Sites 2 and 12
Fourth Quarter 2018 through Third Quarter 2019
Groundwater and Soil Gas Monitoring
and Treatment System Report

Former Fort Ord, California

Prepared for:
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On behalf of:
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Acronyms and Abbreviations

µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
1,1-DCE	1,1-dichloroethene
1,2-DCA	1,2-dichloroethane
cis-1,2-DCE	cis-1,2-dichloroethene
total 1,3-DCP	total 1,3-dichloropropene
ACL	Aquifer Cleanup Level
Army	U.S. Department of the Army
CCRWQCB	California Regional Water Quality Control Board, Central Coast Region
COC	chemical of concern
DoD	Department of Defense
DTSC	California Department of Toxic Substances Control
ELAP	Environmental Laboratory Accreditation Program
ESD	Explanation of Significant Differences
Evoqua	Evoqua Water Technologies
FO-SVA	Fort Ord Salinas Valley Aquitard
GAC	granular activated carbon
gpm	gallons per minute
GWE	groundwater extraction
GWMP	groundwater monitoring program
GWTP	groundwater treatment plant
GWTS	groundwater treatment system
HTW	Hazardous and Toxic Waste
JV	RORE Innovative Solutions Joint Venture
LOD	limit of detection
LOQ	limit of quantitation
mg/L	milligrams per liter
N/A	not applicable
ND	not detected
O&M	operations and maintenance
OU2	Operable Unit 2
PCE	tetrachloroethene
PDB	passive diffusion bag
PLC	programmable logic controller
QAPP	Quality Assurance Project Plan
RAO	remedial action objective
RI/FS	Remedial Investigation/Feasibility Study

ROD	Record of Decision
SCADA	supervisory control and data acquisition
scf	standard cubic feet
scfm	standard cubic feet per minute
SGCL	Soil Gas Cleanup Level
SGMP	soil gas monitoring program
SG-SL	soil gas screening level
Sites 2/12	Sites 2 and 12
SVE	soil vapor extraction
SVETS	soil vapor extraction and treatment system
SVTU	soil vapor treatment unit
TCE	trichloroethene
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VSR	Validation Summary Report

1.0 Introduction

The former Fort Ord, located in northern Monterey County, California (Figure 1) was an active U.S. Army base from 1917 to 1994 encompassing approximately 28,000 acres. The U.S. Environmental Protection Agency (USEPA) added Fort Ord to the National Priorities List primarily on the basis of groundwater contamination discovered in 1990 beneath the Fort Ord Landfills area, which was subsequently designated as Operable Unit 2 (OU2). Fort Ord was placed on the Base Realignment and Closure list in 1991. As the lead agency, the U.S. Department of the Army (Army) manages the cleanup of the former Fort Ord in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund. Activities include conducting risk assessments, remedial investigations, feasibility studies, and implementation of selected remedies for site cleanup of hazardous substances released into the environment as a result of previous Army activities. The remedial alternative and cleanup goals are selected in a decision document, and remedial activities are initiated accordingly. Monitoring of remedial activities ensures the remedy is operating properly and successfully to achieve cleanup goals.

The quarterly groundwater monitoring program (GWMP) at the former Fort Ord began in 1993 as a result of a Basewide Remedial Investigation/Feasibility Study (RI/FS) conducted in accordance with the Federal Facility Agreement. The Federal Facility Agreement became effective November 19, 1990, after it was signed by representatives of the Army, USEPA Region 9, the California Department of Health Services (now the California Department of Toxic Substances Control [DTSC]), and the California Regional Water Quality Control Board, Central Coast Region (CCRWQCB). The GWMP currently includes monitoring the progress of remedial actions at three sites: Sites 2 and 12 (Sites 2/12), OU2, and Operable Unit Carbon Tetrachloride Plume. This report summarizes remedial activities and monitoring at Sites 2/12.

The quarterly GWMP includes measuring depth to water and collecting groundwater samples for chemical analysis from groundwater monitoring and extraction wells at Sites 2/12 (Figure 1).[1] The presence and concentration of groundwater chemicals of concern (COCs) in wells associated with Sites 2/12 are compared with each COC's Aquifer Cleanup Level (ACL) to determine their horizontal and vertical distribution in the aquifers. Table 1 lists the ACLs for Sites 2/12 groundwater COCs as stated in the *Final Record of Decision, Basewide Remedial Investigation Sites, Fort Ord, California* (RI Sites ROD; Army, 1997) and the *Explanation of Significant Differences No. 1, Basewide Remedial Investigation Sites 2 and 12, Former Fort Ord, California* (ESD No. 1; Army, 2016). Groundwater elevations and flow

[1] Groundwater well names are referenced throughout this report according to a Fort Ord-specific naming convention (ST-SS-00-XXX), where ST = monitoring station type, SS = site identification code, 00 = monitoring station number, and XXX = monitoring depth or aquifer designation. Monitoring station type codes (ST) are EW = extraction well, MW = monitoring well, PZ = piezometer, and TS = treatment system. Site identification codes are 02 = Site 2 and 12 = Site 12. Monitoring depths are expressed as feet below ground surface or aquifer designations, which are 180 = Upper 180-Foot Aquifer generally, 180U = the upper zone of the unconfined Upper 180-Foot Aquifer, 180M = the middle zone of the unconfined Upper 180-Foot Aquifer, and 180L = the lower zone of the unconfined Upper 180-Foot Aquifer. For example, well name EW-12-08-180U represents Site 12 extraction well number 8 that is screened in the upper zone of the unconfined Upper 180-Foot Aquifer.

directions are determined using depth to water measurements collected during the quarterly GWMP events.

The quarterly soil gas monitoring program (SGMP) at Sites 2/12 began in the First Quarter 2015 after an RI/FS Addendum was conducted as presented in the *Final Remedial Investigation/Feasibility Study Addendum at Sites 2 and 12, Former Fort Ord, California* (RI/FS Addendum; AES, 2015). The SGMP includes collecting soil gas samples for chemical analysis from soil gas probes and soil vapor extraction (SVE) wells associated with Sites 2/12.[2] The presence and concentration of soil gas COCs in wells associated with Sites 2/12 are compared with each COC's Soil Gas Cleanup Level (SGCL) to determine their horizontal and vertical distribution in the vadose zone. Table 2 lists the SGCLs for Sites 2/12 soil gas COCs, as stated in the ESD No. 1 (Army, 2016).

Project activities were performed according to the following documents:

- *Quality Assurance Project Plan, Former Fort Ord, California, Volume I, Appendix A, Final Revision 7, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and* Operable Unit Carbon Tetrachloride Plume (Groundwater QAPP; AEI, 2019e)
- Quality Assurance Project Plan, Volume I, Appendix C, Final Revision 4, Soil Gas Monitoring at Sites 2 and 12, Former Fort Ord, California (Soil Gas QAPP; AEI, 2019a)
- *Final Operations and Maintenance Manual Volume II, Sites 2 and 12 (Sites 2/12) Groundwater Remedy, Former Fort Ord, California* (GWTS O&M Manual; AES, 2009) including Section 2.5.3 Replacement Pages (AEI, 2015a)
- Final Operations and Maintenance Manual Volume III, Sites 2 and 12 Soil Vapor Extraction and Treatment System, Former Fort Ord, California (SVETS O&M Manual; AEI, 2015c)
- *Accident Prevention Plan, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and* Operable Unit Carbon Tetrachloride Plume*; and Soil Gas Remedy and Monitoring at Sites 2 and 12, Former Fort Ord, California* (AEI, 2015b) and associated Activity Hazard Analyses

1.1 Purpose of this Report

Ahtna Global, LLC prepared this *Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report* on behalf of the U.S. Army Corps of Engineers (USACE) Sacramento District, per Contract W91238-19-C-0027. This report documents the groundwater and soil gas remediation and monitoring activities conducted at Sites 2 and 12 (Sites 2/12) in the former Fort Ord, California (Figure 1) from October 1, 2018 through September 30, 2019 (the "reporting period"). The guidance contained in the *O&M Report Template for Ground Water Remedies (with Emphasis on Pump and Treat Systems)* (USEPA, 2005) was utilized in preparing this report.

[2] Soil gas well names are referenced throughout this report according to a Fort Ord-specific naming convention (ST-SS-00-XX), where ST = monitoring station type, SS = site identification code, 00 = monitoring station number, and XX = monitoring depth (if applicable). Monitoring station type codes (ST) are SG = soil gas probe, VE = soil vapor extraction well, and TS = treatment system. The site identification code 12 = Site 12. Monitoring depths are expressed as feet below ground surface. For example, well name SG-12-01-10 represents Site 12 soil gas probe number 1 that is screened at 10 feet below ground surface.

The Sites 2/12 groundwater remedy includes a groundwater treatment system (GWTS)[3] in operation since April 1999 to remediate the Sites 2/12 unconfined Upper 180-Foot Aquifer and a soil vapor extraction and treatment system (SVETS)[4] in operation since September 2015 to remediate the Sites 2/12 vadose zone. The GWTS (Figure 1) extracts groundwater from the unconfined Upper 180-Foot Aquifer and treats it with liquid-phase granular activated carbon (GAC) and air stripping at the Sites 2/12 groundwater treatment plant (GWTP) shown in Figure 2. The SVETS (Figure 3) extracts soil gas from the vadose zone and treats it with vapor-phase GAC at the Sites 2/12 soil vapor treatment unit (SVTU) shown in Figure 4.

This report presents:

- Sites 2/12 GWTS and SVETS operations and maintenance (O&M) data.
- Sites 2/12 GWMP and SGMP data.
- Detailed discussions of GWMP and SGMP results and GWTS and SVETS performance, including groundwater COC plume capture analysis.
- Recommendations for system modifications to improve performance, reduce costs, and/or increase the likelihood of site closeout.

1.2 Brief Summary of Conceptual Site Model

When the former Fort Ord was an active military facility, Site 2 consisted of the primary sewage treatment facility for Fort Ord and Site 12 included numerous industrial activities, including vehicle maintenance and repair, furniture repair, storage of motor oils, hazardous material storage, vehicle cleaning and degreasing, and disposal of waste and oil. The source of the Sites 2/12 groundwater COC plume is assumed to be historical use and improper disposal of solvents in the Site 12 area. The Upper 180-Foot Aquifer COC plume appeared to have originated from Site 12 and was subsequently transported over 3,000 feet to the southwest by groundwater flow, passing beneath State Route 1 and into the Site 2 area. The two primary Sites 2/12 groundwater COCs are tetrachloroethene (PCE) and trichloroethene (TCE), which are constituents used to define the extent of the groundwater plume. The PCE and TCE ACLs are both 5 micrograms per liter (µg/L).

The groundwater aquifer of interest within Sites 2/12 is the unconfined Upper 180-Foot Aquifer, which consists primarily of sandy deposits with some gravel. Depth to groundwater in the Upper 180-Foot Aquifer is between 45 and 260 feet below ground surface across the northern part of the former Fort Ord, and between 45 and 95 feet below ground surface in the Sites 2/12 area. Groundwater in the Upper 180-Foot Aquifer generally flows southwest. A north-trending groundwater divide in the unconfined Upper 180-Foot Aquifer occurs about midway between the Fort Ord Salinas Valley Aquitard (FO-SVA) edge and Monterey Bay. The source area of Sites 2/12 is west of this divide. Groundwater west

[3] The GWTS is comprised of the groundwater extraction system (extraction wells and conveyance), the groundwater treatment plant (GWTP), including controls and treatment equipment, and the treated groundwater conveyance and injection/infiltration systems.

[4] The SVETS is comprised of the soil vapor extraction system (extraction wells and conveyance) and the soil vapor treatment unit (SVTU), including controls and treatment equipment.

of this Upper 180-Foot Aquifer divide flows west to discharge into Monterey Bay, and groundwater to the east flows beneath the FO-SVA (confined) toward the Salinas Valley.

The Sites 2/12 conceptual model was updated as part of the 2015 RI/FS Addendum at Sites 2/12, which included an investigation of the extent of PCE and TCE present in soil gas in the vadose zone above the groundwater. The results of the RI/FS Addendum and the updated conceptual site model are presented in the RI/FS Addendum Report (AES, 2015). There are or have been four potential migration pathways specific to Sites 2/12:

- Leaching of chemicals into underlying unsaturated zone soil
- Diffusion of vapor-phase chemicals in soil gas
- Partitioning of chemicals between soil gas and groundwater
- Migration of dissolved phase chemicals in groundwater

Based on environmental conditions, historical data at Sites 2/12, and chemical-specific properties, PCE and TCE are considered to have medium to high persistence and moderate mobility. Soil types present at the site have a low retardation factor, and there is insignificant adsorption of these chemicals. Additionally, PCE and TCE water solubilities and partition coefficients indicate moderate mobility. Persistence of PCE and TCE over time and the relative absence of breakdown products indicate little or no reductive dechlorination of these compounds. Concentration-driven diffusion is likely a continuing process at Site 12 given the variation of concentration gradients in the unsaturated zone over time. Additionally, groundwater and soil gas analytical data and modeling during the RI/FS Addendum at Sites 2/12 indicated the areas of highest concentrations of PCE and TCE in soil gas were associated with concentrations of PCE and TCE in groundwater that exceed ACLs (AES, 2015).

Diffusion of the soil gas PCE plume resulted in expansion downward to the water table, where PCE moved from the vapor phase into the groundwater by dissolving into water infiltrating through the capillary fringe. PCE partitioned between soil gas and groundwater as it moved toward equilibrium in the two media. The SVETS was turned off in February 2019 for a rebound study and was not operated during the remainder of the reporting period. PCE in soil gas does not appear to be affecting groundwater concentrations (AEI, 2019d and 2019f). Additionally, PCE concentrations in groundwater were below the ACL at Sites 2/12 during the reporting period, except for two well locations (Section 4.5).

TCE in soil gas does not appear to be affecting groundwater concentrations following the SVE and air sparging pilot study completed in June 2014 (AES, 2015). Additionally, TCE in groundwater was below the ACL at Sites 2/12 during the reporting period (Section 4.5).

As described in the RI/FS Addendum Report (AES, 2015), the Sites 2/12 soil gas plume is characterized by the presence of PCE and TCE in soil gas at concentrations above their respective SGCLs (Table 2). PCE and TCE concentrations are used to define the extent of the soil gas plume in the Sites 2/12 area, with associated SGCLs of 1,800 micrograms per cubic meter ($\mu g/m^3$) and 1,000 $\mu g/m^3$, respectively. The vadose zone thickness at Site 12 (excluding Site 2) varies with the depth to groundwater at approximately 63 to 88 feet below ground surface. PCE and TCE in soil gas were below their SGCLs at Sites 2/12 during the reporting period (Section 5.5).

1.3 Statement of Remedy Goals and Conditions for Terminating the Groundwater Remedy

Groundwater at Sites 2/12 is considered a potential drinking water, industrial water, and agricultural water source under the *Water Quality Control Plan for the Central Coastal Basin* (CCRWQCB, 2019), although the water is not currently being used for these purposes. Accordingly, the Sites 2/12 groundwater remedy goals are to protect human health and comply with Federal and State law by returning groundwater to a condition that will allow beneficial use, including potential future use as a drinking water source as described in the RI Sites ROD (Army, 1997) and the subsequent ESD No. 1 (Army, 2016). Specifically, the remedial action objective (RAO) is to remediate COCs in the Upper 180-Foot Aquifer to Federal or State drinking water Maximum Contaminant Levels, whichever is lower, and risk-based levels that are lower than Maximum Contaminant Levels for Chloroform and Vinyl Chloride (Army, 1997). These goals are accomplished through hydraulic control and containment of contaminated groundwater, and through extraction and treatment of groundwater exceeding ACLs. The treated water is injected to recharge the aquifer and maintain a groundwater mound to minimize saltwater intrusion at Site 2. The RAO is also met by SVE and treatment at Site 12 to reduce COC concentrations in soil gas to levels that will not result in concentrations of COCs in groundwater that continue to exceed ACLs. It is further stated in the RI Sites ROD that the achievement of the RAO would restore the beneficial uses of groundwater within and adjacent to Sites 2/12 and the ACLs are acceptable contaminant concentrations that, when achieved, would reduce potential risks and comply with applicable or relevant and appropriate requirements.

The Sites 2/12 groundwater plume is characterized by the presence of eight COCs in groundwater in the Upper 180-Foot Aquifer at concentrations above their respective ACLs. Table 1 presents the ACLs and treated water discharge limits in effect during the reporting period.

Criteria for terminating the groundwater remedy are based on decision rules identified in the Groundwater QAPP (AEI, 2019e). Groundwater monitoring wells and extraction wells are sampled quarterly during the remediation monitoring phase.[5] The remediation monitoring phase is complete, and the attainment monitoring phase[3] begins when four consecutive quarters of monitoring data show concentrations of all COCs in a well are less than or equal to their respective ACLs. The attainment monitoring phase for a well is complete when concentrations of all COCs in the well meet one of the following statements:

- COC concentrations are less than or equal to their respective ACLs in eight consecutive monitoring events and data analysis indicates COC concentrations are stable or declining,[6] or
- COC concentrations are below their respective limits of quantitation or below 10 percent of their respective ACLs, whichever is greater, in six consecutive monitoring events.

When the attainment monitoring phase for a well is completed, the well may be removed from the sampling program. If the well is no longer needed for groundwater elevation data, it will be proposed for

[5] As defined in *Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at a Groundwater Monitoring Well* (USEPA, 2014).

[6] The eight consecutive monitoring events may include monitoring events completed during the remediation monitoring phase.

decommissioning. The groundwater remedy termination metric to be evaluated will be whether the attainment monitoring phase is complete for all wells at Sites 2/12, at which point operation of groundwater extraction (GWE) wells may be terminated. This approach recognizes the termination metric will likely not be met simultaneously throughout all areas of the plume. Thus, the operation of GWE wells within individual hydraulic capture zones will progressively come to an end when the operation of the entire Sites 2/12 GWTS is terminated, and closure of the Sites 2/12 groundwater remedy will be proposed in a remedial action completion report.

1.4 Remedy Description

The Sites 2/12 groundwater remedy is defined by the RI Sites ROD (Army, 1997) and the subsequent ESD No. 1 (Army, 2016), and consists of a groundwater pump and treatment system designed to remediate groundwater containing COCs above ACLs and an SVE system designed to remediate soil gas containing COCs above SGCLs. In a letter dated July 3, 2002, the USEPA concurred with the Army's determination that the Sites 2/12 groundwater remedy is "operating properly and successfully" (USEPA, 2002). Components of the Sites 2/12 GWTS and SVETS and a brief history are described below.

1.4.1 Groundwater Pump and Treat System Description

Construction of the original Sites 2/12 groundwater remedy is documented in the *Final Construction Completion Report, Sites 2 and 12 Groundwater Remedy, Fort Ord, California* (IT, 1999). Groundwater extraction and treatment first occurred at Sites 2/12 on April 13, 1999. Continuous groundwater extraction and treatment began on May 3, 1999 (IT, 2000). Diversion of treated effluent water from the OU2 GWTP to the Site 2 aquifer recharge structures began on June 23, 1999.

The Sites 2/12 groundwater remedy currently consists of the GWTP[7], eight GWE wells located at Site 12, and two injection wells and three infiltration galleries located at Site 2 (Figure 1). GWE wells at Sites 2/12 are screened either in the upper or lower part of the Upper 180-Foot Aquifer. GWE wells, designated with a "U" suffix, extract groundwater from the upper portion of the aquifer. Wells designated with an "M" suffix extract groundwater from the lower portion of the aquifer. Eight GWE wells, four in the upper portion of the aquifer (EW-12-01-180U through EW-12-04-180U) and four in the lower portion of the aquifer (EW-12-01-180M through EW-12-04-180M), were installed in 1997 and 1998 as the original GWE network. Ongoing development activities in the Site 12 area were accommodated by decommissioning four GWE wells (EW-12-01-180U, EW-12-01-180M, EW-12-02-180U, and EW-12-02-180M), and installing three GWE wells (EW-12-05-180M, EW-12-06-180M, and EW-12-07-180M) in 2006. One GWE well (EW-12-08-180U) was installed in 2015 to provide additional capture of the PCE groundwater plume.

System operations consist of Upper 180-Foot Aquifer groundwater extraction from wells at Site 12. Extracted groundwater is piped to the Sites 2/12 GWTP (Figure 2). COCs are then removed by adsorption to liquid-phase GAC and secondary treatment by an air stripper. A portion of the treated water from the OU2 groundwater remedy is piped to the Sites 2/12 GWTP and added to the Sites 2/12 treated water in

[7] The GWTP is a component of the GWTS and houses system controls and treatment equipment, including the GAC vessels and the air stripper.

the effluent tank before the combined stream is transferred to the Upper 180-Foot Aquifer Site 2 aquifer recharge structures. The five Site 2 recharge structures consist of two injection wells (IW-02-01-180 and IW-02-02-180) and three infiltration galleries (INF-02-01-180, INF-02-02-180, and INF-02-03-180) (Figure 1).

The original groundwater remedy was designed to extract groundwater from Site 12 at a system rate of about 300[8] gallons per minute (gpm) and recharge the Upper 180-Foot Aquifer at a total system rate of about 600 gpm. The additional 300 gpm of aquifer recharge water is provided by the OU2 system. The aquifer extraction and recharge system is designed to reverse the natural westerly groundwater flow gradient by redirecting the flow toward the east and facilitate groundwater flow from Site 2 to the Site 12 GWE wells. The extraction capacity of the four operable GWE wells[9] was designed to allow for maximum system operation flexibility in the event extraction at a well would need to be reduced or discontinued. The loss of extraction capacity could be compensated for by increasing the extraction rate at another well.

The Sites 2/12 GWTP is located in the southern part of the 2/12 plume area and consists of two 10,000-pound liquid-phase GAC vessels and an air stripper (Figure 2).[10] During treatment, groundwater is pumped from the GWE wells and piped directly through one of the GAC vessels and the air stripper operated in series to remove COCs. The treated water flows to an effluent storage tank that discharges, with the aid of pumps controlled by variable frequency drives, to groundwater infiltration and injection structures located at Site 2. The capacity of the Sites 2/12 GWTP with the GAC vessels and air stripper in series (225 gpm) is the practical maximum flow rate that allows for adequate residence time in the air stripper. The air stream effluent from the air stripper is treated by potassium permanganate prior to discharge to the atmosphere. Schematic diagrams of the equipment arrangements and sampling locations during the reporting period are shown in Figure 2.

1.4.2 Soil Vapor Extraction and Treatment System Description

Construction of the Sites 2/12 soil gas remedy is documented in the SVETS O&M Manual (AEI, 2015c). Soil vapor extraction and treatment first occurred at Sites 2/12 on May 9, 2014, as part of a pilot study performed with five SVE wells (VE-12-01 through VE-12-05) over 38 days (AES, 2015). Continuous SVE and treatment began on September 14, 2015 with the full-scale system.

The Sites 2/12 SVETS is a component of the groundwater remedy and currently consists of the SVTU[11] and ten SVE wells located at Site 12 (Figure 3). SVE wells at Sites 2/12 are screened either in the middle or lower part of the vadose zone. Five SVE wells, three screened in the lower portion of the vadose zone (VE-12-01 through VE-12-03) and two screened in the middle portion of the vadose zone (VE-12-04 and VE-12-05), were installed in 2014 as the original SVE pilot study network. Five SVE wells screened in the

[8] The addition of the air stripper resulted in a reduced design flow rate of approximately 225 gpm.
[9] EW-12-05-180M, EW-12-06-180M, EW-12-07-180M, and EW-12-08-180U.
[10] One GAC vessel is inoperable due to an underdrain assembly failure that occurred in April 2017.
[11] The SVTU is a component of the SVETS and houses system controls and treatment equipment including the GAC vessels.

lower portion of the vadose zone (VE-12-06 through VE-12-10) were installed in 2015 as part of the full-scale soil gas remedial system and are located to the north of the original SVE pilot study network.

System operations consist of vadose zone soil gas extraction from SVE wells at Site 12. Extracted soil gas is piped to the 2/12 SVTU where, prior to treatment, the soil gas undergoes condensate removal via liquid separation (Figure 4). COCs are then removed by adsorption to vapor-phase GAC and treated soil gas is vented to the atmosphere. The 2/12 SVTU is located in a compound adjacent to the Sites 2/12 GWTP and consists of a positive displacement blower (vacuum pump) and two 3,000-pound vapor-phase GAC vessels operated in series (Figure 4). As soil gas COC concentrations were below SGCLs, the SVTU was turned off in February 2019 (AEI, 2019d) and remained off for the rest of the reporting period with the concurrence of USEPA, DTSC, and CCRWQCB (collectively the "regulatory agencies") because soil gas COC concentrations remained below SGCLs.

1.4.3 Other Remedy Components

As specified in the RI Sites ROD (Army, 1997), the remedy includes institutional controls (i.e., deed restrictions) to prevent the use of groundwater within the contaminant plume for domestic or agricultural purposes.

2.0 GWTS Operations Summary

Operating performance of the Sites 2/12 GWTS is discussed below regarding extraction and treatment flow rates and totals, online effectiveness, non-routine operations, and indirect waste stream production. Flow rates and totals for the reporting period are presented in Table 3 and Figure 5. Treatment system operations were conducted following procedures in the GWTS O&M Manual (AES, 2009).

2.1 System Downtime

The Sites 2/12 GWTP was operational 72.9 percent of the time during the reporting period (Table 3), which is below the operational goal of 95 percent, but was operational 94 percent of the time during the Third Quarter 2019 (Table 3). Downtime includes scheduled and unscheduled operational outages, including maintenance.

2.1.1 Routine

Sites 2/12 GWTP downtime associated with scheduled operational shutdowns during the reporting period was approximately 3 hours during the reporting period for a GAC change-out on June 4, 2019.

2.1.2 Non-Routine

Sites 2/12 GWTP downtime associated with unscheduled operational shutdowns during the reporting period was approximately 2,384 hours, which warranted corrective actions during the reporting period (see Section 2.4). The following table summarizes non-routine events resulting in Sites 2/12 GWTP downtime during the reporting period.

Non-Routine Events Resulting in System Downtime

Date	Non-Routine Events	Duration (Hours)
10/12/2018-02/06/2019	Sites 2/12 GWTP was online during business hours only. This was due to loss of supervisory control and data acquisition (SCADA) system communications during and after OU2 transition period.[12]	1,941.4
03/5/2019-03/12/2019	Sites 2/12 GWTP was offline intermittently due to a programmable logic controller (PLC) and communications issues.	128.0
03/15/2019-03/19/2019	Sites 2/12 GWTP was offline due to a leak in effluent pipeline, which was repaired on March 19, 2019.	88.5
03/22/2019	Sites 2/12 GWTP was offline due to the OU2 GWTP communications error.	12.0
03/26/2019	Sites 2/12 GWTP was offline due to the Pacific Gas & Electric power issue at OU2 GWTP.	5.0

[12] The OU2 transition period was from October 12, 2018, when the old OU2 GWTP was permanently shut down, to November 30, 2018, when the new OU2 GWTP started full operation; however, Sites 2/12 GWTS SCADA system communications were not restored until February 6, 2019, after which the Sites 2/12 GWTP resumed fulltime operations.

Date	Non-Routine Events	Duration (Hours)
04/02/2019	Sites 2/12 GWTP was offline for the repair of a leaking effluent pipe flange near old OU2 GWTP (repaired by RORE Innovative Solutions Joint Venture [JV]).	3.0
04/10/2019	Sites 2/12 GWTP was offline for the repair of a leaking effluent pipe flange near old OU2 GWTP (repaired by JV).	3.0
04/12/2019	Sites 2/12 GWTP was offline for maintenance of a leak detection system at OU2 eastern network extraction wells.	12.0
04/27/2019	Sites 2/12 GWTP was offline due to communications loss at the OU2 GWTP.	19.0
05/03/2019	Sites 2/12 GWTP was offline due to communications loss at the OU2 GWTP.	14.0
05/07/2019	Sites 2/12 GWTP was offline due to communications loss at the OU2 GWTP.	12.0
05/13/2019	Sites 2/12 GWTP was offline to repair a broken effluent pipe air vacuum valve at Site 2.	2.5
06/28/2019	Sites 2/12 GWTP was offline due to communications loss at OU2 GWTP.	2.0
07/07/2019	Sites 2/12 GWTP was offline due to a power outage. EW-12-05-180M was online, EW-12-08-180U was unable to restart due to a fault caused by power outage.	0.25
07/16/2019-07/22/2019	Sites 2/12 GWTP was shut down until the EW-12-08-180U could be repaired. Operation of only EW-12-05-180M may augment plume migration and reduce capture. EW-12-08-180U was repaired, and Sites 2/12 GWTP restarted on July 22, 2019.	141.0
	Total Sites 2/12 GWTP Non-Routine Downtime:	**2,383.7**

2.2 Operational Data and Process Monitoring Data

2.2.1 Plant Influent and Effluent, and Efficiency of Aboveground Components

This section presents an evaluation of treatment system monitoring data and efficiency of aboveground treatment components during the reporting period. Chemical concentrations are monitored at up to five sampling locations at the Sites 2/12 GWTP. The sample station designations and descriptions are listed in the table below and shown in Figure 2.

Sample Station Designations and Descriptions

Station Designation	Description
TS-212-INF	Combined untreated influent groundwater from online GWE wells for calculating total COC mass removal and monitoring treatment effectiveness.
TS-212-GAC-A & TS-212-GAC-B	GAC vessels TK-5450A and TK-5450B effluent stations for monitoring COC breakthrough to determine if a GAC change-out is required.
TS-212-EFF	Air stripper TK-5460 effluent station for monitoring treatment effectiveness.

Station Designation	Description
TS-212-INJ	Combined treated water from the OU2 and Sites 2/12 GWTPs. Compliance monitoring point for comparison to treated water discharge limits (Table 1) before aquifer recharge.

The Sites 2/12 GWTP process monitoring schedule is presented in Table 4 and COC analytical data are presented in Table 5. The Sites 2/12 GWTP process monitoring is conducted according to the schedule in the Groundwater QAPP (AEI, 2019e). Analytical data generated during the reporting period were subjected to validation in accordance with the Groundwater QAPP (AEI, 2019e) and are considered acceptable and suitable for use. The Validation Summary Report (VSR) for these analytical data is in Appendix B.

2.2.1.1 Flow Rates and Total Volume Treated

During the reporting period, except when offline, the Sites 2/12 GWTP operated continuously in the automatic control mode utilizing one GAC treatment vessel (TK-5450A) and the air stripper (TK-5460). The flow rate and treated volume data for the reporting period are summarized in Table 3. The total volume of treated groundwater for the reporting period was approximately 51.3 million gallons. The average flow rate for the reporting period was 98 gpm. The reported average monthly flow rate varies depending on flow rates for individual GWE wells and downtime events at the GWTP or the GWE wells. Cumulative treated groundwater flow since startup on April 13, 1999 through September 30, 2019 was approximately 2.1 billion gallons. Total system flow rates and design flow rates since system startup are shown graphically in Figure 5.[13]

Treated water is discharged into five separate Upper 180-Foot Aquifer recharge structures, consisting of two injection wells and three infiltration galleries at Site 2 (Figure 1). During the reporting period, the Sites 2/12 GWTS discharged treated water from both Sites 2/12 and OU2 to the five aquifer recharge structures at an average rate of 465 gpm.

2.2.1.2 Influent Monitoring

The combined Sites 2/12 GWTP influent is sampled at TS-212-INF prior to entering the GAC vessels (Figure 2). Table 3 summarizes total influent COC concentrations (i.e., the sum of detected COC concentrations at the Sites 2/12 GWTP influent) during the reporting period, and specific influent COC concentrations are presented in Table 5. A historical summary of influent COC concentrations is shown graphically in Figure 6. Four COCs were detected in the Sites 2/12 GWTP influent during the reporting period: chloroform; cis-1,2-dichloroethene (cis-1,2-DCE); PCE; and TCE. During the reporting period, the highest detected concentration of any COC in the influent samples was PCE at 8.1 µg/L in the sample collected on December 3, 2018. PCE was the only COC detected above its ACL in the Sites 2/12 GWTP influent during the reporting period.

[13] Figure 5 indicates a decreasing trend in total flow rate since 2012. This is primarily due to discontinued operation of specific GWE wells, where COC concentrations are consistently below ACLs, and operational modifications to address the PCE plume identified in 2011 (see evaluation in Table 7).

2.2.1.3 Effluent Monitoring

The treatment plant effluent is sampled at TS-212-EFF (Figure 2) after treatment through the GAC vessel and the air stripper. Four COCs were detected at the effluent monitoring point during the reporting period: chloroform; cis-1,2-DCE; PCE; and TCE (Table 5). Concentrations of all detected COCs were below ACLs (Table 1).

2.2.1.4 Discharge Compliance Monitoring

Discharge compliance monitoring during normal operations is conducted as specified in the Groundwater QAPP (AEI, 2019e) to document compliance with treated discharge water requirements for aquifer recharge and evaluate the effects of adding treated effluent from the OU2 GWTP. Injection monitoring samples are collected at TS-212-INJ (Figure 2). Three COCs were detected at the injection monitoring point during the reporting period: cis-1,2-DCE; PCE; and TCE (Table 5). All detections were below discharge limits (Table 1).

2.2.1.5 GAC Performance Monitoring

The Sites 2/12 GWTP was operated with one 10,000-pound GAC vessel online during the reporting period. Groundwater was pumped from the GWEs and piped through GAC vessel TK-5450A (Figure 2).

The monitoring data are used to assess COC breakthrough and determine when GAC needs to be changed per Groundwater QAPP decision rules (AEI, 2019e). The GAC vessel effluent (sampled at TS-212-GAC-A) was sampled during the reporting period and four COCs were detected: chloroform; cis-1,2-DCE; PCE; and TCE (Table 5).

GAC performance monitoring is evaluated by comparing the Sites 2/12 GWTP influent (TS-212-INF) and GAC vessel (TS-212-GAC-A) TCE and PCE concentrations, and is used to calculate GAC efficiency.[14] GAC vessel COC removal efficiency was calculated at 20 percent for TCE and 45 percent for PCE during the reporting period (Table 6).

2.2.1.6 Air Stripper Performance Monitoring

Air stripper performance monitoring is evaluated by comparing GAC vessel (TS-212-GAC-A) and Sites 2/12 GWTP effluent (TS-212-EFF) TCE and PCE concentrations, and is used to calculate air stripper efficiency. Air stripper COC removal efficiency was calculated at 63 percent for TCE and 67 percent for PCE during the reporting period (Table 6).

2.2.1.7 Groundwater Treatment System Efficiency

GWTS performance monitoring is evaluated by comparing Sites 2/12 GWTP influent (TS-212-INF) and effluent (TS-212-EFF) TCE and PCE concentrations, and is used to calculate GWTS efficiency. Sites 2/12 GWTP COC removal efficiency was calculated at 71 percent for TCE and 83 percent for PCE during the reporting period (Table 6).

[14] For the Sites 2/12 GWTP performance monitoring, only TCE and PCE are evaluated as they are the primary COCs and the determining COCs for scheduling GAC change-outs in accordance with the decision rules in the Groundwater QAPP (AEI, 2019e).

2.2.1.8 COC Mass Removed

The Sites 2/12 GWTP removed 3.2 pounds of COCs during the reporting period and a cumulative 488 pounds since system startup in April 1999 (Table 3 and Figure 7). PCE and TCE are estimated to represent approximately 92 percent by weight of the total COCs in the untreated influent (TS-212-INF) during the reporting period (Table 5). The remaining 8 percent is estimated to be a combination of chloroform and cis-1,2-DCE. The remaining COCs (1,1-dichloroethene [1,1-DCE]; 1,2-dichloroethane [1,2-DCA]; total 1,3-dichloropropene [total 1,3-DCP]; and vinyl chloride) were not detected (ND) at the Sites 2/12 GWTP influent during the reporting period.

2.2.2 Extraction Well Data

GWE wells are typically monitored quarterly.[15] GWE well locations are shown in Figure 1. Operational run time, flow rates, volume pumped, and total COC concentrations for individual GWE wells are reported in Table 7. A brief evaluation of individual GWE well performance during the reporting period and recommendations for the next reporting period are presented in Table 8. The GWE well sample schedule is presented in Table 9 and any modifications to the schedule during the reporting period are listed in Table 10. Well maintenance conditions and status are listed in Table 11. Depth to water measurements and groundwater elevations are listed in Table 12. Specific COC analytical data for each GWE well during the reporting period are presented in Tables 13 through 17. Analytical data generated during this reporting period were subjected to validation as described in the Groundwater QAPP (AEI, 2019e) and are considered acceptable and suitable for use. The VSR for these analytical data is presented in Appendix B.

2.3 Consumables and Waste Handling/Disposal

2.3.1 Consumables Used

One GAC change-out event occurred during the reporting period. On June 4, 2019, the spent GAC in TK-5450A was replaced with reactivated 8 x 30 mesh GAC supplied by Evoqua Water Technologies (Evoqua) from previous Sites 2/12 GWTP change-outs.

2.3.2 Waste Handling/Disposal

Evoqua transported the spent GAC removed during the change-out event to its facility in Red Bluff, California for reactivation. Spent Sites 2/12 GWTP GAC is a Resource Conservation and Recovery Act non-hazardous waste based on waste profile analyses (i.e., a test performed at the direction of the generator and disposal facility to demonstrate the spent GAC is not a characteristic hazardous waste).

2.4 Problems Encountered with GWTS Operation

2.4.1 Subsurface

Table 8 lists Sites 2/12 GWE wells and provides a brief evaluation of each well's performance, operational status, problems identified during the reporting period, and recommendations for the next

[15] In accordance with the Groundwater QAPP (AEI, 2019e) decision rules or because of pump failures, not all GWE wells are sampled quarterly.

reporting period. Significant problems encountered and corrective actions implemented during the reporting period are described below.

- On July 7, 2019, a power outage caused a fault and loss of communications in EW-12-08-180U, and the well would not restart. The Sites 2/12 GWTP was turned offline on July 16, 2019, since EW-12-05-180M was the only operational GWE, and it could cause migration of the PCE groundwater plume away from the capture area. On July 22, 2019, EW-12-08-180U was repaired, and the Sites 2/12 GWTP was restarted.

2.4.2 Aboveground Treatment System

The operability of the Sites 2/12 GWTP during the reporting period was 72.9 percent (Table 3), which is below the 95 percent operational goal. Significant aboveground treatment system problems encountered and corrective actions implemented during the reporting period included:

- From October 12, 2018 through February 6, 2019, the Sites 2/12 GWTP was operated during business hours only to allow direct monitoring of GWTP operations because the SCADA system, which allowed for remote operations and sends alarms to the operator, was offline during the OU2 GWTP transition period.[16]
- On October 12, 2018, when the Sites 2/12 GWTP was shut down, GWE EW-12-05-180M did not shut down, which resulted in effluent tank TK-5480 (Figure 2) overflowing and filling the Sites 2/12 GWTP containment berm with treated water. On October 15, 2018, the treated water in the containment berm was pumped into the backwash tank and treated again through the Sites 2/12 GWTP prior to discharge at the Site 2 infiltration galleries.
- From March 5 to 12, 2019 the Sites 2/12 GWTP was offline intermittently due to PLC and communications issues. The PLC was reprogrammed to prevent future shutdowns; however, communications issues resulting from the OU2 GWTP transition period are expected to be resolved after the new OU2 GWTP is fully operational.[17]
- On March 15, 2019 the Sites 2/12 GWTP was shut down due to a leak in the effluent pipe. The leak was repaired and the system restarted on March 19, 2019.
- On March 22, 2019 the Sites 2/12 GWTP was offline due to communications issues at the OU2 GWTP.
- On March 26, 2019 the Sites 2/12 GWTP was offline due to power issues at the OU2 GWTP.
- From April 2 to 12, 2019 the Sites 2/12 GWTP shut down intermittently due to OU2 GWTP maintenance by the JV.
- From April 27 to May 7, 2019 the Sites 2/12 GWTP shut down intermittently due to OU2 GWTS communications issues.
- On May 13, 2019 the Sites 2/12 GWTP was offline for the repair of a broken effluent pipe air vacuum valve, which was replaced with a blind flange.
- On June 28, 2019 the Sites 2/12 GWTP was offline due to OU2 GWTS communications issues.

[16] The Sites 2/12 GWTP SCADA system is interconnected with the OU2 GWTP. Communications were re-established and the Sites 2/12 GWTP returned to full-time operations on February 7, 2019.
[17] The new OU2 GWTP is expected to be fully operational after the reporting period in early 2020.

2.5 System Modifications and Maintenance

2.5.1 Routine Maintenance

Routine maintenance activities were performed during the reporting period in accordance with the GWTS O&M Manual (AES, 2009).

2.5.2 System Modifications and Non-Routine Maintenance

There were no Sites 2/12 GWTS system modifications and no non-routine maintenance was performed during the reporting period.

2.6 Other Operations Information

No other Sites 2/12 GWTS operations information requires reporting for this period.

3.0 SVETS OPERATIONS SUMMARY

Operating performance of the Sites 2/12 SVETS is discussed below regarding extraction and treatment flow rates and totals, online effectiveness, non-routine operations, and indirect waste stream production. On February 11, 2019 the SVETS system was shut down for a rebound study due to low soil gas COC concentrations. The rebound study was conducted during the First Quarter and Second Quarter 2019 SGMP events, and the SVETS was not restarted during the reporting period. The SVTU process monitoring schedule is presented in Table 18. Flow rates and totals for the reporting period of system operation up to February 11, 2019 are presented in Table 19 and Figure 8. Treatment system operations were conducted following procedures in the SVETS O&M Manual (AEI, 2015c).

3.1 System Downtime

The Sites 2/12 SVTU was operational 36.3 percent of the time during the reporting period. Through January 2019, the Sites 2/12 SVTU was operational 99.8 percent of the time (Table 19), exceeding the operational goal of 95 percent. Downtime includes scheduled and unscheduled operational outages, including maintenance.

3.1.1 Routine

Sites 2/12 SVTU downtime associated with scheduled operational shutdowns from the start of the reporting period to February 11, 2019 was approximately 7.0 hours, and 5,566 hours during the entire reporting period. The following table summarizes routine events resulting in Sites 2/12 SVTU downtime during the reporting period.

Routine Events Resulting in System Downtime

Date	Routine Events	Duration (Hours)
11/13/2018	SVTU inspection and maintenance.[18] Sumps were empty.	1.0
12/13/2018	SVTU inspection and maintenance. Sumps were empty.	2.0
01/13/2019	SVTU inspection and maintenance. Sumps were empty.	2.0
01/21/2019	SVTU inspection and maintenance. Sumps emptied of 125 gallons of condensate.	2.0
02/11/2019-09/30/2019	SVTU shut down for rebound study on February 11, 2019 and remained offline through the end of the reporting period.	5,559.0
	Total Sites 2/12 SVTU Routine Downtime:	**5,566.0**

[18] Routine inspection and maintenance includes inspecting the following items and performing maintenance as needed: blower belts, oil levels, bearings, knockout tanks, sumps, SVTU structure, heat exchanger, plumbing connections, transfer pumps, hi-level switch, and GAC vessels.

3.1.2 Non-Routine

There was no Sites 2/12 SVTU downtime associated with non-routine operational shutdowns during the reporting period.

3.2 Operational Data and Process Monitoring Data

3.2.1 SVTU Influent and Effluent, and Efficiency of Aboveground Components

This section presents an evaluation of SVTU monitoring data and efficiency of aboveground treatment components during the reporting period. Chemical concentrations are monitored at up to three sampling locations on the SVTU. The sample station designations and descriptions are listed in the table below and shown in Figure 4.

Sample Station Designations and Descriptions

Station Designation	Description
SVTU-212-INF	Combined untreated influent soil gas from the online SVE wells for calculating total COC mass removal and monitoring treatment effectiveness.
SVTU-212-MID	Lead GAC vessel TK-2610A effluent for monitoring COC breakthrough to determine if a GAC change-out is required.
SVTU-212-EFF	Lag GAC vessel TK-2610B effluent for monitoring COC breakthrough to determine if a GAC change-out is required and discharge compliance.

The SVTU process monitoring sample dates and locations are presented in Table 18, and COC analytical data from the SVTU process samples are presented in Table 20. The SVTU process monitoring is conducted according to the schedule in the Soil Gas QAPP (AEI, 2019a). Analytical data generated during the reporting period were subjected to validation in accordance with the Soil Gas QAPP (AEI, 2019a) and were considered acceptable and suitable for use (Appendix E).

3.2.1.1 Flow Rates and Total Volume Treated

From the start of the reporting period until February 11, 2019, the SVTU operated continuously in the automatic control mode utilizing two GAC treatment vessels. The flow rate and treated volume data for the reporting period are summarized in Table 19. The total volume of treated soil gas for the reporting period was approximately 94 million standard cubic feet (scf). The average operational flow rate for the reporting period was 477 scf per minute (scfm). The average temporal flow rate for the reporting period was 199 scfm. The reported average monthly flow rate varies depending on flow rates for individual SVE wells and downtime events at the SVTU or SVE wells. Cumulative treated soil gas flow since startup on September 14, 2015 through September 30, 2019 was approximately 1.3 billion scf. Total system flow rates since system startup through February 11, 2019 are shown graphically in Figure 8.

3.2.1.2 Influent Monitoring

The combined Sites 2/12 SVTU influent is sampled at SVTU-212-INF prior to entering the liquid separators (Figure 4). Table 19 summarizes total influent COC concentrations (i.e., the sum of detected COC concentrations at the Sites 2/12 SVTU influent) during the reporting period, and specific influent

COC concentrations are presented in Table 20. A historical summary of influent COC concentrations is shown graphically in Figure 9. Both COCs (PCE and TCE) were detected in the SVTU influent during the reporting period, and the highest detected concentration of any COC at the influent was PCE at 26 µg/m^3 in November 2018 (this was the only SVTU influent sample collected during the reporting period). No COCs were detected above their SGCL or soil gas screening level (SG-SL) at the SVTU influent during the reporting period.

3.2.1.3 Discharge Compliance Monitoring

Discharge compliance monitoring is conducted as specified in the Soil Gas QAPP (AEI, 2019a) to document compliance with treated soil gas discharge requirements. Discharge compliance monitoring samples are collected at SVTU-212-EFF, as described above and shown in Figure 4. Analytical data for COCs are summarized in Table 20. TCE and PCE were detected at the discharge compliance monitoring point during the reporting period.

In accordance with the Soil Gas QAPP (AEI, 2019a), discharge limit compliance is achieved when the requirements of Monterey Bay Air Resources District Rule 207 (Air District, 2011) and Rule 1000 (Air District, 2017) are both met. Using the maximum detected total concentration of volatile organic compounds at the SVTU effluent (16 µg/m^3) and average operational flow rate during the reporting period (477 scfm), the discharge limit compliance was achieved, as evident by:

- Total volatile organic compound emissions were 0.00069 pounds per day (Table 21), which is less than the limit of 25 pounds per day under Rule 207.
- The hazard index was 0.00001 (Table 21), which is less than the maximum hazard index of 1 required under Rule 1000.
- Excess cancer risk to a hypothetical receptor 50 meters away from the SVTU discharge point was 7.5 x 10^{-9} (Table 21), which is less than the risk of 1 x 10^{-5} required under Rule 1000.

3.2.1.4 GAC Performance Monitoring

The Sites 2/12 SVTU was operated with both 3,000-pound GAC vessels online during the reporting period. During treatment, soil gas is extracted from the SVE wells and piped in series through the two GAC vessels (TK-2610A and TK-2610B) with TK-2610A in the lead position and TK-2610B in the lag position (Figure 4). The monitoring data are used to assess COC breakthrough and determine when GAC needs changing in the two vessels per the Soil Gas QAPP analytic approach (AEI, 2019a). During the reporting period, there was a breakthrough of TCE at the SVTU effluent in November 2018 (Table 20); however, discharge compliance was still achieved (see Section 3.2.1.3) and no additional action was required per the Soil Gas QAPP (AEI, 2019a).

3.2.1.5 SVETS Efficiency

SVETS efficiency is evaluated by comparing the PCE and TCE concentrations at the SVTU influent (SVTU-212-INF) to the post-GAC treatment effluent at the lag vessel effluent sample point (SVTU-212-EFF; Figure 4). SVETS COC removal efficiency for November 2018 was calculated at -176 percent for TCE

because the influent concentration was less than the effluent concentration.[19] SVETS COC removal efficiency for November 2018 was calculated at 100 percent for PCE (Table 20).

3.2.1.6 COC Mass Removed

The Sites 2/12 SVTU removed 0.18 of a pound of COCs during the reporting period and a cumulative 9.7 pounds since system startup on September 14, 2015 (Table 19 and Figure 10). PCE represented approximately 82 percent by weight of the total COCs in the untreated influent (SVTU-212-INF) during the reporting period, and the remaining 18 percent was TCE (Table 20).

3.2.2 SVE Well Data

SVE wells are typically monitored quarterly.[20] SVE well locations are shown in Figure 3. Operational runtime and total COC concentrations for individual SVE wells are reported in Table 22. A brief evaluation of individual SVE well performance during the reporting period and recommendations for the next reporting period are presented in Table 23.

Analytical data generated during this reporting period were subjected to validation as described in the Soil Gas QAPP (AEI, 2019a) and are considered acceptable and suitable for use. The VSRs for these analytical data are presented in Appendix E.

3.3 Consumables and Waste Handling/Disposal

3.3.1 Consumables Used

No GAC change-out events occurred during the reporting period.

3.3.2 Waste Handling/Disposal

Condensate water collected in SVE conveyance line sumps and SVTU liquid separators is transferred to the Sites 2/12 GWTP for treatment. No other waste handling or disposal was necessary during the reporting period as no GAC change-out events occurred.

3.4 Problems Encountered with SVETS Operation

3.4.1 Subsurface

Table 23 lists Sites 2/12 SVE wells and provides a brief evaluation of each well's performance, operational status, problems identified during the reporting period, and recommendations for the next reporting period. There were no significant subsurface SVETS problems, and corrective actions were not required during the reporting period.

[19] TCE removal efficiency has been negative since the Fourth Quarter 2017 due to TCE desorbing from the GAC as PCE continues to be adsorbed; however, a GAC change-out is not warranted because the SVETS remains in compliance with the substantive requirements of Air District Rules 207 and 1000 and continues to efficiently remove PCE, which is the only groundwater COC with concentrations above the ACL.

[20] In accordance with the Soil Gas QAPP (AEI, 2019a) decision rules or due to SVE well failures not all SVE wells are sampled quarterly.

3.4.2 Aboveground Treatment System

Through January 2019, overall operability of the SVTU was 99.8 percent (Table 19). There were no significant treatment system problems encountered during the reporting period.

3.5 System Modifications and Maintenance

3.5.1 Routine Maintenance

Routine maintenance activities were performed during the reporting period in accordance with the SVETS O&M Manual (AEI, 2015c). As described in Section 3.1.1, the SVTU was maintained through the reporting period with regular inspections and maintenance.

3.5.2 System Modifications and Non-Routine Maintenance

Non-routine maintenance was not performed during the reporting period. Below is a summary of operational changes made during the reporting period:

On February 11, 2019, the SVETS was turned off to perform a rebound study due to a decrease in COC concentrations to ND in SVE well VE-12-09 in the Third Quarter 2018 and Fourth Quarter 2018 SGMP events (AEI, 2019b). This modification was in accordance with Soil Gas QAPP analytic approach (AEI, 2019a and 2019c) and was agreed to by the regulatory agencies in February 2019 (Army, 2019a) because there was no apparent correlation between groundwater and soil gas PCE concentrations and no indication the SVETS was continuing to augment the groundwater remedy at Sites 2/12. The rebound study was conducted during the First Quarter and Second Quarter 2019 SGMP events (AEI, 2019d and 2019f), as discussed in Section 5.5.

3.6 Other Operations Information

During the reporting period, SVE well VE-12-09 was operated until February 11, 2019 to remediate soil gas and augment groundwater plume remediation. Table 22 lists the runtimes during the reporting period for individual SVE wells.

SVE wells were not operated during the Second Quarter and Third Quarter 2019 (Table 22) because the SVETS was shut down for a rebound study on February 11, 2019 with the concurrence of the regulatory agencies (Army, 2019a), which included monitoring for rebound in the First Quarter and Second Quarter 2019 SGMP events as discussed in Section 5.5.

No other Sites 2/12 SVETS operations information requires reporting for this period.

4.0 Subsurface Performance Summary — Groundwater

4.1 Sampling Events Performed During this Reporting Period

The Sites 2/12 GWMP events occurred as tabulated below.[21]

GWMP Events Schedule

Event Description	Start Date	End Date
Fourth Quarter 2018	December 11, 2018	December 19, 2018
First Quarter 2019	March 1, 2019	March 8, 2019
Second Quarter 2019	June 3, 2019	June 6, 2019
Third Quarter 2019	August 26, 2019	August 28, 2019

4.2 Sampling Methodologies and Laboratory Analyses

The majority of the groundwater samples were collected using passive diffusion bags (PDBs) at groundwater monitoring wells and GWE wells where the extraction pump was removed. Vertical placement of a PDB within the well screen is designed to capture the highest COC concentration zone of the aquifer based on historical data from the saturated screen interval. If the well has two or more high (or similar) COC concentration zones, then hanging multiple PDBs or periodically rotating a PDB between hanging stations is necessary.

PDBs are placed at a designated depth using PDB sampler hardware consisting of a dedicated rope and stainless steel weight secured to the top of the well casing or well cap. The PDB hardware rope is fitted with PDB hanging stations, usually at 5-foot intervals in the well screen zone. Depth to water measurements taken prior to sample collection ensures proper placement and complete groundwater submersion of the PDB, which is necessary for representative data collection. Once sampling is completed, a new PDB for the next quarterly GWMP event (if the well is sampled quarterly) is hung at the appropriate station. PDBs are typically left in place for three months (but must remain in place for at least two weeks) before sampling. Additionally, HydraSleeve™ sampling was conducted for chloride at select Sites 2/12 groundwater monitoring wells and GWE wells during the Third Quarter 2019 annual GWMP event.[22]

Aqueous sample collection at the Sites 2/12 GWTP monitoring points and active GWE wells use the designated sampling spigot. Offline GWE wells are turned online for several minutes prior to sampling to remove stagnant water from the pumping and sampling pipelines. Sampling standard operating procedures are located in the Groundwater QAPP (AEI, 2019e).

[21] The listed start and end dates are the scheduled event dates. Additional samples may be collected after the scheduled end date for technical reasons (see Section 5.3 and Table 10).

[22] Chloride is not identified as a COC for groundwater in the RI Sites ROD and therefore does not have an ACL. However, chloride is monitored to validate that groundwater near the GWTS at Sites 2/12 is not impacted by seawater intrusion during remediation.

SGS performed analyses for the Sites 2/12 groundwater monitoring samples. SGS is accredited through the Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP). Groundwater samples are analyzed for a project-specific list of Sites 2/12 COCs (Table 1) by USEPA Laboratory Method 8260 SIM (selected ion monitoring). Also, during the annual GWMP event (Third Quarter 2019), chloride analysis was performed with USEPA Laboratory Method 9056A.

4.3 Deviations from the QAPP

The groundwater monitoring well sampling schedule is adjusted periodically to fill data gaps or reduce sampling frequency at locations that have historically low COC concentrations. These adjustments are made based on analyses of historical results at each sampling point and comparison to decision rules in the Groundwater QAPP (AEI, 2019e).

Modifications to the groundwater sample schedule during the reporting period are presented in Table 10. EW-12-06-180M was not sampled as scheduled after the Fourth Quarter 2017 due to a failed pump (Table 10).[23]

4.4 Well Maintenance

Field teams evaluated the physical integrity of each well during routine monitoring activities to ensure collection of representative samples, aquifer protection from potential exposure to surface contaminants, and safe access to the well by field technicians. Well maintenance notes and repairs are shown in Table 11.

4.5 Sampling Results and Interpretation

4.5.1 Water Levels

Depth to groundwater measurements were collected from 39 wells during the reporting period. Measurements and calculated groundwater elevations are presented in Table 12. Groundwater elevation contours for the Sites 2/12 Upper 180-Foot Aquifer West of the FO-SVA are presented in Figures 11 through 14. Groundwater elevations decreased by 0.90 of a foot on average since the Second Quarter 2019 (AEI, 2019f) and increased by 0.72 of a foot on average when compared to Third Quarter 2018 elevations (AEI, 2019c). The average groundwater elevation increased 2.7 feet since the Third Quarter 2013, which was the lowest groundwater elevation observed in the last seven years.

During the reporting period, groundwater elevations and flow directions in the unconfined Upper 180-Foot Aquifer were consistent with previous trends. The hydrographs presented in Figure 15 illustrate the variation in the Upper 180-Foot Aquifer groundwater elevations at Sites 2/12 and relative seasonal fluctuations at representative well locations from September 1997 through September 2019. Groundwater elevations decrease to the annual lowest elevation during the third quarter GWMP events (end of summer) and increase to the annual high elevation during the first quarter GWMP events (end of winter).

[23] As noted in Table 10, there are sufficient data from nearby wells, and the pump at EW-12-06-180M is not scheduled to be replaced.

Local and statewide drought conditions led to less than normal precipitation in water years 2012 through 2015 with recent water years 2016 through 2019 reaching normal and above-normal precipitation (except for water year 2018), as shown in the table below. California drought intensity was categorized as tabulated below during the same time span. Drought intensity peaked during the 2015 water year, with 46 percent of the state of California categorized as "D4: Exceptional Drought" conditions. Dramatic drought condition improvement was seen in the 2017 water year with 54 percent of the state of California with "None: No Drought" conditions. This drought improvement receded in the 2018 water year with 32 percent of the state of California in the "D0: Abnormally Dry" conditions, though in the 2019 water year 62 percent of the state of California was in "None: No Drought" conditions, which was the highest observed since 2013.

Local Precipitation and California Drought Conditions, Water Years 2012 through 2019

Water Year[24]	Percent of Average Precipitation in California Central Coast[25]	Percent Area Covered in California: Average Drought Intensity[26]					
		None: No Drought	D0: Abnormally Dry	D1: Moderate Drought	D2: Severe Drought	D3: Extreme Drought	D4: Exceptional Drought
2012	67	No Data					
2013	56	9	17	26	46	2	0
2014	47	1	1	5	33	36	23
2015	73	0	2	5	21	27	46
2016	90	1	8	16	20	23	32
2017	150	54	15	11	7	7	6
2018	59	35	32	20	11	2	0
2019	136	62	16	17	5	1	0

4.5.2 Groundwater COC Concentrations

The following summarizes the GWMP events during the reporting period.

- During the Fourth Quarter 2018, groundwater samples were collected at 19 Sites 2/12 well locations (AEI, 2019b). Analytical results for these samples are presented in Table 13, and PCE and TCE concentrations and COC contours at the ACL are shown in Figure 16.
- During the First Quarter 2019, groundwater samples were collected at 18 Sites 2/12 well locations (AEI, 2019d). Analytical results for these samples are presented in Table 14, and PCE and TCE concentrations and COC contours at the ACL are shown in Figure 17.

[24] Water Year: time period of 12 months between October 1 and September 30 for which precipitation totals are measured.
[25] Source: DWR, 2012 to 2019.
[26] Source: NIDIS, 2019.

- During the Second Quarter 2019, groundwater samples were collected at 18 Sites 2/12 well locations (AEI, 2019f). Analytical results for these samples are presented in Table 15, and PCE and TCE concentrations and COC contours at the ACL are shown in Figure 18.
- During the Third Quarter 2019, groundwater samples were collected at 23 Sites 2/12 well locations. Analytical results for these samples are presented in Table 16, and TCE concentrations and COC contours at the ACL are shown in Figure 19. Chloride analytical results from select Sites 2/12 wells are presented in Table 17.

Figure 20 shows historical and current PCE and TCE ACL exceedance contours in 2000 (TCE) and 2011 (PCE) and 2019 (PCE). A summary of groundwater analytical data during the reporting period is in Appendix A with the Third Quarter 2019 groundwater VSRs in Appendix B. Appendix C contains groundwater COC historical trend charts for select Sites 2/12 GWE wells and monitoring wells.

PCE was the only COC of the eight Sites 2/12 groundwater COCs that was detected at a concentration exceeding the ACL during the Third Quarter 2019. The remaining seven Sites 2/12 groundwater COCs (1,1-DCE; 1,2-DCA; total 1,3-DCP; chloroform; cis-1,2-DCE; TCE; and vinyl chloride) were detected at concentrations at or below their respective ACLs or were ND (Table 16). The maximum concentration of each COC in the Third Quarter 2019 is summarized in the table below.

Maximum Groundwater COC Concentrations for Sites 2/12 in the Third Quarter 2019

COC Name	Max Concentration (µg/L[27])		Locations Above ACL	Locations with Detections	Additional Comments
	Result	Location			
1,1-DCE	ND	N/A[28]	0	0%	No detections
1,2-DCA	0.20 J[29]	MW-12-16-180M	0	4%	South of Best Buy
total 1,3-DCP	ND	N/A	0	0%	No detections
Chloroform	0.21 J	MW-12-16-180M	0	22%	South of Best Buy
cis-1,2-DCE	1.9	MW-12-16-180M	0	35%	South of Best Buy
PCE	14.1	EW-12-08-180U	1	78%	East of Bed Bath & Beyond
TCE	2.4	MW-12-14-180M	0	52%	North of EW-12-05-180M
Vinyl chloride	ND	N/A	0	0%	No detections

PCE was the only COC of the eight Sites 2/12 groundwater COCs that was detected at concentrations exceeding the ACL during the reporting period. The remaining seven Sites 2/12 groundwater COCs (1,1-DCE; 1,2-DCA; total 1,3-DCP; chloroform; cis-1,2-DCE; TCE; and vinyl chloride) were detected at

[27] µg/L: micrograms per liter
[28] N/A: not applicable.
[29] J: laboratory or validation qualifier, estimated result between the detection limit and the limit of quantification with a possible high (+) or low (-) bias.

concentrations at or below their respective ACLs or were ND (Tables 13 through 16). The maximum concentration of each COC in the reporting period is summarized in the table below.

Maximum Groundwater COC Concentrations for Sites 2/12 during the Reporting Period (2018-4Q through 2019-3Q)

COC Name	Max Concentration (µg/L)		Quarter Identified	Additional Comments
	Result	Location		
1,1-DCE	ND	N/A	N/A	No detections
1,2-DCA	0.34 J	MW-12-16-180M	2019-1Q	South of Best Buy (Figure 17)
total 1,3-DCP	ND	N/A	N/A	No detections
Chloroform	0.43 J	MW-12-22-180U	2019-2Q	South of Famous Footwear (Figure 18)
cis-1,2-DCE	3.0	MW-12-16-180M	2019-1Q	South of Best Buy (Figure 17)
PCE	20 J-	MW-12-20-180U	2018-4Q	East of Michael's (Figure 16)
TCE	2.9	MW-12-09R-180	2019-1Q	South of EW-12-08-180U (Figure 17)
Vinyl chloride	ND	N/A	N/A	No detections

During the reporting period, the highest TCE concentration detected was at MW-12-09R-180 with a concentration of 2.9 µg/L in the First Quarter 2019. This monitoring well is located south of EW-12-08-180U. TCE was not detected at a concentration above the ACL during the reporting period.

During the reporting period, the highest PCE concentration detected was at MW-12-20-180U, with an estimated concentration of 20 µg/L in the Fourth Quarter 2018. This monitoring well is located north of EW-12-08-180U. PCE concentrations at MW-12-20-180U have declined since 2017 (maximum concentration of 45.5 µg/L) and were below the ACL in the Second Quarter and Third Quarter 2019 GWMP events (Appendix C, Figure C11A). The trend line for PCE concentrations at MW-12-20-180U is declining at a statistically significant rate (Appendix C, Figure C11B).

PCE was also detected at concentrations above the ACL at GWE well EW-12-08-180U, with a maximum concentration of 18.2 µg/L in the Fourth Quarter 2018. Detected concentrations of PCE at EW-12-08-180U have been above the ACL since operation of this GWE well began in 2015. PCE concentrations periodically increase at EW-12-08-180U as pumping from this well continues to remove PCE mass from the groundwater (Appendix C, Figure C5A). While the trend line for PCE concentrations at EW-12-08-180U is declining, it is not statistically significant due to variable concentrations since 2016 (Appendix C, Figure C5B).

COC concentrations have been declining at GWE well EW-12-05-180M since 2011 (Appendix C, Figure C2). This well is operated to increase the flow rate at the Sites 2/12 GWTP and to expand the capture area of GWE well EW-12-08-180U (see Section 4.6).

The extent of the PCE groundwater plume decreased in size during the reporting period (Figures 16 through 19).

The results of annual (Third Quarter 2019) analyses for chloride at six wells located at Sites 2/12 are summarized in Table 17. Chloride is not identified as a COC for groundwater in the RI Sites ROD and does not have an ACL. These results are used to determine if seawater intrusion is occurring during Sites 2/12 groundwater remediation activities and are compared to threshold values and typical seawater concentrations. Because treated water is pumped to the aquifer recharge structures at Site 2, seawater intrusion is not expected to be an issue at Sites 2/12 GWE and monitoring wells. The maximum inorganic analyte concentrations for the reporting period are summarized in the table below.

Maximum Groundwater Inorganic Analyte Concentrations for Sites 2/12 during the Reporting Period

Analyte Name	Concentration (mg/L[30])				Additional Comments
	Maximum Concentration		Threshold Value[31]	Typical Seawater	
	Result	Location			
Chloride	3,090	MW-02-13-180M	500	19,000	Site 2 area west of State Route 1

Maximum inorganic analyte concentrations during the reporting period show chloride concentrations above threshold values, but well below typical seawater concentrations. Chloride concentrations were below the threshold value at all monitored locations except MW-02-13-180M. Chloride concentrations were comparable with previous measurements (AEI, 2019c), except for MW-02-13-180M, where there was an approximately 40 percent decrease.

4.5.3 Data Validation and Quality Control Assessment

Five field duplicate samples were collected during the Third Quarter 2019 GWMP event at Sites 2/12. Trip blanks and field blanks were also collected during the GWMP event.[32,33] Trip blanks and field blanks were analyzed, and no target analytes were detected.

Results of data validation for the Third Quarter 2019 GWMP event and the Sites 2/12 GWTP sampling are provided in Appendix B. No GWMP or GWTP analytical results required additional qualification based on 100 percent Stage 2B and 10 percent Stage 4 data validation review. Thirty-one GWMP results were qualified as estimated (J) by SGS (Table 16) due to an estimated result between the detection limit and the limit of quantitation (LOQ).

The VSRs in Appendix B review data based on Groundwater QAPP guidelines (AEI, 2019e). All data are considered acceptable and suitable for use.

[30] mg/L: milligrams per liter

[31] The seawater intrusion front is defined as the inland extent at which the concentration of chloride in groundwater is at least 500 mg/L, which represents a level that is twice the National Secondary Drinking Water Regulation (250 mg/L) and which exceeds the concentration for water considered to be of "Class III - injurious or unsatisfactory" quality for agricultural irrigation (350 mg/L) (MCWRA, 2017).

[32] Trip blanks are laboratory provided sample bottles filled with analyte-free water that are not opened but travel with regular field samples.

[33] Field blanks are sample bottles filled with analyte-free water from an unused PDB during regular field sampling.

The laboratory assigns data qualifiers when analytical results are less than the laboratory limit of quantification or quality control measures are not met. Qualifiers included a "U," meaning the analyte was ND at or above the limit of detection (LOD) and a "J" meaning the analyte was detected at or above the detection limit but below the LOQ.

4.6 Groundwater Hydraulic Capture Evaluation

The basewide numerical groundwater flow model (the "model") used to simulate groundwater conditions beneath the former Fort Ord was updated in January 2016 (USACE-HEC, 2016) to evaluate hydraulic capture of COCs by the Upper 180-Foot Aquifer GWE wells at Sites 2/12. The model was updated in 2017 to include an extension of the model 400 feet vertically and 1000 feet horizontally to the south. The model was further updated in 2018 to include a "wave-cut terrace" conceptualization to assist in the simulation of observed sharp drops in water levels in the A-Aquifer. Additionally, the number of homogeneous hydraulic conductivity zones was reduced based on limited field data and the concept of appropriate complexity. The model simulates backward-tracking groundwater flow paths induced by operation of the Sites 2/12 GWE wells. The following sections summarize the background, data inputs, results, and calibration of the model.

4.6.1 Fort Ord Groundwater Model Background

The model is based on the finite-difference MODFLOW-2005 software (Harbaugh, 2005) originally completed for the Fort Ord basewide hydrogeological characterization and used in the Basewide RI/FS (HLA, 1995). Particle tracking was originally generated using the PATH3D model code (Zheng, 1989) and is currently generated using MODPATH (Pollock, 1994) in conjunction with MODFLOW-2005. Groundwater model construction, calibration, and capture zone analysis are performed using the Groundwater Vistas (ESI, 2011) software package, which works in conjunction with MODFLOW-2005 and MODPATH.

The model has been modified several times since its inception to incorporate changes to extraction or injection well configurations or results from additional groundwater investigations. In the past, each annual update to evaluate the GWTS is generally limited to updating average extraction and injection well flow rates. The current model update includes changes in A-Aquifer boundary conditions to reflect increased subsurface inflow and recharge resulting from a wetter than average water year during the reporting period.

4.6.2 Fort Ord Groundwater Model Data Inputs

The current model for Sites 2/12 accounts for average GWTS operating conditions reported from the Fourth Quarter 2018 through the Third Quarter 2019. Extraction and injection wells for the Sites 2/12 GWTS were simulated with average flow rate data reported from October 2018 through September 2019 and summarized in the following table.

Sites 2/12 GWTS Model Data Inputs

GWE Well	Average Flow[34] (gpm)	Status
EW-12-05-180M	90	Operational, sampled in GWMP
EW-12-06-180M	0	Offline due to low COC concentrations and pump failure, not sampled in GWMP
EW-12-07-180M	0	Offline due to low COC concentrations, sampled in GWMP
EW-12-08-180U	54	Operational, sampled in GWMP
EW-12-03-180U	0	Offline and no longer sampled due to low COC concentrations
EW-12-03-180M	0	Offline due to low COC concentrations, no pump, sampled in GWMP
EW-12-04-180U	0	Offline and no longer sampled due to low COC concentrations
EW-12-04-180M	0	Offline and no longer sampled due to low COC concentrations
Injection/ Infiltration Well	**Average Flow (gpm)**	**Status**
IW-02-01-180	0	Offline due to low injection capacity
IW-02-02-180	0	Offline due to low injection capacity
INF-02-01-180	155	Operational
INF-02-02-180	155	Operational
INF-02-03-180	155	Operational

4.6.3 Model Results

Groundwater capture was evaluated by comparing the simulated groundwater particle pathlines and associated capture zones to the aquifer areas requiring groundwater capture. Historically, the areas requiring groundwater capture include those portions of the aquifer where TCE concentrations exceeded the ACL of 5 µg/L; however, elevated concentrations of PCE at Sites 2/12 since 2011 have made areas where PCE is detected above its ACL (5 µg/L) the focus of capture by the GWTS, and EW-12-08-180U was installed in 2015 to target the PCE plume. Sites 2/12 TCE and PCE concentrations from the September 2019 sampling event were contoured and superimposed with the simulated backward-tracking particle pathlines reflecting October 2018 through September 2019 average pumping conditions for Sites 2/12 GWE wells in the Upper 180-Foot Aquifer (Figure 21). Each COC is contoured to the limit of its respective ACL. The encapsulation of the PCE plume by backward-tracking particle

[34] Temporal average.

pathlines emanating from Upper 180-Foot Aquifer Sites 2/12 GWE wells illustrates that the 2018 – 2019 extraction and injection configuration was able to provide successful capture conditions.

The particle travel time of the pathlines illustrated in Figure 21 is 15 years. A soil porosity value of 0.20, which is common for medium sands, was used in the model to simulate transport in the unconfined Upper 180-Foot Aquifer. When compared to the particle pathlines simulated in the 2018 study, it is notable that much of the water drawn from the GWE wells originates not only from the south but also from the ocean to the west. This is largely the result of observed water levels in 2019 being 0.55 to 1.08 feet higher than in 2018. The accurate calibration to these water levels required the raising of boundary conditions along the oceanfront. Thus, reverse particle zone simulations resulted in the capture zones being formed in areas both immediately to the south and the ocean front, where higher water levels were simulated.

4.6.4 Fort Ord Groundwater Calibration

Calibration of any model includes the comparison of simulated conditions to observed conditions. In this case, the model is calibrated to observed groundwater elevations at monitoring wells located throughout the Sites 2/12 area. Poor calibration results usually indicate that simulated conditions (e.g., boundary conditions, pumping rates, or aquifer parameters) are not consistent with actual conditions and usually require modification of input data until calibration results improve.

Groundwater elevation data collected from Sites 2/12 monitoring wells were used as calibration targets for the model. Water levels were averaged from four quarterly measurements taken between October 2018 and September 2019. Average extraction and injection well flow rates over the same period were also input into the model. The goal of the calibration process is to replicate field conditions of water levels and groundwater flow. A water level residual is defined as:

Residual = Simulated Value - Measured Value

Water level residuals are measured in units of feet. The closer the residual is to zero, the better the fit at a given target location. Calibration to water levels was performed manually in an effort to minimize the mean and absolute water level residuals. The residual statistics were evaluated by traditional statistics, and graphical presentation of the observed target heads versus the model predicted heads. Calculated errors (residuals) were statistically evaluated by calculating the mean error, absolute mean error, and the root mean square error or standard deviation (Anderson and Woessner, 1992). In this case, residuals inevitably result from the simulation of average conditions (e.g., pumping rate, recharge rates) instead of transient rates that may reflect observed seasonal changes in groundwater elevation data.

Model calibration statistics (as summarized in the following table) are within the range reported for previous annual reporting periods and indicate that the model is acceptably calibrated (ASTM International, 2008) for the capture analysis for Sites 2/12.

Model Calibration Statistics

Calibration Statistic	Sites 2/12 Upper 180-Foot Aquifer
Mean Error (feet)	0.08
Mean Absolute Error (feet)	0.44
Root Mean Squared Error (square feet)	0.54

Linear plots of simulated versus observed groundwater elevation for each monitoring point are illustrated in Figure 22. A perfectly calibrated model would result in data plotting directly along the 45-degree line. As shown in Figure 22, residuals for the unconfined Upper 180-Foot Aquifer generally plotted along the 45-degree line, and the sign and magnitude of residuals are randomly distributed within the model domain with relatively few outliers, as is desired for an acceptably calibrated model.

As with all numeric modeling exercises, limitations, and uncertainties in model input directly affect the model results. Model predictions (including the predicted particle pathlines used to evaluate capture herein), therefore, have the same uncertainties and limitations as the numeric model. Uncertainties in model input parameters include hydraulic conductivities, porosity, recharge, model water balance, or model boundary conditions. Uncertainty is also introduced by the simulated steady-state model conditions, which necessarily vary from transient conditions such as seasonal precipitation or pumping rates and associated groundwater elevation changes.

5.0 Subsurface Performance Summary — Soil Gas

5.1 Sampling Events Performed During this Reporting Period

The Sites 2/12 soil gas monitoring events occurred as tabulated below.

SGMP — Events Schedule

Event	Start Date	End Date
Fourth Quarter 2018	November 13, 2018	November 14, 2018
First Quarter 2019	February 25, 2019	February 27, 2019
Second Quarter 2019	May 20, 2019	May 22, 2019
Third Quarter 2019	August 19, 2019	August 21, 2019

5.2 Sampling Methodologies and Laboratory Analyses

Soil gas sampling was conducted using SUMMA canisters evacuated to subatmospheric pressure. A SUMMA canister was attached to the soil gas probe via a sample manifold used for soil gas probe purging and sampling. The sampling apparatus was covered with a plastic shroud, which is filled with approximately 30 percent helium (by volume) to field test for leaks in the sampling train. The SGMP analytical schedule is shown in Table 24.

Eurofins Air Toxics in Folsom, California, performed analyses for the Sites 2/12 SGMP samples. Eurofins Air Toxics is accredited through the DoD ELAP. In accordance with the Soil Gas QAPP (AEI, 2019a), soil gas samples are analyzed for a project-specific list of Sites 2/12 COCs (Table 2) by USEPA Method TO-15.

5.3 Deviations from the QAPP

Periodically, the soil gas sampling schedule is adjusted to fill data gaps or reduce sampling frequency at locations that have historically low COC concentrations. These adjustments are made based on analyses of historical results at each sampling point and comparison to the analytic approach in the Soil Gas QAPP (AEI, 2019a).

The SVTU influent and effluent were not sampled as scheduled in the Soil Gas QAPP because the SVETS was shut down on February 11, 2019 for a rebound study.

Modifications to the soil gas sampling schedule during the reporting period are presented in Table 25. Modifications included collecting samples from four soil gas probes and two SVE wells, which had previously been removed from SGMP, in the First Quarter and Second Quarter 2019 SGMP events for the rebound study. During the reporting period, SG-12-06-70 was not sampled because the screen was determined to be submerged based on groundwater elevations observed in nearby wells. In lieu of SG-12-06-70, the vertically adjacent soil gas probe SG-12-06-50 was sampled instead. The nearby groundwater elevation will continue to be monitored quarterly to determine whether the groundwater elevation declines below the SG-12-06-70 screen interval.

5.4 Probe Maintenance

Field teams evaluated the physical integrity of each soil gas probe and SVE well during routine monitoring activities to ensure collection of representative samples, protection of the subsurface from potential exposure to surface contaminants, and safe access to the soil gas probe or SVE well by field technicians. There were no soil gas probe or SVE well maintenance issues identified during the reporting period.

5.5 Sampling Results and Interpretation

5.5.1 Soil Gas COC Concentrations

The following summarizes the SGMP events during the reporting period.

- During the Fourth Quarter 2018, soil gas samples were collected at six Sites 2/12 soil gas probes and one SVE well (AEI, 2019b). Analytical results for these samples are presented in Table 26, and TCE and PCE concentrations are shown in Figure 23.
- During the First Quarter 2019, soil gas samples were collected at nine Sites 2/12 soil gas probes and two SVE wells (AEI, 2019d). Analytical results for these samples are presented in Table 26, and TCE and PCE concentrations are shown in Figure 24.
- During the Second Quarter 2019, soil gas samples were collected at nine Sites 2/12 soil gas probes and two SVE wells (AEI, 2019f). Analytical results for these samples are presented in Table 26, and TCE and PCE concentrations are shown in Figure 25.
- During the Third Quarter 2019, soil gas samples were collected at 16 Sites 2/12 soil gas probes. No soil gas samples were collected at SVE wells. Analytical results for these samples are presented in Table 26, and TCE and PCE concentrations are shown in Figure 26.

Figure 27 shows historical and current soil gas COC exceedance contours for June 2014 and September 2019 at the 70-foot soil gas probes and SVE wells.[35] A summary of soil gas analytical data during the reporting period is in Appendix D with the Third Quarter 2019 soil gas VSRs in Appendix E. Appendix F contains soil gas COC historical trend charts for select Sites 2/12 SVE wells and soil gas probes.

Soil gas COCs TCE and PCE were not detected above their respective SGCLs during the reporting period and TCE was not detected above the SG-SL during the reporting period. Two soil gas probe clusters at SG-12-02 and SG-12-20 had concentrations of PCE above the SG-SL but below the SGCL (Table 26).

The maximum concentrations of each COC in the Third Quarter 2019 and during the reporting period are summarized in the following tables.

Maximum Soil Gas COC Concentrations for Sites 2/12 in the Third Quarter 2019

COC Name	Max Concentration (µg/m³)		Locations Above		Additional Comments
	Result	Location	SGCL	SG-SL	
PCE	1,300	SG-12-02-10	0	7	Adjacent to Target entrance

[35] There was no September 2019 soil gas COC exceedance contour for the soil gas probes and SVE wells (i.e., no detected COC concentrations exceeded SGCLs).

COC Name	Max Concentration (µg/m³)		Locations Above		Additional Comments
	Result	Location	SGCL	SG-SL	
TCE	640	SG-12-17-40	0	0	Northeast of Cinemark

Maximum Soil Gas COC Concentrations for Sites 2/12 during the Reporting Period

COC Name	Max Concentration (µg/m³)		Quarter Identified	Additional Comments
	Result	Location		
PCE	1,400	SG-12-02-10	2018-4Q	Adjacent to Target entrance (Figures 23 and 26)
TCE	640	SG-12-17-40	2019-3Q	Located northeast of Cinemark (Figure 26)

There were no detections of PCE or TCE in soil gas above the SGCL during the reporting period. Additional information about historical results above the SGCL are presented below:

- The last detection of PCE above the SGCL at Sites 2/12 was in the Fourth Quarter 2015 at soil gas probe SG-12-06-30 (Appendix F, Figure F6). Historical PCE concentrations for the soil gas probes in the SG-12-06 cluster have been declining since monitoring began in 2013 and decreased at a greater rate since SVETS operations began in September 2015. After the SVETS was shut down in February 2019, there was no significant rebound observed, with PCE concentrations well below the SGCL and SG-SL (Appendix F, Figure F6).
- The last detection of TCE above the SGCL at Sites 2/12 was in the First Quarter 2017 at the soil gas probe SG-12-17-40 (Appendix F, Figure F8). Historical TCE concentrations for the soil gas probe SG-12-17-40 declined since full-scale SVETS operations began in September 2015 and have had minimal rebound since the southern SVE wells were taken offline in September 2017 (Appendix F, Figure F8).
- The last detection of TCE above the SGCL in the northern part of the site was in the Second Quarter 2015 SGMP event at the SG-12-04 uppermost 10-foot and 20-foot probes (Appendix F, Figure F5B). TCE concentrations declined below the SGCL after SVETS operations began. After the SVETS was shut down in February 2019, there was no significant rebound observed, with PCE concentrations still below the SGCL and SG-SL (Appendix F, Figure F5B).

Soil gas probe cluster SG-12-02, located adjacent to Target (Figure 3), also had a decline in PCE concentrations in most of the probes (Appendix F, Figure F4). Declining PCE concentrations were observed at SG-12-02-10, the uppermost probe at this location, after SVETS operations began in September 2015. Since the Second Quarter 2016, PCE concentrations at SG-12-02-10 have remained between the SG-SL and the SGCL with an overall decreasing trend. PCE concentrations at this soil gas probe do not follow the same concentration trends as other soil gas probe clusters because it is located adjacent to a stormwater infiltration basin, which may truncate the radius of influence of the northern SVE wells in this area. Therefore, there was no expected nor observed rebound at SG-12-02 following shut down of the SVETS in February 2019.

Soil gas probe cluster SG-12-20 is located in the center east of the parking lot (Figure 3) and had PCE concentrations above the SG-SL during the reporting period at the uppermost 10-foot and 20-foot probes, which are comparable to previous monitoring events (Appendix F, Figure F9). This soil gas probe is located outside the radius of influence of SVE well VE-12-09; therefore, there was no expected nor observed rebound at SG-12-20 after the SVETS was shut down in February 2019.

Significant decreases in PCE concentrations were observed in several soil gas probe clusters upon startup of the SVE system in September 2015. These soil gas probe clusters include:

- SG-12-01 (Appendix F, Figure F3) located in the Michaels parking lot and east of the storefront, where concentrations remain below the SG-SL and exhibited minimal rebound after the SVETS was shut down in February 2019.
- SG-12-04 (Appendix F, Figure F5A) located adjacent to Michaels retail building storefront on the east side, where concentrations remain below the SG-SL and exhibited minimal rebound after the SVETS was shut down in February 2019.
- SG-12-06 (Appendix F, Figure F6) located adjacent to Bed Bath & Beyond retail building storefront on the east side, where concentrations remain below the SG-SL and exhibited minimal rebound after the SVETS was shut down in February 2019.

There was a significant rate of decline in PCE concentrations in the northern SVE wells after startup of the SVETS in September 2015 and minimal rebound after the SVETS was shut down in February 2019 as described above.

The one operating northern SVE well VE-12-09 was taken offline on February 11, 2019 for the rebound study to be conducted in the First Quarter and Second Quarter 2019 SGMP events. PCE and TCE in sampled soil gas probes and SVE wells had no or minimal increases in COC concentrations during the rebound study and remained below the SG-SL. Based on these results, the SVETS remained offline as agreed to by the regulatory agencies in July 2019 (Army, 2019b).

5.5.2 Data Validation and Quality Control Assessment

Two field duplicate samples were collected during the Third Quarter 2019 SGMP event at Sites 2/12. Results of data validation for the Third Quarter 2019 SGMP event are provided in Appendix E. No SGMP analytical results required additional qualification based on 100 percent Stage 2B and 10 percent Stage 4 data validation review. Four SGMP results were qualified as estimated (J) by Eurofins (Table 26) due to estimated results between the detection limit and the LOQ. The VSR in Appendix E reviews data based on Soil Gas QAPP guidelines (AEI, 2019a). All data are considered acceptable and suitable for use.

The laboratory assigns data qualifiers when analytical results are less than the laboratory limit of quantification or quality control measures are not met. Qualifiers include a “U,” meaning the analyte was ND at or above the LOD, and a “J” meaning the analyte was detected at or above the detection limit, but below the LOQ.

6.0 Interpretation of Progress Toward System Goals

As described in the RI Sites ROD (Army, 1997), the goals of the Sites 2/12 groundwater remedy are to protect human health and comply with Federal and State law by returning groundwater to a condition that will allow beneficial use, including potential future use as a drinking water source. These goals are accomplished through hydraulic control and containment of contaminated groundwater, through extraction and treatment of groundwater exceeding ACLs, and through recharge of the aquifer to maintain a groundwater mound to minimize saltwater intrusion at Site 2. Remediation of Sites 2/12 groundwater is somewhat complicated by the partitioning of COCs between soil gas and groundwater; however, the removal of COCs in soil gas through operation of the SVETS contributes to resolving this complication.

6.1 Progress with Respect to Short-Term Goals

Based on comparisons of the observed COC distribution to hydraulic capture areas simulated using the updated groundwater capture model (see Section 4.6), the current GWE well configuration maintains PCE groundwater plume capture. The operation of northern SVE wells may have also augmented remediation of the PCE groundwater plume through the removal of COCs partitioning from groundwater to soil gas up until the SVETS was shut down in February 2019 for the soil gas rebound study.

A short-term goal for Sites 2/12 is the closure of the soil gas remedial unit. This goal includes attainment monitoring to evaluate whether concentrations of soil gas COCs remain below the SGCLs. All soil gas probes were below the COC SGCLs during the reporting period. Concentrations of PCE and TCE were less than their respective SG-SLs and SGCLs in the SVE wells monitored during the rebound study in the First Quarter and Second Quarter 2019 (Appendix F, Figures F1 and F2). No SVE wells were sampled in the Third Quarter 2019 after the rebound study was completed (Table 26).

The northern PCE soil gas concentrations are consistently below the SGCL. There are two soil gas probes (SG-12-02 and SG-12-20) with PCE concentrations consistently above the SG-SL, but these concentrations are decreasing (SG-12-02) or stable (SG-12-20), and are not within the capture area of an SVE well (Appendix F, Figures F4 and F9).

The one operating SVE well (VE-12-09) was taken offline during the reporting period due to a decrease in PCE concentrations in both groundwater and soil gas. Since February 11, 2019, SVE wells have remained offline for the rebound study and through the remainder of the reporting period. After the SVETS was turned off, there was an increase in PCE and TCE soil gas concentrations observed at the three northern soil gas probe locations (SG-12-01, SG-12-04, and SG-12-06), which are within the radius of influence for SVE well VE-12-09. However, soil gas COC concentrations still do not exceed SG-SLs or SGCLs (Appendix F, Figures F3, F5A, F5B, and F6) and SG-12-01, SG-12-04, and SG-12-06 are not within the PCE groundwater plume extent, indicating there is no significant partitioning of COCs from groundwater to soil gas. Two northern soil gas probes (SG-12-01-65 and SG-12-04-65) will continue to be monitored quarterly for potential rebound in the northern area.[36]

6.2 Progress with Respect to Long-Term Goals

The long-term goal is the closure of the Sites 2/12 groundwater remedial unit. This goal includes attainment monitoring to evaluate whether concentrations of groundwater COCs will remain below ACLs.

Progress toward achieving long-term goals is being accomplished through continued operation of the GWTS and collection of data through the GWMP, which supports the implementation of decision rules for GWTS operations and modification of the GWMP. It was estimated the long-term goal would be achieved three years after implementation of the SVETS (AES, 2015) or approximately by 2018. To this end, the COC mass in the groundwater was reduced significantly during the reporting period as described in Section 4.5.2, and was defined by only one or two wells with PCE concentrations above the ACL. Groundwater monitoring well MW-12-20-180U had variable PCE concentrations historically and an overall declining trend during the reporting period, with two detections above the ACL followed by two detections below the ACL (Appendix C, Figure C11A). GWE EW-12-08-180U has had consistent PCE concentrations an order of magnitude above the ACL, indicating it is effective at removing the remaining mass of PCE above the ACL in the area (Appendix C, Figure C5A).

Mann-Kendall statistical analysis was performed for analytical data from both MW-12-20-180U and EW-12-08-180U (USEPA, 2016). With MW-12-20-180U PCE data from First Quarter 2017 through Third Quarter 2019 (eleven data points),[37] the Mann-Kendall analysis showed a statistically significant decreasing trend with an S value of -31 with 95 percent confidence (Appendix C, Figure C11B). The Mann-Kendall statistical analysis for PCE at EW-12-08-180U, since well installation in the Third Quarter 2015 through the Third Quarter 2019 (18 data points), showed a decreasing trend with an S value of -41. However, the trend was not statistically significant at the 95 percent confidence level due to variability in the data (Appendix C, Figure C5B). MW-12-20-180U will continue to be sampled quarterly, and EW-12-08-180U will continue to be operated and sampled quarterly to monitor for remedial progress.

[36] The third northern soil gas probe (SG-12-06-70) is proposed for removal from the SGMP (see Section 7.4 and Appendix H).

[37] Use of the complete historical dataset for MW-12-20-180U (starting in Fourth Quarter 2013) resulted in no statistically significant PCE concentration trend; therefore, a recent subset of data was used for statistical analysis.

In addition to Mann-Kendall statistical analysis for analytical data from MW-12-20-180U and EW-12-08-180U, pore volume calculations were performed for EW-12-08-180U and the current extent of the PCE plume in groundwater at the site to determine a remediation time to reach the ACL and RAOs (Appendix I). The pore volume calculations with an increased pumping rate of 90 gpm in EW-12-08-180U indicate the RAOs and the ACL for PCE will be met in approximately 2 years (2022).

6.3 Gaps or Inconsistencies in the Conceptual Site Model

There are no identified gaps or inconsistencies in the conceptual site model.

7.0 SUGGESTED SYSTEM MODIFICATIONS

7.1 GWTS Modifications

The Sites 2/12 GWTS has been in operation since April 1999 (over 20 years as of the date of this report). Normal wear and tear and exposure to local environmental conditions degrade the GWTS facilities. An increasing rate of component failure is expected, as indicated by the GAC vessel underdrain malfunction (AEI, 2019c).

Ongoing changes to GWTS equipment and operational parameters occur as part of the GWTS optimization process and development of related exit strategies. Significant progress has been made in remediating the Sites 2/12 groundwater COC plumes. However, PCE mass remains in groundwater in the vicinity of EW-12-08-180U. Based on this evaluation, the following system modifications are recommended to improve performance, reduce costs, and increase the likelihood of achieving cleanup goals:

- Continue operating the Sites 2/12 GWTS, including optimization of flow rates to maximize COC mass removal and groundwater plume capture.
- Develop a Sites 2/12 exit strategy in preparation for site closure.
- Implement recommendations for individual GWE wells listed in Table 8.
- Replace the Site 2 infiltration galleries control valves and controllers to prevent stripping of valve stems and optimize distribution to the infiltration galleries of increased treated water flow from the OU2 GWTP.[38]

7.2 GWMP Modifications

GWMP modifications are made by comparing analytical results to Groundwater QAPP decision rules (AEI, 2019e). GWMP modifications during the reporting period are discussed in Section 4.3 and listed in Table 10. The recommended modifications to the GWMP after the Third Quarter 2019 GWMP event are listed in Table 27 and Appendix G. Wells recommended for termination of sampling will continue to be monitored for groundwater elevation data until they are recommended for decommissioning.

7.2.1 New Wells

No new groundwater monitoring or GWE wells were installed during the reporting period, and no new wells are recommended.

7.2.2 Well Decommissioning

Fourteen Sites 2/12 groundwater wells are no longer sampled as part of the GWMP and are only monitored for quarterly groundwater elevations. Six of these wells are no longer needed for groundwater elevation measurements; therefore, decommissioning of these wells (EW-12-03-180U, EW-12-04-180U, MW-02-13-180U, MW-12-08-180, MW-12-12-180L, and MW-12-19-180U) is recommended (Figure 28). No groundwater monitoring wells were decommissioned during the reporting period.

[38] Work was completed after the reporting period in March 2020.

7.3 SVE System Modifications

The southern SVE area rebound study was conducted during the First Quarter 2019 (AEI, 2019d) and Second Quarter 2019 (AEI, 2019f). Based on the soil gas analytical results for SG-12-16 and SG-12-17 (Table 26), which indicate COC concentrations remain below their SG-SLs, it is recommended the southern SVE wells remain offline. Based on the soil gas analytical results for SG-12-01, SG-12-04, and SG-12-06 (Table 26), which indicate COC concentrations remain below their SG-SLs, it is recommended the northern SVE wells remain offline. PCE and TCE were mostly ND in SVE wells VE-12-06 and VE-12-09, except for an estimated detection of PCE in VE-12-09 in the Second Quarter 2019 (Table 26). Though VE-12-09 is within the PCE groundwater plume footprint, the future operation of this SVE well should be evaluated quarterly based on results from nearby soil gas probes SG-12-01 and SG-12-04. Operation of the SVETS should be evaluated to determine whether it continues to augment groundwater remediation with a more comprehensive rebound study that includes both groundwater and soil gas data in 2020.

After reviewing the rebound study data from the 2020 quarterly monitoring events, the long-term operational status of the SVETS may be determined. Therefore, there are no recommended modifications to the SVETS after the Third Quarter 2019 SGMP event. Soil gas data will continue to be evaluated quarterly during the rebound study, and the SVETS can be restarted as needed per the analytic approach in the Soil Gas QAPP (AEI, 2019a).

7.4 SGMP Modifications

SGMP modifications are made by comparing analytical results to Soil Gas QAPP analytic approach (AEI, 2019a). SGMP modifications during the reporting period are discussed in Section 5.3. The recommended modifications to the SGMP after the Third Quarter 2019 SGMP event (changes effective in the Fourth Quarter 2019 SGMP event) are listed in Table 28 and Appendix H and were accepted by the regulatory agencies (Army, 2019c).

7.4.1 New Probes or SVE Wells

No new soil gas probes or SVE wells were installed during the reporting period, and no new probes nor SVE wells are recommended at this time.

7.4.2 Probe or SVE Well Decommissioning

Fifteen soil gas probe clusters and ten SVE wells have been removed from the SGMP program. Five soil gas probe clusters and eight SVE wells are not recommended for decommissioning at this time due to rebound study analysis proposed for 2020. Ten soil gas probe clusters (SG-12-03, SG-12-05, SG-12-09, SG-12-11, SG-12-12, SG-12-13, SG-12-15, SG-12-22, SG-12-23, and SG-12-24) and two SVE wells (VE-12-04 and VE-12-05) are recommended for decommissioning in accordance with the Soil Gas QAPP analytic approach (AEI, 2019a) as shown on Figure 29. All the soil gas probes in each cluster recommended for decommissioning met the Soil Gas QAPP analytic approach to be removed from the sampling program, and the clusters are no longer needed for the SGMP. The two SVE wells are recommended for decommissioning because they are no longer needed for soil gas or groundwater plume remediation per the Soil Gas QAPP analytic approach.

No probes or SVE wells were decommissioned during the reporting period.

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TABLES

Table 1. COCs in Groundwater, ACLs, and Discharge Limits

Sites 2/12 Upper 180-Foot Aquifer		
Groundwater Chemical of Concern (COC)[1]	**Aquifer Cleanup Levels (ACLs)[1] (µg/L)**	**Treated Water Discharge Limits[2] (µg/L)**
1,1-Dichloroethene (1,1-DCE)	6.0	6.0
1,2-Dichloroethane (1,2-DCA)	0.5	0.5
Chloroform	2.0	2.0
cis-1,2-Dichloroethene (cis-1,2-DCE)	6.0	6.0
Tetrachloroethene (PCE)	5.0	5.0
Total 1,3-Dichloropropene (Total 1,3-DCP)	0.5	0.5
Trichloroethene (TCE)	5.0	5.0
Vinyl Chloride (VC)	0.1	0.1

Notes:

[1] Groundwater COCs and ACLs, with the exception of PCE, are from the Record of Decision, Basewide Remedial Investigation Sites (Army, 1997); the PCE ACL is from the Explanation of Significant Differences No. 1 (Army, 2016).

[2] Concentrations of COCs in treated water discharged within the historic extent of the contaminated groundwater plume need only meet ACLs.

Acronyms and Abbreviations:

µg/L: micrograms per liter

Sites 2/12: Sites 2 and 12

Table 2. COCs in Soil Gas, SG-SLs, and SGCLs

Soil Gas Chemical of Concern (COC)*	Soil Gas Screening Levels (SG-SLs)* (µg/m^3)	Soil Gas Cleanup Levels (SGCLs)* (µg/m^3)
Tetrachloroethene (PCE)	603	1,800
Trichloroethene (TCE)	888	1,000

Notes:

* Soil gas COCs, SG-SLs, and SGCLs are from the Explanation of Significant Differences No. 1 (Army, 2016).

Acronyms and Abbreviations:

µg/m^3: micrograms per cubic meter

Table 3. Monthly GWTP Flow Rate and COC Mass Removal

Month Year	Monthly Operability (percent)	Volume[1] (gallons)	Temporal Average Flow Rate (gpm)	Cumulative Volume[2] (gallons)	COC Influent Concentration[3] (µg/L)	Mass Removed[4] (pounds)	Cumulative Mass Removed[2,4] (pounds)
Oct 2018	47.4%	2,796,779	63	2,050,834,537	6.9	0.16	485
Nov 2018	23.3%	1,188,732	28	2,052,023,269	8.3	0.08	485
Dec 2018	30.1%	1,158,854	26	2,053,182,123	10.3	0.10	485
Jan 2019	51.3%	3,005,165	67	2,056,187,288	8.5	0.21	486
Feb 2019	82.8%	4,450,925	110	2,060,638,213	9.6	0.36	486
Mar 2019	68.6%	4,135,050	93	2,064,773,263	9.0	0.31	486
Apr 2019	94.9%	5,778,180	134	2,070,551,443	6.6	0.32	487
May 2019	96.2%	6,055,059	136	2,076,606,502	7.0	0.35	487
June 2019	99.3%	6,066,835	140	2,082,673,337	NS	0.35	487
July 2019	81.0%	4,476,946	100	2,087,150,283	NS	0.26	487
Aug 2019	100%	6,249,600	140	2,093,399,883	NS	0.36	488
Sept 2019	100%	5,918,400	137	2,099,318,283	NS	0.34	488
Average:	72.9%	4,273,377	98		8.3	0.27	
Total:		51,280,524		2,099,318,283		3.2	488

Notes:

[1] Volume calculated as the sum of volumes from the Sites 2/12 groundwater extraction wells.

[2] Since system startup in April 1999.

[3] Total COC influent concentration, sampled based on granular activated carbon (GAC) change-out cycle and Groundwater Quality Assurance Project Plan (Groundwater QAPP) sampling schedule.

[4] COC mass removed from the aquifer by operating extraction wells.

Acronyms and Abbreviations:

µg/L: micrograms per liter
COC: chemical of concern
gpm: gallons per minute
GWTP: groundwater treatment plant
NS: not sampled

Table 4. GWTP Process Monitoring Schedule

Gac Cycle Week #	Sample Date	Sample Location			
		TS-212-INF	TS-212-GAC-A	TS-212-EFF	TS-212-INJ
71	10/16/18	XX	X	X	X
75	11/13/18	X	X	X	X
78	12/03/18	XX	X	X	X
81	12/24/18	X	X	X	X
84	01/16/19	XX	X	X	X
87	02/06/19	X	X	X	X
90	02/27/19	XX	X	X	X
93	03/20/19	X	X	X	X
96	04/10/19	XX	X	X	X
99	5/1/2019	X	X	X	X
0	6/5/2019			X	
12	8/27/2019				X

Notes:
#: number
GAC: granular activated carbon
X: sample collected
XX: duplicate sample collected
Station Descriptions:
TS-212-EFF: air stripper effluent
TS-212-GAC-A: GAC Vessel A effluent
TS-212-INF: influent sample location
TS-212-INJ: injection point of compliance sample location

Table 5. Summary of Groundwater Treatment Plant Analytical Results

Station	GAC Cycle Week #*	Analyte: Units:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		Total 1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl Chloride (µg/L)		Total COCs (µg/L)
		Date:	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value
TS-212-INF	71	10/16/18	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.47	J	4.8		1.5		<0.05	U	6.9
	71^	10/16/18	<0.25	U	<0.25	U	<0.25	U	0.15	J	0.45	J	4.8		1.5		<0.05	U	6.9
	75	11/13/18	<0.25	U	<0.25	U	<0.25	U	0.13	J	0.47	J	**6.2**		1.5		<0.05	U	8.3
	78	12/03/18	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.47	J	**8.1**		1.6		<0.05	U	10.3
	78^	12/03/18	<0.25	U	<0.25	U	<0.25	U	0.13	J	0.48	J	**8.0**		1.6		<0.05	U	10.2
	81	12/24/18	<0.25	U	<0.25	U	<0.25	U	0.13	J	0.46	J	**6.9**		1.5		<0.05	U	9.0
	84	01/16/19	<0.25	U	<0.25	U	<0.25	U	0.18	J	0.53		**6.0**		1.8		<0.05	U	8.5
	84^	01/16/19	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.53		**6.0**		1.8		<0.05	U	8.5
	87	02/06/19	<0.25	U	<0.25	U	<0.25	U	0.20	J	0.69		1.9		2.5		<0.05	U	5.3
	90	02/27/19	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.47	J	**7.3**		1.7		<0.05	U	9.6
	90^	02/27/19	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.48	J	**7.2**		1.8		<0.05	U	9.7
	93	03/20/19	<0.25	U	<0.25	U	<0.25	U	0.18	J	0.60		**6.3**		1.9		<0.05	U	9.0
	96	04/10/19	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.48	J	4.4		1.6		<0.05	U	6.6
	96^	04/10/19	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.49	J	4.4		1.7		<0.05	U	6.7
	99	05/01/19	<0.25	U	<0.25	U	<0.25	U	0.15	J	0.51		4.7		1.6		<0.05	U	7.0
	Maximum:		<0.25	U	<0.25	U	<0.25	U	0.20	J	0.69		**8.1**		2.5		<0.05	U	10.3
	Percent of Total:		0.00		0.00		0.00		1.9		6.2		71		21		0.00		100
TS-212-GAC-A	71	10/16/18	<0.25	U	<0.25	U	<0.25	U	0.15	J	0.43	J	2.0		1.1		<0.05	U	3.7
	75	11/13/18	<0.25	U	<0.25	U	<0.25	U	0.15	J	0.41	J	1.7		0.9		<0.05	U	3.1
	78	12/03/18	<0.25	U	<0.25	U	<0.25	U	0.16	J	0.43	J	1.7		0.9		<0.05	U	3.2
	81	12/24/18	<0.25	U	<0.25	U	<0.25	U	0.15	J	0.46	J	1.6		0.9		<0.05	U	3.1
	84	01/16/19	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.51		2.6		1.3		<0.05	U	4.6
	87	02/06/19	<0.25	U	<0.25	U	<0.25	U	0.20	J	0.54		2.4		1.3		<0.05	U	4.4
	90	02/27/19	<0.25	U	<0.25	U	<0.25	U	0.19	J	0.50		3.8		1.8		<0.05	U	6.3
	93	03/20/19	<0.25	U	<0.25	U	<0.25	U	0.20	J	0.60		4.0		1.7		<0.05	U	6.5
	96	04/10/19	<0.25	U	<0.25	U	<0.25	U	0.15	J	0.48	J	4.2		1.8		<0.05	U	6.6
	99	05/01/19	<0.25	U	<0.25	U	<0.25	U	0.16	J	0.49	J	4.4		1.7		<0.05	U	6.8

Table 5. Summary of Groundwater Treatment Plant Analytical Results

Station	GAC Cycle Week #*	Analyte: Units:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		Total 1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl Chloride (µg/L)		Total COCs (µg/L)
		Date:	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value
TS-212-EFF	71	10/16/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.19	J	0.98		0.58		<0.05	U	1.75
	75	11/13/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.16	J	0.63		0.35	J	<0.05	U	1.14
	78	12/03/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.13	J	0.71		0.41	J	<0.05	U	1.25
	81	12/24/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.53		0.33	J	<0.05	U	1.03
	84	01/16/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.25	J	0.74		0.45	J	<0.05	U	1.44
	87	02/06/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.38	J	0.28	J	<0.05	U	0.83
	90	02/27/19	<0.25	U	<0.25	U	<0.25	U	0.11	J	0.24	J	0.98		0.48	J	<0.05	U	1.8
	93	03/20/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.26	J	0.99		0.50		<0.05	U	1.8
	96	04/10/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.23	J	1.2		0.63		<0.05	U	2.1
	99	05/01/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.23	J	1.2		0.57		<0.05	U	2.0
	0	06/05/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.05	U	0.0
TS-212-INJ	71	10/16/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.19	J	0.52		0.32	J	<0.05	U	1.0
	75	11/13/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.19	J	0.42	J	0.26	J	<0.05	U	0.87
	78	12/03/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.18	J	0.11	J	<0.05	U	0.29
	81	12/24/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	UJ	<0.05	U	0.0
	84	01/16/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.26	J	0.16	J	<0.05	U	0.4
	87	02/06/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.05	U	0.0
	90	02/27/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.20	J	<0.25	U	<0.05	U	0.2
	93	03/20/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.05	U	0.0
	96	04/10/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.11	J	0.57		0.33	J	<0.05	U	1.0
	99	05/01/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.51		0.22	J	<0.05	U	0.7
	12	08/27/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.05	U	0.0

Table 5. Summary of Groundwater Treatment Plant Analytical Results

Notes:
Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL)
Results in gray are not detected concentrations (reported as <limit of detection [LOD])
#: number
* Last GAC change out was on 6/6/2017 and 6/4/2019; the average GAC cycle at the Sites 2/12 GWTP is approximately 90 weeks
^Duplicate sample

Acronyms and Abbreviations:
µg/L: micrograms per liter
COC: chemical of concern
GAC: granular activated carbon
QAPP: Quality Assurance Project Plan
Qual: qualifier

Analyte Names:
1,1-DCE: 1,1-dichloroethene
1,2-DCA: 1,2-dichloroethane
cis-1,2-DCE: cis-1,2-dichloroethene
PCE: tetrachloroethene
TCE: trichloroethene
total 1,3-DCP: total 1,3-dichloropropene

Station Descriptions:
TS-212-EFF: air stripper effluent
TS-212-GAC-A: GAC Vessel A effluent
TS-212-INF: influent sample location
TS-212-INJ: injection point of compliance sample location

Data Validation Qualifiers:
A: validation qualifier, no additional qualification required
J: laboratory or validation qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias
U: laboratory or validation qualifier, concentration not detected (reported as <LOD)

Table 6. GWTP Influent/Effluent TCE Concentrations and Efficiency

Last GAC change-outs occurred on: 6/6/2017 & 6/4/2019

Month-Year	Influent Concentration (µg/L)	GAC Vessel Effluent Concentration[1] (µg/L)	GAC Efficiency[2] (percent)	Air Stripper Effluent Concentration (µg/L)	Air Stripper Efficiency (percent)	GWTP Efficiency[2] (percent)	Discharge Concentration[3] (µg/L)
TCE[4]							
Oct-18	1.5	1.1	27%	0.58	47%	61%	0.32
Nov-18	1.5	0.87	42%	0.35	60%	77%	0.26
Dec-18	1.6	0.90	44%	0.41	54%	74%	0.11
Jan-19	1.8	1.3	28%	0.45	65%	75%	0.16
Feb-19	2.5	1.8	28%	0.48	73%	81%	<0.25
Mar-19	1.9	1.7	11%	0.50	71%	74%	<0.25
Apr-19	1.6	1.8	-13%	0.63	65%	61%	0.33
May-19	1.6	1.7	-6%	0.57	66%	64%	0.22
Jun-19	NS	NS	NC	<0.25	NC	NC	<0.25
July-19	NS	NS	NC	NS	NC	NC	NC
Aug-19	NS	NS	NC	NS	NC	NC	NC
Sept-19	NS	NS	NC	NS	NC	NC	NC
Average:	1.8	1.4	20%	0.50	63%	71%	0.23

Notes:

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in gray are not detected concentrations below the limit of detection (LOD).

[1] Sample collected at GAC Vessel A effluent (see Figure 2).

[2] Efficiency calculated using the detection limit when an analyte is not detected.

[3] Sample collected at TS-212-INJ, the injection point of compliance (see Figure 2).

[4] See Table 5 for laboratory and data validation qualifiers.

Acronyms and Abbreviations:

µg/L: micrograms per liter

GAC: granular activated carbon

GWTP: groundwater treatment plant

NC: not calculated; efficiencies cannot be calculated when the location is not sampled.

NS: not sampled per Groundwater Quality Assurance Project Plan (QAPP) sampling schedule and GAC change-out cycle.

PCE: tetrachloroethene

TCE: trichloroethene

Table 6. GWTP Influent/Effluent PCE Concentrations and Efficiency

Month-Year	Influent Concentration (µg/L)	GAC Vessel Effluent Concentration[1] (µg/L)	GAC Efficiency[2] (percent)	Air Stripper Effluent Concentration (µg/L)	Air Stripper Efficiency (percent)	GWTP Efficiency[2] (percent)	Discharge Concentration[3] (µg/L)
PCE[4]							
Oct-18	4.8	2.0	58%	0.98	51%	80%	0.52
Nov-18	**6.2**	1.7	73%	0.63	63%	90%	0.42
Dec-18	**8.1**	1.7	79%	0.71	58%	91%	0.18
Jan-19	**6.0**	2.6	57%	0.74	72%	88%	0.26
Feb-19	**7.3**	3.8	48%	0.98	74%	87%	0.20
Mar-19	**6.3**	4.0	37%	0.99	75%	84%	<0.25
Apr-19	4.4	4.2	5%	1.2	71%	73%	0.57
May-19	4.7	4.4	6%	1.2	73%	74%	0.51
Jun-19	NS	NS	NC	<0.25	NC	NC	<0.25
July-19	NS	NS	NC	NS	NC	NC	NC
Aug-19	NS	NS	NC	NS	NC	NC	NC
Sept-19	NS	NS	NC	NS	NC	NC	NC
Average:	6.0	3.1	45%	0.93	67%	83%	0.38

Notes:

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in gray are not detected concentrations below the limit of detection (LOD).

[1] Sample collected at GAC Vessel A effluent (see Figure 2).

[2] Efficiency calculated using the detection limit when an analyte is not detected.

[3] Sample collected at TS-212-INJ, the injection point of compliance (see Figure 2).

[4] See Table 5 for laboratory and data validation qualifiers.

Acronyms and Abbreviations:

µg/L: micrograms per liter

GAC: granular activated carbon

GWTP: groundwater treatment plant

NC: not calculated; efficiencies cannot be calculated when the location is not sampled.

NS: not sampled per Groundwater Quality Assurance Project Plan (QAPP) sampling schedule and GAC change-out cycle.

PCE: tetrachloroethene

TCE: trichloroethene

Table 7. Groundwater Extraction Well Flows and Total COC Concentrations

Month-Year	EW-12-03-180U[1,2]				EW-12-03-180M[1]				EW-12-04-180U[1,2]				EW-12-04-180M[1,2]			
	Runtime (percent)	Average Flow Rate (gpm)	Volume (gallons)	Total COCs (µg/L)	Runtime (percent)	Average Flow Rate (gpm)	Volume (gallons)	Total COCs (µg/L)	Runtime (percent)	Average Flow Rate (gpm)	Volume (gallons)	Total COCs (µg/L)	Runtime (percent)	Average Flow Rate (gpm)	Volume (gallons)	Total COCs (µg/L)
Oct-18	0	0	0	NS	0	0	0	NS	0	0	0	NS	0	0	0	NS
Nov-18	0	0	0	NS	0	0	0	NS	0	0	0	NS	0	0	0	NS
Dec-18	0	0	0	NS	0	0	0	3.1	0	0	0	NS	0	0	0	NS
Jan-19	0	0	0	NS	0	0	0	NS	0	0	0	NS	0	0	0	NS
Feb-19	0	0	0	NS	0	0	0	NS	0	0	0	NS	0	0	0	NS
Mar-19	0	0	0	NS	0	0	0	1.5	0	0	0	NS	0	0	0	NS
Apr-19	0	0	0	NS	0	0	0	NS	0	0	0	NS	0	0	0	NS
May-19	0	0	0	NS	0	0	0	NS	0	0	0	NS	0	0	0	NS
Jun-19	0	0	0	NS	0	0	0	3.5	0	0	0	NS	0	0	0	NS
July-19	0	0	0	NS	0	0	0	NS	0	0	0	NS	0	0	0	NS
Aug-19	0	0	0	NS	0	0	0	2.9	0	0	0	NS	0	0	0	NS
Sept-19	0	0	0	NS	0	0	0	NS	0	0	0	NS	0	0	0	NS
Average:	0	0		NS	0	0		2.7	0	0		NS	0	0	0	NS
Total:			0	NS			0	11.0			0	NS			0	NS

Notes:

[1] Extraction well offline due to low COC concentrations per QAPP decision rules

[2] Removed from the groundwater monitoring program due to low COC concentrations per QAPP decision rules

[3] Pump failure in March 2018, no sample collected after pump failure

Acronyms and Abbreviations:

µg/L: micrograms per liter
COC: chemical of concern
EW: extraction well
gpm: gallons per minute
NS: not sampled (see Groundwater QAPP for well sample schedule)
ND: not detected (all COCs were ND)
QAPP: Quality Assurance Project Plan

Table 7. Groundwater Extraction Well Flows and Total COC Concentrations

Month-Year	EW-12-05-180M				EW-12-06-180M[1,3]				EW-12-07-180M[1]				EW-12-08-180U			
	Runtime (percent)	Average Flow Rate (gpm)	Volume (gallons)	Total COCs (µg/L)	Runtime (percent)	Average Flow Rate (gpm)	Volume (gallons)	Total COCs (µg/L)	Runtime (percent)	Average Flow Rate (gpm)	Volume (gallons)	Total COCs (µg/L)	Runtime (percent)	Average Flow Rate (gpm)	Volume (gallons)	Total COCs (µg/L)
Oct-18	47%	82	1,735,284	NS	0%	0.0	0	NS	0%	0	0	NS	55%	43	1,061,495	NS
Nov-18	23%	74	745,476	NS	0%	0.0	0	NS	0%	0	0	NS	23%	44	443,256	NS
Dec-18	22%	74	726,739	3.8	0%	0.0	0	NS	0%	0	0	3.6	22%	44	432,115	19
Jan-19	51%	87	1,980,677	NS	0%	0.0	0	NS	0%	0	0	NS	51%	45	1,024,488	NS
Feb-19	83%	89	2,978,438	NS	0%	0.0	0	NS	0%	0	0	NS	83%	44	1,472,486	NS
Mar-19	69%	91	2,787,330	3.9	0%	0.0	0	NS	0%	0	0	3.9	69%	44	1,347,720	16
Apr-19	95%	96	3,934,080	NS	0%	0.0	0	NS	0%	0	0	NS	95%	45	1,844,100	NS
May-19	96%	98	4,208,481	NS	0%	0.0	0	NS	0%	0	0	NS	96%	43	1,846,578	NS
Jun-19	100%	99	4,259,693	4.1	0%	0.0	0	NS	0%	0	0	2.9	100%	42	1,807,142	13
July-19	81%	98	3,543,523	NS	0%	0.0	0	NS	0%	0	0	NS	51%	41	933,422	NS
Aug-19	100%	98	4,374,720	3.4	0%	0.0	0	NS	0%	0	0	1.8	100%	42	1,874,880	15
Sept-19	100%	95	4,104,000	NS	0%	0.0	0	NS	0%	0	0	NS	100%	42	1,814,400	NS
Average:	72%	90		3.8	0%	0.0		NS	0%	0		3.0	70%	43		16
Total:			35,378,441	15.1			0	0			0	12.2			15,902,083	63

Notes:

[1] Extraction well offline due to low COC concentrations per QAPP decision rules

[2] Removed from the groundwater monitoring program due to low COC concentrations per QAPP decision rules

[3] Pump failure in March 2018, no sample collected after pump failure

Acronyms and Abbreviations:

µg/L: micrograms per liter
COC: chemical of concern
EW: extraction well
gpm: gallons per minute
NS: not sampled (see Groundwater QAPP for well sample schedule)
ND: not detected (all COCs were ND)
QAPP: Quality Assurance Project Plan

Table 8. Groundwater Extraction Well Historical Data, Evaluation, and Recommendations

Extraction Well	2018-19 Runtime	Flow Rates (gpm)				Total COCs (µg/L)				Evaluation	Recommendations
		Design	Historic Maximum	Historic Average	2018-19 Average	Historic Maximum	Historic Minimum	2018-19 Average	Trend		
EW-12-03-180U	0%	25	289	5.0	0	142	0.12	NS	N/A	Not operated during the reporting period due to low COC concentrations (pump removed, converted to MW). COC concentrations below ACLs since 2006. Removed from GWMP in 2015.	Continue non-operation and monitor groundwater elevations per the Groundwater QAPP.
EW-12-03-180M	0%	50	187	26	0	277	ND	2.7	Steady	Not operated during the reporting period due to low COC concentrations (pump removed, converted to MW). COC concentrations below ACLs since 2012.	Continue non-operation and sample quarterly per the Groundwater QAPP.
EW-12-04-180U	0%	50	161	9.0	0	28	0.38	NS	N/A	Not operated during the reporting period due to low COC concentrations (pump removed, converted to MW). COC concentrations below ACLs since 2007. Removed from GWMP in 2016.	Continue non-operation and monitor groundwater elevations per the Groundwater QAPP.
EW-12-04-180M	0%	75	333	17	0	143	0.22	NS	N/A	Not operated during the reporting period due to low COC concentrations (pump removed, converted to MW). COC concentrations below ACLs since 2004. Removed from GWMP in 2013.	Continue non-operation and monitor groundwater elevations per the Groundwater QAPP.
EW-12-05-180M	72%	71	486	60	90	53	3.4	3.8	Steady	PCE concentrations below ACL since 2015-4Q and continue to decline. TCE concentrations below ACL since 2013 and continued to decline; however, TCE concentrations below ACL in adjacent MW-12-14-180M since 2018.	Continue operation for capture of the PCE plume and sample quarterly per the Groundwater QAPP. Install a VFD to optimize flow regulation.
EW-12-06-180M	0%	75	200	71	0	257	2.4	NS	N/A	Not operated during the reporting period due to low COC concentrations. COC concentrations below ACLs since 2013. Not sampled after 2017-4Q due to a failed pump.	Continue non-operation, plume captured by other EWs. Sample collection from this well unnecessary due to data available from nearby wells.
EW-12-07-180M	0%	78	528	32	0	19	0.51	3.0	Down	Not operated during the reporting period due to low COC concentrations. TCE below ACL since 2012.	Continue non-operation and sample quarterly per the Groundwater QAPP.
EW-12-08-180U	70%	60	62	62	43	31	11	16	Steady	PCE concentrations above ACL and TCE concentrations below ACL since operation began in 2015-3Q.	Continue operation for capture of PCE plume and sample quarterly per the Groundwater QAPP.

Acronyms and Abbreviations:

2018-19: October 1, 2018 through September 30, 2019
%: percent
µg/L: micrograms per liter
ACL: Aquifer Cleanup Level
COC: chemical of concern
EW: extraction well
gpm: gallons per minute
GWMP: groundwater monitoring program
GWTP: groundwater treatment plant
MW: monitoring well
N/A: not applicable
ND: not detected (all COCs were ND)
NS: not sampled
PCE: Tetrachloroethene
QAPP: Quality Assurance Project Plan
TCE: Trichloroethene
VFD: variable frequency drive

Table 9. GWMP Sampling Methods and Analytical Schedule*

Well Name	Cl (9056A)	VOCs (8260-SIM)	Water Levels	Sampling Methods	Rationale
EW-12-03-180M		Q	Q	PDB	RI Sites ROD/ESD
EW-12-05-180M	A	Q	Q	Sampling Port	RI Sites ROD/ESD
EW-12-06-180M	A	Q	Q	Sampling Port	RI Sites ROD/ESD
EW-12-07-180M	A	Q	Q	Sampling Port	RI Sites ROD/ESD
EW-12-08-180U	A	Q	Q	Sampling Port	RI Sites ROD/ESD
MW-02-05-180	A	A	Q	Hydrasleeve/PDB	RI Sites ROD/ESD
MW-02-13-180M	A	Q	Q	Hydrasleeve/PDB	RI Sites ROD/ESD
MW-12-01-180		Q	Q	PDB	RI Sites ROD/ESD
MW-12-05-180	A		Q	Hydrasleeve	RI Sites ROD/ESD
MW-12-09R-180		Q	Q	PDB	RI Sites ROD/ESD
MW-12-14-180M		Q	Q	PDB	RI Sites ROD/ESD
MW-12-15-180M		Q	Q	PDB	RI Sites ROD/ESD
MW-12-16-180M		Q	Q	PDB	RI Sites ROD/ESD
MW-12-18-180U		A	Q	PDB	RI Sites ROD/ESD
MW-12-20-180U		Q	Q	PDB	RI Sites ROD/ESD
MW-12-21-180U		Q	Q	PDB	RI Sites ROD/ESD
MW-12-22-180U		Q	Q	PDB	RI Sites ROD/ESD
MW-12-24-180U		Q	Q	PDB	RI Sites ROD/ESD
MW-12-25-180U		A	Q	PDB	RI Sites ROD/ESD
MW-12-26-180U		A	Q	PDB	RI Sites ROD/ESD
MW-12-28-180U		Q	Q	PDB	RI Sites ROD/ESD
MW-12-29-180U		Q	Q	PDB	RI Sites ROD/ESD
MW-12-30-180U		Q	Q	PDB	RI Sites ROD/ESD
MW-12-31-180M		A	Q	PDB	RI Sites ROD/ESD
MW-12-32-180U		Q	Q	PDB	RI Sites ROD/ESD

Notes:

*Schedule is current as of the Groundwater QAPP Revision 7, but subject to change as agreed by the BRAC Cleanup Team.

Acronyms and Abbreviations:

A: Monitored on an annual basis (during the third quarter event)

Cl: chloride

PDB: passive diffusion bag

Q: Monitored on a quarterly basis

ROD: Record of Decision

SIM: selected ion monitoring

VOCs: volatile organic compounds

Table 9. GWMP Sampling Methods and Analytical Schedule*

Well Name	Cl (9056A)	VOCs (8260-SIM)	Water Levels	Sampling Methods	Sampling Rationale
The Following Wells Are Measured for Groundwater Elevation Data Only:					
EW-12-03-180U			Q		
EW-12-04-180M			Q		
EW-12-04-180U			Q		
MW-02-06-180			Q		
MW-02-10-180			Q		
MW-02-13-180U			Q		
MW-12-07-180			Q		
MW-12-08-180			Q		
MW-12-12-180L			Q		
MW-12-17-180U			Q		
MW-12-19-180M			Q		
MW-12-19-180U			Q		
MW-12-23-180U			Q		
MW-12-27-180U			Q		

Notes:

*Schedule is current as of the Groundwater QAPP Revision 7, but subject to change as agreed by the BRAC Cleanup Team.

Acronyms and Abbreviations:

A: Monitored on an annual basis (during the third quarter event)

Cl: chloride

PDB: passive diffusion bag

Q: Monitored on a quarterly basis

ROD: Record of Decision

SIM: selected ion monitoring

VOCs: volatile organic compounds

Table 10. Groundwater Sampling Schedule Modifications, Fourth Quarter 2018 through Third Quarter 2019

Well Name	Previous Status	New Status	Mechanical/ Well Failure	Rationale / Notes / Corrections	Last Sampling Event/s	Last DTW Event
GWMP Schedule Modifications Based on Groundwater QAPP Decision Rules						
MW-12-26-180U	Q	A	N/A	Met QAPP decision rules to reduce sampling frequency to annual	Ongoing	Ongoing
Mechanical, Well, or Sampling Issues						
EW-12-06-180M	Q	N/A	Pump failure in March 2018	Nearby wells provide sufficient groundwater COC and DTW data, pump will not be replaced	2017-4Q	Ongoing

Acronyms and Abbreviations:

A: annual

D: depth to water only (no sampling)

DTW: depth to water

GWMP: groundwater monitoring program

N/A: not applicable

Q: quarterly

QAPP: quality assurance project plan

Table 11. Groundwater Well Maintenance

Well ID	Quarter Identified	Condition/Repair Comments	Sample Frequency	Maintenance Notes	Date Maintenance Completed
MW-02-06-180	2016-2Q	One tab is stripped and one tab is broken. Needs new well cap.	DTW Only	New 4-inch well cap installed. Welding required to repair tabs.	
MW-12-05-180	2016-4Q	Drum lid covers plastic well box, not secure. Sand in well box, need to add PVC casing to increase well height.	Annual (chloride only)	Investigating options to secure well.	
MW-12-07-180	2016-4Q	PVC casing extension is loose.	DTW Only		
MW-12-15-180M	2016-4Q	Needs new bolts and retap threads.	Quarterly		
MW-12-16-180M	2017-3Q	One bolt is stripped.	Quarterly		
MW-12-20-180U	2017-3Q	Strong diesel odor noted while sampling.	Quarterly	Investigated total petroluem hydrocarbon in surrounding wells and MW-12-20-180 during the 2017-2018 reporting period and determined no further action necessary. Odor was no longer observed, no sheen observed. Odor was observed again in the 2019-3Q event.	2018-2Q
MW-12-23-180U	2016-4Q	One bolt is stripped.	DTW Only		

Acronyms and Abbreviations:
DTW: depth to water
Q: quarter

Table 12. Groundwater Elevations, Fourth Quarter 2018 through Third Quarter 2019

Station Name	Top of Casing Elevation (feet)[1]	Date Measured	Depth to Water (feet)[2]	Water Level Elevation	Total Depth (feet)[2]
EW-12-03-180M	69.91	12/11/2018	65.22	4.69	-
		3/5/2019	63.70	6.21	-
		6/3/2019	64.65	5.26	-
		8/27/2019	65.62	4.29	129.20
EW-12-03-180U	69.64	12/17/2018	64.63	5.01	-
		3/5/2019	63.45	6.19	-
		6/3/2019	64.27	5.37	-
		8/27/2019	65.31	4.33	85.90
EW-12-04-180M	74.60	12/17/2018	70.45	4.15	-
		3/5/2019	69.12	5.48	-
		6/3/2019	70.00	4.60	-
		8/27/2019	70.97	3.63	134.37
EW-12-04-180U	74.54	12/17/2018	70.41	4.13	-
		3/5/2019	69.20	5.34	-
		6/3/2019	70.06	4.48	-
		8/27/2019	71.00	3.54	89.85
EW-12-05-180M	67.39	12/12/2018	75.22	-7.83	-
		3/4/2019	74.91	-7.52	-
		6/5/2019	73.85	-6.46	-
		8/28/2019	77.82	-10.43	-
EW-12-06-180M[3]	68.20	9/4/2019	64.42	3.78	-
EW-12-07-180M	72.42	12/12/2018	86.53	-14.11	-
		3/4/2019	85.98	-13.56	-
		6/5/2019	85.97	-13.55	-
		8/28/2019	87.51	-15.09	-
EW-12-08-180U	69.50	12/12/2018	66.84	2.66	-
		3/4/2019	66.51	2.99	-
		6/5/2019	64.58	4.92	-
		8/28/2019	66.17	3.33	-
MW-02-05-180	57.84	12/14/2018	53.07	4.77	-
		3/7/2019	52.06	5.78	-
		6/6/2019	52.95	4.89	-
		8/26/2019	54.00	3.84	68.45
MW-02-06-180	99.75	12/14/2018	95.10	4.65	-
		3/7/2019	93.59	6.16	-
		6/6/2019	94.46	5.29	-
		8/27/2019	95.45	4.30	109.16
MW-02-10-180	49.54	12/14/2018	44.67	4.87	-
		3/7/2019	43.96	5.58	-
		6/6/2019	44.78	4.76	-
		8/26/2019	45.64	3.90	64.31

Table 12. Groundwater Elevations, Fourth Quarter 2018 through Third Quarter 2019

Station Name	Top of Casing Elevation (feet)[1]	Date Measured	Depth to Water (feet)[2]	Water Level Elevation	Total Depth (feet)[2]
MW-02-13-180M	63.06	12/14/2018	58.35	4.71	-
		3/8/2019	57.34	5.72	-
		6/6/2019	58.10	4.96	-
		8/26/2019	58.73	4.33	133.38
MW-02-13-180U	63.62	12/14/2018	58.73	4.89	-
		3/7/2019	57.62	6.00	-
		6/6/2019	58.47	5.15	-
		8/26/2019	59.51	4.11	77.70
MW-12-01-180	82.24	12/12/2018	77.82	4.42	-
		3/5/2019	76.17	6.07	-
		6/3/2019	76.67	5.57	-
		8/27/2019	76.05	6.19	103.34
MW-12-05-180	78.62	12/17/2018	74.10	4.52	-
		3/5/2019	72.70	5.92	-
		6/3/2019	73.53	5.09	-
		8/26/2019	74.61	4.01	87.13
MW-12-07-180	80.05	12/14/2018	75.17	4.88	-
		3/5/2019	73.63	6.42	-
		6/6/2019	74.61	5.44	-
		8/27/2019	75.60	4.45	95.68
MW-12-08-180	90.75	12/17/2018	86.05	4.70	-
		3/5/2019	84.45	6.30	-
		6/3/2019	84.90	5.85	-
		8/28/2019	85.79	4.96	102.33
MW-12-09R-180	72.55	12/11/2018	68.39	4.16	-
		3/4/2019	66.84	5.71	-
		6/3/2019	67.60	4.95	-
		8/27/2019	68.50	4.05	133.90
MW-12-12-180L	72.49	12/10/2018	71.55	0.94	-
		3/5/2019	71.55	0.94	-
		6/3/2019	71.55	0.94	-
		8/27/2019	72.79	-0.30	178.73
MW-12-14-180M	69.15	12/11/2018	64.84	4.31	-
		3/5/2019	63.50	5.65	-
		6/3/2019	64.37	4.78	-
		8/27/2019	65.29	3.86	136.00
MW-12-15-180M	74.28	12/11/2018	69.69	4.59	-
		3/5/2019	68.28	6.00	-
		6/3/2019	69.15	5.13	-
		8/26/2019	69.28	5.00	136.20

Table 12. Groundwater Elevations, Fourth Quarter 2018 through Third Quarter 2019

Station Name	Top of Casing Elevation (feet)[1]	Date Measured	Depth to Water (feet)[2]	Water Level Elevation	Total Depth (feet)[2]
MW-12-16-180M	76.03	12/11/2018	71.44	4.59	-
		3/5/2019	69.91	6.12	-
		6/5/2019	70.80	5.23	-
		8/27/2019	71.80	4.23	138.50
MW-12-17-180U	71.33	12/17/2018	66.62	4.71	-
		3/5/2019	65.50	5.83	-
		6/3/2019	66.38	4.95	-
		8/27/2019	67.33	4.00	85.04
MW-12-18-180U	68.84	12/11/2018	64.49	4.35	-
		3/5/2019	63.18	5.66	-
		6/3/2019	64.03	4.81	-
		8/27/2019	64.94	3.90	83.12
MW-12-19-180M	71.46	12/17/2018	66.80	4.66	-
		3/5/2019	65.59	5.87	-
		6/3/2019	66.45	5.01	-
		8/27/2019	67.20	4.26	134.80
MW-12-19-180U	71.56	12/17/2018	66.95	4.61	-
		3/5/2019	65.72	5.84	-
		6/3/2019	66.34	5.22	-
		8/27/2019	67.36	4.20	85.04
MW-12-20-180U	70.95	12/11/2018	66.55	4.40	-
		3/5/2019	64.93	6.02	-
		6/3/2019	65.74	5.21	-
		8/27/2019	66.81	4.14	85.23
MW-12-21-180U	71.94	12/11/2018	67.42	4.52	-
		3/5/2019	65.83	6.11	-
		6/3/2019	66.42	5.52	-
		8/27/2019	67.33	4.61	89.93
MW-12-22-180U	72.75	12/12/2018	68.14	4.61	-
		3/6/2019	66.58	6.17	-
		6/3/2019	66.93	5.82	-
		8/27/2019	67.91	4.84	84.38
MW-12-23-180U	78.08	12/17/2018	73.41	4.67	-
		3/5/2019	71.96	6.12	-
		6/3/2019	72.12	5.96	-
		8/27/2019	72.90	5.18	92.33
MW-12-24-180U	72.51	12/11/2018	68.28	4.23	-
		3/4/2019	66.71	5.80	-
		6/3/2019	67.50	5.01	-
		8/27/2019	68.41	4.10	85.79

Table 12. Groundwater Elevations, Fourth Quarter 2018 through Third Quarter 2019

Station Name	Top of Casing Elevation (feet)[1]	Date Measured	Depth to Water (feet)[2]	Water Level Elevation	Total Depth (feet)[2]
MW-12-25-180U	76.37	12/17/2018	71.57	4.80	-
		3/5/2019	70.29	6.08	-
		6/3/2019	70.90	5.47	-
		8/27/2019	72.00	4.37	89.98
MW-12-26-180U	77.70	12/11/2018	73.12	4.58	-
		3/5/2019	71.54	6.16	-
		6/3/2019	71.95	5.75	-
		8/27/2019	72.77	4.93	94.95
MW-12-27-180U	77.29	12/17/2018	72.67	4.62	-
		3/5/2019	71.16	6.13	-
		6/3/2019	71.29	6.00	-
		8/27/2019	72.01	5.28	90.05
MW-12-28-180U	73.28	12/11/2018	68.90	4.38	-
		3/4/2019	67.37	5.91	-
		6/3/2019	68.13	5.15	-
		8/27/2019	69.00	4.28	87.25
MW-12-29-180U	79.29	12/11/2018	74.84	4.45	-
		3/4/2019	73.21	6.08	-
		6/3/2019	73.84	5.45	-
		8/27/2019	74.71	4.58	90.10
MW-12-30-180U	83.40	12/11/2018	78.90	4.50	-
		3/4/2019	77.27	6.13	-
		6/3/2019	77.81	5.59	-
		8/27/2019	78.70	4.70	96.51
MW-12-31-180M	85.92	12/17/2018	81.25	4.67	-
		3/5/2019	79.75	6.17	-
		6/3/2019	80.35	5.57	-
		8/27/2019	81.31	4.61	148.03
MW-12-32-180U	82.36	12/11/2018	77.77	4.59	-
		3/4/2019	76.15	6.21	-
		6/3/2019	76.91	5.45	-
		8/27/2019	77.83	4.53	96.90

Notes:

-: not measured: total depth only measured in annual third quarter event.

[1] Elevations are given in feet relative to mean sea level (MSL).

[2] Depth to water and total depth is measured from top of well casing. Wells with pumps unable to measure total depth.

[3] EW-12-06-180M pump failure, unable to collect depth to water during all events.

Table 13. Summary of Groundwater Monitoring Analytical Results, Fourth Quarter 2018

Station	Depth (ft btoc)	Analyte: / Units: / Date:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		Total 1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride (µg/L)	
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	125	12/11/18	<0.25	U	<0.25	U	<0.25	U	0.11	J	0.73		0.42	J	1.8		<0.050	U
EW-12-05-180M	--	12/19/18	<0.25	U	<0.25	U	<0.25	U	0.16	J	0.72		0.81		2.1		<0.050	U
EW-12-07-180M	--	12/19/18	<0.25	U	<0.25	U	<0.25	U	0.13	J	0.95		0.47	J	2.0		<0.050	U
EW-12-08-180U	--	12/19/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	**18.2**		0.58		<0.050	U
EW-12-08-180U*	--	12/19/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	**18.6**		0.57		<0.050	U
MW-02-13-180M	127	12/14/18	<0.25	U	<0.25	U	<0.25	UJ	0.12	J	<0.25	U	<0.25	U	1.7		<0.050	U
MW-12-01-180	96	12/12/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.46	J	0.15	J	<0.050	U
MW-12-09R-180	124	12/11/18	<0.25	U	<0.25	U	<0.25	U	0.11	J	0.27	J	0.32	J	0.87		<0.050	U
MW-12-14-180M	121	12/11/18	<0.25	U	<0.25	U	<0.25	U	0.14	J	<0.25	U	0.32	J	1.7		<0.050	U
MW-12-15-180M	138	12/11/18	<0.25	U	<0.25	U	<0.25	U	0.20	J	1.0		0.27	J	1.4		<0.050	U
MW-12-16-180M	138	12/11/18	<0.25	U	0.12	J	<0.25	U	0.21	J	0.97		<0.25	U	0.83		<0.050	U
MW-12-20-180U	75.7	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	**20**	**J-**	0.17	J	<0.050	U
MW-12-21-180U	70.3	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.55		<0.25	U	<0.050	U
MW-12-22-180U	80.2	12/12/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.45	J	<0.25	U	<0.050	U
MW-12-24-180U	79.7	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	2.0		0.12	J	<0.050	U
MW-12-24-180U*	79.7	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	2.1		0.11	J	<0.050	U
MW-12-26-180U	80.7	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.46	J	<0.25	U	<0.050	U
MW-12-28-180U	73	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.39	J	<0.25	U	<0.050	U
MW-12-28-180U*	73	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.39	J	<0.25	U	<0.050	U
MW-12-29-180U	80.5	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.43	J	<0.25	U	<0.050	U
MW-12-30-180U	91.9	12/11/18	<0.25	U	<0.25	U	<0.25	U	0.18	J	<0.25	U	0.65		0.20	J	<0.050	U
MW-12-32-180U	95	12/11/18	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.54		0.58		<0.050	U
Maximum:			<0.25	U	0.12	J	<0.25	U	0.21	J	1.0		**20**	**J-**	2.1		<0.050	U

Table 13. Summary of Groundwater Monitoring Analytical Results, Fourth Quarter 2018

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

* Duplicate sample

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in gray are not detected concentrations (result reported as <limit of detection [LOD]).

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

total 1,3-DCP: total 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ft btoc: feet below top of casing

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

UJ: Validation qualifier, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Table 14. Summary of Groundwater Monitoring Analytical Results, First Quarter 2019

Station	Depth (ft btoc)	Analyte: / Units: / Date:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		Total 1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride	
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	130	03/05/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.54		0.11	J	0.86		<0.05	U
EW-12-05-180M	--	03/01/19	<0.25	U	<0.25	U	<0.25	U	0.21	J	0.73		0.84		2.1		<0.05	U
EW-12-07-180M	--	03/01/19	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.99		0.59		2.2	J-	<0.05	U
EW-12-08-180U	--	03/01/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	**15.7**		0.59		<0.05	U
EW-12-08-180U*	--	03/01/19	<0.50	U	<0.50	U	<0.50	U	<0.50	U	<0.50	U	**15.5**		0.55	J	<0.10	U
MW-02-13-180M	127	03/08/19	<0.25	U	<0.25	U	<0.25	U	0.17	J+	0.11	J+	<0.25	U	2.0	J+	<0.05	U
MW-12-01-180	86	03/05/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.57		<0.25	U	<0.05	U
MW-12-09R-180	119	03/04/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.1		0.44	J	2.6		<0.05	U
MW-12-09R-180*	119	03/04/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.3		0.49	J	2.9		<0.05	U
MW-12-14-180M	121	03/05/19	<0.25	U	<0.25	U	<0.25	U	0.12	J	<0.25	U	0.30	J	1.5		<0.05	U
MW-12-15-180M	125	03/05/19	<0.25	U	0.17	J	<0.25	U	0.21	J	1.8		0.57		2.3		<0.05	U
MW-12-16-180M	138	03/05/19	<0.25	U	0.34	J	<0.25	U	0.25	J	3.0		0.15	J	2.0		<0.05	U
MW-12-20-180U	75.7	03/05/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	**5.3**		0.11	J	<0.05	U
MW-12-21-180U	75.3	03/05/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.14	J+	<0.25	U	<0.05	U
MW-12-22-180U	70.2	03/06/19	<0.25	U	<0.25	U	<0.25	U	0.11	J	<0.25	U	0.57		<0.25	U	<0.05	U
MW-12-24-180U	69.7	03/04/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.8		<0.25	U	<0.05	U
MW-12-28-180U	73	03/04/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.40	J	<0.25	U	<0.05	U
MW-12-29-180U	85.5	03/04/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.52		<0.25	U	<0.05	U
MW-12-30-180U	91.9	03/04/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.48	J	<0.25	U	<0.05	U
MW-12-32-180U	95	03/04/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.32	J	0.11	J+	<0.05	U
		Maximum:	<0.25	U	0.34	J	<0.25	U	0.25	J	3.0		**15.7**		2.6		<0.050	U

Table 14. Summary of Groundwater Monitoring Analytical Results, First Quarter 2019

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

* Duplicate sample

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in gray are not detected concentrations (result reported as <limit of detection [LOD]).

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

total 1,3-DCP: total 1,3-dichloropropene

Acronyms and Abbreviations:

ft btoc: feet below top of casing

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

UJ: Validation qualifier, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Table 15. Summary of Groundwater Monitoring Analytical Results, Second Quarter 2019

Station	Depth (ft btoc)	Analyte: Units:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		Total 1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride (µg/L)	
		Date:	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	125	06/03/19	<0.25	U	<0.25	U	<0.25	U	0.12	J	1.1		0.27	J	2		<0.05	U
EW-12-05-180M	--	06/05/19	<0.25	U	<0.25	U	<0.25	U	0.18	J	0.73		0.76		2.4		<0.05	U
EW-12-05-180M*	--	06/05/19	<0.25	U	<0.25	U	<0.25	U	0.18	J	0.74		0.72		2.4		<0.05	U
EW-12-07-180M	--	06/05/19	<0.25	U	<0.25	U	<0.25	U	0.10	J	0.71		0.41	J	1.7		<0.05	U
EW-12-08-180U	--	06/05/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	**12.5**		0.47	J	<0.05	U
MW-02-13-180M	127	06/06/19	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.11	J	<0.25	U	1.8		<0.05	U
MW-12-01-180	81	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.46	J	0.22	J	<0.05	U
MW-12-09R-180	124	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.0		0.42	J	2.2		<0.05	U
MW-12-14-180M	121	06/03/19	<0.25	U	<0.25	U	<0.25	U	0.11	J	0.14	J	0.43	J	2.4		<0.05	U
MW-12-14-180M*	121	06/03/19	<0.25	U	<0.25	U	<0.25	U	0.12	J	0.14	J	0.43	J	2.5		<0.05	U
MW-12-15-180M	130	06/03/19	<0.25	U	<0.25	U	<0.25	U	0.22	J	1.7		0.30	J	1.6		<0.05	U
MW-12-16-180M	138	06/05/19	<0.25	U	0.26	J	<0.25	U	0.26	J	2.3		<0.25	U	1.4		<0.05	U
MW-12-20-180U	75.7	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	3.1		<0.25	U	<0.05	U
MW-12-21-180U	70.3	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.12	J	<0.25	U	<0.05	U
MW-12-22-180U	75.2	06/03/19	<0.25	U	<0.25	U	<0.25	U	0.43	J	<0.25	U	0.52		<0.25	U	<0.05	U
MW-12-24-180U	74.7	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.66		<0.25	U	<0.05	U
MW-12-28-180U	78	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.54		<0.25	U	<0.05	U
MW-12-29-180U	75.5	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.49	J	<0.25	U	<0.05	U
MW-12-29-180U*	75.5	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.48	J	<0.25	U	<0.05	U
MW-12-30-180U	86.9	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.26	J	<0.25	U	<0.05	U
MW-12-32-180U	95	06/03/19	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.39	J	0.28	J	<0.05	U
		Maximum:	<0.25	U	0.26	J	<0.25	U	0.43	J	2.3		**12.5**		2.5		<0.05	U

Table 15. Summary of Groundwater Monitoring Analytical Results, Second Quarter 2019

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

* Duplicate sample

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in gray are not detected concentrations (result reported as <limit of detection [LOD]).

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

total 1,3-DCP: total 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ft btoc: feet below top of casing

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

UJ: Validation qualifier, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Table 16. Summary of Groundwater Monitoring Analytical Results, Third Quarter 2019

Station	Depth (ft btoc)	PDB Bag	Analyte:	1,1-DCE		1,2-DCA		Total 1,3-DCP		Chloroform		cis-1,2-DCE		PCE		TCE		Vinyl Chloride	
			Units:	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
			Date	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	130	3	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.2		<0.25	U	1.7		<0.05	U
EW-12-05-180M	--	--	8/28/2019	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.64		0.71		1.9		<0.05	U
EW-12-05-180M*	--	--	8/28/2019	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.61		0.73		1.9		<0.05	U
EW-12-07-180M	--	--	8/28/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.40	J	0.28	J	1.1		<0.05	U
EW-12-08-180U	--	--	8/28/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	**14.1**		0.47	J	<0.05	U
MW-02-05-180	62	2	8/26/2019	<0.25	U	<0.25	U	<0.25	U	0.15	J	0.19	J	<0.25	U	0.16	J	<0.05	U
MW-02-13-180M	127	2	8/26/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.5		<0.05	U
MW-12-01-180	86	2	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.39	J	0.29	J	<0.05	U
MW-12-09R-180	119	1	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.82		0.28	J	1.9		<0.05	U
MW-12-14-180M	121	2	8/27/2019	<0.25	U	<0.25	U	<0.25	U	0.11	J	0.12	J	0.28	J	2.4		<0.05	U
MW-12-15-180M	135	3	8/26/2019	<0.25	U	<0.25	U	<0.25	U	0.17	J	1.3		0.16	J	1.2		<0.05	U
MW-12-16-180M	140	4	8/27/2019	<0.25	U	0.20	J	<0.25	U	0.21	J	1.9		<0.25	U	1.2		<0.05	U
MW-12-16-180M*	140	4	8/27/2019	<0.25	U	0.19	J	<0.25	U	0.21	J	1.8		<0.25	U	1.1		<0.05	U
MW-12-18-180U	68	2	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.05	U
MW-12-20-180U	76	3	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	2.7		<0.25	U	<0.05	U
MW-12-21-180U	75	2	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.28	J	<0.25	U	<0.05	U
MW-12-22-180U	80	4	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.39	J	<0.25	U	<0.05	U
MW-12-24-180U	80	4	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.8		0.13	J	<0.05	U
MW-12-25-180U	75	2	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.39	J	<0.25	U	<0.05	U
MW-12-26-180U	86	3	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.39	J	<0.25	U	<0.05	U
MW-12-26-180U*	86	3	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.32	J	<0.25	U	<0.05	U
MW-12-28-180U	73	2	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.33	J	<0.25	U	<0.05	U
MW-12-29-180U	81	3	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.37	J	<0.25	U	<0.05	U
MW-12-30-180U	92	4	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.36	J	<0.25	U	<0.05	U
MW-12-31-180M	92	3	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.18	J	<0.25	U	<0.05	U
MW-12-32-180U	95	4	8/27/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.41	J	0.42	J	<0.05	U
			Maximum:	<0.25	U	0.20	J	<0.25	U	0.21	J	1.9		**14.1**		2.4		<0.05	U

Table 16. Summary of Groundwater Monitoring Analytical Results, Third Quarter 2019

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

* Duplicate sample

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in gray are not detected concentrations (result reported as <limit of detection [LOD]).

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

total 1,3-DCP: total 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ft btoc: feet below top of casing

PDB: passive diffusion bag

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

UJ: Validation qualifier, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Table 17. Summary of Chloride Analytical Results, Third Quarter 2019

Station	Depth (ft btoc)	PDB Bag	Analyte:	Chloride (as Cl)	
			Units:	mg/L	
			Seawater Value:	19,000	
			Threshold Value:	500	
			Date	Value	Qual
EW-12-05-180M	--	--	8/27/2019	288	
EW-12-05-180M*	--	--	8/28/2019	284	
EW-12-07-180M	--	--	8/28/2019	421	
EW-12-08-180U	--	--	8/28/2019	41.5	
MW-02-05-180	62	2	8/28/2019	124	
MW-02-05-180*	62	2	8/26/2019	133	
MW-02-13-180M	127	2	8/26/2019	**3,090**	
MW-12-05-180	74	2	8/27/2019	58.9	

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

* Duplicate sample

Results in **bold** are concentrations above the threshold value.

Results in gray are not detected concentrations (result reported as <limit of detection [LOD]).

Acronyms and Abbreviations:

mg/L: milligrams per liter

ft btoc: feet below top of casing

PDB: passive diffusion bag

Qual: qualifier

Table 18. SVTU Process Monitoring Schedule

Sample Date[1]	Sample Location		
	SVTU-212-INF	SVTU-212-MID	SVTU-212-EFF
11/13/18	X		X

Notes:

GAC: granular activated carbon

X: sample collected

[1]Routine process monitoring shall be in accordance with the Soil Gas QAPP, SVTU shut down in February 2019 and no additional samples collected.

Station Descriptions:

SVTU-212-INF: influent sample location

SVTU-212-MID: lead GAC vessel TK-2610A effluent

SVTU-212-EFF: lag GAC vessel TK-2610B effluent

Table 19. SVTU Monthly Operability, Flow Rate, and Total COC Mass Removal

Month Year	Monthly Operability (percent)	Volume (scf)	Average Flow Rate (scfm)	Cumulative Volume* (scf)	Total COC Influent Concentration ($\mu g/m^3$)	Total COC Mass Removed (pounds)	Cumulative Total COC Mass Removed (pounds)
Oct 2018	100.0	23,557,800	497	1,259,176,971	NS	0.04	9.5
Nov 2018	99.9	20,148,274	499	1,279,325,245	31.8	0.04	9.6
Dec 2018	99.7	23,677,080	497	1,303,002,325	NS	0.05	9.6
Jan 2019	99.5	20,032,815	451	1,323,035,141	NS	0.04	9.7
Feb 2019	37.1	6,969,600	440	1,330,004,741	NS	0.01	9.7
Mar 2019	0.0	0	0	1,330,004,741	NS	0.00	9.7
Apr 2019	0.0	0	0	1,330,004,741	NS	0.00	9.7
May 2019	0.0	0	0	1,330,004,741	NS	0.00	9.7
June 2019	0.0	0	0	1,330,004,741	NS	0.00	9.7
July 2019	0.0	0	0	1,330,004,741	NS	0.00	9.7
Aug 2019	0.0	0	0	1,330,004,741	NS	0.00	9.7
Sept 2019	0.0	0	0	1,330,004,741	NS	0.00	9.7
Average:	36.3	7,865,464	199		31.8	0.01	
Total:		94,385,569		1,330,004,741		0.18	9.7

Notes:

* Since startup in September 2015

Acronyms and Abbreviations:

$\mu g/m^3$: micrograms per cubic meter

COC: chemical of concern

NS: not sampled

scf: standard cubic feet

scfm: standard cubic feet per minute

SVTU: soil vapor treatment unit

Table 20. SVTU Influent/Effluent TCE/PCE Concentrations and Efficiency

	PCE					TCE				
	Influent Concentration		Effluent Concentration		SVTU Efficiency	Influent Concentration		Effluent Concentration		SVTU Efficiency
Month Year	Value (µg/m^3)	Qual	Value (µg/m^3)	Qual	(percent)	Value (µg/m^3)	Qual	Value (µg/m^3)	Qual	(percent)
Oct 2018	NS		NS		NC	NS		NS		NC
Nov 2018	26		<0.78	U	100%	5.8		16		-176%
Dec 2018	NS		NS		NC	NS		NS		NC
Jan 2019	NS		NS		NC	NS		NS		NC
Feb 2019	NS		NS		NC	NS		NS		NC
Mar 2019	NS		NS		NC	NS		NS		NC
Apr 2019	NS		NS		NC	NS		NS		NC
May 2019	NS		NS		NC	NS		NS		NC
June 2019	NS		NS		NC	NS		NS		NC
July 2019	NS		NS		NC	NS		NS		NC
Aug 2019	NS		NS		NC	NS		NS		NC
Sept 2019	NS		NS		NC	NS		NS		NC
Average:	26		ND		100%	5.8		16		-176%
Maximum:	26		ND			5.8		16		
Percent of Total:	82%		0			18%		100%		

Notes:

Results in gray are not detected (result reported as <limit of detection [LOD]), LOD value used for efficiency calculation. TCE removal efficiency has been negative since the Fourth Quarter 2017 due to TCE desorbing from the GAC as PCE continues to be adsorbed; however, a GAC change-out is not warranted because the SVETS remains in compliance with the substantive requirements of Air District Rules 207 and 1000 and continues to efficiently remove PCE, which is the only groundwater COC with concentrations above the ACL.

Acronyms and Abbreviations:

µg/m^3: micrograms per cubic meter
NC: not calculated
NS: not sampled
PCE: tetrachloroethene
Qual: qualifier
SVTU: soil vapor treatment unit
TCE: trichloroethene

Data Validation Qualifiers:

A: Validation qualifier, no additional qualification required
J: Laboratory or validation qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.
U: laboratory or validation qualifier, concentration not detected.

Table 21. SVTU Discharge Compliance Calculations

Rule 207 Emissions Calculation (limit is 25 lb/day) [1]			
Maximum SVTU Effluent Total VOCs	Average Flow Rate	Total VOC Emissions	Total VOC Emissions
µg/m^3	cfm	lbs/hour	lbs/day
16	477	0.00003	0.00069

SVTU Influent Concentrations and Ratios					
	Influent Total VOCs	TCE		PCE	
Month-Year	µg/m^3	µg/m^3	TCE / VOC	µg/m^3	PCE / VOC
Nov-18	32	5.8	18.2%	26	81.8%
Average:			18.2%	.	81.8%

SVTU Effluent Concentrations and Ratios					
	Effluent Total VOCs	TCE		PCE	
Month-Year	µg/m^3	µg/m^3	TCE / VOC	µg/m^3	PCE / VOC
Nov-18	16	16	100%	0.0	0%
Average:			100%		0%

Rule 1000 AERSCREEN Modeling [2]					
	1 Hour Concentration VOC	Annual Average Concentraction VOC	% TCE / VOC	% PCE / VOC	
50 meters from source	µg/m^3	µg/m^3	µg/m^3	µg/m^3	Notes
Total Hydrocarbons	0.03749	0.003749	100%	0%	Nearest receptor approximately 50 meters away
PCE (127-18-4)	0	0			
TCE (79-01-6)	0.03749	0.003749			

Hazard Index Calculation [3]					
Substance	REL type	Inhalation REL (µg/m^3) [2]	Hazard Index	HI of < 1?	Notes
PCE (127-18-4)	Acute (1 hour)	20,000	**0.0000000**	yes	
	Chronic	35	**0.00000**	yes	
TCE (79-01-6)	Chronic	600	**0.000006**	yes	no acute REL listed
Summed HI:			**0.00001**	yes	

Table 21. SVTU Discharge Compliance Calculations

Risk Calculation [4]				
Substance	Unit Risk Value ($\mu g/m^3)^{-1}$	Risk URV [2] Annual Average Concentration	Risk per Million	Risk <10 per million?
PCE (127-18-4)	6.1E-06	0.0E+00	**0.0000**	yes
TCE (79-01-6)	2.0E-06	7.5E-09	**0.0075**	yes
Summed Cancer Risk:			**0.0075**	yes

Notes:

[1] Per Monterey Bay Air Resources District Rule 207 and Rule 1000

[2] The AERSCREEN model produces estimates of "worst-case" 1-hour concentrations for a single source and includes conversion factors to estimate "worst-case" annual concentrations. See http://www3.epa.gov/scram001/dispersion_screening.htm for more information.

[3] REL data from http://oehha.ca.gov/air/allrels.html

[4] Inhalation risk data from http://oehha.ca.gov/air/air-toxics-hot-spots

Acronyms and Abbreviations:

%: percent
<: less than
cfm: cubic feet per minute
HI: hazard index
lbs: pounds
N/A: not applicable
PCE: tetrachloroethene
REL: Reference Exposure Level
SVTU: Soil Vapor Treatment Unit
TCE: trichloroethene
URV: Unit Risk Value
VOC: volatile organic compound
$\mu g/m^3$: micrograms per cubic meter

Table 22. SVE Well Runtimes and Total COC Concentrations

Month Year	Southern SVE Well Field									
	VE-12-01		VE-12-02		VE-12-03		VE-12-04		VE-12-05	
	Runtime (percent)	Total COCs ($\mu g/m^3$)	Runtime (percent)	Total COCs ($\mu g/m^3$)	Runtime (percent)	Total COCs ($\mu g/m^3$)	Runtime (percent)	Total COCs ($\mu g/m^3$)	Runtime (percent)	Total COCs ($\mu g/m^3$)
Oct 2018	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Nov 2018	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Dec 2018	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Jan 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Feb 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Mar 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Apr 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
May 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
June 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
July 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Aug 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Sept 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Average:	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS

Acronyms and Abbreviations:

$\mu g/m^3$: micrograms per cubic meter

COC: chemical of concern

N/A: not applicable

ND: not detected

NS: not sampled

VE: vapor extraction

Table 22. SVE Well Runtimes and Total COC Concentrations

Month Year	Northern SVE Well Field									
	VE-12-06		VE-12-07		VE-12-08		VE-12-09		VE-12-10	
	Runtime (percent)	Total COCs ($\mu g/m^3$)	Runtime (percent)	Total COCs ($\mu g/m^3$)	Runtime (percent)	Total COCs ($\mu g/m^3$)	Runtime (percent)	Total COCs ($\mu g/m^3$)	Runtime (percent)	Total COCs ($\mu g/m^3$)
Oct 2018	0.0	NS	0.0	NS	0.0	NS	100.0	NS	0.0	NS
Nov 2018	0.0	NS	0.0	NS	0.0	NS	99.9	ND	0.0	NS
Dec 2018	0.0	NS	0.0	NS	0.0	NS	99.7	NS	0.0	NS
Jan 2019	0.0	NS	0.0	NS	0.0	NS	99.5	NS	0.0	NS
Feb 2019	0.0	ND	0.0	NS	0.0	NS	37.1	ND	0.0	NS
Mar 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Apr 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
May 2019	0.0	ND	0.0	NS	0.0	NS	0.0	64	0.0	NS
June 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
July 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Aug 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Sept 2019	0.0	NS	0.0	NS	0.0	NS	0.0	NS	0.0	NS
Average:	0.0	ND	0.0	NS	0.0	NS	36.3	64	0.0	NS

Acronyms and Abbreviations:

$\mu g/m^3$: micrograms per cubic meter

COC: chemical of concern

N/A: not applicable

ND: not detected

NS: not sampled

VE: vapor extraction

Table 23. SVE Well Historical Data, Evaluation, and Recommendations

SVE Well	2018-19 Runtime (percent)	Total COCs (µg/m^3)				Evaluation	Recommendations
		Historical Maximum	Historical Minimum	2018-19 Average	Trend		
Southern SVE Wells							
VE-12-01	0.0	11,000	ND	NS	N/A	Not operated during reporting period due to low COC concentrations.	Continue non-operation.
VE-12-02	0.0	370	ND	NS	N/A	Not operated during reporting period due to low COC concentrations.	Continue non-operation.
VE-12-03	0.0	3,005	27	NS	N/A	Not operated during reporting period due to low COC concentrations.	Continue non-operation.
VE-12-04	0.0	9,732	ND	NS	N/A	Not operated during reporting period due to low COC concentrations.	Continue non-operation.
VE-12-05	0.0	1,416	ND	NS	N/A	Not operated during reporting period due to low COC concentrations.	Continue non-operation.
Northern SVE Wells							
VE-12-06	0.0	1,700	ND	ND	Steady	Not operated during reporting period due to low COC concentrations. Sampled during rebound study.	Continue non-operation.
VE-12-07	0.0	1,200	ND	NS	N/A	Not operated during reporting period due to low COC concentrations.	Continue non-operation.
VE-12-08	0.0	2,100	120	NS	N/A	Not operated during reporting period due to low COC concentrations.	Continue non-operation.
VE-12-09	36.3	1,548	ND	64	Steady	Not operated during reporting period due to low COC concentrations. Sampled during rebound study.	Continue non-operation.
VE-12-10	0.0	460	ND	NS	N/A	Not operated during reporting period due to low COC concentrations.	Continue non-operation.

Acronyms and Abbreviations:

µg/m^3: micrograms per cubic meter
2018-19: October 1, 2018 through September 30, 2019
COC: chemical of concern
N/A: not applicable
ND: not detected
NS: not sampled
QAPP: Quality Assurance Project Plan
SGCL: soil gas cleanup level
SVE: soil vapor extraction

Table 24. SGMP Analytical Schedule

Soil Gas Probe ID	Sample Schedule
SG-12-01-10	Removed
SG-12-01-20	Removed
SG-12-01-30	Removed
SG-12-01-40	Removed
SG-12-01-50	Removed
SG-12-01-58	Removed
SG-12-01-65	**Quarterly**
SG-12-02-10	**Quarterly**
SG-12-02-20	**Annual**
SG-12-02-30	**Annual**
SG-12-02-40	**Annual**
SG-12-02-50	**Annual**
SG-12-02-57	**Annual**
SG-12-02-65	**Annual**
SG-12-03-10	Removed
SG-12-03-20.5	Removed
SG-12-03-30	Removed
SG-12-03-39.5	Removed
SG-12-03-50	Removed
SG-12-03-58	Removed
SG-12-03-65	Removed
SG-12-04-10	**Quarterly**
SG-12-04-20	Removed
SG-12-04-30	Removed
SG-12-04-40	Removed
SG-12-04-50	Removed
SG-12-04-58	Removed
SG-12-04-65	**Quarterly**
SG-12-05-10	Removed
SG-12-05-20	Removed
SG-12-05-30	Removed
SG-12-05-40	Removed
SG-12-05-50	Removed
SG-12-05-60	Removed
SG-12-05-70	Removed

Soil Gas Probe ID	Sample Schedule
SG-12-06-10	**Quarterly**
SG-12-06-20	Removed
SG-12-06-30	Removed
SG-12-06-40	Removed
SG-12-06-50	Removed
SG-12-06-60	Removed
SG-12-06-70	**Annual**
SG-12-07-10	Removed
SG-12-07-20	Removed
SG-12-07-30	Removed
SG-12-07-40	Removed
SG-12-07-50	Removed
SG-12-07-57.5	Removed
SG-12-07-65	Removed
SG-12-08-10	Removed
SG-12-08-20	Removed
SG-12-08-30	Removed
SG-12-08-40	Removed
SG-12-08-50	Removed
SG-12-08-60	Removed
SG-12-08-70	Removed
SG-12-09-10	Removed
SG-12-09-20	Removed
SG-12-09-30	Removed
SG-12-09-40	Removed
SG-12-09-50	Removed
SG-12-09-59	Removed
SG-12-10-10	Decom
SG-12-10-20	Decom
SG-12-10-30	Decom
SG-12-10-40	Decom
SG-12-10-50	Decom
SG-12-10-60	Decom
SG-12-10-70	Decom

Soil Gas Probe ID	Sample Schedule
SG-12-11-10	Removed
SG-12-11-20	Removed
SG-12-11-30	Removed
SG-12-11-40	Removed
SG-12-11-50	Removed
SG-12-11-60	Removed
SG-12-11-70	Removed
SG-12-12-10	Removed
SG-12-12-20	Removed
SG-12-12-30	Removed
SG-12-12-40	Removed
SG-12-12-50	Removed
SG-12-12-60	Removed
SG-12-12-70	Removed
SG-12-13-10	Removed
SG-12-13-20	Removed
SG-12-13-30	Removed
SG-12-13-40	Removed
SG-12-13-50	Removed
SG-12-13-60	Removed
SG-12-13-70	Removed
SG-12-14-10	Removed
SG-12-14-20	Removed
SG-12-14-30	Removed
SG-12-14-40	Removed
SG-12-14-50	Removed
SG-12-14-60	Removed
SG-12-14-70	Removed
SG-12-15-10	Removed
SG-12-15-20	Removed
SG-12-15-30	Removed
SG-12-15-40	Removed
SG-12-15-50	Removed
SG-12-15-60	Removed
SG-12-15-70	Removed

Acronyms and Abbreviations:

Annual: sampled on the third quarter event (once per year) Decom: decommissioned (probe no longer exists)

QAPP: Quality Assurance Project Plan

Quarterly: sampled every quarter (four times per year)

Removed: Soil gas sample was removed from the soil gas monitoring program and is not sampled per QAPP decision criteria

Table 24. SGMP Analytical Schedule

Soil Gas Probe ID	Sample Schedule
SG-12-16-10	Removed
SG-12-16-20	Removed
SG-12-16-30	Removed
SG-12-16-40	Removed
SG-12-16-50	Removed
SG-12-16-60	**Annual**
SG-12-16-70	Removed
SG-12-17-10	Removed
SG-12-17-20	Removed
SG-12-17-30	Removed
SG-12-17-40	**Annual**
SG-12-17-50	Removed
SG-12-17-60	Removed
SG-12-17-75	Removed
SG-12-18-10	Removed
SG-12-18-20	Removed
SG-12-18-30	Removed
SG-12-18-40	Removed
SG-12-18-50	Removed
SG-12-18-60	Removed
SG-12-18-70	Removed
SG-12-19-10	Removed
SG-12-19-20	Removed
SG-12-19-30	Removed
SG-12-19-40	Removed
SG-12-19-50	Removed
SG-12-19-60	Removed
SG-12-19-70	Removed
SG-12-20-10	**Annual**
SG-12-20-20	**Annual**
SG-12-20-30	Removed
SG-12-20-40	Removed
SG-12-20-50	Removed
SG-12-20-60	Removed
SG-12-20-70	Removed

Soil Gas Probe ID	Sample Schedule
SG-12-21-10	Decom
SG-12-21-20	Decom
SG-12-21-30	Decom
SG-12-21-40	Decom
SG-12-21-50	Decom
SG-12-21-60	Decom
SG-12-21-70	Decom
SG-12-22-10	Removed
SG-12-22-20	Removed
SG-12-22-30	Removed
SG-12-22-40	Removed
SG-12-22-50	Removed
SG-12-22-60	Removed
SG-12-22-70	Removed
SG-12-23-10	Removed
SG-12-23-60	Removed
SG-12-23-70	Removed
SG-12-23-20	Removed
SG-12-23-30	Removed
SG-12-23-40	Removed
SG-12-23-50	Removed
SG-12-24-10	Removed
SG-12-24-20	Removed
SG-12-24-30	Removed
SG-12-24-40	Removed
SG-12-24-50	Removed
SG-12-24-60	Removed
SG-12-24-70	Removed

Acronyms and Abbreviations:

Annual: sampled on the third quarter event (once per year) Decom: decommissioned (probe no longer exists)

QAPP: Quality Assurance Project Plan

Quarterly: sampled every quarter (four times per year)

Removed: Soil gas sample was removed from the soil gas monitoring program and is not sampled per QAPP decision criteria

Table 25. Soil Gas Sampling Schedule Modifications, Fourth Quarter 2018 through Third Quarter 2019

Soil Gas Probe ID	Previous Status	New Status	Rationale / Notes / Corrections	Last Sampling Event
SGMP Schedule Modifications Based on Soil Gas QAPP Decision Rules				
SG-12-01-58	Removed	N/A	Sampled in the 2019-1Q and 2019-2Q events for a soil gas rebound study after the SVTU was turned offline in February 2019. QAPP frequency not changed.	2019-2Q
SG-12-04-58	Removed	N/A	Sampled in the 2019-1Q and 2019-2Q events for a soil gas rebound study after the SVTU was turned offline in February 2019. QAPP frequency not changed.	2019-2Q
SG-12-06-60	Removed	N/A	Sampled in the 2019-1Q and 2019-2Q events for a soil gas rebound study after the SVTU was turned offline in February 2019. QAPP frequency not changed.	2019-2Q
SG-12-06-70	Annual	N/A	Sampled in 2018-4Q in leiu of 2018-3Q due to increasing groundwater elevation and probe submerged in 2018-3Q. Probe sampled in the 2019-2Q event for a soil gas rebound study after the SVTU was turned offline in February 2019. QAPP frequency not changed.	Ongoing
VE-12-06	Removed	N/A	Sampled offline extraction well in the 2019-1Q and 2019-2Q events for a soil gas rebound study after the SVTU was turned offline in February 2019. QAPP frequency not changed.	2019-2Q
VE-12-09	Removed	N/A	Sampled offline extraction well in the 2019-1Q and 2019-2Q events for a soil gas rebound study after the SVTU was turned offline in February 2019. QAPP frequency not changed.	2019-2Q
SGMP Schedule Modifications Based on Soil Gas Probe Issues				
SG-12-06-50	Removed	N/A	Sampled in 2019-2Q in lieu of SG-12-06-70, which was submerged due to increasing groundwater elevations.	2019-2Q
SG-12-06-70	Annual	N/A	Unable to sample 2019-2Q due to increasing groundwater elevation. SG-12-06-50 sampled in lieu of this probe.	Ongoing

Acronyms and Abbreviations:

Annual: sampled on the third quarter event (once per year) QAPP: Quality Assurance Project Plan

Removed: Soil gas sample was removed from the soil gas monitoring program and is not sampled per QAPP decision criteria

SVTU: soil vapor treatment unit

Table 26. Summary of Soil Gas Monitoring
Analytical Results, Fourth Quarter 2018 through Third Quarter 2019

Soil Gas Probe / SVE Well ID	Analyte: Units:	PCE (µg/m³)		TCE (µg/m³)	
	Date	Value	Qual	Value	Qual
SG-12-01-58	02/25/19	120		<38	U
	05/20/19	180		<39	U
SG-12-01-65	11/13/18	<65	U	<52	U
	02/25/19	140		<37	U
	05/20/19	180		<40	U
	5/20/19*	170		<39	U
	08/19/19	<53	U	<42	U
SG-12-02-10	11/13/18	*1,300*		<53	U
	11/13/18*	*1,400*		<54	U
	02/25/19	*810*		<40	U
	02/25/19*	*710*		<41	U
	05/21/19	*1,200*		<41	U
	05/21/19*	*1,100*		<39	U
	08/20/19	*1,300*		<41	U
	08/20/19*	*1,200*		<42	U
SG-12-02-20	08/20/19	*860*		<39	U
SG-12-02-30	08/20/19	*810*		<43	U
SG-12-02-40	08/20/19	*690*		<40	U
SG-12-02-50	08/20/19	*630*		45	J
SG-12-02-57	08/20/19	570		<41	U
SG-12-02-65	08/20/19	580		<40	U
SG-12-04-10	11/13/18	<69	U	<54	U
	02/25/19	100		<37	U
	05/20/19	<50	U	100	
	08/19/19	62	J	580	
	08/19/19*	66	J	570	
SG-12-04-58	02/25/19	87		<39	U
	05/20/19	71	J	<40	U
SG-12-04-65	11/13/18	<64	U	<50	U
	02/25/19	<51	U	<41	U
	05/20/19	<50	U	90	
	08/19/19	54	J	400	
SG-12-06-10	11/14/18	<67	U	<53	U
	02/26/19	<47	U	<37	U
	05/21/19	<49	U	<39	U
	08/21/19	84		<39	U
SG-12-06-50	05/21/19	70	J	<39	U
SG-12-06-60	02/26/19	<49	U	<39	U
	02/26/19*	<50	U	<39	U
	05/21/19	<45	U	<36	U
SG-12-06-70	11/14/18	<64	U	<51	U
	02/26/19	<48	U	<38	U
	08/21/19	95		<41	U
SG-12-16-60	08/21/19	<49	U	560	
SG-12-17-40	08/20/19	<51	U	640	
SG-12-20-10	08/21/19	*1,200*		<39	U
SG-12-20-20	08/21/19	*750*		<42	U
VE-12-06	02/27/19	<50	U	<40	U
	05/22/19	<51	U	<40	U
VE-12-09	11/13/18	<63	U	<50	U
	02/27/19	<51	U	<41	U
	05/22/19	64	J	<40	U
Maximum:		*1,400*		640	

Acronyms and Abbreviations:

µg/m³: micrograms per cubic meter
PCE: tetrachloroethene
Qual: qualifier
SVE: soil vapor extraction
TCE: trichloroethene

Notes:

* Duplicate sample, results only for quality control purposes and not used to determine maximum concentration.

Results in *italics* are concentrations above the Soil Gas Screening Level (SG-SL) but below the Soil Gas Cleanup Level (SGCL).

TCE SG-SL= 888 µg/m3; PCE SG-SL= 603 µg/m3. TCE SGCL= 1,000 µg/m3; PCE SGCL= 1,800 µg/m3

Results in gray are not detected concentrations (reported as <limit of detection [LOD]).

Data Validation Qualifiers:

U: Laboratory or validation qualifier, result not detected at or above the LOD (identified by <LOD)

Table 27. Recommended Groundwater Sample Schedule Modifications

Well Name	Current Sampling Frequency	Recommended Sampling Frequency Change	Rationale
MW-02-05-180	Annual (VOC and chloride)	Stop Sampling	Meets QAPP decision rules to stop sampling[1]
MW-12-05-180	Annual (chloride)	Stop Sampling	Meets QAPP decision rules to stop sampling
MW-12-18-180U	Annual (VOC)	Stop Sampling	Meets QAPP decision rules to stop sampling
MW-12-25-180U	Annual (VOC)	Stop Sampling	Meets QAPP decision rules to stop sampling

Notes:

[1] If two consecutive annual monitoring results show concentrations of COCs below their respective LOQs, or below 10% of their respective ACLs, whichever is greater, then the well may be proposed to be removed from the sampling program. These changes are presented in Appendix G with maps and COC concentration trend charts.

Acronyms and Abbreviations:

ACL: Aquifer Cleanup Level

Annual: sampled in the third quarter event (once per year)

COC: chemical of concern

LOQ: limit of quantitation

Stop Sampling: no longer sampled for COCs; however, will continue to be monitored for groundwater elevation quarterly until the well is decommissioned.

VOC: volatile organic compound

Table 28. Recommended Soil Gas Sample Schedule Modifications

Soil Gas Probe ID	Current Sampling Frequency	Recommended Sampling Frequency Change	Rationale
SGMP Schedule Modifications Based on Soil Gas QAPP Decision Rules			
SG-12-06-70	Annual	Remove	Met QAPP decision rules to stop sampling, which was confirmed during the rebound study conducted 2019-1Q and 2019-2Q.
SG-12-16-60	Annual	Remove	Met QAPP decision rules to stop sampling, which was confirmed during the rebound study conducted 2019-1Q and 2019-2Q.

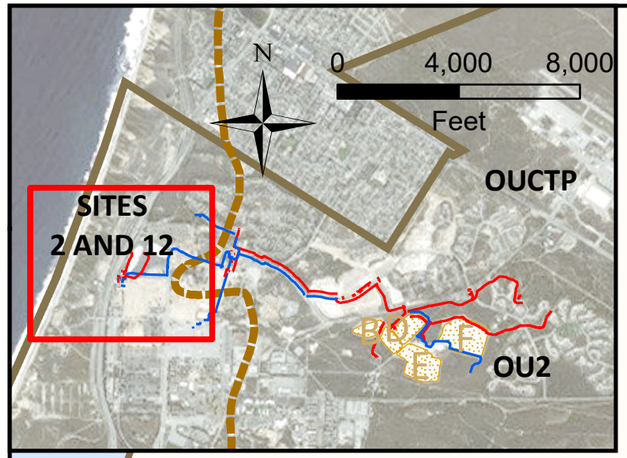
Acronyms and Abbreviations:

Annual: sampled in the third quarter event (once per year)

QAPP: Quality Assurance Project Plan

Remove: not sampled

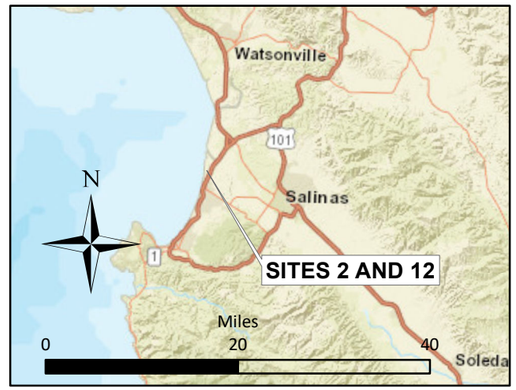
FIGURES



INF-OU2-01-180
IW-OU2-01-180
HAYES CIR
13TH ST
12TH ST
11TH ST
IMJIN PKWY
MW-02-10-180
MW-12-19-180M
MW-12-19-180U
MW-12-14-180M
EW-12-08-180U
MW-12-20-180U
MW-12-21-180U
MW-12-18-180U
MW-12-09R-180
MW-12-22-180U
EW-12-05-180M
BEACH RANGE RD
EW-12-06-180M
MW-02-05-180
MW-12-24-180U
MW-12-25-180U
MW-12-23-180U
MW-12-17-180U
MW-12-28-180U
IW-02-01-180
MW-12-15-180M
MW-12-27-180U
MW-12-29-180U
EW-12-07-180M
MW-12-26-180U
MW-12-16-180M
EW-12-03-180M
MW-12-01-180
IW-02-02-180
MW-12-30-180U
EW-12-03-180U
MW-12-31-180M
INF-02-03-180
MW-12-12-180L
MW-12-32-180U
MW-12-05-180
MW-12-08-180
10TH ST
2ND AVE
MW-02-13-180M
HWY-1 (S)
EW-12-04-180M
INF-02-02-180
MW-02-13-180U
SITES 2 AND 12
GROUNDWATER TREATMENT PLANT
EW-12-04-180U
MW-12-07-180
MONTEREY BAY COASTAL RECREATION TRAIL
HWY-1 (N)
1ST AVE
3RD AVE
9TH ST
INF-02-01-180
MW-02-06-180
8TH ST
IW-OU2-02-180
INF-OU2-02-180
STILWELL HALL
QUARTERMASTER AVE

EXPLANATION

- Groundwater Monitoring Wells
- Extraction Wells
- Injection Wells
- Infiltration Wells
- Approximate Location of a Groundwater Divide
- Groundwater Injection/Infiltration Line
- Groundwater Collection Line
- Roads
- Facilities
- Approximate Edge of Fort Ord - Salinas Valley Aquitard
- Former Fort Ord Boundary



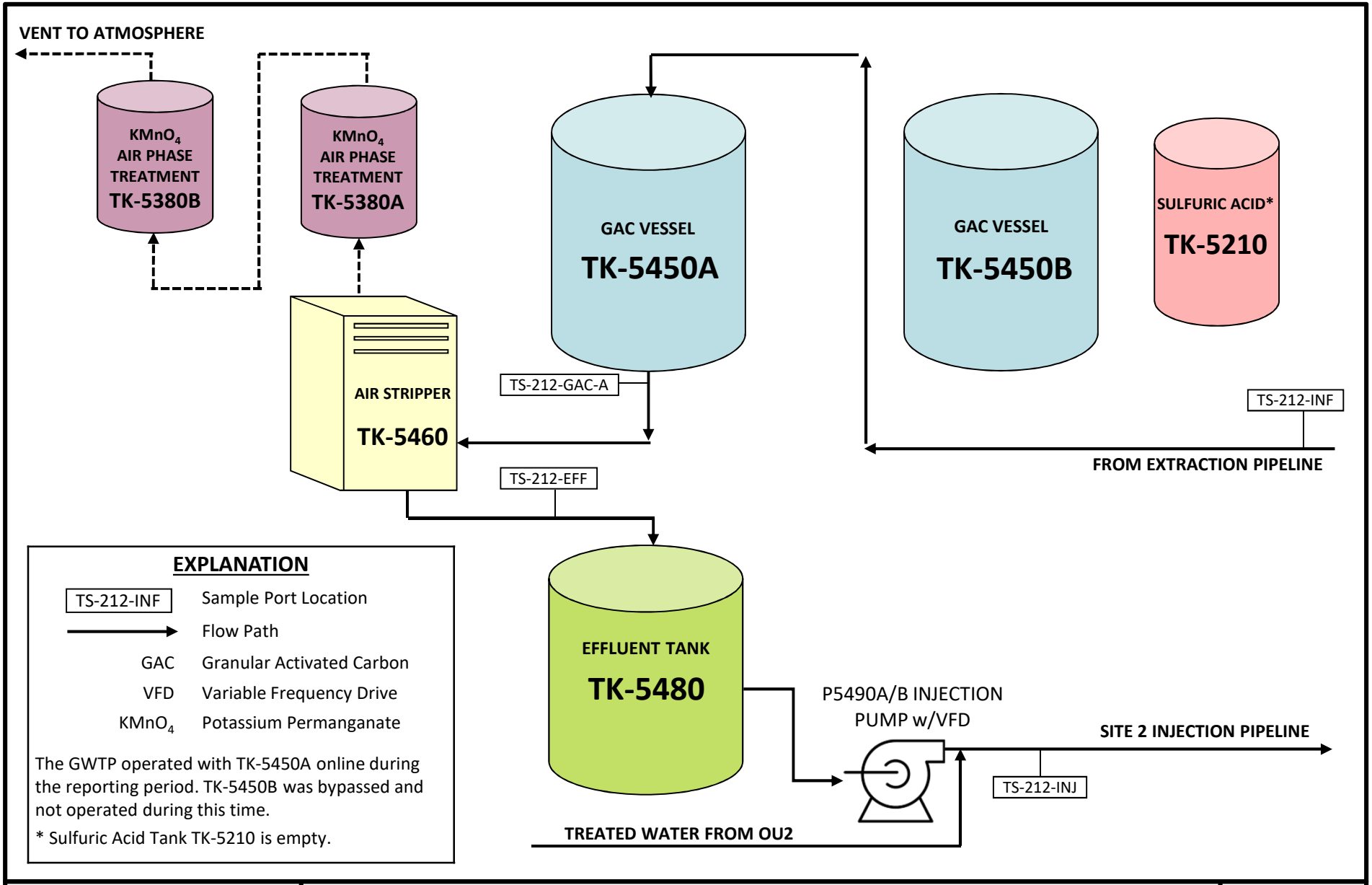
N

0 500 1,000 Feet

SITE VICINITY AND
GROUNDWATER WELL LOCATIONS

Fourth Quarter 2018 through Third Quarter 2019
Sites 2 and 12 Groundwater and Soil Gas Monitoring
Treatment System Report, Former Fort Ord, California

Ahtna | Date: 10/30/2019 | Figure: 1



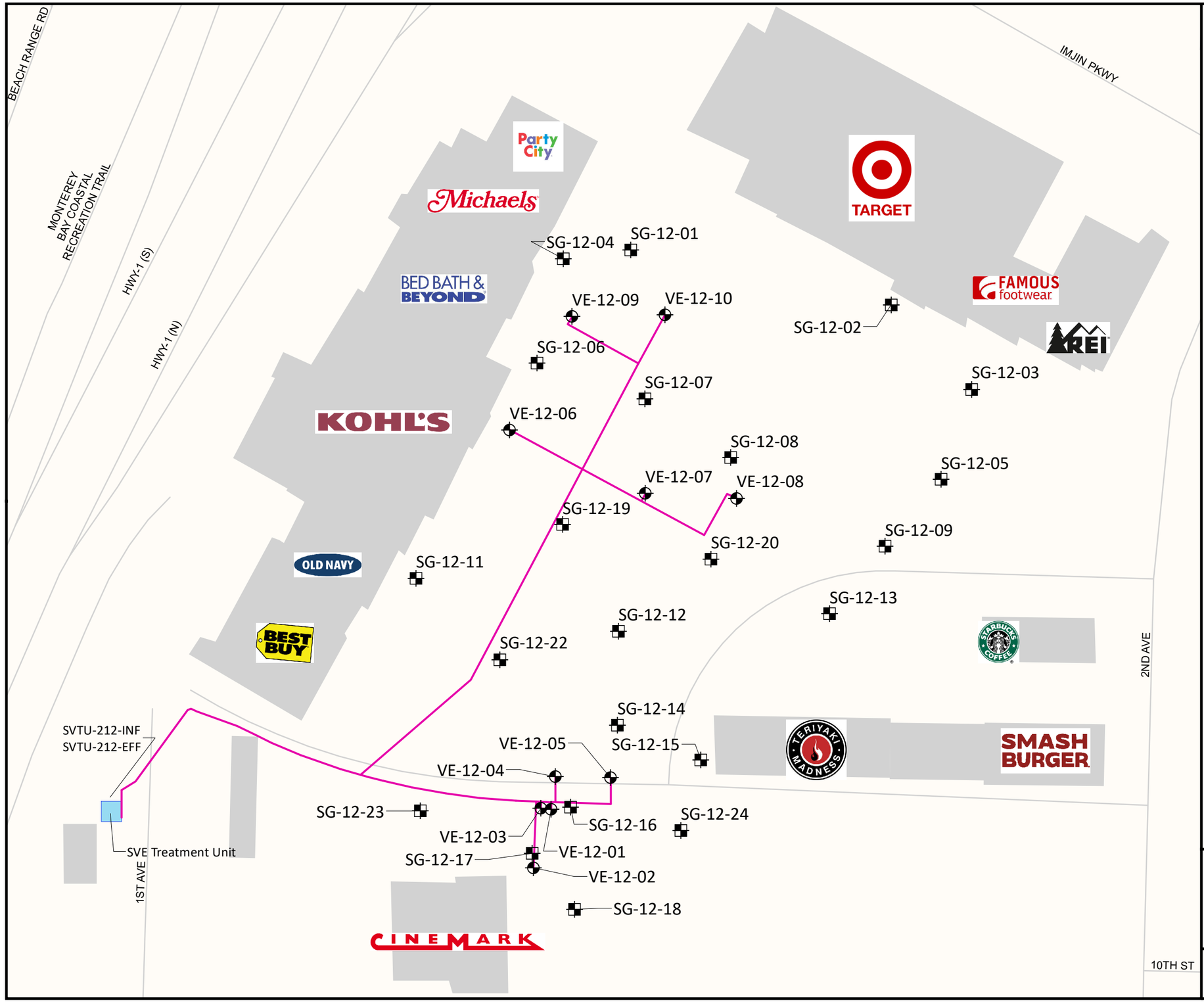
Ahtna

Groundwater Treatment Plant Schematic

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Figure:

2



EXPLANATION

- Site 12 Soil Gas Probe Cluster
- Site 12 Soil Vapor Extraction Well
- Soil Vapor Extraction Pipeline
- Facilities
- Roads
- SVE Treatment Unit

N

0 250 500 Feet

SITE VICINITY AND SOIL GAS PROBE AND SVE WELL LOCATIONS

Fourth Quarter 2018 through Third Quarter 2019
Sites 2 and 12, Groundwater and Soil Gas Monitoring
and Treatment System Report, Former Fort Ord, California

Ahtna | Date: 10/30/2019 | Figure: 3

AC-2330
AIR COOLER
HEAT EXCHANGER

DF-2104
DILUTION AIR FILTER
4 INCH

DS-2302
DISCHARGE SILENCER
8 INCH

DS-2321
DISCHARGE SILENCER
8 INCH

M/B-2320
BLOWER—POSITIVE DISPLACEMENT
W/SOUND ENCLOSURE
60 HP, 480V, 3Ø 1,100 CFM

M/P-2220
TRANSFER PUMP
2 HP, 120V, 1Ø
25 GPM @ 26 FT

M/P-2420
TRANSFER PUMP
⅛ HP, 120V, 1Ø
2 GPM @ 26 FT

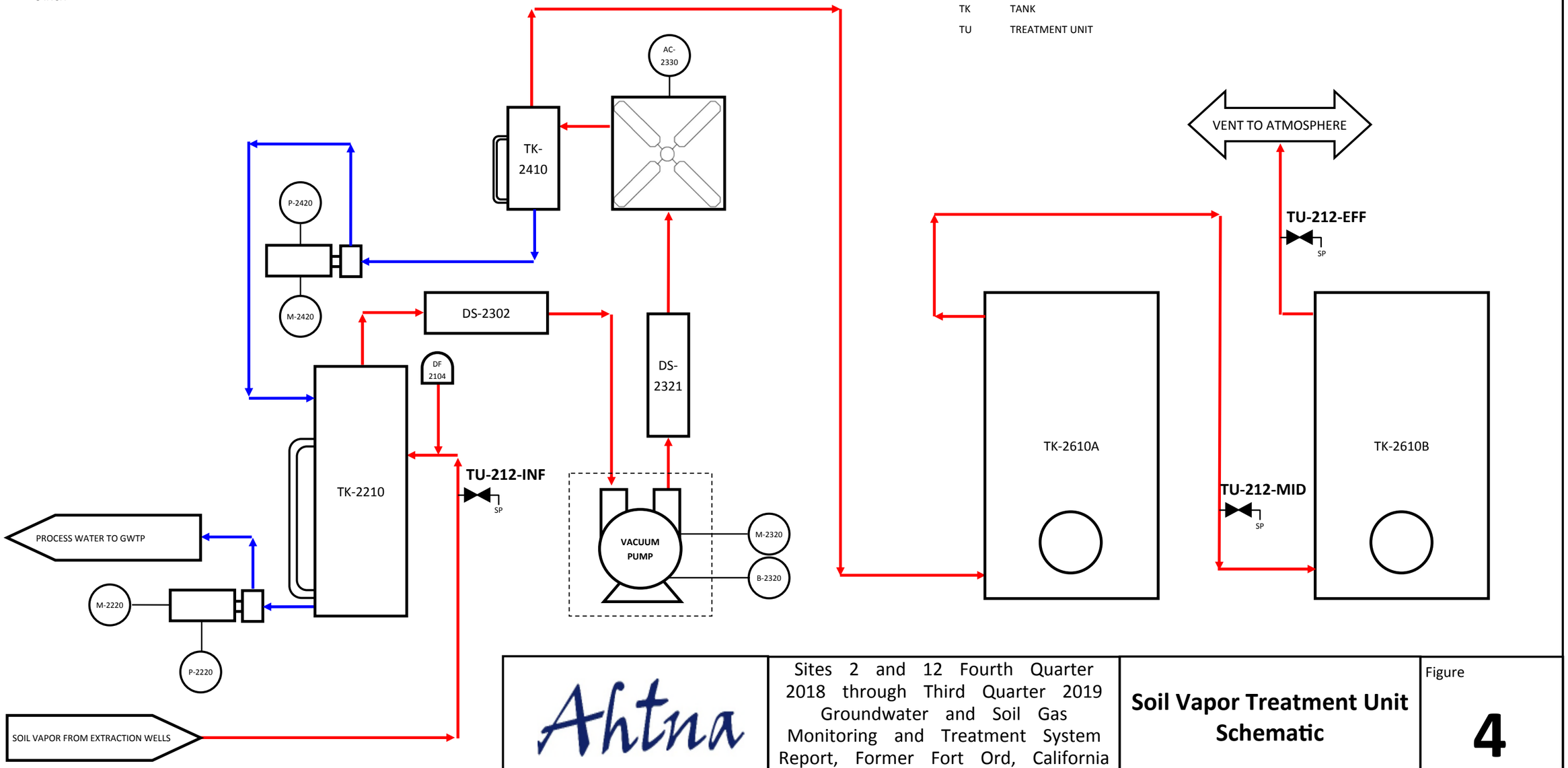
TK-2210
SEPERATOR—LIQUID
100 GAL

TK-2410
SEPERATOR—LIQUID
10 GAL

TK-2610A/B
VAPOR-PHASE CARBON VESSEL
3,000 LB GRANULAR ACTIVATED CARBON EACH

AC	AIR COOLER
B	BLOWER
DF	DILUTION AIR FILTER
DS	DISCHARGE SILENCER
EFF	EFFLUENT
GWTP	GROUNDWATER TREATMENT PLANT
INF	INFLUENT
M	MOTOR
MID	MID-POINT
P	PUMP
SP	SAMPLE PORT
TK	TANK
TU	TREATMENT UNIT

PROCESS AIR (SOIL VAPOR)
PROCESS WATER (CONDENSATE)
SAMPLE PORT



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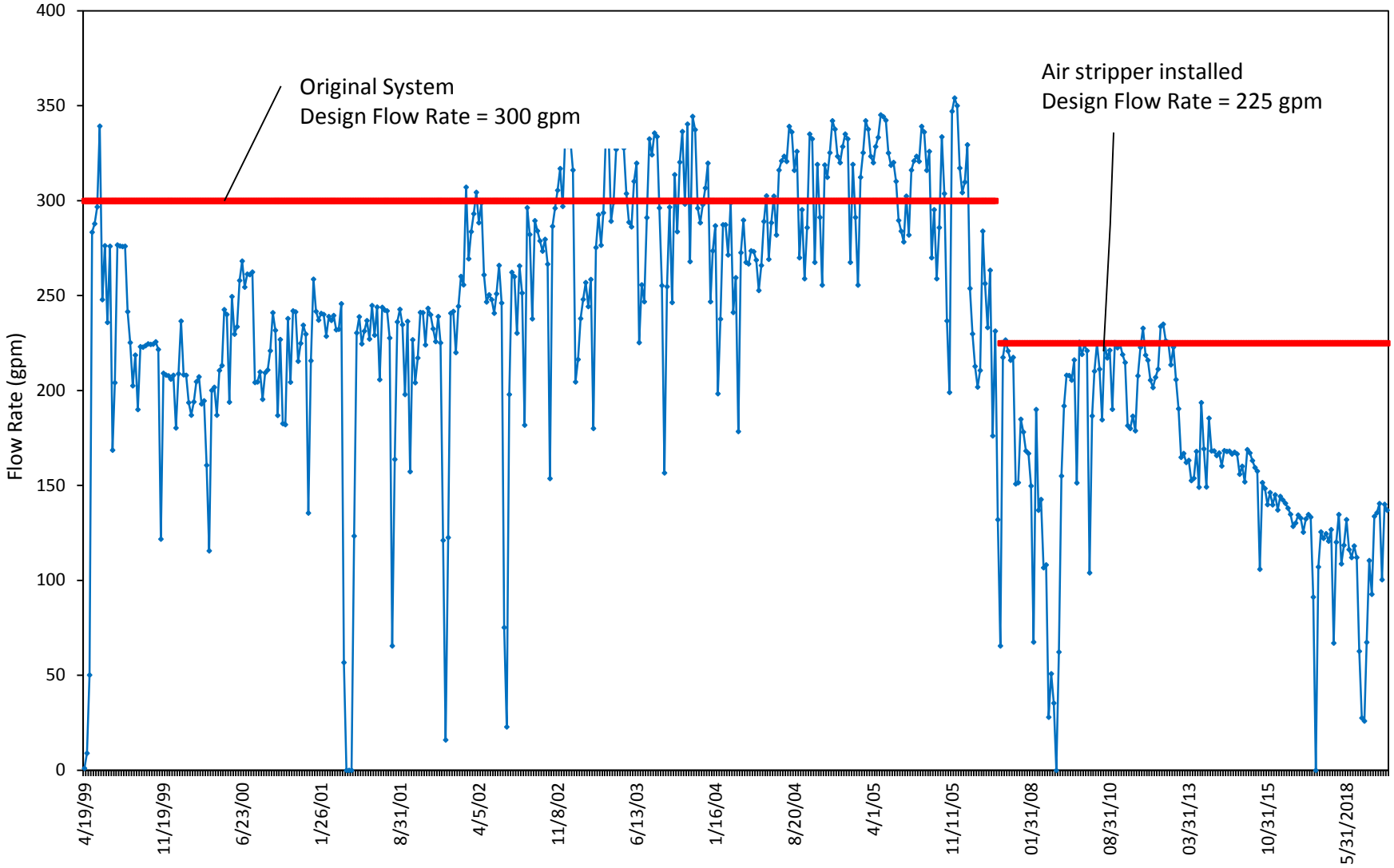
Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Soil Vapor Treatment Unit Schematic

Figure
4



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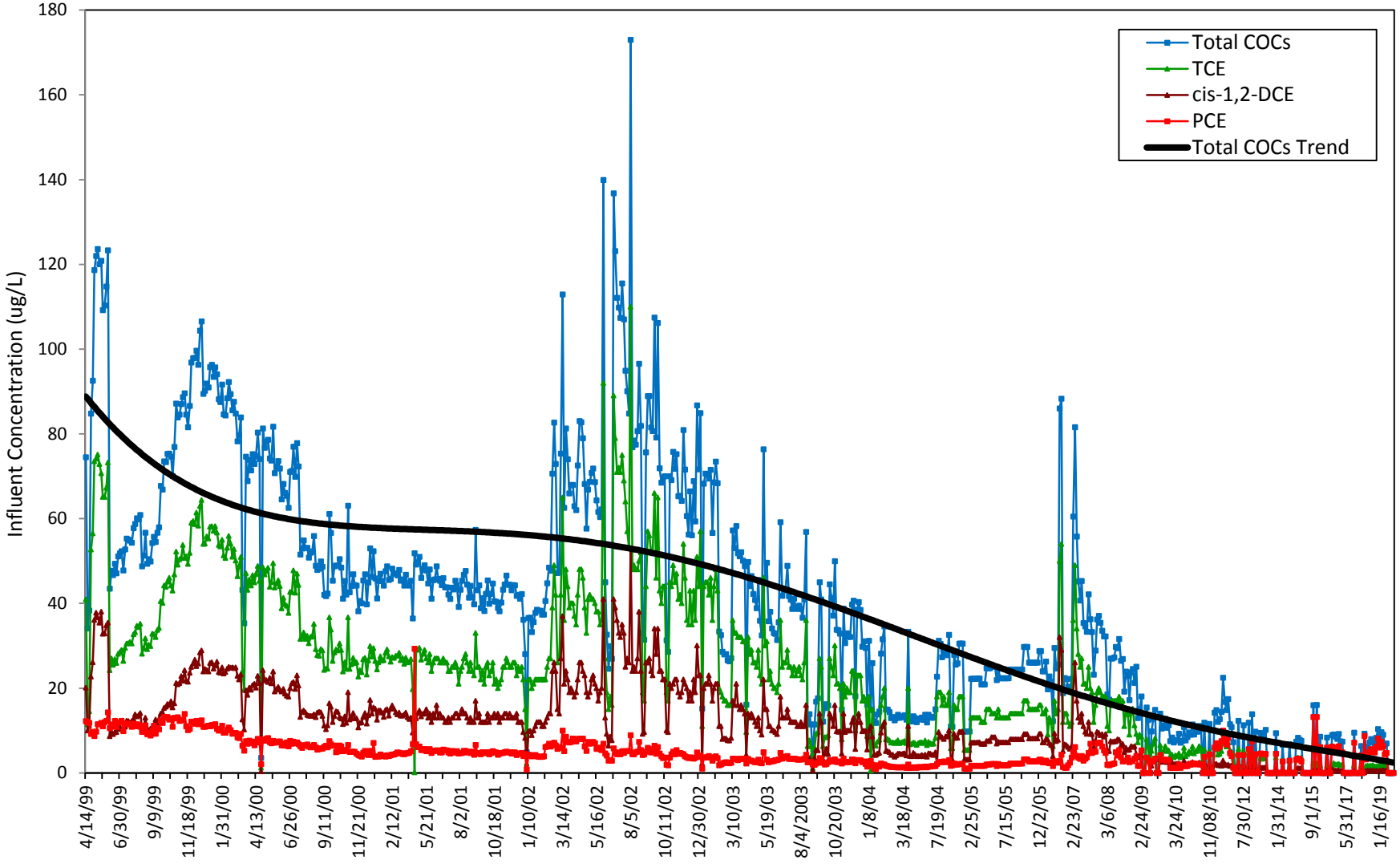
Groundwater Treatment System Total Flow Rate Compared with Design Flow Rate, April 1999 through September 2019

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Figure:

5



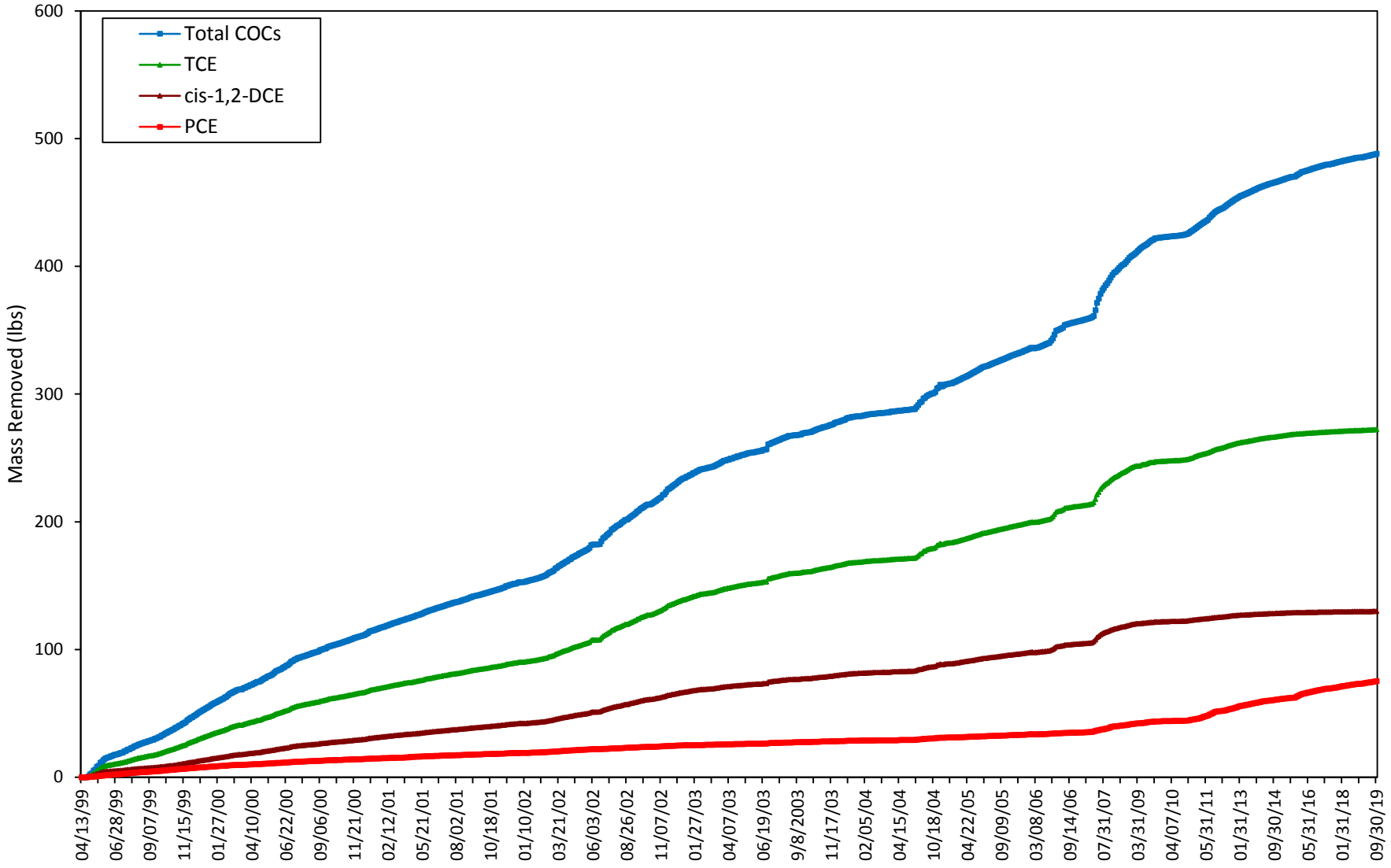
Ahtna

Groundwater Treatment Plant Influent COC Concentrations, April 1999 through September 2019

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Figure:

6



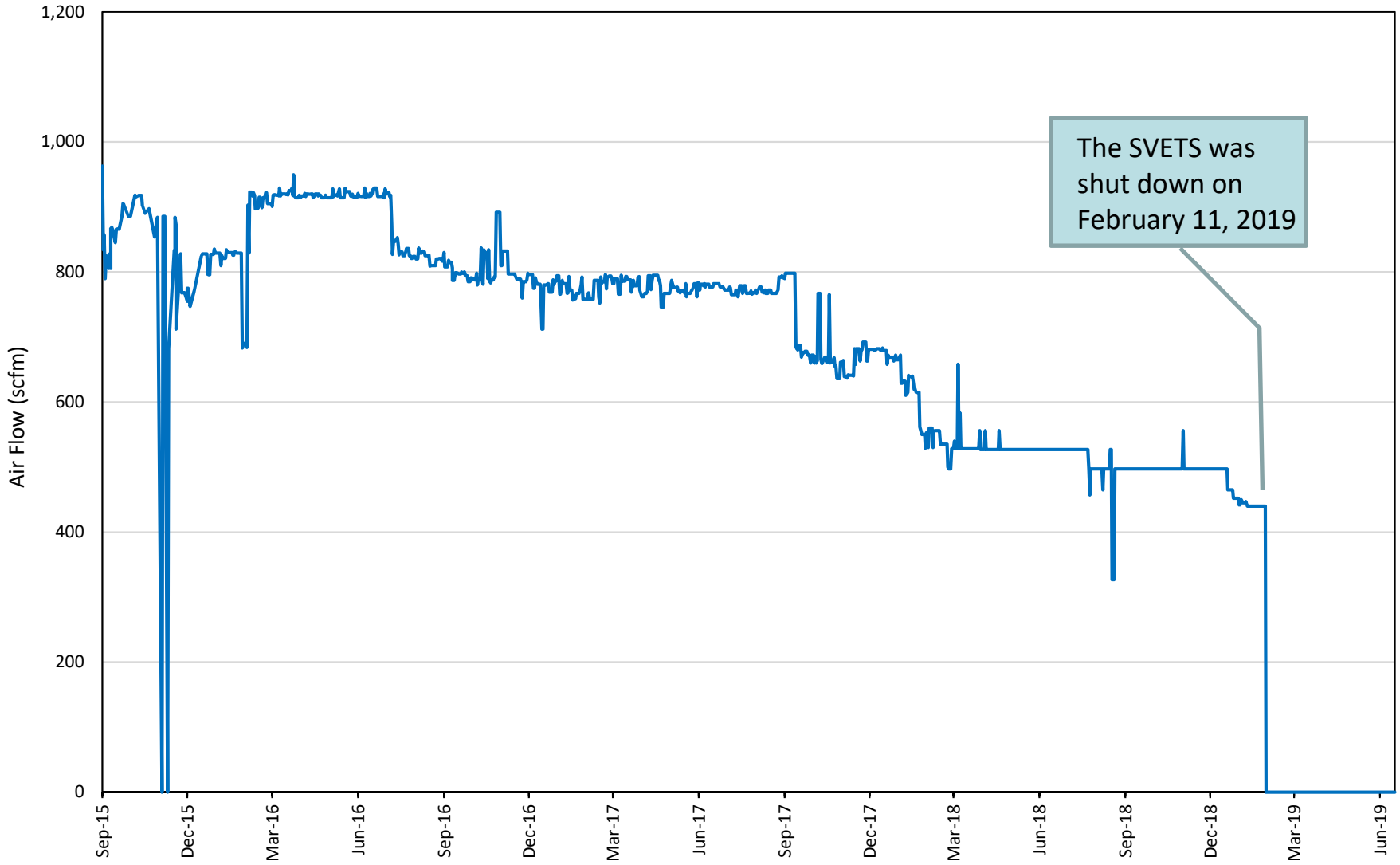
Ahtna

Cumulative Groundwater COC Mass Removed, April 1999 through September 2019

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Figure:

7



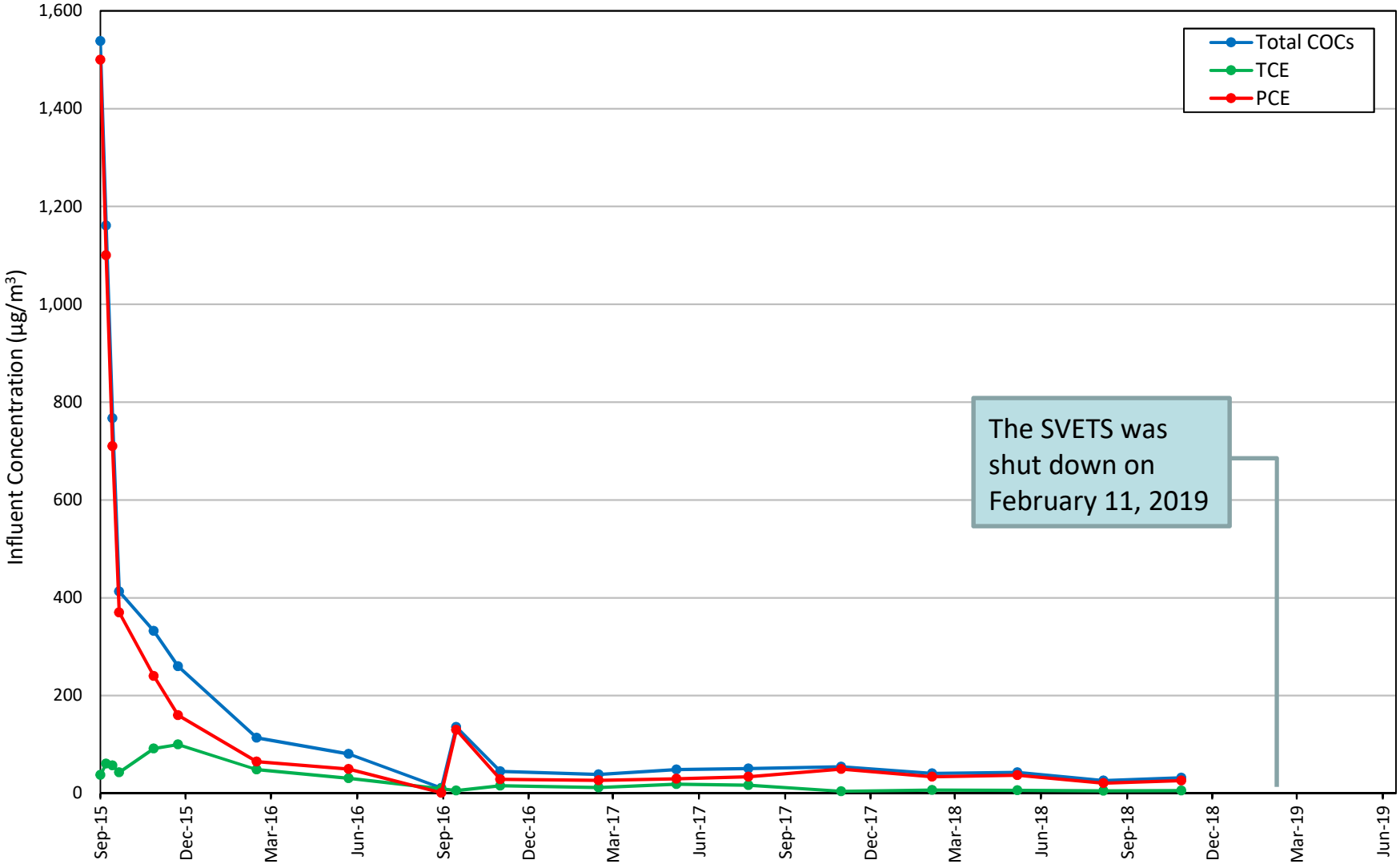
Ahtna

Soil Vapor Treatment Unit Total Flow Rate, September 2015 through September 2019

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Figure:

8



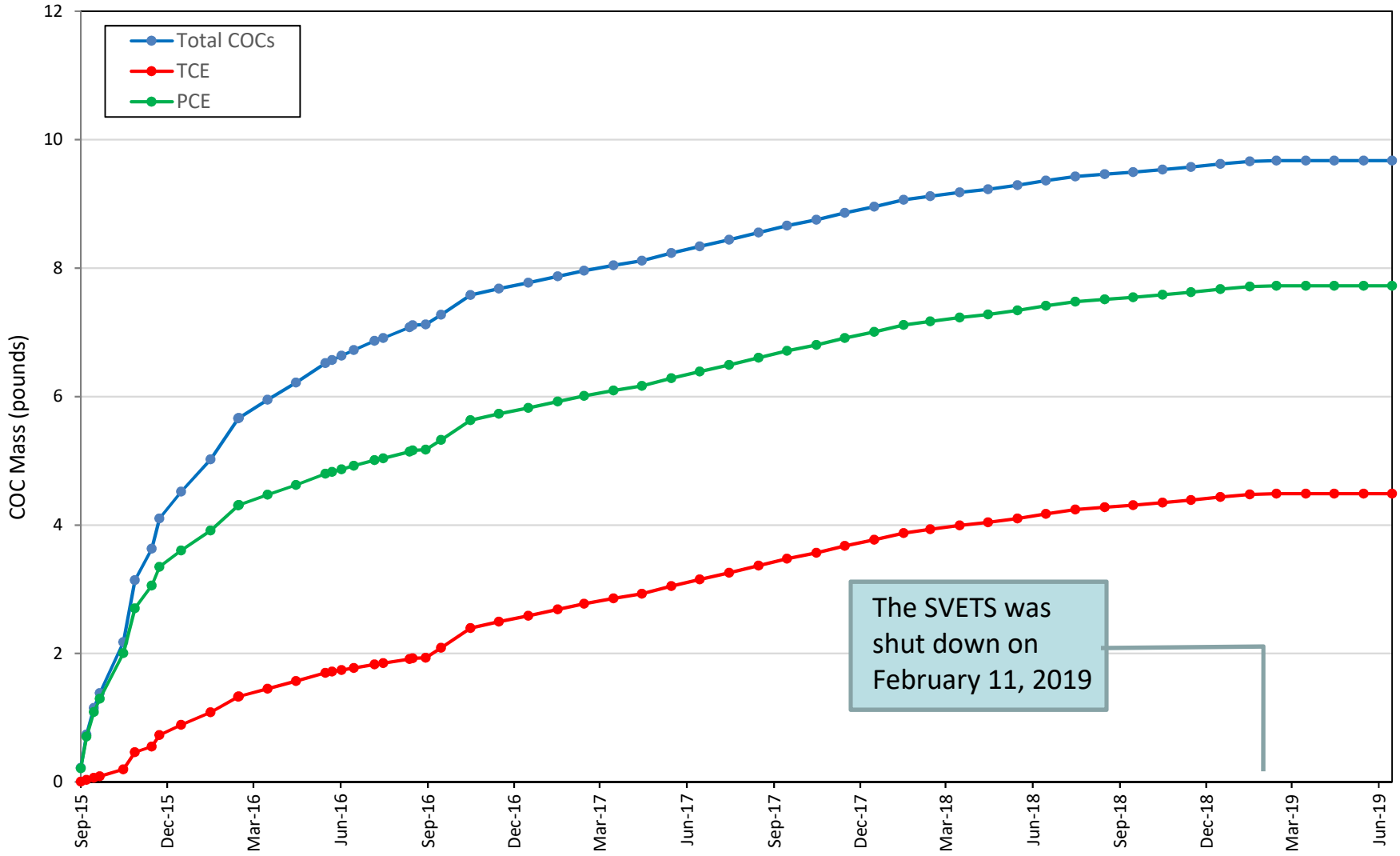
Ahtna

Soil Vapor Treatment Unit Influent COC Concentrations, September 2015 through September 2019

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Figure:

9



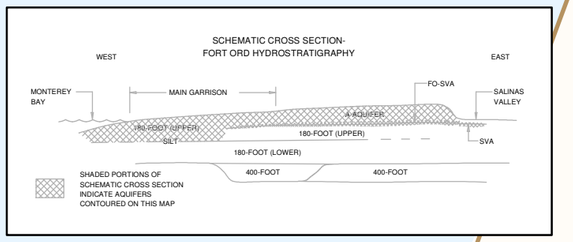
Ahtna

Cumulative Soil Gas COC Mass Removed, September 2015 through June 2019

Sites 2 and 12 Fourth Quarter through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Figure:

10



Monterey Bay

MW-OU2-32-A
4.99

INF-OU2-01-180
NM

MW-02-10-180
4.87

MW-12-09R-180
4.16

MW-12-19-180M
4.66

MW-12-19-180U
4.61

MW-12-24-180U
4.23

MW-12-18-180U
4.35

MW-12-20-180U
4.40

EW-12-08-180U
NM

MW-12-14-180M
4.31

MW-12-21-180U
4.52

EW-12-05-180M
-7.83

MW-12-25-180U
4.80

MW-12-22-180U
4.61

MW-12-23-180U
4.67

MW-02-05-180
4.77

EW-12-06-180M
NM

IW-02-01-180
NM

MW-12-15-180M
4.59

MW-12-28-180U
4.38

MW-12-26-180U
4.58

MW-12-27-180U
4.62

EW-12-07-180M*
-14.11

MW-12-17-180U
4.71

MW-12-01-180
4.42

MW-12-29-180U
4.45

IW-02-02-180
NM

EW-12-03-180U
5.01

MW-12-16-180M
4.59

MW-12-30-180U
4.50

EW-12-03-180M
4.69

MW-12-31-180M
4.67

INF-02-03-180
NM

MW-02-13-180M
4.71

MW-12-32-180U
4.59

EW-12-04-180U
4.13

MW-12-05-180
4.52

MW-12-08-180
4.70

MW-02-13-180U
4.89

EW-12-04-180M
4.15

INF-02-02-180
NM

MW-12-07-180
4.88

INF-02-01-180
NM

MW-02-06-180
4.65

INF-OU2-02-180
NM

EXPLANATION

- Monitoring Well
- Extraction Well
- Injection Well
- Infiltration Well
- MW-OU2-32-A 4.99 — Station ID and Water-level elevation (feet)
- NM — Water level not measured this quarter
- Water level not used for contouring
- Groundwater Elevation Contour (contour interval 2 feet)
- Approximate Location of a Groundwater Divide
- Approximate Edge of Fort Ord-Salinas Valley Aquitard
- Roads
- Facilities
- Former Fort Ord Boundary
- Location of Groundwater Depression

NOTES:

(1) Water levels were measured between December 10 and 18, 2018.

