e., car, ATV, boat, dozer) (L M H)
h:	h:	h:
c:	c:	c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emanuel Sousa ARCADIS	0800	

Place any additional signatures on the back of this form.

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party property damage - field supervisor will immediately notify the Project or Task Manager

F.W. Webb Company
17 Erie Boulevard
Albany, NY 12204-2589
TEL# (518-472-9322)
FAX# (518-472-9399)

Date	Shiplist Number
05/10/18 06:57am	58791583 Mode: 0

Sold To:
ARCADIS US

630 PLAZA DRIVE SUITE 200
HIGHLANDS RANCH CO 80129

(XXX-XXX-XXXX) Fax# (XXX-XXX-XXXX)

Ship To:
SAME
17 Erie Boulevard

ALBANY, NY 12204-2589

Cell# (303-471-3699)

Cust #	Purchase Ord#	Rel#	Ship Via	Writer	Date Req
135458	06261067.0000.00003		WILL CALL	RLAN	05/21/18

********** S H I P P I N G L I S T ********** PAGE 1 OF 1

Ord	Shp	B/O	Description	Location	Ln#
80	80	0	AIR FLTR PLTD 24x24x2" FIL24X24X2P	2203*302	(1) [112]

[ ][ ][ ] _____

[ ][ ][ ] _____

[ ][ ][ ] _____

Freight: Freight:

1 Pallet 8/10

[ ] Lgths Filled by:CLH
[ ] Boxes
[ ] Bags Date :05/18/18
[ ] Valves
[ ] Crates
[ ] Tub/Shower
[ ] Boilers
[ ] Wtr Htrs

Customer-Received By:
X _____
(Print) X Emmanuel Sousa
Date Shipped 5/22/18

Blue/Yellow- Packing Slip White/Pink- Office Use

RETURNS ARE SUBJECT TO MIN. 25% RESTOCK CHARGE - NO ELECTRICAL RETURNS

MATERIALS PURCHASED HEREON ARE SUBJECT TO TERMS AND CONDITIONS ON BACK HEREOF.

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 6/5/18

Inspector ES

AFU	AFU Location	System Data				Notes
		ΔP	RPF	RAF	FF	
1	South Conference Room	—	—	—	—	No Access
2	East Body Forge	5.4	0.08	0.05	0.82	↑
3	West Body Forge	5.7	0.10	0.08	0.45	
4	West Turret Lab	6.8	0.06	0.08	0.54	RAFs Rotated to RPFs, RAFs New
5	East Turret Lab	5.9	0.04	0.02	0.66	↓
6	North Mechanical Closet	4.5	0.06	0.05	0.70	All Filters 06
7	South Mechanical Closet	5.6	0.04	0.06	0.56	RAFs Rotated to RPFs, RAFs New
8	South Mechanical Closet	5.2	0.06	0.04	0.46	↓

ΔP - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 6/5/18

Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_2O)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.6	15.5
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-1.8	59.1
		Notes: Condensate present in line				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	<-10	9.03
	EW-2	Main floor, north end of wood shop	Wood Shop		<-10	19.0
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	—	—	—
		Notes: No Access				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-1.8	44.9
		Notes:				

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 6/5/18

Inspector ES

Building 25 System	Control Panel Room	Building 20 System
477	Flow (cfm)	379
	Pressure ("H_2O) 28	
	Temp (°F) 119	
63776.30	Run Time (hours)	65211.30
100	VFD Speed (%)	100
None	Alarms?	6/4/18 820 Influent Flow High

B-25 Extraction Wells

EW-1	
Vacuum	-17
Flow	194
EW-2	
Vacuum	-20
Flow	224
EW-3	
Vacuum	-19
Flow	29.7
EW-4	
Vacuum	-20
Flow	70.9

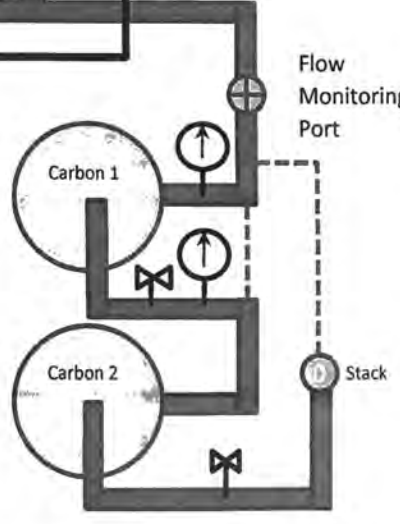
Mechanical Room

-24	Vacuum ("H_2O)	-86
0	KO Level (inches)	0
-35	Vacuum ("H_2O)	<-100
-40	Vacuum ("H_2O)	<-100
33	Pressure ("H_2O)	30
113	Temp °F	150
—	PID (ppm)	—

KO Tank, Filter, Blower, Silencer

B-20 Extraction Wells

EW-1	
Vacuum	-80
Flow	163
EW-2	
Vacuum	-80
Flow	71.4
EW-3	
Vacuum	-78
Flow	91.1



Flow (cfm) —

"H_2O 26

PID (ppm) —

"H_2O —

PID (ppm) —

Notes: C2 offline

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 6/5/18

Inspector ES

Control Panel

Flow (cfm) 74

Temp (°F) 94

Run Time (hours) 59262.90

VFD Speed (%) 96.5

Alarms? None

System Enclosure

Vacuum ("H_2O) −7

KO Level (inches) 0

Vacuum ("H_2O) −21

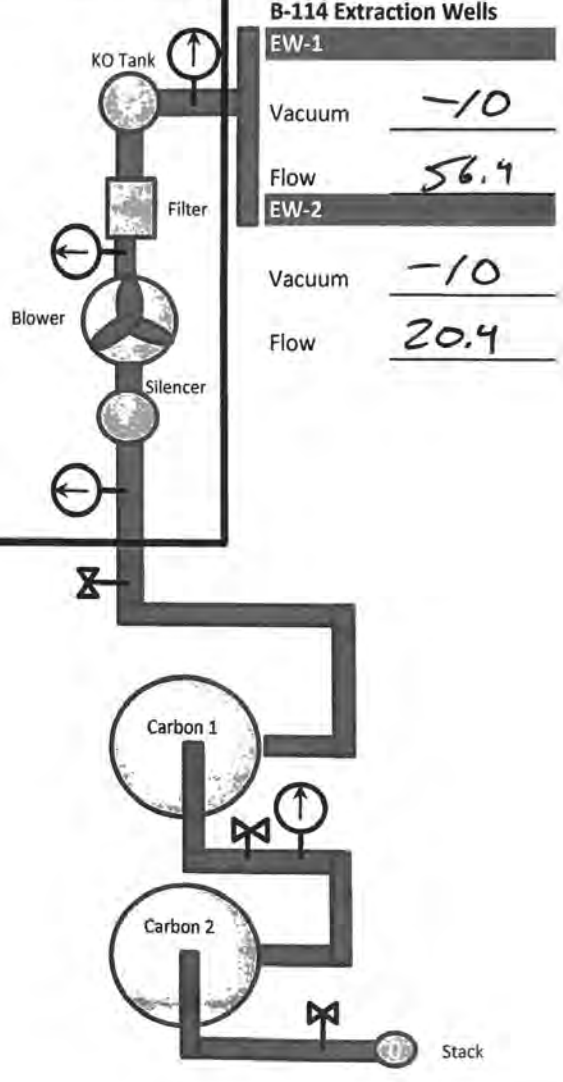
Pressure ("H_2O) 4

PID (ppm) —

PID (ppm) —

Pressure ("H_2O) 2.5

PID (ppm) —



Notes: Vent fan set @ 40 Hz

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 6/5/18

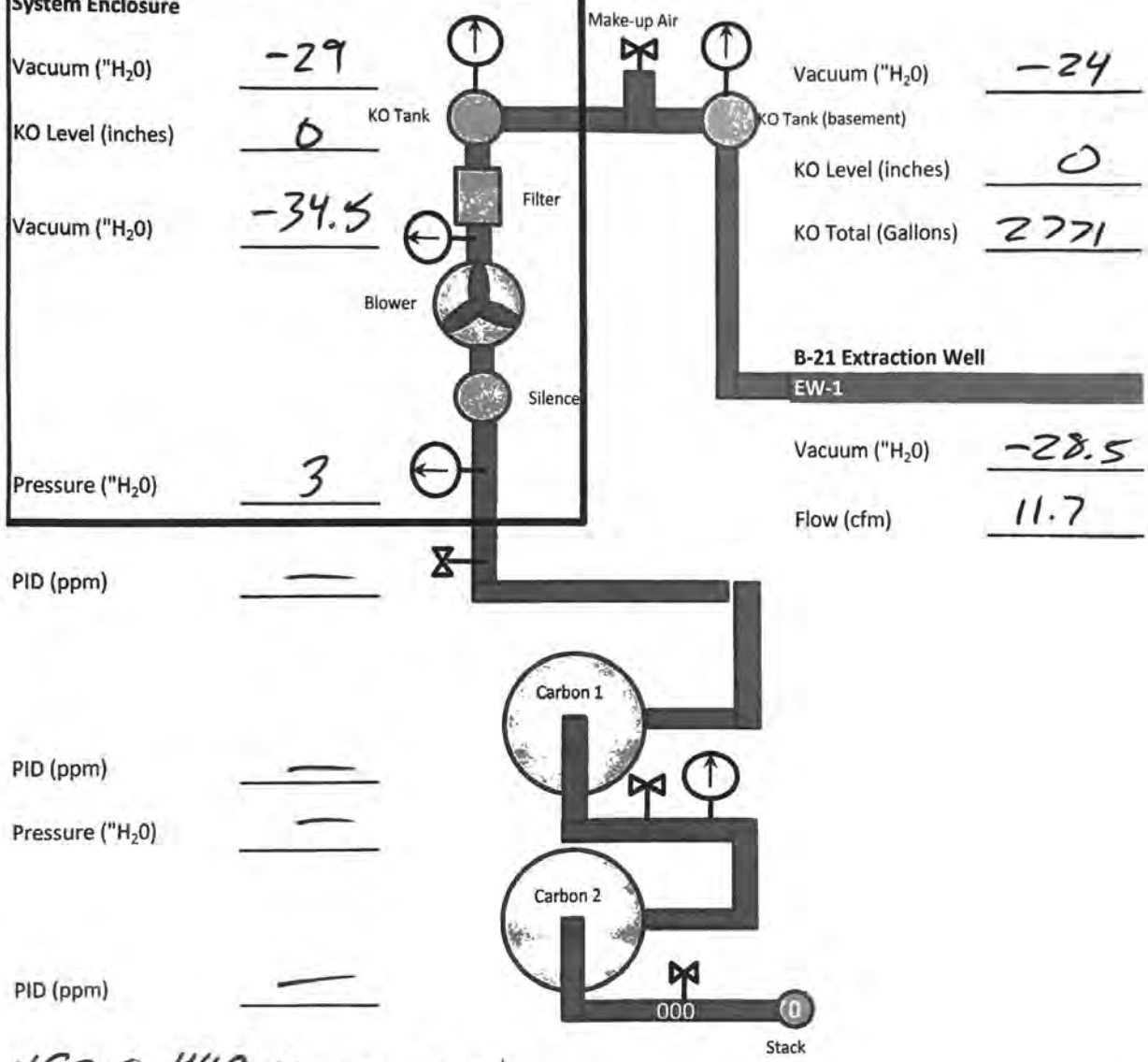
Inspector ES

Control Panel

Flow (cfm)	46
Temp (°F)	83
Run Time (hours)	60398.40
VFD Speed (%)	44.9 → set to 100
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-29
KO Level (inches)	0
Vacuum ("H_2O)	-34.5
Pressure ("H_2O)	3
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	—
PID (ppm)	—



Vacuum ("H_2O)	-24
KO Level (inches)	0
KO Total (Gallons)	2771

B-21 Extraction Well
EW-1

Vacuum ("H_2O)	-28.5
Flow (cfm)	11.7

VFD @ 44.9 % on arrival
* Vent fan set to 40 HZ
Carbon Bypassed

ARCADIS

Control Number:TGM - 06261067.0000
TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			**Project Location:** Watervliet, NY
Date: 6/5/18	**Time:** 0800	**Conducted by:** ES	**Signature/Title:** Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Routine Monthly OMM

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e., traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☐ Electrical (i.e., utilities, lightning) (L M H) h: c:	☐ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☑ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e., machinery) (L M H) h: c:	☑ Personal (i.e., alone, night) (L M H) h: c:	☑ Driving (i.e., car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sevis ARCADIS	0800	

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party protperty damage - field supervisor will immediately notify the Project or Task Manager

Place any additional signatures on the back of this form.