(2) Groundwater elevation contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Groundwater elevations are relative to NGVD 1929.

(4) Monitoring wells presented are a part of the basewide monitoring network.

N
W E
S

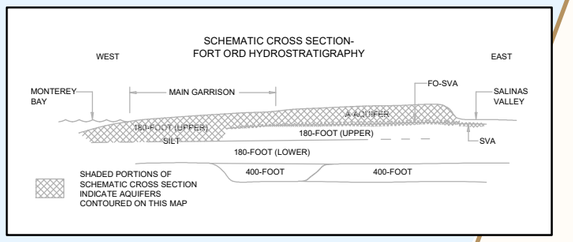
0 500 1,000 Feet

GROUNDWATER ELEVATIONS
UPPER 180-FOOT AQUIFER WEST OF THE SVA
Fourth Quarter 2018
Sites 2 and 12, Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report ,Former Fort Ord, California

wood.

By: TJH
Date: 02/15/2019
Project No. 8418191360
Figure 11

Friday, February 15, 2019 2:27:43 PM
P:\84181191360_FortOrd\GIS\4Q18\OUCTP_GMTSR\Figure11_WL_Sites-2-12_18Q4.mxd



Monterey Bay

2

4

6

MW-OU2-32-A
6.32

INF-OU2-01-180
NM

MW-02-10-180
5.58

MW-12-19-180M
5.87

MW-12-19-180U
5.84

EW-12-08-180U *
2.99

MW-12-09R-180
5.71

MW-12-18-180U
5.66

MW-12-20-180U
6.02

MW-12-14-180M
5.65

MW-12-21-180U
6.11

EW-12-05-180M
-7.52

MW-12-22-180U
6.17

MW-12-24-180U
5.80

MW-02-05-180
5.78

EW-12-06-180M
NM

MW-12-17-180U
5.83

MW-12-23-180U
6.12

MW-12-15-180M
6.00

MW-12-25-180U
6.08

MW-12-28-180U
5.91

MW-12-27-180U
6.13

EW-12-07-180M *
-13.56

MW-12-29-180U
6.08

MW-12-26-180U
6.16

IW-02-01-180
NM

EW-12-03-180M
6.21

MW-12-01-180
6.07

MW-12-16-180M
6.12

MW-12-30-180U
6.13

IW-02-02-180
NM

EW-12-03-180U
6.19

MW-12-31-180M
6.17

MW-12-05-180
5.92

MW-12-32-180U
6.21

INF-02-03-180
NM

MW-02-13-180M
5.72

MW-12-08-180
6.30

MW-02-13-180U
6.00

EW-12-04-180U
5.34

EW-12-04-180M
5.48

INF-02-02-180
NM

MW-12-07-180
6.42

INF-02-01-180
NM

MW-02-06-180
6.16

INF-OU2-02-180
NM

EXPLANATION

- Monitoring Well
- Extraction Well
- Injection Well
- Infiltration Well
- MW-12-22-180U 6.17 — Station ID and Water-level elevation (feet)
- NM — Water level not measured this quarter
- * — Water level not used for contouring
- 4 — Groundwater Elevation Contour (contour interval 2 feet)
- Approximate Location of a Groundwater Divide
- Approximate Edge of Fort Ord-Salinas Valley Aquitard
- Roads
- Facilities
- Former Fort Ord Boundary
- Location of Groundwater Depression

NOTES:

(1) Water levels were measured between March 4 and 8, 2019.

(2) Groundwater elevation contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Groundwater elevations are relative to NGVD 1929.

(4) Monitoring wells presented are a part of the basewide monitoring network.

N W E S

0 500 1,000 Feet

GROUNDWATER ELEVATIONS
UPPER 180-FOOT AQUIFER WEST OF THE SVA
First Quarter 2019
Sites 2 and 12, Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report ,Former Fort Ord, California

wood.

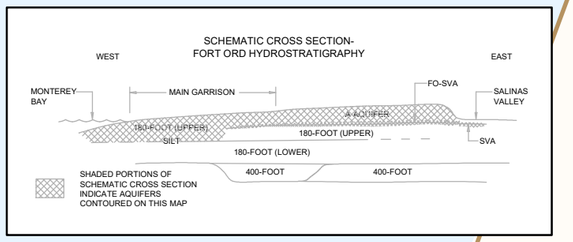
By: TJH

Date: 05/15/2019

Project No. 8418191360

Figure 12

Wednesday, May 15, 2019 2:30:38 PM
P:\8418191360_FortOrd\GIS\1Q19\Site212_GMR\Figure11_WL_Sites2-12_19Q1.mxd



Monterey Bay

2

4

6

MW-OU2-32-A
6.04

INF-OU2-01-180
NM

MW-02-10-180
4.76

MW-12-19-180U
5.22

MW-12-19-180M
5.01

MW-12-14-180M
4.78

EW-12-08-180U
4.92

MW-12-18-180U
4.81

MW-12-20-180U
5.21

MW-12-21-180U
5.52

EW-12-05-180M
-6.46

MW-12-22-180U
5.82

MW-12-17-180U
4.95

MW-12-23-180U
5.96

MW-12-25-180U
5.47

MW-02-05-180
4.89

EW-12-06-180M
NM

MW-12-09R-180
4.95

MW-12-26-180U
5.75

MW-12-27-180U
6.00

MW-12-15-180M
5.13

MW-12-24-180U
5.01

MW-12-28-180U
5.15

IW-02-01-180
NM

EW-12-07-180M*
-13.55

MW-12-29-180U
5.45

MW-12-01-180
5.57

EW-12-03-180M
5.26

MW-12-16-180M
5.23

IW-02-02-180
NM

EW-12-03-180U
5.37

MW-12-30-180U
5.59

MW-12-31-180M
5.57

MW-12-05-180
5.09

MW-02-13-180M
4.96

MW-12-32-180U
5.45

INF-02-03-180
NM

EW-12-04-180U
4.48

MW-12-08-180
5.85

MW-02-13-180U
5.15

EW-12-04-180M
4.60

INF-02-02-180
NM

MW-12-07-180
5.44

INF-02-01-180
NM

MW-02-06-180
5.29

INF-OU2-02-180
NM

EXPLANATION

- Monitoring Well
- Extraction Well
- Injection Well
- Infiltration Well
- MW-OU2-32-A 6.04 — Station ID and Water-level elevation (feet)
- NM — Water level not measured this quarter
- * — Water level not used for contouring
- 4 — Groundwater Elevation Contour (contour interval 2 feet)
- Approximate Location of a Groundwater Divide
- Approximate Edge of Fort Ord-Salinas Valley Aquitard
- Roads
- Facilities
- Former Fort Ord Boundary
- Location of Groundwater Depression

NOTES:

(1) Water levels were measured between June 3 and 6, 2019.

(2) Groundwater elevation contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Groundwater elevations are relative to NGVD 1929.

(4) Monitoring wells presented are a part of the basewide monitoring network.

N W E S

0 500 1,000 Feet

GROUNDWATER ELEVATIONS
UPPER 180-FOOT AQUIFER WEST OF THE SVA
Second Quarter 2019
Sites 2 and 12, Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report ,Former Fort Ord, California

wood.

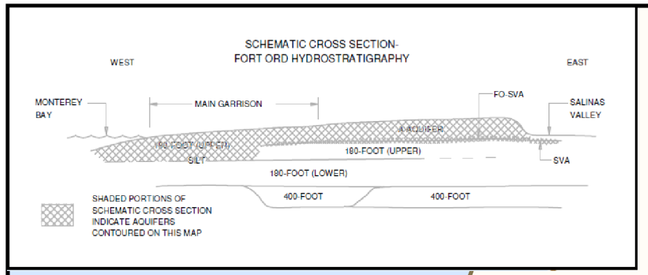
By: TJH

Date: 07/23/2019

Project No. 8418191360

Figure 13

Tuesday, July 23, 2019 11:24:58 AM
P:\8418191360_FortOrd\GIS\2Q19\Site212_GMR\Figure11_WL_Sites2-12_19Q2.mxd



Monterey Bay

2

4

6

MW-14-180M 3.86

MW-02-10-180 3.9

MW-18-180U 3.9

MW-12-24-180U 4.1

MW-12-09R-180 4.05

EW-12-05-180M" -10.43

MW-02-05-180 3.84

EW-12-07-180M* -15.09

IW-02-01-180 NM

EW-12-06-180M 3.78

MW-12-16-180M 4.23

EW-12-03-180M 4.29

IW-02-02-180 NM

MW-02-13-180M 4.33

INF-02-03-180 NM

MW-02-13-180U 4.11

EW-12-04-180U 3.54

INF-02-02-180 NM

EW-12-04-180M 3.63

MW-12-07-180 4.45

INF-02-01-180 NM

MW-02-06-180 4.3

EW-12-03-180U 4.33

EW-12-08-180U 3.33

MW-12-19-180M 4.26

MW-12-19-180U 4.2

MW-12-20-180U 4.14

MW-12-21-180U 4.61

MW-12-30-180U 4.7

MW-12-08-180 4.96

MW-12-31-180M 4.61

MW-12-32-180U 4.53

MW-12-15-180M 5.0

MW-12-05-180 4.01

MW-12-12-180L -0.3

INF-OU2-01-180 NM

IW-OU2-01-180 NM

MW-12-25-180U 4.37

MW-12-22-180U 4.84

MW-12-23-180U 5.18

MW-12-26-180U 4.93

MW-12-27-180U 5.28

MW-12-28-180U 4.28

MW-12-01-180" 6.19

MW-12-29-180U 4.58

MW-12-17-180U 4.0

IW-OU2-02-180 NM

INF-OU2-02-180 NM

EXPLANATION

- Monitoring Wells
- Fort Ord Extraction Wells
- Injection Wells
- Infiltration Well
- MW-12-19-180M 4.26 — Station ID and Water-level elevation (feet).
- nm — Water level not measured this quarter.
- * — Water level not used for contouring.
- Groundwater Elevation Contour (contour interval 2 feet)
- Approximate Location of a Groundwater Divide
- Approximate Edge of Fort Ord - Salinas Valley Aquitard
- Roads
- Facilities
- Former Fort Ord Boundary
- Location of a groundwater depression

NOTES:

(1) Water levels were measured between August 26, 2019 and September 17, 2019.

(2) Groundwater elevation contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Groundwater elevations are relative to NGVD 1929.

(4) Monitoring wells presented are a part of the basewide monitoring network.

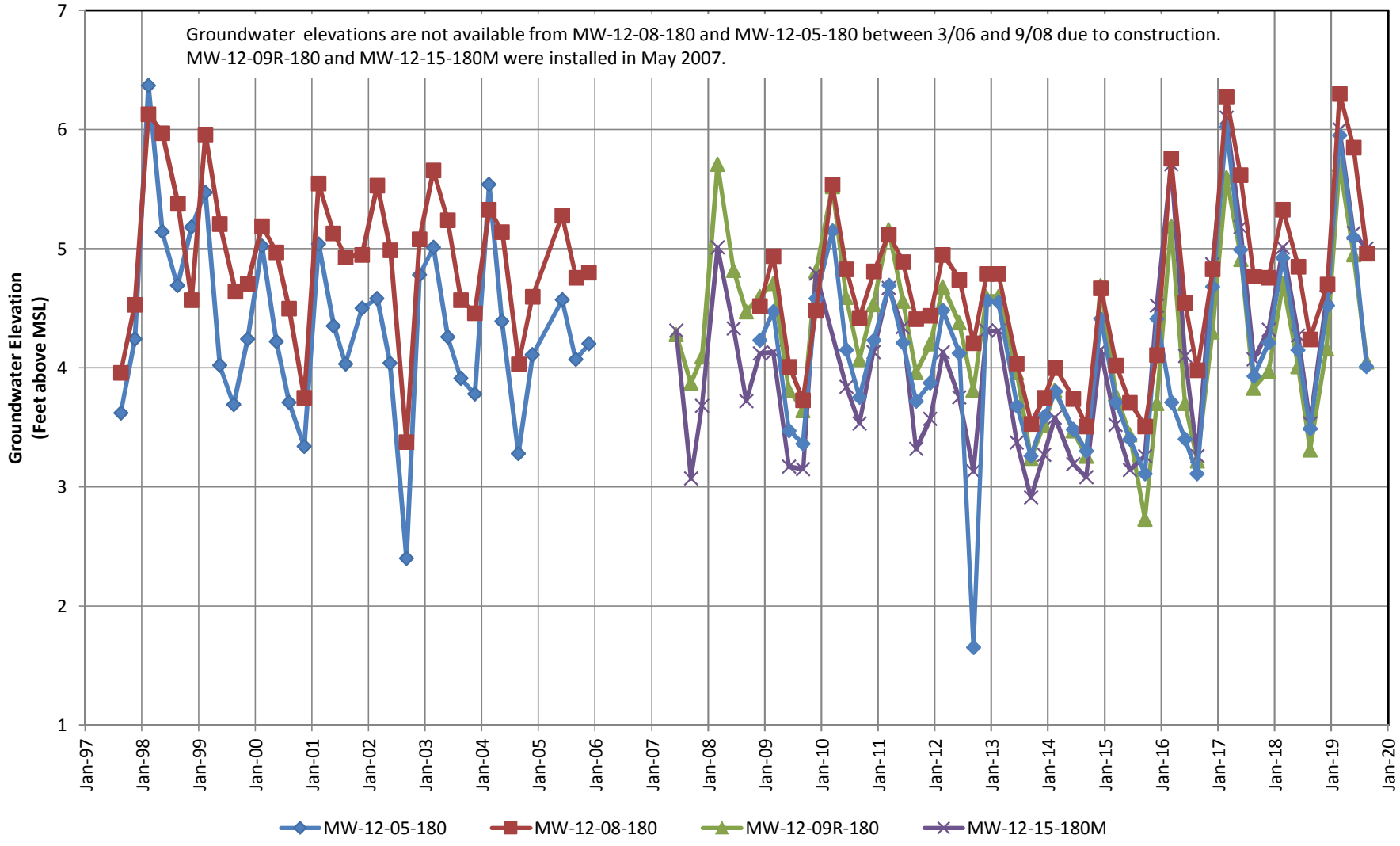
N

0 500 1,000 Feet

GROUNDWATER ELEVATIONS
UPPER 180-FOOT AQUIFER WEST OF THE SVA
THIRD QUARTER 2019

Fourth Quarter 2018 through Third Quarter 2019
Sites 2 and 12, Groundwater and Soil Gas Monitoring
and Treatment System Report, Former Fort Ord, California

Ahtna | Date: 10/31/2019 | Figure: 14



Hydrographs of Representative Upper 180-Foot Aquifer Wells
September 1997 to September 2019
Sites 2 and 12, Fourth Quarter 2018 through Third Quarter 2019
Groundwater and Soil Gas Monitoring, and Treatment System Report
Former Fort Ord, California

Figure

15

N
W E
S

0 500 1,000
Feet

Monterey Bay

EW-12-08-180U
PCE 18.2
TCE 0.58

MW-12-09R-180
PCE 0.32 /J
TCE 0.87

MW-12-14-180M
PCE 0.32 /J
TCE 1.7

MW-12-20-180U
PCE 20 J-
TCE 0.17 /J

EW-12-05-180M
PCE 0.81
TCE 2.1

MW-12-24-180U
PCE 2.0
TCE 0.12 /J

MW-12-15-180M
PCE 0.27 /J
TCE 1.4

MW-12-21-180U
PCE 0.55

MW-12-22-180U
PCE 0.45 /J

EW-12-07-180M
PCE 0.47 /J
TCE 2.0

MW-12-28-180U
PCE 0.39 /J

MW-12-26-180U
PCE 0.46 /J

MW-12-01-180
PCE 0.46 /J
TCE 0.15 /J

EW-12-03-180M
PCE 0.42 /J
TCE 1.8

MW-12-29-180U
PCE 0.43 /J

MW-02-13-180M
TCE 1.7

MW-12-16-180M
TCE 0.83

MW-12-30-180U
PCE 0.65
TCE 0.20 /J

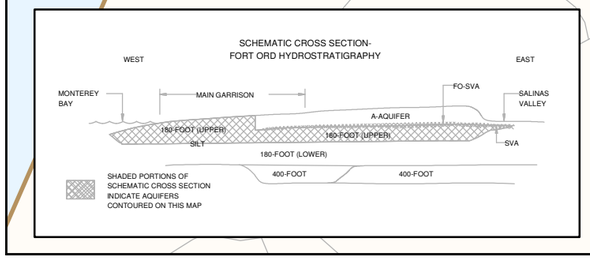
MW-12-32-180U
PCE 0.54
TCE 0.58

5

IMJIN PKWY

IMJIN PKWY

SCHEMATIC CROSS SECTION-
FORT ORD HYDROSTRATIGRAPHY



EXPLANATION

- Monitoring Well with TCE Detection, and No ACL Exceedances by Other COCs
- Monitoring Well with PCE Detection and No Exceedances by other COCs
- Monitoring Well with TCE and PCE Detection
- Extraction Well with TCE and PCE Detection
- Monitoring Well with COC ACL exceedance (not TCE or PCE)
- Well ID - Bold When ACL Exceeded (* Indicates: Sample result not used for contouring)
  MW-12-01-180
  PCE 0.46 A/J
  TCE 0.15 A/J
  TCE and/or PCE concentration (µg/L) with validation/lab qualifier. Bold when exceeds the ACL.
- Monitoring Well - TCE or PCE not detected and no other COC ACL exceedances
- Monitoring Well not sampled this quarter
- Extraction Well not sampled this quarter

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L

- 5 — Tetrachloroethene (PCE)
- General Groundwater Flow Direction
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

(1) Samples were collected between December 11 and 19, 2018.

(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Contours based on highest value obtained from multiple bags where applicable.

(4) Other COC ACL exceedances detected beyond the extent of the PCE plume are illustrated when present.

GROUNDWATER PCE/TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES - UPPER 180-FOOT AQUIFER

Fourth QUARTER 2018

Sites 2 and 12, Fourth Quarter 2018 - Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

wood.

By: TJH	Project No. 8418191360
Date: 02/06/2019	Figure 16

Wednesday, February 06, 2019 11:58:37 AM thomas.hunt
P:\8418191360_FortOrd\GIS\4Q18\Site212_GMR\Figure12_TCE-PCE-COC_Site2-12_18Q4.mxd

N
W E
S

0 500 1,000
Feet

Monterey Bay

IMJIN PKWY

EW-12-08-180U
PCE 15.7
TCE 0.59

MW-12-09R-180
PCE 0.44 /J
TCE 2.6

MW-12-14-180M
PCE 0.30 /J
TCE 1.5

MW-12-20-180U
PCE 5.3
TCE 0.11 /J

EW-12-05-180M
PCE 0.84
TCE 2.1

MW-12-21-180U
PCE 0.14 J+/J

MW-12-24-180U
PCE 1.8

MW-12-15-180M
PCE 0.57
TCE 2.3

MW-12-22-180U
PCE 0.57

EW-12-07-180M
PCE 0.59
TCE 2.2 J-

MW-12-01-180
PCE 0.57

MW-12-29-180U
PCE 0.52

EW-12-03-180M
PCE 0.11 /J
TCE 0.86

MW-12-30-180U
PCE 0.48 /J

MW-02-13-180M
TCE 2.0 J+

MW-12-16-180M
PCE 0.15 /J
TCE 2.0

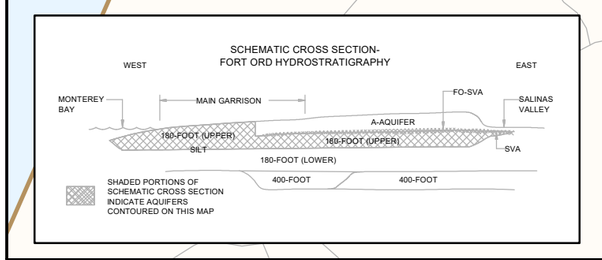
MW-12-28-180U
PCE 0.40 /J

MW-12-32-180U
PCE 0.32 /J
TCE 0.11 J+/J

5

IMJIN PKWY

SCHEMATIC CROSS SECTION-
FORT ORD HYDROSTRATIGRAPHY



EXPLANATION

- Monitoring Well with TCE Detection, and No ACL Exceedances by Other COCs
- Monitoring Well with PCE Detection and No Exceedances by other COCs
- Monitoring Well with TCE and PCE Detection
- Extraction Well with TCE and PCE Detection
- MW-12-16-180M / PCE 0.15 /J / TCE 2.0 } Well ID - Bold When ACL Exceeded (* Indicates: Sample result not used for contouring); TCE and/or PCE concentration (µg/L) with validation/lab qualifier. Bold when exceeds the ACL.
- Monitoring Well - TCE or PCE not detected and no other COC ACL exceedances
- Monitoring Well not sampled this quarter
- Extraction Well not sampled this quarter

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L

- 5 — Tetrachloroethene (PCE)
- General Groundwater Flow Direction
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

(1) Samples were collected between March 3 and March 8, 2019.

(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Contours based on highest value obtained from multiple bags where applicable.

(4) Other COC ACL exceedances detected beyond the extent of the PCE plume are illustrated when present.

GROUNDWATER PCE/TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES - UPPER 180-FOOT AQUIFER FIRST QUARTER 2019

Sites 2 and 12, Fourth Quarter 2018-Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

wood.

By: TJH

Date: 04/23/2019

Project No. 8418191360

Figure 17

Tuesday, April 23, 2019 3:04:19 PM thomas.hunt
P:\8418191360_FortOrd\GIS\1Q19\Site212_GMR\Figure12_TCE-PCE-COCSite2-12_19Q1.mxd

N
W E
S

0 500 1,000
Feet

Monterey Bay

IMJIN PKWY

IMJIN PKWY

EW-12-08-180U
PCE 12.5
TCE 0.47 /J

MW-12-14-180M
PCE 0.43 /J
TCE 2.4

MW-12-20-180U
PCE 3.1

MW-12-21-180U
PCE 0.12 /J

EW-12-05-180M
PCE 0.76
TCE 2.4

5

MW-12-22-180U
PCE 0.52

MW-12-09R-180
PCE 0.42 /J
TCE 2.2

MW-12-24-180U
PCE 0.66

MW-12-15-180M
PCE 0.30 /J
TCE 1.6

MW-12-28-180U
PCE 0.54

MW-12-01-180
PCE 0.46 /J
TCE 0.22 /J

EW-12-07-180M
PCE 0.41 /J
TCE 1.7

MW-12-16-180M
TCE 1.4

MW-12-29-180U
PCE 0.49 /J

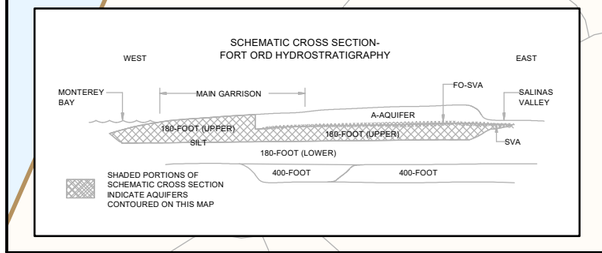
MW-02-13-180M
TCE 1.8

EW-12-03-180M
PCE 0.27 /J
TCE 2.0

MW-12-30-180U
PCE 0.26 /J

MW-12-32-180U
PCE 0.39 /J
TCE 0.28 /J

SCHEMATIC CROSS SECTION-
FORT ORD HYDROSTRATIGRAPHY



EXPLANATION

- Monitoring Well with TCE Detection, and No ACL Exceedances by Other COCs
- Monitoring Well with PCE Detection and No Exceedances by other COCs
- Monitoring Well with TCE and PCE Detection
- Extraction Well with TCE and PCE Detection
- Well ID - Bold When ACL Exceeded (* Indicates: Sample result not used for contouring)
  MW-12-01-180
  PCE 0.46 /J
  TCE 0.22 /J
  } TCE and/or PCE concentration (µg/L) with validation/lab qualifier. Bold when exceeds the ACL.
- Monitoring Well not sampled this quarter
- Extraction Well not sampled this quarter

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L

- 5 — Tetrachloroethene (PCE)
- General Groundwater Flow Direction
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

(1) Samples were collected between June 3, and June 6, 2019.

(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Contours based on highest value obtained from multiple bags where applicable.

(4) Other COC ACL exceedances detected beyond the extent of the PCE plume are illustrated when present.

GROUNDWATER PCE/TCE CONCENTRATIONS AND OTHER COC ACL EXCEEDANCES - UPPER 180-FOOT AQUIFER SECOND QUARTER 2019

Sites 2 and 12, Fourth Quarter 2018-Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

wood.

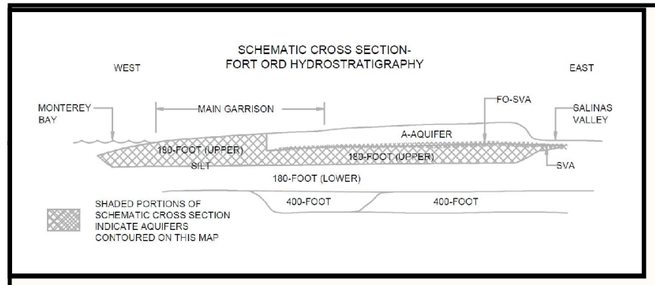
By: TJH

Date: 07/22/2019

Project No. 8418191360

Figure **18**

Monday, July 22, 2019 12:04:06 PM thomas.hunt
P:\8418191360_FortOrd\GIS\2Q19\Site212_GMR\Figure12_TCE-PCE-COCSite2-12_19Q2.mxd



EXPLANATION

- Monitoring Well with PCE Detection.
- Monitoring Well with No PCE Detection.
- Monitoring Well Not sampled.
- Extraction Well with PCE Detection above or equal to ACL.
- Extraction Well with PCE Less than ACL.
- Groundwater Extraction Wells No PCE Detected.
- Extraction Well Not Sampled

MW-12-24-180U
PCE 1.8

Well ID - Bold when ACL Exceeded
TCE and/or PCE concentration (µg/L)
with validation/lab qualifier.

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L.

- 5 — Tetrachloroethene (PCE)
- General Groundwater Flow Direction
- Roads
- Facilities

NOTES:

(1) Samples were collected between August 26, 2019 and September 17, 2019.
(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
(3) Contours based on highest value obtained from multiple bags where applicable.
(4) Other COC ACL Exceedances detected beyond the extent of the

N

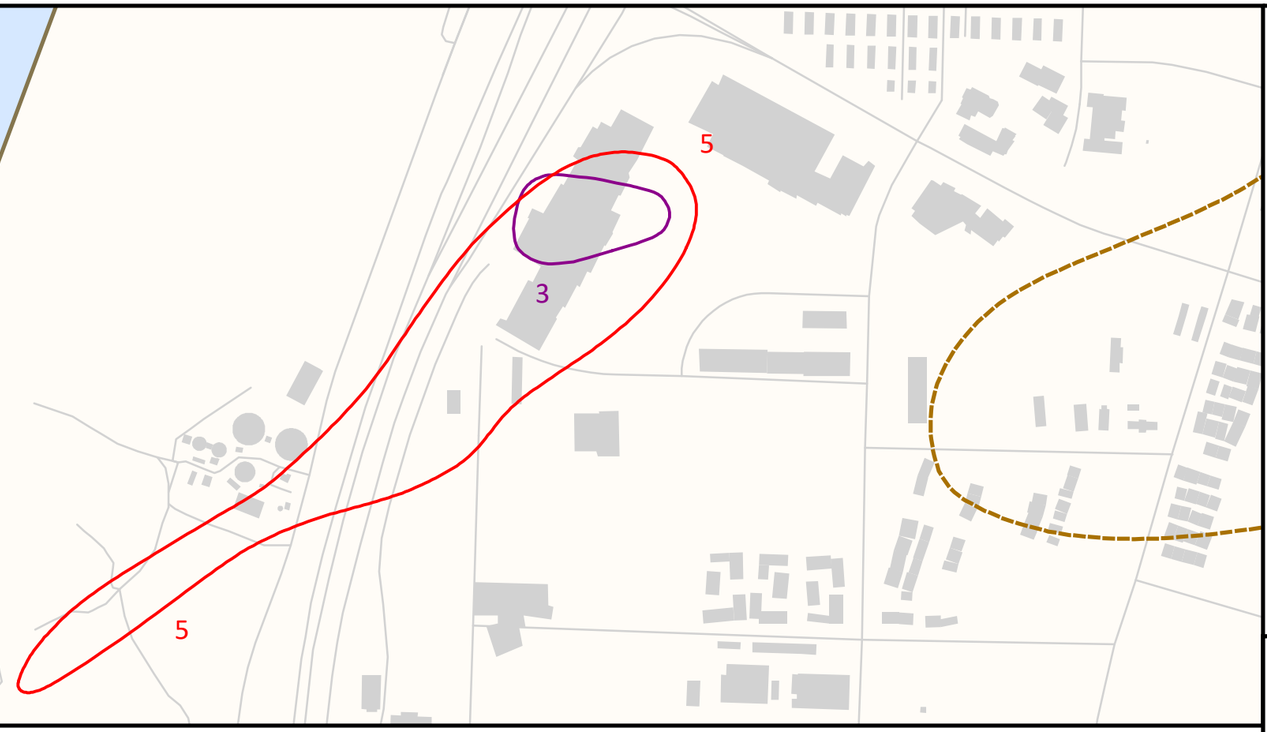
0 250 500 Feet

GROUNDWATER PCE CONTRATIONS
UPPER 180-FOOT AQUIFER
THIRD QUARTER 2019
Fourth Quarter 2018 through Third Quarter 2019
Sites 2 and 12, Groundwater and Soil Gas Monitoring
and Treatment System Report, Former Fort Ord, California

Ahtna | Date: 10/30/2019 | Figure: 19

Historical:
TCE: December 2000
PCE: March 2011

0 500 1,000 Feet



EXPLANATION

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L.

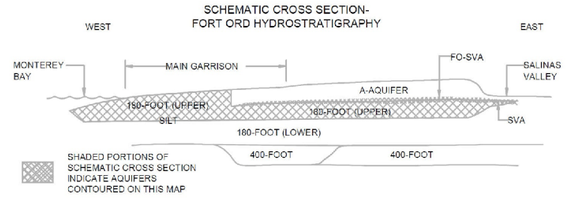
5 — Tetrachloroethene (PCE)

5 — Trichloroethene (TCE)

Former Fort Ord Boundary

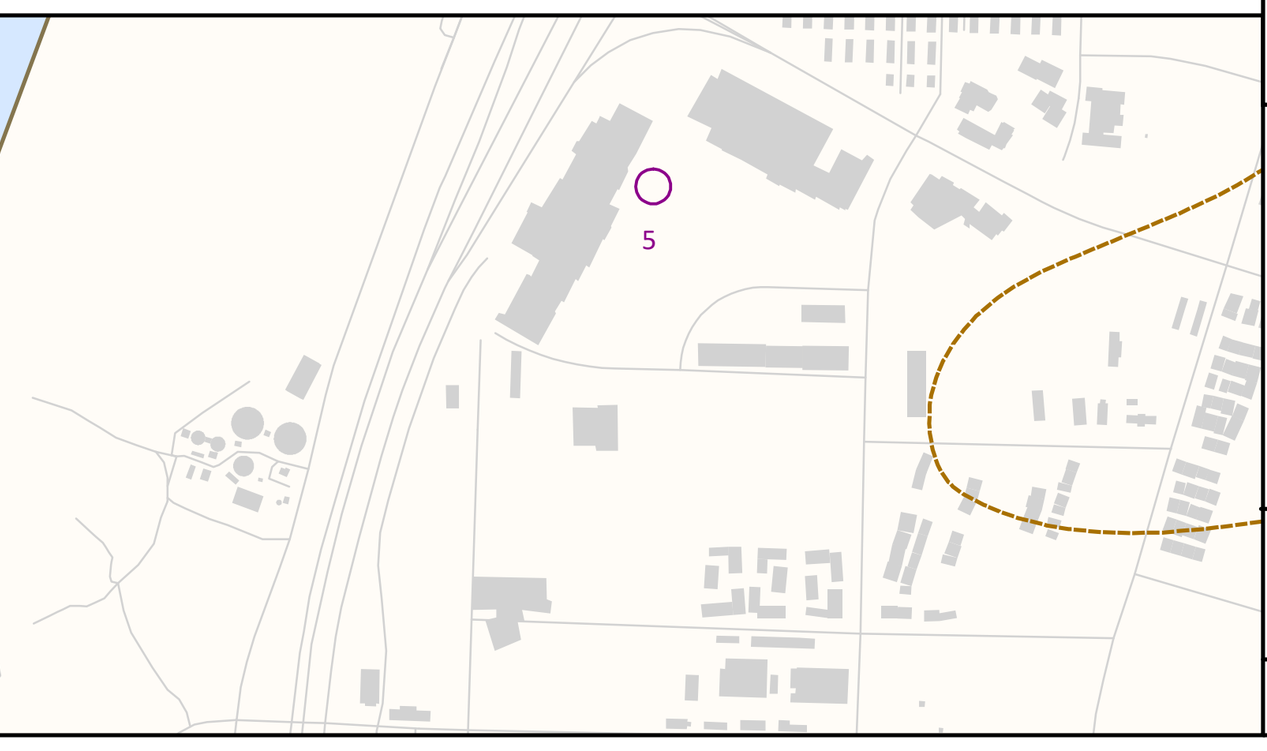
Roads

Facilities



Current:
PCE: September 2019

0 500 1,000 Feet



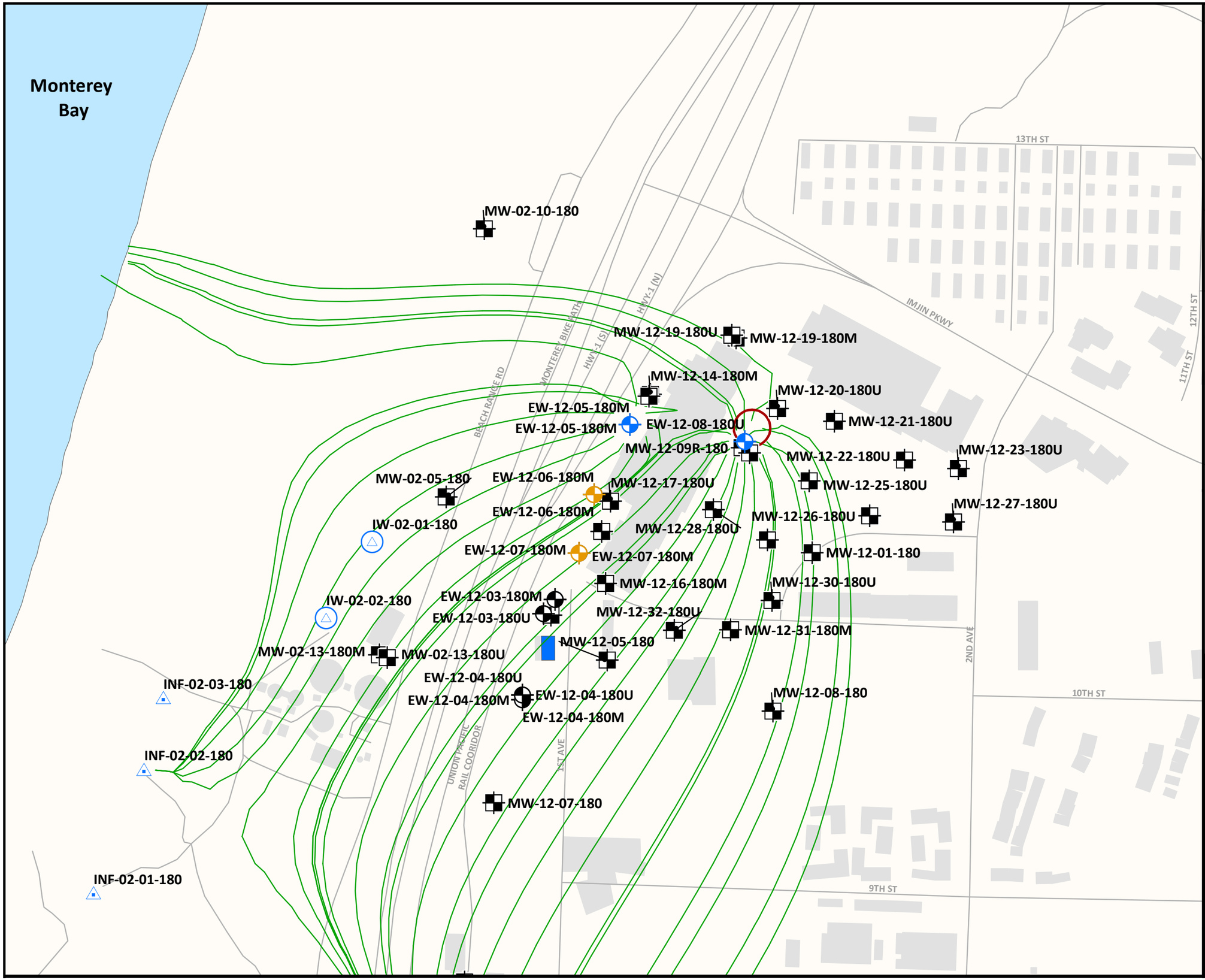
NOTES:

(1) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
(2) ACL for PCE was revised from 3.0 µg/L to 5.0 µg/L as per the Explanation of Significant Differences No 1, Basewide Remedial Investigation, Sites 2 and 12, Former Fort Ord, California.

CURRENT AND HISTORICAL PCE/TCE ACL EXCEEDANCE CONTOURS
UPPER 180-FOOT AQUIFER, DECEMBER 2000 AND SEPTEMBER 2019

Fourth Quarter 2018 through Third Quarter 2019
Sites 2 and 12, Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Ahtna | Date: 11/18/2019 | Figure: 20



Legend

- Roads
- PCE (5 ug/L) 2019-3Q
- Simulated Groundwater Capture
- Sites 2/12 GWTP
- Buildings

Sites 2/12 Well Type

- Extraction Well
- Monitoring Well

Injection Structures

- Infiltration Gallery
- Injection Well

Sites 2/12 Extraction Well Status

- Operated
- Not Operated-Low COCs
- Not Operated-No Pump

N

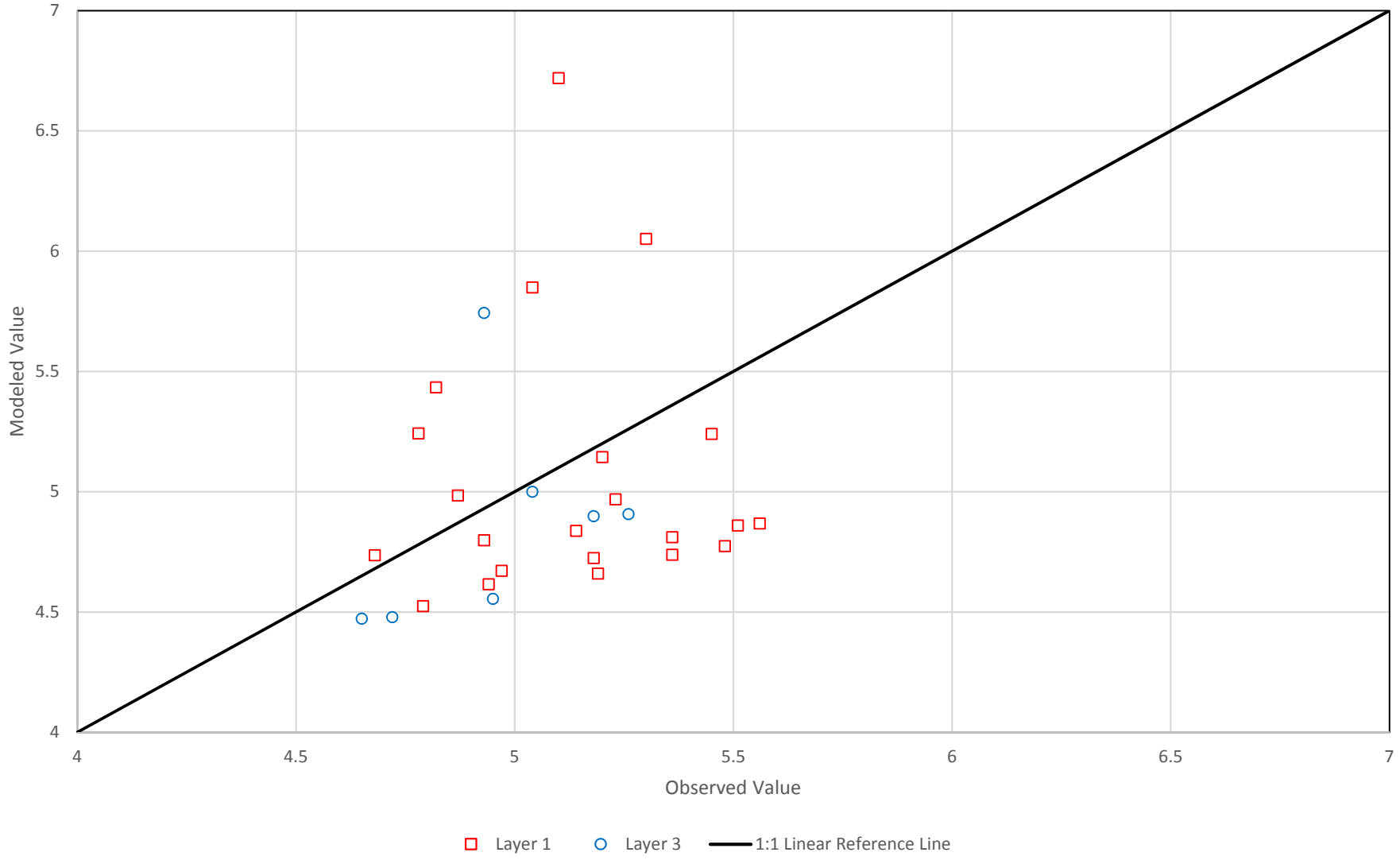
0 200 400 800 Feet

Simulated Groundwater Capture Areas Upper 180-Foot Aquifer West of the FO-SVA, September 2019

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report Former Fort Ord, California

Ahtna

Figure: **21**



Ahtna

Computed vs. Observed Groundwater Elevation Values

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater
And Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Figure:

22

Legend

Soil Gas Probe Cluster

Soil Vapor Extraction Well

Soil Gas Results Description

Not sampled

PCE & TCE at or below SG-SLs

PCE above SG-SL and at or below SGCL

PCE above SGCL

TCE above SGCL

Label Description:

SG-12-11-10	Sample location identification
PCE: 250	PCE and/or TCE concentration (µg/m^3)
TCE: <43 U	with qualifier

Notes:

(1) Samples were collected between Nov 13 and 14, 2018.

(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Contours based on highest value obtained from duplicate and primary samples.

(4) <## results are not detected at or above the limit of detection.

0 62.5 125 250 Feet

N

Soil Gas PCE/TCE Concentrations and SGCL Exceedances, Fourth Quarter 2018

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report Former Fort Ord, California

Ahtna

Figure

23

Legend

- Soil Gas Probe Cluster
- Soil Vapor Extraction Well

Soil Gas Results Description

- Not sampled
- PCE & TCE at or below SG-SLs
- PCE above SG-SL and at or below SGCL
- PCE above SGCL
- TCE above SGCL

Label Description:

SG-12-11-10	Sample location identification
PCE: 250	PCE and/or TCE concentration ($\mu g/m^3$)
TCE: <43 U	with qualifier

Notes:

(1) Samples were collected between February 25-27, 2019.

(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Contours based on highest value obtained from duplicate and primary samples.

(4) <## results are not detected at or above the limit of detection.

N

0 62.5 125 250 Feet

Soil Gas PCE/TCE Concentrations and SGCL Exceedances, First Quarter 2019

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report Former Fort Ord, California

Ahtna

Figure

24

Legend

- Soil Gas Probe Cluster
- Soil Vapor Extraction Well

Soil Gas Results Description

- Not sampled
- PCE & TCE at or below SG-SLs
- PCE above SG-SL and at or below SGCL
- PCE above SGCL
- TCE above SGCL

Label Description:

SG-12-11-10	Sample location identification
PCE: 250	PCE and/or TCE concentration ($\mu g/m^3$)
TCE: <43 U	with qualifier

Notes:

(1) Samples were collected between May 20 and 22, 2019.

(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.

(3) Contours based on highest value obtained from duplicate and primary samples.

(4) <## results are not detected at or above the limit of detection.

N

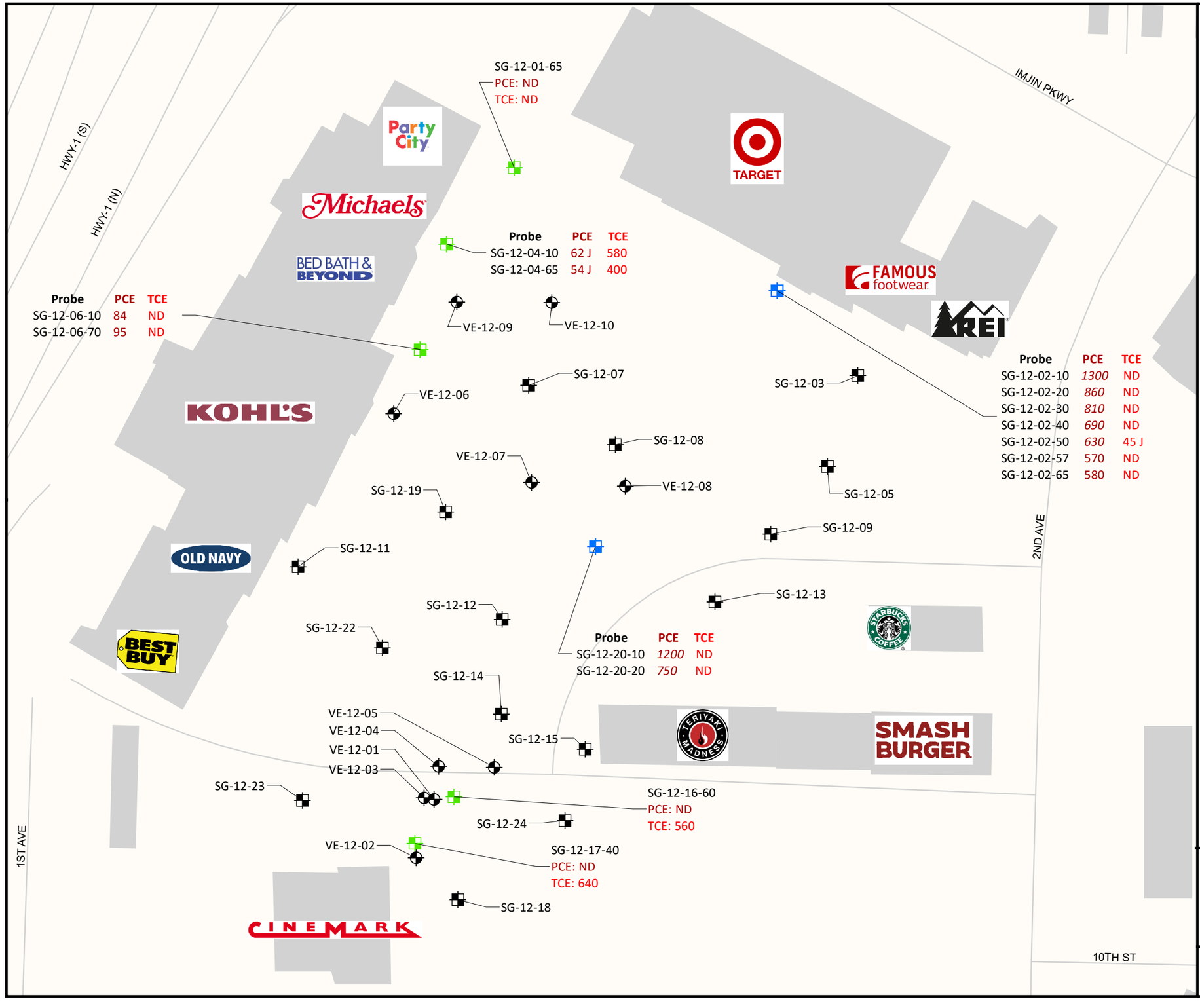
0 62.5 125 250 Feet

Soil Gas PCE/TCE Concentrations and SGCL Exceedances, Second Quarter 2019

Sites 2 and 12 Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report Former Fort Ord, California

Ahtna

Figure 25



EXPLANATION

- Site 12 Soil Gas Probe Cluster Not Sampled
- Site 12 Soil Vapor Extraction Well Not Sampled
- Site 12 Soil Gas Probe: PCE & TCE at or below SG-SLs
- Site 12 Soil Gas Probe: PCE above SG-SL and at or below SGCL
- Roads
- Facilities

Label Description:

SG-12-02-50
PCE: *630*
TCE: 45 J

Well ID - Sample Location and Probe Depth
TCE and PCE concentration (µg/L) with validation/lab qualifier.
Italics when exceeds the SG-SL
Bold when exceeds the SG-CL.

ND — Chemical of Concern is non-detect.

NOTES:

(1) Samples were collected between August 19, 2019 and August 21, 2019.

N

0 250 500 Feet

SOIL GAS PCE/TCE CONCENTRATIONS AND SGCL EXCEEDANCES, THIRD QUARTER 2019
Fourth Quarter 2018 through Third Quarter 2019
Sites 2 and 12, Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Ahtna | Date: 10/30/2019 | Figure: 26

Legend

- Soil Gas Probe Cluster
- Soil Vapor Extraction Well
- Buildings
- Soil Vapor Treatment Unit
- TCE above SGCL (June 2014) - no current plume
- PCE above SGCL (June 2014) - no current plume

N

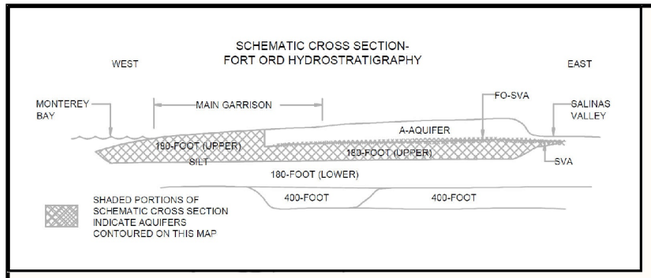
0 62.5 125 250 Feet

Current and Historical Soil Gas PCE/TCE SGCL Exceedance Contours 70 Feet Below Ground Surface June 2014 and September 2019

Fourth Quarter 2018 through Third Quarter 2019
Groundwater and Soil Gas
Monitoring and Treatment System Report
Former Fort Ord, California

Ahtna

Figure 27



EXPLANATION

- Monitoring Well with PCE Detection.
- Monitoring Well with No PCE Detection.
- Monitoring Well Not sampled.
- Extraction Well with PCE Detection above or equal to ACL.
- Extraction Well with PCE Less than ACL.
- Groundwater Extraction Wells No PCE Detected.
- Extraction Well Not Sampled

MW-12-08-180U Meets QAPP decision rules to be removed from the sampling program and proposed for decommissioning.

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L.

- 5 — Tetrachloroethene (PCE)
- General Groundwater Flow Direction
- Roads
- Facilities

NOTES:

(1) Samples were collected between August 26, 2019 and September 4, 2019.
(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
(3) Contours based on highest value obtained from multiple bags where applicable.
(4) Other COC ACL Exceedances detected beyond the extent of the

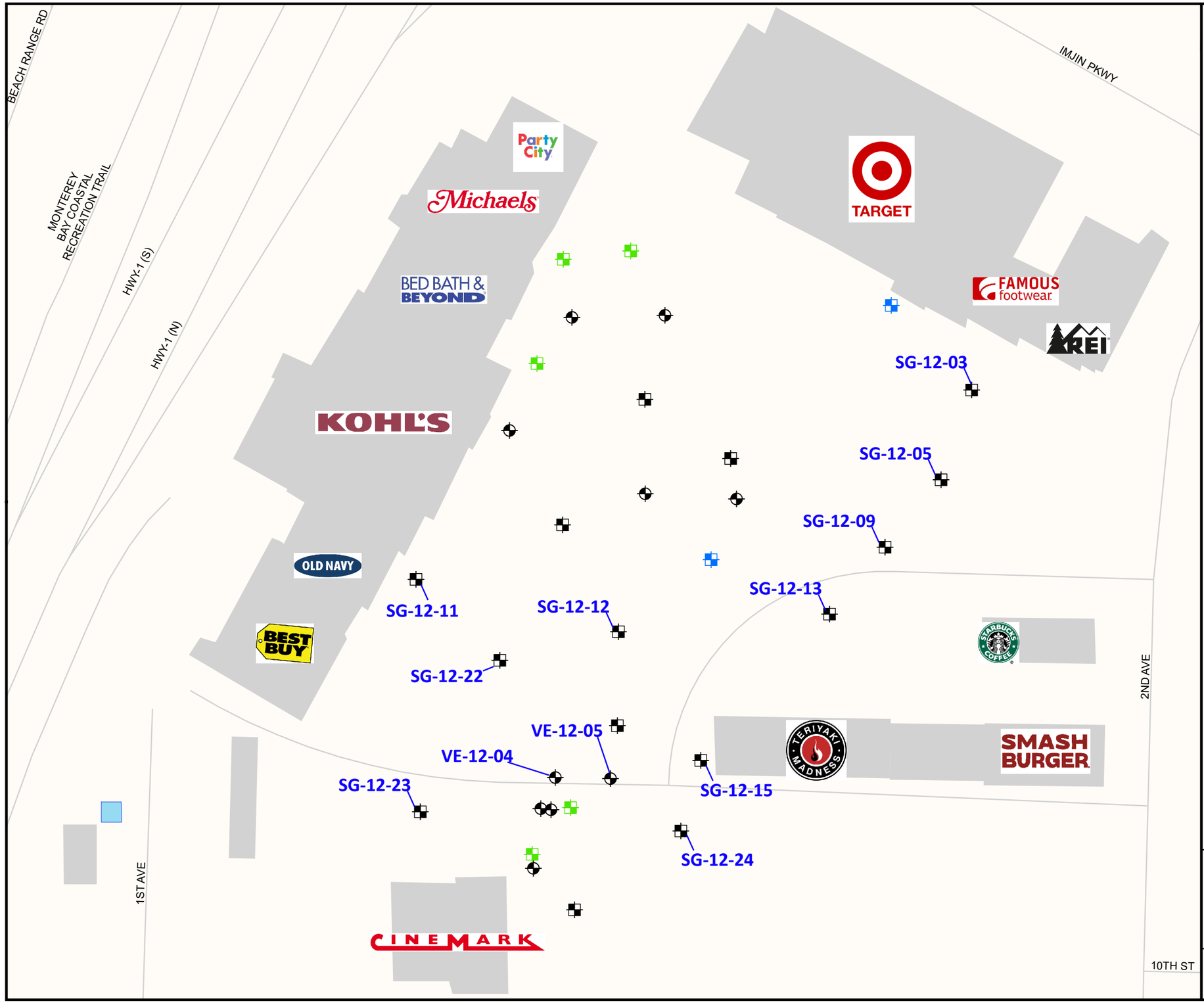
N

0 250 500 Feet

RECOMMENDED MONITORING WELLS TO DECOMMISSION

Sites 2 and 12, Fourth Quarter 2018 through Third Quarter 2019 Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Ahtna | Date: 11/20/2019 | Figure: 28



EXPLANATION

- Site 12 Soil Gas Probe Cluster
- Site 12 Soil Vapor Extraction Well
- SG-12-03: Meets QAPP decision rules to be removed from the sampling program and proposed for decommissioning.
- Facilities
- Roads
- SVE Treatment Unit
- Site 12 Soil Gas Probe: PCE & TCE at or below SG-SLs
- Site 12 Soil Gas Probe: PCE above SG-SL and at or below SGCL

NOTES:

(1) Samples were collected between August 19, 2019 and August 21, 2019.

N

0 250 500 Feet

RECOMMENDED SOIL GAS PROBES AND SOIL VAPOR EXTRACTION WELLS TO DECOMMISSION

Sites 2 and 12, Fourth Quarter 2018 through Third Quarter 2019
Groundwater and Soil Gas Monitoring and Treatment
System Report, Former Fort Ord, California

Ahtna | Date: 11/20/2019 | Figure: 29

APPENDICES

APPENDIX A

Groundwater Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Appendix A. Groundwater Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
EW-12-03-180M	FA60147	12/11/2018	1850B212018F	2	125	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212018F	2	125	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212018F	2	125	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212018F	2	125	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212018F	2	125	WG	EPA8260-SIM	Chloroform	ug/L	0.11	0.25		J	
	FA60147	12/11/2018	1850B212018F	2	125	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.73	0.25			
	FA60147	12/11/2018	1850B212018F	2	125	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.42	0.25		J	
	FA60147	12/11/2018	1850B212018F	2	125	WG	EPA8260-SIM	Trichloroethene	ug/L	1.8	0.25			
	FA62104	03/05/2019	1910B212016F	3	130	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212016F	3	130	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212016F	3	130	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212016F	3	130	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212016F	3	130	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62104	03/05/2019	1910B212016F	3	130	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.54	0.25			
	FA62104	03/05/2019	1910B212016F	3	130	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.11	0.25		J	
	FA62104	03/05/2019	1910B212016F	3	130	WG	EPA8260-SIM	Trichloroethene	ug/L	0.86	0.25			
	FA64776	06/03/2019	1923B212013F	2	125	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212013F	2	125	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212013F	2	125	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212013F	2	125	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212013F	2	125	WG	EPA8260-SIM	Chloroform	ug/L	0.12	0.25		J	

Appendix A. Groundwater Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64776	06/03/2019	1923B212013F	2	125	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.1	0.25			
	FA64776	06/03/2019	1923B212013F	2	125	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.27	0.25		J	
	FA64776	06/03/2019	1923B212013F	2	125	WG	EPA8260-SIM	Trichloroethene	ug/L	2	0.25			
	FA67615	08/27/2019	1935Y212029F	3	130	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212029F	3	130	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212029F	3	130	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212029F	3	130	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212029F	3	130	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212029F	3	130	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212029F	3	130	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.2	0.25			
	FA67615	08/27/2019	1935Y212029F	3	130	WG	EPA8260-SIM	Trichloroethene	ug/L	1.7	0.25			
EW-12-05-180M	FA60390	12/19/2018	1851M212279F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212279F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212279F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212279F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60390	12/19/2018	1851M212279F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.16	0.25		J	
	FA60390	12/19/2018	1851M212279F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.72	0.25			
	FA60390	12/19/2018	1851M212279F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.81	0.25			
	FA60390	12/19/2018	1851M212279F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	2.1	0.25			
	FA62075	03/01/2019	1909M212071F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212071F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U

Appendix A. Groundwater Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA62075	03/01/2019	1909M212071F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212071F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/01/2019	1909M212071F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.21	0.25		J	
	FA62075	03/01/2019	1909M212071F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.73	0.25			
	FA62075	03/01/2019	1909M212071F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.84	0.25			
	FA62075	03/01/2019	1909M212071F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	2.1	0.25			
	FA64921	06/05/2019	1923M212114F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212114F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212114F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212114F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64921	06/05/2019	1923M212114F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.18	0.25		J	
	FA64921	06/05/2019	1923M212114F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.73	0.25			
	FA64921	06/05/2019	1923M212114F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.76	0.25			
	FA64921	06/05/2019	1923M212114F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	2.4	0.25			
	FA64921	06/05/2019	1923M212115D	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212115D	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212115D	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212115D	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64921	06/05/2019	1923M212115D	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.18	0.25		J	
	FA64921	06/05/2019	1923M212115D	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.74	0.25			
	FA64921	06/05/2019	1923M212115D	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.72	0.25			

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64921	06/05/2019	1923M212115D	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	2.4	0.25			
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.14	0.25		J	J
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.64	0.25			
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.71	0.25			
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	1.9	0.25			
	FA67651	08/28/2019	1935M212165F	--	--	WG	EPA9056A	Chloride (as Cl)	mg/L	288	10			
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.14	0.25		J	J
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.61	0.25			
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.73	0.25			
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	1.9	0.25			
	FA67651	08/28/2019	1935M212166D	--	--	WG	EPA9056A	Chloride (as Cl)	mg/L	284	10			
EW-12-07-180M	FA60390	12/19/2018	1851M212280F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212280F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60390	12/19/2018	1851M212280F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212280F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60390	12/19/2018	1851M212280F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.13	0.25		J	
	FA60390	12/19/2018	1851M212280F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.95	0.25			
	FA60390	12/19/2018	1851M212280F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.47	0.25		J	
	FA60390	12/19/2018	1851M212280F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	2	0.25			
	FA62075	03/01/2019	1909M212072F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212072F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212072F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212072F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/01/2019	1909M212072F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.14	0.25		J	
	FA62075	03/01/2019	1909M212072F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.99	0.25			
	FA62075	03/01/2019	1909M212072F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.59	0.25			
	FA62075	03/01/2019	1909M212072F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	2.2	0.25			J-
	FA64921	06/05/2019	1923M212116F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212116F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212116F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212116F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64921	06/05/2019	1923M212116F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	0.1	0.25		J	
	FA64921	06/05/2019	1923M212116F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.71	0.25			
	FA64921	06/05/2019	1923M212116F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.41	0.25		J	

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64921	06/05/2019	1923M212116F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	1.7	0.25			
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.4	0.25		J	J
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.28	0.25		J	J
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	1.1	0.25			
	FA67651	08/28/2019	1935M212167F	--	--	WG	EPA9056A	Chloride (as Cl)	mg/L	421	10			
EW-12-08-180U	FA60390	12/19/2018	1851M212281F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212281F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212281F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212281F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212281F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212281F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60390	12/19/2018	1851M212281F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	18.2	0.63			
	FA60390	12/19/2018	1851M212281F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	0.58	0.25			
	FA60390	12/19/2018	1851M212282D	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212282D	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212282D	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60390	12/19/2018	1851M212282D	--	--	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212282D	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60390	12/19/2018	1851M212282D	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60390	12/19/2018	1851M212282D	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	18.6	0.63			
	FA60390	12/19/2018	1851M212282D	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	0.57	0.25			
	FA62075	03/01/2019	1909M212073F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212073F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212073F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212073F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212073F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/01/2019	1909M212073F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/01/2019	1909M212073F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	15.7	0.5			
	FA62075	03/01/2019	1909M212073F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	0.59	0.25			
	FA62075	03/01/2019	1909M212074D	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.5	0.5	ND	U	U
	FA62075	03/01/2019	1909M212074D	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.5	0.5	ND	U	U
	FA62075	03/01/2019	1909M212074D	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.5	0.5	ND	U	U
	FA62075	03/01/2019	1909M212074D	--	--	WG	EPA8260-SIM	Chloroform	ug/L	< 0.5	0.5	ND	U	U
	FA62075	03/01/2019	1909M212074D	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.5	0.5	ND	U	U
	FA62075	03/01/2019	1909M212074D	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.1	0.1	ND	U	U
	FA62075	03/01/2019	1909M212074D	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	15.5	0.5			
	FA62075	03/01/2019	1909M212074D	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	0.55	0.5		J	

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64921	06/05/2019	1923M212117F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212117F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212117F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212117F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212117F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923M212117F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64921	06/05/2019	1923M212117F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	12.5	0.25			
	FA64921	06/05/2019	1923M212117F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	0.47	0.25		J	
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA8260-SIM	Tetrachloroethene	ug/L	14.1	0.25			
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA8260-SIM	Trichloroethene	ug/L	0.47	0.25		J	J
	FA67651	08/28/2019	1935M212168F	--	--	WG	EPA9056A	Chloride (as Cl)	mg/L	41.5	1			
MW-12-01-180	FA60199	12/12/2018	1850B212027F	4	96	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212027F	4	96	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212027F	4	96	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212027F	4	96	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60199	12/12/2018	1850B212027F	4	96	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212027F	4	96	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60199	12/12/2018	1850B212027F	4	96	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.46	0.25		J	
	FA60199	12/12/2018	1850B212027F	4	96	WG	EPA8260-SIM	Trichloroethene	ug/L	0.15	0.25		J	
	FA62104	03/05/2019	1910B212011F	2	86	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212011F	2	86	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212011F	2	86	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212011F	2	86	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212011F	2	86	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212011F	2	86	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212011F	2	86	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62104	03/05/2019	1910B212011F	2	86	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.57	0.25			
	FA64776	06/03/2019	1923B212016F	1	81	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212016F	1	81	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212016F	1	81	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212016F	1	81	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212016F	1	81	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212016F	1	81	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212016F	1	81	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.46	0.25		J	
	FA64776	06/03/2019	1923B212016F	1	81	WG	EPA8260-SIM	Trichloroethene	ug/L	0.22	0.25		J	
	FA67615	08/27/2019	1935Y212022F	2	86	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA67615	08/27/2019	1935Y212022F	2	86	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212022F	2	86	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212022F	2	86	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212022F	2	86	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212022F	2	86	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212022F	2	86	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.39	0.25		J	J
	FA67615	08/27/2019	1935Y212022F	2	86	WG	EPA8260-SIM	Trichloroethene	ug/L	0.29	0.25		J	J
MW-12-05-180	FA67764	09/04/2019	1936Y212088F	--	--	WG	EPA9056A	Chloride (as Cl)	mg/L	58.9	5			
MW-12-09R-180	FA60147	12/11/2018	1850B212007F	2	124	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212007F	2	124	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212007F	2	124	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212007F	2	124	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212007F	2	124	WG	EPA8260-SIM	Chloroform	ug/L	0.11	0.25		J	
	FA60147	12/11/2018	1850B212007F	2	124	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.27	0.25		J	
	FA60147	12/11/2018	1850B212007F	2	124	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.32	0.25		J	
	FA60147	12/11/2018	1850B212007F	2	124	WG	EPA8260-SIM	Trichloroethene	ug/L	0.87	0.25			
	FA62075	03/04/2019	1910B212006F	1	119	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212006F	1	119	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212006F	1	119	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212006F	1	119	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212006F	1	119	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA62075	03/04/2019	1910B212006F	1	119	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.1	0.25			
	FA62075	03/04/2019	1910B212006F	1	119	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.44	0.25		J	
	FA62075	03/04/2019	1910B212006F	1	119	WG	EPA8260-SIM	Trichloroethene	ug/L	2.6	0.25			
	FA62075	03/04/2019	1910B212007D	1	119	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212007D	1	119	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212007D	1	119	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212007D	1	119	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212007D	1	119	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/04/2019	1910B212007D	1	119	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.3	0.25			
	FA62075	03/04/2019	1910B212007D	1	119	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.49	0.25		J	
	FA62075	03/04/2019	1910B212007D	1	119	WG	EPA8260-SIM	Trichloroethene	ug/L	2.9	0.25			
	FA64776	06/03/2019	1923B212008F	2	127	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212008F	2	127	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212008F	2	127	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212008F	2	127	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212008F	2	127	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212008F	2	127	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1	0.25			
	FA64776	06/03/2019	1923B212008F	2	127	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.42	0.25		J	
	FA64776	06/03/2019	1923B212008F	2	127	WG	EPA8260-SIM	Trichloroethene	ug/L	2.2	0.25			
	FA67615	08/27/2019	1935Y212018F	1	119	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212018F	1	119	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA67615	08/27/2019	1935Y212018F	1	119	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212018F	1	119	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212018F	1	119	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212018F	1	119	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.82	0.25			
	FA67615	08/27/2019	1935Y212018F	1	119	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.28	0.25		J	J
	FA67615	08/27/2019	1935Y212018F	1	119	WG	EPA8260-SIM	Trichloroethene	ug/L	1.9	0.25			
MW-12-14-180M	FA60147	12/11/2018	1850B212016F	2	121	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212016F	2	121	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212016F	2	121	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212016F	2	121	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212016F	2	121	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212016F	2	121	WG	EPA8260-SIM	Chloroform	ug/L	0.14	0.25		J	
	FA60147	12/11/2018	1850B212016F	2	121	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.32	0.25		J	
	FA60147	12/11/2018	1850B212016F	2	121	WG	EPA8260-SIM	Trichloroethene	ug/L	1.7	0.25			
	FA62104	03/05/2019	1910B212014F	2	121	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212014F	2	121	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212014F	2	121	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212014F	2	121	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212014F	2	121	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62104	03/05/2019	1910B212014F	2	121	WG	EPA8260-SIM	Chloroform	ug/L	0.12	0.25		J	
	FA62104	03/05/2019	1910B212014F	2	121	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.3	0.25		J	

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA62104	03/05/2019	1910B212014F	2	121	WG	EPA8260-SIM	Trichloroethene	ug/L	1.5	0.25			
	FA64776	06/03/2019	1923B212010F	2	121	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212010F	2	121	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212010F	2	121	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212010F	2	121	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212010F	2	121	WG	EPA8260-SIM	Chloroform	ug/L	0.11	0.25		J	
	FA64776	06/03/2019	1923B212010F	2	121	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.14	0.25		J	
	FA64776	06/03/2019	1923B212010F	2	121	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.43	0.25		J	
	FA64776	06/03/2019	1923B212010F	2	121	WG	EPA8260-SIM	Trichloroethene	ug/L	2.4	0.25			
	FA64776	06/03/2019	1923B212011D	2	121	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212011D	2	121	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212011D	2	121	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212011D	2	121	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212011D	2	121	WG	EPA8260-SIM	Chloroform	ug/L	0.12	0.25		J	
	FA64776	06/03/2019	1923B212011D	2	121	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.14	0.25		J	
	FA64776	06/03/2019	1923B212011D	2	121	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.43	0.25		J	
	FA64776	06/03/2019	1923B212011D	2	121	WG	EPA8260-SIM	Trichloroethene	ug/L	2.5	0.25			
	FA67615	08/27/2019	1935Y212028F	2	121	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212028F	2	121	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212028F	2	121	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212028F	2	121	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA67615	08/27/2019	1935Y212028F	2	121	WG	EPA8260-SIM	Chloroform	ug/L	0.11	0.25		J	J
	FA67615	08/27/2019	1935Y212028F	2	121	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.12	0.25		J	J
	FA67615	08/27/2019	1935Y212028F	2	121	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.28	0.25		J	J
	FA67615	08/27/2019	1935Y212028F	2	121	WG	EPA8260-SIM	Trichloroethene	ug/L	2.4	0.25			
MW-12-15-180M	FA60147	12/11/2018	1850B212017F	4	140	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212017F	4	140	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212017F	4	140	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212017F	4	140	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212017F	4	140	WG	EPA8260-SIM	Chloroform	ug/L	0.2	0.25		J	
	FA60147	12/11/2018	1850B212017F	4	140	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1	0.25			
	FA60147	12/11/2018	1850B212017F	4	140	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.27	0.25		J	
	FA60147	12/11/2018	1850B212017F	4	140	WG	EPA8260-SIM	Trichloroethene	ug/L	1.4	0.25			
	FA62104	03/05/2019	1910B212015F	1	125	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212015F	1	125	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212015F	1	125	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62104	03/05/2019	1910B212015F	1	125	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	0.17	0.25		J	
	FA62104	03/05/2019	1910B212015F	1	125	WG	EPA8260-SIM	Chloroform	ug/L	0.21	0.25		J	
	FA62104	03/05/2019	1910B212015F	1	125	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.8	0.25			
	FA62104	03/05/2019	1910B212015F	1	125	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.57	0.25			
	FA62104	03/05/2019	1910B212015F	1	125	WG	EPA8260-SIM	Trichloroethene	ug/L	2.3	0.25			
	FA64776	06/03/2019	1923B212012F	2	130	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64776	06/03/2019	1923B212012F	2	130	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212012F	2	130	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212012F	2	130	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212012F	2	130	WG	EPA8260-SIM	Chloroform	ug/L	0.22	0.25		J	
	FA64776	06/03/2019	1923B212012F	2	130	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.7	0.25			
	FA64776	06/03/2019	1923B212012F	2	130	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.3	0.25		J	
	FA64776	06/03/2019	1923B212012F	2	130	WG	EPA8260-SIM	Trichloroethene	ug/L	1.6	0.25			
	FA67560	08/26/2019	1935Y212008F	3	135	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212008F	3	135	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212008F	3	135	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212008F	3	135	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67560	08/26/2019	1935Y212008F	3	135	WG	EPA8260-SIM	Chloroform	ug/L	0.17	0.25		J	J
	FA67560	08/26/2019	1935Y212008F	3	135	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.3	0.25			
	FA67560	08/26/2019	1935Y212008F	3	135	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.16	0.25		J	J
	FA67560	08/26/2019	1935Y212008F	3	135	WG	EPA8260-SIM	Trichloroethene	ug/L	1.2	0.25			
MW-12-16-180M	FA60147	12/11/2018	1850B212013F	4	140	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212013F	4	140	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212013F	4	140	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212013F	4	140	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212013F	4	140	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	0.12	0.25		J	
	FA60147	12/11/2018	1850B212013F	4	140	WG	EPA8260-SIM	Chloroform	ug/L	0.21	0.25		J	

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60147	12/11/2018	1850B212013F	4	140	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.97	0.25			
	FA60147	12/11/2018	1850B212013F	4	140	WG	EPA8260-SIM	Trichloroethene	ug/L	0.83	0.25			
	FA62104	03/05/2019	1910B212009F	4	140	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212009F	4	140	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212009F	4	140	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62104	03/05/2019	1910B212009F	4	140	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	0.34	0.25		J	
	FA62104	03/05/2019	1910B212009F	4	140	WG	EPA8260-SIM	Chloroform	ug/L	0.25	0.25		J	
	FA62104	03/05/2019	1910B212009F	4	140	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	3	0.25			
	FA62104	03/05/2019	1910B212009F	4	140	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.15	0.25		J	
	FA62104	03/05/2019	1910B212009F	4	140	WG	EPA8260-SIM	Trichloroethene	ug/L	2	0.25			
	FA64921	06/05/2019	1923B212038F	4	140	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923B212038F	4	140	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923B212038F	4	140	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64921	06/05/2019	1923B212038F	4	140	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64921	06/05/2019	1923B212038F	4	140	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	0.26	0.25		J	
	FA64921	06/05/2019	1923B212038F	4	140	WG	EPA8260-SIM	Chloroform	ug/L	0.26	0.25		J	
	FA64921	06/05/2019	1923B212038F	4	140	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	2.3	0.25			
	FA64921	06/05/2019	1923B212038F	4	140	WG	EPA8260-SIM	Trichloroethene	ug/L	1.4	0.25			
	FA67615	08/27/2019	1935Y212026D	4	140	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212026D	4	140	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212026D	4	140	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA67615	08/27/2019	1935Y212026D	4	140	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212026D	4	140	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	0.19	0.25		J	J
	FA67615	08/27/2019	1935Y212026D	4	140	WG	EPA8260-SIM	Chloroform	ug/L	0.21	0.25		J	J
	FA67615	08/27/2019	1935Y212026D	4	140	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.8	0.25			
	FA67615	08/27/2019	1935Y212026D	4	140	WG	EPA8260-SIM	Trichloroethene	ug/L	1.1	0.25			
	FA67615	08/27/2019	1935Y212025F	4	140	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212025F	4	140	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212025F	4	140	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212025F	4	140	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212025F	4	140	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	0.2	0.25		J	J
	FA67615	08/27/2019	1935Y212025F	4	140	WG	EPA8260-SIM	Chloroform	ug/L	0.21	0.25		J	J
	FA67615	08/27/2019	1935Y212025F	4	140	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	1.9	0.25			
	FA67615	08/27/2019	1935Y212025F	4	140	WG	EPA8260-SIM	Trichloroethene	ug/L	1.2	0.25			
MW-12-18-180U	FA67615	08/27/2019	1935Y212027F	2	68	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212027F	2	68	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212027F	2	68	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212027F	2	68	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212027F	2	68	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212027F	2	68	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212027F	2	68	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212027F	2	68	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
MW-12-20-180U	FA60147	12/11/2018	1850B212006F	3	76	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212006F	3	76	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212006F	3	76	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212006F	3	76	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212006F	3	76	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212006F	3	76	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212006F	3	76	WG	EPA8260-SIM	Tetrachloroethene	ug/L	20	0.25			J-
	FA60147	12/11/2018	1850B212006F	3	76	WG	EPA8260-SIM	Trichloroethene	ug/L	0.17	0.25		J	
	FA62104	03/05/2019	1910B212012F	3	76	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212012F	3	76	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212012F	3	76	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212012F	3	76	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212012F	3	76	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212012F	3	76	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62104	03/05/2019	1910B212012F	3	76	WG	EPA8260-SIM	Tetrachloroethene	ug/L	5.3	0.25			
	FA62104	03/05/2019	1910B212012F	3	76	WG	EPA8260-SIM	Trichloroethene	ug/L	0.11	0.25		J	
	FA64776	06/03/2019	1923B212009F	3	76	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212009F	3	76	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212009F	3	76	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212009F	3	76	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212009F	3	76	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64776	06/03/2019	1923B212009F	3	76	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212009F	3	76	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212009F	3	76	WG	EPA8260-SIM	Tetrachloroethene	ug/L	3.1	0.25			
	FA67615	08/27/2019	1935Y212015F	3	76	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212015F	3	76	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212015F	3	76	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212015F	3	76	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212015F	3	76	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212015F	3	76	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212015F	3	76	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212015F	3	76	WG	EPA8260-SIM	Tetrachloroethene	ug/L	2.7	0.25			
MW-12-21-180U	FA60147	12/11/2018	1850B212004F	1	70	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212004F	1	70	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212004F	1	70	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212004F	1	70	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212004F	1	70	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212004F	1	70	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212004F	1	70	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212004F	1	70	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.55	0.25			
	FA62104	03/05/2019	1910B212013F	2	75	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212013F	2	75	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA62104	03/05/2019	1910B212013F	2	75	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212013F	2	75	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212013F	2	75	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212013F	2	75	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62104	03/05/2019	1910B212013F	2	75	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62104	03/05/2019	1910B212013F	2	75	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.14	0.25		J	J+
	FA64776	06/03/2019	1923B212001F	1	70	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212001F	1	70	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212001F	1	70	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212001F	1	70	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212001F	1	70	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212001F	1	70	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212001F	1	70	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212001F	1	70	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.12	0.25		J	
	FA67615	08/27/2019	1935Y212014F	2	75	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212014F	2	75	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212014F	2	75	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212014F	2	75	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212014F	2	75	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212014F	2	75	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212014F	2	75	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA67615	08/27/2019	1935Y212014F	2	75	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.28	0.25		J	J
MW-12-22-180U	FA60199	12/12/2018	1850B212025F	4	80	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212025F	4	80	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212025F	4	80	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212025F	4	80	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212025F	4	80	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212025F	4	80	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60199	12/12/2018	1850B212025F	4	80	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60199	12/12/2018	1850B212025F	4	80	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.45	0.25		J	
	FA62182	03/06/2019	1910B212025F	2	70	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62182	03/06/2019	1910B212025F	2	70	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62182	03/06/2019	1910B212025F	2	70	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62182	03/06/2019	1910B212025F	2	70	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62182	03/06/2019	1910B212025F	2	70	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62182	03/06/2019	1910B212025F	2	70	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62182	03/06/2019	1910B212025F	2	70	WG	EPA8260-SIM	Chloroform	ug/L	0.11	0.25		J	
	FA62182	03/06/2019	1910B212025F	2	70	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.57	0.25			
	FA64776	06/03/2019	1923B212006F	3	75	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212006F	3	75	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212006F	3	75	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212006F	3	75	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64776	06/03/2019	1923B212006F	3	75	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212006F	3	75	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212006F	3	75	WG	EPA8260-SIM	Chloroform	ug/L	0.43	0.25		J	
	FA64776	06/03/2019	1923B212006F	3	75	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.52	0.25			
	FA67615	08/27/2019	1935Y212010F	4	80	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212010F	4	80	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212010F	4	80	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212010F	4	80	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212010F	4	80	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212010F	4	80	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212010F	4	80	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212010F	4	80	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.39	0.25		J	J
MW-12-24-180U	FA60147	12/11/2018	1850B212008F	4	80	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212008F	4	80	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212008F	4	80	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212008F	4	80	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212008F	4	80	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212008F	4	80	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212008F	4	80	WG	EPA8260-SIM	Tetrachloroethene	ug/L	2	0.25			
	FA60147	12/11/2018	1850B212008F	4	80	WG	EPA8260-SIM	Trichloroethene	ug/L	0.12	0.25		J	
	FA60147	12/11/2018	1850B212009D	4	80	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60147	12/11/2018	1850B212009D	4	80	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212009D	4	80	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212009D	4	80	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212009D	4	80	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212009D	4	80	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212009D	4	80	WG	EPA8260-SIM	Tetrachloroethene	ug/L	2.1	0.25			
	FA60147	12/11/2018	1850B212009D	4	80	WG	EPA8260-SIM	Trichloroethene	ug/L	0.11	0.25		J	
	FA62075	03/04/2019	1910B212008F	2	70	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212008F	2	70	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212008F	2	70	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212008F	2	70	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212008F	2	70	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212008F	2	70	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212008F	2	70	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/04/2019	1910B212008F	2	70	WG	EPA8260-SIM	Tetrachloroethene	ug/L	1.8	0.25			
	FA64776	06/03/2019	1923B212007F	3	75	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212007F	3	75	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212007F	3	75	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212007F	3	75	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212007F	3	75	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212007F	3	75	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64776	06/03/2019	1923B212007F	3	75	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212007F	3	75	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.66	0.25			
	FA67615	08/27/2019	1935Y212017F	4	80	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212017F	4	80	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212017F	4	80	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212017F	4	80	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212017F	4	80	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212017F	4	80	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212017F	4	80	WG	EPA8260-SIM	Tetrachloroethene	ug/L	1.8	0.25			
	FA67615	08/27/2019	1935Y212017F	4	80	WG	EPA8260-SIM	Trichloroethene	ug/L	0.13	0.25		J	J
MW-12-25-180U	FA67615	08/27/2019	1935Y212011F	2	75	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212011F	2	75	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212011F	2	75	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212011F	2	75	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212011F	2	75	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212011F	2	75	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212011F	2	75	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212011F	2	75	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.39	0.25		J	J
MW-12-26-180U	FA60147	12/11/2018	1850B212015F	2	81	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212015F	2	81	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212015F	2	81	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60147	12/11/2018	1850B212015F	2	81	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212015F	2	81	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212015F	2	81	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212015F	2	81	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212015F	2	81	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.46	0.25		J	
	FA67615	08/27/2019	1935Y212013D	3	86	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212013D	3	86	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212013D	3	86	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212013D	3	86	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212013D	3	86	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212013D	3	86	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212013D	3	86	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212013D	3	86	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.32	0.25		J	J
	FA67615	08/27/2019	1935Y212012F	3	86	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212012F	3	86	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212012F	3	86	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212012F	3	86	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212012F	3	86	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212012F	3	86	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212012F	3	86	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212012F	3	86	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.39	0.25		J	J

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
MW-12-28-180U	FA60147	12/11/2018	1850B212011F	2	73	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212011F	2	73	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212011F	2	73	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212011F	2	73	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212011F	2	73	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212011F	2	73	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212011F	2	73	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212011F	2	73	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.39	0.25		J	
	FA60147	12/11/2018	1850B212012D	2	73	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212012D	2	73	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212012D	2	73	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212012D	2	73	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212012D	2	73	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212012D	2	73	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212012D	2	73	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212012D	2	73	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.39	0.25		J	
	FA62075	03/04/2019	1910B212005F	2	73	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212005F	2	73	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212005F	2	73	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212005F	2	73	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212005F	2	73	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA62075	03/04/2019	1910B212005F	2	73	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212005F	2	73	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/04/2019	1910B212005F	2	73	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.4	0.25		J	
	FA64776	06/03/2019	1923B212003F	3	78	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212003F	3	78	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212003F	3	78	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212003F	3	78	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212003F	3	78	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212003F	3	78	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212003F	3	78	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212003F	3	78	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.54	0.25			
	FA67615	08/27/2019	1935Y212019F	2	73	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212019F	2	73	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212019F	2	73	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212019F	2	73	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212019F	2	73	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212019F	2	73	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212019F	2	73	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212019F	2	73	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.33	0.25		J	J
MW-12-29-180U	FA60147	12/11/2018	1850B212010F	3	81	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212010F	3	81	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60147	12/11/2018	1850B212010F	3	81	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212010F	3	81	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212010F	3	81	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212010F	3	81	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212010F	3	81	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212010F	3	81	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.43	0.25		J	
	FA62075	03/04/2019	1910B212004F	4	86	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212004F	4	86	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212004F	4	86	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212004F	4	86	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212004F	4	86	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212004F	4	86	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212004F	4	86	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/04/2019	1910B212004F	4	86	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.52	0.25			
	FA64776	06/03/2019	1923B212004F	2	76	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212004F	2	76	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212004F	2	76	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212004F	2	76	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212004F	2	76	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212004F	2	76	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212004F	2	76	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA64776	06/03/2019	1923B212004F	2	76	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.49	0.25		J	
	FA64776	06/03/2019	1923B212005D	2	76	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212005D	2	76	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212005D	2	76	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212005D	2	76	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212005D	2	76	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212005D	2	76	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212005D	2	76	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212005D	2	76	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.48	0.25		J	
	FA67615	08/27/2019	1935Y212020F	3	81	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212020F	3	81	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212020F	3	81	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212020F	3	81	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212020F	3	81	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212020F	3	81	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212020F	3	81	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212020F	3	81	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.37	0.25		J	J
MW-12-30-180U	FA60147	12/11/2018	1850B212014F	4	92	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212014F	4	92	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212014F	4	92	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212014F	4	92	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60147	12/11/2018	1850B212014F	4	92	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA60147	12/11/2018	1850B212014F	4	92	WG	EPA8260-SIM	Chloroform	ug/L	0.18	0.25		J	
	FA60147	12/11/2018	1850B212014F	4	92	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.65	0.25			
	FA60147	12/11/2018	1850B212014F	4	92	WG	EPA8260-SIM	Trichloroethene	ug/L	0.2	0.25		J	
	FA62075	03/04/2019	1910B212001F	4	92	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212001F	4	92	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212001F	4	92	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212001F	4	92	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212001F	4	92	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212001F	4	92	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212001F	4	92	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/04/2019	1910B212001F	4	92	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.48	0.25		J	
	FA64776	06/03/2019	1923B212015F	3	87	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212015F	3	87	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212015F	3	87	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212015F	3	87	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212015F	3	87	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212015F	3	87	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212015F	3	87	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212015F	3	87	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.26	0.25		J	
	FA67615	08/27/2019	1935Y212021F	4	92	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA67615	08/27/2019	1935Y212021F	4	92	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212021F	4	92	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212021F	4	92	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212021F	4	92	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212021F	4	92	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212021F	4	92	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212021F	4	92	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.36	0.25		J	J
MW-12-31-180M	FA67615	08/27/2019	1935Y212024F	3	92	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212024F	3	92	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212024F	3	92	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212024F	3	92	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212024F	3	92	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212024F	3	92	WG	EPA8260-SIM	Trichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212024F	3	92	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212024F	3	92	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.18	0.25		J	J
MW-12-32-180U	FA60147	12/11/2018	1850B212019F	4	95	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212019F	4	95	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212019F	4	95	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212019F	4	95	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212019F	4	95	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60147	12/11/2018	1850B212019F	4	95	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60147	12/11/2018	1850B212019F	4	95	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.54	0.25			
	FA60147	12/11/2018	1850B212019F	4	95	WG	EPA8260-SIM	Trichloroethene	ug/L	0.58	0.25			
	FA62075	03/04/2019	1910B212003F	4	95	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212003F	4	95	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212003F	4	95	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212003F	4	95	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212003F	4	95	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62075	03/04/2019	1910B212003F	4	95	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62075	03/04/2019	1910B212003F	4	95	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.32	0.25		J	
	FA62075	03/04/2019	1910B212003F	4	95	WG	EPA8260-SIM	Trichloroethene	ug/L	0.11	0.25		J	J+
	FA64776	06/03/2019	1923B212014F	4	95	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212014F	4	95	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212014F	4	95	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212014F	4	95	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212014F	4	95	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64776	06/03/2019	1923B212014F	4	95	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64776	06/03/2019	1923B212014F	4	95	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.39	0.25		J	
	FA64776	06/03/2019	1923B212014F	4	95	WG	EPA8260-SIM	Trichloroethene	ug/L	0.28	0.25		J	
	FA67615	08/27/2019	1935Y212023F	4	95	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212023F	4	95	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212023F	4	95	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U

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Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA67615	08/27/2019	1935Y212023F	4	95	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212023F	4	95	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67615	08/27/2019	1935Y212023F	4	95	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67615	08/27/2019	1935Y212023F	4	95	WG	EPA8260-SIM	Tetrachloroethene	ug/L	0.41	0.25		J	J
	FA67615	08/27/2019	1935Y212023F	4	95	WG	EPA8260-SIM	Trichloroethene	ug/L	0.42	0.25		J	J
MW-02-05-180	FA67560	08/26/2019	1935Y212002F	2	62	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212002F	2	62	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212002F	2	62	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212002F	2	62	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212002F	2	62	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67560	08/26/2019	1935Y212002F	2	62	WG	EPA8260-SIM	Chloroform	ug/L	0.15	0.25		J	J
	FA67560	08/26/2019	1935Y212002F	2	62	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.19	0.25		J	J
	FA67560	08/26/2019	1935Y212002F	2	62	WG	EPA8260-SIM	Trichloroethene	ug/L	0.16	0.25		J	J
	FA67764	09/04/2019	1936Y212086F	--	--	WG	EPA9056A	Chloride (as Cl)	mg/L	124	5			
	FA67764	09/04/2019	1936Y212087D	--	--	WG	EPA9056A	Chloride (as Cl)	mg/L	133	10			
MW-02-13-180M	FA60247	12/14/2018	1850B212089F	2	127	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60247	12/14/2018	1850B212089F	2	127	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA60247	12/14/2018	1850B212089F	2	127	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	UJ
	FA60247	12/14/2018	1850B212089F	2	127	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60247	12/14/2018	1850B212089F	2	127	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA60247	12/14/2018	1850B212089F	2	127	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U

Appendix A. Groundwater Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA60247	12/14/2018	1850B212089F	2	127	WG	EPA8260-SIM	Chloroform	ug/L	0.12	0.25		J	
	FA60247	12/14/2018	1850B212089F	2	127	WG	EPA8260-SIM	Trichloroethene	ug/L	1.7	0.25			
	FA62227	03/08/2019	1910B212075F	2	127	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62227	03/08/2019	1910B212075F	2	127	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA62227	03/08/2019	1910B212075F	2	127	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA62227	03/08/2019	1910B212075F	2	127	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA62227	03/08/2019	1910B212075F	2	127	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA62227	03/08/2019	1910B212075F	2	127	WG	EPA8260-SIM	Chloroform	ug/L	0.17	0.25		J	J+
	FA62227	03/08/2019	1910B212075F	2	127	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.11	0.25		J	J+
	FA62227	03/08/2019	1910B212075F	2	127	WG	EPA8260-SIM	Trichloroethene	ug/L	2	0.25			J+
	FA64970	06/06/2019	1923B212076F	2	127	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64970	06/06/2019	1923B212076F	2	127	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA64970	06/06/2019	1923B212076F	2	127	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U
	FA64970	06/06/2019	1923B212076F	2	127	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA64970	06/06/2019	1923B212076F	2	127	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA64970	06/06/2019	1923B212076F	2	127	WG	EPA8260-SIM	Chloroform	ug/L	0.14	0.25		J	
	FA64970	06/06/2019	1923B212076F	2	127	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	0.11	0.25		J	
	FA64970	06/06/2019	1923B212076F	2	127	WG	EPA8260-SIM	Trichloroethene	ug/L	1.8	0.25			
	FA67560	08/26/2019	1935Y212001F	2	127	WG	EPA8260-SIM	1,1-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212001F	2	127	WG	EPA8260-SIM	1,2-Dichloroethane	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212001F	2	127	WG	EPA8260-SIM	1,3-Dichloropropene (Total)	ug/L	< 0.25	0.25	ND	U	U

Appendix A. Groundwater Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Bag ID	Sample Depth	Matrix	Method	Analyte	Units	Result	Report Limit	Non Detect	Lab Qual	Val Qual
	FA67560	08/26/2019	1935Y212001F	2	127	WG	EPA8260-SIM	Chloroform	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212001F	2	127	WG	EPA8260-SIM	cis-1,2-Dichloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212001F	2	127	WG	EPA8260-SIM	Tetrachloroethene	ug/L	< 0.25	0.25	ND	U	U
	FA67560	08/26/2019	1935Y212001F	2	127	WG	EPA8260-SIM	Vinyl Chloride	ug/L	< 0.05	0.05	ND	U	U
	FA67560	08/26/2019	1935Y212001F	2	127	WG	EPA8260-SIM	Trichloroethene	ug/L	1.5	0.25			
	FA67651	08/28/2019	1935Y212030F	2	127	WG	EPA9056A	Chloride (as Cl)	mg/L	3090	100			

Notes:
--: Sample collected with pump spigot
Acronyms and Abbreviations:
µg/L: micrograms per liter
mg/L: milligrams per liter
Qual: qualifier
NS: normal sample
FD: Field Duplicate
ND: Non Detect
WG: Water
Data Validation Qualifiers:
J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.
U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).
UJ: Validation qualifier, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

APPENDIX B

Groundwater Validation Summary Reports, Third Quarter 2019

Third Quarter 2019

Groundwater Sample

Cross Reference Table

Table B1. Third Quarter 2019 Groundwater Sample Cross Reference Table

Station ID	Sample ID	Sample Date	Sample Type	COC Number	Package Lab ID
EW-12-03-180M	1935Y212029F	8/27/2019	EW	2422	FA67615-20
EW-12-05-180M	1935M212165F	8/28/2019	EW	2403	FA67651-4
EW-12-05-180M-DUP	1935M212166D	8/28/2019	DUP	2403	FA67651-5
EW-12-07-180M	1935M212167F	8/28/2019	EW	2403	FA67651-6
EW-12-08-180U	1935M212168F	8/28/2019	EW	2403	FA67651-7
MW-02-05-180	1935Y212002F	8/26/2019	GWM	2419	FA67560-2
MW-02-05-180	1936Y212086F	9/4/2019	GWM	2438	FA67764-1
MW-02-05-180-DUP	1936Y212087D	9/4/2019	DUP	2438	FA67764-2
MW-02-13-180M	1935Y212001F	8/26/2019	GWM	2419	FA67560-1
MW-02-13-180M	1935Y212030F	8/28/2019	GWM	2423	FA67651-1
MW-12-01-180	1935Y212022F	8/27/2019	GWM	2421	FA67615-13
MW-12-05-180	1936Y212088F	9/4/2019	GWM	2438	FA67764-3
MW-12-09R-180	1935Y212018F	8/27/2019	GWM	2421	FA67615-9
MW-12-14-180M	1935Y212028F	8/27/2019	GWM	2422	FA67615-19
MW-12-15-180M	1935Y212008F	8/26/2019	GWM	2419	FA67560-3
MW-12-16-180M	1935Y212025F	8/27/2019	GWM	2422	FA67615-16
MW-12-16-180M-DUP	1935Y212026D	8/27/2019	DUP	2422	FA67615-17
MW-12-18-180U	1935Y212027F	8/27/2019	GWM	2422	FA67615-18
MW-12-20-180U	1935Y212015F	8/27/2019	GWM	2421	FA67615-6
MW-12-21-180U	1935Y212014F	8/27/2019	GWM	2421	FA67615-5
MW-12-22-180U	1935Y212010F	8/27/2019	GWM	2421	FA67615-1
MW-12-24-180U	1935Y212017F	8/27/2019	GWM	2421	FA67615-8
MW-12-25-180U	1935Y212011F	8/27/2019	GWM	2421	FA67615-2
MW-12-26-180U	1935Y212012F	8/27/2019	GWM	2421	FA67615-3
MW-12-26-180U-DUP	1935Y212013D	8/27/2019	DUP	2421	FA67615-4
MW-12-28-180U	1935Y212019F	8/27/2019	GWM	2421	FA67615-10
MW-12-29-180U	1935Y212020F	8/27/2019	GWM	2421	FA67615-11
MW-12-30-180U	1935Y212021F	8/27/2019	GWM	2421	FA67615-12
MW-12-31-180M	1935Y212024F	8/27/2019	GWM	2421	FA67615-15
MW-12-32-180U	1935Y212023F	8/27/2019	GWM	2421	FA67615-14
QC-TRIP-BLANK	1935Y212009A	8/26/2019	QC	2419	FA67560-4
QC-TRIP-BLANK	1935M212190A	8/27/2019	QC	2409	FA67546-1
QC-TRIP-BLANK	1935Y212016A	8/27/2019	QC	2421	FA67615-7
QC-TRIP-BLANK	1935Y212031A	8/28/2019	QC	2423	FA67651-2
QC-TRIP-BLANK	1935M212164A	8/28/2019	QC	2403	FA67651-3
TS-212-INJ	1935M212191F	8/27/2019	TS	2409	FA67546-2

Notes:

COC: chain of custody
DUP: duplicate sample
EW: extraction well sample
GWM: groundwater monitoring sample
ID: identification
QC: quality control sample
TS: groundwater treatment system sample

Third Quarter 2019

Groundwater Laboratory Data

Validation Summary Report (VSR)

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AHTNA
296 12th Street
Marina, CA 93933
ATTN: Mr. Eric A. Schmidt
Eschmidt@ahtna.net

October 11, 2019

SUBJECT: Fort Ord, GWTP OU2, Data Validation

Dear Mr. Schmidt,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on September 20, 2019. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #45997:

SDG #	Fraction
FA65781, FA66715, FA67546, FA67557 FA67558, FA67560, FA67613, FA67615 FA67649, FA67650, FA67651, FA67652 FA67657, FA67700, FA67702, FA67715 FA67745, FA67763, FA67764, FA67761	Volatiles, Metals, Chloride

The data validation was performed under Stage 2B & 4 guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California; Revision 7, August 2019
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.1; 2017
- USACE Guidance for Evaluating Performance-Based Chemical Data; June 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Pgeng@lab-data.com
Project Manager/Senior Chemist

3,557 pages-ADV R1 (added T / page count) Attachment 1

ADR/Stage 4 **90/10**

LDC#45997 (AHTNA Engineering Services-Marina, CA / Fort Ord, GWTP OU2)

Project # 05055.03

LDC	SDG#	DATE REC'D	(3) DATE DUE	(11)VOA (8260B -SIM)		(8)VOA (8260B -SIM)		(3)VOA (8260B -SIM)		(1)VOA (8260B -SIM)		(3)Diss. Metals (6010C)		Cl (300.0/ 9056A)																								
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	FA65781	09/20/19	10/11/19	4	0	-	-	-	-	-	-	-	-	-	-																								
B	FA66715	09/20/19	10/11/19	4	0	-	-	-	-	-	-	-	-	-	-																								
C	FA67546	09/20/19	10/11/19	-	-	2	0	-	-	-	-	-	-	-	-																								
D	FA67557	09/20/19	10/11/19	5	0	-	-	-	-	-	-	-	-	-	-																								
E	FA67558	09/20/19	10/11/19	-	-	18	0	-	-	-	-	-	-	-	-																								
F	FA67560	09/20/19	10/11/19	-	-	4	0	-	-	-	-	-	-	-	-																								
G	FA67613	09/20/19	10/11/19	-	-	-	-	4	0	-	-	-	-	-	-																								
H	FA67615	09/20/19	10/11/19	-	-	20	0	-	-	-	-	-	-	-	-																								
I	FA67649	09/20/19	10/11/19	13	0	-	-	-	-	-	-	4	0	-	-																								
I	FA67649	09/20/19	10/11/19	13	0	-	-	-	-	-	-	1	0	-	-																								
J	FA67650	09/20/19	10/11/19	-	-	-	-	18	0	-	-	-	-	-	-																								
K	FA67651	09/20/19	10/11/19	-	-	6	0	-	-	-	-	-	-	4	0																								
K	FA67651	09/20/19	10/11/19	-	-	0	0	-	-	-	-	-	-	1	0																								
L	FA67652	09/20/19	10/11/19	-	-	-	-	-	-	1	0	-	-	-	-																								
M	FA67657	09/20/19	10/11/19	-	-	30	0	-	-	-	-	-	-	-	-																								
N	FA67700	09/20/19	10/11/19	-	-	12	0	-	-	-	-	-	-	-	-																								
O	FA67702	09/20/19	10/11/19	-	-	-	-	-	-	11	0	-	-	-	-																								
P	FA67715	09/20/19	10/11/19	29	0	-	-	-	-	-	-	-	-	-	-																								
Q	FA67745	09/20/19	10/11/19	10	0	-	-	-	-	-	-	-	-	-	-																								
R	FA67763	09/20/19	10/11/19	-	-	19	0	-	-	-	-	-	-	-	-																								
S	FA67764	09/20/19	10/11/19	-	-	-	-	-	-	-	-	-	-	3	0																								
T	FA67761	10/10/19	10/31/19	18	0	-	-	-	-	-	-	-	-	-	-																								
Total	J/T/PG			96	0	111	0	22	0	12	0	5	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	254

Shaded cells indicate Stage 4 validation (all other cells are ADR validation). These sample counts do not include MS/MSD, and DUPs

L:\Ahtna\Fort Ord\45997ST-OU2.wpd

Data Validation Report
Fort Ord, Site 12, GWTP

SDGs: FA65781, FA66715, FA67546, FA67557, FA67558, FA67560, FA67613, FA67615, FA67649, FA67650, FA67651, FA67652, FA67657, FA67700, FA67702, FA67715, FA67745, FA67763, FA67764, and FA67761

Prepared for

Ahtna Environmental Inc.
296 12th Street
Marina, California 93933-6001

Prepared by

Laboratory Data Consultants, Inc
2701 Loker Ave West, Suite 220
Carlsbad, CA 92010

October 11, 2019

INTRODUCTION

This Data Validation Report (DVR) presents Stage 2B and 4 data validation results for samples collected during the July through September 2019 sampling period. Data validation was performed in accordance with the Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California (Revision 7, August 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and the USACE Guidance for Evaluating Performance-Based Chemical Data (June 2005). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatiles (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260B in Selection Ion Monitoring (SIM) mode
Dissolved Metals by EPA SW846 Method 6010C
Chloride by EPA Method 300.0/SW 846 Method 9056A

The sample identification and method of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Stage 2B Automated Data Review outliers are presented in Enclosure I. DVRs for samples on which Stage 4 validation was performed are presented in Enclosure II.

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibrations, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards, matrix spike/matrix spike duplicates (MS/MSD), laboratory control sample (LCS), laboratory blanks, trip blanks, equipment blanks, field blanks, and field duplicates. Approximately 10 percent of samples were subjected to Stage 4 evaluation as indicated in Attachment 1, which comprises a review of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with the exception of the calibrations, ICB/CCBs, and internal standards, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and EM-200-1-10 were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detect at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt & Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Instrument Performance Check

Instrument performance was checked at the frequency required by the methods.

All criteria for the instrument performance check were met.

III. Initial Calibration and Initial Calibration Verification

All criteria for the initial calibration and initial calibration verifications of each method were met.

IV. Continuing Calibration

All criteria for the continuing calibration verifications of each method were met with the following exceptions:

SDG/ Method	Date	Compound	%D (Limits)	Associated Samples	Flag	A or P
FA67700/ 8260B-SIM	09/09/19	Methylene chloride	21 (≤20)	1935X0BW087F 1935X0BW088D 1935X0BW089F	NA	-
FA67715/ 8260B-SIM	09/09/19	Methylene chloride	21 (≤20)	1935XOU2070C 1935XOU2071A 1935YOU2057F 1935YOU2058F 1935YOU2059F	NA	-

V. Laboratory Blanks

Laboratory blanks were performed as required by the methods. No contaminant concentrations were detected in the laboratory blanks reviewed by the ADR software program with the exception of several blanks for methylene chloride and one blank for antimony. The associated sample results were qualified as non-detected (U) due to laboratory blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosures I and II.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the following exceptions:

SDG/ Method	Laboratory Blank ID	Analyte	Maximum Concentration	Associated Samples
FA67649/ 6010C	ICB/CCB	Antimony	2.80 ug/L	1935YOU2032F 1935YOU2034F
FA67649/ 6010C	ICB/CCB	Antimony	3.10 ug/L	1935YOU2036F 1935YOU2037F 1935YOU2038D
FA67764/ 300.0/9056A	ICB/CCB	Chloride	0.880 mg/L	1936Y212086F 1936Y212087D 1936Y212088F

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were not detected or were significantly greater than the concentrations found in the associated blanks with the following exceptions:

SDG/Method	Sample	Compound	Reported Concentration	Modified Final Concentration
FA67649/ 6010C	1935YOU2032F	Antimony	1.5 ug/L	1.5U ug/L
FA67649/ 6010C	1935YOU2034F	Antimony	3.8 ug/L	3.8U ug/L
FA67649/ 6010C	1935YOU2036F	Antimony	1.8 ug/L	1.8U ug/L
FA67649/ 6010C	1935YOU2037F	Antimony	2.4 ug/L	2.4U ug/L
FA67649/ 6010C	1935YOU2038D	Antimony	1.7 ug/L	1.7U ug/L

VI. Field Blanks

Twenty-two trip blanks were collected and analyzed for VOCs. No contaminants were found.

One equipment blank was collected and analyzed for VOCs. No contaminants were found.

Seven field blanks were collected and analyzed for VOCs. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the exception of five samples for VOCs. The associated sample results were qualified as non-detected estimated (UJ). No data were qualified due to high %Rs when the associated results were non-detected. The details regarding qualification of data are presented in Enclosures I and II.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of two MS/MSD pairs for methylene chloride and one MS/MSD pair for chloride. No data were qualified due to high %Rs since the associated results were non-detected or the sample concentration was significantly greater (>4x) than the spiked amount. The details are provided in Enclosure I.

IX. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

XI. Field Duplicates

Twenty-five field duplicate pairs were collected and analyzed for VOCs or metals. All RPDs were within QC limits with the exception of two duplicate pairs for VOCs and one duplicate pair for metals. No data were qualified on the basis of field duplicate RPDs outside the QC limits. The field duplicate result comparisons are provided in Enclosures I and II.

XII. Internal Standards

All internal standard areas and retention times were within QC limits.

XIII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the limit of quantitation (LOQ) as detected by the laboratory were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosures I and II.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in these SDGs.

Due to surrogate %R, data were qualified as estimated one sample.

Due to results below the LOQ, data were qualified as estimated in one hundred sixty-nine samples.

Due to laboratory blank contamination, data were qualified as not detected in five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

Data flags are summarized and are presented as Attachment 2.

Attachment 1

Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
08-Jul-2019	1928MOU2156A	FA65781-1	TB	5030B	EPA8260-SIM	Stage 2B
08-Jul-2019	1928MOU2157F	FA65781-2	N	5030B	EPA8260-SIM	Stage 2B
08-Jul-2019	1928MOU2157FMS	FA65781-2MS	MS	5030B	EPA8260-SIM	Stage 2B
08-Jul-2019	1928MOU2157FMSD	FA65781-2MSD	MSD	5030B	EPA8260-SIM	Stage 2B
08-Jul-2019	1928MOU2158F	FA65781-3	N	5030B	EPA8260-SIM	Stage 2B
08-Jul-2019	1928MOU2159F	FA65781-4	N	5030B	EPA8260-SIM	Stage 2B
05-Aug-2019	1932MOU2160A	FA66715-1	TB	5030B	EPA8260-SIM	Stage 2B
05-Aug-2019	1932MOU2161F	FA66715-2	N	5030B	EPA8260-SIM	Stage 2B
05-Aug-2019	1932MOU2162F	FA66715-3	N	5030B	EPA8260-SIM	Stage 2B
05-Aug-2019	1932MOU2163F	FA66715-4	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935Y212001F	FA67560-1	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935Y212002F	FA67560-2	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW001F	FA67558-1	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW001FMS	FA67558-1MS	MS	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW001FMSD	FA67558-1MSD	MSD	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW002C	FA67558-2	FB	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW003F	FA67558-3	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW004F	FA67558-4	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935YOU2003F	FA67557-1	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW005F	FA67558-5	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW006F	FA67558-6	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW007F	FA67558-7	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW008F	FA67558-8	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935YOU2004F	FA67557-2	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW009F	FA67558-9	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW010F	FA67558-10	N	5030B	EPA8260-SIM	Stage 2B

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
26-Aug-2019	1935X0BW011F	FA67558-11	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935YOU2005F	FA67557-3	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW012F	FA67558-12	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935YOU2006F	FA67557-4	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935YOU2007D	FA67557-5	FD	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW013F	FA67558-13	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW014D	FA67558-14	FD	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW015F	FA67558-15	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW016D	FA67558-16	FD	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW017F	FA67558-17	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935Y212008F	FA67560-3	N	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935Y212008FMS	FA67560-3MS	MS	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935Y212008FMSD	FA67560-3MSD	MSD	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935X0BW018A	FA67558-18	TB	5030B	EPA8260-SIM	Stage 2B
26-Aug-2019	1935Y212009A	FA67560-4	TB	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212010F	FA67615-1	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212010FMS	FA67615-1MS	MS	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212010FMSD	FA67615-1MSD	MSD	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212011F	FA67615-2	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212012F	FA67615-3	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212013D	FA67615-4	FD	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212014F	FA67615-5	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212015F	FA67615-6	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212016A	FA67615-7	TB	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212017F	FA67615-8	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212018F	FA67615-9	N	5030B	EPA8260-SIM	Stage 2B

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
27-Aug-2019	1935Y212019F	FA67615-10	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935M212190A	FA67546-1	TB	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935M212191F	FA67546-2	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935M212191FMS	FA67546-2MS	MS	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935M212191FMSD	FA67546-2MSD	MSD	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212020F	FA67615-11	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212021F	FA67615-12	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212022F	FA67615-13	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212023F	FA67615-14	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212024F	FA67615-15	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212025F	FA67615-16	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212026D	FA67615-17	FD	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935W0BW001A	FA67613-1	TB	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212027F	FA67615-18	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212028F	FA67615-19	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935W0BW002F	FA67613-2	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935W0BW003D	FA67613-3	FD	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935W0BW004F	FA67613-4	N	5030B	EPA8260-SIM	Stage 2B
27-Aug-2019	1935Y212029F	FA67615-20	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935Y212030F	FA67651-1	N	Gen Prep	EPA9056A	Stage 4
28-Aug-2019	1935Y212031A	FA67651-2	TB	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW039F	FA67657-1	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW040F	FA67657-2	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW041F	FA67657-3	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW042F	FA67657-4	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW043C	FA67657-5	FB	5030B	EPA8260-SIM	Stage 2B

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Aug-2019	1935X0BW044A	FA67657-6	TB	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212164A	FA67651-3	TB	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212165F	FA67651-4	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212165F	FA67651-4	N	Gen Prep	EPA9056A	Stage 2B
28-Aug-2019	1935M212166D	FA67651-5	FD	Gen Prep	EPA9056A	Stage 2B
28-Aug-2019	1935M212166D	FA67651-5	FD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW045F	FA67657-7	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW005A	FA67650-1	TB	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935YOU2032F	FA67649-1F	N	3010A	EPA6010C	Stage 4
28-Aug-2019	1935W0BW006F	FA67650-2	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212167F	FA67651-6	N	Gen Prep	EPA9056A	Stage 2B
28-Aug-2019	1935M212167F	FA67651-6	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212167FMS	FA67651-6MS	MS	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212167FMSD	FA67651-6MSD	MSD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW046F	FA67657-8	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212167FMS	GP33609-S3	MS	Gen Prep	EPA9056A	Stage 2B
28-Aug-2019	1935M212167FMSD	GP33609-S4	MSD	Gen Prep	EPA9056A	Stage 2B
28-Aug-2019	1935X0BW047F	FA67657-9	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935YOU2033F	FA67649-2	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935X0BW048F	FA67657-10	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW048FMS	FA67657-10MS	MS	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW048FMSD	FA67657-10MSD	MSD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW049F	FA67657-11	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW050D	FA67657-12	FD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212168F	FA67651-7	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935M212168F	FA67651-7	N	Gen Prep	EPA9056A	Stage 2B

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Aug-2019	1935YOU2034F	FA67649-3F	N	3010A	EPA6010C	Stage 2B
28-Aug-2019	1935X0BW051F	FA67657-13	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2169A	FA67649-10	TB	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2170F	FA67649-11	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2192F	FA67649-31	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW052F	FA67657-14	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW053D	FA67657-15	FD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2171F	FA67649-12	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935W0BW007F	FA67650-3	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW007FMS	FA67650-3MS	MS	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW007FMSD	FA67650-3MSD	MSD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2172D	FA67649-13	FD	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935YOU2035F	FA67649-4	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935W0BW008F	FA67650-4	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW054F	FA67657-16	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935YOU2036F	FA67649-5F	N	3010A	EPA6010C	Stage 2B
28-Aug-2019	1935X0BW055D	FA67657-17	FD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2173F	FA67649-14	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2174F	FA67649-15	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935W0BW009F	FA67652-1	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW056F	FA67657-18	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2175F	FA67649-16	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2176F	FA67649-17	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935YOU2037F	FA67649-6F	N	3010A	EPA6010C	Stage 2B
28-Aug-2019	1935YOU2038D	FA67649-7F	FD	3010A	EPA6010C	Stage 2B
28-Aug-2019	1935X0BW057F	FA67657-19	N	5030B	EPA8260-SIM	Stage 2B

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Aug-2019	1935X0BW057FMS	FA67657-19MS	MS	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW057FMSD	FA67657-19MSD	MSD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2177F	FA67649-18	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2177FMS	FA67649-18MS	MS	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2177FMSD	FA67649-18MSD	MSD	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2178F	FA67649-19	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW058F	FA67657-20	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2179F	FA67649-20	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2188F	FA67649-29	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW059F	FA67657-21	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935YOU2039F	FA67649-8	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2180F	FA67649-21	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2181F	FA67649-22	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW060F	FA67657-22	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2182F	FA67649-23	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW061F	FA67657-23	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW062F	FA67657-24	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW063F	FA67657-25	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW064D	FA67657-26	FD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935YOU2040F	FA67650-11	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW065F	FA67657-27	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW010F	FA67650-5	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2184F	FA67649-25	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW011D	FA67650-6	FD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2185D	FA67649-26	FD	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X00B066F	FA67657-28	N	5030B	EPA8260-SIM	Stage 2B

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
28-Aug-2019	1935MOU2183F	FA67649-24	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW067F	FA67657-29	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2186F	FA67649-27	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935YOU2041F	FA67650-12	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935MOU2187F	FA67649-28	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935X0BW068F	FA67657-30	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935YOU2042F	FA67649-9	N	5030B	EPA8260-SIM	Stage 4
28-Aug-2019	1935MOU2189F	FA67649-30	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW012F	FA67650-7	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW013F	FA67650-8	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW014F	FA67650-9	N	5030B	EPA8260-SIM	Stage 2B
28-Aug-2019	1935W0BW015F	FA67650-10	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935Z0BW001F	FA67650-13	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935Z0BW002D	FA67650-14	FD	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2043F	FA67715-1	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935Z0BW003F	FA67650-15	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2044A	FA67715-2	TB	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935XOU2069F	FA67715-13	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935XOU2070C	FA67715-14	FB	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935Z0BW004F	FA67650-16	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935XOU2071A	FA67715-15	TB	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2045F	FA67715-3	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935Z0BW005F	FA67650-17	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2046F	FA67715-4	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935Z0BW006A	FA67650-18	TB	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2047F	FA67715-5	N	5030B	EPA8260-SIM	Stage 2B

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
29-Aug-2019	1935W0BW016A	FA67702-1	TB	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935W0BW017F	FA67702-2	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2048F	FA67715-6	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2049F	FA67715-7	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935W0BW018F	FA67700-1	N	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935YOU2050F	FA67715-8	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935W0BW019B	FA67700-2	EB	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935X0BW074F	FA67702-3	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2051F	FA67715-9	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2052F	FA67715-10	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935X0BW075F	FA67700-3	N	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935X0BW076F	FA67700-4	N	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935X0BW077D	FA67700-5	FD	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935X0BW077DMS	FA67700-5MS	MS	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935X0BW077DMSD	FA67700-5MSD	MSD	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935X0BW078F	FA67700-6	N	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935X0BW079F	FA67700-7	N	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935X0BW080F	FA67700-8	N	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935YOU2055F	FA67715-11	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935X0BW081F	FA67700-9	N	5030B	EPA8260-SIM	Stage 4
29-Aug-2019	1935YOU2056F	FA67715-12	N	5030B	EPA8260-SIM	Stage 2B
29-Aug-2019	1935YOU2057F	FA67715-16	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2058F	FA67715-17	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935X0BW082F	FA67702-4	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935X0BW083D	FA67702-5	FD	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935X0BW084C	FA67702-6	FB	5030B	EPA8260-SIM	Stage 2B

N = Normal Sample *MS = Matrix Spike*
FD = Field Duplicate *MSD = Matrix Spike Duplicate*
TB = Trip Blank *EB = Equipment Blank* *FB = Field Blank*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Aug-2019	1935X0BW085A	FA67702-7	TB	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935X0BW086F	FA67702-8	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2059F	FA67715-18	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2060F	FA67715-19	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2060FMS	FA67715-19MS	MS	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2060FMSD	FA67715-19MSD	MSD	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935X0BW087F	FA67700-10	N	5030B	EPA8260-SIM	Stage 4
30-Aug-2019	1935X0BW087FMS	FA67700-10MS	MS	5030B	EPA8260-SIM	Stage 4
30-Aug-2019	1935X0BW087FMSD	FA67700-10MSD	MSD	5030B	EPA8260-SIM	Stage 4
30-Aug-2019	1935YOU2061A	FA67715-20	TB	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935X0BW088D	FA67700-11	FD	5030B	EPA8260-SIM	Stage 4
30-Aug-2019	1935X0BW089F	FA67700-12	N	5030B	EPA8260-SIM	Stage 4
30-Aug-2019	1935YOU2062F	FA67715-21	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2063F	FA67715-22	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2064F	FA67715-23	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2065F	FA67715-24	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2065FMS	FA67715-24MS	MS	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2065FMSD	FA67715-24MSD	MSD	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935XOU2090F	FA67702-9	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2066F	FA67715-25	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2067F	FA67715-26	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2068F	FA67715-27	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935XOU2094F	FA67702-10	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935XOU2095F	FA67702-11	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2069F	FA67715-28	N	5030B	EPA8260-SIM	Stage 2B
30-Aug-2019	1935YOU2070F	FA67715-29	N	5030B	EPA8260-SIM	Stage 2B

N = Normal Sample *MS = Matrix Spike*
FD = Field Duplicate *MSD = Matrix Spike Duplicate*
TB = Trip Blank *EB = Equipment Blank* *FB = Field Blank*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Sep-2019	1936X0BW097F	FA67763-1	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW097FMS	FA67763-1MS	MS	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW097FMSD	FA67763-1MSD	MSD	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW098F	FA67763-2	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW099F	FA67763-3	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW100F	FA67763-4	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2192A	FA67745-1	TB	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2193F	FA67745-2	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW101F	FA67763-5	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2194F	FA67745-3	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2195F	FA67745-4	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW102F	FA67763-6	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2196F	FA67745-5	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2197F	FA67745-6	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW103D	FA67763-7	FD	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2198F	FA67745-7	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2199F	FA67745-8	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW104F	FA67763-8	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2200F	FA67745-9	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936MOU2201D	FA67745-10	FD	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW105F	FA67763-9	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW106F	FA67763-10	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW107F	FA67763-11	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW108F	FA67763-12	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW109D	FA67763-13	FD	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW110F	FA67763-14	N	5030B	EPA8260-SIM	Stage 2B

N = Normal Sample *MS = Matrix Spike*
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TB = Trip Blank *EB = Equipment Blank* *FB = Field Blank*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
03-Sep-2019	1936X0BW111F	FA67763-15	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW112F	FA67763-16	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW113F	FA67763-17	N	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW114C	FA67763-18	FB	5030B	EPA8260-SIM	Stage 2B
03-Sep-2019	1936X0BW115A	FA67763-19	TB	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2071F	FA67761-1	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2071FMS	FA67761-1MS	MS	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2071FMSD	FA67761-1MSD	MSD	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2072F	FA67761-2	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2073D	FA67761-3	FD	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2074C	FA67761-4	FB	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2075F	FA67761-5	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2076F	FA67761-6	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2077F	FA67761-7	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2078F	FA67761-8	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2079F	FA67761-9	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2080F	FA67761-10	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2081D	FA67761-11	FD	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2081DMS	FA67761-11MS	MS	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2081DMSD	FA67761-11MSD	MSD	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2082F	FA67761-12	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2083F	FA67761-13	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2084F	FA67761-14	N	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936YOU2085A	FA67761-15	TB	5030B	EPA8260-SIM	Stage 2B
04-Sep-2019	1936Y212086F	FA67764-1	N	Gen Prep	EPA9056A	Stage 2B
04-Sep-2019	1936Y212087D	FA67764-2	FD	Gen Prep	EPA9056A	Stage 2B

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Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-Sep-2019	1936Y212088F	FA67764-3	N	Gen Prep	EPA9056A	Stage 2B
05-Sep-2019	1936ZOU2006F	FA67761-16	N	5030B	EPA8260-SIM	Stage 2B
05-Sep-2019	1936ZOU2007C	FA67761-17	FB	5030B	EPA8260-SIM	Stage 2B
05-Sep-2019	1936ZOU2008A	FA67761-18	TB	5030B	EPA8260-SIM	Stage 2B

N = Normal Sample *MS = Matrix Spike*
FD = Field Duplicate *MSD = Matrix Spike Duplicate*
TB = Trip Blank *EB = Equipment Blank* *FB = Field Blank*

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA65781

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1928MOU2157F** ***Collected:*** **7/8/2019 8:35:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.20	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1928MOU2158F** ***Collected:*** **7/8/2019 8:39:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.35	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.30	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1928MOU2159F** ***Collected:*** **7/8/2019 8:44:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.34	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA66715

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1932MOU2161F** ***Collected:*** **8/5/2019 11:08:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.32	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA66715

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1932MOU2161F ***Collected:*** 8/5/2019 11:08:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code

Sample ID: 1932MOU2162F ***Collected:*** 8/5/2019 11:12:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.38	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1932MOU2163F ***Collected:*** 8/5/2019 11:15:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.29	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.37	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.47	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67557

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935YOU2003F ***Collected:*** 8/26/2019 12:20:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.19	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67557

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

8/26/2019 1:15:00

Sample ID: 1935YOU2004F *Collected:* PM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.21	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
BENZENE	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/26/2019 1:37:00

Sample ID: 1935YOU2005F *Collected:* PM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
BENZENE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.48	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/26/2019 2:00:00

Sample ID: 1935YOU2006F *Collected:* PM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.13	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.48	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/26/2019 2:06:00

Sample ID: 1935YOU2007D *Collected:* PM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.47	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67558

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935X0BW001F** ***Collected:*** **8/26/2019 11:15:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CHLOROFORM	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW003F** ***Collected:*** **8/26/2019 11:45:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CHLOROFORM	0.31	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW004F** ***Collected:*** **8/26/2019 12:16:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CHLOROFORM	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW010F** ***Collected:*** **8/26/2019 1:33:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CHLOROFORM	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW013F** ***Collected:*** **8/26/2019 2:30:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CHLOROFORM	0.21	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67558

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935X0BW014D** ***Collected:*** **8/26/2019 2:35:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.22	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW015F** ***Collected:*** **8/26/2019 3:05:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW016D** ***Collected:*** **8/26/2019 3:10:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.40	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW017F** ***Collected:*** **8/26/2019 3:25:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67560

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67560

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935Y212002F** ***Collected:*** **8/26/2019 11:10:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CIS-1,2-DICHLOROETHYLENE	0.19	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935Y212008F** ***Collected:*** **8/26/2019 3:30:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67613

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935W0BW004F** ***Collected:*** **8/27/2019 2:15:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67615

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67615

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935Y212010F** ***Collected:*** **8/27/2019 8:11:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935Y212011F** ***Collected:*** **8/27/2019 8:40:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935Y212012F** ***Collected:*** **8/27/2019 8:58:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935Y212013D** ***Collected:*** **8/27/2019 8:58:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.32	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935Y212014F** ***Collected:*** **8/27/2019 9:15:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67615

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935Y212017F ***Collected:*** 8/27/2019 9:44:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.13	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212018F ***Collected:*** 8/27/2019 9:55:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212019F ***Collected:*** 8/27/2019 10:14:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.33	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212020F ***Collected:*** 8/27/2019 10:43:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.37	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212021F ***Collected:*** 8/27/2019 10:58:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.36	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67615

Method Category: VOA

Method: EPA8260-SIM **Matrix:** AQ

Sample ID: 1935Y212022F **Collected:** 8/27/2019 11:18:00 AM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.29	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212023F **Collected:** 8/27/2019 12:20:00 PM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.41	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.42	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212024F **Collected:** 8/27/2019 12:37:00 PM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212025F **Collected:** 8/27/2019 1:02:00 PM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.20	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.21	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212026D **Collected:** 8/27/2019 1:02:00 PM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.19	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67615

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935Y212026D ***Collected:*** 8/27/2019 1:02:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.21	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935Y212028F ***Collected:*** 8/27/2019 1:28:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67649

Method Category: METALS

Method: EPA6010C ***Matrix:*** AQ

Sample ID: 1935YOU2032F ***Collected:*** 8/28/2019 8:47:00 AM ***Analysis Type:*** 1RES/DIS ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
COPPER	13.6	J	2.0	LOD	25	LOQ	ug/L	J	RI
ANTIMONY	1.5	J	5.0	LOD	6.0	LOQ	ug/L	U	Mb, Cb

Sample ID: 1935YOU2034F ***Collected:*** 8/28/2019 9:33:00 AM ***Analysis Type:*** 1RES/DIS ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	3.8	J	5.0	LOD	6.0	LOQ	ug/L	U	Mb, Cb
LEAD	1.9	J	2.0	LOD	5.0	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67649

Method Category: METALS

Method: EPA6010C ***Matrix:*** AQ

Sample ID: 1935YOU2034F ***Collected:*** 8/28/2019 9:33:00 AM ***Analysis Type:*** 1RES/DIS ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code

Sample ID: 1935YOU2036F ***Collected:*** 8/28/2019 10:40:00 AM ***Analysis Type:*** 1RES/DIS ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.8	JB	5.0	LOD	6.0	LOQ	ug/L	U	Mb, Cb
LEAD	2.3	J	2.0	LOD	5.0	LOQ	ug/L	J	RI

Sample ID: 1935YOU2037F ***Collected:*** 8/28/2019 11:15:00 AM ***Analysis Type:*** 1RES/DIS ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	2.4	JB	5.0	LOD	6.0	LOQ	ug/L	U	Mb, Cb
COPPER	1.9	J	2.0	LOD	25	LOQ	ug/L	J	RI
LEAD	4.3	J	2.0	LOD	5.0	LOQ	ug/L	J	RI

Sample ID: 1935YOU2038D ***Collected:*** 8/28/2019 11:15:00 AM ***Analysis Type:*** 1RES/DIS ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	1.7	JB	5.0	LOD	6.0	LOQ	ug/L	U	Mb, Cb
COPPER	1.3	J	2.0	LOD	25	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67649

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935MOU2170F ***Collected:*** 8/28/2019 9:55:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.31	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
1,2-DICHLOROETHANE	0.47	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2171F ***Collected:*** 8/28/2019 10:18:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2172D ***Collected:*** 8/28/2019 10:23:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2173F ***Collected:*** 8/28/2019 10:42:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.29	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2174F ***Collected:*** 8/28/2019 10:49:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67649

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935MOU2175F ***Collected:*** 8/28/2019 10:59:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2176F ***Collected:*** 8/28/2019 11:10:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZENE	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.20	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2177F ***Collected:*** 8/28/2019 11:25:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.30	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2178F ***Collected:*** 8/28/2019 11:38:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.38	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.31	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67649

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935MOU2180F** ***Collected:*** **8/28/2019 12:01:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.31	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
BENZENE	0.20	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.48	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	1.3	J	0.50	LOD	2.0	LOQ	ug/L	J	RI

Sample ID: **1935MOU2181F** ***Collected:*** **8/28/2019 12:08:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZENE	0.29	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.40	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
METHYLENE CHLORIDE	0.76	J	0.50	LOD	2.0	LOQ	ug/L	J	RI

Sample ID: **1935MOU2182F** ***Collected:*** **8/28/2019 12:15:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.27	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
BENZENE	0.20	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935MOU2183F** ***Collected:*** **8/28/2019 2:09:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.27	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.26	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67649

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935MOU2184F ***Collected:*** 8/28/2019 1:47:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.22	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2185D ***Collected:*** 8/28/2019 1:55:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.19	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2186F ***Collected:*** 8/28/2019 2:26:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CARBON TETRACHLORIDE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.34	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2187F ***Collected:*** 8/28/2019 2:35:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2188F ***Collected:*** 8/28/2019 11:53:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67649

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935MOU2189F ***Collected:*** 8/28/2019 3:01:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935MOU2192F ***Collected:*** 8/28/2019 10:07:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.37	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.30	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935YOU2033F ***Collected:*** 8/28/2019 9:14:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.21	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.43	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935YOU2035F ***Collected:*** 8/28/2019 10:24:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.26	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
1,2-DICHLOROPROPANE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.38	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67649

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935YOU2039F ***Collected:*** 8/28/2019 11:57:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.10	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.41	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935YOU2042F ***Collected:*** 8/28/2019 2:48:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.44	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67650

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935W0BW010F ***Collected:*** 8/28/2019 1:45:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935W0BW011D ***Collected:*** 8/28/2019 1:50:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67650

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935W0BW011D** ***Collected:*** **8/28/2019 1:50:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code

Sample ID: **1935W0BW013F** ***Collected:*** **8/28/2019 3:30:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.13	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.48	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935W0BW015F** ***Collected:*** **8/28/2019 4:05:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.35	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935Z0BW001F** ***Collected:*** **8/29/2019 7:30:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.20	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.44	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935Z0BW002D** ***Collected:*** **8/29/2019 7:35:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.21	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.41	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67650

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

8/29/2019 7:50:00

Sample ID: 1935Z0BW003F ***Collected:*** AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/29/2019 8:10:00

Sample ID: 1935Z0BW004F ***Collected:*** AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.13	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/29/2019 8:30:00

Sample ID: 1935Z0BW005F ***Collected:*** AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67651

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

8/28/2019 8:32:00

Sample ID: 1935M212165F ***Collected:*** AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67651

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935M212166D ***Collected:*** 8/28/2019 8:35:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935M212167F ***Collected:*** 8/28/2019 9:10:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CIS-1,2-DICHLOROETHYLENE	0.40	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935M212168F ***Collected:*** 8/28/2019 9:27:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.47	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67657

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935X00B066F ***Collected:*** 8/28/2019 2:05:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.19	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67657

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935X0BW039F** ***Collected:*** **8/28/2019 8:05:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.10	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW040F** ***Collected:*** **8/28/2019 8:08:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW041F** ***Collected:*** **8/28/2019 8:11:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.23	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW042F** ***Collected:*** **8/28/2019 8:14:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.22	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW051F** ***Collected:*** **8/28/2019 9:42:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.40	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67657

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935X0BW052F** ***Collected:*** **8/28/2019 10:12:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CHLOROFORM	0.35	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW053D** ***Collected:*** **8/28/2019 10:15:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CHLOROFORM	0.36	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW054F** ***Collected:*** **8/28/2019 10:35:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CARBON TETRACHLORIDE	0.38	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW055D** ***Collected:*** **8/28/2019 10:40:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CARBON TETRACHLORIDE	0.40	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW056F** ***Collected:*** **8/28/2019 10:55:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
CARBON TETRACHLORIDE	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67657

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935X0BW057F** ***Collected:*** **8/28/2019 11:20:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.25	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW058F** ***Collected:*** **8/28/2019 11:40:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.13	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.38	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW061F** ***Collected:*** **8/28/2019 12:30:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.35	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW062F** ***Collected:*** **8/28/2019 12:55:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHENE (TOTAL)	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW063F** ***Collected:*** **8/28/2019 1:10:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67657

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935X0BW064D** ***Collected:*** **8/28/2019 1:15:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.10	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW065F** ***Collected:*** **8/28/2019 1:40:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.21	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.35	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW067F** ***Collected:*** **8/28/2019 2:15:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.45	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW068F** ***Collected:*** **8/28/2019 2:35:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67700

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67700

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935W0BW018F** ***Collected:*** **8/29/2019 9:50:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.19	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW075F** ***Collected:*** **8/29/2019 11:50:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.36	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW076F** ***Collected:*** **8/29/2019 12:35:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.31	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW077D** ***Collected:*** **8/29/2019 12:40:00 PM** ***Analysis Type:*** **1REA1** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.27	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935X0BW078F** ***Collected:*** **8/29/2019 1:05:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.21	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.31	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67700

Method Category: VOA

Method: EPA8260-SIM **Matrix:** AQ

Sample ID: 1935X0BW080F **Collected:** 8/29/2019 2:10:00 PM **Analysis Type:** 1REA1 **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935X0BW080F **Collected:** 8/29/2019 2:10:00 PM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	0.50	U	0.50	LOD	2.0	LOQ	ug/L	UJ	Surr

Sample ID: 1935X0BW087F **Collected:** 8/30/2019 9:10:00 AM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHENE (TOTAL)	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935X0BW088D **Collected:** 8/30/2019 9:15:00 AM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHENE (TOTAL)	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935X0BW089F **Collected:** 8/30/2019 9:45:00 AM **Analysis Type:** 1RES **Dilution:** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67702

* denotes a non-reportable result

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67702

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

*Sample ID:*1935XOU2094F *Collected:* 8/30/2019 11:45:00 AM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67715

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

*Sample ID:*1935XOU2069F *Collected:* 8/29/2019 8:00:00 AM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.19	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1935YOU2043F *Collected:* 8/29/2019 7:49:00 AM *Analysis Type:* 1REA1 *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.27	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1935YOU2045F *Collected:* 8/29/2019 8:16:00 AM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.23	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546, **Laboratory: ACTO**

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67715

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

8/29/2019 8:37:00

*Sample ID:*1935YOU2046F *Collected:*AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.23	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/29/2019 9:10:00

*Sample ID:*1935YOU2047F *Collected:*AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.42	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/29/2019 9:43:00

*Sample ID:*1935YOU2049F *Collected:*AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.10	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/29/2019 10:01:00

*Sample ID:*1935YOU2050F *Collected:*AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.30	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
Trichloroethylene	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/29/2019 11:14:00

*Sample ID:*1935YOU2051F *Collected:*AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.22	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67715

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935YOU2052F ***Collected:*** 8/29/2019 11:44:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.45	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935YOU2055F ***Collected:*** 8/29/2019 2:27:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.49	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
1,2-DICHLOROPROPANE	0.14	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.29	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935YOU2056F ***Collected:*** 8/29/2019 2:55:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.37	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CARBON TETRACHLORIDE	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935YOU2057F ***Collected:*** 8/29/2019 3:13:00 PM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.44	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.33	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67715

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

8/30/2019 7:23:00

Sample ID: 1935YOU2058F *Collected:* AM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/30/2019 8:39:00

Sample ID: 1935YOU2059F *Collected:* AM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.25	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/30/2019 9:06:00

Sample ID: 1935YOU2060F *Collected:* AM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Trichloroethylene	0.26	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/30/2019 9:46:00

Sample ID: 1935YOU2062F *Collected:* AM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CIS-1,2-DICHLOROETHYLENE	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

8/30/2019 9:54:00

Sample ID: 1935YOU2063F *Collected:* AM *Analysis Type:* 1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.31	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67715

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1935YOU2064F ***Collected:*** 8/30/2019 10:14:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.34	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.46	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935YOU2065F ***Collected:*** 8/30/2019 10:32:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	1.3	J	0.50	LOD	2.0	LOQ	ug/L	J	RI

Sample ID: 1935YOU2066F ***Collected:*** 8/30/2019 10:52:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.48	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.13	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1935YOU2067F ***Collected:*** 8/30/2019 11:29:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67715

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1935YOU2068F** ***Collected:*** **8/30/2019 11:43:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935YOU2069F** ***Collected:*** **8/30/2019 12:20:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1935YOU2070F** ***Collected:*** **8/30/2019 12:53:00 PM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.20	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
1,2-DICHLOROPROPANE	0.28	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.48	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67745

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1936MOU2193F** ***Collected:*** **9/3/2019 9:23:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67745

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1936MOU2194F ***Collected:*** 9/3/2019 9:28:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.42	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1936MOU2195F ***Collected:*** 9/3/2019 9:32:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.33	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.43	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1936MOU2196F ***Collected:*** 9/3/2019 9:36:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.46	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1936MOU2197F ***Collected:*** 9/3/2019 9:40:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.27	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.40	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67745

Method Category: VOA

Method: EPA8260-SIM ***Matrix:*** AQ

Sample ID: 1936MOU2198F ***Collected:*** 9/3/2019 9:44:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.26	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.32	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1936MOU2199F ***Collected:*** 9/3/2019 9:49:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.35	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
1,2-DICHLOROETHANE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1936MOU2200F ***Collected:*** 9/3/2019 9:53:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.44	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
1,2-DICHLOROETHANE	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.31	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: 1936MOU2201D ***Collected:*** 9/3/2019 9:56:00 AM ***Analysis Type:*** 1RES ***Dilution:*** 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.48	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
1,2-DICHLOROETHANE	0.17	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.30	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67761

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

*Sample ID:*1936YOU2071F *Collected:*9/4/2019 7:40:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.13	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
1,2-DICHLOROETHANE	0.33	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936YOU2072F *Collected:*9/4/2019 7:55:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936YOU2073D *Collected:*9/4/2019 8:00:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936YOU2075F *Collected:*9/4/2019 8:55:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.46	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936YOU2076F *Collected:*9/4/2019 9:10:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.25	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.38	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67761

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1936YOU2076F** ***Collected:*** **9/4/2019 9:10:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936YOU2077F** ***Collected:*** **9/4/2019 9:35:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROETHANE	0.26	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936YOU2078F** ***Collected:*** **9/4/2019 9:45:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936YOU2079F** ***Collected:*** **9/4/2019 10:15:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936YOU2080F** ***Collected:*** **9/4/2019 10:55:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CIS-1,2-DICHLOROETHYLENE	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546, **Laboratory: ACTO**

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, **eQAPP Name: FtOrd_UFP_QAPP_Rev7**
PrepFA67546ACTO, PrepFA67557ACTO,
PrepFA67558ACTO, PrepFA67560ACTO,
PrepFA67613ACTO, PrepFA67615ACTO,
PrepFA67649ACTO, PrepFA67650ACTO,
PrepFA67651ACTO, PrepFA67652ACTO,
PrepFA67657ACTO, PrepFA67700ACTO,
PrepFA67702ACTO, PrepFA67715ACTO,
PrepFA67745ACTO, PrepFA67761ACTO,
PrepFA67763ACTO, PrepFA67764ACTO

SDG: FA67761

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1936YOU2081D** ***Collected:*** **9/4/2019 10:57:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CIS-1,2-DICHLOROETHYLENE	0.25	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
TETRACHLOROETHYLENE	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936YOU2082F** ***Collected:*** **9/4/2019 11:15:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936YOU2083F** ***Collected:*** **9/4/2019 11:35:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936YOU2084F** ***Collected:*** **9/4/2019 11:55:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1-DICHLOROETHANE	0.23	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936ZOU2006F** ***Collected:*** **9/5/2019 8:05:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.18	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CIS-1,2-DICHLOROETHYLENE	0.46	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67761

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

*Sample ID:*1936ZOU2006F *Collected:*9/5/2019 8:05:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHYLENE	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

SDG: FA67763

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

*Sample ID:*1936X0BW097F *Collected:*9/3/2019 8:40:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.23	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936X0BW098F *Collected:*9/3/2019 8:45:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.25	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936X0BW099F *Collected:*9/3/2019 9:05:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.12	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67763

Method Category: VOA

Method: EPA8260-SIM *Matrix:* AQ

*Sample ID:*1936X0BW100F *Collected:*9/3/2019 9:10:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936X0BW102F *Collected:*9/3/2019 9:35:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.48	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936X0BW103D *Collected:*9/3/2019 9:40:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.46	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.15	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936X0BW104F *Collected:*9/3/2019 9:50:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.39	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

*Sample ID:*1936X0BW105F *Collected:*9/3/2019 10:00:00 AM *Analysis Type:*1RES *Dilution:* 1.00

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.24	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

SDG: FA67763

Method Category: **VOA**

Method: **EPA8260-SIM** ***Matrix:*** **AQ**

Sample ID: **1936X0BW108F** ***Collected:*** **9/3/2019 10:45:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936X0BW109D** ***Collected:*** **9/3/2019 10:50:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

Sample ID: **1936X0BW112F** ***Collected:*** **9/3/2019 11:40:00 AM** ***Analysis Type:*** **1RES** ***Dilution:*** **1.00**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CARBON TETRACHLORIDE	0.16	J	0.25	LOD	0.50	LOQ	ug/L	J	RI
CHLOROFORM	0.11	J	0.25	LOD	0.50	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: FA65781, FA66715, FA67546,

Laboratory: ACTO

EDD Filename: PrepFA65781ACTO, PrepFA66715ACTO, PrepFA67546ACTO, PrepFA67557ACTO, PrepFA67558ACTO, PrepFA67560ACTO, PrepFA67613ACTO, PrepFA67615ACTO, PrepFA67649ACTO, PrepFA67650ACTO, PrepFA67651ACTO, PrepFA67652ACTO, PrepFA67657ACTO, PrepFA67700ACTO, PrepFA67702ACTO, PrepFA67715ACTO, PrepFA67745ACTO, PrepFA67761ACTO, PrepFA67763ACTO, PrepFA67764ACTO

eQAPP Name: FtOrd_UFP_QAPP_Rev7

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Upper Estimation
RI	Reporting Limit Trace Value
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Upper Estimation

* denotes a non-reportable result

Enclosure I

Stage 2B ADR Outliers

(Including Manual Review Outliers)

Quality Control
Outlier Reports

FA65781

Method Blank Outlier Report

Lab Reporting Batch ID: FA65781 **Laboratory: ACTO**

EDD Filename: FA65781ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**
Matrix: **AQ**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
VO2254-MB	7/11/2019 1:36:00 PM	METHYLENE CHLORIDE	0.76 ug/L	1928MOU2156A 1928MOU2157F 1928MOU2158F 1928MOU2159F

Reporting Limit Outliers

Lab Reporting Batch ID: FA65781 **Laboratory: ACTO**

EDD Filename: FA65781ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1928MOU2157F	1,1-DICHLOROETHANE	J	0.20	0.50	LOQ	ug/L	J (all detects)
1928MOU2158F	1,2-DICHLOROETHANE	J	0.15	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.35	0.50	LOQ	ug/L	
	Trichloroethylene	J	0.30	0.50	LOQ	ug/L	
1928MOU2159F	1,2-DICHLOROETHANE	J	0.28	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.34	0.50	LOQ	ug/L	
	Trichloroethylene	J	0.24	0.50	LOQ	ug/L	

LDC #: 45997A1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/3/19
SDG #: FA65781 ADR Page: 1 of 1
Laboratory: SGS North America, Inc. Reviewer:
2nd Reviewer: MC

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15% or r^2 ICV≤20%
IV.	Continuing calibration	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=1.
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	1928MOU2156A	FA65781-1	Water	07/08/19
2	1928MOU2157F	FA65781-2	Water	07/08/19
3	1928MOU2158F	FA65781-3	Water	07/08/19
4	1928MOU2159F	FA65781-4	Water	07/08/19
5	1928MOU2157FMS	FA65781-2MS	Water	07/08/19
6	1928MOU2157FMSD	FA65781-2MSD	Water	07/08/19
7				
8				
9				

Notes:

Quality Control Outlier Reports

FA66715

Reporting Limit Outliers

Lab Reporting Batch ID: FA66715 **Laboratory: ACTO**

EDD Filename: FA66715ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1932MOU2161F	1,1-DICHLOROETHANE	J	0.32	0.50	LOQ	ug/L	J (all detects)
1932MOU2162F	1,2-DICHLOROETHANE	J	0.17	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.38	0.50	LOQ	ug/L	
	Trichloroethylene	J	0.39	0.50	LOQ	ug/L	
1932MOU2163F	1,2-DICHLOROETHANE	J	0.29	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.37	0.50	LOQ	ug/L	
	Trichloroethylene	J	0.47	0.50	LOQ	ug/L	

LDC #: 45997B1b

SDG #: FA66715

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 10/2/19

Page: 1 of 1

Reviewer:

2nd Reviewer: ICL

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	~~RSD~~ ≤15%, r^2 ICV ≤20%
IV.	Continuing calibration	A	CCV ≤ 20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB = 1
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1932MOU2160A	FA66715-1	Water	08/05/19
2	1932MOU2161F	FA66715-2	Water	08/05/19
3	1932MOU2162F	FA66715-3	Water	08/05/19
4	1932MOU2163F	FA66715-4	Water	08/05/19
5				
6				
7				
8				
9				

Notes:

Quality Control
Outlier Reports

FA67546

(No Outliers)

LDC #: 45997C1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/3/19
SDG #: FA67546 ADR Page: 1 of 1
Laboratory: SGS North America, Inc. Reviewer: 1
2nd Reviewer: 1st

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	RSD≤15% . r^2 ICV≤20%
IV.	Continuing calibration	A	CCV≤20/60%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=1
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935M212190A	FA67546-1	Water	08/27/19
2	1935M212191F	FA67546-2	Water	08/27/19
3	1935M212191FMS	FA67546-2MS	Water	08/27/19
4	1935M212191FMSD	FA67546-2MSD	Water	08/27/19
5				
6				
7				
8				
9				

Notes:

Quality Control
Outlier Reports

FA67557

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67557 **Laboratory: ACTO**

EDD Filename: FA67557ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	*Concentration (ug/L)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	1935YOU2006F	1935YOU2007D			
1,1-DICHLOROETHANE	0.13	0.12	8	30.00	No Qualifiers Applied
CHLOROFORM	0.14	0.14	0	30.00	
TETRACHLOROETHYLENE	0.48	0.47	2	30.00	
Trichloroethylene	2.1	2.0	5	30.00	

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997D1b

SDG #: FA67557

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 10/3/19

Page: 1 of 1

Reviewer:

2nd Reviewer: KR

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	RSD ≤ 15% . r^2 ICV ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 50/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	D 2+5
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935YOU2003F	FA67557-1	Water	08/26/19
2	1935YOU2004F	FA67557-2	Water	08/26/19
3	1935YOU2005F	FA67557-3	Water	08/26/19
4	1935YOU2006F	FA67557-4	Water	08/26/19
5	1935YOU2007D	FA67557-5	Water	08/26/19
6				
7				
8				
9				

Notes:

Quality Control
Outlier Reports

FA67558

Reporting Limit Outliers

Lab Reporting Batch ID: FA67558 **Laboratory: ACTO**

EDD Filename: FA67558ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1935X0BW001F	CHLOROFORM	J	0.17	0.50	LOQ	ug/L	J (all detects)
1935X0BW003F	CHLOROFORM	J	0.31	0.50	LOQ	ug/L	J (all detects)
1935X0BW004F	CHLOROFORM	J	0.28	0.50	LOQ	ug/L	J (all detects)
1935X0BW010F	CHLOROFORM	J	0.11	0.50	LOQ	ug/L	J (all detects)
1935X0BW013F	CHLOROFORM	J	0.21	0.50	LOQ	ug/L	J (all detects)
1935X0BW014D	CHLOROFORM	J	0.22	0.50	LOQ	ug/L	J (all detects)
1935X0BW015F	CARBON TETRACHLORIDE	J	0.39	0.50	LOQ	ug/L	J (all detects)
1935X0BW016D	CARBON TETRACHLORIDE	J	0.40	0.50	LOQ	ug/L	J (all detects)
1935X0BW017F	CHLOROFORM	J	0.15	0.50	LOQ	ug/L	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67558 **Laboratory: ACTO**

EDD Filename: FA67558ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	Concentration (ug/L) 1935X0BW013F	Concentration (ug/L) 1935X0BW014D	Sample RPD	eQAPP RPD	Flag
CARBON TETRACHLORIDE	0.54	0.50	8	30.00	No Qualifiers Applied
CHLOROFORM	0.21	0.22	5	30.00	

Analyte	Concentration (ug/L) 1935X0BW015F	Concentration (ug/L) 1935X0BW016D	Sample RPD	eQAPP RPD	Flag
CARBON TETRACHLORIDE	0.39	0.40	3	30.00	No Qualifiers Applied

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997E1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/8/19
SDG #: FA67558 ADR Page: 1 of 2
Laboratory: SGS North America, Inc. Reviewer: 9
2nd Reviewer: RAC

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A	RSD ≤ 15% . r² ICV ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	FB=2. TB=18
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	D=13+14. 15+D
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935X0BW001F	FA67558-1	Water	08/26/19
2	1935X0BW002C	FA67558-2	Water	08/26/19
3	1935X0BW003F	FA67558-3	Water	08/26/19
4	1935X0BW004F	FA67558-4	Water	08/26/19
5	1935X0BW005F	FA67558-5	Water	08/26/19
6	1935X0BW006F	FA67558-6	Water	08/26/19
7	1935X0BW007F	FA67558-7	Water	08/26/19
8	1935X0BW008F	FA67558-8	Water	08/26/19
9	1935X0BW009F	FA67558-9	Water	08/26/19
10	1935X0BW010F	FA67558-10	Water	08/26/19
11	1935X0BW011F	FA67558-11	Water	08/26/19
12	1935X0BW012F	FA67558-12	Water	08/26/19
13	1935X0BW013F	FA67558-13	Water	08/26/19

LDC #: 45997E1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/21/19
SDG #: FA67558 ADR Page: 2 of 2
Laboratory: SGS North America, Inc. Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935X0BW014D	FA67558-14	Water	08/26/19
15	1935X0BW015F	FA67558-15	Water	08/26/19
16	1935X0BW016D	FA67558-16	Water	08/26/19
17	1935X0BW017F	FA67558-17	Water	08/26/19
18	1935X0BW018A	FA67558-18	Water	08/26/19
19	1935X0BW001FMS	FA67558-1MS	Water	08/26/19
20	1935X0BW001FMSD	FA67558-1MSD	Water	08/26/19
21				
22				
23				
24				
25				

Notes:

Quality Control
Outlier Reports

FA67560

Reporting Limit Outliers

Lab Reporting Batch ID: FA67560 **Laboratory: ACTO**

EDD Filename: FA67560ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1935Y212002F	CHLOROFORM	J	0.15	0.50	LOQ	ug/L	J (all detects)
	CIS-1,2-DICHLOROETHYLENE	J	0.19	0.50	LOQ	ug/L	
	Trichloroethylene	J	0.16	0.50	LOQ	ug/L	
1935Y212008F	CHLOROFORM	J	0.17	0.50	LOQ	ug/L	J (all detects)
	TETRACHLOROETHYLENE	J	0.16	0.50	LOQ	ug/L	

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997F1b

SDG #: FA67560

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 10/3/19

Page: 1 of 1

Reviewer:

2nd Reviewer: KR

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 15% . r^2 ICV ≤ 20%
IV.	Continuing calibration / Endrin	A	CCV ≤ 20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=4
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935Y212001F	FA67560-1	Water	08/26/19
2	1935Y212002F	FA67560-2	Water	08/26/19
3	1935Y212008F	FA67560-3	Water	08/26/19
4	1935Y212009A	FA67560-4	Water	08/26/19
5	1935Y212008FMS	FA67560-3MS	Water	08/26/19
6	1935Y212008FMSD	FA67560-3MSD	Water	08/26/19
7				
8				
9				

Notes:

Quality Control
Outlier Reports

FA67613

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67613 **Laboratory: ACTO**

EDD Filename: FA67613ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	*Concentration (ug/L)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	1935W0BW002F	**1935W0BW003D**			
Trichloroethylene	1.3	1.4	7	30.00	No Qualifiers Applied

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997G1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/29/19
SDG #: FA67613 ADR Page: 1 of 1
Laboratory: SGS North America, Inc. Reviewer:
2nd Reviewer: ldc

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15% . r² ICV≤20%
IV.	Continuing calibration	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=1
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	D=2+3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	1935W0BW001A	FA67613-1	Water	08/27/19
2	1935W0BW002F	FA67613-2	Water	08/27/19
3	1935W0BW003D	FA67613-3	Water	08/27/19
4	1935W0BW004F	FA67613-4	Water	08/27/19
5				
6				
7				
8				
9				

Notes:

Quality Control
Outlier Reports

FA67615

Reporting Limit Outliers

Lab Reporting Batch ID: FA67615 **Laboratory: ACTO**

EDD Filename: FA67615ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1935Y212010F	TETRACHLOROETHYLENE	J	0.39	0.50	LOQ	ug/L	J (all detects)
1935Y212011F	TETRACHLOROETHYLENE	J	0.39	0.50	LOQ	ug/L	J (all detects)
1935Y212012F	TETRACHLOROETHYLENE	J	0.39	0.50	LOQ	ug/L	J (all detects)
1935Y212013D	TETRACHLOROETHYLENE	J	0.32	0.50	LOQ	ug/L	J (all detects)
1935Y212014F	TETRACHLOROETHYLENE	J	0.28	0.50	LOQ	ug/L	J (all detects)
1935Y212017F	Trichloroethylene	J	0.13	0.50	LOQ	ug/L	J (all detects)
1935Y212018F	TETRACHLOROETHYLENE	J	0.28	0.50	LOQ	ug/L	J (all detects)
1935Y212019F	TETRACHLOROETHYLENE	J	0.33	0.50	LOQ	ug/L	J (all detects)
1935Y212020F	TETRACHLOROETHYLENE	J	0.37	0.50	LOQ	ug/L	J (all detects)
1935Y212021F	TETRACHLOROETHYLENE	J	0.36	0.50	LOQ	ug/L	J (all detects)
1935Y212022F	TETRACHLOROETHYLENE Trichloroethylene	J J	0.39 0.29	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935Y212023F	TETRACHLOROETHYLENE Trichloroethylene	J J	0.41 0.42	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935Y212024F	TETRACHLOROETHYLENE	J	0.18	0.50	LOQ	ug/L	J (all detects)
1935Y212025F	1,2-DICHLOROETHANE CHLOROFORM	J J	0.20 0.21	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935Y212026D	1,2-DICHLOROETHANE CHLOROFORM	J J	0.19 0.21	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935Y212028F	CHLOROFORM CIS-1,2-DICHLOROETHYLENE TETRACHLOROETHYLENE	J J J	0.11 0.12 0.28	0.50 0.50 0.50	LOQ LOQ LOQ	ug/L ug/L ug/L	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67615 **Laboratory: ACTO**

EDD Filename: FA67615ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	*Concentration (ug/L)* 1935Y212025F	1935Y212026D	*Sample RPD*	*eQAPP RPD*	*Flag*
1,2-DICHLOROETHANE	0.20	0.19	5	30.00	No Qualifiers Applied
CHLOROFORM	0.21	0.21	0	30.00	
CIS-1,2-DICHLOROETHYLENE	1.9	1.8	5	30.00	
Trichloroethylene	1.2	1.1	9	30.00	

Analyte	*Concentration (ug/L)* 1935Y212012F	1935Y212013D	*Sample RPD*	*eQAPP RPD*	*Flag*
TETRACHLOROETHYLENE	0.39	0.32	20	30.00	No Qualifiers Applied

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997H1b

SDG #: FA67615

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 10/2/19

Page: 1 of 2

Reviewer: 9

2nd Reviewer: 1dc

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15%. r²≥0.99 ICV≤30%
IV.	Continuing calibration / Eucl 3	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=7
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	6=3+4, 16+17
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935Y212010F	FA67615-1	Water	08/27/19
2	1935Y212011F	FA67615-2	Water	08/27/19
3	1935Y212012F	FA67615-3	Water	08/27/19
4	1935Y212013D	FA67615-4	Water	08/27/19
5	1935Y212014F	FA67615-5	Water	08/27/19
6	1935Y212015F	FA67615-6	Water	08/27/19
7	1935Y212016A	FA67615-7	Water	08/27/19
8	1935Y212017F	FA67615-8	Water	08/27/19
9	1935Y212018F	FA67615-9	Water	08/27/19
10	1935Y212019F	FA67615-10	Water	08/27/19
11	1935Y212020F	FA67615-11	Water	08/27/19
12	1935Y212021F	FA67615-12	Water	08/27/19
13	1935Y212022F	FA67615-13	Water	08/27/19

LDC #: 45997H1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/3/19
SDG #: FA67615 ADR Page: 2 of 2
Laboratory: SGS North America, Inc. Reviewer:
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935Y212023F	FA67615-14	Water	08/27/19
15	1935Y212024F	FA67615-15	Water	08/27/19
16	1935Y212025F	FA67615-16	Water	08/27/19
17	1935Y212026D	FA67615-17	Water	08/27/19
18	1935Y212027F	FA67615-18	Water	08/27/19
19	1935Y212028F	FA67615-19	Water	08/27/19
20	1935Y212029F	FA67615-20	Water	08/27/19
21	1935Y212010FMS	FA67615-1MS	Water	08/27/19
22	1935Y212010FMSD	FA67615-1MSD	Water	08/27/19
23				
24				
25				
26				
27				

Notes:

Quality Control
Outlier Reports

FA67649

Method Blank Outlier Report

Lab Reporting Batch ID: FA67649 **Laboratory: ACTO**

EDD Filename: FA67649ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA6010C**
Matrix: **AQ**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
MP36075-MB1	9/9/2019 4:21:00 PM	ANTIMONY	2.0 ug/L	1935YOU2032F 1935YOU2034F 1935YOU2036F 1935YOU2037F 1935YOU2038D

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
1935YOU2032F(1RES/DIS)	ANTIMONY	1.5 ug/L	1.5U ug/L
1935YOU2034F(1RES/DIS)	ANTIMONY	3.8 ug/L	3.8U ug/L
1935YOU2036F(1RES/DIS)	ANTIMONY	1.8 ug/L	1.8U ug/L
1935YOU2037F(1RES/DIS)	ANTIMONY	2.4 ug/L	2.4U ug/L
1935YOU2038D(1RES/DIS)	ANTIMONY	1.7 ug/L	1.7U ug/L

Reporting Limit Outliers

Lab Reporting Batch ID: FA67649 **Laboratory: ACTO**

EDD Filename: FA67649ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA6010C

Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
1935YOU2032F	ANTIMONY	J	1.5	6.0	LOQ	ug/L	J (all detects)
	COPPER	J	13.6	25	LOQ	ug/L	
1935YOU2034F	ANTIMONY	J	3.8	6.0	LOQ	ug/L	J (all detects)
	LEAD	J	1.9	5.0	LOQ	ug/L	
1935YOU2036F	ANTIMONY	JB	1.8	6.0	LOQ	ug/L	J (all detects)
	LEAD	J	2.3	5.0	LOQ	ug/L	
1935YOU2037F	ANTIMONY	JB	2.4	6.0	LOQ	ug/L	J (all detects)
	COPPER	J	1.9	25	LOQ	ug/L	
	LEAD	J	4.3	5.0	LOQ	ug/L	
1935YOU2038D	ANTIMONY	JB	1.7	6.0	LOQ	ug/L	J (all detects)
	COPPER	J	1.3	25	LOQ	ug/L	

Method: EPA8260-SIM

Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
1935MOU2170F	1,1-DICHLOROETHANE	J	0.31	0.50	LOQ	ug/L	J (all detects)
	1,2-DICHLOROETHANE	J	0.47	0.50	LOQ	ug/L	
1935MOU2171F	1,2-DICHLOROETHANE	J	0.24	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.18	0.50	LOQ	ug/L	
1935MOU2172D	1,2-DICHLOROETHANE	J	0.24	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.18	0.50	LOQ	ug/L	
1935MOU2173F	1,2-DICHLOROPROPANE	J	0.29	0.50	LOQ	ug/L	J (all detects)
1935MOU2174F	1,2-DICHLOROPROPANE	J	0.16	0.50	LOQ	ug/L	J (all detects)
1935MOU2175F	CHLOROFORM	J	0.39	0.50	LOQ	ug/L	J (all detects)
1935MOU2176F	BENZENE	J	0.18	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.20	0.50	LOQ	ug/L	
1935MOU2177F	1,1-DICHLOROETHANE	J	0.12	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.30	0.50	LOQ	ug/L	
1935MOU2178F	CHLOROFORM	J	0.17	0.50	LOQ	ug/L	J (all detects)
	CIS-1,2-DICHLOROETHYLENE	J	0.38	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.31	0.50	LOQ	ug/L	
1935MOU2180F	1,2-DICHLOROPROPANE	J	0.31	0.50	LOQ	ug/L	J (all detects)
	BENZENE	J	0.20	0.50	LOQ	ug/L	
	CHLOROFORM	J	0.48	0.50	LOQ	ug/L	
	METHYLENE CHLORIDE	J	1.3	2.0	LOQ	ug/L	
1935MOU2181F	BENZENE	J	0.29	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.40	0.50	LOQ	ug/L	
	METHYLENE CHLORIDE	J	0.76	2.0	LOQ	ug/L	
1935MOU2182F	1,2-DICHLOROPROPANE	J	0.27	0.50	LOQ	ug/L	J (all detects)
	BENZENE	J	0.20	0.50	LOQ	ug/L	
1935MOU2183F	CHLOROFORM	J	0.15	0.50	LOQ	ug/L	J (all detects)
	CIS-1,2-DICHLOROETHYLENE	J	0.27	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.26	0.50	LOQ	ug/L	
1935MOU2184F	Trichloroethylene	J	0.22	0.50	LOQ	ug/L	J (all detects)

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Reporting Limit Outliers

Lab Reporting Batch ID: FA67649 **Laboratory: ACTO**

EDD Filename: FA67649ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM

Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
1935MOU2185D	Trichloroethylene	J	0.19	0.50	LOQ	ug/L	J (all detects)
1935MOU2186F	1,1-DICHLOROETHANE	J	0.17	0.50	LOQ	ug/L	J (all detects)
	CARBON TETRACHLORIDE	J	0.11	0.50	LOQ	ug/L	
	CHLOROFORM	J	0.34	0.50	LOQ	ug/L	
1935MOU2187F	CARBON TETRACHLORIDE	J	0.14	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.14	0.50	LOQ	ug/L	
1935MOU2188F	CARBON TETRACHLORIDE	J	0.12	0.50	LOQ	ug/L	J (all detects)
1935MOU2189F	1,2-DICHLOROPROPANE	J	0.12	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.16	0.50	LOQ	ug/L	
1935MOU2192F	1,1-DICHLOROETHANE	J	0.17	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.37	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.30	0.50	LOQ	ug/L	
1935YOU2033F	CHLOROFORM	J	0.21	0.50	LOQ	ug/L	J (all detects)
	Trichloroethylene	J	0.43	0.50	LOQ	ug/L	
1935YOU2035F	1,1-DICHLOROETHANE	J	0.26	0.50	LOQ	ug/L	J (all detects)
	1,2-DICHLOROPROPANE	J	0.11	0.50	LOQ	ug/L	
	CHLOROFORM	J	0.38	0.50	LOQ	ug/L	
1935YOU2039F	CARBON TETRACHLORIDE	J	0.10	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.12	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.41	0.50	LOQ	ug/L	
1935YOU2042F	CHLOROFORM	J	0.16	0.50	LOQ	ug/L	J (all detects)
	TETRACHLOROETHYLENE	J	0.44	0.50	LOQ	ug/L	
	Trichloroethylene	J	0.12	0.50	LOQ	ug/L	

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67649 **Laboratory: ACTO**

EDD Filename: FA67649ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA6010C
Matrix: AQ

Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	1935YOU2037F (DIS)	1935YOU2038D (DIS)			
ANTIMONY	2.4	1.7	34	30.00	
COPPER	1.9	1.3	37	30.00	No Qualifiers Applied
LEAD	4.3	2.0 U	200	30.00	

Method: EPA8260-SIM
Matrix: AQ

Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	1935MOU2184F	1935MOU2185D			
CIS-1,2-DICHLOROETHYLENE	3.8	3.5	8	30.00	
TETRACHLOROETHYLENE	0.91	0.92	1	30.00	No Qualifiers Applied
Trichloroethylene	0.22	0.19	15	30.00	

Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	1935MOU2171F	1935MOU2172D			
1,1-DICHLOROETHANE	1.0	1.1	10	30.00	
1,2-DICHLOROETHANE	0.24	0.24	0	30.00	
CHLOROFORM	0.18	0.18	0	30.00	
CIS-1,2-DICHLOROETHYLENE	0.91	0.93	2	30.00	No Qualifiers Applied
TETRACHLOROETHYLENE	0.75	0.72	4	30.00	
Trichloroethylene	1.6	1.6	0	30.00	

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997I1b

SDG #: FA67649

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

~~ADR~~/~~Stage~~ 4

Stage 4

Date: 10/2/19

Reviewer: 9

2nd Reviewer: 12C

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	~~RSD~~ ≤ 15%. r^2 ICV ≤ 20%
IV.	Continuing calibration / Ending	A	CCV ≤ 20/50%
V.	Laboratory Blanks	N	Not reviewed for ADR validation.
VI.	Field blanks		TB=5
VII.	Surrogate spikes		Not reviewed for ADR validation.
VIII.	Matrix spike/Matrix spike duplicates		Not reviewed for ADR validation.
IX.	Laboratory control samples		Not reviewed for ADR validation.
X.	Field duplicates		D = 7, 8, 20, 21
XI.	Internal standards	A	Not reviewed for ADR validation.
XII.	Compound quantitation RL/LOQ/LODs	N	Not reviewed for ADR validation.
XIII.	Target compound identification		Not reviewed for ADR validation.
XIV.	System performance		Not reviewed for ADR validation.
XV.	Overall assessment of data		Not reviewed for ADR validation.

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	1935YOU2033F**	FA67649-2**	Water	08/28/19
2	1935YOU2035F**	FA67649-4**	Water	08/28/19
3	1935YOU2039F**	FA67649-8**	Water	08/28/19
4	1935YOU2042F**	FA67649-9**	Water	08/28/19
5	1935MOU2169A	FA67649-10	Water	08/28/19
6	1935MOU2170F**	FA67649-11**	Water	08/28/19
7	1935MOU2171F**	FA67649-12**	Water	08/28/19
8	1935MOU2172D	FA67649-13	Water	08/28/19
9	1935MOU2173F**	FA67649-14**	Water	08/28/19
10	1935MOU2174F**	FA67649-15**	Water	08/28/19
11	1935MOU2175F**	FA67649-16**	Water	08/28/19
12	1935MOU2176F**	FA67649-17**	Water	08/28/19
13	1935MOU2177F**	FA67649-18**	Water	08/28/19

LDC #: 45997I1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/3/19
SDG #: FA67649 ~~ADR~~/Stage 4 Page: 2 of 2
Laboratory: SGS North America, Inc. Reviewer: Q
2nd Reviewer: KK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935MOU2178F	FA67649-19	Water	08/28/19
15	1935MOU2179F	FA67649-20	Water	08/28/19
16	1935MOU2180F	FA67649-21	Water	08/28/19
17	1935MOU2181F	FA67649-22	Water	08/28/19
18	1935MOU2182F	FA67649-23	Water	08/28/19
19	1935MOU2183F	FA67649-24	Water	08/28/19
20	1935MOU2184F	FA67649-25	Water	08/28/19
21	1935MOU2185D	FA67649-26	Water	08/28/19
22	1935MOU2186F	FA67649-27	Water	08/28/19
23	1935MOU2187F	FA67649-28	Water	08/28/19
24	1935MOU2188F	FA67649-29	Water	08/28/19
25	1935MOU2189F	FA67649-30	Water	08/28/19
26	1935MOU2192F	FA67649-31	Water	08/28/19
27	1935MOU2177FMS	FA67649-18MS	Water	08/28/19
28	1935MOU2177FMSD	FA67649-18MSD	Water	08/28/19
29				
30				
31				
32				
33				

Notes:

LDC #: 45997I4b

SDG #: FA67649

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

(ADR) ~~Stage 4~~

Date: 10/4/19

Page: 1 of 1

Reviewer: KK

2nd Reviewer:

METHOD: Dissolved Metals (EPA SW 846 Method 6010C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A /N	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	ICB/CCB only
V.	Field Blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates		Not reviewed for ADR validation.
VII.	Duplicate sample analysis		
VIII.	Serial Dilution		Not reviewed for ADR validation.
IX.	Laboratory control samples		Not reviewed for ADR validation.
X.	Field Duplicates		Not reviewed for ADR validation. (4,5)
XI.	Sample Result Verification		Not reviewed for ADR validation.
XII.	Overall Assessment of Data	✓	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	1935YOU2032F**	FA67649-1**	Water	08/28/19
2	1935YOU2034F	FA67649-3	Water	08/28/19
3	1935YOU2036F	FA67649-5	Water	08/28/19
4	1935YOU2037F D	FA67649-6	Water	08/28/19
5	1935YOU2038D D	FA67649-7	Water	08/28/19
6				
7				
8				
9				
10				
11				
12				
13				
14				

Notes:

LDC #: 45997I4b

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: KK
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010C)
Soil preparation factor applied:

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 1, 2

					Sample Identification										
Analyte	**Maximum PB (mg/kg)**	**Maximum PB (ug/L)**	**Maximum ICB/CCB (ug/L)**	**Action Level**	1	2									
Sb			2.80	14	1.5	3.8									

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 3-5

					Sample Identification										
Analyte	**Maximum PB (mg/kg)**	**Maximum PB (ug/L)**	**Maximum ICB/CCB (ug/L)**	**Action Level**	3	4	5								
Sb			3.10	15.5	1.8	2.4	1.7								

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

Quality Control
Outlier Reports

FA67650

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67650 **Laboratory: ACTO**

EDD Filename: FA67650ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	Concentration (ug/L) 1935Z0BW001F	Concentration (ug/L) 1935Z0BW002D	Sample RPD	eQAPP RPD	Flag
CARBON TETRACHLORIDE	0.20	0.21	5	30.00	No Qualifiers Applied
Trichloroethylene	0.44	0.41	7	30.00	

Analyte	Concentration (ug/L) 1935W0BW010F	Concentration (ug/L) 1935W0BW011D	Sample RPD	eQAPP RPD	Flag
CARBON TETRACHLORIDE	0.11	0.18	48	30.00	No Qualifiers Applied
Trichloroethylene	1.3	1.8	32	30.00	

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997J1b

SDG #: FA67650

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 10/3/19

Page: 1 of 2

Reviewer: 9

2nd Reviewer: AK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15% .r² ICV≤20%
IV.	Continuing calibration / Encore	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=1, 18
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	D=5+6. 13+14
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935W0BW005A	FA67650-1	Water	08/28/19
2	1935W0BW006F	FA67650-2	Water	08/28/19
3	1935W0BW007F	FA67650-3	Water	08/28/19
4	1935W0BW008F	FA67650-4	Water	08/28/19
5	1935W0BW010F	FA67650-5	Water	08/28/19
6	1935W0BW011D	FA67650-6	Water	08/28/19
7	1935W0BW012F	FA67650-7	Water	08/28/19
8	1935W0BW013F	FA67650-8	Water	08/28/19
9	1935W0BW014F	FA67650-9	Water	08/28/19
10	1935W0BW015F	FA67650-10	Water	08/28/19
11	1935YOU2040F	FA67650-11	Water	08/28/19
12	1935YOU2041F	FA67650-12	Water	08/28/19
13	1935Z0BW001F	FA67650-13	Water	08/29/19

LDC #: 45997J1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/23/19
SDG #: FA67650 ADR Page: 2 of 2
Laboratory: SGS North America, Inc. Reviewer: 9
2nd Reviewer: KK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935Z0BW002D	FA67650-14	Water	08/29/19
15	1935Z0BW003F	FA67650-15	Water	08/29/19
16	1935Z0BW004F	FA67650-16	Water	08/29/19
17	1935Z0BW005F	FA67650-17	Water	08/29/19
18	1935Z0BW006A	FA67650-18	Water	08/29/19
19	1935W0BW007FMS	FA67650-3MS	Water	08/28/19
20	1935W0BW007FMSD	FA67650-3MSD	Water	08/28/19
21				
22				
23				
24				
25				

Notes:

Quality Control
Outlier Reports

FA67651

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: FA67651 **Laboratory: ACTO**

EDD Filename: FA67651ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA9056A**
Matrix: **AQ**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
1935M212167FMS 1935M212167FMSD (1935M212167F)	CHLORIDE	-66	-92	90.00-110.00	-	CHLORIDE	No Qual, >4x

Project Name and Number: - Fort Ord Groundwater Monitoring

Reporting Limit Outliers

Lab Reporting Batch ID: FA67651 **Laboratory: ACTO**

EDD Filename: FA67651ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1935M212165F	CHLOROFORM	J	0.14	0.50	LOQ	ug/L	J (all detects)
1935M212166D	CHLOROFORM	J	0.14	0.50	LOQ	ug/L	J (all detects)
1935M212167F	CIS-1,2-DICHLOROETHYLENE TETRACHLOROETHYLENE	J J	0.40 0.28	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935M212168F	Trichloroethylene	J	0.47	0.50	LOQ	ug/L	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67651 **Laboratory: ACTO**

EDD Filename: FA67651ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	*Concentration (ug/L)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	1935M212165F	**1935M212166D**			
CHLOROFORM	0.14	0.14	0	30.00	No Qualifiers Applied
CIS-1,2-DICHLOROETHYLENE	0.64	0.61	5	30.00	
TETRACHLOROETHYLENE	0.71	0.73	3	30.00	
Trichloroethylene	1.9	1.9	0	30.00	

Method: EPA9056A
Matrix: AQ

Analyte	*Concentration (mg/l)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	1935M212165F	**1935M212166D**			
CHLORIDE	288	284	1	30.00	No Qualifiers Applied

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997K1b

SDG #: FA67651

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 10/3/19

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: KK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15%. r² ICV≤20%
IV.	Continuing calibration / endings	A	CCV≤ 20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=1+2.
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935Y212031A	FA67651-2	Water	08/28/19
2	1935M212164A	FA67651-3	Water	08/28/19
3	1935M212165F	FA67651-4	Water	08/28/19
4	1935M212166D	FA67651-5	Water	08/28/19
5	1935M212167F	FA67651-6	Water	08/28/19
6	1935M212168F	FA67651-7	Water	08/28/19
7	1935M212167FMS	FA67651-6MS	Water	08/28/19
8	1935M212167FMSD	FA67651-6MSD	Water	08/28/19
9				

Notes:

LDC #: 45997K6
SDG #: FA67651
Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR ~~Stage 4~~

Date: 10/4/19
Page: 1 of 1
Reviewer: KK
2nd Reviewer:

METHOD: (Analyte) Chloride (EPA Method 300.0/EPA SW846 Method 9056A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	A	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	↓	Not reviewed for ADR validation.
VII.	Duplicate sample analysis	↓	Not reviewed for ADR validation.
VIII.	Laboratory control samples	↓	Not reviewed for ADR validation.
IX.	Field duplicates	N	(2, 3)
X.	Sample result verification	N	Not reviewed for ADR validation.
XI	Overall assessment of data	N	Not reviewed for ADR validation

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID		Lab ID	Matrix	Date
1	1935Y212030F**		FA67651-1**	Water	08/28/19
2	1935M212165F	D	FA67651-4	Water	08/28/19
3	1935M212166D	D	FA67651-5	Water	08/28/19
4	1935M212167F		FA67651-6	Water	08/28/19
5	1935M212168F		FA67651-7	Water	08/28/19
6	1935M212167FMS		FA67651-6MS	Water	08/28/19
7	1935M212167FMSD		FA67651-6MSD	Water	08/28/19
8					
9					
10					
11					
12					
13					
14					
15					

Notes:

Quality Control
Outlier Reports

FA67652

(No Outliers)

LDC #: 45997L1b

SDG #: FA67652

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 10/3/19

Page: 1 of 1

Reviewer:

2nd Reviewer: IRR

METHOD: GC/MS Carbon Tetrachloride (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSDs15%. ICV≤20%
IV.	Continuing calibration/ending	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935W0BW009F	FA67652-1	Water	08/28/19
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

Quality Control
Outlier Reports

FA67657

Method Blank Outlier Report

Lab Reporting Batch ID: FA67657 **Laboratory: ACTO**

EDD Filename: FA67657ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**
Matrix: **AQ**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
VO2266-MB	9/5/2019 11:35:00 AM	METHYLENE CHLORIDE	0.68 ug/L	1935X0BW039F 1935X0BW040F 1935X0BW041F 1935X0BW042F 1935X0BW043C 1935X0BW044A 1935X0BW045F 1935X0BW046F 1935X0BW047F

Reporting Limit Outliers

Lab Reporting Batch ID: FA67657 **Laboratory: ACTO**

EDD Filename: FA67657ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM

Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
1935X00B066F	CHLOROFORM Trichloroethylene	J J	0.28 0.19	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935X0BW039F	CHLOROFORM	J	0.10	0.50	LOQ	ug/L	J (all detects)
1935X0BW040F	CHLOROFORM	J	0.15	0.50	LOQ	ug/L	J (all detects)
1935X0BW041F	CHLOROFORM	J	0.23	0.50	LOQ	ug/L	J (all detects)
1935X0BW042F	CHLOROFORM	J	0.22	0.50	LOQ	ug/L	J (all detects)
1935X0BW051F	CHLOROFORM	J	0.40	0.50	LOQ	ug/L	J (all detects)
1935X0BW052F	CHLOROFORM	J	0.35	0.50	LOQ	ug/L	J (all detects)
1935X0BW053D	CHLOROFORM	J	0.36	0.50	LOQ	ug/L	J (all detects)
1935X0BW054F	CARBON TETRACHLORIDE	J	0.38	0.50	LOQ	ug/L	J (all detects)
1935X0BW055D	CARBON TETRACHLORIDE	J	0.40	0.50	LOQ	ug/L	J (all detects)
1935X0BW056F	CARBON TETRACHLORIDE	J	0.16	0.50	LOQ	ug/L	J (all detects)
1935X0BW057F	CARBON TETRACHLORIDE	J	0.25	0.50	LOQ	ug/L	J (all detects)
1935X0BW058F	CHLOROFORM Trichloroethylene	J J	0.13 0.38	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935X0BW061F	Trichloroethylene	J	0.35	0.50	LOQ	ug/L	J (all detects)
1935X0BW062F	1,2-DICHLOROETHENE (TOTAL)	J	0.17	0.50	LOQ	ug/L	J (all detects)
1935X0BW063F	Trichloroethylene	J	0.11	0.50	LOQ	ug/L	J (all detects)
1935X0BW064D	Trichloroethylene	J	0.10	0.50	LOQ	ug/L	J (all detects)
1935X0BW065F	CARBON TETRACHLORIDE CHLOROFORM Trichloroethylene	J J J	0.21 0.15 0.35	0.50 0.50 0.50	LOQ LOQ LOQ	ug/L ug/L ug/L	J (all detects)
1935X0BW067F	CARBON TETRACHLORIDE CHLOROFORM	J J	0.45 0.16	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935X0BW068F	CARBON TETRACHLORIDE	J	0.11	0.50	LOQ	ug/L	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67657 **Laboratory: ACTO**

EDD Filename: FA67657ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	*Concentration (ug/L)* 1935X0BW052F	1935X0BW053D	*Sample RPD*	*eQAPP RPD*	*Flag*
CARBON TETRACHLORIDE	1.9	2.0	5	30.00	No Qualifiers Applied
CHLOROFORM	0.35	0.36	3	30.00	

Analyte	*Concentration (ug/L)* 1935X0BW054F	1935X0BW055D	*Sample RPD*	*eQAPP RPD*	*Flag*
CARBON TETRACHLORIDE	0.38	0.40	5	30.00	No Qualifiers Applied

Analyte	*Concentration (ug/L)* 1935X0BW063F	1935X0BW064D	*Sample RPD*	*eQAPP RPD*	*Flag*
Trichloroethylene	0.11	0.10	10	30.00	No Qualifiers Applied

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997M1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/23/19
SDG #: FA67657 ADR Page: 1 of 3
Laboratory: SGS North America, Inc. Reviewer: Q
2nd Reviewer: ICC

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15%. r²≥0.99 ICV≤20%
IV.	Continuing calibration	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	FB=5. TB=6
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	D=11+12.14+15.16+17.25+26
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935X0BW039F	FA67657-1	Water	08/28/19
2	1935X0BW040F	FA67657-2	Water	08/28/19
3	1935X0BW041F	FA67657-3	Water	08/28/19
4	1935X0BW042F	FA67657-4	Water	08/28/19
5	1935X0BW043C	FA67657-5	Water	08/28/19
6	1935X0BW044A	FA67657-6	Water	08/28/19
7	1935X0BW045F	FA67657-7	Water	08/28/19
8	1935X0BW046F	FA67657-8	Water	08/28/19
9	1935X0BW047F	FA67657-9	Water	08/28/19
10	1935X0BW048F	FA67657-10	Water	08/28/19
11	1935X0BW049F	FA67657-11	Water	08/28/19
12	1935X0BW050D	FA67657-12	Water	08/28/19
13	1935X0BW051F	FA67657-13	Water	08/28/19

LDC #: 45997M1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/2/19
SDG #: FA67657 ADR Page: 2 of 2
Laboratory: SGS North America, Inc. Reviewer: Q
2nd Reviewer: KC

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935X0BW052F	FA67657-14	Water	08/28/19
15	1935X0BW053D	FA67657-15	Water	08/28/19
16	1935X0BW054F	FA67657-16	Water	08/28/19
17	1935X0BW055D	FA67657-17	Water	08/28/19
18	1935X0BW056F	FA67657-18	Water	08/28/19
19	1935X0BW057F	FA67657-19	Water	08/28/19
20	1935X0BW058F	FA67657-20	Water	08/28/19
21	1935X0BW059F	FA67657-21	Water	08/28/19
22	1935X0BW060F	FA67657-22	Water	08/28/19
23	1935X0BW061F	FA67657-23	Water	08/28/19
24	1935X0BW062F	FA67657-24	Water	08/28/19
25	1935X0BW063F	FA67657-25	Water	08/28/19
26	1935X0BW0646D	FA67657-26	Water	08/28/19
27	1935X0BW065F	FA67657-27	Water	08/28/19
28	1935X00B066F	FA67657-28	Water	08/28/19
29	1935X0BW067F	FA67657-29	Water	08/28/19
30	1935X0BW068F	FA67657-30	Water	08/28/19
31	1935X0BW048FMS	FA67657-10MS	Water	08/28/19
32	1935X0BW048FMSD	FA67657-10MSD	Water	08/28/19
33	1935X0BW057FMS	FA67657-19MS	Water	08/28/19
34	1935X0BW057FMSD	FA67657-19MSD	Water	08/28/19
35				
36				
37				
38				
39				

Notes:

Quality Control
Outlier Reports

FA67700

Method Blank Outlier Report

Lab Reporting Batch ID: FA67700 **Laboratory: ACTO**

EDD Filename: FA67700ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**
Matrix: **AQ**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
VO2268-MB	9/9/2019 11:58:00 AM	METHYLENE CHLORIDE	2.0 ug/L	1935X0BW087F 1935X0BW088D 1935X0BW089F

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Surrogate Outlier Report

Lab Reporting Batch ID: FA67700 **Laboratory: ACTO**

EDD Filename: FA67700ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**
Matrix: **AQ**

Sample ID (Analysis Type)	*Surrogate*	*Sample % Recovery*	*% Recovery Limits*	*Affected Compounds*	*Flag*
1935X0BW077D (1RES)	1,2-DICHLOROETHANE-D4	126	74.00-125.00	All Target Analytes	J+ (all detects)
1935X0BW079F (1RES)	1,2-DICHLOROETHANE-D4	126	74.00-125.00	All Target Analytes	J+(all detects)
1935X0BW080F (1RES)	TOLUENE-D8	84	88.00-111.00	All Target Analytes	J-(all detects) UJ(all non-detects)
1935X0BW080F (1RES)	1,2-DICHLOROETHANE-D4	126	74.00-125.00	All Target Analytes	J+(all detects)
1935X0BW081F (1RES)	1,2-DICHLOROETHANE-D4	128	74.00-125.00	All Target Analytes	J+(all detects)

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: FA67700 **Laboratory: ACTO**

EDD Filename: FA67700ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**
Matrix: **AQ**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
1935X0BW087FMS 1935X0BW087FMSD (1935X0BW087F)	METHYLENE CHLORIDE	138	136	69.00-135.00	-	METHYLENE CHLORIDE	J+ (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: FA67700 **Laboratory: ACTO**

EDD Filename: FA67700ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1935W0BW018F	CARBON TETRACHLORIDE	J	0.19	0.50	LOQ	ug/L	J (all detects)
1935X0BW075F	CHLOROFORM	J	0.36	0.50	LOQ	ug/L	J (all detects)
1935X0BW076F	Trichloroethylene	J	0.31	0.50	LOQ	ug/L	J (all detects)
1935X0BW077D	Trichloroethylene	J	0.27	0.50	LOQ	ug/L	J (all detects)
1935X0BW078F	CHLOROFORM Trichloroethylene	J J	0.21 0.31	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1935X0BW080F	TETRACHLOROETHYLENE	J	0.11	0.50	LOQ	ug/L	J (all detects)
1935X0BW087F	1,2-DICHLOROETHENE (TOTAL)	J	0.17	0.50	LOQ	ug/L	J (all detects)
1935X0BW088D	1,2-DICHLOROETHENE (TOTAL)	J	0.18	0.50	LOQ	ug/L	J (all detects)
1935X0BW089F	TETRACHLOROETHYLENE	J	0.11	0.50	LOQ	ug/L	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67700 **Laboratory: ACTO**

EDD Filename: FA67700ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	Concentration (ug/L) 1935X0BW087F	Concentration (ug/L) 1935X0BW088D	Sample RPD	eQAPP RPD	Flag
1,2-DICHLOROETHENE (TOTAL)	0.17	0.18	6	30.00	No Qualifiers Applied
Trichloroethylene	1.1	0.94	16	30.00	

Analyte	Concentration (ug/L) 1935X0BW076F	Concentration (ug/L) 1935X0BW077D	Sample RPD	eQAPP RPD	Flag
Trichloroethylene	0.31	0.27	14	30.00	No Qualifiers Applied

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997N1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/3/19
SDG #: FA67700 ADR Page: 1 of 2
Laboratory: SGS North America, Inc. Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	~~ISB~~ <= 15%. r^2 ICV = 20%
IV.	Continuing calibration / Equip	AW	CCV = 20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935W0BW018F	FA67700-1	Water	08/29/19
2	1935W0BW019B	FA67700-2	Water	08/29/19
3	1935X0BW075F	FA67700-3	Water	08/29/19
4	1935X0BW076F	FA67700-4	Water	08/29/19
5	1935X0BW077D	FA67700-5	Water	08/29/19
6	1935X0BW078F	FA67700-6	Water	08/29/19
7	1935X0BW079F	FA67700-7	Water	08/29/19
8	1935X0BW080F	FA67700-8	Water	08/29/19
9	1935X0BW081F	FA67700-9	Water	08/29/19
10	1935X0BW087F	FA67700-10	Water	08/30/19
11	1935X0BW088D	FA67700-11	Water	08/30/19
12	1935X0BW089F	FA67700-12	Water	08/30/19
13	1935X0BW077DMS	FA67700-5MS	Water	08/29/19

LDC #: 45997N1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/31/19
SDG #: FA67700 ADR Page: 2 of 2
Laboratory: SGS North America, Inc. Reviewer:
2nd Reviewer: KK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935X0BW077DMSD	FA67700-5MSD	Water	08/29/19
15	1935X0BW087FMS	FA67700-10MS	Water	08/30/19
16	1935X0BW087FMSD	FA67700-10MSD	Water	08/30/19
17				
18				
19				
20				
21				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 45997N1b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A — Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y (N) N/A — Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y (N) N/A — Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	9/9/19	059310	E	21.0		10-12, 15-16	J+ dets/A
						MB (ND)	

CONCAL.1SB

Quality Control
Outlier Reports

FA67702

Reporting Limit Outliers

Lab Reporting Batch ID: FA67702 **Laboratory: ACTO**

EDD Filename: FA67702ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1935XOU2094F	CARBON TETRACHLORIDE	J	0.11	0.50	LOQ	ug/L	J (all detects)

LDC #: 45997O1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/3/19
SDG #: FA67702 ADR Page: 1 of 2
Laboratory: SGS North America, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Carbon Tetrachloride (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15% / eCV≤20%
IV.	Continuing calibration / end	A	eCV ≤ 20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=1·7, FB=6.
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	D=4+5
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935W0BW016A	FA67702-1	Water	08/29/19
2	1935W0BW017F	FA67702-2	Water	08/29/19
3	1935X0BW074F	FA67702-3	Water	08/29/19
4	1935X0BW082F	FA67702-4	Water	08/30/19
5	1935X0BW083D	FA67702-5	Water	08/30/19
6	1935X0BW084C	FA67702-6	Water	08/30/19
7	1935X0BW085A	FA67702-7	Water	08/30/19
8	1935X0BW086F	FA67702-8	Water	08/30/19
9	1935XOU2090F	FA67702-9	Water	08/30/19
10	1935XOU2094F	FA67702-10	Water	08/30/19
11	1935XOU2095F	FA67702-11	Water	08/30/19
12				
13				

Quality Control
Outlier Reports

FA67715

Method Blank Outlier Report

Lab Reporting Batch ID: FA67715 **Laboratory: ACTO**

EDD Filename: FA67715ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**
Matrix: **AQ**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
VO2268-MB	9/9/2019 11:58:00 AM	METHYLENE CHLORIDE	2.0 ug/L	1935XOU2070C 1935XOU2071A 1935YOU2057F 1935YOU2058F 1935YOU2059F

Surrogate Outlier Report

Lab Reporting Batch ID: FA67715 **Laboratory: ACTO**

EDD Filename: FA67715ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**
Matrix: **AQ**

Sample ID (Analysis Type)	*Surrogate*	*Sample % Recovery*	*% Recovery Limits*	*Affected Compounds*	*Flag*
1935YOU2043F (1RES)	1,2-DICHLOROETHANE-D4	126	74.00-125.00	All Target Analytes	J+ (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: FA67715 **Laboratory: ACTO**

EDD Filename: FA67715ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM

Matrix: AQ

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
1935XOU2069F	Trichloroethylene	J	0.19	0.50	LOQ	ug/L	J (all detects)
1935YOU2043F	CHLOROFORM	J	0.16	0.50	LOQ	ug/L	J (all detects)
	CIS-1,2-DICHLOROETHYLENE	J	0.27	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.28	0.50	LOQ	ug/L	
1935YOU2045F	CHLOROFORM	J	0.23	0.50	LOQ	ug/L	J (all detects)
1935YOU2046F	CHLOROFORM	J	0.23	0.50	LOQ	ug/L	J (all detects)
1935YOU2047F	Trichloroethylene	J	0.42	0.50	LOQ	ug/L	J (all detects)
1935YOU2049F	CHLOROFORM	J	0.10	0.50	LOQ	ug/L	J (all detects)
	TETRACHLOROETHYLENE	J	0.14	0.50	LOQ	ug/L	
1935YOU2050F	1,1-DICHLOROETHANE	J	0.30	0.50	LOQ	ug/L	J (all detects)
	Trichloroethylene	J	0.15	0.50	LOQ	ug/L	
1935YOU2051F	TETRACHLOROETHYLENE	J	0.22	0.50	LOQ	ug/L	J (all detects)
1935YOU2052F	1,2-DICHLOROPROPANE	J	0.11	0.50	LOQ	ug/L	J (all detects)
	TETRACHLOROETHYLENE	J	0.45	0.50	LOQ	ug/L	
1935YOU2055F	1,1-DICHLOROETHANE	J	0.49	0.50	LOQ	ug/L	J (all detects)
	1,2-DICHLOROPROPANE	J	0.14	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.29	0.50	LOQ	ug/L	
1935YOU2056F	1,1-DICHLOROETHANE	J	0.37	0.50	LOQ	ug/L	J (all detects)
	CARBON TETRACHLORIDE	J	0.18	0.50	LOQ	ug/L	
1935YOU2057F	1,1-DICHLOROETHANE	J	0.44	0.50	LOQ	ug/L	J (all detects)
	TETRACHLOROETHYLENE	J	0.33	0.50	LOQ	ug/L	
1935YOU2058F	CHLOROFORM	J	0.15	0.50	LOQ	ug/L	J (all detects)
1935YOU2059F	CHLOROFORM	J	0.11	0.50	LOQ	ug/L	J (all detects)
	CIS-1,2-DICHLOROETHYLENE	J	0.11	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.25	0.50	LOQ	ug/L	
1935YOU2060F	Trichloroethylene	J	0.26	0.50	LOQ	ug/L	J (all detects)
1935YOU2062F	CIS-1,2-DICHLOROETHYLENE	J	0.17	0.50	LOQ	ug/L	J (all detects)
1935YOU2063F	1,2-DICHLOROETHANE	J	0.11	0.50	LOQ	ug/L	J (all detects)
	CIS-1,2-DICHLOROETHYLENE	J	0.31	0.50	LOQ	ug/L	
1935YOU2064F	CHLOROFORM	J	0.34	0.50	LOQ	ug/L	J (all detects)
	CIS-1,2-DICHLOROETHYLENE	J	0.46	0.50	LOQ	ug/L	
1935YOU2065F	METHYLENE CHLORIDE	J	1.3	2.0	LOQ	ug/L	J (all detects)
1935YOU2066F	1,1-DICHLOROETHANE	J	0.16	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.48	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.13	0.50	LOQ	ug/L	
1935YOU2067F	CHLOROFORM	J	0.17	0.50	LOQ	ug/L	J (all detects)
	CIS-1,2-DICHLOROETHYLENE	J	0.12	0.50	LOQ	ug/L	
1935YOU2068F	1,2-DICHLOROPROPANE	J	0.11	0.50	LOQ	ug/L	J (all detects)
1935YOU2069F	CHLOROFORM	J	0.18	0.50	LOQ	ug/L	J (all detects)
1935YOU2070F	1,1-DICHLOROETHANE	J	0.20	0.50	LOQ	ug/L	J (all detects)
	1,2-DICHLOROPROPANE	J	0.28	0.50	LOQ	ug/L	
	TETRACHLOROETHYLENE	J	0.48	0.50	LOQ	ug/L	

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997P1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/31/19
SDG #: FA67715 ADR Page: 1 of 2
Laboratory: SGS North America, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15%. r² ICV≤20%
IV.	Continuing calibration	A/A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=2. 15. 20. FB=14
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935YOU2043F	FA67715-1	Water	08/29/19
2	1935YOU2044A	FA67715-2	Water	08/29/19
3	1935YOU2045F	FA67715-3	Water	08/29/19
4	1935YOU2046F	FA67715-4	Water	08/29/19
5	1935YOU2047F	FA67715-5	Water	08/29/19
6	1935YOU2048F	FA67715-6	Water	08/29/19
7	1935YOU2049F	FA67715-7	Water	08/29/19
8	1935YOU2050F	FA67715-8	Water	08/29/19
9	1935YOU2051F	FA67715-9	Water	08/29/19
10	1935YOU2052F	FA67715-10	Water	08/29/19
11	1935YOU2055F	FA67715-11	Water	08/29/19
12	1935YOU2056F	FA67715-12	Water	08/29/19
13	1935XOU2069F	FA67715-13	Water	08/29/19

LDC #: 45997P1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/23/19
SDG #: FA67715 ADR Page: 2 of 2
Laboratory: SGS North America, Inc. Reviewer: 9
2nd Reviewer: KK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935XOU2070C	FA67715-14	Water	08/29/19
15	1935XOU2071A	FA67715-15	Water	08/29/19
16	1935YOU2057F	FA67715-16	Water	08/29/19
17	1935YOU2058F	FA67715-17	Water	08/30/19
18	1935YOU2059F	FA67715-18	Water	08/30/19
19	1935YOU2060F	FA67715-19	Water	08/30/19
20	1935YOU2061A	FA67715-20	Water	08/30/19
21	1935YOU2062F	FA67715-21	Water	08/30/19
22	1935YOU2063F	FA67715-22	Water	08/30/19
23	1935YOU2064F	FA67715-23	Water	08/30/19
24	1935YOU2065F	FA67715-24	Water	08/30/19
25	1935YOU2066F	FA67715-25	Water	08/30/19
26	1935YOU2067F	FA67715-26	Water	08/30/19
27	1935YOU2068F	FA67715-27	Water	08/30/19
28	1935YOU2069F	FA67715-28	Water	08/30/19
29	1935YOU2070F	FA67715-29	Water	08/30/19
30	1935YOU2060FMS	FA67715-19MS	Water	08/30/19
31	1935YOU2060FMSD	FA67715-19MSD	Water	08/30/19
32	1935YOU2065FMS	FA67715-24MS	Water	08/30/19
33	1935YOU2065FMSD	FA67715-24MSD	Water	08/30/19
34				
35				
36				
37				
38				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 45977D1b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: 9
2nd Reviewer: RLR

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	9/9/19	059310	2-	21.0		14-18. MB (ND)	J+ det3/A

Quality Control
Outlier Reports

FA67745

Reporting Limit Outliers

Lab Reporting Batch ID: FA67745 **Laboratory: ACTO**

EDD Filename: FA67745ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1936MOU2193F	1,1-DICHLOROETHANE	J	0.39	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.11	0.50	LOQ	ug/L	
1936MOU2194F	1,2-DICHLOROETHANE	J	0.16	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.42	0.50	LOQ	ug/L	
1936MOU2195F	1,2-DICHLOROETHANE	J	0.15	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.33	0.50	LOQ	ug/L	
	CIS-1,2-DICHLOROETHYLENE	J	0.43	0.50	LOQ	ug/L	
1936MOU2196F	1,1-DICHLOROETHANE	J	0.46	0.50	LOQ	ug/L	J (all detects)
1936MOU2197F	1,2-DICHLOROETHANE	J	0.27	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.40	0.50	LOQ	ug/L	
1936MOU2198F	1,2-DICHLOROETHANE	J	0.26	0.50	LOQ	ug/L	J (all detects)
	CHLOROFORM	J	0.32	0.50	LOQ	ug/L	
1936MOU2199F	1,1-DICHLOROETHANE	J	0.35	0.50	LOQ	ug/L	J (all detects)
	1,2-DICHLOROETHANE	J	0.11	0.50	LOQ	ug/L	
	CHLOROFORM	J	0.12	0.50	LOQ	ug/L	
1936MOU2200F	1,1-DICHLOROETHANE	J	0.44	0.50	LOQ	ug/L	J (all detects)
	1,2-DICHLOROETHANE	J	0.16	0.50	LOQ	ug/L	
	CHLOROFORM	J	0.31	0.50	LOQ	ug/L	
1936MOU2201D	1,1-DICHLOROETHANE	J	0.48	0.50	LOQ	ug/L	J (all detects)
	1,2-DICHLOROETHANE	J	0.17	0.50	LOQ	ug/L	
	CHLOROFORM	J	0.30	0.50	LOQ	ug/L	

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67745 **Laboratory: ACTO**

EDD Filename: FA67745ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	*Concentration (ug/L)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	1936MOU2200F	**1936MOU2201D**			
1,1-DICHLOROETHANE	0.44	0.48	9	30.00	No Qualifiers Applied
1,2-DICHLOROETHANE	0.16	0.17	6	30.00	
CHLOROFORM	0.31	0.30	3	30.00	
CIS-1,2-DICHLOROETHYLENE	1.5	1.5	0	30.00	
TETRACHLOROETHYLENE	0.76	0.76	0	30.00	
Trichloroethylene	4.6	4.6	0	30.00	

Project Name and Number: 21065 - DOD100221900-OU2 GWTP - OU2 Extraction Wells, Marina, CA

LDC #: 45997Q1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/2/19
SDG #: FA67745 ADR Page: 1 of 1
Laboratory: SGS North America, Inc. Reviewer:
2nd Reviewer: RK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15% r² KV≤20%
IV.	Continuing calibration / ENDs	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=1
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	6=9+10
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1936MOU2192A	FA67745-1	Water	09/03/49
2	1936MOU2193F	FA67745-2	Water	09/03/49
3	1936MOU2194F	FA67745-3	Water	09/03/49
4	1936MOU2195F	FA67745-4	Water	09/03/49
5	1936MOU2196F	FA67745-5	Water	09/03/49
6	1936MOU2197F	FA67745-6	Water	09/03/49
7	1936MOU2198F	FA67745-7	Water	09/03/49
8	1936MOU2199F	FA67745-8	Water	09/03/49
9	1936MOU2200F	FA67745-9	Water	09/03/49
10	1936MOU2201D	FA67745-10	Water	09/03/49
11				
12				
13				

Quality Control
Outlier Reports

FA67763

Reporting Limit Outliers

Lab Reporting Batch ID: FA67763 **Laboratory: ACTO**

EDD Filename: FA67763ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1936X0BW097F	CARBON TETRACHLORIDE	J	0.23	0.50	LOQ	ug/L	J (all detects)
1936X0BW098F	CARBON TETRACHLORIDE	J	0.25	0.50	LOQ	ug/L	J (all detects)
1936X0BW099F	CARBON TETRACHLORIDE CHLOROFORM	J J	0.24 0.12	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1936X0BW100F	CARBON TETRACHLORIDE CHLOROFORM	J J	0.24 0.11	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1936X0BW102F	CARBON TETRACHLORIDE CHLOROFORM	J J	0.48 0.15	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1936X0BW103D	CARBON TETRACHLORIDE CHLOROFORM	J J	0.46 0.15	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1936X0BW104F	CARBON TETRACHLORIDE	J	0.39	0.50	LOQ	ug/L	J (all detects)
1936X0BW105F	CHLOROFORM	J	0.24	0.50	LOQ	ug/L	J (all detects)
1936X0BW108F	CHLOROFORM	J	0.11	0.50	LOQ	ug/L	J (all detects)
1936X0BW109D	CHLOROFORM	J	0.11	0.50	LOQ	ug/L	J (all detects)
1936X0BW112F	CARBON TETRACHLORIDE CHLOROFORM	J J	0.16 0.11	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67763 **Laboratory: ACTO**

EDD Filename: FA67763ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	1936X0BW108F	1936X0BW109D			
CARBON TETRACHLORIDE	0.84	0.81	4	30.00	No Qualifiers Applied
CHLOROFORM	0.11	0.11	0	30.00	

Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	1936X0BW102F	1936X0BW103D			
CARBON TETRACHLORIDE	0.48	0.46	4	30.00	No Qualifiers Applied
CHLOROFORM	0.15	0.15	0	30.00	

LDC #: 45997R1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/3/19
SDG #: FA67763 ADR Page: 1 of 2
Laboratory: SGS North America, Inc. Reviewer: Q
2nd Reviewer: KK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15%. r² ICV≤20%
IV.	Continuing calibration / ENDs	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	TB=19. FB=18
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	5=6+7. 12+13.
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1936X0BW097F	FA67763-1	Water	09/03/19
2	1936X0BW098F	FA67763-2	Water	09/03/19
3	1936X0BW099F	FA67763-3	Water	09/03/19
4	1936X0BW100F	FA67763-4	Water	09/03/19
5	1936X0BW101F	FA67763-5	Water	09/03/19
6	1936X0BW102F	FA67763-6	Water	09/03/19
7	1936X0BW103D	FA67763-7	Water	09/03/19
8	1936X0BW104F	FA67763-8	Water	09/03/19
9	1936X0BW105F	FA67763-9	Water	09/03/19
10	1936X0BW106F	FA67763-10	Water	09/03/19
11	1936X0BW107F	FA67763-11	Water	09/03/19
12	1936X0BW108F	FA67763-12	Water	09/03/19
13	1936X0BW109D	FA67763-13	Water	09/03/19

LDC #: 45997R1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/8/19
SDG #: FA67763 ADR Page: 1 of 1
Laboratory: SGS North America, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1936X0BW110F	FA67763-14	Water	09/03/19
15	1936X0BW111F	FA67763-15	Water	09/03/19
16	1936X0BW112F	FA67763-16	Water	09/03/19
17	1936X0BW113F	FA67763-17	Water	09/03/19
18	1936X0BW114C	FA67763-18	Water	09/03/19
19	1936X0BW115A	FA67763-19	Water	09/03/19
20	1936X0BW097FMS	FA67763-1MS	Water	09/03/19
21	1936X0BW097FMSD	FA67763-1MSD	Water	09/03/19
22				
23				
24				
25				
26				

Notes:

Quality Control
Outlier Reports

FA67764

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67764 **Laboratory: ACTO**

EDD Filename: FA67764ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA9056A
Matrix: AQ

Analyte	*Concentration (mg/l)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	1936Y212086F	**1936Y212087D**			
CHLORIDE	124	133	7	30.00	No Qualifiers Applied

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997S6
SDG #: FA67764
Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 10/4/19
Page: 1 of 1
Reviewer: KK
2nd Reviewer:

METHOD: (Analyte) Chloride (EPA Method 300.0/EPA SW846 Method 9056A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	N	
IX.	Field duplicates	N	(1,2)
X.	Sample result verification	N	
XI	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1936Y212086F D	FA67764-1	Water	09/04/19
2	1936Y212087D D	FA67764-2	Water	09/04/19
3	1936Y212088F	FA67764-3	Water	09/04/19
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

LDC #: 45997S6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: KK
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** All

Analyte	Blank ID	Blank ID	Blank Action Limit									
	PB	ICB/CCB (mg/L)		No qual (>5x)								
Cl		0.880	4.4									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Quality Control
Outlier Reports

FA67761

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: FA67761 **Laboratory: ACTO**

EDD Filename: FA67761ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**
Matrix: **AQ**

QC Sample ID (Associated Samples)	*Compound*	*MS %R*	*MSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
1936YOU2071FMS 1936YOU2071FMSD (1936YOU2071F)	METHYLENE CHLORIDE	141	146	69.00-135.00	-	METHYLENE CHLORIDE	J+ (all detects)

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

Reporting Limit Outliers

Lab Reporting Batch ID: FA67761 **Laboratory: ACTO**

EDD Filename: FA67761ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: **EPA8260-SIM**

Matrix: **AQ**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1936YOU2071F	1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE	J J	0.33 0.13	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1936YOU2072F	CHLOROFORM	J	0.15	0.50	LOQ	ug/L	J (all detects)
1936YOU2073D	CHLOROFORM	J	0.15	0.50	LOQ	ug/L	J (all detects)
1936YOU2075F	1,2-DICHLOROETHANE CHLOROFORM	J J	0.46 0.15	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1936YOU2076F	CHLOROFORM CIS-1,2-DICHLOROETHYLENE TETRACHLOROETHYLENE	J J J	0.25 0.38 0.15	0.50 0.50 0.50	LOQ LOQ LOQ	ug/L ug/L ug/L	J (all detects)
1936YOU2077F	1,2-DICHLOROETHANE	J	0.26	0.50	LOQ	ug/L	J (all detects)
1936YOU2078F	1,2-DICHLOROPROPANE	J	0.11	0.50	LOQ	ug/L	J (all detects)
1936YOU2079F	CHLOROFORM	J	0.16	0.50	LOQ	ug/L	J (all detects)
1936YOU2080F	CIS-1,2-DICHLOROETHYLENE	J	0.24	0.50	LOQ	ug/L	J (all detects)
1936YOU2081D	CIS-1,2-DICHLOROETHYLENE TETRACHLOROETHYLENE	J J	0.25 0.11	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1936YOU2082F	CHLOROFORM	J	0.18	0.50	LOQ	ug/L	J (all detects)
1936YOU2083F	CHLOROFORM	J	0.24	0.50	LOQ	ug/L	J (all detects)
1936YOU2084F	1,1-DICHLOROETHANE CHLOROFORM	J J	0.23 0.18	0.50 0.50	LOQ LOQ	ug/L ug/L	J (all detects)
1936ZOU2006F	CHLOROFORM CIS-1,2-DICHLOROETHYLENE TETRACHLOROETHYLENE	J J J	0.18 0.46 0.12	0.50 0.50 0.50	LOQ LOQ LOQ	ug/L ug/L ug/L	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: FA67761 **Laboratory: ACTO**

EDD Filename: FA67761ACTO **eQAPP Name: FtOrd_UFP_QAPP_Rev7**

Method: EPA8260-SIM
Matrix: AQ

Analyte	*Concentration (ug/L)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	1936YOU2080F	**1936YOU2081D**			
CIS-1,2-DICHLOROETHYLENE	0.24	0.25	4	30.00	No Qualifiers Applied
TETRACHLOROETHYLENE	0.25 U	0.11	200	30.00	
Trichloroethylene	0.76	0.75	1	30.00	

Analyte	*Concentration (ug/L)*		*Sample RPD*	*eQAPP RPD*	*Flag*
	1936YOU2072F	**1936YOU2073D**			
CHLOROFORM	0.15	0.15	0	30.00	No Qualifiers Applied
Trichloroethylene	1.2	1.2	0	30.00	

Project Name and Number: 21065 - Fort Ord Groundwater Monitoring

LDC #: 45997T1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/29/19
SDG #: FA67761 ADR Page: 1 of 2
Laboratory: SGS North America, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15%. r² ICV ≤20%
IV.	Continuing calibration	A	CCV≤20/50%
V.	Laboratory Blanks	N	
VI.	Field blanks	N	FB=C. 17. TB=15. 18
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	N	
X.	Field duplicates	N	D=2+3. 10+11
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1936YOU2071F	FA67761-1	Water	09/04/19
2	1936YOU2072F	FA67761-2	Water	09/04/19
3	1936YOU2073D	FA67761-3	Water	09/04/19
4	1936YOU2074C	FA67761-4	Water	09/04/19
5	1936YOU2075F	FA67761-5	Water	09/04/19
6	1936YOU2076F	FA67761-6	Water	09/04/19
7	1936YOU2077F	FA67761-7	Water	09/04/19
8	1936YOU2078F	FA67761-8	Water	09/04/19
9	1936YOU2079F	FA67761-9	Water	09/04/19
10	1936YOU2080F	FA67761-10	Water	09/04/19
11	1936YOU2081D	FA67761-11	Water	09/04/19
12	1936YOU2082F	FA67761-12	Water	09/04/19
13	1936YOU2083F	FA67761-13	Water	09/04/19

LDC #: 45997T1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/9/19
SDG #: FA67761 ADR Page: 2 of 3
Laboratory: SGS North America, Inc. Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

14	1936YOU2084F	FA67761-14	Water	09/04/19
15	1936YOU2085A	FA67761-15	Water	09/04/19
16	1936ZOU2006F	FA67761-16	Water	09/05/19
17	1936ZOU2007C	FA67761-17	Water	09/05/19
18	1936ZOU2008A	FA67761-18	Water	09/05/19
19	1936YOU2071FMS	FA67761-1MS	Water	09/04/19
20	1936YOU2071FMSD	FA67761-1MSD	Water	09/04/19
21	1936YOU2081DMS	FA67761-11MS	Water	09/04/19
22	1936YOU2081DMSD	FA67761-11MSD	Water	09/04/19
23				
24				
25				

Notes:

Enclosure II

Stage 4 Data Validation Reports

LDC Report# 45997I1b

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Fort Ord, GWTP OU2

LDC Report Date: October 9, 2019

Parameters: Volatiles

Validation Level: Stage 4

Laboratory: SGS North America, Inc.

Sample Delivery Group (SDG): FA67649

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
1935YOU2033F	FA67649-2	Water	08/28/19
1935YOU2035F	FA67649-4	Water	08/28/19
1935YOU2039F	FA67649-8	Water	08/28/19
1935YOU2042F	FA67649-9	Water	08/28/19
1935MOU2169A	FA67649-10	Water	08/28/19
1935MOU2170F	FA67649-11	Water	08/28/19
1935MOU2171F	FA67649-12	Water	08/28/19
1935MOU2172D	FA67649-13	Water	08/28/19
1935MOU2173F	FA67649-14	Water	08/28/19
1935MOU2174F	FA67649-15	Water	08/28/19
1935MOU2175F	FA67649-16	Water	08/28/19
1935MOU2176F	FA67649-17	Water	08/28/19
1935MOU2177F	FA67649-18	Water	08/28/19
1935MOU2177FMS	FA67649-18MS	Water	08/28/19
1935MOU2177FMSD	FA67649-18MSD	Water	08/28/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California (Revision 7, August 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and the USACE Guidance for Evaluating Performance-Based Chemical Data (June 2005). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260B in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample 1935MOU2169A was identified as a trip blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples 1935MOU2171F and 1935MOU2172D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	1935MOU2171F	1935MOU2172D	
Chloroform	0.18	0.18	0 (≤30)
1,1-Dichloroethane	1.0	1.1	10 (≤30)
1,2-Dichloroethane	0.24	0.24	0 (≤30)
cis-1,2-Dichloroethene	0.91	0.93	2 (≤30)
Tetrachloroethene	0.75	0.72	4 (≤30)
Trichloroethene	1.6	1.6	0 (≤30)

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria.

All compounds reported below the LOQ were qualified as follows:

Sample	Finding	Flag	A or P
1935YOU2033F 1935YOU2035F 1935YOU2039F 1935YOU2042F 1935MOU2170F 1935MOU2171F 1935MOU2172D 1935MOU2173F 1935MOU2174F 1935MOU2175F 1935MOU2176F 1935MOU2177F	All compounds reported below the LOQ.	J (all detects)	A

XIII. Target Compound Identifications

All target compound identifications met validation criteria.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to results below the LOQ, data were qualified as estimated in twelve samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

Fort Ord, GWTP OU2
Volatiles - Data Qualification Summary - SDG FA67649

Sample	Compound	Flag	A or P	Reason
1935YOU2033F 1935YOU2035F 1935YOU2039F 1935YOU2042F 1935MOU2170F 1935MOU2171F 1935MOU2172D 1935MOU2173F 1935MOU2174F 1935MOU2175F 1935MOU2176F 1935MOU2177F	All compounds reported below the LOQ.	J (all detects)	A	Compound quantitation

Fort Ord, GWTP OU2
Volatiles - Laboratory Blank Data Qualification Summary - SDG FA67649

No Sample Data Qualified in this SDG

Fort Ord, GWTP OU2
Volatiles - Field Blank Data Qualification Summary - SDG FA67649

No Sample Data Qualified in this SDG

LDC #: 45997l1b
SDG #: FA67649
Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Stage 4

Date: 10/31/19
Page: 1 of 2
Reviewer: O
2nd Reviewer: MK

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A	RSD≤15%. r² ICV ≤20%
IV.	Continuing calibration	A	CCV ≤20/50%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=5
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	A	D=7+8
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	
XIII.	Target compound identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable; ND = No compounds detected; D = Duplicate; SB=Source blank
N = Not provided/applicable; R = Rinsate; TB = Trip blank; OTHER:
SW = See worksheet; FB = Field blank; EB = Equipment blank
** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	1935YOU2033F**	FA67649-2**	Water	08/28/19
2	1935YOU2035F**	FA67649-4**	Water	08/28/19
3	1935YOU2039F**	FA67649-8**	Water	08/28/19
4	1935YOU2042F**	FA67649-9**	Water	08/28/19
5	1935MOU2169A**	FA67649-10**	Water	08/28/19
6	1935MOU2170F**	FA67649-11**	Water	08/28/19
7	1935MOU2171F**	FA67649-12**	Water	08/28/19
8	1935MOU2172D**	FA67649-13**	Water	08/28/19
9	1935MOU2173F**	FA67649-14**	Water	08/28/19
10	1935MOU2174F**	FA67649-15**	Water	08/28/19
11	1935MOU2175F**	FA67649-16**	Water	08/28/19
12	1935MOU2176F**	FA67649-17**	Water	08/28/19
13	1935MOU2177F**	FA67649-18**	Water	08/28/19

LDC #: 45997I1b
SDG #: FA67649
Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Stage 4

Date: 10/2/19
Page: 2 of 2
Reviewer: 9
2nd Reviewer: KLC

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935MOU2178F	FA67649-19	Water	08/28/19
15	1935MOU2179F	FA67649-20	Water	08/28/19
16	1935MOU2180F	FA67649-21	Water	08/28/19
17	1935MOU2181F	FA67649-22	Water	08/28/19
18	1935MOU2182F	FA67649-23	Water	08/28/19
19	1935MOU2183F	FA67649-24	Water	08/28/19
20	1935MOU2184F	FA67649-25	Water	08/28/19
21	1935MOU2185D	FA67649-26	Water	08/28/19
22	1935MOU2186F	FA67649-27	Water	08/28/19
23	1935MOU2187F	FA67649-28	Water	08/28/19
24	1935MOU2188F	FA67649-29	Water	08/28/19
25	1935MOU2189F	FA67649-30	Water	08/28/19
26	1935MOU2192F	FA67649-31	Water	08/28/19
27	1935MOU2177FMS	FA67649-18MS	Water	08/28/19
28	1935MOU2177FMSD	FA67649-18MSD	Water	08/28/19
29				
30				
31				
32				
33				

Notes:

LDC #: 45997116

VALIDATION FINDINGS CHECKLIST

Reviewer: Q
2nd Reviewer: KV

Method: Volatiles (EPA SW 846 Method 8260B-SIM)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check (Not required)				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) ≥ 0.05??	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent difference (%D) ≤20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation findings worksheet.		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 45997116

VALIDATION FINDINGS CHECKLIST

Reviewer: 9T
2nd Reviewer: MK

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
XI. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC#:45997l1a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: Q
2nd Reviewer: KC

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

Compound	Concentration (ug/L)		RPD (≤ 30)
	7	8	
K	0.18	0.18	0
I	1.0	1.1	10
L	0.24	0.24	0
QQQ	0.91	0.93	2
AA	0.75	0.72	4
S	1.6	1.6	0

LDC #: 45997I1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PG
2nd Reviewer: RLR

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	8/26/19	K (1st internal standard)	0.566	0.566	0.606	0.606	12.77	12.76
	(O)		AA (2nd internal standard)	0.458	0.458	0.487	0.487	9.57	9.56
			(3rd internal standard)						
			(4th internal standard)						
2			QQQ (1st internal standard)						
			S (2nd internal standard)						
			AA (3rd internal standard)						
			KKK (4th internal standard)						
3			QQQ (1st internal standard)						
			S (2nd internal standard)						
			AA (3rd internal standard)						
			KKK (4th internal standard)						
4			QQQ (1st internal standard)						
			S (2nd internal standard)						
			AA (3rd internal standard)						
			KKK (4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45997I1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: PG
2nd Reviewer: KKK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	O59189	8/31/19	K (1st internal standard)	0.606	0.544	0.544	10.2	10.2
			AA (2nd internal standard)	0.487	0.481	0.481	1.2	1.3
			(3rd internal standard)					
			(4th internal standard)					
2			QQQ (1st internal standard)					
			S (2nd internal standard)					
			AA (3rd internal standard)					
			KKK (4th internal standard)					
3			QQQ (1st internal standard)					
			S (2nd internal standard)					
			AA (3rd internal standard)					
			KKK (4th internal standard)					
4			QQQ (1st internal standard)					
			S (2nd internal standard)					
			AA (3rd internal standard)					
			KKK (4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45997I16

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer:
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4	5.00	4.73	95	95	
Toluene-d8	↓	4.73	95	95	
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 45997I16

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: RR

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC)

MSC = Matrix spike concentration; MSDC = Matrix spike duplicate concentration

MS/MSD sample: 27/28

Compound	Spike Added (µg/L)		Sample Concentration (µg/L)	Spiked Sample Concentration (µg/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene											
Trichloroethene	5	5	4.0	8.6	8.6	92	92	92	92	0	0
Benzene	V	V	ND	4.8	4.9	96	96	98	98	2	2
Toluene											
Chlorobenzene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 43997F1b

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: 9
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: V022641-BS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene	5	NA	5.0	NA	100	100				
Benzene	5	↓	5.0	↓	100	100				
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45997I1/7

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 1, AA:

Conc. = $\frac{(169192)(5.00)(1)}{(574606)(0.487)(\quad)(\quad)}$

= 3.02 µg/L

#	Sample ID	Compound	Reported Concentration (µg/L)	Calculated Concentration ( )	Qualification
	1	AA	3.0		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Fort Ord, GWTP OU2

LDC Report Date: October 7, 2019

Parameters: Dissolved Metals

Validation Level: Stage 4

Laboratory: SGS North America, Inc.

Sample Delivery Group (SDG): FA67649

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
1935YOU2032F	FA67649-1	Water	08/28/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California (Revision 7, August 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and the USACE Guidance for Evaluating Performance-Based Chemical Data (June 2005). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Antimony, Copper, and Lead by Environmental Protection Agency (EPA) SW 846 Method 6010C

All sample results were subjected to Stage 4 evaluation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony	2.0 ug/L	1935YOU2032F
ICB/CCB	Antimony	2.80 ug/L	1935YOU2032F

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
1935YOU2032F	Antimony	1.5 ug/L	1.5U ug/L

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Serial Dilution

Serial dilution was not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG for samples reviewed at Stage 4.

XI. Sample Result Verification

All sample result verifications were acceptable.

All analytes reported below the LOQ were qualified as follows:

Sample	Finding	Flag	A or P
1935YOU2032F	All analytes reported below the LOQ.	J (all detects)	A

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to results below the LOQ, data were qualified as estimated in one sample.

Due to laboratory blank contamination, data were qualified as not detected in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

Fort Ord, GWTP OU2
Dissolved Metals - Data Qualification Summary - SDG FA67649

Sample	Analyte	Flag	A or P	Reason
1935YOU2032F	All analytes reported below the LOQ.	J (all detects)	A	Sample result verification

Fort Ord, GWTP OU2
Dissolved Metals - Laboratory Blank Data Qualification Summary - SDG FA67649

Sample	Analyte	Modified Final Concentration	A or P
1935YOU2032F	Antimony	1.5U ug/L	A

Fort Ord, GWTP OU2
Dissolved Metals - Field Blank Data Qualification Summary - SDG FA67649

No Sample Data Qualified in this SDG

LDC #: 45997I4b

SDG #: FA67649

Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

~~ADR~~/Stage 4

Date: 10/4/19

Page: 1 of 1

Reviewer: KR

2nd Reviewer:

METHOD: Dissolved Metals (EPA SW 846 Method 6010C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A ~~/X~~ A	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	~~ICB/CCB only~~
V.	Field Blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	~~Not reviewed for ADR validation.~~ CS
VII.	Duplicate sample analysis	N	
VIII.	Serial Dilution	N	~~Not reviewed for ADR validation.~~
IX.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
X.	Field Duplicates	N	~~Not reviewed for ADR validation.~~ Not Stage 4
XI.	Sample Result Verification	A	~~Not reviewed for ADR validation.~~
XII.	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	1935YOU2032F**	FA67649-1**	Water	08/28/19
2	~~1935YOU2034F~~	~~FA67649-3~~	~~Water~~	~~08/28/19~~
3	1935YOU2036F	FA67649-5	Water	08/28/19
4	1935YOU2037F	FA67649-6	Water	08/28/19
5	~~1935YOU2038D~~	~~FA67649-7~~	~~Water~~	~~08/28/19~~
6				
7				
8				
9				
10				
11				
12				
13				
14				

Notes:

LDC #: 45977I4b

VALIDATION FINDINGS CHECKLIST

Reviewer: KK
2nd Reviewer:

Method: Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?			✓	
Were %RSD of isotopes in the tuning solution ≤5%?			✓	
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were the low standard checks within 70-130%	✓			
Were all initial calibration correlation coefficients within limits as specified by the method?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.			✓	
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?			✓	
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?		✓		
Were all percent differences (%Ds) < 10%?			✓	
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.			✓	
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓	~~✓~~ KK		Not Stage 4
Target analytes were detected in the field duplicates.			✓	
XIII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 45997I 4b

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: KK
2nd reviewer:

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-5	W	Al, [✓ Sb], As, Ba, Be, Cd, Ca, Cr, Co, [✓ Cu], Fe, [✓ Pb], Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
		Analysis Method
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___ ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti,

Comments: Mercury by CVAA if performed

LDC #: 45997I4b

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: KK
2nd Reviewer:

METHOD: Trace metals (EPA SW 864 Method 6010C)

Soil preparation factor applied:

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 1

					Sample Identification										
Analyte	**Maximum PB (mg/kg)**	**Maximum PB (ug/L)**	**Maximum ICB/CCB (ug/L)**	**Action Level**	1										
Sb		2.0	2.80	14	1.5										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 45997I4b

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: KK
2nd Reviewer:

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{Found}{True} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
9/9 09:53 CRIA2	ICP (Low Level calibration)	Cu	24.2	25	96.8	96.8	Y
	ICP/MS (Low Level calibration)						
9/9 09:22 ICV	ICP (Initial calibration)	Sb	2079	2000	104	104	Y
	ICP/MS (Initial calibration)						
	CVAA (Initial calibration)						
9/9 17:05 CCV8	ICP (Continuing calibration)	Pb	1892	2000	94.6	94.5	Y
	ICP/MS (Continuing calibration)						
	CVAA (Continuing calibration)						

ICP-MS TUNE	Calculation	Mass	Actual (Mean Counts / Axis)	Required (Counts / Axis)	Recalculated %RSD	Acceptable (Y/N)
	Mass Axis			± 0.1 AMU	NA	
	%RSD			≤ 5% RSD		

Comments:

LDC #: 45997I4b

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: KK
2nd Reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$ Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
9/9 10:06 ICSAB1	ICP interference check	Pb	957.6 ug/L	1000 ug/L	95.8	95.8	Y
9/9 16:25 LCS	Laboratory control sample	Cu	252.1 ug/L	250 ug/L	100.8	100.8	Y
—	Matrix spike		(SSR-SR)				
—	Duplicate						
—	Post digestion spike						
—	ICP serial dilution						

Comments: _____

LDC #: 45997I4b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: KK
2nd reviewer:

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for #1 Pb were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\left(0.0054 \frac{mg}{L}\right)\left(\frac{50 mL}{50 mL}\right) = 5.4 \frac{ug}{L}$$

#	Sample ID	Analyte	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Acceptable (Y/N)
	1	Pb	5.4	5.4	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Fort Ord, GWTP OU2

LDC Report Date: October 7, 2019

Parameters: Chloride

Validation Level: Stage 4

Laboratory: SGS North America, Inc.

Sample Delivery Group (SDG): FA67651

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
1935Y212030F	FA67651-1	Water	08/28/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California (Revision 7, August 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and the USACE Guidance for Evaluating Performance-Based Chemical Data (June 2005). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Chloride by Environmental Protection Agency (EPA) Method 300.0/EPA SW 846 Method 9056A

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were not within QC limits. No data were qualified since there were no associated samples reviewed at Stage 4 in this SDG. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG for samples reviewed at Stage 4.

X. Sample Result Verification

All sample result verifications were acceptable.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

Fort Ord, GWTP OU2
Chloride - Data Qualification Summary - SDG FA67651

No Sample Data Qualified in this SDG

Fort Ord, GWTP OU2
Chloride - Laboratory Blank Data Qualification Summary - SDG FA67651

No Sample Data Qualified in this SDG

Fort Ord, GWTP OU2
Chloride - Field Blank Data Qualification Summary - SDG FA67651

No Sample Data Qualified in this SDG

LDC #: 45997K6
SDG #: FA67651
Laboratory: SGS North America, Inc.

VALIDATION COMPLETENESS WORKSHEET

~~ADR~~/Stage 4

Date: 10/4/19
Page: 1 of 1
Reviewer: KK
2nd Reviewer:

METHOD: (Analyte) Chloride (EPA Method 300.0/EPA SW846 Method 9056A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	A	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	SW	~~Not reviewed for ADR validation.~~ %R out, non-Level 4 sample
VII.	Duplicate sample analysis	N	~~Not reviewed for ADR validation.~~
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
IX.	Field duplicates	N	Not Stage 4 samples
X.	Sample result verification	A	~~Not reviewed for ADR validation.~~
XI	Overall assessment of data	A	~~Not reviewed for ADR validation.~~

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	1935Y212030F**	FA67651-1**	Water	08/28/19
~~2~~	~~1935M212165F~~	~~FA67651-4~~	~~Water~~	~~08/28/19~~
3	1935M212166D	FA67651-5	Water	08/28/19
4	1935M212167F	~~FA67651-6~~	Water	08/28/19
5	1935M212168F	~~FA67651-7~~	Water	08/28/19
6	1935M212167FMS	FA67651-6MS	Water	08/28/19
~~7~~	~~1935M212167FMSD~~	~~FA67651-6MSD~~	~~Water~~	~~08/28/19~~
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

LDC #: 45997 K6

VALIDATION FINDINGS CHECKLIST

Reviewer: KK
2nd Reviewer:

Method: Inorganics (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		Not Stage 4 sample
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			not Stage 4
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 45997K6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: KK
2nd Reviewer: C

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of Cl was recalculated. Calibration date: 8/27/19

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution

True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Found Standard	True Conc. (mg/l)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Cl	s1	1	0.040	0.999153	0.996527	Y
		s2	2.5	0.119			
		s3	5	0.289			
		s4	10	0.568			
		s5	20	1.193			
		s6	50	3.450			
		s7	100	7.416			
ICV 8/27 17:26 Calibration verification	Cl	47.70	50		95.4	95.4	Y
CCV4 ~~8/27~~ 9/5 17:49 Calibration verification	Cl	48.20	50		96.4	96.4	Y
Calibration verification							

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45997K6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: KK
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

%R = Found / True x 100 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

RPD = |S-D| / (S+D)/2 x 100 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Cl	48.4585 mg/L	50 mg/L	97	97.0	Y
6	Matrix spike sample	↓	(SSR-SR) -33.04 mg/L	50 mg/L	-66.1	-66.0	Y
7	Duplicate sample	↓	375	~~377~~ 388 mg/L	3.4	3.4	Y

Comments:

LDC #: 45997K6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: KK
2nd reviewer:

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for #1 Cl reported with a positive detect were recalculated and verified using the following equation:

Concentration = $[Cl] = \left(\frac{A - b}{m}\right) DF$

Recalculation: $A = 2.153$, $b = -0.0424$, $m = 0.0711$, $DF = 100$

$[Cl] = 3087.76 \approx 3090 \frac{mg}{L}$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	1	Cl	3090	3090	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Fort Ord, GWTP OU2

LDC Report Date: October 4, 2019

Parameters: Volatiles

Validation Level: Stage 4

Laboratory: SGS North America, Inc.

Sample Delivery Group (SDG): FA67700

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
1935W0BW018F	FA67700-1	Water	08/29/19
1935W0BW019B	FA67700-2	Water	08/29/19
1935X0BW075F	FA67700-3	Water	08/29/19
1935X0BW076F	FA67700-4	Water	08/29/19
1935X0BW077D	FA67700-5	Water	08/29/19
1935X0BW078F	FA67700-6	Water	08/29/19
1935X0BW079F	FA67700-7	Water	08/29/19
1935X0BW080F	FA67700-8	Water	08/29/19
1935X0BW081F	FA67700-9	Water	08/29/19
1935X0BW087F	FA67700-10	Water	08/30/19
1935X0BW088D	FA67700-11	Water	08/30/19
1935X0BW089F	FA67700-12	Water	08/30/19
1935X0BW077DMS	FA67700-5MS	Water	08/29/19
1935X0BW077DMSD	FA67700-5MSD	Water	08/29/19
1935X0BW087FMS	FA67700-10MS	Water	08/30/19
1935X0BW087FMSD	FA67700-10MSD	Water	08/30/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California (Revision 7, August 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and the USACE Guidance for Evaluating Performance-Based Chemical Data (June 2005). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260B in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
09/09/19	Methylene chloride	21.0	1935X0BW087F 1935X0BW088D 1935X0BW089F	NA	-

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Compound	Concentration	Associated Samples
V02268-BLK1	09/09/19	Methylene chloride	2.0 ug/L	1935X0BW087F 1935X0BW088D 1935X0BW089F

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated laboratory blanks.

VI. Field Blanks

Sample 1935Z0BW006A (from SDG FA67650) was identified as a trip blank. No contaminants were found.

Sample 1935W0BW019B was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
1935X0BW077D	1,2-Dichloroethane-d4	126 (74-125)	Methylene chloride	NA	-
1935X0BW079F	1,2-Dichloroethane-d4	126 (74-125)	All compounds	NA	-
1935X0BW080F	1,2-Dichloroethane-d4 Toluene-d8	126 (74-125) 84 (88-111)	Methylene chloride	UJ (all non-detects)	A
1935X0BW081F	1,2-Dichloroethane-d4	128 (74-125)	Methylene chloride	NA	-

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
1935X0BW087FMS/MSD (1935X0BW087F)	Methylene chloride	138 (69-135)	136 (69-135)	NA	-

Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples 1935X0BW076F and 1935X0BW077D and samples 1935X0BW087F and 1935X0BW088D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	1935X0BW076F	1935X0BW077D	
Trichloroethene	0.31	0.27	14 (≤30)

Compound	Concentration (ug/L)		RPD (Limits)
	1935X0BW087F	1935X0BW088D	
1,2-Dichloroethene, total	0.17	0.18	6 (≤30)
Trichloroethene	1.1	0.94	16 (≤30)

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria.

All compounds reported below the LOQ were qualified as follows:

Sample	Finding	Flag	A or P
1935W0BW018F 1935X0BW075F 1935X0BW076F 1935X0BW077D 1935X0BW078F 1935X0BW080F 1935X0BW087F 1935X0BW088D 1935X0BW089F	All compounds reported below the LOQ.	J (all detects)	A

XIII. Target Compound Identifications

All target compound identifications met validation criteria.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to surrogate %R and results below the LOQ, data were qualified as estimated in nine samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

Fort Ord, GWTP OU2
Volatiles - Data Qualification Summary - SDG FA67700

Sample	Compound	Flag	A or P	Reason
1935X0BW080F	Methylene chloride	UJ (all non-detects)	A	Surrogates (%R)
1935W0BW018F 1935X0BW075F 1935X0BW076F 1935X0BW077D 1935X0BW078F 1935X0BW080F 1935X0BW087F 1935X0BW088D 1935X0BW089F	All compounds reported below the LOQ.	J (all detects)	A	Compound quantitation

Fort Ord, GWTP OU2
Volatiles - Laboratory Blank Data Qualification Summary - SDG FA67700

No Sample Data Qualified in this SDG

Fort Ord, GWTP OU2
Volatiles - Field Blank Data Qualification Summary - SDG FA67700

No Sample Data Qualified in this SDG

LDC #: 45997N1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/3/19
SDG #: FA67700 Stage 4 Page: 1 of 3
Laboratory: SGS North America, Inc. Reviewer: 9
2nd Reviewer: MC

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤15% . r^2 ICV ≤20%
IV.	Continuing calibration (Endrin)	SW	CCV ≤20/50%
V.	Laboratory Blanks	SW	
VI.	Field blanks	ND	EB = 2, TB = 1935Z0BW00A (FA67650)
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D=A+S · 10+1
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	
XIII.	Target compound identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	1935W0BW018F	FA67700-1	Water	08/29/19
2	1935W0BW019B	FA67700-2	Water	08/29/19
3	1935X0BW075F	FA67700-3	Water	08/29/19
4	1935X0BW076F	FA67700-4	Water	08/29/19
5	1935X0BW077D	FA67700-5	Water	08/29/19
6	1935X0BW078F	FA67700-6	Water	08/29/19
7	1935X0BW079F	FA67700-7	Water	08/29/19
8	1935X0BW080F	FA67700-8	Water	08/29/19
9	1935X0BW081F	FA67700-9	Water	08/29/19
10	1935X0BW087F	FA67700-10	Water	08/30/19
11	1935X0BW088D	FA67700-11	Water	08/30/19
12	1935X0BW089F	FA67700-12	Water	08/30/19
13	1935X0BW077DMS	FA67700-5MS	Water	08/29/19

LDC #: 45997N1b **VALIDATION COMPLETENESS WORKSHEET** Date: 10/8/19
SDG #: FA67700 Stage 4 Page: 2 of 2
Laboratory: SGS North America, Inc. Reviewer: 9
2nd Reviewer: KW

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

	Client ID	Lab ID	Matrix	Date
14	1935X0BW077DMSD	FA67700-5MSD	Water	08/29/19
15	1935X0BW087FMS	FA67700-10MS	Water	08/30/19
16	1935X0BW087FMSD	FA67700-10MSD	Water	08/30/19
17				
18				
19				
20				
21				

Notes:

	VZ2209						
	VZ2210						
	V02268						

LDC #: 45997TN16

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: KW

Method: Volatiles (EPA SW 846 Method 8260B-SIM)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check (Not required)				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) ≥ 0.05??	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent difference (%D) ≤20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?		✓		
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation findings worksheet.	✓			
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓	✓		
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?		✓		
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		

LDC #: 43999N1b

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: KH

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
XI. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: ~~45999~~ TNib

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: 9
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

(Y) N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?

Y (N) N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	9/9/19	059310	E	21.0		10-12, 15-16	J+dets/A
						MB (ND)	

CONCAL.1SB

LDC #: 45947TN1b

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
(Y) N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 9/9/19
Conc. units: µg/L Associated Samples: 10-12

Compound	Blank ID	Sample Identification								
	VO2268-BLK1									
Methylene chloride	2.0									
Acetone										

Blank analysis date:
Conc. units: Associated Samples:

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: ~~45977N16~~

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		5 (ND)	DCE	126 (74-125)	J+ detects/A (E only)
		7 (ND)	DCE	126 ( )	J+ detects/P (all)
		8 (ND)	DCE	126 ( )	J/UJ/A (E only)
			TOL	84 (88-111)	
		~~9 (ND)~~		( )	
		9 (ND)	DCE	128 (74-125)	J+ detects/A (E only)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

(TOL) = Toluene-d8 (DCE) = 1,2-Dichloroethane-d4
(BFB) = Bromofluorobenzene (DFM) = Dibromofluoromethane

LDC #: ~~45997~~N16

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer:
2nd Reviewer: RLC

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

[✓ Y] N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

[✓ Y] N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y [✓ N] N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		15/16	E	138 (69-135)	136 (69-135)	( )	10 (ND)	~~J+dets/A~~
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#:45997N1b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: CA
2nd Reviewer: KR

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B-SIM)

Compound	Concentration (ug/L)		RPD (≤ 30)
	4	5	
S	0.31	0.27	14

Compound	Concentration (ug/L)		RPD (≤ 30)
	10	11	
J	0.17	0.18	6
S	1.1	0.94	16

LDC #: 45997N1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PG
2nd Reviewer: VAR

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	8/26/19	K (1st internal standard)	0.566	0.566	0.606	0.606	12.77	12.76
	(O)		AA (2nd internal standard)	0.458	0.458	0.487	0.487	9.57	9.56
			(3rd internal standard)						
			(4th internal standard)						
2	ICAL	8/29/19	S (1st internal standard)	0.422	0.422	0.435	0.435	6.88	6.86
	(Z)		AA (2nd internal standard)	0.567	0.567	0.575	0.575	8.39	8.41
			(3rd internal standard)						
			(4th internal standard)						
3	ICAL	9/9/19	S (1st internal standard)	0.495	0.495	0.498	0.498	2.82	2.84
	(Z)		AA (2nd internal standard)	0.548	0.548	0.554	0.554	7.17	7.15
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			KKK (4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45997N1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: PG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)		Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	O59310	9/19/19	K	(1st internal standard)	0.606	0.565	0.565	6.8	6.8
			AA	(2nd internal standard)	0.487	0.426	0.426	12.5	12.5
				(3rd internal standard)					
				(4th internal standard)					
2	Z57780	9/6/19	S	(1st internal standard)	0.435	0.481	0.481	10.6	10.7
			AA	(2nd internal standard)	0.575	0.579	0.579	0.7	0.7
				(3rd internal standard)					
				(4th internal standard)					
3			QQQ	(1st internal standard)					
			S	(2nd internal standard)					
			AA	(3rd internal standard)					
			KKK	(4th internal standard)					
4			QQQ	(1st internal standard)					
			S	(2nd internal standard)					
			AA	(3rd internal standard)					
			KKK	(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15997N1b

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: a
2nd reviewer: KL

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4	5.00	6.13	123	123	
Toluene-d8	✓	4.83	97	97	
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 45997N16

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: Q
2nd Reviewer: KLR

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC)

Where: MSC = Matrix spike concentration; MSDC = Matrix spike duplicate concentration

MS/MSD sample: 13/14

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25	25	ND	29.1	28.8	116	116	115	115	1	1
Trichloroethene	↓	↓	0.27	26.8	26.6	106	106	105	105	1	↓
Benzene											
Toluene											
Chlorobenzene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #45997N16

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: 9
2nd Reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: VZ2209-BS

Compound	Spike Added (µg/L)		Spiked Sample Concentration (µg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	5	NA	5.7	NA	114	114				
Trichloroethene	V	↓	5.6	↓	112	112				
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45497N16

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B-SIM)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 3 , 5 :

Conc. = $\frac{(94659)(5.00)(1)}{(174445)(0.435)(\quad)(\quad)}$

= 0.62 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration ( )	Qualification
	3	5	0.62		

Third Quarter 2019

Groundwater Data

SGS Laboratory Reports

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Ahtna Environmental Inc

DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

SGS Job Number: FA67546

Sampling Date: 08/27/19

Report to:

Ahtna Environmental Inc
3100 Beacon Boulevard
West Sacramento, CA 95691
dlieberman@ahtna.net; mfisler@ahtna.net;
hdillon@ahtna.net; eschmidt@ahtna.net
ATTN: Derek Lieberman

Total number of pages in report: 75

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

Sections: 1 2 3 4 5 6 7

Table of Contents

SGS North America Inc.

Sample Summary

Ahtna Environmental Inc

Job No: FA67546

DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA67546-1	08/27/19	10:15	MF	08/28/19	AQ	Trip Blank Water	1935M212190A
FA67546-2	08/27/19	10:23	MF	08/28/19	AQ	Ground Water	1935M212191F

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Ahtna Environmental Inc **Job No:** FA67546

Site: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA **Report Date:** 8/30/2019 6:09:03 PM

1 Sample and 1 Trip Blank collected on 08/27/2019 and were received at SGS North America Inc - Orlando on 08/28/2019 properly preserved, at 2 Deg. C and intact. These Samples received an SGS Orlando job number of FA67546. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B BY SIM

Matrix: AQ **Batch ID:** VO2260

All samples were analyzed within the recommended method holding time.

Sample(s) FA67546-2MS, FA67546-2MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Jenna Kravitz, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA67546
Account: Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA
Collected: 08/27/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA67546-1	**1935M212190A**					
No hits reported in this sample.						
FA67546-2	**1935M212191F**					
No hits reported in this sample.						

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935M212190A		
Lab Sample ID:	FA67546-1	**Date Sampled:**	08/27/19
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/28/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59102.D	1	08/29/19 11:06	KB	n/a	n/a	VO2260
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		74-125%
2037-26-5	Toluene-D8	97%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935M212191F		
Lab Sample ID:	FA67546-2	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/28/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59103.D	1	08/29/19 11:27	KB	n/a	n/a	VO2260
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		74-125%
2037-26-5	Toluene-D8	97%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

Ahtna
296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / SOIL FA67546

Chain of Custody #: 2409

Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: FFO, MARINA, CA
Sampler/s: MARK FISLER
Project Name: 212 GWTP
Report To: DEREK LIEBERMAN
Project Number: 21065.000.01 TASK 05055.05.04 6.1
E-Mail: d.lieberman@ahtna.net
Sampling Event: COMPLIANCE
Laboratory: SGS

Analysis Requested

8260 - SIM

Turn Around Time

Lab Sample Receipt

Laboratory Sample Delivery
Group #:
Custody Seal:
Temp (°C):

Lab Number	Sample Number/Description	Sample Collection Date	Sample Collection Time	Matrix: Water	Matrix: Soil	Matrix: Other	Total # of Bottles	Number of Preserved Bottles: HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO_4$	None	Other	8260 - SIM	Turn Around Time	Notes
1	1935M212190A	8/27/19	1015	X			2	2								X	STD	TRIP BLANK
2	1935M212191F	8/27/19	1023	X			3	3								X	72 HR	

Notes

Turnaround Time: ____: Standard ____: 3-5 Day Rush ____: 48 Hour Rush ____: 24 Hour Rush

Shipment: Method: Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By Sampler:	Date/Time:	Received By:	Date/Time:
	8/27/19 1345	Fed Ex	
Relinquished By: Fed Ex	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By Laboratory:	Date/Time: 08/28/19 900

20°

5.1 5

FA67546: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA67546 **Client:** AHTNA **Project:** 212 GWTP

Date / Time Received: 8/28/2019 9:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 790974052089

Therm ID: IR 1; **Therm CF:** 1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 8/28/2019 9:00:00 AM Reviewer: PH Date: 8/30/2019

FA67546: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67546
Account: Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA
Collected: 08/27/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VO2260	SW846 8260B BY SIM						
VO2260-BS	67-66-3	Chloroform	BSP	REC	92	%	79-124
VO2260-BS	107-06-2	1,2-Dichloroethane	BSP	REC	88	%	73-128
VO2260-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	100	%	71-131
VO2260-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	96	%	78-123
VO2260-BS	542-75-6	1,3-Dichloropropene (total)	BSP	REC	89	%	77-123
VO2260-BS	127-18-4	Tetrachloroethylene	BSP	REC	102	%	74-129
VO2260-BS	79-01-6	Trichloroethylene	BSP	REC	98	%	79-123
VO2260-BS	75-01-4	Vinyl Chloride	BSP	REC	116	%	58-137
VO2260-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	93	%	81-118
VO2260-BS	2037-26-5	Toluene-D8	BSP	SURR	98	%	89-112
FA67546-2MS	67-66-3	Chloroform	MS	REC	94	%	79-124
FA67546-2MS	107-06-2	1,2-Dichloroethane	MS	REC	93	%	73-128
FA67546-2MS	75-35-4	1,1-Dichloroethylene	MS	REC	106	%	71-131
FA67546-2MS	156-59-2	cis-1,2-Dichloroethylene	MS	REC	98	%	78-123
FA67546-2MS	542-75-6	1,3-Dichloropropene (total)	MS	REC	85	%	77-123
FA67546-2MS	127-18-4	Tetrachloroethylene	MS	REC	104	%	74-129
FA67546-2MS	79-01-6	Trichloroethylene	MS	REC	93	%	79-123
FA67546-2MS	75-01-4	Vinyl Chloride	MS	REC	114	%	58-137
FA67546-2MS	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	96	%	81-118
FA67546-2MS	2037-26-5	Toluene-D8	MS	SURR	96	%	89-112
FA67546-2MSD	67-66-3	Chloroform	MSD	REC	93	%	79-124
FA67546-2MSD	67-66-3	Chloroform	MSD	RPD	1	%	20
FA67546-2MSD	107-06-2	1,2-Dichloroethane	MSD	REC	91	%	73-128
FA67546-2MSD	107-06-2	1,2-Dichloroethane	MSD	RPD	2	%	20
FA67546-2MSD	75-35-4	1,1-Dichloroethylene	MSD	REC	105	%	71-131
FA67546-2MSD	75-35-4	1,1-Dichloroethylene	MSD	RPD	0	%	20
FA67546-2MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	97	%	78-123
FA67546-2MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	1	%	20
FA67546-2MSD	542-75-6	1,3-Dichloropropene (total)	MSD	REC	84	%	77-123
FA67546-2MSD	542-75-6	1,3-Dichloropropene (total)	MSD	RPD	1	%	20
FA67546-2MSD	127-18-4	Tetrachloroethylene	MSD	REC	102	%	74-129
FA67546-2MSD	127-18-4	Tetrachloroethylene	MSD	RPD	2	%	20
FA67546-2MSD	79-01-6	Trichloroethylene	MSD	REC	92	%	79-123
FA67546-2MSD	79-01-6	Trichloroethylene	MSD	RPD	1	%	20
FA67546-2MSD	75-01-4	Vinyl Chloride	MSD	REC	118	%	58-137
FA67546-2MSD	75-01-4	Vinyl Chloride	MSD	RPD	3	%	20
FA67546-2MSD	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	96	%	81-118
FA67546-2MSD	2037-26-5	Toluene-D8	MSD	SURR	97	%	89-112
VO2260-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	95	%	81-118
VO2260-MB	2037-26-5	Toluene-D8	MB	SURR	98	%	89-112
FA67546-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	95	%	81-118
FA67546-1	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112

* Sample used for QC is not from job FA67546

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67546
Account: Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA
Collected: 08/27/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA67546-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	95	%	81-118
FA67546-2	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112

* Sample used for QC is not from job FA67546

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2260-MB	O59101.D	1	08/29/19	KB	n/a	n/a	VO2260

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67546-1, FA67546-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.50	0.10	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl Chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	95%	74-125%
2037-26-5	Toluene-D8	98%	88-111%

Blank Spike Summary

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2260-BS	O59100.D	1	08/29/19	KB	n/a	n/a	VO2260

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67546-1, FA67546-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	5	4.6	92	80-124
107-06-2	1,2-Dichloroethane	5	4.4	88	75-125
75-35-4	1,1-Dichloroethylene	5	5.0	100	78-137
156-59-2	cis-1,2-Dichloroethylene	5	4.8	96	78-120
542-75-6	1,3-Dichloropropene (total)	10	8.9	89	75-120
127-18-4	Tetrachloroethylene	5	5.1	102	76-135
79-01-6	Trichloroethylene	5	4.9	98	81-126
75-01-4	Vinyl Chloride	5	5.8	116	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	93%	74-125%
2037-26-5	Toluene-D8	98%	88-111%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA67546-2MS	O59110.D	5	08/29/19	KB	n/a	n/a	VO2260
FA67546-2MSD	O59111.D	5	08/29/19	KB	n/a	n/a	VO2260
FA67546-2	O59103.D	1	08/29/19	KB	n/a	n/a	VO2260

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67546-1, FA67546-2

CAS No.	Compound	FA67546-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-66-3	Chloroform	0.50	U	25	23.5	94	25	23.2	93	1	80-124/15
107-06-2	1,2-Dichloroethane	0.50	U	25	23.2	93	25	22.8	91	2	75-125/14
75-35-4	1,1-Dichloroethylene	0.50	U	25	26.4	106	25	26.3	105	0	78-137/18
156-59-2	cis-1,2-Dichloroethylene	0.50	U	25	24.6	98	25	24.3	97	1	78-120/15
542-75-6	1,3-Dichloropropene (total)	0.50	U	50	42.5	85	50	42.0	84	1	75-120/23
127-18-4	Tetrachloroethylene	0.50	U	25	26.0	104	25	25.6	102	2	76-135/16
79-01-6	Trichloroethylene	0.50	U	25	23.2	93	25	22.9	92	1	81-126/15
75-01-4	Vinyl Chloride	0.10	U	25	28.6	114	25	29.4	118	3	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA67546-2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	96%	95%	74-125%
2037-26-5	Toluene-D8	96%	97%	97%	88-111%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Sample:	VO2258-BFB	**Injection Date:**	08/26/19
Lab File ID:	O59066.D	**Injection Time:**	12:08
Instrument ID:	GCMSO		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	439747	33.4		Pass
75	30.0 - 60.0% of mass 95	574792	43.7		Pass
95	Base peak, 100% relative abundance	1314675	100.0		Pass
96	5.0 - 9.0% of mass 95	89155	6.78		Pass
173	Less than 2.0% of mass 174	6498	0.49	(0.68) [a]	Pass
174	50.0 - 100.0% of mass 95	949995	72.3		Pass
175	5.0 - 9.0% of mass 174	64453	4.90	(6.78) [a]	Pass
176	95.0 - 101.0% of mass 174	905515	68.9	(95.3) [a]	Pass
177	5.0 - 9.0% of mass 176	61263	4.66	(6.77) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VO2258-IC2258	O59067.D	08/26/19	12:31	00:23	Initial cal 1
VO2258-IC2258	O59068.D	08/26/19	12:52	00:44	Initial cal 2
VO2258-IC2258	O59069.D	08/26/19	13:13	01:05	Initial cal 3
VO2258-IC2258	O59070.D	08/26/19	13:34	01:26	Initial cal 4
VO2258-ICC2258	O59071.D	08/26/19	13:55	01:47	Initial cal 5
VO2258-IC2258	O59072.D	08/26/19	14:16	02:08	Initial cal 6
VO2258-IC2258	O59073.D	08/26/19	14:37	02:29	Initial cal 7
VO2258-ICV2258	O59075.D	08/26/19	15:18	03:10	Initial cal verification 5

Instrument Performance Check (BFB)

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Sample:	VO2260-BFB	**Injection Date:**	08/29/19
Lab File ID:	O59098.D	**Injection Time:**	09:41
Instrument ID:	GCMSO		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	421561	31.7		Pass
75	30.0 - 60.0% of mass 95	554103	41.6		Pass
95	Base peak, 100% relative abundance	1331477	100.0		Pass
96	5.0 - 9.0% of mass 95	93167	7.00		Pass
173	Less than 2.0% of mass 174	6030	0.45	(0.61) [a]	Pass
174	50.0 - 100.0% of mass 95	994645	74.7		Pass
175	5.0 - 9.0% of mass 174	69432	5.21	(6.98) [a]	Pass
176	95.0 - 101.0% of mass 174	963819	72.4	(96.9) [a]	Pass
177	5.0 - 9.0% of mass 176	62915	4.73	(6.53) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VO2260-CC2258	O59099.D	08/29/19	10:04	00:23	Continuing cal 5
VO2260-BS	O59100.D	08/29/19	10:25	00:44	Blank Spike
VO2260-MB	O59101.D	08/29/19	10:46	01:05	Method Blank
FA67546-1	O59102.D	08/29/19	11:06	01:25	1935M212190A
FA67546-2	O59103.D	08/29/19	11:27	01:46	1935M212191F
ZZZZZZ	O59104.D	08/29/19	11:48	02:07	(unrelated sample)
ZZZZZZ	O59105.D	08/29/19	12:09	02:28	(unrelated sample)
ZZZZZZ	O59106.D	08/29/19	12:30	02:49	(unrelated sample)
ZZZZZZ	O59107.D	08/29/19	12:51	03:10	(unrelated sample)
ZZZZZZ	O59108.D	08/29/19	13:12	03:31	(unrelated sample)
ZZZZZZ	O59109.D	08/29/19	13:33	03:52	(unrelated sample)
FA67546-2MS	O59110.D	08/29/19	13:54	04:13	Matrix Spike
FA67546-2MSD	O59111.D	08/29/19	14:15	04:34	Matrix Spike Duplicate
VO2260-ECC2258	O59112.D	08/29/19	14:36	04:55	Ending cal 5

Internal Standard Area Summary

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Check Std:	VO2260-CC2258	**Injection Date:**	08/29/19
Lab File ID:	O59099.D	**Injection Time:**	10:04
Instrument ID:	GCMSO	**Method:**	SW846 8260B BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT
Initial Cal [a]	982225	7.35	696551	10.45
Check Std [b]	972409	7.35	701213	10.45
Upper Limit [c]	1944818	7.52	1402426	10.62
Lower Limit [d]	486205	7.18	350607	10.28

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
VO2260-BS	939807	7.35	674174	10.45
VO2260-MB	909997	7.35	652943	10.45
FA67546-1	886785	7.35	646190	10.45
FA67546-2	875711	7.35	640271	10.45
ZZZZZZ	865630	7.36	630949	10.45
ZZZZZZ	857615	7.35	624013	10.45
ZZZZZZ	859395	7.35	624803	10.45
ZZZZZZ	838146	7.35	609481	10.45
ZZZZZZ	818603	7.35	598906	10.45
ZZZZZZ	821757	7.35	596509	10.45
FA67546-2MS	839768	7.35	610949	10.45
FA67546-2MSD	837242	7.35	606244	10.45
VO2260-ECC2258	859127	7.35	616673	10.45

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5

(a) Initial Cal is: VO2258-ICC2258 O59071.D 08/26/19 13:55
(b) Check Std Limit = -50 to +100% of initial cal area.
(c) Upper Limit = +100% of check standard area; Retention time +0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Method: SW846 8260B BY SIM **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
FA67546-1	O59102.D	95	97
FA67546-2	O59103.D	95	97
FA67546-2MS	O59110.D	96	96
FA67546-2MSD	O59111.D	96	97
VO2260-BS	O59100.D	93	98
VO2260-MB	O59101.D	95	98

Surrogate Compounds	Recovery Limits
S1 = 1,2-Dichloroethane-D4	74-125%
S2 = Toluene-D8	88-111%

Initial Calibration Summary

Job Number: FA67546 **Sample:** VO2258-ICC2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59071.D
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Response Factor Report MSVOA12

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

Calibration Files
1 =O59067.D 2 =O59068.D 3 =O59069.D 4 =O59070.D
5 =O59071.D 6 =O59072.D 7 =O59073.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Vinyl Chloride	0.306	0.325	0.309	0.321	0.314	0.323	0.307	0.315	2.55
3) Chloromethane	0.593	0.554	0.617	0.572	0.538	0.539	0.520	0.562	6.04
4) 1,1-Dichloroethen	0.685	0.537	0.532	0.525	0.495	0.504	0.501	0.540	12.27
5) Methylene Chlorid	8.481	2.386	1.246	1.019	0.891	0.865	0.868	2.251	124.39
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9978									
Response Ratio = 0.00000 + 0.98196 *A + -0.03142 *A^2									
6) trans-1,2-Dichlor	0.791	0.702	0.647	0.649	0.622	0.622	0.623	0.665	9.39
7) 1,1-Dichloroethan	0.902	0.740	0.727	0.736	0.711	0.710	0.711	0.748	9.20
8) cis-1,2-Dichloroe	0.476	0.384	0.379	0.385	0.373	0.371	0.373	0.392	9.65
9) Chloroform	0.779	0.601	0.581	0.587	0.566	0.564	0.566	0.606	12.77
10)S Dibromofluorometh	0.277	0.278	0.275	0.274	0.272	0.269	0.270	0.274	1.21
11) Carbon Tetrachlor	0.487	0.395	0.368	0.394	0.372	0.381	0.379	0.397	10.36
12) 1,1,1-Trichloroet	0.561	0.455	0.440	0.458	0.443	0.452	0.448	0.465	9.14
13) Benzene	2.042	1.386	1.303	1.292	1.242	1.239	1.232	1.391	21.01
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
Response Ratio = 0.00000 + 1.27621 *A + -0.01162 *A^2									
14)S 1,2-Dichloroethan	0.350	0.352	0.355	0.336	0.340	0.340	0.341	0.345	2.13
15) 1,2-Dichloroethan	0.683	0.572	0.568	0.573	0.556	0.557	0.556	0.581	7.86
16) Trichloroethene	0.739	0.453	0.579	0.399	0.384	0.384	0.381	0.474	28.85
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9979									
Response Ratio = 0.00000 + 0.40767 *A + -0.00717 *A^2									
17) 1,2-Dichloropropa	0.570	0.499	0.460	0.463	0.446	0.448	0.447	0.476	9.50
18) cis-1,3-Dichlorop	0.616	0.517	0.511	0.528	0.521	0.531	0.533	0.537	6.66
19) I Chlorobenzene-d5	----------ISTD----------								
20)S Toluene-d8	1.179	1.188	1.190	1.193	1.198	1.209	1.219	1.196	1.13
21) trans-1,3-Dichlor	0.671	0.600	0.610	0.644	0.642	0.661	0.673	0.643	4.46
22) Tetrachloroethene	0.588	0.497	0.464	0.479	0.458	0.465	0.459	0.487	9.57

(#) = Out of Range

SIMCL082619.M Mon Aug 26 15:37:32 2019

Initial Calibration Verification

Job Number: FA67546 **Sample:** VO2258-ICV2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59075.D
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\082619\O59075.D Vial: 9
Acq On : 26 Aug 2019 3:18 pm Operator: kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	99	0.00	7.35
2		Vinyl Chloride	0.315	0.319	-1.3	101	0.00	2.91
3		Chloromethane	0.562	0.571	-1.6	105	0.00	2.81
4		1,1-Dichloroethene	0.540	0.483	10.6	97	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	9.543	4.6	98	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.607	8.7	97	0.00	4.87
7		1,1-Dichloroethane	0.748	0.723	3.3	101	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.368	6.1	98	0.00	6.07
9		Chloroform	0.606	0.559	7.8	98	0.00	6.34
10	S	Dibromofluoromethane	0.274	0.271	1.1	99	0.00	6.53
11		Carbon Tetrachloride	0.397	0.363	8.6	97	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.431	7.3	97	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.769	2.3	98	0.00	6.95
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.332	3.8	97	0.00	7.08
15		1,2-Dichloroethane	0.581	0.541	6.9	97	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.632	3.7	98	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.446	6.3	99	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.500	6.9	95	0.00	8.72
19	I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00	10.45
20	S	Toluene-d8	1.196	1.192	0.3	100	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.651	-1.2	101	0.00	9.35
22		Tetrachloroethene	0.487	0.455	6.6	99	0.00	9.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Mon Aug 26 15:37:50 2019

Continuing Calibration Summary

Job Number: FA67546 **Sample:** VO2260-CC2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59099.D
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\082919\O59099.D Vial: 1
Acq On : 29 Aug 2019 10:04 am Operator: kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44186,VO2260,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	99	0.00	7.35
2		Vinyl Chloride	0.315	0.293	7.0	92	0.00	2.91
3		Chloromethane	0.562	0.489	13.0	90	0.00	2.81
4		1,1-Dichloroethene	0.540	0.462	14.4	93	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	8.811	11.9	91	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.608	8.6	97	0.00	4.87
7		1,1-Dichloroethane	0.748	0.701	6.3	98	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.373	4.8	99	0.00	6.07
9		Chloroform	0.606	0.542	10.6	95	0.00	6.33
10	S	Dibromofluoromethane	0.274	0.271	1.1	99	0.00	6.52
11		Carbon Tetrachloride	0.397	0.349	12.1	93	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.414	11.0	92	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.771	2.3	98	0.00	6.94
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.318	7.8	93	0.00	7.08
15		1,2-Dichloroethane	0.581	0.524	9.8	93	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.615	3.8	98	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.449	5.7	100	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.505	6.0	96	0.00	8.71
19	I	Chlorobenzene-d5	1.000	1.000	0.0	101	0.00	10.45
20	S	Toluene-d8	1.196	1.170	2.2	98	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.608	5.4	95	0.00	9.35
22		Tetrachloroethene	0.487	0.461	5.3	101	0.00	9.34

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Thu Aug 29 10:53:05 2019

Continuing Calibration Summary

Job Number: FA67546 **Sample:** VO2260-ECC2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59112.D
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\082919\O59112.D Vial: 14
Acq On : 29 Aug 2019 2:36 pm Operator: kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44186,VO2260,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	87	0.00	7.35
2		Vinyl Chloride	0.315	0.303	3.8	84	0.00	2.91
3		Chloromethane	0.562	0.520	7.5	84	0.00	2.81
4		1,1-Dichloroethene	0.540	0.512	5.2	90	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	10.158	-1.6	92	0.00	4.71
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.668	-0.5	94	0.00	4.87
7		1,1-Dichloroethane	0.748	0.759	-1.5	93	0.00	5.52
8		cis-1,2-Dichloroethene	0.392	0.388	1.0	91	0.00	6.07
9		Chloroform	0.606	0.569	6.1	88	0.00	6.34
10	S	Dibromofluoromethane	0.274	0.277	-1.1	89	0.00	6.53
11		Carbon Tetrachloride	0.397	0.359	9.6	85	0.00	6.52
12		1,1,1-Trichloroethane	0.465	0.427	8.2	84	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	10.127	-1.3	89	0.00	6.95
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.332	3.8	85	0.00	7.08
15		1,2-Dichloroethane	0.581	0.562	3.3	88	0.00	7.15
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.904	1.0	89	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.471	1.1	92	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.500	6.9	84	0.00	8.72
19	I	Chlorobenzene-d5	1.000	1.000	0.0	89	0.00	10.45
20	S	Toluene-d8	1.196	1.162	2.8	86	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.609	5.3	84	0.00	9.35
22		Tetrachloroethene	0.487	0.477	2.1	92	0.00	9.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Thu Aug 29 14:54:31 2019

Run Sequence Report

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Run ID: VO2258 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSO

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VO2258-BFB	O59066.D	08/26/19 12:08	n/a	BFB Tune
VO2258-IC2258	O59067.D	08/26/19 12:31	n/a	Initial cal 1
VO2258-IC2258	O59068.D	08/26/19 12:52	n/a	Initial cal 2
VO2258-IC2258	O59069.D	08/26/19 13:13	n/a	Initial cal 3
VO2258-IC2258	O59070.D	08/26/19 13:34	n/a	Initial cal 4
VO2258-ICC2258	O59071.D	08/26/19 13:55	n/a	Initial cal 5
VO2258-IC2258	O59072.D	08/26/19 14:16	n/a	Initial cal 6
VO2258-IC2258	O59073.D	08/26/19 14:37	n/a	Initial cal 7
VO2258-ICV2258	O59075.D	08/26/19 15:18	n/a	Initial cal verification 5

Run Sequence Report

Job Number: FA67546
Account: AHTNACAS Ahtna Environmental Inc
Project: DOD100204800-2/12 GWTP - 2/12 Extraction Wells, Marina, CA

Run ID: VO2260 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSO

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VO2260-BFB	O59098.D	08/29/19 09:41	n/a	BFB Tune
VO2260-CC2258	O59099.D	08/29/19 10:04	n/a	Continuing cal 5
VO2260-BS	O59100.D	08/29/19 10:25	n/a	Blank Spike
VO2260-MB	O59101.D	08/29/19 10:46	n/a	Method Blank
FA67546-1	O59102.D	08/29/19 11:06	n/a	1935M212190A
FA67546-2	O59103.D	08/29/19 11:27	n/a	1935M212191F
ZZZZZZ	O59104.D	08/29/19 11:48	n/a	(unrelated sample)
ZZZZZZ	O59105.D	08/29/19 12:09	n/a	(unrelated sample)
ZZZZZZ	O59106.D	08/29/19 12:30	n/a	(unrelated sample)
ZZZZZZ	O59107.D	08/29/19 12:51	n/a	(unrelated sample)
ZZZZZZ	O59108.D	08/29/19 13:12	n/a	(unrelated sample)
ZZZZZZ	O59109.D	08/29/19 13:33	n/a	(unrelated sample)
FA67546-2MS	O59110.D	08/29/19 13:54	n/a	Matrix Spike
FA67546-2MSD	O59111.D	08/29/19 14:15	n/a	Matrix Spike Duplicate
VO2260-ECC2258	O59112.D	08/29/19 14:36	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59102.D
Acq On : 29 Aug 2019 11:06 am
Operator : kevinb
Sample : FA67546-1 Inst : MSVOA12
Misc : MS44201,VO2260,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 29 11:32:07 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

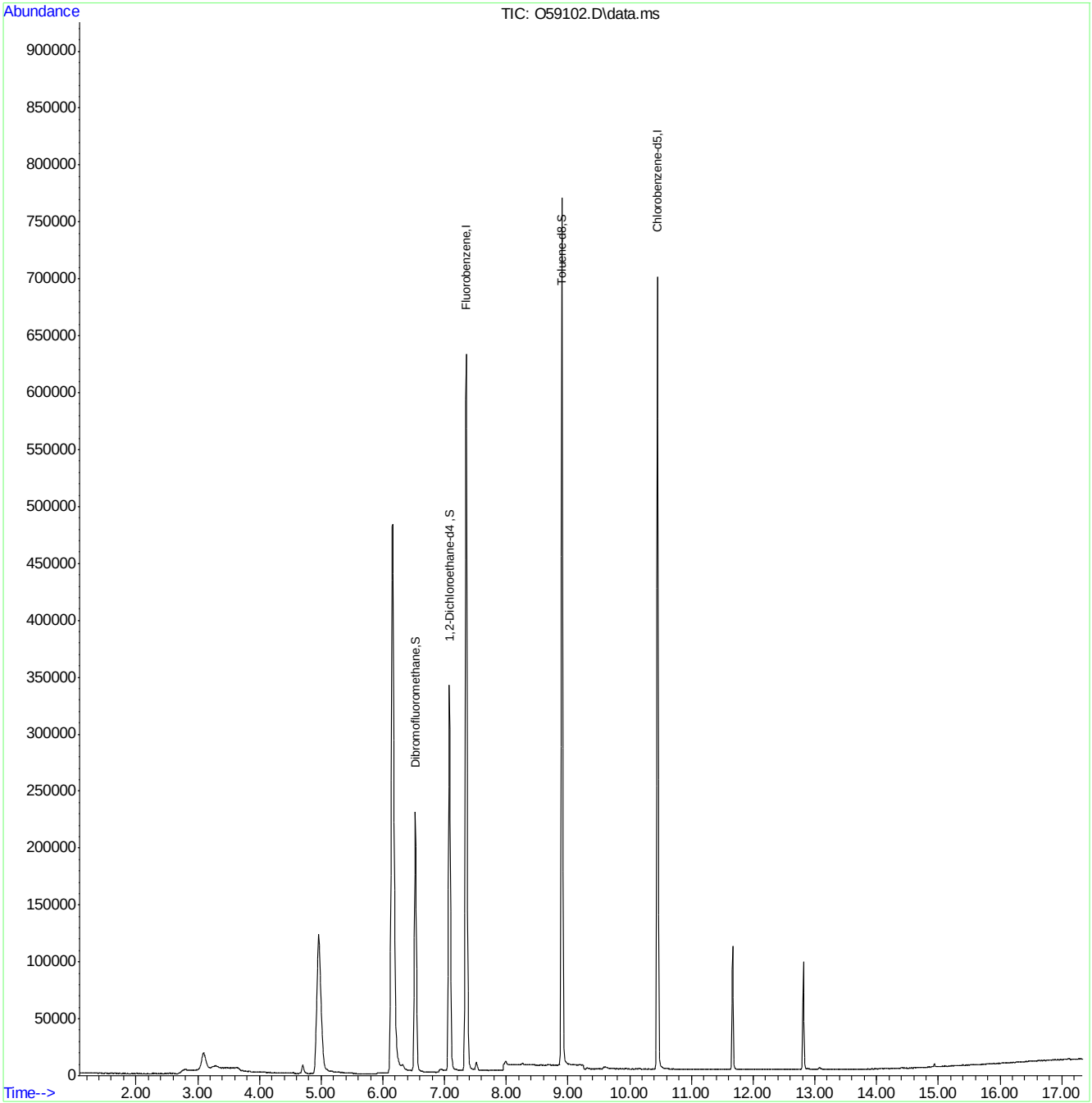
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	886785	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.449	117	646190	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	244982	5.05	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 101.00%			
14) 1,2-Dichloroethane-d4	7.079	65	289615	4.73	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 94.60%			
20) Toluene-d8	8.903	98	746403	4.83	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 96.60%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59102.D
Acq On : 29 Aug 2019 11:06 am
Operator : kevinb
Sample : FA67546-1 Inst : MSVOA12
Misc : MS44201,VO2260,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 29 11:32:07 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59103.D
Acq On : 29 Aug 2019 11:27 am
Operator : kevinb
Sample : FA67546-2 Inst : MSVOA12
Misc : MS44201,VO2260,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 29 12:36:35 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

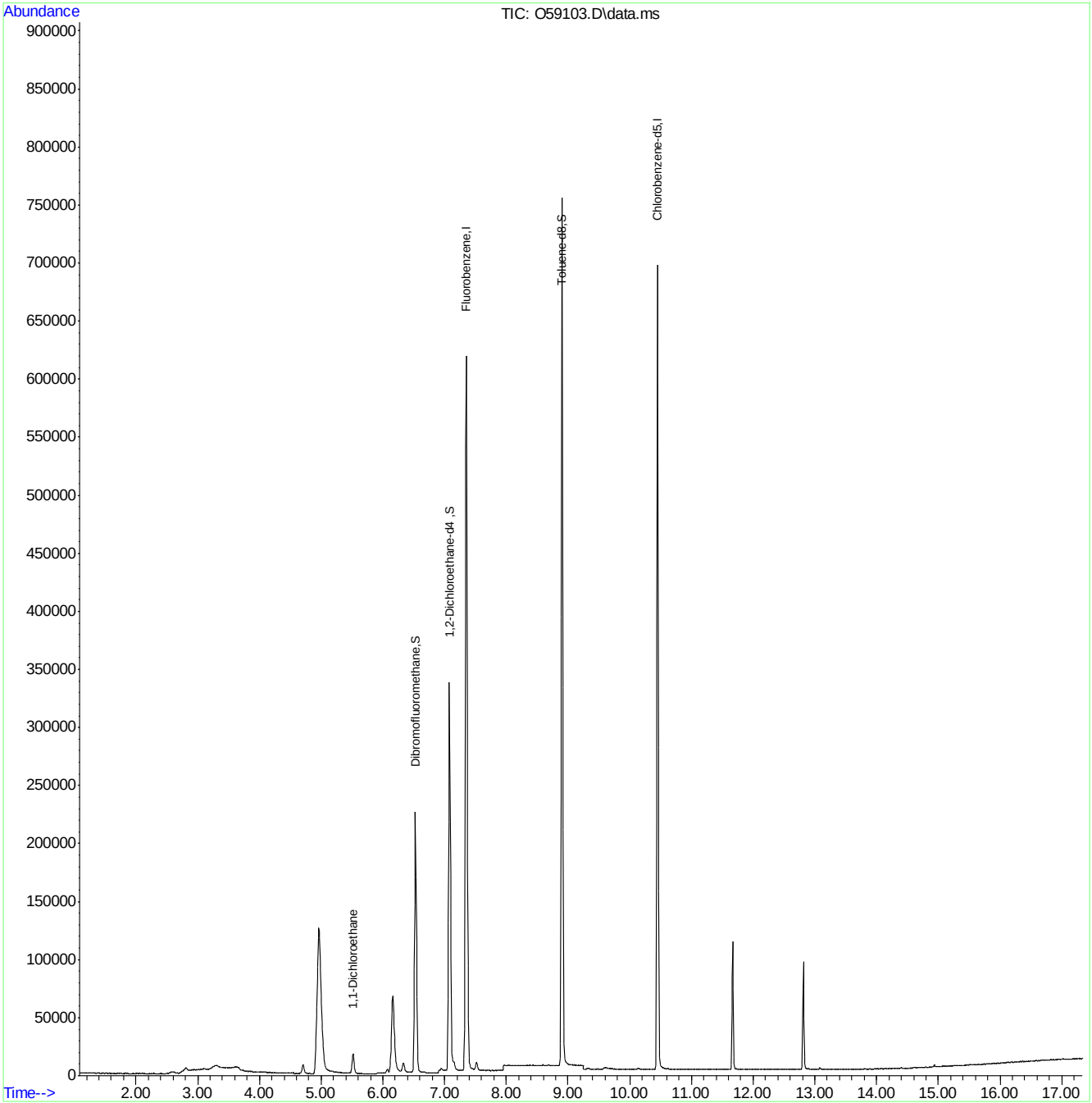
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	875711	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	640271	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	241726	5.04	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 100.80%			
14) 1,2-Dichloroethane-d4	7.079	65	288210	4.77	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.40%			
20) Toluene-d8	8.903	98	741274	4.84	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 96.80%			
Target Compounds						Qvalue
7) 1,1-Dichloroethane	5.518	63	28442	0.22	ug/L	99

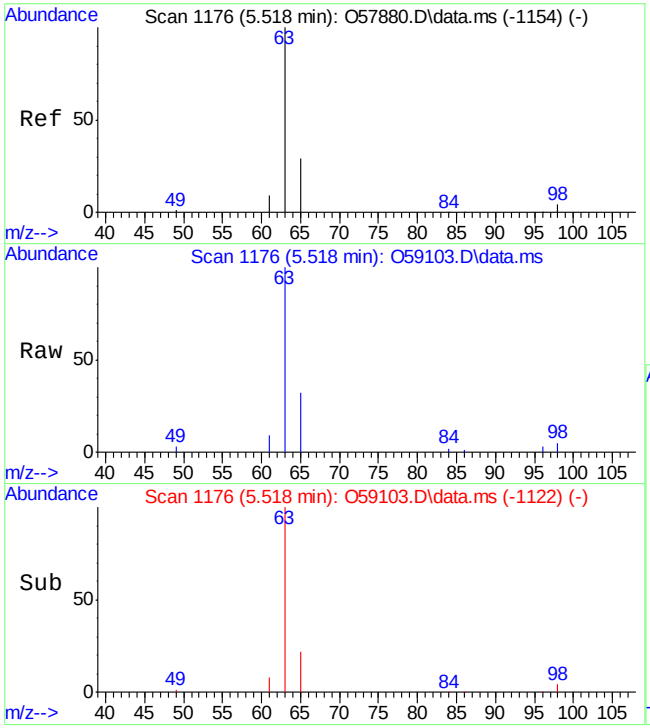
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59103.D
Acq On : 29 Aug 2019 11:27 am
Operator : kevinb
Sample : FA67546-2 Inst : MSVOA12
Misc : MS44201,VO2260,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 29 12:36:35 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

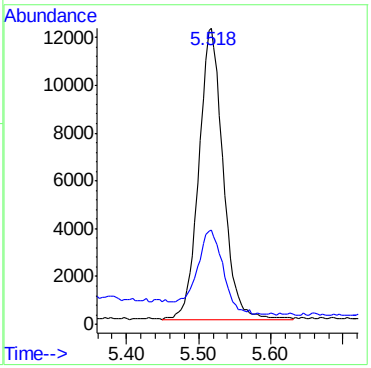




#7
1,1-Dichloroethane
Concen: 0.22 ug/L
RT: 5.518 min Scan# 1176
Delta R.T. 0.004 min
Lab File: O59103.D
Acq: 29 Aug 2019 11:27 am

Tgt Ion: 63 Resp: 28442

Ion	Ratio	Lower	Upper
63	100		
65	28.8	0.0	58.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59101.D
Acq On : 29 Aug 2019 10:46 am
Operator : kevinb
Sample : MB Inst : MSVOA12
Misc : MS44186,VO2260,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 29 11:05:53 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

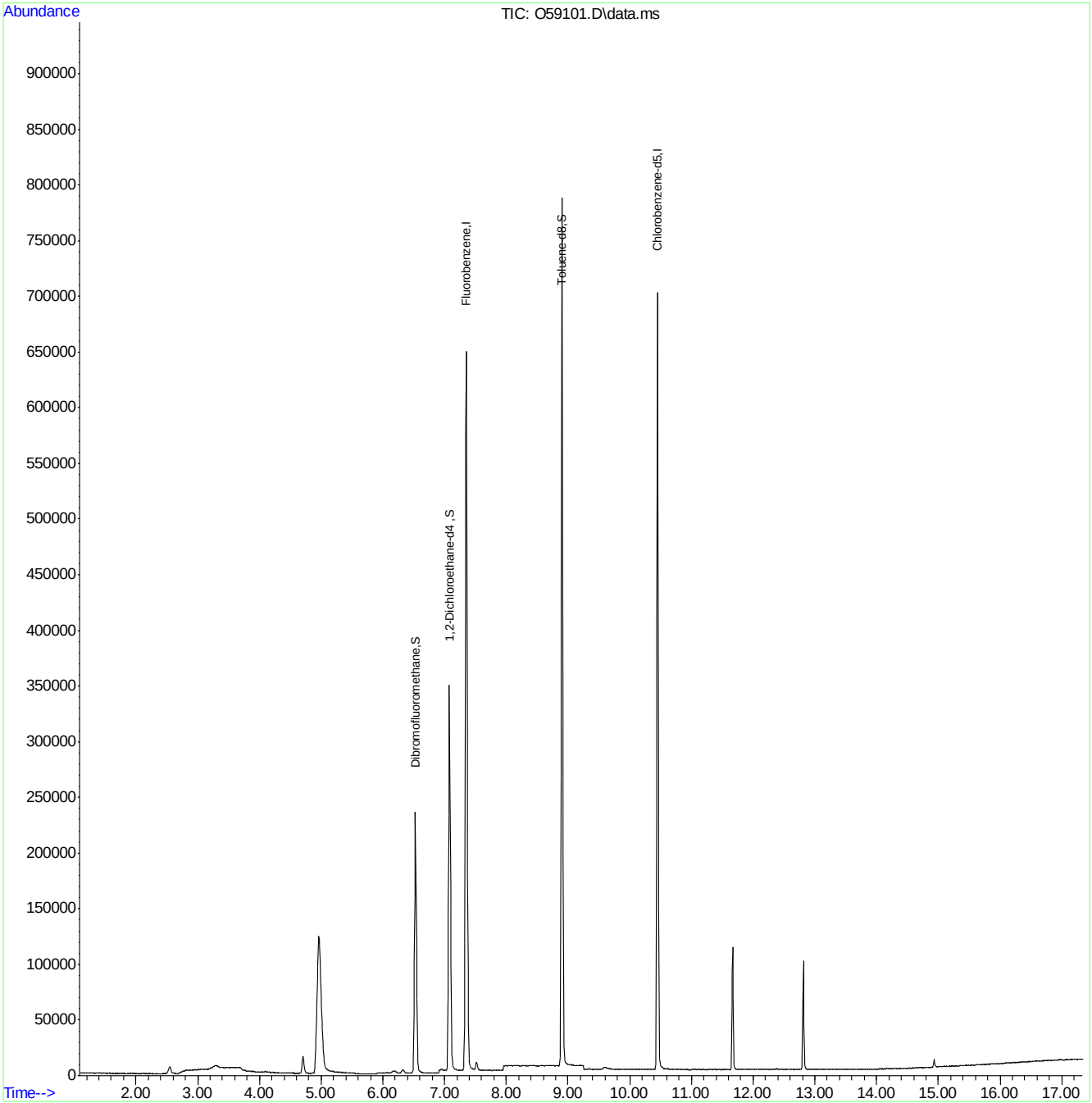
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	909997	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	652943	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	253262	5.08	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 101.60%			
14) 1,2-Dichloroethane-d4	7.080	65	296702	4.73	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 94.60%			
20) Toluene-d8	8.904	98	763649	4.89	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 97.80%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59101.D
Acq On : 29 Aug 2019 10:46 am
Operator : kevinb
Sample : MB Inst : MSVOA12
Misc : MS44186,VO2260,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 29 11:05:53 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59100.D
Acq On : 29 Aug 2019 10:25 am
Operator : kevinb
Sample : BS Inst : MSVOA12
Misc : MS44186,VO2260,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 29 10:52:34 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

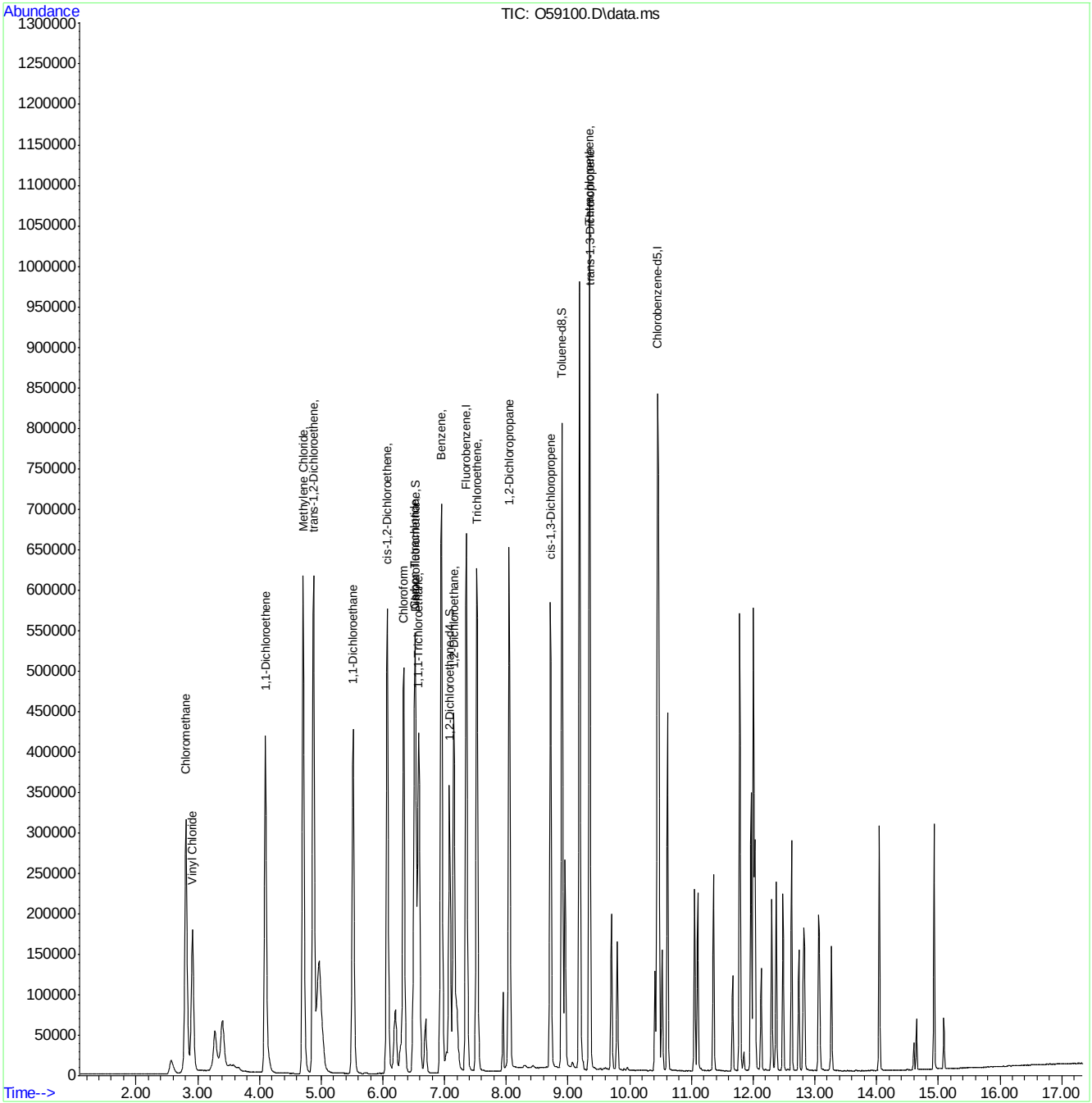
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	939807	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	674174	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	257968	5.01	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 100.20%			
14) 1,2-Dichloroethane-d4	7.079	65	301800	4.65	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 93.00%			
20) Toluene-d8	8.903	98	788623	4.89	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 97.80%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.916	62	345462	5.83	ug/L	99
3) Chloromethane	2.810	50	580425	5.50	ug/L	100
4) 1,1-Dichloroethene	4.096	61	507957	5.01	ug/L	96
5) Methylene Chloride	4.707	49	812272	4.53	ug/L	100
6) trans-1,2-Dichloroethene	4.873	61	613738	4.91	ug/L	99
7) 1,1-Dichloroethane	5.518	63	706334	5.02	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	356513	4.84	ug/L	99
9) Chloroform	6.339	83	524369	4.60	ug/L	100
11) Carbon Tetrachloride	6.516	117	374338	5.02	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	420898	4.81	ug/L	98
13) Benzene	6.949	78	1177249	4.95	ug/L	99
15) 1,2-Dichloroethane	7.151	62	478819	4.39	ug/L	98
16) Trichloroethene	7.524	95	369963	4.91	ug/L	100
17) 1,2-Dichloropropane	8.051	63	423663	4.73	ug/L	97
18) cis-1,3-Dichloropropene	8.719	75	436758	4.33	ug/L	100
21) trans-1,3-Dichloropropene	9.353	75	395779	4.57	ug/L	99
22) Tetrachloroethene	9.345	166	335517	5.11	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59100.D
Acq On : 29 Aug 2019 10:25 am
Operator : kevinb
Sample : BS Inst : MSVOA12
Misc : MS44186,VO2260,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 29 10:52:34 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59110.D
Acq On : 29 Aug 2019 1:54 pm
Operator : kevinb
Sample : FA67546-2MS,5x Inst : MSVOA12
Misc : MS44201,VO2260,,,,,5
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 29 14:33:20 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

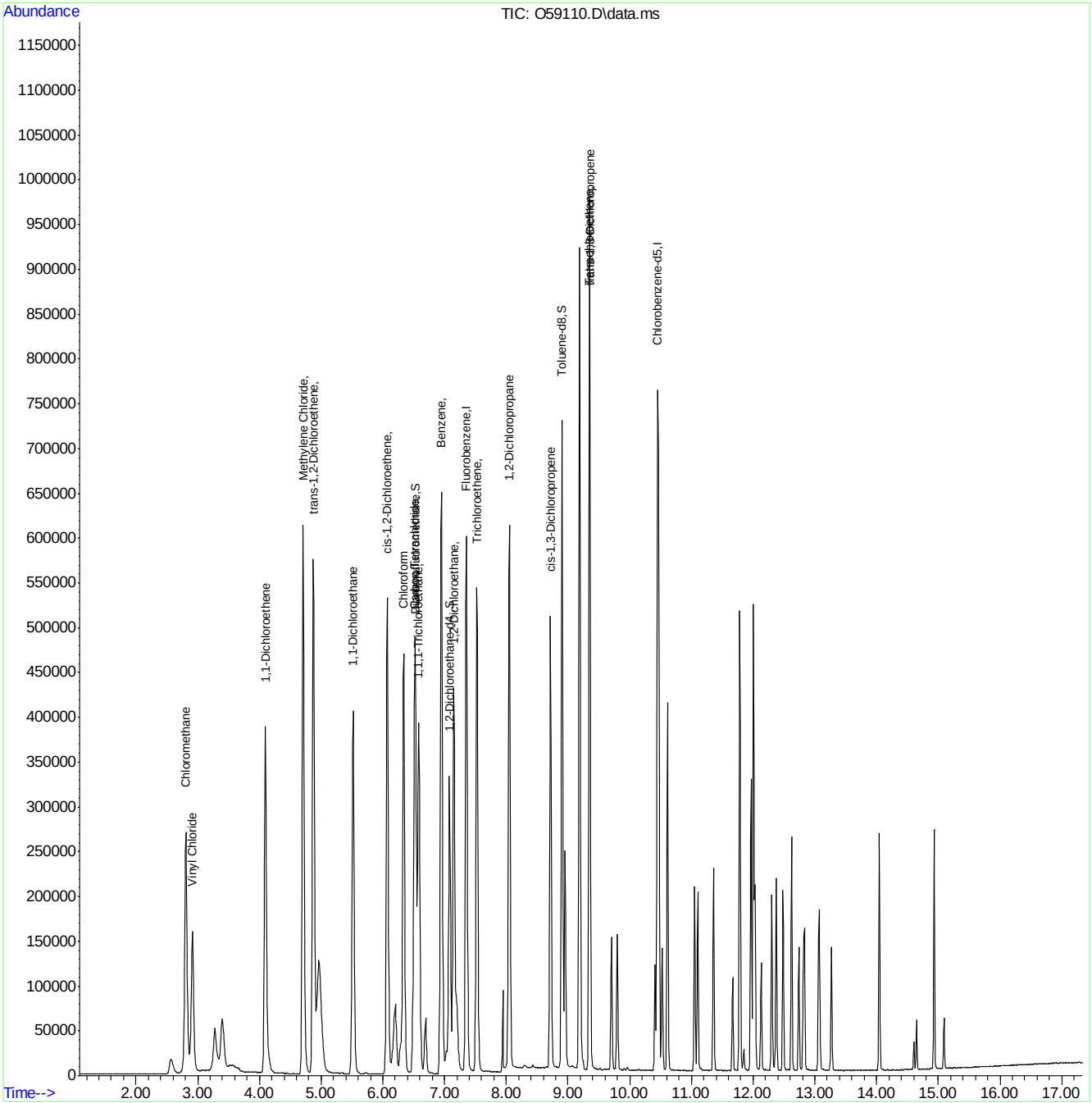
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	839768	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	610949	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	233533	5.08	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 101.60%			
14) 1,2-Dichloroethane-d4	7.079	65	277529	4.79	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.80%			
20) Toluene-d8	8.903	98	703600	4.81	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 96.20%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.916	62	303040	5.73	ug/L	99
3) Chloromethane	2.810	50	514672	5.45	ug/L	100
4) 1,1-Dichloroethene	4.096	61	479026	5.28	ug/L	98
5) Methylene Chloride	4.707	49	816990	5.12	ug/L	97
6) trans-1,2-Dichloroethene	4.873	61	575888	5.15	ug/L	99
7) 1,1-Dichloroethane	5.518	63	664225	5.29	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	323890	4.92	ug/L	96
9) Chloroform	6.339	83	478897	4.70	ug/L	98
11) Carbon Tetrachloride	6.516	117	331546	4.98	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	375444	4.80	ug/L	96
13) Benzene	6.949	78	1066459	5.02	ug/L	97
15) 1,2-Dichloroethane	7.151	62	451710	4.63	ug/L	98
16) Trichloroethene	7.524	95	312776	4.64	ug/L	99
17) 1,2-Dichloropropane	8.051	63	390668	4.88	ug/L	99
18) cis-1,3-Dichloropropene	8.719	75	375082	4.16	ug/L	94
21) trans-1,3-Dichloropropene	9.353	75	341352	4.35	ug/L	96
22) Tetrachloroethene	9.349	166	309823	5.20	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59110.D
Acq On : 29 Aug 2019 1:54 pm
Operator : kevinb
Sample : FA67546-2MS,5x Inst : MSVOA12
Misc : MS44201,VO2260,,,,,5
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 29 14:33:20 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59111.D
Acq On : 29 Aug 2019 2:15 pm
Operator : kevinb
Sample : FA67546-2MSD,5x Inst : MSVOA12
Misc : MS44201,VO2260,,,,,5
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 29 14:33:38 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

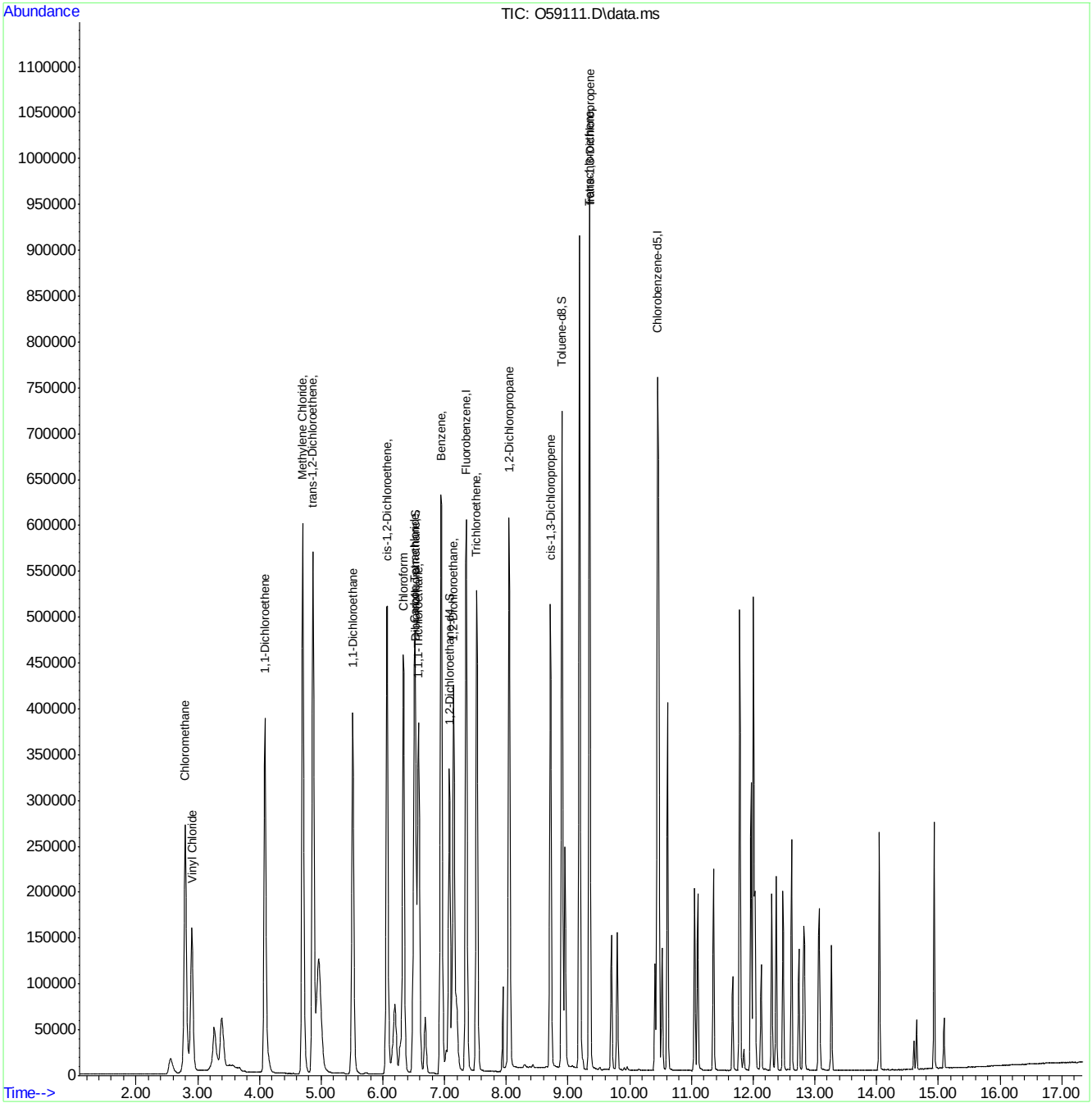
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	837242	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	606244	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	232989	5.08	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 101.60%			
14) 1,2-Dichloroethane-d4	7.079	65	277647	4.81	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 96.20%			
20) Toluene-d8	8.903	98	701316	4.83	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 96.60%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.904	62	310518	5.88	ug/L	100
3) Chloromethane	2.799	50	522032	5.55	ug/L	99
4) 1,1-Dichloroethene	4.089	61	474618	5.25	ug/L	97
5) Methylene Chloride	4.699	49	804380	5.06	ug/L	96
6) trans-1,2-Dichloroethene	4.869	61	566446	5.09	ug/L	100
7) 1,1-Dichloroethane	5.510	63	651085	5.20	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	318278	4.85	ug/L	99
9) Chloroform	6.333	83	470601	4.64	ug/L	98
11) Carbon Tetrachloride	6.511	117	325755	4.91	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	372575	4.78	ug/L	98
13) Benzene	6.949	78	1050980	4.96	ug/L	99
15) 1,2-Dichloroethane	7.145	62	443262	4.56	ug/L	97
16) Trichloroethene	7.518	95	307334	4.58	ug/L	97
17) 1,2-Dichloropropane	8.047	63	384942	4.83	ug/L	99
18) cis-1,3-Dichloropropene	8.715	75	369124	4.11	ug/L	92
21) trans-1,3-Dichloropropene	9.353	75	334645	4.29	ug/L	95
22) Tetrachloroethene	9.345	166	302672	5.12	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59111.D
Acq On : 29 Aug 2019 2:15 pm
Operator : kevinb
Sample : FA67546-2MSD,5x Inst : MSVOA12
Misc : MS44201,VO2260,,,,,5
ALS Vial : 13 Sample Multiplier: 1

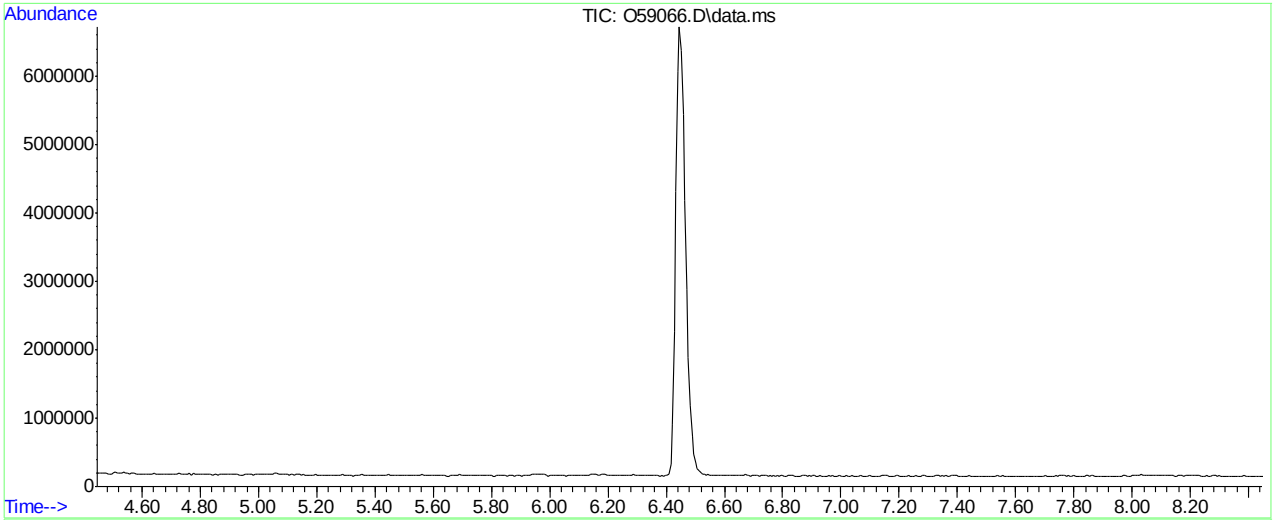
Quant Time: Aug 29 14:33:38 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Methods: SW-846 8260B

Data File : C:\msdchem\2\data\082619\O59066.D Vial: 100
Acq On : 26 Aug 2019 12:08 pm Operator: kevinb
Sample : BFB Inst : MSVOA12
Misc : MS44009,VO2258,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B



AutoFind: Scans 468, 469, 470; Background Corrected with Scan 460

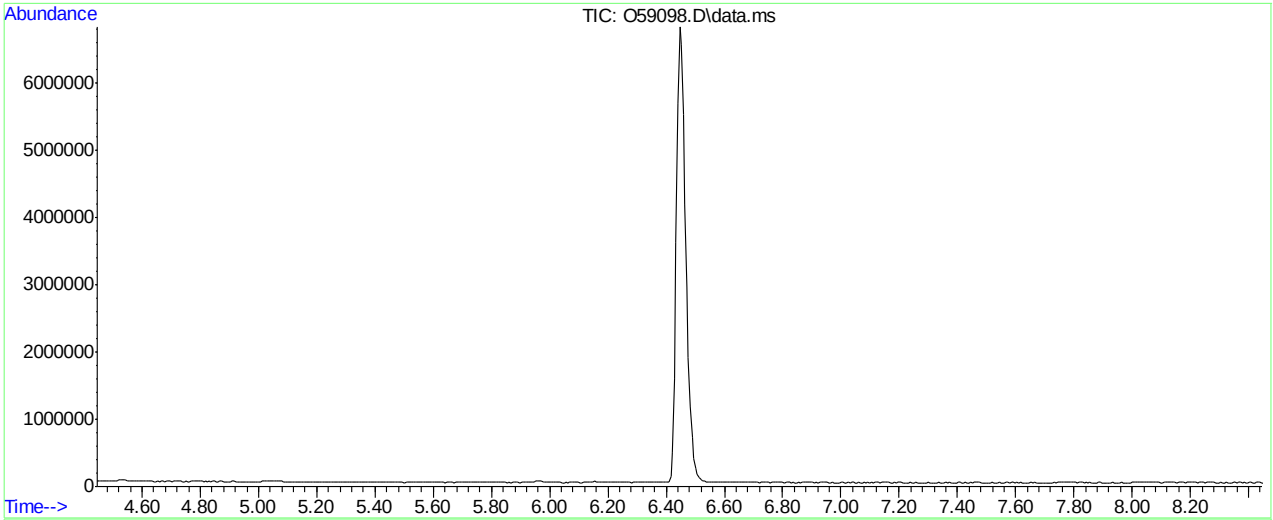
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	33.4	439747	PASS
75	95	30	60	43.7	574792	PASS
95	95	100	100	100.0	1314675	PASS
96	95	5	9	6.8	89155	PASS
173	174	0.00	2	0.7	6498	PASS
174	95	50	100	72.3	949995	PASS
175	174	5	9	6.8	64453	PASS
176	174	95	101	95.3	905515	PASS
177	176	5	9	6.8	61263	PASS

O59066.D SIMCL082619.M Mon Aug 26 15:38:06 2019

Methods: SW-846 8260B

Data File : C:\msdchem\2\data\082919\O59098.D Vial: 100
Acq On : 29 Aug 2019 9:41 am Operator: kevinb
Sample : BFB Inst : MSVOA12
Misc : MS44186,VO2260,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B



AutoFind: Scans 468, 469, 470; Background Corrected with Scan 459

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	31.7	421561	PASS
75	95	30	60	41.6	554103	PASS
95	95	100	100	100.0	1331477	PASS
96	95	5	9	7.0	93167	PASS
173	174	0.00	2	0.6	6030	PASS
174	95	50	100	74.7	994645	PASS
175	174	5	9	7.0	69432	PASS
176	174	95	101	96.9	963819	PASS
177	176	5	9	6.5	62915	PASS

O59098.D SIMCL082619.M Thu Aug 29 10:53:00 2019

Manual Integrations APPROVED (compounds with "m" flag)
Juan Garcia
08/26/19 16:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:53:41 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

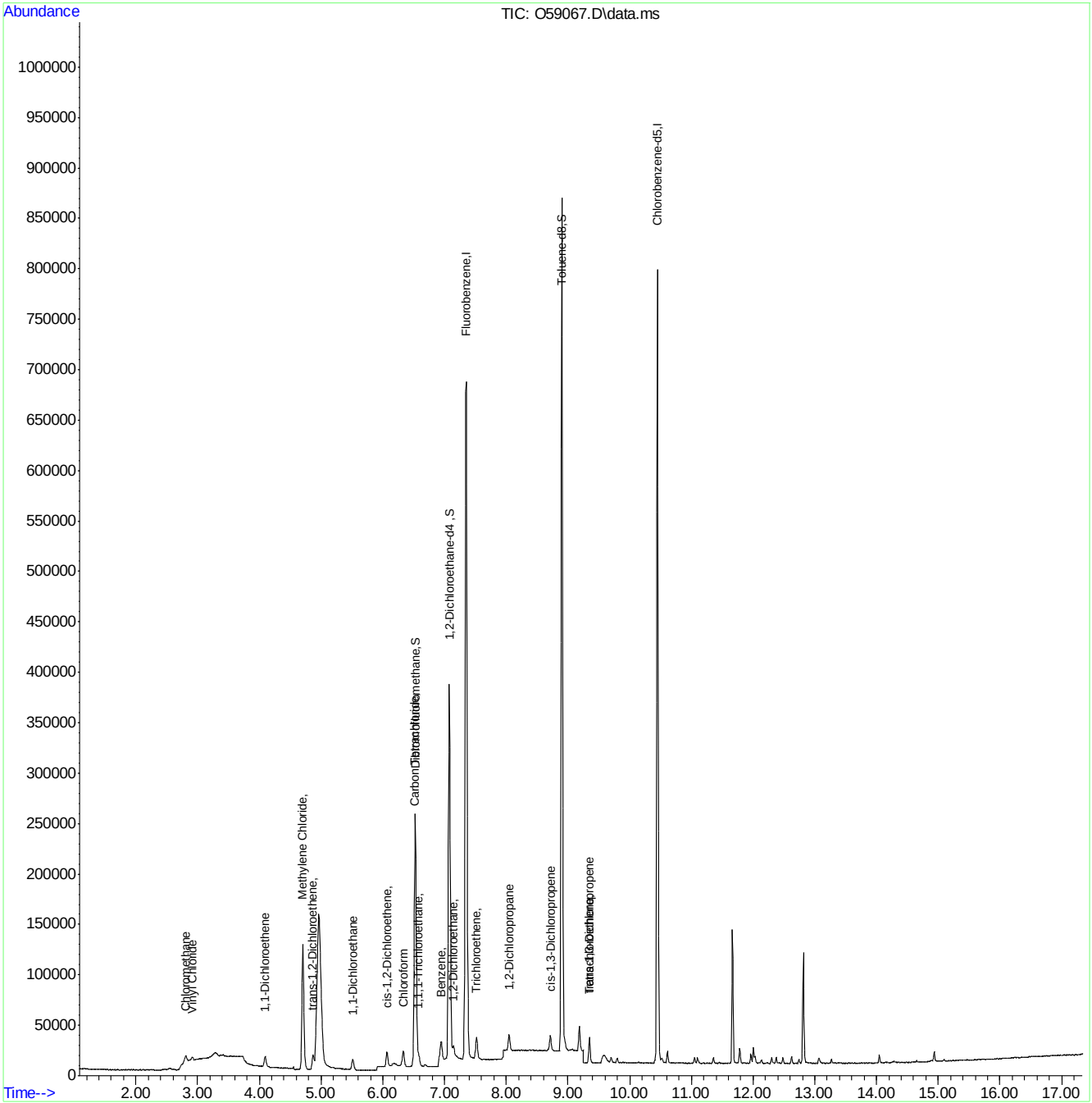
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	964474	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.450	117	700902	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.523	113	266906	4.18	ug/L	-0.01
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.60%			
14) 1,2-Dichloroethane-d4	7.074	65	337814	4.36	ug/L	-0.01
Spiked Amount 5.000	Range 74 - 125		Recovery = 87.20%			
20) Toluene-d8	8.900	98	826145	5.62	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 112.40%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	5896	0.06	ug/L	76
3) Chloromethane	2.810	50	11433m	0.06	ug/L	
4) 1,1-Dichloroethene	4.093	61	13217	0.09	ug/L	99
5) Methylene Chloride	4.703	49	163589	0.63	ug/L	99
6) trans-1,2-Dichloroethene	4.869	61	15266	0.09	ug/L	95
7) 1,1-Dichloroethane	5.510	63	17390	0.09	ug/L	87
8) cis-1,2-Dichloroethene	6.072	96	9189	0.10	ug/L	99
9) Chloroform	6.333	83	15028	0.10	ug/L	89
11) Carbon Tetrachloride	6.517	117	9392	0.10	ug/L	95
12) 1,1,1-Trichloroethane	6.582	97	10815	0.10	ug/L	96
13) Benzene	6.949	78	39396m	0.12	ug/L	
15) 1,2-Dichloroethane	7.145	62	13175	0.09	ug/L	96
16) Trichloroethene	7.518	95	14259	0.14	ug/L	94
17) 1,2-Dichloropropane	8.044	63	10997	0.10	ug/L	97
18) cis-1,3-Dichloropropene	8.715	75	11880	0.12	ug/L	98
21) trans-1,3-Dichloropropene	9.349	75	9403	0.11	ug/L	99
22) Tetrachloroethene	9.345	166	8247	0.11	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:53:41 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:15 2019 Page: 2

Manual Integration Approval Summary

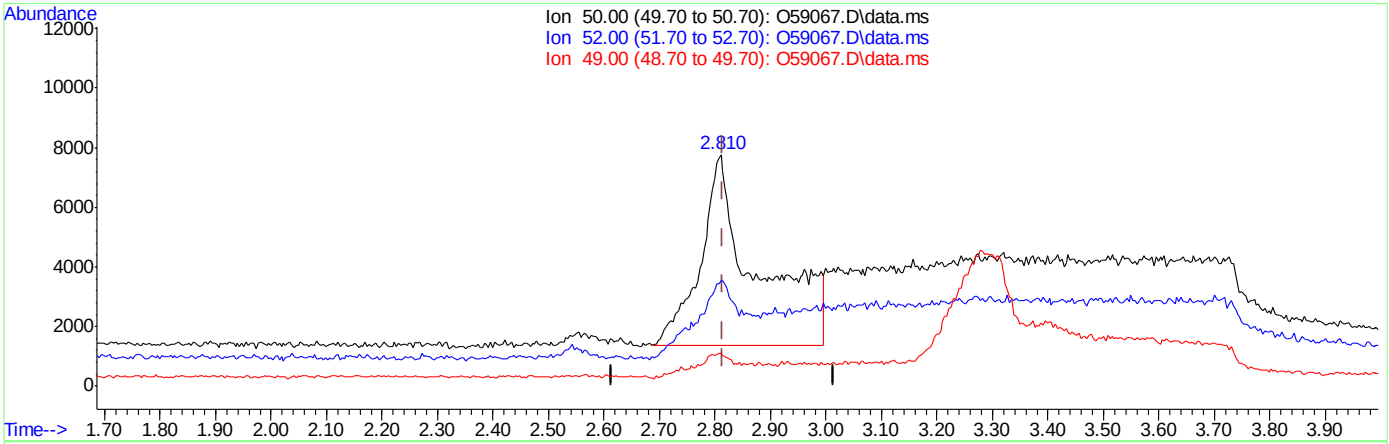
Sample Number:	VO2258-IC2258	**Method:**	SW846 8260B BY SIM
Lab FileID:	O59067.D	**Analyst approved:**	08/26/19 15:41 Kevin Boyd
Injection Time:	08/26/19 12:31	**Supervisor approved:**	08/26/19 16:15 Juan Garcia

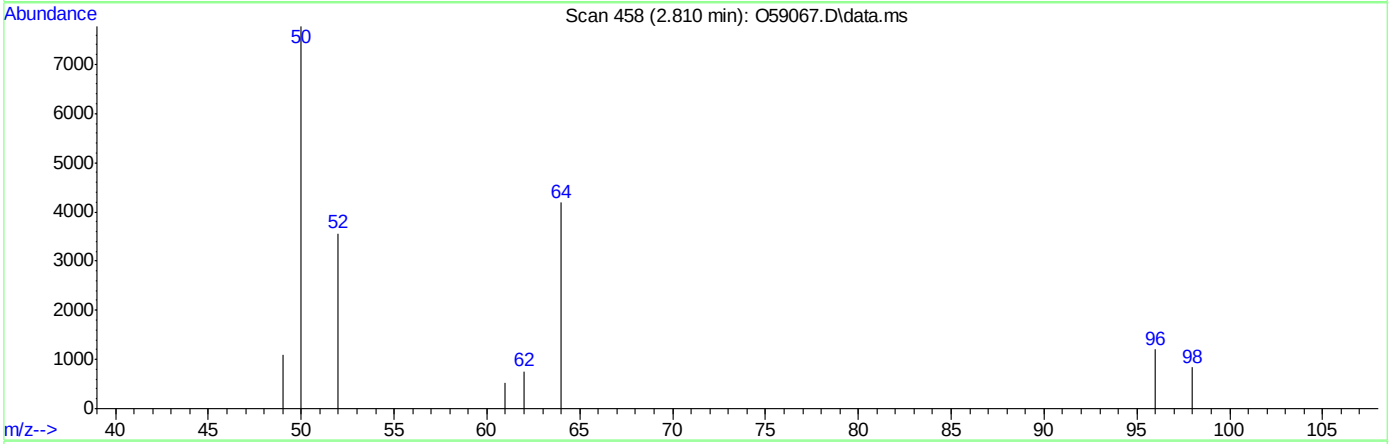
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		2.81	Poor instrument integration
Benzene	71-43-2		6.95	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(3) Chloromethane

2.810min (-0.004) 0.26ug/L

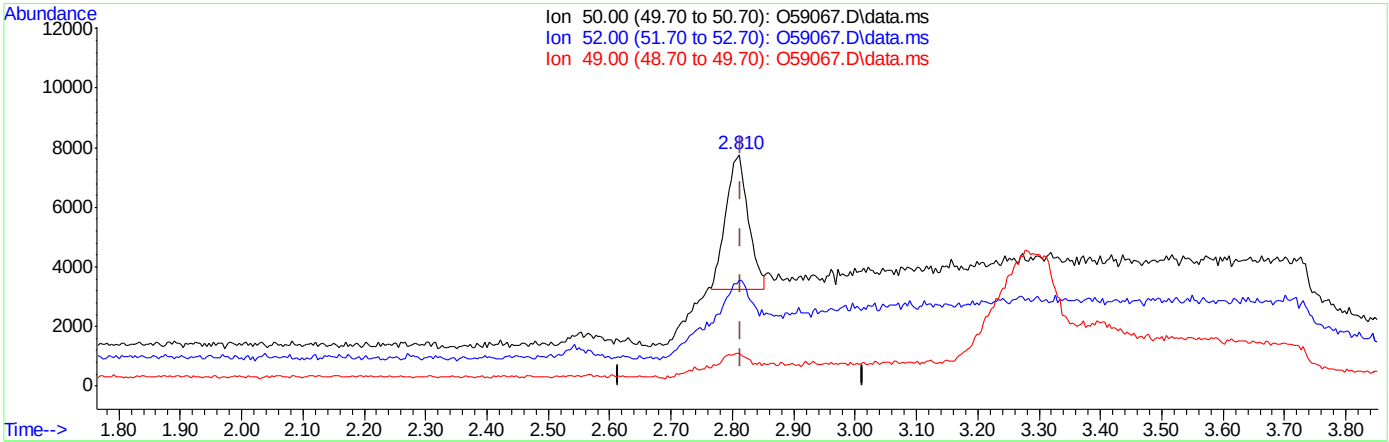
response 45616

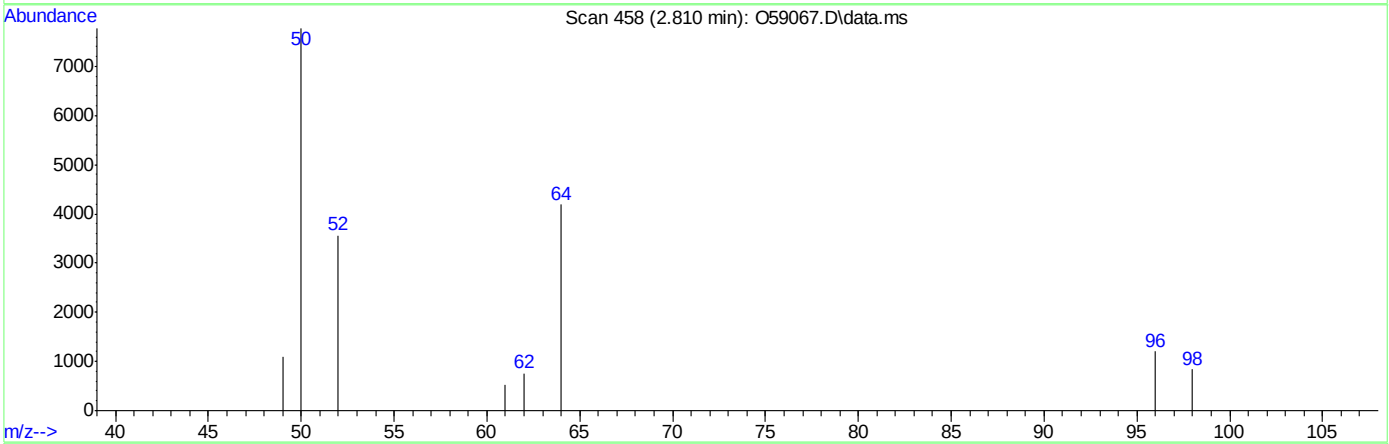
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	40.30
49.00	10.10	12.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(3) Chloromethane

2.810min (-0.004) 0.06ug/L m

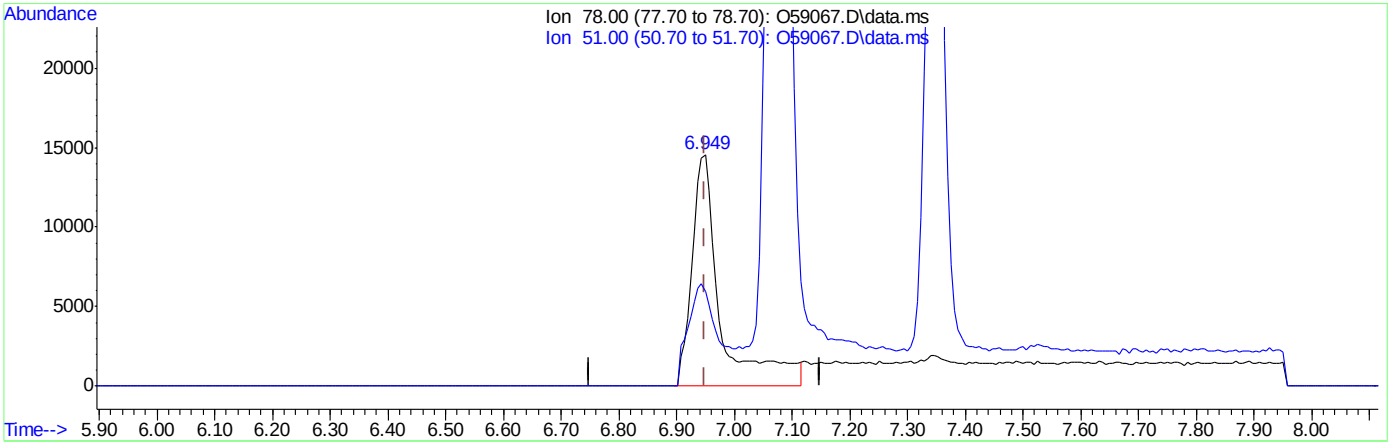
response 11433

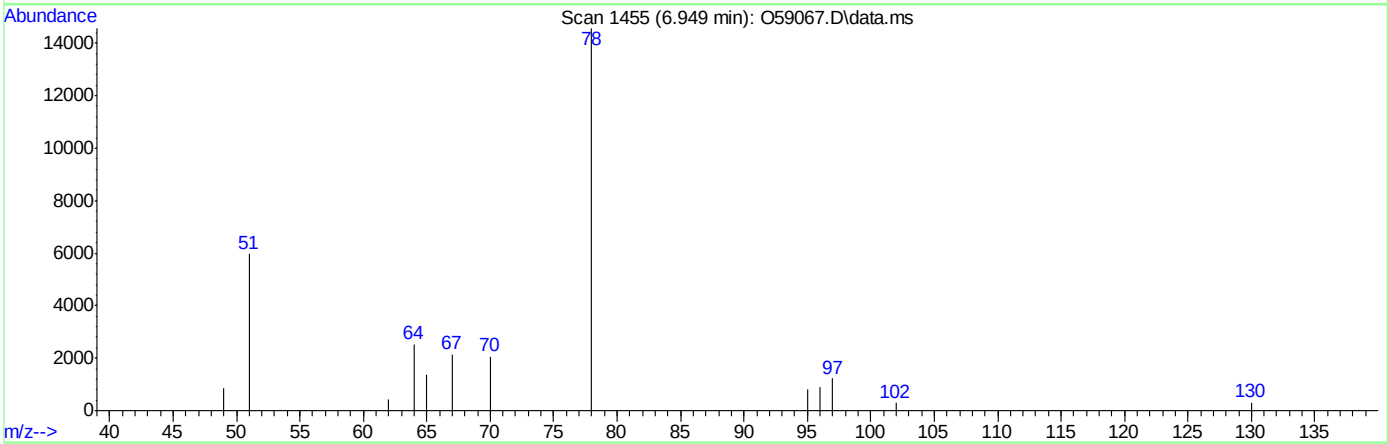
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	45.82
49.00	10.10	14.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.15ug/L

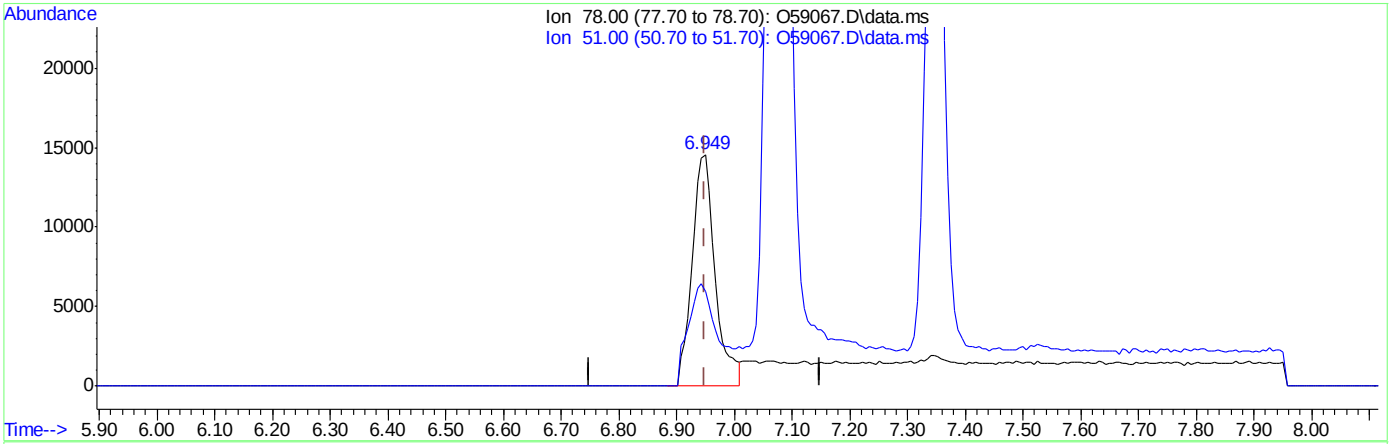
response 49108

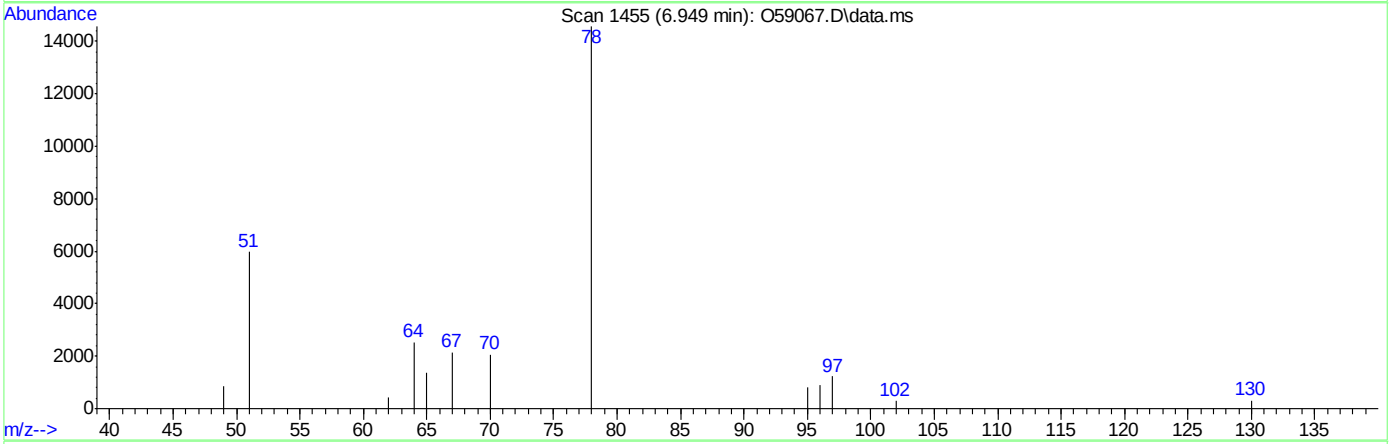
Ion	Exp%	Act%
78.00	100	100
51.00	32.70	40.95
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.12ug/L m

response 39396

Ion	Exp%	Act%
78.00	100	100
51.00	32.70	40.95
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Juan Garcia
08/26/19 16:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:11:45 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

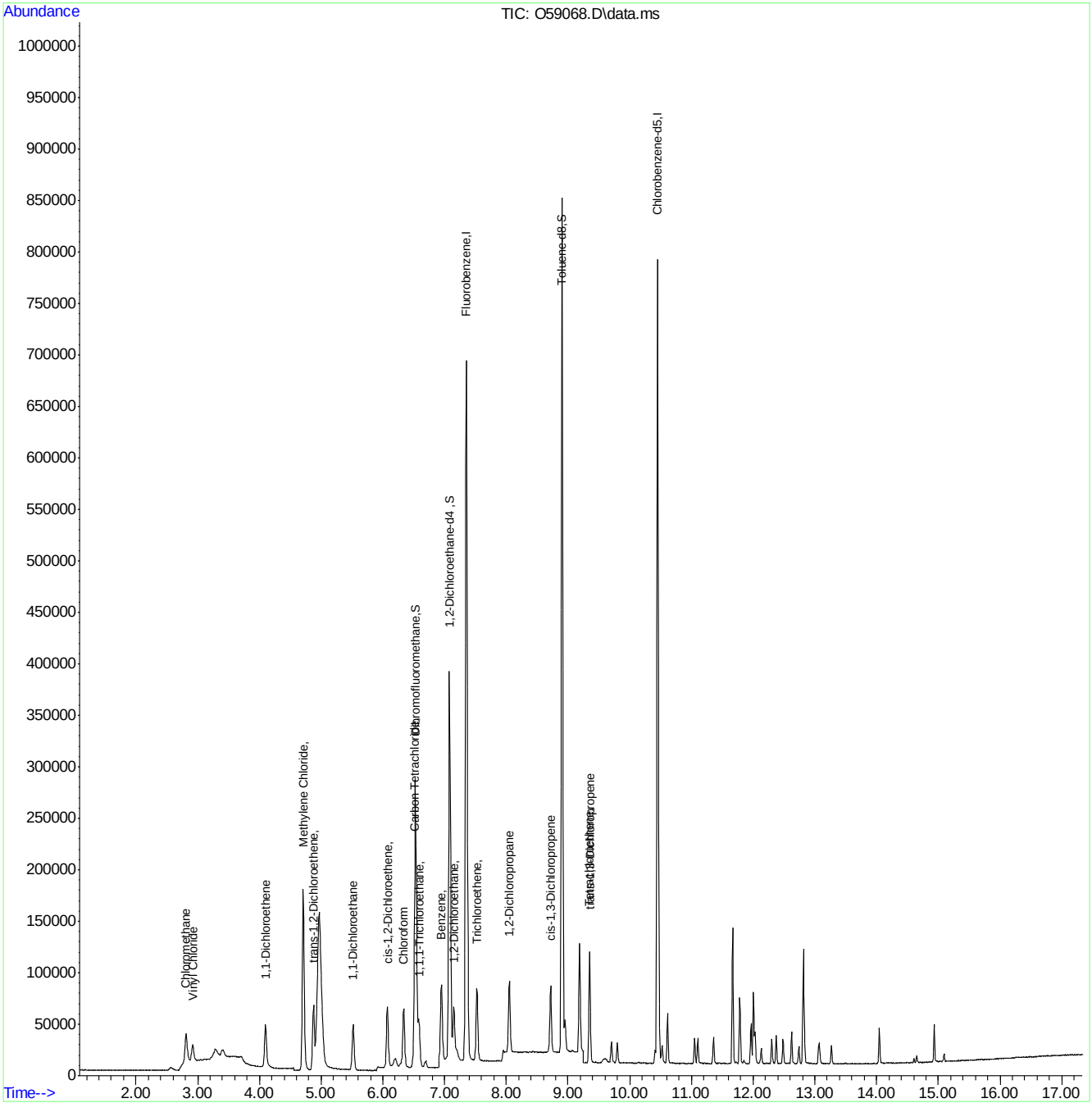
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	965394	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	695921	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	268204	4.20	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 84.00%			
14) 1,2-Dichloroethane-d4	7.079	65	339750	4.38	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 87.60%			
20) Toluene-d8	8.903	98	826678	5.66	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.920	62	31407	0.30	ug/L	95
3) Chloromethane	2.814	50	53510m	0.30	ug/L	
4) 1,1-Dichloroethene	4.100	61	51882	0.37	ug/L	99
5) Methylene Chloride	4.707	49	230349	0.89	ug/L	99
6) trans-1,2-Dichloroethene	4.873	61	67779	0.41	ug/L	95
7) 1,1-Dichloroethane	5.518	63	71473	0.38	ug/L	97
8) cis-1,2-Dichloroethene	6.078	96	37081	0.41	ug/L	98
9) Chloroform	6.339	83	58014	0.38	ug/L	98
11) Carbon Tetrachloride	6.516	117	38105	0.39	ug/L	97
12) 1,1,1-Trichloroethane	6.588	97	43944	0.40	ug/L	94
13) Benzene	6.949	78	133791m	0.42	ug/L	
15) 1,2-Dichloroethane	7.151	62	55187	0.37	ug/L	96
16) Trichloroethene	7.524	95	43758	0.44	ug/L	96
17) 1,2-Dichloropropane	8.051	63	48146	0.45	ug/L	96
18) cis-1,3-Dichloropropene	8.719	75	49886	0.49	ug/L	99
21) trans-1,3-Dichloropropene	9.353	75	41739	0.50	ug/L	99
22) Tetrachloroethene	9.349	166	34577	0.47	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:11:45 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:17 2019 Page: 2

Manual Integration Approval Summary

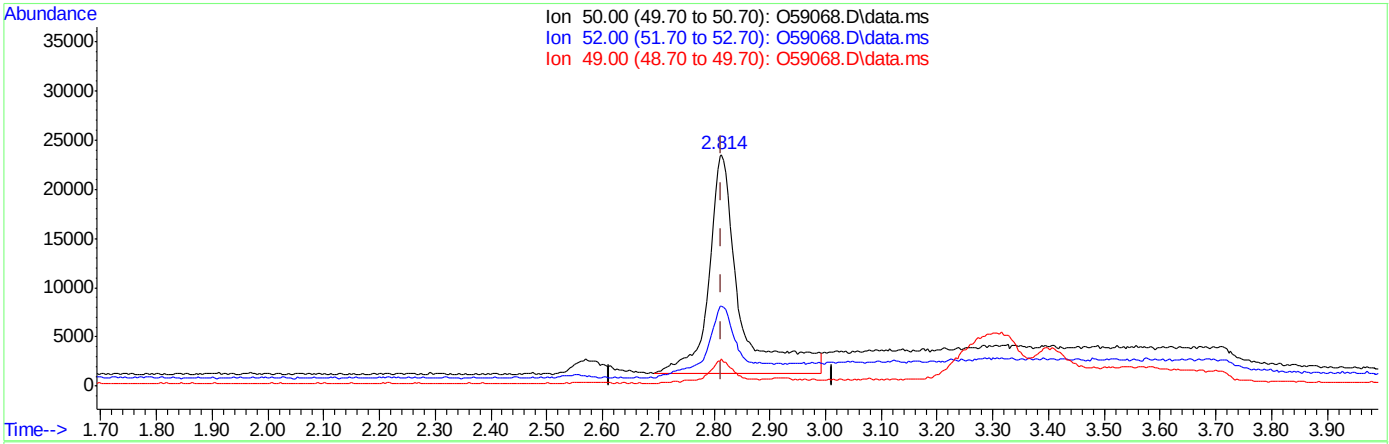
Sample Number:	VO2258-IC2258	**Method:**	SW846 8260B BY SIM
Lab FileID:	O59068.D	**Analyst approved:**	08/26/19 15:41 Kevin Boyd
Injection Time:	08/26/19 12:52	**Supervisor approved:**	08/26/19 16:15 Juan Garcia

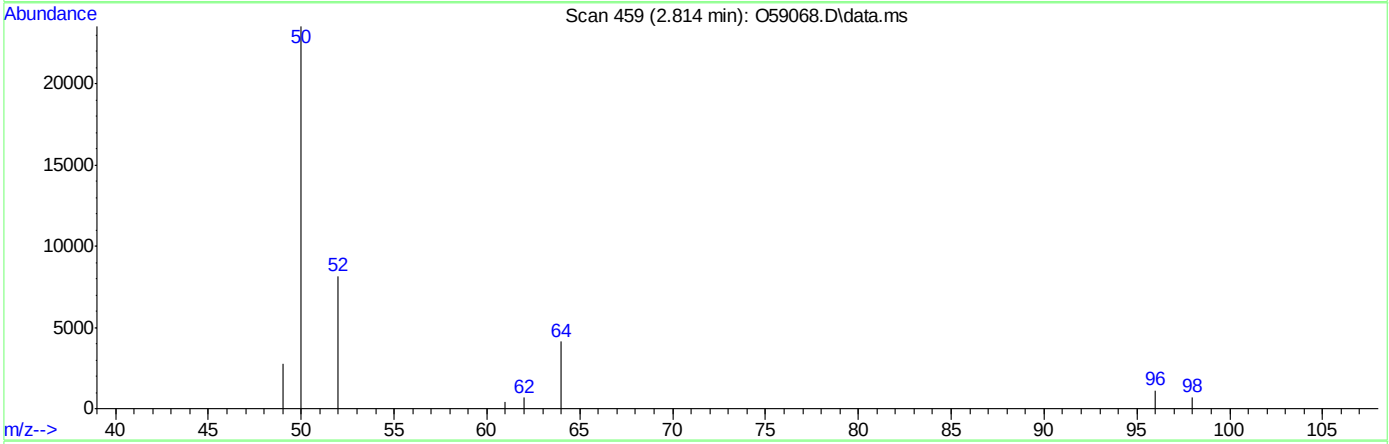
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		2.81	Poor instrument integration
Benzene	71-43-2		6.95	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(3) Chloromethane

2.814min (-0.000) 0.48ug/L

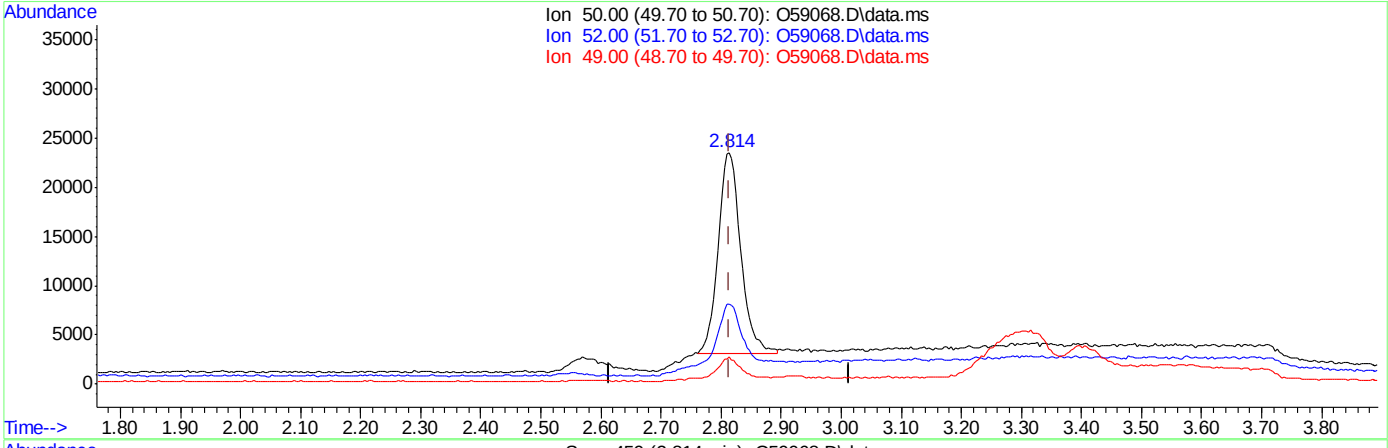
response 84421

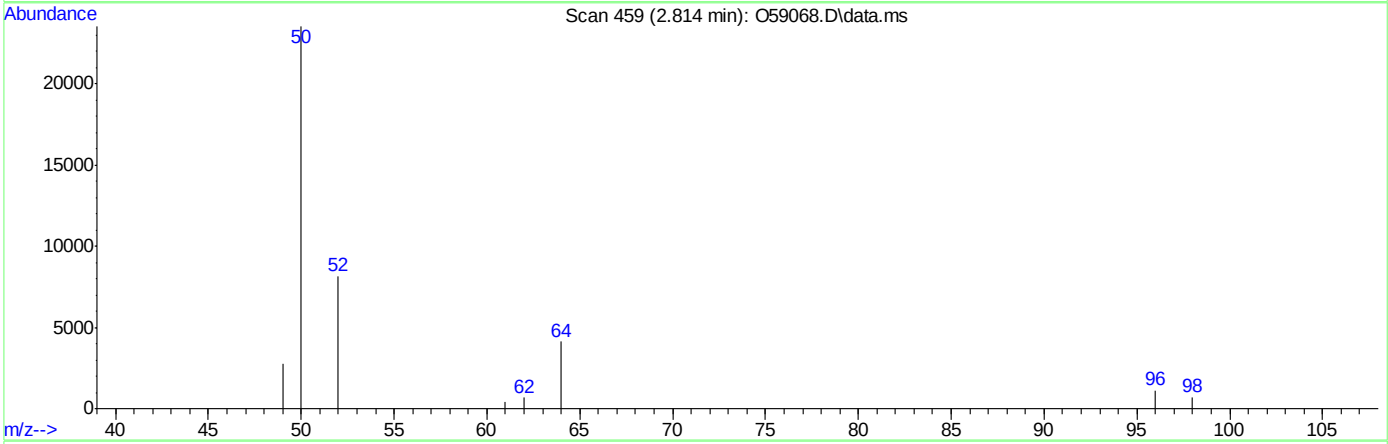
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	32.97
49.00	10.10	11.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(3) Chloromethane

2.814min (-0.000) 0.30ug/L m

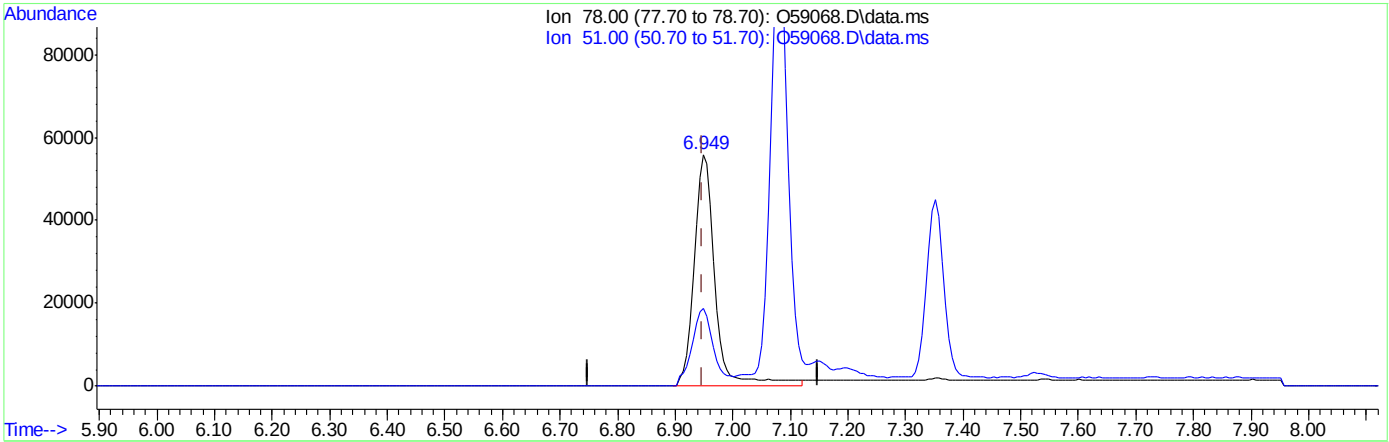
response 53510

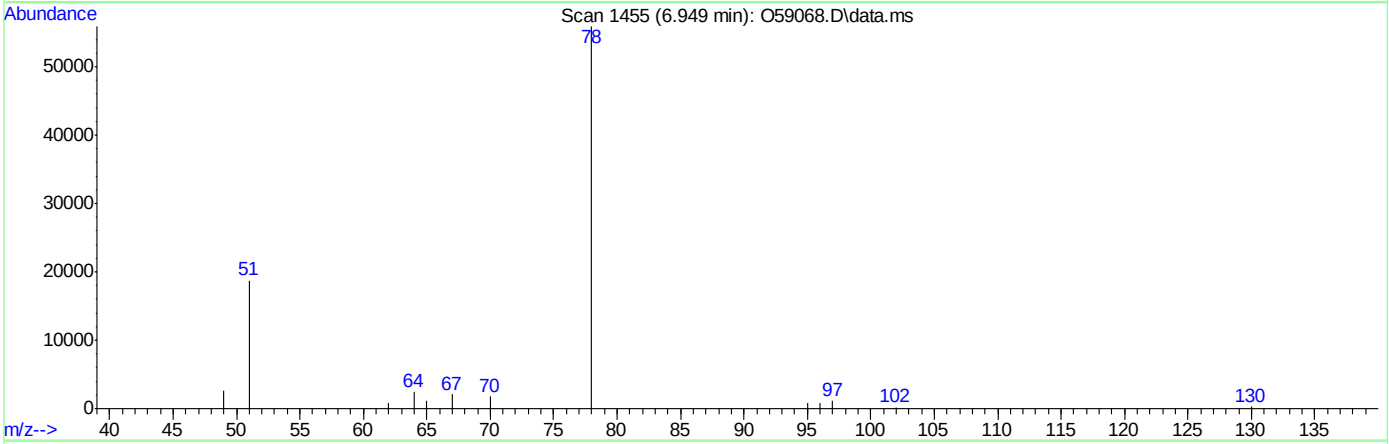
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	34.72
49.00	10.10	11.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.45ug/L

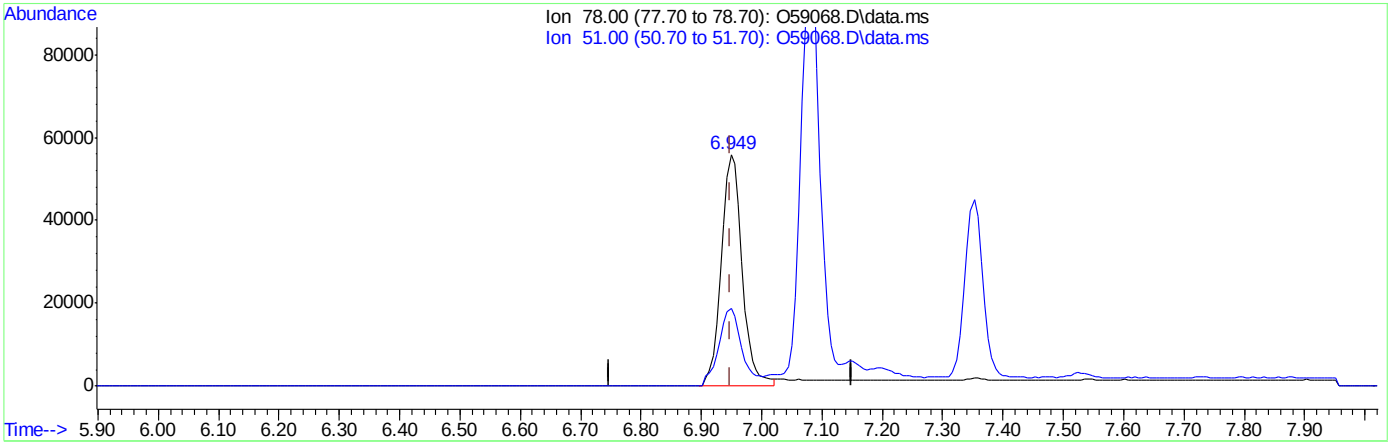
response 143126

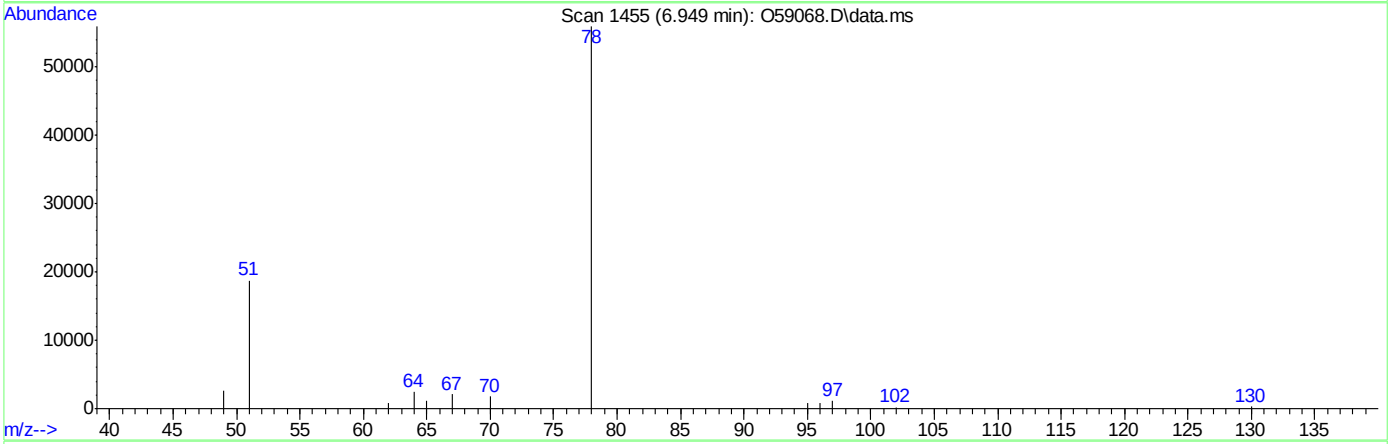
Ion	Exp%	Act%
78.00	100	100
51.00	32.70	33.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.42ug/L m

response 133791

Ion	Exp%	Act%
78.00	100	100
51.00	32.70	33.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59069.D
Acq On : 26 Aug 2019 1:13 pm
Operator : kevinb
Sample : IC2258-3 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 14:07:28 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

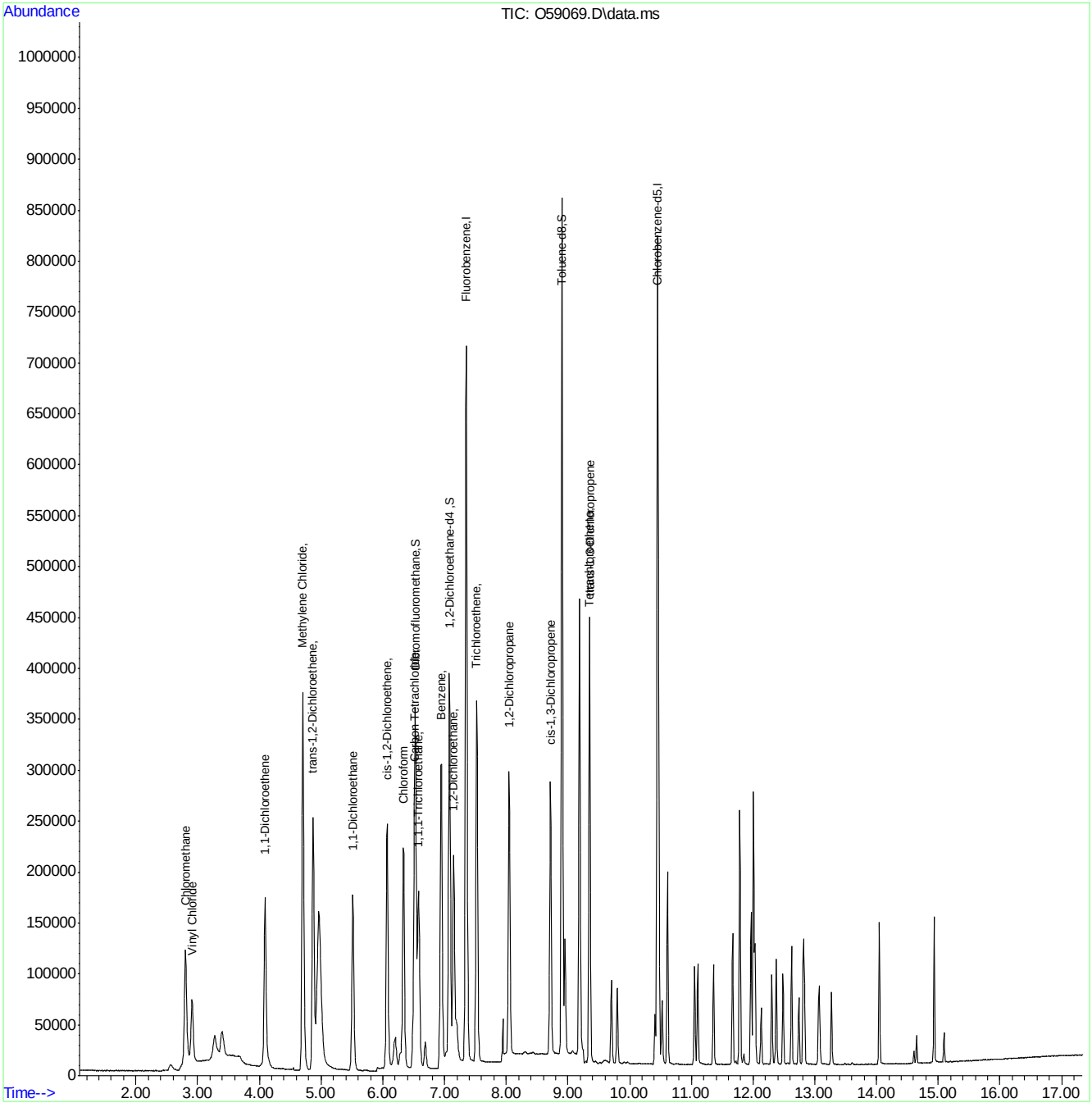
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	966427	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	695236	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	266179	4.16	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.20%			
14) 1,2-Dichloroethane-d4	7.080	65	343319	4.42	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 88.40%			
20) Toluene-d8	8.904	98	827066	5.67	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.40%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	119487	1.14	ug/L	98
3) Chloromethane	2.803	50	238334	1.36	ug/L	100
4) 1,1-Dichloroethene	4.089	61	205502	1.46	ug/L	97
5) Methylene Chloride	4.703	49	481773	1.87	ug/L	99
6) trans-1,2-Dichloroethene	4.869	61	250205	1.52	ug/L	97
7) 1,1-Dichloroethane	5.514	63	280903	1.49	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	146545	1.63	ug/L	99
9) Chloroform	6.333	83	224594	1.49	ug/L	99
11) Carbon Tetrachloride	6.511	117	142313	1.46	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	170065	1.53	ug/L	95
13) Benzene	6.949	78	503876	1.59	ug/L	95
15) 1,2-Dichloroethane	7.145	62	219394	1.46	ug/L	98
16) Trichloroethene	7.518	95	223735	2.24	ug/L	94
17) 1,2-Dichloropropane	8.047	63	177963	1.66	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	197728	1.95	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	169741	2.03	ug/L	99
22) Tetrachloroethene	9.345	166	129061	1.76	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59069.D
Acq On : 26 Aug 2019 1:13 pm
Operator : kevinb
Sample : IC2258-3 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 14:07:28 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:19 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59070.D
Acq On : 26 Aug 2019 1:34 pm
Operator : kevinb
Sample : IC2258-4 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 14:07:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

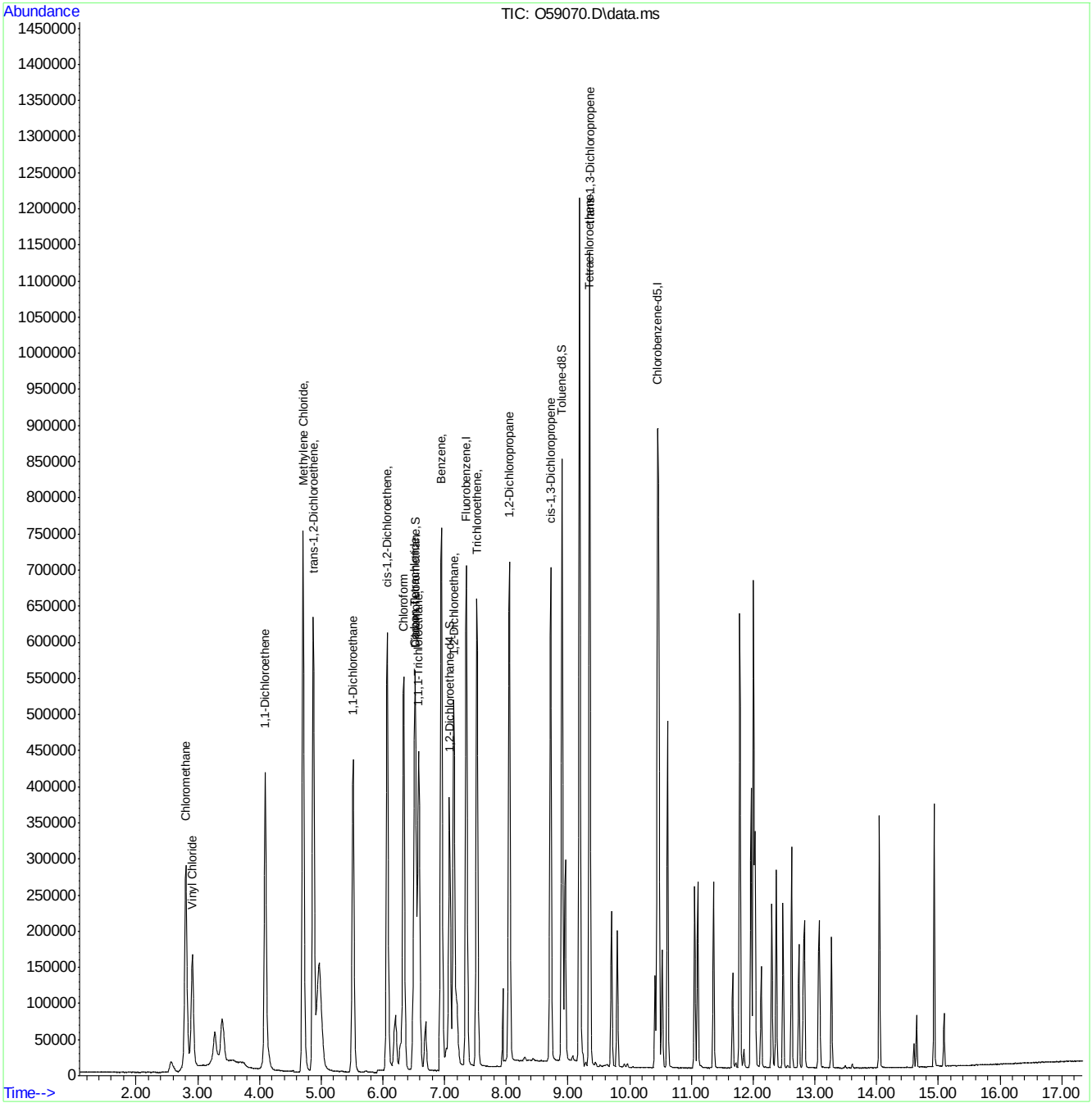
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	967709	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	690706	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	265552	4.15	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.00%			
14) 1,2-Dichloroethane-d4	7.079	65	325375	4.18	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 83.60%			
20) Toluene-d8	8.903	98	824305	5.69	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.80%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	310530	2.97	ug/L	99
3) Chloromethane	2.810	50	553412	3.19	ug/L	99
4) 1,1-Dichloroethene	4.092	61	507993	3.60	ug/L	99
5) Methylene Chloride	4.707	49	986245	3.88	ug/L	97
6) trans-1,2-Dichloroethene	4.873	61	627897	3.80	ug/L	98
7) 1,1-Dichloroethane	5.518	63	712322	3.76	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	372771	4.14	ug/L	97
9) Chloroform	6.339	83	567784	3.76	ug/L	98
11) Carbon Tetrachloride	6.516	117	380994	3.91	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	443119	3.98	ug/L	95
13) Benzene	6.949	78	1249926	3.93	ug/L	96
15) 1,2-Dichloroethane	7.151	62	554746	3.69	ug/L	97
16) Trichloroethene	7.524	95	386484	3.87	ug/L	98
17) 1,2-Dichloropropane	8.051	63	448332	4.18	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	511371	5.05	ug/L	97
21) trans-1,3-Dichloropropene	9.353	75	444715	5.34	ug/L	99
22) Tetrachloroethene	9.345	166	330591	4.54	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59070.D
Acq On : 26 Aug 2019 1:34 pm
Operator : kevinb
Sample : IC2258-4 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 14:07:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:21 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59071.D
Acq On : 26 Aug 2019 1:55 pm
Operator : kevinb
Sample : ICC2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 14:12:35 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

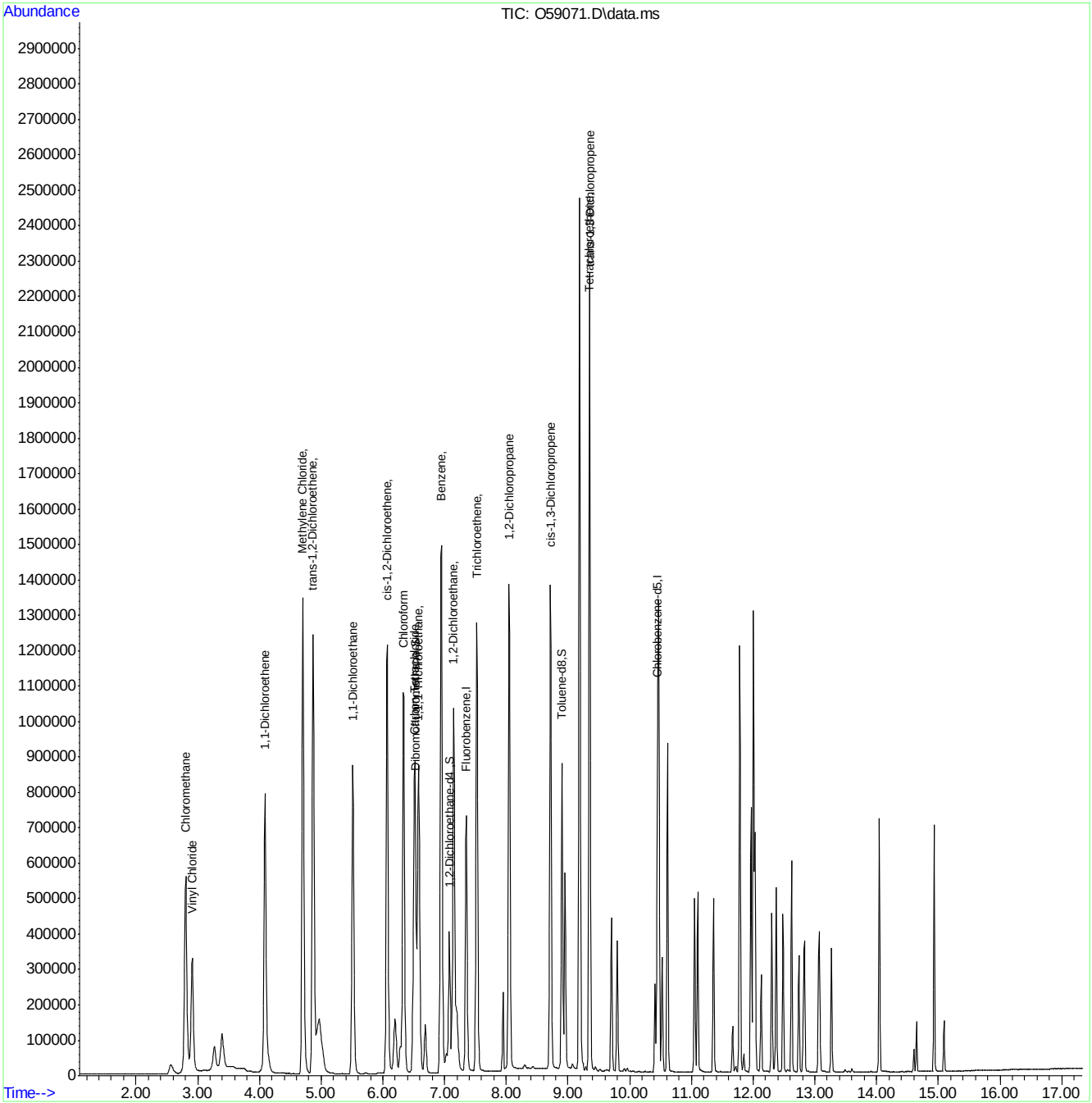
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	982225	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696551	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	267380	4.11	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 82.20%#			
14) 1,2-Dichloroethane-d4	7.079	65	334012	4.23	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 84.60%			
20) Toluene-d8	8.904	98	834654	5.71	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 114.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	617596	5.82	ug/L	99
3) Chloromethane	2.806	50	1057755	6.12	ug/L	99
4) 1,1-Dichloroethene	4.089	61	971731	6.78	ug/L	99
5) Methylene Chloride	4.703	49	1750204	6.96	ug/L	97
6) trans-1,2-Dichloroethene	4.869	61	1222109	7.30	ug/L	98
7) 1,1-Dichloroethane	5.514	63	1396723	7.27	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	732514	8.02	ug/L	99
9) Chloroform	6.333	83	1111151	7.24	ug/L	99
11) Carbon Tetrachloride	6.511	117	730117	7.38	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	870733	7.70	ug/L	94
13) Benzene	6.949	78	2440785	7.56	ug/L	95
15) 1,2-Dichloroethane	7.145	62	1093020	7.16	ug/L	99
16) Trichloroethene	7.524	95	753907	7.43	ug/L	98
17) 1,2-Dichloropropane	8.047	63	875742	8.05	ug/L	96
18) cis-1,3-Dichloropropene	8.719	75	1024040	9.96	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	894060	10.65	ug/L	98
22) Tetrachloroethene	9.345	166	638313	8.69	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59071.D
Acq On : 26 Aug 2019 1:55 pm
Operator : kevinb
Sample : ICC2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 14:12:35 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59072.D
Acq On : 26 Aug 2019 2:16 pm
Operator : kevinb
Sample : IC2258-6 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 14:44:01 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

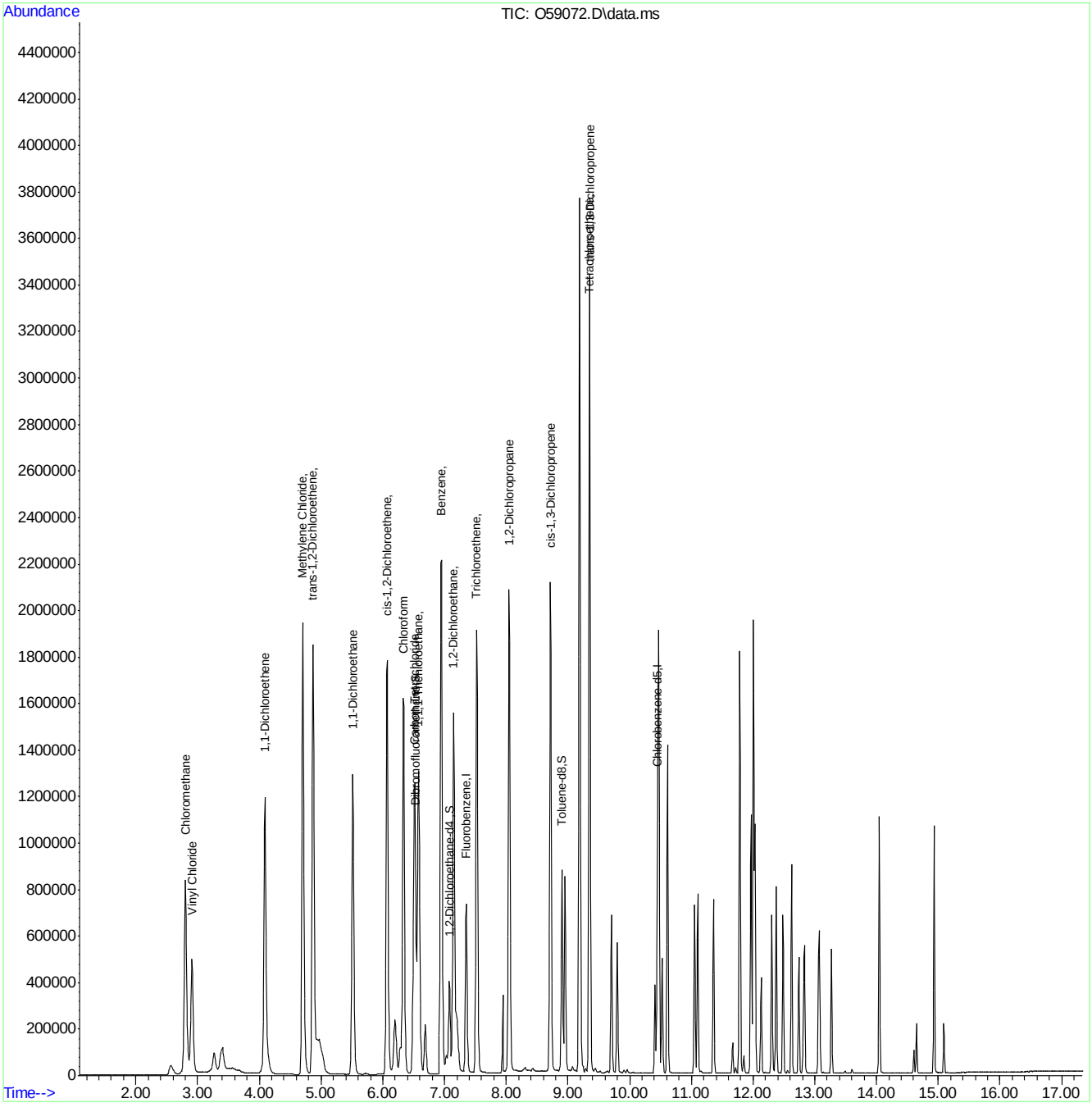
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	984555	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696564	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	264726	4.06	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 81.20%#			
14) 1,2-Dichloroethane-d4	7.080	65	334286	4.22	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 84.40%			
20) Toluene-d8	8.904	98	842121	5.76	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 115.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	954557	8.97	ug/L	99
3) Chloromethane	2.803	50	1590554	9.39	ug/L	99
4) 1,1-Dichloroethene	4.089	61	1487352	10.36	ug/L	100
5) Methylene Chloride	4.703	49	2554176	10.41	ug/L	97
6) trans-1,2-Dichloroethene	4.869	61	1836700	10.94	ug/L	98
7) 1,1-Dichloroethane	5.514	63	2096406	10.88	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	1095181	11.97	ug/L	99
9) Chloroform	6.333	83	1665835	10.83	ug/L	98
11) Carbon Tetrachloride	6.511	117	1126120	11.35	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	1334267	11.77	ug/L	94
13) Benzene	6.949	78	3659590	11.31	ug/L	94
15) 1,2-Dichloroethane	7.145	62	1646326	10.75	ug/L	98
16) Trichloroethene	7.518	95	1133106	11.14	ug/L	95
17) 1,2-Dichloropropane	8.047	63	1323974	12.15	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	1568519	15.22	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	1380700	16.45	ug/L	97
22) Tetrachloroethene	9.345	166	971454	13.23	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59072.D
Acq On : 26 Aug 2019 2:16 pm
Operator : kevinb
Sample : IC2258-6 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 14:44:01 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:25 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59073.D
Acq On : 26 Aug 2019 2:37 pm
Operator : kevinb
Sample : IC2258-7 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 14:59:46 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

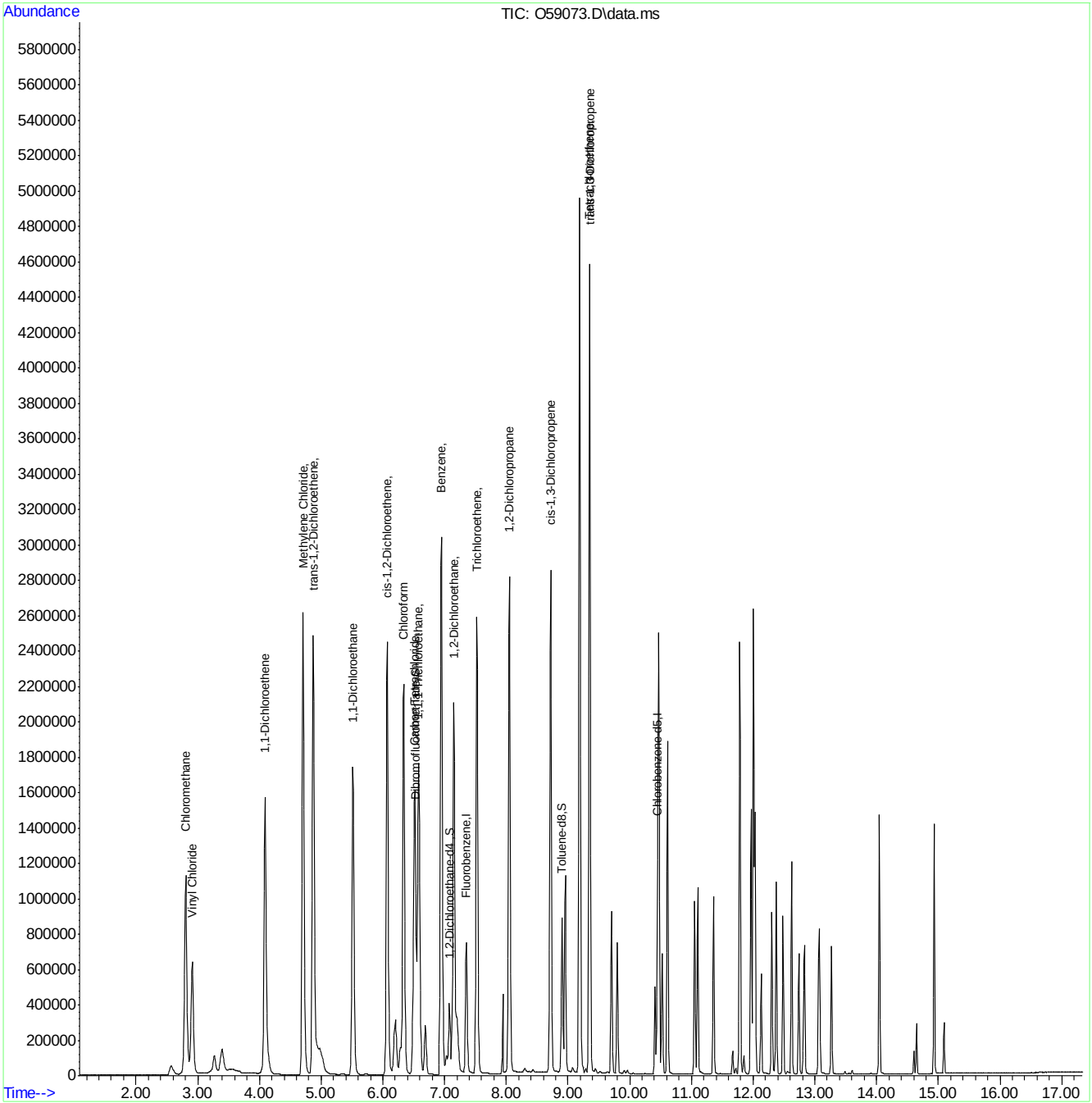
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	1001697	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	699700	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	270882	4.09	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 81.80%#			
14) 1,2-Dichloroethane-d4	7.079	65	341898	4.25	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 85.00%			
20) Toluene-d8	8.903	98	852657	5.81	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 116.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	1232038	11.38	ug/L	99
3) Chloromethane	2.806	50	2085187	12.35	ug/L	99
4) 1,1-Dichloroethene	4.088	61	2005700	13.73	ug/L	99
5) Methylene Chloride	4.707	49	3478423	14.41	ug/L	96
6) trans-1,2-Dichloroethene	4.873	61	2496709	14.62	ug/L	99
7) 1,1-Dichloroethane	5.514	63	2849534	14.54	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	1495061	16.06	ug/L	98
9) Chloroform	6.339	83	2269076	14.50	ug/L	97
11) Carbon Tetrachloride	6.516	117	1520351	15.06	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	1796306	15.57	ug/L	95
13) Benzene	6.949	78	4934646	14.99	ug/L	95
15) 1,2-Dichloroethane	7.151	62	2228516	14.31	ug/L	97
16) Trichloroethene	7.524	95	1526952	14.76	ug/L	98
17) 1,2-Dichloropropane	8.051	63	1792018	16.16	ug/L	94
18) cis-1,3-Dichloropropene	8.719	75	2134301	20.35	ug/L	97
21) trans-1,3-Dichloropropene	9.353	75	1883796	22.34	ug/L	97
22) Tetrachloroethene	9.349	166	1285828	17.43	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59073.D
Acq On : 26 Aug 2019 2:37 pm
Operator : kevinb
Sample : IC2258-7 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 14:59:46 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:27 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59075.D
Acq On : 26 Aug 2019 3:18 pm
Operator : kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 15:36:19 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

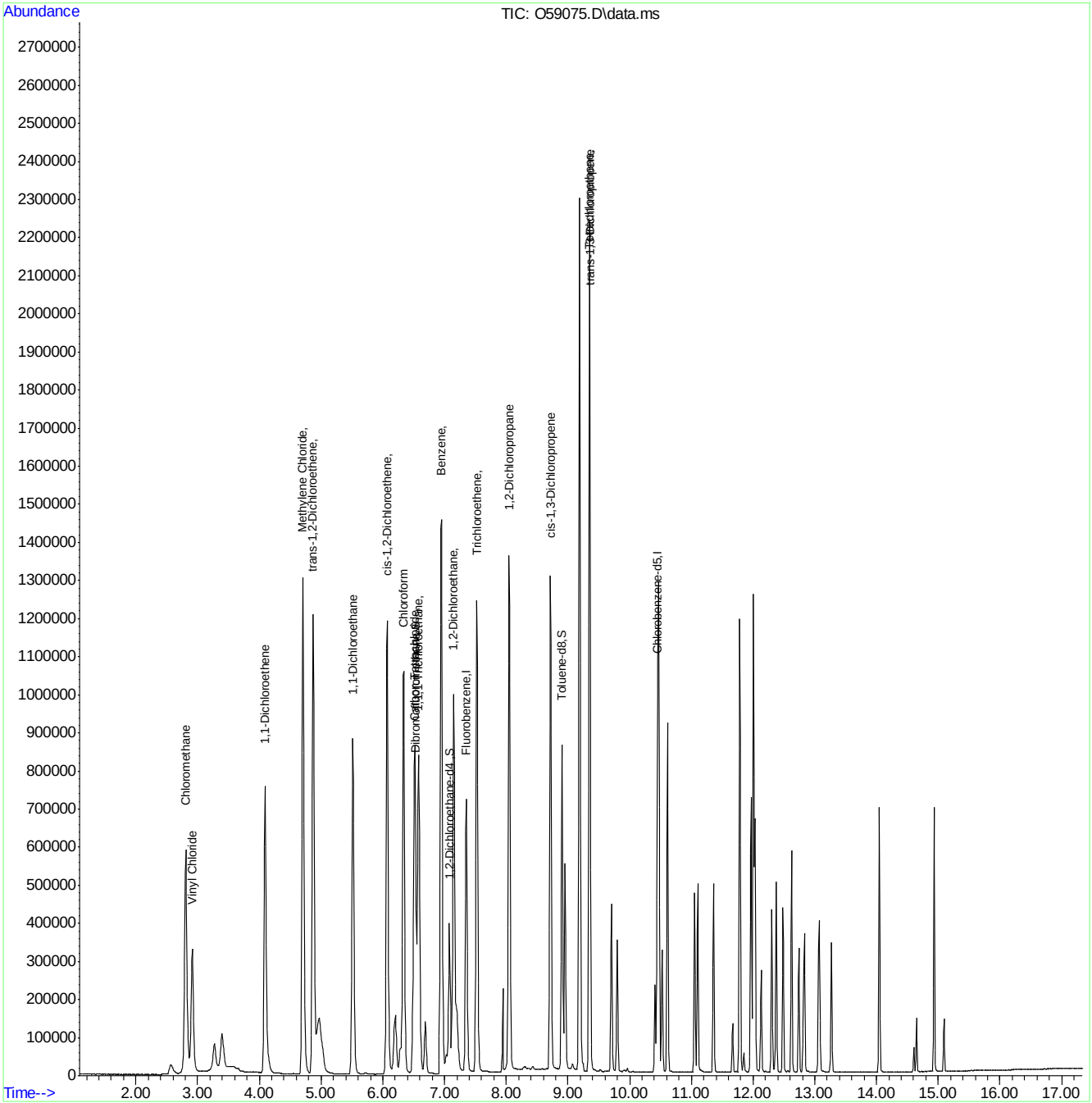
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	975957	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696785	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	264775	4.96	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 99.20%			
14) 1,2-Dichloroethane-d4	7.080	65	324147	4.81	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 96.20%			
20) Toluene-d8	8.904	98	830552	4.98	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 99.60%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	622874	10.13	ug/L	99
3) Chloromethane	2.807	50	1115318	10.17	ug/L	100
4) 1,1-Dichloroethene	4.089	61	942174	8.94	ug/L	99
5) Methylene Chloride	4.703	49	1717337	9.54	ug/L	100
6) trans-1,2-Dichloroethene	4.869	61	1184278	9.12	ug/L	99
7) 1,1-Dichloroethane	5.514	63	1410324	9.66	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	718681	9.40	ug/L	100
9) Chloroform	6.339	83	1091036	9.22	ug/L	99
11) Carbon Tetrachloride	6.511	117	709262	9.16	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	840642	9.26	ug/L	100
13) Benzene	6.949	78	2390261	9.77	ug/L	100
15) 1,2-Dichloroethane	7.145	62	1056307	9.32	ug/L	99
16) Trichloroethene	7.524	95	740491	9.63	ug/L	99
17) 1,2-Dichloropropane	8.047	63	869825	9.36	ug/L	99
18) cis-1,3-Dichloropropene	8.719	75	976689	9.32	ug/L	100
21) trans-1,3-Dichloropropene	9.353	75	906764	10.12	ug/L	99
22) Tetrachloroethene	9.345	166	633383	9.33	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59075.D
Acq On : 26 Aug 2019 3:18 pm
Operator : kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 15:36:19 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59099.D
Acq On : 29 Aug 2019 10:04 am
Operator : kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44186,VO2260,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 29 10:26:14 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

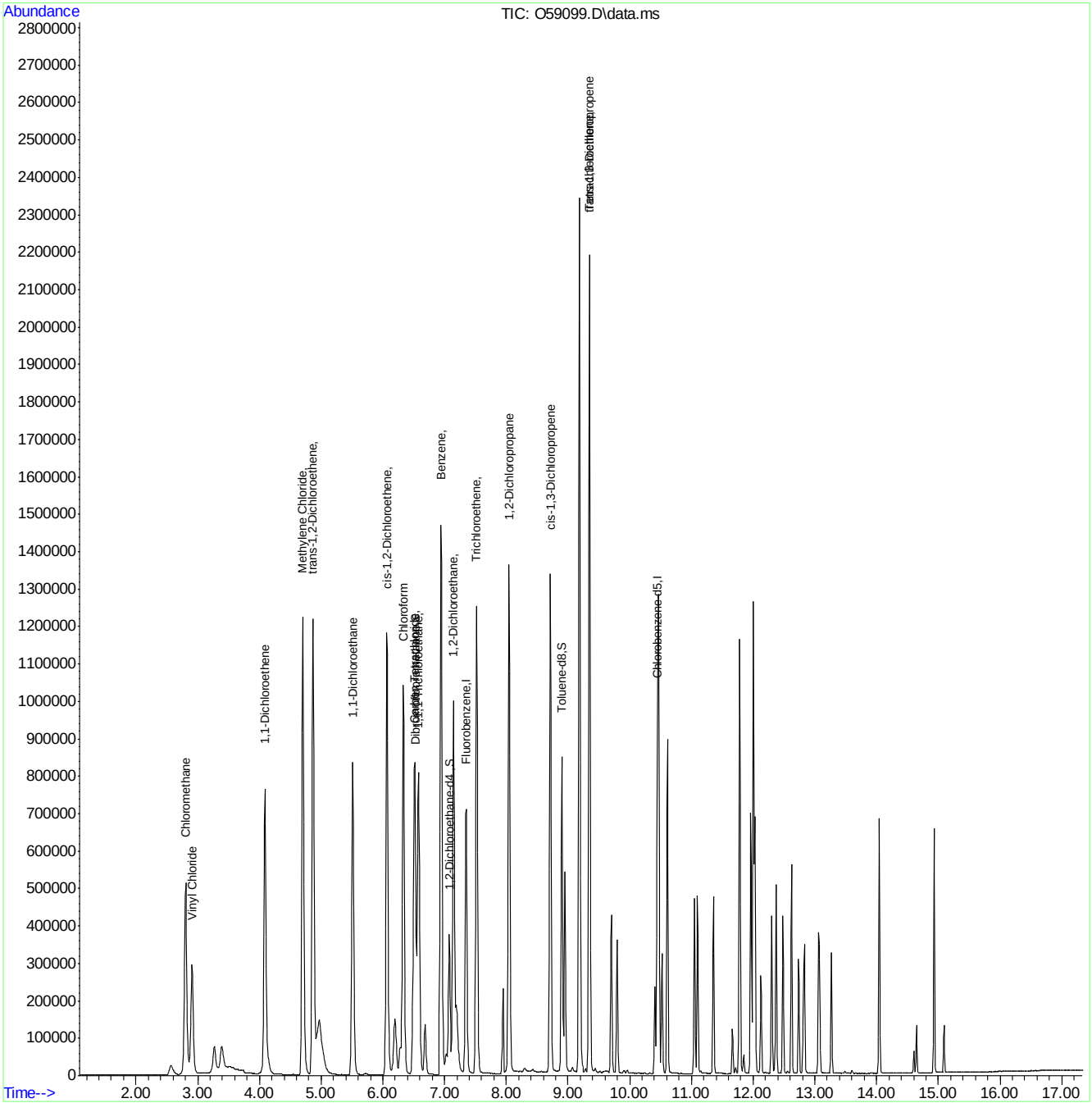
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	972409	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.449	117	701213	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.522	113	263418	4.95	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 99.00%			
14) 1,2-Dichloroethane-d4	7.079	65	309176	4.61	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 92.20%			
20) Toluene-d8	8.900	98	820325	4.89	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 97.80%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	569811	9.30	ug/L	99
3) Chloromethane	2.806	50	950489	8.70	ug/L	99
4) 1,1-Dichloroethene	4.088	61	898882	8.56	ug/L	95
5) Methylene Chloride	4.703	49	1587814	8.81	ug/L	98
6) trans-1,2-Dichloroethene	4.869	61	1182260	9.14	ug/L	96
7) 1,1-Dichloroethane	5.510	63	1362457	9.36	ug/L	100
8) cis-1,2-Dichloroethene	6.066	96	725913	9.53	ug/L	99
9) Chloroform	6.333	83	1053491	8.94	ug/L	99
11) Carbon Tetrachloride	6.510	117	678712	8.80	ug/L	99
12) 1,1,1-Trichloroethane	6.576	97	804839	8.89	ug/L	98
13) Benzene	6.943	78	2382035	9.77	ug/L	99
15) 1,2-Dichloroethane	7.145	62	1018638	9.02	ug/L	98
16) Trichloroethene	7.518	95	736543	9.62	ug/L	98
17) 1,2-Dichloropropane	8.047	63	873393	9.43	ug/L	97
18) cis-1,3-Dichloropropene	8.715	75	981778	9.40	ug/L	99
21) trans-1,3-Dichloropropene	9.349	75	852025	9.45	ug/L	100
22) Tetrachloroethene	9.345	166	646564	9.46	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59099.D
Acq On : 29 Aug 2019 10:04 am
Operator : kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44186,VO2260,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 29 10:26:14 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59112.D
Acq On : 29 Aug 2019 2:36 pm
Operator : kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44186,VO2260,,,,,
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 29 14:54:10 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

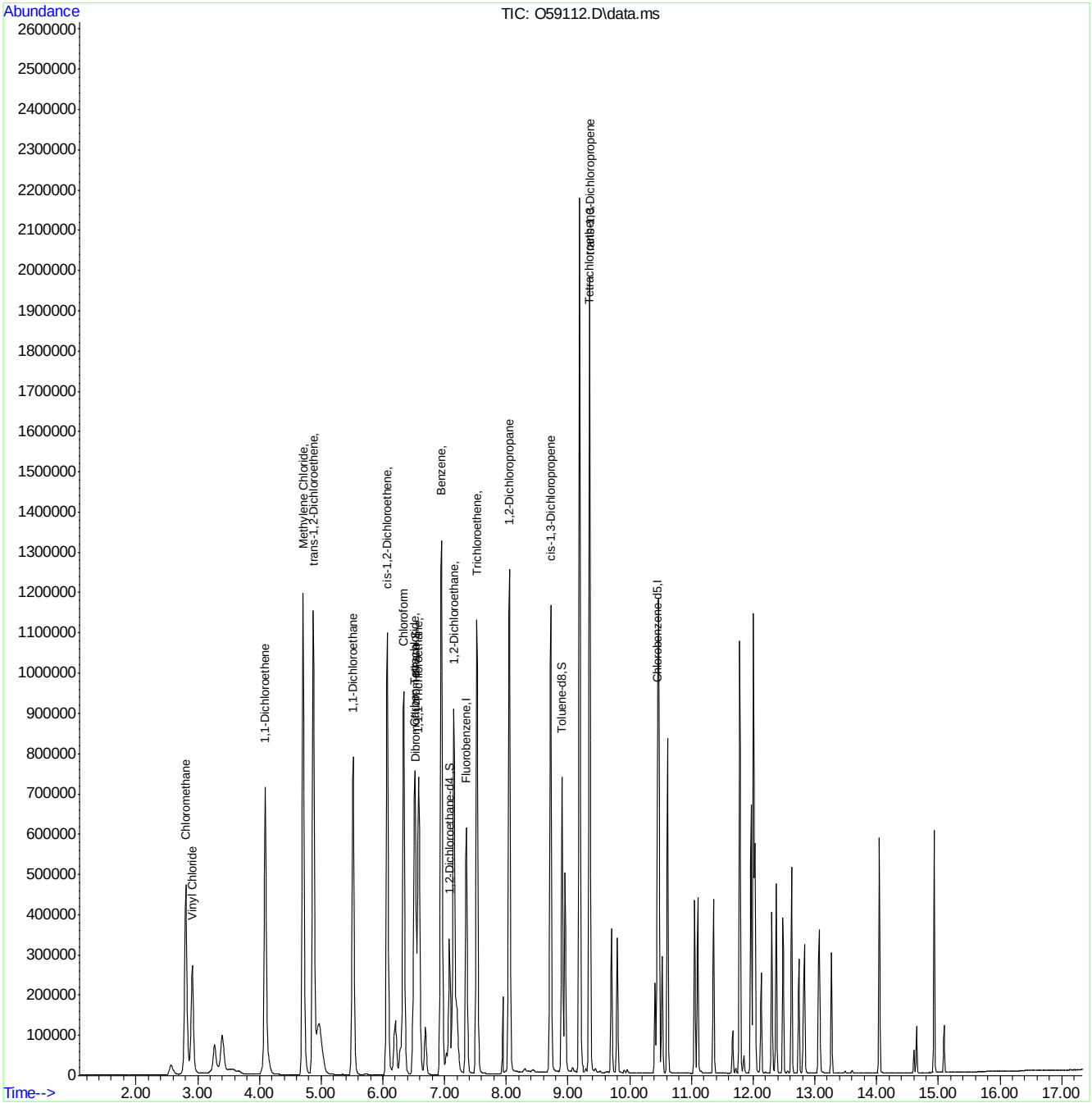
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	859127	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	616673	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	237909	5.06	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 101.20%			
14) 1,2-Dichloroethane-d4	7.080	65	285252	4.81	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 96.20%			
20) Toluene-d8	8.904	98	716541	4.86	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 97.20%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	521167	9.62	ug/L	99
3) Chloromethane	2.806	50	893025	9.25	ug/L	99
4) 1,1-Dichloroethene	4.092	61	878892	9.48	ug/L	98
5) Methylene Chloride	4.707	49	1602541	10.16	ug/L	98
6) trans-1,2-Dichloroethene	4.873	61	1147877	10.04	ug/L	100
7) 1,1-Dichloroethane	5.518	63	1304652	10.15	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	667119	9.91	ug/L	97
9) Chloroform	6.339	83	977271	9.38	ug/L	98
11) Carbon Tetrachloride	6.516	117	617314	9.06	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	734007	9.18	ug/L	97
13) Benzene	6.949	78	2179756	10.13	ug/L	97
15) 1,2-Dichloroethane	7.151	62	966049	9.68	ug/L	98
16) Trichloroethene	7.524	95	669607	9.90	ug/L	99
17) 1,2-Dichloropropane	8.051	63	808655	9.88	ug/L	99
18) cis-1,3-Dichloropropene	8.719	75	859685	9.32	ug/L	95
21) trans-1,3-Dichloropropene	9.353	75	751400	9.48	ug/L	96
22) Tetrachloroethene	9.345	166	587921	9.78	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59112.D
Acq On : 29 Aug 2019 2:36 pm
Operator : kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44186,VO2260,,,,,
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 29 14:54:10 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



SGS -ORLANDO

MSVOA12-O-ANALYSIS LOG

Date:	8/26/2019
COLUMN TYPE:	RTX VMS
DETECTOR:	5975 MSD
INSTRUMENT:	MSVOA12-O
PURGE PRESSURE	8.4PSI
PURGE VOLUME:	5 mL
ANALYST:	KEVINB

METHODS:*	8260SIMCL
METHOD FILE:	simcl082619.m
CALIB. DATE:	8/26/2019
EM VOLTAGE:	1376V
BFB RESPONSE	15495515
RUN ID:	**VO2258**

BFB:	V25309B
ICAL/CC:	V25303 V25329
ISTD/SUR:	V25328
ICV/QC:	V25304 V25330

PH LOT1-12 :230814
ph lot 0.0-3.0 : 220416a
KI PAPER LOT:030317
SAMPLE ID VERIFIED BY:
KB
DATE VERIFIED: 8/26/19

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAK RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
O59061	blank	NA	NA	w	1	ACQ_SIMCL		NA	NA		ND ✔
O59062	blank	NA	NA	w	2	ACQ_SIMCL		NA	NA		ND ✔
O59063	blank	NA	NA	w	3	ACQ_SIMCL		NA	NA		ND ✔
O59064	blank	NA	NA	w	4	ACQ_SIMCL		NA	NA		ND ✔
O59065	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59066	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59067	IC2258-1	NA	NA	w	1	ACQ_SIMCL	PII 3,13	NA	NA		1uL->100mL ✔
O59068	IC2258-2	NA	NA	w	2	ACQ_SIMCL	PII 3,13	NA	NA		5uL->100mL ✔
O59069	IC2258-3	NA	NA	w	3	ACQ_SIMCL		NA	NA		10uL->50mL ✔
O59070	IC2258-4	NA	NA	w	4	ACQ_SIMCL		NA	NA		25uL->50mL ✔
O59071	IC2258-5	NA	NA	w	5	ACQ_SIMCL		NA	NA		50uL->50mL ✔
O59072	IC2258-6	NA	NA	w	6	ACQ_SIMCL		NA	NA		75uL->50mL ✔
O59073	IC2258-7	NA	NA	w	7	ACQ_SIMCL		NA	NA		100uL->50mL ✔
O59074	blank	NA	NA	w	8	ACQ_SIMCL		NA	NA		ND ✔
O59075	ICV2258-5	NA	NA	w	9	ACQ_SIMCL		NA	NA		50uL->50mL ✔

* For NELAC purposes, Method 8260 includes analytes by SOP MS005 Matrix: Designate "W" for Water "S" for soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rational SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, PII Poor Instrument

Analyst's Signature: Kevin Boyd

SGS -ORLANDO

MSVOA12-O-ANALYSIS LOG

Date:	8/29/2019
COLUMN TYPE:	RTX VMS
DETECTOR:	5975 MSD
INSTRUMENT:	MSVOA12-O
PURGE PRESSURE	8.4PSI
PURGE VOLUME:	5 mL
ANALYST:	KEVINB

METHODS:*	8260SIMCL
METHOD FILE:	simcl082619.m
CALIB. DATE:	8/26/2019
EM VOLTAGE:	1376V
BFB RESPONSE	15294628
RUN ID:	**VO2260**

BFB:	V25309B
ICAL/CC:	V25303 V25329
ISTD/SUR:	V25328
ICV/QC:	V25304 V25330

PH LOT1-12 :230814
ph lot 0.0-3.0 : 220416a
KI PAPER LOT:030317
SAMPLE ID VERIFIED BY:
KB
DATE VERIFIED: 8/29/19

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAK RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
O59096	blank	NA	NA	w	1	ACQ_SIMCL		NA	NA		ND ✔
O59097	blank	NA	NA	w	2	ACQ_SIMCL		NA	NA		ND ✔
O59098	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59099	CC2258-5	NA	NA	w	1	ACQ_SIMCL		NA	NA		50uL->50mL ✔
O59100	BS	NA	NA	w	2	ACQ_SIMCL		NA	NA		20uL->vial ✔
O59101	MB	NA	NA	w	3	ACQ_SIMCL		NA	NA		ND ✔
O59102	FA67546-1	1X	2	w	4	ACQ_SIMCL		1	N		✔
O59103	FA67546-2	1X	3	w	5	ACQ_SIMCL		1	N		✔
O59104	FA67557-1	1X	3	w	6	ACQ_SIMCL		1	N		✔
O59105	FA67557-2	1X	3	w	7	ACQ_SIMCL	PII 13	1	N		✔
O59106	FA67557-3	1X	3	w	8	ACQ_SIMCL	PII 13,17	1	N		✔
O59107	FA67557-4	1X	3	w	9	ACQ_SIMCL		1	N		✔
O59108	FA67557-5	1X	2	w	10	ACQ_SIMCL		1	N		✔
O59109	FA67392-2A	2X	9	w	11	ACQ_SIMCL	25mL->50mL	1	N		✔
O59110	FA67546-2MS	5X	3	w	12	ACQ_SIMCL	20mL->100mL	1	N		20uL->vial ✔
O59111	FA67546-2MSD	5X	3	w	13	ACQ_SIMCL	20mL->100mL	1	N		20uL->vial ✔
O59112	ECC2258-5	NA	NA	w	14	ACQ_SIMCL		NA	NA		50uL->50mL ✔

* For NELAC purposes, Method 8260 includes analytes by SOP MS005 Matrix: Designate "W" for Water "S" for soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rational SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument

Analyst's Signature: Kevin Boyd

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Ahtna Environmental Inc

Fort Ord Groundwater Monitoring

SGS Job Number: FA67560

Sampling Date: 08/26/19

Report to:

Ahtna Environmental Inc
3100 Beacon Blvd
West Sacramento, CA 95691
hdillon@ahtna.net; mfisler@ahtna.net;
dlieberman@ahtna.net; eschmidt@ahtna.net
ATTN: Derek Lieberman

Total number of pages in report: **116**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

Sections: 1 2 3 4 5 6 7

Table of Contents

SGS North America Inc.