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 7/9/18

Inspector ES

AFU	AFU Location	System Data				Notes
		Δ P	RPF	RAF	FF	
1	South Conference Room	5.7	0.10	0.07	0.47	All filters OK
2	East Body Forge	5.5	0.08	0.06	0.85	All filters OK
3	West Body Forge	5.8	0.10	0.08	0.45	↓
4	West Turret Lab	6.9	0.07	0.08	0.56	All filters OK
5	East Turret Lab	5.9	0.05	0.02	0.68	↓
6	North Mechanical Closet	4.7	0.06	0.05	0.73	All filters OK
7	South Mechanical Closet	5.6	0.04	0.05	0.57	↓
8	South Mechanical Closet	5.3	0.06	0.03	0.50	↓

Δ P - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 7/9/18

Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_20)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.6	15.7
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-1.9	60.2
		Notes:				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	<-10	9.35
	EW-2	Main floor, north end of wood shop	Wood Shop		<-10	20.0
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	-1.7	50.2
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-1.8	46.7
		Notes:				

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 7/9/18

Inspector ES

Building 25 System	Control Panel Room	Building 20 System
479	Flow (cfm)	380
	Pressure ("H_2O)	28
	Temp (°F)	120
64592.50	Run Time (hours)	65829.7
100	VFD Speed (%)	100
None	Alarms?	None

B-25 Extraction Wells

EW-1
Vacuum -17
Flow 191

EW-2
Vacuum -20
Flow 225

EW-3
Vacuum -20
Flow 29.4

EW-4
Vacuum -20
Flow 68.3

B-20 Extraction Wells

EW-1
Vacuum -80
Flow 164

EW-2
Vacuum -80
Flow 70.8

EW-3
Vacuum -79
Flow 90.9

Mechanical Room

-24	Vacuum ("H_2O)	-85
0	KO Level (inches)	0
-36	Vacuum ("H_2O)	<-100
-40	Vacuum ("H_2O)	<-100
33	Pressure ("H_2O)	29
115	Temp °F	151
—	PID (ppm)	—

KO Tank, Filter, Blower, Silencer

Flow (cfm) —
"H_2O 26
PID (ppm) —
"H_2O —
PID (ppm) —

Carbon 1
Carbon 2
Flow Monitoring Port
Stack

Notes:

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 7/9/18

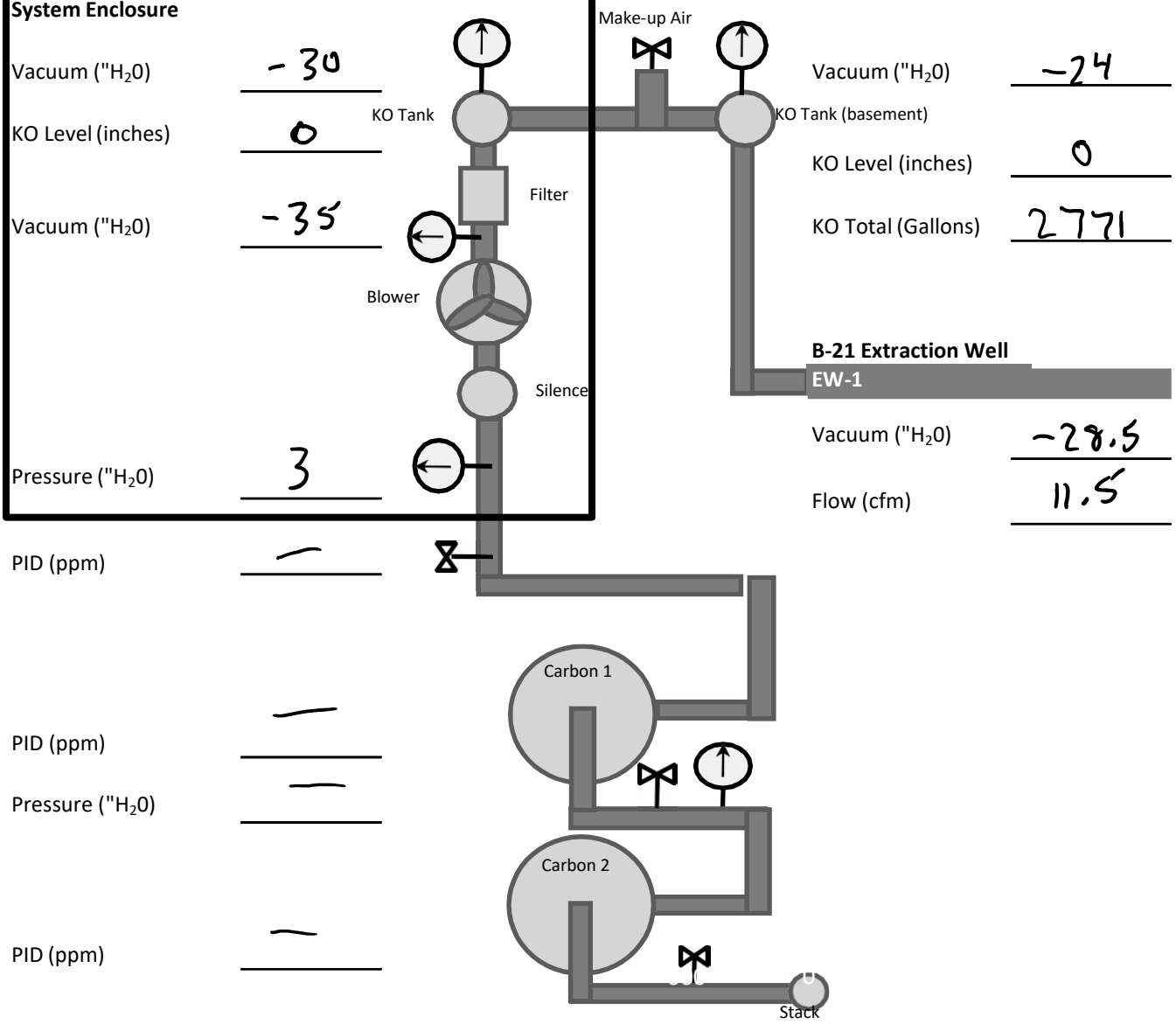
Inspector ES

Control Panel

Flow (cfm)	40
Temp (°F)	95
Run Time (hours)	61214.8
VFD Speed (%)	100
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-30
KO Level (inches)	0
Vacuum ("H_2O)	-35
Pressure ("H_2O)	3
PID (ppm)	—



Vacuum ("H_2O)	-24
KO Level (inches)	0
KO Total (Gallons)	2771

B-21 Extraction Well
EW-1

Vacuum ("H_2O)	-28.5
Flow (cfm)	11.5

PID (ppm)	—
Pressure ("H_2O)	—
PID (ppm)	—

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 7/9/18

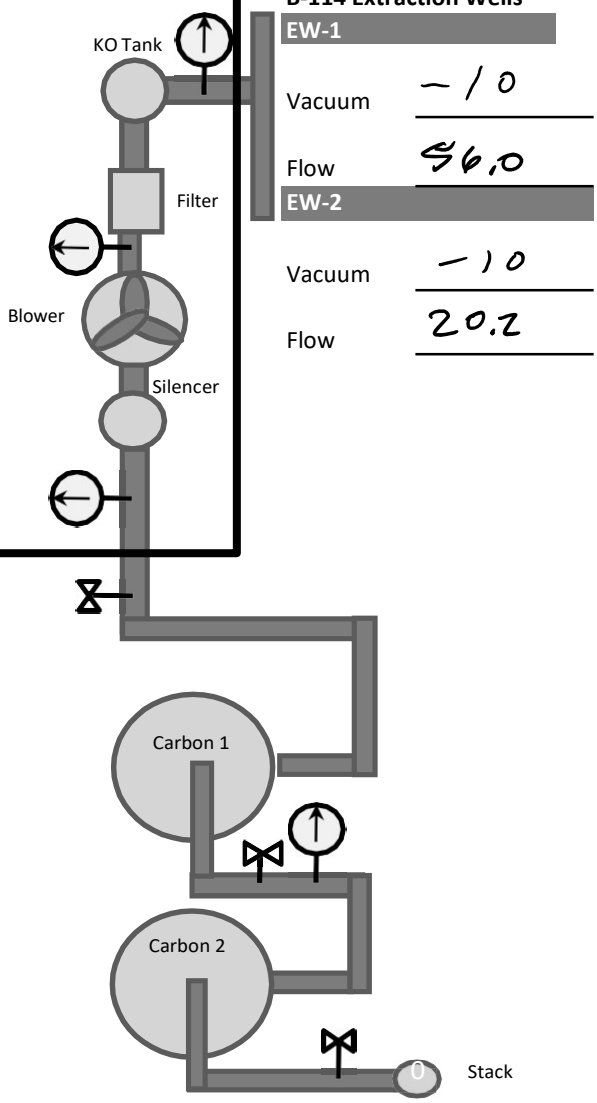
Inspector ES

Control Panel

Flow (cfm)	75
Temp (°F)	96
Run Time (hours)	60079.2
VFD Speed (%)	100
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-7
KO Level (inches)	0
Vacuum ("H_2O)	-21
Pressure ("H_2O)	4
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	2.4
PID (ppm)	—



B-114 Extraction Wells

EW-1	
Vacuum	-10
Flow	56.0
EW-2	
Vacuum	-10
Flow	20.2

Notes: _____

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

Control Number: TSM-

TSM + project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year

ARCADIS

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			**Project Location:** Watervliet, NY
Date: 7/9/18	**Time:** 0800	**Conducted by:** ES	**Signature/Title:** Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Routine Monthly OMM

☐ Additional permits/checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JSAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☐ Motion (i.e., traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☑ Electrical (i.e., utilities, lightning) (L M H) h: c:	☐ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☑ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e., machinery) (L M H) h: c:	☑ Personal (i.e., alone, night) (L M H) h: c:	☑ Driving (i.e., car, ATV, boat, dozer) (L M H) h: c:

Comments:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sosa ARCADIS	0800	

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.888.449.7787** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party property damage - field supervisor will immediately notify the Project or Task Manager

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 8/8/18

Inspector ES

AFU	AFU Location	System Data				Notes
		ΔP	RPF	RAF	FF	
1	South Conference Room	—	—	—	—	No Access
2	East Body Forge	—	—	—	—	offline, door open
3	West Body Forge	5.6	0.08	0.06	0.48	RAFs Rotated to RPFs, RAFs New
4	West Turret Lab	6.7	0.06	0.07	0.50	No Access
5	East Turret Lab	5.8	0.04	0.04	0.61	↓
6	North Mechanical Closet	4.5	0.06	0.04	0.67	RAFs Rotated to RPFs, RAFs New
7	South Mechanical Closet	5.6	0.04	0.04	0.53	All filters OK
8	South Mechanical Closet	5.2	0.07	0.04	0.38	↓

No Access to AFUs 1, 4, +5
↳ contract no longer present * Moved offices

* AFU-02 in Gym offline → garage door open for AC unit

ΔP - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Jim Neese (518) 266-4722
(518) 320-0356
Contact for turret lab

Jen Albert
(518) 266-4700
contact for S. Conference Room

* Not Available 8/8/18 @1300

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 8/8/18

Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_2O)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.6	17.5
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-2.0	50.5
		Notes: No Condensation				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	<-10	22.3
	EW-2	Main floor, north end of wood shop	Wood Shop		<-10	16.7
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	-1.6	53.4
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-1.8	50.6
		Notes:				

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 8/8/18

Inspector ES

Control Panel

Flow (cfm) 72

Temp (°F) 111

Run Time (hours) 60698.30

VFD Speed (%) 96.4

Alarms? None

System Enclosure

Vacuum ("H_2O) -7

KO Level (inches) 0

Vacuum ("H_2O) -21

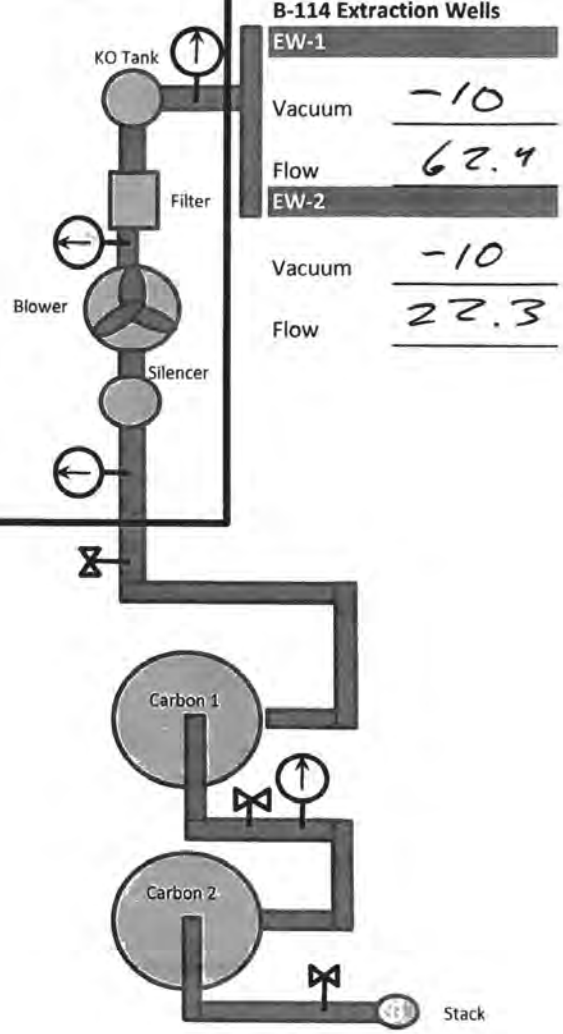
Pressure ("H_2O) 4

PID (ppm) —

PID (ppm) —

Pressure ("H_2O) 2.5

PID (ppm) —



B-114 Extraction Wells

EW-1

Vacuum -10

Flow 62.4

EW-2

Vacuum -10

Flow 22.3

Notes: _____

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 8/8/18

Inspector ES

Control Panel

Flow (cfm) 39

Temp (°F) 100

Run Time (hours) 61837.10

VFD Speed (%) 44.9% on arrival → set to 100

Alarms? ~~Alarm~~ Blower Influent flow High High

System Enclosure

Vacuum ("H_2O) -29

KO Level (inches) 0

Vacuum ("H_2O) -34

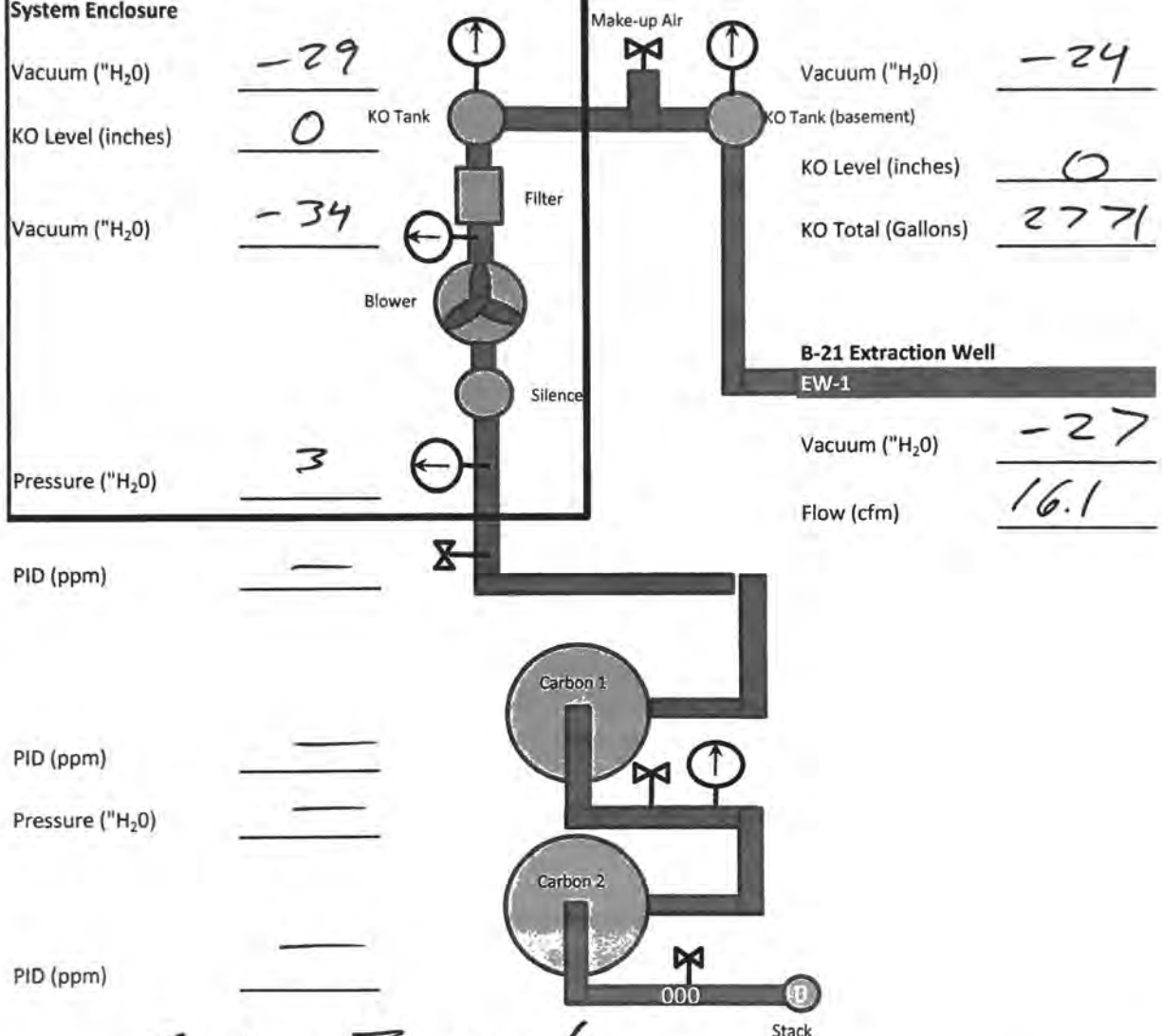
Pressure ("H_2O) 3

PID (ppm) —

PID (ppm) —

Pressure ("H_2O) —

PID (ppm) —



Vacuum ("H_2O) -24

KO Level (inches) 0

KO Total (Gallons) 2771

B-21 Extraction Well
EW-1

Vacuum ("H_2O) -27

Flow (cfm) 16.1

Carbon Bypassed

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 8/8/18

Inspector ES

Building 25 System	Control Panel Room	Building 20 System
480	Flow (cfm)	650
	Pressure ("H_2O) 25	
	Temp (°F) ~~104~~ 114	
65212.40	Run Time (hours)	65979.90
46.1 on arrival set @ 100	VFD Speed (%)	44.7 on arrival set to 100
Influent ~~Flow~~ Low	Alarms?	Influent High High

B-25 Extraction Wells

EW-1	
Vacuum	-17
Flow	206
EW-2	
Vacuum	-21
Flow	232
EW-3	
Vacuum	-19
Flow	37.5
EW-4	
Vacuum	-20
Flow	73.7

Mechanical Room

	Vacuum ("H_2O)	-86
-24	KO Level (inches)	0
0	Vacuum ("H_2O)	C-100
-35	Vacuum ("H_2O)	C-100
-40	Pressure ("H_2O)	27
30	Temp °F	140
114	PID (ppm)	—
—		

KO Tank, Filter, Blower, Silencer

B-20 Extraction Wells

EW-1	
Vacuum	-80
Flow	176
EW-2	
Vacuum	-80
Flow	80.1
EW-3	
Vacuum	-80
Flow	105

Flow (cfm) —

"H_2O 24

PID (ppm) — "H_2O —

PID (ppm) —

Flow Monitoring Port

Carbon 1

Carbon 2

Stack

Notes: C2 offline

ARCADIS

Control Number:TGM - 06261067.0000
TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			**Project Location:** Watervliet, NY
Date: 8/8/18	**Time:** 0800	**Conducted by:** ES	**Signature/Title:** Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Routine Monthly O&M

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e., traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☑ Electrical (i.e., utilities, lightning) (L M H) h: c:	☑ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☑ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e., machinery) (L M H) h: c:	☑ Personal (i.e., alone, night) (L M H) h: c:	☑ Driving (i.e., car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sergy ARCADIS	0800	

Place any additional signatures on the back of this form.

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party protperty damage - field supervisor will immediately notify the Project or Task Manager

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 9/26/18

Inspector ES

AFU	AFU Location	System Data				Notes
		Δ P	RPF	RAF	FF	
1	South Conference Room	—	—	—	—	No Access, Conference in Progress
2	East Body Forge	5.5	0.11	0.04	0.59	RAFs Rotated to RPFs, RAFs New
3	West Body Forge	5.6	0.10	0.05	0.50	
4	West Turret Lab	6.8	0.07	0.06	0.49	
5	East Turret Lab	5.9	0.04	< 0.04	0.59	
6	North Mechanical Closet	4.5	0.05	0.04	0.65	All Filters OK
7	South Mechanical Closet	5.6	0.04	0.04	0.52	
8	South Mechanical Closet	5.2	0.08	0.04	0.36	RAFs Rotated to RPFs, RAFs New

Δ P - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 9/26/18

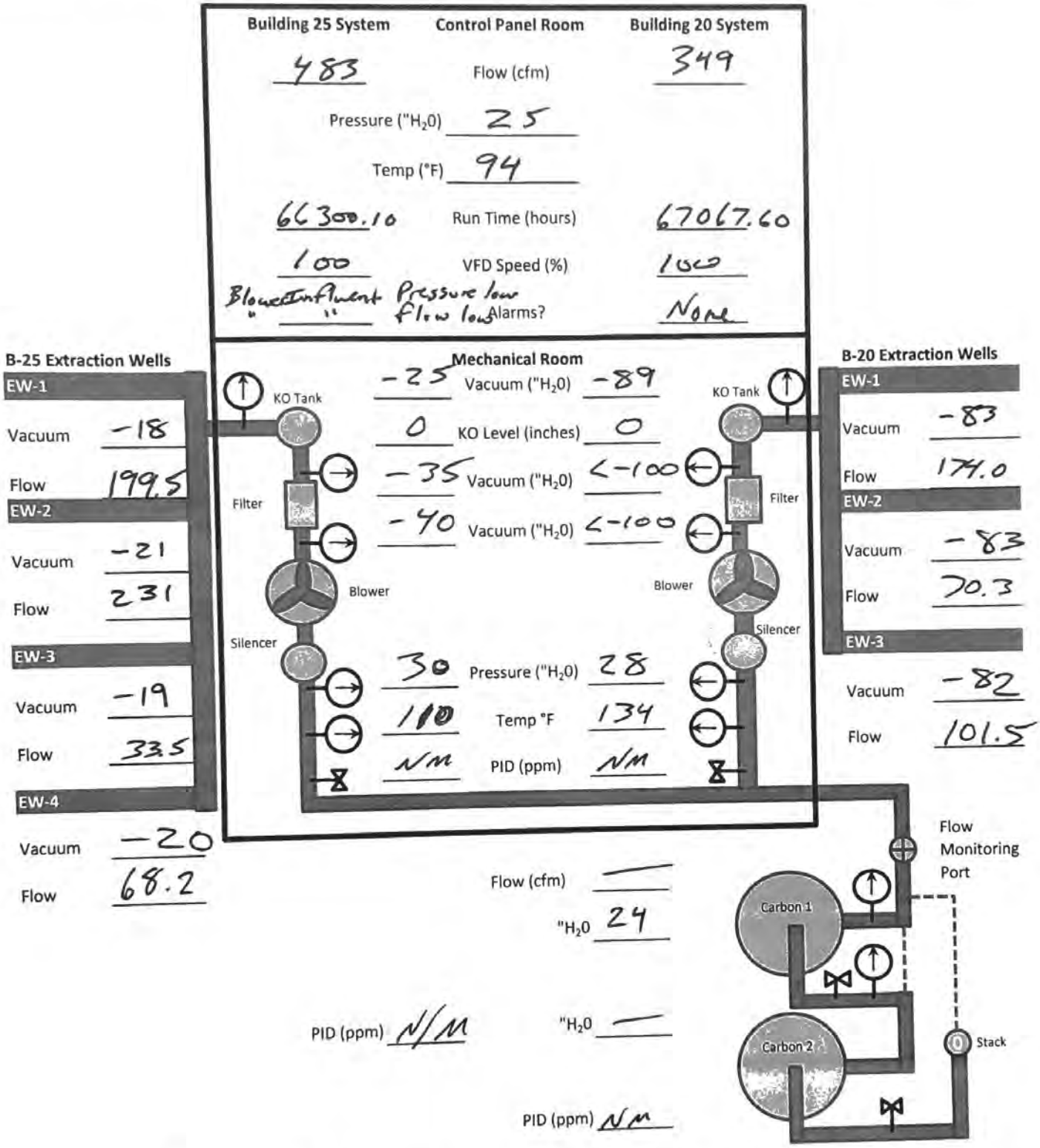
Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_2O)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.5	17.2
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-1.2	57.3
		Notes: Condensate Present in Drain				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	<-10	19.6
	EW-2	Main floor, north end of wood shop	Wood Shop		<-10	16.3
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	-1.6	52.6
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-1.8	50.9
		Notes:				

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 9/26/18

Inspector ES



Notes: B20 @ 44.6 upon arrival Tset @ 100
B25 @ 46.0 " " " "