Sample Summary

Ahtna Environmental Inc

Job No: FA67560

Fort Ord Groundwater Monitoring

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA67560-1	08/26/19	10:40	JA	08/28/19	AQ	Ground Water	1935Y212001F
FA67560-2	08/26/19	11:10	JA	08/28/19	AQ	Ground Water	1935Y212002F
FA67560-3	08/26/19	15:30	JA	08/28/19	AQ	Ground Water	1935Y212008F
FA67560-4	08/26/19	16:06	JA	08/28/19	AQ	Trip Blank Water	1935Y212009A

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Ahtna Environmental Inc **Job No:** FA67560

Site: Fort Ord Groundwater Monitoring **Report Date:** 9/5/2019 5:40:49 PM

3 Samples and 1 Trip Blank were collected on 08/26/2019 and were received at SGS North America Inc - Orlando on 08/28/2019 properly preserved, at 3 Deg. C and intact. These Samples received an SGS Orlando job number of FA67560. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B BY SIM

Matrix: AQ **Batch ID:** VO2261

All samples were analyzed within the recommended method holding time.

Sample(s) FA67558-1MS, FA67558-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** VO2262

All samples were analyzed within the recommended method holding time.

Sample(s) FA67560-3MS, FA67560-3MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Jenna Kravitz, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA67560
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/26/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA67560-1	**1935Y212001F**					
Trichloroethylene		1.5	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67560-2	**1935Y212002F**					
Chloroform		0.15 J	0.50	0.25	ug/l	SW846 8260B BY SIM
cis-1,2-Dichloroethylene		0.19 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		0.16 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67560-3	**1935Y212008F**					
Chloroform		0.17 J	0.50	0.25	ug/l	SW846 8260B BY SIM
cis-1,2-Dichloroethylene		1.3	0.50	0.25	ug/l	SW846 8260B BY SIM
Tetrachloroethylene		0.16 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		1.2	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67560-4	**1935Y212009A**					
No hits reported in this sample.						

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212001F		
Lab Sample ID:	FA67560-1	**Date Sampled:**	08/26/19
Matrix:	AQ - Ground Water	**Date Received:**	08/28/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59138.D	1	08/29/19 23:43	KB	n/a	n/a	VO2261
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	1.5	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		74-125%
2037-26-5	Toluene-D8	94%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212002F		
Lab Sample ID:	FA67560-2	**Date Sampled:**	08/26/19
Matrix:	AQ - Ground Water	**Date Received:**	08/28/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59139.D	1	08/30/19 00:04	KB	n/a	n/a	VO2261
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.15	0.50	0.25	0.10	ug/l	J
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.19	0.50	0.25	0.10	ug/l	J
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.16	0.50	0.25	0.10	ug/l	J
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		74-125%
2037-26-5	Toluene-D8	94%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212008F		
Lab Sample ID:	FA67560-3	**Date Sampled:**	08/26/19
Matrix:	AQ - Ground Water	**Date Received:**	08/28/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59149.D	1	08/30/19 12:32	KB	n/a	n/a	VO2262
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.17	0.50	0.25	0.10	ug/l	J
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.3	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.16	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	1.2	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		74-125%
2037-26-5	Toluene-D8	94%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212009A		
Lab Sample ID:	FA67560-4	**Date Sampled:**	08/26/19
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/28/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59148.D	1	08/30/19 12:11	KB	n/a	n/a	VO2262
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		74-125%
2037-26-5	Toluene-D8	95%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

CADSTC CADSTPO
8/27/19

Ahtna
296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / SOIL

FA67560 1 OF 1

Chain of Custody #: 2419
Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: Former Fort Ord, CA
Sampler/s: J. Arthur
Project Name: Groundwater Monitoring Program
Report To: Dirk Lieberman
Project Number: 21865.00.001.0000
E-Mail: d.lieberman@ahtna.net
Sampling Event: 3Q2019
Laboratory: SGS

Analysis Requested

8260-STL

Lab Sample Receipt

Laboratory Sample Delivery
Group #:
Custody Seal:
Temp (°C):

Lab Number	Sample Number/Description	Sample Collection Date	Sample Collection Time	Matrix: Water	Matrix: Soil	Matrix: Other	Total # of Bottles	Number of Preserved Bottles: HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO_4$	None	Other	Notes
1	1935VA12E01F	8/26/19	10:40	X			3	3								
2	1935VA12D02F	8/26/19	11:10	X			3	3								
3	1935VA12D08F	8/26/19	15:30	X			3	3								
4	1935VA12D09A	8/26/19	16:00	X			2	2								

Turnaround Time: ____: Standard ____: 3-5 Day Rush ____: 48 Hour Rush ____: 24 Hour Rush
Shipment: Method: Tracking ID:

Comments: 2D Report

Chain of Custody Tracking:

Relinquished By Sampler:	Date/Time:	Received By:	Date/Time:
	8/26/19 1630	Steve Korbay	8/26/19 1630
Relinquished By: Steve Korbay	Date/Time: 8/27/19 1115	Received By: Lee Bauer	Date/Time: 8/27/19 1115
Relinquished By: Lee Bauer	Date/Time: 8/27/19 1500	Received By Laboratory:	Date/Time: 8/27/19 1500
3.0 Fed Ex			08/28/19 900

5.1 5

FA67560: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA67560 **Client:** AHTNA **Project:** Fort Ord 3Q19 GWM - 2/12

Date / Time Received: 8/28/2019 9:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 776092674231

Therm ID: IR 1; **Therm CF:** 1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 8/28/2019 9:00:00 AM Reviewer: PH Date: 8/30/2019

FA67560: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67560
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/26/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VO2261	SW846 8260B BY SIM						
VO2261-BS	67-66-3	Chloroform	BSP	REC	92	%	79-124
VO2261-BS	107-06-2	1,2-Dichloroethane	BSP	REC	90	%	73-128
VO2261-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	102	%	71-131
VO2261-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	96	%	78-123
VO2261-BS	542-75-6	1,3-Dichloropropene (total)	BSP	REC	88	%	77-123
VO2261-BS	127-18-4	Tetrachloroethylene	BSP	REC	102	%	74-129
VO2261-BS	79-01-6	Trichloroethylene	BSP	REC	100	%	79-123
VO2261-BS	75-01-4	Vinyl Chloride	BSP	REC	122	%	58-137
VO2261-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	95	%	81-118
VO2261-BS	2037-26-5	Toluene-D8	BSP	SURR	97	%	89-112
FA67558-1MS*	67-66-3	Chloroform	MS	REC	90	%	79-124
FA67558-1MS*	107-06-2	1,2-Dichloroethane	MS	REC	90	%	73-128
FA67558-1MS*	75-35-4	1,1-Dichloroethylene	MS	REC	104	%	71-131
FA67558-1MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	95	%	78-123
FA67558-1MS*	542-75-6	1,3-Dichloropropene (total)	MS	REC	78	%	77-123
FA67558-1MS*	127-18-4	Tetrachloroethylene	MS	REC	100	%	74-129
FA67558-1MS*	79-01-6	Trichloroethylene	MS	REC	90	%	79-123
FA67558-1MS*	75-01-4	Vinyl Chloride	MS	REC	118	%	58-137
FA67558-1MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	95	%	81-118
FA67558-1MS*	2037-26-5	Toluene-D8	MS	SURR	94	%	89-112
FA67558-1MSD*	67-66-3	Chloroform	MSD	REC	94	%	79-124
FA67558-1MSD*	67-66-3	Chloroform	MSD	RPD	4	%	20
FA67558-1MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	94	%	73-128
FA67558-1MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	4	%	20
FA67558-1MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	108	%	71-131
FA67558-1MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	5	%	20
FA67558-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	98	%	78-123
FA67558-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	4	%	20
FA67558-1MSD*	542-75-6	1,3-Dichloropropene (total)	MSD	REC	83	%	77-123
FA67558-1MSD*	542-75-6	1,3-Dichloropropene (total)	MSD	RPD	5	%	20
FA67558-1MSD*	127-18-4	Tetrachloroethylene	MSD	REC	105	%	74-129
FA67558-1MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	5	%	20
FA67558-1MSD*	79-01-6	Trichloroethylene	MSD	REC	94	%	79-123
FA67558-1MSD*	79-01-6	Trichloroethylene	MSD	RPD	4	%	20
FA67558-1MSD*	75-01-4	Vinyl Chloride	MSD	REC	118	%	58-137
FA67558-1MSD*	75-01-4	Vinyl Chloride	MSD	RPD	0	%	20
FA67558-1MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	95	%	81-118
FA67558-1MSD*	2037-26-5	Toluene-D8	MSD	SURR	95	%	89-112
VO2261-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	97	%	81-118
VO2261-MB	2037-26-5	Toluene-D8	MB	SURR	96	%	89-112
FA67560-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	96	%	81-118
FA67560-1	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112

* Sample used for QC is not from job FA67560

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67560
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/26/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA67560-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	95	%	81-118
FA67560-2	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
VO2262	SW846 8260B BY SIM						
VO2262-BS	67-66-3	Chloroform	BSP	REC	88	%	79-124
VO2262-BS	107-06-2	1,2-Dichloroethane	BSP	REC	88	%	73-128
VO2262-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	102	%	71-131
VO2262-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	94	%	78-123
VO2262-BS	542-75-6	1,3-Dichloropropene (total)	BSP	REC	81	%	77-123
VO2262-BS	127-18-4	Tetrachloroethylene	BSP	REC	100	%	74-129
VO2262-BS	79-01-6	Trichloroethylene	BSP	REC	96	%	79-123
VO2262-BS	75-01-4	Vinyl Chloride	BSP	REC	122	%	58-137
VO2262-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	94	%	81-118
VO2262-BS	2037-26-5	Toluene-D8	BSP	SURR	94	%	89-112
FA67560-3MS	67-66-3	Chloroform	MS	REC	89	%	79-124
FA67560-3MS	107-06-2	1,2-Dichloroethane	MS	REC	88	%	73-128
FA67560-3MS	75-35-4	1,1-Dichloroethylene	MS	REC	102	%	71-131
FA67560-3MS	156-59-2	cis-1,2-Dichloroethylene	MS	REC	92	%	78-123
FA67560-3MS	542-75-6	1,3-Dichloropropene (total)	MS	REC	76	%	77-123
FA67560-3MS	127-18-4	Tetrachloroethylene	MS	REC	99	%	74-129
FA67560-3MS	79-01-6	Trichloroethylene	MS	REC	88	%	79-123
FA67560-3MS	75-01-4	Vinyl Chloride	MS	REC	116	%	58-137
FA67560-3MS	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	92	%	81-118
FA67560-3MS	2037-26-5	Toluene-D8	MS	SURR	94	%	89-112
FA67560-3MSD	67-66-3	Chloroform	MSD	REC	89	%	79-124
FA67560-3MSD	67-66-3	Chloroform	MSD	RPD	0	%	20
FA67560-3MSD	107-06-2	1,2-Dichloroethane	MSD	REC	90	%	73-128
FA67560-3MSD	107-06-2	1,2-Dichloroethane	MSD	RPD	2	%	20
FA67560-3MSD	75-35-4	1,1-Dichloroethylene	MSD	REC	104	%	71-131
FA67560-3MSD	75-35-4	1,1-Dichloroethylene	MSD	RPD	2	%	20
FA67560-3MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	94	%	78-123
FA67560-3MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	2	%	20
FA67560-3MSD	542-75-6	1,3-Dichloropropene (total)	MSD	REC	78	%	77-123
FA67560-3MSD	542-75-6	1,3-Dichloropropene (total)	MSD	RPD	3	%	20
FA67560-3MSD	127-18-4	Tetrachloroethylene	MSD	REC	101	%	74-129
FA67560-3MSD	127-18-4	Tetrachloroethylene	MSD	RPD	2	%	20
FA67560-3MSD	79-01-6	Trichloroethylene	MSD	REC	90	%	79-123
FA67560-3MSD	79-01-6	Trichloroethylene	MSD	RPD	2	%	20
FA67560-3MSD	75-01-4	Vinyl Chloride	MSD	REC	116	%	58-137
FA67560-3MSD	75-01-4	Vinyl Chloride	MSD	RPD	0	%	20
FA67560-3MSD	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	93	%	81-118
FA67560-3MSD	2037-26-5	Toluene-D8	MSD	SURR	94	%	89-112
VO2262-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	95	%	81-118
VO2262-MB	2037-26-5	Toluene-D8	MB	SURR	95	%	89-112

* Sample used for QC is not from job FA67560

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67560
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/26/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA67560-3	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	95	%	81-118
FA67560-3	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
FA67560-4	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	95	%	81-118
FA67560-4	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112

* Sample used for QC is not from job FA67560

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2261-MB	O59116.D	1	08/29/19	KB	n/a	n/a	VO2261

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67560-1, FA67560-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.50	0.10	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl Chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	97%	74-125%
2037-26-5	Toluene-D8	96%	88-111%

Method Blank Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2262-MB	O59146.D	1	08/30/19	KB	n/a	n/a	VO2262

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67560-3, FA67560-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.50	0.10	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl Chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	95%	74-125%
2037-26-5	Toluene-D8	95%	88-111%

Blank Spike Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2261-BS	O59115.D	1	08/29/19	KB	n/a	n/a	VO2261

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67560-1, FA67560-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	5	4.6	92	80-124
107-06-2	1,2-Dichloroethane	5	4.5	90	75-125
75-35-4	1,1-Dichloroethylene	5	5.1	102	78-137
156-59-2	cis-1,2-Dichloroethylene	5	4.8	96	78-120
542-75-6	1,3-Dichloropropene (total)	10	8.8	88	75-120
127-18-4	Tetrachloroethylene	5	5.1	102	76-135
79-01-6	Trichloroethylene	5	5.0	100	81-126
75-01-4	Vinyl Chloride	5	6.1	122	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	95%	74-125%
2037-26-5	Toluene-D8	97%	88-111%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2262-BS	O59145.D	1	08/30/19	KB	n/a	n/a	VO2262

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67560-3, FA67560-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	5	4.4	88	80-124
107-06-2	1,2-Dichloroethane	5	4.4	88	75-125
75-35-4	1,1-Dichloroethylene	5	5.1	102	78-137
156-59-2	cis-1,2-Dichloroethylene	5	4.7	94	78-120
542-75-6	1,3-Dichloropropene (total)	10	8.1	81	75-120
127-18-4	Tetrachloroethylene	5	5.0	100	76-135
79-01-6	Trichloroethylene	5	4.8	96	81-126
75-01-4	Vinyl Chloride	5	6.1	122	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	94%	74-125%
2037-26-5	Toluene-D8	94%	88-111%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA67558-1MS	O59127.D	5	08/29/19	KB	n/a	n/a	VO2261
FA67558-1MSD	O59128.D	5	08/29/19	KB	n/a	n/a	VO2261
FA67558-1	O59118.D	1	08/29/19	KB	n/a	n/a	VO2261

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67560-1, FA67560-2

CAS No.	Compound	FA67558-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-66-3	Chloroform	0.17	J	25	22.6	90	25	23.6	94	4	80-124/15
107-06-2	1,2-Dichloroethane	0.50 U		25	22.5	90	25	23.4	94	4	75-125/14
75-35-4	1,1-Dichloroethylene	0.50 U		25	25.9	104	25	27.1	108	5	78-137/18
156-59-2	cis-1,2-Dichloroethylene	0.50 U		25	23.7	95	25	24.6	98	4	78-120/15
542-75-6	1,3-Dichloropropene (total)	0.50 U		50	39.2	78	50	41.3	83	5	75-120/23
127-18-4	Tetrachloroethylene	0.50 U		25	25.1	100	25	26.3	105	5	76-135/16
79-01-6	Trichloroethylene	0.50 U		25	22.6	90	25	23.5	94	4	81-126/15
75-01-4	Vinyl Chloride	0.10 U		25	29.4	118	25	29.5	118	0	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA67558-1	Limits
17060-07-0	1,2-Dichloroethane-D4	95%	95%	98%	74-125%
2037-26-5	Toluene-D8	94%	95%	95%	88-111%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA67560-3MS	O59153.D	1	08/30/19	KB	n/a	n/a	VO2262
FA67560-3MSD	O59154.D	1	08/30/19	KB	n/a	n/a	VO2262
FA67560-3	O59149.D	1	08/30/19	KB	n/a	n/a	VO2262

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67560-3, FA67560-4

CAS No.	Compound	FA67560-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-66-3	Chloroform	0.17	J	5	4.6	89	5	4.6	89	0	80-124/15
107-06-2	1,2-Dichloroethane	0.50 U		5	4.4	88	5	4.5	90	2	75-125/14
75-35-4	1,1-Dichloroethylene	0.50 U		5	5.1	102	5	5.2	104	2	78-137/18
156-59-2	cis-1,2-Dichloroethylene	1.3		5	5.9	92	5	6.0	94	2	78-120/15
542-75-6	1,3-Dichloropropene (total)	0.50 U		10	7.6	76	10	7.8	78	3	75-120/23
127-18-4	Tetrachloroethylene	0.16	J	5	5.1	99	5	5.2	101	2	76-135/16
79-01-6	Trichloroethylene	1.2		5	5.6	88	5	5.7	90	2	81-126/15
75-01-4	Vinyl Chloride	0.10 U		5	5.8	116	5	5.8	116	0	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA67560-3	Limits
17060-07-0	1,2-Dichloroethane-D4	92%	93%	95%	74-125%
2037-26-5	Toluene-D8	94%	94%	94%	88-111%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample: VO2258-BFB
Lab File ID: O59066.D
Instrument ID: GCMSO
Injection Date: 08/26/19
Injection Time: 12:08

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	439747	33.4		Pass
75	30.0 - 60.0% of mass 95	574792	43.7		Pass
95	Base peak, 100% relative abundance	1314675	100.0		Pass
96	5.0 - 9.0% of mass 95	89155	6.78		Pass
173	Less than 2.0% of mass 174	6498	0.49	(0.68) [a]	Pass
174	50.0 - 100.0% of mass 95	949995	72.3		Pass
175	5.0 - 9.0% of mass 174	64453	4.90	(6.78) [a]	Pass
176	95.0 - 101.0% of mass 174	905515	68.9	(95.3) [a]	Pass
177	5.0 - 9.0% of mass 176	61263	4.66	(6.77) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VO2258-IC2258	O59067.D	08/26/19	12:31	00:23	Initial cal 1
VO2258-IC2258	O59068.D	08/26/19	12:52	00:44	Initial cal 2
VO2258-IC2258	O59069.D	08/26/19	13:13	01:05	Initial cal 3
VO2258-IC2258	O59070.D	08/26/19	13:34	01:26	Initial cal 4
VO2258-ICC2258	O59071.D	08/26/19	13:55	01:47	Initial cal 5
VO2258-IC2258	O59072.D	08/26/19	14:16	02:08	Initial cal 6
VO2258-IC2258	O59073.D	08/26/19	14:37	02:29	Initial cal 7
VO2258-ICV2258	O59075.D	08/26/19	15:18	03:10	Initial cal verification 5

Instrument Performance Check (BFB)

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample: VO2261-BFB
Lab File ID: O59113.D
Instrument ID: GCMSO
Injection Date: 08/29/19
Injection Time: 14:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	336981	32.7		Pass
75	30.0 - 60.0% of mass 95	432875	42.1		Pass
95	Base peak, 100% relative abundance	1029269	100.0		Pass
96	5.0 - 9.0% of mass 95	69163	6.72		Pass
173	Less than 2.0% of mass 174	4864	0.47	(0.62) [a]	Pass
174	50.0 - 100.0% of mass 95	785707	76.3		Pass
175	5.0 - 9.0% of mass 174	55027	5.35	(7.00) [a]	Pass
176	95.0 - 101.0% of mass 174	757035	73.6	(96.4) [a]	Pass
177	5.0 - 9.0% of mass 176	47253	4.59	(6.24) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VO2261-CC2258	O59114.D	08/29/19	15:18	00:21	Continuing cal 5
VO2261-BS	O59115.D	08/29/19	15:39	00:42	Blank Spike
VO2261-MB	O59116.D	08/29/19	16:00	01:03	Method Blank
ZZZZZZ	O59117.D	08/29/19	16:27	01:30	(unrelated sample)
FA67558-1	O59118.D	08/29/19	16:47	01:50	(used for QC only; not part of job FA67560)
ZZZZZZ	O59119.D	08/29/19	17:08	02:11	(unrelated sample)
ZZZZZZ	O59120.D	08/29/19	17:29	02:32	(unrelated sample)
ZZZZZZ	O59121.D	08/29/19	17:50	02:53	(unrelated sample)
ZZZZZZ	O59122.D	08/29/19	18:11	03:14	(unrelated sample)
ZZZZZZ	O59123.D	08/29/19	18:32	03:35	(unrelated sample)
ZZZZZZ	O59124.D	08/29/19	18:53	03:56	(unrelated sample)
ZZZZZZ	O59125.D	08/29/19	19:13	04:16	(unrelated sample)
ZZZZZZ	O59126.D	08/29/19	19:34	04:37	(unrelated sample)
FA67558-1MS	O59127.D	08/29/19	19:55	04:58	Matrix Spike
FA67558-1MSD	O59128.D	08/29/19	20:16	05:19	Matrix Spike Duplicate
ZZZZZZ	O59130.D	08/29/19	20:57	06:00	(unrelated sample)
ZZZZZZ	O59131.D	08/29/19	21:18	06:21	(unrelated sample)
ZZZZZZ	O59132.D	08/29/19	21:39	06:42	(unrelated sample)
ZZZZZZ	O59133.D	08/29/19	22:00	07:03	(unrelated sample)
ZZZZZZ	O59134.D	08/29/19	22:20	07:23	(unrelated sample)
ZZZZZZ	O59135.D	08/29/19	22:41	07:44	(unrelated sample)
ZZZZZZ	O59136.D	08/29/19	23:02	08:05	(unrelated sample)
ZZZZZZ	O59137.D	08/29/19	23:22	08:25	(unrelated sample)
FA67560-1	O59138.D	08/29/19	23:43	08:46	1935Y212001F

Instrument Performance Check (BFB)

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample:	VO2261-BFB	**Injection Date:**	08/29/19
Lab File ID:	O59113.D	**Injection Time:**	14:57
Instrument ID:	GCMSO		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA67560-2	O59139.D	08/30/19	00:04	09:07	1935Y212002F
VO2261-ECC2258	O59140.D	08/30/19	00:25	09:28	Ending cal 5

Instrument Performance Check (BFB)

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample: VO2262-BFB
Lab File ID: O59143.D
Instrument ID: GCMSO
Injection Date: 08/30/19
Injection Time: 10:20

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	433810	35.5		Pass
75	30.0 - 60.0% of mass 95	514667	42.1		Pass
95	Base peak, 100% relative abundance	1223509	100.0		Pass
96	5.0 - 9.0% of mass 95	84892	6.94		Pass
173	Less than 2.0% of mass 174	5821	0.48	(0.61) [a]	Pass
174	50.0 - 100.0% of mass 95	950357	77.7		Pass
175	5.0 - 9.0% of mass 174	68781	5.62	(7.24) [a]	Pass
176	95.0 - 101.0% of mass 174	923584	75.5	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	60115	4.91	(6.51) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VO2262-CC2258	O59144.D	08/30/19	10:44	00:24	Continuing cal 5
VO2262-BS	O59145.D	08/30/19	11:05	00:45	Blank Spike
VO2262-MB	O59146.D	08/30/19	11:26	01:06	Method Blank
ZZZZZZ	O59147.D	08/30/19	11:50	01:30	(unrelated sample)
FA67560-4	O59148.D	08/30/19	12:11	01:51	1935Y212009A
FA67560-3	O59149.D	08/30/19	12:32	02:12	1935Y212008F
ZZZZZZ	O59150.D	08/30/19	12:53	02:33	(unrelated sample)
ZZZZZZ	O59151.D	08/30/19	13:14	02:54	(unrelated sample)
ZZZZZZ	O59152.D	08/30/19	13:35	03:15	(unrelated sample)
FA67560-3MS	O59153.D	08/30/19	13:55	03:35	Matrix Spike
FA67560-3MSD	O59154.D	08/30/19	14:16	03:56	Matrix Spike Duplicate
VO2262-ECC2258	O59155.D	08/30/19	14:37	04:17	Ending cal 5

Internal Standard Area Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Check Std:	VO2261-CC2258	**Injection Date:**	08/29/19
Lab File ID:	O59114.D	**Injection Time:**	15:18
Instrument ID:	GCMSO	**Method:**	SW846 8260B BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT
Initial Cal [a]	982225	7.35	696551	10.45
Check Std [b]	860108	7.35	622021	10.45
Upper Limit [c]	1720216	7.52	1244042	10.62
Lower Limit [d]	430054	7.18	311011	10.28

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
VO2261-BS	854378	7.35	619190	10.45
VO2261-MB	814063	7.36	594290	10.45
ZZZZZZ	785267	7.35	571504	10.45
FA67558-1	791058	7.36	580738	10.45
ZZZZZZ	775711	7.35	569787	10.45
ZZZZZZ	775932	7.35	569232	10.45
ZZZZZZ	756734	7.35	560220	10.45
ZZZZZZ	747310	7.35	555506	10.45
ZZZZZZ	745760	7.35	552407	10.45
ZZZZZZ	744104	7.35	549460	10.45
ZZZZZZ	733288	7.35	540803	10.45
ZZZZZZ	726589	7.35	542204	10.45
FA67558-1MS	751501	7.35	557674	10.45
FA67558-1MSD	761322	7.35	559773	10.45
ZZZZZZ	728807	7.35	537489	10.45
ZZZZZZ	743270	7.35	555447	10.45
ZZZZZZ	711523	7.35	529501	10.45
ZZZZZZ	697547	7.35	518508	10.45
ZZZZZZ	686944	7.35	512158	10.45
ZZZZZZ	680219	7.35	504794	10.45
ZZZZZZ	681342	7.35	504757	10.45
ZZZZZZ	671894	7.35	501076	10.45
FA67560-1	671238	7.35	495472	10.45
FA67560-2	659791	7.35	488292	10.45
VO2261-ECC2258	707692	7.35	522351	10.45

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5

(a) Initial Cal is: VO2258-ICC2258 O59071.D 08/26/19 13:55
(b) Check Std Limit = -50 to +100% of initial cal area.
(c) Upper Limit = +100% of check standard area; Retention time +0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Internal Standard Area Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Check Std:	VO2262-CC2258	**Injection Date:**	08/30/19
Lab File ID:	O59144.D	**Injection Time:**	10:44
Instrument ID:	GCMSO	**Method:**	SW846 8260B BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT
Initial Cal [a]	982225	7.35	696551	10.45
Check Std [b]	921035	7.35	669867	10.45
Upper Limit [c]	1842070	7.52	1339734	10.62
Lower Limit [d]	460518	7.18	334934	10.28

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
VO2262-BS	898599	7.35	665250	10.45
VO2262-MB	856451	7.35	632833	10.45
ZZZZZZ	832456	7.35	609261	10.45
FA67560-4	831760	7.35	605167	10.45
FA67560-3	810148	7.35	598098	10.45
ZZZZZZ	802464	7.35	586976	10.45
ZZZZZZ	783020	7.35	575567	10.45
ZZZZZZ	775550	7.35	569318	10.45
FA67560-3MS	817455	7.35	605923	10.45
FA67560-3MSD	828963	7.35	613436	10.45
VO2262-ECC2258	856057	7.35	634115	10.45

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5

(a) Initial Cal is: VO2258-ICC2258 O59071.D 08/26/19 13:55
(b) Check Std Limit = -50 to +100% of initial cal area.
(c) Upper Limit = +100% of check standard area; Retention time +0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Method: SW846 8260B BY SIM **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
FA67560-1	O59138.D	96	94
FA67560-2	O59139.D	95	94
FA67560-3	O59149.D	95	94
FA67560-4	O59148.D	95	95
FA67558-1MS	O59127.D	95	94
FA67558-1MSD	O59128.D	95	95
FA67560-3MS	O59153.D	92	94
FA67560-3MSD	O59154.D	93	94
VO2261-BS	O59115.D	95	97
VO2261-MB	O59116.D	97	96
VO2262-BS	O59145.D	94	94
VO2262-MB	O59146.D	95	95

Surrogate Compounds	Recovery Limits
S1 = 1,2-Dichloroethane-D4	74-125%
S2 = Toluene-D8	88-111%

Initial Calibration Summary

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Sample: VO2258-ICC2258
Lab FileID: O59071.D

Response Factor Report MSVOA12

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

Calibration Files
1 =O59067.D 2 =O59068.D 3 =O59069.D 4 =O59070.D
5 =O59071.D 6 =O59072.D 7 =O59073.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Vinyl Chloride	0.306	0.325	0.309	0.321	0.314	0.323	0.307	0.315	2.55
3) Chloromethane	0.593	0.554	0.617	0.572	0.538	0.539	0.520	0.562	6.04
4) 1,1-Dichloroethen	0.685	0.537	0.532	0.525	0.495	0.504	0.501	0.540	12.27
5) Methylene Chlorid	8.481	2.386	1.246	1.019	0.891	0.865	0.868	2.251	124.39
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9978									
Response Ratio = 0.00000 + 0.98196 *A + -0.03142 *A^2									
6) trans-1,2-Dichlor	0.791	0.702	0.647	0.649	0.622	0.622	0.623	0.665	9.39
7) 1,1-Dichloroethan	0.902	0.740	0.727	0.736	0.711	0.710	0.711	0.748	9.20
8) cis-1,2-Dichloroe	0.476	0.384	0.379	0.385	0.373	0.371	0.373	0.392	9.65
9) Chloroform	0.779	0.601	0.581	0.587	0.566	0.564	0.566	0.606	12.77
10)S Dibromofluorometh	0.277	0.278	0.275	0.274	0.272	0.269	0.270	0.274	1.21
11) Carbon Tetrachlor	0.487	0.395	0.368	0.394	0.372	0.381	0.379	0.397	10.36
12) 1,1,1-Trichloroet	0.561	0.455	0.440	0.458	0.443	0.452	0.448	0.465	9.14
13) Benzene	2.042	1.386	1.303	1.292	1.242	1.239	1.232	1.391	21.01
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
Response Ratio = 0.00000 + 1.27621 *A + -0.01162 *A^2									
14)S 1,2-Dichloroethan	0.350	0.352	0.355	0.336	0.340	0.340	0.341	0.345	2.13
15) 1,2-Dichloroethan	0.683	0.572	0.568	0.573	0.556	0.557	0.556	0.581	7.86
16) Trichloroethene	0.739	0.453	0.579	0.399	0.384	0.384	0.381	0.474	28.85
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9979									
Response Ratio = 0.00000 + 0.40767 *A + -0.00717 *A^2									
17) 1,2-Dichloropropa	0.570	0.499	0.460	0.463	0.446	0.448	0.447	0.476	9.50
18) cis-1,3-Dichlorop	0.616	0.517	0.511	0.528	0.521	0.531	0.533	0.537	6.66
19) I Chlorobenzene-d5	----------ISTD----------								
20)S Toluene-d8	1.179	1.188	1.190	1.193	1.198	1.209	1.219	1.196	1.13
21) trans-1,3-Dichlor	0.671	0.600	0.610	0.644	0.642	0.661	0.673	0.643	4.46
22) Tetrachloroethene	0.588	0.497	0.464	0.479	0.458	0.465	0.459	0.487	9.57

(#) = Out of Range

SIMCL082619.M Mon Aug 26 15:37:32 2019

Initial Calibration Verification

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Sample: VO2258-ICV2258
Lab FileID: O59075.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\082619\O59075.D Vial: 9
Acq On : 26 Aug 2019 3:18 pm Operator: kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	99	0.00	7.35
2		Vinyl Chloride	0.315	0.319	-1.3	101	0.00	2.91
3		Chloromethane	0.562	0.571	-1.6	105	0.00	2.81
4		1,1-Dichloroethene	0.540	0.483	10.6	97	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	9.543	4.6	98	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.607	8.7	97	0.00	4.87
7		1,1-Dichloroethane	0.748	0.723	3.3	101	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.368	6.1	98	0.00	6.07
9		Chloroform	0.606	0.559	7.8	98	0.00	6.34
10	S	Dibromofluoromethane	0.274	0.271	1.1	99	0.00	6.53
11		Carbon Tetrachloride	0.397	0.363	8.6	97	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.431	7.3	97	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.769	2.3	98	0.00	6.95
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.332	3.8	97	0.00	7.08
15		1,2-Dichloroethane	0.581	0.541	6.9	97	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.632	3.7	98	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.446	6.3	99	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.500	6.9	95	0.00	8.72
19	I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00	10.45
20	S	Toluene-d8	1.196	1.192	0.3	100	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.651	-1.2	101	0.00	9.35
22		Tetrachloroethene	0.487	0.455	6.6	99	0.00	9.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Mon Aug 26 15:37:50 2019

Continuing Calibration Summary

Job Number: FA67560 **Sample:** VO2261-CC2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59114.D
Project: Fort Ord Groundwater Monitoring

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\082919\O59114.D Vial: 1
Acq On : 29 Aug 2019 3:18 pm Operator: kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44186,VO2261,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	88	0.00	7.35
2		Vinyl Chloride	0.315	0.315	0.0	88	0.00	2.92
3		Chloromethane	0.562	0.518	7.8	84	0.00	2.81
4		1,1-Dichloroethene	0.540	0.514	4.8	91	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	10.133	-1.3	91	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.653	1.8	92	0.00	4.87
7		1,1-Dichloroethane	0.748	0.735	1.7	90	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.379	3.3	89	0.00	6.07
9		Chloroform	0.606	0.553	8.7	86	0.00	6.33
10	S	Dibromofluoromethane	0.274	0.275	-0.4	88	0.00	6.53
11		Carbon Tetrachloride	0.397	0.365	8.1	86	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.431	7.3	85	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.907	0.9	88	0.00	6.94
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.329	4.6	85	0.00	7.08
15		1,2-Dichloroethane	0.581	0.544	6.4	86	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.874	1.3	89	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.459	3.6	90	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.497	7.4	83	0.00	8.71
19	I	Chlorobenzene-d5	1.000	1.000	0.0	89	0.00	10.45
20	S	Toluene-d8	1.196	1.158	3.2	86	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.599	6.8	83	0.00	9.35
22		Tetrachloroethene	0.487	0.480	1.4	94	0.00	9.34

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Thu Aug 29 15:58:50 2019

Continuing Calibration Summary

Job Number: FA67560 **Sample:** VO2261-ECC2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59140.D
Project: Fort Ord Groundwater Monitoring

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\082919\O59140.D Vial: 27
Acq On : 30 Aug 2019 12:25 am Operator: kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44206,VO2261,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	72	0.00	7.35
2		Vinyl Chloride	0.315	0.318	-1.0	73	0.00	2.90
3		Chloromethane	0.562	0.540	3.9	72	-0.01	2.79
4		1,1-Dichloroethene	0.540	0.520	3.7	76	0.00	4.08
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	10.757	-7.6	80	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.654	1.7	76	0.00	4.87
7		1,1-Dichloroethane	0.748	0.727	2.8	74	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.376	4.1	73	0.00	6.07
9		Chloroform	0.606	0.542	10.6	69	0.00	6.33
10	S	Dibromofluoromethane	0.274	0.282	-2.9	75	0.00	6.53
11		Carbon Tetrachloride	0.397	0.352	11.3	68	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.412	11.4	67	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.628	3.7	70	0.00	6.94
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.327	5.2	69	0.00	7.08
15		1,2-Dichloroethane	0.581	0.537	7.6	70	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.664	3.4	71	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.447	6.1	72	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.438	18.4	61	0.00	8.71
19	I	Chlorobenzene-d5	1.000	1.000	0.0	75	0.00	10.45
20	S	Toluene-d8	1.196	1.122	6.2	70	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.519	19.3	61	0.00	9.35
22		Tetrachloroethene	0.487	0.463	4.9	76	0.00	9.34

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Fri Aug 30 09:25:53 2019

Continuing Calibration Summary

Job Number: FA67560 **Sample:** VO2262-CC2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59144.D
Project: Fort Ord Groundwater Monitoring

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\083019\O59144.D Vial: 1
Acq On : 30 Aug 2019 10:44 am Operator: kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44009,VO2262,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	94	0.00	7.35
2		Vinyl Chloride	0.315	0.317	-0.6	95	0.00	2.91
3		Chloromethane	0.562	0.517	8.0	90	0.00	2.80
4		1,1-Dichloroethene	0.540	0.531	1.7	101	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	10.190	-1.9	98	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.664	0.2	100	0.00	4.87
7		1,1-Dichloroethane	0.748	0.736	1.6	97	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.381	2.8	96	0.00	6.07
9		Chloroform	0.606	0.548	9.6	91	0.00	6.33
10	S	Dibromofluoromethane	0.274	0.281	-2.6	97	0.00	6.52
11		Carbon Tetrachloride	0.397	0.366	7.8	92	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.419	9.9	89	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.733	2.7	92	0.00	6.94
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.323	6.4	89	0.00	7.07
15		1,2-Dichloroethane	0.581	0.538	7.4	91	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.827	1.7	94	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.451	5.3	95	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.471	12.3	85	0.00	8.71
19	I	Chlorobenzene-d5	1.000	1.000	0.0	96	0.00	10.45
20	S	Toluene-d8	1.196	1.129	5.6	91	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.566	12.0	85	0.00	9.35
22		Tetrachloroethene	0.487	0.485	0.4	102	0.00	9.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Fri Aug 30 11:28:51 2019

Continuing Calibration Summary

Job Number: FA67560 **Sample:** VO2262-ECC2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59155.D
Project: Fort Ord Groundwater Monitoring

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\083019\O59155.D Vial: 12
Acq On : 30 Aug 2019 2:37 pm Operator: kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44210,VO2262,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	87	0.00	7.35
2		Vinyl Chloride	0.315	0.330	-4.8	92	0.00	2.90
3		Chloromethane	0.562	0.553	1.6	90	0.00	2.80
4		1,1-Dichloroethene	0.540	0.540	0.0	95	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	10.283	-2.8	92	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.666	-0.2	93	0.00	4.87
7		1,1-Dichloroethane	0.748	0.739	1.2	91	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.383	2.3	89	0.00	6.07
9		Chloroform	0.606	0.552	8.9	85	0.00	6.33
10	S	Dibromofluoromethane	0.274	0.279	-1.8	89	0.00	6.53
11		Carbon Tetrachloride	0.397	0.370	6.8	87	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.424	8.8	83	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.855	1.4	87	0.00	6.94
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.322	6.7	82	0.00	7.08
15		1,2-Dichloroethane	0.581	0.544	6.4	85	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.939	0.6	89	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.458	3.8	90	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.469	12.7	78	0.00	8.71
19	I	Chlorobenzene-d5	1.000	1.000	0.0	91	0.00	10.45
20	S	Toluene-d8	1.196	1.127	5.8	86	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.552	14.2	78	0.00	9.35
22		Tetrachloroethene	0.487	0.487	0.0	97	0.00	9.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Fri Aug 30 15:00:26 2019

Run Sequence Report

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Run ID: VO2258 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSO

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VO2258-BFB	O59066.D	08/26/19 12:08	n/a	BFB Tune
VO2258-IC2258	O59067.D	08/26/19 12:31	n/a	Initial cal 1
VO2258-IC2258	O59068.D	08/26/19 12:52	n/a	Initial cal 2
VO2258-IC2258	O59069.D	08/26/19 13:13	n/a	Initial cal 3
VO2258-IC2258	O59070.D	08/26/19 13:34	n/a	Initial cal 4
VO2258-ICC2258	O59071.D	08/26/19 13:55	n/a	Initial cal 5
VO2258-IC2258	O59072.D	08/26/19 14:16	n/a	Initial cal 6
VO2258-IC2258	O59073.D	08/26/19 14:37	n/a	Initial cal 7
VO2258-ICV2258	O59075.D	08/26/19 15:18	n/a	Initial cal verification 5

Run Sequence Report

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Run ID: VO2261 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSO

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VO2261-BFB	O59113.D	08/29/19 14:57	n/a	BFB Tune
VO2261-CC2258	O59114.D	08/29/19 15:18	n/a	Continuing cal 5
VO2261-BS	O59115.D	08/29/19 15:39	n/a	Blank Spike
VO2261-MB	O59116.D	08/29/19 16:00	n/a	Method Blank
ZZZZZZ	O59117.D	08/29/19 16:27	n/a	(unrelated sample)
FA67558-1	O59118.D	08/29/19 16:47	n/a	(used for QC only; not part of job FA67560)
ZZZZZZ	O59119.D	08/29/19 17:08	n/a	(unrelated sample)
ZZZZZZ	O59120.D	08/29/19 17:29	n/a	(unrelated sample)
ZZZZZZ	O59121.D	08/29/19 17:50	n/a	(unrelated sample)
ZZZZZZ	O59122.D	08/29/19 18:11	n/a	(unrelated sample)
ZZZZZZ	O59123.D	08/29/19 18:32	n/a	(unrelated sample)
ZZZZZZ	O59124.D	08/29/19 18:53	n/a	(unrelated sample)
ZZZZZZ	O59125.D	08/29/19 19:13	n/a	(unrelated sample)
ZZZZZZ	O59126.D	08/29/19 19:34	n/a	(unrelated sample)
FA67558-1MS	O59127.D	08/29/19 19:55	n/a	Matrix Spike
FA67558-1MSD	O59128.D	08/29/19 20:16	n/a	Matrix Spike Duplicate
ZZZZZZ	O59130.D	08/29/19 20:57	n/a	(unrelated sample)
ZZZZZZ	O59131.D	08/29/19 21:18	n/a	(unrelated sample)
ZZZZZZ	O59132.D	08/29/19 21:39	n/a	(unrelated sample)
ZZZZZZ	O59133.D	08/29/19 22:00	n/a	(unrelated sample)
ZZZZZZ	O59134.D	08/29/19 22:20	n/a	(unrelated sample)
ZZZZZZ	O59135.D	08/29/19 22:41	n/a	(unrelated sample)
ZZZZZZ	O59136.D	08/29/19 23:02	n/a	(unrelated sample)
ZZZZZZ	O59137.D	08/29/19 23:22	n/a	(unrelated sample)
FA67560-1	O59138.D	08/29/19 23:43	n/a	1935Y212001F
FA67560-2	O59139.D	08/30/19 00:04	n/a	1935Y212002F
VO2261-ECC2258	O59140.D	08/30/19 00:25	n/a	Ending cal 5

Run Sequence Report

Job Number: FA67560
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Run ID: VO2262 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSO

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VO2262-BFB	O59143.D	08/30/19 10:20	n/a	BFB Tune
VO2262-CC2258	O59144.D	08/30/19 10:44	n/a	Continuing cal 5
VO2262-BS	O59145.D	08/30/19 11:05	n/a	Blank Spike
VO2262-MB	O59146.D	08/30/19 11:26	n/a	Method Blank
ZZZZZZ	O59147.D	08/30/19 11:50	n/a	(unrelated sample)
FA67560-4	O59148.D	08/30/19 12:11	n/a	1935Y212009A
FA67560-3	O59149.D	08/30/19 12:32	n/a	1935Y212008F
ZZZZZZ	O59150.D	08/30/19 12:53	n/a	(unrelated sample)
ZZZZZZ	O59151.D	08/30/19 13:14	n/a	(unrelated sample)
ZZZZZZ	O59152.D	08/30/19 13:35	n/a	(unrelated sample)
FA67560-3MS	O59153.D	08/30/19 13:55	n/a	Matrix Spike
FA67560-3MSD	O59154.D	08/30/19 14:16	n/a	Matrix Spike Duplicate
VO2262-ECC2258	O59155.D	08/30/19 14:37	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59138.D
Acq On : 29 Aug 2019 11:43 pm
Operator : kevinb
Sample : FA67560-1 Inst : MSVOA12
Misc : MS44206,VO2261,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 30 09:25:09 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

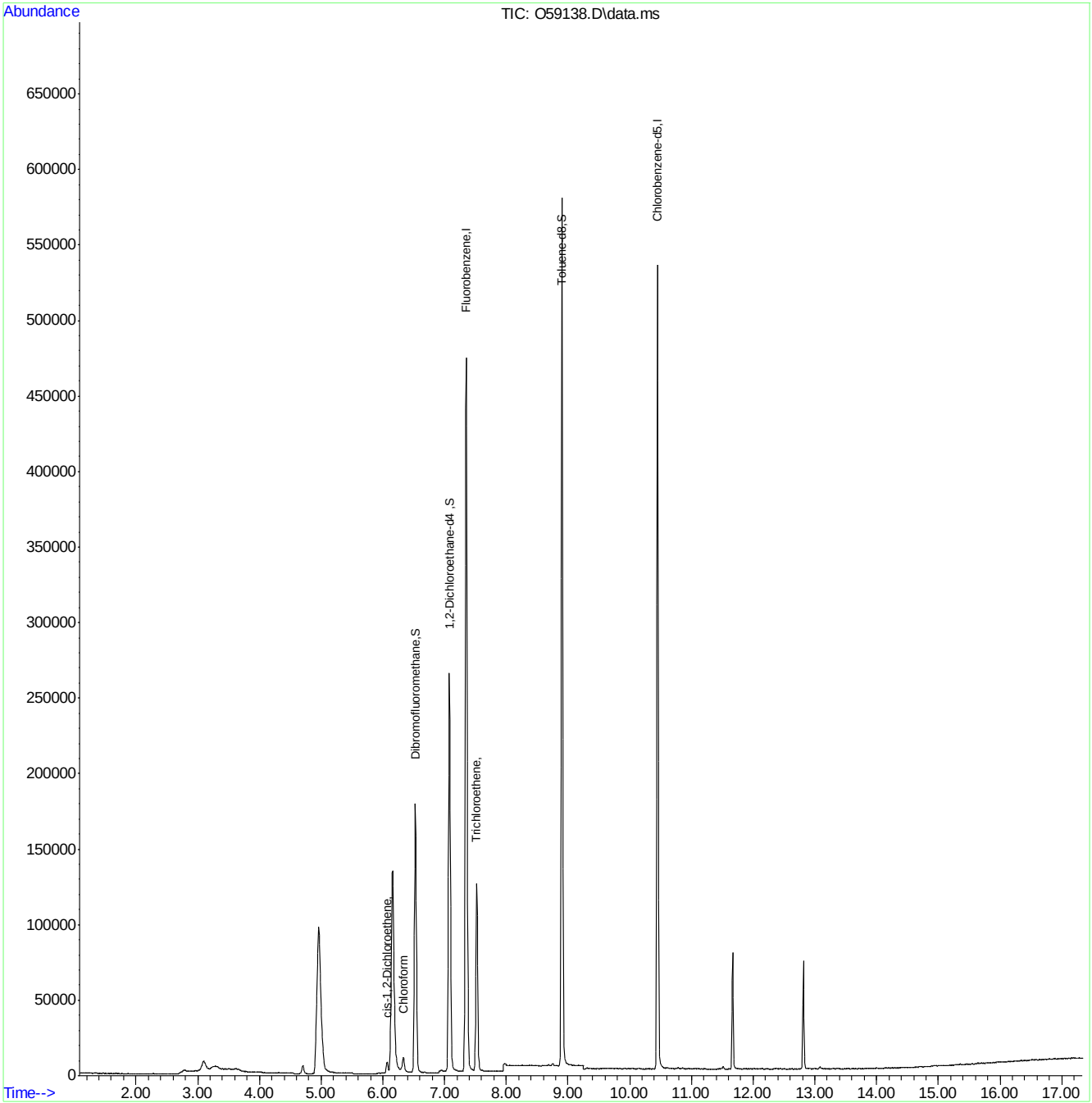
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	671238	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	495472	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	193070	5.25	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 105.00%			
14) 1,2-Dichloroethane-d4	7.079	65	221517	4.78	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.60%			
20) Toluene-d8	8.903	98	558788	4.71	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.20%			
Target Compounds						Qvalue
8) cis-1,2-Dichloroethene	6.072	96	5144	0.10	ug/L	98
9) Chloroform	6.333	83	7761	0.10	ug/L #	67
16) Trichloroethene	7.518	95	83757	1.54	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

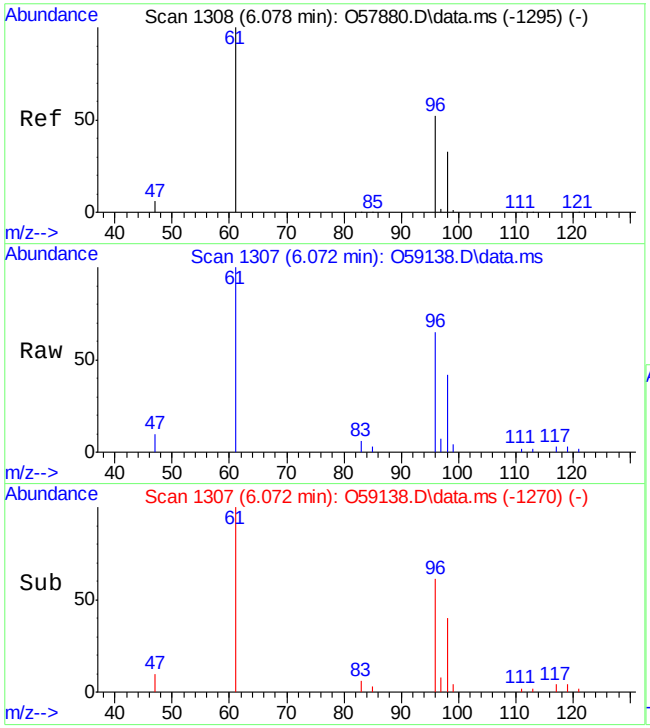
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59138.D
Acq On : 29 Aug 2019 11:43 pm
Operator : kevinb
Sample : FA67560-1 Inst : MSVOA12
Misc : MS44206,VO2261,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 30 09:25:09 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



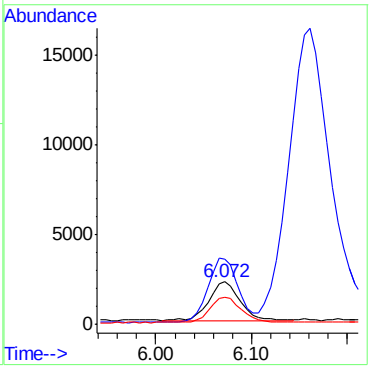
SIMCL082619.M Fri Aug 30 09:28:31 2019 Page: 2

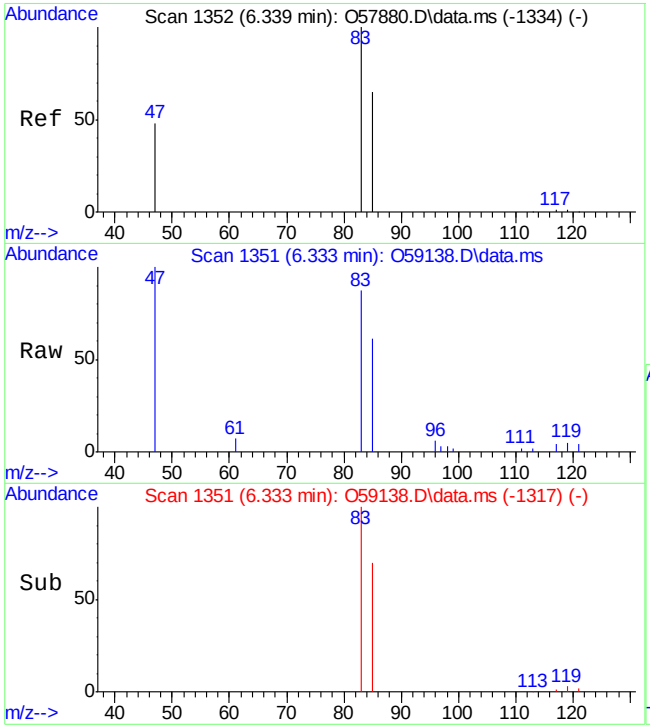


#8
cis-1,2-Dichloroethene
Concen: 0.10 ug/L
RT: 6.072 min Scan# 1307
Delta R.T. -0.000 min
Lab File: O59138.D
Acq: 29 Aug 2019 11:43 pm

Tgt Ion: 96 Resp: 5144

Ion	Ratio	Lower	Upper
96	100		
61	162.5	136.6	196.6
98	65.0	34.7	94.7

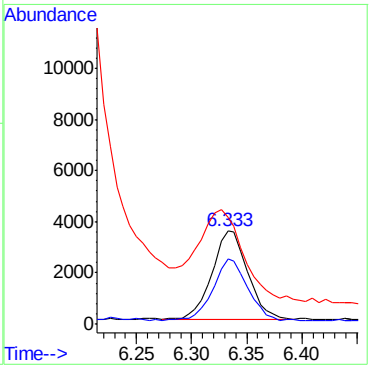


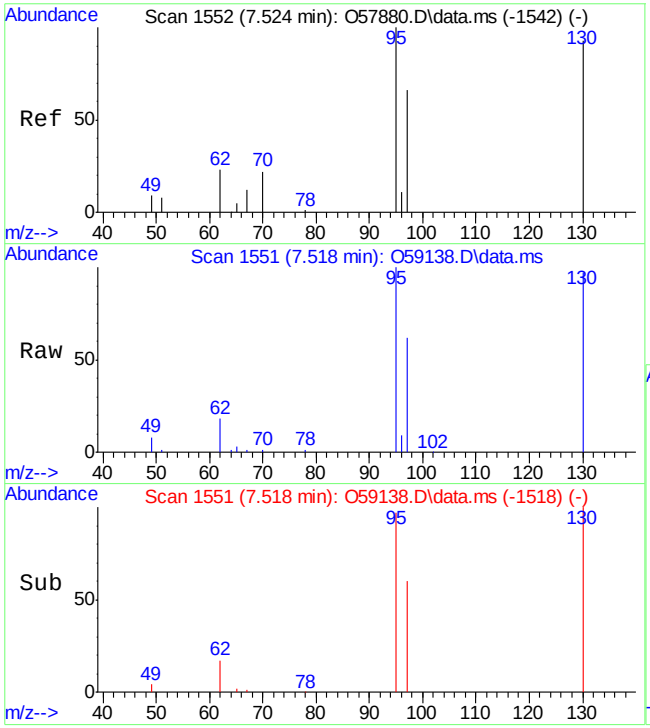


#9
Chloroform
Concen: 0.10 ug/L
RT: 6.333 min Scan# 1351
Delta R.T. -0.000 min
Lab File: O59138.D
Acq: 29 Aug 2019 11:43 pm

Tgt Ion: 83 Resp: 7761

Ion	Ratio	Lower	Upper
83	100		
85	69.8	35.1	95.1
47	92.6	15.0	75.0#

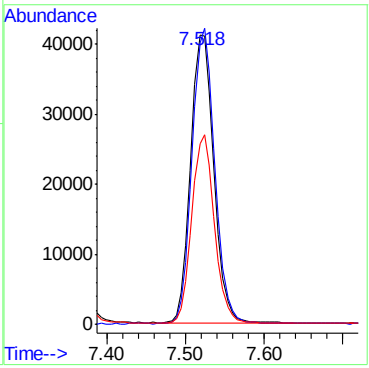




#16
Trichloroethene
Concen: 1.54 ug/L
RT: 7.518 min Scan# 1551
Delta R.T. -0.006 min
Lab File: O59138.D
Acq: 29 Aug 2019 11:43 pm

Tgt Ion: 95 Resp: 83757

Ion	Ratio	Lower	Upper
95	100		
130	97.6	68.5	128.5
97	62.4	37.7	97.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59139.D
Acq On : 30 Aug 2019 12:04 am
Operator : kevinb
Sample : FA67560-2 Inst : MSVOA12
Misc : MS44206,VO2261,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 30 09:25:31 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

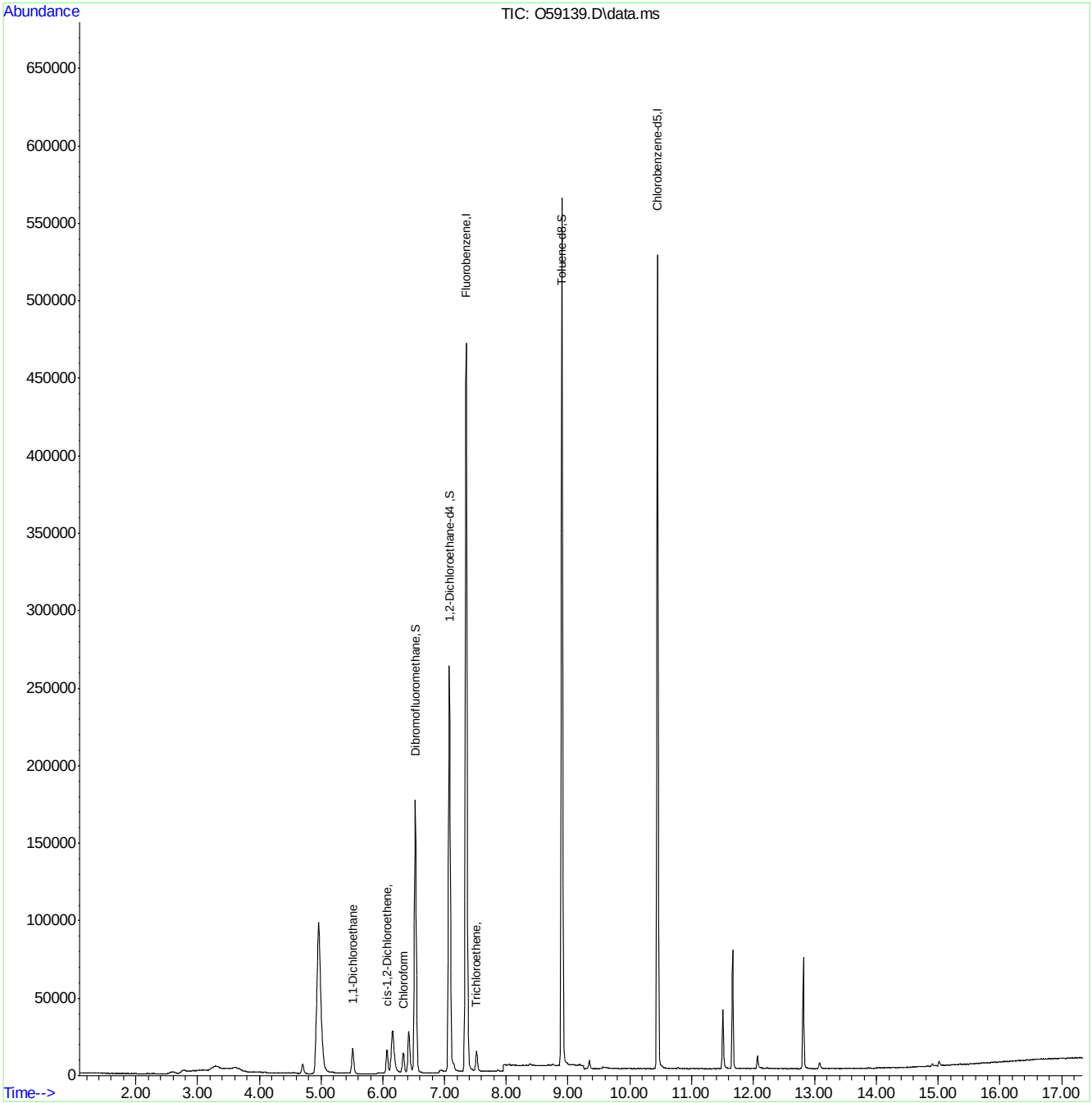
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	659791	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.450	117	488292	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	188910	5.23	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 104.60%			
14) 1,2-Dichloroethane-d4	7.080	65	216398	4.75	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.00%			
20) Toluene-d8	8.904	98	551087	4.72	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.40%			
Target Compounds						Qvalue
7) 1,1-Dichloroethane	5.510	63	26467	0.27	ug/L	98
8) cis-1,2-Dichloroethene	6.072	96	9687	0.19	ug/L	97
9) Chloroform	6.333	83	11702	0.15	ug/L	85
16) Trichloroethene	7.518	95	8815	0.16	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

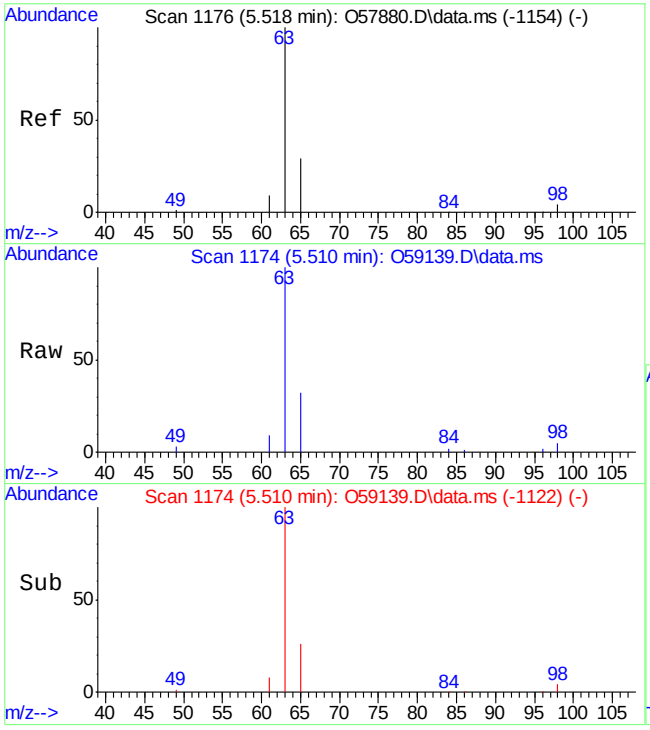
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59139.D
Acq On : 30 Aug 2019 12:04 am
Operator : kevinb
Sample : FA67560-2 Inst : MSVOA12
Misc : MS44206,VO2261,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 30 09:25:31 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



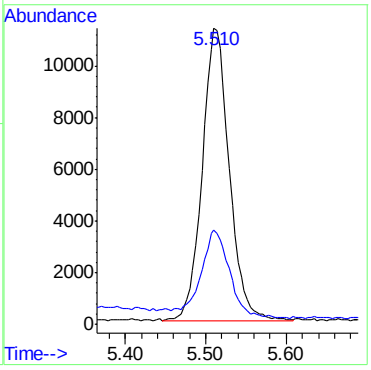
SIMCL082619.M Fri Aug 30 09:28:33 2019 Page: 2

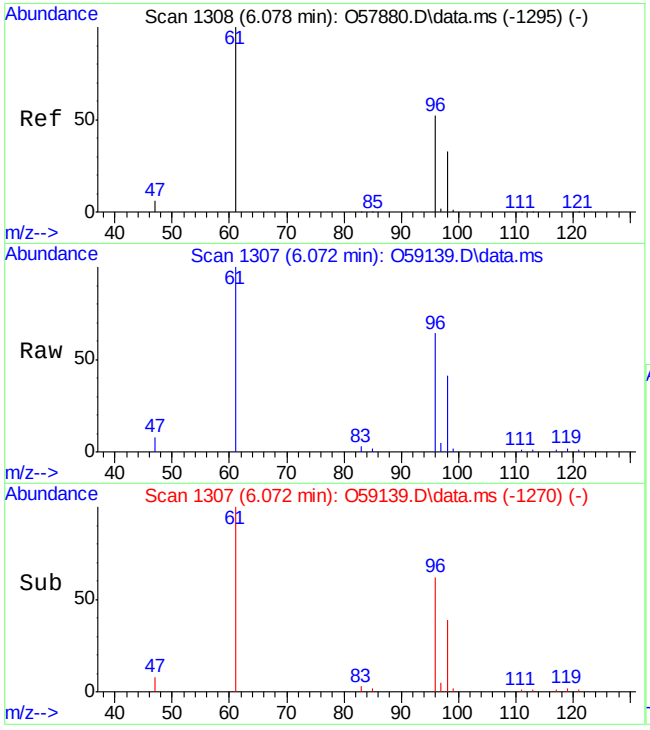


#7
1,1-Dichloroethane
Concen: 0.27 ug/L
RT: 5.510 min Scan# 1174
Delta R.T. -0.004 min
Lab File: O59139.D
Acq: 30 Aug 2019 12:04 am

Tgt Ion: 63 Resp: 26467

Ion	Ratio	Lower	Upper
63	100		
65	29.7	0.0	58.5

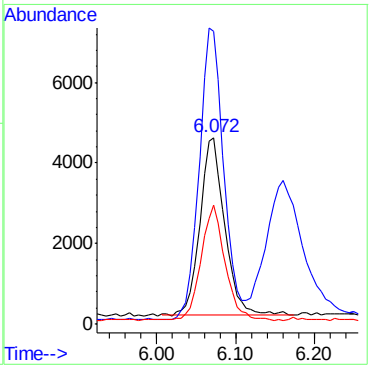


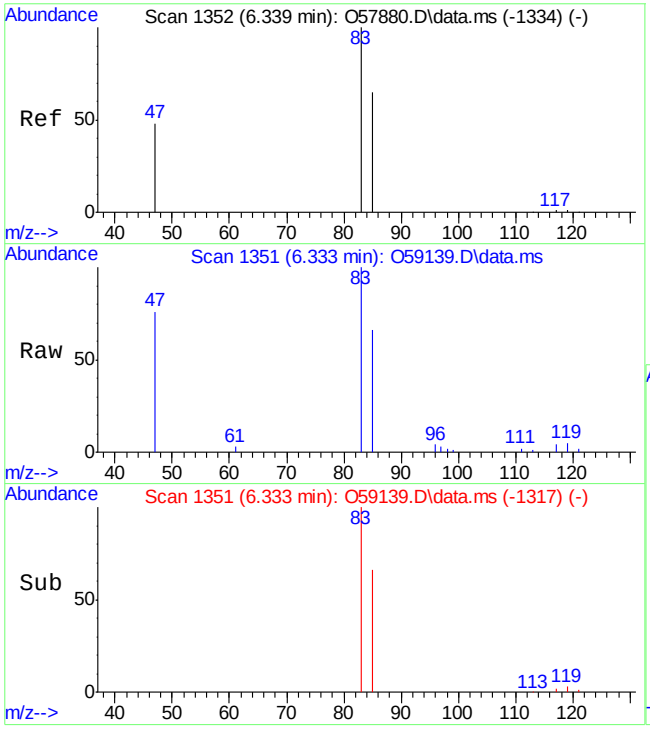


#8
cis-1,2-Dichloroethene
Concen: 0.19 ug/L
RT: 6.072 min Scan# 1307
Delta R.T. 0.000 min
Lab File: O59139.D
Acq: 30 Aug 2019 12:04 am

Tgt Ion: 96 Resp: 9687

Ion	Ratio	Lower	Upper
96	100		
61	162.1	136.6	196.6
98	64.1	34.7	94.7

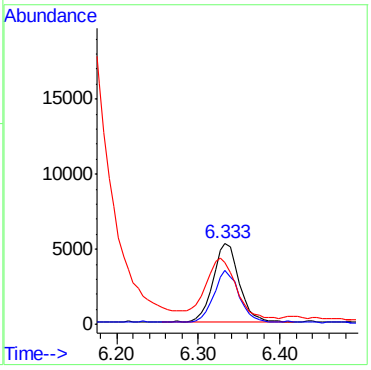


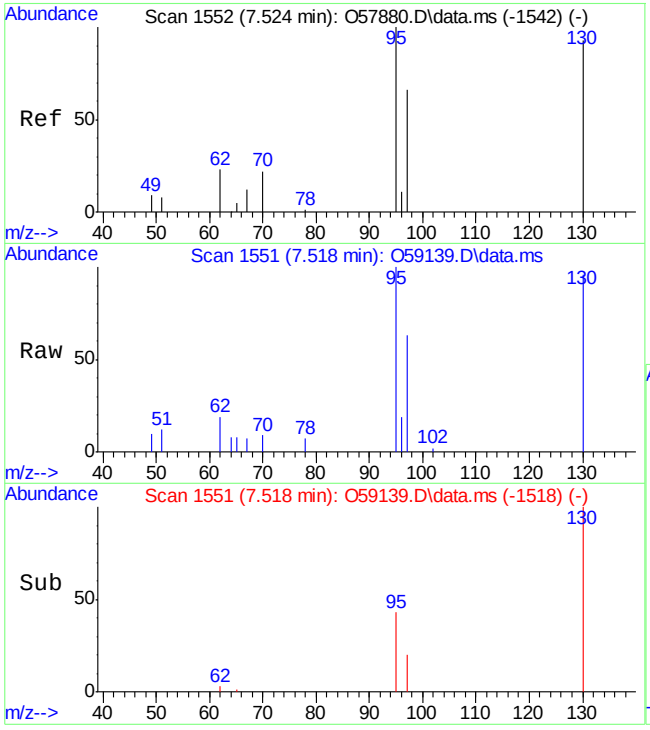


#9
Chloroform
Concen: 0.15 ug/L
RT: 6.333 min Scan# 1351
Delta R.T. -0.000 min
Lab File: O59139.D
Acq: 30 Aug 2019 12:04 am

Tgt Ion: 83 Resp: 11702

Ion	Ratio	Lower	Upper
83	100		
85	65.9	35.1	95.1
47	68.0	15.0	75.0

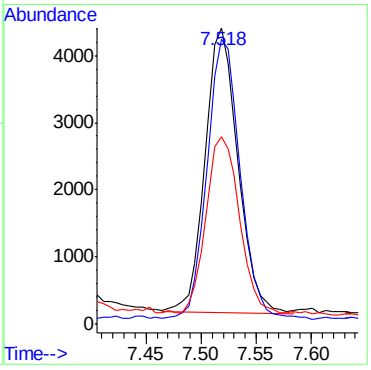




#16
Trichloroethene
Concen: 0.16 ug/L
RT: 7.518 min Scan# 1551
Delta R.T. -0.006 min
Lab File: O59139.D
Acq: 30 Aug 2019 12:04 am

Tgt Ion: 95 Resp: 8815

Ion	Ratio	Lower	Upper
95	100		
130	99.0	68.5	128.5
97	62.1	37.7	97.7



Manual Integrations APPROVED (compounds with "m" flag)
Juan Garcia
08/30/19 17:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59149.D
Acq On : 30 Aug 2019 12:32 pm
Operator : kevinb
Sample : FA67560-3 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 30 12:57:06 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

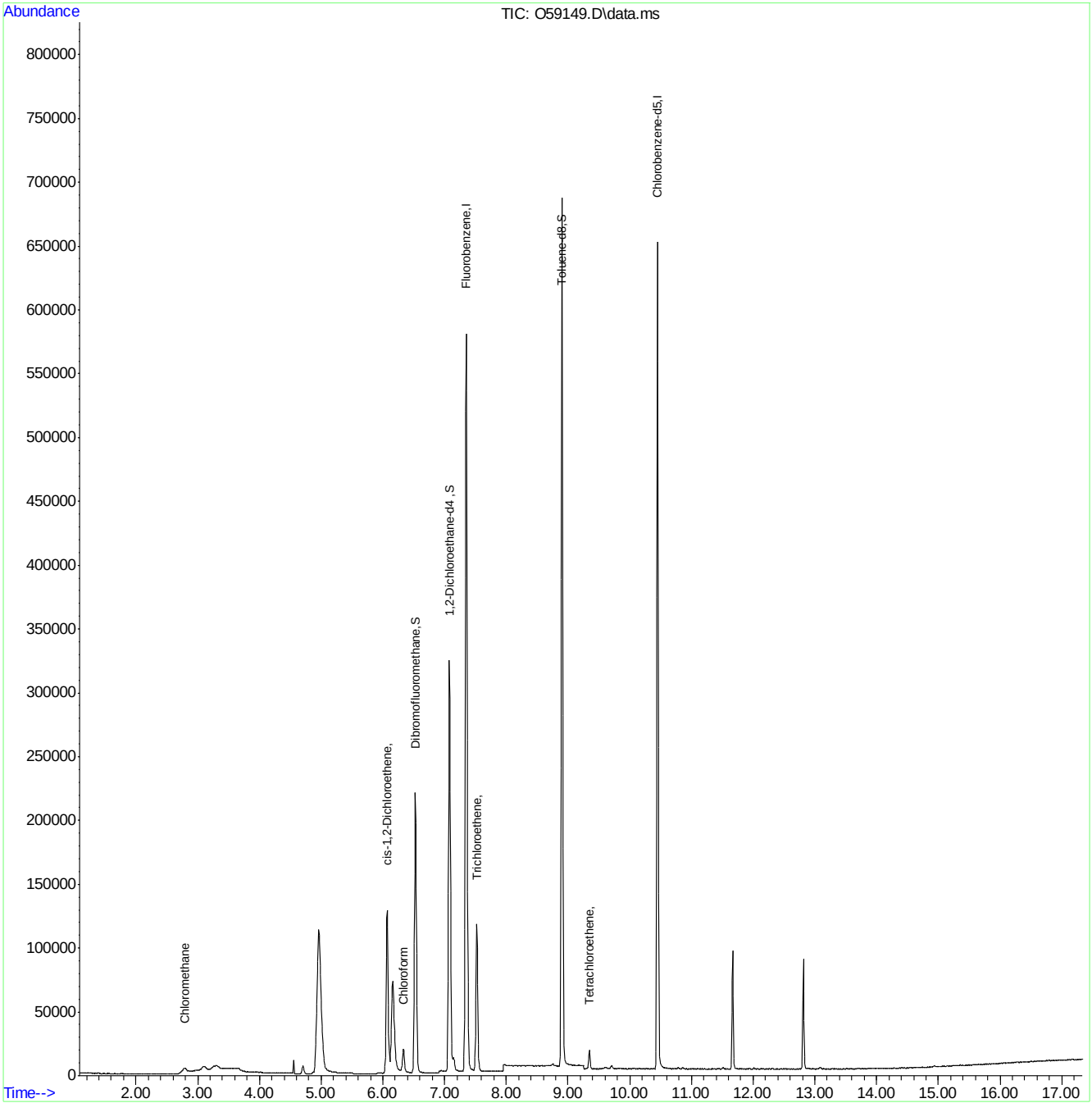
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	810148	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	598098	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	232338	5.24	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 104.80%			
14) 1,2-Dichloroethane-d4	7.079	65	266217	4.76	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.20%			
20) Toluene-d8	8.903	98	675199	4.72	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.40%			
Target Compounds						Qvalue
3) Chloromethane	2.795	50	11616m	0.13	ug/L	
8) cis-1,2-Dichloroethene	6.072	96	80308	1.27	ug/L	98
9) Chloroform	6.333	83	16210	0.17	ug/L	80
16) Trichloroethene	7.524	95	78011	1.19	ug/L	98
22) Tetrachloroethene	9.345	166	9222m	0.16	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

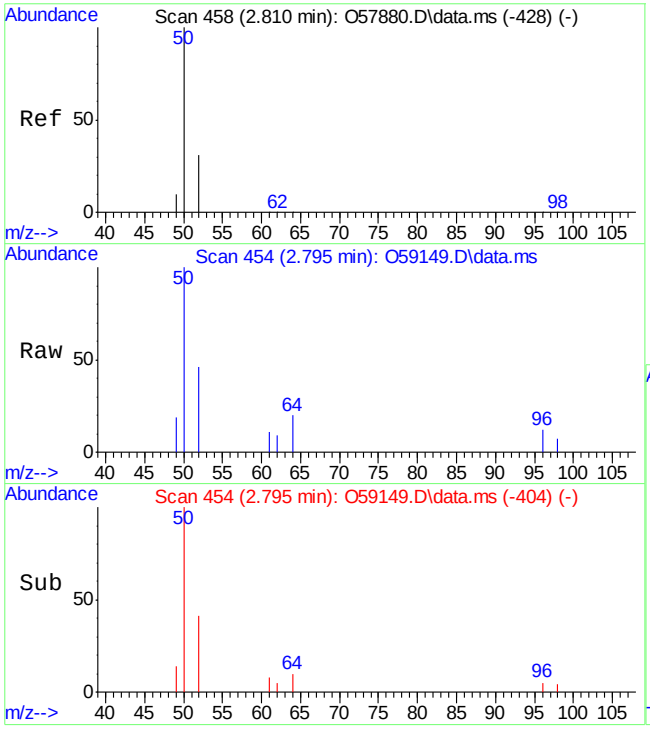
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59149.D
Acq On : 30 Aug 2019 12:32 pm
Operator : kevinb
Sample : FA67560-3 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 30 12:57:06 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



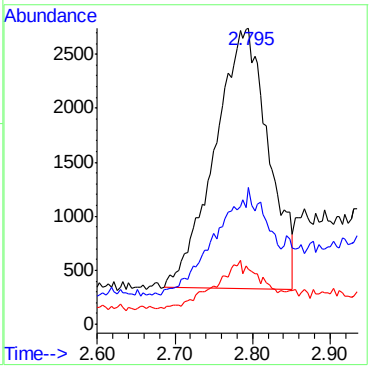
SIMCL082619.M Fri Aug 30 14:28:21 2019 Page: 2

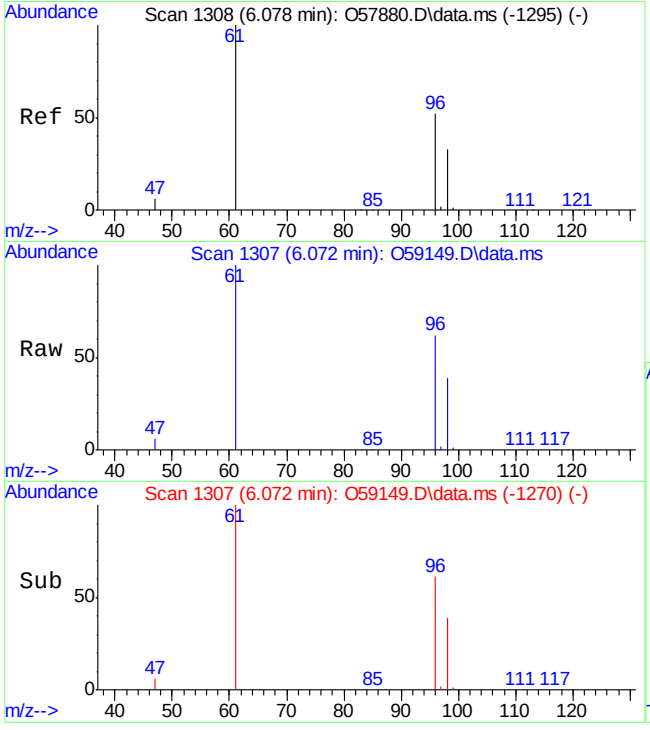


#3
Chloromethane
Concen: 0.13 ug/L m
RT: 2.795 min Scan# 454
Delta R.T. -0.011 min
Lab File: O59149.D
Acq: 30 Aug 2019 12:32 pm

Tgt Ion: 50 Resp: 11616

Ion	Ratio	Lower	Upper
50	100		
52	46.2	10.5	50.5
49	18.6	0.0	30.1

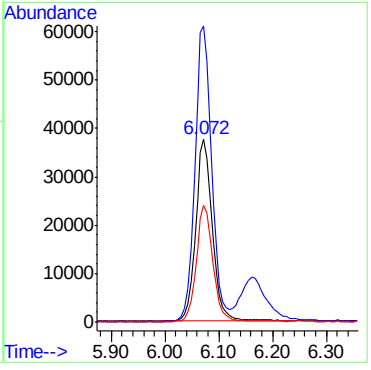


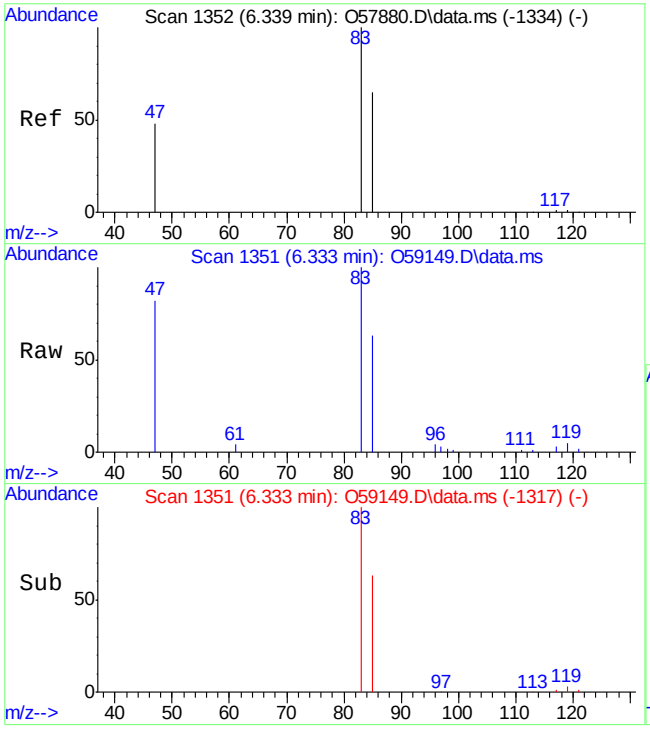


#8
cis-1,2-Dichloroethene
Concen: 1.27 ug/L
RT: 6.072 min Scan# 1307
Delta R.T. -0.000 min
Lab File: O59149.D
Acq: 30 Aug 2019 12:32 pm

Tgt Ion: 96 Resp: 80308

Ion	Ratio	Lower	Upper
96	100		
61	162.7	136.6	196.6
98	63.8	34.7	94.7

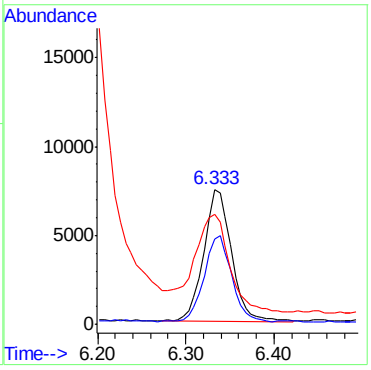


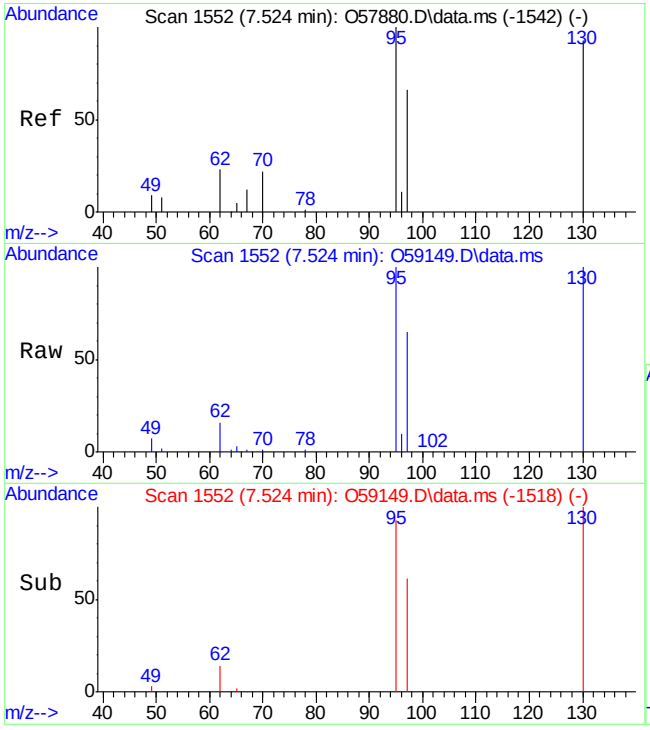


#9
Chloroform
Concen: 0.17 ug/L
RT: 6.333 min Scan# 1351
Delta R.T. -0.000 min
Lab File: O59149.D
Acq: 30 Aug 2019 12:32 pm

Tgt Ion: 83 Resp: 16210

Ion	Ratio	Lower	Upper
83	100		
85	62.7	35.1	95.1
47	74.6	15.0	75.0

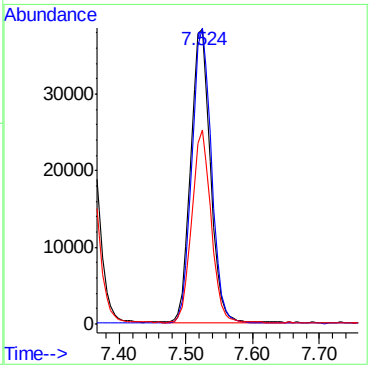


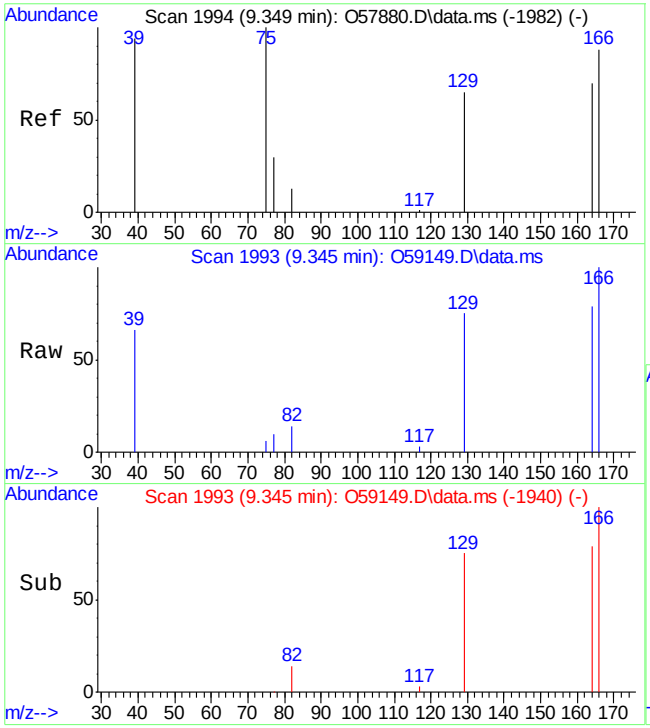


#16
Trichloroethene
Concen: 1.19 ug/L
RT: 7.524 min Scan# 1552
Delta R.T. -0.000 min
Lab File: O59149.D
Acq: 30 Aug 2019 12:32 pm

Tgt Ion: 95 Resp: 78011

Ion	Ratio	Lower	Upper
95	100		
130	100.7	68.5	128.5
97	65.5	37.7	97.7

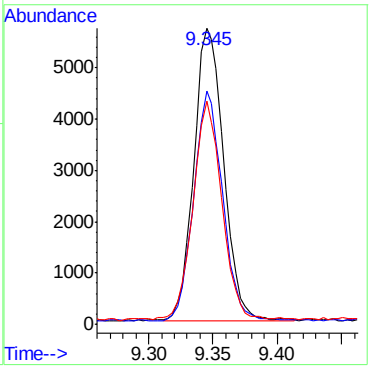




#22
Tetrachloroethene
Concen: 0.16 ug/L m
RT: 9.345 min Scan# 1993
Delta R.T. 0.000 min
Lab File: O59149.D
Acq: 30 Aug 2019 12:32 pm

Tgt Ion:166 Resp: 9222

Ion	Ratio	Lower	Upper
166	100		
164	79.0	49.6	109.6
129	75.3	45.3	105.3



Manual Integration Approval Summary

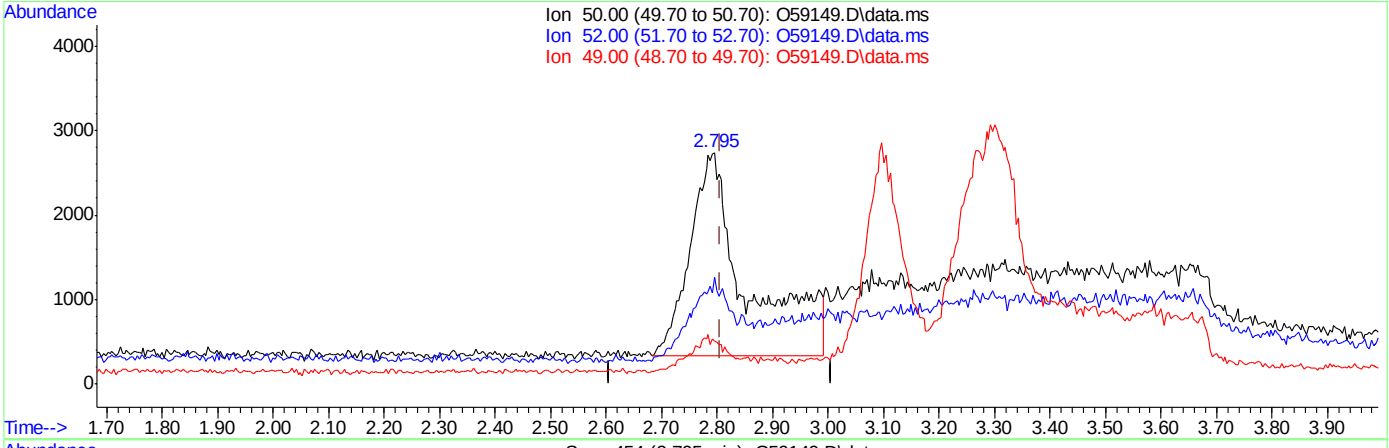
Sample Number:	FA67560-3	**Method:**	SW846 8260B BY SIM
Lab FileID:	O59149.D	**Analyst approved:**	08/30/19 15:01 Kevin Boyd
Injection Time:	08/30/19 12:32	**Supervisor approved:**	08/30/19 17:07 Juan Garcia

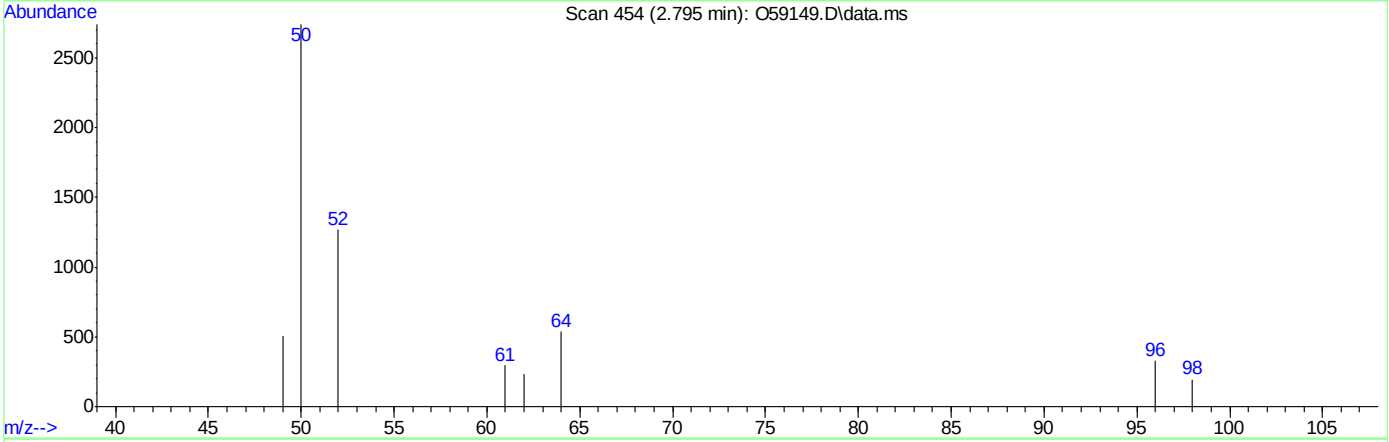
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		2.80	Poor instrument integration
Tetrachloroethylene	127-18-4		9.35	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\083019\
Data File : O59149.D
Acq On : 30 Aug 2019 12:32 pm
Operator : kevinb
Sample : FA67560-3 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 30 12:56:16 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration





TIC: O59149.D\data.ms

(3) Chloromethane

2.795min (-0.011) 0.19ug/L

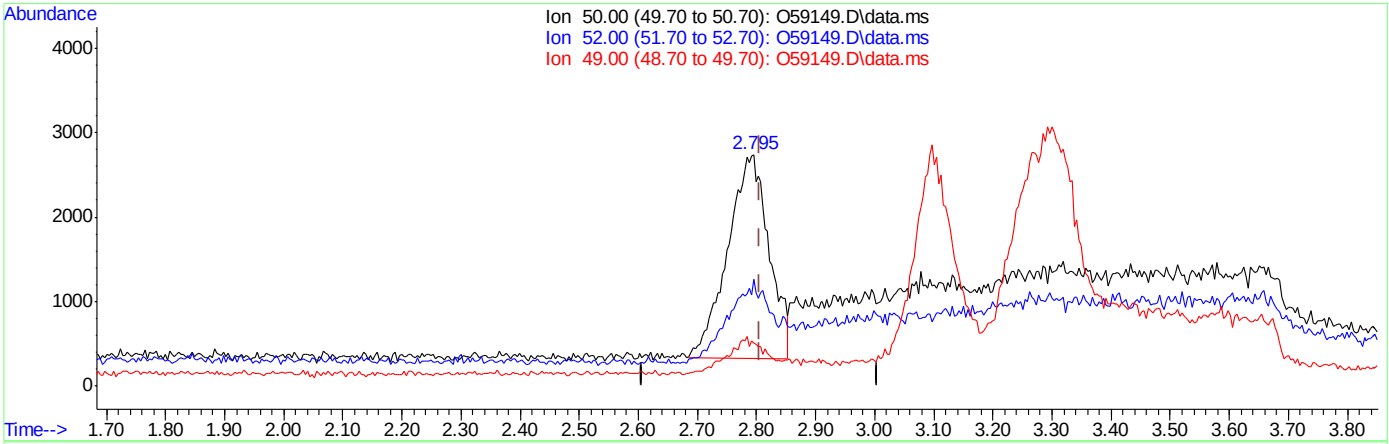
response 17237

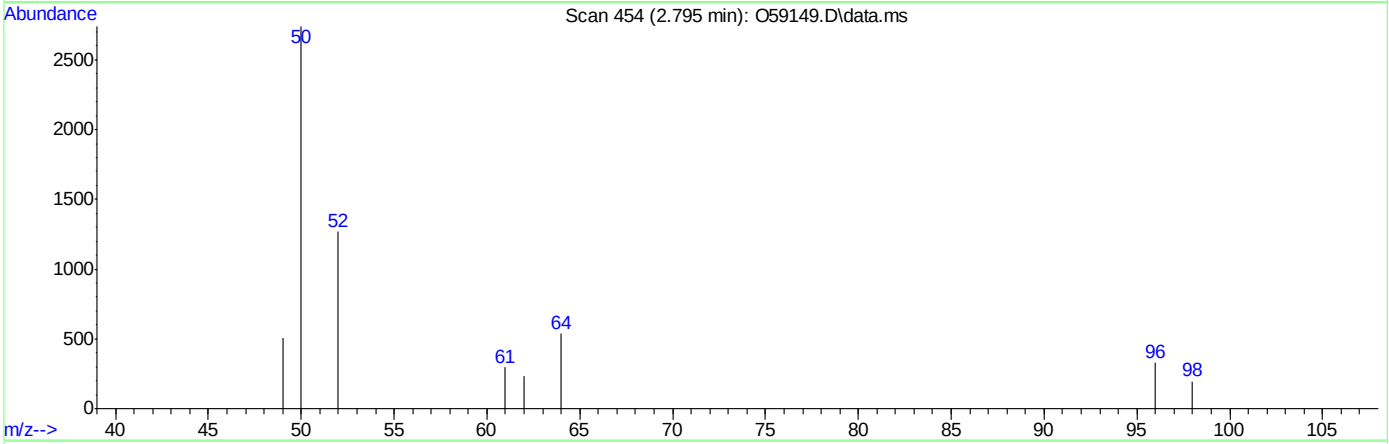
Ion	Exp%	Act%
50.00	100	100
52.00	30.50	41.38
49.00	10.10	14.75
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\083019\
Data File : O59149.D
Acq On : 30 Aug 2019 12:32 pm
Operator : kevinb
Sample : FA67560-3 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 30 12:56:16 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration





TIC: O59149.D\data.ms

(3) Chloromethane

2.795min (-0.011) 0.13ug/L m

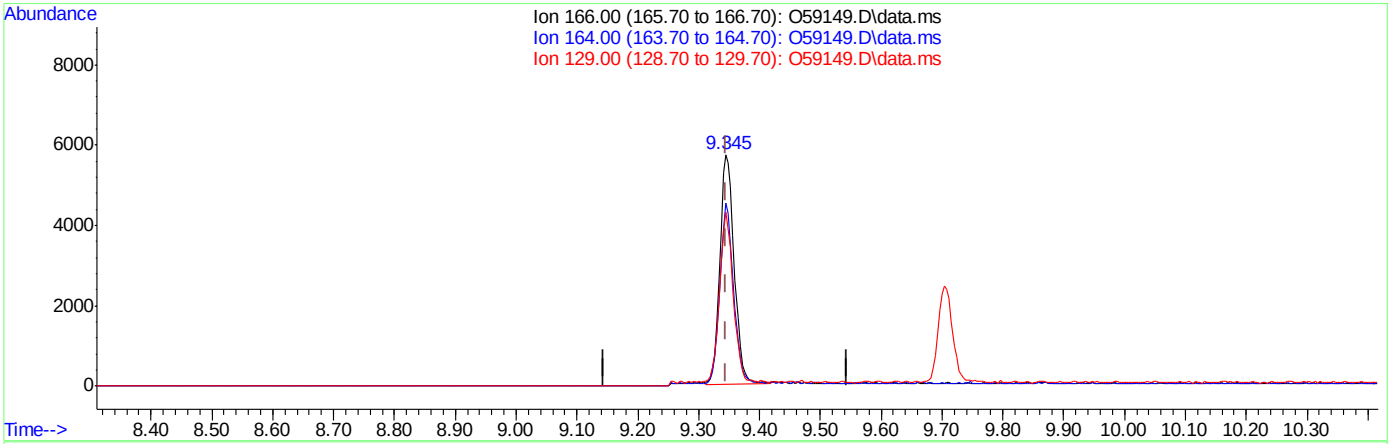
response 11616

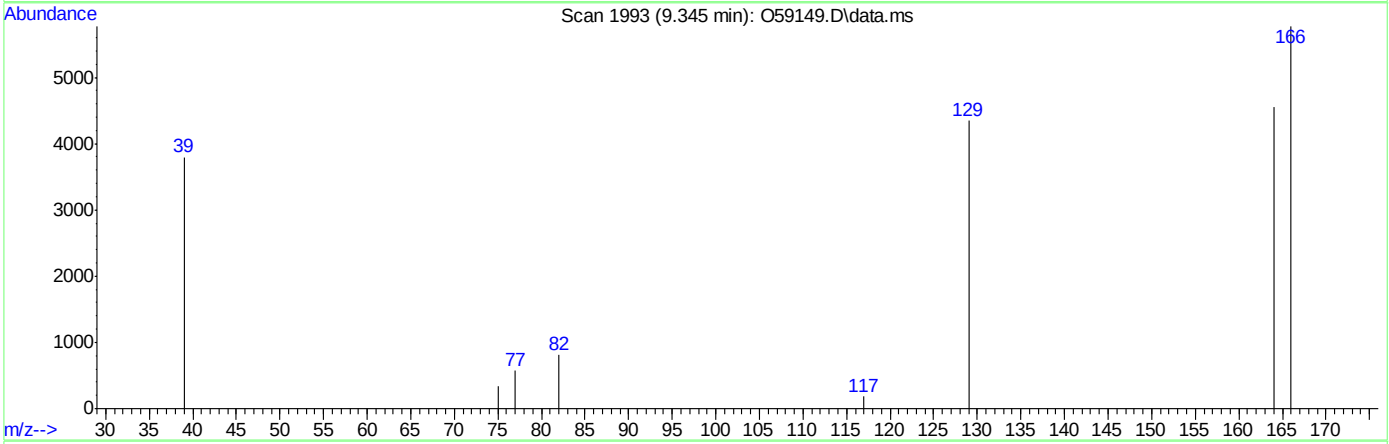
Ion	Exp%	Act%
50.00	100	100
52.00	30.50	46.24
49.00	10.10	18.61
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\083019\
Data File : O59149.D
Acq On : 30 Aug 2019 12:32 pm
Operator : kevinb
Sample : FA67560-3 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 30 12:56:16 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration





TIC: O59149.D\data.ms

(22) Tetrachloroethene ( )

9.345min (+0.000) 0.16ug/L

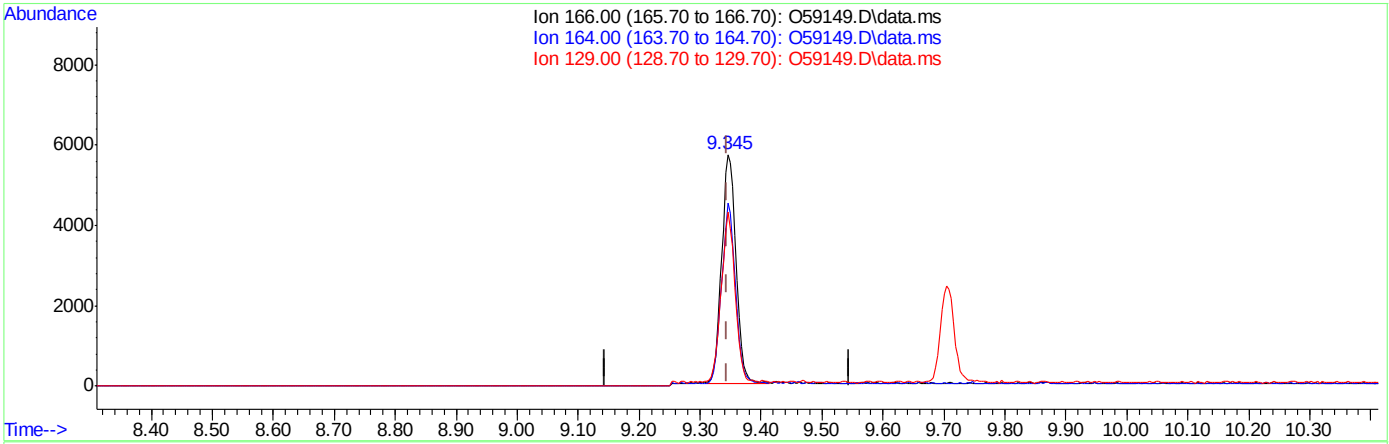
response 9328

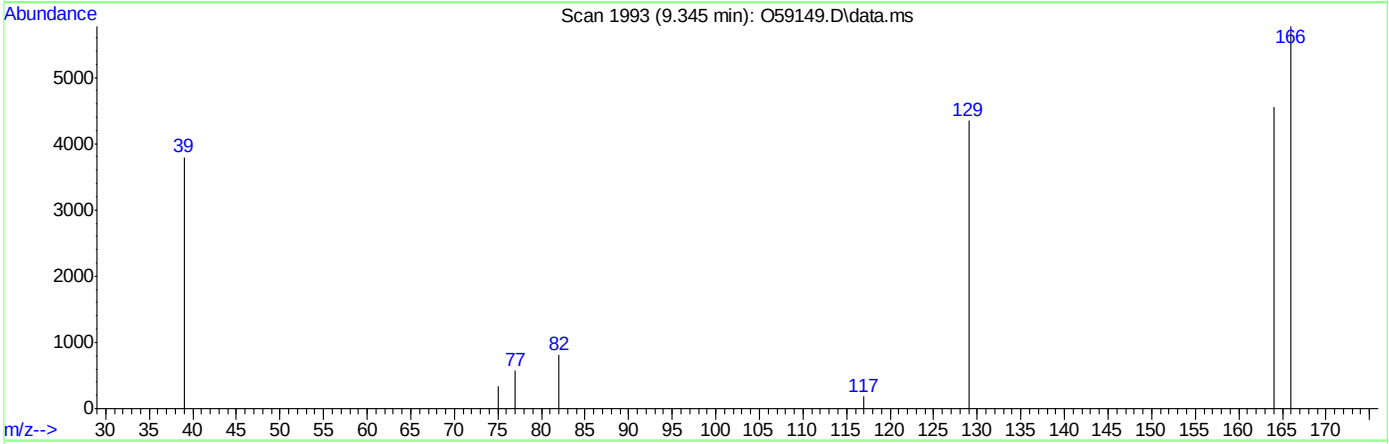
Ion	Exp%	Act%
166.00	100	100
164.00	79.60	78.71
129.00	75.30	74.58
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\083019\
Data File : O59149.D
Acq On : 30 Aug 2019 12:32 pm
Operator : kevinb
Sample : FA67560-3 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 30 12:56:16 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration





TIC: O59149.D\data.ms

(22) Tetrachloroethene ( )

9.345min (+0.000) 0.16ug/L m

response 9222

Ion	Exp%	Act%
166.00	100	100
164.00	79.60	78.96
129.00	75.30	75.34
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59148.D
Acq On : 30 Aug 2019 12:11 pm
Operator : kevinb
Sample : FA67560-4 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 30 12:32:07 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

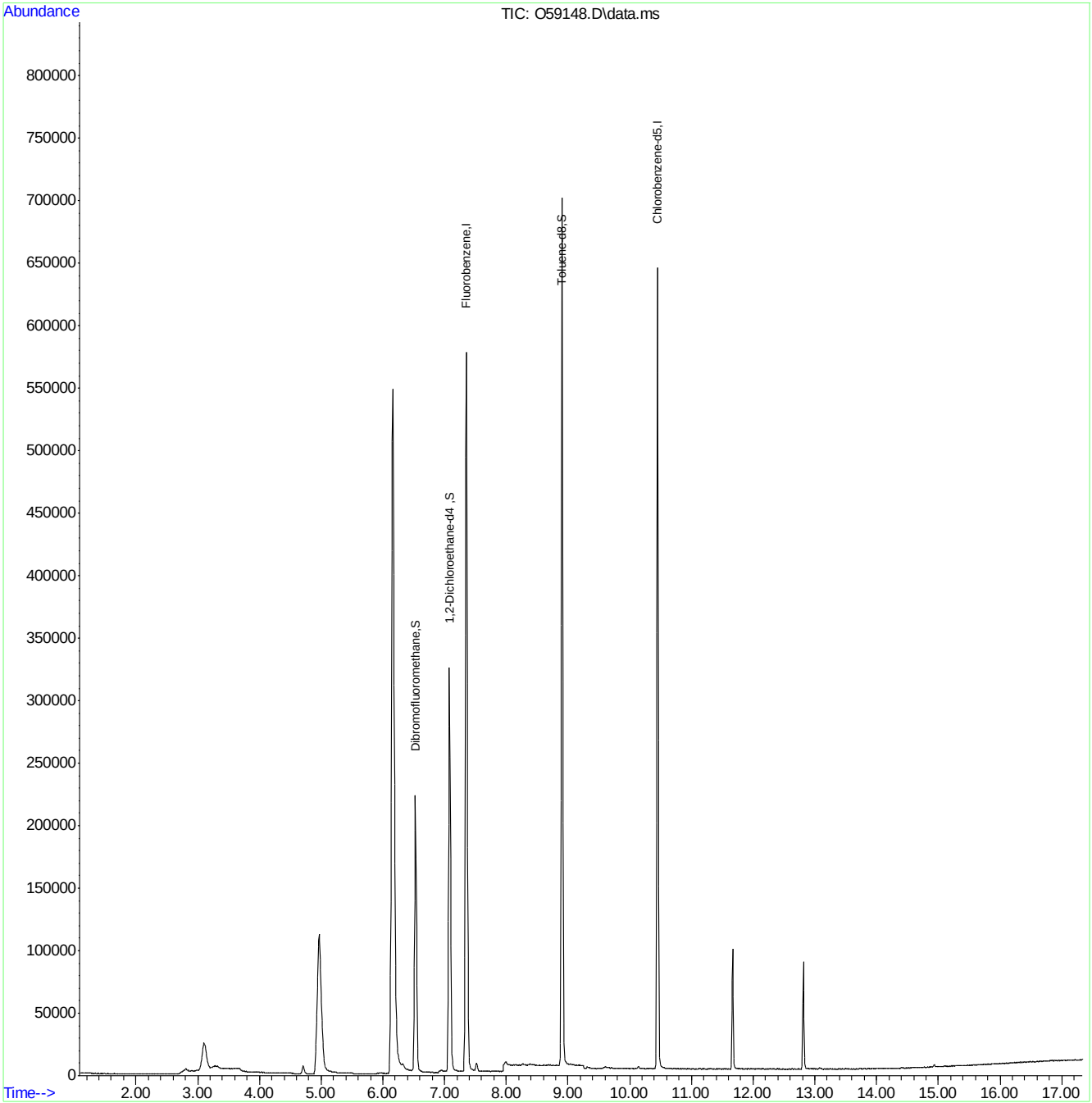
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	831760	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	605167	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	237308	5.21	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 104.20%			
14) 1,2-Dichloroethane-d4	7.079	65	273033	4.76	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.20%			
20) Toluene-d8	8.903	98	690951	4.77	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 95.40%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59148.D
Acq On : 30 Aug 2019 12:11 pm
Operator : kevinb
Sample : FA67560-4 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 30 12:32:07 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59116.D
Acq On : 29 Aug 2019 4:00 pm
Operator : kevinb
Sample : MB Inst : MSVOA12
Misc : MS44186,VO2261,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 30 09:17:11 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

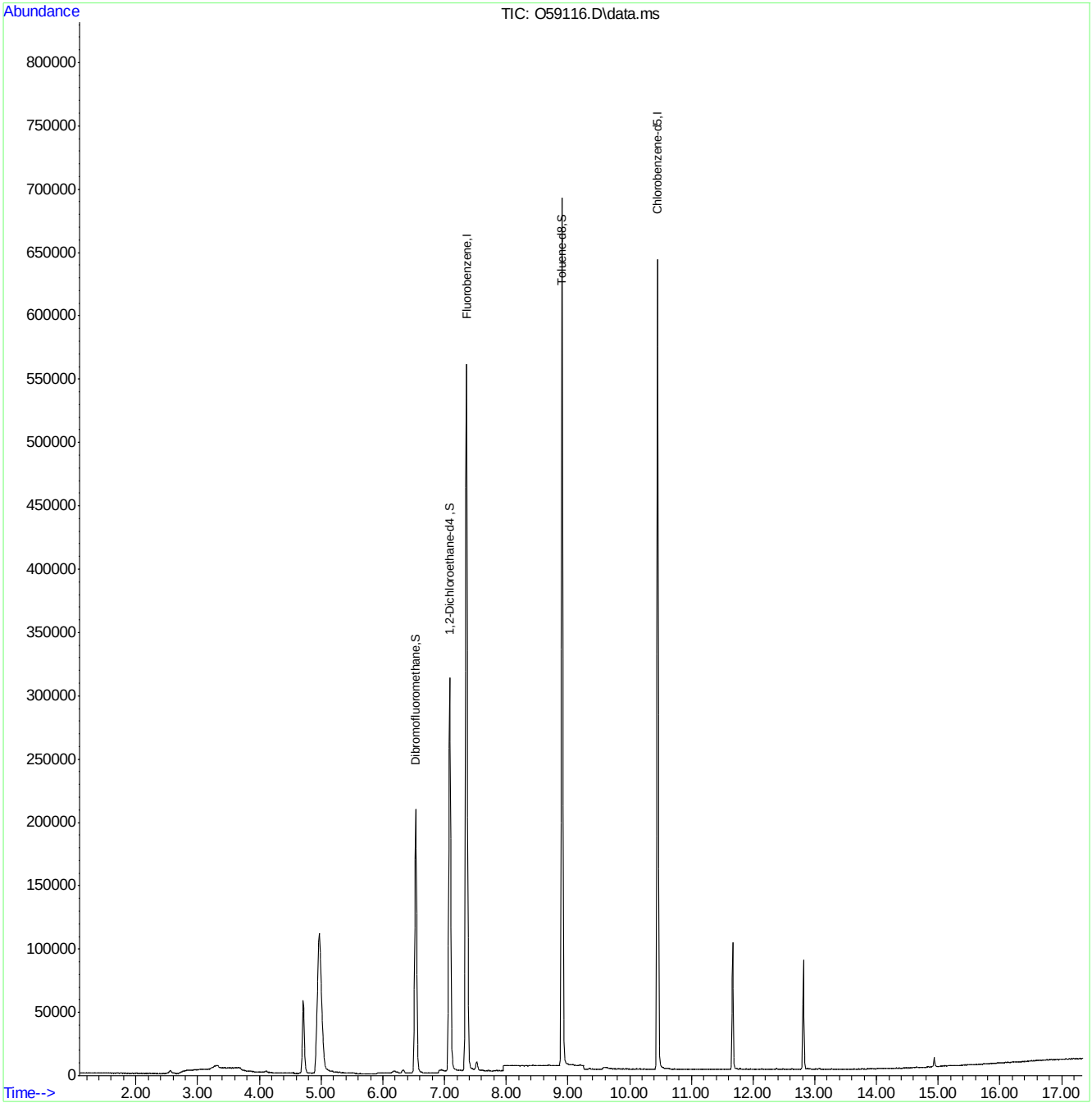
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.358	96	814063	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	594290	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.534	113	227433	5.10	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 102.00%			
14) 1,2-Dichloroethane-d4	7.080	65	271295	4.83	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 96.60%			
20) Toluene-d8	8.904	98	684657	4.81	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 96.20%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59116.D
Acq On : 29 Aug 2019 4:00 pm
Operator : kevinb
Sample : MB Inst : MSVOA12
Misc : MS44186,VO2261,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 30 09:17:11 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59146.D
Acq On : 30 Aug 2019 11:26 am
Operator : kevinb
Sample : MB Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 30 12:31:25 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

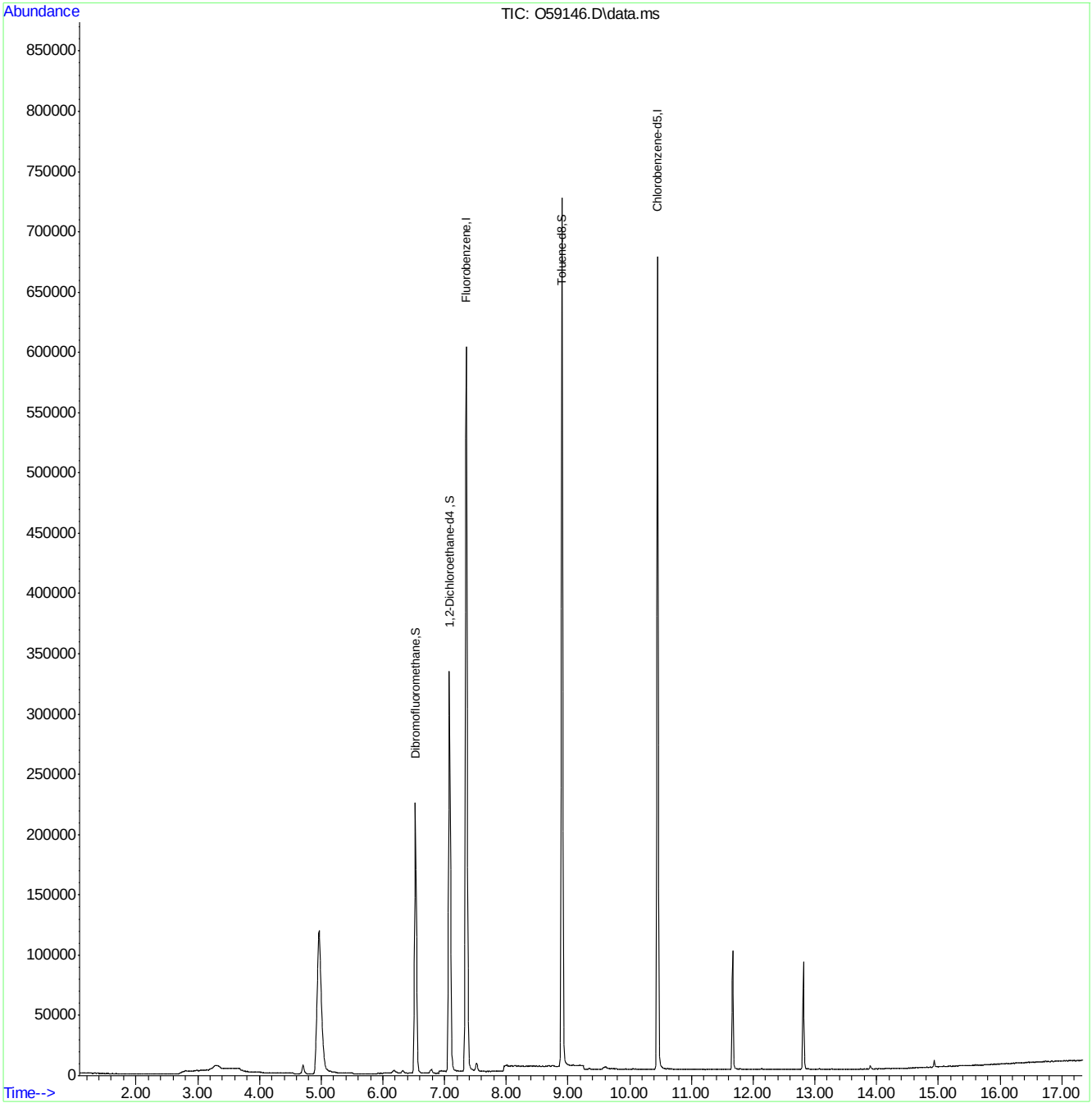
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	856451	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	632833	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	243065	5.18	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 103.60%			
14) 1,2-Dichloroethane-d4	7.079	65	280564	4.75	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.00%			
20) Toluene-d8	8.903	98	716203	4.73	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.60%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59146.D
Acq On : 30 Aug 2019 11:26 am
Operator : kevinb
Sample : MB Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 30 12:31:25 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59115.D
Acq On : 29 Aug 2019 3:39 pm
Operator : kevinb
Sample : BS Inst : MSVOA12
Misc : MS44186,VO2261,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 29 15:58:21 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

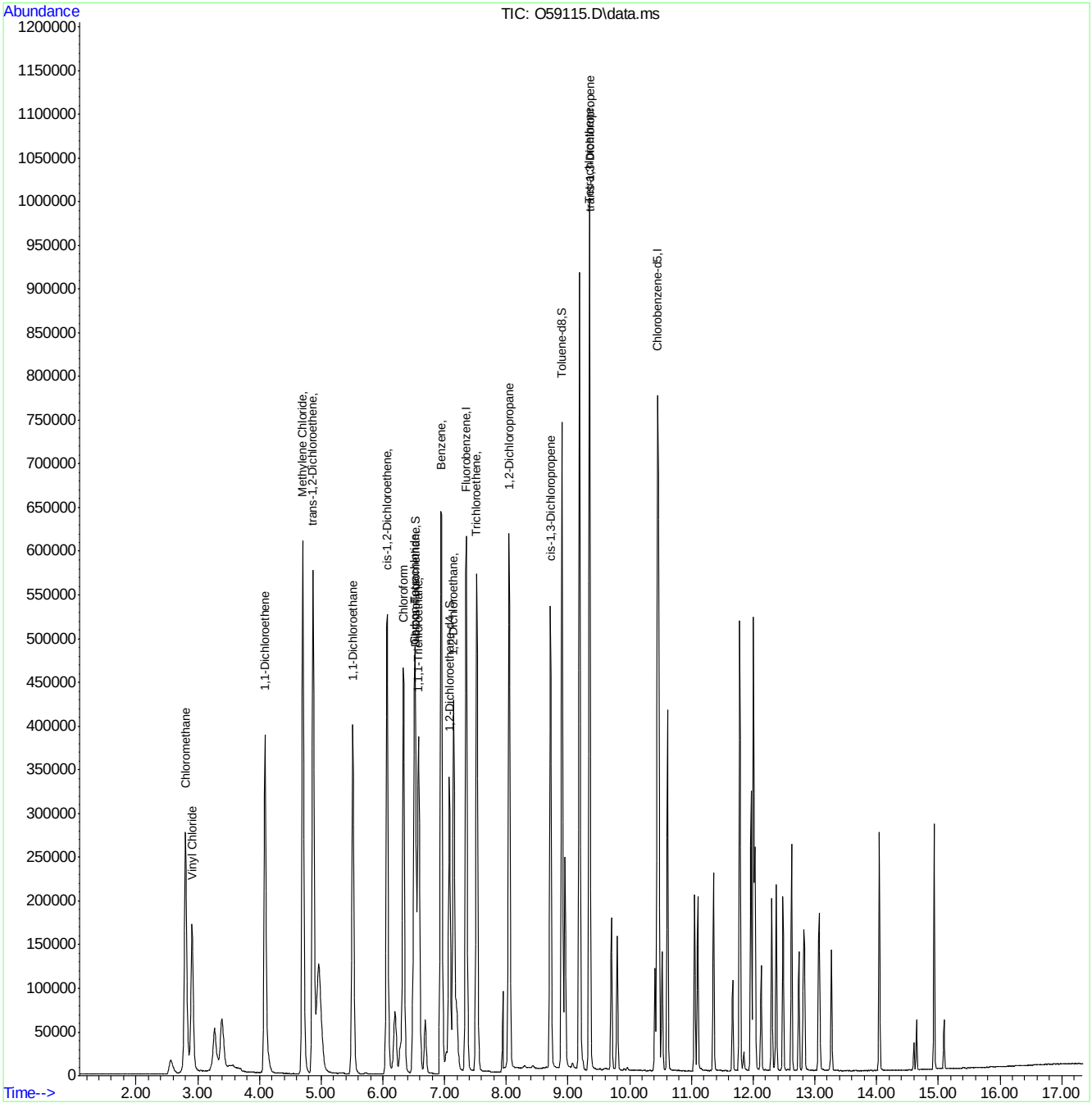
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	854378	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	619190	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	234429	5.01	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 100.20%			
14) 1,2-Dichloroethane-d4	7.079	65	280166	4.75	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.00%			
20) Toluene-d8	8.903	98	717419	4.84	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 96.80%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	326072	6.06	ug/L	99
3) Chloromethane	2.803	50	530032	5.52	ug/L	100
4) 1,1-Dichloroethene	4.088	61	473722	5.14	ug/L	98
5) Methylene Chloride	4.703	49	807423	4.97	ug/L	98
6) trans-1,2-Dichloroethene	4.869	61	568558	5.00	ug/L	99
7) 1,1-Dichloroethane	5.514	63	653093	5.11	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	322648	4.82	ug/L	99
9) Chloroform	6.333	83	476229	4.60	ug/L	98
11) Carbon Tetrachloride	6.510	117	333321	4.92	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	376785	4.74	ug/L	98
13) Benzene	6.949	78	1072756	4.96	ug/L	100
15) 1,2-Dichloroethane	7.145	62	448375	4.52	ug/L	97
16) Trichloroethene	7.518	95	338843	4.95	ug/L	97
17) 1,2-Dichloropropane	8.047	63	392727	4.83	ug/L	99
18) cis-1,3-Dichloropropene	8.715	75	393043	4.29	ug/L	93
21) trans-1,3-Dichloropropene	9.353	75	358343	4.50	ug/L	97
22) Tetrachloroethene	9.345	166	310305	5.14	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59115.D
Acq On : 29 Aug 2019 3:39 pm
Operator : kevinb
Sample : BS Inst : MSVOA12
Misc : MS44186,VO2261,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 29 15:58:21 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59145.D
Acq On : 30 Aug 2019 11:05 am
Operator : kevinb
Sample : BS Inst : MSVOA12
Misc : MS44009,VO2262,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 30 11:28:18 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

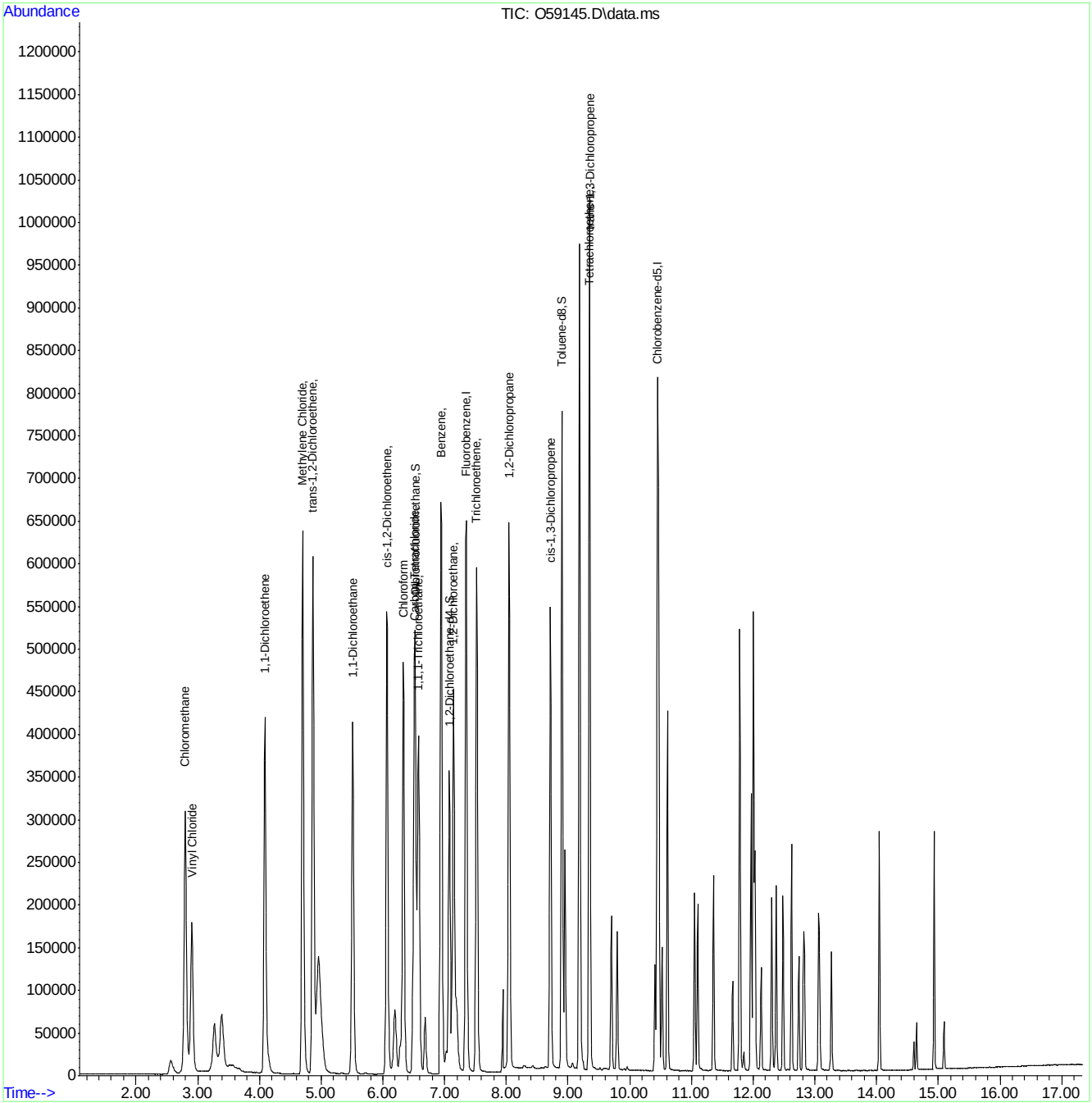
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	898599	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.449	117	665250	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.522	113	253450	5.15	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 103.00%			
14) 1,2-Dichloroethane-d4	7.079	65	291850	4.71	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 94.20%			
20) Toluene-d8	8.903	98	751079	4.72	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.40%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.904	62	347563	6.14	ug/L	99
3) Chloromethane	2.799	50	583585	5.78	ug/L	100
4) 1,1-Dichloroethene	4.088	61	497013	5.12	ug/L	98
5) Methylene Chloride	4.699	49	846131	4.95	ug/L	96
6) trans-1,2-Dichloroethene	4.869	61	592376	4.95	ug/L	98
7) 1,1-Dichloroethane	5.510	63	672202	5.00	ug/L	98
8) cis-1,2-Dichloroethene	6.066	96	331744	4.71	ug/L	98
9) Chloroform	6.333	83	481674	4.42	ug/L	96
11) Carbon Tetrachloride	6.510	117	339840	4.77	ug/L	99
12) 1,1,1-Trichloroethane	6.576	97	379980	4.54	ug/L	95
13) Benzene	6.943	78	1085994	4.78	ug/L	93
15) 1,2-Dichloroethane	7.145	62	458185	4.39	ug/L	95
16) Trichloroethene	7.518	95	348020	4.83	ug/L	98
17) 1,2-Dichloropropane	8.047	63	397125	4.64	ug/L	98
18) cis-1,3-Dichloropropene	8.715	75	385708	4.00	ug/L	90
21) trans-1,3-Dichloropropene	9.353	75	352020	4.12	ug/L	93
22) Tetrachloroethene	9.345	166	325546	5.02	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59145.D
Acq On : 30 Aug 2019 11:05 am
Operator : kevinb
Sample : BS Inst : MSVOA12
Misc : MS44009,VO2262,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 30 11:28:18 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59127.D
Acq On : 29 Aug 2019 7:55 pm
Operator : kevinb
Sample : FA67558-1MS,5x Inst : MSVOA12
Misc : MS44206,VO2261,,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 30 08:57:34 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

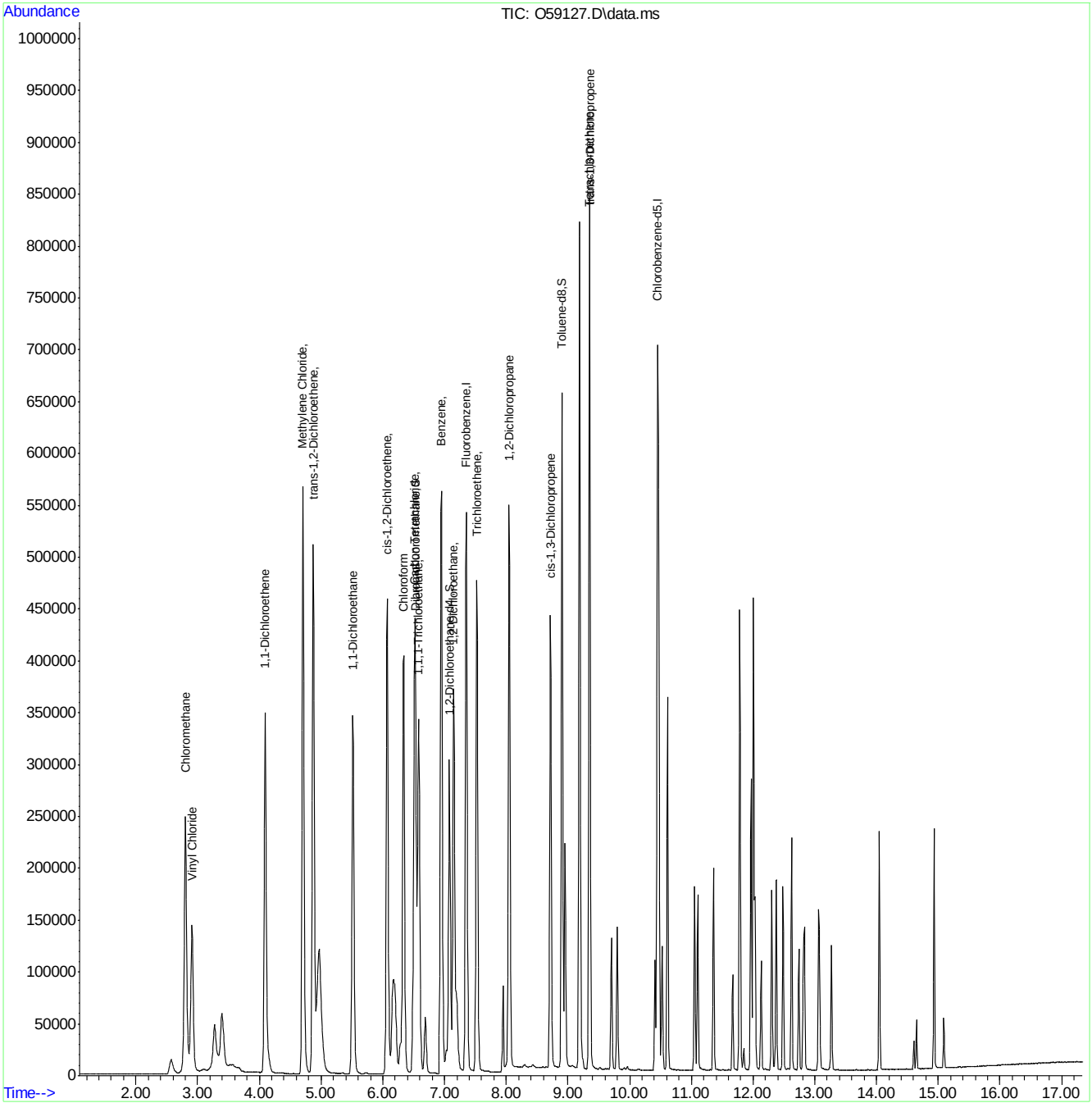
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	751501	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	557674	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	210394	5.11	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 102.20%			
14) 1,2-Dichloroethane-d4	7.080	65	247483	4.77	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.40%			
20) Toluene-d8	8.904	98	629454	4.72	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.40%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	278140	5.87	ug/L	100
3) Chloromethane	2.803	50	478198	5.66	ug/L	100
4) 1,1-Dichloroethene	4.092	61	419855	5.18	ug/L	99
5) Methylene Chloride	4.703	49	749307	5.25	ug/L	95
6) trans-1,2-Dichloroethene	4.873	61	500738	5.01	ug/L	100
7) 1,1-Dichloroethane	5.514	63	568458	5.06	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	278549	4.73	ug/L	98
9) Chloroform	6.339	83	411668	4.52	ug/L	97
11) Carbon Tetrachloride	6.517	117	289110	4.85	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	323532	4.63	ug/L	96
13) Benzene	6.949	78	920202	4.84	ug/L	96
15) 1,2-Dichloroethane	7.145	62	392258	4.49	ug/L	96
16) Trichloroethene	7.524	95	272378	4.52	ug/L	97
17) 1,2-Dichloropropane	8.047	63	338137	4.72	ug/L	97
18) cis-1,3-Dichloropropene	8.719	75	313076	3.88	ug/L	93
21) trans-1,3-Dichloropropene	9.353	75	284427	3.97	ug/L	91
22) Tetrachloroethene	9.345	166	273018	5.02	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59127.D
Acq On : 29 Aug 2019 7:55 pm
Operator : kevinb
Sample : FA67558-1MS,5x Inst : MSVOA12
Misc : MS44206,VO2261,,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 30 08:57:34 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59128.D
Acq On : 29 Aug 2019 8:16 pm
Operator : kevinb
Sample : FA67558-1MSD,5x Inst : MSVOA12
Misc : MS44206,VO2261,,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 30 08:57:36 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

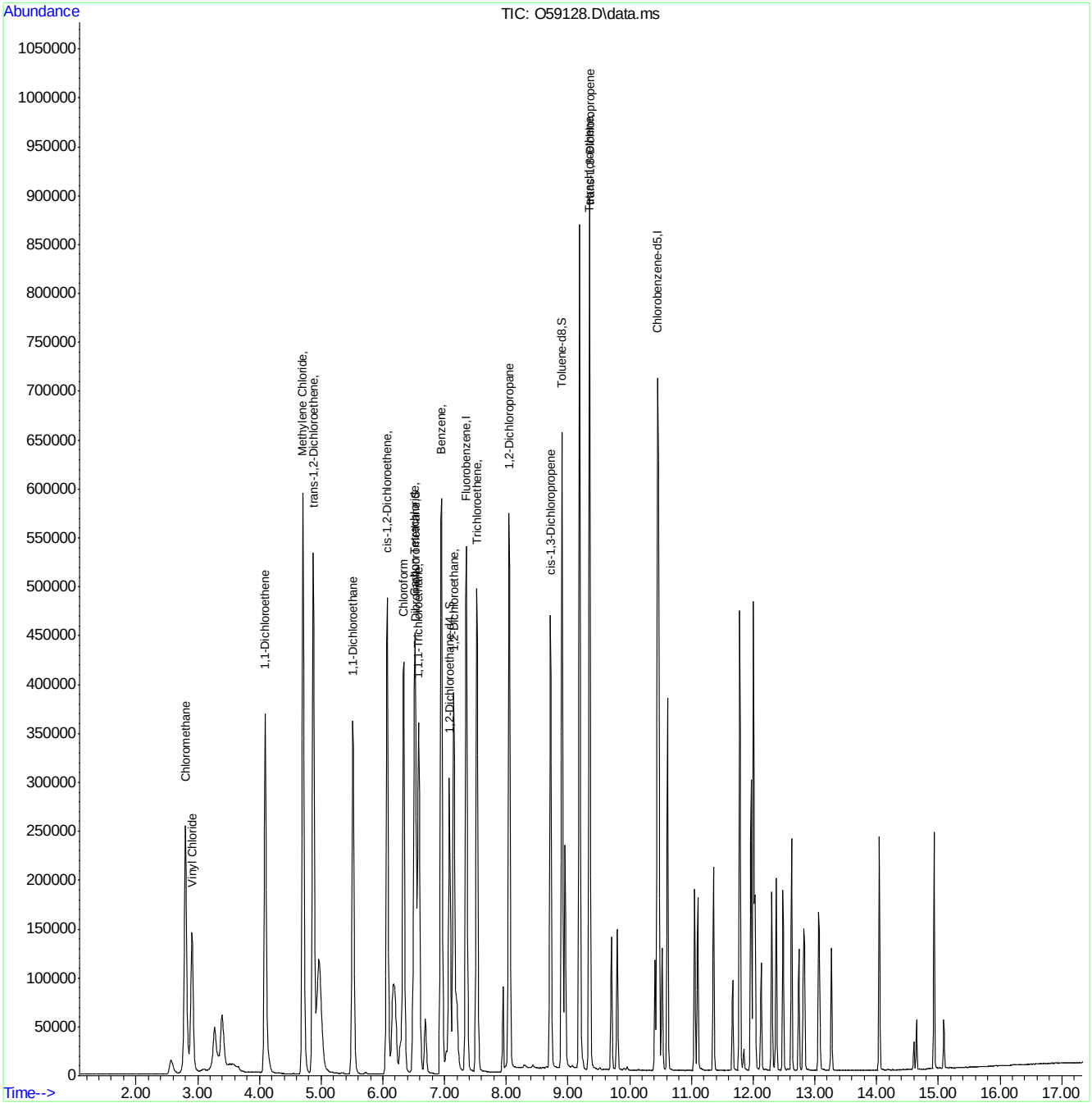
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	761322	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	559773	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	211774	5.08	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 101.60%			
14) 1,2-Dichloroethane-d4	7.080	65	250327	4.77	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.40%			
20) Toluene-d8	8.904	98	634857	4.74	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.80%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	283415	5.91	ug/L	99
3) Chloromethane	2.803	50	488737	5.71	ug/L	99
4) 1,1-Dichloroethene	4.092	61	444743	5.41	ug/L	99
5) Methylene Chloride	4.703	49	793486	5.50	ug/L	95
6) trans-1,2-Dichloroethene	4.873	61	530604	5.24	ug/L	99
7) 1,1-Dichloroethane	5.514	63	603030	5.29	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	293945	4.93	ug/L	97
9) Chloroform	6.339	83	435198	4.71	ug/L	97
11) Carbon Tetrachloride	6.516	117	310013	5.13	ug/L	98
12) 1,1,1-Trichloroethane	6.582	97	339443	4.79	ug/L	96
13) Benzene	6.949	78	971540	5.05	ug/L	96
15) 1,2-Dichloroethane	7.151	62	413020	4.67	ug/L	97
16) Trichloroethene	7.524	95	287074	4.70	ug/L	98
17) 1,2-Dichloropropane	8.047	63	357277	4.93	ug/L	98
18) cis-1,3-Dichloropropene	8.719	75	332171	4.06	ug/L	93
21) trans-1,3-Dichloropropene	9.353	75	301352	4.19	ug/L	92
22) Tetrachloroethene	9.345	166	286855	5.26	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59128.D
Acq On : 29 Aug 2019 8:16 pm
Operator : kevinb
Sample : FA67558-1MSD,5x Inst : MSVOA12
Misc : MS44206,VO2261,,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 30 08:57:36 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59153.D
Acq On : 30 Aug 2019 1:55 pm
Operator : kevinb
Sample : FA67560-3MS Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 30 14:23:17 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

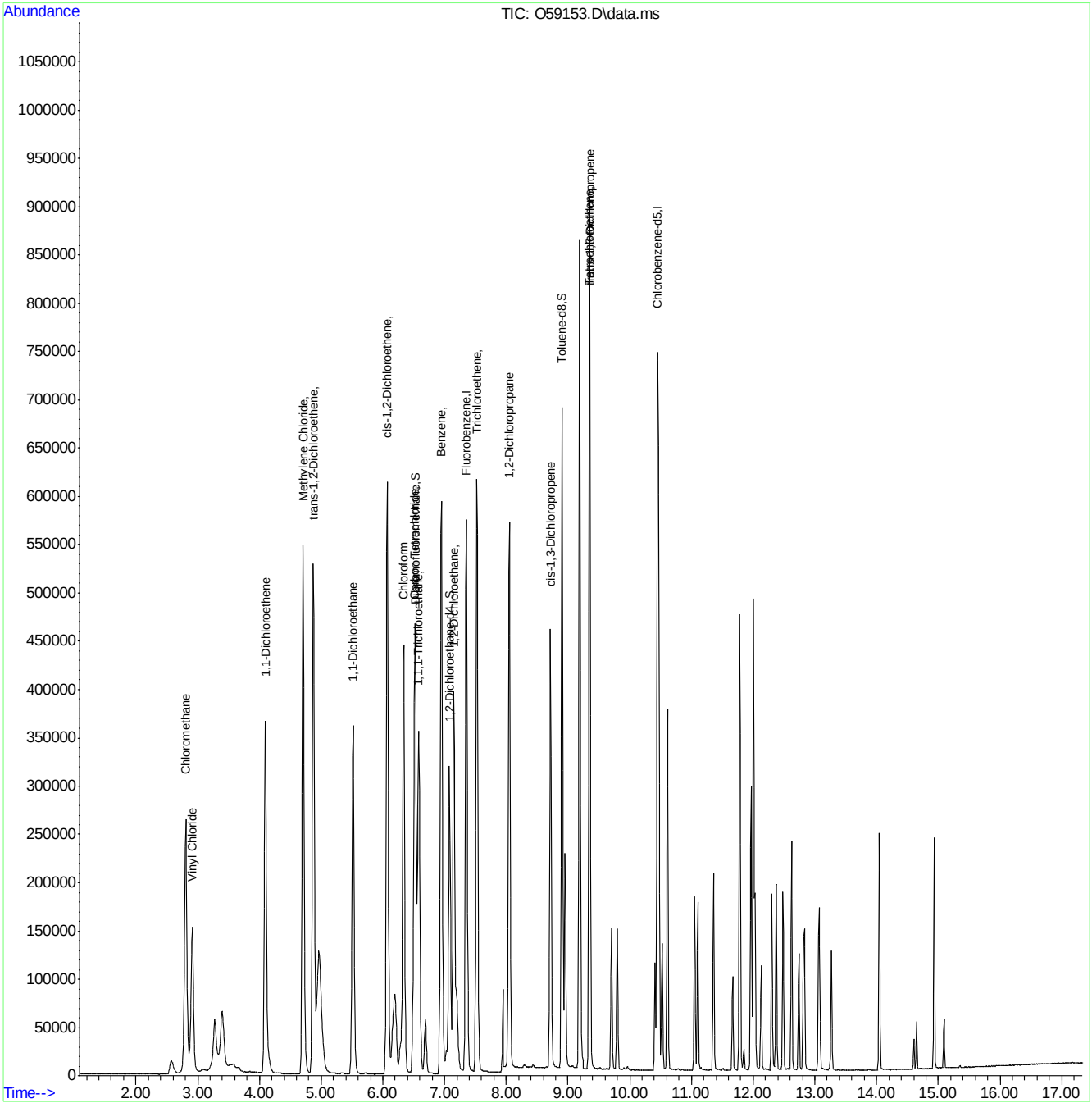
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	817455	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	605923	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	231462	5.17	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 103.40%			
14) 1,2-Dichloroethane-d4	7.079	65	260509	4.62	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 92.40%			
20) Toluene-d8	8.903	98	678203	4.68	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 93.60%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	296349	5.75	ug/L	99
3) Chloromethane	2.806	50	513125	5.59	ug/L	100
4) 1,1-Dichloroethene	4.096	61	446240	5.06	ug/L	97
5) Methylene Chloride	4.707	49	733197	4.71	ug/L	97
6) trans-1,2-Dichloroethene	4.873	61	525931	4.84	ug/L	99
7) 1,1-Dichloroethane	5.518	63	599053	4.90	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	378948	5.92	ug/L	98
9) Chloroform	6.339	83	451697	4.56	ug/L	96
11) Carbon Tetrachloride	6.516	117	302899	4.67	ug/L	98
12) 1,1,1-Trichloroethane	6.582	97	342574	4.50	ug/L	95
13) Benzene	6.949	78	978326	4.73	ug/L	96
15) 1,2-Dichloroethane	7.151	62	417855	4.40	ug/L	96
16) Trichloroethene	7.524	95	365920	5.60	ug/L	98
17) 1,2-Dichloropropane	8.051	63	356948	4.58	ug/L	97
18) cis-1,3-Dichloropropene	8.719	75	329305	3.75	ug/L	93
21) trans-1,3-Dichloropropene	9.353	75	300419	3.86	ug/L	92
22) Tetrachloroethene	9.349	166	300812	5.09	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59153.D
Acq On : 30 Aug 2019 1:55 pm
Operator : kevinb
Sample : FA67560-3MS Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 30 14:23:17 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59154.D
Acq On : 30 Aug 2019 2:16 pm
Operator : kevinb
Sample : FA67560-3MSD Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 30 14:51:51 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

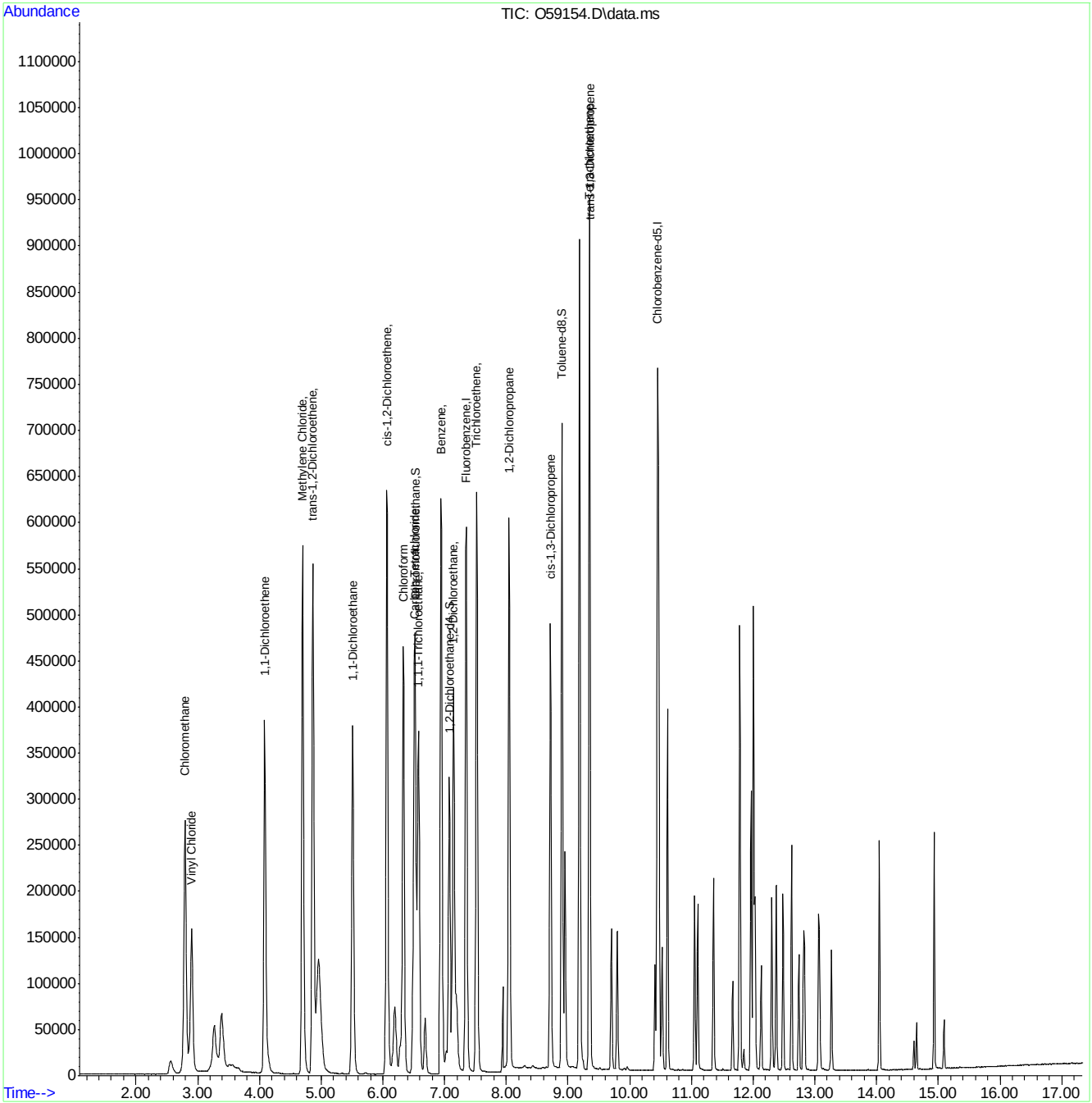
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	828963	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	613436	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.522	113	233532	5.15	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 103.00%			
14) 1,2-Dichloroethane-d4	7.079	65	265287	4.64	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 92.80%			
20) Toluene-d8	8.903	98	686677	4.68	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 93.60%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.901	62	304419	5.83	ug/L	99
3) Chloromethane	2.795	50	534919	5.74	ug/L	99
4) 1,1-Dichloroethene	4.085	61	461347	5.16	ug/L	98
5) Methylene Chloride	4.699	49	755380	4.79	ug/L	97
6) trans-1,2-Dichloroethene	4.865	61	546225	4.95	ug/L	99
7) 1,1-Dichloroethane	5.510	63	620153	5.00	ug/L	98
8) cis-1,2-Dichloroethene	6.066	96	389112	5.99	ug/L	99
9) Chloroform	6.333	83	465052	4.63	ug/L	96
11) Carbon Tetrachloride	6.510	117	312447	4.75	ug/L	99
12) 1,1,1-Trichloroethane	6.576	97	352183	4.57	ug/L	95
13) Benzene	6.943	78	1009279	4.81	ug/L	94
15) 1,2-Dichloroethane	7.145	62	430563	4.47	ug/L	94
16) Trichloroethene	7.518	95	376274	5.68	ug/L	98
17) 1,2-Dichloropropane	8.047	63	369112	4.67	ug/L	97
18) cis-1,3-Dichloropropene	8.715	75	341780	3.84	ug/L	90
21) trans-1,3-Dichloropropene	9.353	75	310809	3.94	ug/L	92
22) Tetrachloroethene	9.345	166	310782	5.20	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59154.D
Acq On : 30 Aug 2019 2:16 pm
Operator : kevinb
Sample : FA67560-3MSD Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 11 Sample Multiplier: 1

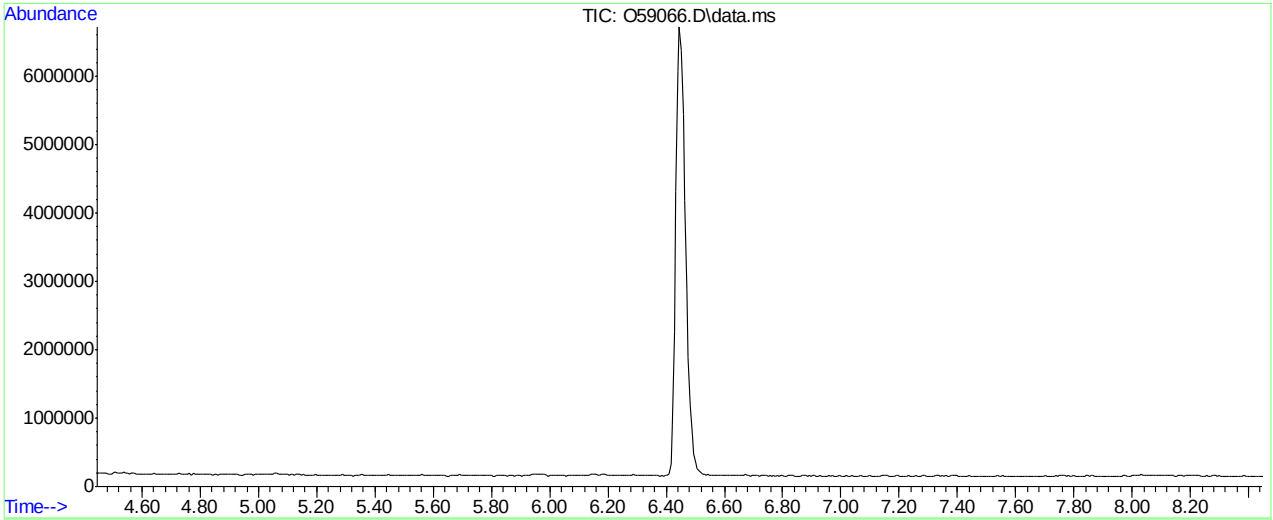
Quant Time: Aug 30 14:51:51 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Methods: SW-846 8260B

Data File : C:\msdchem\2\data\082619\O59066.D Vial: 100
Acq On : 26 Aug 2019 12:08 pm Operator: kevinb
Sample : BFB Inst : MSVOA12
Misc : MS44009,VO2258,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B



AutoFind: Scans 468, 469, 470; Background Corrected with Scan 460

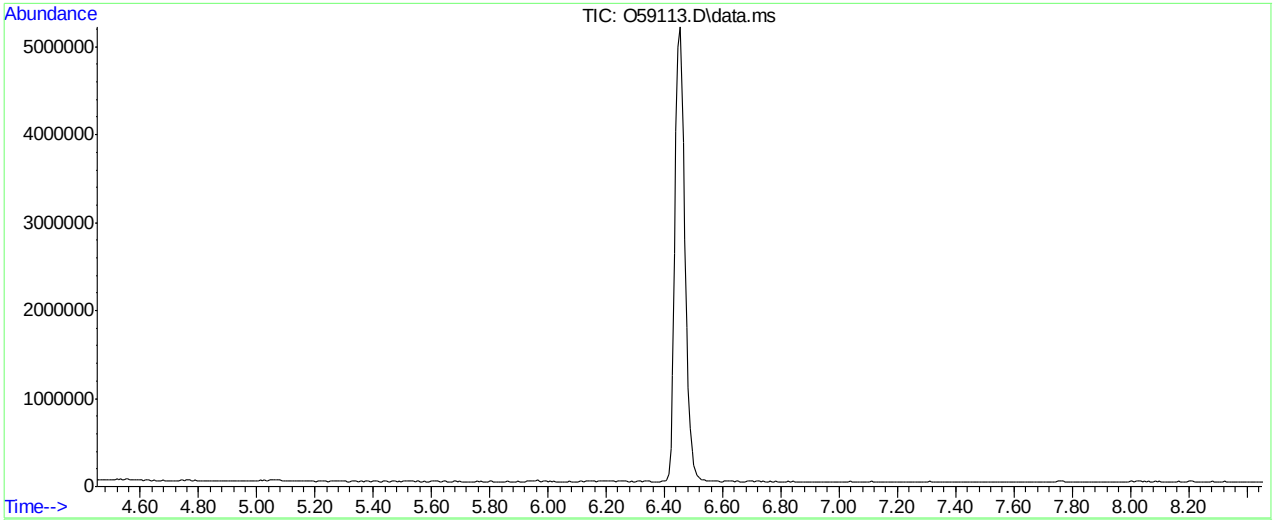
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	33.4	439747	PASS
75	95	30	60	43.7	574792	PASS
95	95	100	100	100.0	1314675	PASS
96	95	5	9	6.8	89155	PASS
173	174	0.00	2	0.7	6498	PASS
174	95	50	100	72.3	949995	PASS
175	174	5	9	6.8	64453	PASS
176	174	95	101	95.3	905515	PASS
177	176	5	9	6.8	61263	PASS

O59066.D SIMCL082619.M Mon Aug 26 15:38:06 2019

Methods: SW-846 8260B

Data File : C:\msdchem\2\data\082919\O59113.D Vial: 100
Acq On : 29 Aug 2019 2:57 pm Operator: kevinb
Sample : BFB Inst : MSVOA12
Misc : MS44186,VO2261,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B



AutoFind: Scans 469, 470, 471; Background Corrected with Scan 459

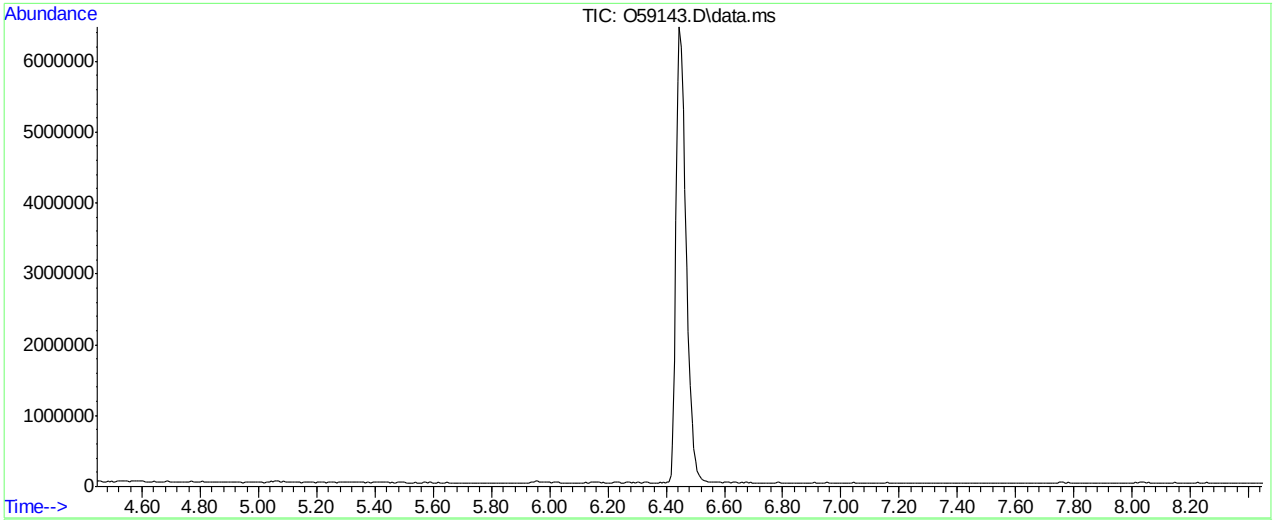
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	32.7	336981	PASS
75	95	30	60	42.1	432875	PASS
95	95	100	100	100.0	1029269	PASS
96	95	5	9	6.7	69163	PASS
173	174	0.00	2	0.6	4864	PASS
174	95	50	100	76.3	785707	PASS
175	174	5	9	7.0	55027	PASS
176	174	95	101	96.4	757035	PASS
177	176	5	9	6.2	47253	PASS

O59113.D SIMCL082619.M Thu Aug 29 15:58:42 2019

Methods: SW-846 8260B

Data File : C:\msdchem\2\data\083019\O59143.D Vial: 100
Acq On : 30 Aug 2019 10:20 am Operator: kevinb
Sample : BFB Inst : MSVOA12
Misc : MS44009,VO2262,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B



AutoFind: Scans 468, 469, 470; Background Corrected with Scan 460

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	35.5	433810	PASS
75	95	30	60	42.1	514667	PASS
95	95	100	100	100.0	1223509	PASS
96	95	5	9	6.9	84892	PASS
173	174	0.00	2	0.6	5821	PASS
174	95	50	100	77.7	950357	PASS
175	174	5	9	7.2	68781	PASS
176	174	95	101	97.2	923584	PASS
177	176	5	9	6.5	60115	PASS

O59143.D SIMCL082619.M Fri Aug 30 11:28:44 2019

Manual Integrations APPROVED (compounds with "m" flag)
Juan Garcia
08/26/19 16:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:53:41 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

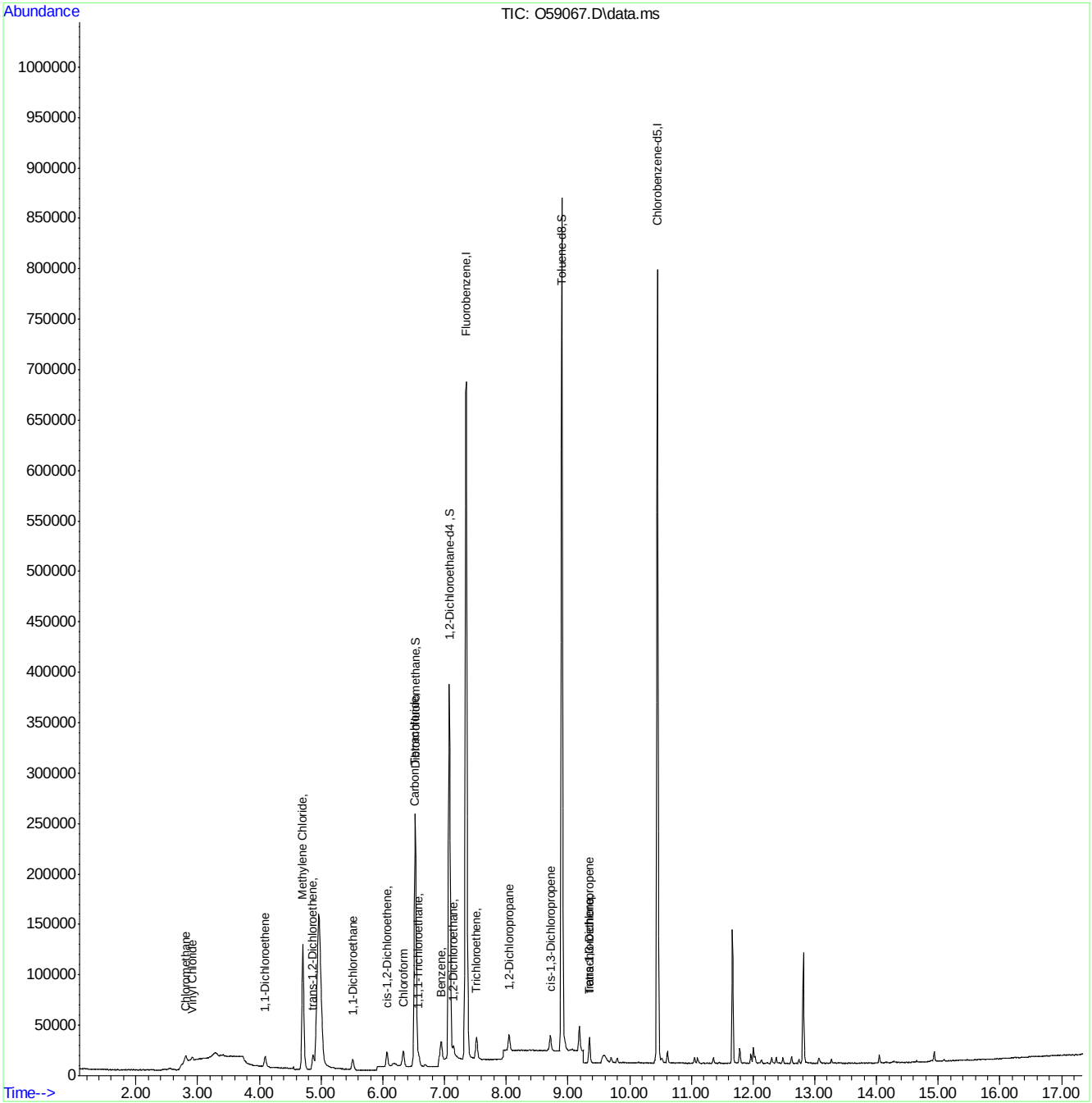
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	964474	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.450	117	700902	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.523	113	266906	4.18	ug/L	-0.01
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.60%			
14) 1,2-Dichloroethane-d4	7.074	65	337814	4.36	ug/L	-0.01
Spiked Amount 5.000	Range 74 - 125		Recovery = 87.20%			
20) Toluene-d8	8.900	98	826145	5.62	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 112.40%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	5896	0.06	ug/L	76
3) Chloromethane	2.810	50	11433m	0.06	ug/L	
4) 1,1-Dichloroethene	4.093	61	13217	0.09	ug/L	99
5) Methylene Chloride	4.703	49	163589	0.63	ug/L	99
6) trans-1,2-Dichloroethene	4.869	61	15266	0.09	ug/L	95
7) 1,1-Dichloroethane	5.510	63	17390	0.09	ug/L	87
8) cis-1,2-Dichloroethene	6.072	96	9189	0.10	ug/L	99
9) Chloroform	6.333	83	15028	0.10	ug/L	89
11) Carbon Tetrachloride	6.517	117	9392	0.10	ug/L	95
12) 1,1,1-Trichloroethane	6.582	97	10815	0.10	ug/L	96
13) Benzene	6.949	78	39396m	0.12	ug/L	
15) 1,2-Dichloroethane	7.145	62	13175	0.09	ug/L	96
16) Trichloroethene	7.518	95	14259	0.14	ug/L	94
17) 1,2-Dichloropropane	8.044	63	10997	0.10	ug/L	97
18) cis-1,3-Dichloropropene	8.715	75	11880	0.12	ug/L	98
21) trans-1,3-Dichloropropene	9.349	75	9403	0.11	ug/L	99
22) Tetrachloroethene	9.345	166	8247	0.11	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:53:41 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Manual Integration Approval Summary

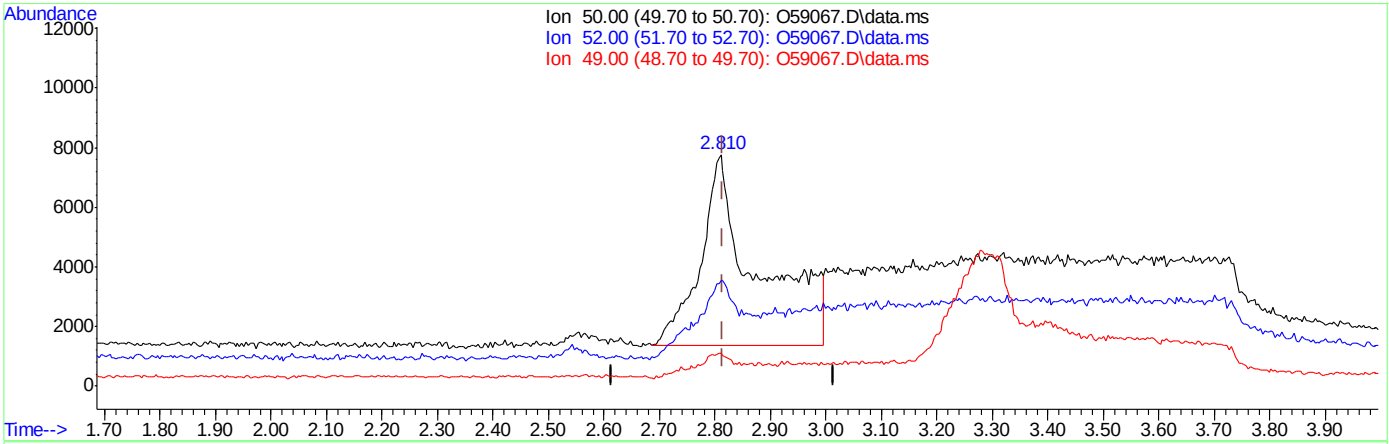
Sample Number:	VO2258-IC2258	**Method:**	SW846 8260B BY SIM
Lab FileID:	O59067.D	**Analyst approved:**	08/26/19 15:41 Kevin Boyd
Injection Time:	08/26/19 12:31	**Supervisor approved:**	08/26/19 16:15 Juan Garcia

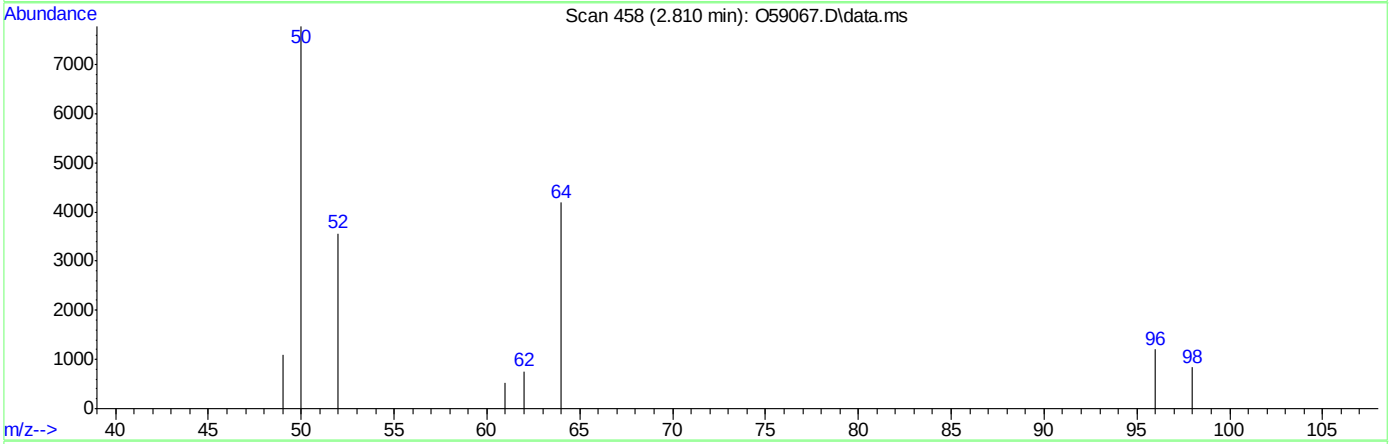
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		2.81	Poor instrument integration
Benzene	71-43-2		6.95	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(3) Chloromethane

2.810min (-0.004) 0.26ug/L

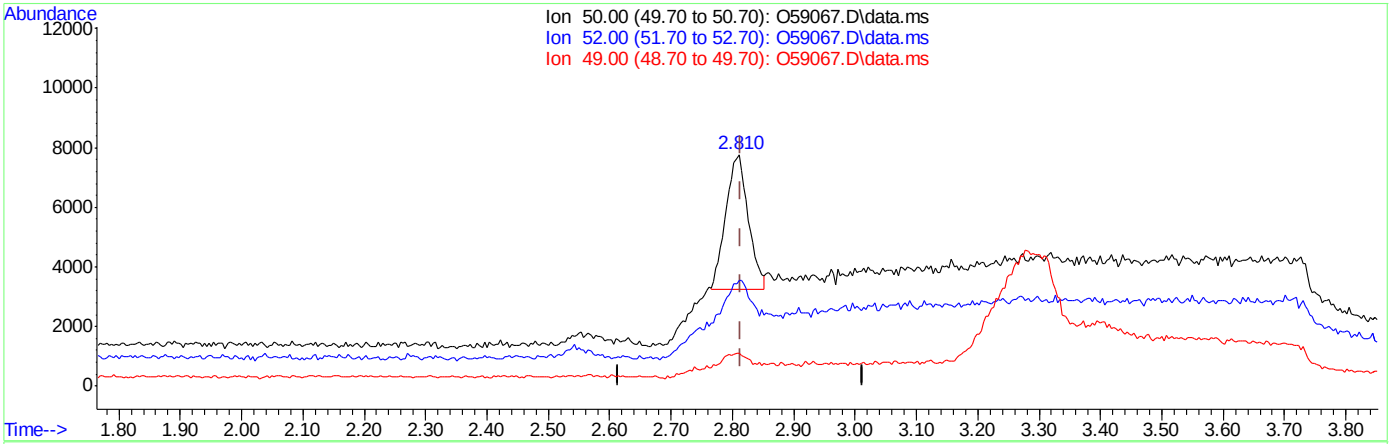
response 45616

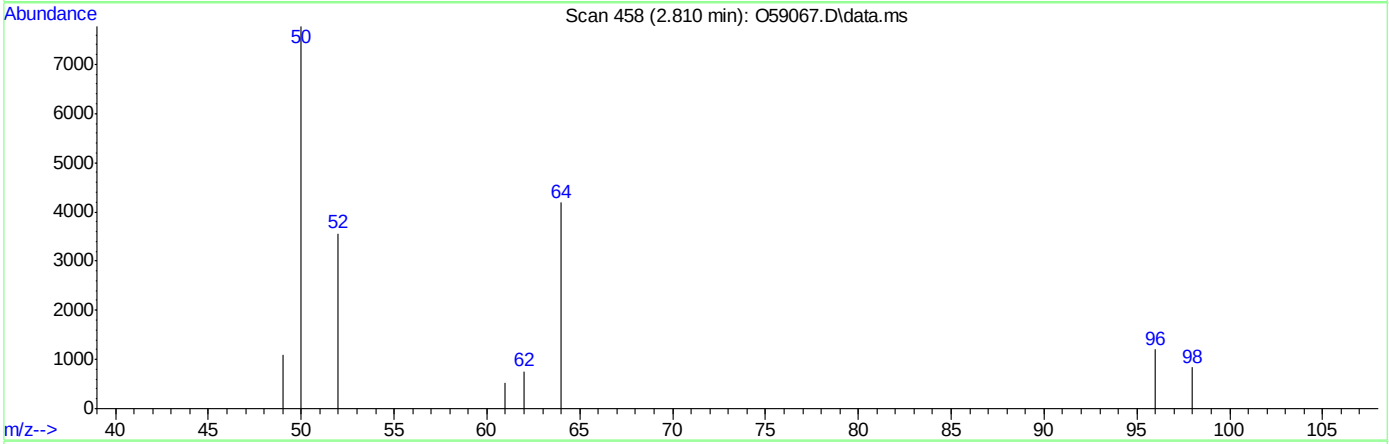
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	40.30
49.00	10.10	12.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(3) Chloromethane

2.810min (-0.004) 0.06ug/L m

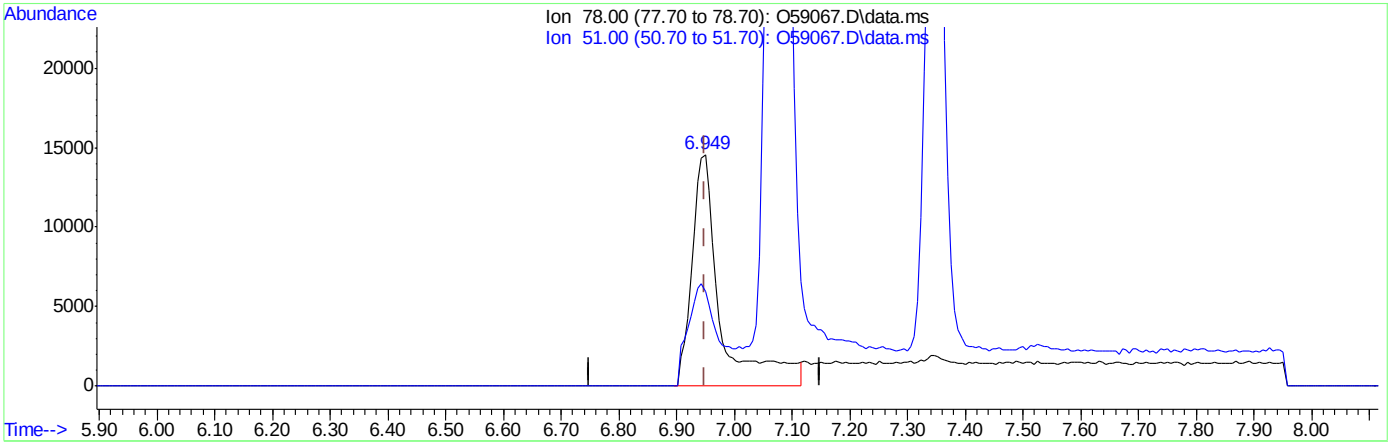
response 11433

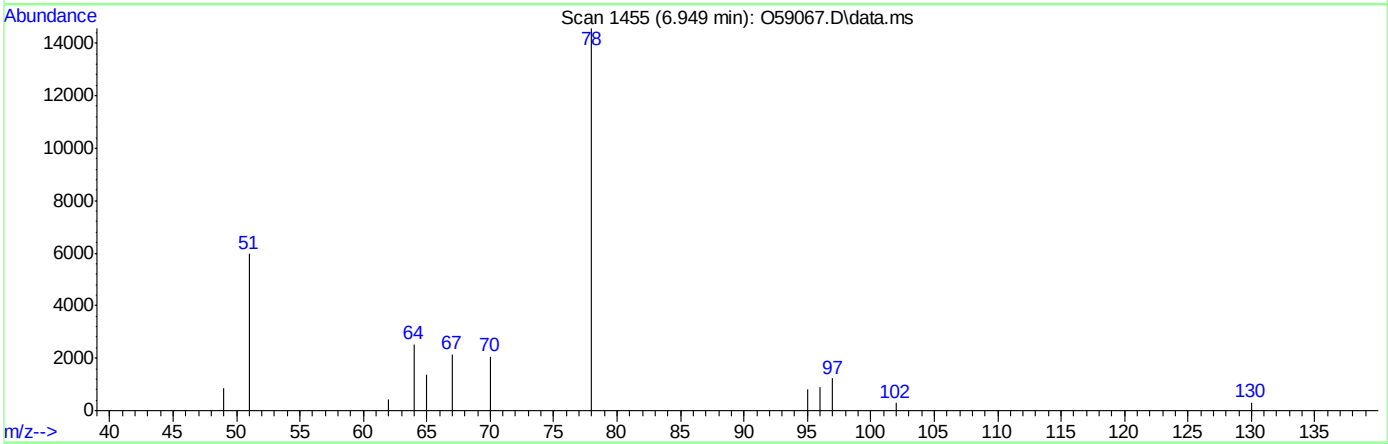
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	45.82
49.00	10.10	14.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.15ug/L

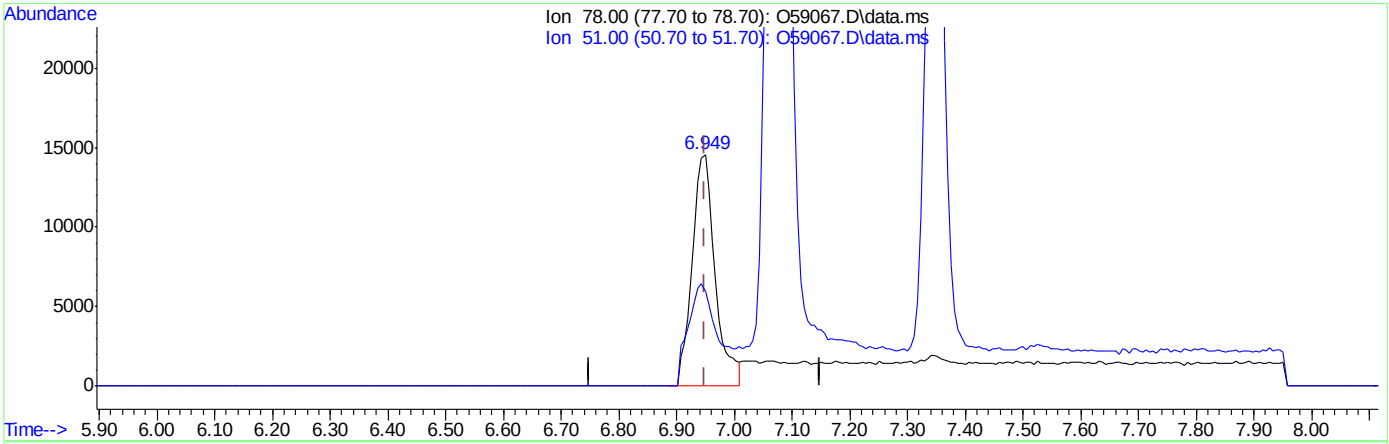
response 49108

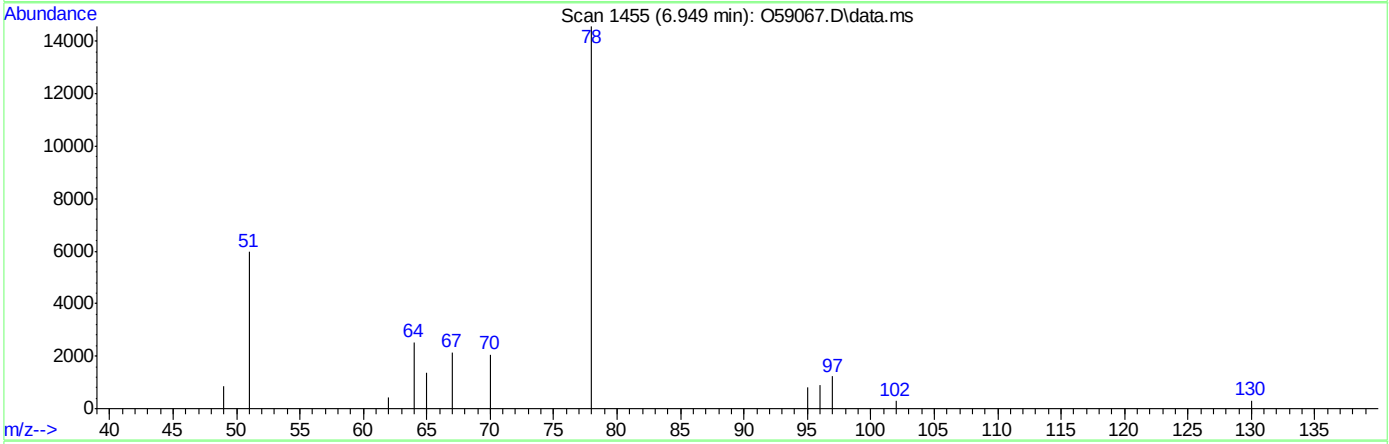
Ion	Exp%	Act%
78.00	100	100
51.00	32.70	40.95
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.12ug/L m

response 39396

Ion	Exp%	Act%
78.00	100	100
51.00	32.70	40.95
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Juan Garcia
08/26/19 16:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:11:45 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

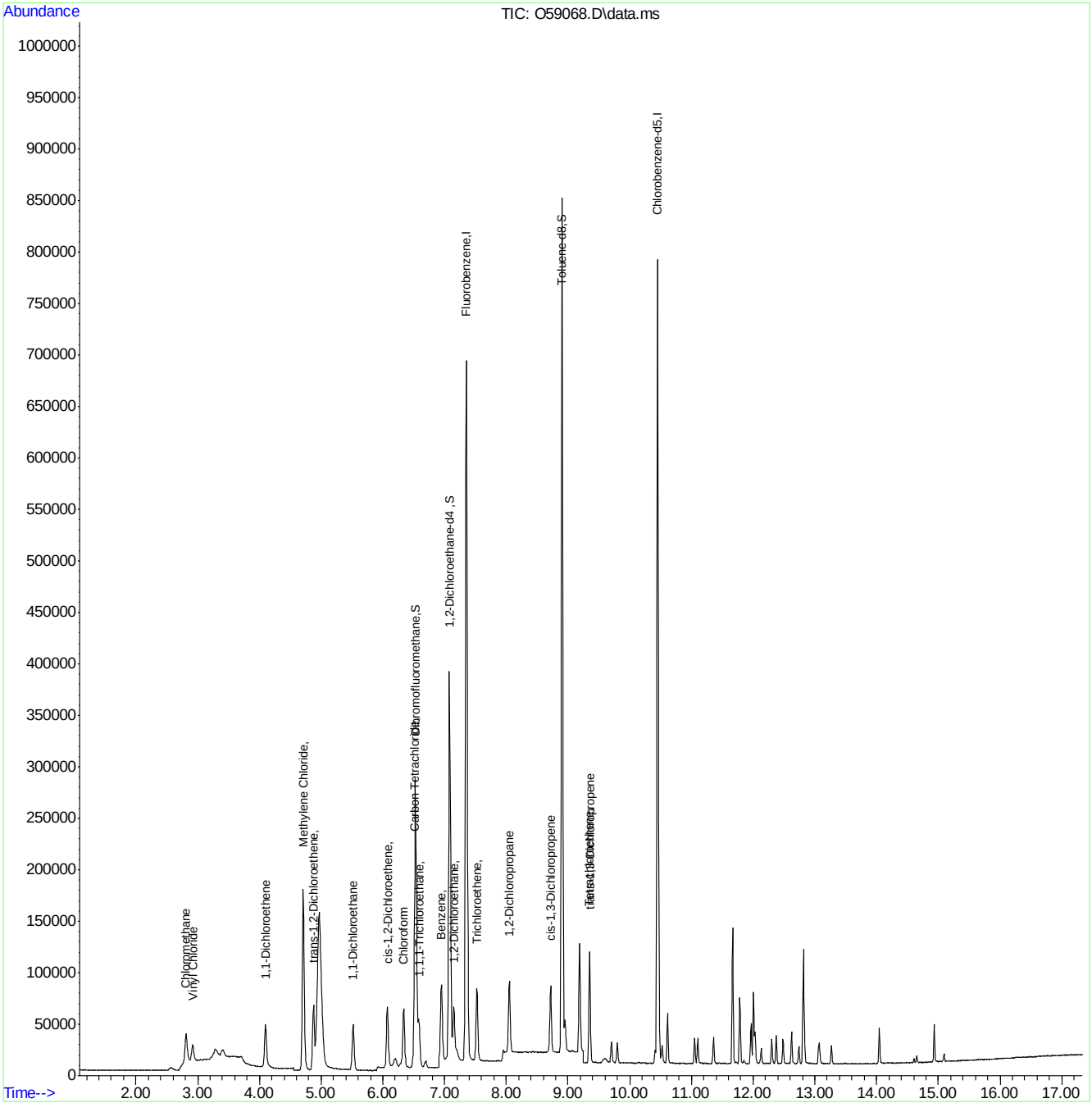
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	965394	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	695921	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	268204	4.20	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 84.00%			
14) 1,2-Dichloroethane-d4	7.079	65	339750	4.38	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 87.60%			
20) Toluene-d8	8.903	98	826678	5.66	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.920	62	31407	0.30	ug/L	95
3) Chloromethane	2.814	50	53510m	0.30	ug/L	
4) 1,1-Dichloroethene	4.100	61	51882	0.37	ug/L	99
5) Methylene Chloride	4.707	49	230349	0.89	ug/L	99
6) trans-1,2-Dichloroethene	4.873	61	67779	0.41	ug/L	95
7) 1,1-Dichloroethane	5.518	63	71473	0.38	ug/L	97
8) cis-1,2-Dichloroethene	6.078	96	37081	0.41	ug/L	98
9) Chloroform	6.339	83	58014	0.38	ug/L	98
11) Carbon Tetrachloride	6.516	117	38105	0.39	ug/L	97
12) 1,1,1-Trichloroethane	6.588	97	43944	0.40	ug/L	94
13) Benzene	6.949	78	133791m	0.42	ug/L	
15) 1,2-Dichloroethane	7.151	62	55187	0.37	ug/L	96
16) Trichloroethene	7.524	95	43758	0.44	ug/L	96
17) 1,2-Dichloropropane	8.051	63	48146	0.45	ug/L	96
18) cis-1,3-Dichloropropene	8.719	75	49886	0.49	ug/L	99
21) trans-1,3-Dichloropropene	9.353	75	41739	0.50	ug/L	99
22) Tetrachloroethene	9.349	166	34577	0.47	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:11:45 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:17 2019 Page: 2

Manual Integration Approval Summary

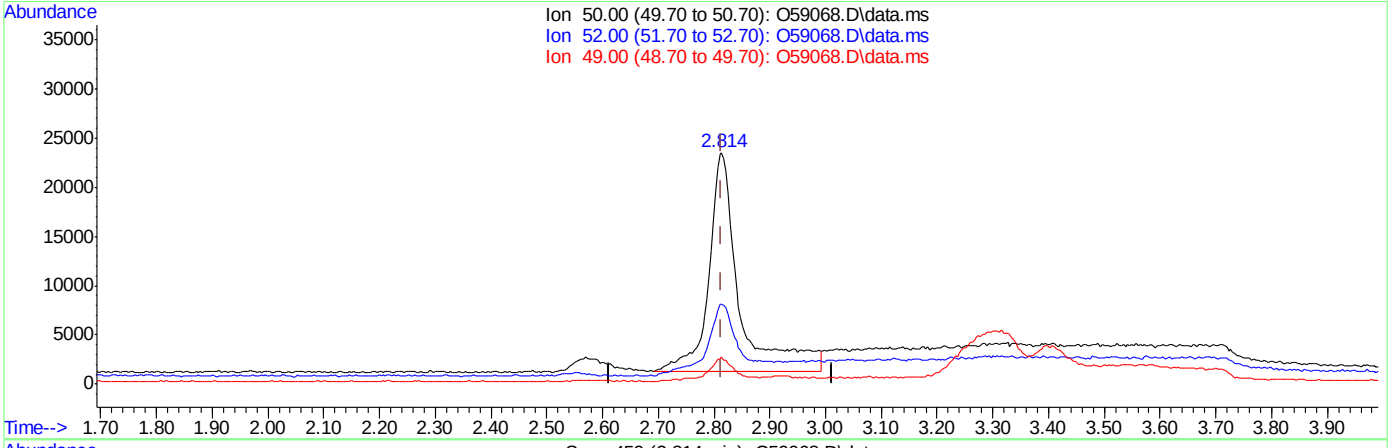
Sample Number:	VO2258-IC2258	**Method:**	SW846 8260B BY SIM
Lab FileID:	O59068.D	**Analyst approved:**	08/26/19 15:41 Kevin Boyd
Injection Time:	08/26/19 12:52	**Supervisor approved:**	08/26/19 16:15 Juan Garcia

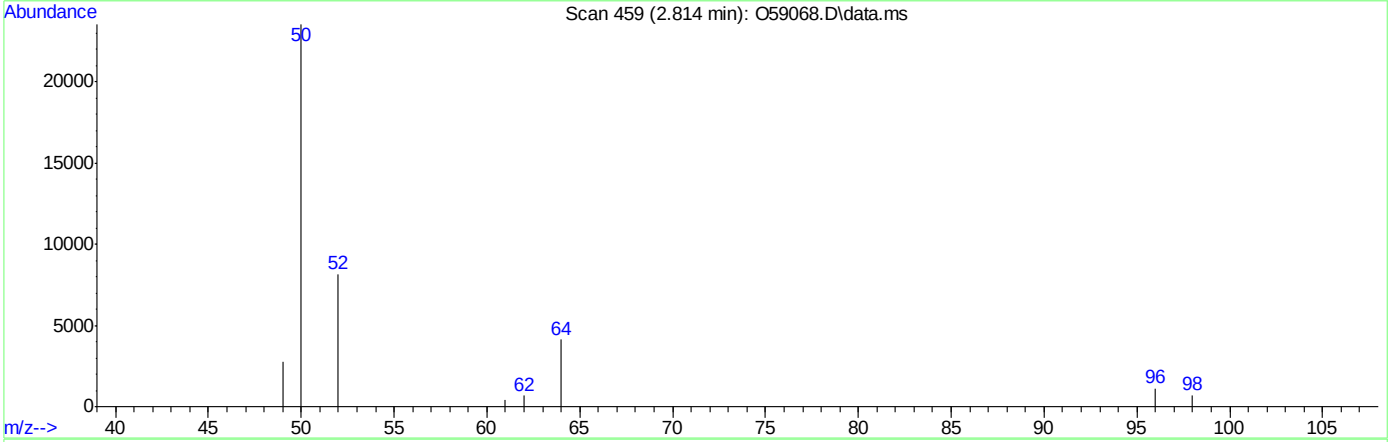
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		2.81	Poor instrument integration
Benzene	71-43-2		6.95	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(3) Chloromethane

2.814min (-0.000) 0.48ug/L

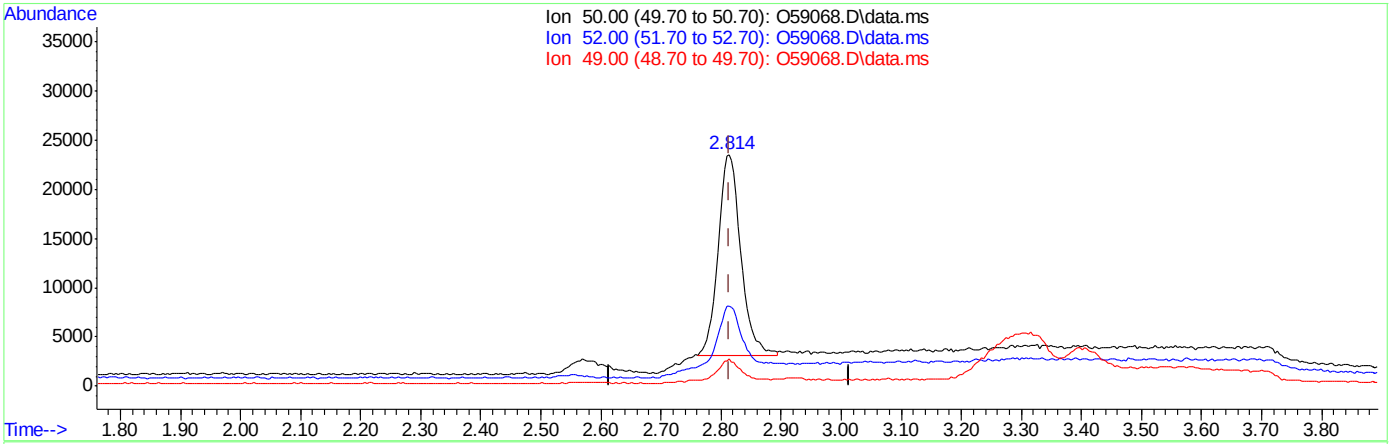
response 84421

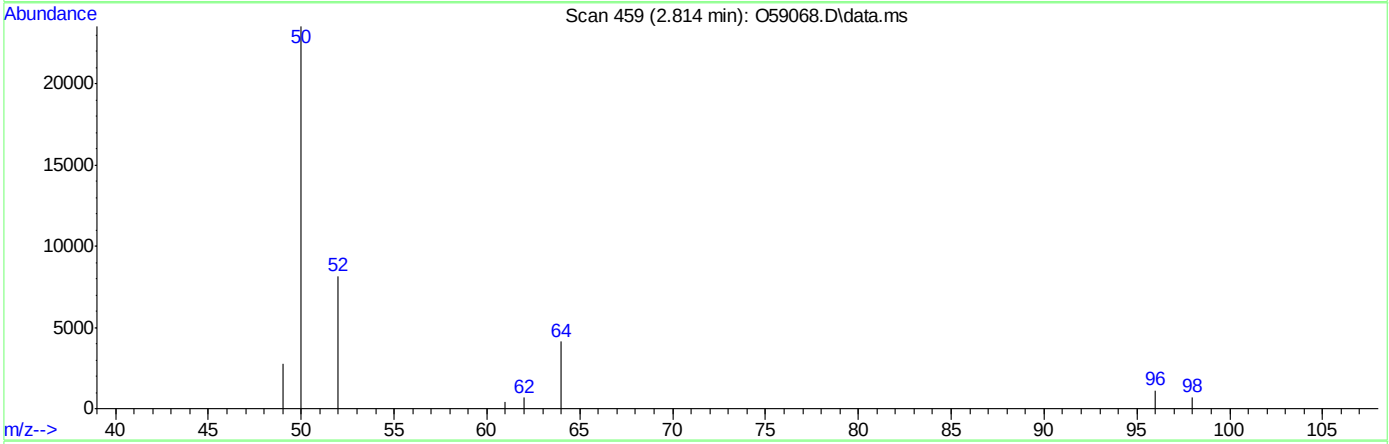
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	32.97
49.00	10.10	11.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(3) Chloromethane

2.814min (-0.000) 0.30ug/L m

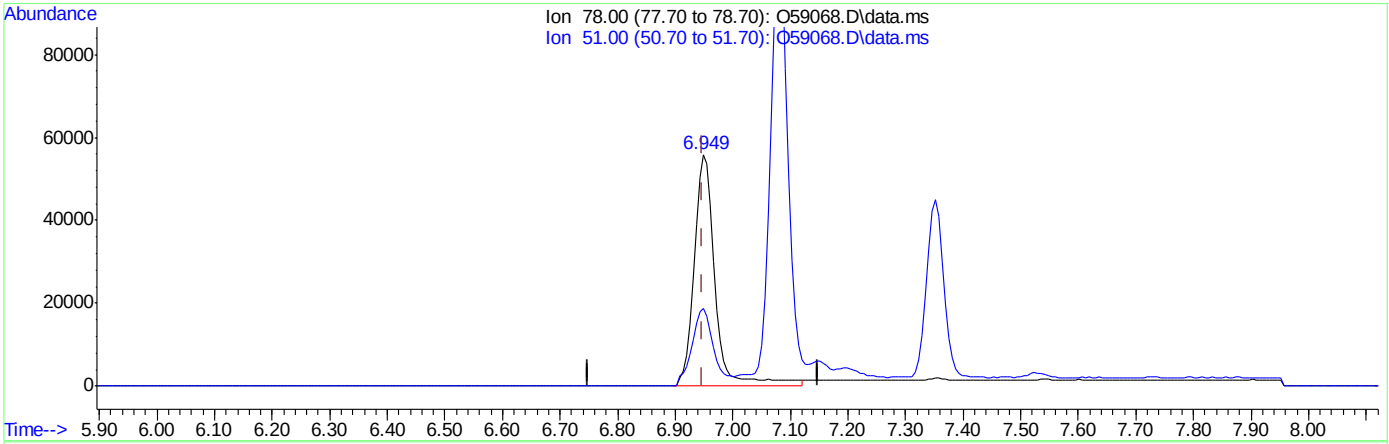
response 53510

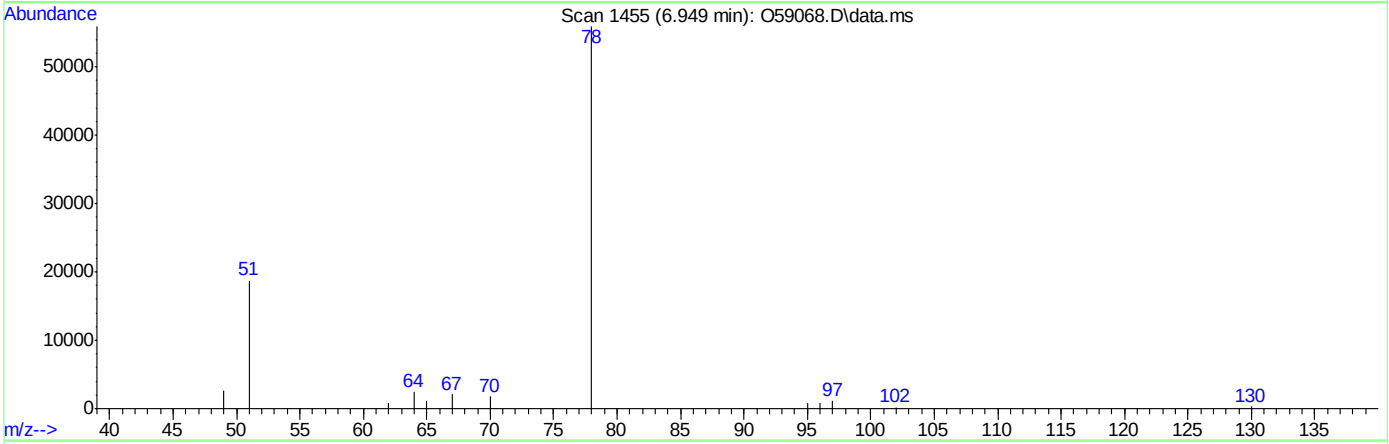
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	34.72
49.00	10.10	11.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.45ug/L

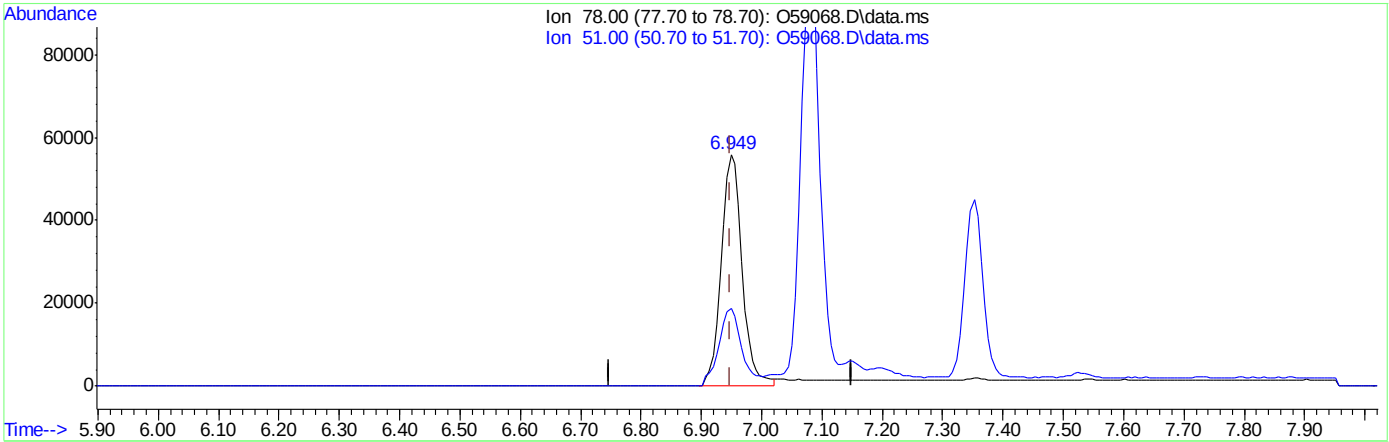
response 143126

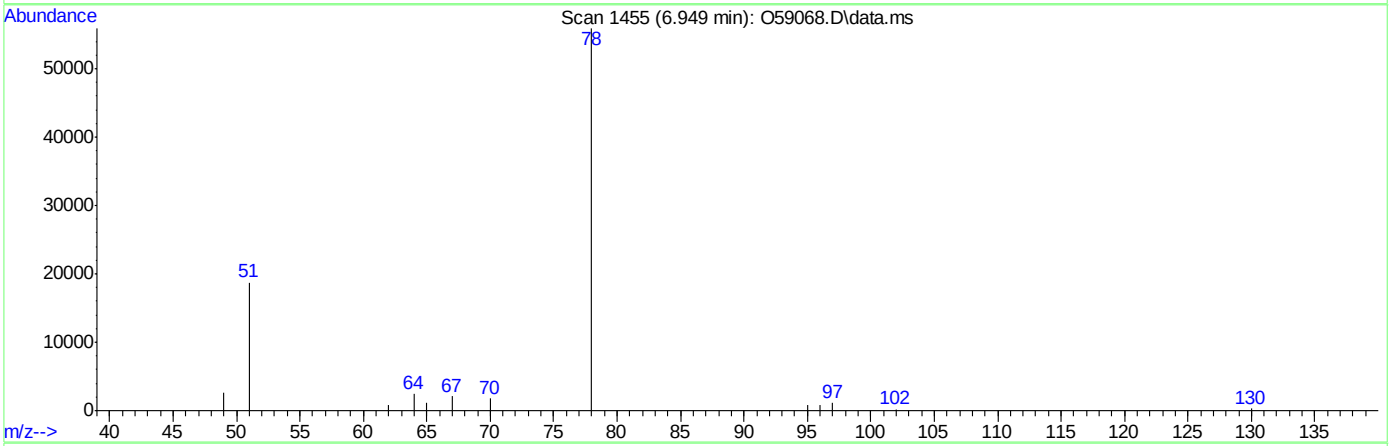
Ion	Exp%	Act%
78.00	100	100
51.00	32.70	33.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.42ug/L m

response 133791

Ion	Exp%	Act%
78.00	100	100
51.00	32.70	33.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59069.D
Acq On : 26 Aug 2019 1:13 pm
Operator : kevinb
Sample : IC2258-3 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 14:07:28 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

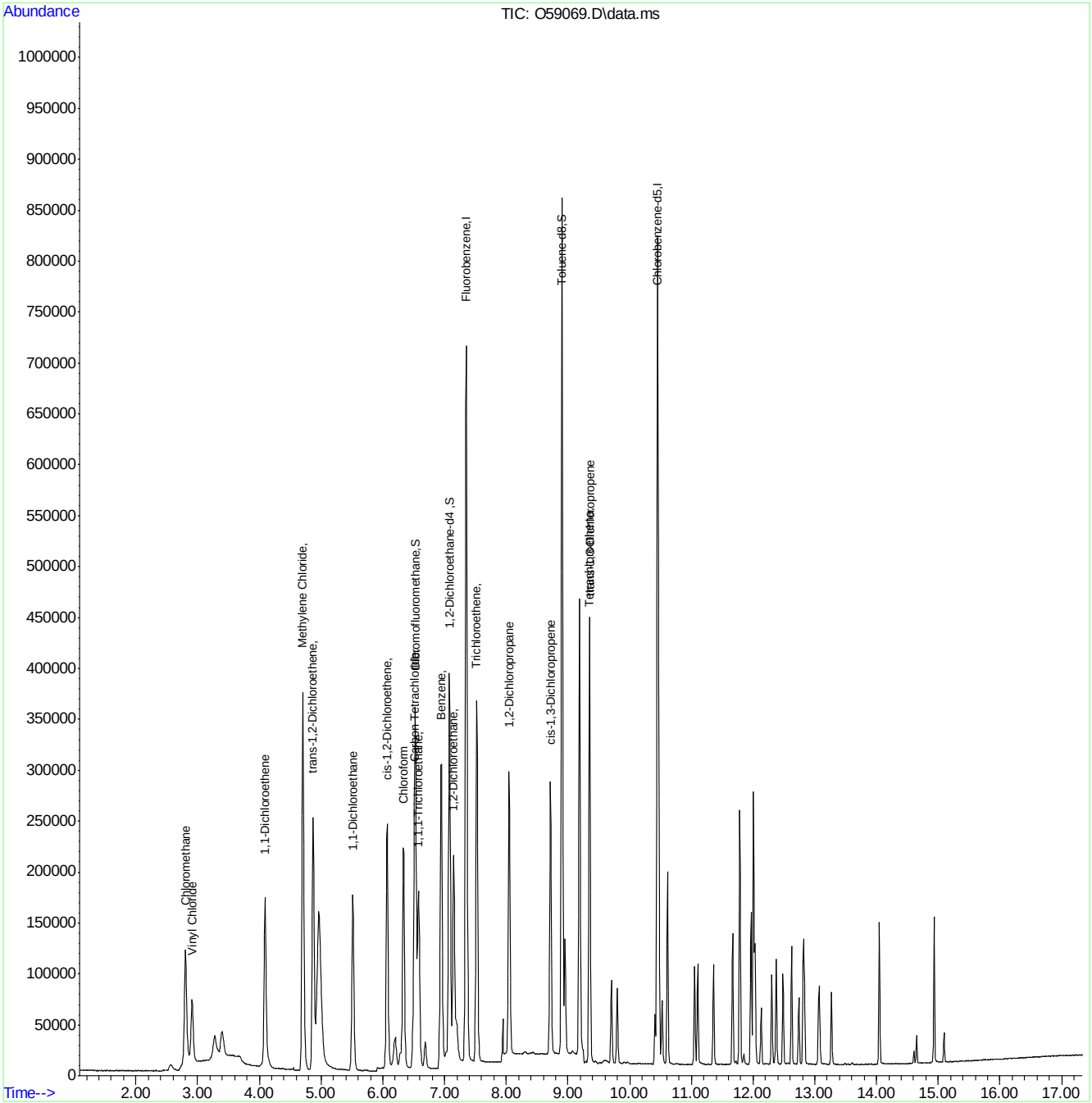
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	966427	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	695236	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	266179	4.16	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.20%			
14) 1,2-Dichloroethane-d4	7.080	65	343319	4.42	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 88.40%			
20) Toluene-d8	8.904	98	827066	5.67	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.40%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	119487	1.14	ug/L	98
3) Chloromethane	2.803	50	238334	1.36	ug/L	100
4) 1,1-Dichloroethene	4.089	61	205502	1.46	ug/L	97
5) Methylene Chloride	4.703	49	481773	1.87	ug/L	99
6) trans-1,2-Dichloroethene	4.869	61	250205	1.52	ug/L	97
7) 1,1-Dichloroethane	5.514	63	280903	1.49	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	146545	1.63	ug/L	99
9) Chloroform	6.333	83	224594	1.49	ug/L	99
11) Carbon Tetrachloride	6.511	117	142313	1.46	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	170065	1.53	ug/L	95
13) Benzene	6.949	78	503876	1.59	ug/L	95
15) 1,2-Dichloroethane	7.145	62	219394	1.46	ug/L	98
16) Trichloroethene	7.518	95	223735	2.24	ug/L	94
17) 1,2-Dichloropropane	8.047	63	177963	1.66	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	197728	1.95	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	169741	2.03	ug/L	99
22) Tetrachloroethene	9.345	166	129061	1.76	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59069.D
Acq On : 26 Aug 2019 1:13 pm
Operator : kevinb
Sample : IC2258-3 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 14:07:28 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:19 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59070.D
Acq On : 26 Aug 2019 1:34 pm
Operator : kevinb
Sample : IC2258-4 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 14:07:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

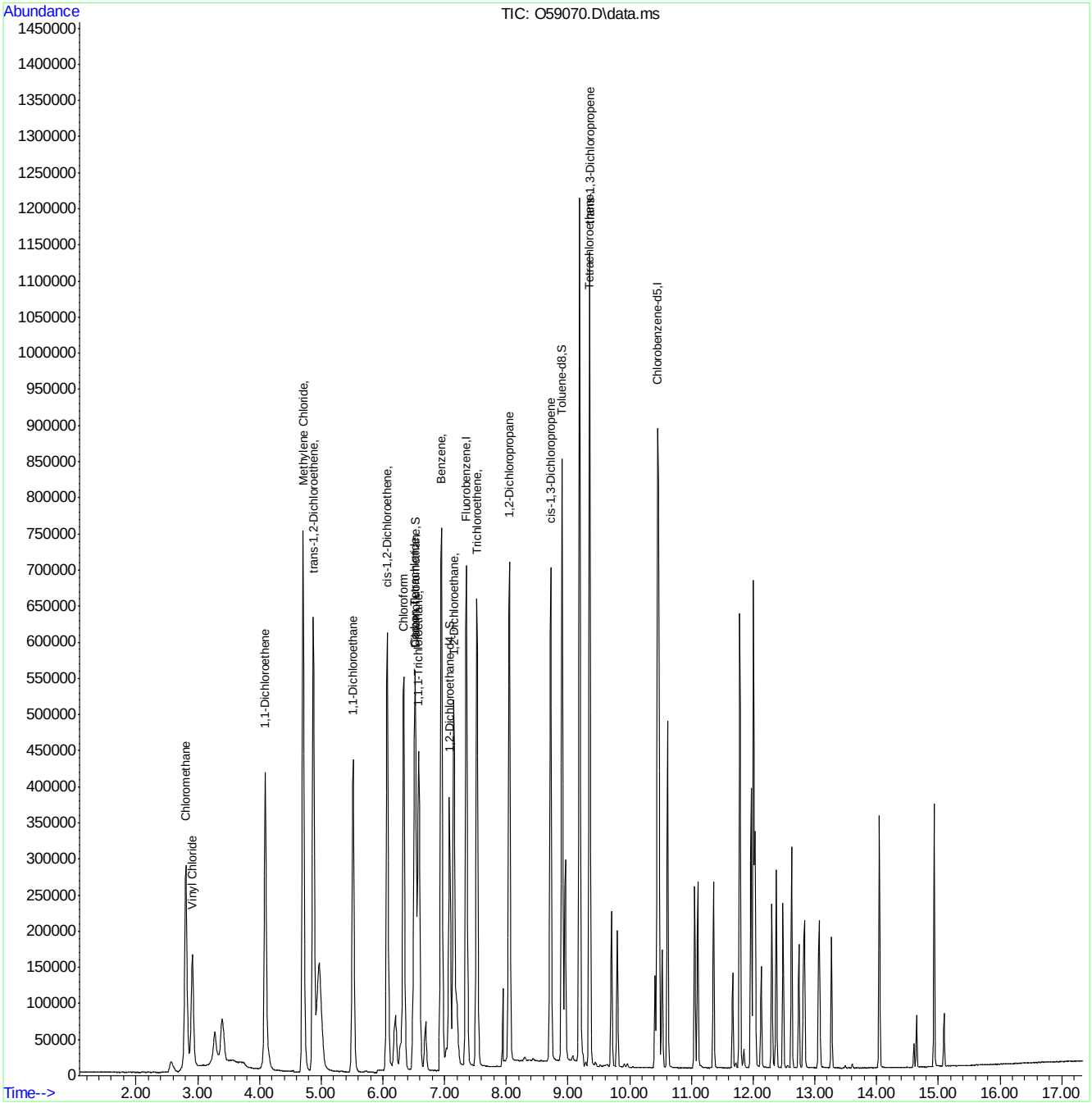
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	967709	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	690706	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	265552	4.15	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.00%			
14) 1,2-Dichloroethane-d4	7.079	65	325375	4.18	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 83.60%			
20) Toluene-d8	8.903	98	824305	5.69	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.80%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	310530	2.97	ug/L	99
3) Chloromethane	2.810	50	553412	3.19	ug/L	99
4) 1,1-Dichloroethene	4.092	61	507993	3.60	ug/L	99
5) Methylene Chloride	4.707	49	986245	3.88	ug/L	97
6) trans-1,2-Dichloroethene	4.873	61	627897	3.80	ug/L	98
7) 1,1-Dichloroethane	5.518	63	712322	3.76	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	372771	4.14	ug/L	97
9) Chloroform	6.339	83	567784	3.76	ug/L	98
11) Carbon Tetrachloride	6.516	117	380994	3.91	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	443119	3.98	ug/L	95
13) Benzene	6.949	78	1249926	3.93	ug/L	96
15) 1,2-Dichloroethane	7.151	62	554746	3.69	ug/L	97
16) Trichloroethene	7.524	95	386484	3.87	ug/L	98
17) 1,2-Dichloropropane	8.051	63	448332	4.18	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	511371	5.05	ug/L	97
21) trans-1,3-Dichloropropene	9.353	75	444715	5.34	ug/L	99
22) Tetrachloroethene	9.345	166	330591	4.54	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59070.D
Acq On : 26 Aug 2019 1:34 pm
Operator : kevinb
Sample : IC2258-4 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 14:07:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:21 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59071.D
Acq On : 26 Aug 2019 1:55 pm
Operator : kevinb
Sample : ICC2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 14:12:35 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

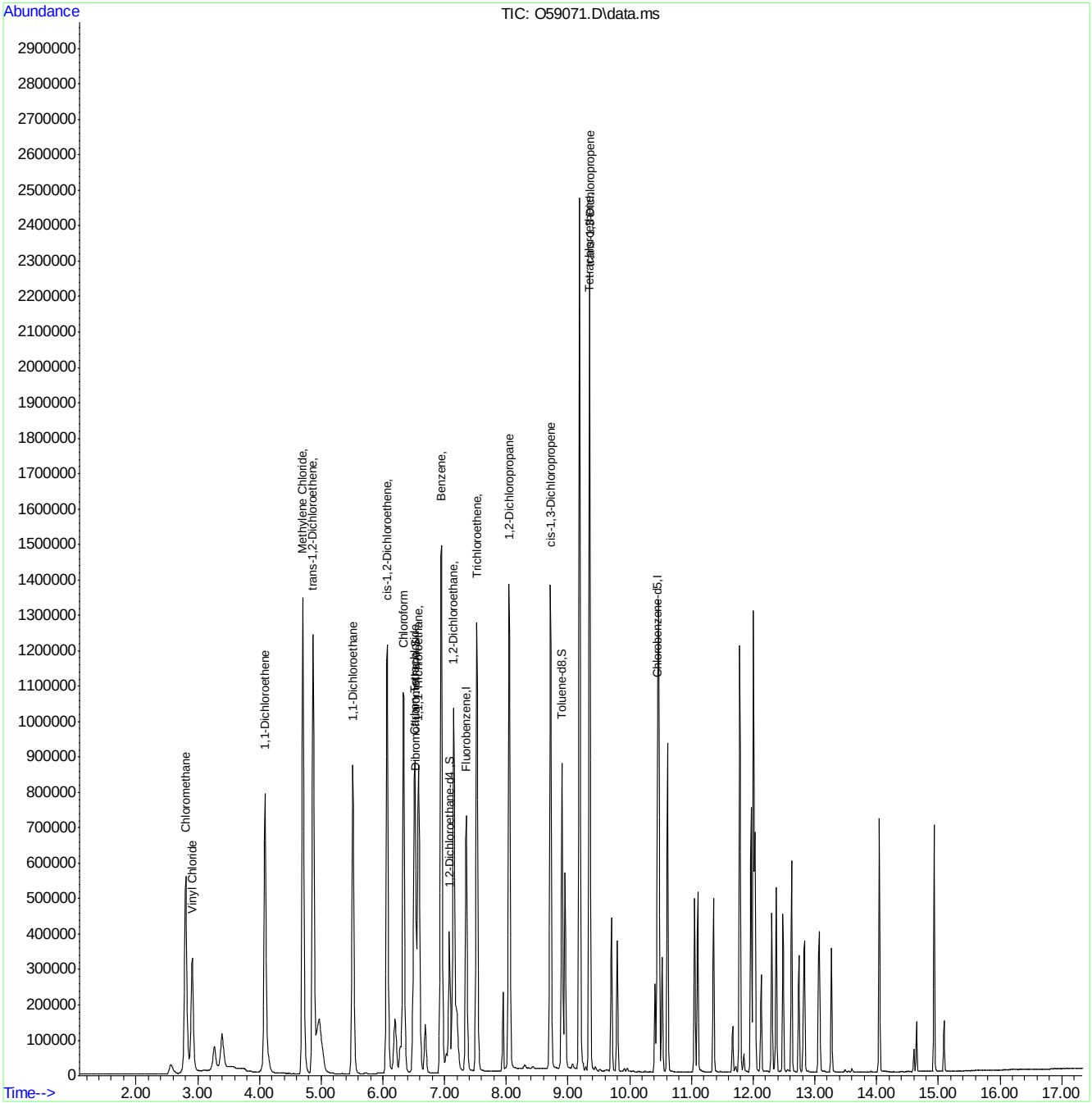
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	982225	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696551	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	267380	4.11	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 82.20%#			
14) 1,2-Dichloroethane-d4	7.079	65	334012	4.23	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 84.60%			
20) Toluene-d8	8.904	98	834654	5.71	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 114.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	617596	5.82	ug/L	99
3) Chloromethane	2.806	50	1057755	6.12	ug/L	99
4) 1,1-Dichloroethene	4.089	61	971731	6.78	ug/L	99
5) Methylene Chloride	4.703	49	1750204	6.96	ug/L	97
6) trans-1,2-Dichloroethene	4.869	61	1222109	7.30	ug/L	98
7) 1,1-Dichloroethane	5.514	63	1396723	7.27	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	732514	8.02	ug/L	99
9) Chloroform	6.333	83	1111151	7.24	ug/L	99
11) Carbon Tetrachloride	6.511	117	730117	7.38	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	870733	7.70	ug/L	94
13) Benzene	6.949	78	2440785	7.56	ug/L	95
15) 1,2-Dichloroethane	7.145	62	1093020	7.16	ug/L	99
16) Trichloroethene	7.524	95	753907	7.43	ug/L	98
17) 1,2-Dichloropropane	8.047	63	875742	8.05	ug/L	96
18) cis-1,3-Dichloropropene	8.719	75	1024040	9.96	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	894060	10.65	ug/L	98
22) Tetrachloroethene	9.345	166	638313	8.69	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59071.D
Acq On : 26 Aug 2019 1:55 pm
Operator : kevinb
Sample : ICC2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 14:12:35 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59072.D
Acq On : 26 Aug 2019 2:16 pm
Operator : kevinb
Sample : IC2258-6 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 14:44:01 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

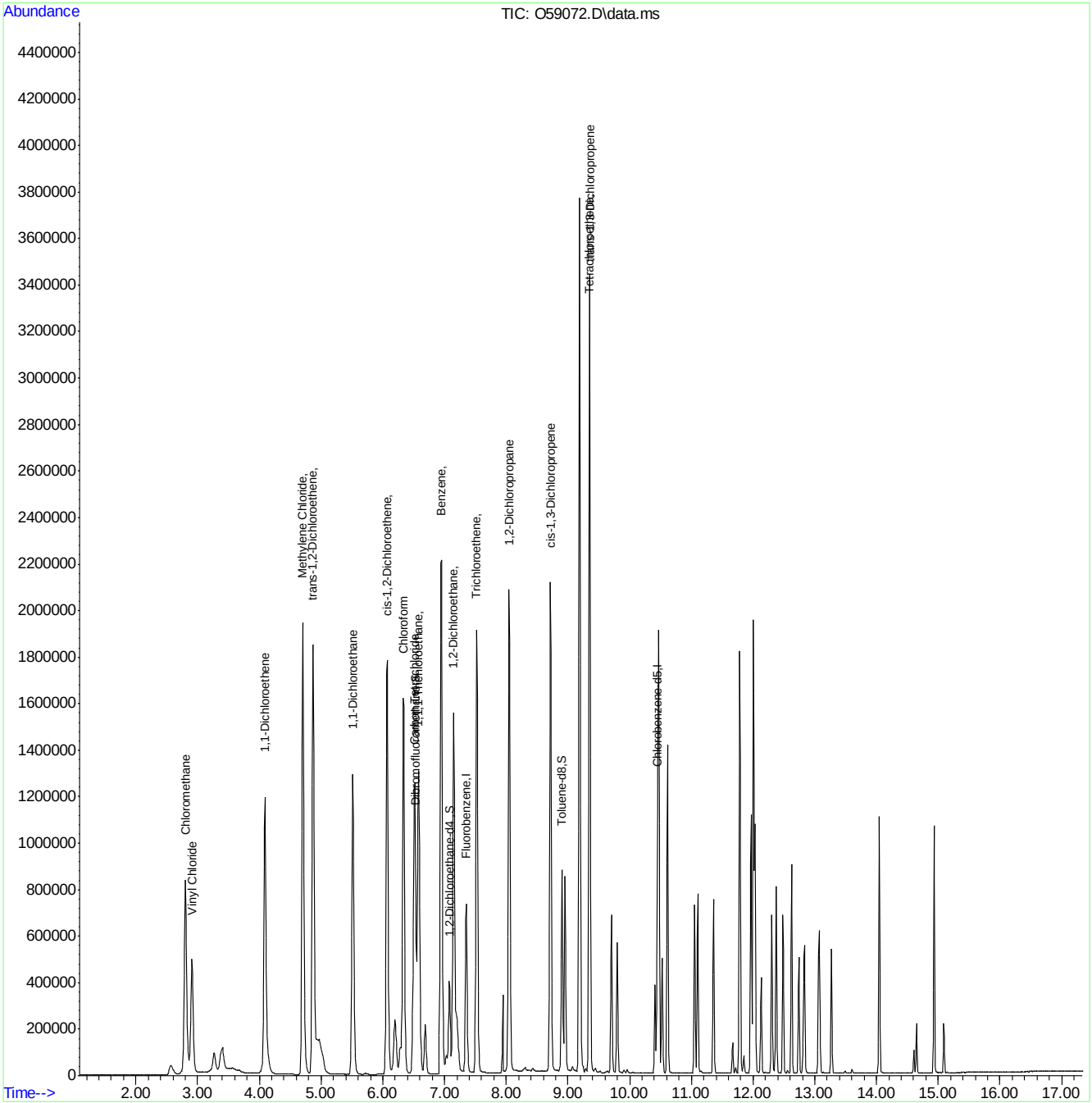
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	984555	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696564	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	264726	4.06	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 81.20%#			
14) 1,2-Dichloroethane-d4	7.080	65	334286	4.22	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 84.40%			
20) Toluene-d8	8.904	98	842121	5.76	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 115.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	954557	8.97	ug/L	99
3) Chloromethane	2.803	50	1590554	9.39	ug/L	99
4) 1,1-Dichloroethene	4.089	61	1487352	10.36	ug/L	100
5) Methylene Chloride	4.703	49	2554176	10.41	ug/L	97
6) trans-1,2-Dichloroethene	4.869	61	1836700	10.94	ug/L	98
7) 1,1-Dichloroethane	5.514	63	2096406	10.88	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	1095181	11.97	ug/L	99
9) Chloroform	6.333	83	1665835	10.83	ug/L	98
11) Carbon Tetrachloride	6.511	117	1126120	11.35	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	1334267	11.77	ug/L	94
13) Benzene	6.949	78	3659590	11.31	ug/L	94
15) 1,2-Dichloroethane	7.145	62	1646326	10.75	ug/L	98
16) Trichloroethene	7.518	95	1133106	11.14	ug/L	95
17) 1,2-Dichloropropane	8.047	63	1323974	12.15	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	1568519	15.22	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	1380700	16.45	ug/L	97
22) Tetrachloroethene	9.345	166	971454	13.23	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59072.D
Acq On : 26 Aug 2019 2:16 pm
Operator : kevinb
Sample : IC2258-6 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 14:44:01 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59073.D
Acq On : 26 Aug 2019 2:37 pm
Operator : kevinb
Sample : IC2258-7 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 14:59:46 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

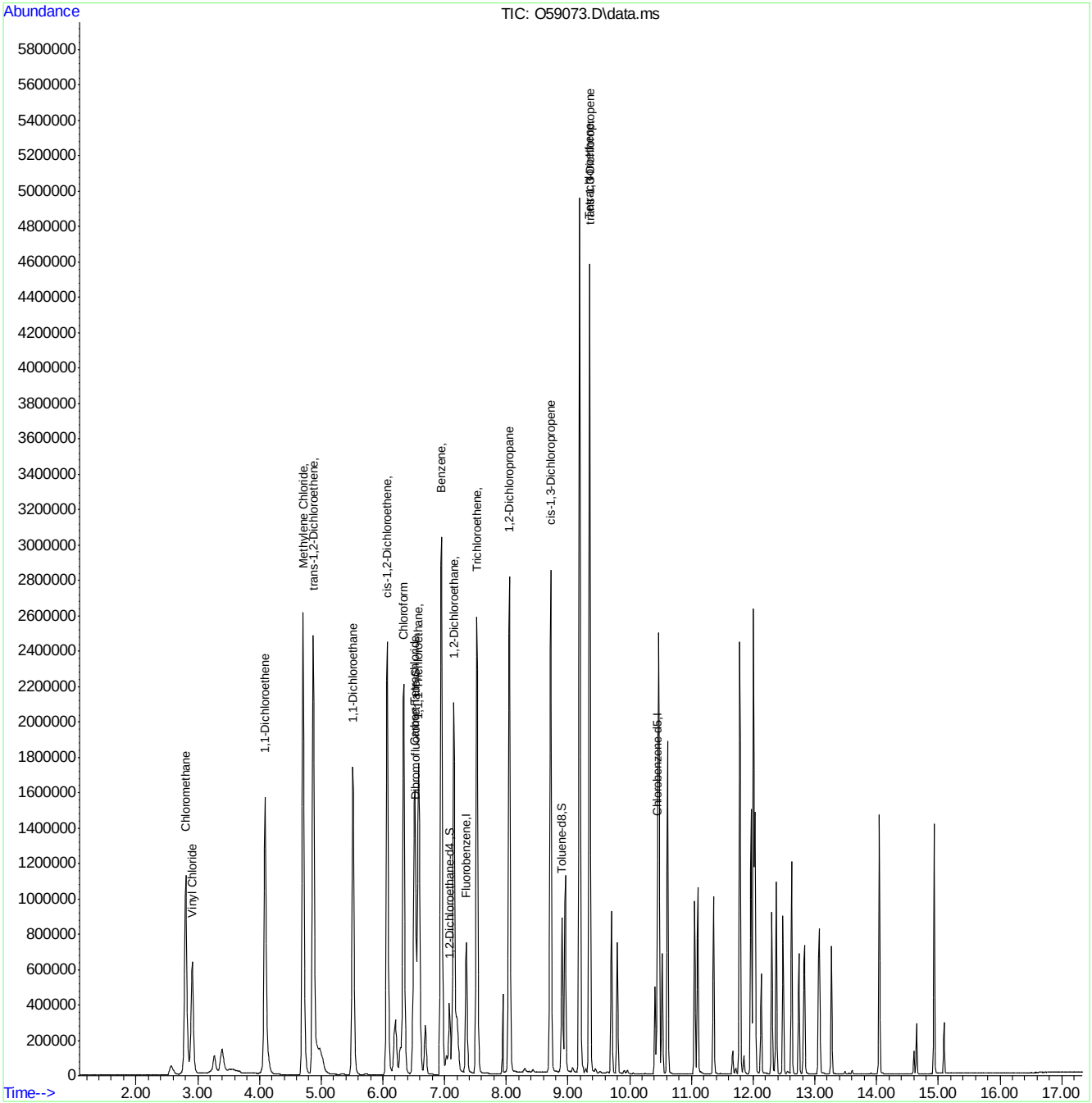
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	1001697	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	699700	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	270882	4.09	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 81.80%#			
14) 1,2-Dichloroethane-d4	7.079	65	341898	4.25	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 85.00%			
20) Toluene-d8	8.903	98	852657	5.81	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 116.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	1232038	11.38	ug/L	99
3) Chloromethane	2.806	50	2085187	12.35	ug/L	99
4) 1,1-Dichloroethene	4.088	61	2005700	13.73	ug/L	99
5) Methylene Chloride	4.707	49	3478423	14.41	ug/L	96
6) trans-1,2-Dichloroethene	4.873	61	2496709	14.62	ug/L	99
7) 1,1-Dichloroethane	5.514	63	2849534	14.54	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	1495061	16.06	ug/L	98
9) Chloroform	6.339	83	2269076	14.50	ug/L	97
11) Carbon Tetrachloride	6.516	117	1520351	15.06	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	1796306	15.57	ug/L	95
13) Benzene	6.949	78	4934646	14.99	ug/L	95
15) 1,2-Dichloroethane	7.151	62	2228516	14.31	ug/L	97
16) Trichloroethene	7.524	95	1526952	14.76	ug/L	98
17) 1,2-Dichloropropane	8.051	63	1792018	16.16	ug/L	94
18) cis-1,3-Dichloropropene	8.719	75	2134301	20.35	ug/L	97
21) trans-1,3-Dichloropropene	9.353	75	1883796	22.34	ug/L	97
22) Tetrachloroethene	9.349	166	1285828	17.43	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59073.D
Acq On : 26 Aug 2019 2:37 pm
Operator : kevinb
Sample : IC2258-7 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 14:59:46 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:27 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59075.D
Acq On : 26 Aug 2019 3:18 pm
Operator : kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 15:36:19 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

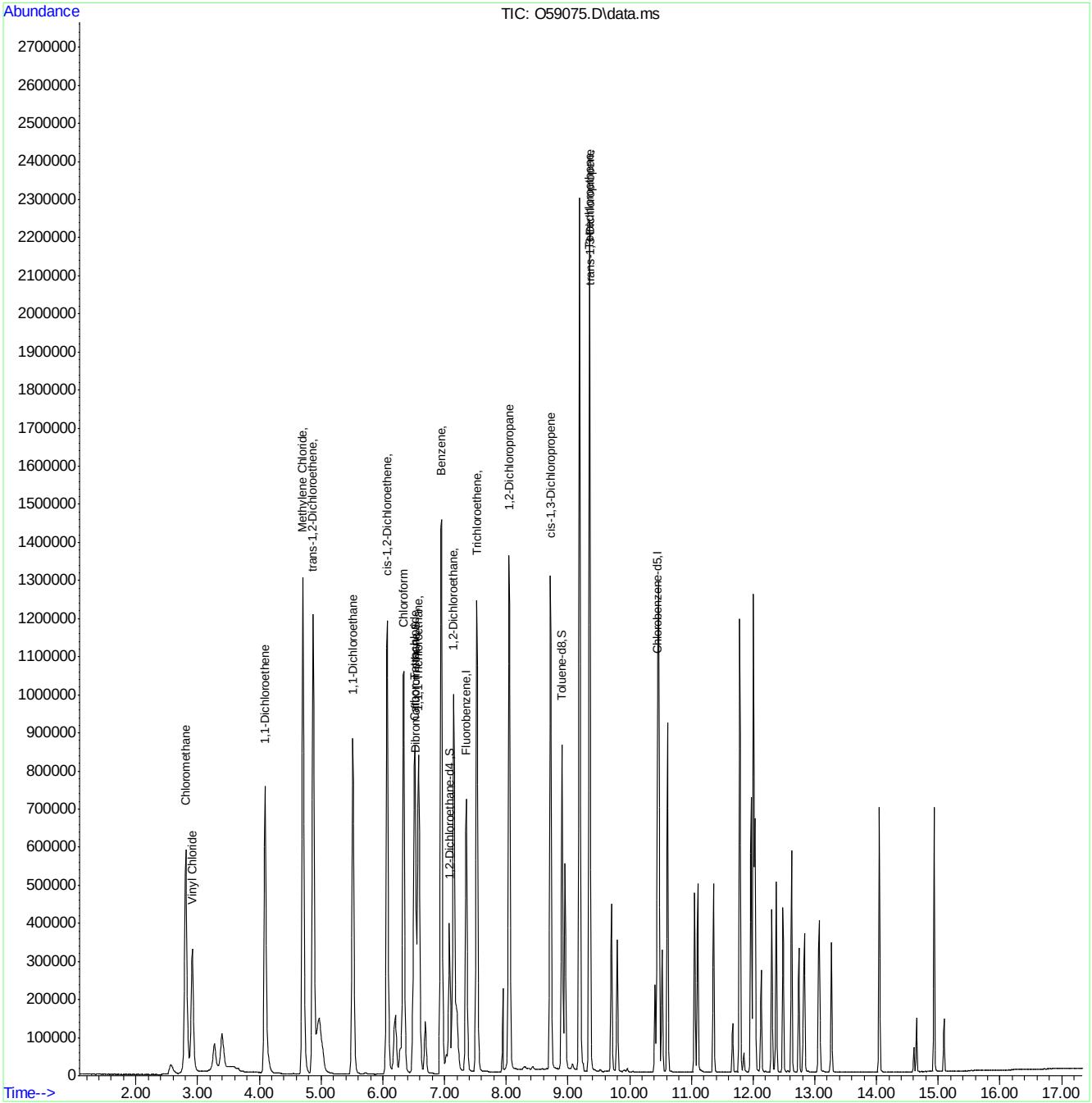
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	975957	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696785	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	264775	4.96	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 99.20%			
14) 1,2-Dichloroethane-d4	7.080	65	324147	4.81	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 96.20%			
20) Toluene-d8	8.904	98	830552	4.98	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 99.60%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	622874	10.13	ug/L	99
3) Chloromethane	2.807	50	1115318	10.17	ug/L	100
4) 1,1-Dichloroethene	4.089	61	942174	8.94	ug/L	99
5) Methylene Chloride	4.703	49	1717337	9.54	ug/L	100
6) trans-1,2-Dichloroethene	4.869	61	1184278	9.12	ug/L	99
7) 1,1-Dichloroethane	5.514	63	1410324	9.66	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	718681	9.40	ug/L	100
9) Chloroform	6.339	83	1091036	9.22	ug/L	99
11) Carbon Tetrachloride	6.511	117	709262	9.16	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	840642	9.26	ug/L	100
13) Benzene	6.949	78	2390261	9.77	ug/L	100
15) 1,2-Dichloroethane	7.145	62	1056307	9.32	ug/L	99
16) Trichloroethene	7.524	95	740491	9.63	ug/L	99
17) 1,2-Dichloropropane	8.047	63	869825	9.36	ug/L	99
18) cis-1,3-Dichloropropene	8.719	75	976689	9.32	ug/L	100
21) trans-1,3-Dichloropropene	9.353	75	906764	10.12	ug/L	99
22) Tetrachloroethene	9.345	166	633383	9.33	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59075.D
Acq On : 26 Aug 2019 3:18 pm
Operator : kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 15:36:19 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59114.D
Acq On : 29 Aug 2019 3:18 pm
Operator : kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44186,VO2261,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 29 15:40:46 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

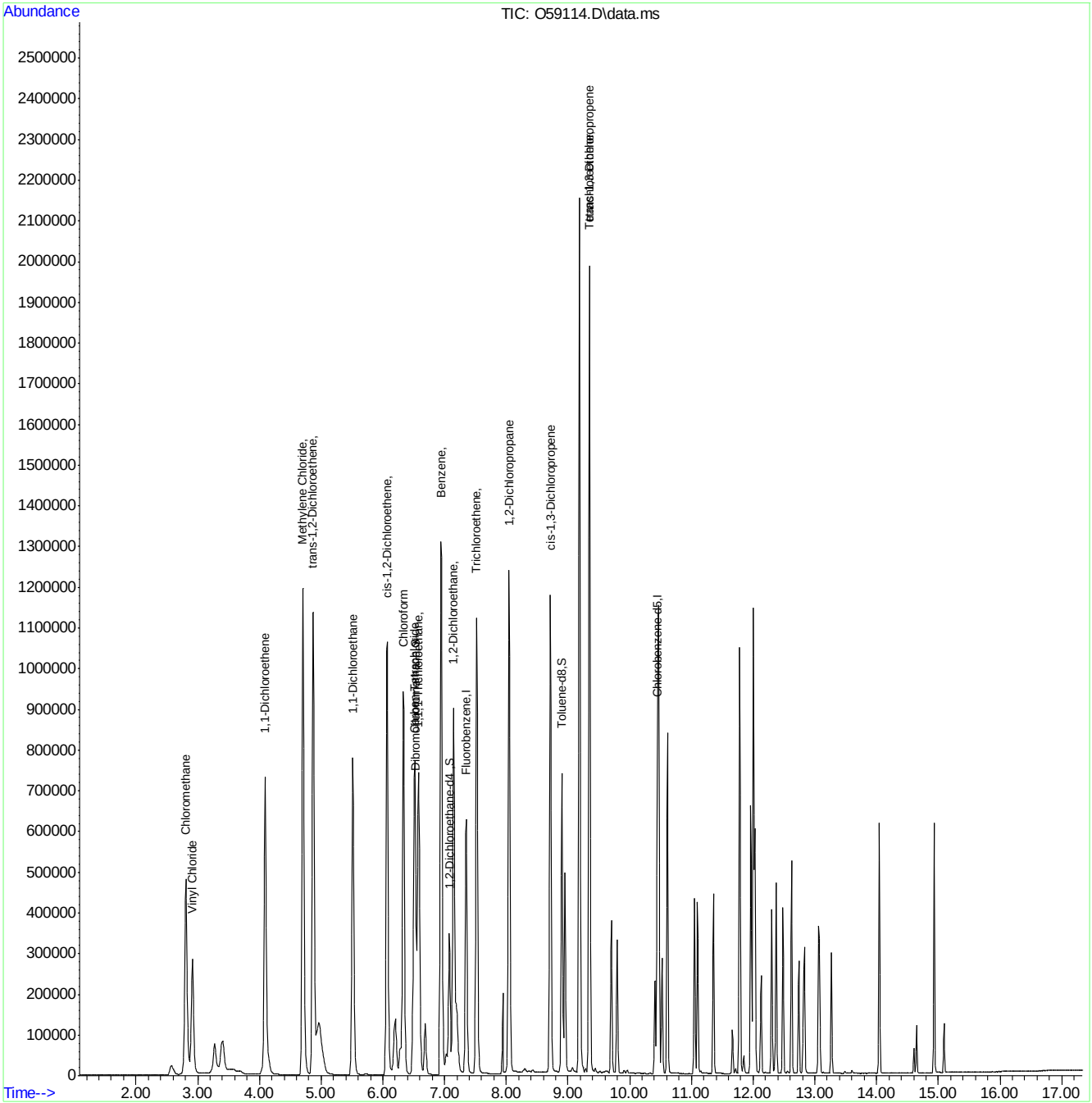
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	860108	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.449	117	622021	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	236408	5.02	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 100.40%			
14) 1,2-Dichloroethane-d4	7.079	65	283026	4.77	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 95.40%			
20) Toluene-d8	8.903	98	720486	4.84	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 96.80%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.916	62	542129	10.00	ug/L	99
3) Chloromethane	2.810	50	891599	9.23	ug/L	100
4) 1,1-Dichloroethene	4.092	61	884053	9.52	ug/L	96
5) Methylene Chloride	4.703	49	1600607	10.13	ug/L	98
6) trans-1,2-Dichloroethene	4.869	61	1122764	9.81	ug/L	100
7) 1,1-Dichloroethane	5.514	63	1263607	9.82	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	652733	9.69	ug/L	99
9) Chloroform	6.333	83	951751	9.13	ug/L	98
11) Carbon Tetrachloride	6.510	117	627250	9.20	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	741018	9.26	ug/L	98
13) Benzene	6.943	78	2135735	9.91	ug/L	96
15) 1,2-Dichloroethane	7.145	62	936482	9.37	ug/L	97
16) Trichloroethene	7.518	95	668397	9.87	ug/L	98
17) 1,2-Dichloropropane	8.047	63	789368	9.64	ug/L	99
18) cis-1,3-Dichloropropene	8.715	75	854531	9.25	ug/L	95
21) trans-1,3-Dichloropropene	9.349	75	744922	9.31	ug/L	96
22) Tetrachloroethene	9.345	166	597722	9.86	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59114.D
Acq On : 29 Aug 2019 3:18 pm
Operator : kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44186,VO2261,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 29 15:40:46 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59140.D
Acq On : 30 Aug 2019 12:25 am
Operator : kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44206,VO2261,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 30 08:58:00 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

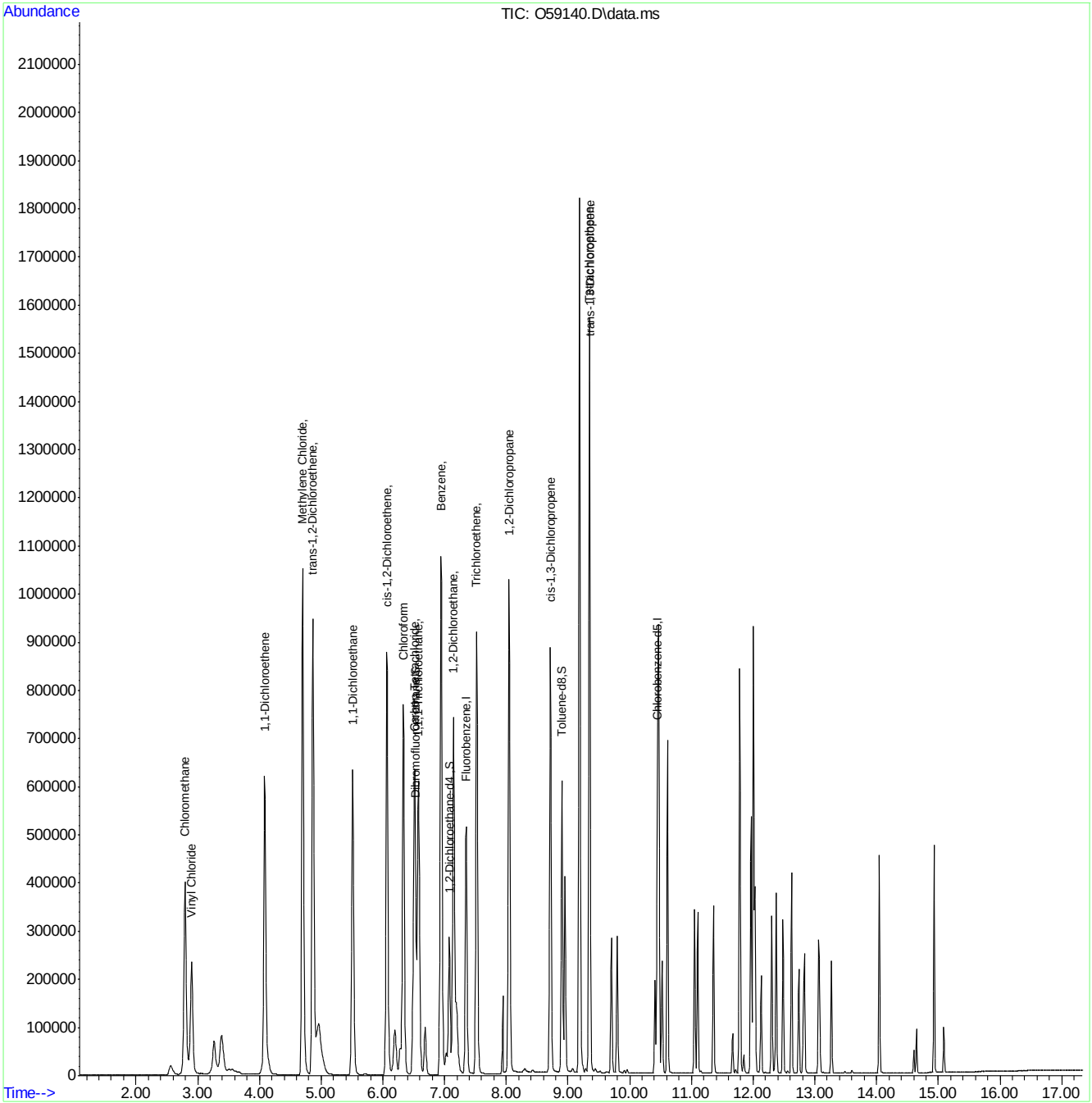
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	707692	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.449	117	522351	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	199736	5.16	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 103.20%			
14) 1,2-Dichloroethane-d4	7.079	65	231200	4.74	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 94.80%			
20) Toluene-d8	8.903	98	586063	4.69	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 93.80%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.901	62	449666	10.08	ug/L	99
3) Chloromethane	2.795	50	764868	9.62	ug/L	99
4) 1,1-Dichloroethene	4.085	61	735952	9.63	ug/L	98
5) Methylene Chloride	4.699	49	1392142	10.76	ug/L	96
6) trans-1,2-Dichloroethene	4.865	61	925169	9.83	ug/L	99
7) 1,1-Dichloroethane	5.510	63	1028804	9.72	ug/L	99
8) cis-1,2-Dichloroethene	6.066	96	532444	9.60	ug/L	98
9) Chloroform	6.333	83	766781	8.94	ug/L	96
11) Carbon Tetrachloride	6.510	117	498914	8.89	ug/L	100
12) 1,1,1-Trichloroethane	6.576	97	583828	8.87	ug/L	95
13) Benzene	6.943	78	1708697	9.63	ug/L	93
15) 1,2-Dichloroethane	7.145	62	760582	9.25	ug/L	96
16) Trichloroethene	7.518	95	538651	9.66	ug/L	98
17) 1,2-Dichloropropane	8.047	63	632043	9.38	ug/L	98
18) cis-1,3-Dichloropropene	8.715	75	620253	8.16	ug/L	89
21) trans-1,3-Dichloropropene	9.353	75	541724	8.07	ug/L	91
22) Tetrachloroethene	9.345	166	483773	9.50	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082919\
Data File : O59140.D
Acq On : 30 Aug 2019 12:25 am
Operator : kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44206,VO2261,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 30 08:58:00 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



SIMCL082619.M Fri Aug 30 09:36:57 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59144.D
Acq On : 30 Aug 2019 10:44 am
Operator : kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44009,VO2262,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 30 11:02:31 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

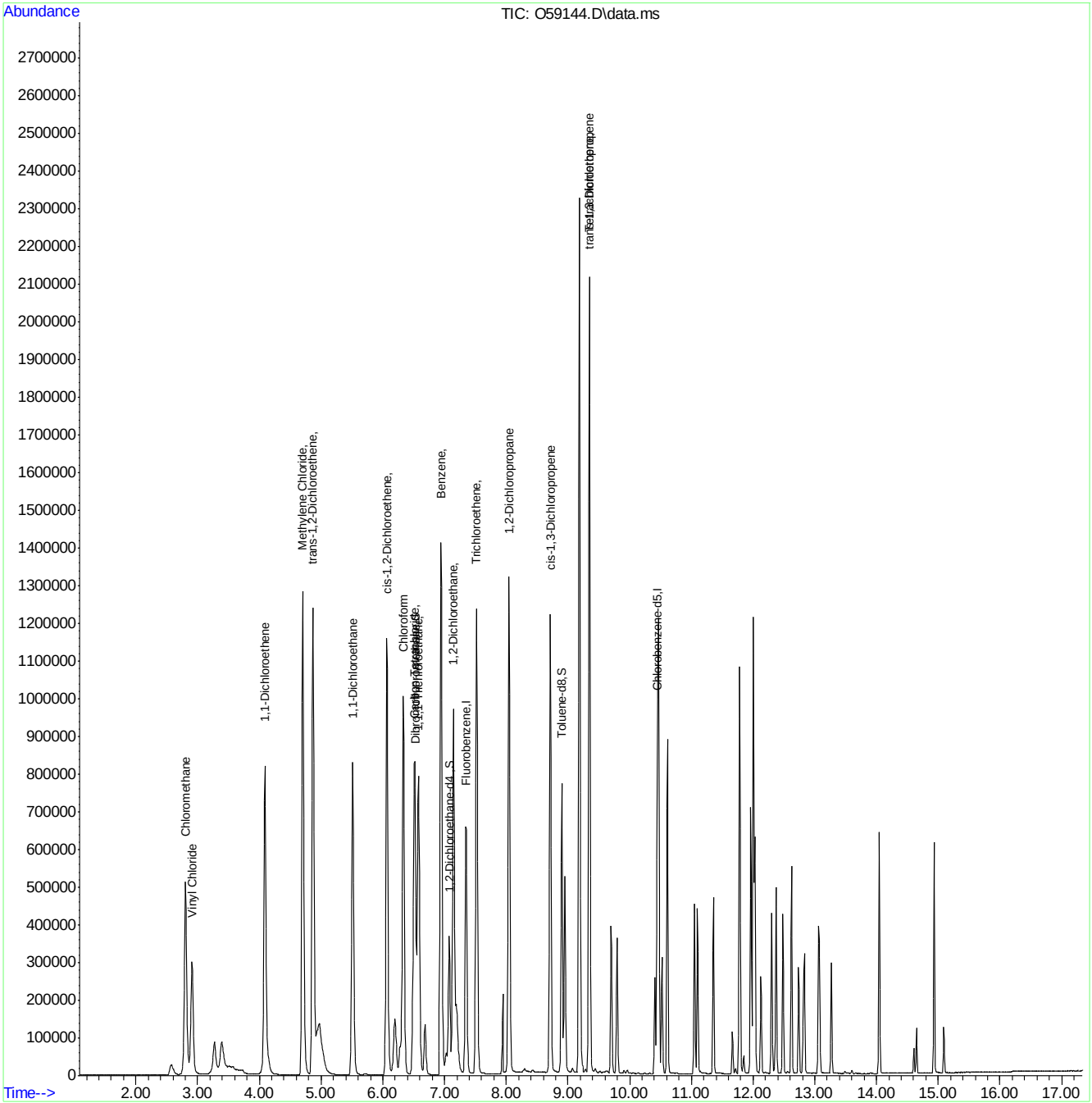
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	921035	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.450	117	669867	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.522	113	258823	5.13	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 102.60%			
14) 1,2-Dichloroethane-d4	7.074	65	297865	4.69	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 93.80%			
20) Toluene-d8	8.900	98	756275	4.72	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.40%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	583896	10.06	ug/L	99
3) Chloromethane	2.803	50	952657	9.21	ug/L	100
4) 1,1-Dichloroethene	4.089	61	978114	9.84	ug/L	97
5) Methylene Chloride	4.700	49	1723021	10.19	ug/L	96
6) trans-1,2-Dichloroethene	4.865	61	1223049	9.98	ug/L	99
7) 1,1-Dichloroethane	5.510	63	1355598	9.84	ug/L	99
8) cis-1,2-Dichloroethene	6.066	96	701437	9.72	ug/L	99
9) Chloroform	6.333	83	1009031	9.04	ug/L	97
11) Carbon Tetrachloride	6.511	117	674397	9.23	ug/L	100
12) 1,1,1-Trichloroethane	6.576	97	771235	9.00	ug/L	95
13) Benzene	6.943	78	2247614	9.73	ug/L	95
15) 1,2-Dichloroethane	7.145	62	991277	9.27	ug/L	96
16) Trichloroethene	7.518	95	712440	9.83	ug/L	98
17) 1,2-Dichloropropane	8.047	63	830403	9.47	ug/L	99
18) cis-1,3-Dichloropropene	8.715	75	866753	8.77	ug/L	93
21) trans-1,3-Dichloropropene	9.349	75	758034	8.80	ug/L	92
22) Tetrachloroethene	9.345	166	649497	9.95	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59144.D
Acq On : 30 Aug 2019 10:44 am
Operator : kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44009,VO2262,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 30 11:02:31 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



SIMCL082619.M Fri Aug 30 11:29:08 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59155.D
Acq On : 30 Aug 2019 2:37 pm
Operator : kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 30 15:00:10 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

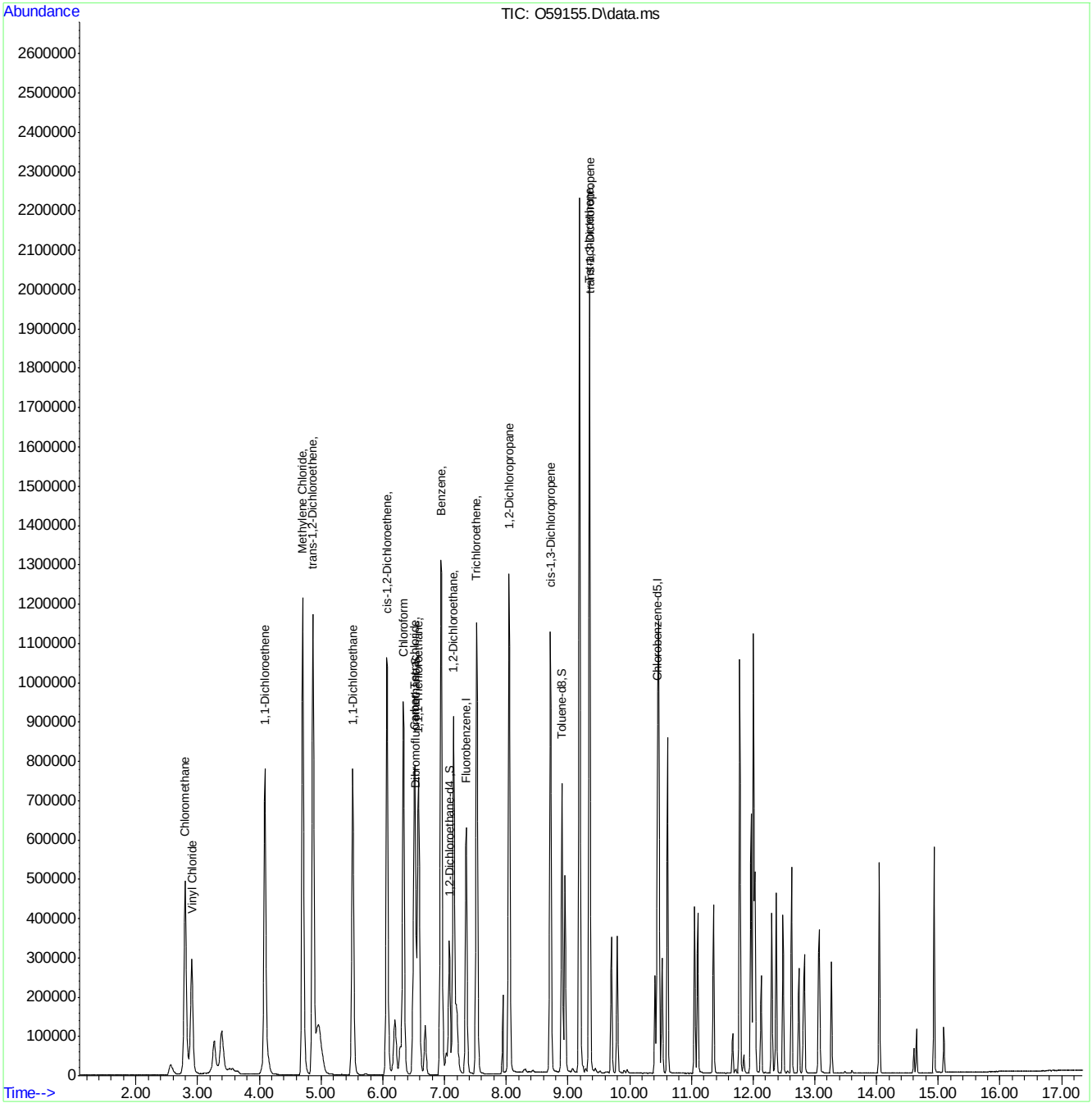
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	856057	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	634115	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	239082	5.10	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 102.00%			
14) 1,2-Dichloroethane-d4	7.080	65	275318	4.66	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 93.20%			
20) Toluene-d8	8.904	98	714450	4.71	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.20%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.905	62	565133	10.47	ug/L	99
3) Chloromethane	2.799	50	946944	9.84	ug/L	99
4) 1,1-Dichloroethene	4.089	61	925031	10.01	ug/L	97
5) Methylene Chloride	4.699	49	1615056	10.28	ug/L	96
6) trans-1,2-Dichloroethene	4.869	61	1140598	10.01	ug/L	98
7) 1,1-Dichloroethane	5.510	63	1265230	9.88	ug/L	98
8) cis-1,2-Dichloroethene	6.066	96	655018	9.77	ug/L	98
9) Chloroform	6.333	83	945392	9.11	ug/L	96
11) Carbon Tetrachloride	6.511	117	634299	9.34	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	726234	9.12	ug/L	97
13) Benzene	6.943	78	2114784	9.86	ug/L	93
15) 1,2-Dichloroethane	7.145	62	932208	9.38	ug/L	95
16) Trichloroethene	7.518	95	669442	9.94	ug/L	98
17) 1,2-Dichloropropane	8.047	63	784290	9.62	ug/L	98
18) cis-1,3-Dichloropropene	8.715	75	802772	8.73	ug/L	90
21) trans-1,3-Dichloropropene	9.353	75	700622	8.59	ug/L	93
22) Tetrachloroethene	9.345	166	617179	9.99	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\083019\
Data File : O59155.D
Acq On : 30 Aug 2019 2:37 pm
Operator : kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44210,VO2262,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 30 15:00:10 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



SIMCL082619.M Fri Aug 30 15:00:41 2019 Page: 2

SGS -ORLANDO

MSVOA12-O-ANALYSIS LOG

Date:	8/26/2019
COLUMN TYPE:	RTX VMS
DETECTOR:	5975 MSD
INSTRUMENT:	MSVOA12-O
PURGE PRESSURE	8.4PSI
PURGE VOLUME:	5 mL
ANALYST:	KEVINB

METHODS:*	8260SIMCL
METHOD FILE:	simcl082619.m
CALIB. DATE:	8/26/2019
EM VOLTAGE:	1376V
BFB RESPONSE	15495515
RUN ID:	**VO2258**

BFB:	V25309B
ICAL/CC:	V25303 V25329
ISTD/SUR:	V25328
ICV/QC:	V25304 V25330

PH LOT1-12 :230814
ph lot 0.0-3.0 : 220416a
KI PAPER LOT:030317
SAMPLE ID VERIFIED BY:
KB
DATE VERIFIED: 8/26/19

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAK RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
O59061	blank	NA	NA	w	1	ACQ_SIMCL		NA	NA		ND ✔
O59062	blank	NA	NA	w	2	ACQ_SIMCL		NA	NA		ND ✔
O59063	blank	NA	NA	w	3	ACQ_SIMCL		NA	NA		ND ✔
O59064	blank	NA	NA	w	4	ACQ_SIMCL		NA	NA		ND ✔
O59065	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59066	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59067	IC2258-1	NA	NA	w	1	ACQ_SIMCL	PII 3,13	NA	NA		1uL->100mL ✔
O59068	IC2258-2	NA	NA	w	2	ACQ_SIMCL	PII 3,13	NA	NA		5uL->100mL ✔
O59069	IC2258-3	NA	NA	w	3	ACQ_SIMCL		NA	NA		10uL->50mL ✔
O59070	IC2258-4	NA	NA	w	4	ACQ_SIMCL		NA	NA		25uL->50mL ✔
O59071	IC2258-5	NA	NA	w	5	ACQ_SIMCL		NA	NA		50uL->50mL ✔
O59072	IC2258-6	NA	NA	w	6	ACQ_SIMCL		NA	NA		75uL->50mL ✔
O59073	IC2258-7	NA	NA	w	7	ACQ_SIMCL		NA	NA		100uL->50mL ✔
O59074	blank	NA	NA	w	8	ACQ_SIMCL		NA	NA		ND ✔
O59075	ICV2258-5	NA	NA	w	9	ACQ_SIMCL		NA	NA		50uL->50mL ✔

* For NELAC purposes, Method 8260 includes analytes by SOP MS005 Matrix: Designate "W" for Water "S" for soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rational SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, PII Poor Instrument

Analyst's Signature: Kevin Boyd

SGS -ORLANDO

MSVOA12-O-ANALYSIS LOG

Date:	8/29/2019
COLUMN TYPE:	RTX VMS
DETECTOR:	5975 MSD
INSTRUMENT:	MSVOA12-O
PURGE PRESSURE	8.4PSI
PURGE VOLUME:	5 mL
ANALYST:	KEVINB

METHODS:*	8260SIMCL
METHOD FILE:	simcl082619.m
CALIB. DATE:	8/26/2019
EM VOLTAGE:	1376V
BFB RESPONSE	12463804
RUN ID:	VO2261

BFB:	V25309B
ICAL/CC:	V25303 V25329
ISTD/SUR:	V25328
ICV/QC:	V25304 V25330

PH LOT1-12 :230814
ph lot 0.0-3.0 : 220416a
KI PAPER LOT:030317
SAMPLE ID VERIFIED BY:
KB
DATE VERIFIED: 8/29/19

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAK RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
O59113	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59114	CC2258-5	NA	NA	w	1	ACQ_SIMCL		NA	NA		50uL->50mL ✔
O59115	BS	NA	NA	w	2	ACQ_SIMCL		NA	NA		20uL->vial ✔
O59116	MB	NA	NA	w	3	ACQ_SIMCL		NA	NA		ND ✔
O59117	FA67558-18	1X	1	w	4	ACQ_SIMCL		1	N		✔
O59118	FA67558-1	1X	1	w	5	ACQ_SIMCL		1	N		✔
O59119	FA67558-2	1X	1	w	6	ACQ_SIMCL		1	N		✔
O59120	FA67558-3	1X	1	w	7	ACQ_SIMCL	PII 3	1	N		✔
O59121	FA67558-4	1X	1	w	8	ACQ_SIMCL		1	N		✔
O59122	FA67558-5	1X	1	w	9	ACQ_SIMCL		1	N		✔
O59123	FA67558-6	1X	1	w	10	ACQ_SIMCL		1	N		✔
O59124	FA67558-7	1X	1	w	11	ACQ_SIMCL		1	N		✔
O59125	FA67558-8	1X	2	w	12	ACQ_SIMCL	PII 3	1	N		✔
O59126	FA67558-9	1X	1	w	13	ACQ_SIMCL	PII 3	1	N		✔
O59127	FA67558-1MS	5X	2	w	14	ACQ_SIMCL	20mL->100mL	1	N		20uL->vial ✔
O59128	FA67558-1MSD	5X	2	w	15	ACQ_SIMCL	20mL->100mL	1	N		20uL->vial ✔
O59129	BLANK	NA	NA	w	16	ACQ_SIMCL		NA	NA		ND ✔
O59130	FA67558-10	1X	1	w	17	ACQ_SIMCL	PII 3	1	N		✔
O59131	FA67558-11	1X	1	w	18	ACQ_SIMCL		1	N		✔
O59132	FA67558-12	1X	1	w	19	ACQ_SIMCL		1	N		✔
O59133	FA67558-13	1X	1	w	20	ACQ_SIMCL	PII 3	1	N		✔
O59134	FA67558-14	1X	1	w	21	ACQ_SIMCL	PII 3	1	N		✔
O59135	FA67558-15	1X	1	w	22	ACQ_SIMCL	PII 3	1	N		✔
O59136	FA67558-16	1X	1	w	23	ACQ_SIMCL	PII 3	1	N		✔
O59137	FA67558-17	1X	1	w	24	ACQ_SIMCL	PII 3	1	N		✔
O59138	FA67560-1	1X	1	w	25	ACQ_SIMCL		1	N		✔
O59139	FA67560-2	1X	1	w	26	ACQ_SIMCL		1	N		✔
O59140	ECC2258-5	NA	NA	w	27	ACQ_SIMCL		NA	NA		50uL->50mL ✔

Analyst's Signature:

SGS -ORLANDO

MSVOA12-O-ANALYSIS LOG

Date:	8/30/2019
COLUMN TYPE:	RTX VMS
DETECTOR:	5975 MSD
INSTRUMENT:	MSVOA12-O
PURGE PRESSURE	8.4PSI
PURGE VOLUME:	5 mL
ANALYST:	KEVINB

METHODS:*	8260SIMCL
METHOD FILE:	simcl082619.m
CALIB. DATE:	8/26/2019
EM VOLTAGE:	1400V
BFB RESPONSE	15574452
RUN ID:	VO2262

BFB:	V25309B
ICAL/CC:	V25303 V25329
ISTD/SUR:	V25328
ICV/QC:	V25304 V25330

PH LOT1-12 :230814
ph lot 0.0-3.0 : 220416a
KI PAPER LOT:030317
SAMPLE ID VERIFIED BY:
KB
DATE VERIFIED: 8/30/19

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAK RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
O59141	BLANK	NA	NA	w	1	ACQ_SIMCL		NA	NA		ND ✔
O59142	BLANK	NA	NA	w	2	ACQ_SIMCL		NA	NA		ND ✔
O59143	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59144	CC2258-5	NA	NA	w	1	ACQ_SIMCL		NA	NA		50uL->50mL ✔
O59145	BS	NA	NA	w	2	ACQ_SIMCL		NA	NA		20uL->vial ✔
O59146	MB	NA	NA	w	3	ACQ_SIMCL		NA	NA		ND ✔
O59147	FA67613-1	1X	1	w	4	ACQ_SIMCL		1	N		✔
O59148	FA67560-4	1X	1	w	5	ACQ_SIMCL		1	N		✔
O59149	FA67560-3	1X	1	w	6	ACQ_SIMCL	PII 3,22	1	N		✔
O59150	FA67613-2	1X	1	w	7	ACQ_SIMCL		1	N		✔
O59151	FA67613-3	1X	2	w	8	ACQ_SIMCL		1	N		✔
O59152	FA67613-4	1X	3	w	9	ACQ_SIMCL		1	N		✔
O59153	FA67560-3MS	1X	2	w	10	ACQ_SIMCL		1	N		20uL->vial ✔
O59154	FA67560-3MSD	1X	3	w	11	ACQ_SIMCL		1	N		20uL->vial ✔
O59155	ECC2258-5	NA	NA	w	12	ACQ_SIMCL		NA	NA		50uL->50mL ✔

Analyst's Signature: _____

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Ahtna Environmental Inc

Fort Ord Groundwater Monitoring

SGS Job Number: FA67615

Sampling Date: 08/27/19

Report to:

Ahtna Environmental Inc
3100 Beacon Blvd
West Sacramento, CA 95691
hdillon@ahtna.net; mfisler@ahtna.net;
dlieberman@ahtna.net; eschmidt@ahtna.net
ATTN: Derek Lieberman

Total number of pages in report: **161**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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SGS North America Inc.

Sample Summary

Ahtna Environmental Inc

Job No: FA67615

Fort Ord Groundwater Monitoring

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA67615-1	08/27/19	08:11	JA	08/29/19	AQ	Ground Water	1935Y212010F
FA67615-2	08/27/19	08:40	JA	08/29/19	AQ	Ground Water	1935Y212011F
FA67615-3	08/27/19	08:58	JA	08/29/19	AQ	Ground Water	1935Y212012F
FA67615-4	08/27/19	08:58	JA	08/29/19	AQ	Ground Water	1935Y212013D
FA67615-5	08/27/19	09:15	JA	08/29/19	AQ	Ground Water	1935Y212014F
FA67615-6	08/27/19	09:24	JA	08/29/19	AQ	Ground Water	1935Y212015F
FA67615-7	08/27/19	09:35	JA	08/29/19	AQ	Trip Blank Water	1935Y212016A
FA67615-8	08/27/19	09:44	JA	08/29/19	AQ	Ground Water	1935Y212017F
FA67615-9	08/27/19	09:55	JA	08/29/19	AQ	Ground Water	1935Y212018F
FA67615-10	08/27/19	10:14	JA	08/29/19	AQ	Ground Water	1935Y212019F
FA67615-11	08/27/19	10:43	JA	08/29/19	AQ	Ground Water	1935Y212020F
FA67615-12	08/27/19	10:58	JA	08/29/19	AQ	Ground Water	1935Y212021F
FA67615-13	08/27/19	11:18	JA	08/29/19	AQ	Ground Water	1935Y212022F

Sample Summary
(continued)

Ahtna Environmental Inc

Job No: FA67615

Fort Ord Groundwater Monitoring

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA67615-14	08/27/19	12:20	JA	08/29/19	AQ	Ground Water	1935Y212023F
FA67615-15	08/27/19	12:37	JA	08/29/19	AQ	Ground Water	1935Y212024F
FA67615-16	08/27/19	13:02	JA	08/29/19	AQ	Ground Water	1935Y212025F
FA67615-17	08/27/19	13:02	JA	08/29/19	AQ	Ground Water	1935Y212026D
FA67615-18	08/27/19	13:19	JA	08/29/19	AQ	Ground Water	1935Y212027F
FA67615-19	08/27/19	13:28	JA	08/29/19	AQ	Ground Water	1935Y212028F
FA67615-20	08/27/19	15:18	JA	08/29/19	AQ	Ground Water	1935Y212029F

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Ahtna Environmental Inc **Job No:** FA67615

Site: Fort Ord Groundwater Monitoring **Report Date:** 9/5/2019 5:43:52 PM

19 Samples and 1 Trip Blank were collected on 08/27/2019 and were received at SGS North America Inc - Orlando on 08/29/2019 properly preserved, at 1.4 Deg. C and intact. These Samples received an SGS Orlando job number of FA67615. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B BY SIM

Matrix: AQ **Batch ID:** VZ2206

All samples were analyzed within the recommended method holding time.

Sample(s) FA67615-1MS, FA67615-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

FA67615-19 for Toluene-D8: Outside DOD QSM control limits.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Jenna Kravitz, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA67615
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/27/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA67615-1	**1935Y212010F**					
Tetrachloroethylene		0.39 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-2	**1935Y212011F**					
Tetrachloroethylene		0.39 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-3	**1935Y212012F**					
Tetrachloroethylene		0.39 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-4	**1935Y212013D**					
Tetrachloroethylene		0.32 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-5	**1935Y212014F**					
Tetrachloroethylene		0.28 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-6	**1935Y212015F**					
Tetrachloroethylene		2.7	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-7	**1935Y212016A**					
No hits reported in this sample.						
FA67615-8	**1935Y212017F**					
Tetrachloroethylene		1.8	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		0.13 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-9	**1935Y212018F**					
cis-1,2-Dichloroethylene		0.82	0.50	0.25	ug/l	SW846 8260B BY SIM
Tetrachloroethylene		0.28 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		1.9	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-10	**1935Y212019F**					
Tetrachloroethylene		0.33 J	0.50	0.25	ug/l	SW846 8260B BY SIM

Summary of Hits

Job Number: FA67615
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/27/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA67615-11	**1935Y212020F**					
Tetrachloroethylene		0.37 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-12	**1935Y212021F**					
Tetrachloroethylene		0.36 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-13	**1935Y212022F**					
Tetrachloroethylene		0.39 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		0.29 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-14	**1935Y212023F**					
Tetrachloroethylene		0.41 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		0.42 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-15	**1935Y212024F**					
Tetrachloroethylene		0.18 J	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-16	**1935Y212025F**					
Chloroform		0.21 J	0.50	0.25	ug/l	SW846 8260B BY SIM
1,2-Dichloroethane		0.20 J	0.50	0.25	ug/l	SW846 8260B BY SIM
cis-1,2-Dichloroethylene		1.9	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		1.2	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-17	**1935Y212026D**					
Chloroform		0.21 J	0.50	0.25	ug/l	SW846 8260B BY SIM
1,2-Dichloroethane		0.19 J	0.50	0.25	ug/l	SW846 8260B BY SIM
cis-1,2-Dichloroethylene		1.8	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		1.1	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-18	**1935Y212027F**					
No hits reported in this sample.						
FA67615-19	**1935Y212028F**					
Chloroform		0.11 J	0.50	0.25	ug/l	SW846 8260B BY SIM
cis-1,2-Dichloroethylene		0.12 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Tetrachloroethylene		0.28 J	0.50	0.25	ug/l	SW846 8260B BY SIM

Summary of Hits

Job Number: FA67615
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/27/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Trichloroethylene		2.4	0.50	0.25	ug/l	SW846 8260B BY SIM
FA67615-20	**1935Y212029F**					
cis-1,2-Dichloroethylene		1.2	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		1.7	0.50	0.25	ug/l	SW846 8260B BY SIM

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212010F		
Lab Sample ID:	FA67615-1	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57690.D	1	08/31/19 13:24	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.39	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212011F		
Lab Sample ID:	FA67615-2	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57691.D	1	08/31/19 13:43	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.39	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212012F		
Lab Sample ID:	FA67615-3	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57692.D	1	08/31/19 14:02	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.39	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212013D		
Lab Sample ID:	FA67615-4	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57693.D	1	08/31/19 15:36	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.32	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		74-125%
2037-26-5	Toluene-D8	103%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212014F		
Lab Sample ID:	FA67615-5	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57694.D	1	08/31/19 15:55	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.28	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212015F		
Lab Sample ID:	FA67615-6	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57695.D	1	08/31/19 16:14	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	2.7	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		74-125%
2037-26-5	Toluene-D8	101%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212016A		
Lab Sample ID:	FA67615-7	**Date Sampled:**	08/27/19
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57689.D	1	08/31/19 13:05	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212017F		
Lab Sample ID:	FA67615-8	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57696.D	1	08/31/19 16:33	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	1.8	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.13	0.50	0.25	0.10	ug/l	J
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212018F		
Lab Sample ID:	FA67615-9	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57697.D	1	08/31/19 16:52	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.82	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.28	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	1.9	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212019F		
Lab Sample ID:	FA67615-10	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57698.D	1	08/31/19 17:12	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.33	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		74-125%
2037-26-5	Toluene-D8	101%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212020F		
Lab Sample ID:	FA67615-11	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57702.D	1	08/31/19 18:27	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.37	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212021F		
Lab Sample ID:	FA67615-12	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57703.D	1	08/31/19 18:47	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.36	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%		74-125%
2037-26-5	Toluene-D8	90%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212022F		
Lab Sample ID:	FA67615-13	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57704.D	1	08/31/19 19:06	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.39	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.29	0.50	0.25	0.10	ug/l	J
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%		74-125%
2037-26-5	Toluene-D8	101%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212023F		
Lab Sample ID:	FA67615-14	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57705.D	1	08/31/19 19:25	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.41	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.42	0.50	0.25	0.10	ug/l	J
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		74-125%
2037-26-5	Toluene-D8	100%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212024F		
Lab Sample ID:	FA67615-15	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57706.D	1	08/31/19 19:44	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.18	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%		74-125%
2037-26-5	Toluene-D8	99%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212025F		
Lab Sample ID:	FA67615-16	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57707.D	1	08/31/19 20:03	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.21	0.50	0.25	0.10	ug/l	J
107-06-2	1,2-Dichloroethane	0.20	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.9	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	1.2	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	112%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212026D		
Lab Sample ID:	FA67615-17	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57708.D	1	08/31/19 20:22	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.21	0.50	0.25	0.10	ug/l	J
107-06-2	1,2-Dichloroethane	0.19	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.8	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	1.1	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	112%		74-125%
2037-26-5	Toluene-D8	102%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212027F		
Lab Sample ID:	FA67615-18	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57709.D	1	08/31/19 20:41	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%		74-125%
2037-26-5	Toluene-D8	101%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212028F		
Lab Sample ID:	FA67615-19	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57710.D	1	08/31/19 21:00	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.11	0.50	0.25	0.10	ug/l	J
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.12	0.50	0.25	0.10	ug/l	J
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.28	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	2.4	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	114%		74-125%
2037-26-5	Toluene-D8	88% [a]		88-111%

(a) Outside DOD QSM control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212029F		
Lab Sample ID:	FA67615-20	**Date Sampled:**	08/27/19
Matrix:	AQ - Ground Water	**Date Received:**	08/29/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z57711.D	1	08/31/19 21:19	KB	n/a	n/a	VZ2206
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.2	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	1.7	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	114%		74-125%
2037-26-5	Toluene-D8	100%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

CADS17704

FA67615

1 of 2

CHAIN OF CUSTODY

Ahtna
296 12th St
Marina, CA 93933
(831) 384-3735

WATER / SOIL

Chain of Custody #: 2421
Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: Former Fort Ord, CA
Sampler/s: J. Arthur
Project Name: BW GW Monitoring Program
Report To: Derek Liberman
Project Number: 21065.006.01.0004
E-Mail: dliberman@ahtna.net
Sampling Event: 3Q19
Laboratory: SGS

Analysis Requested: 8260 Short

Lab Sample Receipt:
Laboratory Sample Delivery
Group #:
Custody Seal:
Temp (°C):

Lab Number	Sample Number/Description	Sample Collection Date	Sample Collection Time	Matrix: Water	Soil	Other	Total # of Bottles	Preserved Bottles: HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO_4$	None	Other	Notes
1	1935Y212Ø10F	8/27/19	8:11	X			3	3								
2	1935Y212Ø11F	8/27/19	8:40	X			3	3								
3	1935Y212Ø13F	8/27/19	8:58	X			3	3								
4	1935Y212Ø13D	8/27/19	8:58	X			2	2								
5	1935Y212Ø14F	8/27/19	9:15	X			3	3								
6	1935Y212Ø15F	8/27/19	9:29	X			3	3								
7	1935Y212Ø16F	8/27/19	9:35	X			2	2								
8	1935Y212Ø17F	8/27/19	9:49	X			3	3								
9	1935Y212Ø18F	8/27/19	9:55	X			3	3								
10	1935Y212Ø19F	8/27/19	10:14	X			3	3								
11	1935Y212Ø20F	8/27/19	10:43	X			3	3								
12	1935Y212Ø21F	8/27/19	10:58	X			3	3								
13	1935Y212Ø22F	8/27/19	11:18	X			3	3								
14	1935Y212Ø23F	8/27/19	12:20	X			3	3								
15	1935Y212Ø24F	8/27/19	12:37	X			3	3								

Turnaround Time: ____: Standard ____: 3-5 Day Rush ____: 48 Hour Rush ____: 24 Hour Rush
Shipment: Method: Tracking ID:

Comments: 21d Report

Chain of Custody Tracking:

Relinquished By Sampler:	Date/Time:	Received By:	Date/Time:
	8.27.19 / 1615	Steve Kerley	8.27.19 / 1630
Relinquished By: Steve Kerley	Date/Time: 8.28.19 / 1105	Received By: Lee Barker	Date/Time: 8/28/19 / 1105
Relinquished By: Lee Barker	Date/Time: 8/28/19 1500	Received By Laboratory: FEDEX	Date/Time: 8/28/19 1500
			8/29/19 900 1.4

CADS1704

Ahtna 2961 2th St Marina, CA 93933 (831) 384-3735

CHAIN OF CUSTODY

WATER / SOIL

FA67615 20 of 22

Chain of Custody #: 2422

Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: Fort Ord, CA Sampler/s: S. Arthur

Project Name: B&W GW Monitoring Program Report To: Derek Leburnon

Project Number: 21065.000.01.0000 E-Mail: dleburnon@ahtna.net

Sampling Event: 3Q 2019 Laboratory: STL

Analysis Requested: 8260 SIM

Lab Sample Receipt: Laboratory Sample Delivery Group #: Custody Seal: Temp (°C):

Lab Number	Sample Number/Description	Sample Collection Date	Sample Collection Time	Matrix: Water	Soil	Other	Total # of Bottles	Number of Preserved Bottles: HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO_4$	None	Other	Notes
16	1935V21Ø23F	8/27/19	13:02	X			3	3								
17	1935V21Ø26D	8/27/19	13:02	X												
18	1935V21Ø27F	8/27/19	13:19	X			3	3								
19	1935V21Ø28F	8/27/19	13:28	X			3	3								
20	1935V21Ø29F	8/27/19	15:18	X			3	3								

Turnaround Time: ____: Standard ____: 3-5 Day Rush ____: 48 Hour Rush ____: 24 Hour Rush

Shipment: Method: Tracking ID:

Comments: 21D Report

Chain of Custody Tracking:

Relinquished By Sampler:	Date/Time:	Received By:	Date/Time:
	8/27/19 1615	Steve Korday	8/27/19 1630
Relinquished By: Steve Korday	Date/Time: 8/28/19 1105	Received By: Lee Barnes	Date/Time: 8/27/19 1405
Relinquished By: Lee Barnes	Date/Time: 8/28/19 1500	Received By Laboratory: FEDEX	Date/Time: 8/28/19 1500
		RETURN	8/29/19 900

SGS Sample Receipt Summary

Job Number: FA67615 **Client:** AHTNA **Project:** Fort Ord 3Q2019 212 Report

Date / Time Received: 8/29/2019 9:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 776105005607

Therm ID: IR 1; **Therm CF:** 1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.4);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 8/29/2019 9:00:00 AM Reviewer: PH Date: 9/2/2019

FA67615: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67615
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/27/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VZ2206	SW846 8260B BY SIM						
VZ2206-BS	67-66-3	Chloroform	BSP	REC	98	%	79-124
VZ2206-BS	107-06-2	1,2-Dichloroethane	BSP	REC	92	%	73-128
VZ2206-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	104	%	71-131
VZ2206-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	100	%	78-123
VZ2206-BS	542-75-6	1,3-Dichloropropene (total)	BSP	REC	90	%	77-123
VZ2206-BS	127-18-4	Tetrachloroethylene	BSP	REC	104	%	74-129
VZ2206-BS	79-01-6	Trichloroethylene	BSP	REC	98	%	79-123
VZ2206-BS	75-01-4	Vinyl Chloride	BSP	REC	116	%	58-137
VZ2206-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	100	%	81-118
VZ2206-BS	2037-26-5	Toluene-D8	BSP	SURR	102	%	89-112
FA67615-1MS	67-66-3	Chloroform	MS	REC	107	%	79-124
FA67615-1MS	107-06-2	1,2-Dichloroethane	MS	REC	104	%	73-128
FA67615-1MS	75-35-4	1,1-Dichloroethylene	MS	REC	112	%	71-131
FA67615-1MS	156-59-2	cis-1,2-Dichloroethylene	MS	REC	108	%	78-123
FA67615-1MS	542-75-6	1,3-Dichloropropene (total)	MS	REC	91	%	77-123
FA67615-1MS	127-18-4	Tetrachloroethylene	MS	REC	105	%	74-129
FA67615-1MS	79-01-6	Trichloroethylene	MS	REC	104	%	79-123
FA67615-1MS	75-01-4	Vinyl Chloride	MS	REC	123	%	58-137
FA67615-1MS	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	107	%	81-118
FA67615-1MS	2037-26-5	Toluene-D8	MS	SURR	102	%	89-112
FA67615-1MSD	67-66-3	Chloroform	MSD	REC	107	%	79-124
FA67615-1MSD	67-66-3	Chloroform	MSD	RPD	0	%	20
FA67615-1MSD	107-06-2	1,2-Dichloroethane	MSD	REC	102	%	73-128
FA67615-1MSD	107-06-2	1,2-Dichloroethane	MSD	RPD	2	%	20
FA67615-1MSD	75-35-4	1,1-Dichloroethylene	MSD	REC	111	%	71-131
FA67615-1MSD	75-35-4	1,1-Dichloroethylene	MSD	RPD	0	%	20
FA67615-1MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	108	%	78-123
FA67615-1MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	0	%	20
FA67615-1MSD	542-75-6	1,3-Dichloropropene (total)	MSD	REC	90	%	77-123
FA67615-1MSD	542-75-6	1,3-Dichloropropene (total)	MSD	RPD	2	%	20
FA67615-1MSD	127-18-4	Tetrachloroethylene	MSD	REC	104	%	74-129
FA67615-1MSD	127-18-4	Tetrachloroethylene	MSD	RPD	1	%	20
FA67615-1MSD	79-01-6	Trichloroethylene	MSD	REC	103	%	79-123
FA67615-1MSD	79-01-6	Trichloroethylene	MSD	RPD	1	%	20
FA67615-1MSD	75-01-4	Vinyl Chloride	MSD	REC	127	%	58-137
FA67615-1MSD	75-01-4	Vinyl Chloride	MSD	RPD	3	%	20
FA67615-1MSD	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	107	%	81-118
FA67615-1MSD	2037-26-5	Toluene-D8	MSD	SURR	101	%	89-112
VZ2206-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	101	%	81-118
VZ2206-MB	2037-26-5	Toluene-D8	MB	SURR	101	%	89-112
FA67615-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	100	%	81-118
FA67615-1	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112

* Sample used for QC is not from job FA67615

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67615
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/27/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA67615-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	103	%	81-118
FA67615-2	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-3	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	106	%	81-118
FA67615-3	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-4	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	104	%	81-118
FA67615-4	2037-26-5	Toluene-D8	SAMP	SURR	103	%	89-112
FA67615-5	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	100	%	81-118
FA67615-5	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-6	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	104	%	81-118
FA67615-6	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
FA67615-7	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	101	%	81-118
FA67615-7	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-8	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	107	%	81-118
FA67615-8	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-9	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	107	%	81-118
FA67615-9	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-10	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	106	%	81-118
FA67615-10	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
FA67615-11	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	108	%	81-118
FA67615-11	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-12	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	110	%	81-118
FA67615-12	2037-26-5	Toluene-D8	SAMP	SURR	90	%	89-112
FA67615-13	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	110	%	81-118
FA67615-13	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
FA67615-14	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	108	%	81-118
FA67615-14	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
FA67615-15	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	110	%	81-118
FA67615-15	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
FA67615-16	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	112	%	81-118
FA67615-16	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-17	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	112	%	81-118
FA67615-17	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
FA67615-18	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	110	%	81-118
FA67615-18	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
FA67615-19	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	114	%	81-118
FA67615-19	2037-26-5	Toluene-D8	SAMP	SURR	88 [a]	%	89-112
FA67615-20	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	114	%	81-118
FA67615-20	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112

(a) Outside DOD QSM control limits.

* Sample used for QC is not from job FA67615

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2206-MB	Z57688.D	1	08/31/19	KB	n/a	n/a	VZ2206

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67615-1, FA67615-2, FA67615-3, FA67615-4, FA67615-5, FA67615-6, FA67615-7, FA67615-8, FA67615-9, FA67615-10, FA67615-11, FA67615-12, FA67615-13, FA67615-14, FA67615-15, FA67615-16, FA67615-17, FA67615-18, FA67615-19, FA67615-20

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.50	0.10	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl Chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	101%	74-125%
2037-26-5	Toluene-D8	101%	88-111%

Blank Spike Summary

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2206-BS	Z57687.D	1	08/31/19	KB	n/a	n/a	VZ2206

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67615-1, FA67615-2, FA67615-3, FA67615-4, FA67615-5, FA67615-6, FA67615-7, FA67615-8, FA67615-9, FA67615-10, FA67615-11, FA67615-12, FA67615-13, FA67615-14, FA67615-15, FA67615-16, FA67615-17, FA67615-18, FA67615-19, FA67615-20

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	5	4.9	98	80-124
107-06-2	1,2-Dichloroethane	5	4.6	92	75-125
75-35-4	1,1-Dichloroethylene	5	5.2	104	78-137
156-59-2	cis-1,2-Dichloroethylene	5	5.0	100	78-120
542-75-6	1,3-Dichloropropene (total)	10	9.0	90	75-120
127-18-4	Tetrachloroethylene	5	5.2	104	76-135
79-01-6	Trichloroethylene	5	4.9	98	81-126
75-01-4	Vinyl Chloride	5	5.8	116	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	74-125%
2037-26-5	Toluene-D8	102%	88-111%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA67615-1MS	Z57699.D	5	08/31/19	KB	n/a	n/a	VZ2206
FA67615-1MSD	Z57700.D	5	08/31/19	KB	n/a	n/a	VZ2206
FA67615-1	Z57690.D	1	08/31/19	KB	n/a	n/a	VZ2206

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67615-1, FA67615-2, FA67615-3, FA67615-4, FA67615-5, FA67615-6, FA67615-7, FA67615-8, FA67615-9, FA67615-10, FA67615-11, FA67615-12, FA67615-13, FA67615-14, FA67615-15, FA67615-16, FA67615-17, FA67615-18, FA67615-19, FA67615-20

CAS No.	Compound	FA67615-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-66-3	Chloroform	0.50 U		25	26.7	107	25	26.7	107	0	80-124/15
107-06-2	1,2-Dichloroethane	0.50 U		25	26.0	104	25	25.4	102	2	75-125/14
75-35-4	1,1-Dichloroethylene	0.50 U		25	27.9	112	25	27.8	111	0	78-137/18
156-59-2	cis-1,2-Dichloroethylene	0.50 U		25	26.9	108	25	26.9	108	0	78-120/15
542-75-6	1,3-Dichloropropene (total)	0.50 U		50	45.7	91	50	44.9	90	2	75-120/23
127-18-4	Tetrachloroethylene	0.39	J	25	26.7	105	25	26.5	104	1	76-135/16
79-01-6	Trichloroethylene	0.50 U		25	26.1	104	25	25.8	103	1	81-126/15
75-01-4	Vinyl Chloride	0.10 U		25	30.8	123	25	31.7	127	3	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA67615-1	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	107%	100%	74-125%
2037-26-5	Toluene-D8	102%	101%	102%	88-111%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample: VZ2203-BFB
Lab File ID: Z57637.D
Instrument ID: GCMSZ
Injection Date: 08/29/19
Injection Time: 13:34

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	48152	25.4		Pass
75	30.0 - 60.0% of mass 95	96650	51.0		Pass
95	Base peak, 100% relative abundance	189333	100.0		Pass
96	5.0 - 9.0% of mass 95	13731	7.25		Pass
173	Less than 2.0% of mass 174	719	0.38	(0.55) [a]	Pass
174	50.0 - 100.0% of mass 95	130701	69.0		Pass
175	5.0 - 9.0% of mass 174	9357	4.94	(7.16) [a]	Pass
176	95.0 - 101.0% of mass 174	124365	65.7	(95.2) [a]	Pass
177	5.0 - 9.0% of mass 176	8715	4.60	(7.01) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VZ2203-IC2203	Z57638.D	08/29/19	13:56	00:22	Initial cal 1
VZ2203-IC2203	Z57639.D	08/29/19	14:15	00:41	Initial cal 2
VZ2203-IC2203	Z57640.D	08/29/19	14:36	01:02	Initial cal 3
VZ2203-IC2203	Z57641.D	08/29/19	14:55	01:21	Initial cal 4
VZ2203-ICC2203	Z57642.D	08/29/19	15:15	01:41	Initial cal 5
VZ2203-IC2203	Z57643.D	08/29/19	15:34	02:00	Initial cal 6
VZ2203-IC2203	Z57644.D	08/29/19	15:53	02:19	Initial cal 7
VZ2203-ICV2203	Z57646.D	08/29/19	16:43	03:09	Initial cal verification 5

Instrument Performance Check (BFB)

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample: VZ2206-BFB
Lab File ID: Z57685.D
Instrument ID: GCMSZ
Injection Date: 08/31/19
Injection Time: 11:46

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	57395	26.7		Pass
75	30.0 - 60.0% of mass 95	114437	53.2		Pass
95	Base peak, 100% relative abundance	215083	100.0		Pass
96	5.0 - 9.0% of mass 95	15597	7.25		Pass
173	Less than 2.0% of mass 174	588	0.27	(0.39) [a]	Pass
174	50.0 - 100.0% of mass 95	150848	70.1		Pass
175	5.0 - 9.0% of mass 174	11690	5.44	(7.75) [a]	Pass
176	95.0 - 101.0% of mass 174	148565	69.1	(98.5) [a]	Pass
177	5.0 - 9.0% of mass 176	10046	4.67	(6.76) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VZ2206-CC2203	Z57686.D	08/31/19	12:08	00:22	Continuing cal 5
VZ2206-BS	Z57687.D	08/31/19	12:27	00:41	Blank Spike
VZ2206-MB	Z57688.D	08/31/19	12:46	01:00	Method Blank
FA67615-7	Z57689.D	08/31/19	13:05	01:19	1935Y212016A
FA67615-1	Z57690.D	08/31/19	13:24	01:38	1935Y212010F
FA67615-2	Z57691.D	08/31/19	13:43	01:57	1935Y212011F
FA67615-3	Z57692.D	08/31/19	14:02	02:16	1935Y212012F
FA67615-4	Z57693.D	08/31/19	15:36	03:50	1935Y212013D
FA67615-5	Z57694.D	08/31/19	15:55	04:09	1935Y212014F
FA67615-6	Z57695.D	08/31/19	16:14	04:28	1935Y212015F
FA67615-8	Z57696.D	08/31/19	16:33	04:47	1935Y212017F
FA67615-9	Z57697.D	08/31/19	16:52	05:06	1935Y212018F
FA67615-10	Z57698.D	08/31/19	17:12	05:26	1935Y212019F
FA67615-1MS	Z57699.D	08/31/19	17:30	05:44	Matrix Spike
FA67615-1MSD	Z57700.D	08/31/19	17:49	06:03	Matrix Spike Duplicate
FA67615-11	Z57702.D	08/31/19	18:27	06:41	1935Y212020F
FA67615-12	Z57703.D	08/31/19	18:47	07:01	1935Y212021F
FA67615-13	Z57704.D	08/31/19	19:06	07:20	1935Y212022F
FA67615-14	Z57705.D	08/31/19	19:25	07:39	1935Y212023F
FA67615-15	Z57706.D	08/31/19	19:44	07:58	1935Y212024F
FA67615-16	Z57707.D	08/31/19	20:03	08:17	1935Y212025F
FA67615-17	Z57708.D	08/31/19	20:22	08:36	1935Y212026D
FA67615-18	Z57709.D	08/31/19	20:41	08:55	1935Y212027F
FA67615-19	Z57710.D	08/31/19	21:00	09:14	1935Y212028F

Instrument Performance Check (BFB)

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample:	VZ2206-BFB	**Injection Date:**	08/31/19
Lab File ID:	Z57685.D	**Injection Time:**	11:46
Instrument ID:	GCMSZ		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA67615-20	Z57711.D	08/31/19	21:19	09:33	1935Y212029F
VZ2206-ECC2203	Z57712.D	08/31/19	21:38	09:52	Ending cal 5

Internal Standard Area Summary

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Check Std:	VZ2206-CC2203	**Injection Date:**	08/31/19
Lab File ID:	Z57686.D	**Injection Time:**	12:08
Instrument ID:	GCMSZ	**Method:**	SW846 8260B BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT
Initial Cal [a]	1889427	7.40	1632801	10.52
Check Std [b]	2254754	7.40	1918255	10.52
Upper Limit [c]	4509508	7.57	3836510	10.69
Lower Limit [d]	1127377	7.23	959128	10.35

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
VZ2206-BS	2419322	7.40	1864666	10.52
VZ2206-MB	2367794	7.40	1825529	10.52
FA67615-7	2154753	7.40	1629136	10.52
FA67615-1	2303729	7.40	1758314	10.52
FA67615-2	2069628	7.40	1561742	10.52
FA67615-3	2061664	7.40	1566787	10.52
FA67615-4	2247417	7.40	1680568	10.51
FA67615-5	2369657	7.40	1803040	10.52
FA67615-6	2200052	7.40	1689293	10.52
FA67615-8	2004883	7.40	1524195	10.52
FA67615-9	2060832	7.40	1573137	10.52
FA67615-10	2084885	7.40	1600155	10.52
FA67615-1MS	1926272	7.40	1463421	10.52
FA67615-1MSD	1987138	7.40	1521595	10.52
FA67615-11	1845506	7.40	1390274	10.52
FA67615-12	1864972	7.40	1580233	10.52
FA67615-13	1879315	7.41	1431258	10.52
FA67615-14	1934076	7.40	1501829	10.52
FA67615-15	1861261	7.40	1417042	10.52
FA67615-16	1698043	7.40	1283502	10.52
FA67615-17	1780419	7.40	1345585	10.52
FA67615-18	1860726	7.40	1419151	10.52
FA67615-19	1648247	7.40	1405369	10.52
FA67615-20	1640271	7.41	1421740	10.52
VZ2206-ECC2203	1723397	7.40	1295767	10.52

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5

(a) Initial Cal is: VZ2203-ICC2203 Z57642.D 08/29/19 15:15
(b) Check Std Limit = -50 to +100% of initial cal area.
(c) Upper Limit = +100% of check standard area; Retention time +0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Method: SW846 8260B BY SIM **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
FA67615-1	Z57690.D	100	102
FA67615-2	Z57691.D	103	102
FA67615-3	Z57692.D	106	102
FA67615-4	Z57693.D	104	103
FA67615-5	Z57694.D	100	102
FA67615-6	Z57695.D	104	101
FA67615-7	Z57689.D	101	102
FA67615-8	Z57696.D	107	102
FA67615-9	Z57697.D	107	102
FA67615-10	Z57698.D	106	101
FA67615-11	Z57702.D	108	102
FA67615-12	Z57703.D	110	90
FA67615-13	Z57704.D	110	101
FA67615-14	Z57705.D	108	100
FA67615-15	Z57706.D	110	99
FA67615-16	Z57707.D	112	102
FA67615-17	Z57708.D	112	102
FA67615-18	Z57709.D	110	101
FA67615-19	Z57710.D	114	88 [a]
FA67615-20	Z57711.D	114	100
FA67615-1MS	Z57699.D	107	102
FA67615-1MSD	Z57700.D	107	101
VZ2206-BS	Z57687.D	100	102
VZ2206-MB	Z57688.D	101	101

Surrogate Compounds	Recovery Limits
S1 = 1,2-Dichloroethane-D4	74-125%
S2 = Toluene-D8	88-111%

(a) Outside DOD QSM control limits.

Initial Calibration Summary

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample: VZ2203-ICC2203
Lab FileID: Z57642.D

Response Factor Report MSVOA15

Method : C:\msdchem\1\methods\SIMCL082919.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

Calibration Files
1 =Z57638.D 2 =Z57639.D 3 =Z57640.D 4 =Z57641.D
5 =Z57642.D 6 =Z57643.D 7 =Z57644.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Vinyl Chloride	0.472	0.473	0.425	0.439	0.431	0.454	0.474	0.452	4.65
3) Chloromethane	0.768	0.613	0.614	0.603	0.648	0.627	0.655	0.647	8.78
4) 1,1-Dichloroethen	0.375	0.324	0.285	0.292	0.285	0.291	0.299	0.307	10.65
5) Methylene Chlorid	5.768	1.572	0.677	0.492	0.434	0.415	0.422	1.397	141.12
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9954									
Response Ratio = 0.00000 + 0.48032 *A + -0.01656 *A^2									
6)T trans-1,2-Dichlor	0.417	0.427	0.380	0.396	0.388	0.392	0.403	0.400	4.16
7) 1,1-Dichloroethan	0.877	0.883	0.792	0.817	0.831	0.827	0.851	0.840	3.93
8) cis-1,2-Dichloroe	0.622	0.479	0.424	0.435	0.429	0.429	0.440	0.465	15.32
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
Response Ratio = 0.00000 + 0.41870 *A + 0.00490 *A^2									
9) Chloroform	0.835	0.826	0.729	0.747	0.747	0.749	0.761	0.771	5.44
10) Carbon Tetrachlor	0.597	0.594	0.520	0.538	0.525	0.537	0.559	0.553	5.70
11) 1,1,1-Trichloroet	0.703	0.717	0.630	0.651	0.641	0.652	0.676	0.667	4.86
12) Benzene	1.729	1.677	1.527	1.565	1.584	1.547	1.557	1.598	4.72
13)S 1,2-Dichloroethan	0.328	0.329	0.332	0.332	0.344	0.339	0.342	0.335	1.89
14) 1,2-Dichloroethan	0.665	0.686	0.626	0.630	0.657	0.633	0.653	0.650	3.33
15) Trichloroethene	0.491	0.460	0.408	0.418	0.422	0.418	0.425	0.435	6.88
16) 1,2-Dichloropropa	0.536	0.515	0.468	0.472	0.488	0.480	0.497	0.494	4.99
17) cis-1,3-Dichlorop	0.686	0.716	0.647	0.651	0.683	0.662	0.689	0.676	3.63
18) I Chlorobenzene-d5	----------ISTD----------								
19)S Toluene-d8	1.209	1.220	1.214	1.213	1.088	1.232	1.086	1.180	5.43
20)T trans-1,3-Dichlor	0.703	0.748	0.673	0.695	0.716	0.729	0.671	0.705	4.04
21) Tetrachloroethene	0.621	0.648	0.560	0.573	0.567	0.556	0.498	0.575	8.39

(#) = Out of Range

SIMCL082919.M Fri Aug 30 09:42:12 2019

Initial Calibration Verification

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Sample: VZ2203-ICV2203
Lab FileID: Z57646.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\082919\Z57646.D Vial: 9
Acq On : 29 Aug 2019 4:43 pm Operator: kevinb
Sample : ICV2203-5 Inst : MSVOA15
Misc : ms44155,vz2203,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\SIMCL082919.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Thu Aug 29 16:12:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	102	0.00	7.40
2		Vinyl Chloride	0.452	0.486	-7.5	115	-0.01	2.83
3		Chloromethane	0.647	0.724	-11.9	114	-0.01	2.72
4		1,1-Dichloroethene	0.307	0.289	5.9	103	0.00	4.08
		----------	Amount	Calc.	%Drift	----------		
5		Methylene Chloride	10.000	9.562	4.4	101	0.00	4.71
		----------	AvgRF	CCRF	%Dev	----------		
6	T	trans-1,2-Dichloroethene	0.400	0.390	2.5	102	0.00	4.88
7		1,1-Dichloroethane	0.840	0.859	-2.3	105	0.00	5.54
		----------	Amount	Calc.	%Drift	----------		
8		cis-1,2-Dichloroethene	10.000	10.055	-0.5	102	0.00	6.10
		----------	AvgRF	CCRF	%Dev	----------		
9		Chloroform	0.771	0.753	2.3	102	0.00	6.37
10		Carbon Tetrachloride	0.553	0.541	2.2	105	0.00	6.54
11		1,1,1-Trichloroethane	0.667	0.654	1.9	104	0.00	6.61
12		Benzene	1.598	1.546	3.3	99	0.00	6.99
13	S	1,2-Dichloroethane-d4	0.335	0.344	-2.7	102	0.00	7.13
14		1,2-Dichloroethane	0.650	0.651	-0.2	101	0.00	7.20
15		Trichloroethene	0.435	0.418	3.9	101	0.00	7.56
16		1,2-Dichloropropane	0.494	0.496	-0.4	103	0.00	8.10
17		cis-1,3-Dichloropropene	0.676	0.660	2.4	98	0.00	8.77
18	I	Chlorobenzene-d5	1.000	1.000	0.0	88	0.00	10.52
19	S	Toluene-d8	1.180	1.238	-4.9	100	0.00	8.96
20	T	trans-1,3-Dichloropropene	0.705	0.786	-11.5	96	0.00	9.41
21		Tetrachloroethene	0.575	0.567	1.4	88	0.00	9.40

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z57642.D SIMCL082919.M Fri Aug 30 09:42:00 2019

Continuing Calibration Summary

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Sample: VZ2206-CC2203
Lab FileID: Z57686.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\083119\Z57686.D Vial: 1
Acq On : 31 Aug 2019 12:08 pm Operator: kevinb
Sample : cc2203-5 Inst : MSVOA15
Misc : ms44155,vz2206,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\SIMCL082919.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Thu Aug 29 16:12:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	119	0.00	7.40
2		Vinyl Chloride	0.452	0.484	-7.1	134	-0.02	2.82
3		Chloromethane	0.647	0.642	0.8	118	-0.01	2.72
4		1,1-Dichloroethene	0.307	0.308	-0.3	129	0.00	4.08
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	9.405	6.0	116	0.00	4.71
			AvgRF	CCRF	%Dev			
6	T	trans-1,2-Dichloroethene	0.400	0.405	-1.3	125	0.00	4.88
7		1,1-Dichloroethane	0.840	0.850	-1.2	122	0.00	5.54
			Amount	Calc.	%Drift			
8		cis-1,2-Dichloroethene	10.000	10.176	-1.8	121	0.00	6.10
			AvgRF	CCRF	%Dev			
9		Chloroform	0.771	0.775	-0.5	124	0.00	6.37
10		Carbon Tetrachloride	0.553	0.568	-2.7	129	0.00	6.54
11		1,1,1-Trichloroethane	0.667	0.683	-2.4	127	0.00	6.61
12		Benzene	1.598	1.604	-0.4	121	0.00	6.99
13	S	1,2-Dichloroethane-d4	0.335	0.345	-3.0	120	0.00	7.12
14		1,2-Dichloroethane	0.650	0.660	-1.5	120	0.00	7.19
15		Trichloroethene	0.435	0.480	-10.3	136	0.00	7.56
16		1,2-Dichloropropane	0.494	0.529	-7.1	130	0.00	8.10
17		cis-1,3-Dichloropropene	0.676	0.731	-8.1	128	0.00	8.77
18	I	Chlorobenzene-d5	1.000	1.000	0.0	117	0.00	10.52
19	S	Toluene-d8	1.180	1.216	-3.1	131	0.00	8.96
20	T	trans-1,3-Dichloropropene	0.705	0.707	-0.3	116	0.00	9.41
21		Tetrachloroethene	0.575	0.596	-3.7	123	0.00	9.40

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z57642.D SIMCL082919.M Tue Sep 03 11:05:41 2019

Continuing Calibration Summary

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Sample: VZ2206-ECC2203
Lab FileID: Z57712.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\083119\Z57712.D Vial: 27
Acq On : 31 Aug 2019 9:38 pm Operator: kevinb
Sample : ecc2203-5 Inst : MSVOA15
Misc : ms44225,vz2206,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\SIMCL082919.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Thu Aug 29 16:12:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	91	0.00	7.40
2		Vinyl Chloride	0.452	0.520	-15.0	110	-0.02	2.83
3		Chloromethane	0.647	0.740	-14.4	104	-0.01	2.72
4		1,1-Dichloroethene	0.307	0.321	-4.6	103	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	10.345	-3.5	97	0.00	4.71
			AvgRF	CCRF	%Dev			
6	T	trans-1,2-Dichloroethene	0.400	0.428	-7.0	101	0.00	4.89
7		1,1-Dichloroethane	0.840	0.917	-9.2	101	0.00	5.55
			Amount	Calc.	%Drift			
8		cis-1,2-Dichloroethene	10.000	10.704	-7.0	98	0.00	6.11
			AvgRF	CCRF	%Dev			
9		Chloroform	0.771	0.838	-8.7	102	0.00	6.38
10		Carbon Tetrachloride	0.553	0.578	-4.5	100	0.00	6.55
11		1,1,1-Trichloroethane	0.667	0.729	-9.3	104	0.00	6.62
12		Benzene	1.598	1.670	-4.5	96	0.00	6.99
13	S	1,2-Dichloroethane-d4	0.335	0.375	-11.9	99	0.00	7.13
14		1,2-Dichloroethane	0.650	0.712	-9.5	99	0.00	7.20
15		Trichloroethene	0.435	0.452	-3.9	98	0.00	7.57
16		1,2-Dichloropropane	0.494	0.497	-0.6	93	0.00	8.11
17		cis-1,3-Dichloropropene	0.676	0.607	10.2	81	0.00	8.78
18	I	Chlorobenzene-d5	1.000	1.000	0.0	79	0.00	10.52
19	S	Toluene-d8	1.180	1.192	-1.0	87	0.00	8.96
20	T	trans-1,3-Dichloropropene	0.705	0.670	5.0	74	0.00	9.41
21		Tetrachloroethene	0.575	0.560	2.6	78	0.00	9.40

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z57642.D SIMCL082919.M Tue Sep 03 11:05:57 2019

Run Sequence Report

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Run ID: VZ2203 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSZ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VZ2203-BFB	Z57637.D	08/29/19 13:34	n/a	BFB Tune
VZ2203-IC2203	Z57638.D	08/29/19 13:56	n/a	Initial cal 1
VZ2203-IC2203	Z57639.D	08/29/19 14:15	n/a	Initial cal 2
VZ2203-IC2203	Z57640.D	08/29/19 14:36	n/a	Initial cal 3
VZ2203-IC2203	Z57641.D	08/29/19 14:55	n/a	Initial cal 4
VZ2203-ICC2203	Z57642.D	08/29/19 15:15	n/a	Initial cal 5
VZ2203-IC2203	Z57643.D	08/29/19 15:34	n/a	Initial cal 6
VZ2203-IC2203	Z57644.D	08/29/19 15:53	n/a	Initial cal 7
VZ2203-ICV2203	Z57646.D	08/29/19 16:43	n/a	Initial cal verification 5

Run Sequence Report

Job Number: FA67615
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Run ID: VZ2206 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSZ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VZ2206-BFB	Z57685.D	08/31/19 11:46	n/a	BFB Tune
VZ2206-CC2203	Z57686.D	08/31/19 12:08	n/a	Continuing cal 5
VZ2206-BS	Z57687.D	08/31/19 12:27	n/a	Blank Spike
VZ2206-MB	Z57688.D	08/31/19 12:46	n/a	Method Blank
FA67615-7	Z57689.D	08/31/19 13:05	n/a	1935Y212016A
FA67615-1	Z57690.D	08/31/19 13:24	n/a	1935Y212010F
FA67615-2	Z57691.D	08/31/19 13:43	n/a	1935Y212011F
FA67615-3	Z57692.D	08/31/19 14:02	n/a	1935Y212012F
FA67615-4	Z57693.D	08/31/19 15:36	n/a	1935Y212013D
FA67615-5	Z57694.D	08/31/19 15:55	n/a	1935Y212014F
FA67615-6	Z57695.D	08/31/19 16:14	n/a	1935Y212015F
FA67615-8	Z57696.D	08/31/19 16:33	n/a	1935Y212017F
FA67615-9	Z57697.D	08/31/19 16:52	n/a	1935Y212018F
FA67615-10	Z57698.D	08/31/19 17:12	n/a	1935Y212019F
FA67615-1MS	Z57699.D	08/31/19 17:30	n/a	Matrix Spike
FA67615-1MSD	Z57700.D	08/31/19 17:49	n/a	Matrix Spike Duplicate
FA67615-11	Z57702.D	08/31/19 18:27	n/a	1935Y212020F
FA67615-12	Z57703.D	08/31/19 18:47	n/a	1935Y212021F
FA67615-13	Z57704.D	08/31/19 19:06	n/a	1935Y212022F
FA67615-14	Z57705.D	08/31/19 19:25	n/a	1935Y212023F
FA67615-15	Z57706.D	08/31/19 19:44	n/a	1935Y212024F
FA67615-16	Z57707.D	08/31/19 20:03	n/a	1935Y212025F
FA67615-17	Z57708.D	08/31/19 20:22	n/a	1935Y212026D
FA67615-18	Z57709.D	08/31/19 20:41	n/a	1935Y212027F
FA67615-19	Z57710.D	08/31/19 21:00	n/a	1935Y212028F
FA67615-20	Z57711.D	08/31/19 21:19	n/a	1935Y212029F
VZ2206-ECC2203	Z57712.D	08/31/19 21:38	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57690.D
Acq On : 31 Aug 2019 1:24 pm
Operator : kevinb
Sample : FA67615-1
Misc : ms44225,vz2206,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 03 10:59:05 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

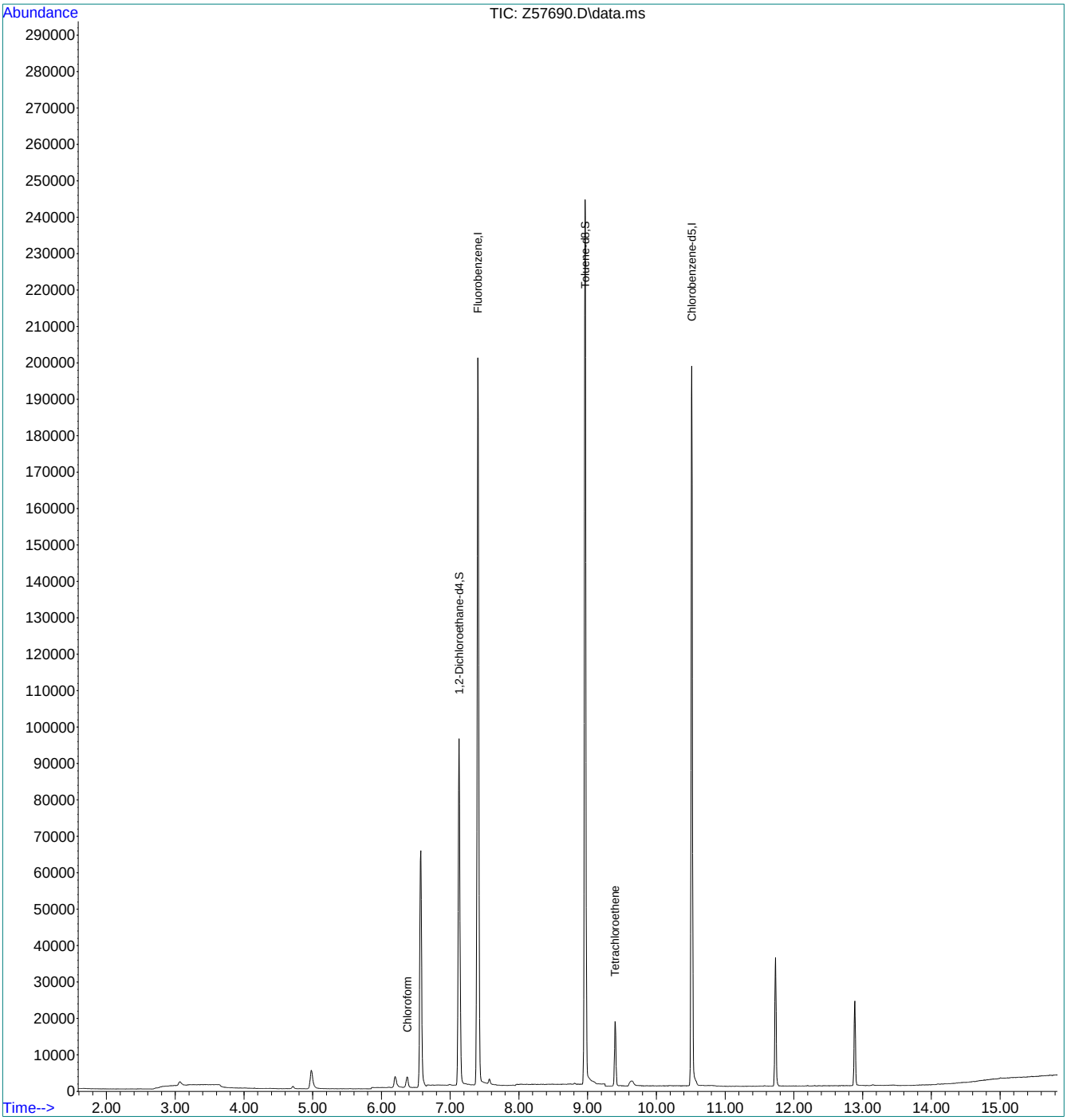
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2303729	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1758314	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	770467	4.99	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 99.80%			
19) Toluene-d8	8.961	98	2108375	5.08	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.60%			
Target Compounds						Qvalue
9) Chloroform	6.377	83	25842	0.07	ppb	95
21) Tetrachloroethene	9.399	166	78705	0.39	ppb	99

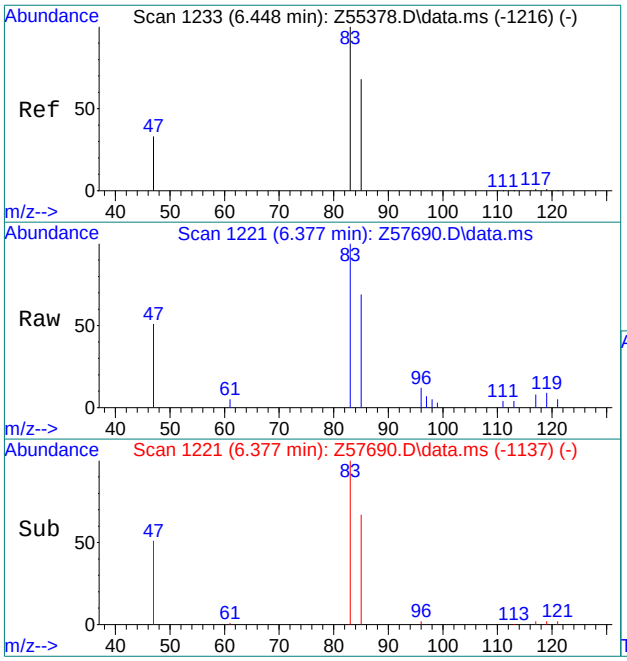
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57690.D
Acq On : 31 Aug 2019 1:24 pm
Operator : kevinb
Sample : FA67615-1
Misc : ms44225,vz2206,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 03 10:59:05 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

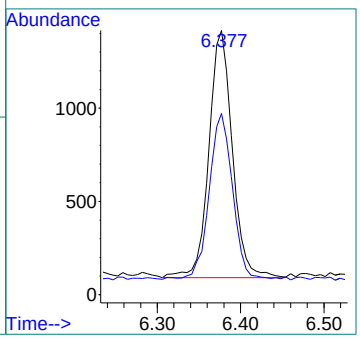


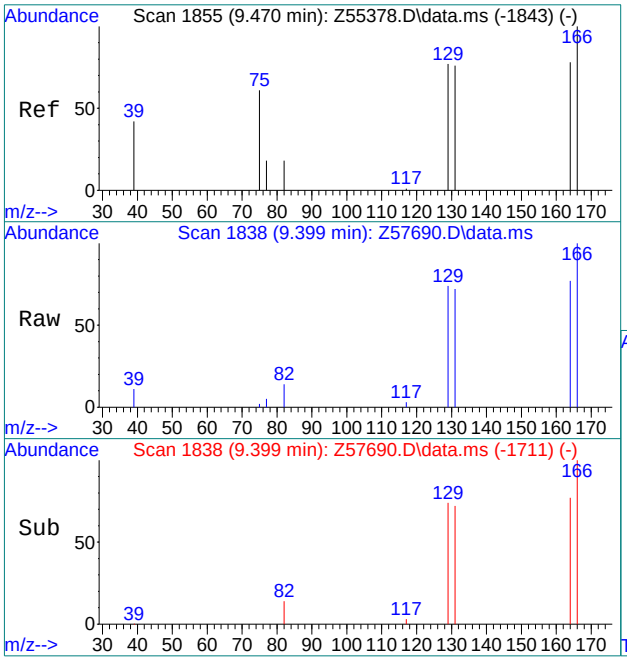


#9
Chloroform
Concen: 0.07 ppb
RT: 6.377 min Scan# 1221
Delta R.T. 0.000 min
Lab File: Z57690.D
Acq: 31 Aug 2019 1:24 pm

Tgt Ion: 83 Resp: 25842

Ion	Ratio	Lower	Upper
83	100		
85	65.4	49.6	89.6

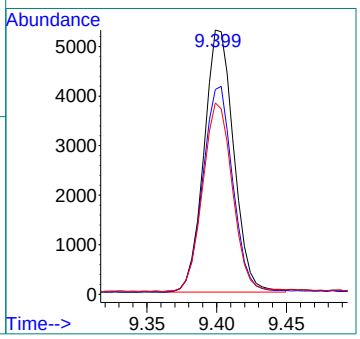




#21
Tetrachloroethene
Concen: 0.39 ppb
RT: 9.399 min Scan# 1838
Delta R.T. -0.004 min
Lab File: Z57690.D
Acq: 31 Aug 2019 1:24 pm

Tgt Ion:166 Resp: 78705

Ion	Ratio	Lower	Upper
166	100		
164	79.3	58.5	98.5
131	73.0	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57691.D
Acq On : 31 Aug 2019 1:43 pm
Operator : kevinb
Sample : FA67615-2
Misc : ms44225,vz2206,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 03 10:59:07 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

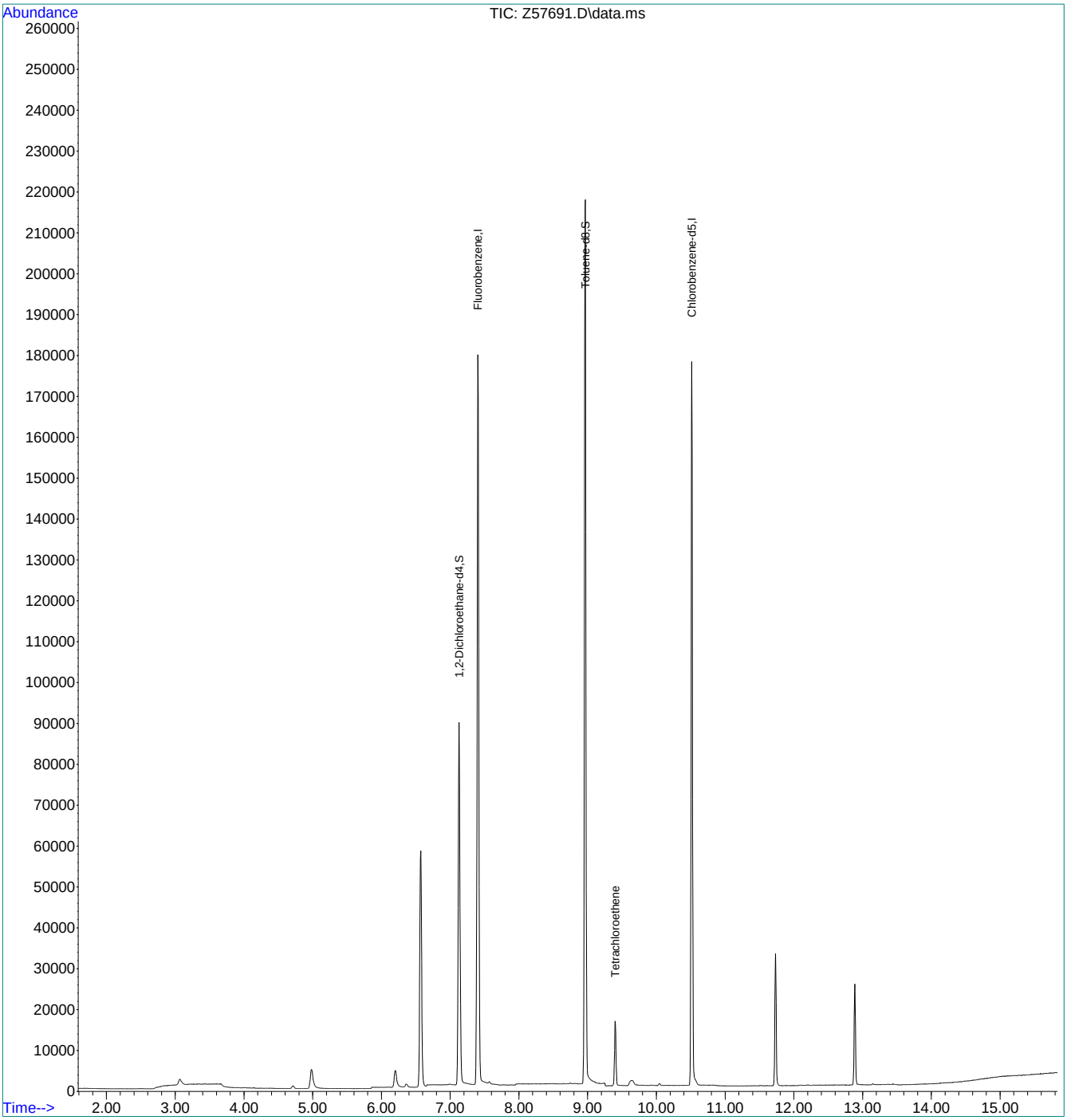
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2069628	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1561742	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	718088	5.17	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 103.40%			
19) Toluene-d8	8.965	98	1883211	5.11	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.20%			
Target Compounds						Qvalue
21) Tetrachloroethene	9.403	166	69880	0.39	ppb	98

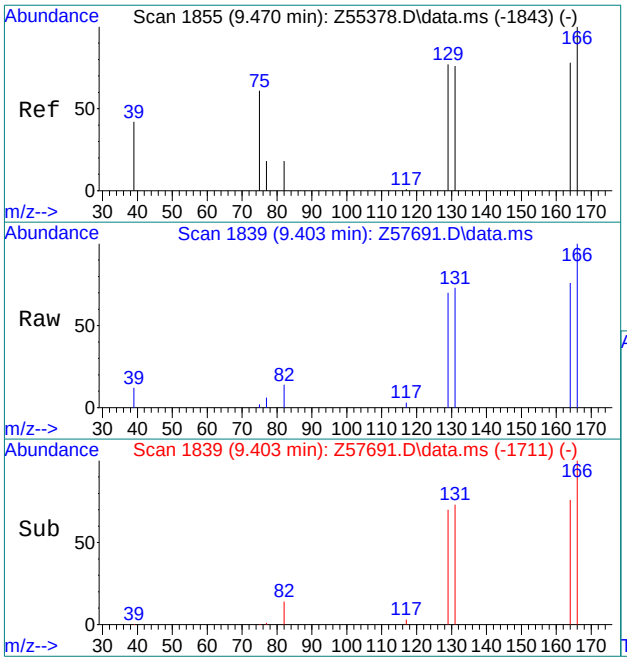
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57691.D
Acq On : 31 Aug 2019 1:43 pm
Operator : kevinb
Sample : FA67615-2
Misc : ms44225,vz2206,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 03 10:59:07 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

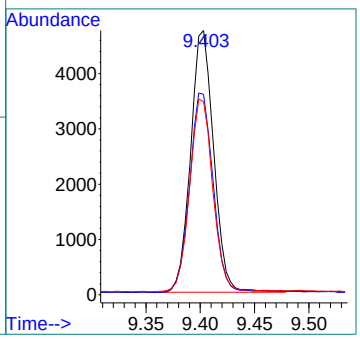




#21
Tetrachloroethene
Concen: 0.39 ppb
RT: 9.403 min Scan# 1839
Delta R.T. -0.000 min
Lab File: Z57691.D
Acq: 31 Aug 2019 1:43 pm

Tgt Ion:166 Resp: 69880

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.5	98.5
131	73.9	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57692.D
Acq On : 31 Aug 2019 2:02 pm
Operator : kevinb
Sample : FA67615-3
Misc : ms44225,vz2206,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 03 10:59:09 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

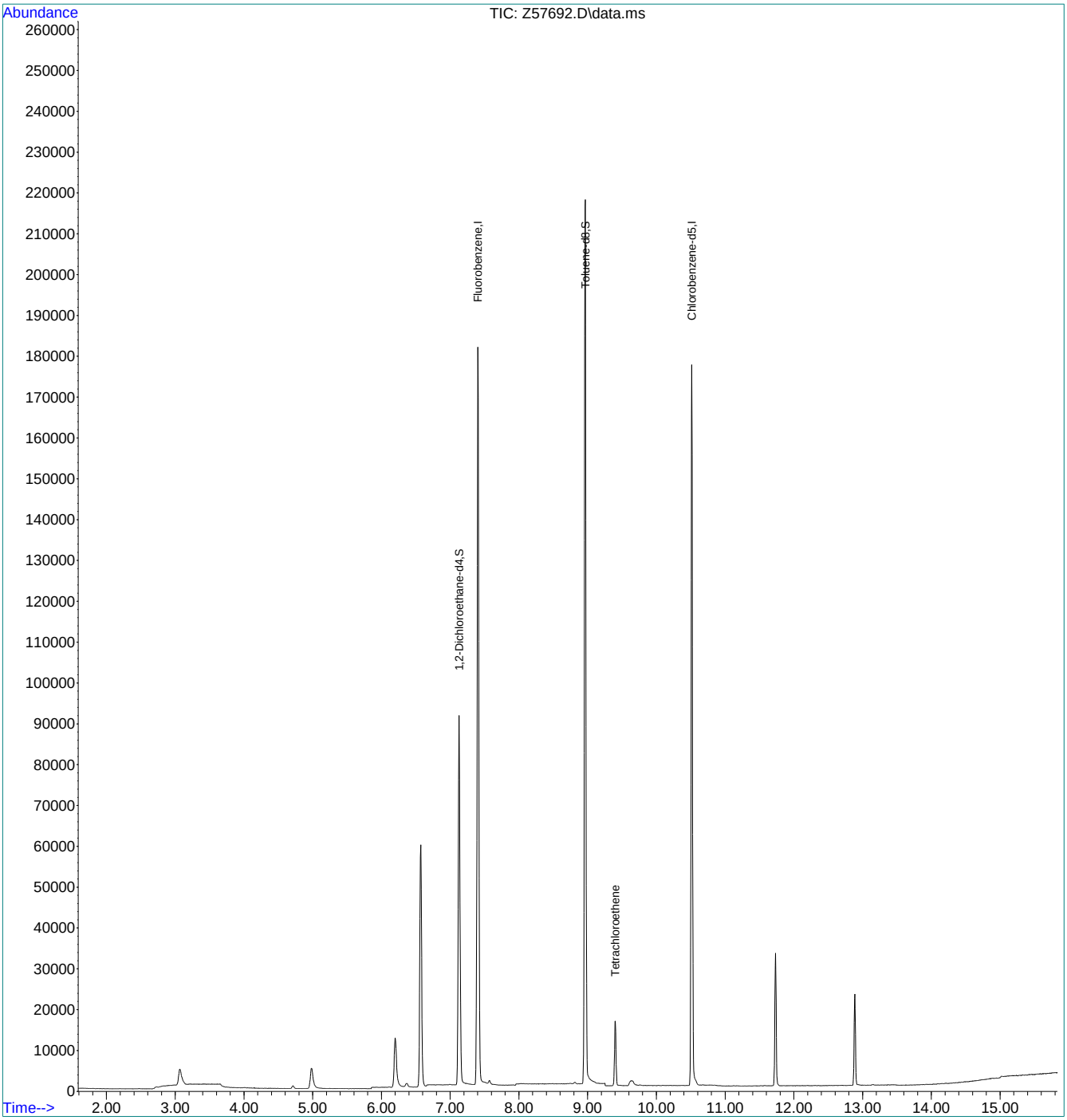
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2061664	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1566787	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	731091	5.29	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 105.80%			
19) Toluene-d8	8.965	98	1892206	5.12	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.40%			
Target Compounds						Qvalue
21) Tetrachloroethene	9.403	166	70143	0.39	ppb	99

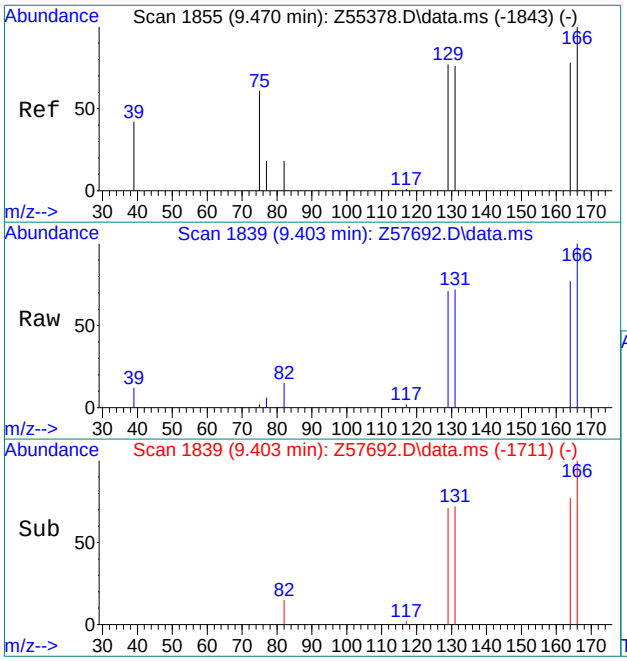
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57692.D
Acq On : 31 Aug 2019 2:02 pm
Operator : kevinb
Sample : FA67615-3
Misc : ms44225,vz2206,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 03 10:59:09 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

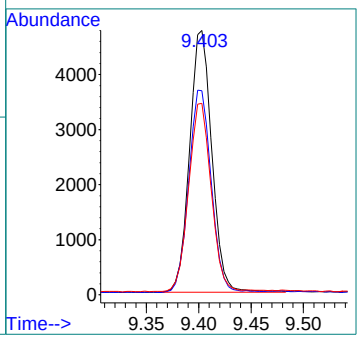




#21
Tetrachloroethene
Concen: 0.39 ppb
RT: 9.403 min Scan# 1839
Delta R.T. 0.000 min
Lab File: Z57692.D
Acq: 31 Aug 2019 2:02 pm

Tgt Ion:166 Resp: 70143

Ion	Ratio	Lower	Upper
166	100		
164	78.2	58.5	98.5
131	72.6	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57693.D
Acq On : 31 Aug 2019 3:36 pm
Operator : kevinb
Sample : FA67615-4
Misc : ms44225,vz2206,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 03 10:59:11 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

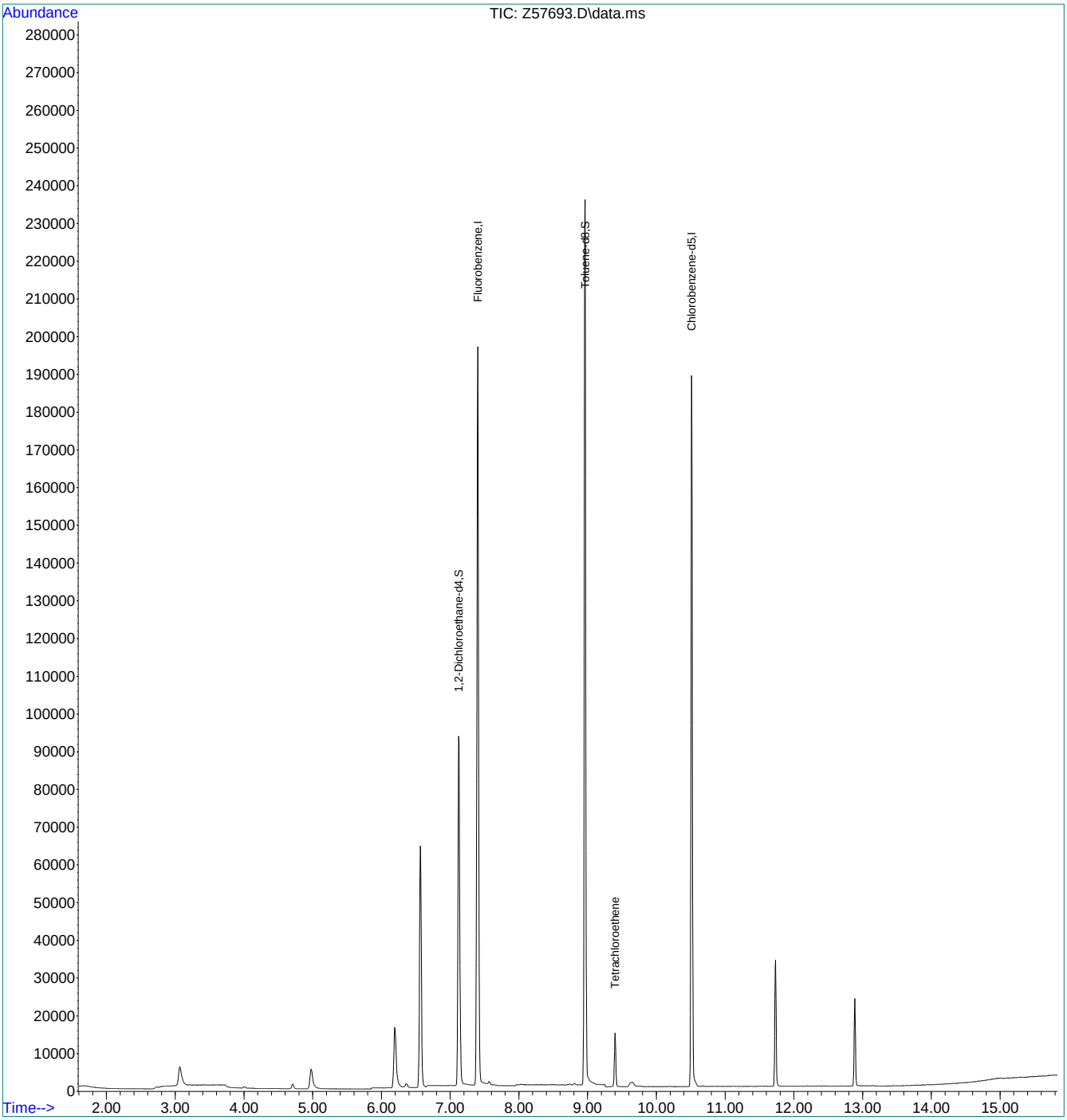
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2247417	5.00	ppb	0.00
18) Chlorobenzene-d5	10.511	117	1680568	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.123	65	781027	5.18	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 103.60%			
19) Toluene-d8	8.961	98	2034738	5.13	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.60%			
Target Compounds						Qvalue
21) Tetrachloroethene	9.399	166	61722	0.32	ppb	99

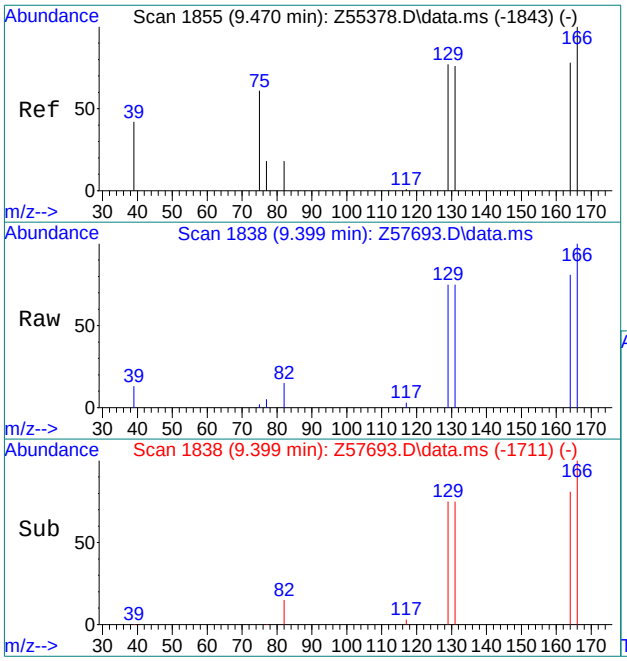
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57693.D
Acq On : 31 Aug 2019 3:36 pm
Operator : kevinb
Sample : FA67615-4
Misc : ms44225,vz2206,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 03 10:59:11 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

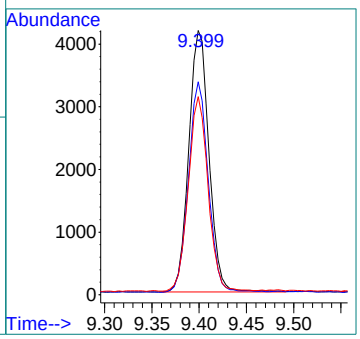




#21
Tetrachloroethene
Concen: 0.32 ppb
RT: 9.399 min Scan# 1838
Delta R.T. -0.004 min
Lab File: Z57693.D
Acq: 31 Aug 2019 3:36 pm

Tgt Ion:166 Resp: 61722

Ion	Ratio	Lower	Upper
166	100		
164	78.9	58.5	98.5
131	72.8	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57694.D
Acq On : 31 Aug 2019 3:55 pm
Operator : kevinb
Sample : FA67615-5
Misc : ms44225,vz2206,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 03 10:59:13 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

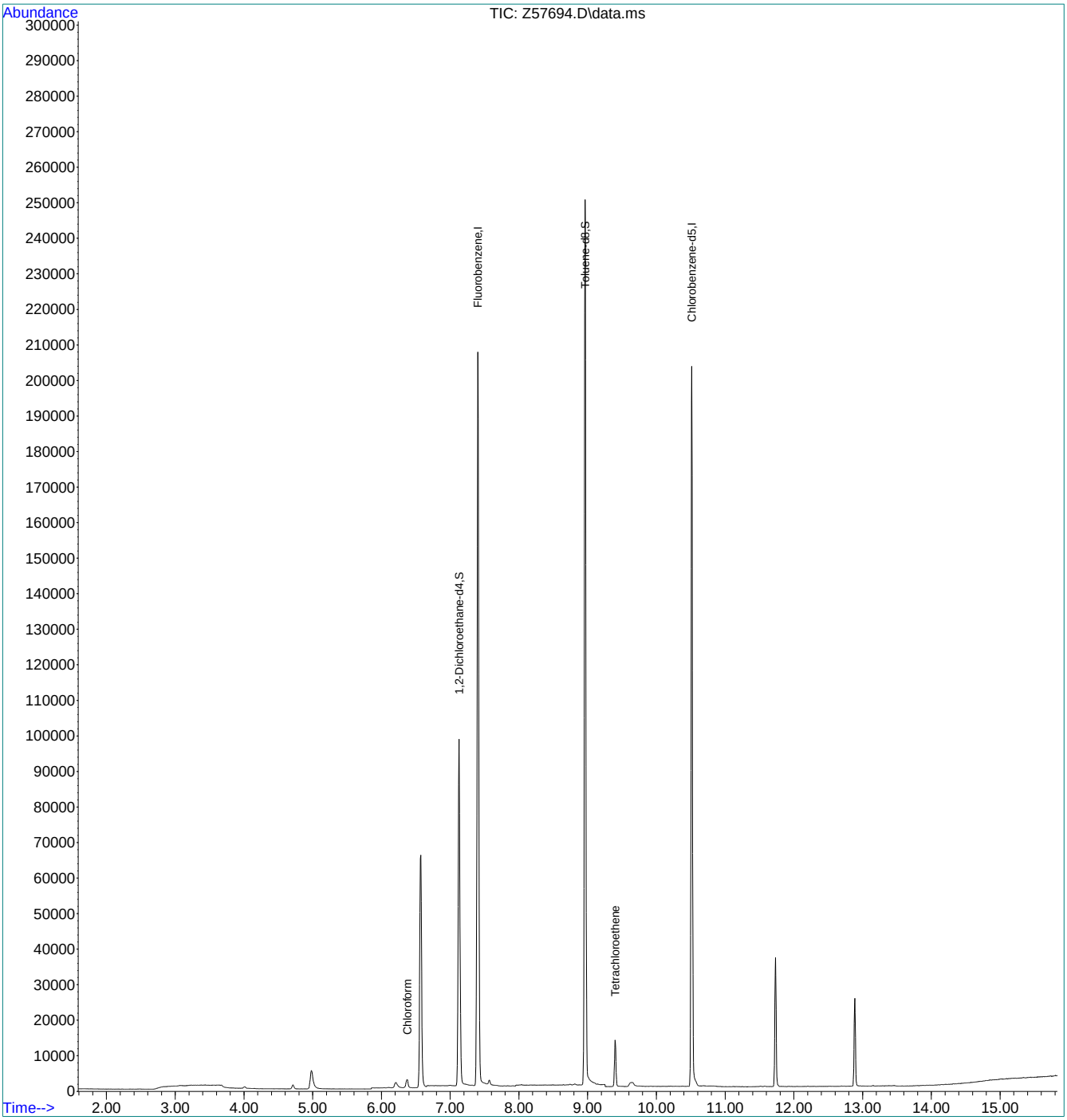
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2369657	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1803040	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	791499	4.98	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 99.60%			
19) Toluene-d8	8.961	98	2160415	5.08	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.60%			
Target Compounds						Qvalue
9) Chloroform	6.377	83	18819	0.05	ppb	92
21) Tetrachloroethene	9.403	166	58140	0.28	ppb	99

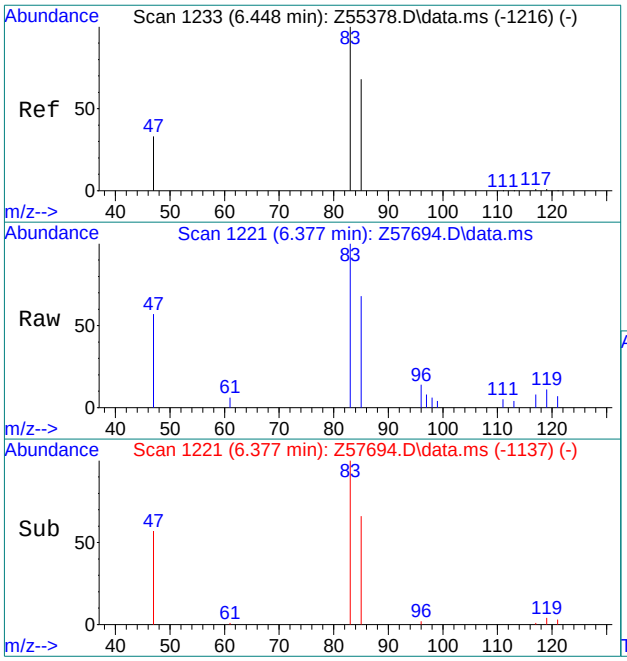
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57694.D
Acq On : 31 Aug 2019 3:55 pm
Operator : kevinb
Sample : FA67615-5
Misc : ms44225,vz2206,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 03 10:59:13 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

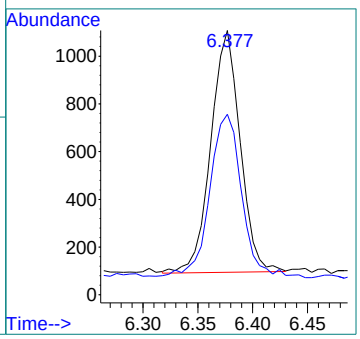


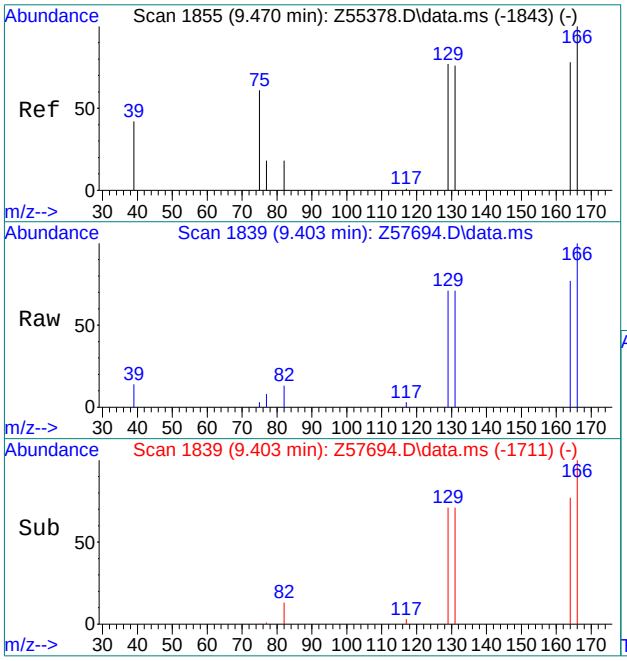


#9
Chloroform
Concen: 0.05 ppb
RT: 6.377 min Scan# 1221
Delta R.T. -0.000 min
Lab File: Z57694.D
Acq: 31 Aug 2019 3:55 pm

Tgt Ion: 83 Resp: 18819

Ion	Ratio	Lower	Upper
83	100		
85	76.1	49.6	89.6

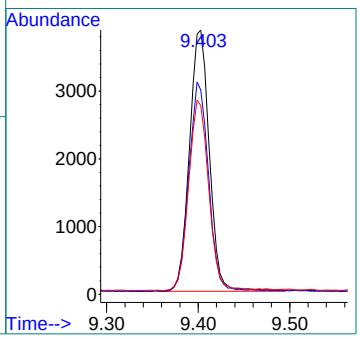




#21
Tetrachloroethene
Concen: 0.28 ppb
RT: 9.403 min Scan# 1839
Delta R.T. -0.000 min
Lab File: Z57694.D
Acq: 31 Aug 2019 3:55 pm

Tgt Ion:166 Resp: 58140

Ion	Ratio	Lower	Upper
166	100		
164	79.2	58.5	98.5
131	73.2	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57695.D
Acq On : 31 Aug 2019 4:14 pm
Operator : kevinb
Sample : FA67615-6
Misc : ms44225,vz2206,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 03 10:59:15 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

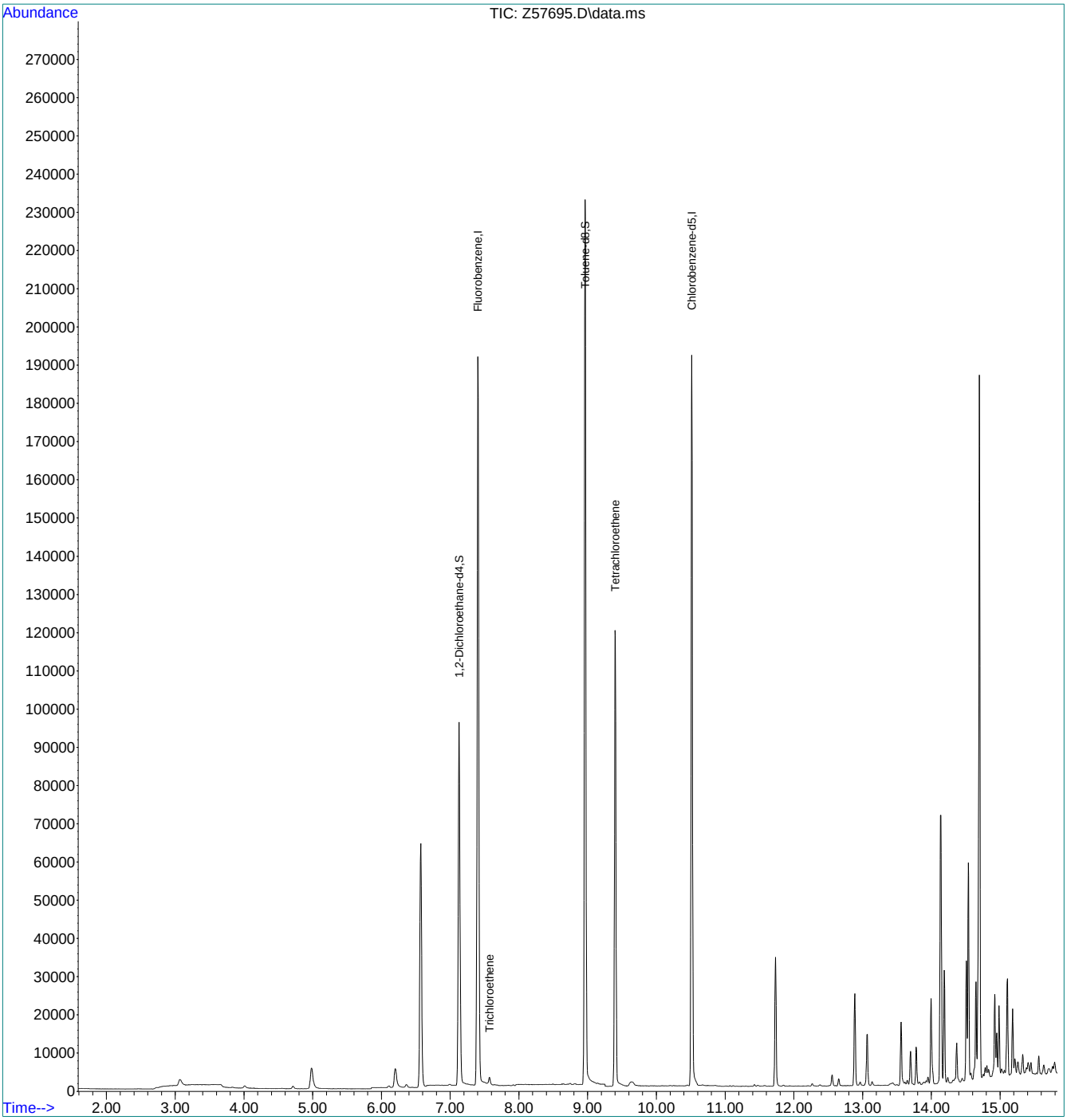
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2200052	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1689293	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	766341	5.19	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 103.80%			
19) Toluene-d8	8.961	98	2016343	5.06	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.20%			
Target Compounds						Qvalue
15) Trichloroethene	7.571	95	9985	0.05	ppb	# 93
21) Tetrachloroethene	9.403	166	527275	2.71	ppb	100

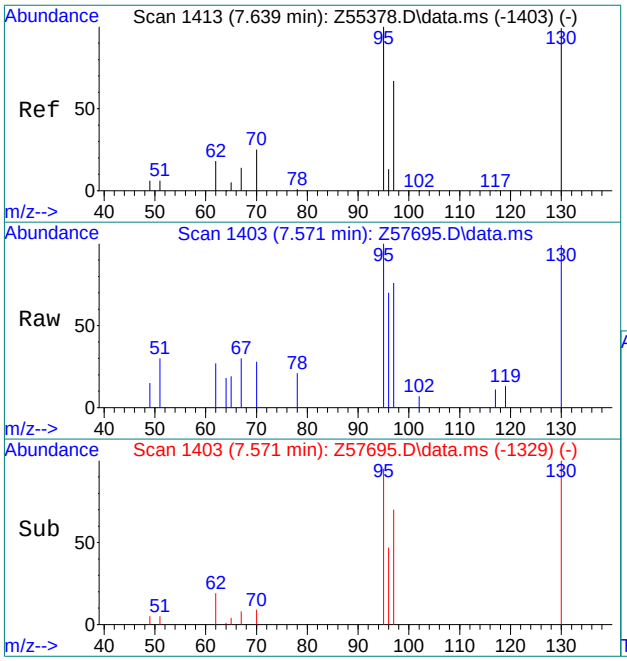
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57695.D
Acq On : 31 Aug 2019 4:14 pm
Operator : kevinb
Sample : FA67615-6
Misc : ms44225,vz2206,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 03 10:59:15 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

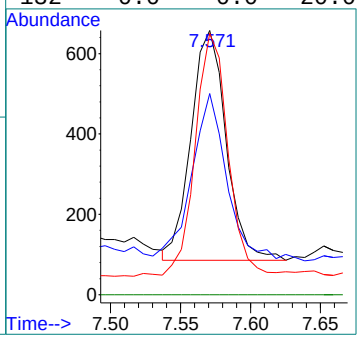


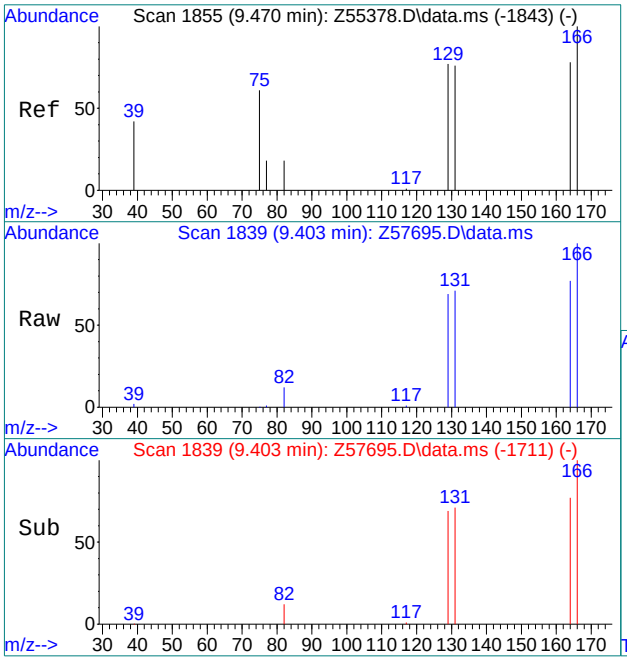


#15
Trichloroethene
Concen: 0.05 ppb
RT: 7.571 min Scan# 1403
Delta R.T. -0.000 min
Lab File: Z57695.D
Acq: 31 Aug 2019 4:14 pm

Tgt Ion: 95 Resp: 9985

Ion	Ratio	Lower	Upper
95	100		
97	80.1	47.8	87.8
130	98.8	79.7	119.7
132	0.0	0.0	20.0

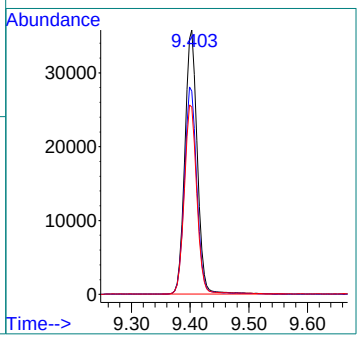




#21
Tetrachloroethene
Concen: 2.71 ppb
RT: 9.403 min Scan# 1839
Delta R.T. -0.000 min
Lab File: Z57695.D
Acq: 31 Aug 2019 4:14 pm

Tgt Ion:166 Resp: 527275

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.5	98.5
131	72.1	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57689.D
Acq On : 31 Aug 2019 1:05 pm
Operator : kevinb
Sample : FA67615-7
Misc : ms44225,vz2206,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 03 10:59:03 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

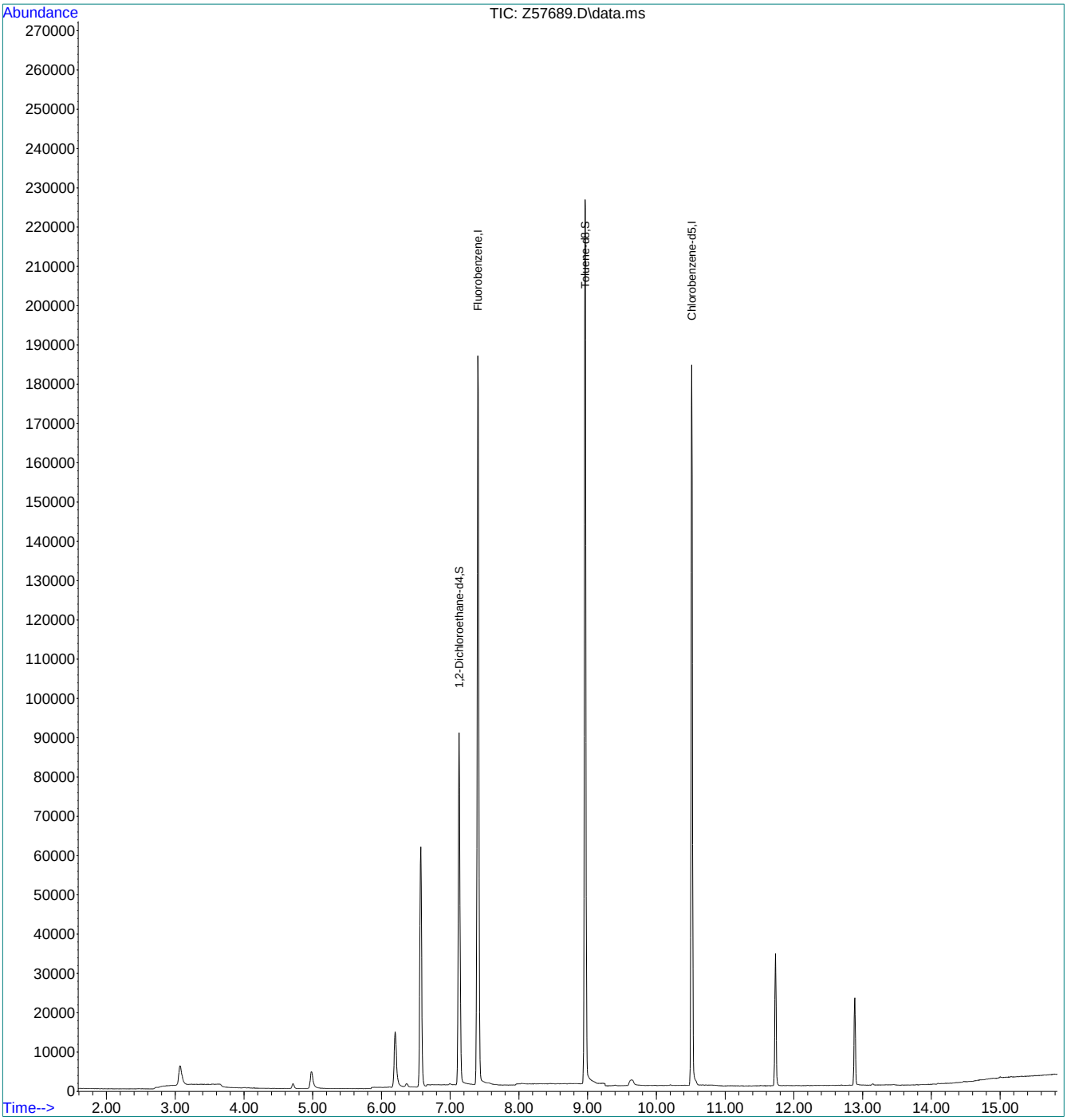
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2154753	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1629136	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	727545	5.04	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery =	100.80%		
19) Toluene-d8	8.961	98	1964775	5.11	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery =	102.20%		
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57689.D
Acq On : 31 Aug 2019 1:05 pm
Operator : kevinb
Sample : FA67615-7
Misc : ms44225,vz2206,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 03 10:59:03 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57696.D
Acq On : 31 Aug 2019 4:33 pm
Operator : kevinb
Sample : FA67615-8
Misc : ms44225,vz2206,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 03 10:59:17 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

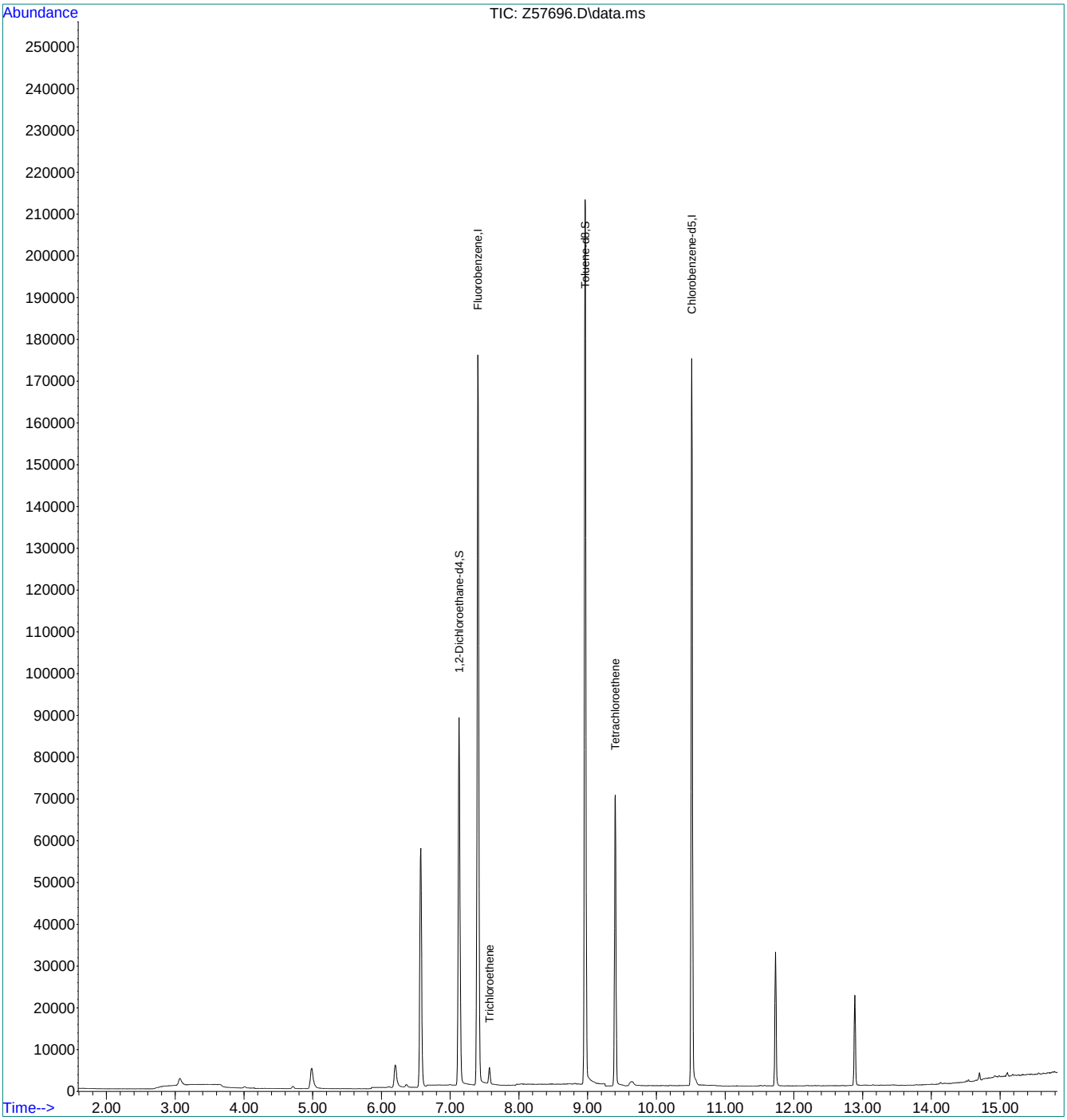
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2004883	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1524195	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	722042	5.37	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 107.40%			
19) Toluene-d8	8.961	98	1838821	5.11	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.20%			
Target Compounds						Qvalue
15) Trichloroethene	7.571	95	23052	0.13	ppb	# 94
21) Tetrachloroethene	9.403	166	306806	1.75	ppb	99

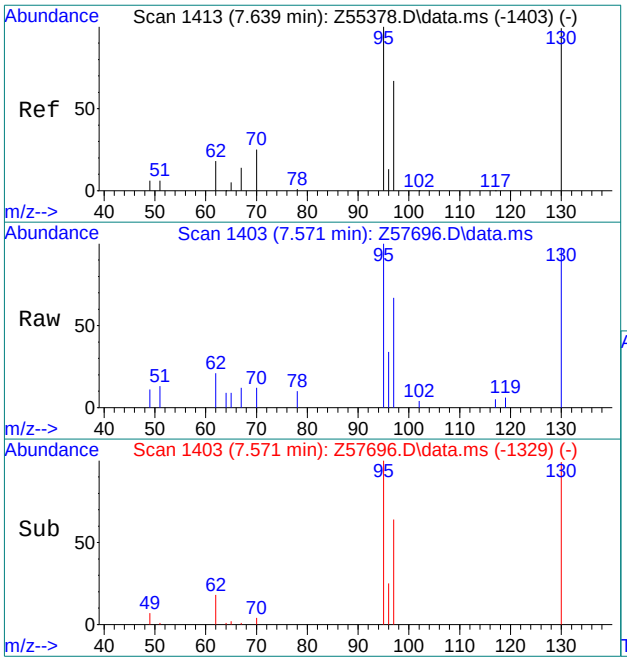
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57696.D
Acq On : 31 Aug 2019 4:33 pm
Operator : kevinb
Sample : FA67615-8
Misc : ms44225,vz2206,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 03 10:59:17 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

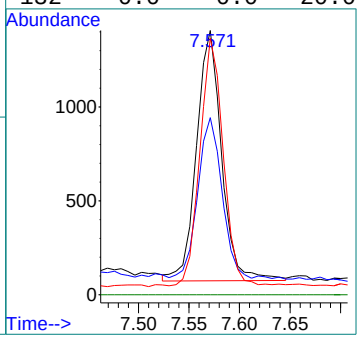


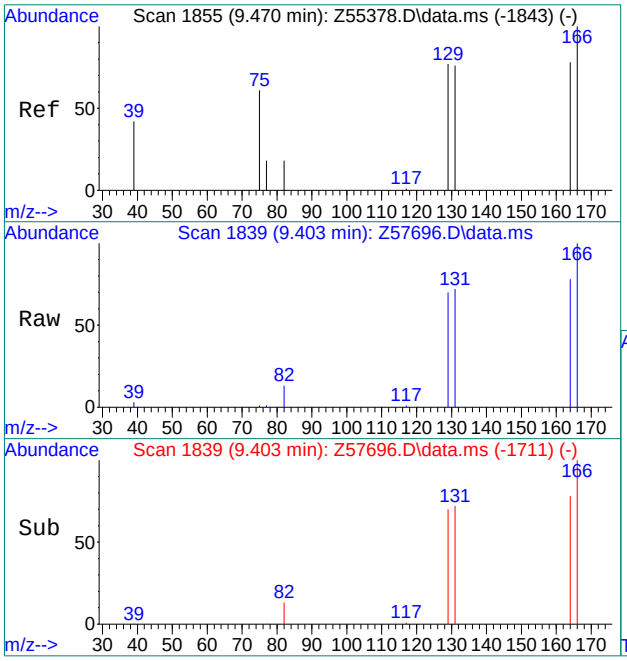


#15
Trichloroethene
Concen: 0.13 ppb
RT: 7.571 min Scan# 1403
Delta R.T. 0.000 min
Lab File: Z57696.D
Acq: 31 Aug 2019 4:33 pm

Tgt Ion: 95 Resp: 23052

Ion	Ratio	Lower	Upper
95	100		
97	63.5	47.8	87.8
130	93.1	79.7	119.7
132	0.0	0.0	20.0

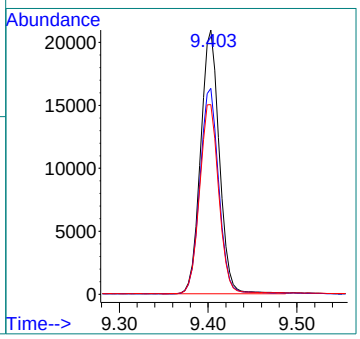




#21
Tetrachloroethene
Concen: 1.75 ppb
RT: 9.403 min Scan# 1839
Delta R.T. 0.000 min
Lab File: Z57696.D
Acq: 31 Aug 2019 4:33 pm

Tgt Ion:166 Resp: 306806

Ion	Ratio	Lower	Upper
166	100		
164	78.7	58.5	98.5
131	73.3	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57697.D
Acq On : 31 Aug 2019 4:52 pm
Operator : kevinb
Sample : FA67615-9
Misc : ms44225,vz2206,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 03 11:01:53 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

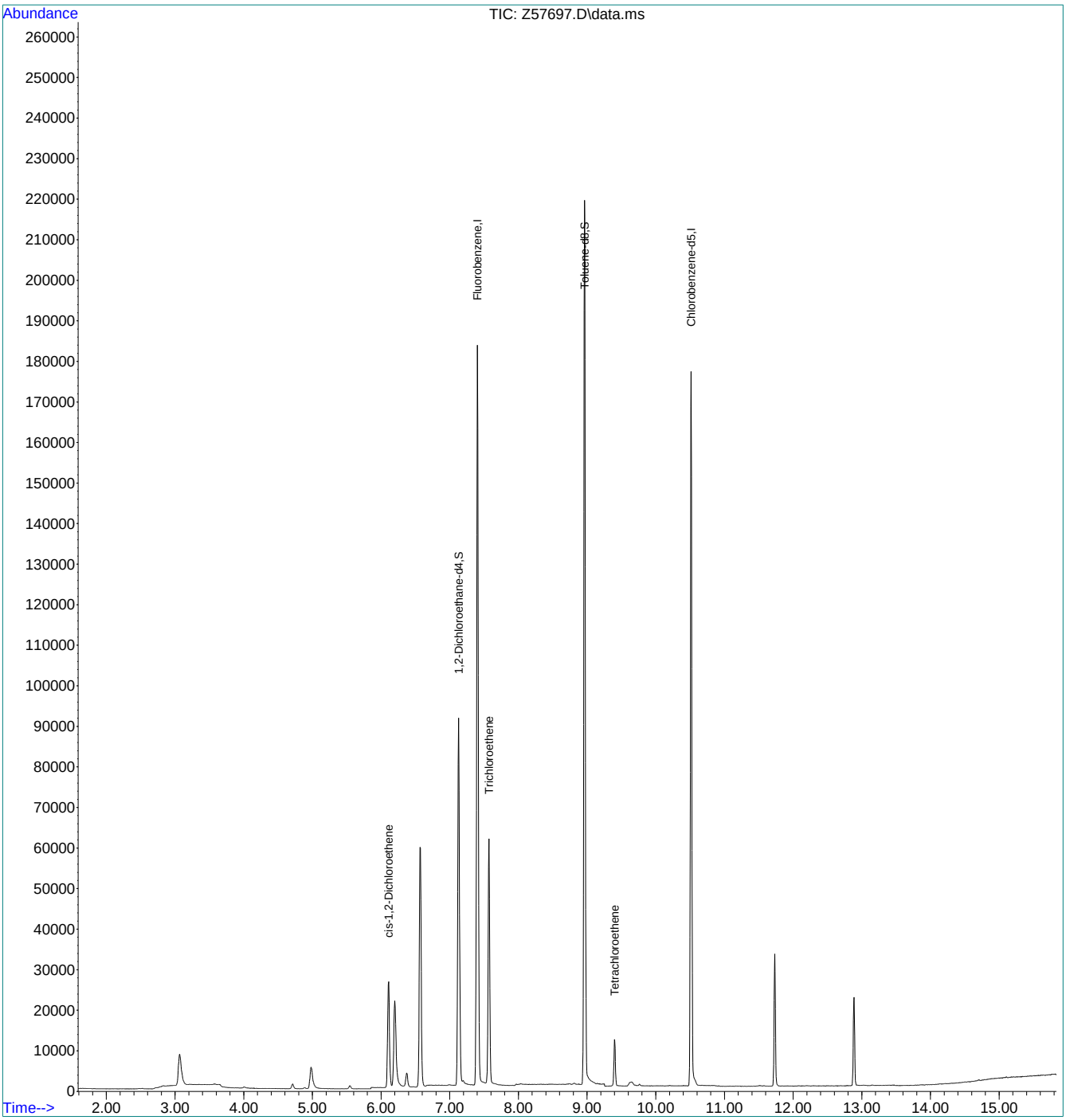
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	2060832	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1573137	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	738092	5.34	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 106.80%				
19) Toluene-d8	8.961	98	1894638	5.10	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
8) cis-1,2-Dichloroethene	6.110	96	142362	0.82	ppb		99
15) Trichloroethene	7.571	95	333726	1.86	ppb	#	97
21) Tetrachloroethene	9.403	166	49813	0.28	ppb		99

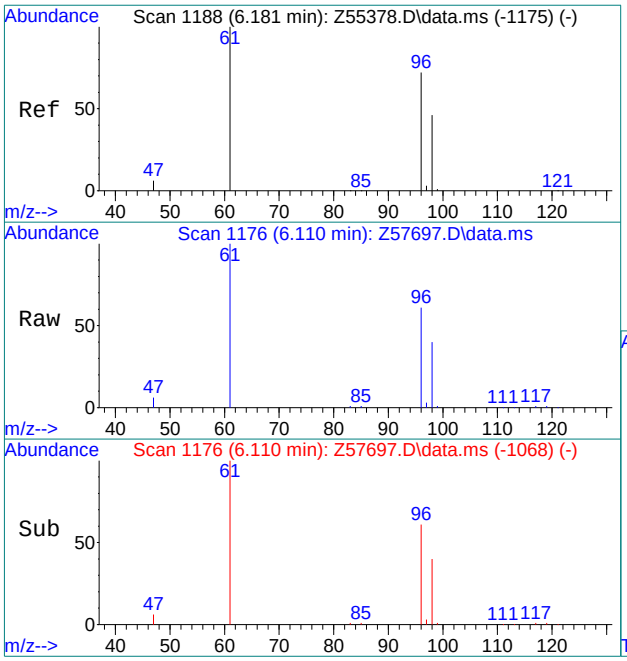
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57697.D
Acq On : 31 Aug 2019 4:52 pm
Operator : kevinb
Sample : FA67615-9
Misc : ms44225,vz2206,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 03 11:01:53 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

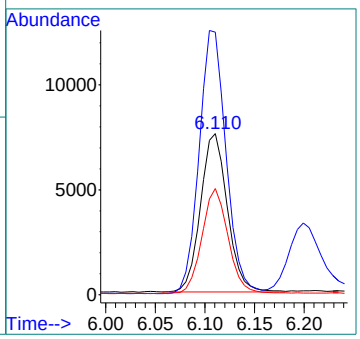


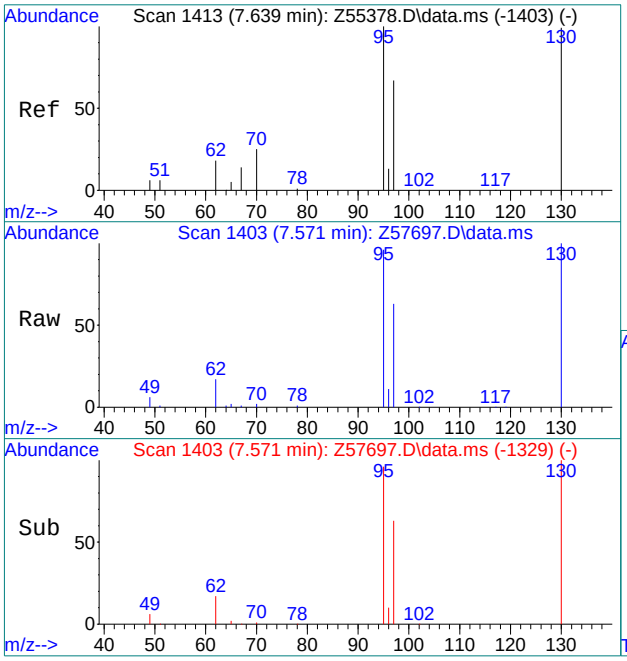


#8
cis-1,2-Dichloroethene
Concen: 0.82 ppb
RT: 6.110 min Scan# 1176
Delta R.T. 0.000 min
Lab File: Z57697.D
Acq: 31 Aug 2019 4:52 pm

Tgt Ion: 96 Resp: 142362

Ion	Ratio	Lower	Upper
96	100		
61	166.1	146.6	186.6
98	65.1	44.1	84.1

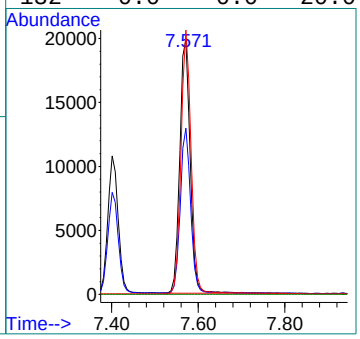


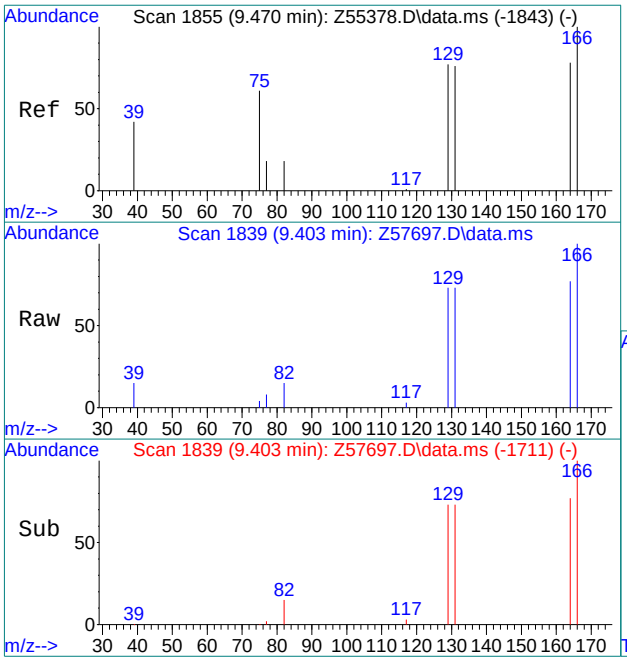


#15
Trichloroethene
Concen: 1.86 ppb
RT: 7.571 min Scan# 1403
Delta R.T. 0.000 min
Lab File: Z57697.D
Acq: 31 Aug 2019 4:52 pm

Tgt Ion: 95 Resp: 333726

Ion	Ratio	Lower	Upper
95	100		
97	64.0	47.8	87.8
130	101.2	79.7	119.7
132	0.0	0.0	20.0

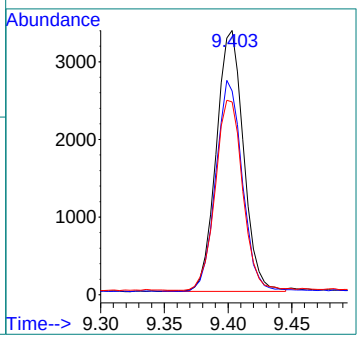




#21
Tetrachloroethene
Concen: 0.28 ppb
RT: 9.403 min Scan# 1839
Delta R.T. 0.000 min
Lab File: Z57697.D
Acq: 31 Aug 2019 4:52 pm

Tgt Ion:166 Resp: 49813

Ion	Ratio	Lower	Upper
166	100		
164	78.9	58.5	98.5
131	73.4	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57698.D
Acq On : 31 Aug 2019 5:12 pm
Operator : kevinb
Sample : FA67615-10
Misc : ms44225,vz2206,,,,,
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 03 10:59:21 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