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 9/26/18

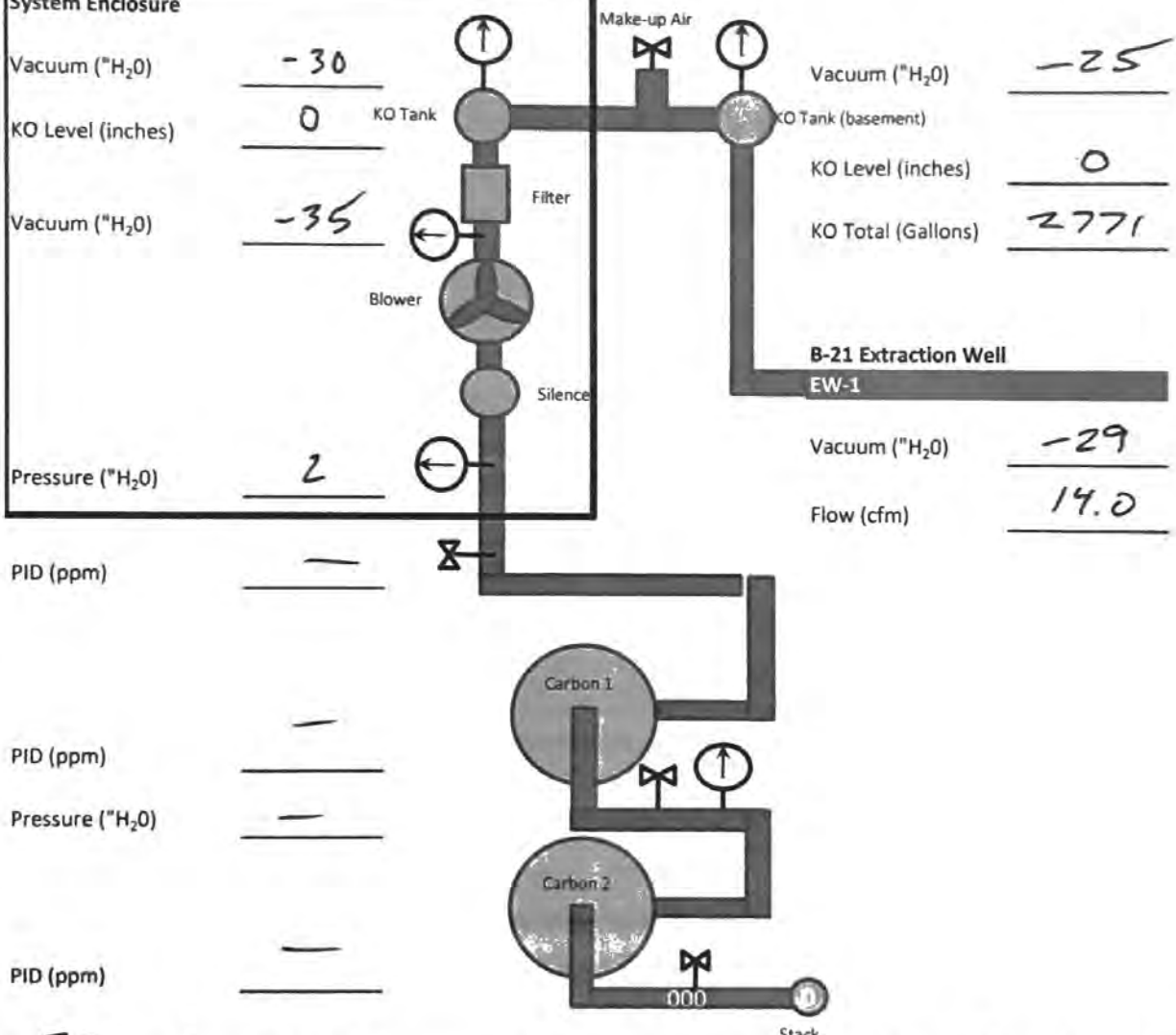
Inspector ES

Control Panel

Flow (cfm)	~~39~~ 40
Temp (°F)	84
Run Time (hours)	62936.90
VFD Speed (%)	100
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-30
KO Level (inches)	0
Vacuum ("H_2O)	-35
Pressure ("H_2O)	2
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	—
PID (ppm)	—



Vacuum ("H_2O)	-25
KO Level (inches)	0
KO Total (Gallons)	2771

B-21 Extraction Well
EW-1

Vacuum ("H_2O)	-29
Flow (cfm)	14.0

B21 @ 44.8% upon arrival → set to 100%

* Carbon Bypassed

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 9/26/18

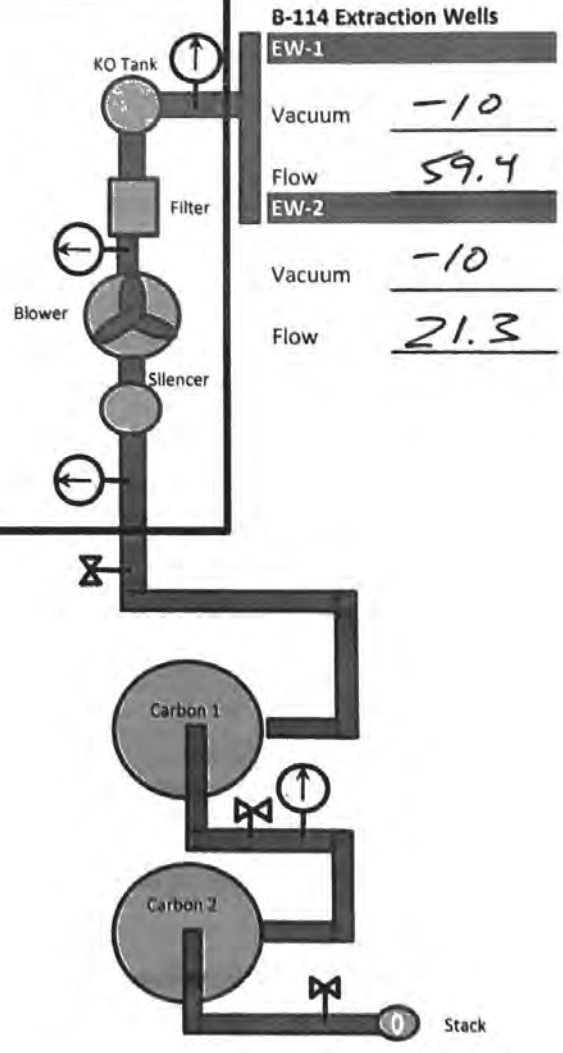
Inspector ES

Control Panel

Flow (cfm)	75
Temp (°F)	100
Run Time (hours)	6794.90
VFD Speed (%)	96.5
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-7
KO Level (inches)	0
Vacuum ("H_2O)	-21
Pressure ("H_2O)	4
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	2.5
PID (ppm)	—



B-114 Extraction Wells

EW-1	
Vacuum	-10
Flow	59.4
EW-2	
Vacuum	-10
Flow	21.3

Notes:

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

ARCADIS

Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			**Project Location:** Watervliet, NY
Date: 9/26/18	**Time:** 0800	**Conducted by:** ES	**Signature/Title:** [redacted] Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Monthly OMM

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e., traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☐ Electrical (i.e., utilities, lightning) (L M H) h: c:	☐ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☐ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☐ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e., machinery) (L M H) h: c:	☑ Personal (i.e., alone, night) (L M H) h: c:	☑ Driving (i.e., car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sosa [redacted] ARCADIS	0800	

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party protperty damage - field supervisor will immediately notify the Project or Task Manager

Place any additional signatures on the back of this form.

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 11/26/18

Inspector ES

AFU	AFU Location	System Data				Notes
		ΔP	RPF	RAF	FF	
1	South Conference Room	4.8	0.08	0.06	0.64	RAFs rotated to RPFs, RAFs New
2	East Body Forge	5.5	0.09	0.04	0.55	All filters OK
3	West Body Forge	—	—	—	—	RAFs rotated to RPFs, RAFs New
4	West Turret Lab	6.8	0.06	0.04	0.55	All filters OK
5	East Turret Lab	5.8	0.07	0.04	0.68	↓
6	North Mechanical Closet	4.4	0.06	0.04	0.68	All filters OK
7	South Mechanical Closet	5.6	0.04	0.04	0.54	↓
8	South Mechanical Closet	5.2	0.04	0.04	0.36	

* left side fan @ AFV-2 burnt out → needs replacement

ΔP - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 11/26/18

Inspector ES/JW

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_2O)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.5	11.45
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-1.8	50.4
		Notes: Condensate Present → drained				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	<-10	8.10
	EW-2	Main floor, north end of wood shop	Wood Shop		<-10	13.5
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	-1.8	52.7
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-2	46.3
		Notes:				

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 11/26/18

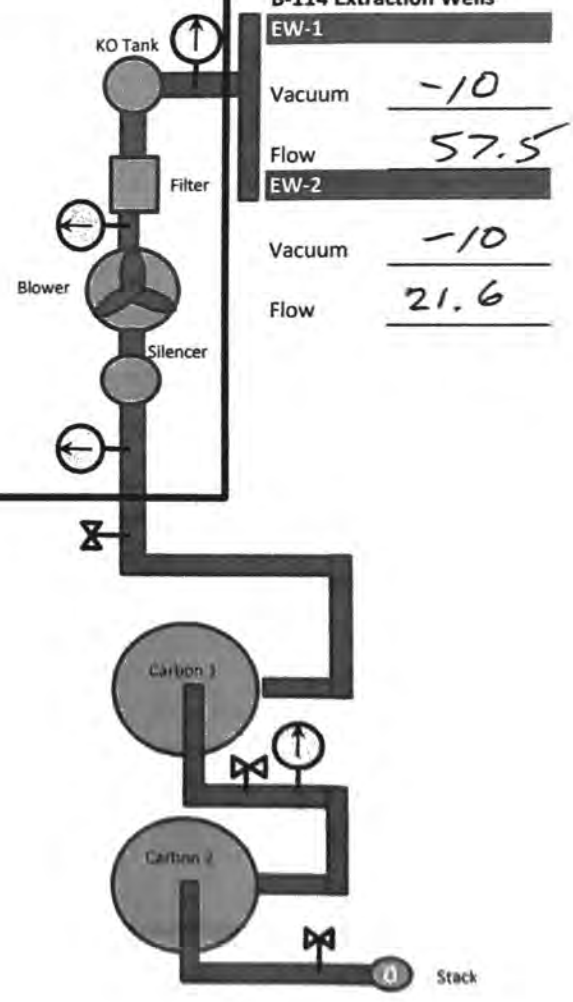
Inspector ES

Control Panel

Flow (cfm)	71
Temp (°F)	85
Run Time (hours)	63165.30
VFD Speed (%)	96.6
Alarms?	None

System Enclosure

Vacuum ("H_2O)	-6
KO Level (inches)	4"
Vacuum ("H_2O)	-20
Pressure ("H_2O)	10
PID (ppm)	—
PID (ppm)	—
Pressure ("H_2O)	5
PID (ppm)	—