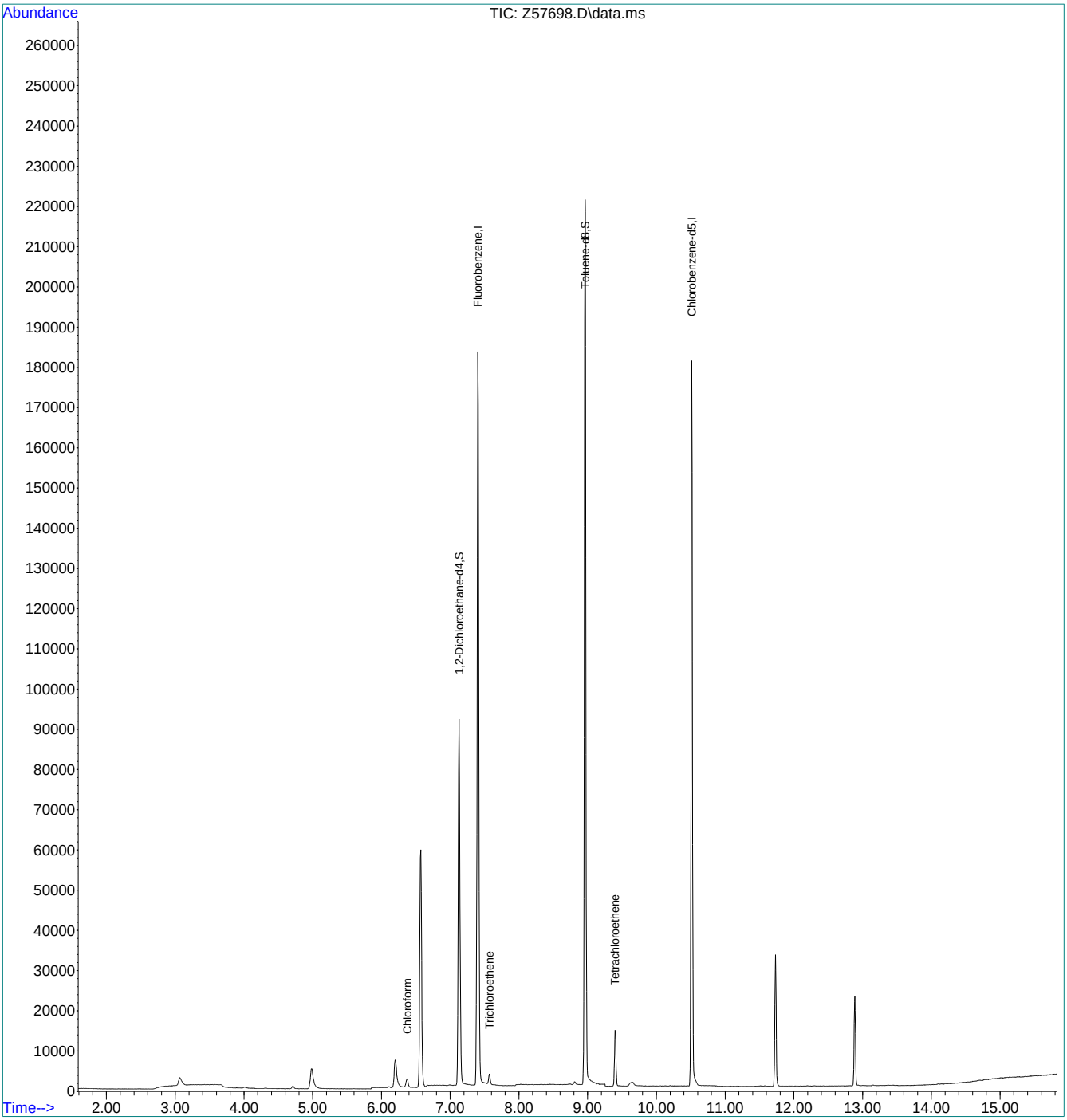
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	2084885	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1600155	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	739194	5.29	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 105.80%				
19) Toluene-d8	8.961	98	1910369	5.06	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
9) Chloroform	6.377	83	17192	0.05	ppb		92
15) Trichloroethene	7.571	95	14289	0.08	ppb	#	98
21) Tetrachloroethene	9.399	166	60794	0.33	ppb		98

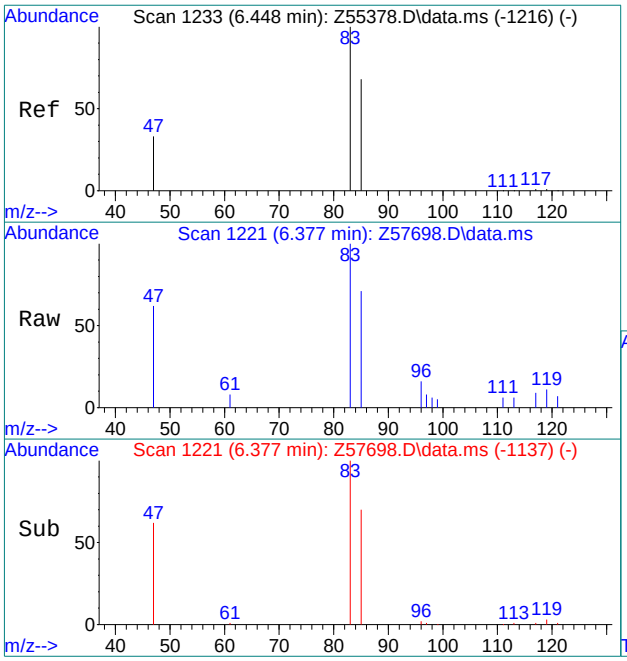
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57698.D
Acq On : 31 Aug 2019 5:12 pm
Operator : kevinb
Sample : FA67615-10
Misc : ms44225,vz2206,,,,,
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 03 10:59:21 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

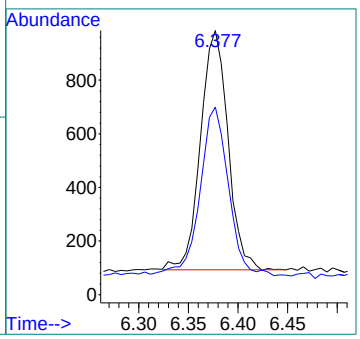


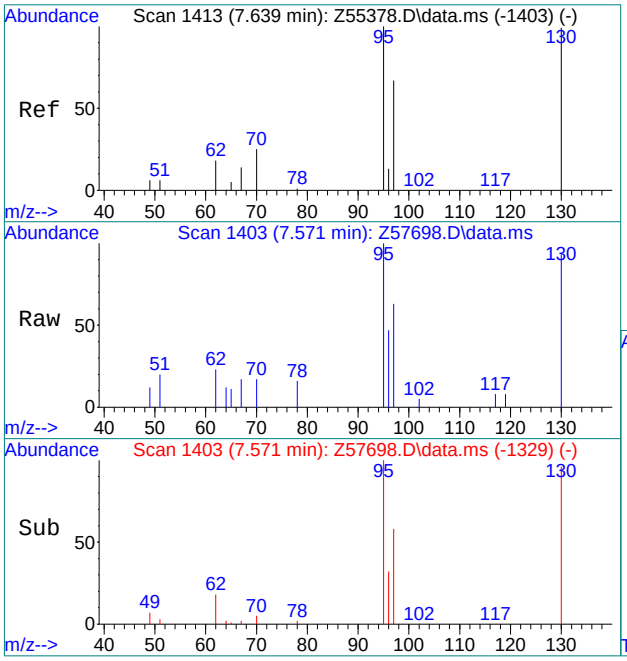


#9
Chloroform
Concen: 0.05 ppb
RT: 6.377 min Scan# 1221
Delta R.T. 0.000 min
Lab File: Z57698.D
Acq: 31 Aug 2019 5:12 pm

Tgt Ion: 83 Resp: 17192

Ion	Ratio	Lower	Upper
83	100		
85	75.8	49.6	89.6

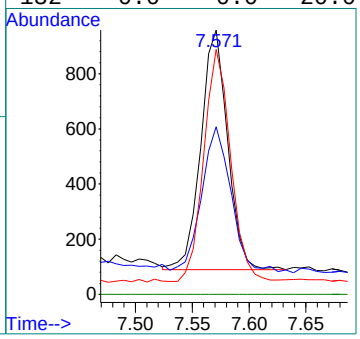


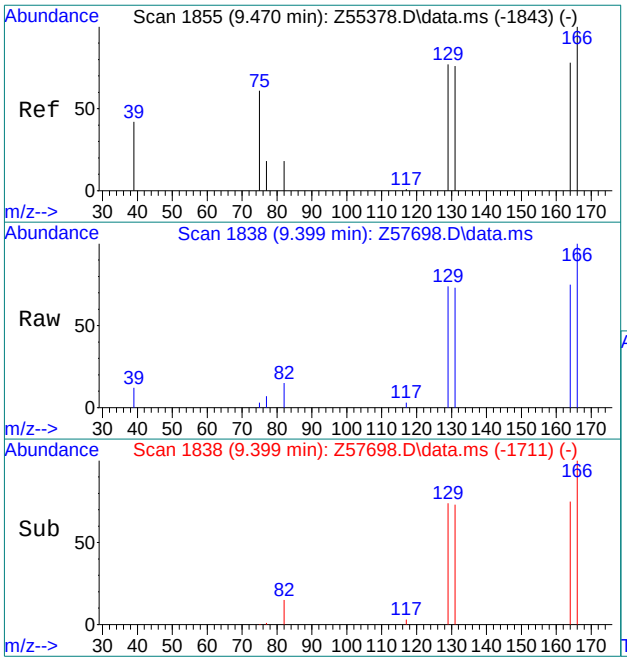


#15
Trichloroethene
Concen: 0.08 ppb
RT: 7.571 min Scan# 1403
Delta R.T. 0.000 min
Lab File: Z57698.D
Acq: 31 Aug 2019 5:12 pm

Tgt Ion: 95 Resp: 14289

Ion	Ratio	Lower	Upper
95	100		
97	68.1	47.8	87.8
130	96.4	79.7	119.7
132	0.0	0.0	20.0

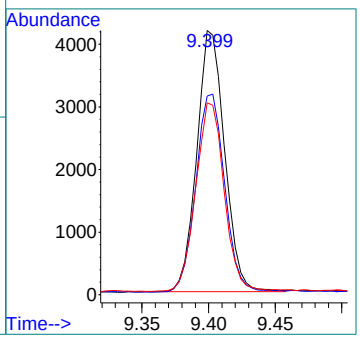




#21
Tetrachloroethene
Concen: 0.33 ppb
RT: 9.399 min Scan# 1838
Delta R.T. -0.004 min
Lab File: Z57698.D
Acq: 31 Aug 2019 5:12 pm

Tgt Ion:166 Resp: 60794

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.5	98.5
131	73.9	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57702.D
Acq On : 31 Aug 2019 6:27 pm
Operator : kevinb
Sample : FA67615-11
Misc : ms44225,vz2206,,,,,
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Sep 03 10:59:29 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

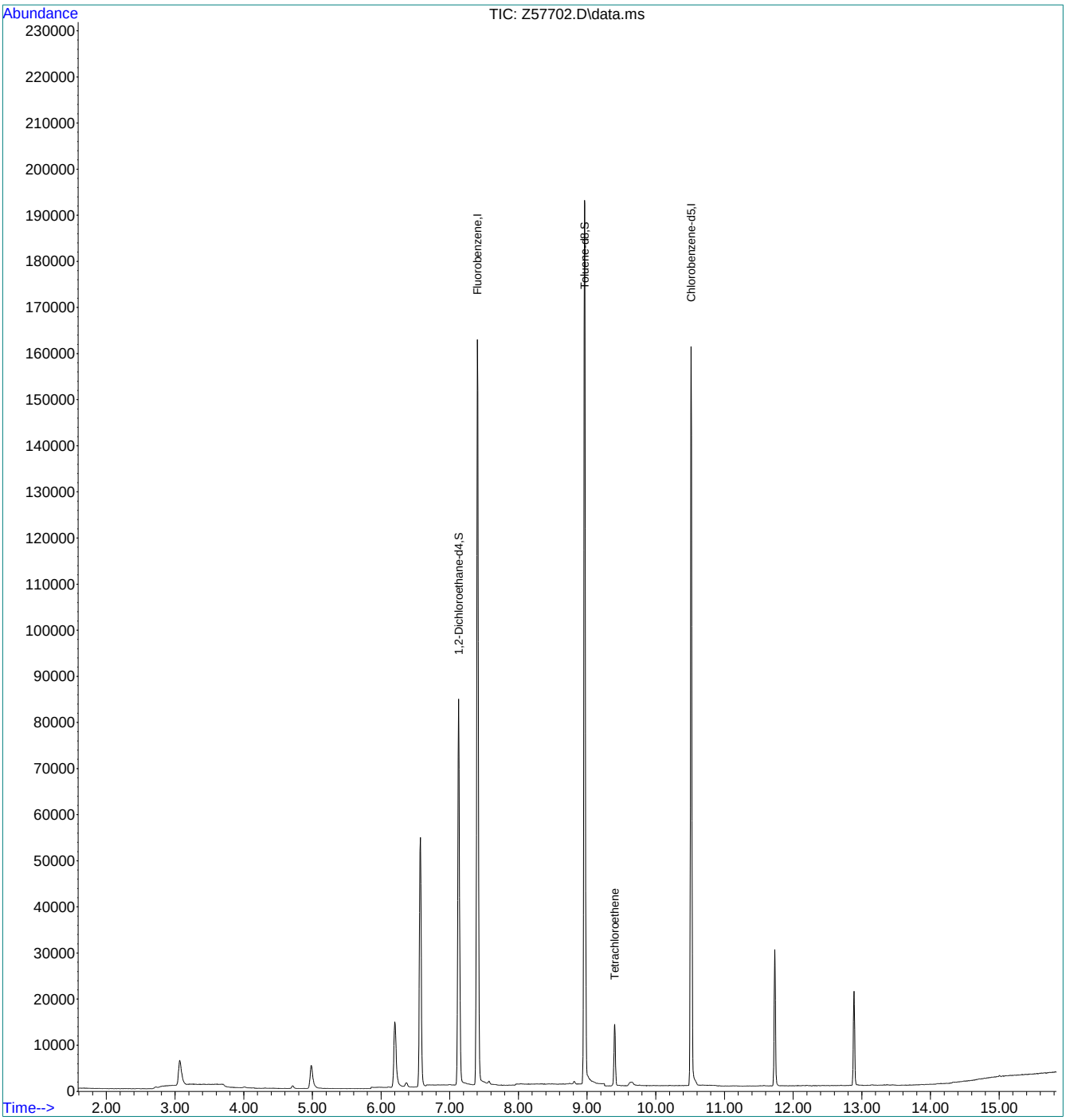
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	1845506	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1390274	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	671256	5.42	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 108.40%			
19) Toluene-d8	8.961	98	1671979	5.09	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.80%			
Target Compounds						Qvalue
21) Tetrachloroethene	9.403	166	58812	0.37	ppb	98

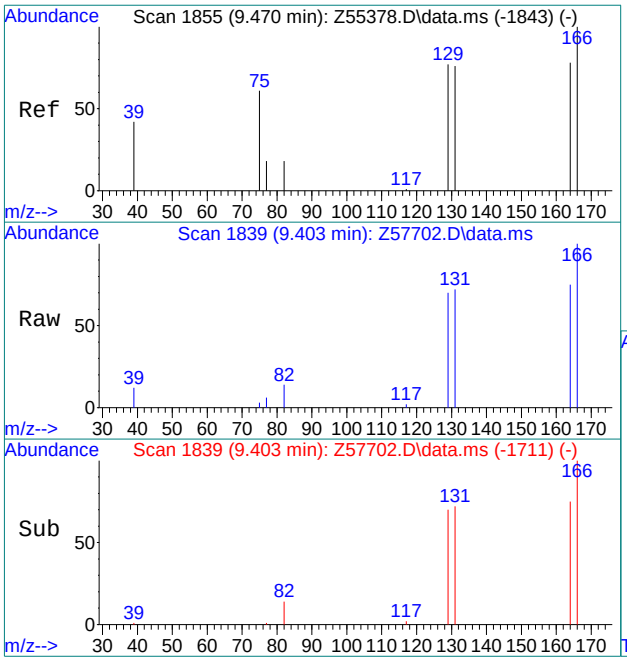
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57702.D
Acq On : 31 Aug 2019 6:27 pm
Operator : kevinb
Sample : FA67615-11
Misc : ms44225,vz2206,,,,,
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Sep 03 10:59:29 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

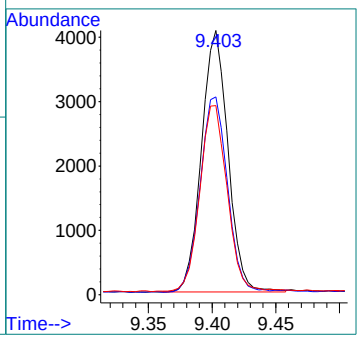




#21
Tetrachloroethene
Concen: 0.37 ppb
RT: 9.403 min Scan# 1839
Delta R.T. 0.000 min
Lab File: Z57702.D
Acq: 31 Aug 2019 6:27 pm

Tgt Ion:166 Resp: 58812

Ion	Ratio	Lower	Upper
166	100		
164	77.2	58.5	98.5
131	73.0	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57703.D
Acq On : 31 Aug 2019 6:47 pm
Operator : kevinb
Sample : FA67615-12
Misc : ms44225,vz2206,,,,,
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 03 11:02:31 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

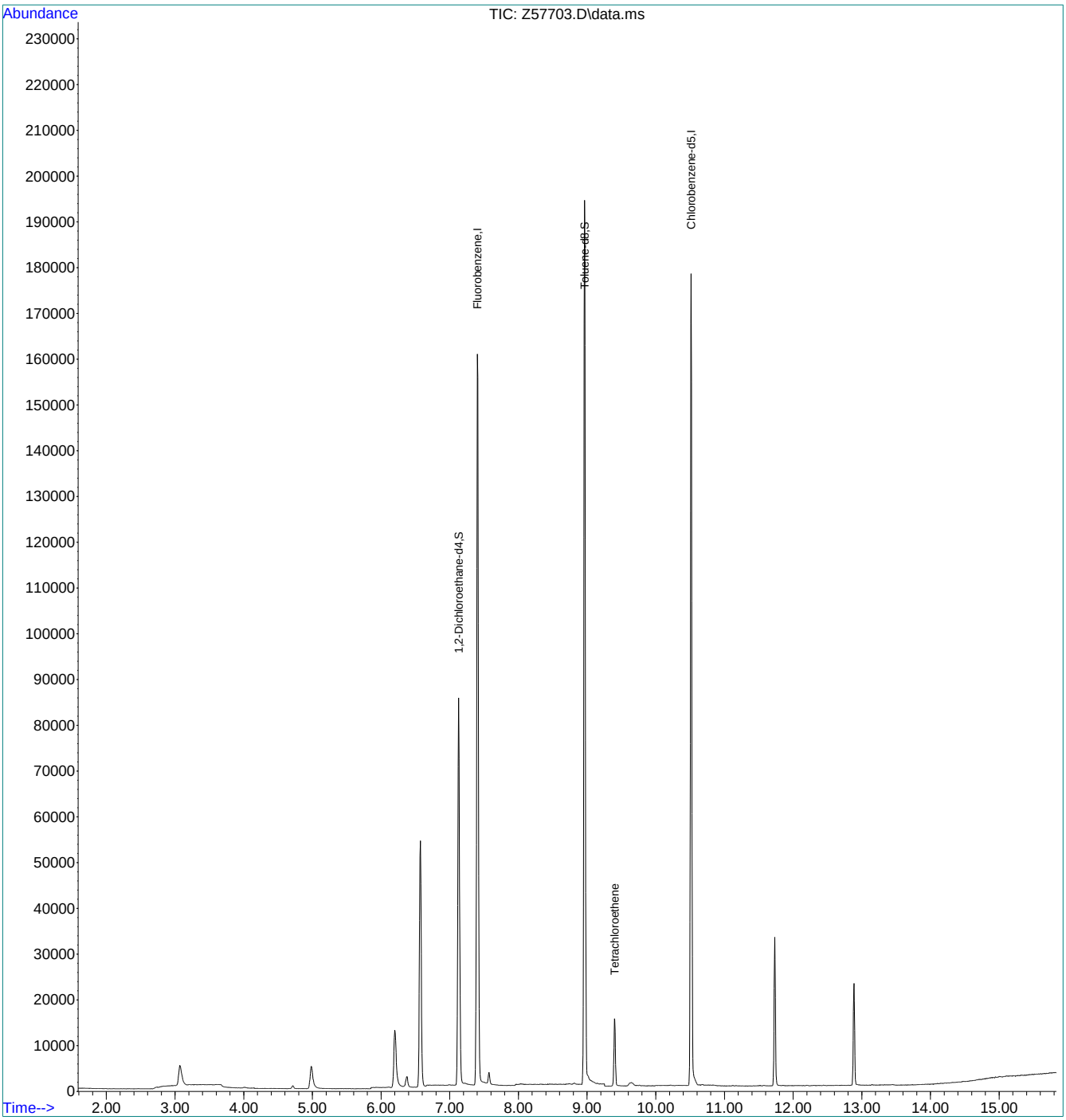
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	1864972	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1580233	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	688099	5.50	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 110.00%			
19) Toluene-d8	8.961	98	1679681	4.50	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 90.00%			
Target Compounds						Qvalue
21) Tetrachloroethene	9.403	166	64973	0.36	ppb	98

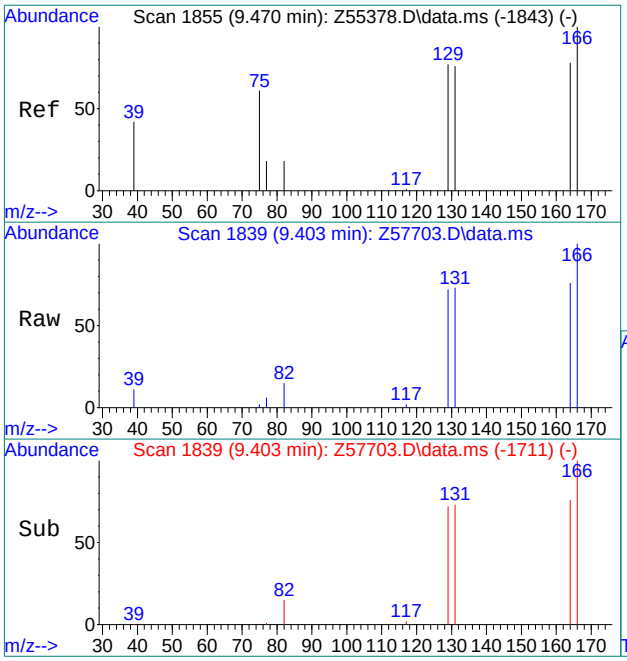
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57703.D
Acq On : 31 Aug 2019 6:47 pm
Operator : kevinb
Sample : FA67615-12
Misc : ms44225,vz2206,,,,,
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 03 11:02:31 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

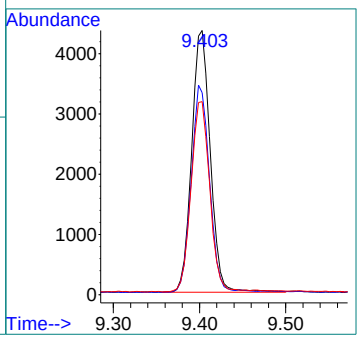




#21
Tetrachloroethene
Concen: 0.36 ppb
RT: 9.403 min Scan# 1839
Delta R.T. 0.000 min
Lab File: Z57703.D
Acq: 31 Aug 2019 6:47 pm

Tgt Ion:166 Resp: 64973

Ion	Ratio	Lower	Upper
166	100		
164	77.3	58.5	98.5
131	73.2	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57704.D
Acq On : 31 Aug 2019 7:06 pm
Operator : kevinb
Sample : FA67615-13
Misc : ms44225,vz2206,,,,,
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 03 11:02:19 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

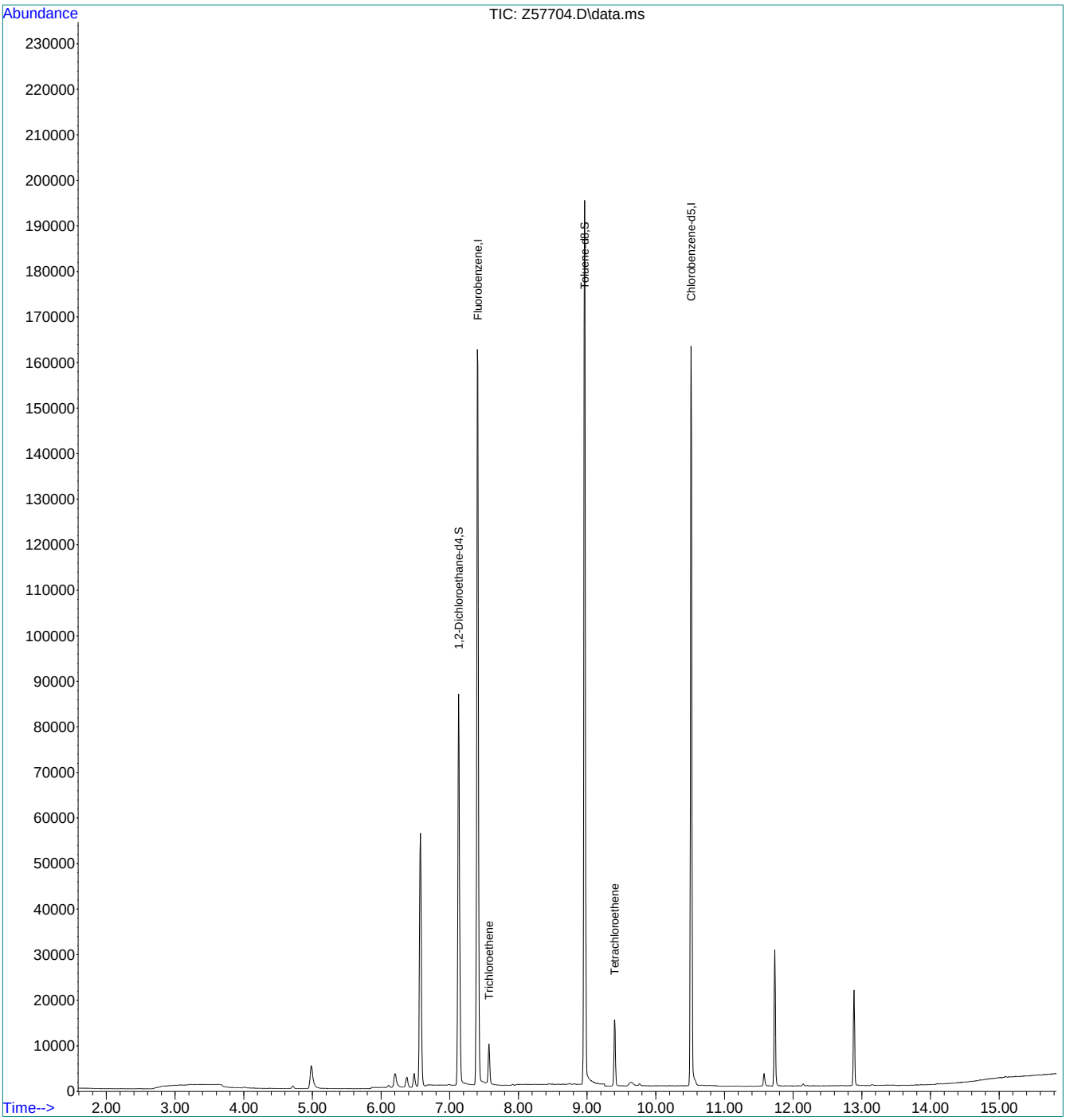
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.408	96	1879315	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1431258	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	691324	5.49	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 109.80%			
19) Toluene-d8	8.961	98	1711962	5.07	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.40%			
Target Compounds						Qvalue
15) Trichloroethene	7.571	95	47457	0.29	ppb	# 98
21) Tetrachloroethene	9.403	166	63437	0.39	ppb	98

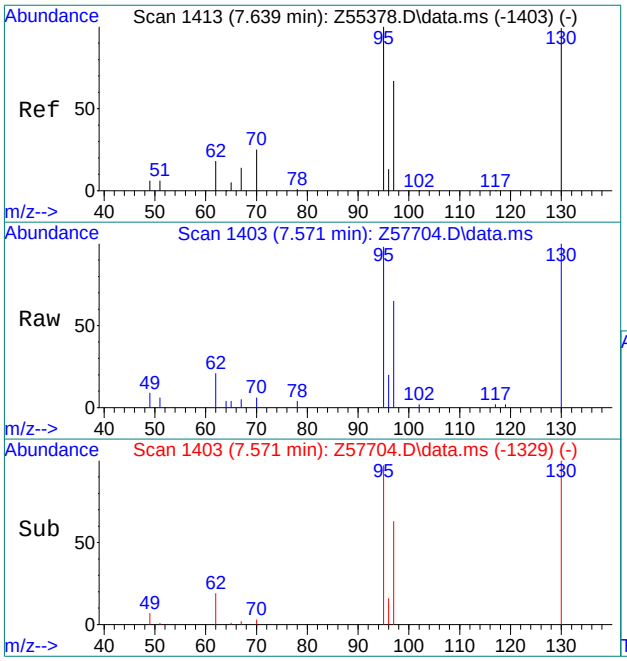
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57704.D
Acq On : 31 Aug 2019 7:06 pm
Operator : kevinb
Sample : FA67615-13
Misc : ms44225,vz2206,,,,,
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 03 11:02:19 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

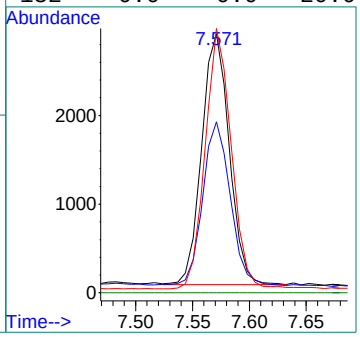


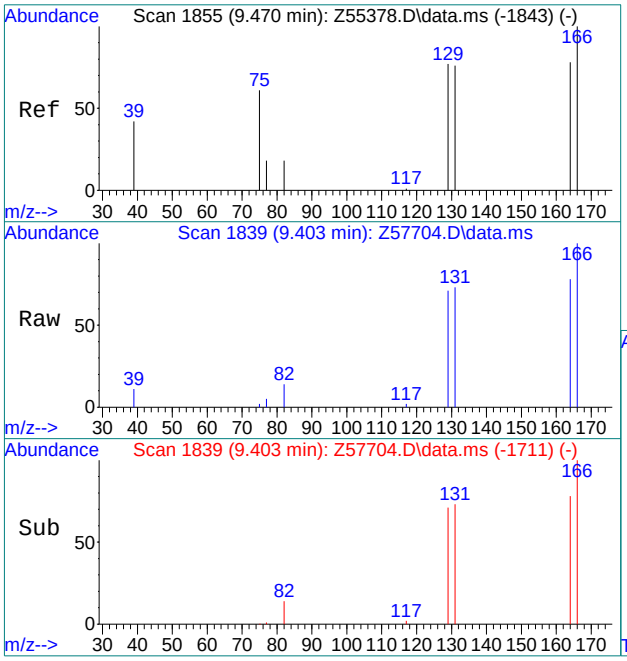


#15
Trichloroethene
Concen: 0.29 ppb
RT: 7.571 min Scan# 1403
Delta R.T. -0.000 min
Lab File: Z57704.D
Acq: 31 Aug 2019 7:06 pm

Tgt Ion: 95 Resp: 47457

Ion	Ratio	Lower	Upper
95	100		
97	65.3	47.8	87.8
130	99.2	79.7	119.7
132	0.0	0.0	20.0

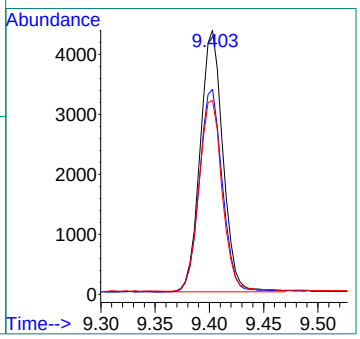




#21
Tetrachloroethene
Concen: 0.39 ppb
RT: 9.403 min Scan# 1839
Delta R.T. -0.000 min
Lab File: Z57704.D
Acq: 31 Aug 2019 7:06 pm

Tgt Ion:166 Resp: 63437

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.5	98.5
131	74.3	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57705.D
Acq On : 31 Aug 2019 7:25 pm
Operator : kevinb
Sample : FA67615-14
Misc : ms44225,vz2206,,,,,
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 03 10:59:35 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

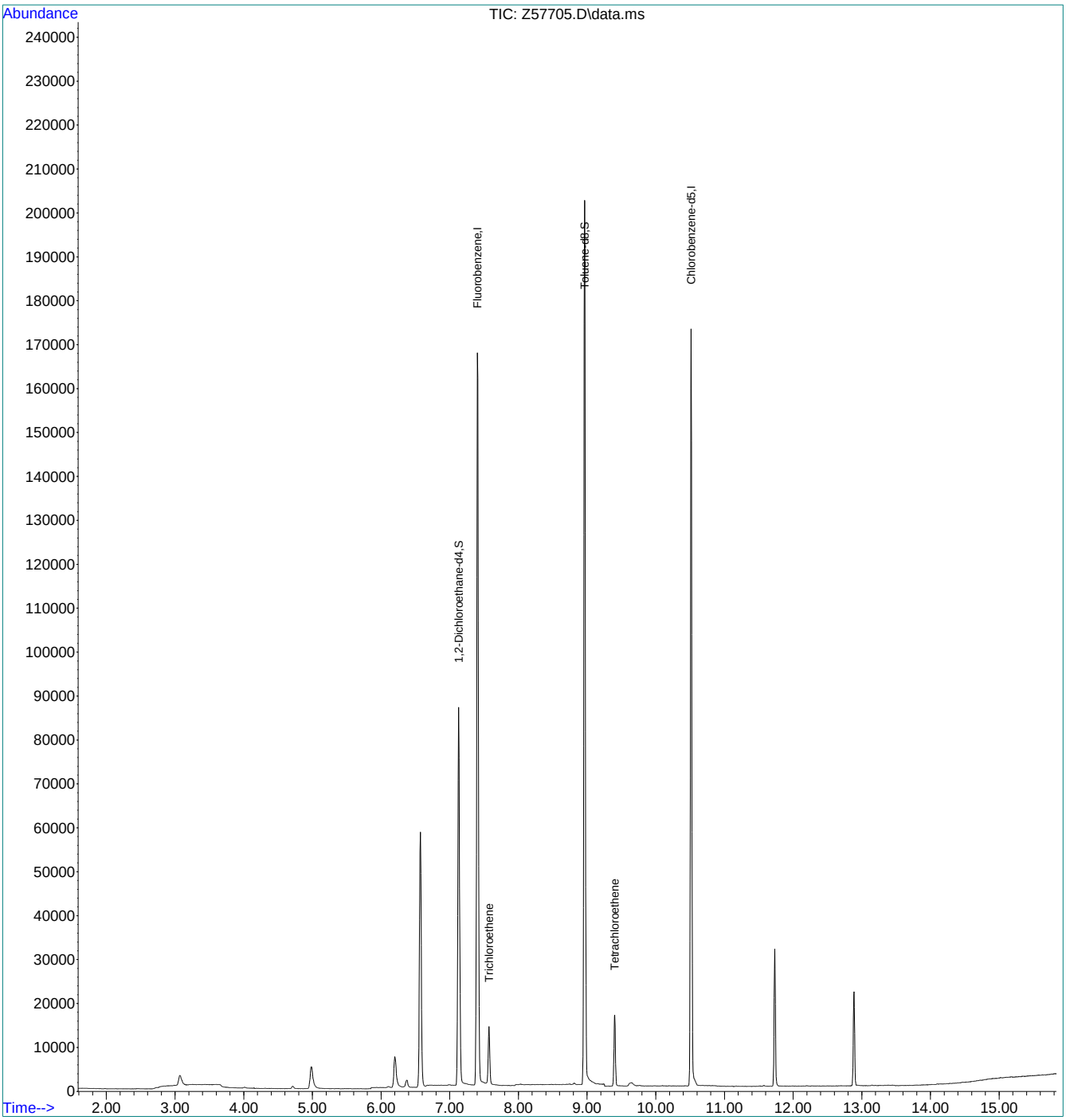
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	1934076	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1501829	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	699265	5.39	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 107.80%			
19) Toluene-d8	8.961	98	1774166	5.00	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.00%			
Target Compounds						Qvalue
15) Trichloroethene	7.571	95	70490	0.42	ppb	# 98
21) Tetrachloroethene	9.403	166	70605	0.41	ppb	99

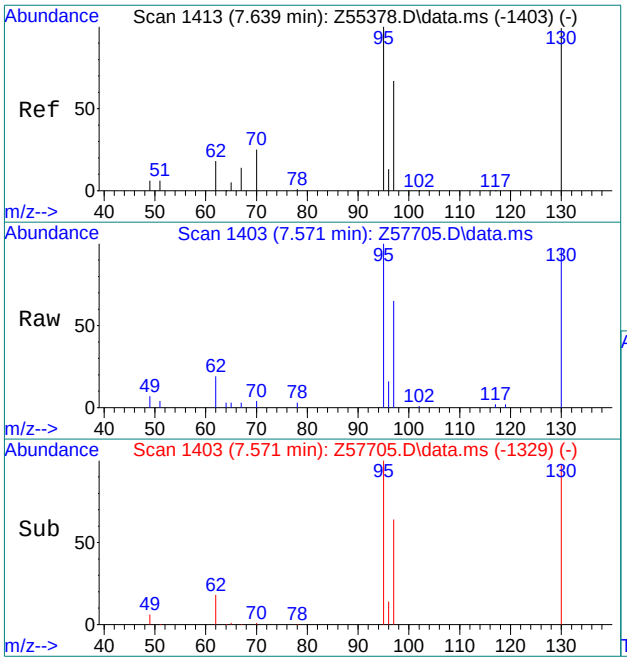
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57705.D
Acq On : 31 Aug 2019 7:25 pm
Operator : kevinb
Sample : FA67615-14
Misc : ms44225,vz2206,,,,,
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 03 10:59:35 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

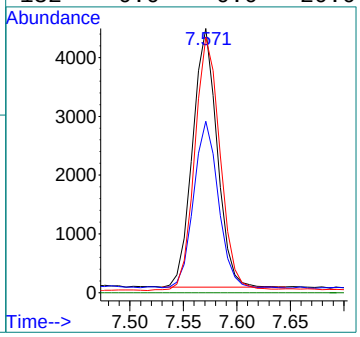


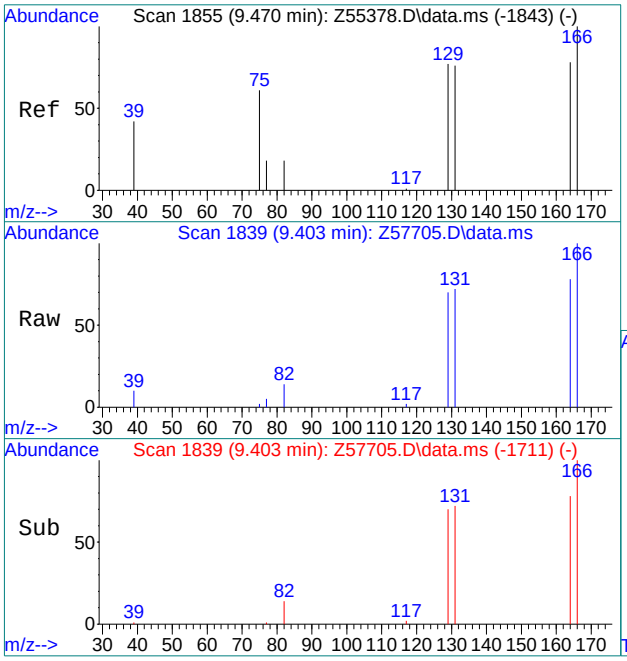


#15
Trichloroethene
Concen: 0.42 ppb
RT: 7.571 min Scan# 1403
Delta R.T. -0.000 min
Lab File: Z57705.D
Acq: 31 Aug 2019 7:25 pm

Tgt Ion: 95 Resp: 70490

Ion	Ratio	Lower	Upper
95	100		
97	65.2	47.8	87.8
130	101.0	79.7	119.7
132	0.0	0.0	20.0

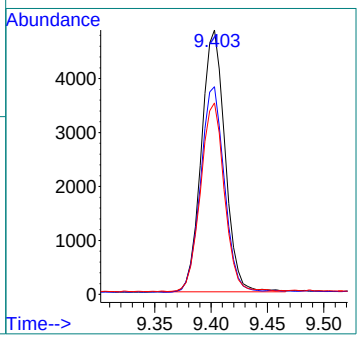




#21
Tetrachloroethene
Concen: 0.41 ppb
RT: 9.403 min Scan# 1839
Delta R.T. -0.000 min
Lab File: Z57705.D
Acq: 31 Aug 2019 7:25 pm

Tgt Ion:166 Resp: 70605

Ion	Ratio	Lower	Upper
166	100		
164	78.6	58.5	98.5
131	72.6	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57706.D
Acq On : 31 Aug 2019 7:44 pm
Operator : kevinb
Sample : FA67615-15
Misc : ms44225,vz2206,,,,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Sep 03 10:59:37 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

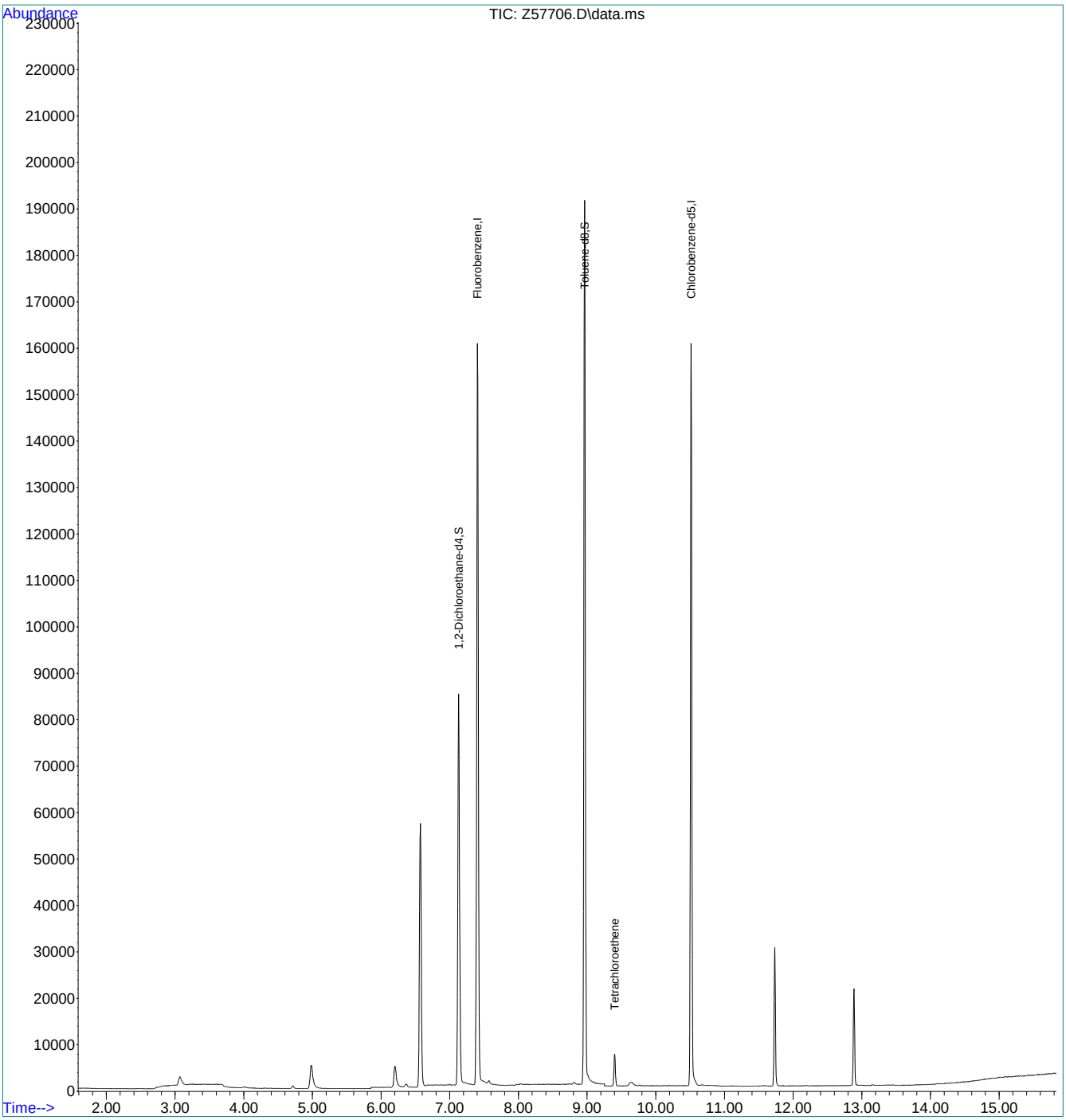
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	1861261	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1417042	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	683560	5.48	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 109.60%			
19) Toluene-d8	8.961	98	1661022	4.97	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.40%			
Target Compounds						Qvalue
21) Tetrachloroethene	9.403	166	30104	0.18	ppb	99

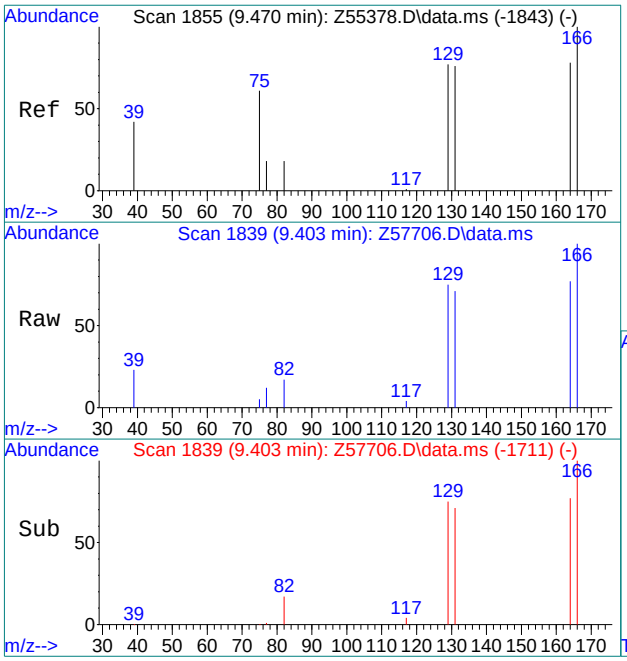
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57706.D
Acq On : 31 Aug 2019 7:44 pm
Operator : kevinb
Sample : FA67615-15
Misc : ms44225,vz2206,,,,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Sep 03 10:59:37 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

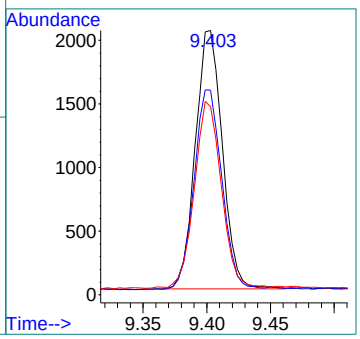




#21
Tetrachloroethene
Concen: 0.18 ppb
RT: 9.403 min Scan# 1839
Delta R.T. -0.000 min
Lab File: Z57706.D
Acq: 31 Aug 2019 7:44 pm

Tgt Ion:166 Resp: 30104

Ion	Ratio	Lower	Upper
166	100		
164	79.2	58.5	98.5
131	72.3	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57707.D
Acq On : 31 Aug 2019 8:03 pm
Operator : kevinb
Sample : FA67615-16
Misc : ms44225,vz2206,,,,,
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Sep 03 11:02:52 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

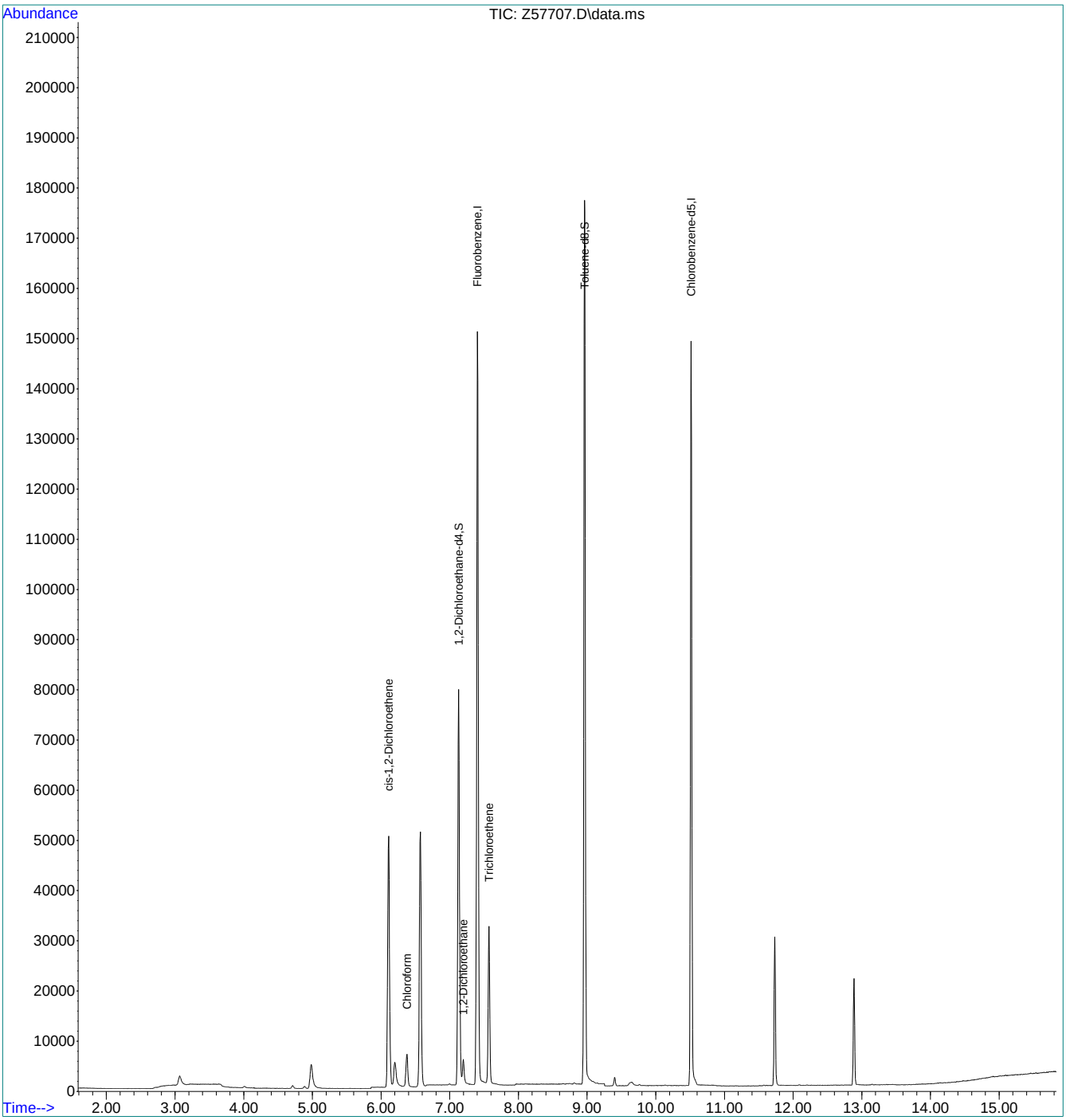
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1698043	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1283502	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	638291	5.61	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 112.20%				
19) Toluene-d8	8.961	98	1544315	5.10	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
8) cis-1,2-Dichloroethene	6.110	96	269322	1.89	ppb		98
9) Chloroform	6.377	83	56072	0.21	ppb		99
14) 1,2-Dichloroethane	7.198	62	43796	0.20	ppb		98
15) Trichloroethene	7.571	95	172034	1.17	ppb	#	97

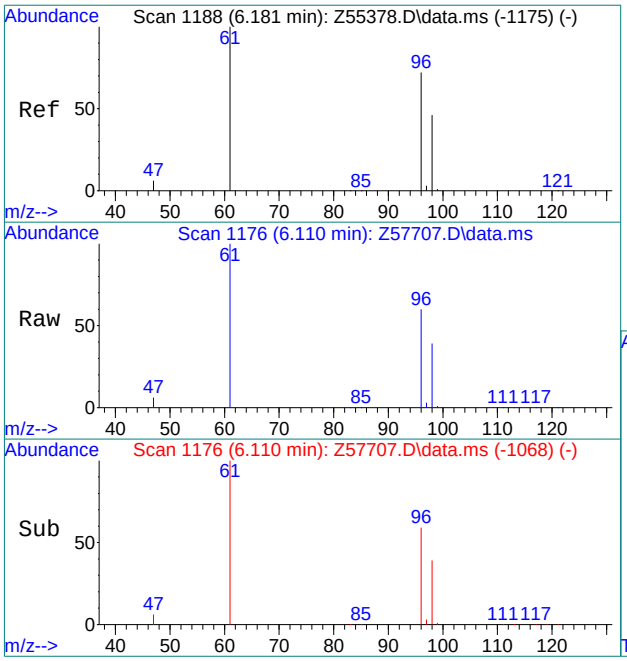
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57707.D
Acq On : 31 Aug 2019 8:03 pm
Operator : kevinb
Sample : FA67615-16
Misc : ms44225,vz2206,,,,,
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Sep 03 11:02:52 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

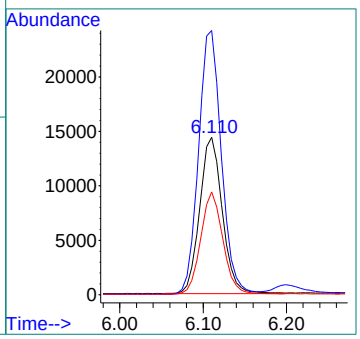


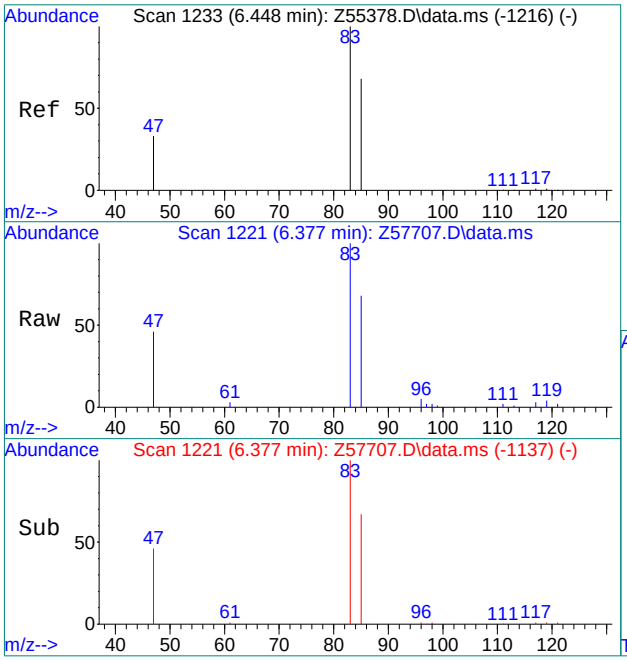


#8
cis-1,2-Dichloroethene
Concen: 1.89 ppb
RT: 6.110 min Scan# 1176
Delta R.T. 0.000 min
Lab File: Z57707.D
Acq: 31 Aug 2019 8:03 pm

Tgt Ion: 96 Resp: 269322

Ion	Ratio	Lower	Upper
96	100		
61	170.7	146.6	186.6
98	64.3	44.1	84.1

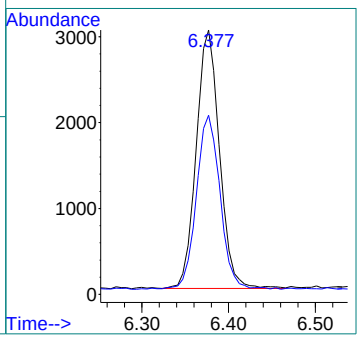


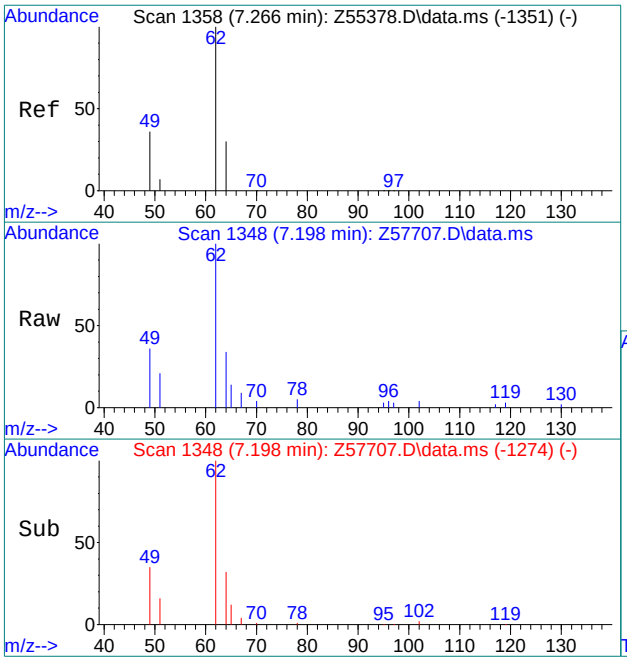


#9
Chloroform
Concen: 0.21 ppb
RT: 6.377 min Scan# 1221
Delta R.T. -0.000 min
Lab File: Z57707.D
Acq: 31 Aug 2019 8:03 pm

Tgt Ion: 83 Resp: 56072

Ion	Ratio	Lower	Upper
83	100		
85	68.7	49.6	89.6

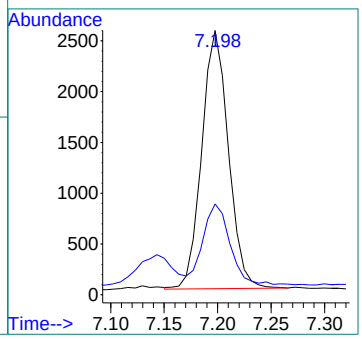


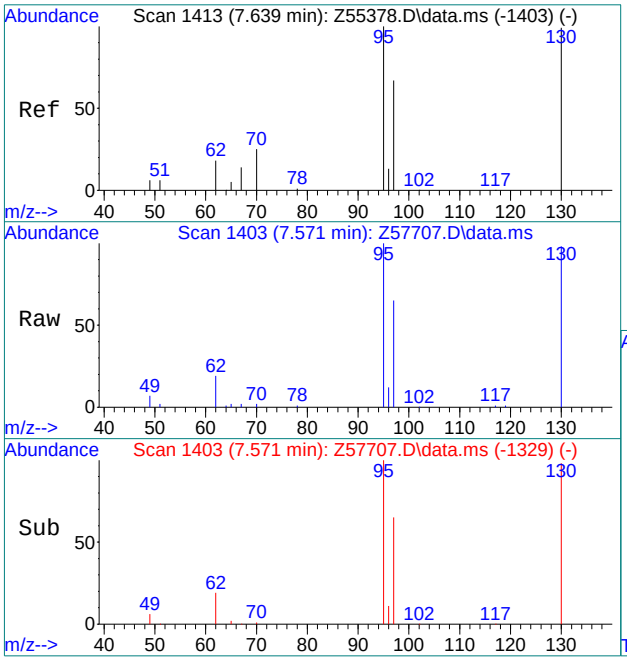


#14
1,2-Dichloroethane
Concen: 0.20 ppb
RT: 7.198 min Scan# 1348
Delta R.T. -0.000 min
Lab File: Z57707.D
Acq: 31 Aug 2019 8:03 pm

Tgt Ion: 62 Resp: 43796

Ion	Ratio	Lower	Upper
62	100		
64	32.7	11.4	51.4

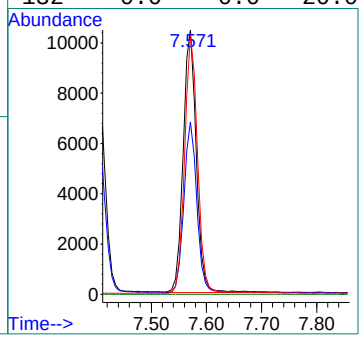




#15
Trichloroethene
Concen: 1.17 ppb
RT: 7.571 min Scan# 1403
Delta R.T. -0.000 min
Lab File: Z57707.D
Acq: 31 Aug 2019 8:03 pm

Tgt Ion: 95 Resp: 172034

Ion	Ratio	Lower	Upper
95	100		
97	64.0	47.8	87.8
130	97.6	79.7	119.7
132	0.0	0.0	20.0



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57708.D
Acq On : 31 Aug 2019 8:22 pm
Operator : kevinb
Sample : FA67615-17
Misc : ms44225,vz2206,,,,,
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 03 10:59:41 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

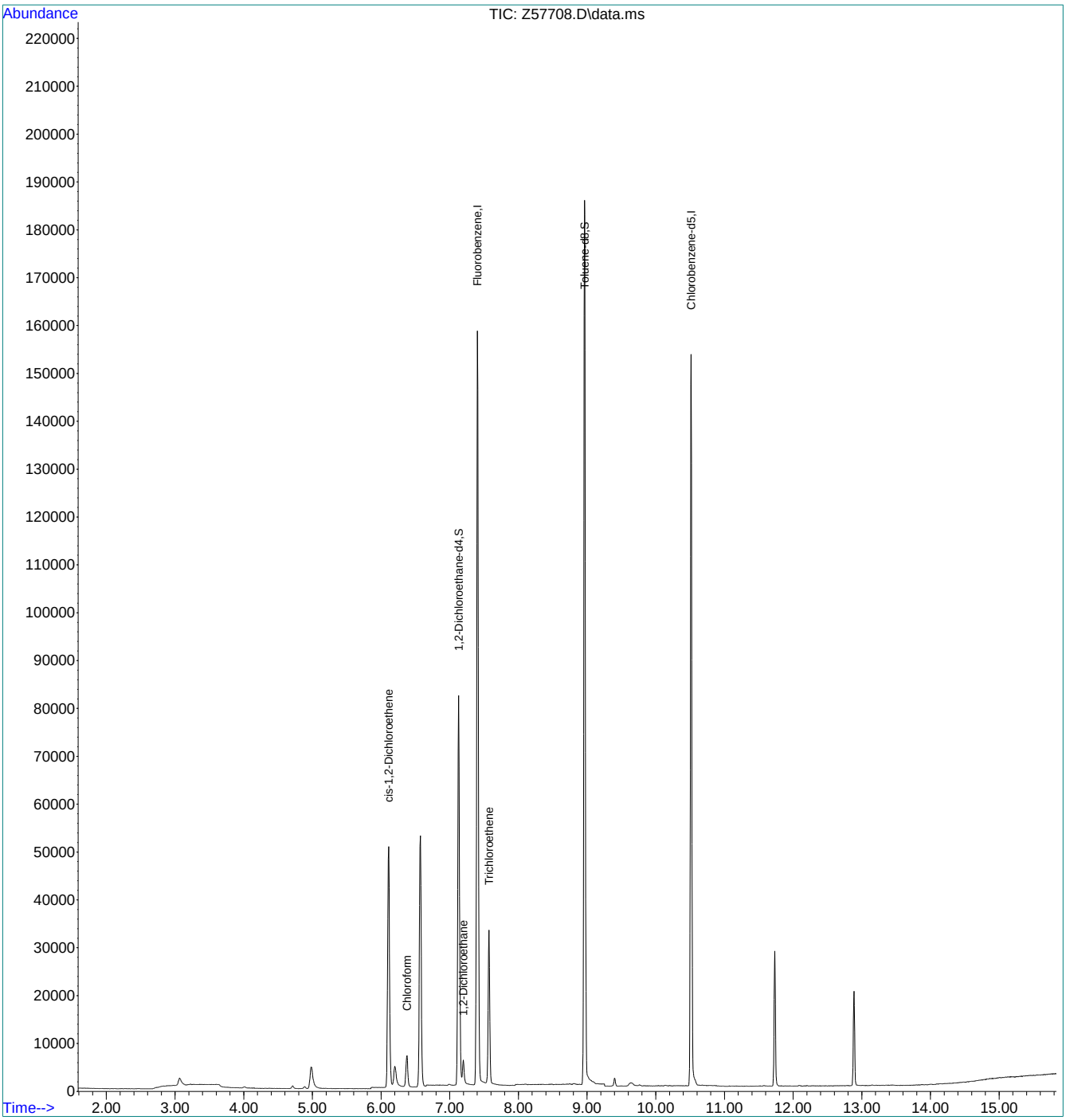
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1780419	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1345585	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	671357	5.62	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 112.40%				
19) Toluene-d8	8.961	98	1616986	5.09	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.80%				
Target Compounds							Qvalue
8) cis-1,2-Dichloroethene	6.110	96	274178	1.83	ppb		99
9) Chloroform	6.377	83	58148	0.21	ppb		97
14) 1,2-Dichloroethane	7.198	62	44268	0.19	ppb		98
15) Trichloroethene	7.571	95	176697	1.14	ppb	#	96

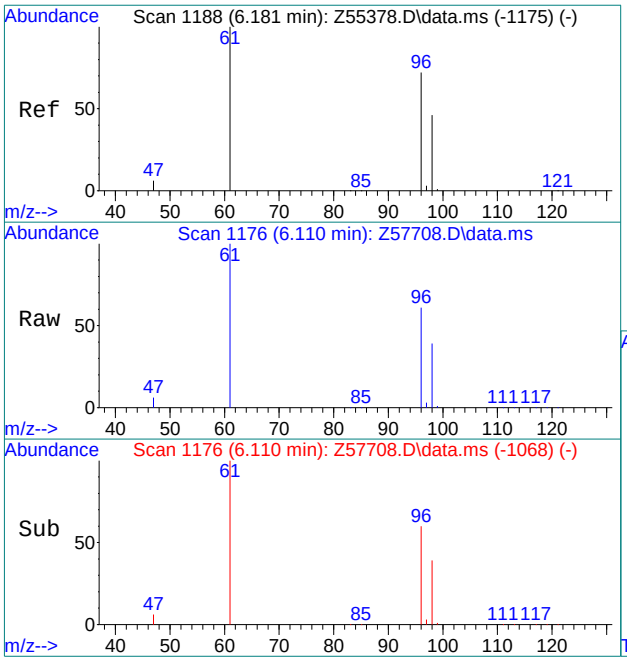
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57708.D
Acq On : 31 Aug 2019 8:22 pm
Operator : kevinb
Sample : FA67615-17
Misc : ms44225,vz2206,,,,,
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 03 10:59:41 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

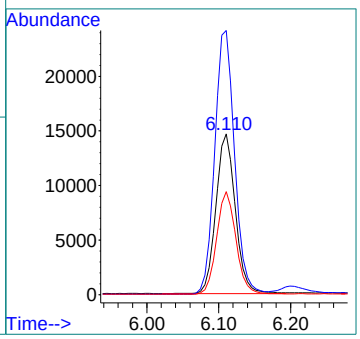


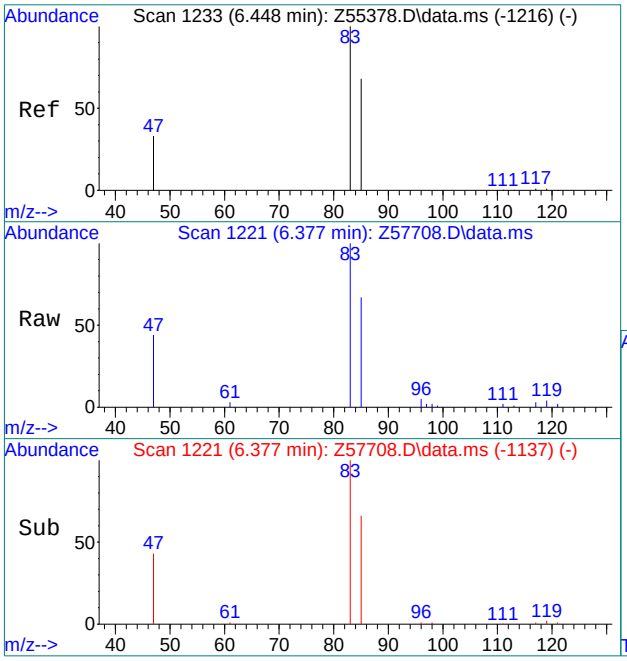


#8
cis-1,2-Dichloroethene
Concen: 1.83 ppb
RT: 6.110 min Scan# 1176
Delta R.T. 0.000 min
Lab File: Z57708.D
Acq: 31 Aug 2019 8:22 pm

Tgt Ion: 96 Resp: 274178

Ion	Ratio	Lower	Upper
96	100		
61	168.9	146.6	186.6
98	64.0	44.1	84.1

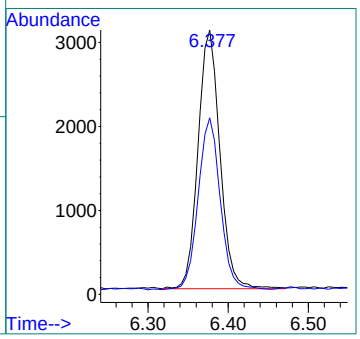


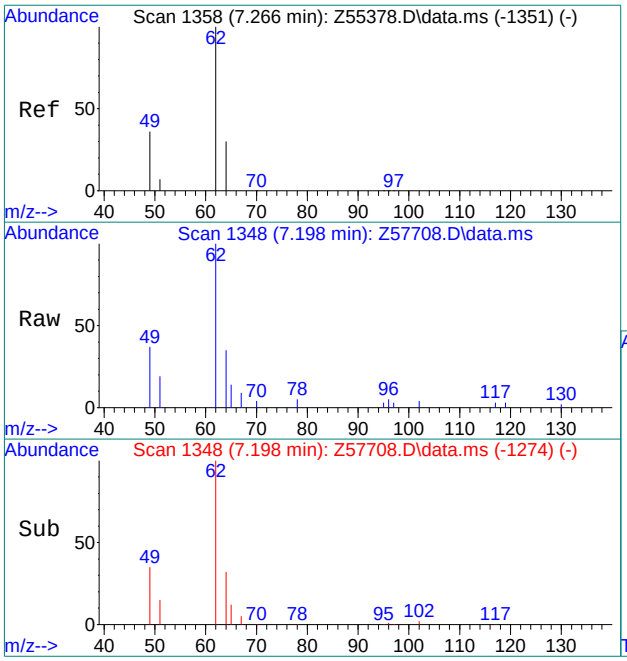


#9
Chloroform
Concen: 0.21 ppb
RT: 6.377 min Scan# 1221
Delta R.T. -0.000 min
Lab File: Z57708.D
Acq: 31 Aug 2019 8:22 pm

Tgt Ion: 83 Resp: 58148

Ion	Ratio	Lower	Upper
83	100		
85	66.9	49.6	89.6

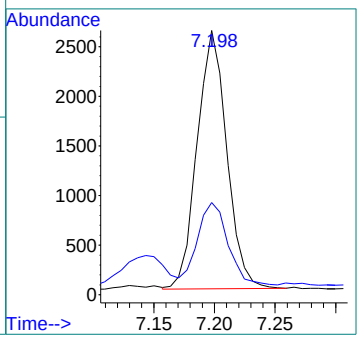


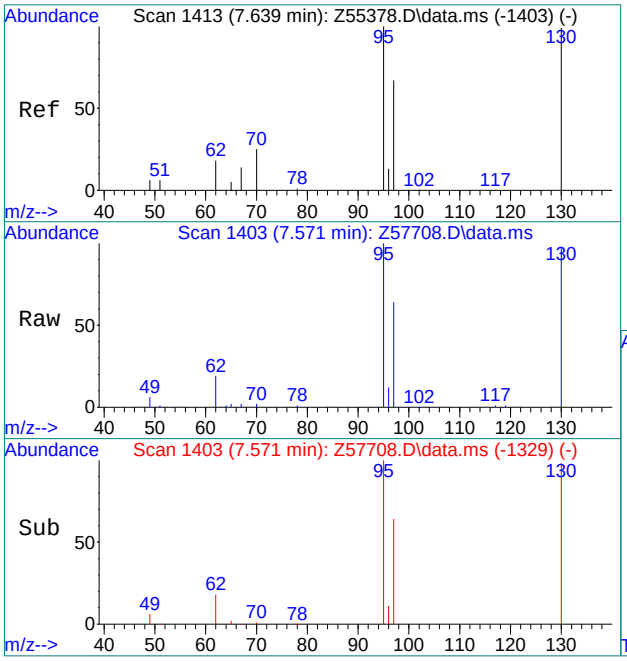


#14
1,2-Dichloroethane
Concen: 0.19 ppb
RT: 7.198 min Scan# 1348
Delta R.T. -0.000 min
Lab File: Z57708.D
Acq: 31 Aug 2019 8:22 pm

Tgt Ion: 62 Resp: 44268

Ion	Ratio	Lower	Upper
62	100		
64	32.7	11.4	51.4

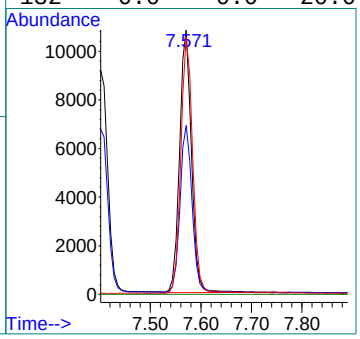




#15
Trichloroethene
Concen: 1.14 ppb
RT: 7.571 min Scan# 1403
Delta R.T. 0.000 min
Lab File: Z57708.D
Acq: 31 Aug 2019 8:22 pm

Tgt Ion: 95 Resp: 176697

Ion	Ratio	Lower	Upper
95	100		
97	63.5	47.8	87.8
130	96.4	79.7	119.7
132	0.0	0.0	20.0



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57709.D
Acq On : 31 Aug 2019 8:41 pm
Operator : kevinb
Sample : FA67615-18
Misc : ms44225,vz2206,,,,,
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Sep 03 11:03:10 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

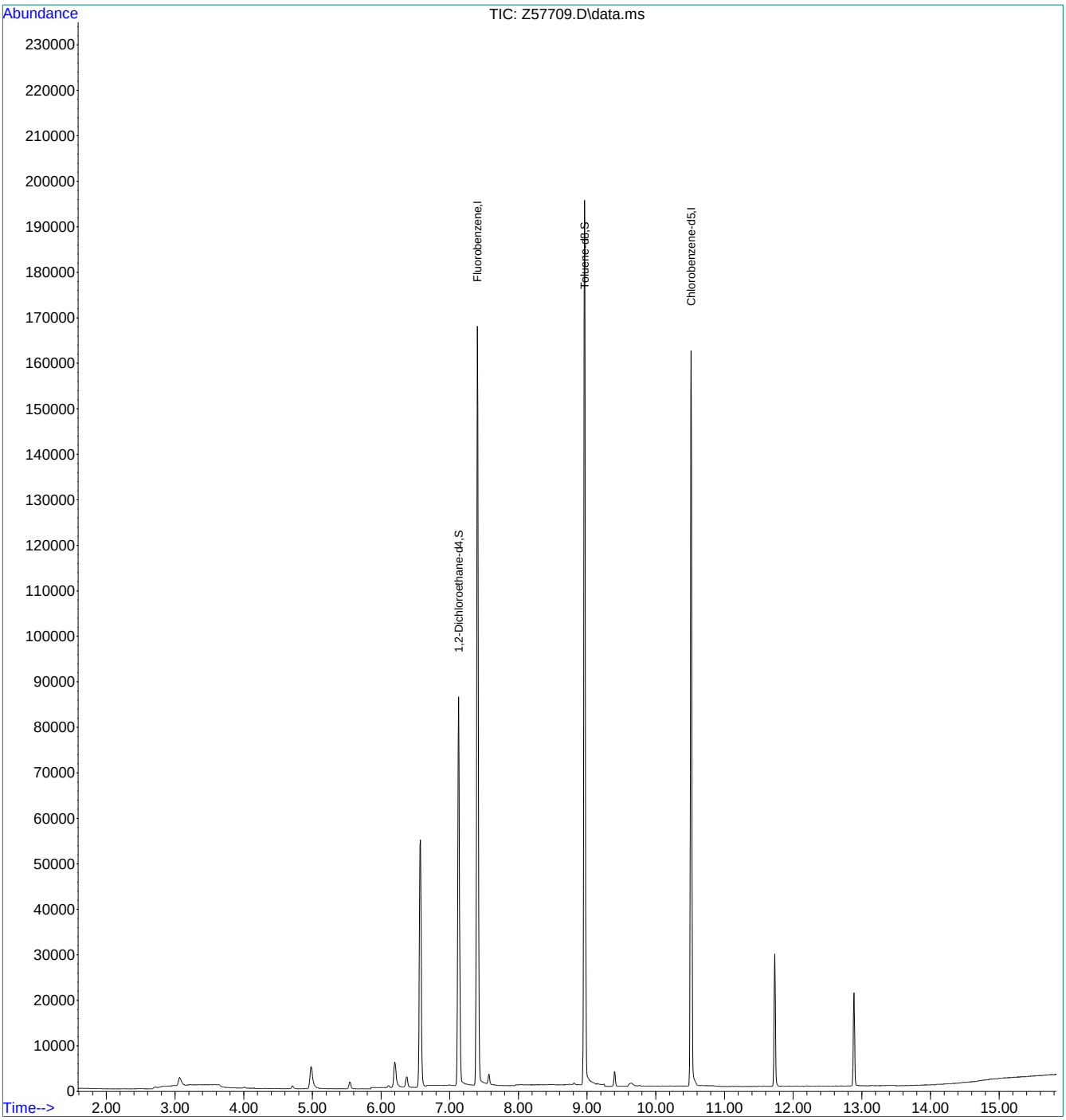
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	1860726	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1419151	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	685143	5.49	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 109.80%			
19) Toluene-d8	8.961	98	1691959	5.05	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57709.D
Acq On : 31 Aug 2019 8:41 pm
Operator : kevinb
Sample : FA67615-18
Misc : ms44225,vz2206,,,,,
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Sep 03 11:03:10 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57710.D
Acq On : 31 Aug 2019 9:00 pm
Operator : kevinb
Sample : FA67615-19
Misc : ms44225,vz2206,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 03 10:59:45 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

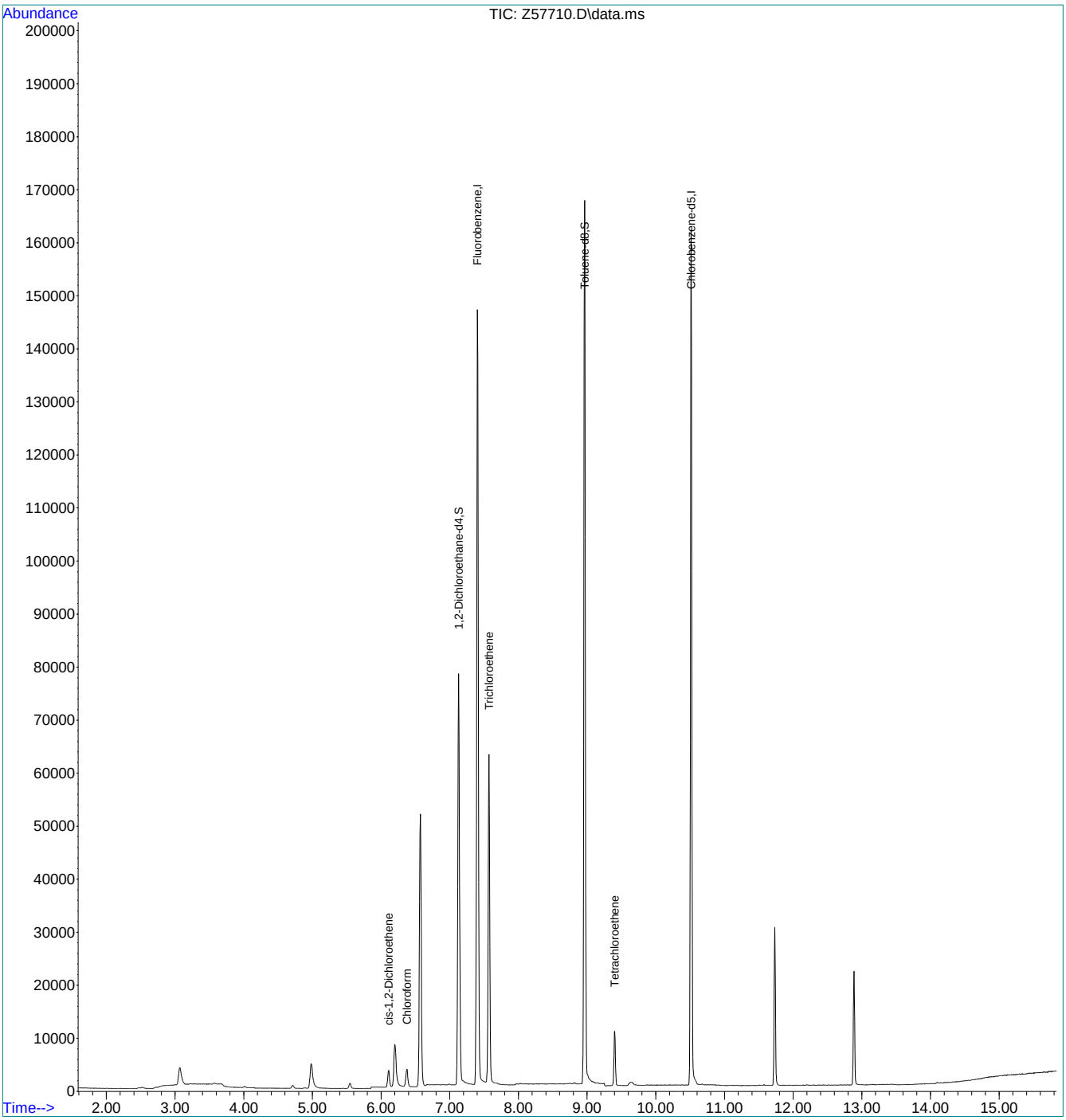
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1648247	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1405369	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	632124	5.72	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery =	114.40%			
19) Toluene-d8	8.961	98	1462188	4.41	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery =	88.20%			
Target Compounds							Qvalue
8) cis-1,2-Dichloroethene	6.110	96	16947	0.12	ppb		97
9) Chloroform	6.377	83	28598	0.11	ppb		99
15) Trichloroethene	7.571	95	338952	2.37	ppb	#	98
21) Tetrachloroethene	9.403	166	44601	0.28	ppb		99

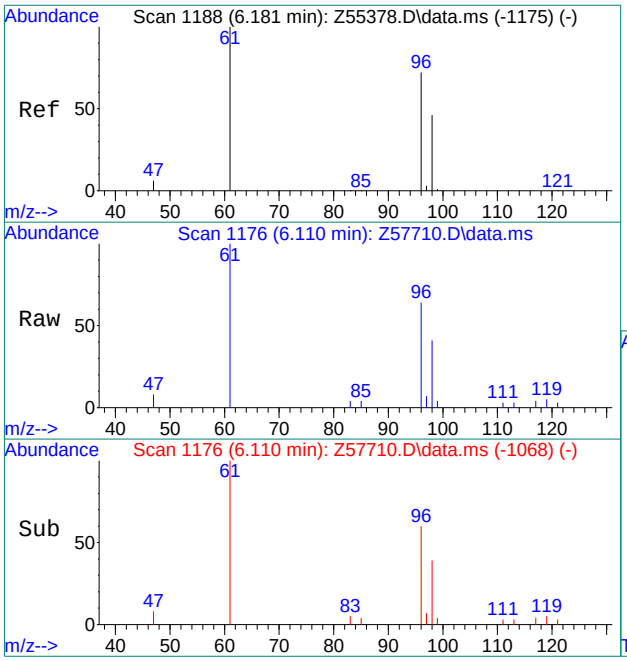
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57710.D
Acq On : 31 Aug 2019 9:00 pm
Operator : kevinb
Sample : FA67615-19
Misc : ms44225,vz2206,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 03 10:59:45 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

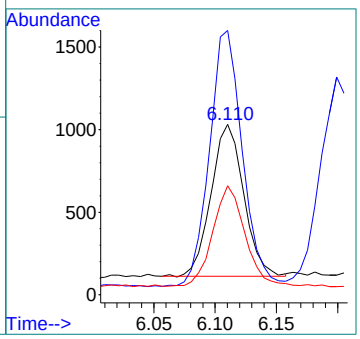


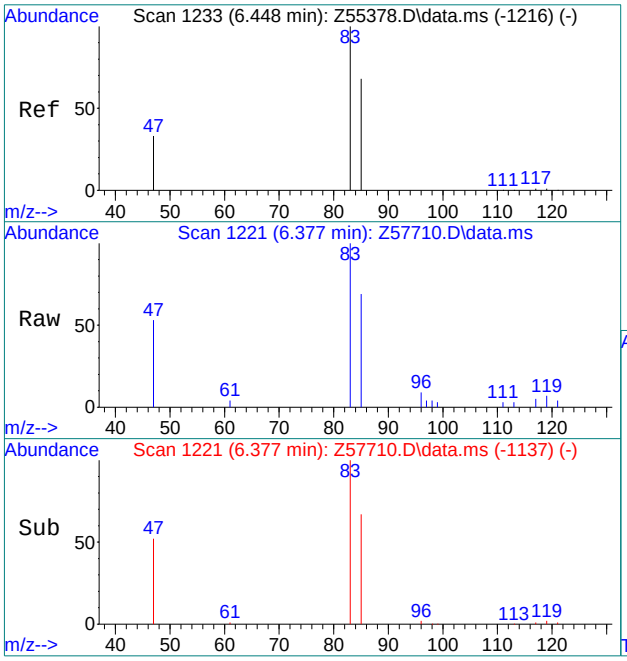


#8
cis-1,2-Dichloroethene
Concen: 0.12 ppb
RT: 6.110 min Scan# 1176
Delta R.T. 0.000 min
Lab File: Z57710.D
Acq: 31 Aug 2019 9:00 pm

Tgt Ion: 96 Resp: 16947

Ion	Ratio	Lower	Upper
96	100		
61	171.5	146.6	186.6
98	65.2	44.1	84.1

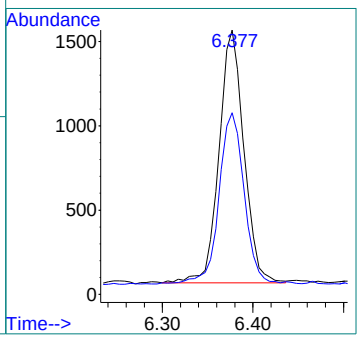


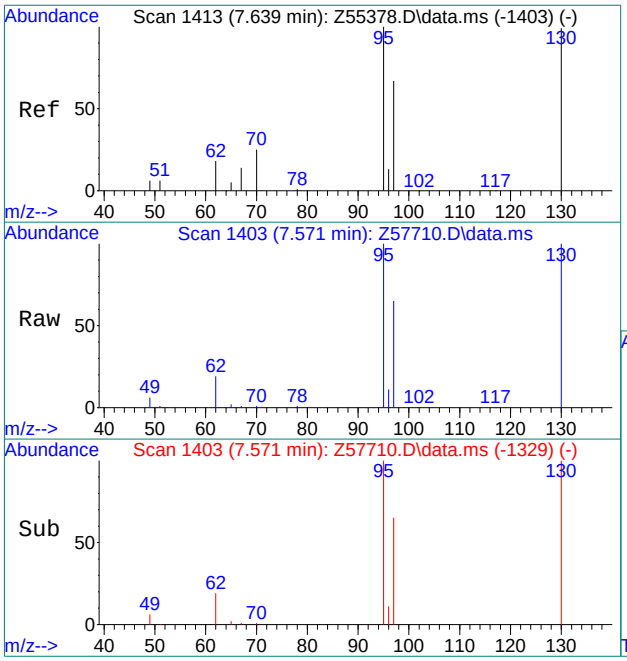


#9
Chloroform
Concen: 0.11 ppb
RT: 6.377 min Scan# 1221
Delta R.T. -0.000 min
Lab File: Z57710.D
Acq: 31 Aug 2019 9:00 pm

Tgt Ion: 83 Resp: 28598

Ion	Ratio	Lower	Upper
83	100		
85	68.6	49.6	89.6

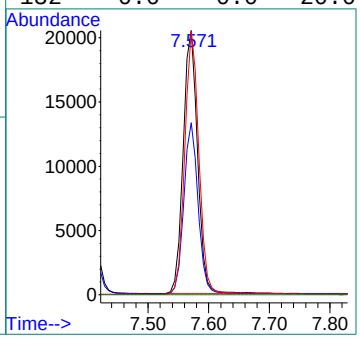


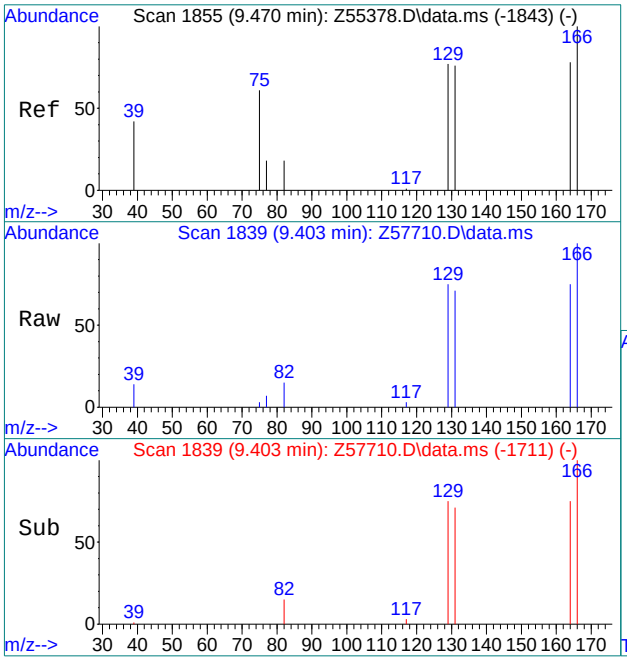


#15
Trichloroethene
Concen: 2.37 ppb
RT: 7.571 min Scan# 1403
Delta R.T. -0.000 min
Lab File: Z57710.D
Acq: 31 Aug 2019 9:00 pm

Tgt Ion: 95 Resp: 338952

Ion	Ratio	Lower	Upper
95	100		
97	64.4	47.8	87.8
130	98.6	79.7	119.7
132	0.0	0.0	20.0

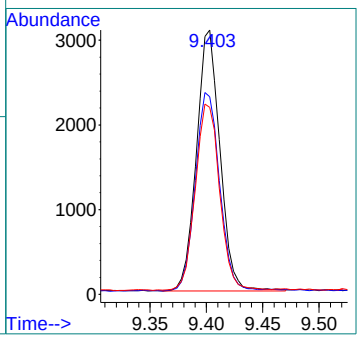




#21
Tetrachloroethene
Concen: 0.28 ppb
RT: 9.403 min Scan# 1839
Delta R.T. -0.000 min
Lab File: Z57710.D
Acq: 31 Aug 2019 9:00 pm

Tgt Ion:166 Resp: 44601

Ion	Ratio	Lower	Upper
166	100		
164	78.8	58.5	98.5
131	73.5	51.4	91.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57711.D
Acq On : 31 Aug 2019 9:19 pm
Operator : kevinb
Sample : FA67615-20
Misc : ms44225,vz2206,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Sep 03 11:03:31 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

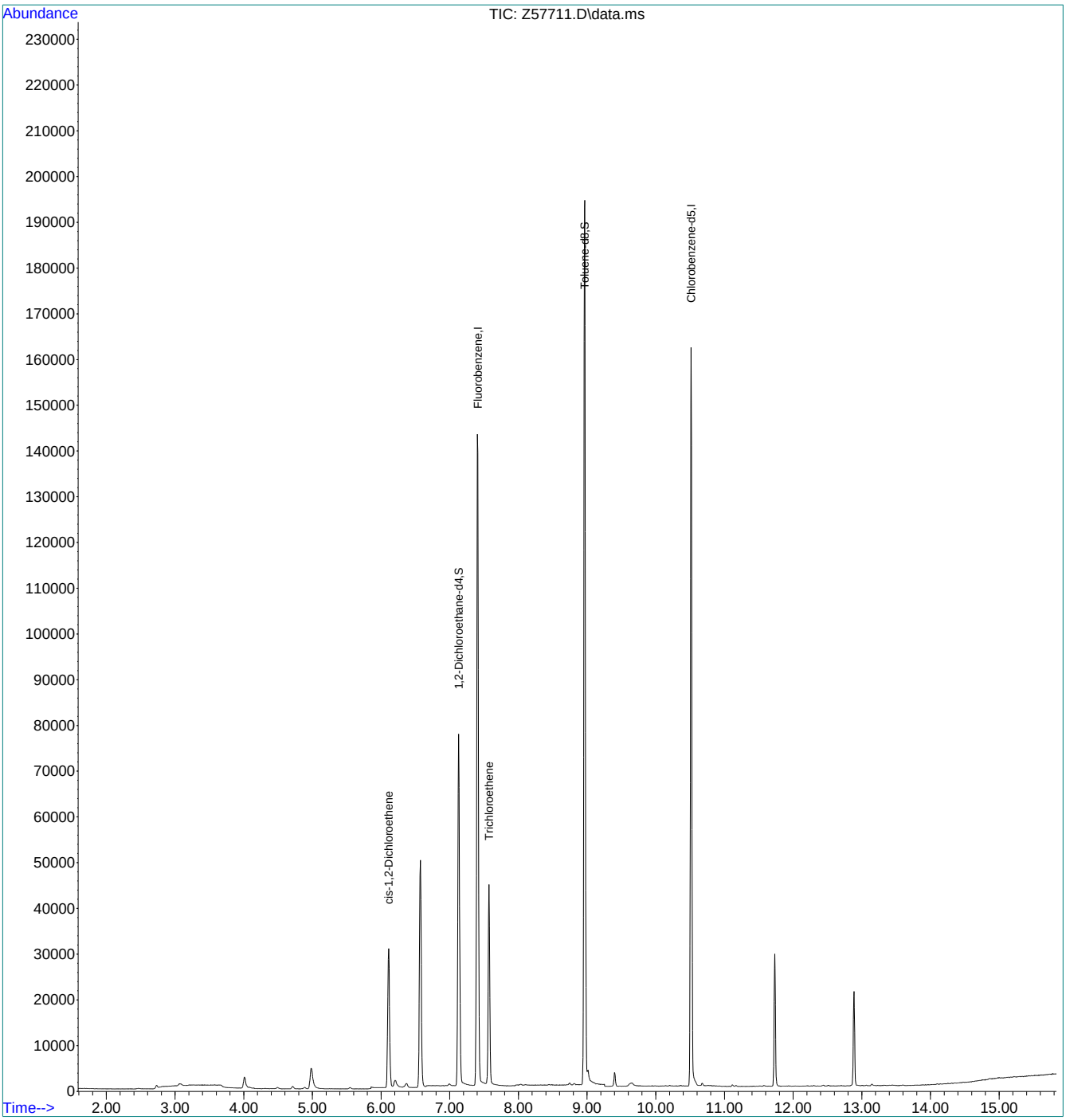
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.408	96	1640271	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1421740	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	629095	5.72	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery =	114.40%			
19) Toluene-d8	8.961	98	1685198	5.02	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery =	100.40%			
Target Compounds							Qvalue
8) cis-1,2-Dichloroethene	6.110	96	163010	1.18	ppb		98
15) Trichloroethene	7.571	95	239565	1.68	ppb	#	96

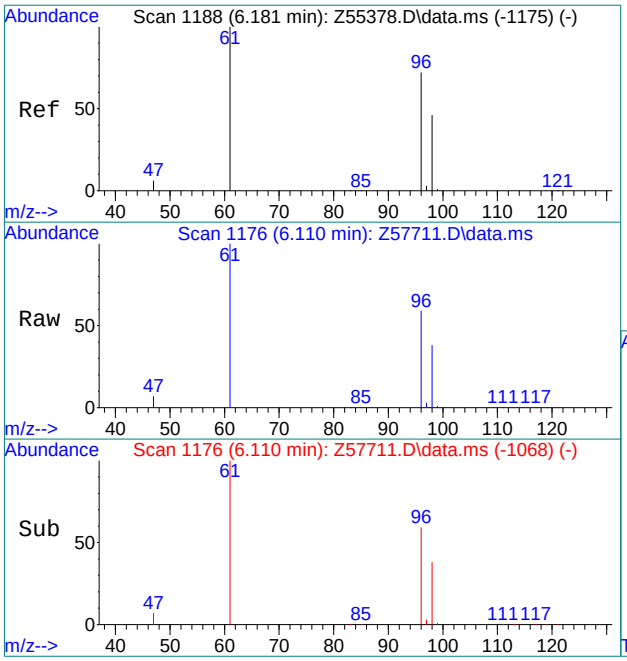
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57711.D
Acq On : 31 Aug 2019 9:19 pm
Operator : kevinb
Sample : FA67615-20
Misc : ms44225,vz2206,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Sep 03 11:03:31 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

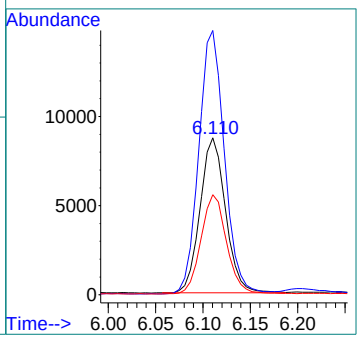


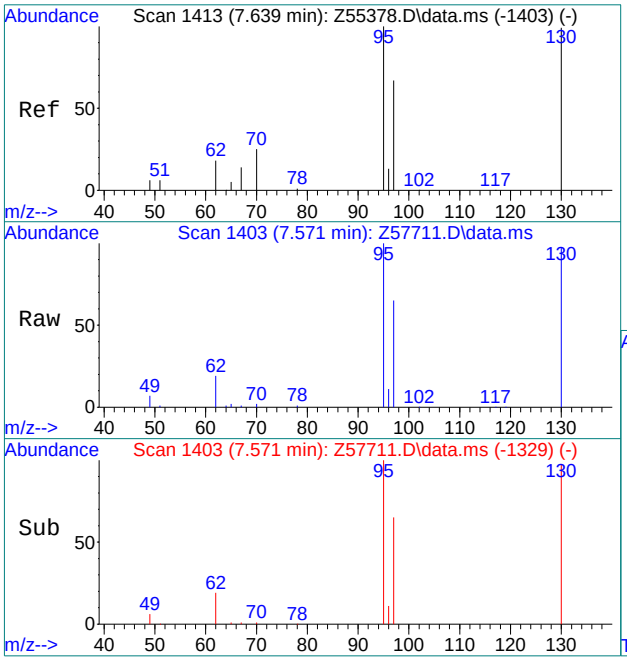


#8
cis-1,2-Dichloroethene
Concen: 1.18 ppb
RT: 6.110 min Scan# 1176
Delta R.T. 0.000 min
Lab File: Z57711.D
Acq: 31 Aug 2019 9:19 pm

Tgt Ion: 96 Resp: 163010

Ion	Ratio	Lower	Upper
96	100		
61	170.4	146.6	186.6
98	64.3	44.1	84.1

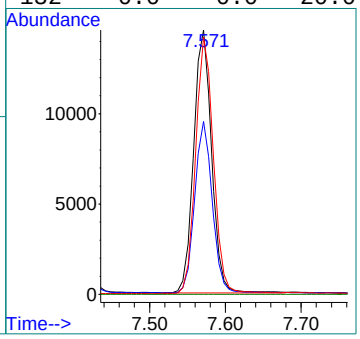




#15
Trichloroethene
Concen: 1.68 ppb
RT: 7.571 min Scan# 1403
Delta R.T. 0.000 min
Lab File: Z57711.D
Acq: 31 Aug 2019 9:19 pm

Tgt Ion: 95 Resp: 239565

Ion	Ratio	Lower	Upper
95	100		
97	63.7	47.8	87.8
130	97.2	79.7	119.7
132	0.0	0.0	20.0



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57688.D
Acq On : 31 Aug 2019 12:46 pm
Operator : kevinb
Sample : mb
Misc : ms44225,vz2206,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 03 11:01:20 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

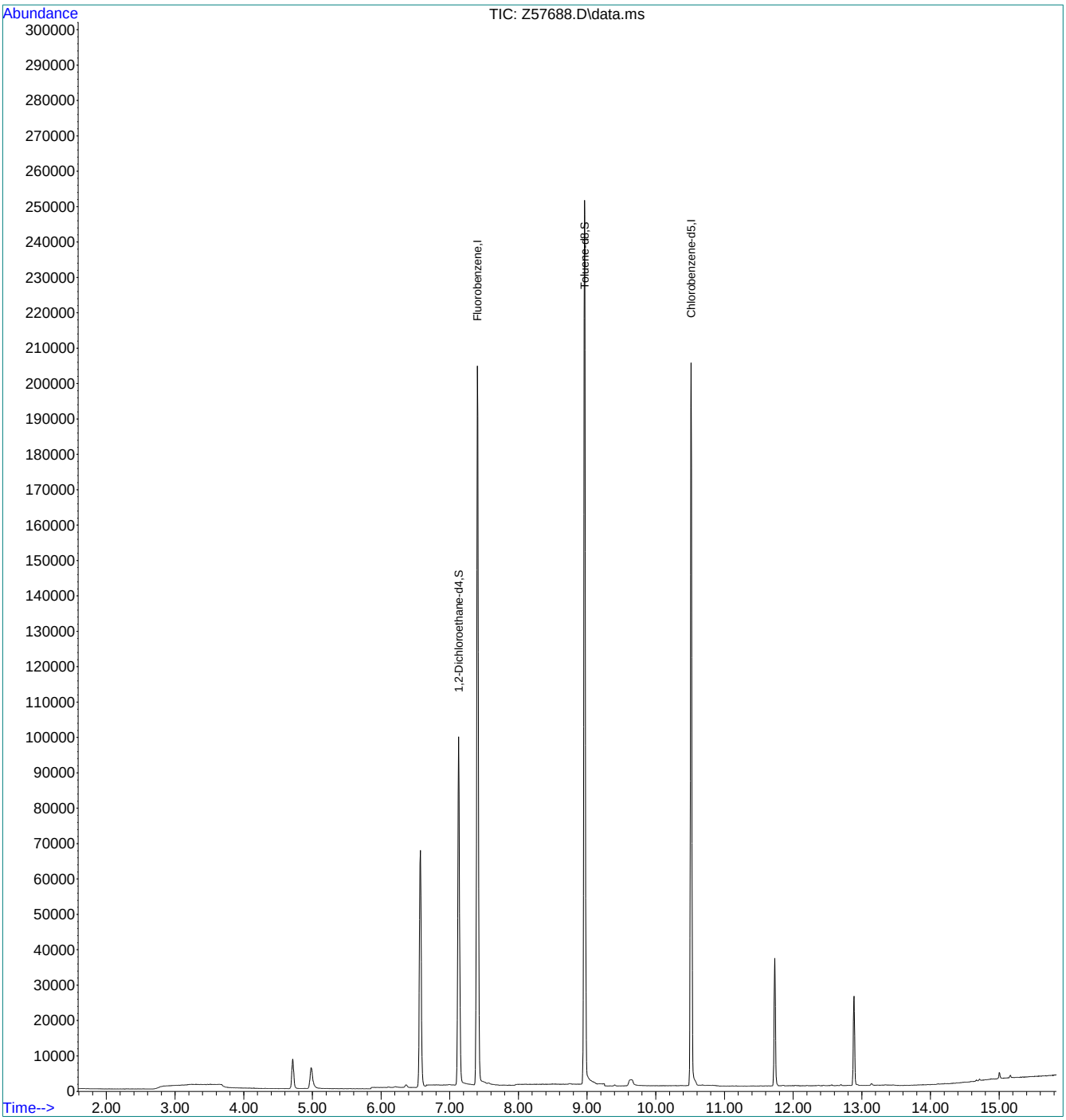
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.401	96	2367794	5.00	ppb	0.00
18) Chlorobenzene-d5	10.515	117	1825529	5.00	ppb	0.00
System Monitoring Compounds						
13) 1,2-Dichloroethane-d4	7.130	65	802058	5.05	ppb	0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 101.00%			
19) Toluene-d8	8.961	98	2177726	5.05	ppb	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57688.D
Acq On : 31 Aug 2019 12:46 pm
Operator : kevinb
Sample : mb
Misc : ms44225,vz2206,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 03 11:01:20 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57687.D
Acq On : 31 Aug 2019 12:27 pm
Operator : kevinb
Sample : bs
Misc : ms44155,vz2206,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 31 12:42:59 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

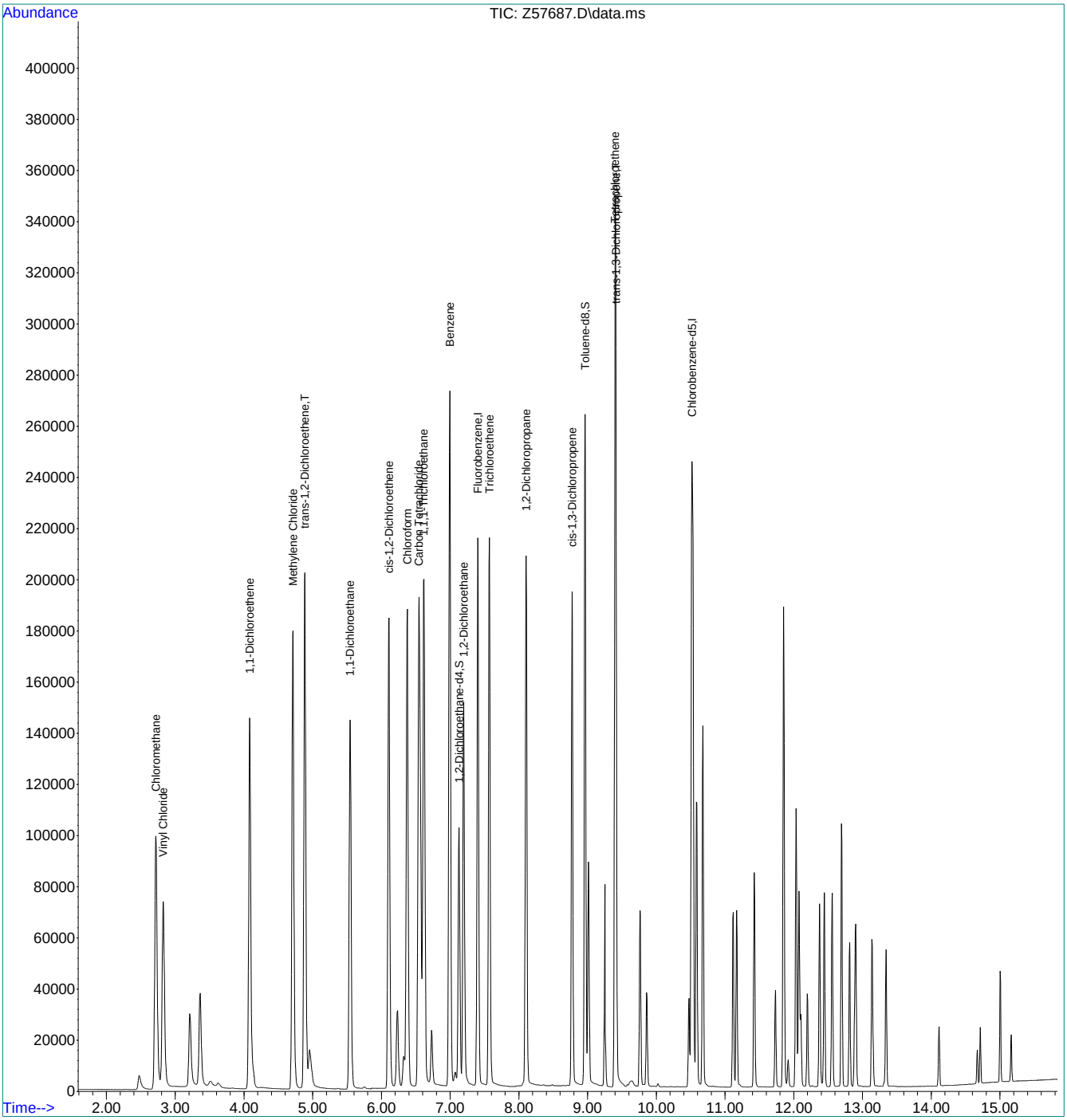
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.402	96	2419322	5.00	ppb		0.00
18) Chlorobenzene-d5	10.516	117	1864666	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.131	65	812088	5.01	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery =	100.20%			
19) Toluene-d8	8.962	98	2244428	5.10	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery =	102.00%			
Target Compounds							Qvalue
2) Vinyl Chloride	2.824	62	1277188	5.83	ppb		100
3) Chloromethane	2.718	50	1716615	5.48	ppb		99
4) 1,1-Dichloroethene	4.083	96	772431	5.20	ppb		96
5) Methylene Chloride	4.713	84	1006740	4.47	ppb		97
6) trans-1,2-Dichloroethene	4.886	96	972794	5.02	ppb		97
7) 1,1-Dichloroethane	5.542	63	2027539	4.99	ppb	#	100
8) cis-1,2-Dichloroethene	6.110	96	1028173	5.02	ppb		98
9) Chloroform	6.377	83	1815676	4.87	ppb		99
10) Carbon Tetrachloride	6.543	117	1435666	5.37	ppb		100
11) 1,1,1-Trichloroethane	6.614	97	1696720	5.26	ppb		100
12) Benzene	6.995	78	3745909	4.84	ppb		99
14) 1,2-Dichloroethane	7.198	62	1447308	4.60	ppb		100
15) Trichloroethene	7.572	95	1022476	4.86	ppb	#	98
16) 1,2-Dichloropropane	8.106	63	1102971	4.62	ppb		99
17) cis-1,3-Dichloropropene	8.773	75	1423699	4.35	ppb		99
20) trans-1,3-Dichloropropene	9.412	75	1219546	4.64	ppb		100
21) Tetrachloroethene	9.400	166	1122790	5.24	ppb		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57687.D
Acq On : 31 Aug 2019 12:27 pm
Operator : kevinb
Sample : bs
Misc : ms44155,vz2206,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 31 12:42:59 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57699.D
Acq On : 31 Aug 2019 5:30 pm
Operator : kevinb
Sample : FA67615-1MS,5X
Misc : ms44225,vz2206,,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 03 10:59:23 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

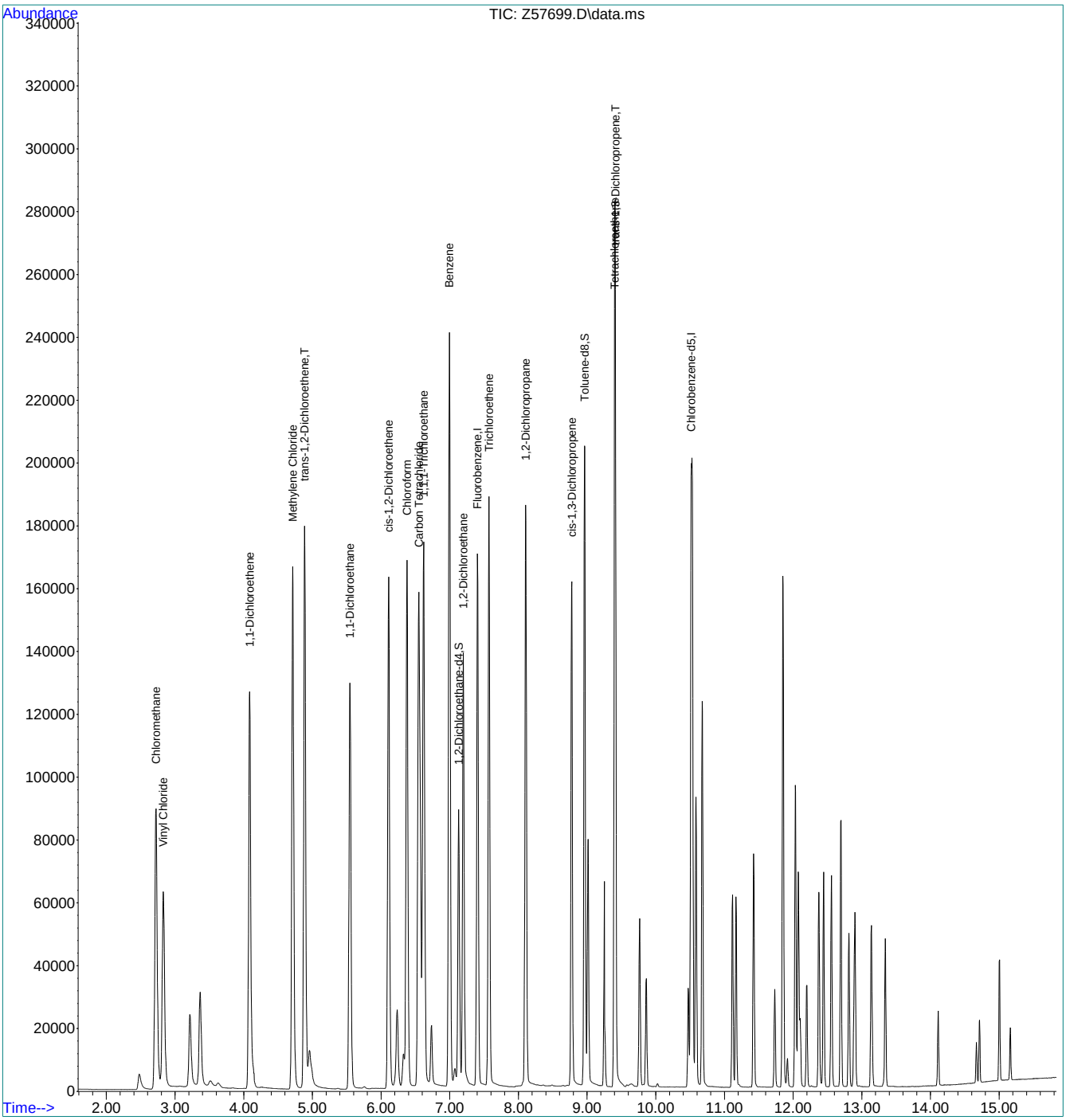
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1926272	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1463421	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	694172	5.37	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 107.40%				
19) Toluene-d8	8.961	98	1767663	5.12	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.40%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.828	62	1072781	6.16	ppb		99
3) Chloromethane	2.722	50	1539341	6.18	ppb		99
4) 1,1-Dichloroethene	4.087	96	659555	5.57	ppb		97
5) Methylene Chloride	4.713	84	897792	5.03	ppb		97
6) trans-1,2-Dichloroethene	4.886	96	834567	5.41	ppb		98
7) 1,1-Dichloroethane	5.546	63	1811450	5.60	ppb	#	100
8) cis-1,2-Dichloroethene	6.110	96	879555	5.38	ppb		99
9) Chloroform	6.377	83	1585067	5.34	ppb		99
10) Carbon Tetrachloride	6.549	117	1172521	5.50	ppb		100
11) 1,1,1-Trichloroethane	6.620	97	1442557	5.61	ppb		99
12) Benzene	6.994	78	3222024	5.23	ppb		98
14) 1,2-Dichloroethane	7.198	62	1300093	5.19	ppb		98
15) Trichloroethene	7.571	95	875510	5.23	ppb	#	99
16) 1,2-Dichloropropane	8.105	63	964175	5.07	ppb		96
17) cis-1,3-Dichloropropene	8.777	75	1138250	4.37	ppb		100
20) trans-1,3-Dichloropropene	9.412	75	986140	4.78	ppb		99
21) Tetrachloroethene	9.403	166	898142	5.34	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57699.D
Acq On : 31 Aug 2019 5:30 pm
Operator : kevinb
Sample : FA67615-1MS,5X
Misc : ms44225,vz2206,,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 03 10:59:23 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



SIMCL082919.M Tue Sep 03 11:05:24 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57700.D
Acq On : 31 Aug 2019 5:49 pm
Operator : kevinb
Sample : FA67615-1MSD,5X
Misc : ms44225,vz2206,,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 03 10:59:25 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

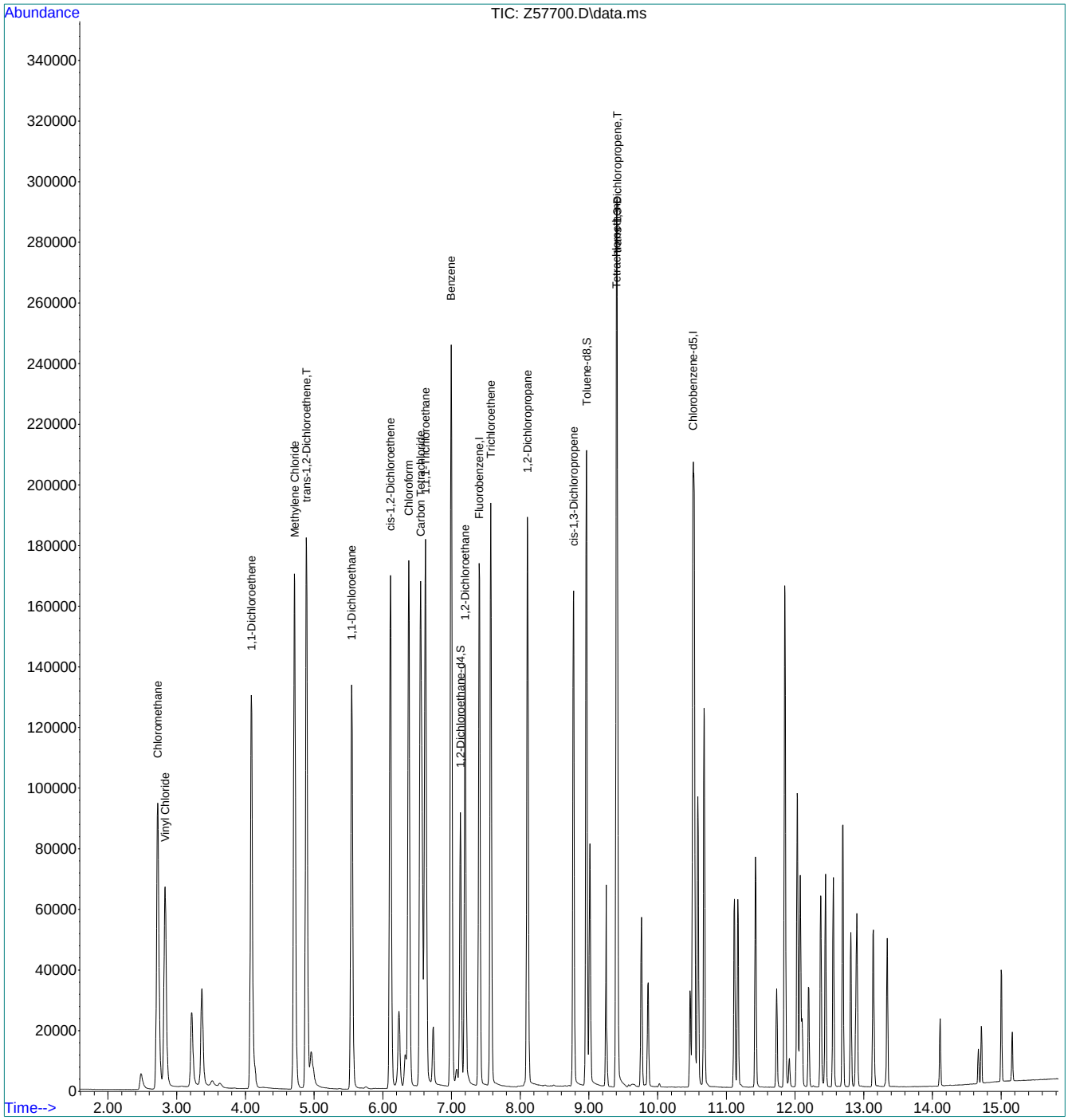
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1987138	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1521595	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	711145	5.34	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 106.80%				
19) Toluene-d8	8.965	98	1821759	5.07	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.40%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.831	62	1141696	6.35	ppb		99
3) Chloromethane	2.722	50	1631754	6.35	ppb		99
4) 1,1-Dichloroethene	4.087	96	677927	5.55	ppb		98
5) Methylene Chloride	4.717	84	923210	5.01	ppb		98
6) trans-1,2-Dichloroethene	4.890	96	863601	5.43	ppb		100
7) 1,1-Dichloroethane	5.546	63	1852631	5.55	ppb	#	100
8) cis-1,2-Dichloroethene	6.110	96	906316	5.38	ppb		99
9) Chloroform	6.377	83	1635684	5.34	ppb		99
10) Carbon Tetrachloride	6.549	117	1215977	5.53	ppb		100
11) 1,1,1-Trichloroethane	6.620	97	1495513	5.64	ppb		100
12) Benzene	6.994	78	3266267	5.14	ppb		99
14) 1,2-Dichloroethane	7.198	62	1312874	5.08	ppb		98
15) Trichloroethene	7.571	95	890095	5.15	ppb	#	100
16) 1,2-Dichloropropane	8.105	63	976038	4.98	ppb		97
17) cis-1,3-Dichloropropene	8.776	75	1158316	4.31	ppb		99
20) trans-1,3-Dichloropropene	9.411	75	1003761	4.68	ppb		100
21) Tetrachloroethene	9.403	166	928050	5.30	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57700.D
Acq On : 31 Aug 2019 5:49 pm
Operator : kevinb
Sample : FA67615-1MSD,5X
Misc : ms44225,vz2206,,,,,5
ALS Vial : 15 Sample Multiplier: 1

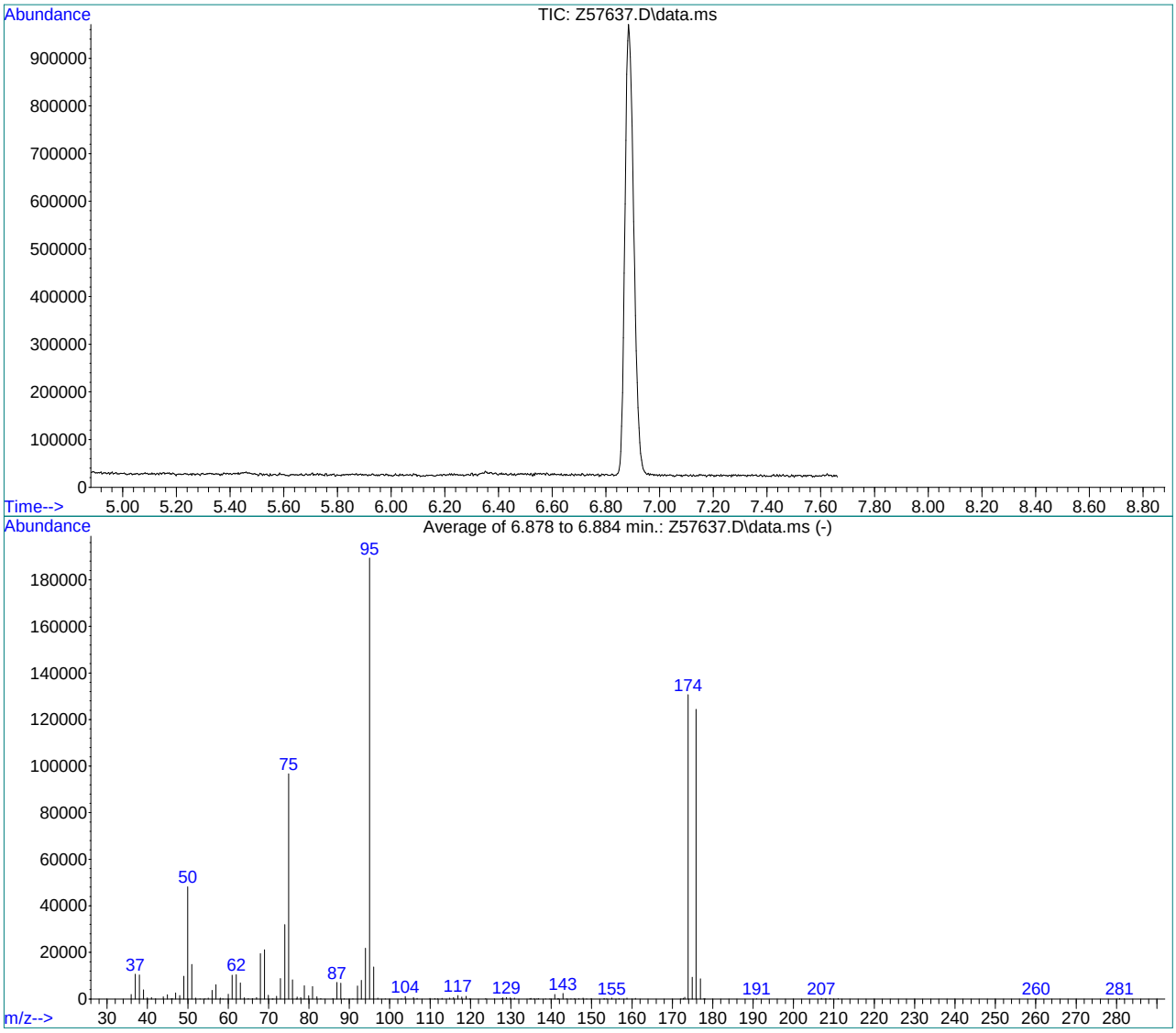
Quant Time: Sep 03 10:59:25 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



BFB

Data File : C:\msdchem\1\data\082919\Z57637.D Vial: 100
Acq On : 29 Aug 2019 1:34 pm Operator: kevinb
Sample : BFB Inst : MSVOA15
Misc : ms44155,vz2203,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\SIMCL082919.M (RTE Integrator)
Title : WATER-EPA 8260B



AutoFind: Scans 868, 869, 870; Background Corrected with Scan 855

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.4	48152	PASS
75	95	30	60	51.0	96650	PASS
95	95	100	100	100.0	189333	PASS
96	95	5	9	7.3	13731	PASS
173	174	0.00	2	0.6	719	PASS
174	95	50	100	69.0	130701	PASS
175	174	5	9	7.2	9357	PASS
176	174	95	101	95.2	124365	PASS
177	176	5	9	7.0	8715	PASS

Z57637.D SIMCL082919.M Fri Aug 30 09:41:52 2019

Average of 6.878 to 6.884 min.: Z57637.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	1927	47.00	2556	58.05	371	69.00	21180
37.00	10621	48.00	1459	58.70	63	69.95	1622
38.00	10296	49.00	9820	60.00	2043	70.90	5
39.00	3956	49.95	48152	61.00	10258	71.95	1143
39.95	506	51.00	14860	62.00	10447	72.95	8779
41.00	624	51.95	412	63.00	6937	74.00	31963
42.00	69	53.00	27	63.95	502	74.95	96650
43.95	955	54.30	106	64.95	124	75.95	8232
44.95	1876	55.05	345	66.00	224	76.90	103
45.90	91	56.00	3724	67.00	650	77.05	878
46.15	186	56.95	6090	68.00	19503	77.95	659

Average of 6.878 to 6.884 min.: Z57637.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
78.85	5667	92.95	7983	111.15	163	127.70	139
79.90	1384	94.00	21800	111.90	113	128.00	555
80.90	5411	95.00	189333	112.95	275	128.90	603
81.95	935	96.00	13731	114.85	358	129.85	553
82.95	150	97.05	408	115.80	617	130.90	397
85.90	152	98.90	54	116.90	1484	134.70	139
86.95	7095	102.90	89	117.85	854	134.95	278
87.90	6823	103.85	1020	118.90	1128	135.80	51
88.70	74	105.90	641	119.80	74	136.50	78
90.90	104	106.75	237	123.75	177	136.90	222
92.00	5616	109.95	303	125.90	80	138.60	51

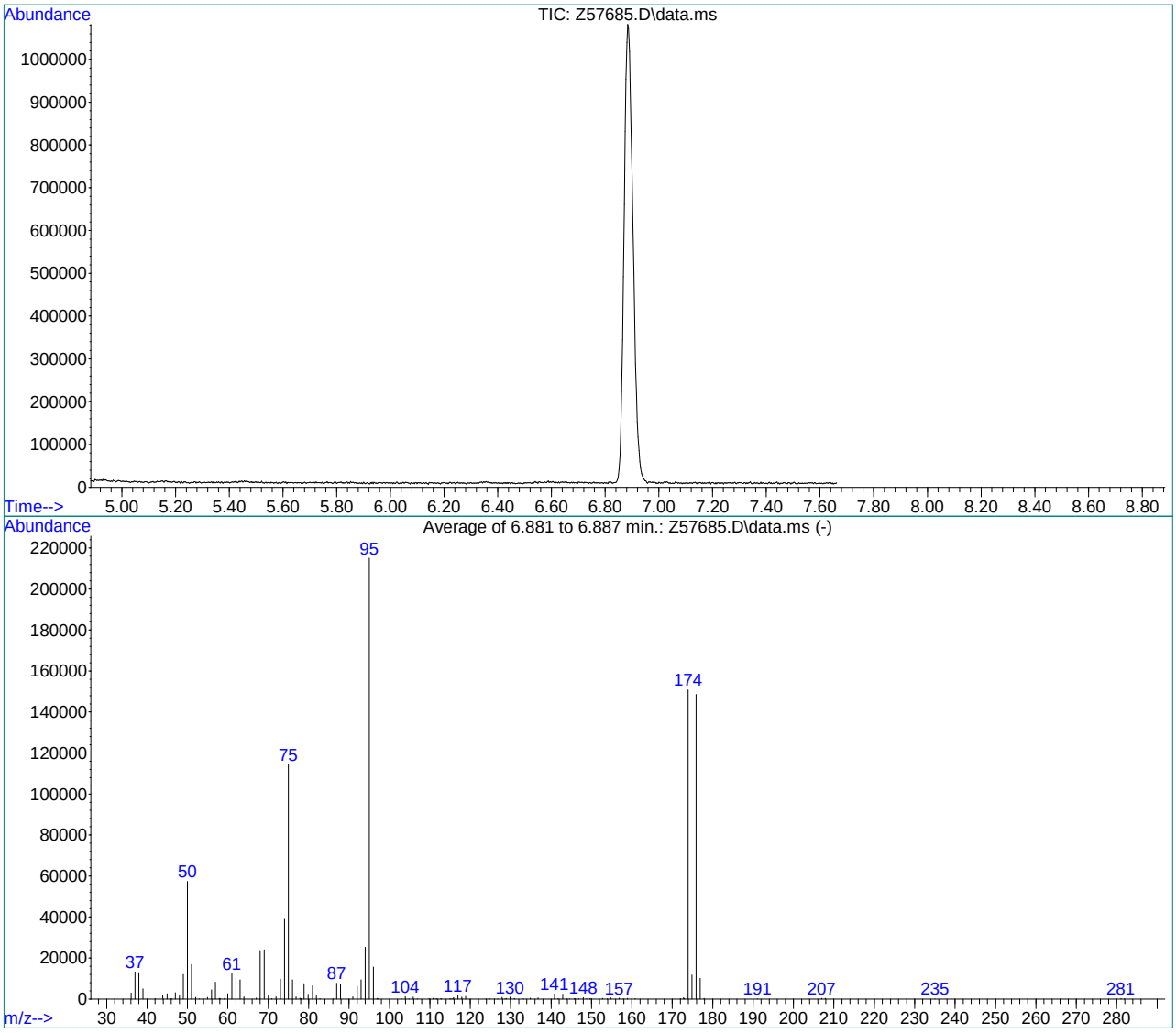
Average of 6.878 to 6.884 min.: Z57637.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
139.70	61	149.90	145	173.90	130701	260.10	60
140.90	1884	153.00	58	174.90	9357	280.80	175
141.60	67	153.20	72	175.90	124365	281.95	10
141.80	163	153.70	68	176.95	8715		
142.90	2336	155.00	406	177.85	193		
143.80	98	156.80	200	178.10	82		
144.90	106	158.75	398	190.90	62		
145.75	216	160.85	263	206.95	284		
146.85	125	172.10	66	208.00	175		
147.85	387	172.70	261	209.05	162		
148.80	70	173.10	719	211.05	188		

BFB

Data File : C:\msdchem\1\data\083119\Z57685.D Vial: 100
Acq On : 31 Aug 2019 11:46 am Operator: kevinb
Sample : BFB Inst : MSVOA15
Misc : ms44155,vz2206,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\SIMCL082919.M (RTE Integrator)
Title : WATER-EPA 8260B



AutoFind: Scans 869, 870, 871; Background Corrected with Scan 852

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.7	57395	PASS
75	95	30	60	53.2	114437	PASS
95	95	100	100	100.0	215083	PASS
96	95	5	9	7.3	15597	PASS
173	174	0.00	2	0.4	588	PASS
174	95	50	100	70.1	150848	PASS
175	174	5	9	7.7	11690	PASS
176	174	95	101	98.5	148565	PASS
177	176	5	9	6.8	10046	PASS

Z57685.D SIMCL082919.M Sat Aug 31 12:42:21 2019

Average of 6.881 to 6.887 min.: Z57685.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	2974	48.00	1521	58.10	168	70.85	191
37.00	13173	49.00	11912	59.10	51	71.90	1129
38.00	12831	50.00	57395	59.95	2547	73.00	9662
39.00	5001	51.00	16899	61.00	12290	74.00	38941
42.05	155	52.00	776	62.00	10975	75.00	114437
42.95	181	53.00	132	63.00	9293	76.00	9342
43.90	1822	53.80	81	63.95	1077	76.90	1119
44.95	2549	54.95	871	67.05	411	77.85	442
45.90	63	55.95	4415	68.00	23685	78.10	246
46.20	128	56.95	8165	69.00	23968	78.85	7418
47.00	3063	57.90	269	70.00	1620	79.85	2344

Average of 6.881 to 6.887 min.: Z57685.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
80.95	6431	96.00	15597	111.80	76	124.90	57
81.90	1619	96.90	290	112.70	56	125.95	106
82.80	232	97.10	229	112.85	234	126.80	52
86.10	126	102.95	173	114.95	241	127.90	865
86.95	7772	103.90	1214	115.20	122	128.60	86
87.90	7126	104.85	113	115.70	210	128.90	353
90.95	1018	105.85	947	115.85	721	129.85	937
92.00	6248	106.90	134	116.95	1534	130.95	257
92.95	9283	109.85	155	117.90	955	133.15	246
94.00	25261	110.75	285	118.85	1346	134.85	483
95.00	215083	111.60	152	123.90	77	136.80	557

Average of 6.881 to 6.887 min.: Z57685.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
140.85	2498	149.95	196	173.00	329	281.90	64
141.75	164	152.75	270	173.90	150848		
142.90	2390	153.90	117	174.90	11690		
143.90	62	154.80	514	175.90	148565		
144.60	62	156.90	419	176.90	10046		
145.75	162	157.90	71	177.85	346		
146.00	148	158.90	360	191.10	55		
146.80	167	160.80	154	207.00	311		
147.95	654	162.80	53	207.85	286		
148.80	96	172.00	210	235.00	66		
149.60	138	172.80	588	281.05	239		

Manual Integrations APPROVED (compounds with "m" flag)
Evita Martinez
08/30/19 10:09

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57638.D
Acq On : 29 Aug 2019 1:56 pm
Operator : kevinb
Sample : IC2203-1
Misc : ms44155,vz2203,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 29 14:35:42 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration

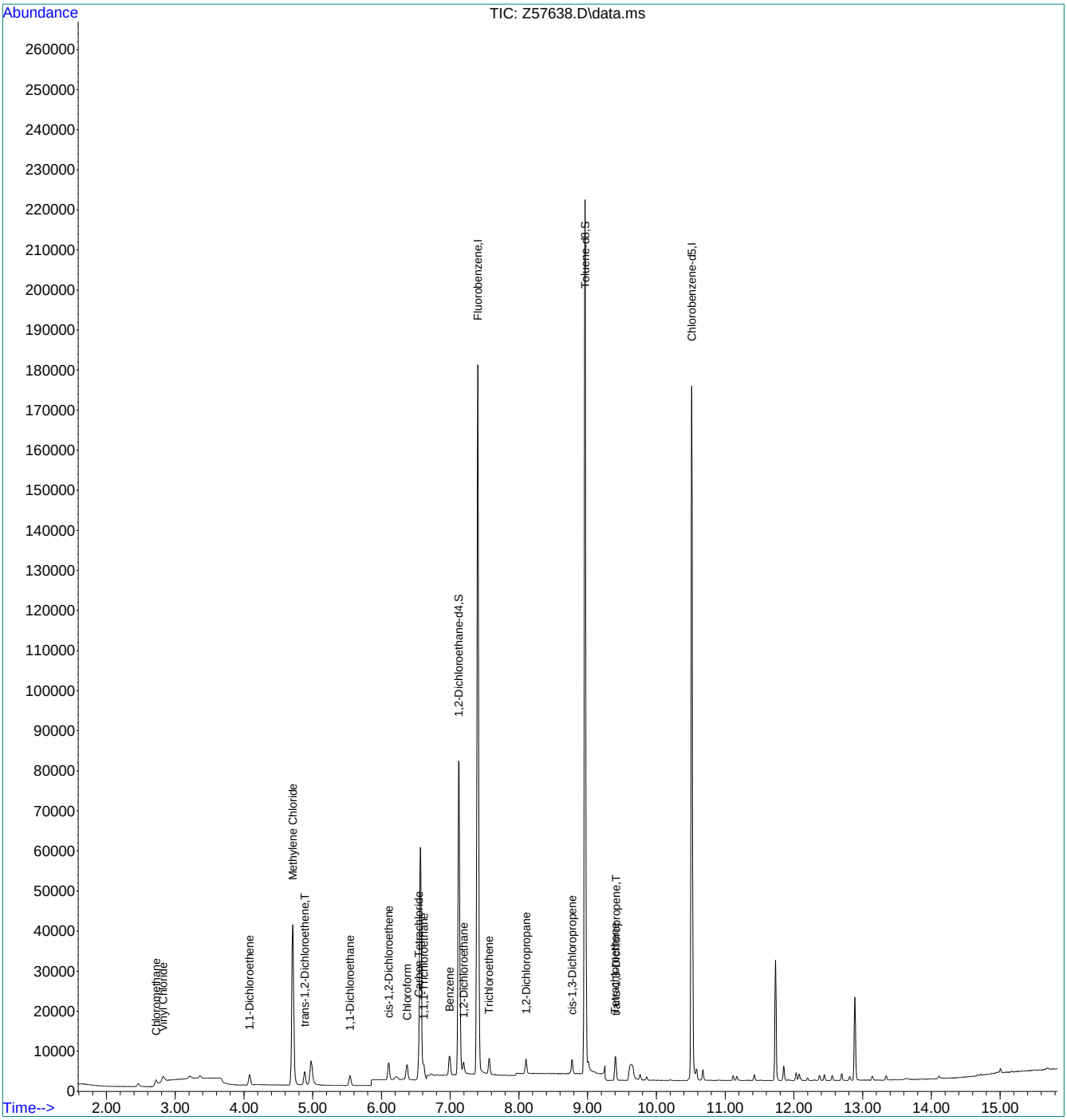
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1997875	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1543311	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.123	65	656007	4.97	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 99.40%				
19) Toluene-d8	8.961	98	1865281	5.48	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 109.60%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.824	62	18847m	0.09	ppb		
3) Chloromethane	2.722	50	30701	0.14	ppb		97
4) 1,1-Dichloroethene	4.080	96	14985	0.12	ppb		90
5) Methylene Chloride	4.709	84	230493	1.21	ppb		93
6) trans-1,2-Dichloroethene	4.883	96	16665	0.09	ppb		88
7) 1,1-Dichloroethane	5.543	63	35057	0.10	ppb	#	97
8) cis-1,2-Dichloroethene	6.104	96	24835	0.13	ppb		93
9) Chloroform	6.371	83	33373	0.10	ppb		90
10) Carbon Tetrachloride	6.543	117	23851	0.10	ppb		100
11) 1,1,1-Trichloroethane	6.614	97	28073	0.10	ppb		68
12) Benzene	6.994	78	69106	0.10	ppb		93
14) 1,2-Dichloroethane	7.198	62	26573	0.11	ppb		96
15) Trichloroethene	7.564	95	19627	0.10	ppb	#	93
16) 1,2-Dichloropropane	8.105	63	21428	0.11	ppb		94
17) cis-1,3-Dichloropropene	8.773	75	27416	0.14	ppb		98
20) trans-1,3-Dichloropropene	9.411	75	21710	0.14	ppb	#	57
21) Tetrachloroethene	9.399	166	19179	0.10	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57638.D
Acq On : 29 Aug 2019 1:56 pm
Operator : kevinb
Sample : IC2203-1
Misc : ms44155,vz2203,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 29 14:35:42 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration



Manual Integration Approval Summary

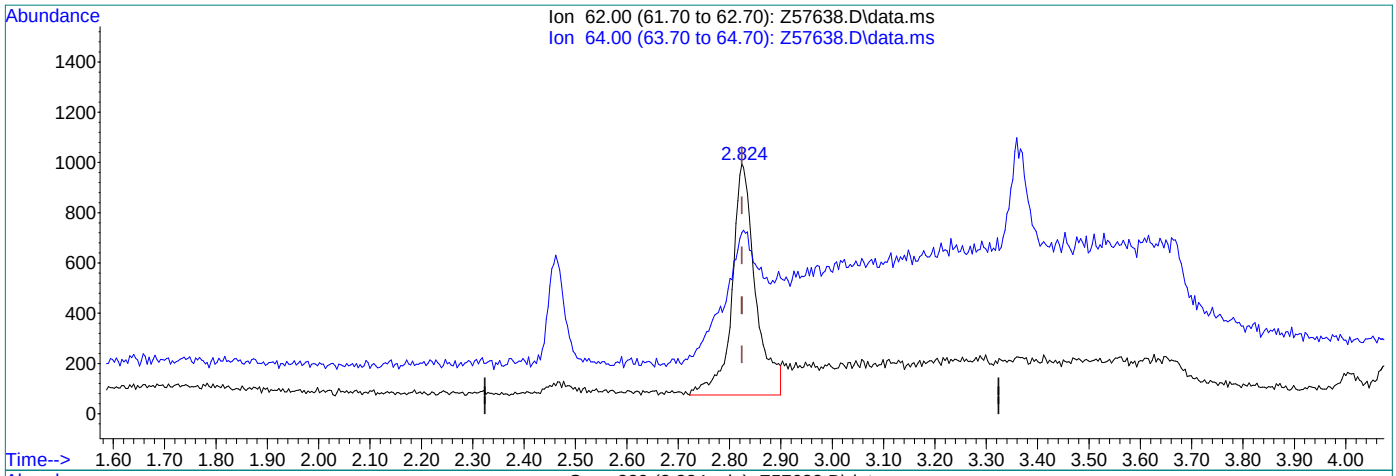
Sample Number:	VZ2203-IC2203	**Method:**	SW846 8260B BY SIM
Lab FileID:	Z57638.D	**Analyst approved:**	08/30/19 09:43 Kevin Boyd
Injection Time:	08/29/19 13:56	**Supervisor approved:**	08/30/19 10:09 Evita Martinez

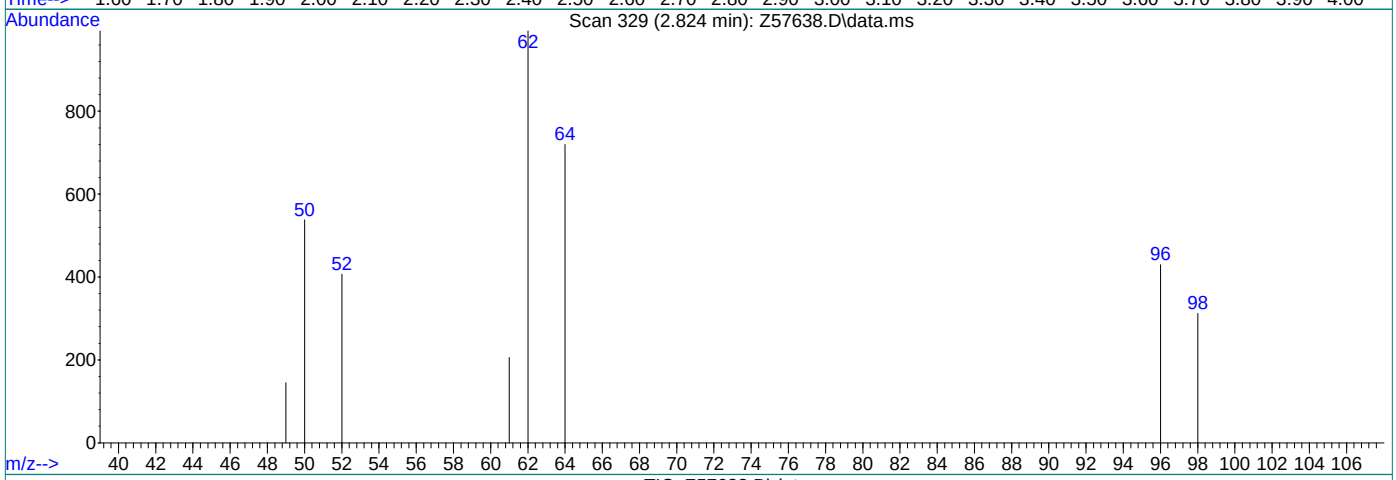
Parameter	CAS	Sig#	R.T. (min.)	Reason
Vinyl Chloride	75-01-4		2.82	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57638.D
Acq On : 29 Aug 2019 1:56 pm
Operator : kevinb
Sample : IC2203-1
Misc : ms44155,vz2203,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 29 14:35:17 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration





TIC: Z57638.D\data.ms

(2) Vinyl Chloride

2.824min (-0.000) 0.14ppb

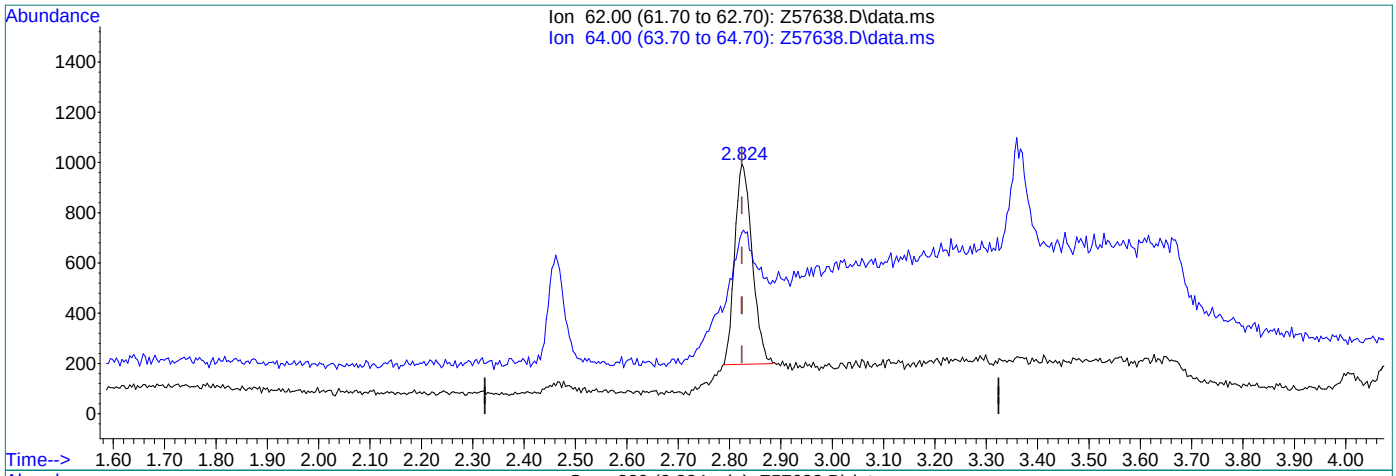
response 29234

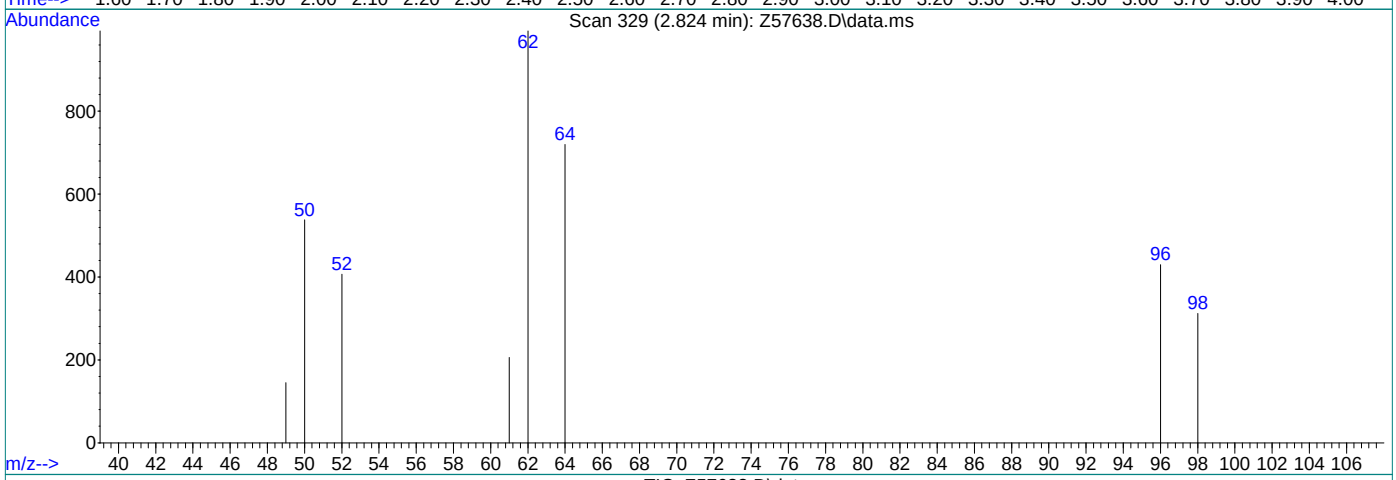
Ion	Exp%	Act%
62.00	100	100
64.00	30.70	94.14#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57638.D
Acq On : 29 Aug 2019 1:56 pm
Operator : kevinb
Sample : IC2203-1
Misc : ms44155,vz2203,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 29 14:35:17 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration





TIC: Z57638.D\data.ms

(2) Vinyl Chloride

2.824min (-0.000) 0.09ppb m

response 18847

Ion	Exp%	Act%
62.00	100	100
64.00	30.70	146.03#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Evita Martinez
08/30/19 10:09

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57639.D
Acq On : 29 Aug 2019 2:15 pm
Operator : kevinb
Sample : IC2203-2
Misc : ms44155,vz2203,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 29 14:38:00 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration

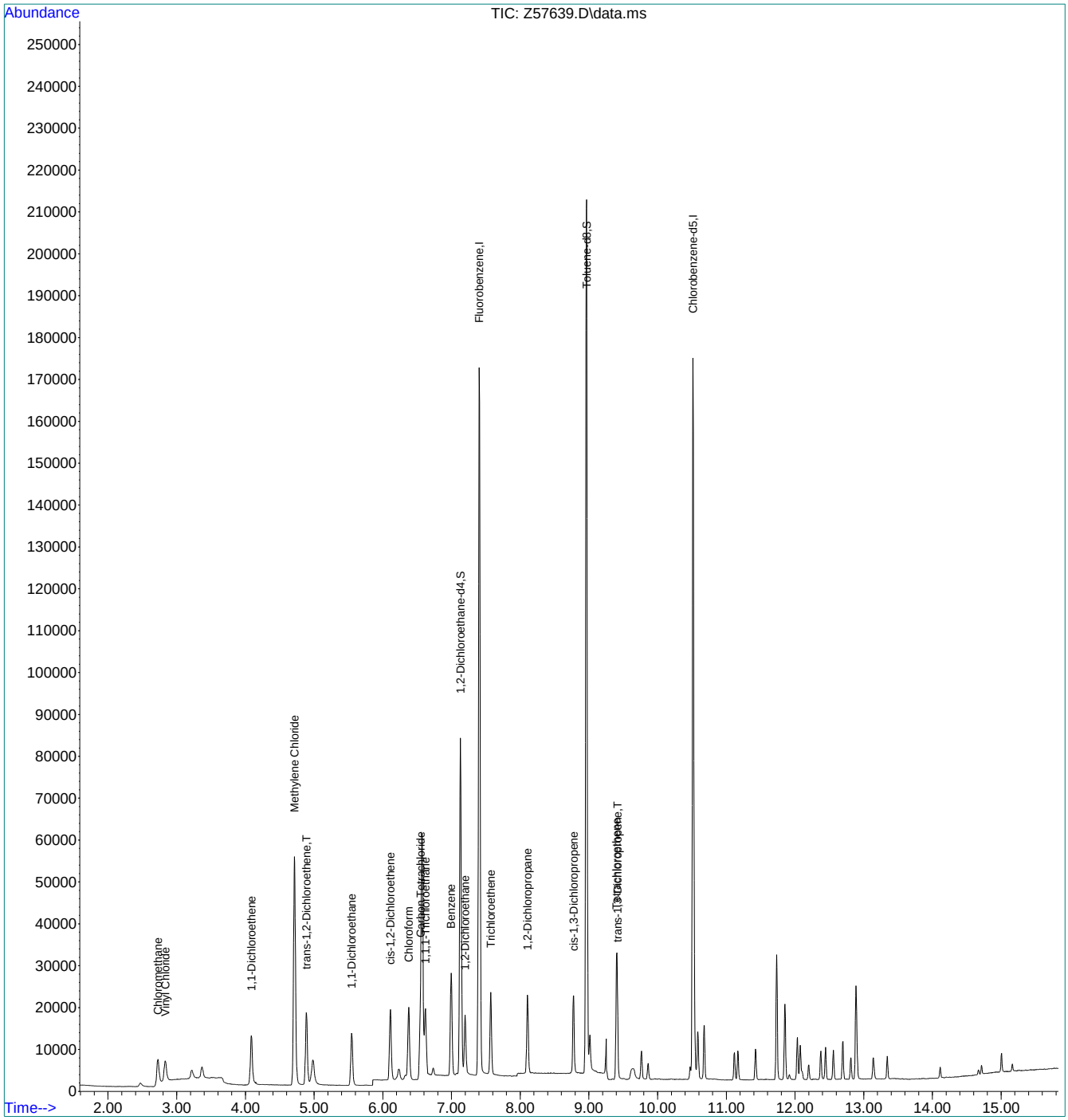
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1967160	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1491190	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	647006	4.98	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 99.60%				
19) Toluene-d8	8.965	98	1818953	5.53	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 110.60%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.835	62	92980	0.45	ppb	#	56
3) Chloromethane	2.726	50	120606	0.54	ppb		98
4) 1,1-Dichloroethene	4.087	96	63710	0.51	ppb		89
5) Methylene Chloride	4.713	84	309271	1.65	ppb		91
6) trans-1,2-Dichloroethene	4.890	96	83985	0.48	ppb		90
7) 1,1-Dichloroethane	5.546	63	173766	0.52	ppb	#	99
8) cis-1,2-Dichloroethene	6.110	96	94131	0.51	ppb		91
9) Chloroform	6.377	83	162411	0.48	ppb		97
10) Carbon Tetrachloride	6.549	117	116787	0.51	ppb		99
11) 1,1,1-Trichloroethane	6.620	97	141035	0.50	ppb		94
12) Benzene	6.994	78	329835	0.50	ppb		94
14) 1,2-Dichloroethane	7.198	62	134875	0.54	ppb		99
15) Trichloroethene	7.571	95	90499	0.49	ppb	#	95
16) 1,2-Dichloropropane	8.105	63	101252	0.55	ppb		99
17) cis-1,3-Dichloropropene	8.776	75	140854	0.71	ppb		99
20) trans-1,3-Dichloropropene	9.416	75	111589m	0.72	ppb		
21) Tetrachloroethene	9.403	166	96606	0.52	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57639.D
Acq On : 29 Aug 2019 2:15 pm
Operator : kevinb
Sample : IC2203-2
Misc : ms44155,vz2203,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 29 14:38:00 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration



Manual Integration Approval Summary

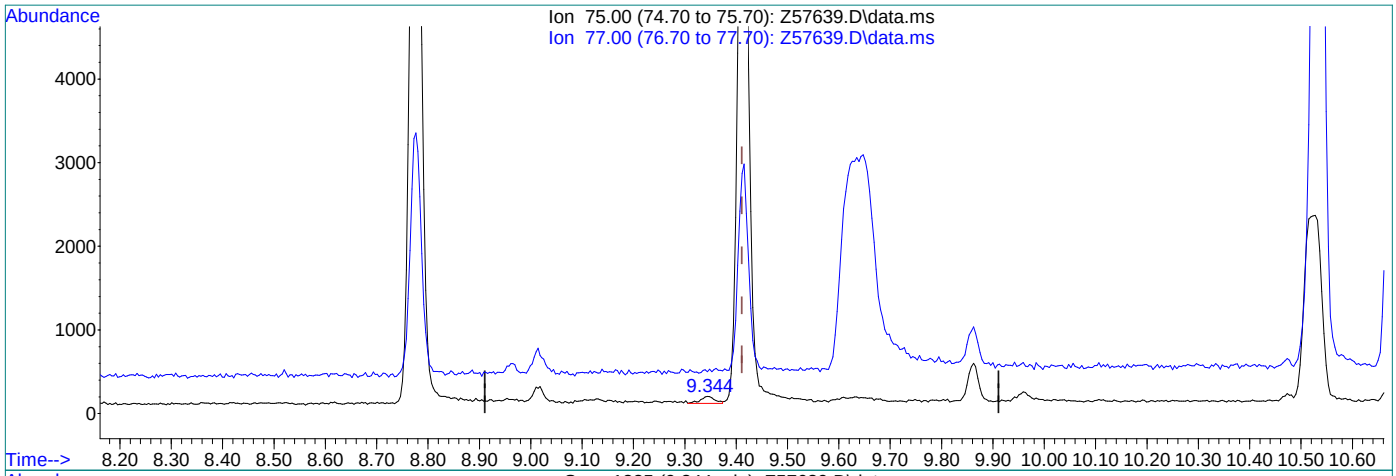
Sample Number:	VZ2203-IC2203	**Method:**	SW846 8260B BY SIM
Lab FileID:	Z57639.D	**Analyst approved:**	08/30/19 09:43 Kevin Boyd
Injection Time:	08/29/19 14:15	**Supervisor approved:**	08/30/19 10:09 Evita Martinez

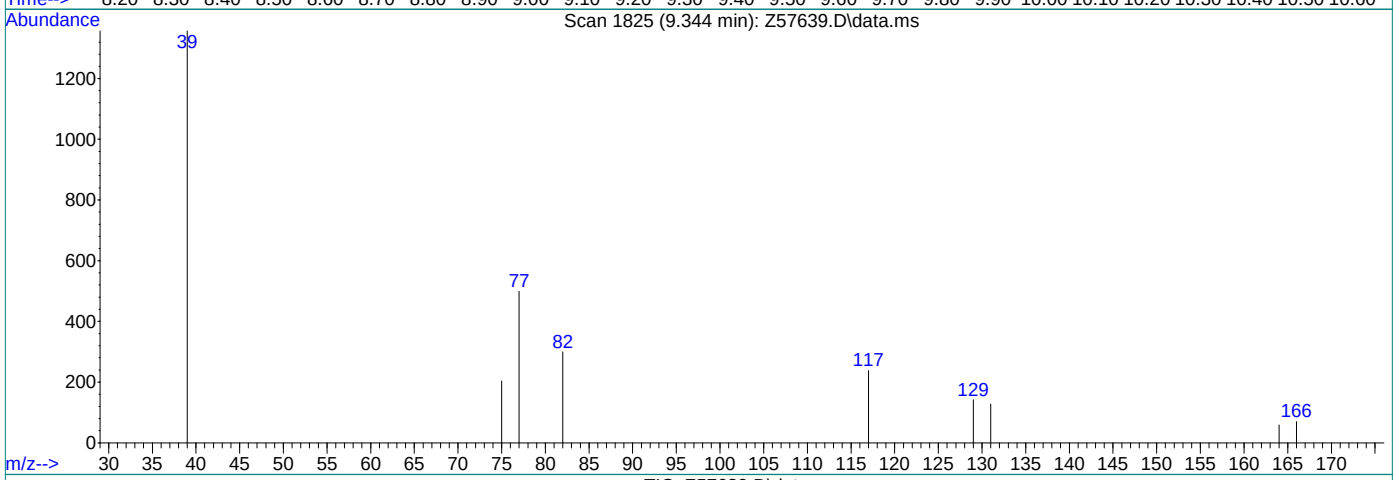
Parameter	CAS	Sig#	R.T. (min.)	Reason
trans-1,3-Dichloropropene	10061-02-6		9.42	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57639.D
Acq On : 29 Aug 2019 2:15 pm
Operator : kevinb
Sample : IC2203-2
Misc : ms44155,vz2203,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 29 14:37:18 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration





TIC: Z57639.D\data.ms

(20) trans-1,3-Dichloropropene (T)

9.344min (-0.067) 0.01ppb

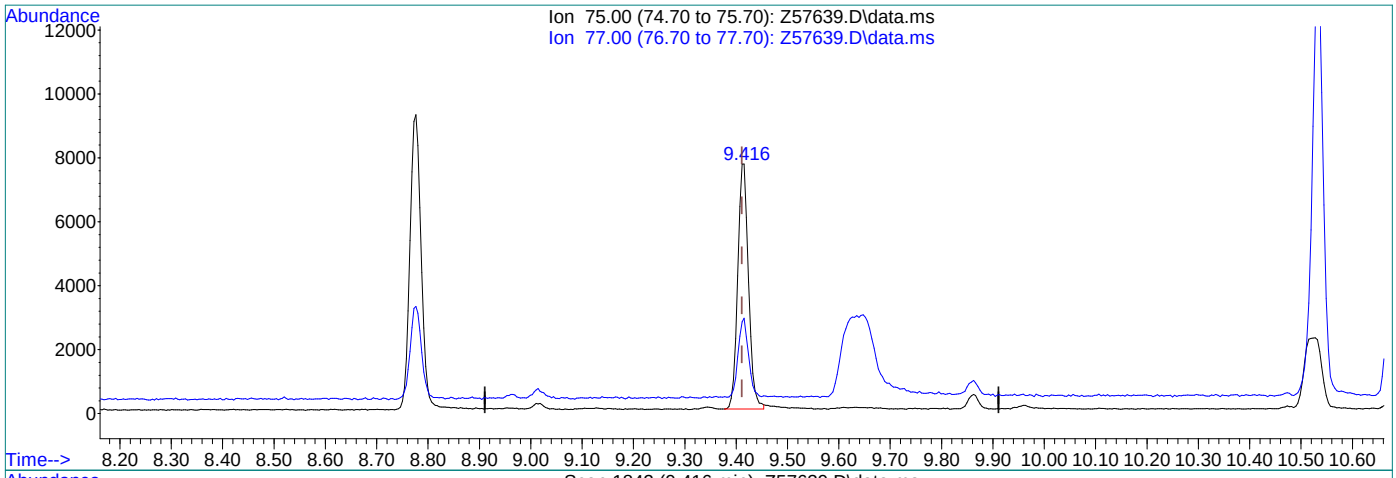
response 1575

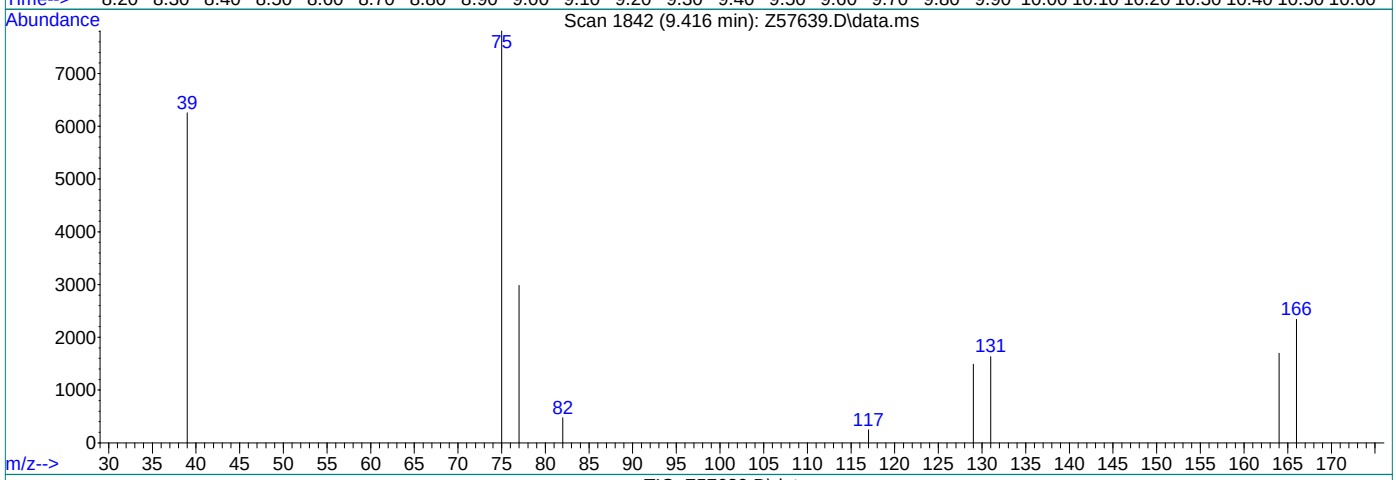
Ion	Exp%	Act%
75.00	100	100
77.00	0.30	15.75
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57639.D
Acq On : 29 Aug 2019 2:15 pm
Operator : kevinb
Sample : IC2203-2
Misc : ms44155,vz2203,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 29 14:37:18 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration





TIC: Z57639.D\data.ms

(20) trans-1,3-Dichloropropene (T)

9.416min (+0.005) 0.72ppb m

response 111589

Ion	Exp%	Act%
75.00	100	100
77.00	0.30	0.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57640.D
Acq On : 29 Aug 2019 2:36 pm
Operator : kevinb
Sample : IC2203-3
Misc : ms44155,vz2203,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 29 15:23:01 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration

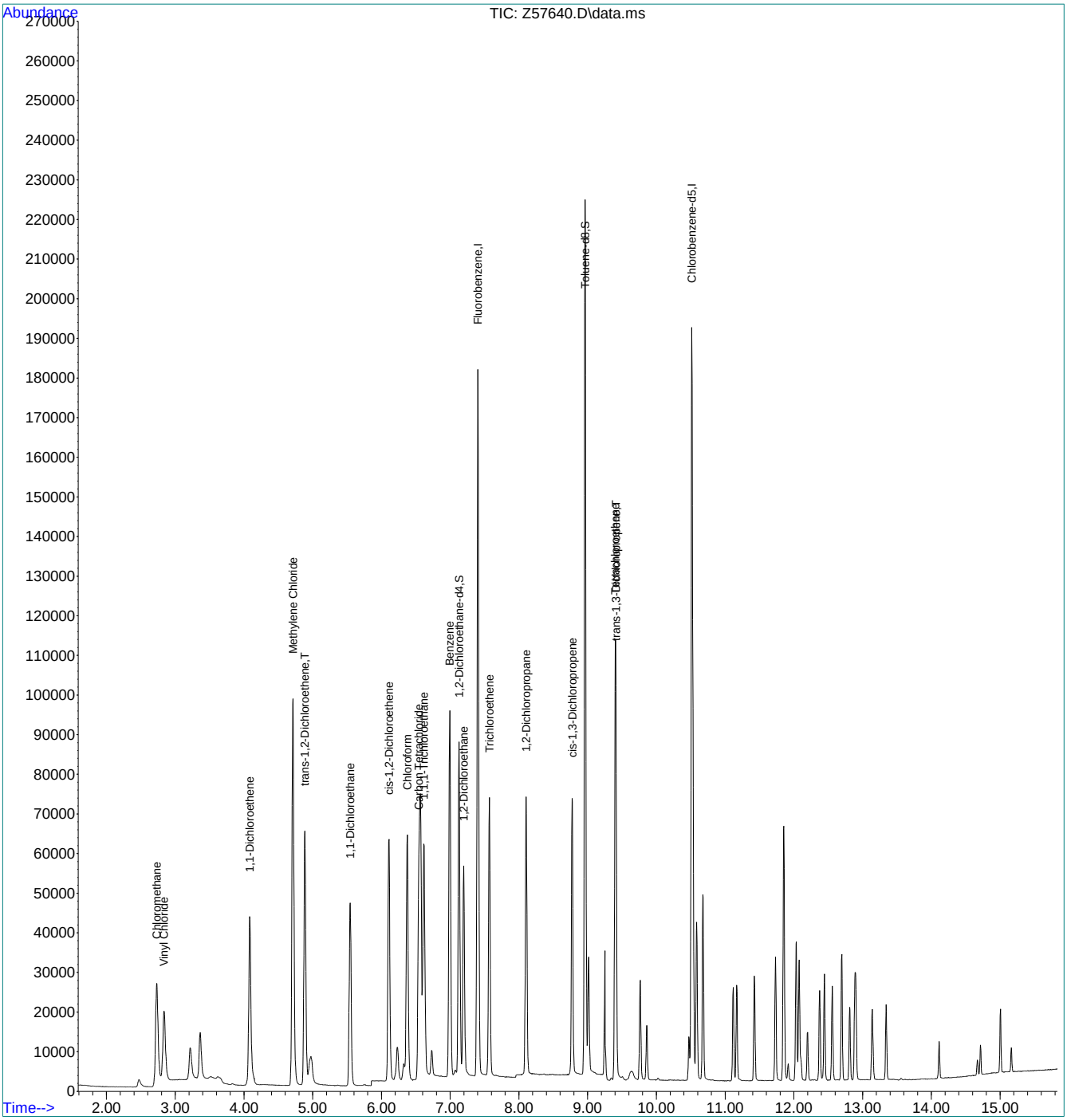
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	2027016	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1568529	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	673384	5.03	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 100.60%				
19) Toluene-d8	8.961	98	1903640	5.50	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 110.00%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.835	62	344573	1.61	ppb		87
3) Chloromethane	2.730	50	498008	2.15	ppb		99
4) 1,1-Dichloroethene	4.083	96	231363	1.79	ppb		91
5) Methylene Chloride	4.713	84	548752	2.84	ppb		92
6) trans-1,2-Dichloroethene	4.886	96	307978	1.70	ppb		90
7) 1,1-Dichloroethane	5.546	63	641817	1.87	ppb	#	98
8) cis-1,2-Dichloroethene	6.110	96	343977	1.79	ppb		92
9) Chloroform	6.377	83	591222	1.70	ppb		96
10) Carbon Tetrachloride	6.543	117	421540	1.79	ppb		100
11) 1,1,1-Trichloroethane	6.614	97	511159	1.75	ppb		99
12) Benzene	6.994	78	1238007	1.84	ppb		95
14) 1,2-Dichloroethane	7.198	62	507529	1.98	ppb		99
15) Trichloroethene	7.571	95	330628	1.73	ppb	#	94
16) 1,2-Dichloropropane	8.105	63	379228	1.99	ppb		99
17) cis-1,3-Dichloropropene	8.777	75	524267	2.49	ppb		99
20) trans-1,3-Dichloropropene	9.412	75	422222	2.55	ppb	#	67
21) Tetrachloroethene	9.403	166	351545	1.80	ppb		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57640.D
Acq On : 29 Aug 2019 2:36 pm
Operator : kevinb
Sample : IC2203-3
Misc : ms44155,vz2203,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 29 15:23:01 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57641.D
Acq On : 29 Aug 2019 2:55 pm
Operator : kevinb
Sample : IC2203-4
Misc : ms44155,vz2203,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 29 15:23:29 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration

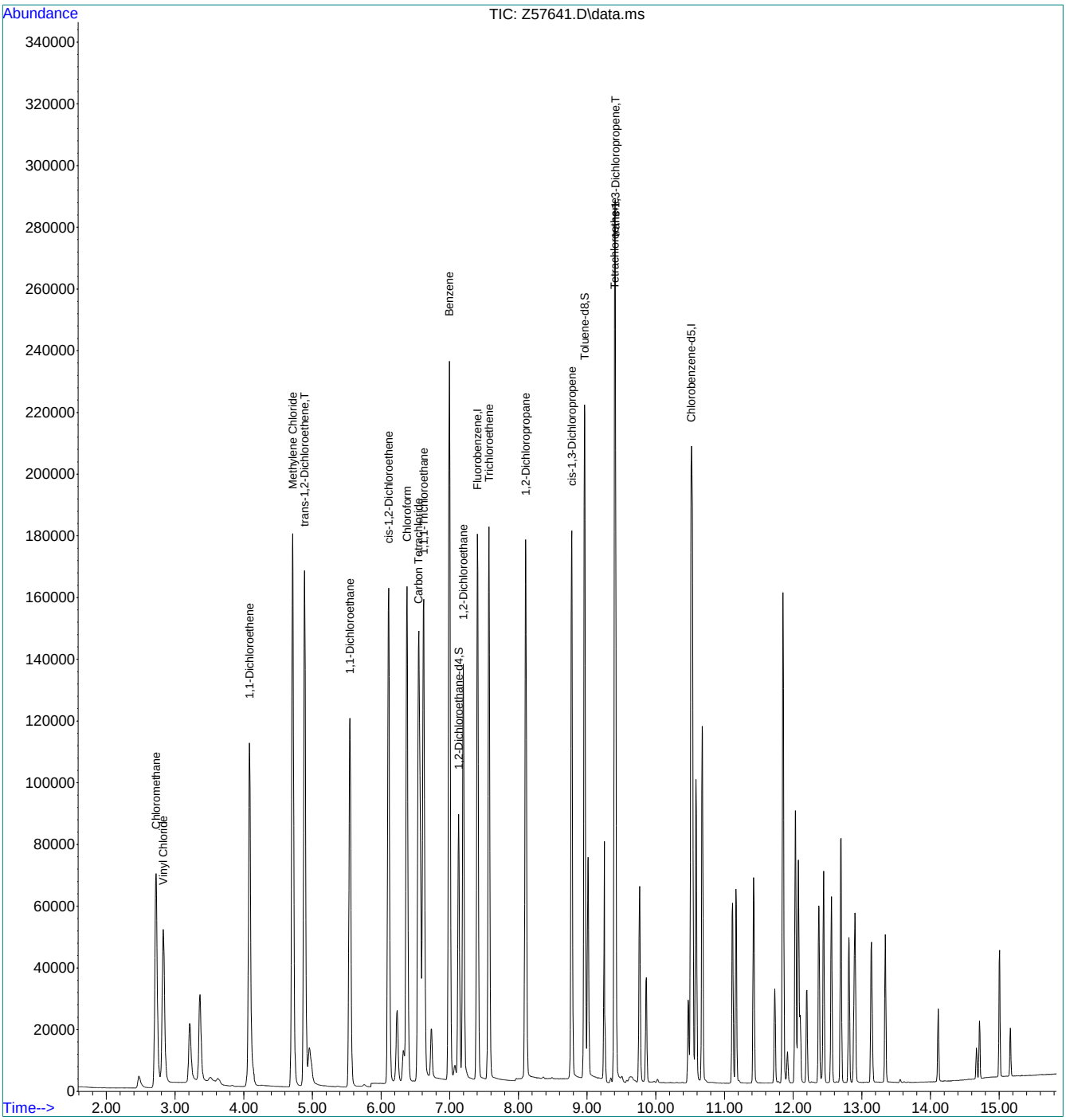
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	2025191	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1540591	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	673112	5.03	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 100.60%				
19) Toluene-d8	8.961	98	1868442	5.49	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 109.80%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.828	62	889490	4.16	ppb		96
3) Chloromethane	2.722	50	1221214	5.19	ppb		100
4) 1,1-Dichloroethene	4.083	96	591879	4.58	ppb		90
5) Methylene Chloride	4.713	84	996989	5.17	ppb		91
6) trans-1,2-Dichloroethene	4.886	96	802171	4.44	ppb		90
7) 1,1-Dichloroethane	5.546	63	1653730	4.83	ppb	#	98
8) cis-1,2-Dichloroethene	6.110	96	881039	4.59	ppb		91
9) Chloroform	6.377	83	1513540	4.35	ppb		96
10) Carbon Tetrachloride	6.543	117	1089035	4.62	ppb		100
11) 1,1,1-Trichloroethane	6.620	97	1318915	4.52	ppb		99
12) Benzene	6.994	78	3170060	4.71	ppb		96
14) 1,2-Dichloroethane	7.198	62	1275323	4.99	ppb		100
15) Trichloroethene	7.571	95	846605	4.42	ppb	#	94
16) 1,2-Dichloropropane	8.105	63	956083	5.02	ppb		99
17) cis-1,3-Dichloropropene	8.777	75	1317872	5.88	ppb		100
20) trans-1,3-Dichloropropene	9.411	75	1070934	6.34	ppb	#	67
21) Tetrachloroethene	9.403	166	883454	4.61	ppb		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57641.D
Acq On : 29 Aug 2019 2:55 pm
Operator : kevinb
Sample : IC2203-4
Misc : ms44155,vz2203,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 29 15:23:29 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57642.D
Acq On : 29 Aug 2019 3:15 pm
Operator : kevinb
Sample : ICC2203-5
Misc : ms44155,vz2203,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 29 15:32:50 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration

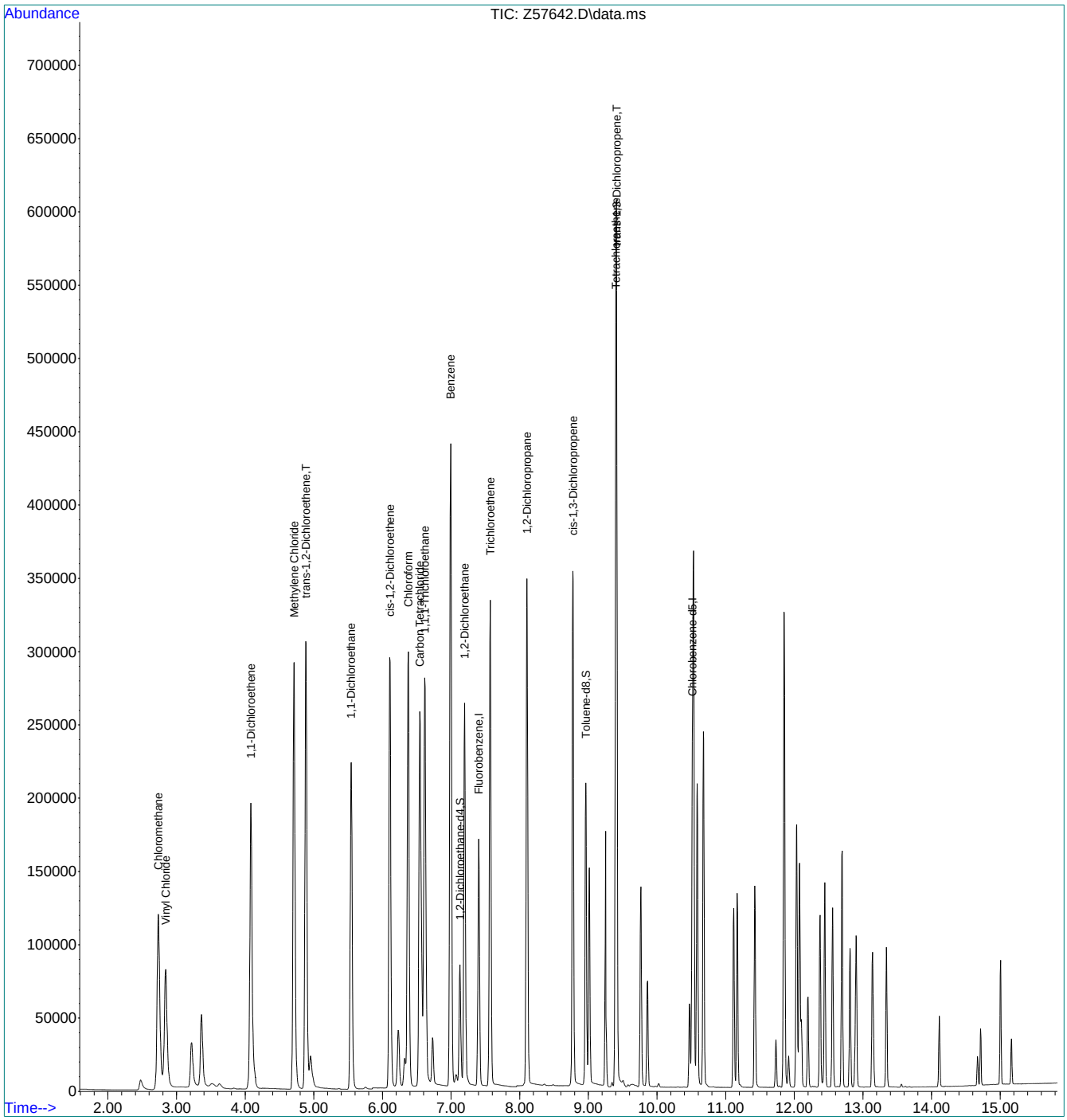
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1889427	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1632801	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	649743	5.20	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 104.00%				
19) Toluene-d8	8.961	98	1777093	4.93	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.60%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.843	62	1626836	8.15	ppb		98
3) Chloromethane	2.733	50	2447247	10.79	ppb		100
4) 1,1-Dichloroethene	4.083	96	1075217	8.92	ppb	#	87
5) Methylene Chloride	4.713	84	1638604	9.08	ppb	#	88
6) trans-1,2-Dichloroethene	4.886	96	1464380	8.69	ppb	#	87
7) 1,1-Dichloroethane	5.542	63	3140226	9.83	ppb	#	98
8) cis-1,2-Dichloroethene	6.110	96	1619817	9.05	ppb	#	88
9) Chloroform	6.377	83	2824245	8.69	ppb		95
10) Carbon Tetrachloride	6.543	117	1985746	9.04	ppb		100
11) 1,1,1-Trichloroethane	6.614	97	2421905	8.90	ppb		99
12) Benzene	6.994	78	5984750	9.54	ppb		94
14) 1,2-Dichloroethane	7.198	62	2483454	10.41	ppb		99
15) Trichloroethene	7.571	95	1593361	8.92	ppb	#	93
16) 1,2-Dichloropropane	8.105	63	1843189	10.38	ppb		99
17) cis-1,3-Dichloropropene	8.776	75	2580453	11.27	ppb		100
20) trans-1,3-Dichloropropene	9.411	75	2339692	12.29	ppb	#	66
21) Tetrachloroethene	9.403	166	1850855	9.11	ppb		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57642.D
Acq On : 29 Aug 2019 3:15 pm
Operator : kevinb
Sample : ICC2203-5
Misc : ms44155,vz2203,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 29 15:32:50 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Evita Martinez 08/30/19 10:09

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57643.D
Acq On : 29 Aug 2019 3:34 pm
Operator : kevinb
Sample : IC2203-6
Misc : ms44155,vz2203,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 29 15:51:12 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1907490	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1429888m	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	647194	5.13	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 102.60%				
19) Toluene-d8	8.961	98	1762144	5.58	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 111.60%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.827	62	2597725	12.89	ppb		98
3) Chloromethane	2.722	50	3586189	15.28	ppb		100
4) 1,1-Dichloroethene	4.083	96	1666628	13.70	ppb	#	87
5) Methylene Chloride	4.713	84	2371996	12.98	ppb	#	88
6) trans-1,2-Dichloroethene	4.886	96	2244386	13.20	ppb	#	88
7) 1,1-Dichloroethane	5.546	63	4733299	14.67	ppb	#	98
8) cis-1,2-Dichloroethene	6.110	96	2454681	13.58	ppb		89
9) Chloroform	6.377	83	4286458	13.07	ppb		96
10) Carbon Tetrachloride	6.543	117	3075339	13.87	ppb		100
11) 1,1,1-Trichloroethane	6.620	97	3733440	13.60	ppb		100
12) Benzene	6.994	78	8851912	13.98	ppb		94
14) 1,2-Dichloroethane	7.198	62	3624876	15.05	ppb		99
15) Trichloroethene	7.571	95	2394810	13.28	ppb	#	92
16) 1,2-Dichloropropane	8.105	63	2745098	15.31	ppb		99
17) cis-1,3-Dichloropropene	8.776	75	3788758	15.37	ppb		100
20) trans-1,3-Dichloropropene	9.411	75	3128280	17.79	ppb	#	66
21) Tetrachloroethene	9.403	166	2385866	13.41	ppb		99

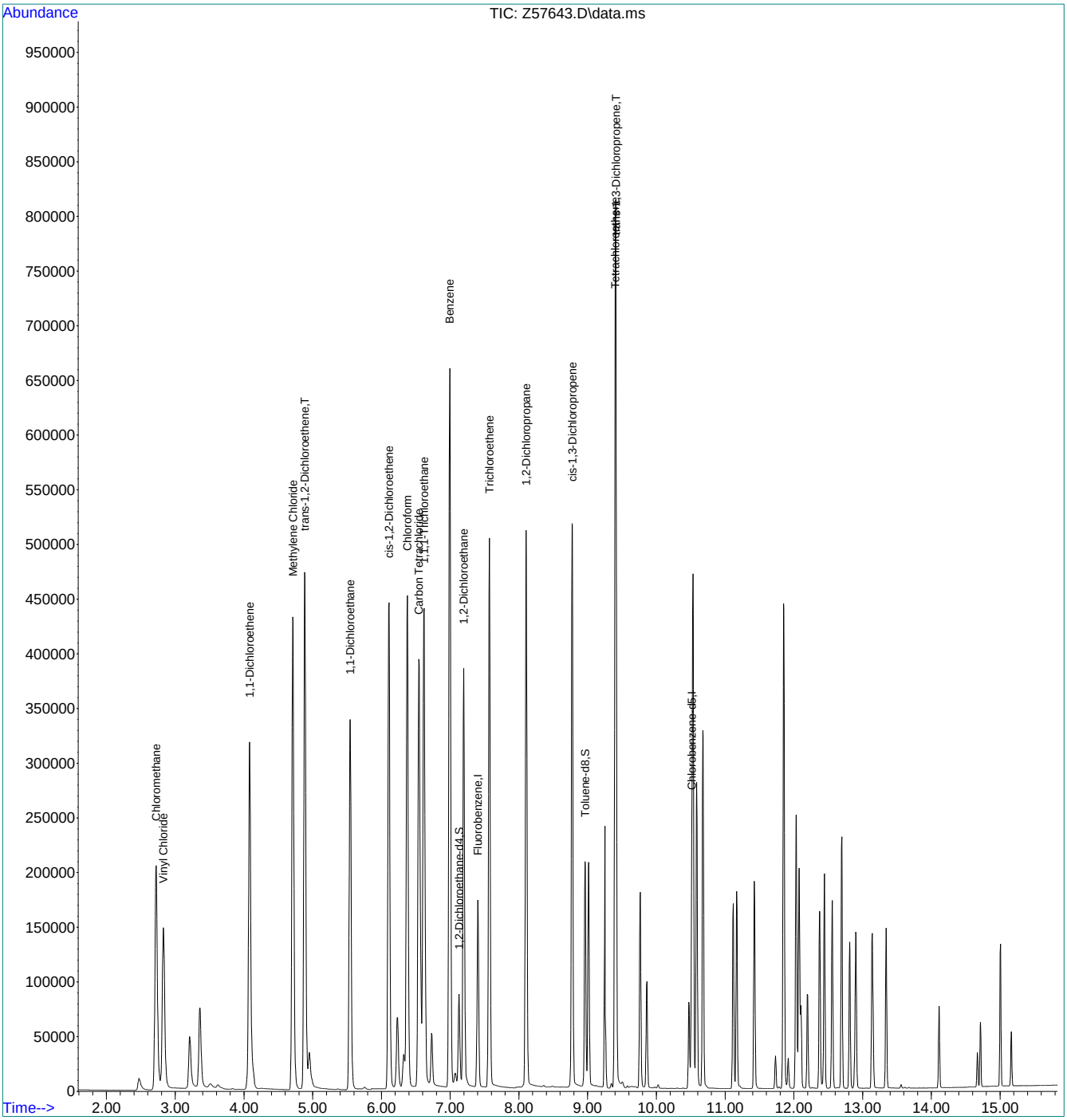
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.6
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57643.D
Acq On : 29 Aug 2019 3:34 pm
Operator : kevinb
Sample : IC2203-6
Misc : ms44155,vz2203,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 29 15:51:12 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration



SIMCL082919.M Fri Aug 30 09:42:41 2019 Page: 2

Manual Integration Approval Summary

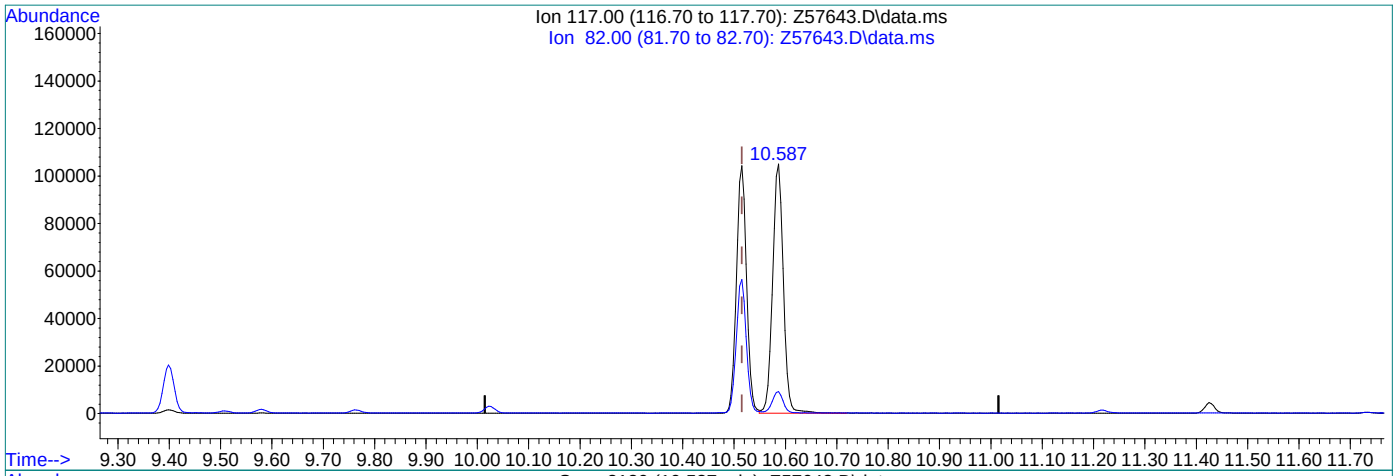
Sample Number:	VZ2203-IC2203	**Method:**	SW846 8260B BY SIM
Lab FileID:	Z57643.D	**Analyst approved:**	08/30/19 09:43 Kevin Boyd
Injection Time:	08/29/19 15:34	**Supervisor approved:**	08/30/19 10:09 Evita Martinez

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		10.52	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57643.D
Acq On : 29 Aug 2019 3:34 pm
Operator : kevinb
Sample : IC2203-6
Misc : ms44155,vz2203,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 29 15:50:46 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration



TIC: Z57643.D\data.ms

(18) Chlorobenzene-d5 (I)

10.587min (+0.072) 5.00ppb

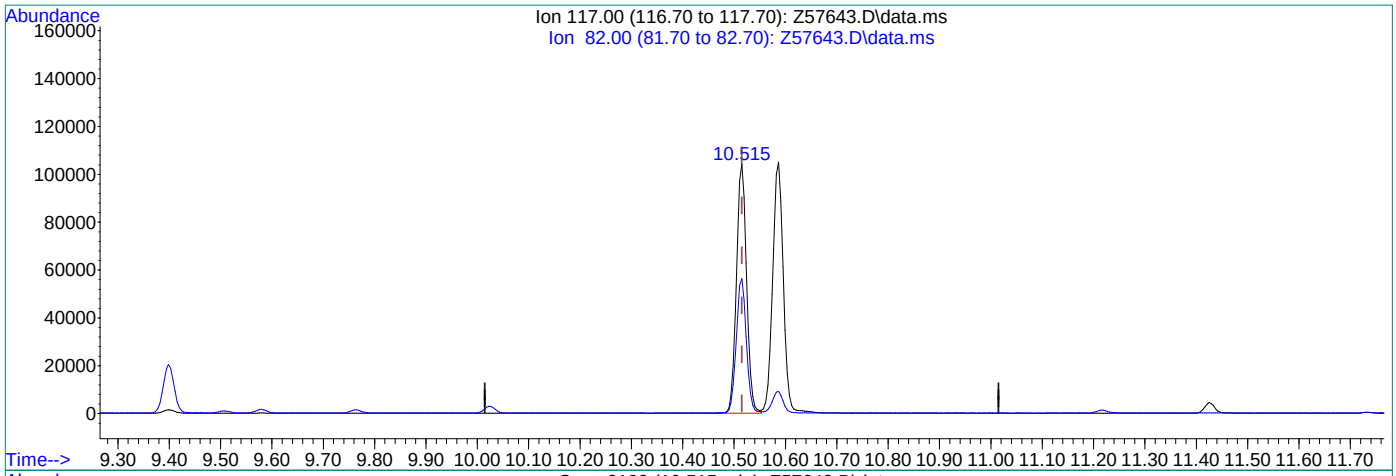
response 1515977

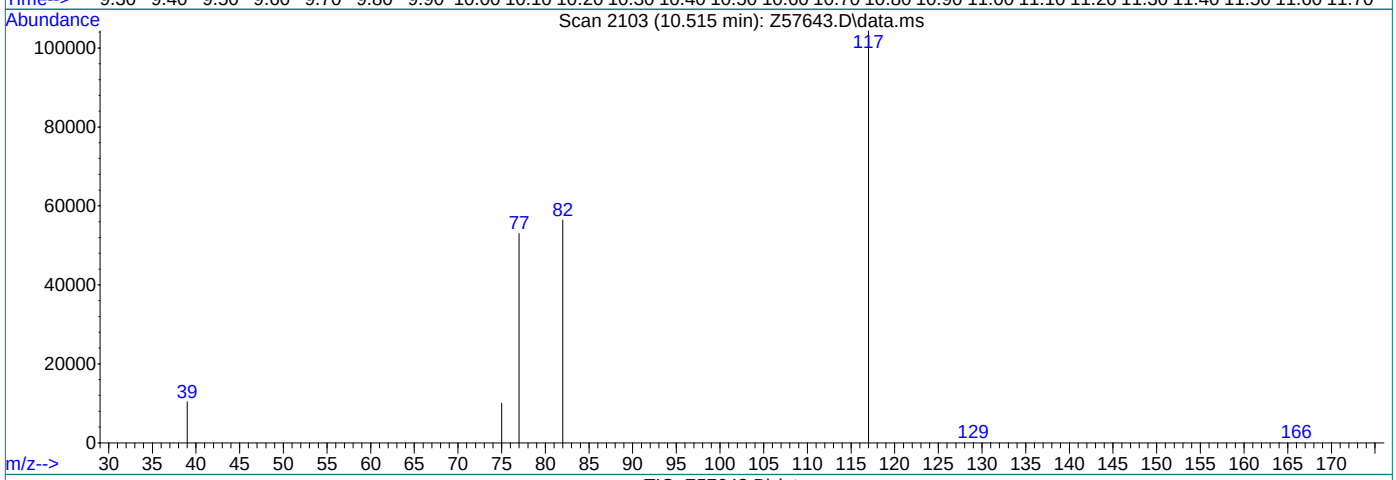
Ion	Exp%	Act%
117.00	100	100
82.00	48.70	8.53#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57643.D
Acq On : 29 Aug 2019 3:34 pm
Operator : kevinb
Sample : IC2203-6
Misc : ms44155,vz2203,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 29 15:50:46 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration





TIC: Z57643.D\data.ms

(18) Chlorobenzene-d5 (I)

10.515min (+0.000) 5.00ppb m

response 1429888

Ion	Exp%	Act%
117.00	100	100
82.00	48.70	9.04#
0.00	0.00	0.00
0.00	0.00	0.00

Z57644.D

Manual Integrations APPROVED (compounds with "m" flag)

Evita Martinez 08/30/19 10:09

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57644.D
Acq On : 29 Aug 2019 3:53 pm
Operator : kevinb
Sample : IC2203-7
Misc : ms44155,vz2203,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 29 16:09:58 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1842402	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1578002m	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	630061	5.18	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 103.60%				
19) Toluene-d8	8.961	98	1713477	4.92	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.40%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.831	62	3492177	17.94	ppb		98
3) Chloromethane	2.726	50	4826873	20.68	ppb		100
4) 1,1-Dichloroethene	4.087	96	2199912	18.72	ppb	#	86
5) Methylene Chloride	4.713	84	3109213	17.57	ppb	#	87
6) trans-1,2-Dichloroethene	4.886	96	2968927	18.07	ppb	#	87
7) 1,1-Dichloroethane	5.546	63	6269709	20.12	ppb	#	98
8) cis-1,2-Dichloroethene	6.110	96	3242609	18.58	ppb	#	89
9) Chloroform	6.377	83	5604864	17.69	ppb		95
10) Carbon Tetrachloride	6.549	117	4122823	19.25	ppb		100
11) 1,1,1-Trichloroethane	6.620	97	4979981	18.78	ppb		100
12) Benzene	6.994	78	11474526	18.76	ppb		92
14) 1,2-Dichloroethane	7.198	62	4812003	20.69	ppb		99
15) Trichloroethene	7.571	95	3131473	17.98	ppb	#	93
16) 1,2-Dichloropropane	8.105	63	3659322	21.13	ppb		99
17) cis-1,3-Dichloropropene	8.776	75	5075706	19.93	ppb		99
20) trans-1,3-Dichloropropene	9.411	75	4235776	21.16	ppb	#	66
21) Tetrachloroethene	9.403	166	3145901	16.02	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

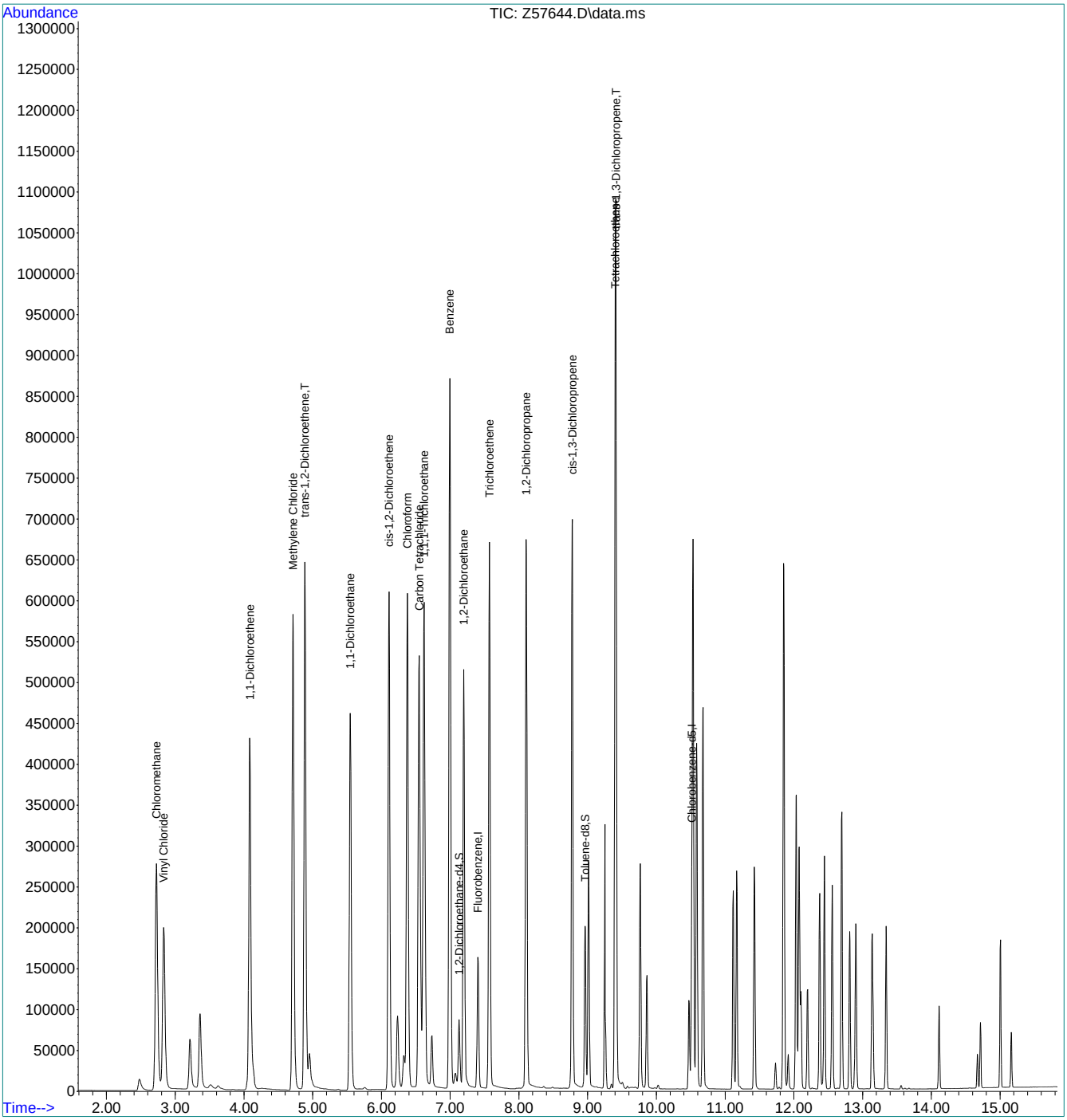
7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57644.D
Acq On : 29 Aug 2019 3:53 pm
Operator : kevinb
Sample : IC2203-7
Misc : ms44155,vz2203,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 29 16:09:58 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration



SIMCL082919.M Fri Aug 30 09:42:43 2019 Page: 2

Manual Integration Approval Summary

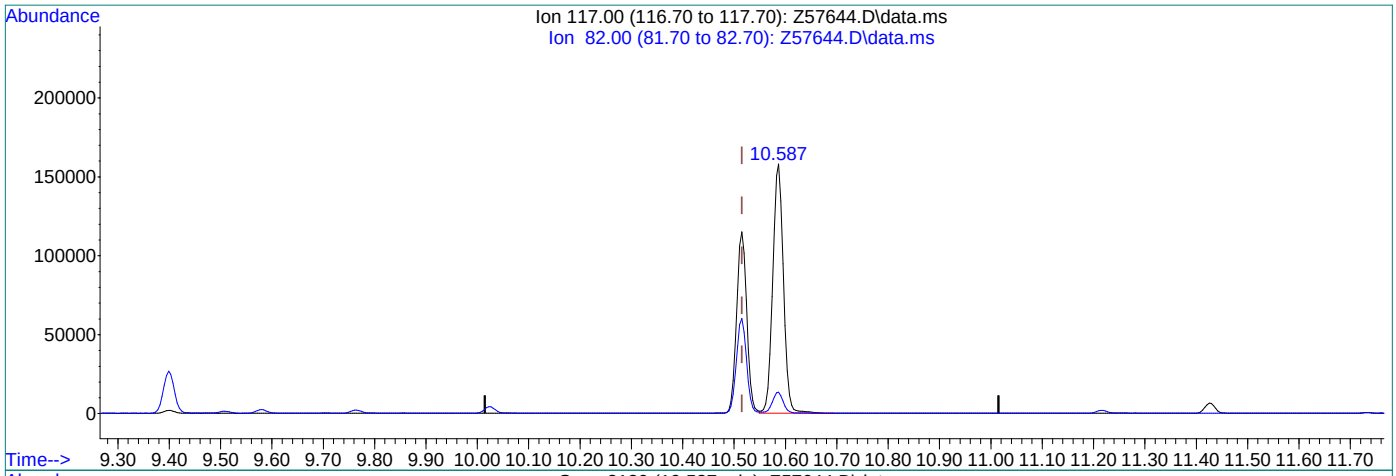
Sample Number:	VZ2203-IC2203	**Method:**	SW846 8260B BY SIM
Lab FileID:	Z57644.D	**Analyst approved:**	08/30/19 09:43 Kevin Boyd
Injection Time:	08/29/19 15:53	**Supervisor approved:**	08/30/19 10:09 Evita Martinez

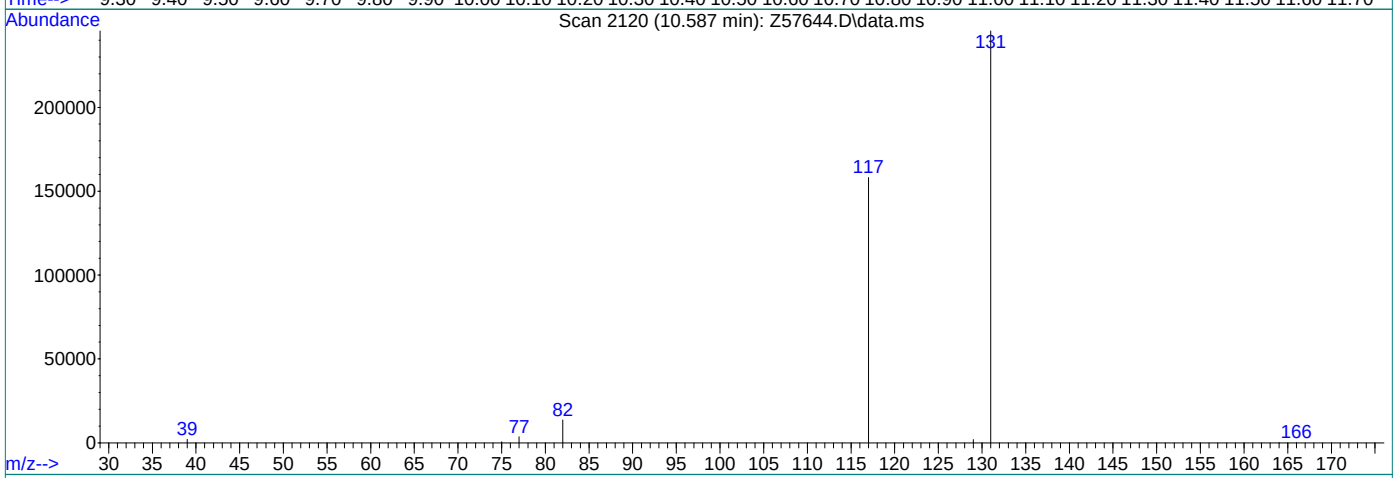
Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		10.52	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57644.D
Acq On : 29 Aug 2019 3:53 pm
Operator : kevinb
Sample : IC2203-7
Misc : ms44155,vz2203,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 29 16:09:43 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration





TIC: Z57644.D\data.ms

(18) Chlorobenzene-d5 (I)

10.587min (+0.072) 5.00ppb

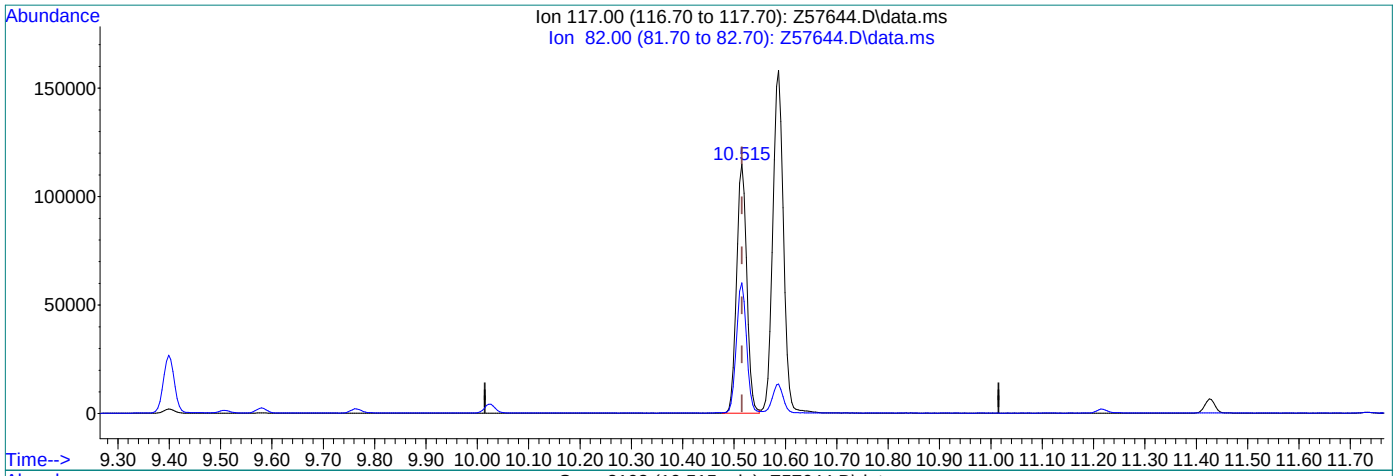
response 2283954

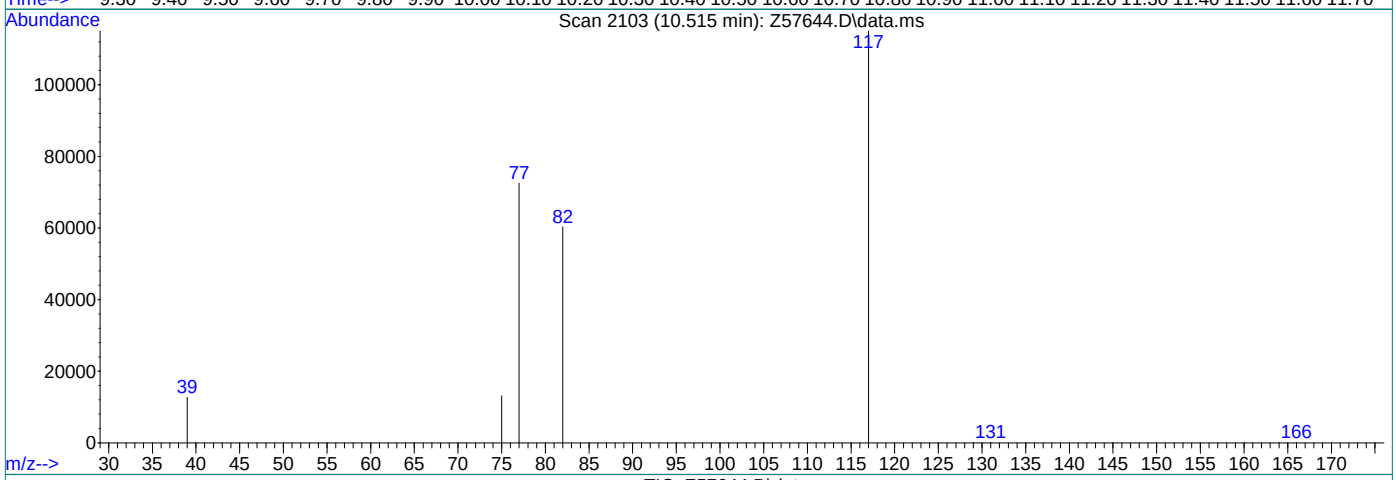
Ion	Exp%	Act%
117.00	100	100
82.00	48.70	8.62#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57644.D
Acq On : 29 Aug 2019 3:53 pm
Operator : kevinb
Sample : IC2203-7
Misc : ms44155,vz2203,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 29 16:09:43 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Jun 06 15:21:18 2019
Response via : Initial Calibration





TIC: Z57644.D\data.ms

(18) Chlorobenzene-d5 (I)

10.515min (+0.000) 5.00ppb m

response 1578002

Ion	Exp%	Act%
117.00	100	100
82.00	48.70	12.48#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57646.D
Acq On : 29 Aug 2019 4:43 pm
Operator : kevinb
Sample : ICV2203-5
Misc : ms44155,vz2203,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 30 08:54:57 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

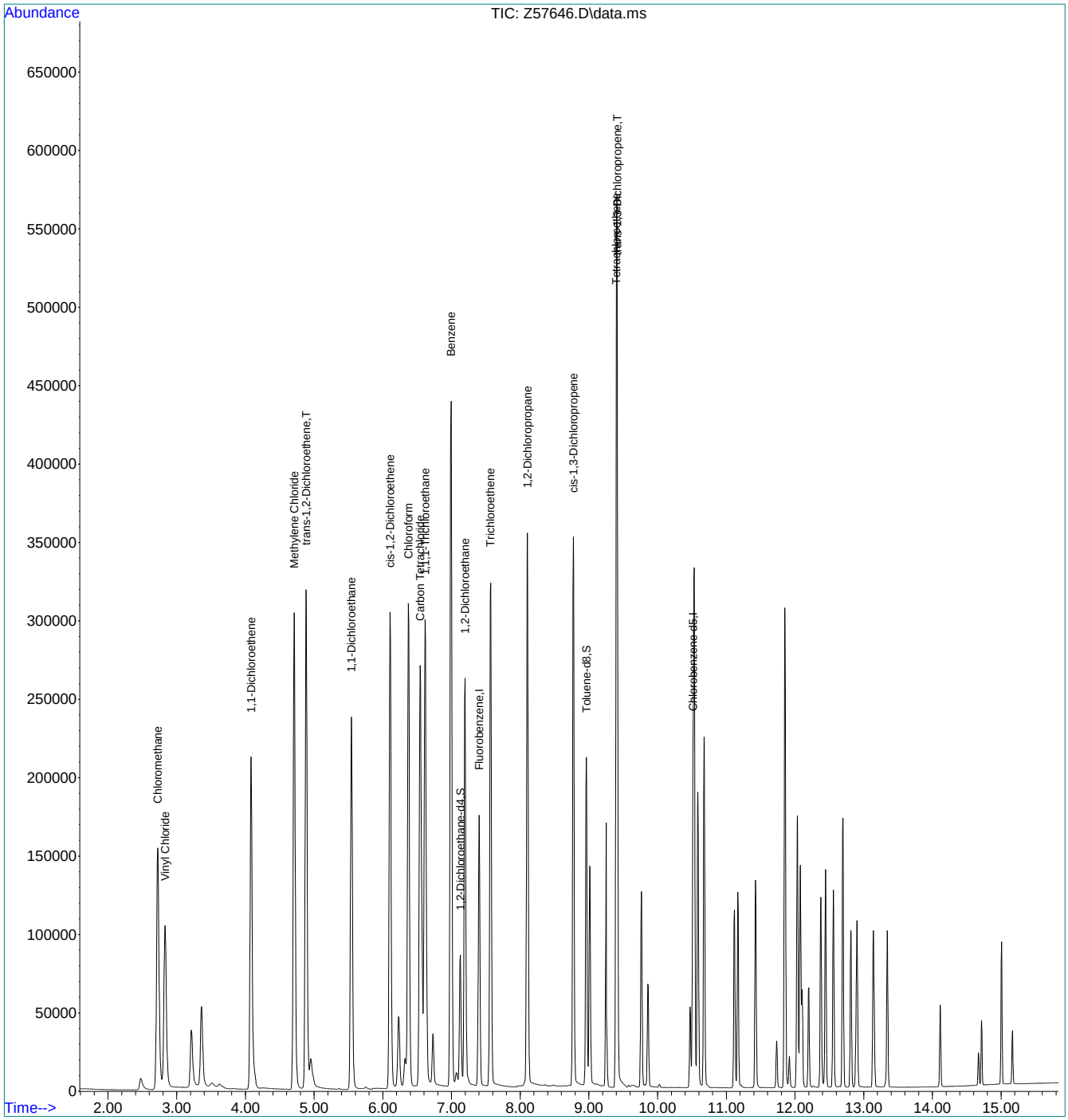
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1922413	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1432420	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	661028	5.13	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 102.60%				
19) Toluene-d8	8.961	98	1773211	5.24	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.80%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.831	62	1867726	10.74	ppb		100
3) Chloromethane	2.722	50	2783176	11.19	ppb		100
4) 1,1-Dichloroethene	4.083	96	1111906	9.41	ppb		99
5) Methylene Chloride	4.709	84	1649332	9.56	ppb		99
6) trans-1,2-Dichloroethene	4.883	96	1500356	9.75	ppb		100
7) 1,1-Dichloroethane	5.542	63	3301797	10.23	ppb	#	100
8) cis-1,2-Dichloroethene	6.104	96	1656885	10.06	ppb		100
9) Chloroform	6.371	83	2894536	9.77	ppb		99
10) Carbon Tetrachloride	6.543	117	2079474	9.78	ppb		100
11) 1,1,1-Trichloroethane	6.614	97	2515804	9.81	ppb		99
12) Benzene	6.994	78	5944666	9.68	ppb		99
14) 1,2-Dichloroethane	7.198	62	2504860	10.02	ppb		99
15) Trichloroethene	7.564	95	1605420	9.61	ppb	#	99
16) 1,2-Dichloropropane	8.105	63	1905820	10.04	ppb		100
17) cis-1,3-Dichloropropene	8.773	75	2539214	9.77	ppb		100
20) trans-1,3-Dichloropropene	9.411	75	2251782	11.15	ppb		100
21) Tetrachloroethene	9.399	166	1623935	9.86	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\082919\
Data File : Z57646.D
Acq On : 29 Aug 2019 4:43 pm
Operator : kevinb
Sample : ICV2203-5
Misc : ms44155,vz2203,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 30 08:54:57 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



SIMCL082919.M Fri Aug 30 09:42:45 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57686.D
Acq On : 31 Aug 2019 12:08 pm
Operator : kevinb
Sample : cc2203-5
Misc : ms44155,vz2206,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 31 12:24:00 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

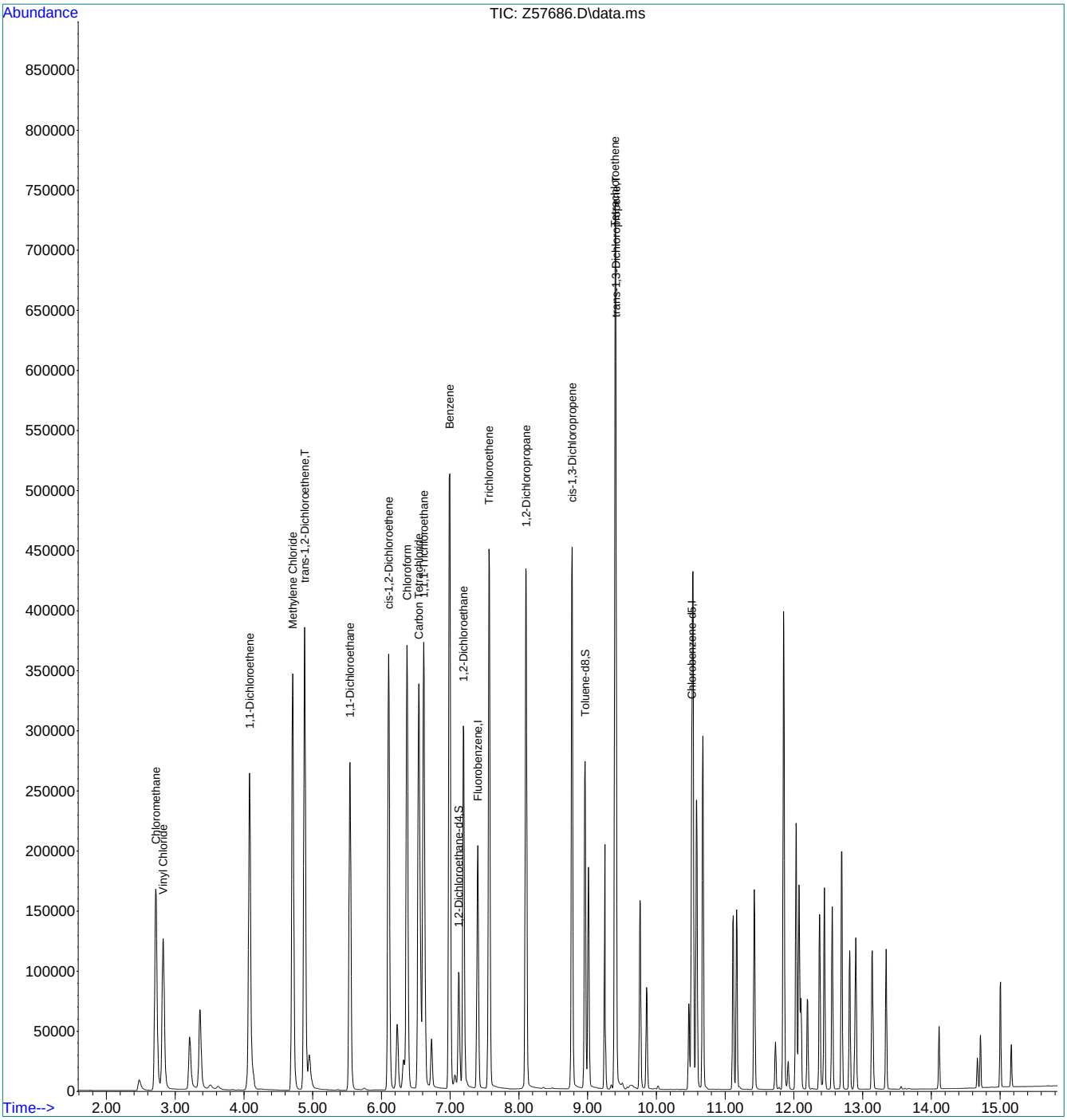
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	2254754	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1918255	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.123	65	777538	5.14	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 102.80%				
19) Toluene-d8	8.961	98	2333064	5.15	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.00%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.824	62	2181636	10.69	ppb		99
3) Chloromethane	2.718	50	2896569	9.93	ppb		99
4) 1,1-Dichloroethene	4.083	96	1389653	10.03	ppb		100
5) Methylene Chloride	4.709	84	1904965	9.40	ppb		100
6) trans-1,2-Dichloroethene	4.883	96	1826701	10.12	ppb		100
7) 1,1-Dichloroethane	5.542	63	3831816	10.12	ppb	#	100
8) cis-1,2-Dichloroethene	6.104	96	1967123	10.18	ppb		100
9) Chloroform	6.371	83	3494564	10.06	ppb		99
10) Carbon Tetrachloride	6.543	117	2563201	10.28	ppb		100
11) 1,1,1-Trichloroethane	6.614	97	3082091	10.24	ppb		99
12) Benzene	6.994	78	7232859	10.04	ppb		99
14) 1,2-Dichloroethane	7.191	62	2976020	10.15	ppb		100
15) Trichloroethene	7.564	95	2165125	11.05	ppb	#	98
16) 1,2-Dichloropropane	8.105	63	2387461	10.73	ppb		99
17) cis-1,3-Dichloropropene	8.773	75	3294594	10.80	ppb		100
20) trans-1,3-Dichloropropene	9.411	75	2713766	10.03	ppb		100
21) Tetrachloroethene	9.399	166	2285404	10.36	ppb		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57686.D
Acq On : 31 Aug 2019 12:08 pm
Operator : kevinb
Sample : cc2203-5
Misc : ms44155,vz2206,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 31 12:24:00 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



SIMCL082919.M Tue Sep 03 11:05:18 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57712.D
Acq On : 31 Aug 2019 9:38 pm
Operator : kevinb
Sample : ecc2203-5
Misc : ms44225,vz2206,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Sep 03 10:59:49 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration

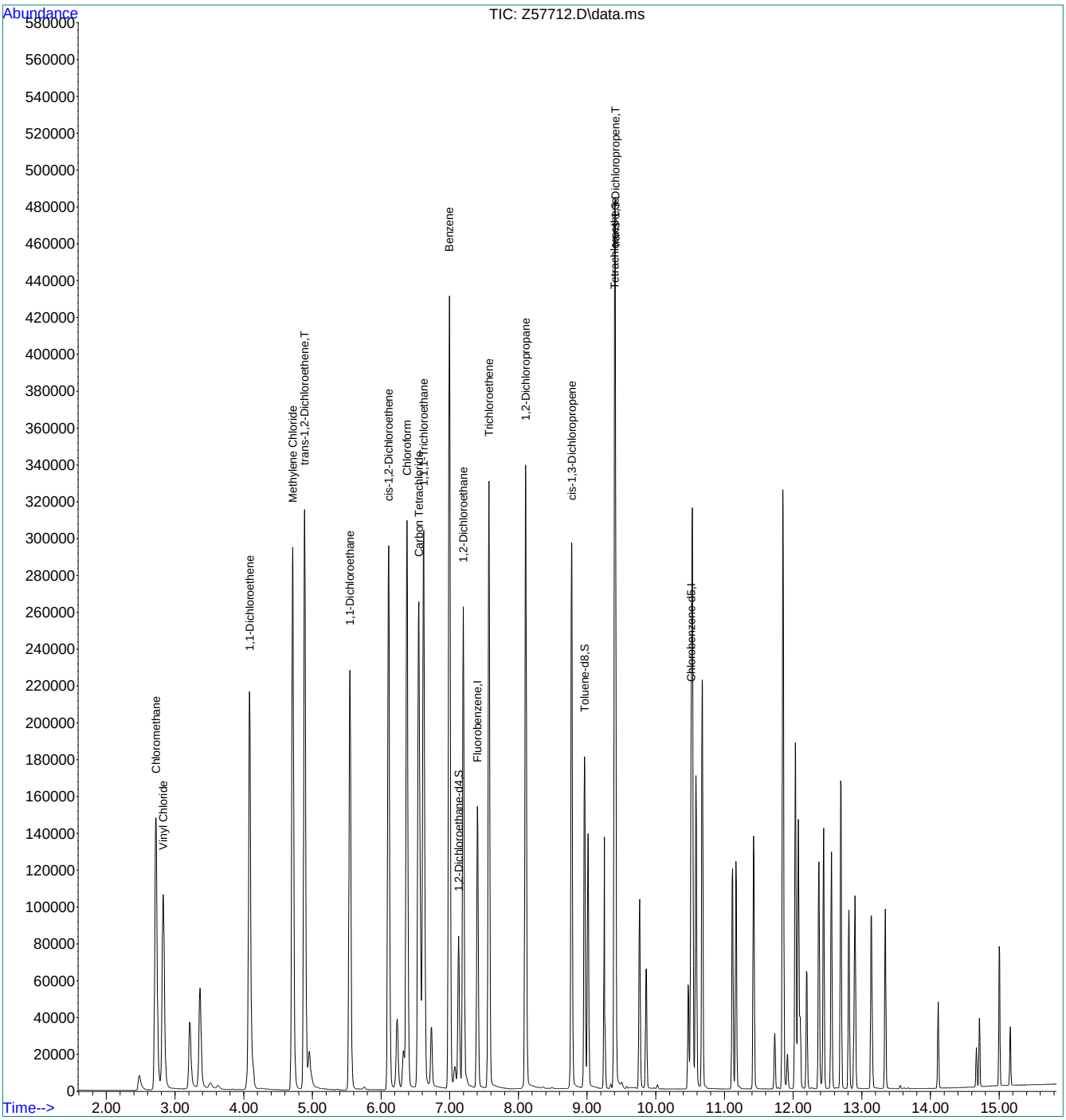
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	7.401	96	1723397	5.00	ppb		0.00
18) Chlorobenzene-d5	10.515	117	1295767	5.00	ppb		0.00
System Monitoring Compounds							
13) 1,2-Dichloroethane-d4	7.130	65	645789	5.59	ppb		0.00
Spiked Amount 5.000	Range 79 - 125		Recovery = 111.80%				
19) Toluene-d8	8.961	98	1544843	5.05	ppb		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.00%				
Target Compounds							Qvalue
2) Vinyl Chloride	2.828	62	1793681	11.50	ppb		98
3) Chloromethane	2.722	50	2551141	11.44	ppb		99
4) 1,1-Dichloroethene	4.087	96	1107973	10.46	ppb		97
5) Methylene Chloride	4.713	84	1590422	10.34	ppb		96
6) trans-1,2-Dichloroethene	4.886	96	1474801	10.69	ppb		98
7) 1,1-Dichloroethane	5.546	63	3161140	10.92	ppb	#	100
8) cis-1,2-Dichloroethene	6.110	96	1583548	10.70	ppb		98
9) Chloroform	6.377	83	2887955	10.87	ppb		100
10) Carbon Tetrachloride	6.549	117	1993415	10.46	ppb		100
11) 1,1,1-Trichloroethane	6.620	97	2513171	10.93	ppb		99
12) Benzene	6.994	78	5755950	10.45	ppb		98
14) 1,2-Dichloroethane	7.198	62	2453784	10.95	ppb		99
15) Trichloroethene	7.571	95	1556300	10.39	ppb	#	98
16) 1,2-Dichloropropane	8.105	63	1711577	10.06	ppb		95
17) cis-1,3-Dichloropropene	8.777	75	2093525	8.98	ppb		100
20) trans-1,3-Dichloropropene	9.412	75	1736437	9.50	ppb		99
21) Tetrachloroethene	9.403	166	1451457	9.74	ppb		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\083119\
Data File : Z57712.D
Acq On : 31 Aug 2019 9:38 pm
Operator : kevinb
Sample : ecc2203-5
Misc : ms44225,vz2206,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Sep 03 10:59:49 2019
Quant Method : C:\msdchem\1\methods\SIMCL082919.M
Quant Title : WATER-EPA 8260B
QLast Update : Thu Aug 29 16:12:34 2019
Response via : Initial Calibration



SGS -ORLANDO

MSVOA17-1A-ANALYSIS LOG

DATE: 08/29/2019	**METHOD(s):*** simcl	**BFB:** v25309A	**PH LOT:** 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	**METHOD FILE(s):** simcl082919.m	**ICAL/CC:** V25303 V25329	0 to 3 pH lot#: 220416
DETECTOR: 5975C MSD			**KI PAPER LOT:** 060117
INSTRUMENT: MSVOA15-z	**CALIB. DATE:** 08/29/19	**ISTD/SURR:** V25349	
PURGE PRESSURE: 9.7psi	**EM VOLTAGE: 1541V**	**ICV/QC:** V25304 V25330	**SAMPLE ID VERIFIED BY:**
PURGE VOLUME: 5 mL	**bfb response: 21784442**	**AFA:**	KB
ANALYST: KevinB	**RUN ID:** VZ2203		**DATE VERIFIED: 8/29/19**

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Z57627	Blank	-	-	w	1	simcl		NA	NA		ND
Z57628	Blank	-	-	w	2	simcl		NA	NA		ND
Z57629	Blank	-	-	w	1	simcl		NA	NA		ND
Z57630	Blank	-	-	w	2	simcl		NA	NA		ND
Z57631	Blank	-	-	w	2	simcl		NA	NA		ND
Z57632	Blank	-	-	w	1	simcl		NA	NA		ND
Z57633	Blank	-	-	w	2	simcl		NA	NA		ND
Z57634	Blank	-	-	w	1	simcl		NA	NA		ND
Z57635	BFB	-	-	w	100	BFB		NA	NA		Fail on autofind 2uL
Z57636	BFB	-	-	w	100	BFB		NA	NA		Fail on autofind 2uL
Z57637	BFB	-	-	w	100	BFB		NA	NA		Pass on autofind 2uL
Z57638	IC2203-1	-	-	w	1	simcl	PII 2	NA	NA		1uL->100mL ✔
Z57639	IC2203-2	-	-	w	2	simcl	MP 20	NA	NA		5uL->100mL ✔
Z57640	IC2203-3	-	-	w	3	simcl		NA	NA		10uL->50mL ✔
Z57641	IC2203-4	-	-	w	4	simcl		NA	NA		25uL->50mL ✔
Z57642	ICC2203-5	-	-	w	5	simcl		NA	NA		50uL->50mL ✔
Z57643	IC2203-6	-	-	w	6	simcl	MP 18	NA	NA		75uL->50mL ✔
Z57644	IC2203-7	-	-	w	7	simcl	MP 18	NA	NA		100uL->50mL ✔
Z57645	Blank	-	-	w	8	simcl		NA	NA		ND
Z57646	ICV2203-5	-	-	w	9	simcl		NA	NA		50uL->50mL ✔

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: _____

SGS -ORLANDO

MSVOA17-1A-ANALYSIS LOG

DATE: 08/31/2019	**METHOD(s):* SIMCL**	**BFB:** v25309A	**PH LOT:** 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	**METHOD FILE(s):** SIMCL082919.M	**ICAL/CC:** V25303 V25329	0 to 3 pH lot#: 220416
DETECTOR: 5975C MSD			**KI PAPER LOT:** 060117
INSTRUMENT: MSVOA15-z	**CALIB. DATE:** 08/29/19	**ISTD/SURR:** v25349	data reviewed by: stutip
PURGE PRESSURE: 9.7psi	**EM VOLTAGE: 1529V**	**ICV/QC:** V25304 V25330	**SAMPLE ID VERIFIED BY:**
PURGE VOLUME: 5 mL	**bfb response: 24699154**	**AFA:**	KB
ANALYST: KevinB	**RUN ID: VZ2206**		**DATE VERIFIED: 09/0319**

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Z57683	blank	-	-	w	1	simcl		NA	NA		ND
Z57684	blank	-	-	w	2	simcl		NA	NA		ND
Z57685	BFB	-	-	w	100	BFB		NA	NA		Pass on autofind 2uL
Z57686	cc2203-5	-	-	w	1	simcl		NA	NA		50uL->50mL ✔
Z57687	bs	-	-	w	2	simcl		NA	NA		20uL->vial ✔
Z57688	mb	-	-	w	3	simcl		NA	NA		ND
Z57689	FA67615-7	1X	1	w	4	simcl		1	no		✔
Z57690	FA67615-1	1X	1	w	5	simcl		1	no		✔
Z57691	FA67615-2	1X	1	w	6	simcl		1	no		✔
Z57692	FA67615-3	1X	1	w	7	simcl		1	no		
Z57693	FA67615-4	1X	1	w	8	simcl		1	no		
Z57694	FA67615-5	1X	1	w	9	simcl		1	no		
Z57695	FA67615-6	1X	1	w	10	simcl		1	no		
Z57696	FA67615-8	1X	1	w	11	simcl		1	no		
Z57697	FA67615-9	1X	1	w	12	simcl		1	no		
Z57698	FA67615-10	1X	1	w	13	simcl		1	no		
Z57699	FA67615-1MS	5X	2	w	14	simcl	20mL->100mL	1	no		20uL->vial ✔
Z57700	FA67615-1MSD	5X	2	w	15	simcl	20mL->100mL	1	no		20uL->vial ✔
Z57701	blank	-	-	w	16	simcl		NA	NA		ND
Z57702	FA67615-11	1X	1	w	17	simcl		1	no		
Z57703	FA67615-12	1X	1	w	18	simcl		1	no		
Z57704	FA67615-13	1X	1	w	19	simcl		1	no		
Z57705	FA67615-14	1X	1	w	20	simcl		1	no		
Z57706	FA67615-15	1X	1	w	21	simcl		1	no		
Z57707	FA67615-16	1X	1	w	22	simcl		1	no		
Z57708	FA67615-17	1X	1	w	23	simcl		1	no		
Z57709	FA67615-18	1X	1	w	24	simcl		1	no		
Z57710	FA67615-19	1X	1	w	25	simcl		1	no		
Z57711	FA67615-20	1X	1	w	26	simcl		1	no		
Z57712	ecc2203-5	-	-	w	27	simcl		NA	NA		50uL->50mL ✔

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: _____

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Ahtna Environmental Inc

Fort Ord Groundwater Monitoring

SGS Job Number: FA67651

Sampling Date: 08/28/19

Report to:

Ahtna Environmental Inc
3100 Beacon Blvd
West Sacramento, CA 95691
hdillon@ahtna.net; mfisler@ahtna.net;
dlieberman@ahtna.net; eschmidt@ahtna.net;
ATTN: Derek Lieberman

Total number of pages in report: **176**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

Sections: 1 2 3 4 5 6 7 8 9

Table of Contents

SGS North America Inc.

Sample Summary

Ahtna Environmental Inc

Job No: FA67651

Fort Ord Groundwater Monitoring

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA67651-1	08/28/19	07:45	JA	08/30/19	AQ	Ground Water	1935Y212030F
FA67651-2	08/28/19	07:54	JA	08/30/19	AQ	Trip Blank Water	1935Y212031A
FA67651-3	08/28/19	08:25	MF	08/30/19	AQ	Trip Blank Water	1935M212164A
FA67651-4	08/28/19	08:32	MF	08/30/19	AQ	Ground Water	1935M212165F
FA67651-5	08/28/19	08:35	MF	08/30/19	AQ	Ground Water	1935M212166D
FA67651-6	08/28/19	09:10	MF	08/30/19	AQ	Ground Water	1935M212167F
FA67651-6D	08/28/19	09:10	MF	08/30/19	AQ	Water Dup/MSD	1935M212167F
FA67651-6S	08/28/19	09:10	MF	08/30/19	AQ	Water Matrix Spike	1935M212167F
FA67651-7	08/28/19	09:27	MF	08/30/19	AQ	Ground Water	1935M212168F

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Ahtna Environmental Inc **Job No:** FA67651

Site: Fort Ord Groundwater Monitoring **Report Date:** 9/10/2019 6:22:54 PM

5 Samples and 2 Trip Blanks were collected on 08/28/2019 and were received at SGS North America Inc - Orlando on 08/30/2019 properly preserved, at 2.4 Deg. C and intact. These Samples received an SGS Orlando job number of FA67651. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B BY SIM

Matrix: AQ **Batch ID:** VO2266

All samples were analyzed within the recommended method holding time.

Sample(s) FA67651-6MS, FA67651-6MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP33609

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA67651-6MSD, FA67651-6MS were used as the QC samples for Chloride.

Matrix Spike Recovery(s) for Chloride are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Matrix Spike Duplicate Recovery(s) for Chloride are outside control limits. Probable cause is due to matrix interference.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Jenna Kravitz, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA67651
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/28/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA67651-1	**1935Y212030F**					
Chloride		3090	200	100	mg/l	EPA 300/SW846 9056A
FA67651-2	**1935Y212031A**					
No hits reported in this sample.						
FA67651-3	**1935M212164A**					
No hits reported in this sample.						
FA67651-4	**1935M212165F**					
Chloroform		0.14 J	0.50	0.25	ug/l	SW846 8260B BY SIM
cis-1,2-Dichloroethylene		0.64	0.50	0.25	ug/l	SW846 8260B BY SIM
Tetrachloroethylene		0.71	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		1.9	0.50	0.25	ug/l	SW846 8260B BY SIM
Chloride		288	20	10	mg/l	EPA 300/SW846 9056A
FA67651-5	**1935M212166D**					
Chloroform		0.14 J	0.50	0.25	ug/l	SW846 8260B BY SIM
cis-1,2-Dichloroethylene		0.61	0.50	0.25	ug/l	SW846 8260B BY SIM
Tetrachloroethylene		0.73	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		1.9	0.50	0.25	ug/l	SW846 8260B BY SIM
Chloride		284	20	10	mg/l	EPA 300/SW846 9056A
FA67651-6	**1935M212167F**					
cis-1,2-Dichloroethylene		0.40 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Tetrachloroethylene		0.28 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		1.1	0.50	0.25	ug/l	SW846 8260B BY SIM
Chloride		421	20	10	mg/l	EPA 300/SW846 9056A
FA67651-7	**1935M212168F**					
Tetrachloroethylene		14.1	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		0.47 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Chloride		41.5	2.0	1.0	mg/l	EPA 300/SW846 9056A

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1935Y212030F		
Lab Sample ID:	FA67651-1	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
		Percent Solids:	n/a
Project:	Fort Ord Groundwater Monitoring		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	3090	200	100	80	mg/l	100	09/05/19 17:12	JB	EPA 300/SW846 9056A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935Y212031A		
Lab Sample ID:	FA67651-2	**Date Sampled:**	08/28/19
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/30/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59254.D	1	09/05/19 12:18	KB	n/a	n/a	VO2266
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		74-125%
2037-26-5	Toluene-D8	95%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935M212164A		
Lab Sample ID:	FA67651-3	**Date Sampled:**	08/28/19
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/30/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59255.D	1	09/05/19 12:39	KB	n/a	n/a	VO2266
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		74-125%
2037-26-5	Toluene-D8	95%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935M212165F		
Lab Sample ID:	FA67651-4	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59261.D	1	09/05/19 14:45	KB	n/a	n/a	VO2266
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.14	0.50	0.25	0.10	ug/l	J
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.64	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.71	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	1.9	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		74-125%
2037-26-5	Toluene-D8	95%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1935M212165F		
Lab Sample ID:	FA67651-4	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
		Percent Solids:	n/a
Project:	Fort Ord Groundwater Monitoring		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	288	20	10	8.0	mg/l	10	09/05/19 17:31	JB	EPA 300/SW846 9056A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935M212166D		
Lab Sample ID:	FA67651-5	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59262.D	1	09/05/19 15:05	KB	n/a	n/a	VO2266
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.14	0.50	0.25	0.10	ug/l	J
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.61	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.73	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	1.9	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		74-125%
2037-26-5	Toluene-D8	95%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1935M212166D		
Lab Sample ID:	FA67651-5	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
		Percent Solids:	n/a
Project:	Fort Ord Groundwater Monitoring		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	284	20	10	8.0	mg/l	10	09/05/19 18:27	JB	EPA 300/SW846 9056A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935M212167F		
Lab Sample ID:	FA67651-6	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59257.D	1	09/05/19 13:21	KB	n/a	n/a	VO2266
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.40	0.50	0.25	0.10	ug/l	J
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	0.28	0.50	0.25	0.10	ug/l	J
79-01-6	Trichloroethylene	1.1	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		74-125%
2037-26-5	Toluene-D8	95%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1935M212167F		
Lab Sample ID:	FA67651-6	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
		Percent Solids:	n/a
Project:	Fort Ord Groundwater Monitoring		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	421	20	10	8.0	mg/l	10	09/05/19 18:46	JB	EPA 300/SW846 9056A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

SGS North America Inc.

Report of Analysis

Client Sample ID:	1935M212168F		
Lab Sample ID:	FA67651-7	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	Fort Ord Groundwater Monitoring		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O59266.D	1	09/05/19 16:29	KB	n/a	n/a	VO2266
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
107-06-2	1,2-Dichloroethane	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	0.25 U	0.50	0.25	0.10	ug/l	
127-18-4	Tetrachloroethylene	14.1	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.47	0.50	0.25	0.10	ug/l	J
75-01-4	Vinyl Chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		74-125%
2037-26-5	Toluene-D8	94%		88-111%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1935M212168F		
Lab Sample ID:	FA67651-7	**Date Sampled:**	08/28/19
Matrix:	AQ - Ground Water	**Date Received:**	08/30/19
		Percent Solids:	n/a
Project:	Fort Ord Groundwater Monitoring		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	41.5	2.0	1.0	0.80	mg/l	1	09/05/19 19:43	JB	EPA 300/SW846 9056A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

CALS1709

FAL7651

1 OF 2

Ahtna

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / SOIL

Chain of Custody #: 2423

Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: Former Fort Ord, CA
Sampler/s: J. Arthur
Project Name: Branch GW Monthly Program
Report To: Derek Lieberman
Project Number: 21665.000.000660
E-Mail: dlieberman@ahtna.net
Sampling Event: 3019
Laboratory: SGS

Analysis Requested

9056 A (Chloride)	8260 - STM							

Lab Sample Receipt

Laboratory Sample Delivery
Group #:
Custody Seal:
Temp (°C):

Lab Number	Sample Number/Description	Sample Collection Date	Sample Collection Time	Matrix: Water	Matrix: Soil	Matrix: Other	Total # of Bottles	Number of Preserved Bottles: HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO^5$	None	Other	Notes
1	19354912031F	8/28/19	07:45	X			1							1		
2	19354212031A	8/28/19	07:54	X			2	2								

Turnaround Time: ____: Standard ____: 3-5 Day Rush ____: 48 Hour Rush ____: 24 Hour Rush

Shipment: Method: Tracking ID:

Comments: 21.2 Report

Chain of Custody Tracking:

	Date/Time		Date/Time
Relinquished By Sampler:	8/28/19 16:12	Received By: Steve Kodaly	8-28-19 / 1630
Relinquished By: Steve Kodaly	8-29-19 / 1035	Received By: Lee Baxter	8/29/19 1035
Relinquished By: Lee Baxter	8/29/19 1500	Received By Laboratory: FEDEX	8/29/19 1500
		Pettitt	8/30/19 900

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5.1

5

CADS1709

FA67651

2 OF 2

2403

Ahtna

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / SOIL

Chain of Custody #:

Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: FFO, MARINA, CA Sampler/s: MARK FISLER

Project Name: 212 EXTRACTION WELLS Report To: DEREK LIEBERMAN

Project Number: 21065.000.01 (TASK 6.7) E-Mail: dlieberman@ahtna.net

Sampling Event: ANNUAL (3RD QRTR) Laboratory: SGS

Analysis Requested

Lab Number	Sample Number/Description	Sample Collection Date	Sample Collection Time	Matrix: Water	Soil	Other	Total # of Bottles	Number of Preserved Bottles: HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO_4$	None	Other	8260b-sm	9056-A (Chloride						Notes
3	1935M212164A	8/28/19	0825	X			3	3								X							TRIP BLANK
4	1935M212165F		0832	X			4	3						1		X	X						
5	1935M212166O		0835	X			4	3						1		X	X						
6	1935M212167F		0910	X			10	9						1		X	X						MS/MSD
7	1935M212168F		0927	X			4	3						1		X	X						> 10 g/kg

Lab Sample Receipt

Laboratory Sample Delivery

Group #:

Custody Seal:

Temp (°C):

Turnaround Time: ____: Standard ____: 3-5 Day Rush ____: 48 Hour Rush ____: 24 Hour Rush

Shipment: Method: Tracking ID:

Comments: 2/12

Chain of Custody Tracking:

Relinquished By Sampler:	Date/Time:	Received By:	Date/Time:
	8/29/19 0820	Steve Kerday	8.29.19 0900
Relinquished By: Steve Kerday	Date/Time: 8.29.19 1035	Received By:	Date/Time: 8/29/19 1035
Relinquished By:	Date/Time: 8/29/19 1500	Received By Laboratory: FEDEX	Date/Time: 8/29/19 1500

Rerun 8/30/19 900

5.1

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SGS Sample Receipt Summary

Job Number: FA67651 **Client:** AHTNA **Project:** Fort Ord 3Q19 212 Report

Date / Time Received: 8/30/2019 9:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 776117455617

Therm ID: IR 1; **Therm CF:** 1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.4);

Cooler Temps (Corrected) °C: Cooler 1: (2.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 8/30/2019 9:00:00 AM Reviewer: PH Date: 9/2/2019

FA67651: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67651
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/28/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VO2266	SW846 8260B BY SIM						
VO2266-BS	67-66-3	Chloroform	BSP	REC	94	%	79-124
VO2266-BS	107-06-2	1,2-Dichloroethane	BSP	REC	88	%	73-128
VO2266-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	106	%	71-131
VO2266-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	98	%	78-123
VO2266-BS	542-75-6	1,3-Dichloropropene (total)	BSP	REC	83	%	77-123
VO2266-BS	127-18-4	Tetrachloroethylene	BSP	REC	100	%	74-129
VO2266-BS	79-01-6	Trichloroethylene	BSP	REC	102	%	79-123
VO2266-BS	75-01-4	Vinyl Chloride	BSP	REC	126	%	58-137
VO2266-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	90	%	81-118
VO2266-BS	2037-26-5	Toluene-D8	BSP	SURR	93	%	89-112
FA67651-6MS	67-66-3	Chloroform	MS	REC	96	%	79-124
FA67651-6MS	107-06-2	1,2-Dichloroethane	MS	REC	88	%	73-128
FA67651-6MS	75-35-4	1,1-Dichloroethylene	MS	REC	104	%	71-131
FA67651-6MS	156-59-2	cis-1,2-Dichloroethylene	MS	REC	96	%	78-123
FA67651-6MS	542-75-6	1,3-Dichloropropene (total)	MS	REC	76	%	77-123
FA67651-6MS	127-18-4	Tetrachloroethylene	MS	REC	96	%	74-129
FA67651-6MS	79-01-6	Trichloroethylene	MS	REC	92	%	79-123
FA67651-6MS	75-01-4	Vinyl Chloride	MS	REC	126	%	58-137
FA67651-6MS	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	93	%	81-118
FA67651-6MS	2037-26-5	Toluene-D8	MS	SURR	91	%	89-112
FA67651-6MSD	67-66-3	Chloroform	MSD	REC	96	%	79-124
FA67651-6MSD	67-66-3	Chloroform	MSD	RPD	0	%	20
FA67651-6MSD	107-06-2	1,2-Dichloroethane	MSD	REC	88	%	73-128
FA67651-6MSD	107-06-2	1,2-Dichloroethane	MSD	RPD	0	%	20
FA67651-6MSD	75-35-4	1,1-Dichloroethylene	MSD	REC	104	%	71-131
FA67651-6MSD	75-35-4	1,1-Dichloroethylene	MSD	RPD	0	%	20
FA67651-6MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	96	%	78-123
FA67651-6MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	0	%	20
FA67651-6MSD	542-75-6	1,3-Dichloropropene (total)	MSD	REC	76	%	77-123
FA67651-6MSD	542-75-6	1,3-Dichloropropene (total)	MSD	RPD	0	%	20
FA67651-6MSD	127-18-4	Tetrachloroethylene	MSD	REC	96	%	74-129
FA67651-6MSD	127-18-4	Tetrachloroethylene	MSD	RPD	0	%	20
FA67651-6MSD	79-01-6	Trichloroethylene	MSD	REC	92	%	79-123
FA67651-6MSD	79-01-6	Trichloroethylene	MSD	RPD	0	%	20
FA67651-6MSD	75-01-4	Vinyl Chloride	MSD	REC	128	%	58-137
FA67651-6MSD	75-01-4	Vinyl Chloride	MSD	RPD	2	%	20
FA67651-6MSD	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	92	%	81-118
FA67651-6MSD	2037-26-5	Toluene-D8	MSD	SURR	92	%	89-112
VO2266-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	94	%	81-118
VO2266-MB	2037-26-5	Toluene-D8	MB	SURR	96	%	89-112
FA67651-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	96	%	81-118
FA67651-2	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112

* Sample used for QC is not from job FA67651

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67651
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 08/28/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA67651-3	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	96	%	81-118
FA67651-3	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
FA67651-4	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	99	%	81-118
FA67651-4	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
FA67651-5	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	99	%	81-118
FA67651-5	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
FA67651-6	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	98	%	81-118
FA67651-6	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
FA67651-7	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	99	%	81-118
FA67651-7	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
GP33609	EPA 300/SW846 9056A						
GP33609-B1	16887-00-6	Chloride	BSP	REC	97	%	87-111
GP33609-S3	16887-00-6	Chloride	MS	REC	-66 [a]	%	87-111
GP33609-S4	16887-00-6	Chloride	MSD	RPD	3.4	%	15
GP33609-S4	16887-00-6	Chloride	MSD	REC	-92 [a]	%	87-111

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

* Sample used for QC is not from job FA67651

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2266-MB	O59252.D	1	09/05/19	KB	n/a	n/a	VO2266

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67651-2, FA67651-3, FA67651-4, FA67651-5, FA67651-6, FA67651-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	0.10	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	0.50	0.10	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl Chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	94%	74-125%
2037-26-5	Toluene-D8	96%	88-111%

Blank Spike Summary

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2266-BS	O59251.D	1	09/05/19	KB	n/a	n/a	VO2266

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67651-2, FA67651-3, FA67651-4, FA67651-5, FA67651-6, FA67651-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	5	4.7	94	80-124
107-06-2	1,2-Dichloroethane	5	4.4	88	75-125
75-35-4	1,1-Dichloroethylene	5	5.3	106	78-137
156-59-2	cis-1,2-Dichloroethylene	5	4.9	98	78-120
542-75-6	1,3-Dichloropropene (total)	10	8.3	83	75-120
127-18-4	Tetrachloroethylene	5	5.0	100	76-135
79-01-6	Trichloroethylene	5	5.1	102	81-126
75-01-4	Vinyl Chloride	5	6.3	126	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	90%	74-125%
2037-26-5	Toluene-D8	93%	88-111%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA67651-6MS	O59263.D	1	09/05/19	KB	n/a	n/a	VO2266
FA67651-6MSD	O59264.D	1	09/05/19	KB	n/a	n/a	VO2266
FA67651-6	O59257.D	1	09/05/19	KB	n/a	n/a	VO2266

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

FA67651-2, FA67651-3, FA67651-4, FA67651-5, FA67651-6, FA67651-7

CAS No.	Compound	FA67651-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-66-3	Chloroform	0.50 U		5	4.8	96	5	4.8	96	0	80-124/15
107-06-2	1,2-Dichloroethane	0.50 U		5	4.4	88	5	4.4	88	0	75-125/14
75-35-4	1,1-Dichloroethylene	0.50 U		5	5.2	104	5	5.2	104	0	78-137/18
156-59-2	cis-1,2-Dichloroethylene	0.40	J	5	5.2	96	5	5.2	96	0	78-120/15
542-75-6	1,3-Dichloropropene (total)	0.50 U		10	7.6	76	10	7.6	76	0	75-120/23
127-18-4	Tetrachloroethylene	0.28	J	5	5.1	96	5	5.1	96	0	76-135/16
79-01-6	Trichloroethylene	1.1		5	5.7	92	5	5.7	92	0	81-126/15
75-01-4	Vinyl Chloride	0.10 U		5	6.3	126	5	6.4	128	2	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA67651-6	Limits
17060-07-0	1,2-Dichloroethane-D4	93%	92%	98%	74-125%
2037-26-5	Toluene-D8	91%	92%	95%	88-111%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample: VO2258-BFB
Lab File ID: O59066.D
Instrument ID: GCMSO
Injection Date: 08/26/19
Injection Time: 12:08

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	439747	33.4		Pass
75	30.0 - 60.0% of mass 95	574792	43.7		Pass
95	Base peak, 100% relative abundance	1314675	100.0		Pass
96	5.0 - 9.0% of mass 95	89155	6.78		Pass
173	Less than 2.0% of mass 174	6498	0.49	(0.68) [a]	Pass
174	50.0 - 100.0% of mass 95	949995	72.3		Pass
175	5.0 - 9.0% of mass 174	64453	4.90	(6.78) [a]	Pass
176	95.0 - 101.0% of mass 174	905515	68.9	(95.3) [a]	Pass
177	5.0 - 9.0% of mass 176	61263	4.66	(6.77) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VO2258-IC2258	O59067.D	08/26/19	12:31	00:23	Initial cal 1
VO2258-IC2258	O59068.D	08/26/19	12:52	00:44	Initial cal 2
VO2258-IC2258	O59069.D	08/26/19	13:13	01:05	Initial cal 3
VO2258-IC2258	O59070.D	08/26/19	13:34	01:26	Initial cal 4
VO2258-ICC2258	O59071.D	08/26/19	13:55	01:47	Initial cal 5
VO2258-IC2258	O59072.D	08/26/19	14:16	02:08	Initial cal 6
VO2258-IC2258	O59073.D	08/26/19	14:37	02:29	Initial cal 7
VO2258-ICV2258	O59075.D	08/26/19	15:18	03:10	Initial cal verification 5

Instrument Performance Check (BFB)

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample: VO2266-BFB
Lab File ID: O59249.D
Instrument ID: GCMSO
Injection Date: 09/05/19
Injection Time: 10:21

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	368553	33.6		Pass
75	30.0 - 60.0% of mass 95	453120	41.3		Pass
95	Base peak, 100% relative abundance	1098304	100.0		Pass
96	5.0 - 9.0% of mass 95	77907	7.09		Pass
173	Less than 2.0% of mass 174	4512	0.41	(0.54) [a]	Pass
174	50.0 - 100.0% of mass 95	834219	76.0		Pass
175	5.0 - 9.0% of mass 174	59445	5.41	(7.13) [a]	Pass
176	95.0 - 101.0% of mass 174	807189	73.5	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	53551	4.88	(6.63) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VO2266-CC2258	O59250.D	09/05/19	10:53	00:32	Continuing cal 5
VO2266-BS	O59251.D	09/05/19	11:14	00:53	Blank Spike
VO2266-MB	O59252.D	09/05/19	11:35	01:14	Method Blank
ZZZZZZ	O59253.D	09/05/19	11:58	01:37	(unrelated sample)
FA67651-2	O59254.D	09/05/19	12:18	01:57	1935Y212031A
FA67651-3	O59255.D	09/05/19	12:39	02:18	1935M212164A
ZZZZZZ	O59256.D	09/05/19	13:00	02:39	(unrelated sample)
FA67651-6	O59257.D	09/05/19	13:21	03:00	1935M212167F
ZZZZZZ	O59258.D	09/05/19	13:42	03:21	(unrelated sample)
ZZZZZZ	O59259.D	09/05/19	14:03	03:42	(unrelated sample)
ZZZZZZ	O59260.D	09/05/19	14:24	04:03	(unrelated sample)
FA67651-4	O59261.D	09/05/19	14:45	04:24	1935M212165F
FA67651-5	O59262.D	09/05/19	15:05	04:44	1935M212166D
FA67651-6MS	O59263.D	09/05/19	15:26	05:05	Matrix Spike
FA67651-6MSD	O59264.D	09/05/19	15:47	05:26	Matrix Spike Duplicate
FA67651-7	O59266.D	09/05/19	16:29	06:08	1935M212168F
ZZZZZZ	O59267.D	09/05/19	16:50	06:29	(unrelated sample)
ZZZZZZ	O59268.D	09/05/19	17:11	06:50	(unrelated sample)
ZZZZZZ	O59269.D	09/05/19	17:32	07:11	(unrelated sample)
ZZZZZZ	O59270.D	09/05/19	17:53	07:32	(unrelated sample)
ZZZZZZ	O59271.D	09/05/19	18:13	07:52	(unrelated sample)
ZZZZZZ	O59272.D	09/05/19	18:34	08:13	(unrelated sample)
ZZZZZZ	O59273.D	09/05/19	18:55	08:34	(unrelated sample)
ZZZZZZ	O59274.D	09/05/19	19:16	08:55	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Sample:	VO2266-BFB	**Injection Date:**	09/05/19
Lab File ID:	O59249.D	**Injection Time:**	10:21
Instrument ID:	GCMSO		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	O59275.D	09/05/19	19:37	09:16	(unrelated sample)
VO2266-ECC2258	O59276.D	09/05/19	19:58	09:37	Ending cal 5

Internal Standard Area Summary

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Check Std:	VO2266-CC2258	**Injection Date:**	09/05/19
Lab File ID:	O59250.D	**Injection Time:**	10:53
Instrument ID:	GCMSO	**Method:**	SW846 8260B BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT
Initial Cal [a]	982225	7.35	696551	10.45
Check Std [b]	1056737	7.35	776247	10.45
Upper Limit [c]	2113474	7.52	1552494	10.62
Lower Limit [d]	528369	7.18	388124	10.28

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
VO2266-BS	1044449	7.35	750961	10.45
VO2266-MB	940043	7.35	671763	10.45
ZZZZZZ	910135	7.35	643644	10.45
FA67651-2	870373	7.35	624078	10.45
FA67651-3	844687	7.35	607283	10.45
ZZZZZZ	839700	7.35	596075	10.45
FA67651-6	829880	7.35	591998	10.45
ZZZZZZ	817004	7.35	584583	10.45
ZZZZZZ	798843	7.35	570922	10.45
ZZZZZZ	792297	7.35	561479	10.45
FA67651-4	776999	7.35	555319	10.45
FA67651-5	772026	7.35	546698	10.45
FA67651-6MS	867177	7.35	631814	10.45
FA67651-6MSD	891230	7.35	642004	10.45
FA67651-7	776229	7.35	560292	10.45
ZZZZZZ	790431	7.35	557268	10.45
ZZZZZZ	771575	7.35	570150	10.45
ZZZZZZ	756740	7.35	557181	10.45
ZZZZZZ	747342	7.35	543933	10.45
ZZZZZZ	730048	7.35	542505	10.45
ZZZZZZ	730857	7.35	527806	10.45
ZZZZZZ	732002	7.35	542888	10.45
ZZZZZZ	733005	7.35	544857	10.45
ZZZZZZ	727492	7.35	542845	10.45
VO2266-ECC2258	880604	7.35	642803	10.45

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5

(a) Initial Cal is: VO2258-ICC2258 O59071.D 08/26/19 13:55
(b) Check Std Limit = -50 to +100% of initial cal area.
(c) Upper Limit = +100% of check standard area; Retention time +0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Method: SW846 8260B BY SIM **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
FA67651-2	O59254.D	96	95
FA67651-3	O59255.D	96	95
FA67651-4	O59261.D	99	95
FA67651-5	O59262.D	99	95
FA67651-6	O59257.D	98	95
FA67651-7	O59266.D	99	94
FA67651-6MS	O59263.D	93	91
FA67651-6MSD	O59264.D	92	92
VO2266-BS	O59251.D	90	93
VO2266-MB	O59252.D	94	96

Surrogate Compounds	Recovery Limits
S1 = 1,2-Dichloroethane-D4	74-125%
S2 = Toluene-D8	88-111%

Initial Calibration Summary

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Sample: VO2258-ICC2258
Lab FileID: O59071.D

Response Factor Report MSVOA12

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

Calibration Files
1 =O59067.D 2 =O59068.D 3 =O59069.D 4 =O59070.D
5 =O59071.D 6 =O59072.D 7 =O59073.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Vinyl Chloride	0.306	0.325	0.309	0.321	0.314	0.323	0.307	0.315	2.55
3) Chloromethane	0.593	0.554	0.617	0.572	0.538	0.539	0.520	0.562	6.04
4) 1,1-Dichloroethen	0.685	0.537	0.532	0.525	0.495	0.504	0.501	0.540	12.27
5) Methylene Chlorid	8.481	2.386	1.246	1.019	0.891	0.865	0.868	2.251	124.39
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9978									
Response Ratio = 0.00000 + 0.98196 *A + -0.03142 *A^2									
6) trans-1,2-Dichlor	0.791	0.702	0.647	0.649	0.622	0.622	0.623	0.665	9.39
7) 1,1-Dichloroethan	0.902	0.740	0.727	0.736	0.711	0.710	0.711	0.748	9.20
8) cis-1,2-Dichloroe	0.476	0.384	0.379	0.385	0.373	0.371	0.373	0.392	9.65
9) Chloroform	0.779	0.601	0.581	0.587	0.566	0.564	0.566	0.606	12.77
10)S Dibromofluorometh	0.277	0.278	0.275	0.274	0.272	0.269	0.270	0.274	1.21
11) Carbon Tetrachlor	0.487	0.395	0.368	0.394	0.372	0.381	0.379	0.397	10.36
12) 1,1,1-Trichloroet	0.561	0.455	0.440	0.458	0.443	0.452	0.448	0.465	9.14
13) Benzene	2.042	1.386	1.303	1.292	1.242	1.239	1.232	1.391	21.01
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
Response Ratio = 0.00000 + 1.27621 *A + -0.01162 *A^2									
14)S 1,2-Dichloroethan	0.350	0.352	0.355	0.336	0.340	0.340	0.341	0.345	2.13
15) 1,2-Dichloroethan	0.683	0.572	0.568	0.573	0.556	0.557	0.556	0.581	7.86
16) Trichloroethene	0.739	0.453	0.579	0.399	0.384	0.384	0.381	0.474	28.85
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9979									
Response Ratio = 0.00000 + 0.40767 *A + -0.00717 *A^2									
17) 1,2-Dichloropropa	0.570	0.499	0.460	0.463	0.446	0.448	0.447	0.476	9.50
18) cis-1,3-Dichlorop	0.616	0.517	0.511	0.528	0.521	0.531	0.533	0.537	6.66
19) I Chlorobenzene-d5	----------ISTD----------								
20)S Toluene-d8	1.179	1.188	1.190	1.193	1.198	1.209	1.219	1.196	1.13
21) trans-1,3-Dichlor	0.671	0.600	0.610	0.644	0.642	0.661	0.673	0.643	4.46
22) Tetrachloroethene	0.588	0.497	0.464	0.479	0.458	0.465	0.459	0.487	9.57

(#) = Out of Range

SIMCL082619.M Mon Aug 26 15:37:32 2019

Initial Calibration Verification

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Sample: VO2258-ICV2258
Lab FileID: O59075.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\082619\O59075.D Vial: 9
Acq On : 26 Aug 2019 3:18 pm Operator: kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	99	0.00	7.35
2		Vinyl Chloride	0.315	0.319	-1.3	101	0.00	2.91
3		Chloromethane	0.562	0.571	-1.6	105	0.00	2.81
4		1,1-Dichloroethene	0.540	0.483	10.6	97	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	9.543	4.6	98	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.607	8.7	97	0.00	4.87
7		1,1-Dichloroethane	0.748	0.723	3.3	101	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.368	6.1	98	0.00	6.07
9		Chloroform	0.606	0.559	7.8	98	0.00	6.34
10	S	Dibromofluoromethane	0.274	0.271	1.1	99	0.00	6.53
11		Carbon Tetrachloride	0.397	0.363	8.6	97	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.431	7.3	97	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.769	2.3	98	0.00	6.95
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.332	3.8	97	0.00	7.08
15		1,2-Dichloroethane	0.581	0.541	6.9	97	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.632	3.7	98	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.446	6.3	99	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.500	6.9	95	0.00	8.72
19	I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00	10.45
20	S	Toluene-d8	1.196	1.192	0.3	100	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.651	-1.2	101	0.00	9.35
22		Tetrachloroethene	0.487	0.455	6.6	99	0.00	9.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Mon Aug 26 15:37:50 2019

Continuing Calibration Summary

Job Number: FA67651 **Sample:** VO2266-CC2258
Account: AHTNACAS Ahtna Environmental Inc **Lab FileID:** O59250.D
Project: Fort Ord Groundwater Monitoring

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\090519\O59250.D Vial: 1
Acq On : 5 Sep 2019 10:53 am Operator: kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44227,VO2266,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	108	0.00	7.35
2		Vinyl Chloride	0.315	0.335	-6.3	115	0.00	2.91
3		Chloromethane	0.562	0.516	8.2	103	0.00	2.81
4		1,1-Dichloroethene	0.540	0.511	5.4	111	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	10.756	-7.6	119	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.638	4.1	110	0.00	4.87
7		1,1-Dichloroethane	0.748	0.714	4.5	108	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.374	4.6	108	0.00	6.07
9		Chloroform	0.606	0.542	10.6	103	0.00	6.33
10	S	Dibromofluoromethane	0.274	0.279	-1.8	110	0.00	6.52
11		Carbon Tetrachloride	0.397	0.354	10.8	102	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.412	11.4	100	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	9.678	3.2	105	0.00	6.94
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.313	9.3	99	0.00	7.07
15		1,2-Dichloroethane	0.581	0.507	12.7	98	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	9.791	2.1	108	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.440	7.6	106	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.452	15.8	93	0.00	8.71
19	I	Chlorobenzene-d5	1.000	1.000	0.0	111	0.00	10.45
20	S	Toluene-d8	1.196	1.098	8.2	102	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.539	16.2	94	0.00	9.35
22		Tetrachloroethene	0.487	0.450	7.6	109	0.00	9.34

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Thu Sep 05 11:40:25 2019

Continuing Calibration Summary

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Sample: VO2266-ECC2258
Lab FileID: O59276.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\data\090519\O59276.D Vial: 27
Acq On : 5 Sep 2019 7:58 pm Operator: kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44254,VO2266,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B
Last Update : Mon Aug 26 15:01:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	90	0.00	7.35
2		Vinyl Chloride	0.315	0.355	-12.7	101	0.00	2.90
3		Chloromethane	0.562	0.548	2.5	91	0.00	2.80
4		1,1-Dichloroethene	0.540	0.523	3.1	95	0.00	4.09
			Amount	Calc.	%Drift			
5		Methylene Chloride	10.000	11.295	-13.0	104	0.00	4.70
			AvgRF	CCRF	%Dev			
6		trans-1,2-Dichloroethene	0.665	0.653	1.8	94	0.00	4.87
7		1,1-Dichloroethane	0.748	0.747	0.1	94	0.00	5.51
8		cis-1,2-Dichloroethene	0.392	0.379	3.3	91	0.00	6.07
9		Chloroform	0.606	0.575	5.1	91	0.00	6.33
10	S	Dibromofluoromethane	0.274	0.287	-4.7	95	0.00	6.53
11		Carbon Tetrachloride	0.397	0.361	9.1	87	0.00	6.51
12		1,1,1-Trichloroethane	0.465	0.430	7.5	87	0.00	6.58
			Amount	Calc.	%Drift			
13		Benzene	10.000	10.148	-1.5	92	0.00	6.94
			AvgRF	CCRF	%Dev			
14	S	1,2-Dichloroethane-d4	0.345	0.320	7.2	84	0.00	7.08
15		1,2-Dichloroethane	0.581	0.537	7.6	86	0.00	7.14
			Amount	Calc.	%Drift			
16		Trichloroethene	10.000	10.261	-2.6	94	0.00	7.52
			AvgRF	CCRF	%Dev			
17		1,2-Dichloropropane	0.476	0.459	3.6	92	0.00	8.05
18		cis-1,3-Dichloropropene	0.537	0.444	17.3	76	0.00	8.71
19	I	Chlorobenzene-d5	1.000	1.000	0.0	92	0.00	10.45
20	S	Toluene-d8	1.196	1.079	9.8	83	0.00	8.90
21		trans-1,3-Dichloropropene	0.643	0.545	15.2	78	0.00	9.35
22		Tetrachloroethene	0.487	0.451	7.4	91	0.00	9.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
O59071.D SIMCL082619.M Fri Sep 06 10:53:53 2019

Run Sequence Report

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Run ID: VO2258 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSO

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VO2258-BFB	O59066.D	08/26/19 12:08	n/a	BFB Tune
VO2258-IC2258	O59067.D	08/26/19 12:31	n/a	Initial cal 1
VO2258-IC2258	O59068.D	08/26/19 12:52	n/a	Initial cal 2
VO2258-IC2258	O59069.D	08/26/19 13:13	n/a	Initial cal 3
VO2258-IC2258	O59070.D	08/26/19 13:34	n/a	Initial cal 4
VO2258-ICC2258	O59071.D	08/26/19 13:55	n/a	Initial cal 5
VO2258-IC2258	O59072.D	08/26/19 14:16	n/a	Initial cal 6
VO2258-IC2258	O59073.D	08/26/19 14:37	n/a	Initial cal 7
VO2258-ICV2258	O59075.D	08/26/19 15:18	n/a	Initial cal verification 5

Run Sequence Report

Job Number: FA67651
Account: AHTNACAS Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Run ID: VO2266 **Method:** SW846 8260B BY SIM **Instrument ID:** GCMSO

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VO2266-BFB	O59249.D	09/05/19 10:21	n/a	BFB Tune
VO2266-CC2258	O59250.D	09/05/19 10:53	n/a	Continuing cal 5
VO2266-BS	O59251.D	09/05/19 11:14	n/a	Blank Spike
VO2266-MB	O59252.D	09/05/19 11:35	n/a	Method Blank
ZZZZZZ	O59253.D	09/05/19 11:58	n/a	(unrelated sample)
FA67651-2	O59254.D	09/05/19 12:18	n/a	1935Y212031A
FA67651-3	O59255.D	09/05/19 12:39	n/a	1935M212164A
ZZZZZZ	O59256.D	09/05/19 13:00	n/a	(unrelated sample)
FA67651-6	O59257.D	09/05/19 13:21	n/a	1935M212167F
ZZZZZZ	O59258.D	09/05/19 13:42	n/a	(unrelated sample)
ZZZZZZ	O59259.D	09/05/19 14:03	n/a	(unrelated sample)
ZZZZZZ	O59260.D	09/05/19 14:24	n/a	(unrelated sample)
FA67651-4	O59261.D	09/05/19 14:45	n/a	1935M212165F
FA67651-5	O59262.D	09/05/19 15:05	n/a	1935M212166D
FA67651-6MS	O59263.D	09/05/19 15:26	n/a	Matrix Spike
FA67651-6MSD	O59264.D	09/05/19 15:47	n/a	Matrix Spike Duplicate
FA67651-7	O59266.D	09/05/19 16:29	n/a	1935M212168F
ZZZZZZ	O59267.D	09/05/19 16:50	n/a	(unrelated sample)
ZZZZZZ	O59268.D	09/05/19 17:11	n/a	(unrelated sample)
ZZZZZZ	O59269.D	09/05/19 17:32	n/a	(unrelated sample)
ZZZZZZ	O59270.D	09/05/19 17:53	n/a	(unrelated sample)
ZZZZZZ	O59271.D	09/05/19 18:13	n/a	(unrelated sample)
ZZZZZZ	O59272.D	09/05/19 18:34	n/a	(unrelated sample)
ZZZZZZ	O59273.D	09/05/19 18:55	n/a	(unrelated sample)
ZZZZZZ	O59274.D	09/05/19 19:16	n/a	(unrelated sample)
ZZZZZZ	O59275.D	09/05/19 19:37	n/a	(unrelated sample)
VO2266-ECC2258	O59276.D	09/05/19 19:58	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59254.D
Acq On : 5 Sep 2019 12:18 pm
Operator : kevinb
Sample : FA67651-2 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 05 12:57:36 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

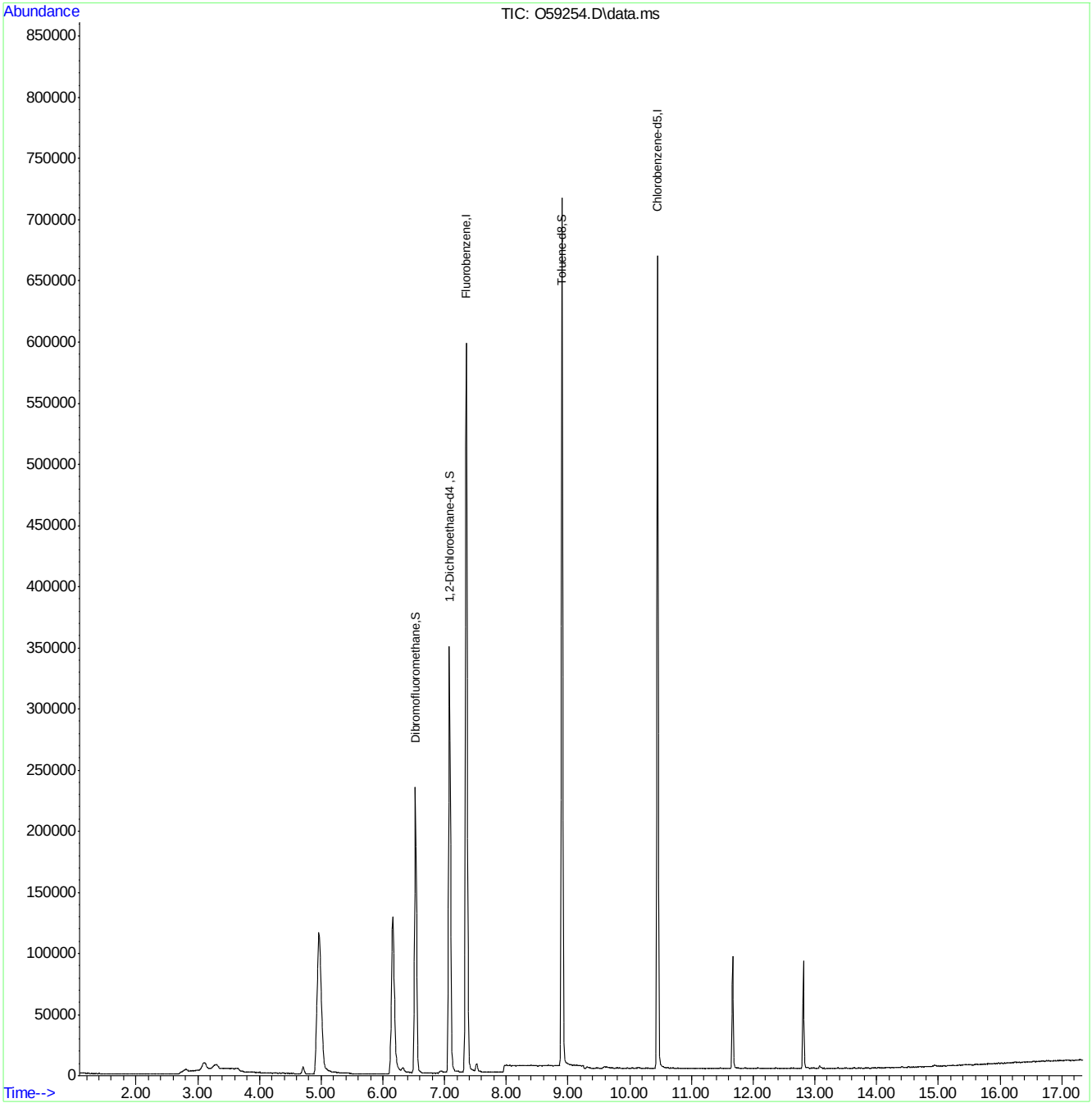
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	870373	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	624078	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	258686	5.43	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 108.60%			
14) 1,2-Dichloroethane-d4	7.080	65	288916	4.81	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 96.20%			
20) Toluene-d8	8.904	98	709473	4.75	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 95.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59254.D
Acq On : 5 Sep 2019 12:18 pm
Operator : kevinb
Sample : FA67651-2 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 05 12:57:36 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59255.D
Acq On : 5 Sep 2019 12:39 pm
Operator : kevinb
Sample : FA67651-3 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 05 12:57:51 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

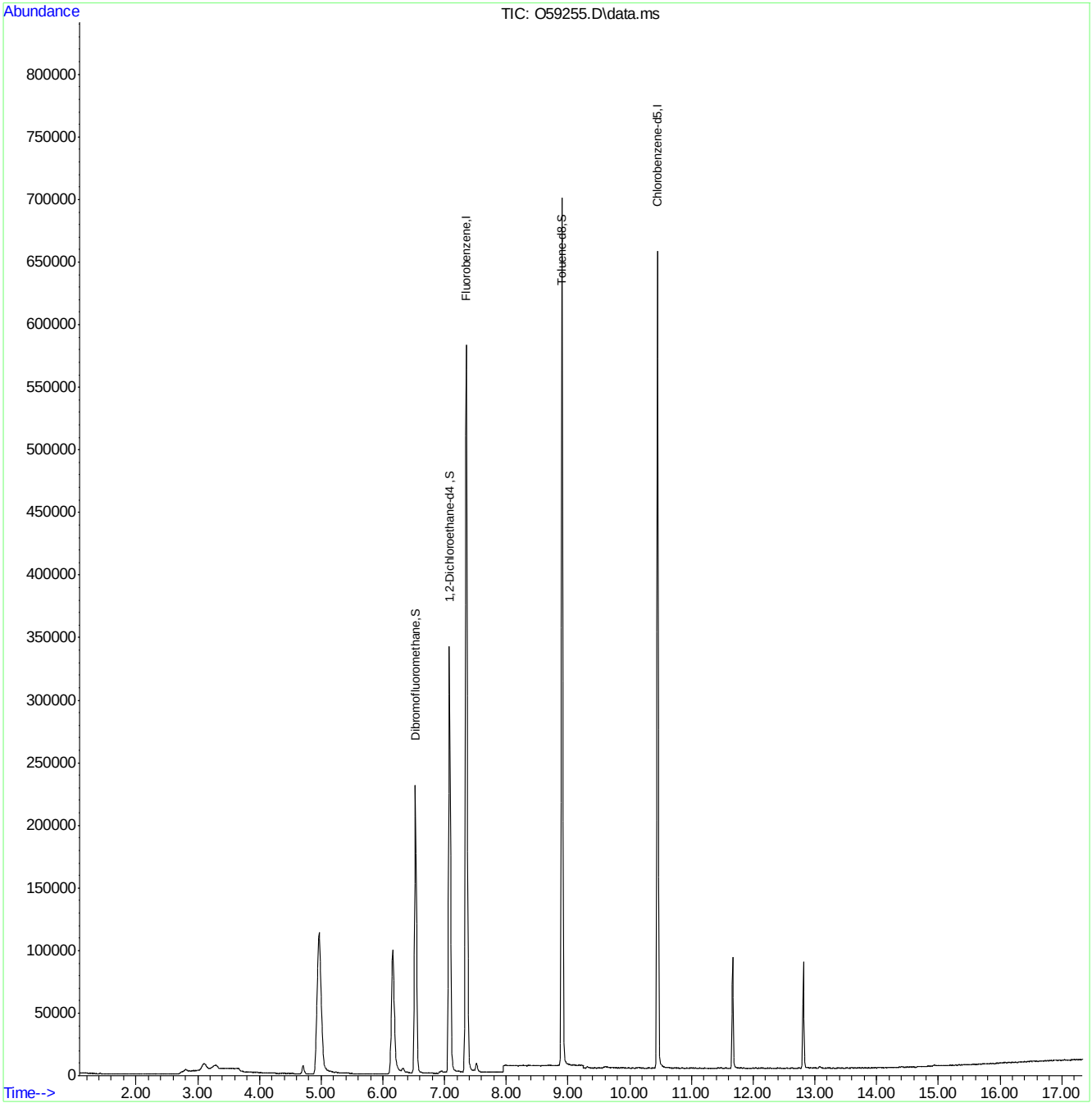
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	844687	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	607283	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	252424	5.46	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 109.20%			
14) 1,2-Dichloroethane-d4	7.079	65	279959	4.80	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 96.00%			
20) Toluene-d8	8.903	98	691103	4.76	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 95.20%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59255.D
Acq On : 5 Sep 2019 12:39 pm
Operator : kevinb
Sample : FA67651-3 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 05 12:57:51 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59261.D
Acq On : 5 Sep 2019 2:45 pm
Operator : kevinb
Sample : FA67651-4 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 05 16:12:30 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

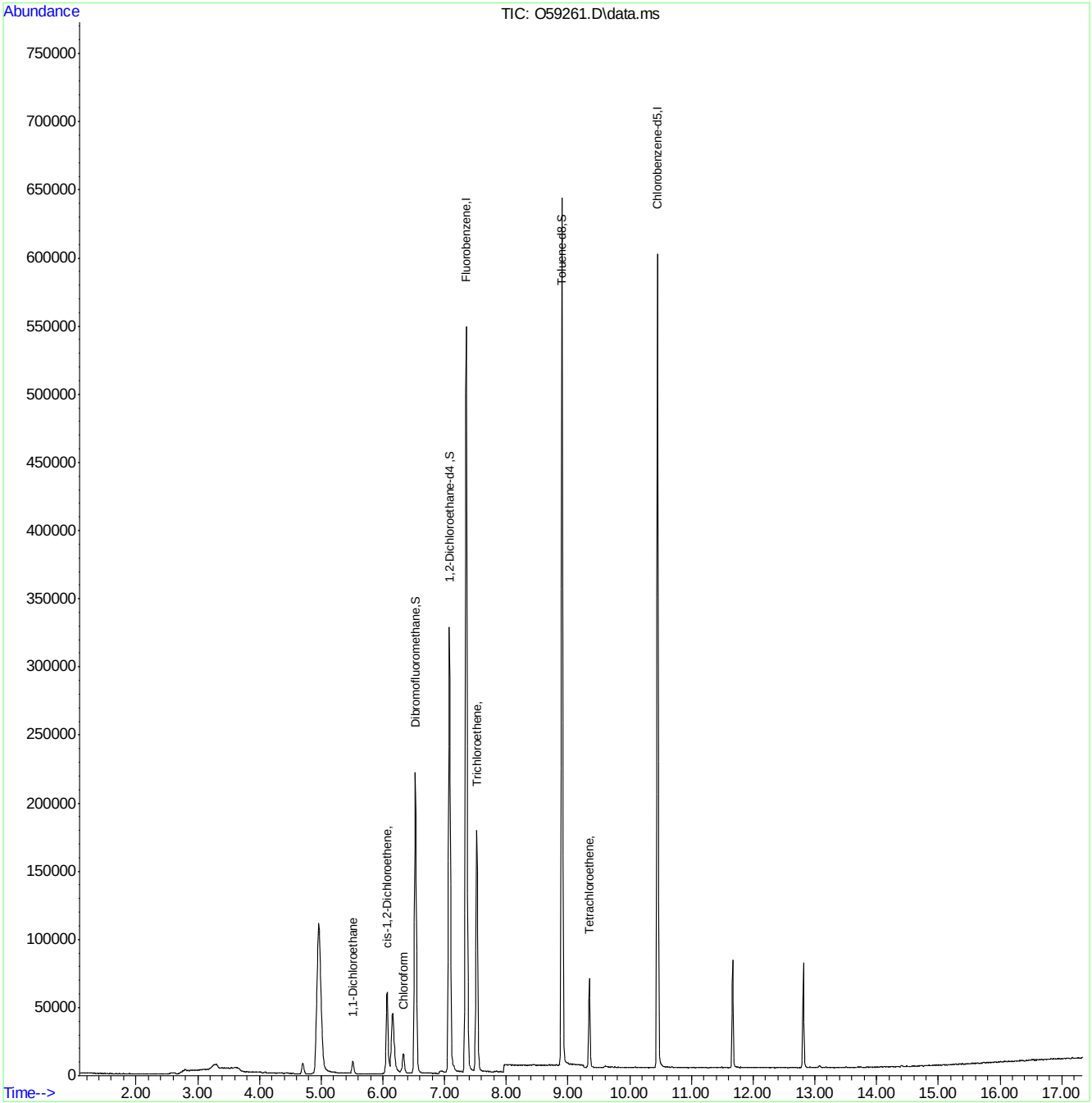
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	776999	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	555319	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	236926	5.57	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 111.40%			
14) 1,2-Dichloroethane-d4	7.079	65	265995	4.96	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 99.20%			
20) Toluene-d8	8.903	98	630869	4.75	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 95.00%			
Target Compounds						Qvalue
7) 1,1-Dichloroethane	5.514	63	14965	0.13	ug/L	95
8) cis-1,2-Dichloroethene	6.072	96	39103	0.64	ug/L	94
9) Chloroform	6.333	83	13044	0.14	ug/L	78
16) Trichloroethene	7.524	95	122105	1.94	ug/L	99
22) Tetrachloroethene	9.345	166	38449	0.71	ug/L	99

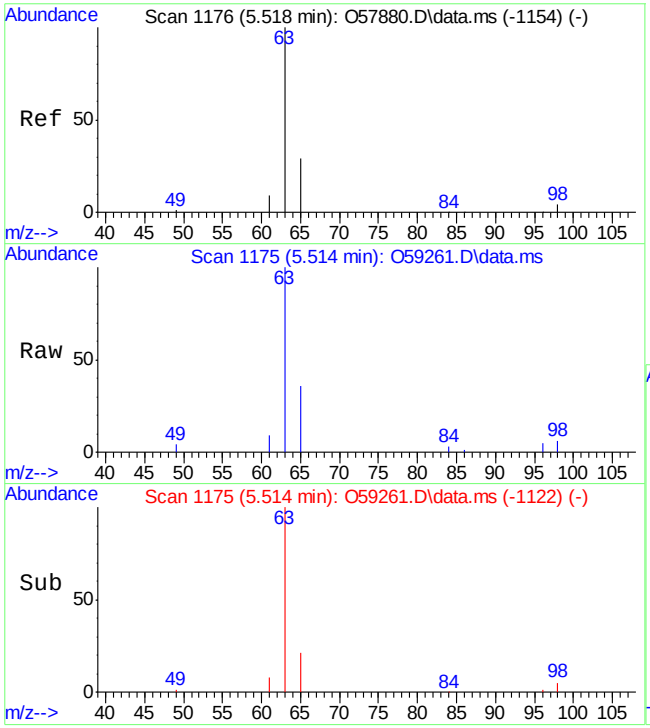
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59261.D
Acq On : 5 Sep 2019 2:45 pm
Operator : kevinb
Sample : FA67651-4 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 05 16:12:30 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

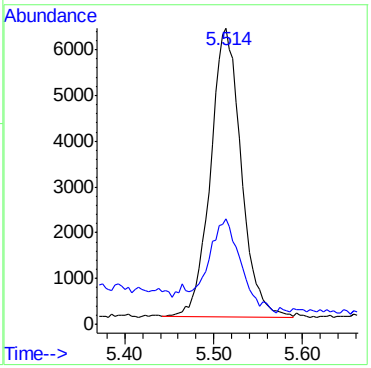


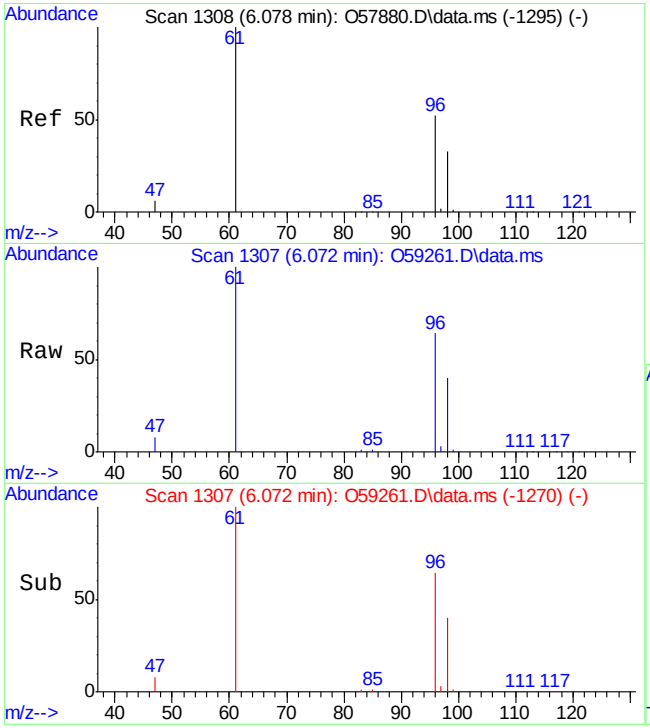


#7
1,1-Dichloroethane
Concen: 0.13 ug/L
RT: 5.514 min Scan# 1175
Delta R.T. -0.000 min
Lab File: O59261.D
Acq: 5 Sep 2019 2:45 pm

Tgt Ion: 63 Resp: 14965

Ion	Ratio	Lower	Upper
63	100		
65	31.1	0.0	58.5

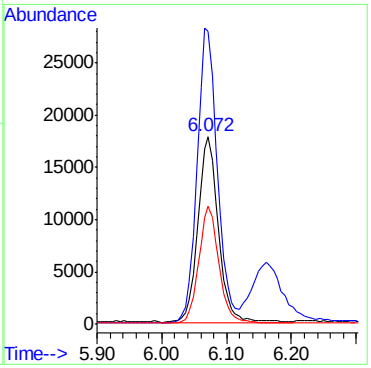


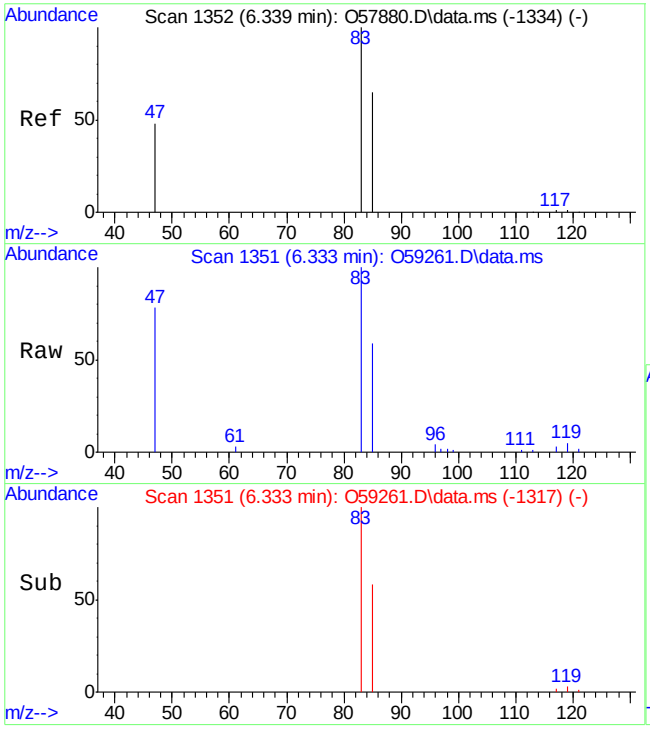


#8
cis-1,2-Dichloroethene
Concen: 0.64 ug/L
RT: 6.072 min Scan# 1307
Delta R.T. -0.000 min
Lab File: O59261.D
Acq: 5 Sep 2019 2:45 pm

Tgt Ion: 96 Resp: 39103

Ion	Ratio	Lower	Upper
96	100		
61	156.9	136.6	196.6
98	62.6	34.7	94.7

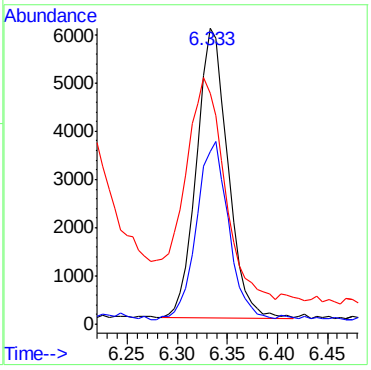


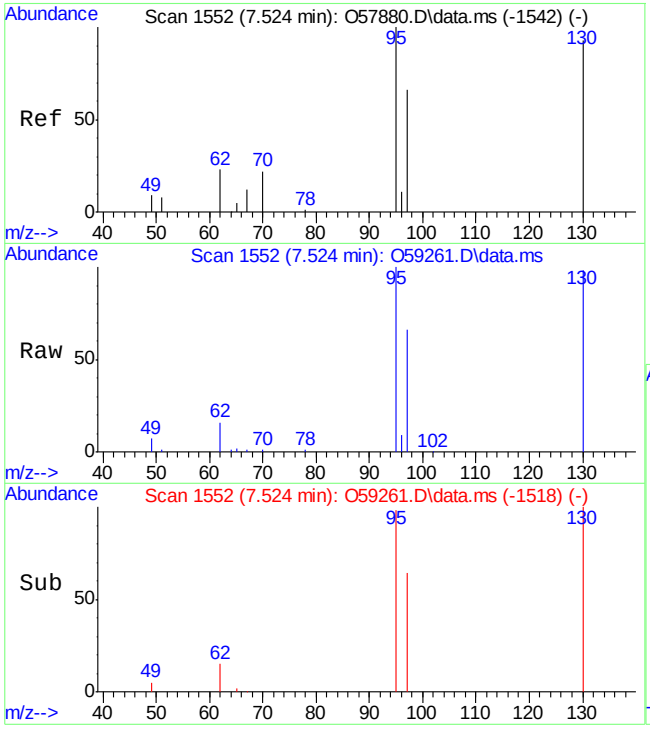


#9
Chloroform
Concen: 0.14 ug/L
RT: 6.333 min Scan# 1351
Delta R.T. -0.000 min
Lab File: O59261.D
Acq: 5 Sep 2019 2:45 pm

Tgt Ion: 83 Resp: 13044

Ion	Ratio	Lower	Upper
83	100		
85	57.6	35.1	95.1
47	70.4	15.0	75.0

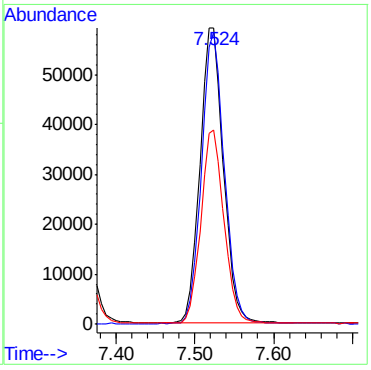


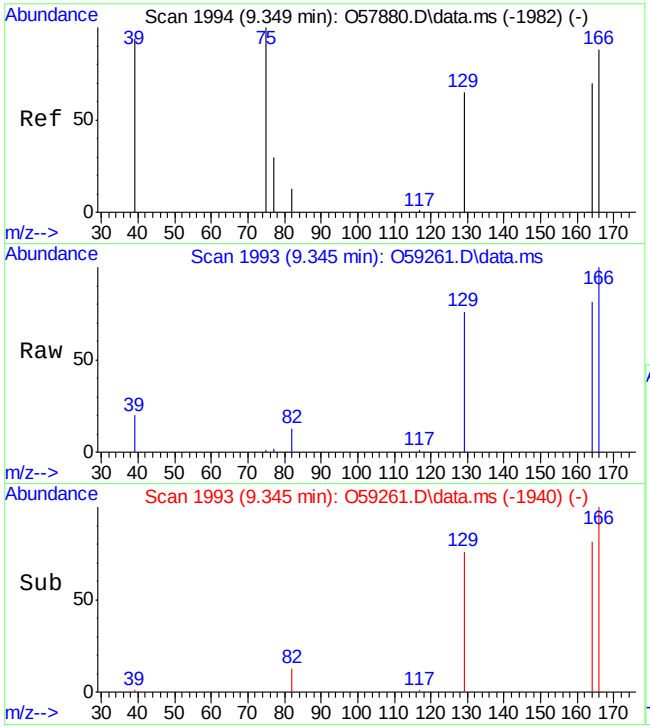


#16
Trichloroethene
Concen: 1.94 ug/L
RT: 7.524 min Scan# 1552
Delta R.T. -0.000 min
Lab File: O59261.D
Acq: 5 Sep 2019 2:45 pm

Tgt Ion: 95 Resp: 122105

Ion	Ratio	Lower	Upper
95	100		
130	98.6	68.5	128.5
97	65.7	37.7	97.7

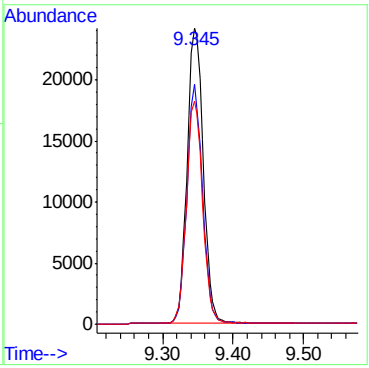




#22
Tetrachloroethene
Concen: 0.71 ug/L
RT: 9.345 min Scan# 1993
Delta R.T. -0.000 min
Lab File: O59261.D
Acq: 5 Sep 2019 2:45 pm

Tgt Ion:166 Resp: 38449

Ion	Ratio	Lower	Upper
166	100		
164	81.2	49.6	109.6
129	75.4	45.3	105.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59262.D
Acq On : 5 Sep 2019 3:05 pm
Operator : kevinb
Sample : FA67651-5 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 05 16:12:49 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

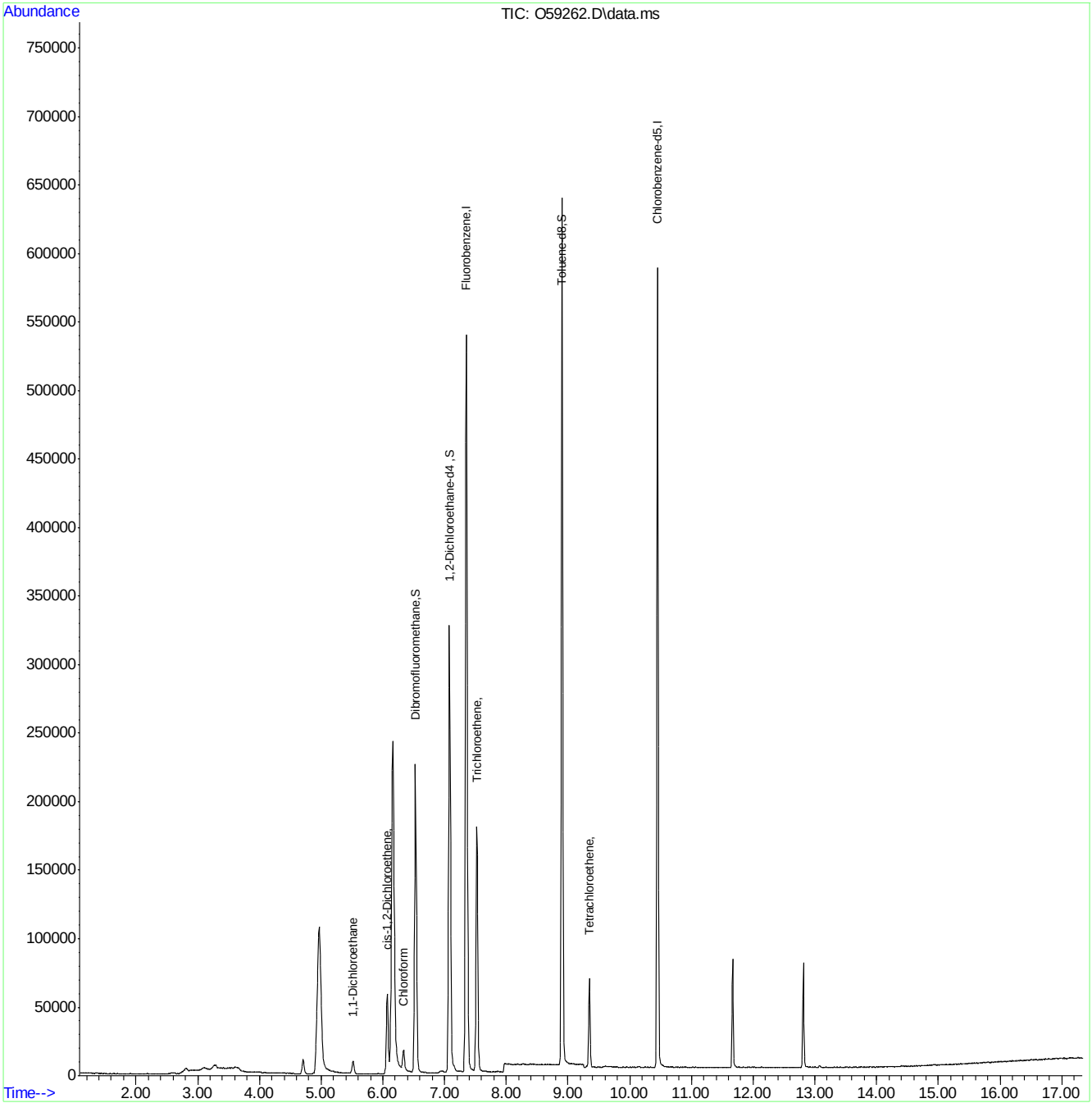
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	772026	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	546698	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	237726	5.63	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 112.60%			
14) 1,2-Dichloroethane-d4	7.079	65	264039	4.96	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 99.20%			
20) Toluene-d8	8.903	98	623628	4.77	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 95.40%			
Target Compounds						Qvalue
7) 1,1-Dichloroethane	5.514	63	15008	0.13	ug/L	96
8) cis-1,2-Dichloroethene	6.072	96	37108	0.61	ug/L	97
9) Chloroform	6.339	83	12884	0.14	ug/L #	77
16) Trichloroethene	7.524	95	121276	1.94	ug/L	99
22) Tetrachloroethene	9.349	166	39037	0.73	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

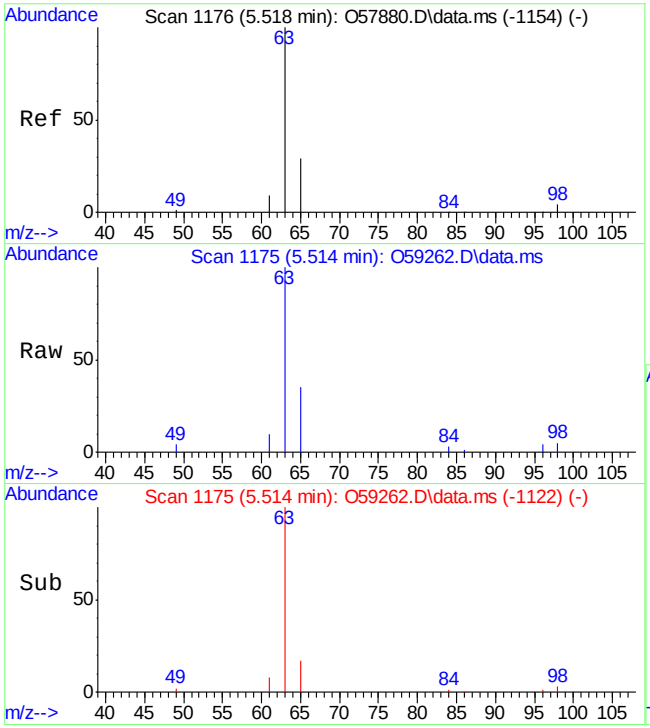
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59262.D
Acq On : 5 Sep 2019 3:05 pm
Operator : kevinb
Sample : FA67651-5 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 05 16:12:49 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



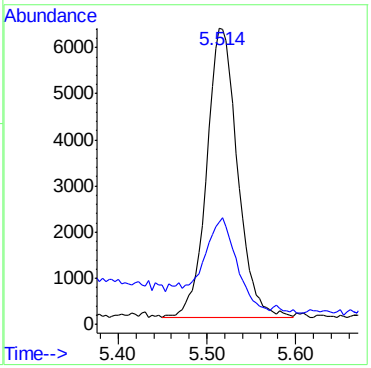
SIMCL082619.M Fri Sep 06 10:56:00 2019 Page: 2

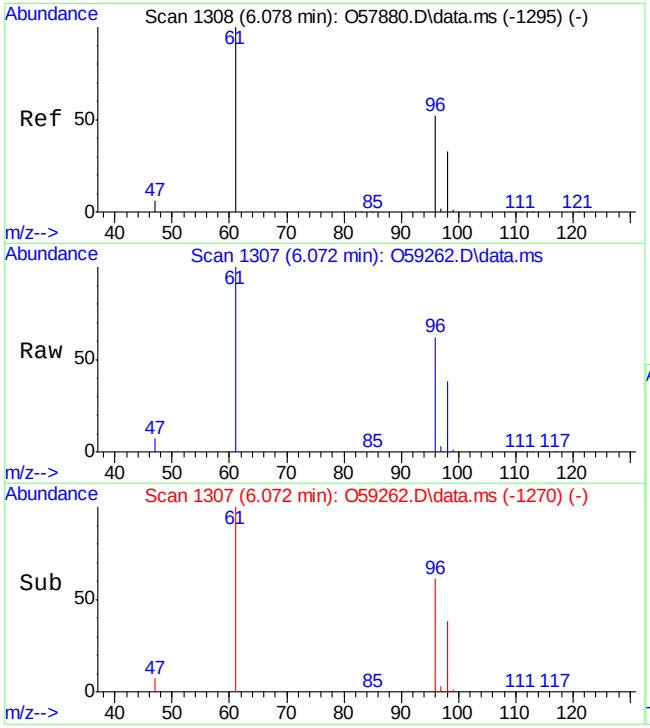


#7
1,1-Dichloroethane
Concen: 0.13 ug/L
RT: 5.514 min Scan# 1175
Delta R.T. -0.000 min
Lab File: O59262.D
Acq: 5 Sep 2019 3:05 pm

Tgt Ion: 63 Resp: 15008

Ion	Ratio	Lower	Upper
63	100		
65	30.4	0.0	58.5

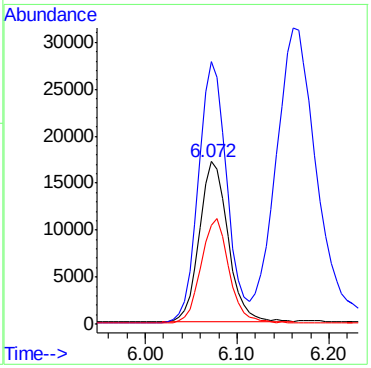


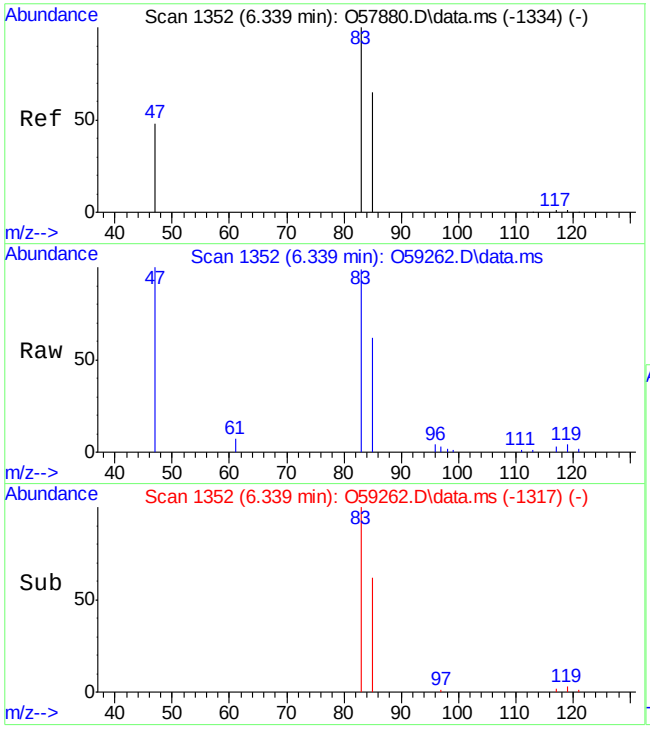


#8
cis-1,2-Dichloroethene
Concen: 0.61 ug/L
RT: 6.072 min Scan# 1307
Delta R.T. -0.000 min
Lab File: O59262.D
Acq: 5 Sep 2019 3:05 pm

Tgt Ion: 96 Resp: 37108

Ion	Ratio	Lower	Upper
96	100		
61	162.5	136.6	196.6
98	61.0	34.7	94.7

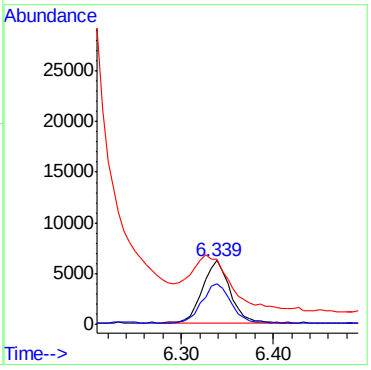


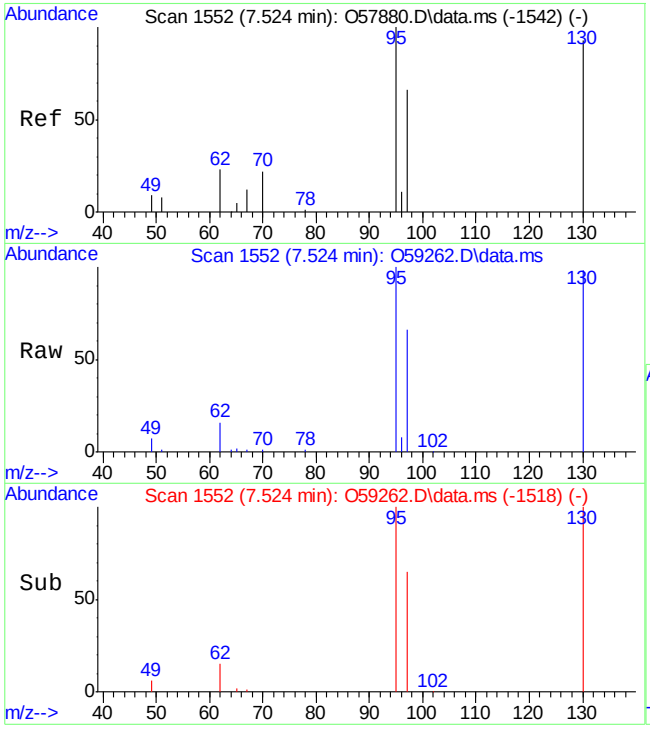


#9
Chloroform
Concen: 0.14 ug/L
RT: 6.339 min Scan# 1352
Delta R.T. 0.006 min
Lab File: O59262.D
Acq: 5 Sep 2019 3:05 pm

Tgt Ion: 83 Resp: 12884

Ion	Ratio	Lower	Upper
83	100		
85	62.1	35.1	95.1
47	78.5	15.0	75.0#

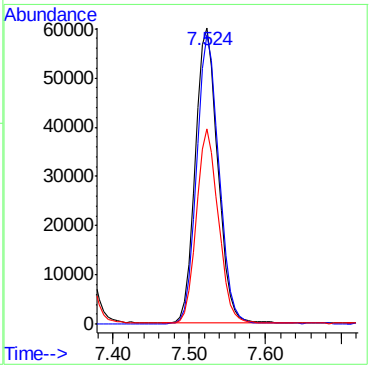


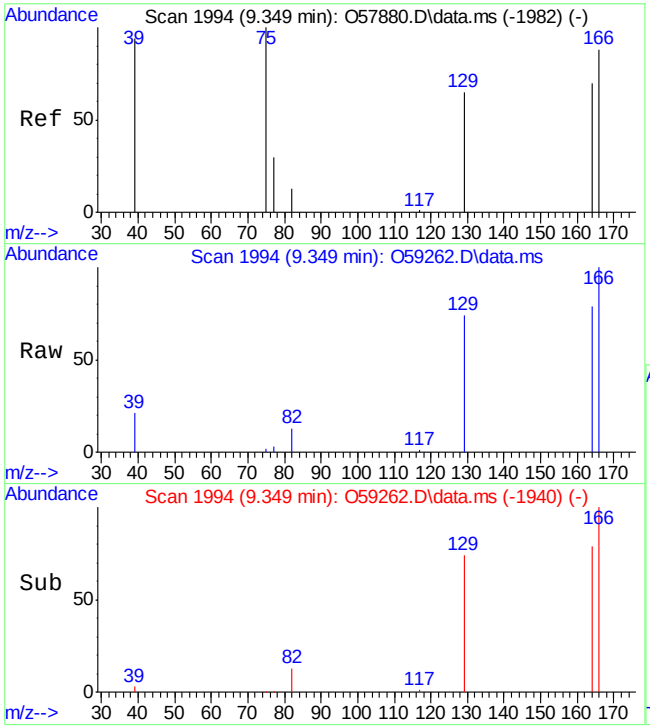


#16
Trichloroethene
Concen: 1.94 ug/L
RT: 7.524 min Scan# 1552
Delta R.T. -0.000 min
Lab File: O59262.D
Acq: 5 Sep 2019 3:05 pm

Tgt Ion: 95 Resp: 121276

Ion	Ratio	Lower	Upper
95	100		
130	97.9	68.5	128.5
97	65.8	37.7	97.7

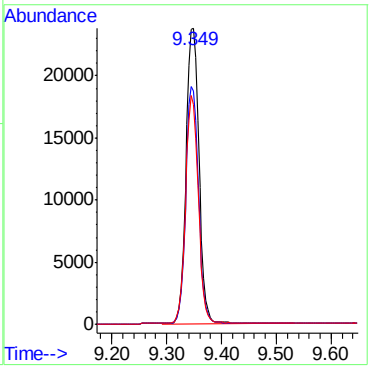




#22
Tetrachloroethene
Concen: 0.73 ug/L
RT: 9.349 min Scan# 1994
Delta R.T. 0.004 min
Lab File: O59262.D
Acq: 5 Sep 2019 3:05 pm

Tgt Ion:166 Resp: 39037

Ion	Ratio	Lower	Upper
166	100		
164	78.6	49.6	109.6
129	74.1	45.3	105.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59257.D
Acq On : 5 Sep 2019 1:21 pm
Operator : kevinb
Sample : FA67651-6 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 05 14:39:19 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

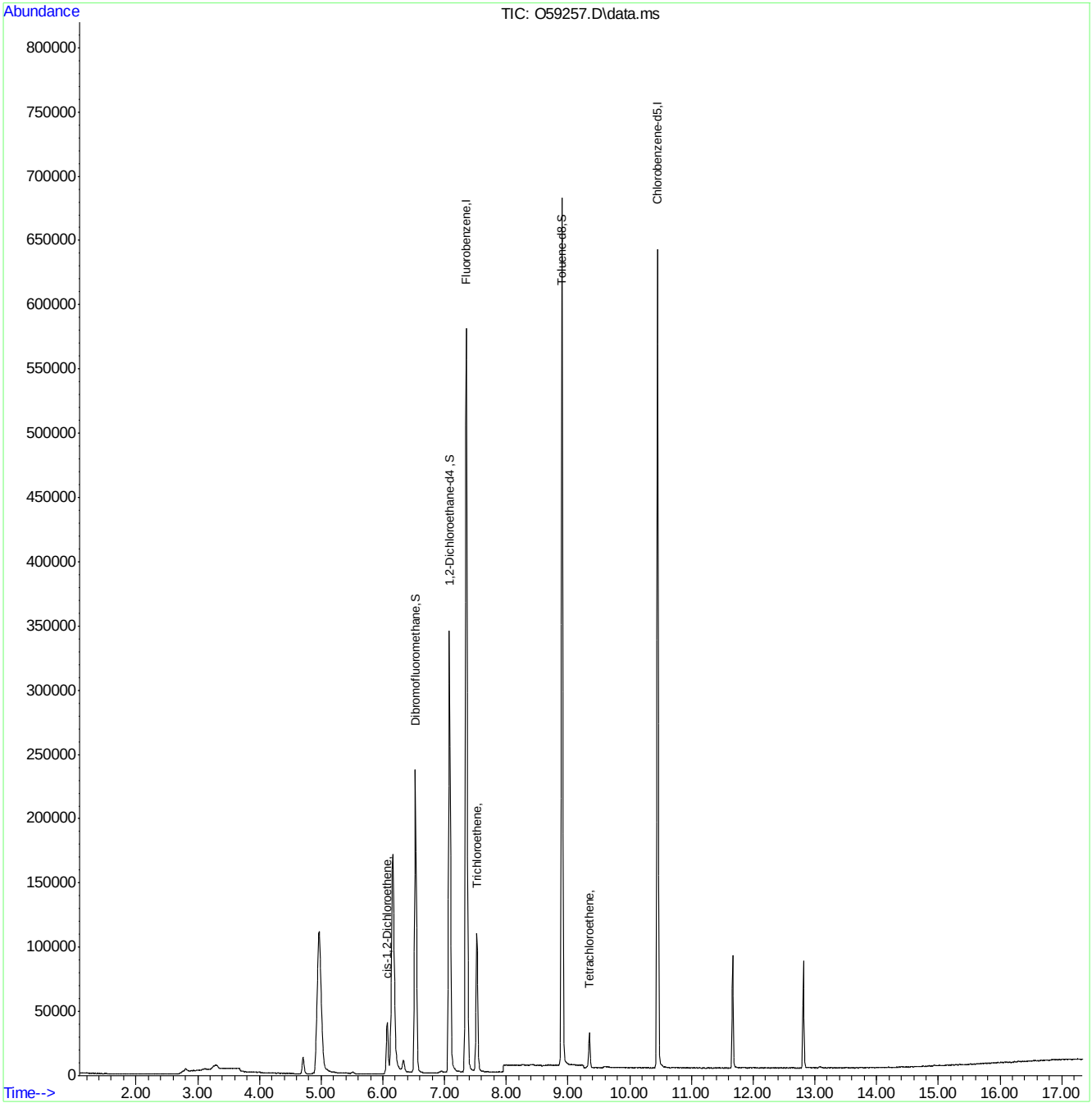
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	829880	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	591998	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	250274	5.51	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 110.20%			
14) 1,2-Dichloroethane-d4	7.079	65	279344	4.88	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 97.60%			
20) Toluene-d8	8.903	98	672520	4.75	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 95.00%			
Target Compounds						Qvalue
8) cis-1,2-Dichloroethene	6.072	96	25725	0.40	ug/L	93
16) Trichloroethene	7.524	95	72926	1.08	ug/L	97
22) Tetrachloroethene	9.345	166	16328	0.28	ug/L	96

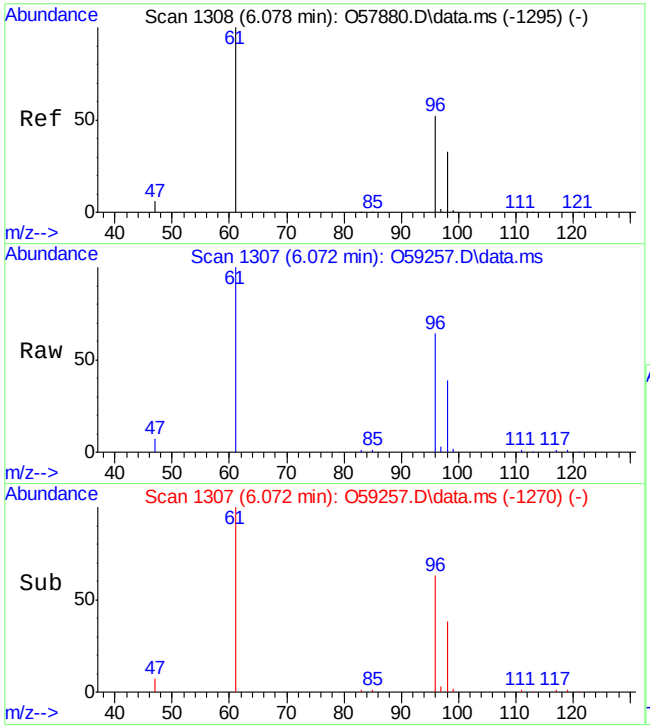
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59257.D
Acq On : 5 Sep 2019 1:21 pm
Operator : kevinb
Sample : FA67651-6 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 05 14:39:19 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

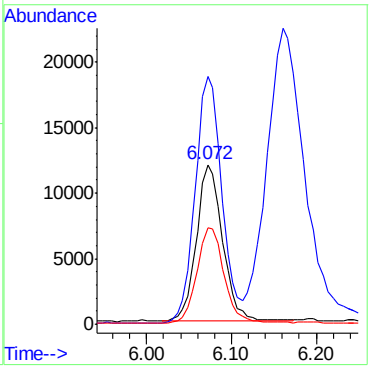


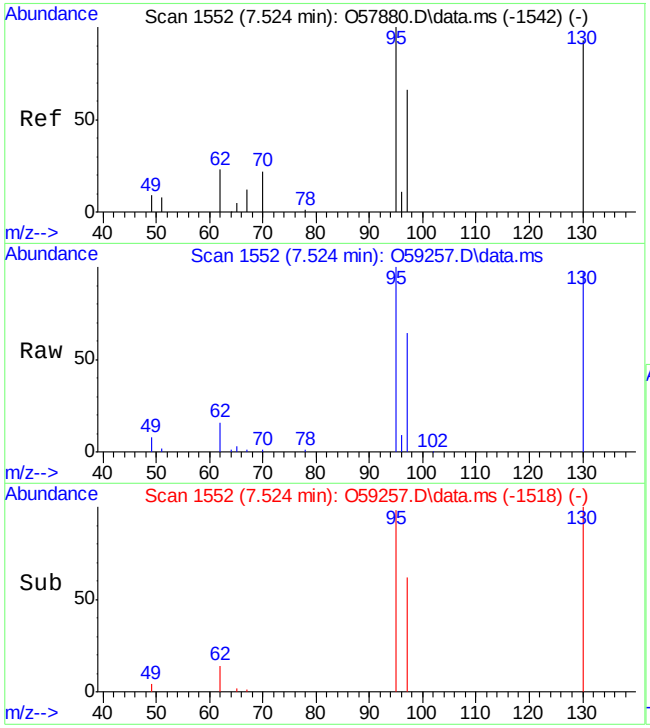


#8
cis-1,2-Dichloroethene
Concen: 0.40 ug/L
RT: 6.072 min Scan# 1307
Delta R.T. -0.000 min
Lab File: O59257.D
Acq: 5 Sep 2019 1:21 pm

Tgt Ion: 96 Resp: 25725

Ion	Ratio	Lower	Upper
96	100		
61	157.1	136.6	196.6
98	60.5	34.7	94.7

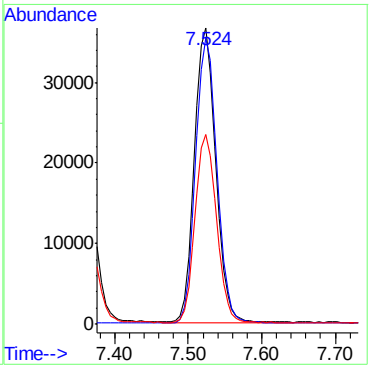


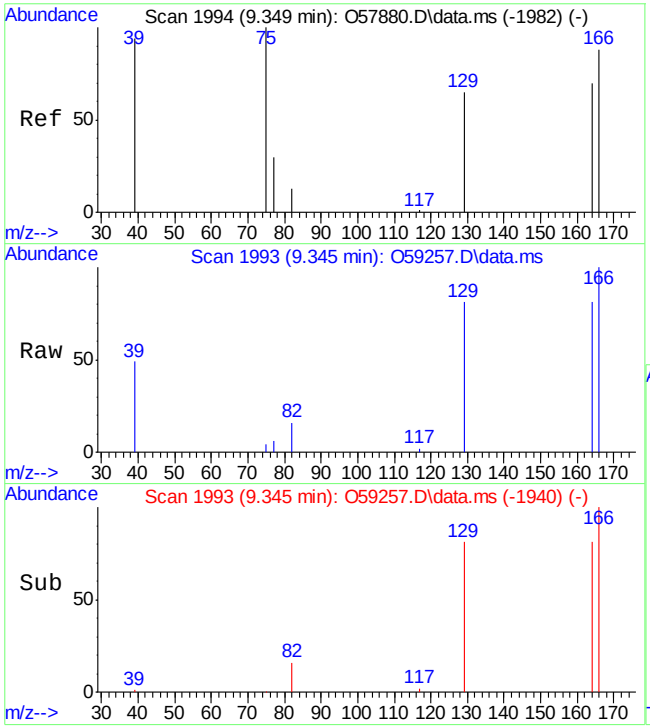


#16
Trichloroethene
Concen: 1.08 ug/L
RT: 7.524 min Scan# 1552
Delta R.T. -0.000 min
Lab File: O59257.D
Acq: 5 Sep 2019 1:21 pm

Tgt Ion: 95 Resp: 72926

Ion	Ratio	Lower	Upper
95	100		
130	96.9	68.5	128.5
97	64.0	37.7	97.7

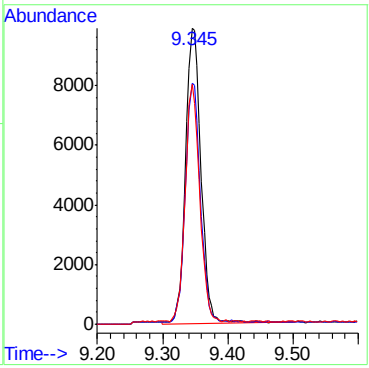




#22
Tetrachloroethene
Concen: 0.28 ug/L
RT: 9.345 min Scan# 1993
Delta R.T. -0.000 min
Lab File: O59257.D
Acq: 5 Sep 2019 1:21 pm

Tgt Ion:166 Resp: 16328

Ion	Ratio	Lower	Upper
166	100		
164	81.3	49.6	109.6
129	80.5	45.3	105.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59266.D
Acq On : 5 Sep 2019 4:29 pm
Operator : kevinb
Sample : FA67651-7 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Sep 06 10:50:57 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

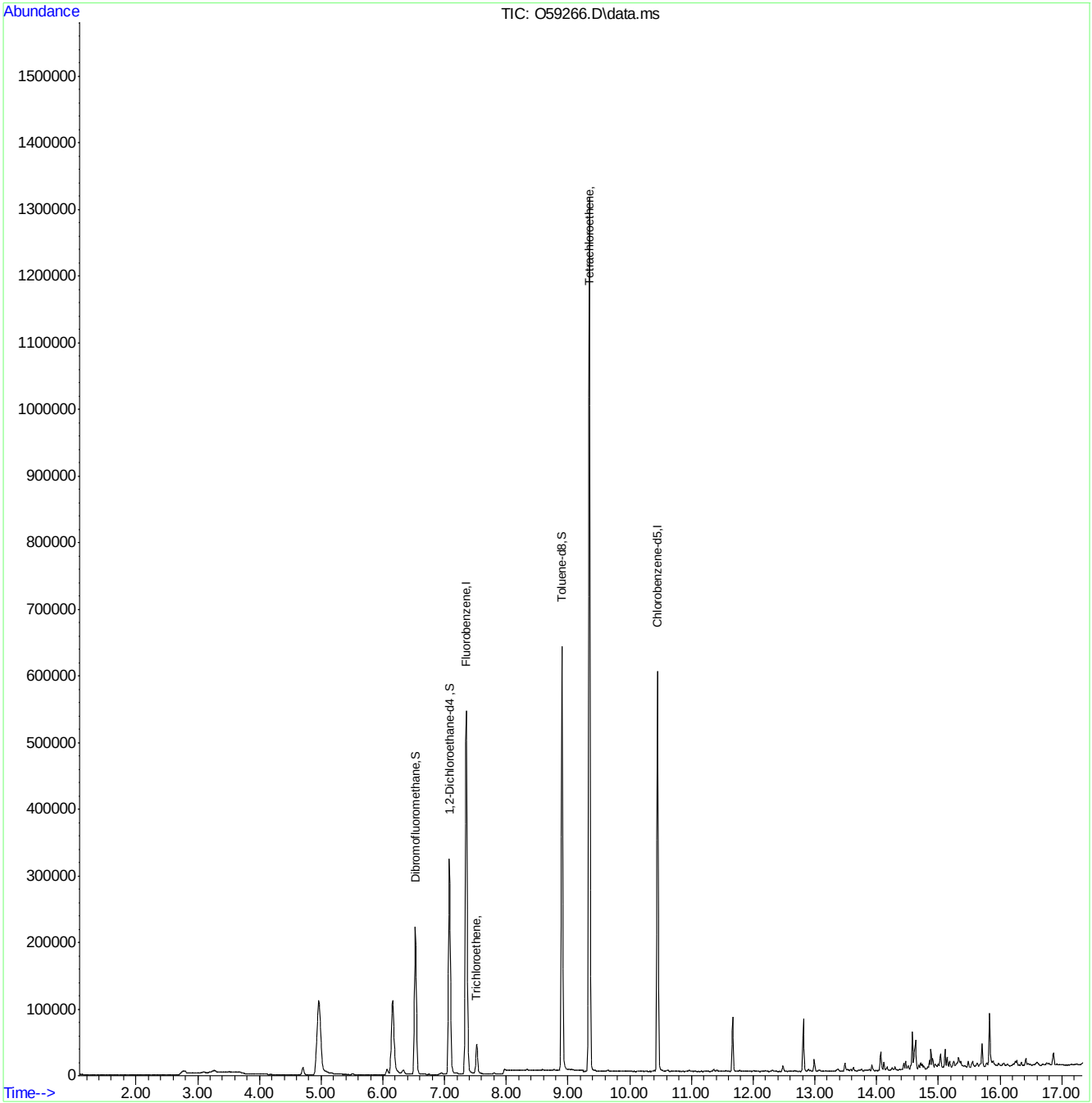
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	776229	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	560292	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	238357	5.61	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 112.20%			
14) 1,2-Dichloroethane-d4	7.080	65	264393	4.94	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 98.80%			
20) Toluene-d8	8.904	98	630606	4.70	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 94.00%			
Target Compounds						Qvalue
16) Trichloroethene	7.518	95	29594	0.47	ug/L	96
22) Tetrachloroethene	9.345	166	769896	14.10	ug/L	99

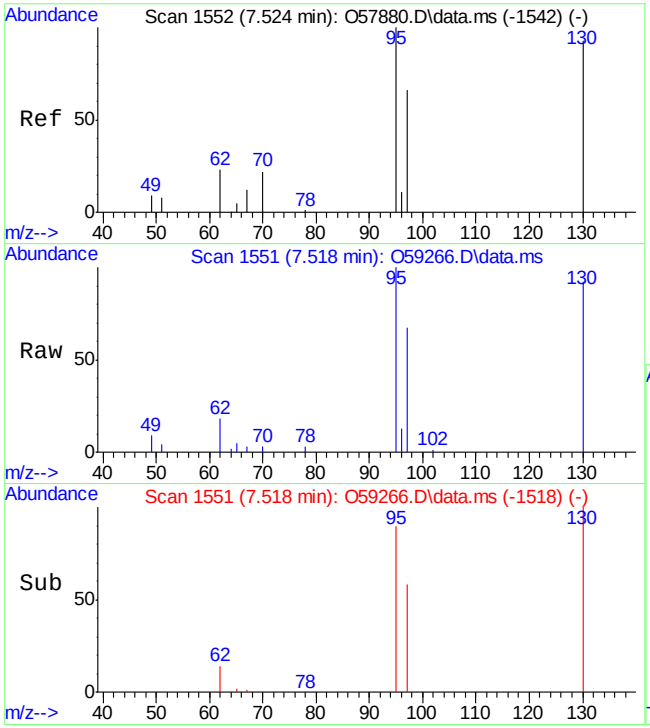
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59266.D
Acq On : 5 Sep 2019 4:29 pm
Operator : kevinb
Sample : FA67651-7 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Sep 06 10:50:57 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

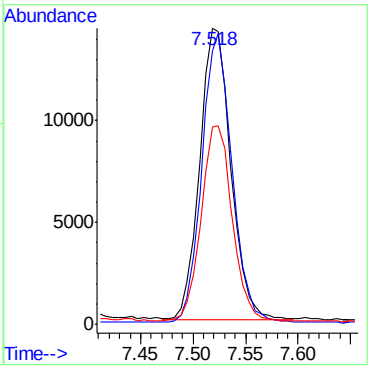


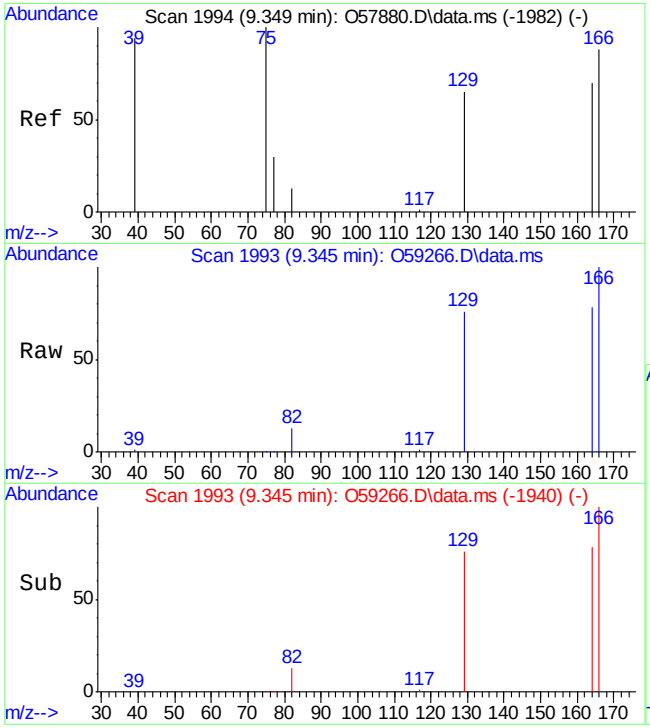


#16
Trichloroethene
Concen: 0.47 ug/L
RT: 7.518 min Scan# 1551
Delta R.T. -0.006 min
Lab File: O59266.D
Acq: 5 Sep 2019 4:29 pm

Tgt Ion: 95 Resp: 29594

Ion	Ratio	Lower	Upper
95	100		
130	93.5	68.5	128.5
97	66.6	37.7	97.7

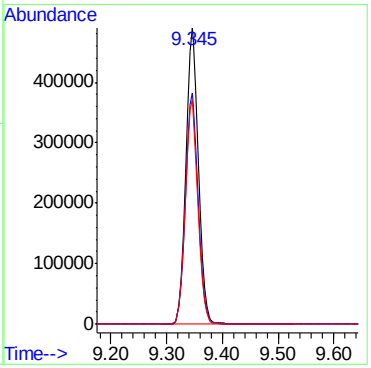




#22
Tetrachloroethene
Concen: 14.10 ug/L
RT: 9.345 min Scan# 1993
Delta R.T. 0.000 min
Lab File: O59266.D
Acq: 5 Sep 2019 4:29 pm

Tgt Ion:166 Resp: 769896

Ion	Ratio	Lower	Upper
166	100		
164	78.1	49.6	109.6
129	75.9	45.3	105.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59252.D
Acq On : 5 Sep 2019 11:35 am
Operator : kevinb
Sample : mb Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 05 12:56:52 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

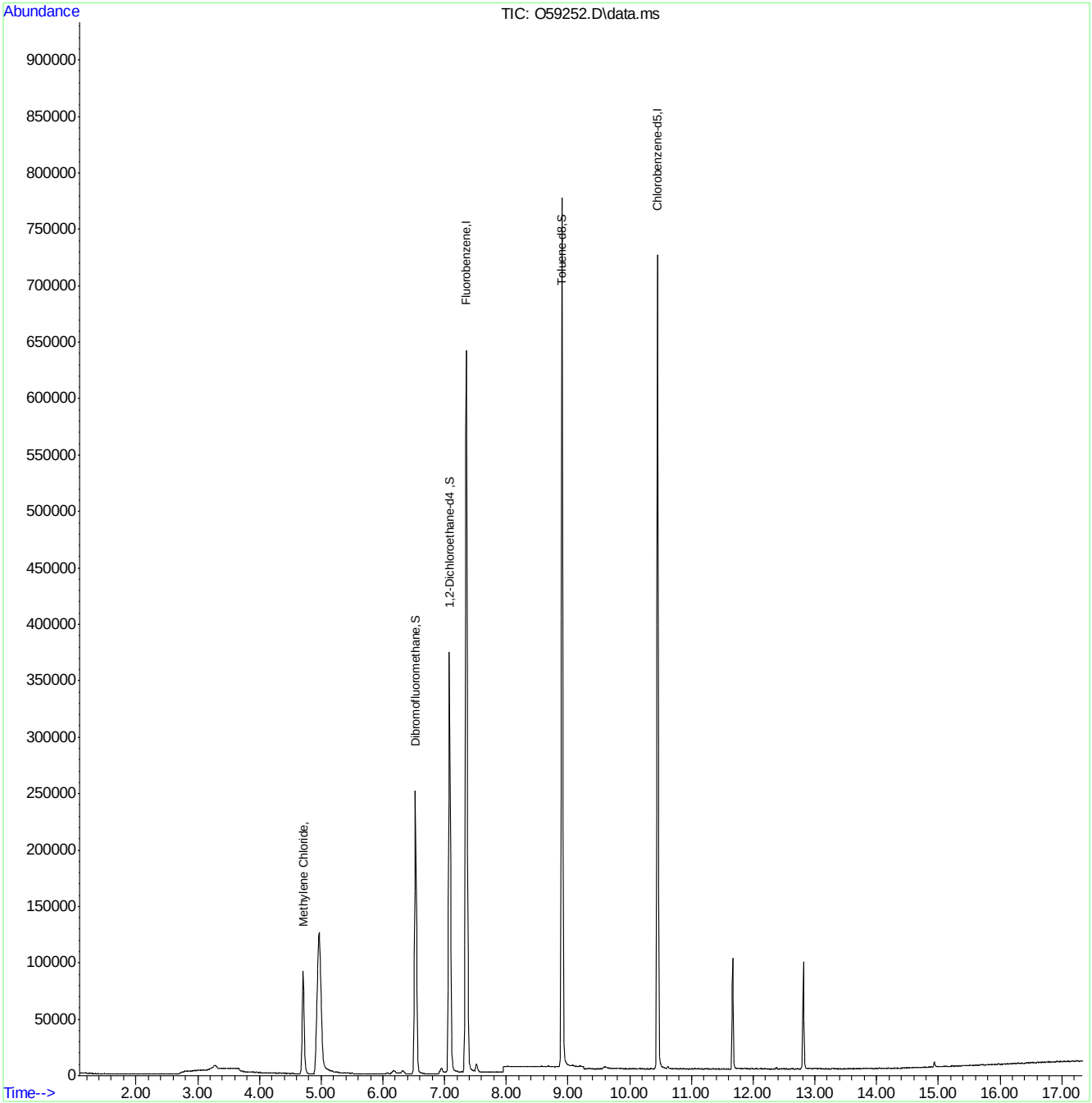
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	940043	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	671763	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	271923	5.28	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 105.60%			
14) 1,2-Dichloroethane-d4	7.079	65	305046	4.70	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 94.00%			
20) Toluene-d8	8.903	98	768044	4.78	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 95.60%			
Target Compounds						Qvalue
5) Methylene Chloride	4.707	49	125397	0.68	ug/L	95

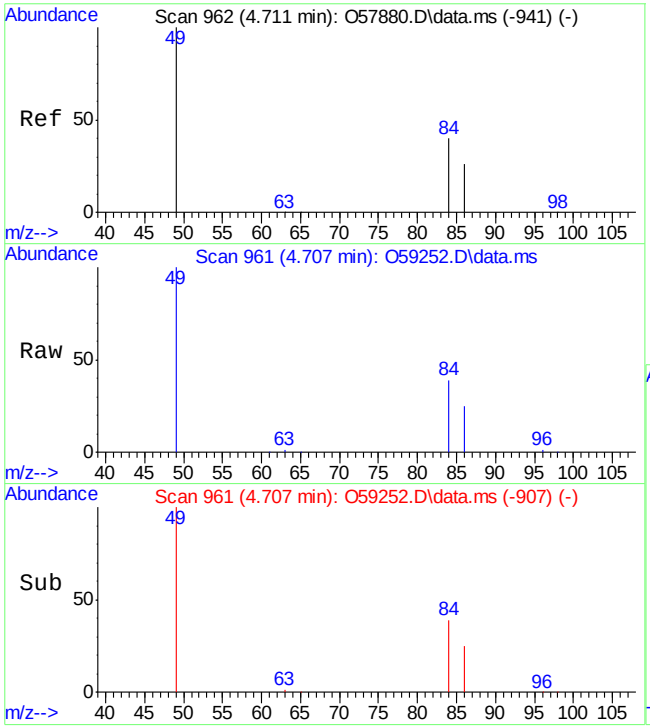
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59252.D
Acq On : 5 Sep 2019 11:35 am
Operator : kevinb
Sample : mb Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 05 12:56:52 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

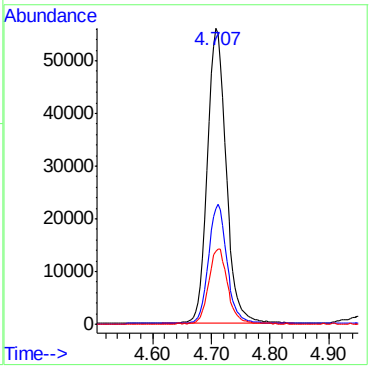




#5
Methylene Chloride
Concen: 0.68 ug/L
RT: 4.707 min Scan# 961
Delta R.T. 0.004 min
Lab File: O59252.D
Acq: 5 Sep 2019 11:35 am

Tgt Ion: 49 Resp: 125397

Ion	Ratio	Lower	Upper
49	100		
84	38.7	11.8	71.8
86	24.7	0.0	56.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59251.D
Acq On : 5 Sep 2019 11:14 am
Operator : kevinb
Sample : bs Inst : MSVOA12
Misc : MS44227,VO2266,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 05 11:39:48 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

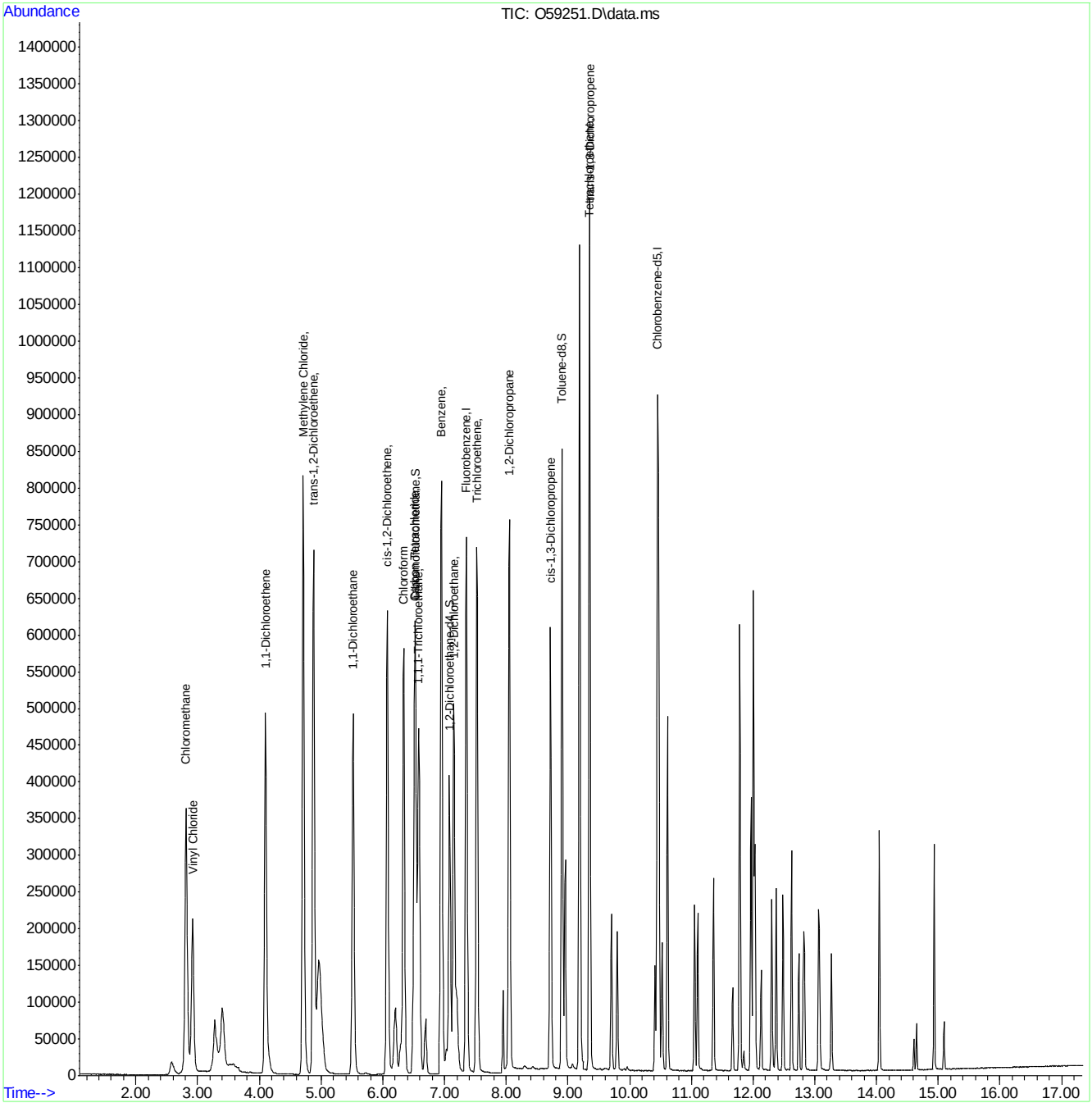
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	1044449	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	750961	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	293864	5.14	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 102.80%			
14) 1,2-Dichloroethane-d4	7.080	65	325595	4.52	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 90.40%			
20) Toluene-d8	8.904	98	839334	4.67	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 93.40%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.920	62	412897	6.27	ug/L	99
3) Chloromethane	2.814	50	679799	5.79	ug/L	99
4) 1,1-Dichloroethene	4.096	61	595316	5.28	ug/L	96
5) Methylene Chloride	4.707	49	1097251	5.55	ug/L	97
6) trans-1,2-Dichloroethene	4.877	61	704782	5.07	ug/L	95
7) 1,1-Dichloroethane	5.518	63	812208	5.20	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	403586	4.93	ug/L	97
9) Chloroform	6.339	83	592193	4.68	ug/L	97
11) Carbon Tetrachloride	6.517	117	408864	4.94	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	458357	4.72	ug/L	96
13) Benzene	6.949	78	1335763	5.06	ug/L	98
15) 1,2-Dichloroethane	7.151	62	529254	4.36	ug/L	93
16) Trichloroethene	7.524	95	424469	5.08	ug/L	99
17) 1,2-Dichloropropane	8.051	63	478068	4.81	ug/L	99
18) cis-1,3-Dichloropropene	8.719	75	448123	4.00	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	412988	4.28	ug/L	95
22) Tetrachloroethene	9.345	166	367775	5.03	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59251.D
Acq On : 5 Sep 2019 11:14 am
Operator : kevinb
Sample : bs Inst : MSVOA12
Misc : MS44227,VO2266,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 05 11:39:48 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59263.D
Acq On : 5 Sep 2019 3:26 pm
Operator : kevinb
Sample : FA67651-6MS Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 05 16:12:09 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

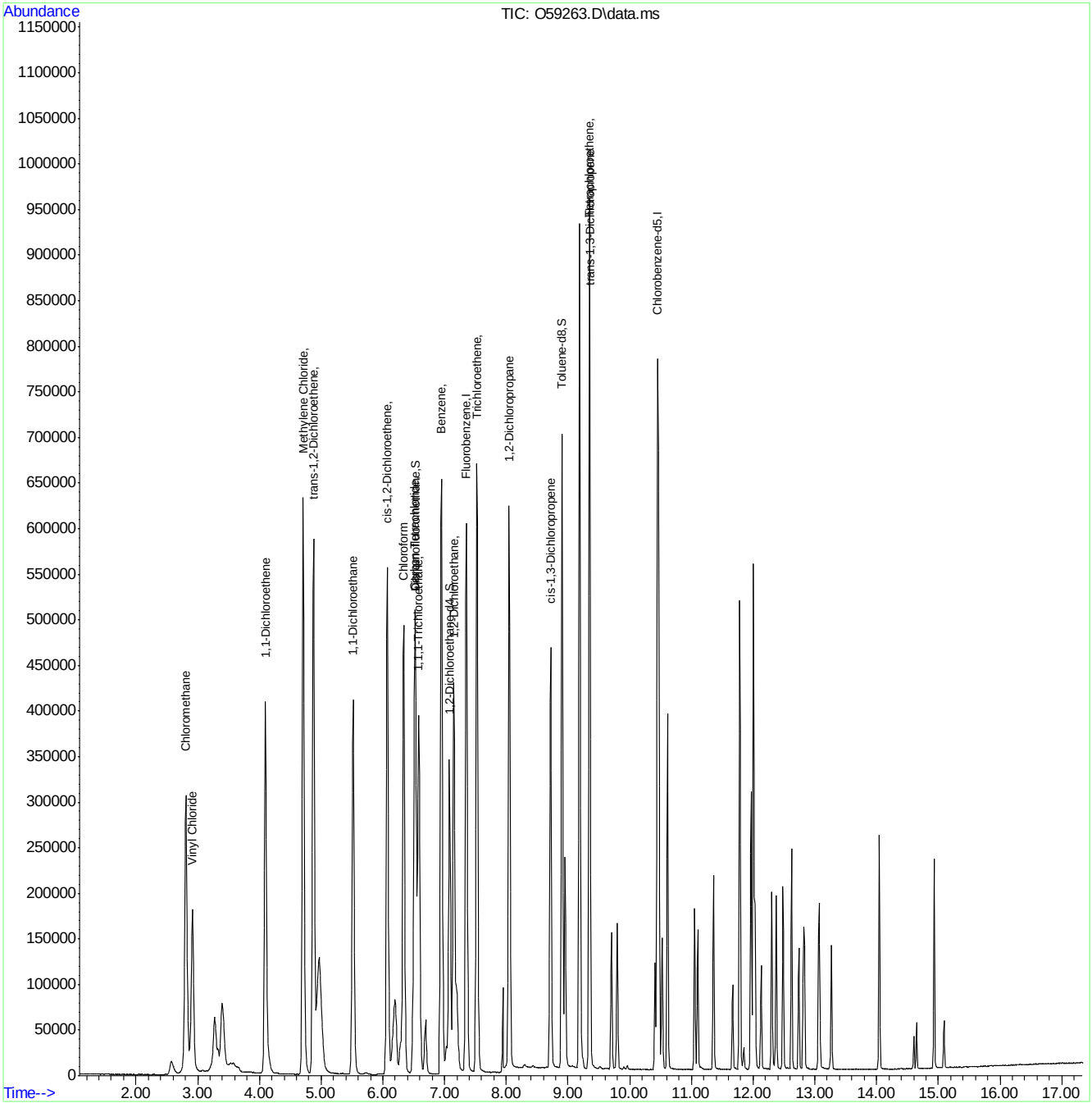
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	867177	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	631814	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	250827	5.28	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 105.60%			
14) 1,2-Dichloroethane-d4	7.079	65	277469	4.64	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 92.80%			
20) Toluene-d8	8.903	98	687418	4.55	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 91.00%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.916	62	345724	6.33	ug/L	99
3) Chloromethane	2.810	50	587692	6.03	ug/L	100
4) 1,1-Dichloroethene	4.096	61	485923	5.19	ug/L	96
5) Methylene Chloride	4.707	49	841992	5.11	ug/L	98
6) trans-1,2-Dichloroethene	4.873	61	571428	4.95	ug/L	97
7) 1,1-Dichloroethane	5.518	63	673831	5.19	ug/L	98
8) cis-1,2-Dichloroethene	6.072	96	351665	5.18	ug/L	97
9) Chloroform	6.339	83	503828	4.79	ug/L	97
11) Carbon Tetrachloride	6.516	117	329074	4.78	ug/L	98
12) 1,1,1-Trichloroethane	6.582	97	379973	4.71	ug/L	95
13) Benzene	6.949	78	1096519	5.00	ug/L	98
15) 1,2-Dichloroethane	7.151	62	443224	4.40	ug/L	94
16) Trichloroethene	7.524	95	397927	5.74	ug/L	99
17) 1,2-Dichloropropane	8.051	63	393704	4.77	ug/L	98
18) cis-1,3-Dichloropropene	8.719	75	343408	3.69	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	315268	3.88	ug/L	94
22) Tetrachloroethene	9.345	166	312205	5.07	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59263.D
Acq On : 5 Sep 2019 3:26 pm
Operator : kevinb
Sample : FA67651-6MS Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 05 16:12:09 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59264.D
Acq On : 5 Sep 2019 3:47 pm
Operator : kevinb
Sample : FA67651-6MSD Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 05 16:12:11 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

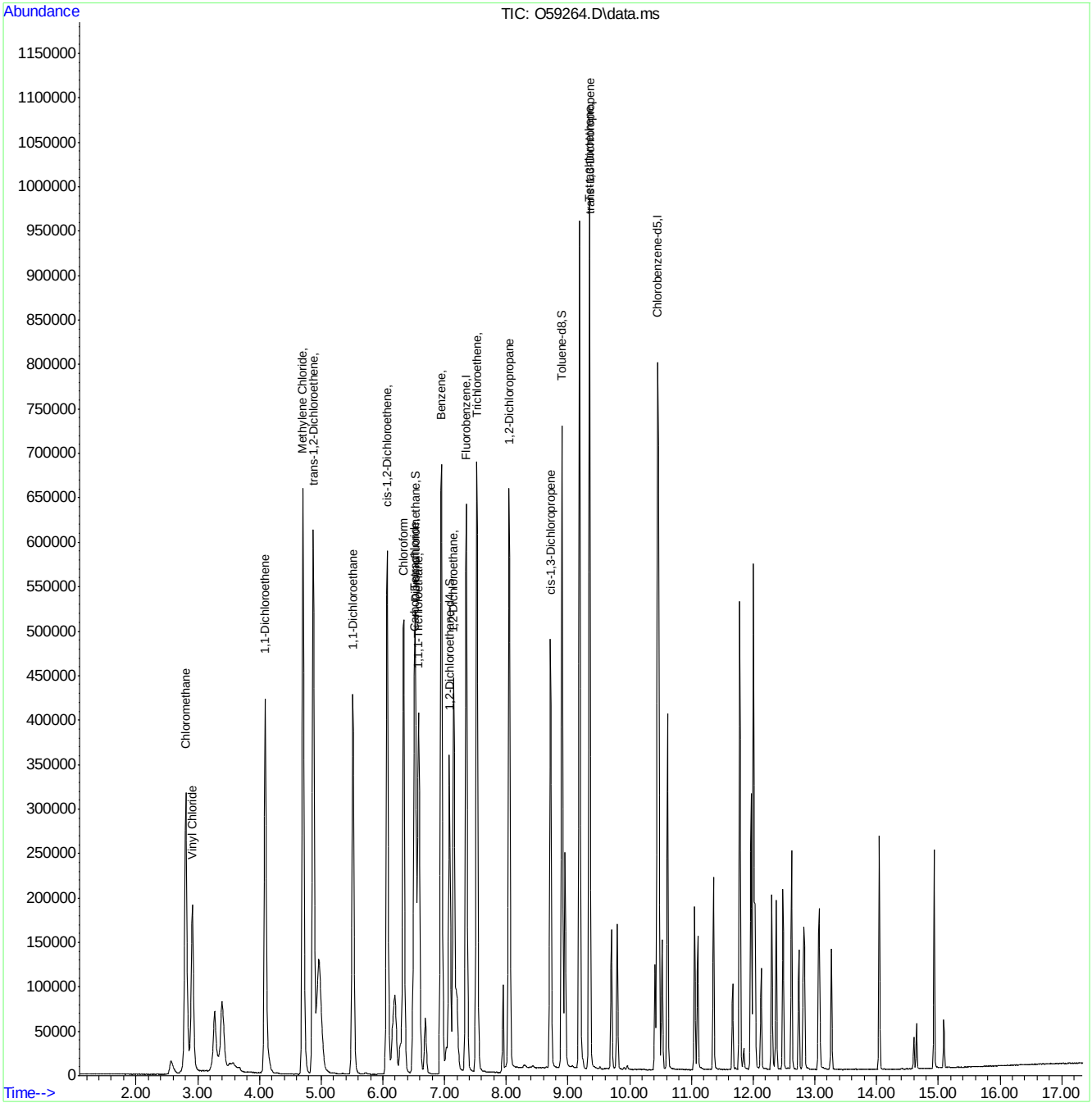
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	891230	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	642004	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	257229	5.27	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 105.40%			
14) 1,2-Dichloroethane-d4	7.079	65	283171	4.61	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 92.20%			
20) Toluene-d8	8.903	98	704783	4.59	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 91.80%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	360405	6.42	ug/L	100
3) Chloromethane	2.806	50	611573	6.11	ug/L	100
4) 1,1-Dichloroethene	4.092	61	501566	5.21	ug/L	95
5) Methylene Chloride	4.703	49	863694	5.10	ug/L	97
6) trans-1,2-Dichloroethene	4.873	61	589024	4.97	ug/L	95
7) 1,1-Dichloroethane	5.514	63	692295	5.19	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	363145	5.20	ug/L	97
9) Chloroform	6.339	83	517768	4.79	ug/L	97
11) Carbon Tetrachloride	6.511	117	334042	4.73	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	386816	4.66	ug/L	96
13) Benzene	6.949	78	1131306	5.02	ug/L	99
15) 1,2-Dichloroethane	7.145	62	456066	4.41	ug/L	92
16) Trichloroethene	7.524	95	406491	5.71	ug/L	100
17) 1,2-Dichloropropane	8.047	63	405477	4.78	ug/L	99
18) cis-1,3-Dichloropropene	8.715	75	356020	3.72	ug/L	94
21) trans-1,3-Dichloropropene	9.353	75	324263	3.93	ug/L	95
22) Tetrachloroethene	9.345	166	319803	5.11	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59264.D
Acq On : 5 Sep 2019 3:47 pm
Operator : kevinb
Sample : FA67651-6MSD Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 15 Sample Multiplier: 1

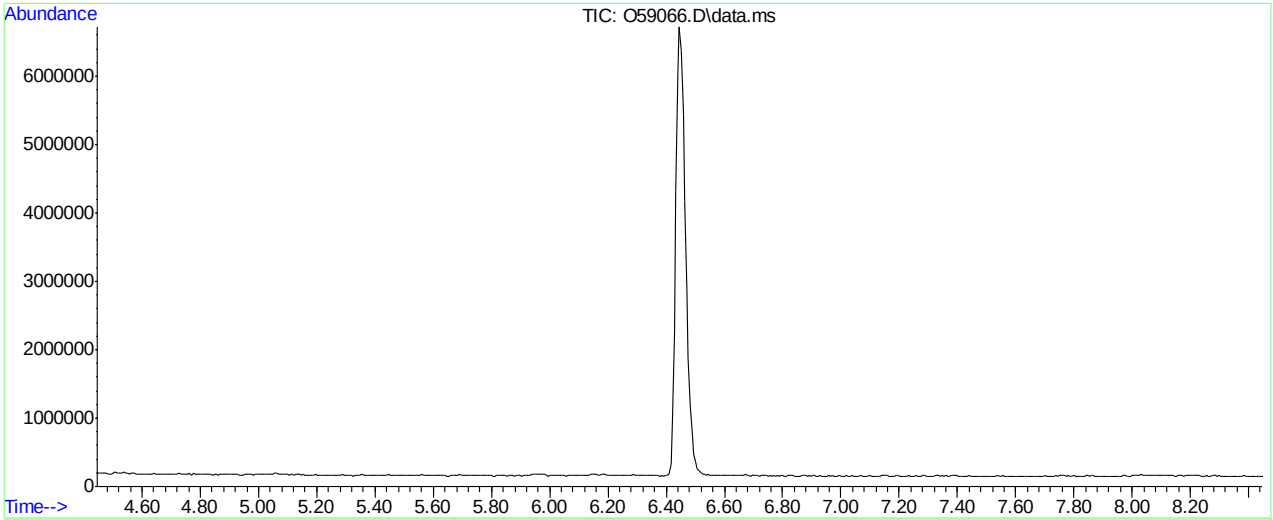
Quant Time: Sep 05 16:12:11 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Methods: SW-846 8260B

Data File : C:\msdchem\2\data\082619\O59066.D Vial: 100
Acq On : 26 Aug 2019 12:08 pm Operator: kevinb
Sample : BFB Inst : MSVOA12
Misc : MS44009,VO2258,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B



AutoFind: Scans 468, 469, 470; Background Corrected with Scan 460

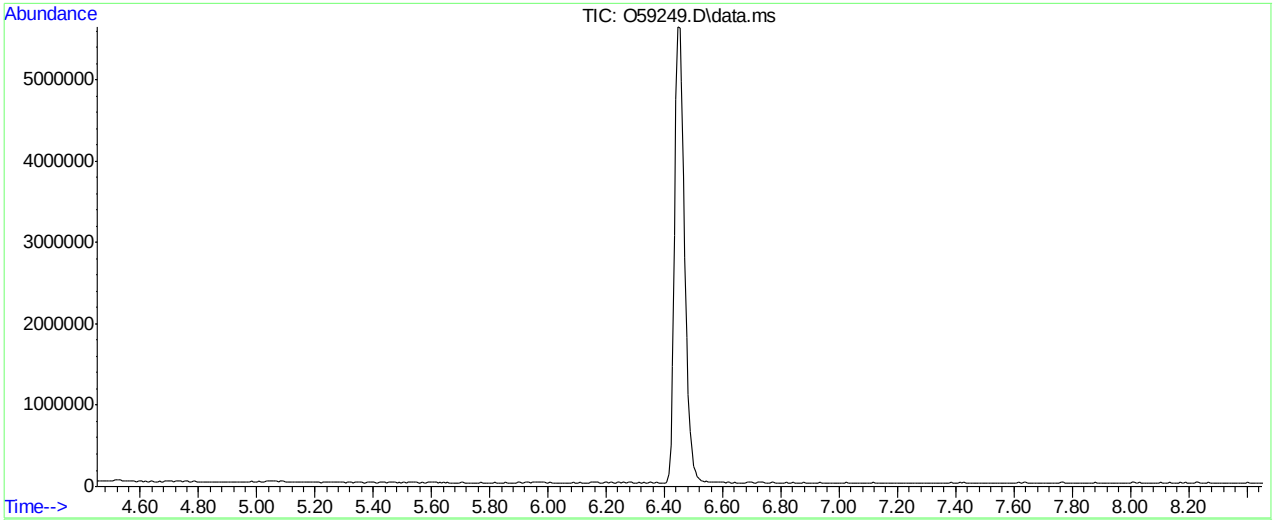
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	33.4	439747	PASS
75	95	30	60	43.7	574792	PASS
95	95	100	100	100.0	1314675	PASS
96	95	5	9	6.8	89155	PASS
173	174	0.00	2	0.7	6498	PASS
174	95	50	100	72.3	949995	PASS
175	174	5	9	6.8	64453	PASS
176	174	95	101	95.3	905515	PASS
177	176	5	9	6.8	61263	PASS

O59066.D SIMCL082619.M Mon Aug 26 15:38:06 2019

Methods: SW-846 8260B

Data File : C:\msdchem\2\data\090519\O59249.D Vial: 100
Acq On : 5 Sep 2019 10:21 am Operator: kevinb
Sample : BFB Inst : MSVOA12
Misc : MS44227,VO2266,,,,, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\2\methods\SIMCL082619.M (RTE Integrator)
Title : Standard Methods 6200B



AutoFind: Scans 469, 470, 471; Background Corrected with Scan 460

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	33.6	368553	PASS
75	95	30	60	41.3	453120	PASS
95	95	100	100	100.0	1098304	PASS
96	95	5	9	7.1	77907	PASS
173	174	0.00	2	0.5	4512	PASS
174	95	50	100	76.0	834219	PASS
175	174	5	9	7.1	59445	PASS
176	174	95	101	96.8	807189	PASS
177	176	5	9	6.6	53551	PASS

O59249.D SIMCL082619.M Thu Sep 05 11:40:19 2019

Manual Integrations APPROVED (compounds with "m" flag)
Juan Garcia
08/26/19 16:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:53:41 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

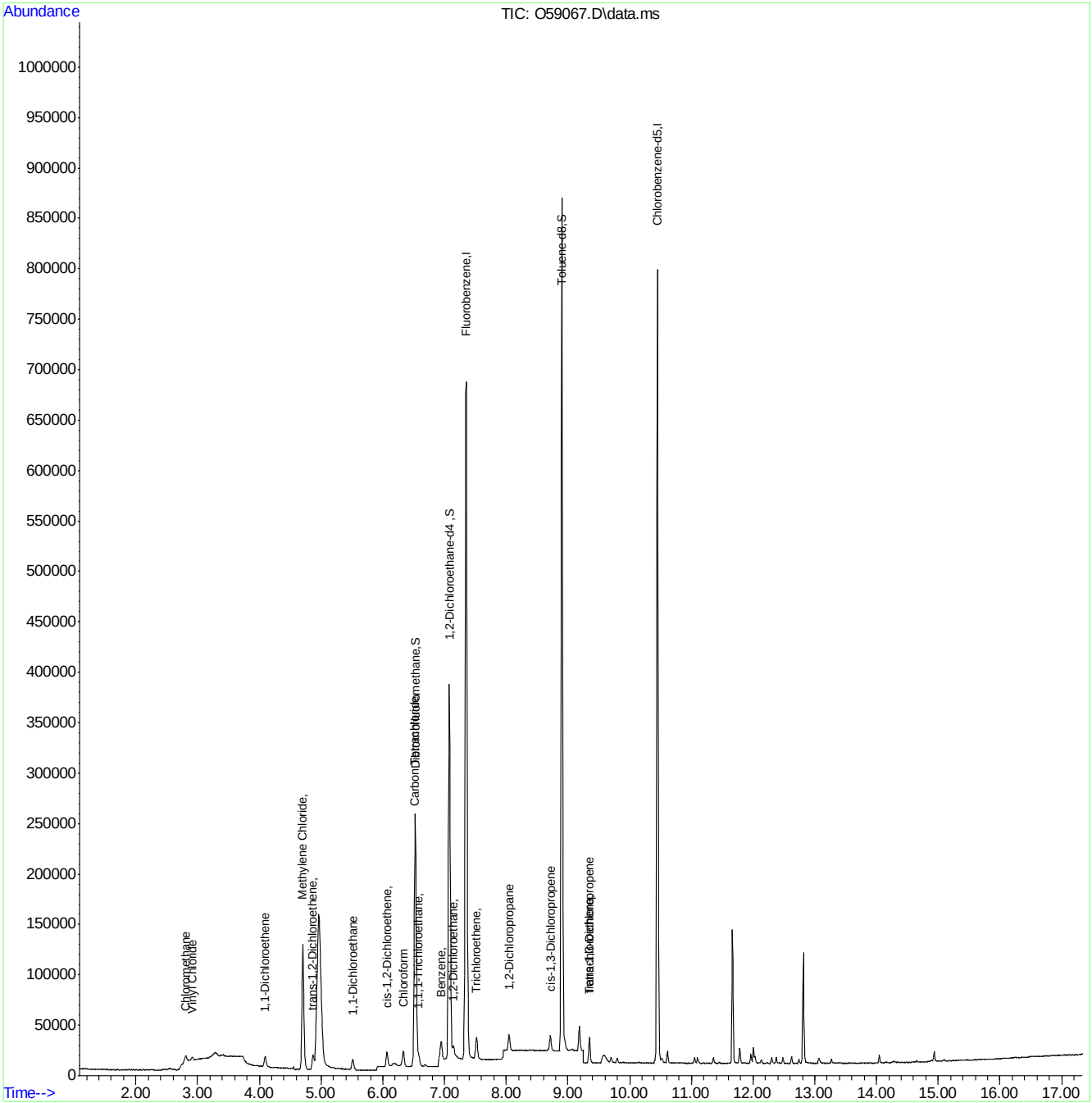
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	964474	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.450	117	700902	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.523	113	266906	4.18	ug/L	-0.01
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.60%			
14) 1,2-Dichloroethane-d4	7.074	65	337814	4.36	ug/L	-0.01
Spiked Amount 5.000	Range 74 - 125		Recovery = 87.20%			
20) Toluene-d8	8.900	98	826145	5.62	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 112.40%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	5896	0.06	ug/L	76
3) Chloromethane	2.810	50	11433m	0.06	ug/L	
4) 1,1-Dichloroethene	4.093	61	13217	0.09	ug/L	99
5) Methylene Chloride	4.703	49	163589	0.63	ug/L	99
6) trans-1,2-Dichloroethene	4.869	61	15266	0.09	ug/L	95
7) 1,1-Dichloroethane	5.510	63	17390	0.09	ug/L	87
8) cis-1,2-Dichloroethene	6.072	96	9189	0.10	ug/L	99
9) Chloroform	6.333	83	15028	0.10	ug/L	89
11) Carbon Tetrachloride	6.517	117	9392	0.10	ug/L	95
12) 1,1,1-Trichloroethane	6.582	97	10815	0.10	ug/L	96
13) Benzene	6.949	78	39396m	0.12	ug/L	
15) 1,2-Dichloroethane	7.145	62	13175	0.09	ug/L	96
16) Trichloroethene	7.518	95	14259	0.14	ug/L	94
17) 1,2-Dichloropropane	8.044	63	10997	0.10	ug/L	97
18) cis-1,3-Dichloropropene	8.715	75	11880	0.12	ug/L	98
21) trans-1,3-Dichloropropene	9.349	75	9403	0.11	ug/L	99
22) Tetrachloroethene	9.345	166	8247	0.11	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:53:41 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Manual Integration Approval Summary

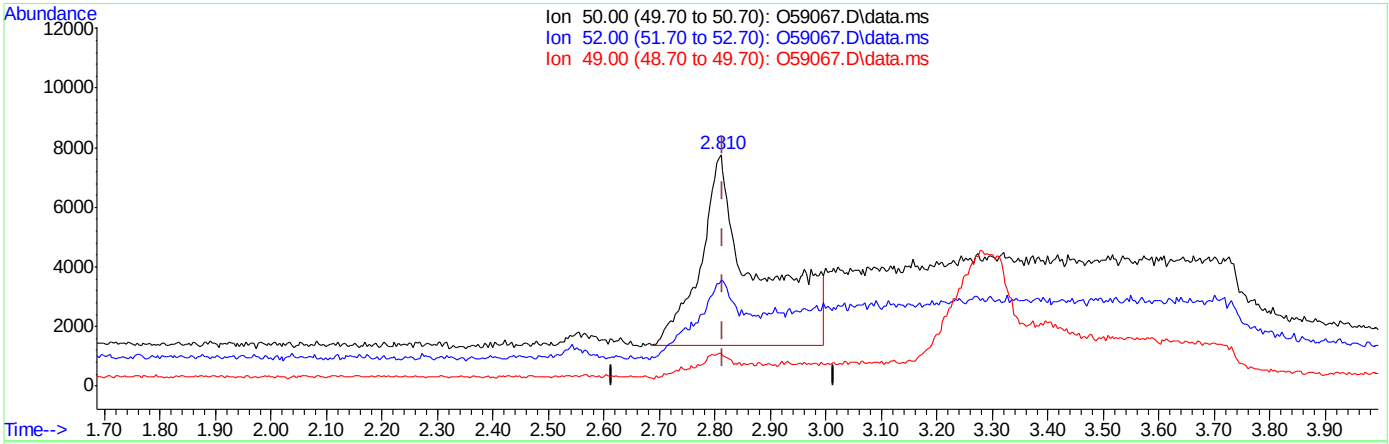
Sample Number:	VO2258-IC2258	**Method:**	SW846 8260B BY SIM
Lab FileID:	O59067.D	**Analyst approved:**	08/26/19 15:41 Kevin Boyd
Injection Time:	08/26/19 12:31	**Supervisor approved:**	08/26/19 16:15 Juan Garcia

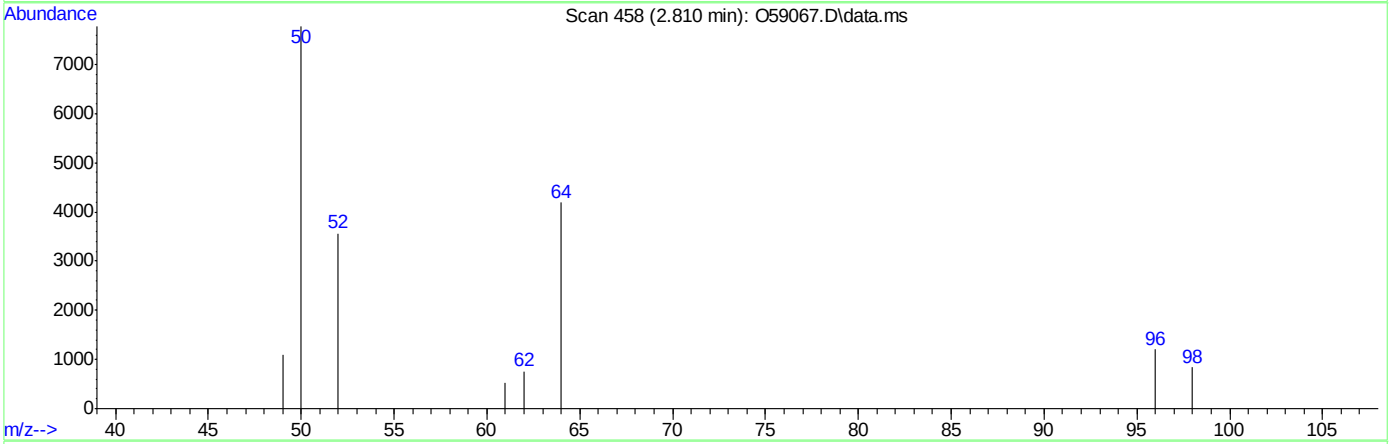
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		2.81	Poor instrument integration
Benzene	71-43-2		6.95	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(3) Chloromethane

2.810min (-0.004) 0.26ug/L

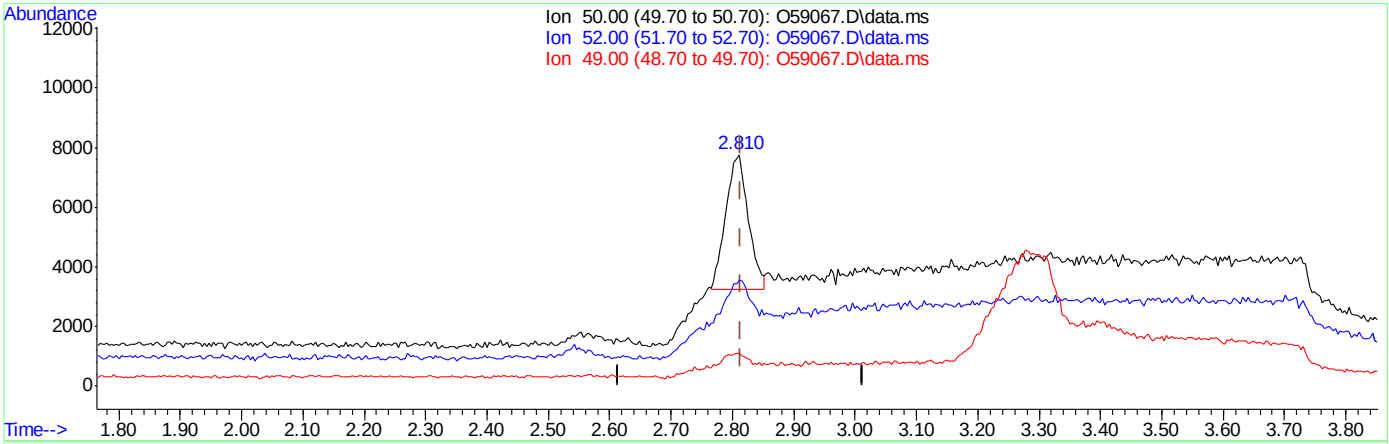
response 45616

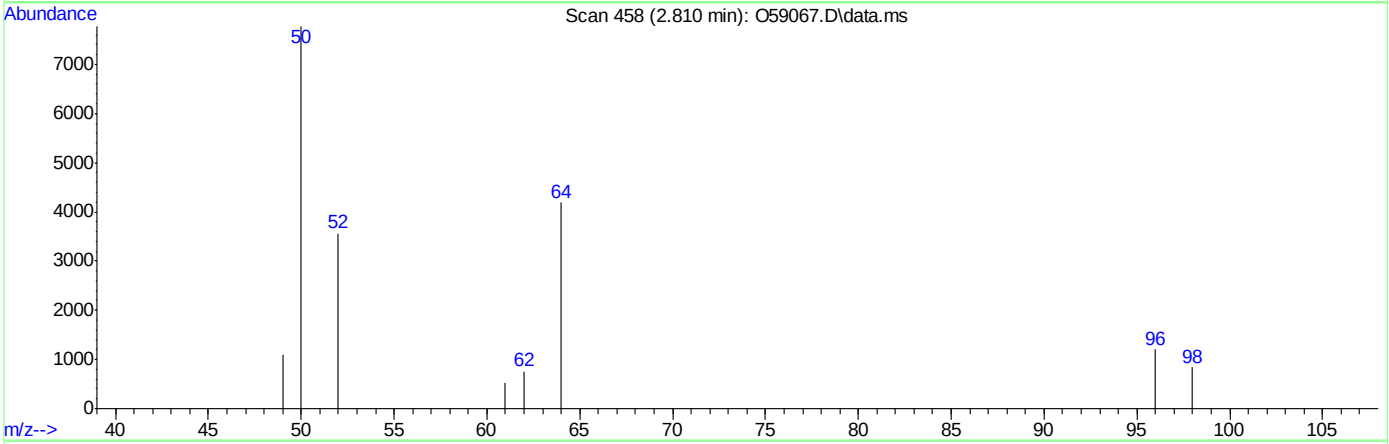
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	40.30
49.00	10.10	12.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(3) Chloromethane

2.810min (-0.004) 0.06ug/L m

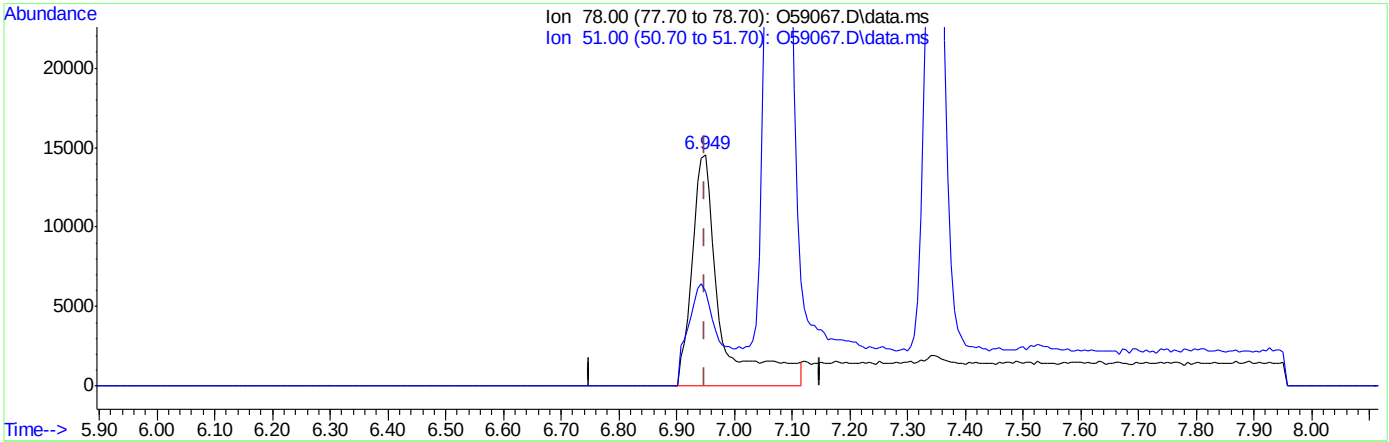
response 11433

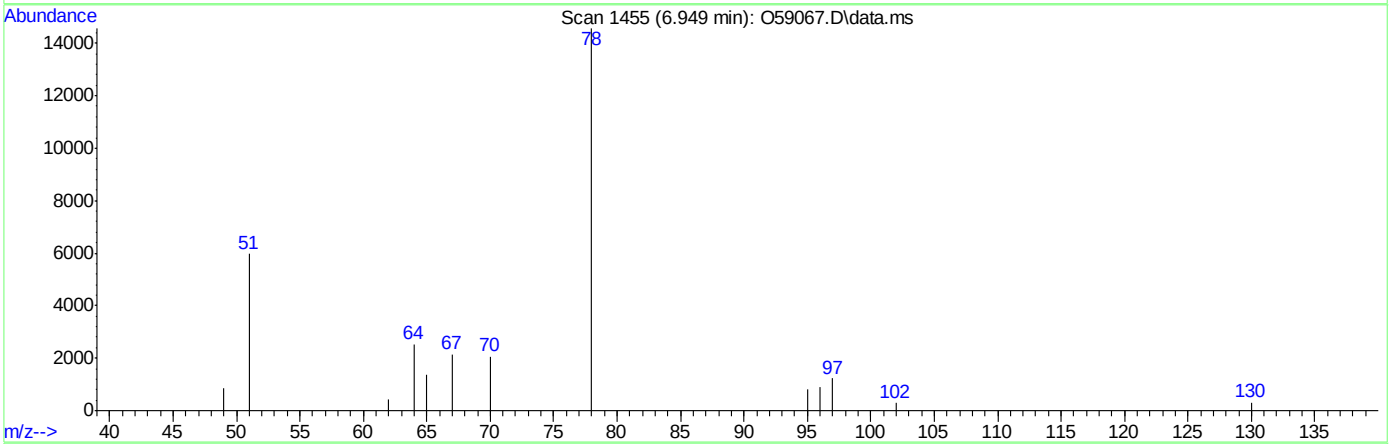
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	45.82
49.00	10.10	14.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.15ug/L

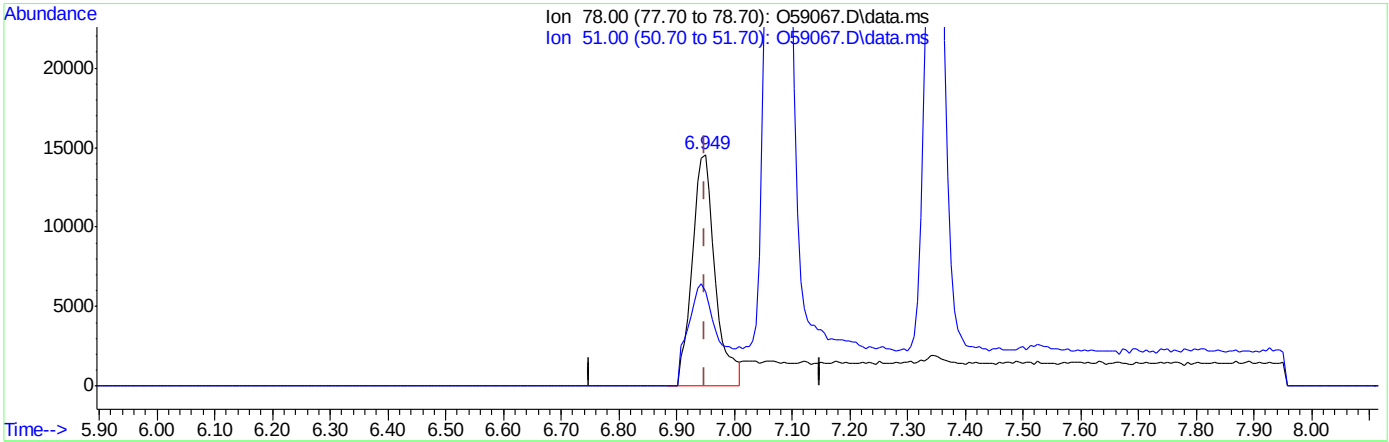
response 49108

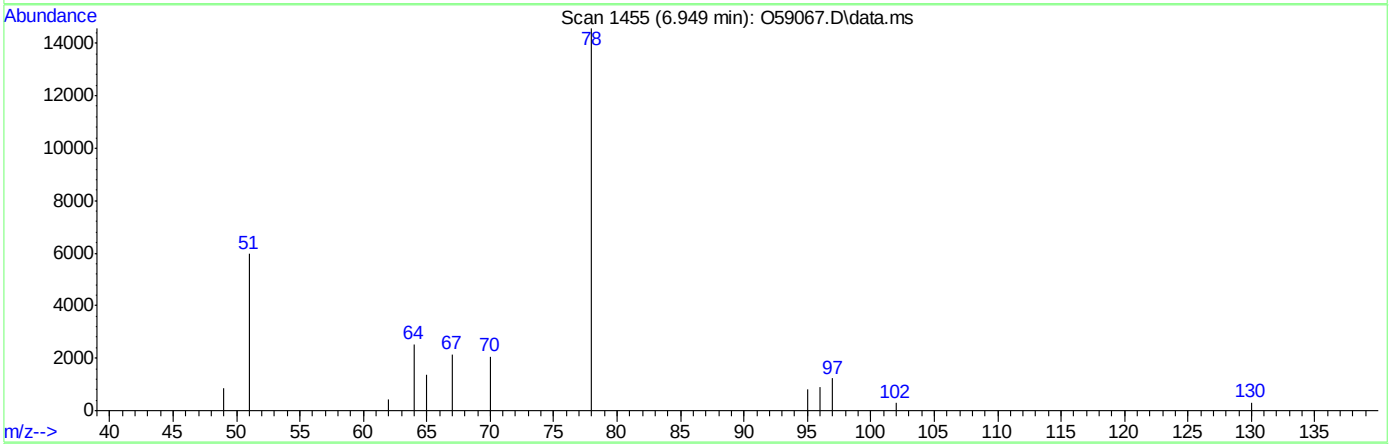
Ion	Exp%	Act%
78.00	100	100
51.00	32.70	40.95
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59067.D
Acq On : 26 Aug 2019 12:31 pm
Operator : kevinb
Sample : IC2258-1 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 26 12:52:54 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59067.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.12ug/L m

response 39396

Ion	Exp%	Act%
78.00	100	100
51.00	32.70	40.95
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Juan Garcia
08/26/19 16:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:11:45 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

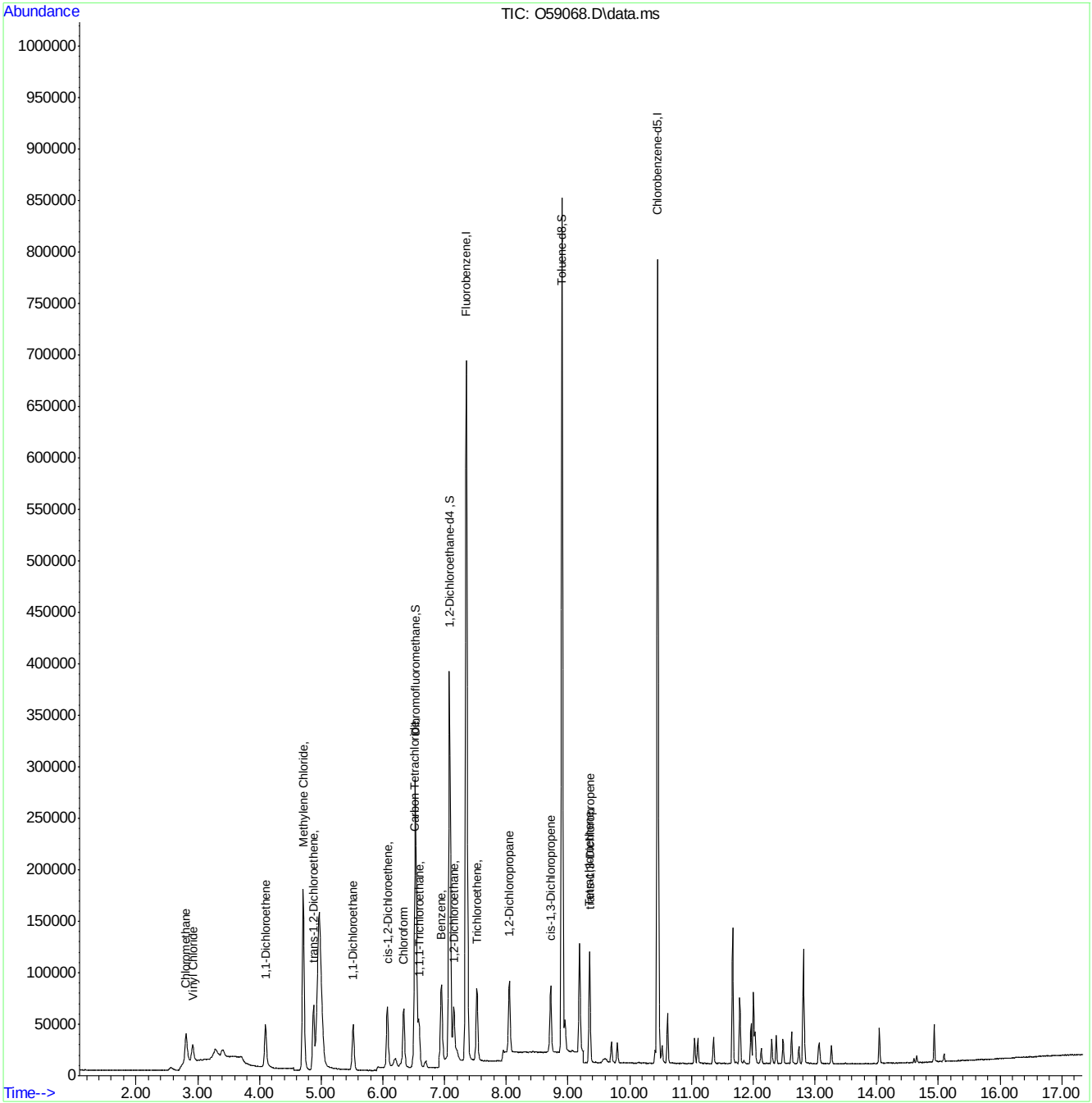
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	965394	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	695921	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	268204	4.20	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 84.00%			
14) 1,2-Dichloroethane-d4	7.079	65	339750	4.38	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 87.60%			
20) Toluene-d8	8.903	98	826678	5.66	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.920	62	31407	0.30	ug/L	95
3) Chloromethane	2.814	50	53510m	0.30	ug/L	
4) 1,1-Dichloroethene	4.100	61	51882	0.37	ug/L	99
5) Methylene Chloride	4.707	49	230349	0.89	ug/L	99
6) trans-1,2-Dichloroethene	4.873	61	67779	0.41	ug/L	95
7) 1,1-Dichloroethane	5.518	63	71473	0.38	ug/L	97
8) cis-1,2-Dichloroethene	6.078	96	37081	0.41	ug/L	98
9) Chloroform	6.339	83	58014	0.38	ug/L	98
11) Carbon Tetrachloride	6.516	117	38105	0.39	ug/L	97
12) 1,1,1-Trichloroethane	6.588	97	43944	0.40	ug/L	94
13) Benzene	6.949	78	133791m	0.42	ug/L	
15) 1,2-Dichloroethane	7.151	62	55187	0.37	ug/L	96
16) Trichloroethene	7.524	95	43758	0.44	ug/L	96
17) 1,2-Dichloropropane	8.051	63	48146	0.45	ug/L	96
18) cis-1,3-Dichloropropene	8.719	75	49886	0.49	ug/L	99
21) trans-1,3-Dichloropropene	9.353	75	41739	0.50	ug/L	99
22) Tetrachloroethene	9.349	166	34577	0.47	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:11:45 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:17 2019 Page: 2

Manual Integration Approval Summary

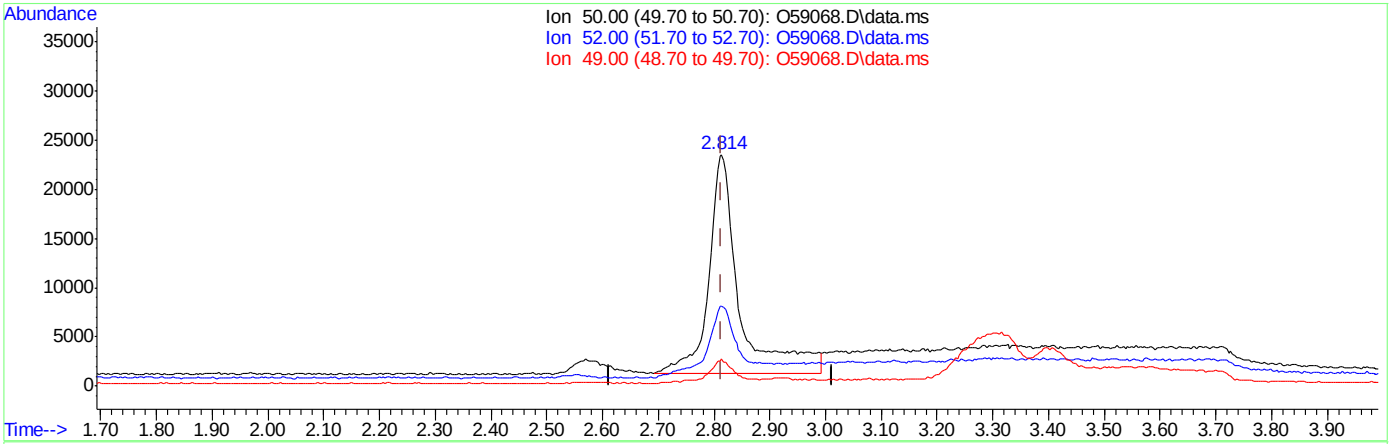
Sample Number:	VO2258-IC2258	**Method:**	SW846 8260B BY SIM
Lab FileID:	O59068.D	**Analyst approved:**	08/26/19 15:41 Kevin Boyd
Injection Time:	08/26/19 12:52	**Supervisor approved:**	08/26/19 16:15 Juan Garcia

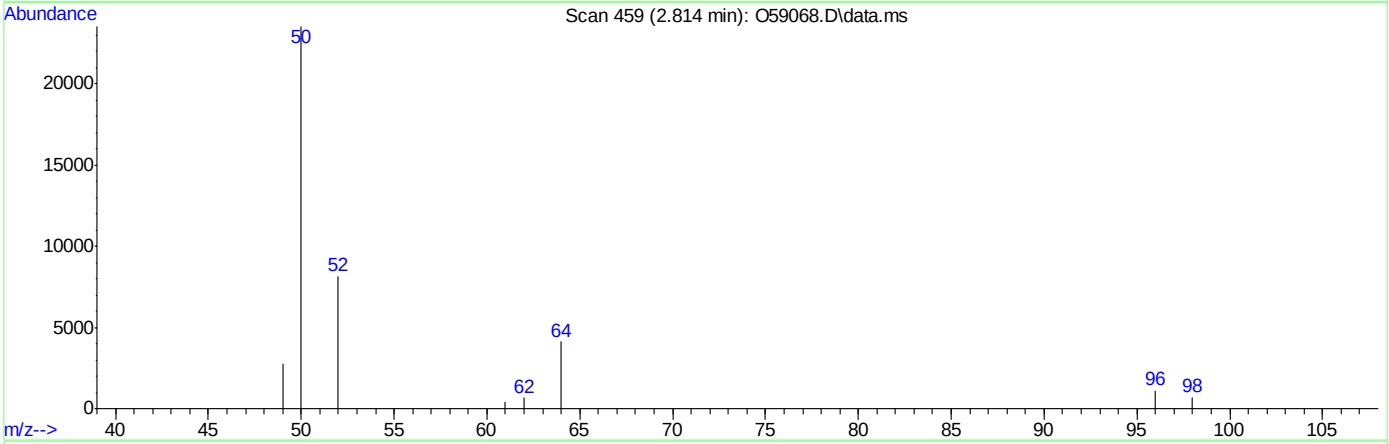
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		2.81	Poor instrument integration
Benzene	71-43-2		6.95	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(3) Chloromethane

2.814min (-0.000) 0.48ug/L

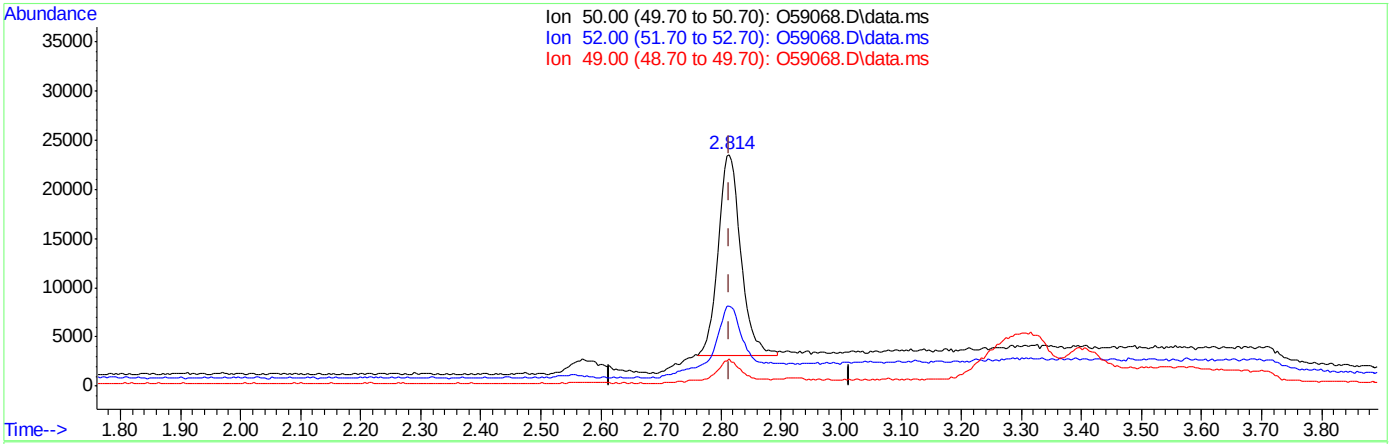
response 84421

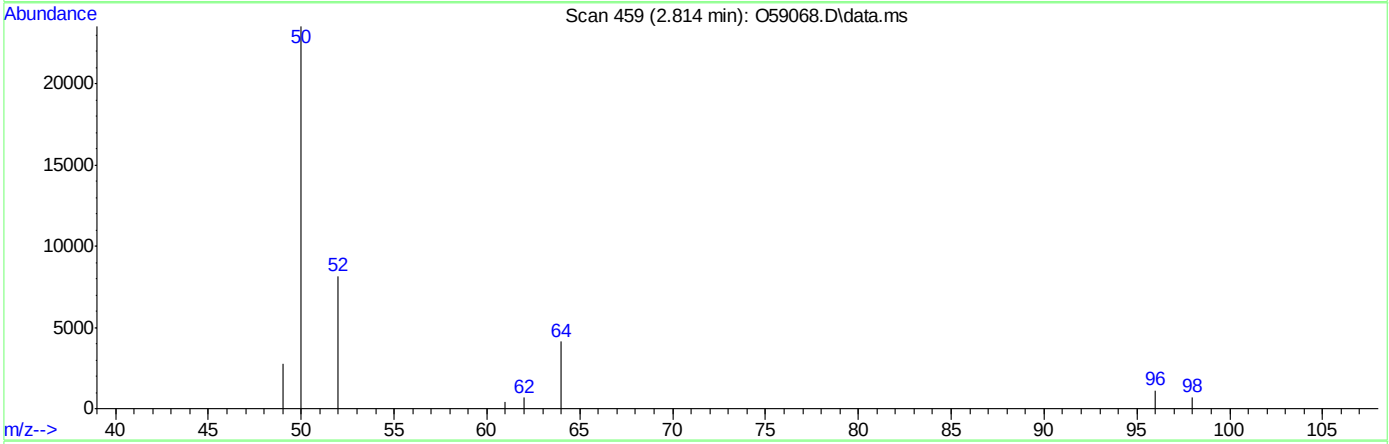
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	32.97
49.00	10.10	11.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(3) Chloromethane