B-114 Extraction Wells

EW-1	
Vacuum	-10
Flow	57.5
EW-2	
Vacuum	-10
Flow	21.6

Notes: Vent Fan turned off
KO Tank Drained

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 11/26/18

Inspector ES

Control Panel

Flow (cfm) 105

Temp (°F) 36

Run Time (hours) 64310.90

VFD Speed (%) 100

Alarms? None

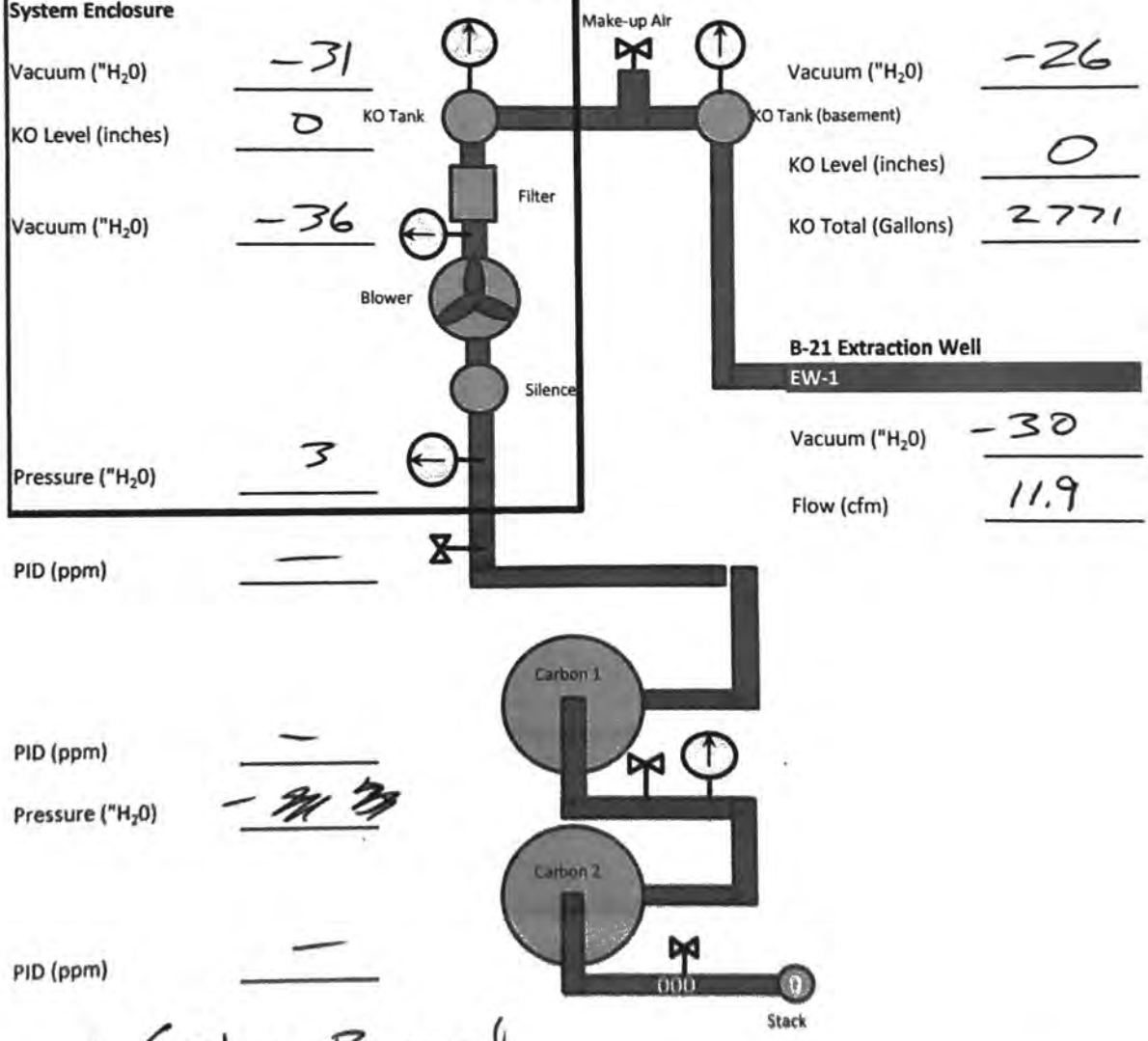
System Enclosure

Vacuum ("H_2O) -31

KO Level (inches) 0

Vacuum ("H_2O) -36

Pressure ("H_2O) 3



Vacuum ("H_2O) -26

KO Level (inches) 0

KO Total (Gallons) 2771

B-21 Extraction Well
EW-1

Vacuum ("H_2O) -30

Flow (cfm) 11.9

PID (ppm) —

PID (ppm) —

Pressure ("H_2O) -

PID (ppm) —

Carbon Bypassed

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 11/26/18

Inspector ES/JN

Building 25 System	Control Panel Room	Building 20 System
236	Flow (cfm)	343
	Pressure ("H_2O) 29	
	Temp (°F) 99	
67672.30	Run Time (hours)	68435.60
100	VFD Speed (%)	100
* KO Tank high level / Influent flow low	Alarms?	Influent Pressure LOW

B-25 Extraction Wells

EW-1	
Vacuum	-18
Flow	197.5
EW-2	
Vacuum	-24
Flow	235
EW-3	
Vacuum	-20
Flow	22.4
EW-4	
Vacuum	-22
Flow	58.8

Mechanical Room

-26	Vacuum ("H_2O)	-90
8"	KO Level (inches)	0
-35	Vacuum ("H_2O)	<-100
-40	Vacuum ("H_2O)	<-100
30	Pressure ("H_2O)	28
95	Temp °F	125
—	PID (ppm)	—

KO Tank, Filter, Blower, Silencer

B-20 Extraction Wells

EW-1	
Vacuum	-84
Flow	159
EW-2	
Vacuum	-84
Flow	68.0
EW-3	
Vacuum	-83
Flow	96.9

Flow (cfm) —

"H_2O 24

PID (ppm) — "H_2O —

PID (ppm) —

Flow Monitoring Port

Carbon 1

Carbon 2

0 Stack

Notes: 20 @ 44.6 on arrival * 8" of water in KO Tank 25 drained
25 @ 46.0 " "

* C2 offline

ARCADIS

Control Number: TGM - _____

TGM + *project number plus date as follows: xxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			**Project Location:** Watervliet NY
Date: 11/26/18	**Time:** 0830	**Conducted by:** ES	**Signature/Title:** Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Routine Monthly OMM, Indoor air sampling

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e., traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☑ Electrical (i.e., utilities, lightning) (L M H) h: c:	☐ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☐ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e., machinery) (L M H) h: c:	☐ Personal (i.e. alone, night) (L M H) h: c:	☑ Driving (i.e., car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emanuel Sarg ARCADIS	0815	1550
ARCADIS	0830	

Place any additional signatures on the back of this form.

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party property damage - field supervisor will immediately notify the Project or Task Manager

Operation and Maintenance Checklist
Building 40 AFUs
Watervliet Arsenal
Watervliet, New York

Date 12/20/18

Inspector ES

AFU	AFU Location	System Data				Notes
		ΔP	RPF	RAF	FF	
1	South Conference Room	4.9	0.07	0.07	0.70	All Filters OK
2	East Body Forge	5.4	0.10	0.03	0.66	~~* offline → Motor Burned Out~~ All Filters OK
3	West Body Forge	—	—	—	—	* offline → Motor Needs Replacement
4	West Turret Lab	6.8	0.06	0.03	0.60	↑
5	East Turret Lab	5.9	0.07	0.04	0.72	
6	North Mechanical Closet	4.4	0.06	0.04	0.70	All Filters OK
7	South Mechanical Closet	5.6	0.05	0.04	0.56	↓
8	South Mechanical Closet	5.3	0.06	0.05	0.40	

* Air Conditioner Units @ Body Forge removed → latch on door now activated, Overhead doors shut *

ΔP - Differential Pressure
RPF - Roughing Pre-filter
RAF - Roughing After Filter
FF - Final Filter
X - Indicates Filter Changed

Operation and Maintenance Checklist
Type "C" SSDSs
Watervliet Arsenal
Watervliet, New York

Date 12/20/18

Inspector ES

Building	Extraction Well	Extraction Well Location	Room	System On?	Vacuum ("H_2O)	Flow (cfm)
22	EW-1	Basement, east side of building	Storage Area	Yes	-2.7	13.7
		Notes:				
22	EW-2	Main floor, west side of building	Truck Bay	Yes	-2.1	54.3
		Notes: Condensate Present @ drain				
120	EW-1	Main floor, south end of wood shop	Wood Shop	Yes	<-10	8.64
	EW-2	Main floor, north end of wood shop	Wood Shop		<-10	15.80
		Notes:				
121	EW-1	Main floor, southeast corner of building	Lab	Yes	~~-5~~ -1.80	~~1.80~~ 53.1
		Notes:				
130	EW-1	Main floor, northeast corner of building	Storage Area	Yes	-1.8	45.1
		Notes:				

Operation and Maintenance Checklist
Building 21 SSDS
Watervliet Arsenal
Watervliet, New York

Date 12/20/18

Inspector ES

Control Panel

Flow (cfm): 34

Temp (°F): 56 + rising

Run Time (hours): 64851.10

VFD Speed (%): 44.9 / 100

Alarms? None

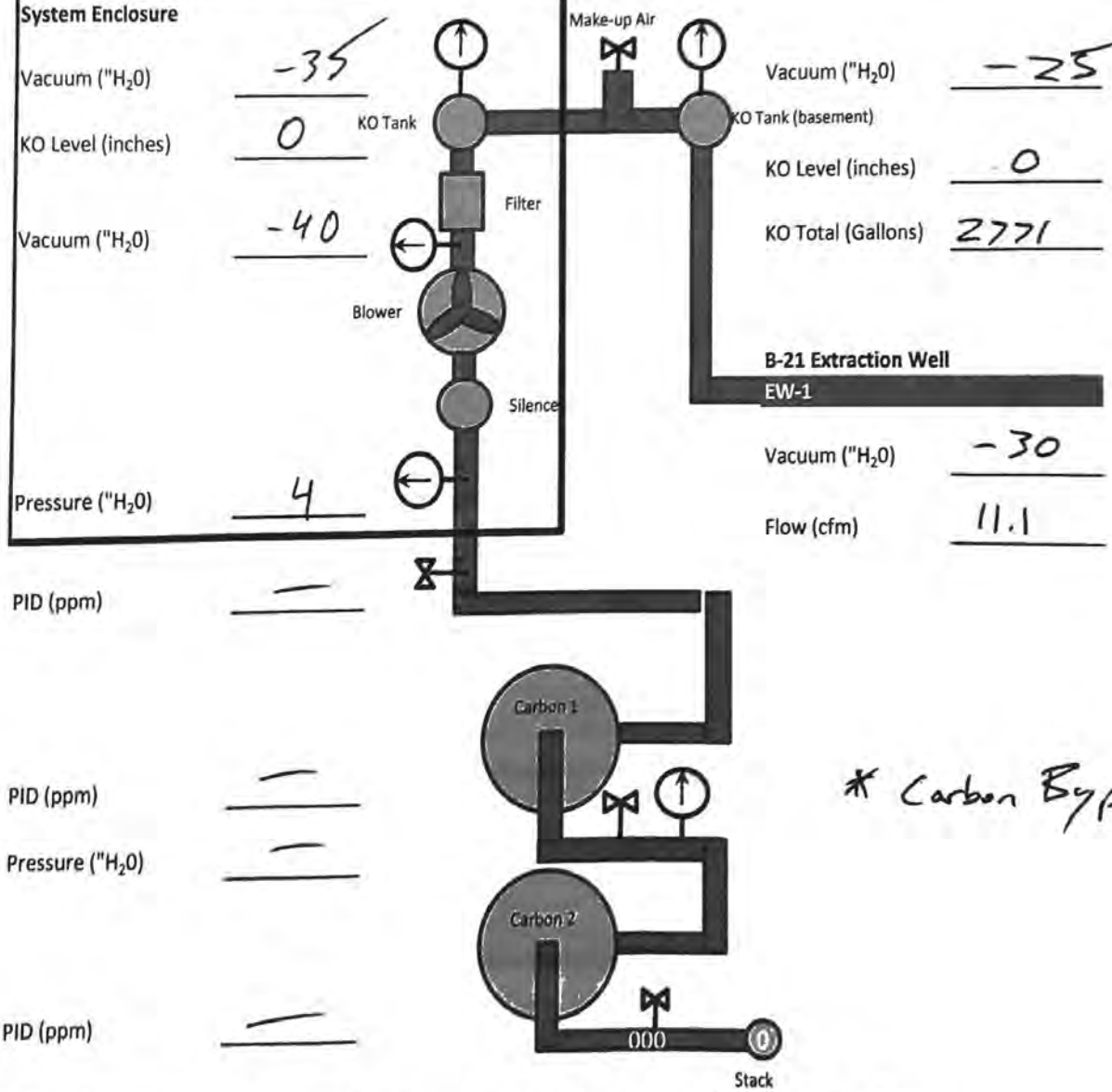
System Enclosure

Vacuum ("H_2O): -35

KO Level (inches): 0

Vacuum ("H_2O): -40

Pressure ("H_2O): 4



Vacuum ("H_2O): -25

KO Level (inches): 0

KO Total (Gallons): 2771

B-21 Extraction Well
EW-1

Vacuum ("H_2O): -30

Flow (cfm): 11.1

PID (ppm): —

PID (ppm): —

Pressure ("H_2O): —

PID (ppm): —

* Carbon Bypassed

System @ 44.9 % on arrival → reset to 100

Exhaust fan shut down → 0 Hz

Operation and Maintenance Checklist
Building 20/25 SSDS
Watervliet Arsenal
Watervliet, New York

Date 12/20/18

Inspector ES

Building 25 System	Control Panel Room	Building 20 System
483	Flow (cfm)	339
	Pressure ("H_2O) 29	
	Temp (°F) 119	
68214.00	Run Time (hours)	68977.30
100	VFD Speed (%)	100
None	Alarms?	None

B-25 Extraction Wells

EW-1	
Vacuum	-19
Flow	210
EW-2	
Vacuum	-25
Flow	244
EW-3	
Vacuum	-21
Flow	20.3
EW-4	
Vacuum	-23
Flow	61.3

Mechanical Room

-27	Vacuum ("H_2O)	-89
0	KO Level (inches)	0
-35	Vacuum ("H_2O)	< -100
-40	Vacuum ("H_2O)	< -100
32	Pressure ("H_2O)	30
111	Temp °F	151
—	PID (ppm)	—

KO Tank, Filter, Blower, Silencer

B-20 Extraction Wells

EW-1	
Vacuum	-84
Flow	171
EW-2	
Vacuum	-84
Flow	70.4
EW-3	
Vacuum	-82
Flow	99.1

Flow (cfm) —

"H_2O 26

PID (ppm) —

"H_2O —

PID (ppm) —

Flow Monitoring Port

Carbon 1

Carbon 2

Stack

Notes: C2 offline

* System trailer dusted / Vacuumed

Operation and Maintenance Checklist
Building 114 SSDS
Watervliet Arsenal
Watervliet, New York

Date 12/20/18

Inspector ES

Control Panel

Flow (cfm): 72

Temp (°F): 109

Run Time (hours): 63705.50

VFD Speed (%): 96.6

Alarms? KO Tank High Level → ★KO tank empty★

System Enclosure

Vacuum ("H_2O): -6.5

KO Level (inches): 0

Vacuum ("H_2O): -20

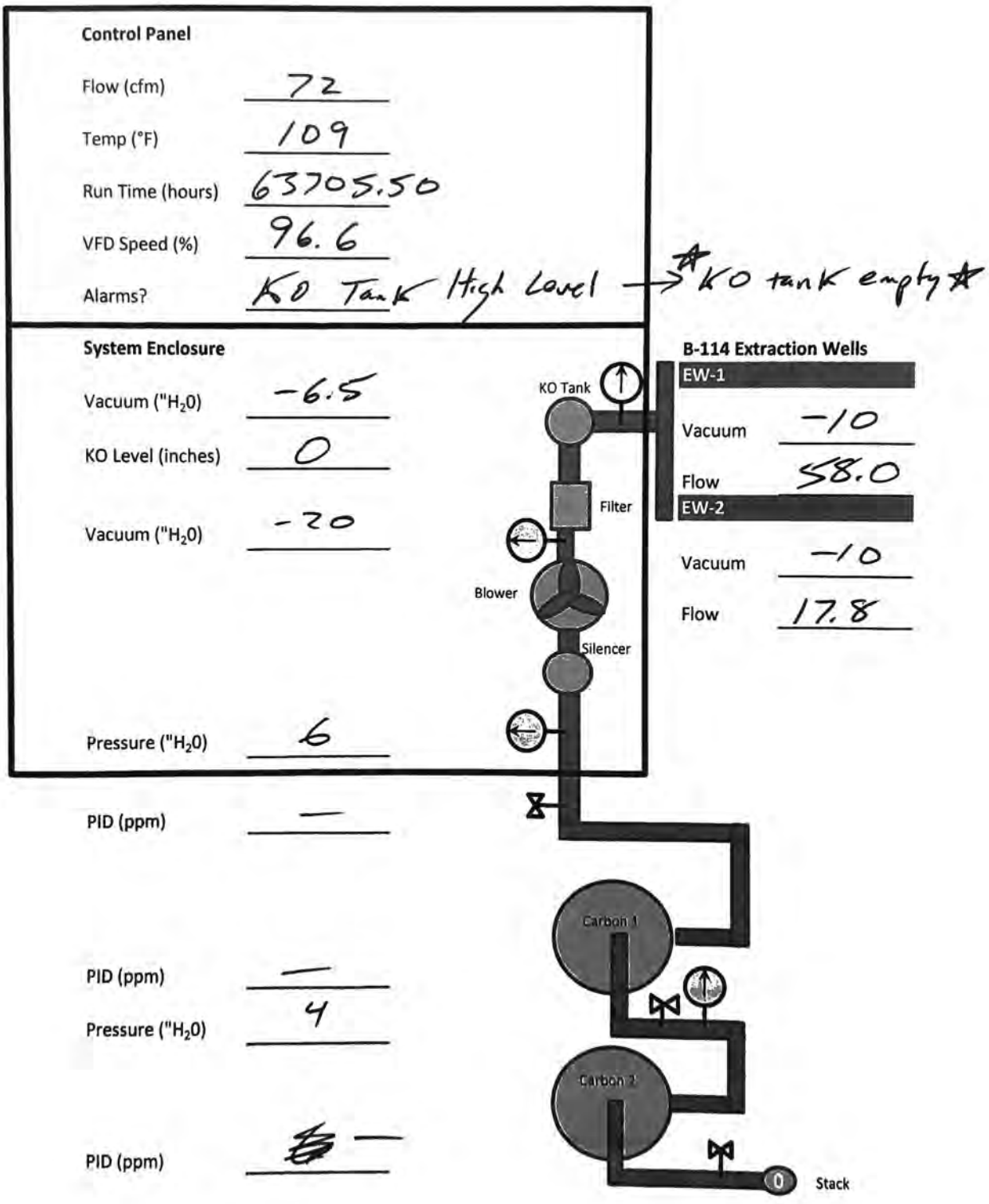
Pressure ("H_2O): 6

PID (ppm): —

PID (ppm): —

Pressure ("H_2O): 4

PID (ppm): —



B-114 Extraction Wells

EW-1

Vacuum: -10

Flow: 58.0

EW-2

Vacuum: -10

Flow: 17.8

Notes:

C:\Users\Esousa\Documents\WVA\OMM Field Forms\Copy of SSDS OM Checklists

ARCADIS

Control Number: TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

Project Name: WVA			**Project Location:** Watervliet, NY
Date: 12/20/18	**Time:** 0800	**Conducted by:** ES	**Signature/Title:** [signature] Field Tech

Issues or concerns from previous day's activities:

Task anticipated to be performed today: Monthly OMM, Cleaning B20125 Building

☐ Additonal permits or checklists attached

USE TRACK! Evaluate the hazards (h) for the tasks being performed today and rank as Low (L), Medium (M) or High (H). Use relevant JLAs, FHSHB, permit or other work standard to communicate controls (c) to be used to eliminate or mitigate identified hazards.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) h: c:	☑ Motion (i.e., traffic, moving water) (L M H) h: c:	☑ Mechanical (i.e., augers, motors) (L M H) h: c:
☑ Electrical (i.e., utilities, lightning) (L M H) h: c:	☑ Pressure (i.e., gas cyl., wells) (L M H) h: c:	☑ Environment (i.e., heat, cold, ice) (L M H) h: c:
☐ Chemical (i.e., fuel, acid, paint) (L M H) h: c:	☐ Biological (i.e., ticks, poison ivy) (L M H) h: c:	☐ Radiation (i.e., alpha, sun, laser) (L M H) h: c:
☑ Sound (i.e., machinery) (L M H) h: c:	☑ Personal (i.e., alone, night) (L M H) h: c:	☑ Driving (i.e., car, ATV, boat, dozer) (L M H) h: c:

☐ Refer to the attached Hazard Analysis Sheet(s) or JSA

Comments:

Signature and Certification: I have read and understand the project specific HASP for this project.

Printed Name/Signature/Company	Sign In Time	Sign Out Time
Emmanuel Sosa ARCADIS	0800	

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK;** and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call **WorkCare at 1.800.455.6155** and then notify the field supervisor.

Utility strike, motor vehicle accident or 3rd party protperty damage - field supervisor will immediately notify the Project or Task Manager

Place any additional signatures on the back of this form.

Appendix D

Safety Data Sheets

SAFETY DATA SHEET

1. Product and Company Identification

Product Name: White 2000
Product Code: 118308 **Product Type: Aerosol**
Product Use: Mold Cleaner

Manufacturer: IMS Company
Address: 10373 Stafford Road
Chagrin Falls, OH 44023-5296
WEB www.imscompany.com

Emergency Phone 800-424-9300
Prepared by Product Safety Advisor
Prepared/Revised September 17, 2018
E-mail sales@imscompany.com

NOTE: The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. We provide this information as guidance for providing personal protection to your employees. The user has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. The user must meet all applicable safety and health standards. We provide this information as guidance for providing personal protection to your employees.

2. Hazard Identification

Classification of substance or mixture:

Gases under pressure	Compressed gas
Skin irritation	Category 2
Eye irritation	Category 2A
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity - single exposure	Category 2

GHS Label Elements:



Signal Word: **Danger**

Hazard Statements:

H280	Contains gas under pressure; may explode if heated
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H371	May cause damage to organs.

Prevention

P201	Obtain special instructions before use.

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Do not pierce or burn, even after use.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ eye protection/ face protection.
P281	Use personal protective equipment as required.

Response

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 +P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P309 + P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician.
P321	Specific treatment (see supplemental first aid instructions on this label).
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P405	Store locked up
P410 + P412 +P403	Protect from sunlight. Store in a well ventilated place. Do not expose to temperatures exceeding 50°C/122°F
P501	Dispose of contents/container in accordance with local/regional regulations

3. Composition of Ingredients

Ingredients	CAS #	Percent
Trichloroethylene	79-01-6	85-98%
Carbon Dioxide	124-38-9	.1-10 %

4. First Aid Measures

Eye Contact:

Flush with warm water for 15 minutes. Seek medical attention.

Skin Contact:

Wash with soap and water. Remove any contaminated clothing and launder before reusing. If irritation persists, seek medical attention.

Inhalation:

Remove exposed individual to fresh air, protecting yourself. Restore breathing if necessary. Contact a physician.

Ingestion:

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce

vomiting. If possible, do not leave individual unattended.

5. Fire Fighting Measures

Flash Point: None

Flammable limits in air, % by volume:
Upper: No Information
Lower: No Information

Extinguishing Media:
Dry chemical, carbon dioxide, halon, or foam is recommended. Water spray may be used to cool containers or structures. Halon may decompose into toxic materials and carbon dioxide will displace oxygen, take proper precautions when using these materials.

Unusual Fire & Explosion Hazards:
This material may be ignited by extreme heat, sparks, flames or other ignition sources (static electricity). Vapors are heavier than air and will collect in low areas (sewers) or travel considerable distances. If containers are not cooled in a fire, they may rupture and ignite.

Special Fire Fighting Procedures:
At elevated temperatures (over 130F) aerosol container may burst, vent or rupture; use equipment or shielding to protect personnel. Cooling exposed containers with streams of water may be helpful. Emergency responders should wear self-contained breathing apparatus. Wear other protective gear as conditions warrant. Keep unauthorized people out and try to contain spills or leaks if it can be done safely. Material will float on water, avoid spreading the fire.

6. Accidental Release Measures

Spill or Leak Instructions
Contain spill with dikes of soil or nonflammable absorbent to minimize contaminated area. Avoid run-off into storm sewers and ditches leading to waterways. If required, notify state and local authorities. Place leaking containers in well-ventilated area. Clean up small spills by using a nonflammable absorbent or flushing sparingly with water. Contain larger spills with nonflammable diking or absorbent. Clean up by vacuuming or sweeping.

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Assess the spill situation, as the spill may not evolve large amounts of hazardous airborne contaminants in many outdoor spill situations. It may be advisable in some cases to simply monitor the situation until spilled product is removed.

7. Handling and Storage

Handling:

Store below 120°F in cool, dry area, out of direct sunlight and away from strong oxidizers. Do not puncture or burst. Use in accordance with good work place practices. Use with adequate ventilation. Keep containers closed when not in use. Always open containers slowly to allow any excess pressure to vent. Avoid breathing vapor. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water

after handling. Decontaminate soiled clothing thoroughly before re-use. Destroy contaminated leather clothing.

Empty containers may contain residues from the product. Treat empty containers with the same precautions as the material last contained. Do not cut, weld or apply heat to empty containers Do not incinerate

Storage:

Store in a cool, dry area, away form heat or direct sunlight. Keep containers closed when not in use. Do not store with incompatible materials

8. Exposure Controls / Personal Protection

Protective Equipment:

Use synthetic gloves if necessary to prevent excessive skin contact. Do not wear contacts and always use ANSI approved safety glasses or splash shield.

Engineering Controls:

General or dilution ventilation is frequently sufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Use a NIOSH approved respirator if ventilation is not adequate to maintain exposures below TLV levels.

Respiratory Protection*:*

Use adequate ventilation to maintain exposure limits. If the exposure limits of the products or any of its components is exceeded, an approved organic vapor mask should be used (consult your safety equipment supplier). Above Exposure limits, an approved self-contained breathing apparatus or airline respirator with full face-piece is required

Other Suggested Equipment:

Eye wash station and emergency showers should be available. Spill containment equipment should be available.

Discretion Advised:

We. take no responsibility for determining what measures are required for personal protection in any specific application. The general information should be used with discretion.

Exposure guidelines:

Ingredients	CAS #	Percent	Exposure Limits	
Trichloroethylene	79-01-6	85-98%	OSHA Z2 (TWA)	100 ppm
			OSHA Z2 (Ceiling)	200 ppm
			OSHA Z2 (Max)	300 ppm
			ACGIH (TWA)	10 ppm
			ACGIH (STEL)	25 ppm
Carbon Dioxide	124-38-9	.1-10 %	OSHA (PEL)	5000 ppm
			ACGIH (TLV_TWA)	5000 ppm

9. Physical and Chemical Properties

Appearance: Clear mist as dispensed from aerosol can.
Odor: Ether like
Evaporation Rate: Ether = 1 Slower
PH: NA
Melting/Freezing point: NE

Initial Boiling point and boiling range: NE
Flammability: NA
Vapor density >1 (Air=1)
Relative density NE
Partition coefficient: NE
Decomposition temperature: NE
Flammable limits in air, % by volume:
Upper:NE
Lower:NE

Flash Point: Flash point of propellant <0°F
Vapor pressure: >30 psi

Solubilitiy: negligible
Auto-ignition temperature: NE
Viscosity: NA

10. Stability and Reactivity

Stability: Stable
Conditions to Avoid: Heat, spark, and open flame
Incompatibility: Strong-Oxidizing Agents
Hazardous Decomposition: May form carbon doixide and carbon monoxide, Chlorine, hydrogen chloride, Phosgene, hydrocarbons.
Hazardous Polymerization: Will not occur

11. Toxicological Information

Component Toxicological Information:

Acute oral toxicity
TRICHLOROETHYLENE LD 50 Rat: 4,920 mg/kg

Acute inhalation toxicity
TRICHLOROETHYLENE LC 50 Rat: 12000 ppm, 4 h

Acute dermal toxicity
TRICHLOROETHYLENE LD 50 Rabbit: > 20 g/kg

Germ cell mutgenicity
Laboratory experiments have shown mutagenic effects. In vitro tests showed mutagenic effects.

Carcinogenicity

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP or EPA classification.

Possible human carcinogen

IARC: 2A-Group 2A: Probably carcinogenic to humans (trichloroethylene)
NTP: Reasonably anticipated to be a human carcinogen (trichloroethylene)
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Ecological Information

ECOTOXICOLOGICAL INFORMATION:
Extreme toxicity.
LC50: 52 ppm (96 hr, Sheepshead Minnow)

LC50: 14 ppm (96 hr, Mysid Shrimp)
EC50: 95 ppm (96 hr, Marine Alga)
ENVIRONMENTAL FATE:
No data at this time.

13. Disposal Considerations

Do not puncture or burn containers. Give empty, leaking, or full containers to disposal service equipped to handle and dispose of aerosol (pressurized) containers. Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

Note that this handling and disposal information may also apply to empty containers, liners and rinsate. State or local regulations or restrictions are complex and may differ from federal regulations. This information is intended as an aid to proper handling and disposal; the final responsibility for handling and disposal is with the owner of the waste. See Section 9 - Physical and Chemical Properties.

14. Transport Information

Aerosols (limited quantity),
Class 2.2, ERG 126

AIR (IATA)
Aerosols (limited quantity),
Class 2.2, ERG 126, UN No. 1950
Vessel
Aerosol (Limited Quantity), Class 2.2, UN No 1950

15. Regulatory Information

Environmental Regulations

SARA 302/304:
None

SARA 311/312:
Immediate (x) Delayed ( ) Fire (1) Reactive ( ) Sudden Release of Pressure (x)

Section 313
This product contains:

Trichloroethylene `	76-01-6	96%

CELCRA

Trichloroethylene `	76-01-6	96%

California Prop. 65

WARNING: This product contains a chemical known in the State of California to cause cancer.
Trichloroethylene

All the chemicals used in this product are TSCA listed.
Check with your local regulators to be sure all local regulations are met.

16. Other Information

Hazard ratings This information is intended solely for the use of individuals trained in the NFPA and/or HMIS systems.

NFPA: Level 1 Aerosol

HMIS: Health: 2 Flammability: 2 Reactivity: 0

RATING: 4-EXTREME 3-HIGH 2-MODERATE 1-SLIGHT 0-INSIGNIFICANT

Note:

For industrial use only. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. We make no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. This material may be released from gas, liquid, or solid materials made directly or indirectly from it. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards. Possession of an SDS does not indicate that the possessor of the SDS was a purchaser or user of the subject product.

SAFETY DATA SHEET.

Issuing date 18-Jan-2016 **Revision Date** 18-Jan-2016 **Version** 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product name NS-125 NON FLAMMABLE SILICONE

Recommended use of the chemical and restrictions on use

Product code F03269

Product Type Non-flammable aerosol
Synonyms None

Supplier's details

Recommended Use Silicone Spray.
Uses advised against No information available

Manufacturer:
Plastic Process Equipment,Inc.
8303 Corporate Park Dr.
Macedonia, Ohio 44056
phone 800-321-0562

Emergency telephone number
Chemical Emergency Phone Number 1-800-262-8200 ID 1195
Company Emergency Phone Number 734-721-5930

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Gases under pressure	Compressed Gas

GHS Label elements, including precautionary statements

Emergency Overview

DANGER

Hazard Statements
Causes skin irritation
Causes serious eye irritation
Suspected of causing genetic defects
May cause cancer
May cause drowsiness or dizziness
Contains gas under pressure; may explode if heated



Appearance opaque **Physical state** Aerosol **Odor** Solvent

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response
If exposed or concerned: Get medical advice/attention
Specific treatment (see first aid on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water.
Take off contaminated clothing and wash before reuse
If skin irritation occurs: Get medical advice/attention
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Protect from sunlight

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None

Other information

• Toxic to aquatic life with long lasting effects

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %*
TRICHLOROETHYLENE	79-01-6	50-60
1,1,1,2-TETRAFLUORETHANE	811-97-2	35-45
1,2-BUTYLENE OXIDE	106-88-7	0.1-1

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice Under normal conditions of intended use, this product does not pose a risk to health . Excessive exposure may result in eye, skin, or respiratory irritation.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Seek immediate medical attention/advice.

Skin contact Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention immediately if symptoms occur.

Inhalation Move to fresh air. If not breathing, give artificial respiration. If breathing has stopped, contact emergency medical services immediately.

Ingestion Do NOT induce vomiting. Call a physician immediately. Never give anything by mouth to an unconscious person. Risk of product entering the lungs on vomiting after ingestion.

Most important symptoms/effects, acute and delayed

Main Symptoms Causes skin and eye irritation. May cause respiratory irritation. May be harmful if swallowed and cause lung damage.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.

Specific hazards arising from the chemical

.

Explosion Data
Sensitivity to Mechanical Impact none.
Sensitivity to Static Discharge none.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans.Do not stick pin or any other sharp object into opening on top of can. Avoid skin contact. Use with adequate ventiliation. Keep container away from heat , flames, and all other sources of ignition. Keep can away from all sources of electricity such as electric motors and batteries. Do not spray on hot surfaces.

Environmental precautions

Environmental precautions Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

Methods and materials for containment and cleaning up

Methods for Containment Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Clean contaminated surface thoroughly. After cleaning, flush away traces with water. Prevent product from entering drains. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep in properly labeled containers. Keep out of the reach of children. Store locked up.

Incompatible products Strong acids, alkalis, or oxidizing agents.

Aerosol Level 1

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
TRICHLOROETHYLENE 79-01-6	STEL: 25 ppm TWA: 10 ppm	TWA: 100 ppm (vacated) TWA: 50 ppm (vacated) TWA: 270 mg/m^3 (vacated) STEL: 200 ppm (vacated) STEL: 1080 mg/m^3 Ceiling: 200 ppm	IDLH: 1000 ppm
1,1,1,2-TETRAFLUORETHANE 811-97-2	TWA: 1000 ppm 8 hours.	-	-

ACGIH: (American Conference of Governmental Industrial Hygienists)
OSHA: (Occupational Safety & Health Administration)
NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Exposure controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and body protection Chemical resistant apron. Protective gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Physical state Aerosol
Appearance opaque
Color hazy
Odor Solvent
Odor Threshold

Property	Values	Remarks • Methods
pH	No information available	
Melting/freezing point	No information available	
Boiling point/boiling range	No information available	
Flash Point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
upper flammability limit	No information available	
lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity		
Water solubility	Practically insoluble	
Partition coefficient: n-octanol/water		
Autoignition temperature	No information available	
Decomposition temperature		
Viscosity	No information available	

Explosive properties

Other information

VOC Content(%) 55.75

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Incompatible Materials
Strong acids, alkalis, or oxidizing agents.

Hazardous Decomposition Products
Carbon oxides. Fumes. Hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Vapors may irritate throat and respiratory system. May cause drownsiness and dizziness based on components. May cause irritation of respiratory tract. Avoid breathing vapors or mists.

Eye contact Irritating to eyes. Avoid contact with eyes and skin.

Skin contact Irritating to skin and eyes. Repeated exposure may cause skin dryness or cracking. Prolonged skin contact may defat the skin and produce dermatitis. Avoid contact with skin.

Ingestion Do not taste or swallow.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
TRICHLOROETHYLENE 79-01-6	= 4920 mg/kg (Rat)	= 29000 mg/kg (Rabbit)	= 26 mg/L (Rat) 4 h
1,1,1,2-TETRAFLUORETHANE 811-97-2	>5000 mg/kg rat	-	= 1500 g/m^3 (Rat) 4 h
1,2-BUTYLENE OXIDE 106-88-7	= 500 mg/kg (Rat)	= 1757 mg/kg (Rabbit)	= 6300 mg/m^3 (Rat) 4 h

Information on toxicological effects

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Causes irritation to the eyes. May cause skin and respriatory tract system irritation. May be harmful if swallowed.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization None known.
Germ Cell Mutagenicity None known.

Carcinogenicity The table below indicates whether each agency has evaluated a listed ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
TRICHLOROETHYLENE 79-01-6	A2	Group 1	Reasonably Anticipated	-
1,2-BUTYLENE OXIDE 106-88-7	-	Group 2B	-	-

ACGIH: (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
NTP: (National Toxicity Program)
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

Specific target organ systemic toxicity (single exposure) May cause respiratory irritation. May cause drowsiness and dizziness.

Specific target organ systemic toxicity (repeated exposure) None under normal use conditions.

Chronic toxicity Chronic hydrocarbon abuse has been associated with irregular heart rhythms and potential cardiac arrest. Prolonged skin contact may defat the skin and produce dermatitis.

Target Organ Effects Central Nervous System (CNS), Eyes, Heart, Kidney, Liver, Respiratory system, Skin.

Neurological effects Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

Aspiration hazard Not applicable.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
TRICHLOROETHYLENE 79-01-6	450 mg/L EC50 Desmodesmus subspicatus 96h 175 mg/L EC50 Pseudokirchneriella subcapitata 96h	31.4 - 71.8 mg/L LC50 Pimephales promelas 96h flow-through 39 - 54 mg/L LC50 Lepomis macrochirus 96h static	-	2.2 mg/L EC50 Daphnia magna 48h
1,2-BUTYLENE OXIDE 106-88-7	500 mg/L EC50 Desmodesmus subspicatus 72h	-	-	69.8 mg/L EC50 Daphnia magna 48h

Persistence and degradability

.

Bioaccumulation

.

Chemical Name	log Pow
TRICHLOROETHYLENE 79-01-6	2.29
1,1,1,2-TETRAFLUORETHANE 811-97-2	1.06
1,2-BUTYLENE OXIDE 106-88-7	0.416

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste Disposal Methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT Ground CONSUMER COMMODITY ORM-D
or
LIMITED QUANTITY

IATA UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, LTD. QTY

IMDG UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, LTD. QTY

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
TRICHLOROETHYLENE	X	X	X	X	X	X	X	X
1,1,1,2-TETRAFLUOROETHANE	X	X	X	X	X	X	X	X
1,2-BUTYLENE OXIDE	X	X	X	X	X	X	X	X

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
CHINA - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %*	SARA 313 - Threshold Values %
TRICHLOROETHYLENE - 79-01-6	79-01-6	50-60	0.1
1,2-BUTYLENE OXIDE - 106-88-7	106-88-7	0.1-1	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes

Fire Hazard	no
Sudden Release of Pressure Hazard	Yes
Reactive Hazard	no

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
TRICHLOROETHYLENE 79-01-6	100 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
TRICHLOROETHYLENE 79-01-6	100 lb 1 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ
1,2-BUTYLENE OXIDE 106-88-7	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
TRICHLOROETHYLENE - 79-01-6	Carcinogen Developmental Male Reproductive

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
TRICHLOROETHYLENE 79-01-6	X	X	X
1,2-BUTYLENE OXIDE 106-88-7	X	X	X

EPA Pesticide Registration Number Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

16. OTHER INFORMATION

NFPA	**Health Hazard** 2	**Flammability** 0	**Instability** 0	**Physical and chemical hazards** -
HMIS	**Health Hazard** 2	**Flammability** 0	**Physical Hazard** 0	**Personal protection** B

Issuing date	18-Jan-2016
Revision Date	18-Jan-2016
Revision Note	

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

Product: WRENCH EASE (AEROSOL)

HAZMIN: 4149

Company Data

Company: TRI-CHEM CORP. (MADISON HTS.)

Address: P.O. BOX 71550

City/State: MADISON HGTS., MI 480710550

Mfg. Emergency Phone No.: 800-456-6255

Manufacturer/ Supplier

Manufacturer/ Supplier: TRI-CHEM CORP. (MADISON HTS.)

Address: P.O. BOX 71550

City/State: MADISON HGTS., MI 480710550

Emergency: 800-456-6255

Product Data

Formula: N/A

MSDS-Date-Revised: 11/25/1992

MSDS-Date-Prepared: 11/25/1992

Component Data

Component: KEROSENE

Cas No: 8008206

Percent: > 1

ACGIH TWA (ppm): 400

Component:	MINERAL OIL
Cas No:	8012951
Percent:	> 1
ACGIH TWA (mg/M3):	5

Component:	PERCHLOROETHYLENE
Cas No:	127184
Percent:	> 1
ACGIH TWA (ppm):	50

Component:	PROPANE/ISOBUTANE/N-BUTANE BLEND
Cas No:	74986
Percent:	> 1
ACGIH TWA (ppm):	1000

Physical and Chemical Data

Boiling Point:	Between -40 And 500°F **NOTE:** -40 to 500+'F, Range
Specific Gravity:	= .9 (H2O=1)
Vapor Density:	= 4 (Air=1)
Evaporation Rate:	< 1 **NOTE:** Bu Ac = 1, slower
% Volatile:	= 92
Vapor Pressure:	= 50 °F (mm Hg) **NOTE:** PSIG
Solubility in Water:	insoluble
Appearance/Odor:	Light colored liquid with solvent odor.

GHS Data

Fire Data

Flash Point Closed:	= -40 °F **NOTE:** T.C.C.
LEL/LFL:	= 1.8 %
UEL/UFL:	= 12.0 %

Preparer Information: Barry Morrison, Chemist, 1-800-456-6255

DOT Data

SECTION I

TRADE NAME AND SYNONYMS: Wrench Ease (Aerosol)

CHEMICAL NAME AND SYNONYMS: N/A

CHEMICAL FAMILY: N/A

FORMULA: N/A

MFG. CODES: TM 2349

EMERGENCY TELEPHONE NO.: (800) 456-6255

MANUFACTURER'S NAME AND ADDRESS:

TRI-CHEM CORPORATION
P.O. BOX 71550
MADISON HGTS., MI 48071-0550

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (UNITS)
Kerosene (CAS# 8008-20-6)	>1	400 ppm
Mineral Oil (CAS# 8012-95-1)	>1	5mg/m3
Perchloroethylene (CAS# 127-18-4)	>1	50 ppm
Propane/Isobutane/n-Butane Blend (CAS# 74-98-6)	>1	1000 ppm

This product contains 7 ounces of Perchloroethylene per can of product. Perchloroethylene is a regulated chemical under the Emergency Planning and Right-To-Know Act. You are required to file E.P.A. SARA reports once the threshold of 10,000 pounds of Perchloroethylene has been purchased for one location in each calendar year.

SECTION III - PHYSICAL DATA

BOILING POINT ('F): (Range) -40 to 500+

SPECIFIC GRAVITY (H2O=1): 0.9

VAPOR PRESSURE (MM HG.) (PSIG): 50

PERCENT, VOLATILE BY VOLUME(%): 92

VAPOR DENSITY (AIR=1): 4

EVAPORATION RATE (BUTYL ACETATE=1): Slower

SOLUBILITY IN WATER: Insoluble

PH: N/A

APPEARANCE AND ODOR: Light colored liquid with solvent odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): -40'F T.C.C.

FLAMMABLE LIMITS:

LEL: 1.8
UEL: 12.0

EXTINGUISHING MEDIA: Water Fog, Dry Chemical, Carbon Dioxide

SPECIAL FIRE FIGHTING PROCEDURES: Fire fighters should wear full protective clothing including self-contained respiratory equipment operated in a positive mode. Use water spray to keep containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Cans may vent, rupture, or burst when exposed to temperatures in excess of 120'F.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 50 ppm

PRIMARY ROUTES OF ENTRY:

INHALATION:
SKIN CONTACT:
OTHER (SPECIFY):

EFFECTS OF OVEREXPOSURE:

EYES: Severe irritation.

SKIN: Defatting, irritation.

INHALATION: Respiratory irritation and difficulty in breathing, dizziness, narcosis in high vapor concentrations, long term overexposure (years) may cause lung, liver, spleen, kidney, or brain damage.

INGESTION: Nausea.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: Flush with copious amounts of water lifting lids and removing contact lenses to ensure complete irritation- get medical attention.

SKIN: Flush with water and then wash with soap and water, launder contaminated clothing before reuse- get medical attention if irritation persists

INHALATION: Remove to fresh air and assist breathing as necessary- get medical attention.

INGESTION: DO NOT INDUCE VOMITING- aspiration of material into lungs may cause chemical pneumonitis which can be fatal- get medical attention immediately. Physician- give gastric lavage- Do Not Administer Adrenalin after overexposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Persons with pre-existing heart or lung disorders.

CARCINOGEN:

NTP:
IARC: X Perchloroethylene
OTHER:

SECTION VI - REACTIVITY DATA

STABILITY: STABLE

CONDITIONS TO AVOID: Temperatures in excess of 120'F.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong Oxidizers, Reactive Metals

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Carbon, Hydrogen Chloride, Phosgene

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: None

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Eliminate all sources of ignition and ventilate area. Use absorbent material to soak up spill. Shovel or sweep into container for disposal. Dispose of as hazardous waste. Clean spill area with detergent solution.

WASTE DISPOSAL METHOD: Dispose of a hazardous waste in accordance with all EPA RCRA regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): Use NIOSH approved respirator in areas where TLV has been exceeded.

VENTILATION:

LOCAL EXHAUST: To control TLV
MECHANICAL (GENERAL): To control TLV
SPECIAL:
OTHER:

PROTECTIVE GLOVES: Impervious

EYE PROTECTION: Chemical goggles

OTHER PROTECTIVE EQUIPMENT: Eyewash and safety shower.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Avoid contact- wear protective clothing and wash thoroughly after using. Avoid inhalation of vapors- do not use in confined, poorly ventilated, or other areas where TLV may be exceeded without proper respiratory protection. Do not take internally. Do not store in areas where temperatures may exceed 120'F. Keep Out of Reach of Children.

OTHER PRECAUTIONS:

HMIS SYMBOL: NFPA SYMBOL:

	HMIS	NFPA	
HEALTH: 2	SEVERE 4	EXTREME	TOXICITY: 2
FLAMMABILITY: 4	SERIOUS 3	HIGH	FIRE: 4
REACTIVITY: 0	MODERATE 2	MODERATE	REACTIVITY: 0
	SLIGHT 1	SLIGHT	SPECIAL:
	MINIMAL 0	INSIGNIFICANT	

NAME (PRINT): Barry Morrison

SIGNATURE:

TITLE: Chemist

PREPARATION DATA: 11-25-92

PHONE NUMBER: 1-800-456-6255

CAUTION: FLAMMABLE LIQUID
NET. WT. 15 OZ.
KEEP OUT OF REACH OF CHILDREN
SEE SIDE PANEL FOR ADDITIONAL CAUTIONS

CAUTION: FLAMMABLE LIQUID

Contains Mineral Spirits CAS #8032-32-4) avoid sources of ignition. Keep container closed when not in use. "Empty" containers will retain product residues-do not cut, weld, pressurize, expose to open flame or other ignition sources. Can cause irritation to eyes and skin, dry skin, and dermatitis-avoid contact by wearing protective clothing and washing thoroughly after using. Inhalation of vapors can cause dizziness, headache, unconsciousness, coma, and even death in extreme cases- avoid inhalation of vapors-use only with adequate ventilation. Will be harmful or fatal if swallowed-do not take internally.

FIRST AID:

EYES: Flush with copious amounts of water lifting lids and removing contact lenses to ensure complete irrigation-get medical attention.

SKIN: Flush with water and then wash with soap and water, launder contaminated clothing before reuse-get medical attention if irritation persists.

INHALATION: Remove to fresh air and assist breathing as necessary-get medical attention.

INGESTION: DO NOT INDUCE VOMITING-aspiration of material into lungs may cause chemical pneumonitis which can be fatal-get medical attention immediately.

NOTICE: Keep from freezing. If this product is stored in cold or freezing weather it may separate or thicken. This will not harm the performance. Before using warm to room temperature and air thoroughly.

HAZMIN Version: 1 / Last Edited on 11/6/2001

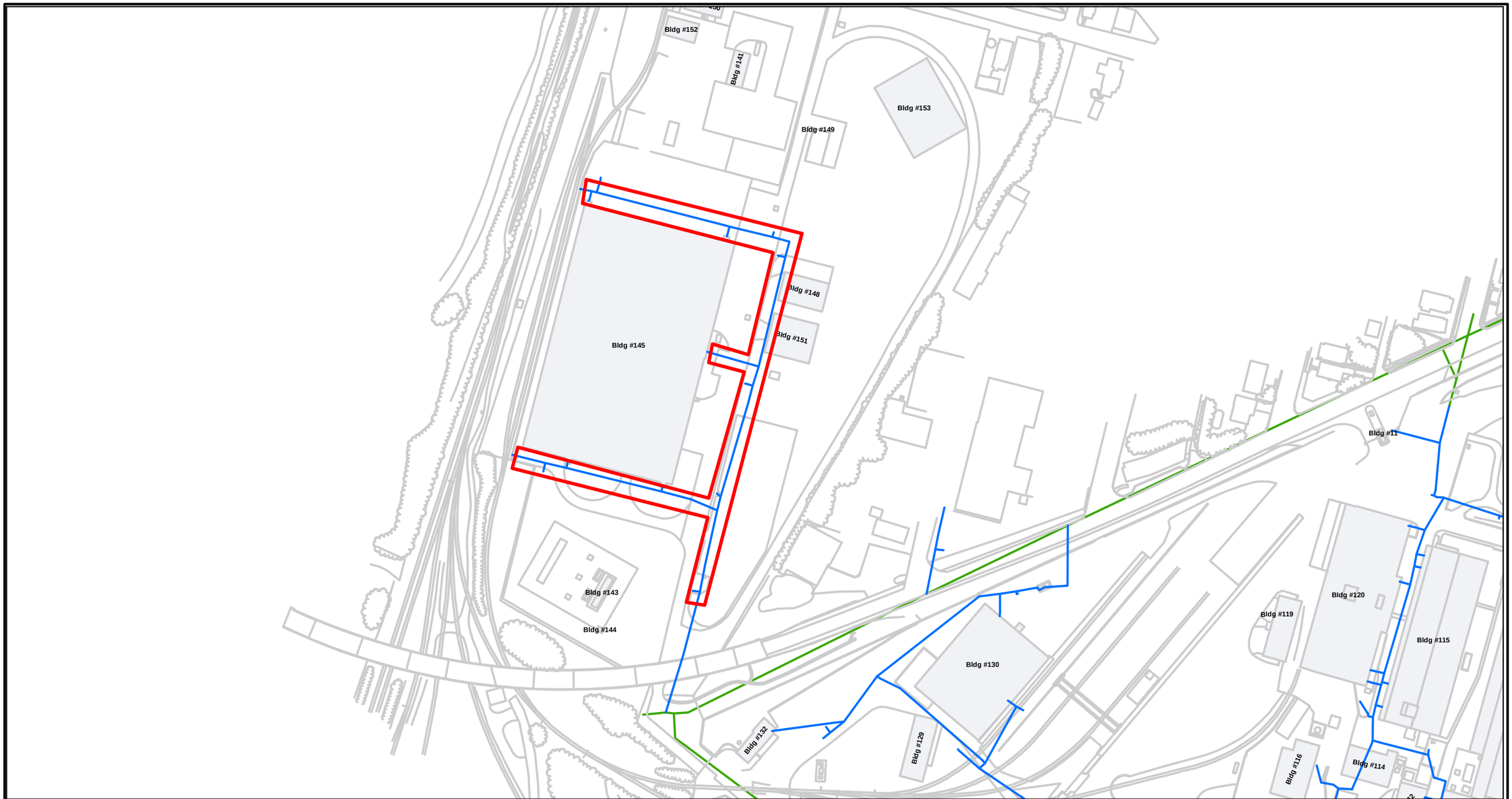
Report: 2/1/2019 8:22:39 AM

© 1999-2019 Logical Technology, Inc.
All Rights Reserved

ARCADIS Design & Consultancy for natural and built assets

Appendix E

Siberia Water Line Replacement



Legend

- WVA Water Line
- Watervliet Water Line
- Buildings
- Location of Water Line Replacement

N

LONG-TERM MONITORING
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

LOCATION OF 2018 WATER LINE REPLACEMENT

US Army Corps of Engineers

FIGURE 1

Document Path: G:\GISMOD\WatervlietArsenal\LTM\Water Lines\SA_Water Line Work_2018.mxd

ARCADIS Design & Consultancy for natural and built assets

Appendix F

Siberia Perimeter Lighting Work

145

143

N

Legend

- Installed Light Poles
- Approximate Trench Excavation

0 45 90 180 270 360 Feet

US Army Corps of Engineers

LONG-TERM MONITORING
WATERVLIET ARSENAL
WATERVLIET, NEW YORK

SIBERIA AREA
PERIMETER LIGHTING WORK

FEBRUARY 2019

FIGURE 1

Document Path: G:\GIS\MOD\WatervlietArsenal\LTM\Figures\2018\SA Perimeter Lighting.mxd