2.814min (-0.000) 0.30ug/L m

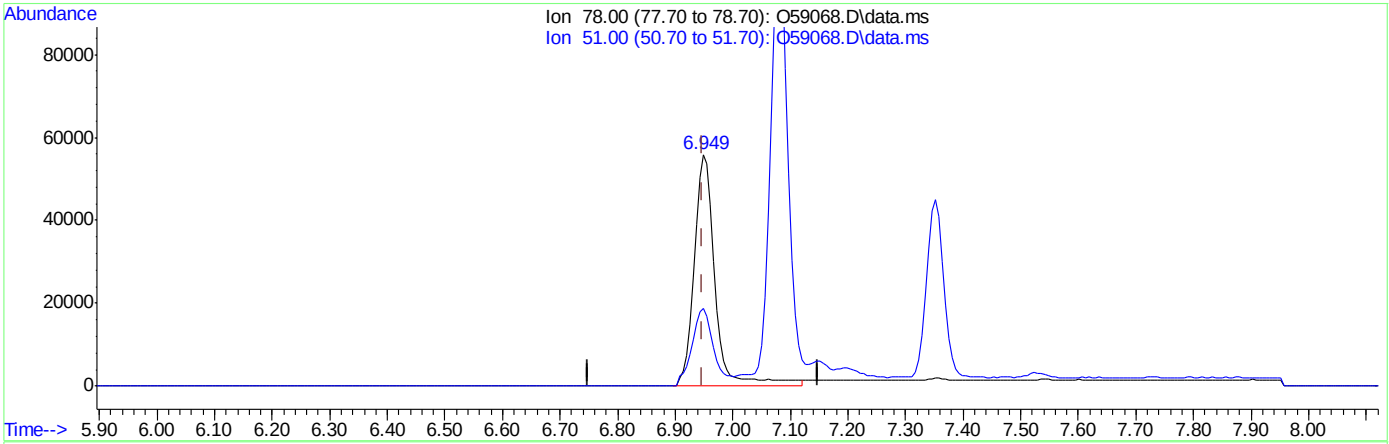
response 53510

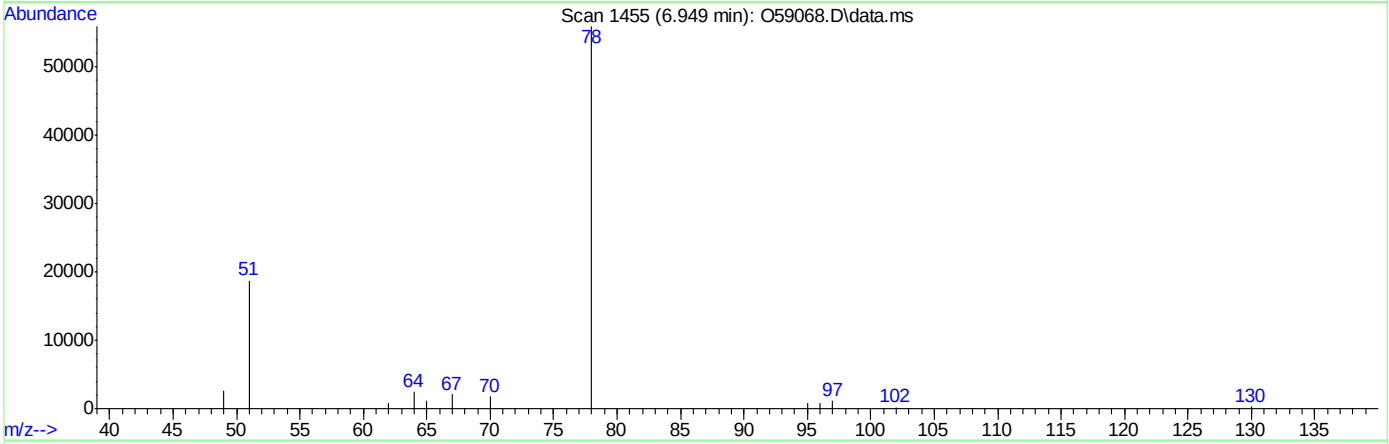
Ion	Exp%	Act%
50.00	100	100
52.00	31.10	34.72
49.00	10.10	11.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.45ug/L

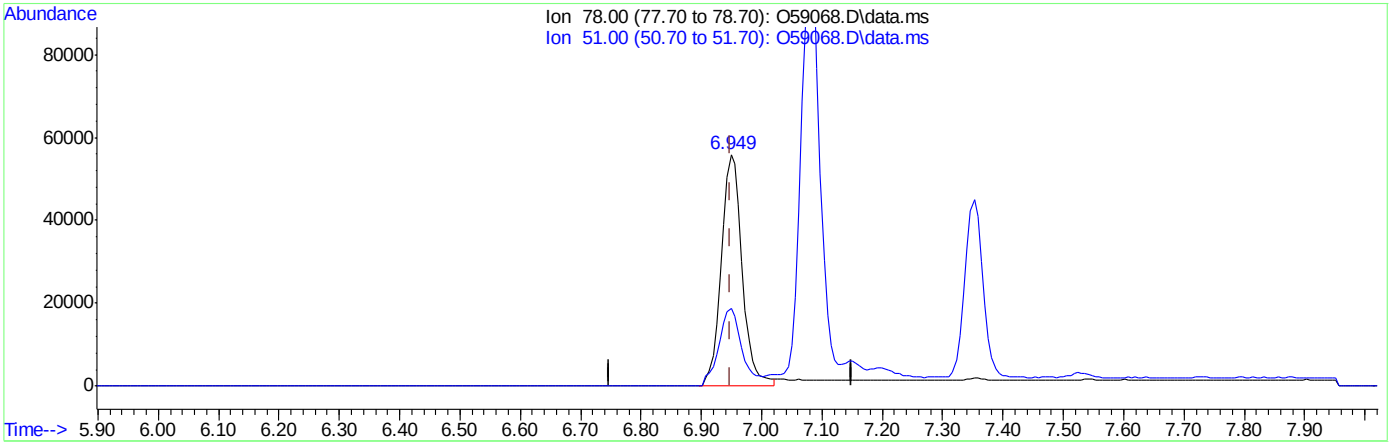
response 143126

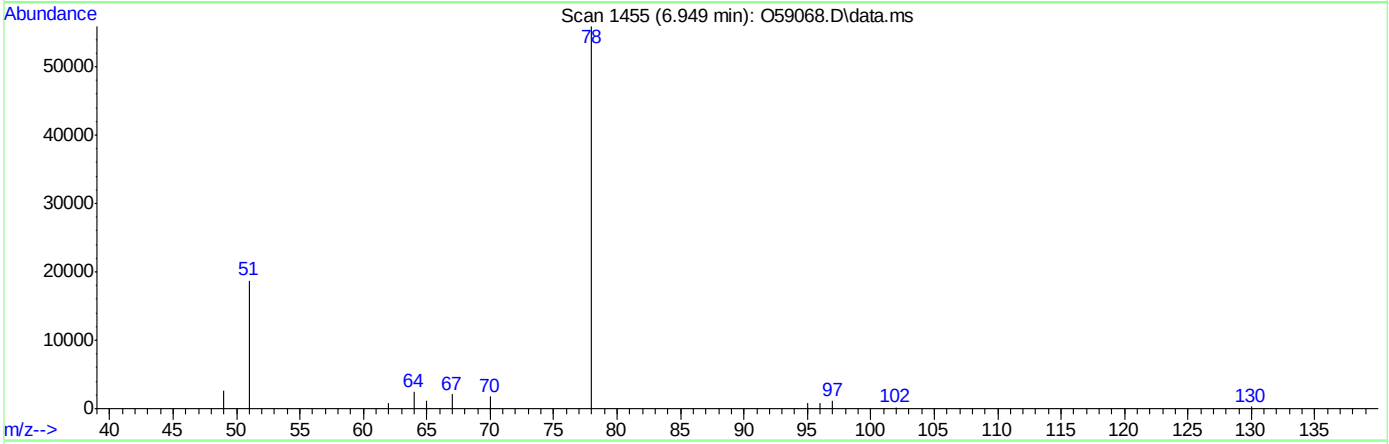
Ion	Exp%	Act%
78.00	100	100
51.00	32.70	33.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\data\082619\
Data File : O59068.D
Acq On : 26 Aug 2019 12:52 pm
Operator : kevinb
Sample : IC2258-2 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 26 13:10:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration





TIC: O59068.D\data.ms

(13) Benzene ( )

6.949min (+0.000) 0.42ug/L m

response 133791

Ion	Exp%	Act%
78.00	100	100
51.00	32.70	33.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59069.D
Acq On : 26 Aug 2019 1:13 pm
Operator : kevinb
Sample : IC2258-3 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 14:07:28 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

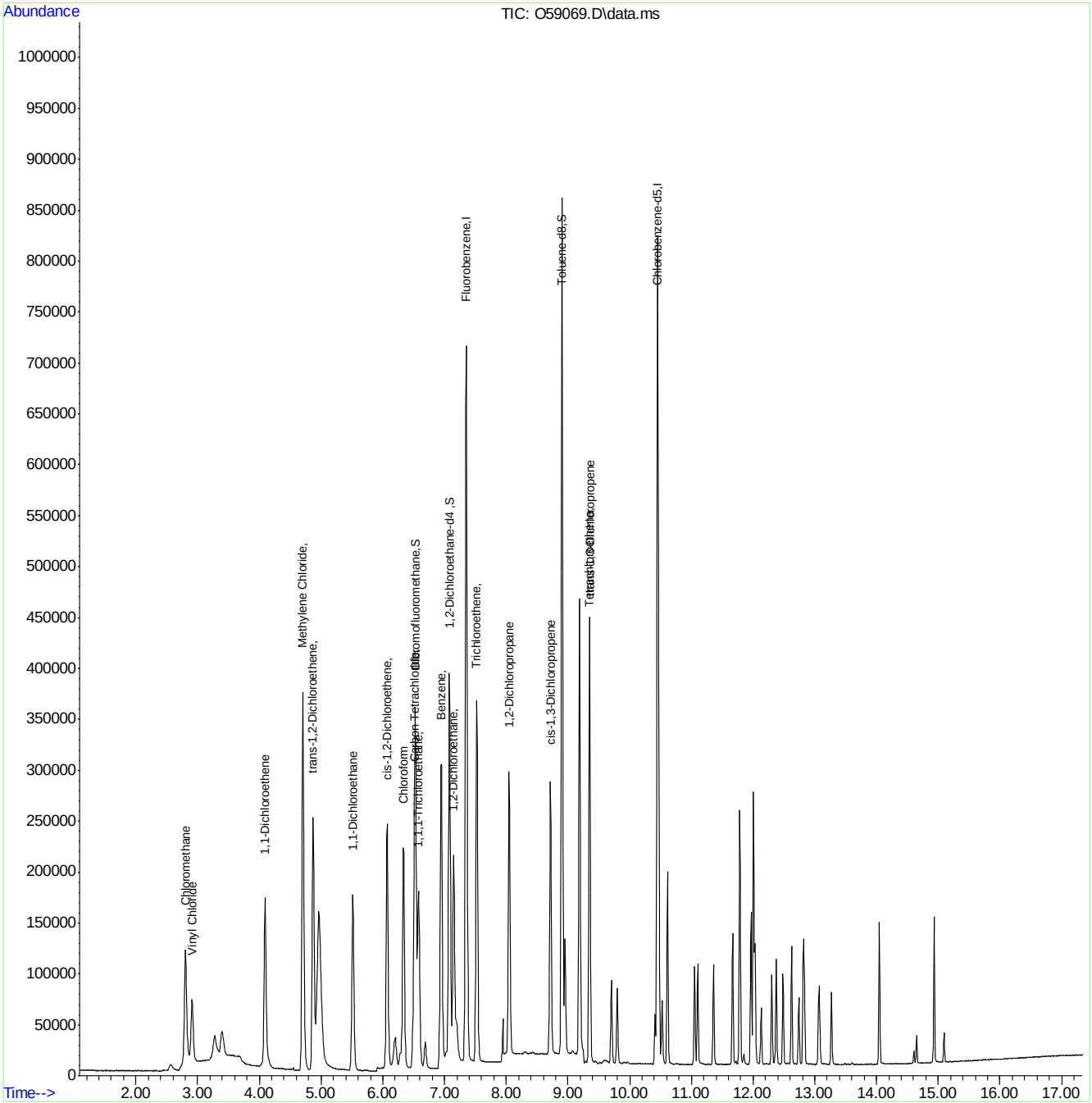
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	966427	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	695236	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	266179	4.16	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.20%			
14) 1,2-Dichloroethane-d4	7.080	65	343319	4.42	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 88.40%			
20) Toluene-d8	8.904	98	827066	5.67	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.40%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	119487	1.14	ug/L	98
3) Chloromethane	2.803	50	238334	1.36	ug/L	100
4) 1,1-Dichloroethene	4.089	61	205502	1.46	ug/L	97
5) Methylene Chloride	4.703	49	481773	1.87	ug/L	99
6) trans-1,2-Dichloroethene	4.869	61	250205	1.52	ug/L	97
7) 1,1-Dichloroethane	5.514	63	280903	1.49	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	146545	1.63	ug/L	99
9) Chloroform	6.333	83	224594	1.49	ug/L	99
11) Carbon Tetrachloride	6.511	117	142313	1.46	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	170065	1.53	ug/L	95
13) Benzene	6.949	78	503876	1.59	ug/L	95
15) 1,2-Dichloroethane	7.145	62	219394	1.46	ug/L	98
16) Trichloroethene	7.518	95	223735	2.24	ug/L	94
17) 1,2-Dichloropropane	8.047	63	177963	1.66	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	197728	1.95	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	169741	2.03	ug/L	99
22) Tetrachloroethene	9.345	166	129061	1.76	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59069.D
Acq On : 26 Aug 2019 1:13 pm
Operator : kevinb
Sample : IC2258-3 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 26 14:07:28 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59070.D
Acq On : 26 Aug 2019 1:34 pm
Operator : kevinb
Sample : IC2258-4 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 14:07:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

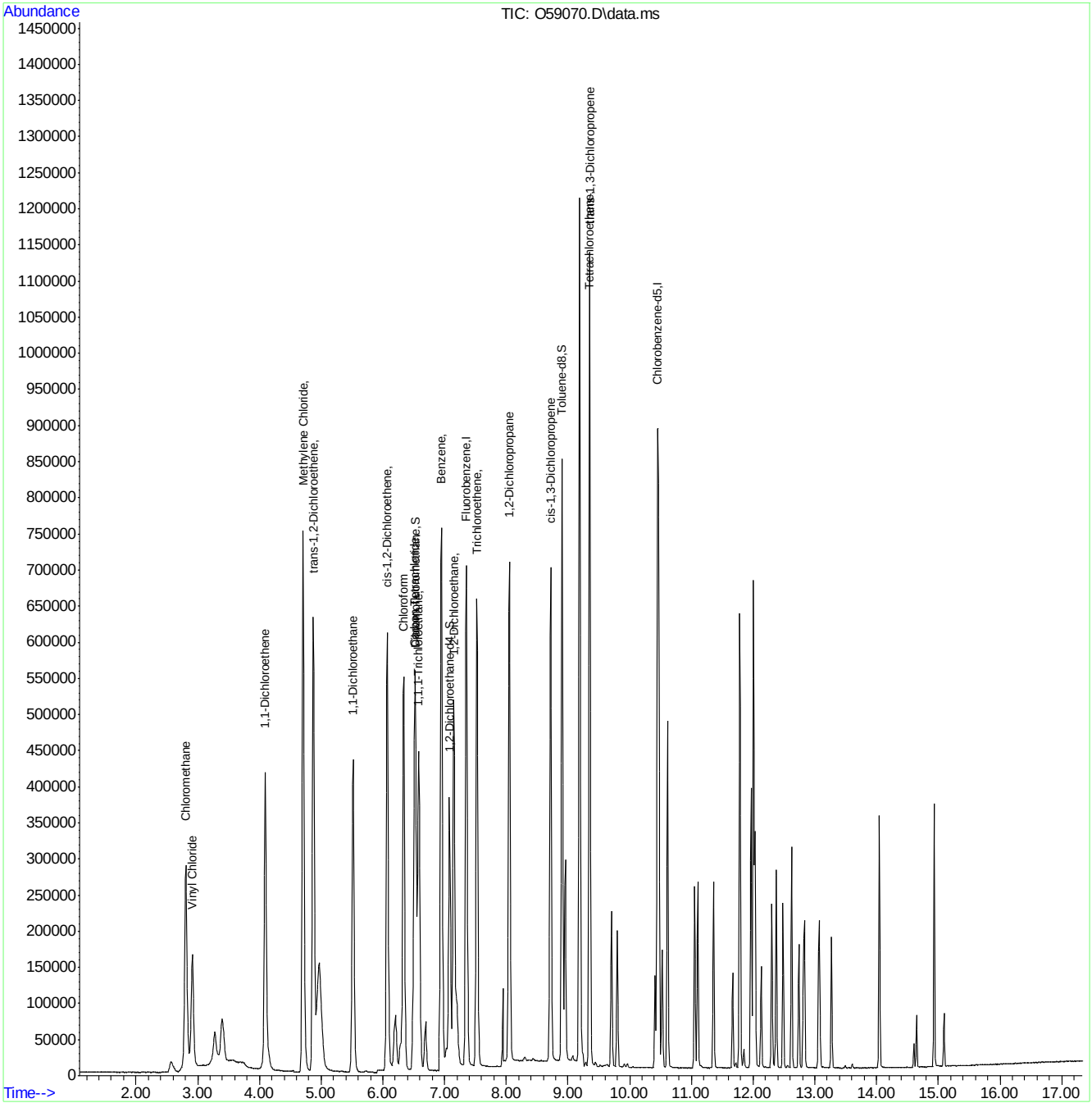
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	967709	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	690706	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	265552	4.15	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 83.00%			
14) 1,2-Dichloroethane-d4	7.079	65	325375	4.18	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 83.60%			
20) Toluene-d8	8.903	98	824305	5.69	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 113.80%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	310530	2.97	ug/L	99
3) Chloromethane	2.810	50	553412	3.19	ug/L	99
4) 1,1-Dichloroethene	4.092	61	507993	3.60	ug/L	99
5) Methylene Chloride	4.707	49	986245	3.88	ug/L	97
6) trans-1,2-Dichloroethene	4.873	61	627897	3.80	ug/L	98
7) 1,1-Dichloroethane	5.518	63	712322	3.76	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	372771	4.14	ug/L	97
9) Chloroform	6.339	83	567784	3.76	ug/L	98
11) Carbon Tetrachloride	6.516	117	380994	3.91	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	443119	3.98	ug/L	95
13) Benzene	6.949	78	1249926	3.93	ug/L	96
15) 1,2-Dichloroethane	7.151	62	554746	3.69	ug/L	97
16) Trichloroethene	7.524	95	386484	3.87	ug/L	98
17) 1,2-Dichloropropane	8.051	63	448332	4.18	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	511371	5.05	ug/L	97
21) trans-1,3-Dichloropropene	9.353	75	444715	5.34	ug/L	99
22) Tetrachloroethene	9.345	166	330591	4.54	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59070.D
Acq On : 26 Aug 2019 1:34 pm
Operator : kevinb
Sample : IC2258-4 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 26 14:07:56 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59071.D
Acq On : 26 Aug 2019 1:55 pm
Operator : kevinb
Sample : ICC2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 14:12:35 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

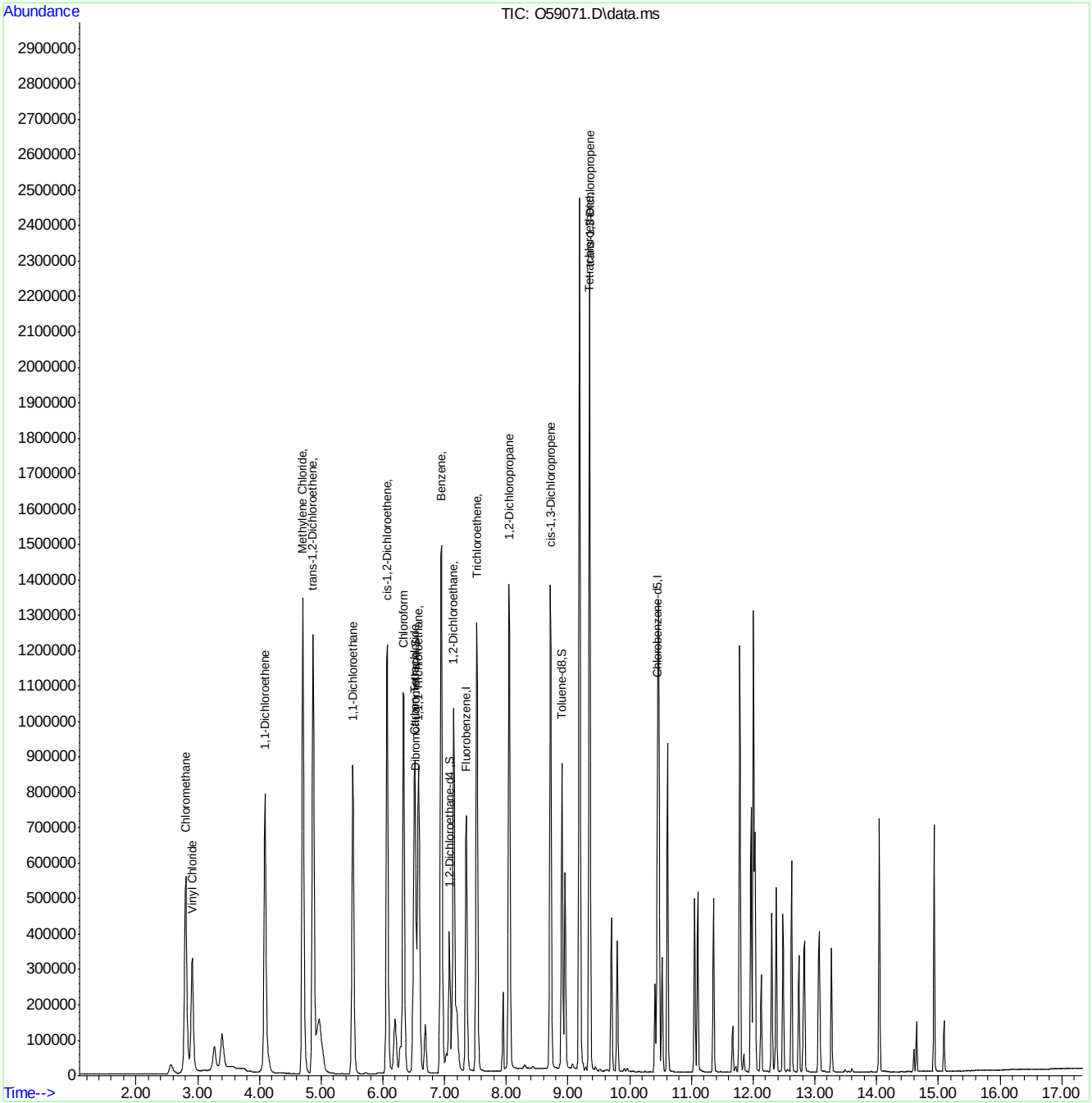
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	982225	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696551	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	267380	4.11	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 82.20%#			
14) 1,2-Dichloroethane-d4	7.079	65	334012	4.23	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 84.60%			
20) Toluene-d8	8.904	98	834654	5.71	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 114.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	617596	5.82	ug/L	99
3) Chloromethane	2.806	50	1057755	6.12	ug/L	99
4) 1,1-Dichloroethene	4.089	61	971731	6.78	ug/L	99
5) Methylene Chloride	4.703	49	1750204	6.96	ug/L	97
6) trans-1,2-Dichloroethene	4.869	61	1222109	7.30	ug/L	98
7) 1,1-Dichloroethane	5.514	63	1396723	7.27	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	732514	8.02	ug/L	99
9) Chloroform	6.333	83	1111151	7.24	ug/L	99
11) Carbon Tetrachloride	6.511	117	730117	7.38	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	870733	7.70	ug/L	94
13) Benzene	6.949	78	2440785	7.56	ug/L	95
15) 1,2-Dichloroethane	7.145	62	1093020	7.16	ug/L	99
16) Trichloroethene	7.524	95	753907	7.43	ug/L	98
17) 1,2-Dichloropropane	8.047	63	875742	8.05	ug/L	96
18) cis-1,3-Dichloropropene	8.719	75	1024040	9.96	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	894060	10.65	ug/L	98
22) Tetrachloroethene	9.345	166	638313	8.69	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59071.D
Acq On : 26 Aug 2019 1:55 pm
Operator : kevinb
Sample : ICC2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 26 14:12:35 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



SIMCL082619.M Mon Aug 26 15:38:23 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59072.D
Acq On : 26 Aug 2019 2:16 pm
Operator : kevinb
Sample : IC2258-6 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 14:44:01 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

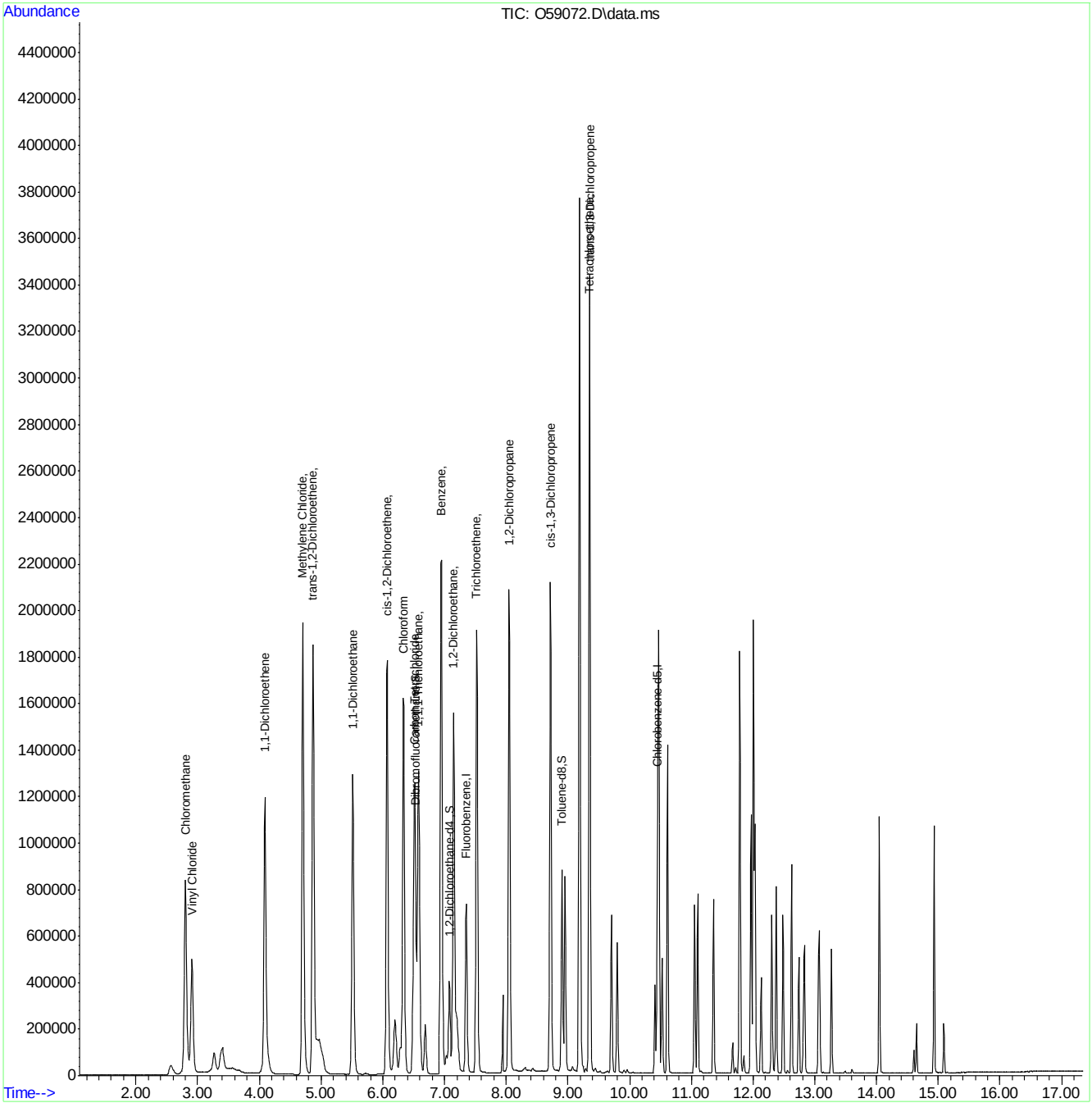
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	984555	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696564	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	264726	4.06	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 81.20%#			
14) 1,2-Dichloroethane-d4	7.080	65	334286	4.22	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 84.40%			
20) Toluene-d8	8.904	98	842121	5.76	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 115.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	954557	8.97	ug/L	99
3) Chloromethane	2.803	50	1590554	9.39	ug/L	99
4) 1,1-Dichloroethene	4.089	61	1487352	10.36	ug/L	100
5) Methylene Chloride	4.703	49	2554176	10.41	ug/L	97
6) trans-1,2-Dichloroethene	4.869	61	1836700	10.94	ug/L	98
7) 1,1-Dichloroethane	5.514	63	2096406	10.88	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	1095181	11.97	ug/L	99
9) Chloroform	6.333	83	1665835	10.83	ug/L	98
11) Carbon Tetrachloride	6.511	117	1126120	11.35	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	1334267	11.77	ug/L	94
13) Benzene	6.949	78	3659590	11.31	ug/L	94
15) 1,2-Dichloroethane	7.145	62	1646326	10.75	ug/L	98
16) Trichloroethene	7.518	95	1133106	11.14	ug/L	95
17) 1,2-Dichloropropane	8.047	63	1323974	12.15	ug/L	95
18) cis-1,3-Dichloropropene	8.719	75	1568519	15.22	ug/L	96
21) trans-1,3-Dichloropropene	9.353	75	1380700	16.45	ug/L	97
22) Tetrachloroethene	9.345	166	971454	13.23	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59072.D
Acq On : 26 Aug 2019 2:16 pm
Operator : kevinb
Sample : IC2258-6 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 26 14:44:01 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59073.D
Acq On : 26 Aug 2019 2:37 pm
Operator : kevinb
Sample : IC2258-7 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 14:59:46 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration

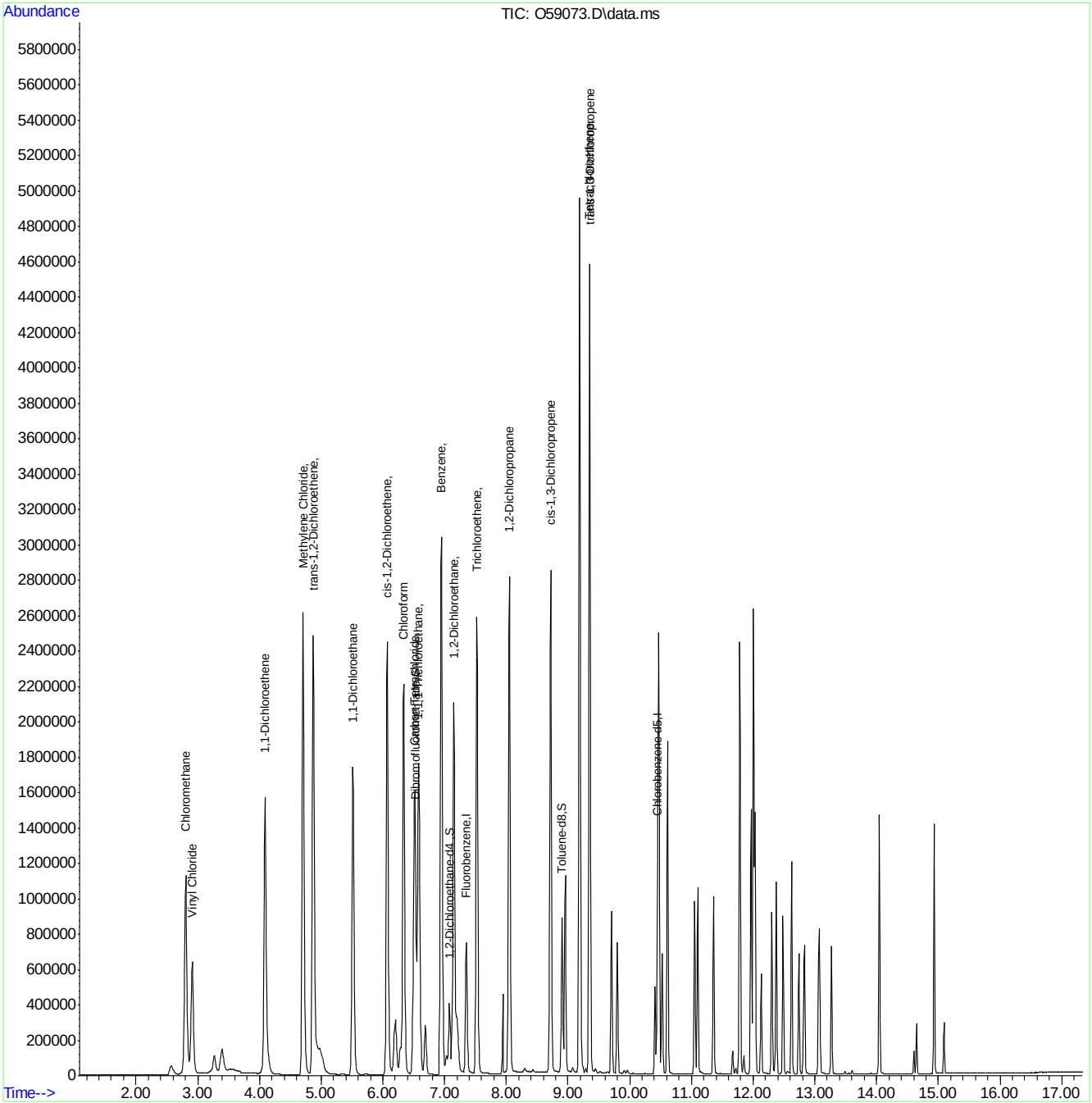
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	1001697	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	699700	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	270882	4.09	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 81.80%#			
14) 1,2-Dichloroethane-d4	7.079	65	341898	4.25	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 85.00%			
20) Toluene-d8	8.903	98	852657	5.81	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 116.20%#			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	1232038	11.38	ug/L	99
3) Chloromethane	2.806	50	2085187	12.35	ug/L	99
4) 1,1-Dichloroethene	4.088	61	2005700	13.73	ug/L	99
5) Methylene Chloride	4.707	49	3478423	14.41	ug/L	96
6) trans-1,2-Dichloroethene	4.873	61	2496709	14.62	ug/L	99
7) 1,1-Dichloroethane	5.514	63	2849534	14.54	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	1495061	16.06	ug/L	98
9) Chloroform	6.339	83	2269076	14.50	ug/L	97
11) Carbon Tetrachloride	6.516	117	1520351	15.06	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	1796306	15.57	ug/L	95
13) Benzene	6.949	78	4934646	14.99	ug/L	95
15) 1,2-Dichloroethane	7.151	62	2228516	14.31	ug/L	97
16) Trichloroethene	7.524	95	1526952	14.76	ug/L	98
17) 1,2-Dichloropropane	8.051	63	1792018	16.16	ug/L	94
18) cis-1,3-Dichloropropene	8.719	75	2134301	20.35	ug/L	97
21) trans-1,3-Dichloropropene	9.353	75	1883796	22.34	ug/L	97
22) Tetrachloroethene	9.349	166	1285828	17.43	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59073.D
Acq On : 26 Aug 2019 2:37 pm
Operator : kevinb
Sample : IC2258-7 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 26 14:59:46 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Tue Aug 06 14:03:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59075.D
Acq On : 26 Aug 2019 3:18 pm
Operator : kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 15:36:19 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

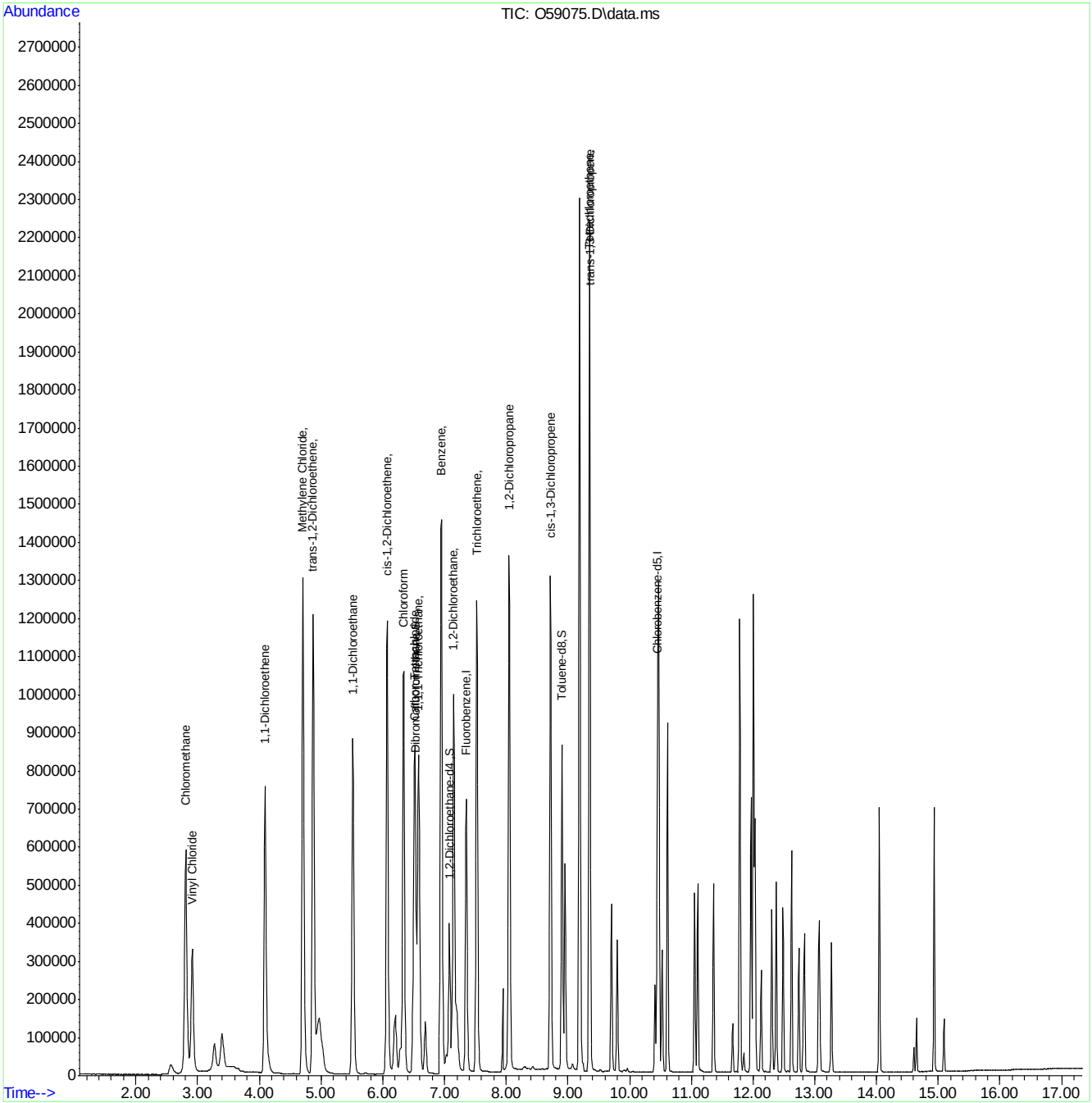
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	975957	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.453	117	696785	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	264775	4.96	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 99.20%			
14) 1,2-Dichloroethane-d4	7.080	65	324147	4.81	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 96.20%			
20) Toluene-d8	8.904	98	830552	4.98	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 99.60%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.912	62	622874	10.13	ug/L	99
3) Chloromethane	2.807	50	1115318	10.17	ug/L	100
4) 1,1-Dichloroethene	4.089	61	942174	8.94	ug/L	99
5) Methylene Chloride	4.703	49	1717337	9.54	ug/L	100
6) trans-1,2-Dichloroethene	4.869	61	1184278	9.12	ug/L	99
7) 1,1-Dichloroethane	5.514	63	1410324	9.66	ug/L	100
8) cis-1,2-Dichloroethene	6.072	96	718681	9.40	ug/L	100
9) Chloroform	6.339	83	1091036	9.22	ug/L	99
11) Carbon Tetrachloride	6.511	117	709262	9.16	ug/L	99
12) 1,1,1-Trichloroethane	6.582	97	840642	9.26	ug/L	100
13) Benzene	6.949	78	2390261	9.77	ug/L	100
15) 1,2-Dichloroethane	7.145	62	1056307	9.32	ug/L	99
16) Trichloroethene	7.524	95	740491	9.63	ug/L	99
17) 1,2-Dichloropropane	8.047	63	869825	9.36	ug/L	99
18) cis-1,3-Dichloropropene	8.719	75	976689	9.32	ug/L	100
21) trans-1,3-Dichloropropene	9.353	75	906764	10.12	ug/L	99
22) Tetrachloroethene	9.345	166	633383	9.33	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\082619\
Data File : O59075.D
Acq On : 26 Aug 2019 3:18 pm
Operator : kevinb
Sample : ICV2258-5 Inst : MSVOA12
Misc : MS44009,VO2258,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 26 15:36:19 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59250.D
Acq On : 5 Sep 2019 10:53 am
Operator : kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44227,VO2266,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 05 11:11:02 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

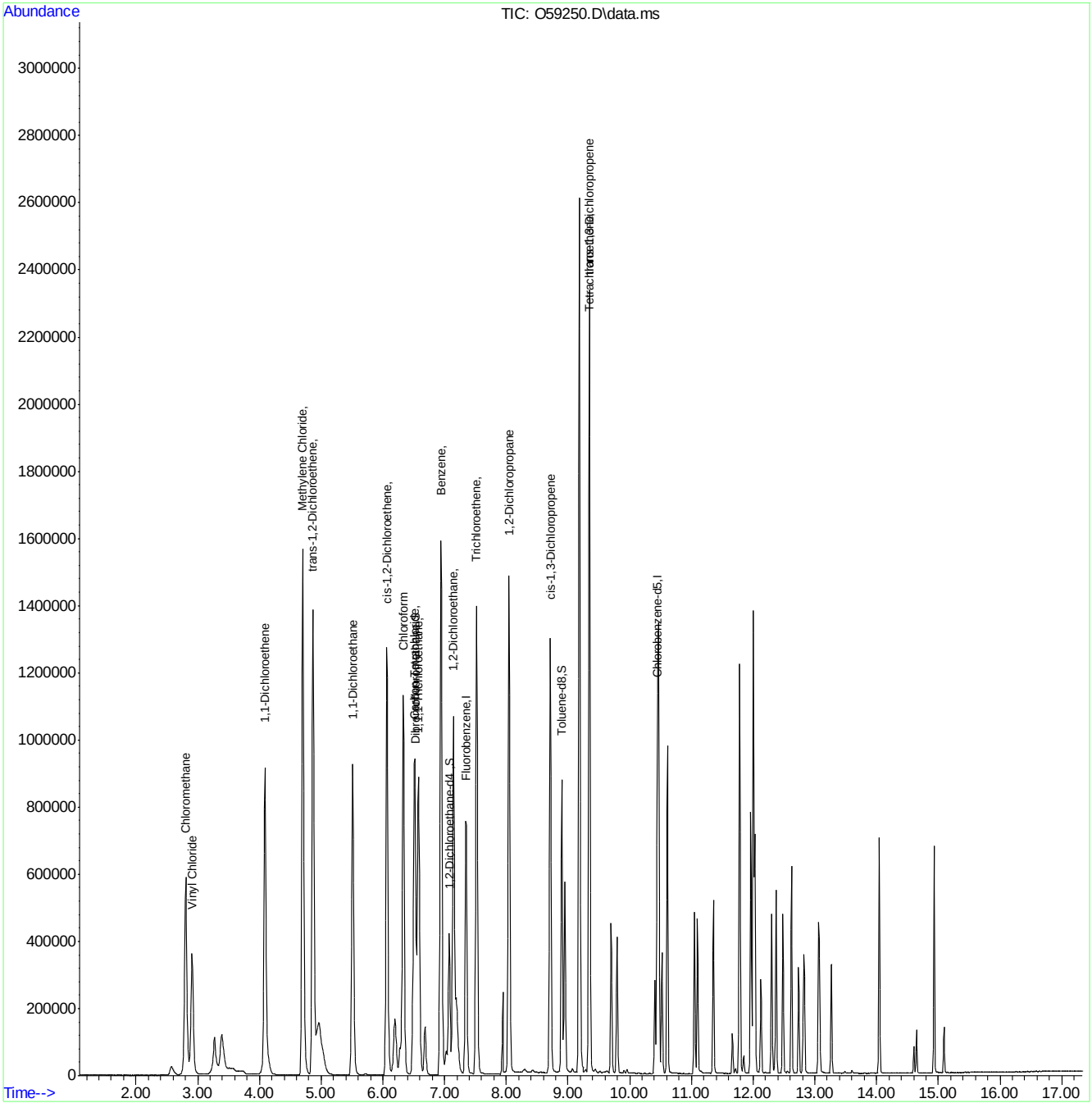
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	1056737	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.449	117	776247	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.522	113	294639	5.09	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 101.80%			
14) 1,2-Dichloroethane-d4	7.074	65	330325	4.53	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 90.60%			
20) Toluene-d8	8.900	98	851944	4.59	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 91.80%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.908	62	707690	10.63	ug/L	99
3) Chloromethane	2.806	50	1090751	9.19	ug/L	99
4) 1,1-Dichloroethene	4.089	61	1079821	9.47	ug/L	94
5) Methylene Chloride	4.699	49	2078632	10.76	ug/L	97
6) trans-1,2-Dichloroethene	4.865	61	1348330	9.59	ug/L	98
7) 1,1-Dichloroethane	5.510	63	1509016	9.54	ug/L	99
8) cis-1,2-Dichloroethene	6.066	96	789435	9.54	ug/L	96
9) Chloroform	6.333	83	1145160	8.94	ug/L	97
11) Carbon Tetrachloride	6.511	117	747655	8.92	ug/L	99
12) 1,1,1-Trichloroethane	6.576	97	869779	8.84	ug/L	96
13) Benzene	6.943	78	2564366	9.68	ug/L	98
15) 1,2-Dichloroethane	7.145	62	1072351	8.74	ug/L	94
16) Trichloroethene	7.518	95	814565	9.79	ug/L	99
17) 1,2-Dichloropropane	8.047	63	930867	9.25	ug/L	99
18) cis-1,3-Dichloropropene	8.715	75	954844	8.42	ug/L	97
21) trans-1,3-Dichloropropene	9.349	75	836755	8.38	ug/L	95
22) Tetrachloroethene	9.341	166	698529	9.24	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59250.D
Acq On : 5 Sep 2019 10:53 am
Operator : kevinb
Sample : CC2258-5 Inst : MSVOA12
Misc : MS44227,VO2266,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 05 11:11:02 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59276.D
Acq On : 5 Sep 2019 7:58 pm
Operator : kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Sep 06 10:50:24 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration

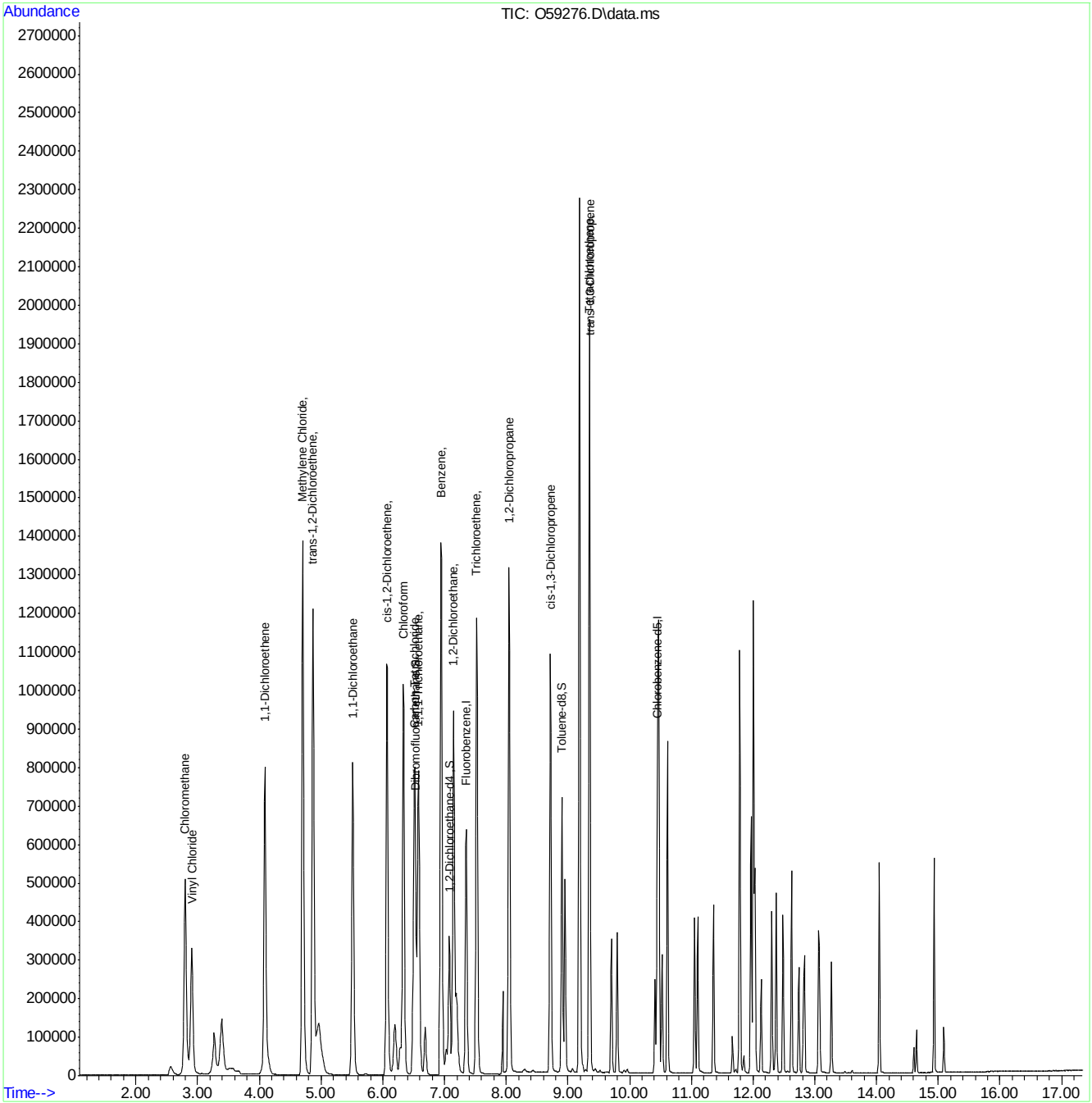
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	7.352	96	880604	5.00	ug/L	0.00
19) Chlorobenzene-d5	10.450	117	642803	5.00	ug/L	0.00
System Monitoring Compounds						
10) Dibromofluoromethane	6.528	113	252851	5.25	ug/L	0.00
Spiked Amount 5.000	Range 83 - 118		Recovery = 105.00%			
14) 1,2-Dichloroethane-d4	7.080	65	281358	4.63	ug/L	0.00
Spiked Amount 5.000	Range 74 - 125		Recovery = 92.60%			
20) Toluene-d8	8.904	98	693754	4.51	ug/L	0.00
Spiked Amount 5.000	Range 88 - 111		Recovery = 90.20%			
Target Compounds						Qvalue
2) Vinyl Chloride	2.905	62	625112	11.26	ug/L	99
3) Chloromethane	2.799	50	964650	9.75	ug/L	99
4) 1,1-Dichloroethene	4.089	61	920551	9.68	ug/L	94
5) Methylene Chloride	4.700	49	1812148	11.29	ug/L	98
6) trans-1,2-Dichloroethene	4.869	61	1150659	9.82	ug/L	95
7) 1,1-Dichloroethane	5.510	63	1315333	9.98	ug/L	99
8) cis-1,2-Dichloroethene	6.072	96	666915	9.67	ug/L	95
9) Chloroform	6.333	83	1012388	9.48	ug/L	97
11) Carbon Tetrachloride	6.511	117	636012	9.11	ug/L	100
12) 1,1,1-Trichloroethane	6.582	97	756649	9.23	ug/L	97
13) Benzene	6.943	78	2238740	10.15	ug/L	96
15) 1,2-Dichloroethane	7.145	62	945145	9.24	ug/L	93
16) Trichloroethene	7.518	95	710108	10.26	ug/L	97
17) 1,2-Dichloropropane	8.047	63	809001	9.64	ug/L	98
18) cis-1,3-Dichloropropene	8.715	75	782289	8.27	ug/L	94
21) trans-1,3-Dichloropropene	9.353	75	700741	8.48	ug/L	95
22) Tetrachloroethene	9.345	166	580090	9.26	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\090519\
Data File : O59276.D
Acq On : 5 Sep 2019 7:58 pm
Operator : kevinb
Sample : ECC2258-5 Inst : MSVOA12
Misc : MS44254,VO2266,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Sep 06 10:50:24 2019
Quant Method : C:\msdchem\2\methods\SIMCL082619.M
Quant Title : Standard Methods 6200B
QLast Update : Mon Aug 26 15:01:47 2019
Response via : Initial Calibration



SGS -ORLANDO

MSVOA12-O-ANALYSIS LOG

Date:	8/26/2019
COLUMN TYPE:	RTX VMS
DETECTOR:	5975 MSD
INSTRUMENT:	MSVOA12-O
PURGE PRESSURE	8.4PSI
PURGE VOLUME:	5 mL
ANALYST:	KEVINB

METHODS:*	8260SIMCL
METHOD FILE:	simcl082619.m
CALIB. DATE:	8/26/2019
EM VOLTAGE:	1376V
BFB RESPONSE	15495515
RUN ID:	**VO2258**

BFB:	V25309B
ICAL/CC:	V25303 V25329
ISTD/SUR:	V25328
ICV/QC:	V25304 V25330

PH LOT1-12 :230814
ph lot 0.0-3.0 : 220416a
KI PAPER LOT:030317
SAMPLE ID VERIFIED BY:
KB
DATE VERIFIED: 8/26/19

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAK RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
O59061	blank	NA	NA	w	1	ACQ_SIMCL		NA	NA		ND ✔
O59062	blank	NA	NA	w	2	ACQ_SIMCL		NA	NA		ND ✔
O59063	blank	NA	NA	w	3	ACQ_SIMCL		NA	NA		ND ✔
O59064	blank	NA	NA	w	4	ACQ_SIMCL		NA	NA		ND ✔
O59065	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59066	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59067	IC2258-1	NA	NA	w	1	ACQ_SIMCL	PII 3,13	NA	NA		1uL->100mL ✔
O59068	IC2258-2	NA	NA	w	2	ACQ_SIMCL	PII 3,13	NA	NA		5uL->100mL ✔
O59069	IC2258-3	NA	NA	w	3	ACQ_SIMCL		NA	NA		10uL->50mL ✔
O59070	IC2258-4	NA	NA	w	4	ACQ_SIMCL		NA	NA		25uL->50mL ✔
O59071	IC2258-5	NA	NA	w	5	ACQ_SIMCL		NA	NA		50uL->50mL ✔
O59072	IC2258-6	NA	NA	w	6	ACQ_SIMCL		NA	NA		75uL->50mL ✔
O59073	IC2258-7	NA	NA	w	7	ACQ_SIMCL		NA	NA		100uL->50mL ✔
O59074	blank	NA	NA	w	8	ACQ_SIMCL		NA	NA		ND ✔
O59075	ICV2258-5	NA	NA	w	9	ACQ_SIMCL		NA	NA		50uL->50mL ✔

* For NELAC purposes, Method 8260 includes analytes by SOP MS005 Matrix: Designate "W" for Water "S" for soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rational SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, PII Poor Instrument

Analyst's Signature: Kevin Boyd

SGS -ORLANDO

MSVOA12-O-ANALYSIS LOG

Date:	9/5/2019
COLUMN TYPE:	RTX VMS
DETECTOR:	5975 MSD
INSTRUMENT:	MSVOA12-O
PURGE PRESSURE	8.4PSI
PURGE VOLUME:	5 mL
ANALYST:	Kevinb

METHODS:*	8260SIMCL
METHOD FILE:	simcl082619.m
CALIB. DATE:	8/26/2019
EM VOLTAGE:	1447V
BFB RESPONSE	13564295
RUN ID:	**VO2266**

BFB:	V25309B
ICAL/CC:	V25303 V25364
ISTD/SUR:	V25328
ICV/QC:	V25304 V25365

PH LOT1-12 :230814
ph lot 0.0-3.0 : 220416a
KI PAPER LOT:030317
SAMPLE ID VERIFIED BY:
Kevinb
DATE VERIFIED: 9/5/19

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAK RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
O59247	BLANK	NA	NA	w	1	ACQ_SIMCL		NA	NA		ND ✔
O59248	BLANK	NA	NA	w	2	ACQ_SIMCL		NA	NA		ND ✔
O59249	BFB	NA	NA	w	100	BFB		NA	NA		Pass on autofind 2uL
O59250	CC2258-5	NA	NA	w	1	ACQ_SIMCL		NA	NA		50uL->50mL ✔
O59251	bs	NA	NA	w	2	ACQ_SIMCL		NA	NA		20uL->vial ✔
O59252	mb	NA	NA	w	3	ACQ_SIMCL		NA	NA		Meth Cl hit ✔
O59253	FA67650-18	1X	2	w	4	ACQ_SIMCL		1	N		✔
O59254	FA67651-2	1X	2	w	5	ACQ_SIMCL		1	N		✔
O59255	FA67651-3	1X	2	w	6	ACQ_SIMCL		1	N		✔
O59256	FA67657-6	1X	2	w	7	ACQ_SIMCL		1	N		✔
O59257	FA67651-6	1X	7	w	8	ACQ_SIMCL		1	N		✔
O59258	FA67650-15	1X	2	w	9	ACQ_SIMCL		1	N		✔
O59259	FA67650-16	1X	2	w	10	ACQ_SIMCL		1	N		✔
O59260	FA67650-17	1X	2	w	11	ACQ_SIMCL	PII 3	1	N		✔
O59261	FA67651-4	1X	3	w	12	ACQ_SIMCL		1	N		✔
O59262	FA67651-5	1X	2	w	13	ACQ_SIMCL		1	N		✔
O59263	FA67651-6MS	1X	9	w	14	ACQ_SIMCL		1	N		20uL->vial ✔
O59264	FA67651-6MSD	1X	2	w	15	ACQ_SIMCL		1	N		20uL->vial ✔
O59265	BLANK	NA	NA	w	16	ACQ_SIMCL		NA	NA		ND ✔
O59266	FA67651-7	1X	2	w	17	ACQ_SIMCL		1	N		✔
O59267	FA67652-1	1X	2	w	18	ACQ_SIMCL		1	N		✔
O59268	FA67657-1	1X	2	w	19	ACQ_SIMCL		1	N		✔
O59269	FA67657-2	1X	2	w	20	ACQ_SIMCL		1	N		✔
O59270	FA67657-3	1X	2	w	21	ACQ_SIMCL		1	N		✔
O59271	FA67657-4	1X	2	w	22	ACQ_SIMCL		1	N		✔
O59272	FA67657-5	1X	2	w	23	ACQ_SIMCL		1	N		✔
O59273	FA67657-7	1X	2	w	24	ACQ_SIMCL		1	N		✔
O59274	FA67657-8	1X	2	w	25	ACQ_SIMCL		1	N		✔
O59275	FA67657-9	1X	2	w	26	ACQ_SIMCL		1	N		✔
O59276	ECC2258-5	NA	NA	w	27	ACQ_SIMCL		NA	NA		50uL->50mL ✔

* For NELAC purposes, Method 8260 includes analytes by SOP MS005 Matrix: Designate "W" for Water "S" for soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rational SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, PII Poor Instrument

Analyst's Signature: _____

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA67651
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP33609/GN82980	2.0	0.0	mg/l	50	48.5	97.0	90-110%
Nitrogen, Nitrate	GP33609/GN82980	0.10	0.0	mg/l	2.5	2.53	101.2	90-110%
Sulfate	GP33609/GN82980	2.0	0.0	mg/l	50	49.6	99.2	90-110%

Associated Samples:
Batch GP33609: FA67651-1, FA67651-4, FA67651-5, FA67651-6, FA67651-7
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA67651
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP33609/GN82980	FA67651-6	mg/l	421	50	388	-66.0(a)	90-110%
Nitrogen, Nitrate	GP33609/GN82980	FA67651-6	mg/l	2.9	2.5	6.1	128.0N(b)	90-110%
Sulfate	GP33609/GN82980	FA67651-6	mg/l	125	50	151	52.0N(b)	90-110%

Associated Samples:
Batch GP33609: FA67651-1, FA67651-4, FA67651-5, FA67651-6, FA67651-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA67651
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP33609/GN82980	FA67651-6	mg/l	421	50	375	3.4	20%
Nitrogen, Nitrate	GP33609/GN82980	FA67651-6	mg/l	2.9	2.5	5.5	10.3	20%
Sulfate	GP33609/GN82980	FA67651-6	mg/l	125	50	147	2.7	20%

Associated Samples:
Batch GP33609: FA67651-1, FA67651-4, FA67651-5, FA67651-6, FA67651-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: FA67651
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

File ID: 22019090501.TXT Date Analyzed: 08/27/19 Methods: EPA 300/SW846 9056A
Analyst: JB Run ID: GN82980
Parameters: Chloride

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:17	GN82980-STD1	1		STDA
14:36	GN82980-STD2	1		STDB
14:54	GN82980-STD3	1		STDC
15:13	GN82980-STD4	1		STDD
15:32	GN82980-STD5	1		STDE
15:51	GN82980-STD6	1		STDF
16:10	GN82980-STD7	1		STDG
16:29	GN82980-STD8	1		STDH
16:48	GN82980-STD9	1		STDI
17:07	GN82980-ICB1	1		
17:26	GN82980-ICV1	1		
17:45	GN82980-CRI1	1		
18:04	GN82980-CCV1	1		
18:23	GN82980-CCB1	1		
10:53	GN82980-CCV2	1		
11:12	GP33609-MB1	1		
11:31	GP33609-B1	1		
11:50	ZZZZZZ	500		
12:09	ZZZZZZ	1		
12:27	ZZZZZZ	1		
12:46	ZZZZZZ	10		
13:05	ZZZZZZ	1		
13:24	ZZZZZZ	1		
13:43	FA67529-4	1		(sample used for QC only; not part of login FA67651)
14:02	GN82980-CCV3	1		
14:21	GN82980-CCB2	1		
14:40	GP33609-S1	1		
14:59	GP33609-S2	1		
15:18	ZZZZZZ	1		
15:37	ZZZZZZ	1		
15:56	ZZZZZZ	5		
16:15	ZZZZZZ	1		
16:34	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: FA67651
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

File ID: 22019090501.TXT Date Analyzed: 08/27/19 Methods: EPA 300/SW846 9056A
Analyst: JB Run ID: GN82980
Parameters: Chloride

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:53	ZZZZZZ	1		
17:12	FA67651-1	100		
17:31	FA67651-4	10		
17:49	GN82980-CCV4	1		
18:08	GN82980-CCB3	1		
18:27	FA67651-5	10		
18:46	FA67651-6	10		
19:05	GP33609-S3	10		
19:24	GP33609-S4	10		
19:43	FA67651-7	1		
21:37	GN82980-CCV5	1		
21:56	GN82980-CCB4	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: FA67651
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

File ID: 22019090501.TXT Date Analyzed: 08/27/19 Methods: EPA 300/SW846 9056A
Run ID: GN82980 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN82980-ICB1	Chloride	0.80 U	2.0	0.80			
GN82980-ICV1	Chloride	47.7	2.0	0.80	50	95.4	90-110
GN82980-CRI1	Chloride	2.31	2.0	0.80	2	115.5	50-150
GN82980-CCV1	Chloride	48.5	2.0	0.80	50	97.0	90-110
GN82980-CCB1	Chloride	0.80 U	2.0	0.80			
GN82980-CCV2	Chloride	48.2	2.0	0.80	50	96.4	90-110
GN82980-CCV3	Chloride	48.1	2.0	0.80	50	96.2	90-110
GN82980-CCB2	Chloride	0.80 U	2.0	0.80			
GN82980-CCV4	Chloride	48.2	2.0	0.80	50	96.4	90-110
GN82980-CCB3	Chloride	0.80 U	2.0	0.80			
GN82980-CCV5	Chloride	48.3	2.0	0.80	50	96.6	90-110
GN82980-CCB4	Chloride	0.80 U	2.0	0.80			

(!) Outside of QC limits

General Chemistry

Raw Data

IC Instrument Log

Method: EPA300.0 / SW846 9056A (circle one)

Date:	9-5-19 @ 10:35
Analyst:	JB
Instrument:	712
Inst. File Name:	22019090501.txt

Prep Batchs:	336099
Analytical Batch:	329930
Calibration Date:	8-27-19
Pump pressure:	2163 psi

Vial lot#	A022899A2-9200-FA
Cap lot#	
Syringe lot#	18M0508
Filter lot#	D6197191V-P

Standards	
ICAL:	
ICV:	
CCV:	IC010186
QC:	IC010487

Sample#	Bot#	Matrix	Scon	DF	Filter (y/n)	Ions Needed F	Cl	NO2	Br	NO3	SO4	Results OK or Dilution Needed F	Cl	NO2	Br	NO3	SO4	Comments
Rinse	—	AQ	—	1	y		—			—	—	(1)						(1) OK unless marked
CCV	—		—	↓			—			—	—							
MB1	—		—				—			—	—							
B1	—		—	↓			—			—	—							
FA67709-1	11		34 mS	500														
FA67521-13	4		240 µS	1							—							
FA67529-1	↓		140 µS	↓							—							
FA67727-8			2.43 mS	10						—	—							
FA67529-2			202 µS	1							—							
-3			235 µS								—							
-4	↓		192 µS								—							
CCV	—		—				—			—	—							
CCB	—		—				—			—	—							
FA67529-451	4		192 µS				—			—	—							
-457			↓				—			—	—							
-5			195 µS								—							
FA67501-1			200 µS	↓							—							
-2			910 mS	5														
-3			75 µS	1														
-4			67 µS								—							
-5	↓		465 µS	↓							—							
FA67651-1	1		9.10 mS	100			—											
-4	4		1360 µS	10			—											
CCV	—		—	1		—	—	—	—	—	—	X						
CCB	—		—	↓		—	—	—	—	—	—							
FA67651-5	4		1382 µS	10			—											
-6	10		1760 µS				—											
-653	↓		↓	↓			—											
-654							—			—	—							

SGS

IC Instrument Log

Method: EPA300.0 / SW846 9056A (circle one)

Date:	9-5-19
Analyst:	
Instrument:	
Inst. File Name:	

Prep Batchs:	
Analytical Batch:	
Calibration Date:	
Pump pressure:	

Vial lot#	
Cap lot#	
Syringe lot#	
Filter lot#	

Standards	
ICAL:	
ICV:	
CCV:	
QC:	

Sample#	Bot#	Matrix	Scon	DF	Filter (y/n)	Ions Needed: F	Cl	NO2	Br	NO3	SO4	Results OK or Dilution Needed: F	Cl	NO2	Br	NO3	SO4	Comments
FA67651-7	4	AQ	410s	1	N		—					①						① Ok unless marked
MB1	—	SO	—		Y	—	—	—	—	—	—							
BI	—		—			—	—	—	—	—	—	X						RR when calibration passes for F
FA67280-1	—		—			—	—	—	—	—	—	RR						MDL 1
-2	—		—			—	—	—	—	—	—	↓						↓ 2
-3	—	↓	—		↓	—	—	—	—	—	—							↓ 3 ↓
CCV	—	AQ	—		N	—	—	—	—	—	—							
OCB	—		—			—	—	—	—	—	—							
SD	—	↓	—	↓	↓													

JB 9-6-19

SGS

IC STANDARDS PREP LOG

STANDARD NAME	ANALYTES	STOCK MFG. #	STOCK LOT #	STOCK EXP. DATE	STOCK CONC. (mg/l)	VOLUME ADDED (ml)	TOTAL VOLUME (ml)	STANDARD CONC. (mg/l)	PREP DATE	INITIALS	STD LOT #	EXP. DATE	
B1	Br	GN28191	Ref	10-13-19	1000	0.625	50	12.5	8-29-19	JB	ICO104469	8-31-19	
1°NO_2	NO_2	NO_2 WCl1441	Absolute	6-8-22	1000	5	50	100	8-30-19	JB	ICO104470	8-31-19	
1°NO_3	NO_3	NO_3 WCl1440	↓	6-6-22	↓	↓	↓	↓	↓	↓	71	↓	
2°NO_2	NO_2	NO_2 WCl1484		6-24-21							72		
2°NO_3	NO_3	NO_3 WCl1483		6-6-22							73		
CCV	NO_2/NO_3	ICO104730/1	Ref	8-31-19	100	2.5	100	2.5			ICO10474		* JB 8-31-19
	SO_4	WCl1455	LGC	6-20-~~21~~20	1000	5		50					
	Cl	WCl1454	↓	↓	↓	↓		↓					
	F	WCl1329		2-1-20		0.25		2.5					
	Br	WCl1457	Fisher	7-1-20		1.25		12.5					
B1	NO_2/NO_3	ICO104472/3	Ref	8-31-19	100	↓	50	2.5			ICO10475		
	SO_4	GN28192		10-13-19	1000	2.5		50					
	Cl	↓ 3	↓	↓	↓	↓		↓					
	F	WCl1456	LabChem	3-7-21		0.125		2.5					
	Br	GN28191	Ref	10-13-19		0.625		12.5					
1°NO_2	NO_2	WCl1441	Absolute	6-8-22	1000	5	50	100	8-31-19	JB	ICO104476	9-1-19	
1°NO_3	NO_3	WCl1440		6-6-22							77		
2°NO_2	NO_2	WCl1484		6-24-21							78		
2°NO_3	NO_3	WCl1483		6-6-22							79		
CCV	NO_2/NO_3	ICO104476/7	Ref	9-1-19	100	2.5	100	2.5			ICO10480		* JB 8-31-19
	SO_4	WCl1455	LGC	6-20-~~21~~20	1000	5		50					
	Cl	WCl1454	↓	↓	↓	↓		↓					
	F	WCl1329		2-1-20		0.25		2.5					
	Br	WCl1457	fisher	7-1-20		1.25		12.5					
B1	NO_2/NO_3	ICO104478/9	Ref	9-1-19	100	↓	50	2.5			ICO10481		
	SO_4	GN28192		10-13-19	1000	2.5		50					
	Cl	↓ 3	↓	↓	↓	↓		↓					
	F	WCl1456	labchem	3-7-21		0.125		2.5					
	Br	GN28191	Ref	10-13-19		0.625		12.5					
1°NO_2	NO_2	NO_2	Absolute	6-8-22	1000	5	50	100	9-5-19	JB	ICO10482	9-6-19	
1°NO_3	NO_3	NO_3		6-6-22							83		
2°NO_2	NO_2	NO_2		6-24-21							84		
2°NO_3	NO_3	NO_3	↓	6-6-22	↓	↓	↓	↓	↓	↓	85	↓	

JB 9-5-19

Rev. 0116 LM

Q entry error JB 8-31-19

SGS

IC STANDARDS PREP LOG

STANDARD NAME	ANALYTES	STOCK MFG. #	STOCK LOT #	STOCK EXP. DATE	STOCK CONC. (mg/l)	VOLUME ADDED (ml)	TOTAL VOLUME (ml)	STANDARD CONC. (mg/l)	PREP DATE	INITIALS	STD LOT #	EXP. DATE
CCV	NO_2/NO_3	IC0104823	Ref	9-6-19	100	2.5	100	25	9-5-19	JB	IC0104860	9-6-19
↓	SO_4	WC1455	LGC	6-20-20	1000	5	↓	50	↓	↓	↓	↓
↓	Cl	WC1454	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	F	WC1328	↓	2-1-20	↓	0.25	↓	2.5	↓	↓	↓	↓
↓	Br	WC1457	Fisher	7-1-20	↓	1.25	↓	12.5	↓	↓	↓	↓
B1	NO_2/NO_3	IC0104845	Ref	9-6-19	100	↓	50	2.5	↓	↓	IC0104870	↓
↓	SO_4	GN28192	↓	10-13-19	1000	2.5	↓	50	↓	↓	↓	↓
↓	Cl	↓ 3	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
↓	F	WC1456	Labchem	3-7-21	↓	0.125	↓	2.5	↓	↓	↓	↓
↓	Br	GN28191	Ref	10-13-19	↓	0.625	↓	12.5	↓	↓	↓	↓

Sequence: 09-05-19
Operator: Chemistry

Printed: 9/6/2019 9:32:23 AM

Name	Title	Timebase	Last Update	Operator	Size
SHUTDOWN_A22.pgm	SHUTDOWN_1	FLCHMIC2_1	7/27/2018 11:37:33 AM	Chemistry	1 KB
SHUTDOWN_1.pgm	SHUTDOWN_1	FLCHMIC2_1	6/27/2017 11:46:12 AM	Chemistry	1 KB
ANIONS-B.qnt	ANIONS		9/5/2019 3:20:10 PM	Chemistry	72 KB
ANIONS.qnt	ANIONS		10/28/2015 8:22:15 AM	Chemistry	8 KB
ANIONS_AS22.pgm	ANIONS_1	FLCHMIC2_1	3/28/2019 7:04:21 PM	Chemistry	1 KB
ANIONS_AS22_Pos1.pgm	ANIONS_1	FLCHMIC2_1	4/10/2018 11:55:31 AM	chemistry	1 KB
ANIONS_2.pgm	ANIONS_1	FLCHMIC2_1	5/17/2016 8:59:36 AM	Chemistry	1 KB
ANIONS_1.pgm	ANIONS_1	FLCHMIC2_1	4/6/2017 4:56:53 PM	Chemistry	1 KB
ACCUTEST-ICS-2000 PANEL.pan			8/3/2018 12:36:41 PM		125 KB

Sequence: 09-05-19
Operator: Chemistry

Title: HIGH LEVELS
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019
Timebase: FLCHMIC2_1
#Samples: 81

Created: 9/5/2019 10:34:25 AM by Chemistry
Last Update: 9/5/2019 3:44:10 PM by Chemistry

No.	Pos.	Name	Dil. Factor	Status	Program	Type	Method
1	1	STD 0	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
2	2	STD A	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
3	3	STD B	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
4	4	STD C	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
5	5	STD D	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
6	6	STD E	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
7	7	STD F	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
8	8	STD G	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
9	9	STD H	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B
10	10	ICB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
11	11	ICV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
12	12	CRI	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
13	13	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
14	14	CCB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
15	1	RINSE	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
16	2	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
17	3	MB1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
18	4	B1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
19	5	FA67709-1	500.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
20	6	FA67521-13	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
21	7	FA67529-1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
22	8	FA67727-8	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
23	9	FA67529-2	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
24	10	FA67529-3	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
25	11	FA67529-4	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
26	12	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
27	13	CCB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
28	14	FA67529-4S1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
29	15	FA67529-4S2	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
30	16	FA67529-5	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
31	17	FA67601-1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
32	18	FA67601-2	5.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
33	19	FA67601-3	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
34	20	FA67601-4	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
35	21	FA67601-5	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
36	22	FA67651-1	100.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
37	23	FA67651-4	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
38	24	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
39	25	CCB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
40	26	FA67651-5	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
41	27	FA67651-6	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
42	28	FA67651-6S3	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B

Sequence: 09-05-19
Operator: Chemistry

Title: HIGH LEVELS
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019
Timebase: FLCHMIC2_1
#Samples: 81

Created: 9/5/2019 10:34:25 AM by Chemistry
Last Update: 9/5/2019 3:44:10 PM by Chemistry

No.	Pos.	Inj. Date/Time	Inj. Vol.	Comment
1	1	8/27/2019 2:17:29 PM	10.0	System Operator: JB IC 2000
2	2	8/27/2019 2:36:02 PM	10.0	System Operator: JB IC 2000
3	3	8/27/2019 2:54:58 PM	10.0	System Operator: JB IC 2000
4	4	8/27/2019 3:13:56 PM	10.0	System Operator: JB IC 2000
5	5	8/27/2019 3:32:53 PM	10.0	System Operator: JB IC 2000
6	6	8/27/2019 3:51:51 PM	10.0	System Operator: JB IC 2000
7	7	8/27/2019 4:10:49 PM	10.0	System Operator: JB IC 2000
8	8	8/27/2019 4:29:47 PM	10.0	System Operator: JB IC 2000
9	9	8/27/2019 4:48:44 PM	10.0	System Operator: JB IC 2000
10	10	8/27/2019 5:07:43 PM	10.0	System Operator: JB IC 2000
11	11	8/27/2019 5:26:40 PM	10.0	System Operator: JB IC 2000
12	12	8/27/2019 5:45:38 PM	10.0	System Operator: JB IC 2000
13	13	8/27/2019 6:04:36 PM	10.0	System Operator: JB IC 2000
14	14	8/27/2019 6:23:34 PM	10.0	System Operator: JB IC 2000
15	1	9/5/2019 10:35:03 AM	10.0	System Operator: JB IC 2000
16	2	9/5/2019 10:53:31 AM	10.0	System Operator: JB IC 2000
17	3	9/5/2019 11:12:30 AM	10.0	System Operator: JB IC 2000
18	4	9/5/2019 11:31:29 AM	10.0	System Operator: JB IC 2000
19	5	9/5/2019 11:50:26 AM	10.0	System Operator: JB IC 2000
20	6	9/5/2019 12:09:00 PM	10.0	System Operator: JB IC 2000
21	7	9/5/2019 12:27:54 PM	10.0	System Operator: JB IC 2000
22	8	9/5/2019 12:46:52 PM	10.0	System Operator: JB IC 2000
23	9	9/5/2019 1:05:48 PM	10.0	System Operator: JB IC 2000
24	10	9/5/2019 1:24:43 PM	10.0	System Operator: JB IC 2000
25	11	9/5/2019 1:43:41 PM	10.0	System Operator: JB IC 2000
26	12	9/5/2019 2:02:38 PM	10.0	System Operator: JB IC 2000
27	13	9/5/2019 2:21:36 PM	10.0	System Operator: JB IC 2000
28	14	9/5/2019 2:40:29 PM	10.0	System Operator: JB IC 2000
29	15	9/5/2019 2:59:27 PM	10.0	System Operator: JB IC 2000
30	16	9/5/2019 3:18:24 PM	10.0	System Operator: JB IC 2000
31	17	9/5/2019 3:37:21 PM	10.0	System Operator: JB IC 2000
32	18	9/5/2019 3:56:19 PM	10.0	System Operator: JB IC 2000
33	19	9/5/2019 4:15:15 PM	10.0	System Operator: JB IC 2000
34	20	9/5/2019 4:34:12 PM	10.0	System Operator: JB IC 2000
35	21	9/5/2019 4:53:08 PM	10.0	System Operator: JB IC 2000
36	22	9/5/2019 5:12:05 PM	10.0	System Operator: JB IC 2000
37	23	9/5/2019 5:31:01 PM	10.0	System Operator: JB IC 2000
38	24	9/5/2019 5:49:57 PM	10.0	System Operator: JB IC 2000
39	25	9/5/2019 6:08:53 PM	10.0	System Operator: JB IC 2000
40	26	9/5/2019 6:27:50 PM	10.0	System Operator: JB IC 2000
41	27	9/5/2019 6:46:47 PM	10.0	System Operator: JB IC 2000
42	28	9/5/2019 7:05:40 PM	10.0	System Operator: JB IC 2000

Sequence: 09-05-19
Operator: Chemistry
Printed: 9/6/2019 9:32:24 AM

Title: HIGH LEVELS
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019
Timebase: FLCHMIC2_1
#Samples: 81
Created: 9/5/2019 10:34:25 AM by Chemistry
Last Update: 9/5/2019 3:44:10 PM by Chemistry

No.	Pos.	Name	Dil. Factor	Status	Program	Type	Method
43	29	FA67651-6S4	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
44	30	FA67651-7	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
45	31	MB1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
46	32	B1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
47	33	FA67280-1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
48	34	FA67280-2	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
49	35	FA67280-3	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
50	36	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
51	37	CCB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
52	38	SD	1.0000	Finished	SHUTDOWN_A22	Unknown	ANIONS-B
53	39		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
54	40		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
55	41		10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
56	42		10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
57	43		5.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
58	44		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
59	45		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
60	46		1.0000	Finished	SHUTDOWN_A22	Unknown	ANIONS-B
61	47		25.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
62	48		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
63	49		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
64	50		1.0000	Finished	SHUTDOWN_A22	Unknown	ANIONS-B
65	1		200.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
66	2		200.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
67	3		200.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
68	4		200.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
69	5		100.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
70	6		50.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
71	7		25.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
72	8		200.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
73	9		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
74	10		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
75	11		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
76	12		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
77	13		5.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
78	14		5.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
79	15		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
80	16		1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B
81	17		1.0000	Finished	SHUTDOWN_A22	Unknown	ANIONS-B

Sequence: 09-05-19
Operator: Chemistry

Title: HIGH LEVELS
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019
Timebase: FLCHMIC2_1
#Samples: 81

Created: 9/5/2019 10:34:25 AM by Chemistry
Last Update: 9/5/2019 3:44:10 PM by Chemistry

No.	Pos.	Inj. Date/Time	Inj. Vol.	Comment
43	29	9/5/2019 7:24:38 PM	10.0	System Operator: JB IC 2000
44	30	9/5/2019 7:43:35 PM	10.0	System Operator: JB IC 2000
45	31	9/5/2019 8:02:31 PM	10.0	System Operator: JB IC 2000
46	32	9/5/2019 8:21:29 PM	10.0	System Operator: JB IC 2000
47	33	9/5/2019 8:40:27 PM	10.0	System Operator: JB IC 2000
48	34	9/5/2019 8:59:25 PM	10.0	System Operator: JB IC 2000
49	35	9/5/2019 9:18:21 PM	10.0	System Operator: JB IC 2000
50	36	9/5/2019 9:37:18 PM	10.0	System Operator: JB IC 2000
51	37	9/5/2019 9:56:16 PM	10.0	System Operator: JB IC 2000
52	38	9/5/2019 10:15:14 PM	10.0	System Operator: JB IC 2000
53	39	8/30/2019 10:07:37 PM	10.0	System Operator: JB IC 2000
54	40	8/30/2019 10:26:34 PM	10.0	System Operator: JB IC 2000
55	41	8/30/2019 10:45:33 PM	10.0	System Operator: JB IC 2000
56	42	8/30/2019 11:04:31 PM	10.0	System Operator: JB IC 2000
57	43	8/30/2019 11:23:29 PM	10.0	System Operator: JB IC 2000
58	44	8/30/2019 11:42:27 PM	10.0	System Operator: JB IC 2000
59	45	8/31/2019 12:01:23 AM	10.0	System Operator: JB IC 2000
60	46	8/31/2019 12:20:21 AM	10.0	System Operator: JB IC 2000
61	47	8/30/2019 1:12:52 AM	10.0	System Operator: JB IC 2000
62	48	8/30/2019 1:31:49 AM	10.0	System Operator: JB IC 2000
63	49	8/30/2019 1:50:47 AM	10.0	System Operator: JB IC 2000
64	50	8/30/2019 2:09:45 AM	10.0	System Operator: JB IC 2000
65	1	8/29/2019 1:42:13 AM	10.0	System Operator: JB IC 2000
66	2	8/29/2019 2:04:19 AM	10.0	System Operator: JB IC 2000
67	3	8/29/2019 2:23:15 AM	10.0	System Operator: JB IC 2000
68	4	8/29/2019 2:42:13 AM	10.0	System Operator: JB IC 2000
69	5	8/29/2019 3:01:10 AM	10.0	System Operator: JB IC 2000
70	6	8/29/2019 3:20:07 AM	10.0	System Operator: JB IC 2000
71	7	8/29/2019 3:39:05 AM	10.0	System Operator: JB IC 2000
72	8	8/29/2019 3:58:02 AM	10.0	System Operator: JB IC 2000
73	9	8/29/2019 4:17:00 AM	10.0	System Operator: JB IC 2000
74	10	8/29/2019 4:35:58 AM	10.0	System Operator: JB IC 2000
75	11	8/29/2019 4:54:55 AM	10.0	System Operator: JB IC 2000
76	12	8/29/2019 5:13:53 AM	10.0	System Operator: JB IC 2000
77	13	8/29/2019 5:32:50 AM	10.0	System Operator: JB IC 2000
78	14	8/29/2019 5:51:48 AM	10.0	System Operator: JB IC 2000
79	15	8/29/2019 6:10:45 AM	10.0	System Operator: JB IC 2000
80	16	8/29/2019 6:29:43 AM	10.0	System Operator: JB IC 2000
81	17	8/29/2019 6:48:40 AM	10.0	System Operator: JB IC 2000

Program File: ANIONS_AS22
Operator: Chemistry

Title: ANIONS_1
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019\09-05-19.SEQ
Timebase: FLCHMIC2_1

Created: 6/13/2017 5:36:17 PM by Chemistry
Changed: 3/28/2019 7:04:21 PM by Chemistry

	Pressure.LowerLimit =	200 [psi]
	Pressure.UpperLimit =	3000 [psi]
	%A.Equate =	"%A"
	DeliverSpeed =	4.0 [ml/min]
	DelayVolume =	125 [µl]
	FlushFactor =	10
	Sampler.LoadPosition	
	DeliverSample	Volume=Full
	EndSamplePrep	
	CR_TC =	Off
	Data_Collection_Rate =	5.0 [Hz]
	CellTemperature.Nominal =	30.0 [°C]
	ColumnTemperature.Nominal =	30.0 [°C]
	Suppressor_Type =	ASRS_4mm
	; Pump_ECD.Carbonate =	4.05
	; Pump_ECD.Bicarbonate =	1.26
	; Pump_ECD.Recommended Current =	26
	; Pump_ECD.Hydroxide =	0.0
	; Pump_ECD.Tetraborate =	0.0
	; Pump_ECD.Other eluent =	0.0
	Suppressor_Current =	30[mA]
	Channel_Pressure.Step =	Auto
	Channel_Pressure.Average =	On
	Flow =	1.20[ml/min]
0.000	Autozero	CycleTimeState
	Wait	
	Inject	
	ECD_1.AcqOn	
	Channel_Pressure.AcqOn	
0.500	BeginOverlap	
16.00	ECD_1.AcqOff	
	Channel_Pressure.AcqOff	
	End	

Program File:	ANIONS_AS22	Post-acquisition steps, Page 1 of 1
Operator:	Chemistry	Printed: 9/6/2019 9:32:28 AM
Title:	ANIONS_1	
Datasource:	FLCHMIC2_local	
Location:	ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019\09-05-19.SEQ	Created: 6/13/2017 5:36:17 PM by Chemistry
Timebase:	FLCHMIC2_1	Changed: 3/28/2019 7:04:21 PM by Chemistry

No.	Channel	Operation	Parameters

Program File: SHUTDOWN_A22 — Commands, Page 1 of 1
Operator: Chemistry — Printed: 9/6/2019 9:32:29 AM

Title: SHUTDOWN_1
Datasource: FLCHMIC2_local — Created: 6/27/2017 11:57:49 AM by Chemistry
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019\09-05-19.SEQ
Timebase: FLCHMIC2_1 — Changed: 7/27/2018 11:37:33 AM by Chemistry

```
                Pressure.LowerLimit =                200 [psi]
                Pressure.UpperLimit =                3000 [psi]
                %A.Equate =                          "%A"
                CR_TC =                              Off
                DeliverSpeed =                       4.0 [mL/min]
                DelayVolume =                        125 [µl]
                FlushFactor =                        10
                Sampler.LoadPosition
                DeliverSample                        Volume=Full
                EndSamplePrep
                Data_Collection_Rate =               5.0 [Hz]
                CellTemperature.Nominal =            30.0 [°C]
                ColumnTemperature.Nominal =          30.0 [°C]
                Suppressor_Type =                    ASRS_4mm
                ; Pump_ECD.Carbonate =              4.5
                ; Pump_ECD.Bicarbonate =            1.4
                ; Pump_ECD.Hydroxide =              0.0
                ; Pump_ECD.Tetraborate =            0.0
                ; Pump_ECD.Other eluent =           0.0
                ; Pump_ECD.Recommended Current =    22
                Suppressor_Current =                 30[mA]

               Suppressor_Mode =                     Off
                Flow =                               1.20 [mL/min]

 0.000          Autozero
                Wait                                 CycleTimeState
                Inject
                ECD_1.AcqOn

 0.100          ECD_1.AcqOff
                Off
 0.500          BeginOverlap

                End
```

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Post-acquisition steps, Page 1 of 1
Printed: 9/6/2019 9:32:29 AM

Program File:	SHUTDOWN_A22
Operator:	Chemistry
Title:	SHUTDOWN_1
Datasource:	FLCHMIC2_local
Location:	ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019\09-05-19.SEQ
Timebase:	FLCHMIC2_1

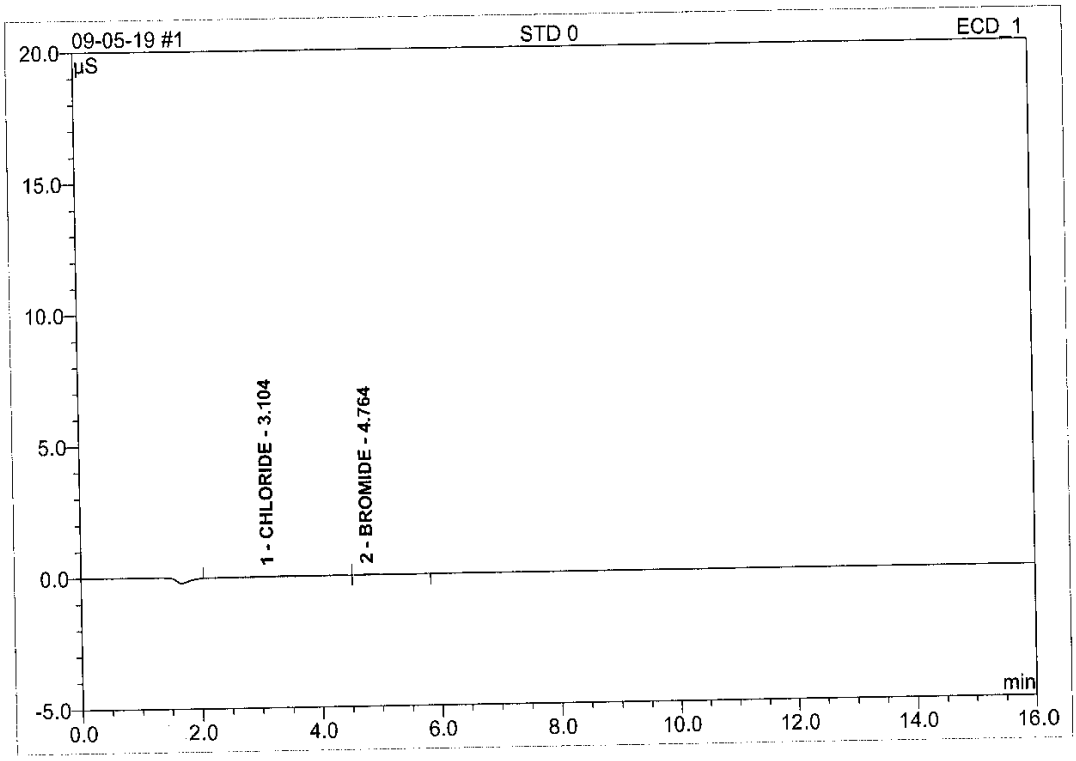
Created: 6/27/2017 11:57:49 AM by Chemistry
Changed: 7/27/2018 11:37:33 AM by Chemistry

No.	Channel	Operation	Parameters

1 STD 0

System Operator: JB IC 2000

Sample Name:	**STD 0**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 14:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

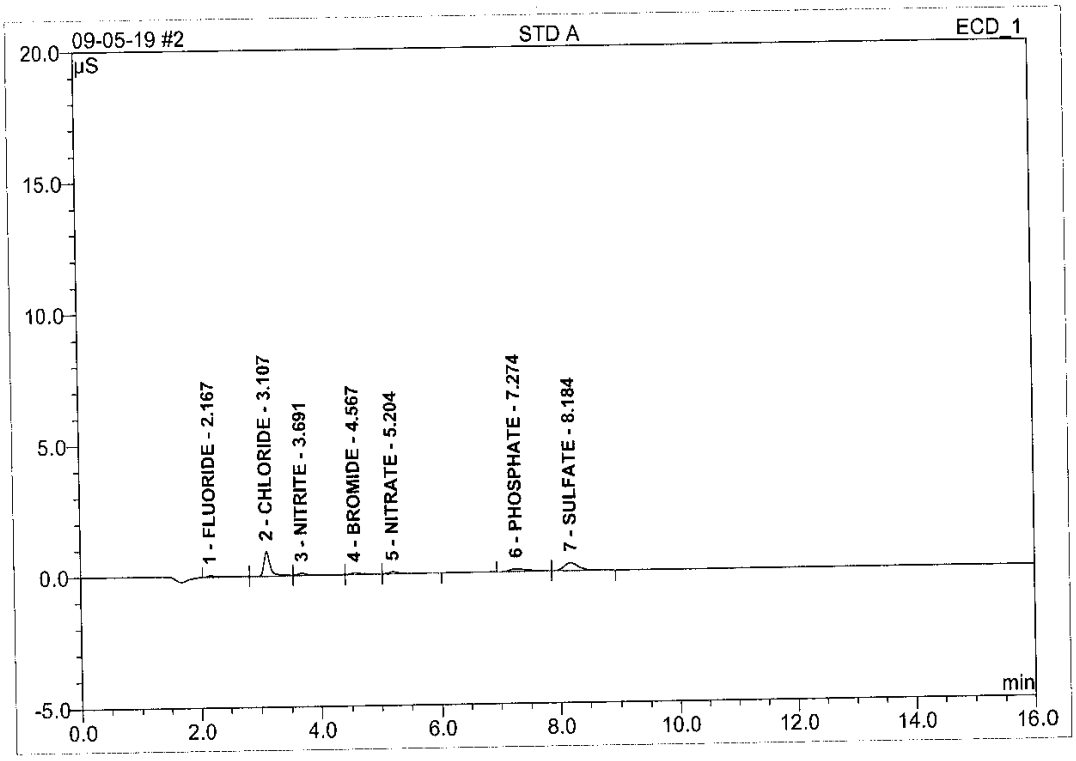


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.10	CHLORIDE	0.021	0.040	77.81	1.163	BM
2	4.76	BROMIDE	0.021	0.012	22.19	0.145	MB
Total:			0.042	0.052	100.00	1.309	

2 STD A

System Operator: JB IC 2000

Sample Name:	**STD A**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 14:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

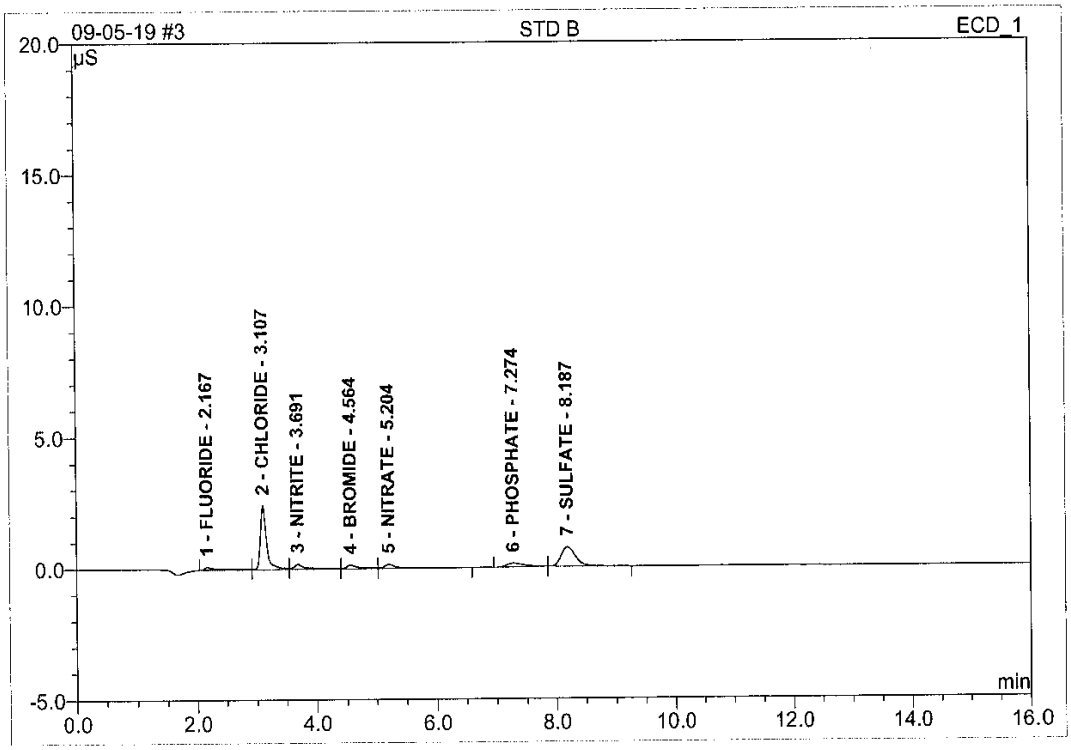


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.063	0.021	6.41	0.082	BM
2	3.11	CHLORIDE	0.937	0.119	37.23	2.274	M
3	3.69	NITRITE	0.101	0.027	8.33	0.096	M
4	4.57	BROMIDE	0.070	0.020	6.19	0.475	M
5	5.20	NITRATE	0.076	0.018	5.47	0.088	MB
6	7.27	PHOSPHATE	0.101	0.035	10.99	-0.033	BMb
7	8.18	SULFATE	0.294	0.081	25.39	2.302	bMB
Total:			1.642	0.320	100.00	5.283	

3 STD B

System Operator: JB IC 2000

Sample Name:	**STD B**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 14:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

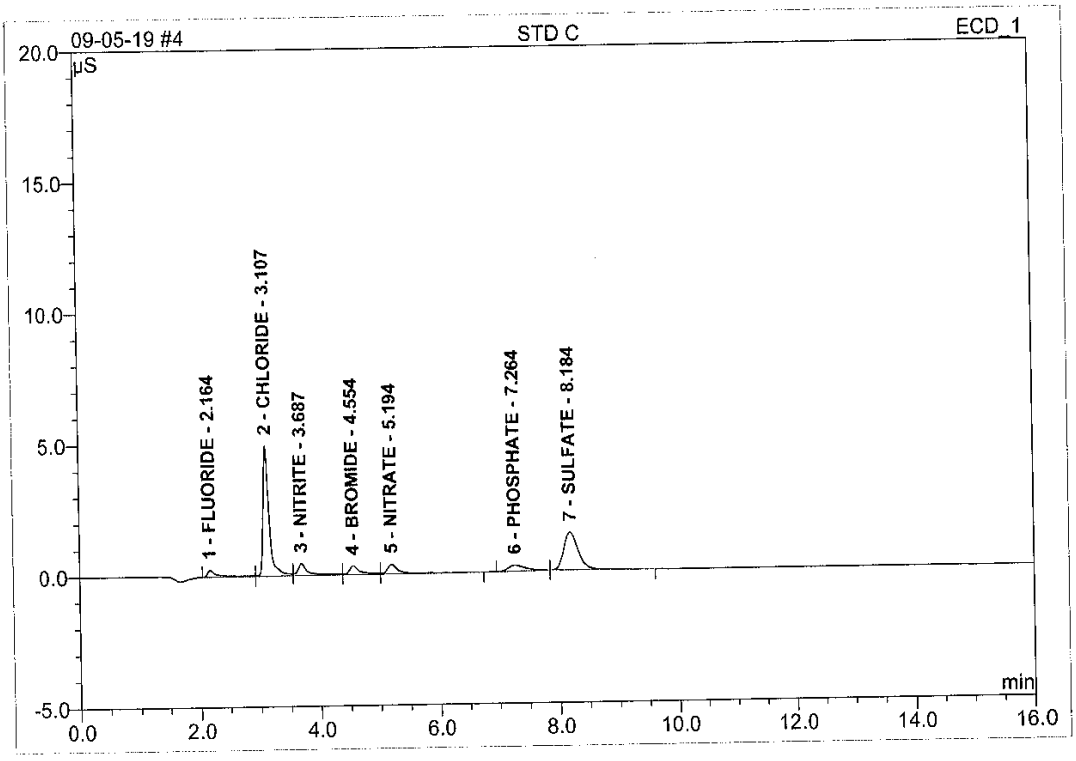


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.113	0.032	4.63	0.217	BM
2	3.11	CHLORIDE	2.430	0.289	41.56	4.660	M
3	3.69	NITRITE	0.195	0.047	6.82	0.221	M
4	4.56	BROMIDE	0.137	0.034	4.90	1.039	M
5	5.20	NITRATE	0.151	0.039	5.64	0.229	MB
6	7.27	PHOSPHATE	0.139	0.048	6.91	0.164	BMb
7	8.19	SULFATE	0.733	0.205	29.53	4.963	bMB
Total:			3.898	0.695	100.00	11.491	

4 STD C

System Operator: JB IC 2000

Sample Name:	**STD C**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 15:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

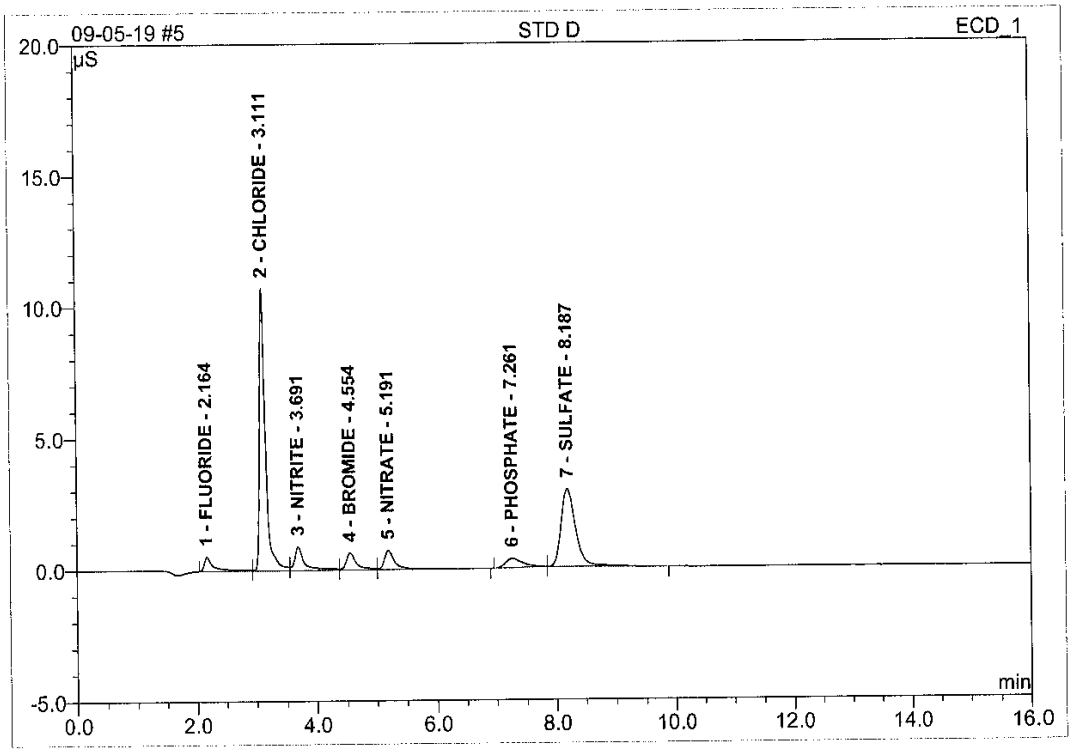


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.263	0.058	4.27	0.512	BM
2	3.11	CHLORIDE	4.954	0.568	42.18	8.592	M
3	3.69	NITRITE	0.453	0.091	6.77	0.484	M
4	4.55	BROMIDE	0.327	0.069	5.10	2.414	M
5	5.19	NITRATE	0.362	0.081	6.03	0.503	MB
6	7.26	PHOSPHATE	0.228	0.077	5.73	0.613	BMb
7	8.18	SULFATE	1.433	0.403	29.91	9.212	bMB
Total:			8.020	1.347	100.00	22.330	

5 STD D

System Operator: JB IC 2000

Sample Name:	**STD D**	*Injection Volume:*	**10.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 15:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.547	0.106	3.93	1.078	BM
2	3.11	CHLORIDE	10.725	1.193	44.07	17.378	M
3	3.69	NITRITE	0.901	0.173	6.41	0.980	M
4	4.55	BROMIDE	0.651	0.129	4.76	4.795	M
5	5.19	NITRATE	0.722	0.155	5.74	0.986	MB
6	7.26	PHOSPHATE	0.349	0.115	4.25	1.192	BMb
7	8.19	SULFATE	2.947	0.835	30.84	18.485	bMB
Total:			16.842	2.706	100.00	44.894	

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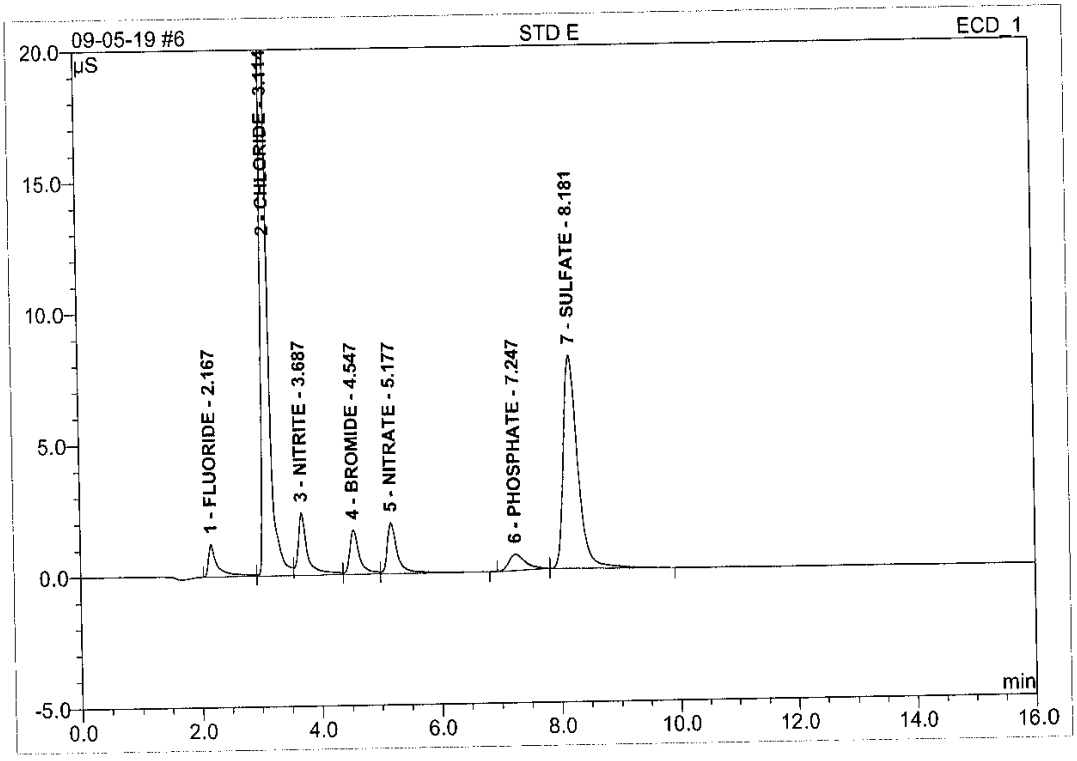
6 STD E

System Operator: JB IC 2000

Sample Name:	**STD E**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 15:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	1.225	0.225	3.11	2.455	BM
2	3.11	CHLORIDE	32.311	3.450	47.64	49.146	M
3	3.69	NITRITE	2.360	0.418	5.77	2.452	M
4	4.55	BROMIDE	1.674	0.314	4.34	12.130	M
5	5.18	NITRATE	1.931	0.382	5.28	2.468	MB
6	7.25	PHOSPHATE	0.613	0.195	2.69	2.414	BMb
7	8.18	SULFATE	8.101	2.259	31.19	49.077	bMB
Total:			48.216	7.243	100.00	120.142	

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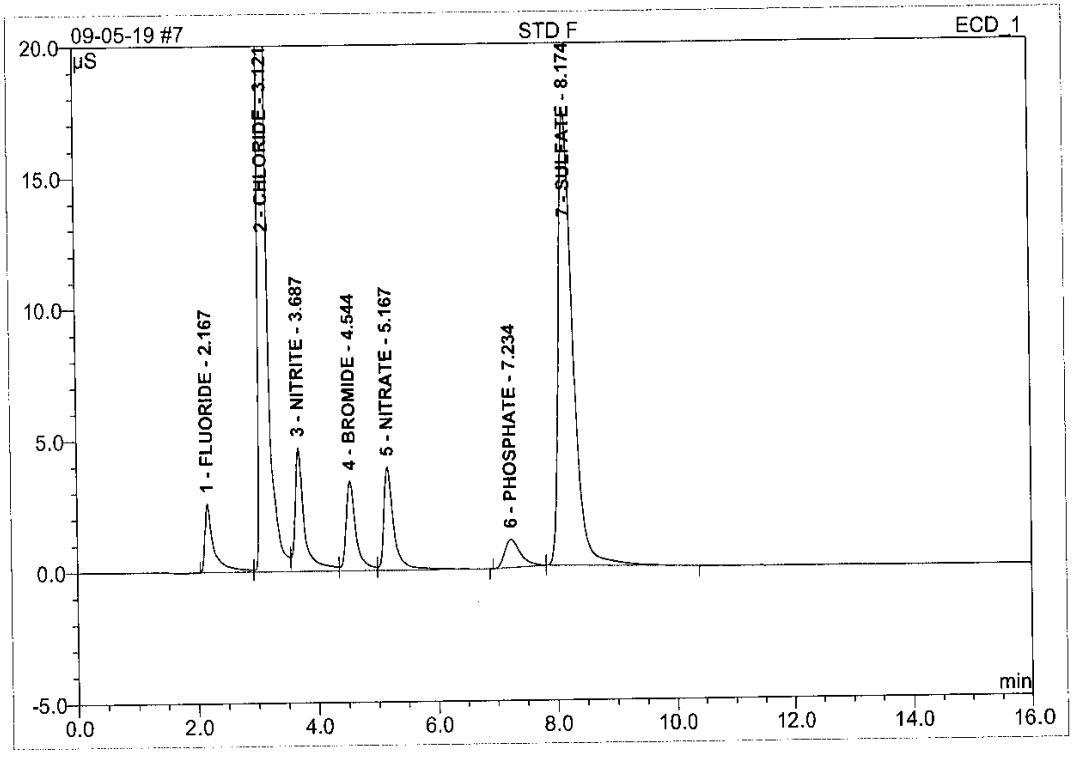
7 STD F

System Operator: JB IC 2000

Sample Name:	**STD F**	*Injection Volume:*	**10.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 16:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	2.600	0.466	3.06	5.253	BM
2	3.12	CHLORIDE	69.631	7.416	48.68	104.951	M
3	3.69	NITRITE	4.695	0.837	5.49	4.976	M
4	4.54	BROMIDE	3.402	0.655	4.30	25.647	M
5	5.17	NITRATE	3.915	0.764	5.01	4.954	MB
6	7.23	PHOSPHATE	1.068	0.327	2.15	4.452	BMb
7	8.17	SULFATE	17.276	4.767	31.30	102.961	bMB
Total:			102.587	15.234	100.00	253.195	

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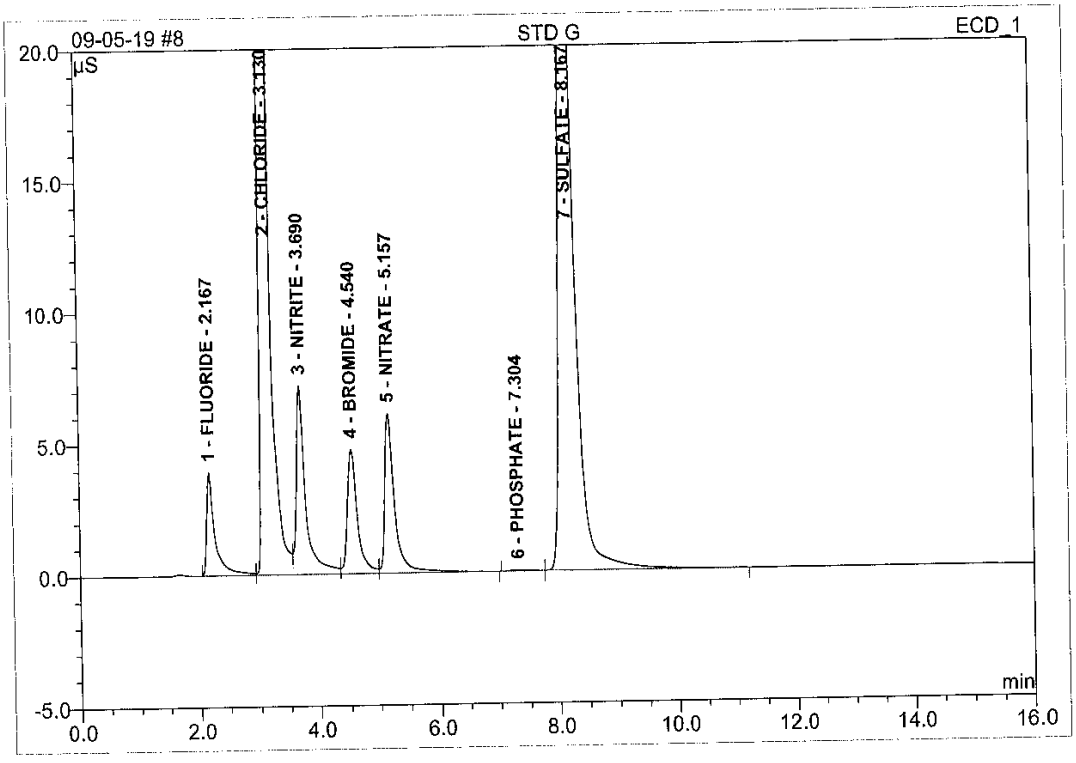
8 STD G

System Operator: JB IC 2000

Sample Name:	**STD G**	*Injection Volume:*	**10.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 16:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	3.924	0.639	2.69	7.254	BM
2	3.13	CHLORIDE	109.881	11.897	50.18	167.994	M
3	3.69	NITRITE	7.185	1.271	5.36	7.591	M
4	4.54	BROMIDE	4.738	0.921	3.89	36.186	M
5	5.16	NITRATE	6.085	1.162	4.90	7.551	MB
6	7.30	PHOSPHATE	0.033	0.011	0.05	-0.402	BMb
7	8.17	SULFATE	28.184	7.806	32.93	168.225	bMB
Total:			160.029	23.707	100.00	394.398	

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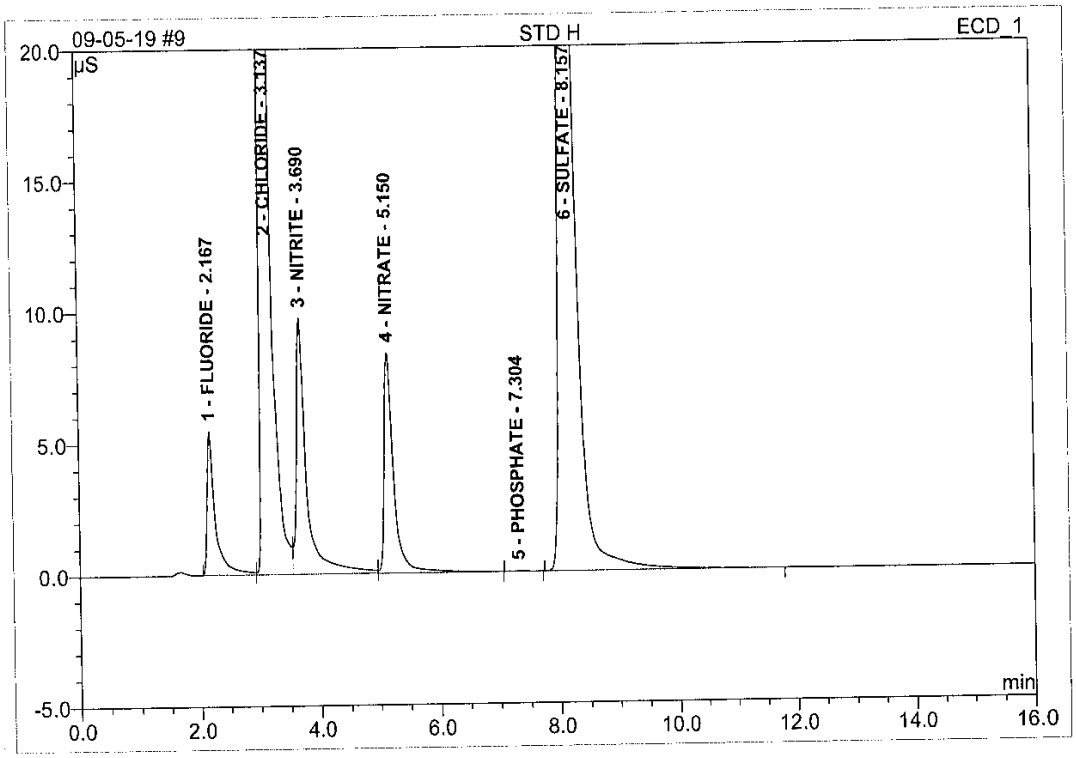
9 STD H

System Operator: JB IC 2000

Sample Name:	**STD H**	*Injection Volume:*	**10.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 16:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

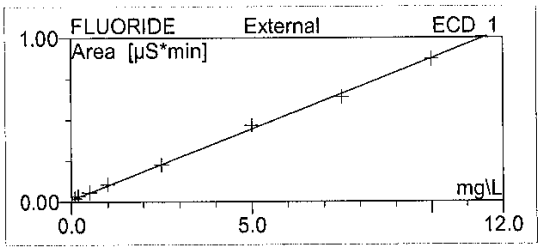


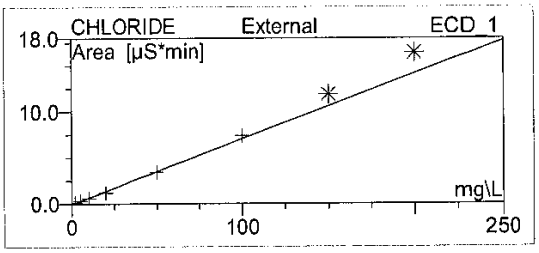
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	5.436	0.871	2.75	9.949	BM
2	3.14	CHLORIDE	148.217	16.438	51.90	231.884	M
3	3.69	NITRITE	9.714	1.853	5.85	11.100	M
4	5.15	NITRATE	8.347	1.541	4.87	10.022	MB
5	7.30	PHOSPHATE	0.009	0.003	0.01	-0.530	BMB
6	8.16	SULFATE	39.447	10.963	34.62	236.052	BMB
Total:			211.170	31.669	100.00	498.477	

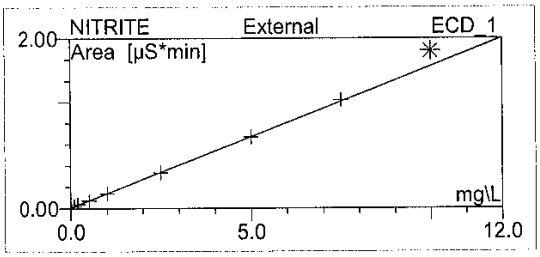
9 STD H

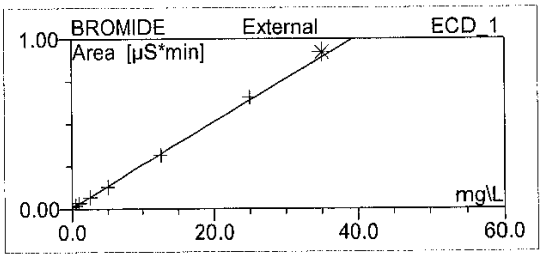
System Operator: JB IC 2000

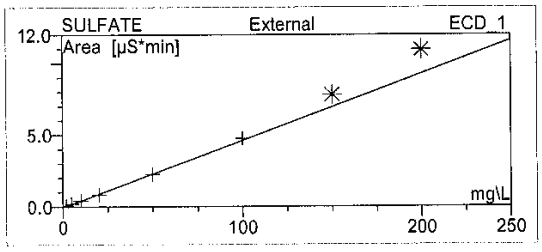
Sample Name:	**STD H**	*Injection Volume:*	**10.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 16:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

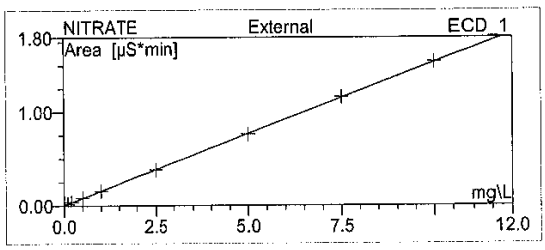










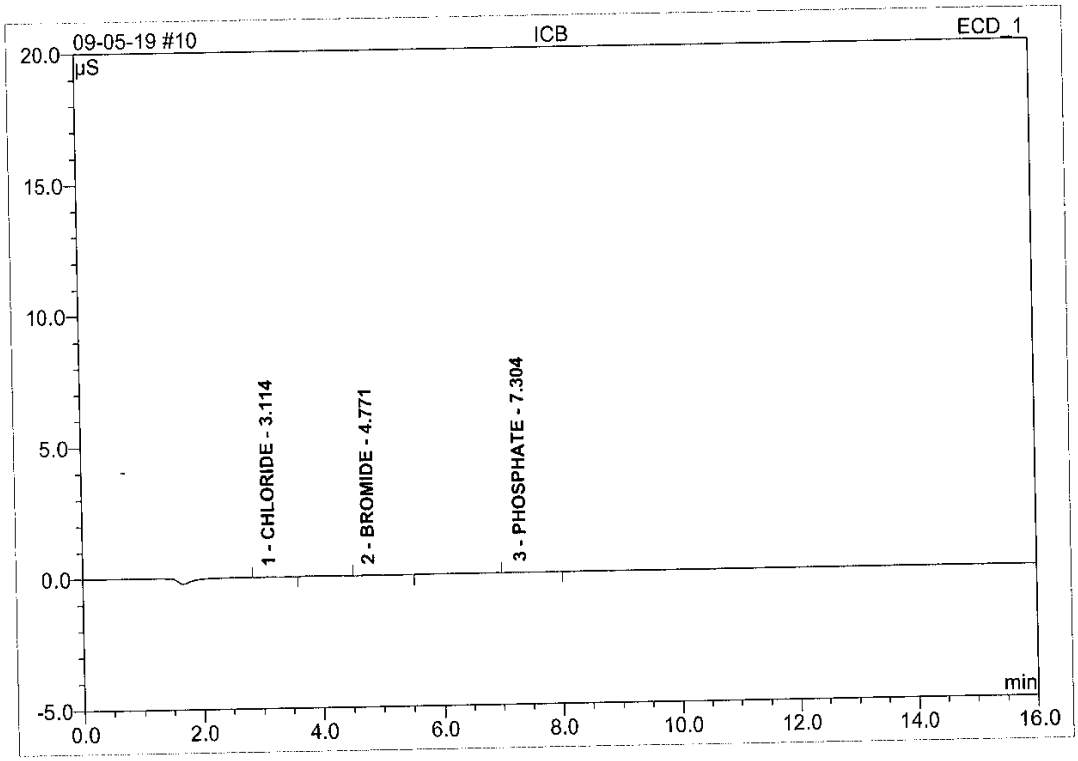


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.17	FLUORIDE	XLOff	8	99.9295	0.0135	0.0862	0.0000
2	3.14	CHLORIDE	XLOff	7	99.6527	-0.0424	0.0711	0.0000
3	3.69	NITRITE	XLOff	7	99.9809	0.0108	0.1660	0.0000
4	5.15	NITRATE	XLOff	8	99.9846	0.0041	0.1533	0.0000
5	7.30	PHOSPHATE	LOff	5	98.9327	0.0373	0.0652	0.0000
6	8.16	SULFATE	XLOff	6	99.8881	-0.0258	0.0466	0.0000
Average:					99.7281	-0.0004	0.0981	0.0000

10 ICB

System Operator: JB IC 2000

Sample Name:	**ICB**	*Injection Volume:*	**10.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 17:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

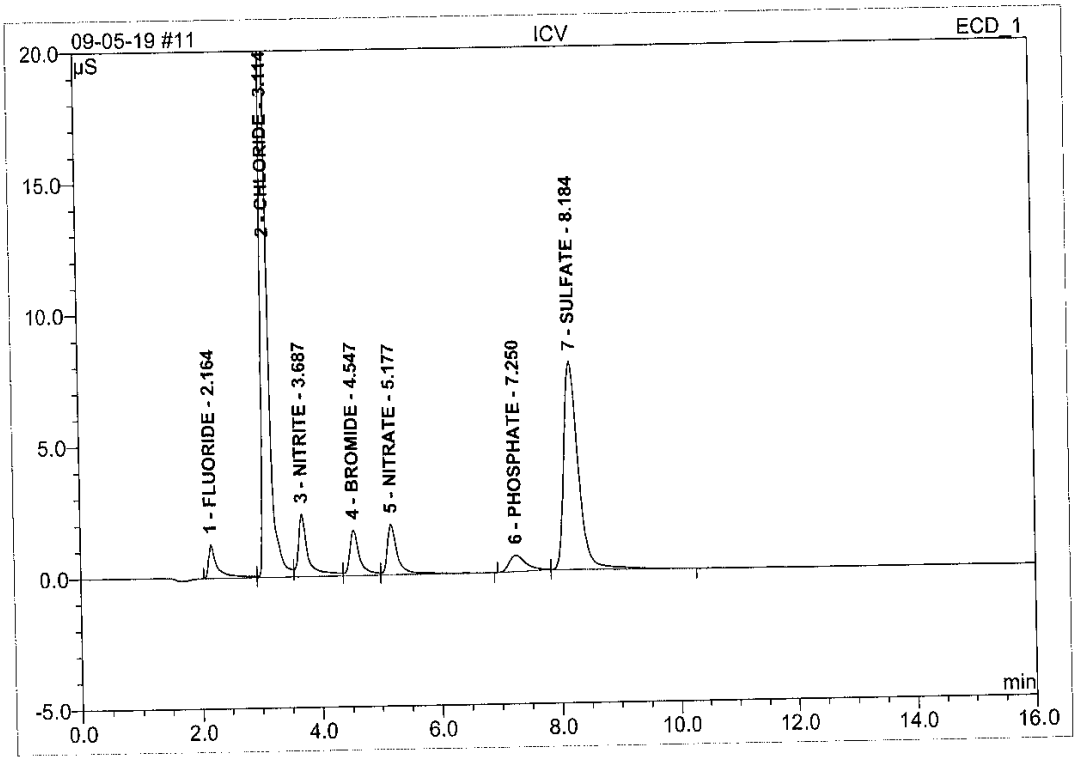


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.11	CHLORIDE	0.007	0.002	12.44	0.618	BMB
2	4.77	BROMIDE	0.017	0.008	64.25	0.006	BMB
3	7.30	PHOSPHATE	0.007	0.003	23.31	-0.529	BMB
Total:			0.032	0.012	100.00	0.094	

11 ICV

System Operator: JB IC 2000

Sample Name:	**ICV**	*Injection Volume:*	**10.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 17:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

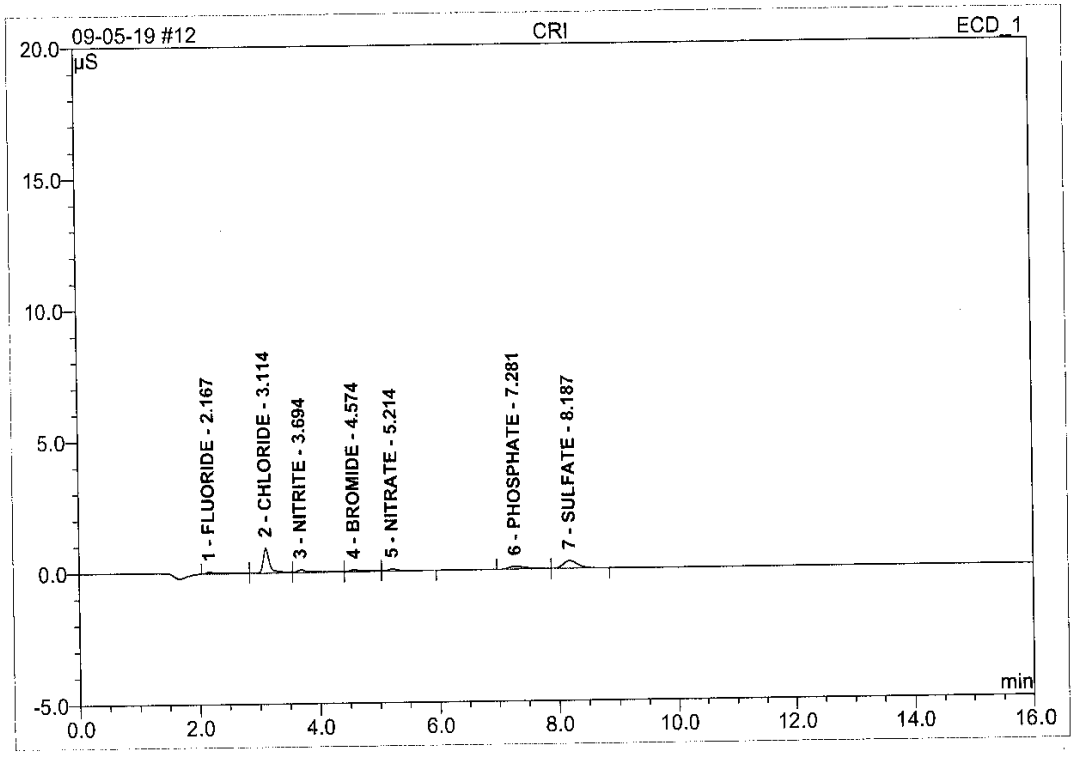


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.268	0.225	3.16	2.453	BM
2	3.11	CHLORIDE	31.588	3.349	47.03	47.715	M
3	3.69	NITRITE	2.362	0.430	6.04	2.527	M
4	4.55	BROMIDE	1.716	0.330	4.63	12.748	M
5	5.18	NITRATE	1.913	0.388	5.45	2.504	MB
6	7.25	PHOSPHATE	0.617	0.197	2.76	2.445	BMb
7	8.18	SULFATE	7.893	2.203	30.93	47.870	bMB
Total:			47.357	7.121	100.00	118.262	

12 CRI

System Operator: JB IC 2000

Sample Name:	**CRI**	*Injection Volume:*	**10.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 17:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.068	0.022	6.74	0.099	BM
2	3.11	CHLORIDE	0.951	0.122	37.24	2.308	M
3	3.69	NITRITE	0.104	0.029	8.88	0.110	M
4	4.57	BROMIDE	0.073	0.021	6.58	0.541	M
5	5.21	NITRATE	0.078	0.019	5.70	0.095	MB
6	7.28	PHOSPHATE	0.099	0.035	10.75	-0.034	BMb
7	8.19	SULFATE	0.288	0.079	24.13	2.248	bMB
Total:			1.662	0.327	100.00	5.366	

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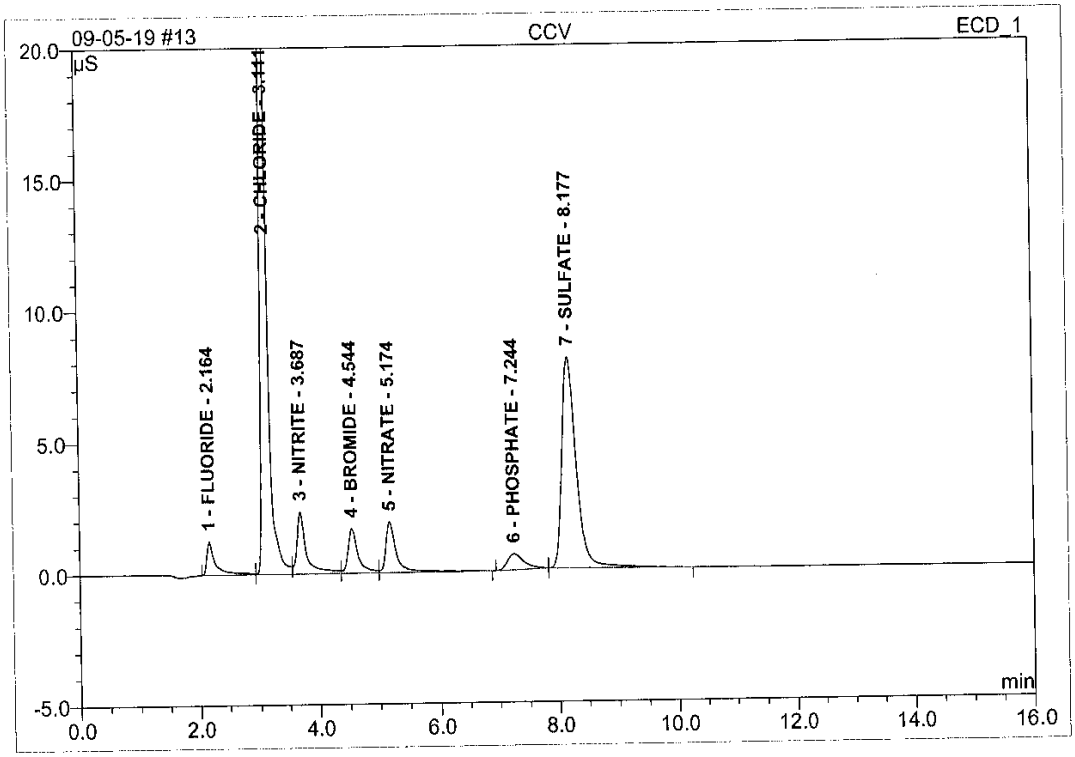
13 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 18:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

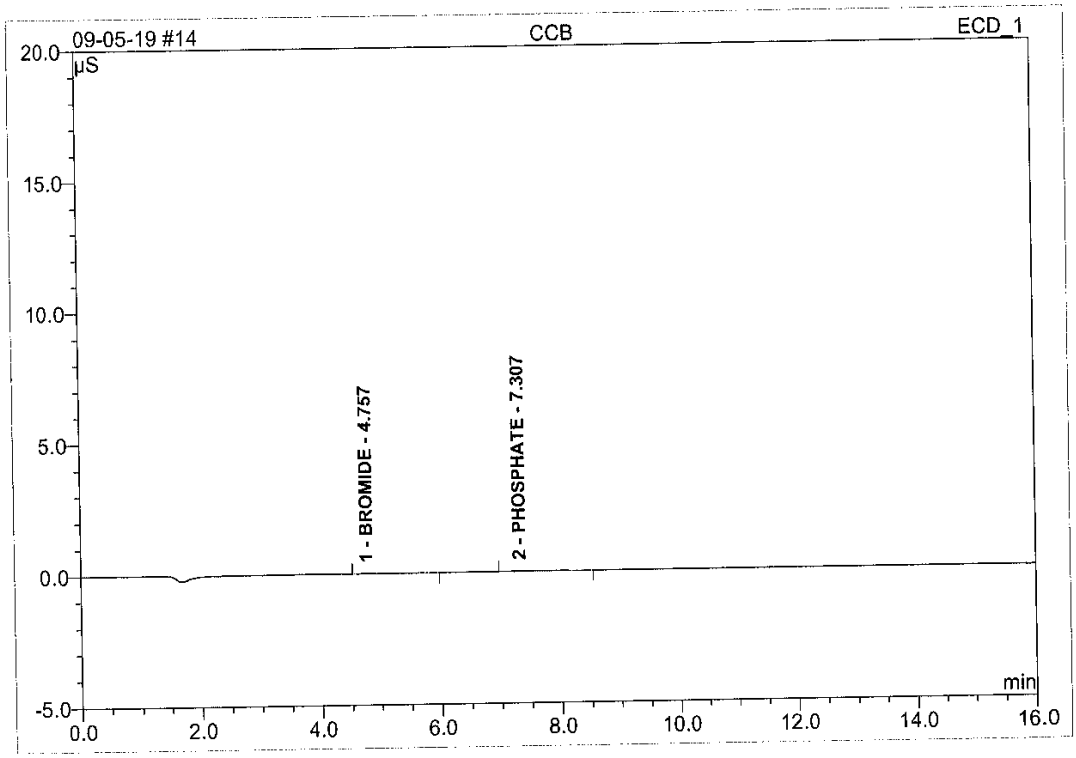


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.268	0.222	3.09	2.423	BM
2	3.11	CHLORIDE	32.104	3.403	47.29	48.476	M
3	3.69	NITRITE	2.357	0.430	5.98	2.528	M
4	4.54	BROMIDE	1.690	0.325	4.52	12.567	M
5	5.17	NITRATE	1.932	0.392	5.45	2.532	MB
6	7.24	PHOSPHATE	0.600	0.191	2.65	2.353	BMb
7	8.18	SULFATE	8.026	2.232	31.02	48.491	bMB
Total:			47.978	7.195	100.00	119.370	

14 CCB

System Operator: JB IC 2000

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 18:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.76	BROMIDE	0.019	0.010	42.36	0.089	BMB
2	7.31	PHOSPHATE	0.029	0.014	57.64	-0.363	BMB
Total:			0.047	0.024	100.00	-0.274	

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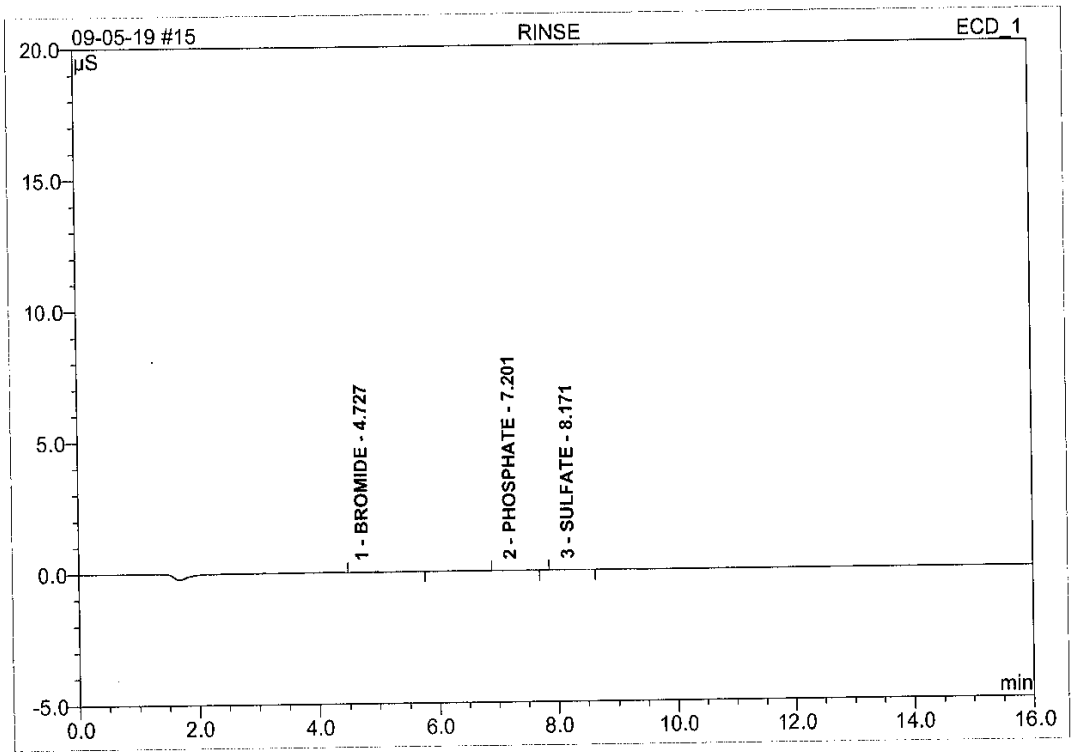
15 RINSE

System Operator: JB IC 2000

Sample Name:	**RINSE**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 10:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

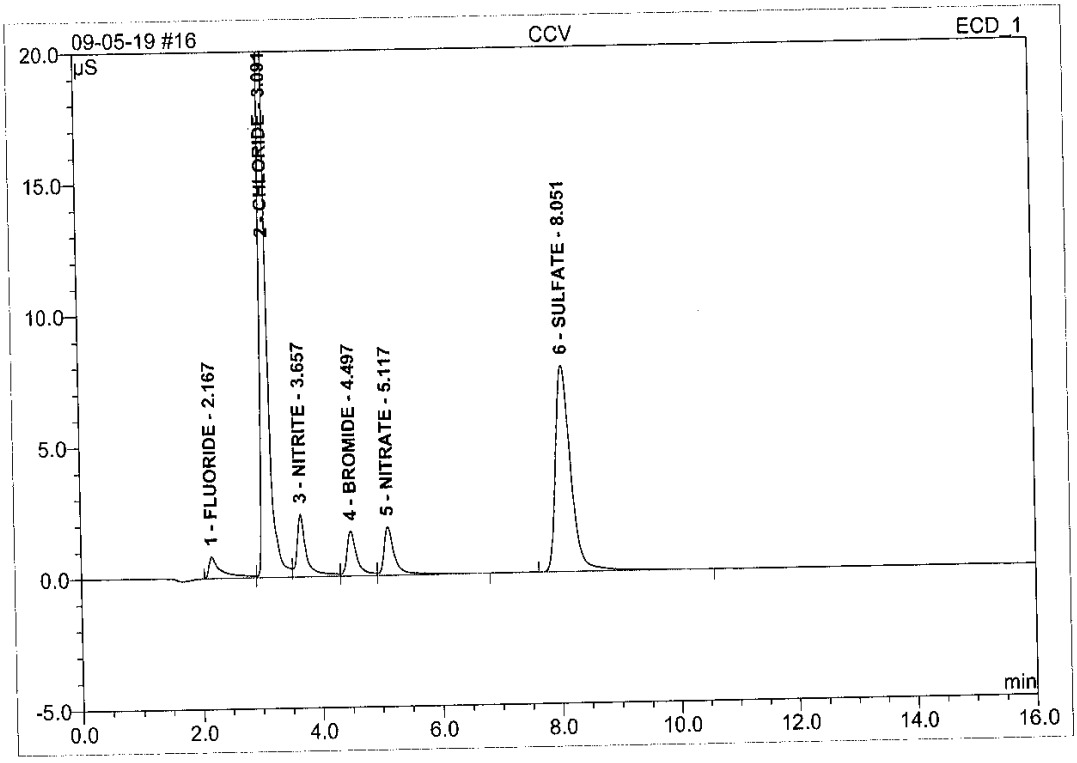


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.73	BROMIDE	0.018	0.009	66.14	0.045	BMB
2	7.20	PHOSPHATE	0.007	0.003	19.73	-0.532	BMB
3	8.17	SULFATE	0.005	0.002	14.12	0.596	BMB
Total:			0.030	0.014	100.00	0.109	

16 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 10:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

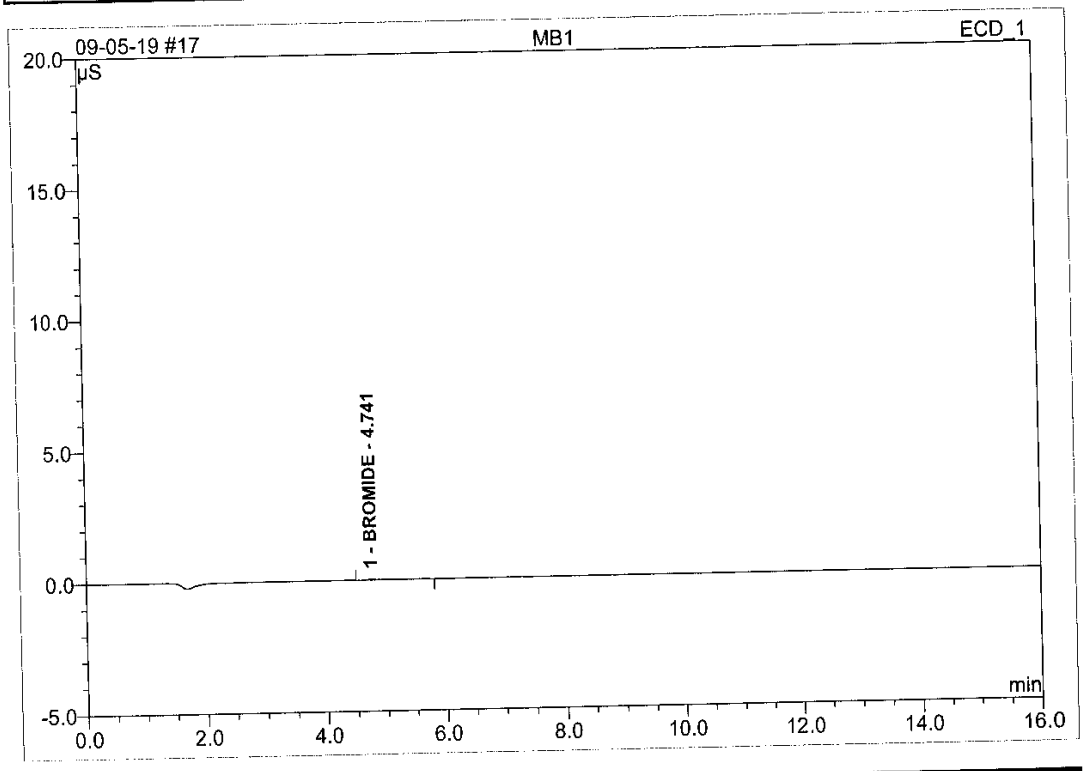


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.825	0.204	2.91	2.211	BM
2	3.09	CHLORIDE	31.247	3.381	48.22	48.168	M
3	3.66	NITRITE	2.374	0.425	6.06	2.496	M
4	4.50	BROMIDE	1.697	0.326	4.64	12.586	M
5	5.12	NITRATE	1.834	0.376	5.37	2.427	MB
6	8.05	SULFATE	7.842	2.299	32.79	49.941	BMB
Total:			45.819	7.011	100.00	117.829	

17 MB1

System Operator: JB IC 2000

Sample Name:	**MB1**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 11:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

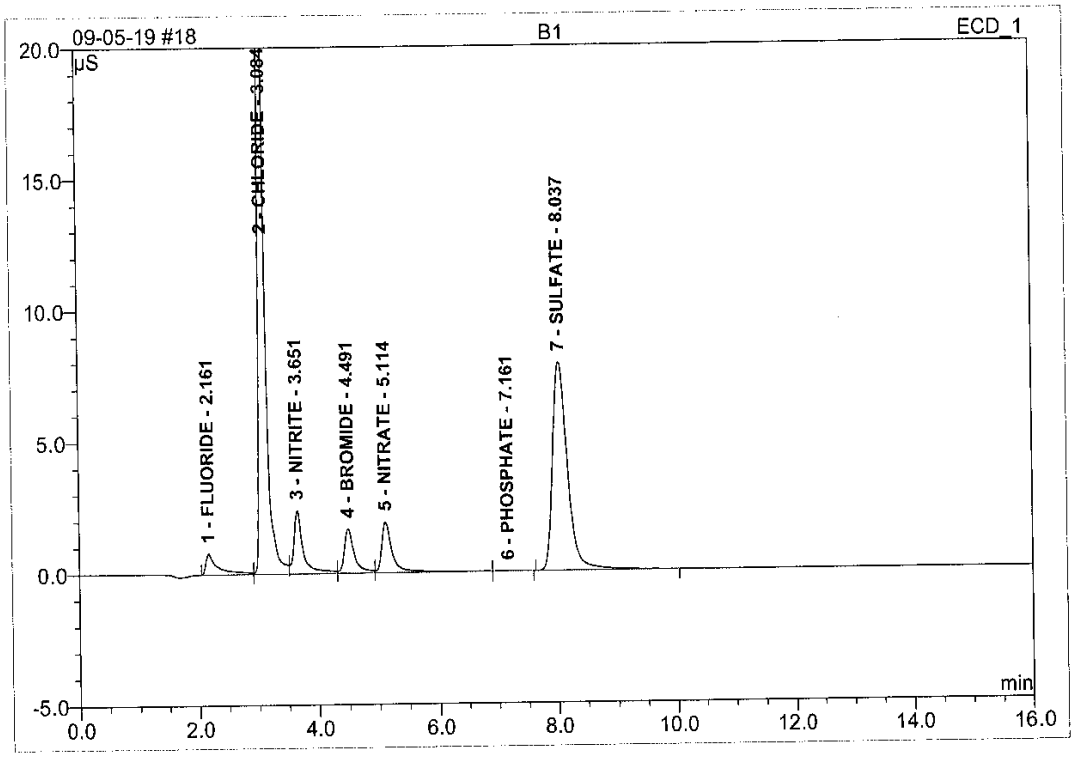


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.74	BROMIDE	0.017	0.009	100.00	0.028	BMB
Total:			0.017	0.009	100.00	0.028	

18 B1

System Operator: JB IC 2000

Sample Name:	**B1**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 11:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

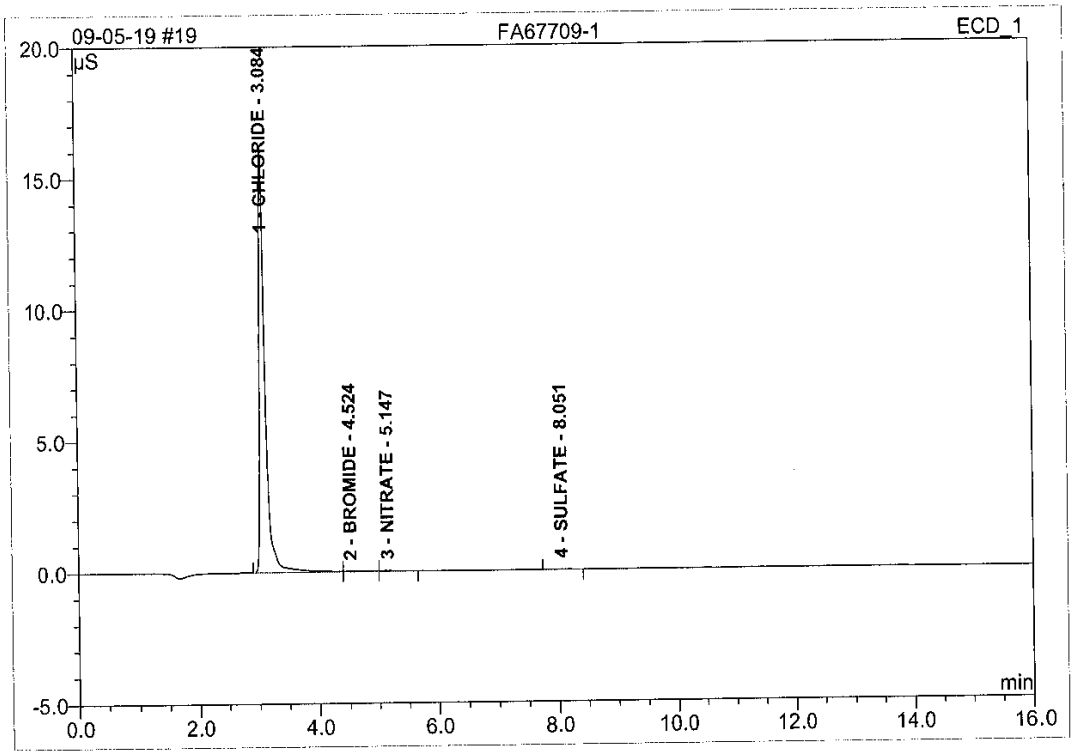


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.796	0.192	2.73	2.065	BM
2	3.08	CHLORIDE	31.741	3.403	48.51	48.474	M
3	3.65	NITRITE	2.393	0.424	6.04	2.488	M
4	4.49	BROMIDE	1.675	0.319	4.55	12.323	M
5	5.11	NITRATE	1.922	0.392	5.58	2.527	MB
6	7.16	PHOSPHATE	0.005	0.001	0.02	-0.550	bMB
7	8.04	SULFATE	7.905	2.284	32.56	49.618	BMB
Total:			46.437	7.014	100.00	116.945	

19 FA67709-1

System Operator: JB IC 2000

Sample Name:	**FA67709-1**	*Injection Volume:*	**10.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**500.0000**
Recording Time:	**9/5/2019 11:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.08	CHLORIDE	15.962	1.782	98.71	12832.426	BM
2	4.52	BROMIDE	0.028	0.012	0.68	88.281	M
3	5.15	NITRATE	0.031	0.007	0.39	9.811	MB
4	8.05	SULFATE	0.014	0.004	0.22	319.565	BMB
Total:			16.035	1.805	100.00	13250.084	

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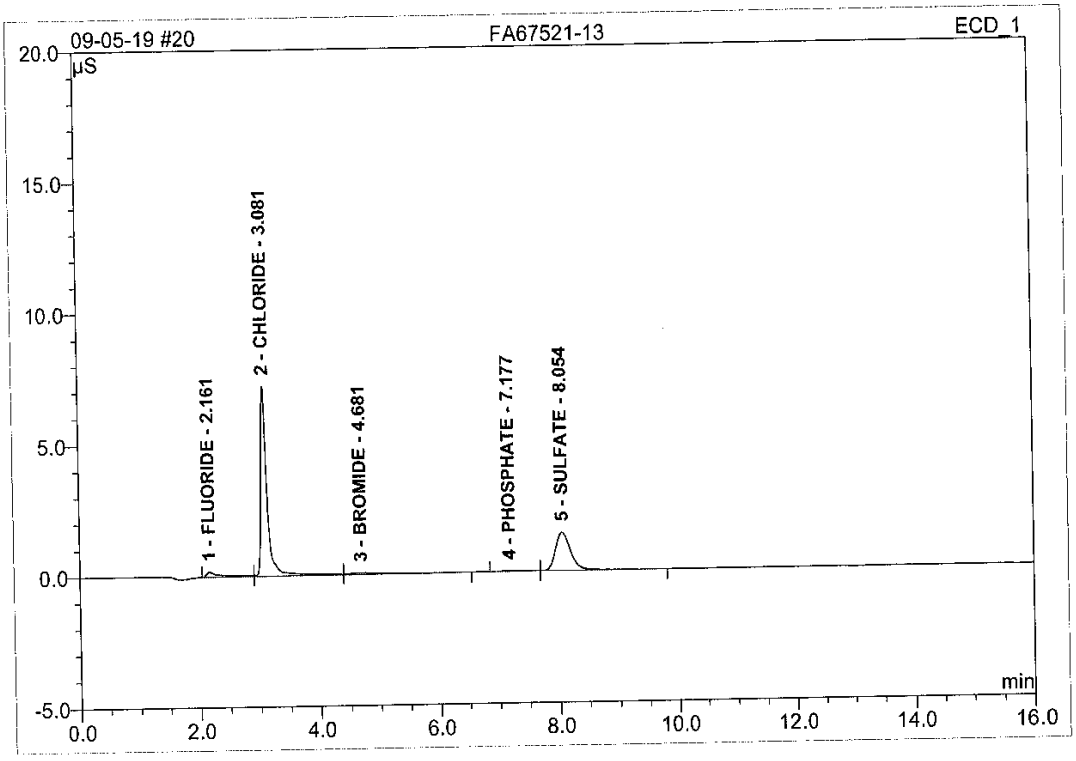
20 FA67521-13

System Operator: JB IC 2000

Sample Name:	**FA67521-13**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 12:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

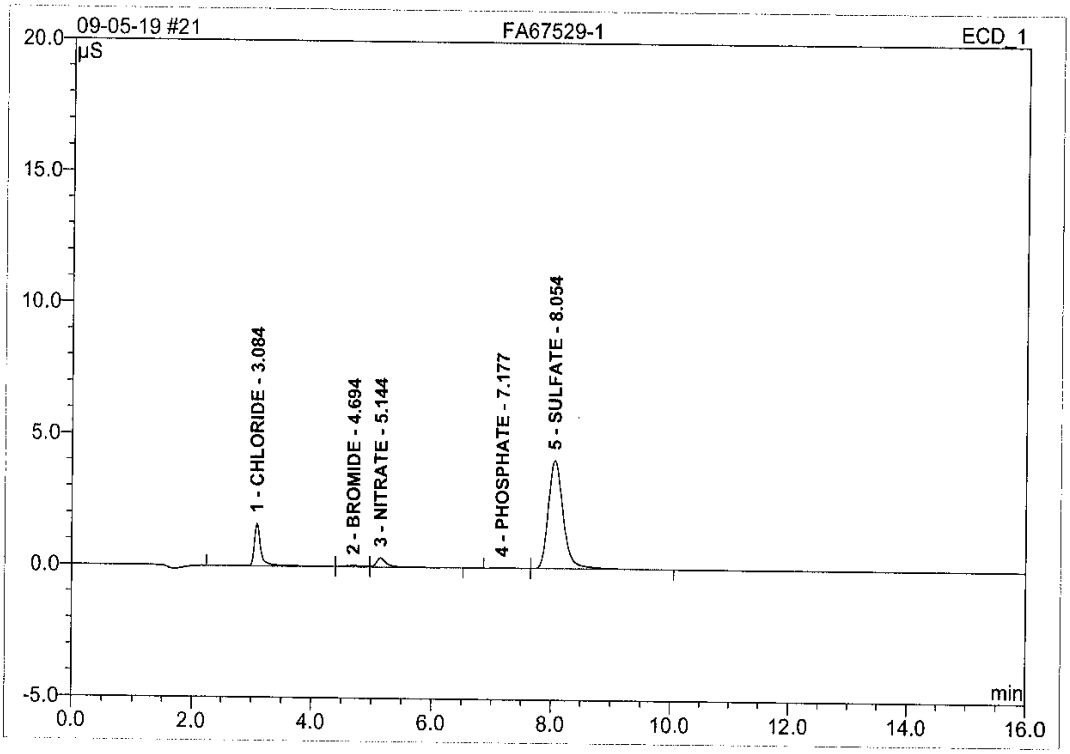


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.194	0.055	3.92	0.478	BM
2	3.08	CHLORIDE	7.229	0.867	62.08	12.795	M
3	4.68	BROMIDE	0.058	0.039	2.78	1.228	MB
4	7.18	PHOSPHATE	0.032	0.011	0.79	-0.404	BMb
5	8.05	SULFATE	1.447	0.425	30.43	9.683	bMB
Total:			8.960	1.396	100.00	23.780	

21 FA67529-1

System Operator: JB IC 2000

Sample Name:	**FA67529-1**	*Injection Volume:*	**10.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 12:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

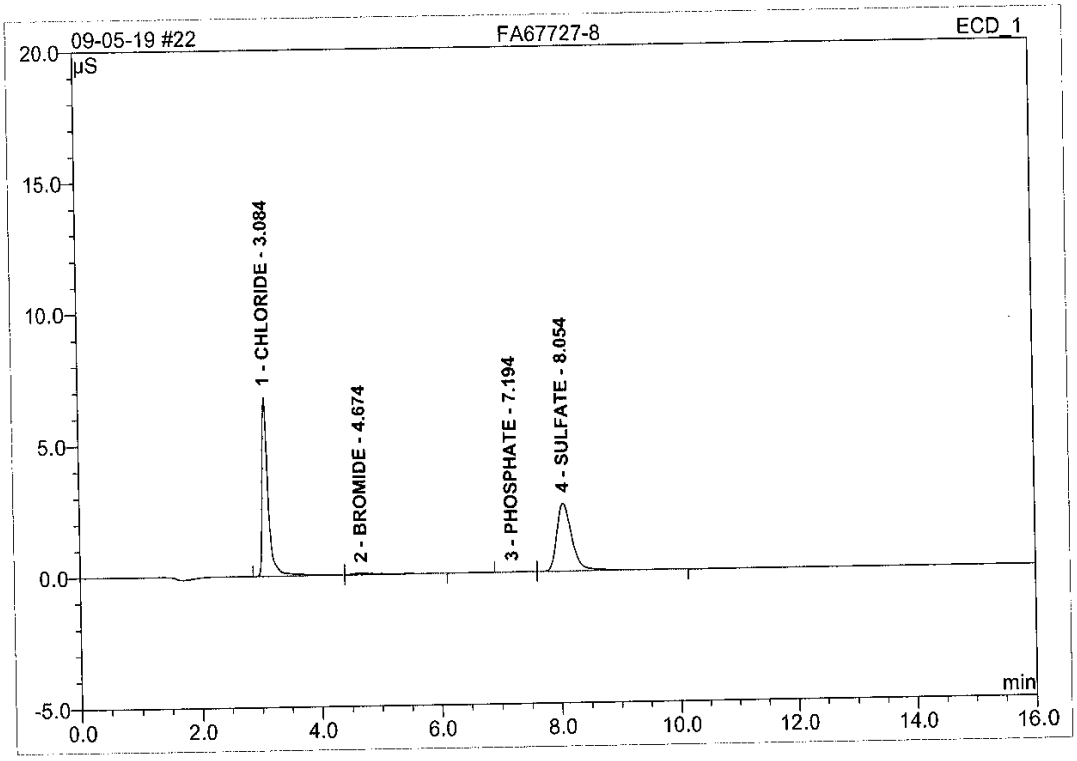


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.08	CHLORIDE	1.607	0.209	13.83	3.531	BM
2	4.69	BROMIDE	0.048	0.018	1.19	0.400	M
3	5.14	NITRATE	0.344	0.075	4.96	0.461	MB
4	7.18	PHOSPHATE	0.027	0.009	0.60	-0.434	BMB
5	8.05	SULFATE	4.110	1.198	79.41	26.279	bMB
Total:			6.135	1.508	100.00	30.238	

22 FA67727-8

System Operator: JB IC 2000

Sample Name:	**FA67727-8**	*Injection Volume:*	**10.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/5/2019 12:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

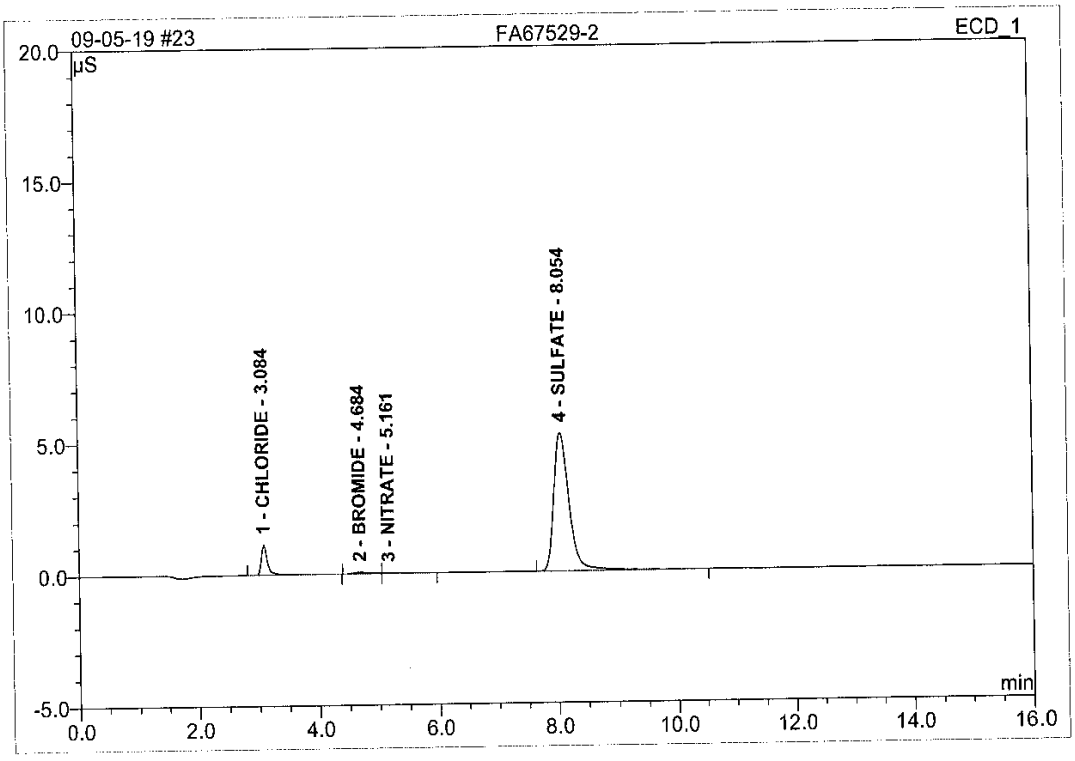


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.08	CHLORIDE	6.793	0.795	50.22	117.863	BM
2	4.67	BROMIDE	0.048	0.027	1.70	7.537	MB
3	7.19	PHOSPHATE	0.008	0.003	0.17	-5.315	BMB
4	8.05	SULFATE	2.575	0.759	47.91	168.509	bMB
Total:			9.424	1.584	100.00	288.595	

23 FA67529-2

System Operator: JB IC 2000

Sample Name:	**FA67529-2**	*Injection Volume:*	**10.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 13:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.08	CHLORIDE	1.132	0.140	8.25	2.564	BMB
2	4.68	BROMIDE	0.054	0.020	1.18	0.486	BM
3	5.16	NITRATE	0.026	0.008	0.48	0.027	MB
4	8.05	SULFATE	5.238	1.528	90.09	33.380	BMB
Total:			6.450	1.696	100.00	36.456	

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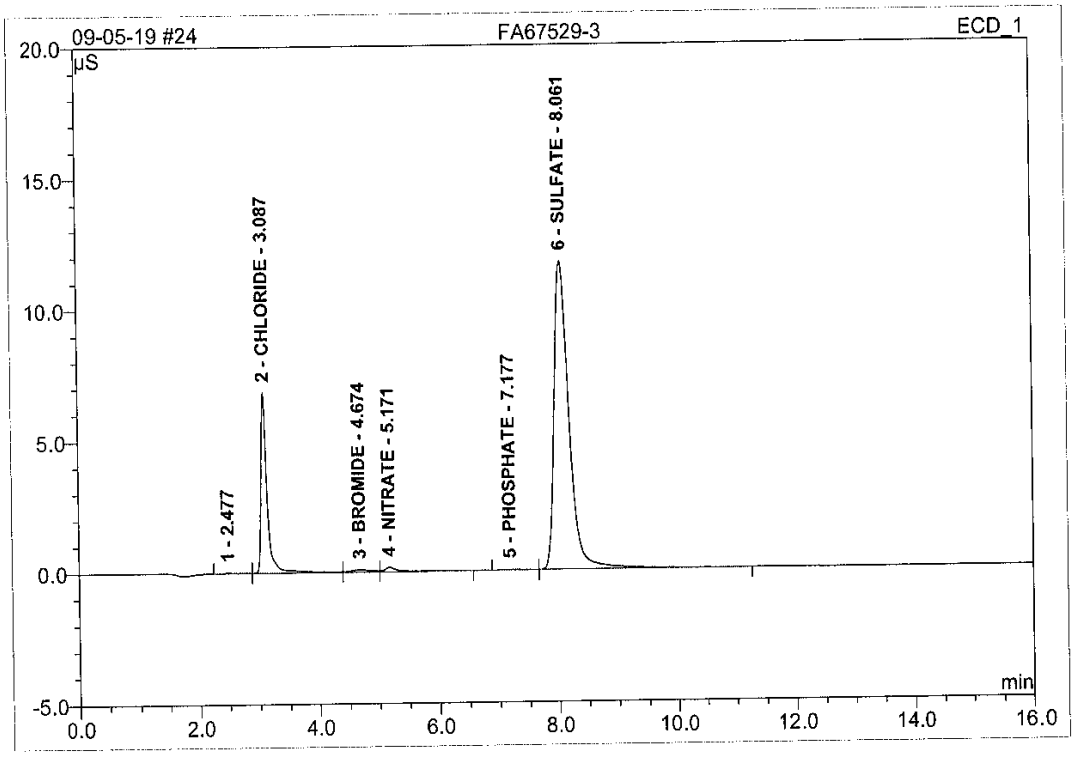
24 FA67529-3

System Operator: JB IC 2000

Sample Name:	**FA67529-3**	*Injection Volume:*	**10.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 13:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.48	n.a.	0.030	0.006	0.14	n.a.	BM
2	3.09	CHLORIDE	6.859	0.818	19.15	12.099	M
3	4.67	BROMIDE	0.078	0.031	0.72	0.901	M
4	5.17	NITRATE	0.164	0.042	0.98	0.246	MB
5	7.18	PHOSPHATE	0.019	0.006	0.14	-0.479	BMB
6	8.06	SULFATE	11.727	3.367	78.87	72.875	bMB
Total:			18.876	4.269	100.00	85.641	

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Chromeleon (c) Dionex 1996-2001
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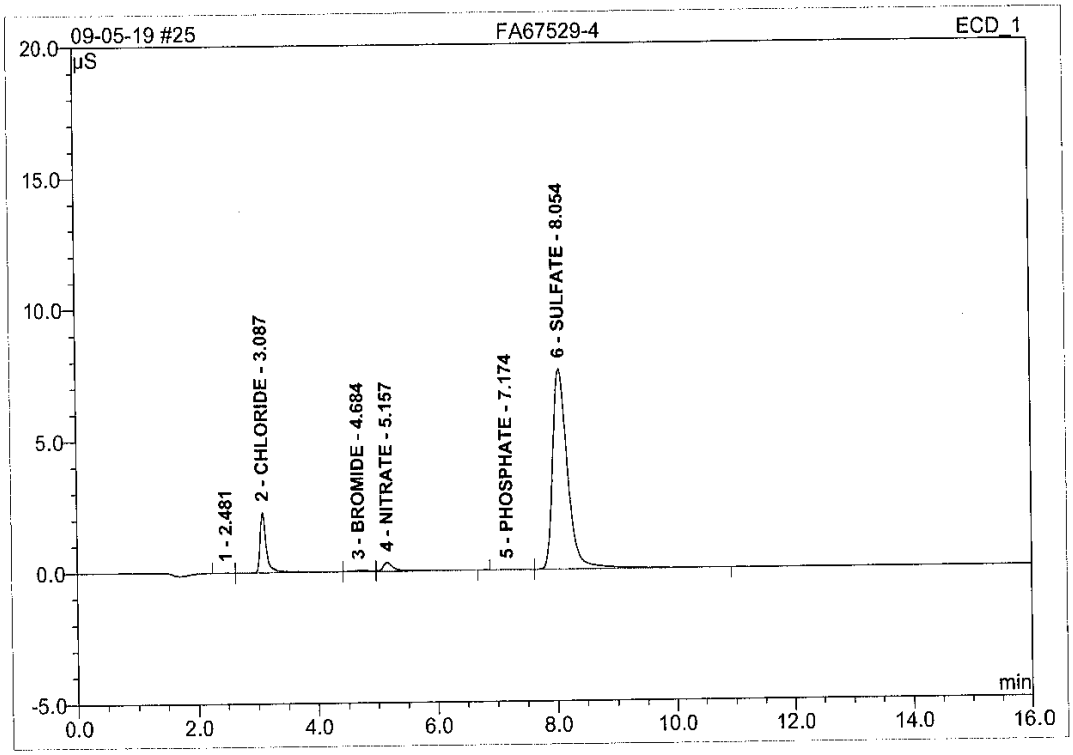
25 FA67529-4

System Operator: JB IC 2000

Sample Name:	**FA67529-4**	*Injection Volume:*	**10.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 13:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.48	n.a.	0.012	0.002	0.09	n.a.	BM
2	3.09	CHLORIDE	2.290	0.288	11.17	4.648	M
3	4.68	BROMIDE	0.046	0.017	0.65	0.349	M
4	5.16	NITRATE	0.332	0.073	2.85	0.452	MB
5	7.17	PHOSPHATE	0.009	0.003	0.11	-0.530	BMB
6	8.05	SULFATE	7.601	2.195	85.14	47.695	bMB
Total:			10.290	2.578	100.00	52.613	

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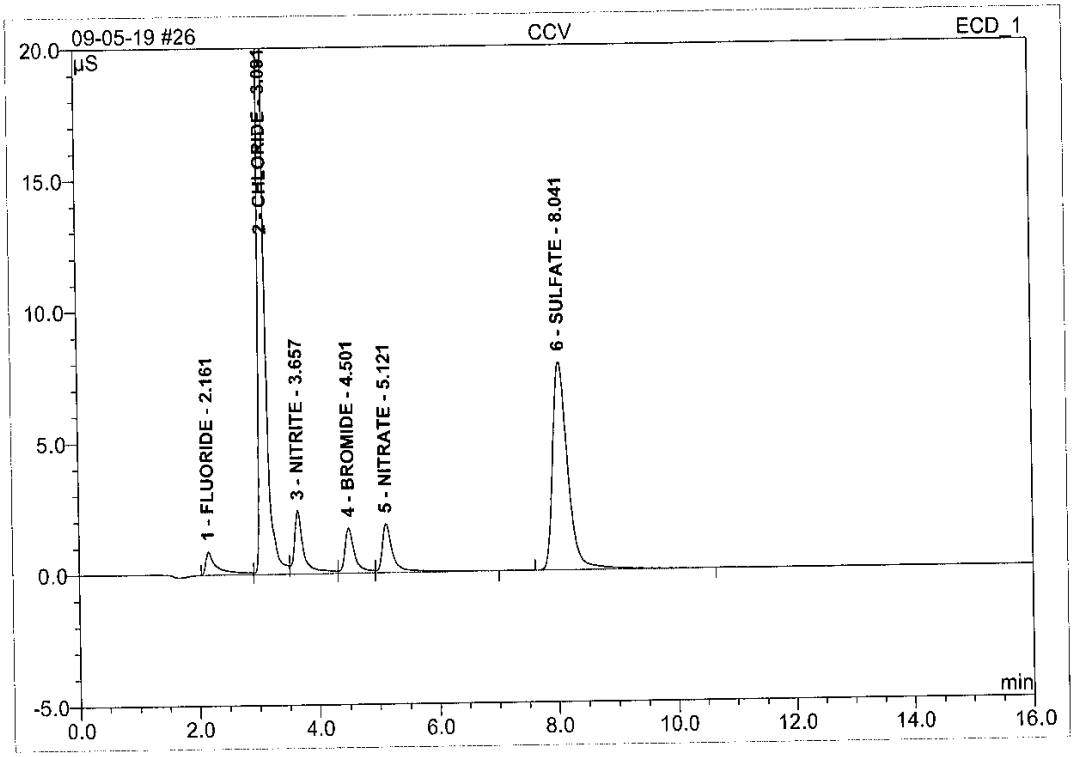
26 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 14:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

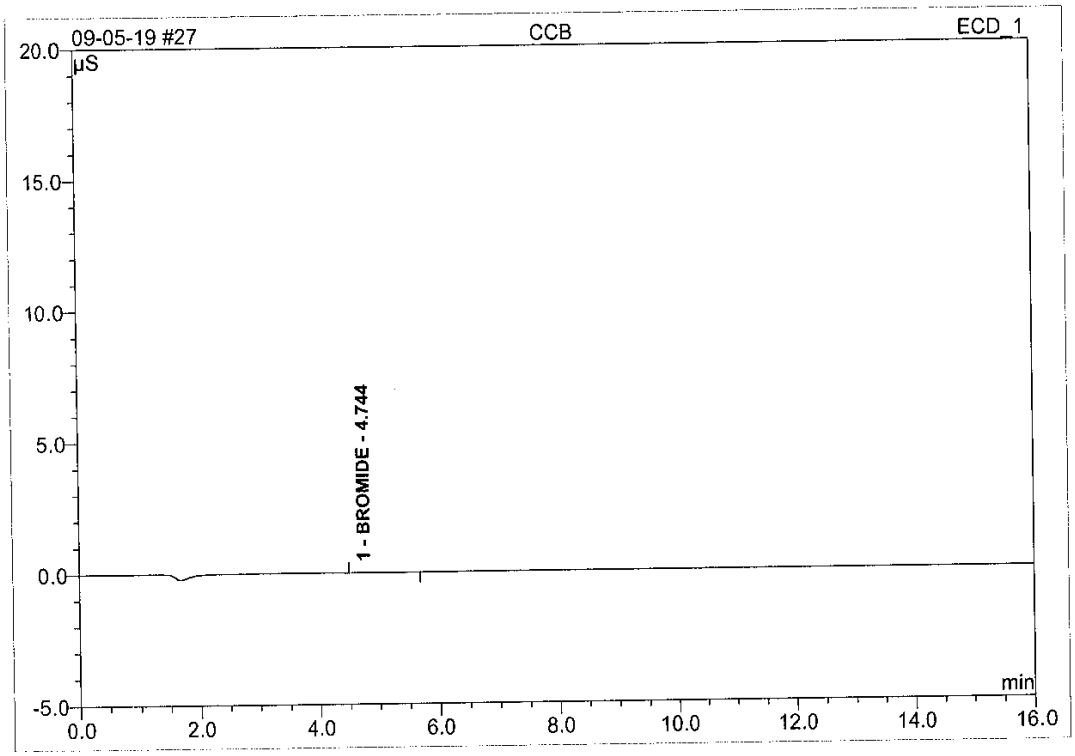


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.888	0.200	2.87	2.166	BM
2	3.09	CHLORIDE	31.749	3.376	48.35	48.096	M
3	3.66	NITRITE	2.395	0.425	6.09	2.497	M
4	4.50	BROMIDE	1.716	0.325	4.65	12.548	M
5	5.12	NITRATE	1.839	0.378	5.41	2.437	MB
6	8.04	SULFATE	7.898	2.279	32.64	49.503	BMB
Total:			46.484	6.982	100.00	117.247	

27 CCB

System Operator: JB IC 2000

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 14:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

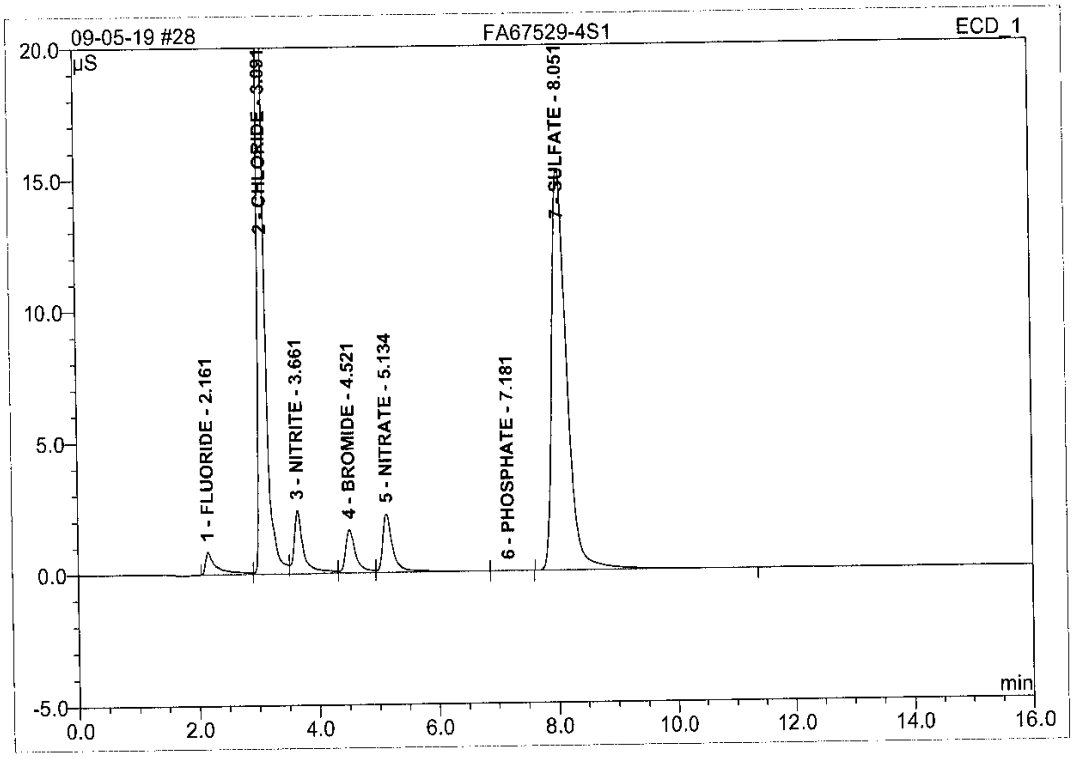


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.74	BROMIDE	0.017	0.008	100.00	0.026	BMB
Total:			0.017	0.008	100.00	0.026	

28 FA67529-4S1

System Operator: JB IC 2000

Sample Name:	**FA67529-4S1**	*Injection Volume:*	**10.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 14:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.853	0.194	2.05	2.098	BM
2	3.09	CHLORIDE	34.531	3.705	39.16	52.727	M
3	3.66	NITRITE	2.396	0.431	4.56	2.533	M
4	4.52	BROMIDE	1.648	0.326	3.44	12.598	M
5	5.13	NITRATE	2.221	0.447	4.72	2.886	MB
6	7.18	PHOSPHATE	0.009	0.003	0.03	-0.525	bMB
7	8.05	SULFATE	15.292	4.355	46.03	94.090	BMB
Total:			56.951	9.461	100.00	166.408	

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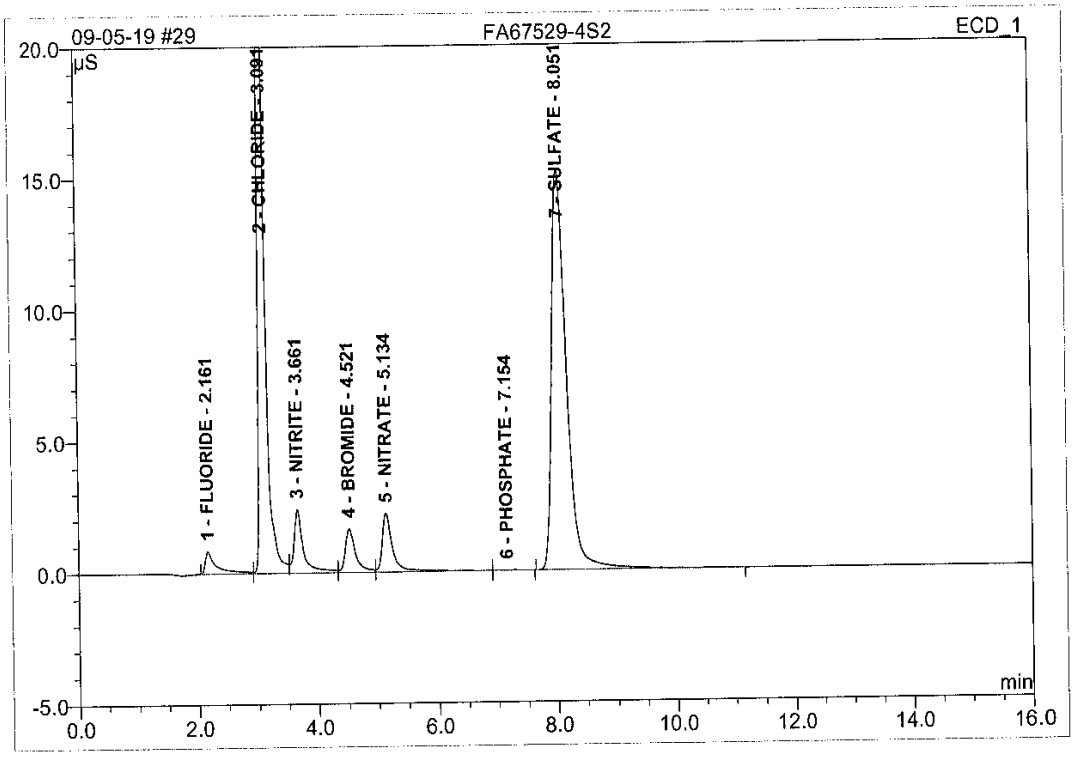
29 FA67529-4S2

System Operator: JB IC 2000

Sample Name:	**FA67529-4S2**	*Injection Volume:*	**10.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 14:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

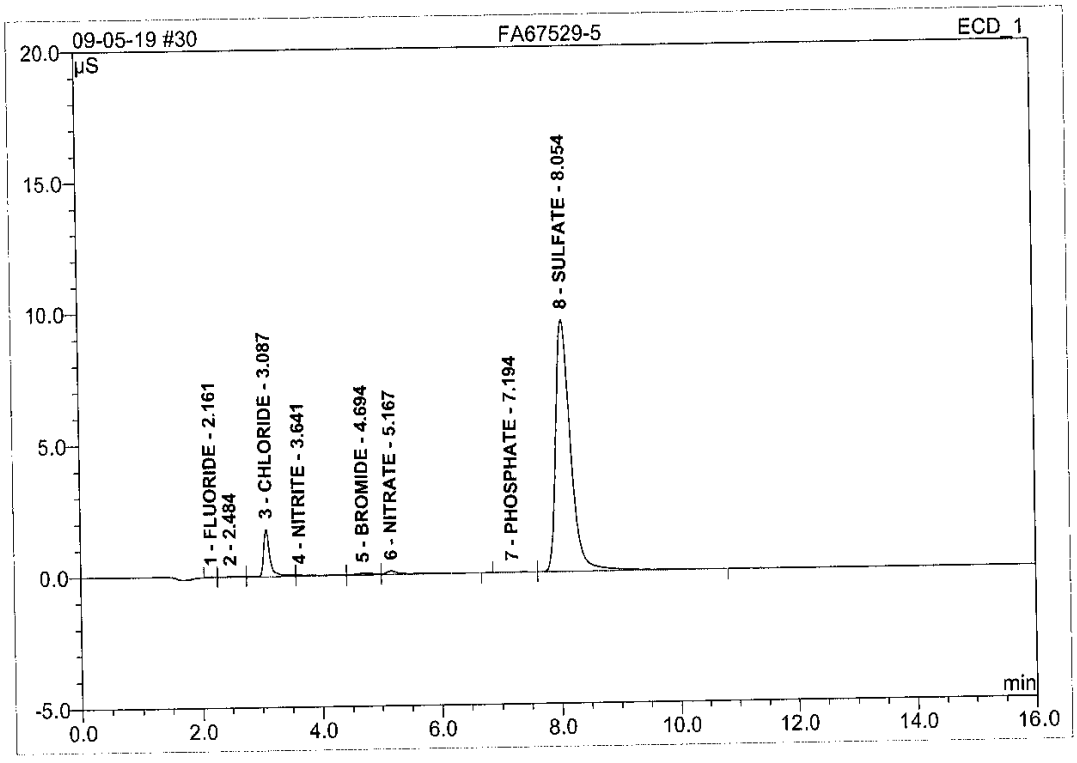


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.855	0.193	2.05	2.083	BM
2	3.09	CHLORIDE	34.399	3.694	39.15	52.578	M
3	3.66	NITRITE	2.394	0.433	4.59	2.545	M
4	4.52	BROMIDE	1.645	0.326	3.46	12.610	M
5	5.13	NITRATE	2.214	0.446	4.73	2.882	Mb
6	7.15	PHOSPHATE	0.007	0.002	0.02	-0.541	bMB
7	8.05	SULFATE	15.214	4.341	46.00	93.796	BMB
Total:			56.729	9.436	100.00	165.952	

30 FA67529-5

System Operator: JB IC 2000

Sample Name:	**FA67529-5**	*Injection Volume:*	**10.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 15:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.022	0.003	0.10	-0.120	BM
2	2.48	n.a.	0.025	0.009	0.31	n.a.	M
3	3.09	CHLORIDE	1.781	0.221	7.27	3.702	M
4	3.64	NITRITE	0.036	0.018	0.59	0.042	M
5	4.69	BROMIDE	0.051	0.020	0.67	0.494	M
6	5.17	NITRATE	0.126	0.037	1.21	0.213	MB
7	7.19	PHOSPHATE	0.009	0.003	0.10	-0.528	BMB
8	8.05	SULFATE	9.541	2.727	89.77	59.135	bMB
Total:			11.589	3.038	100.00	62.939	

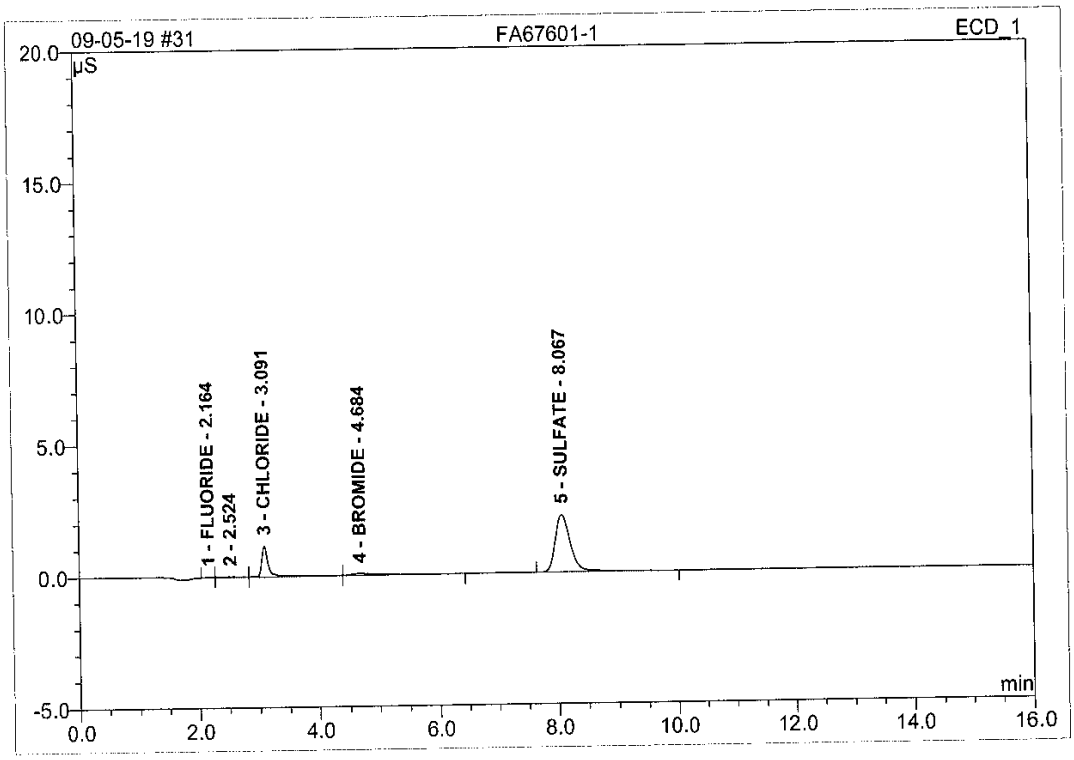
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

31 FA67601-1

System Operator: JB IC 2000

Sample Name:	**FA67601-1**	*Injection Volume:*	**10.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 15:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.023	0.003	0.40	-0.116	BM
2	2.52	n.a.	0.026	0.011	1.29	n.a.	M
3	3.09	CHLORIDE	1.164	0.162	18.95	2.876	M
4	4.68	BROMIDE	0.066	0.039	4.62	1.253	MB
5	8.07	SULFATE	2.177	0.639	74.74	14.279	BMB
Total:			3.456	0.855	100.00	18.291	

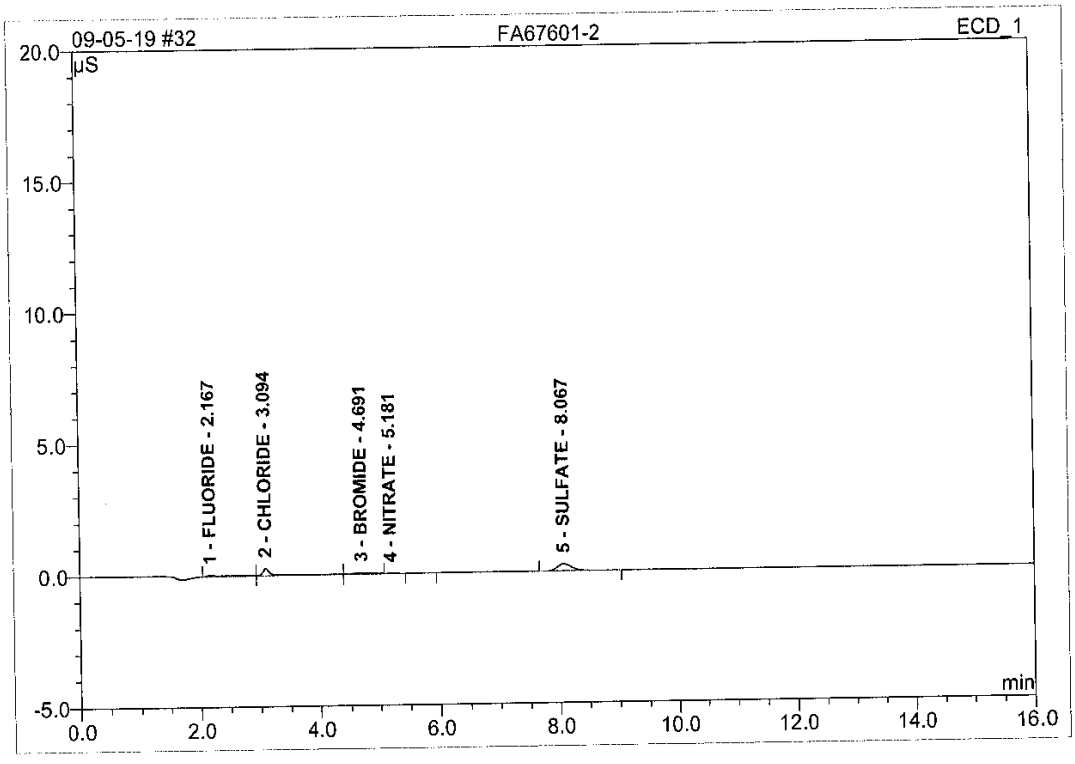
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

32 FA67601-2

System Operator: JB IC 2000

Sample Name:	**FA67601-2**	*Injection Volume:*	**10.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**5.0000**
Recording Time:	**9/5/2019 15:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.048	0.022	12.10	0.482	BM
2	3.09	CHLORIDE	0.273	0.052	29.10	6.663	M
3	4.69	BROMIDE	0.047	0.027	14.76	3.708	MB
4	5.18	NITRATE	0.007	0.001	0.51	-0.104	Rd
5	8.07	SULFATE	0.268	0.078	43.53	11.185	BMB
Total:			0.643	0.180	100.00	21.934	

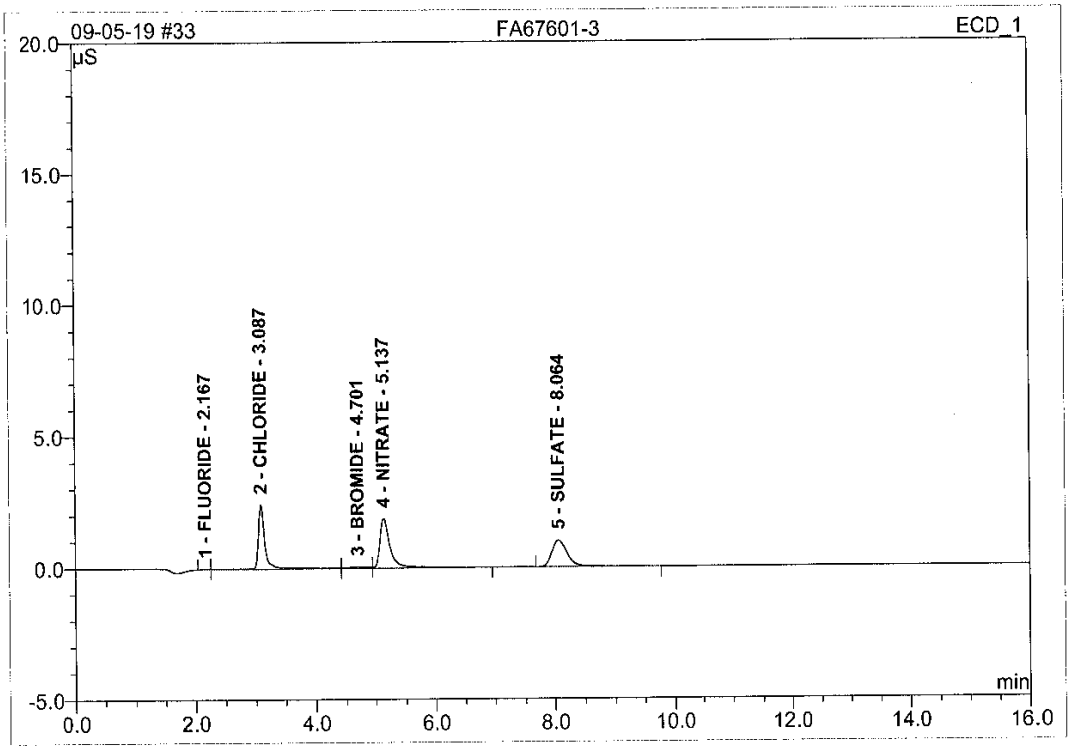
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

33 FA67601-3

System Operator: JB IC 2000

Sample Name:	**FA67601-3**	*Injection Volume:*	**10.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 16:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

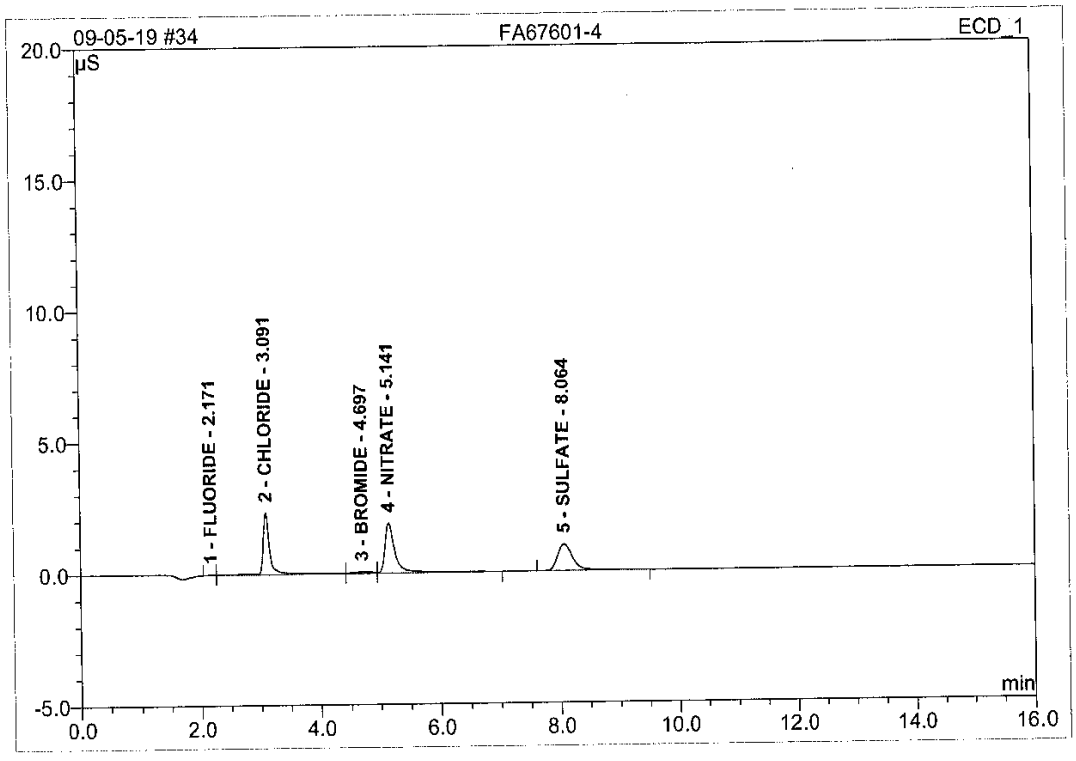


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.022	0.003	0.30	-0.120	BM
2	3.09	CHLORIDE	2.436	0.326	31.94	5.182	M
3	4.70	BROMIDE	0.052	0.020	1.94	0.473	M
4	5.14	NITRATE	1.882	0.374	36.60	2.410	MB
5	8.06	SULFATE	1.001	0.298	29.22	6.960	BMB
Total:			5.393	1.021	100.00	14.905	

34 FA67601-4

System Operator: JB IC 2000

Sample Name:	**FA67601-4**	*Injection Volume:*	**10.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 16:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.024	0.003	0.33	-0.117	BM
2	3.09	CHLORIDE	2.342	0.318	31.48	5.076	M
3	4.70	BROMIDE	0.051	0.019	1.92	0.459	M
4	5.14	NITRATE	1.879	0.373	36.89	2.407	MB
5	8.06	SULFATE	1.002	0.297	29.37	6.936	BMB
Total:			5.297	1.011	100.00	14.761	

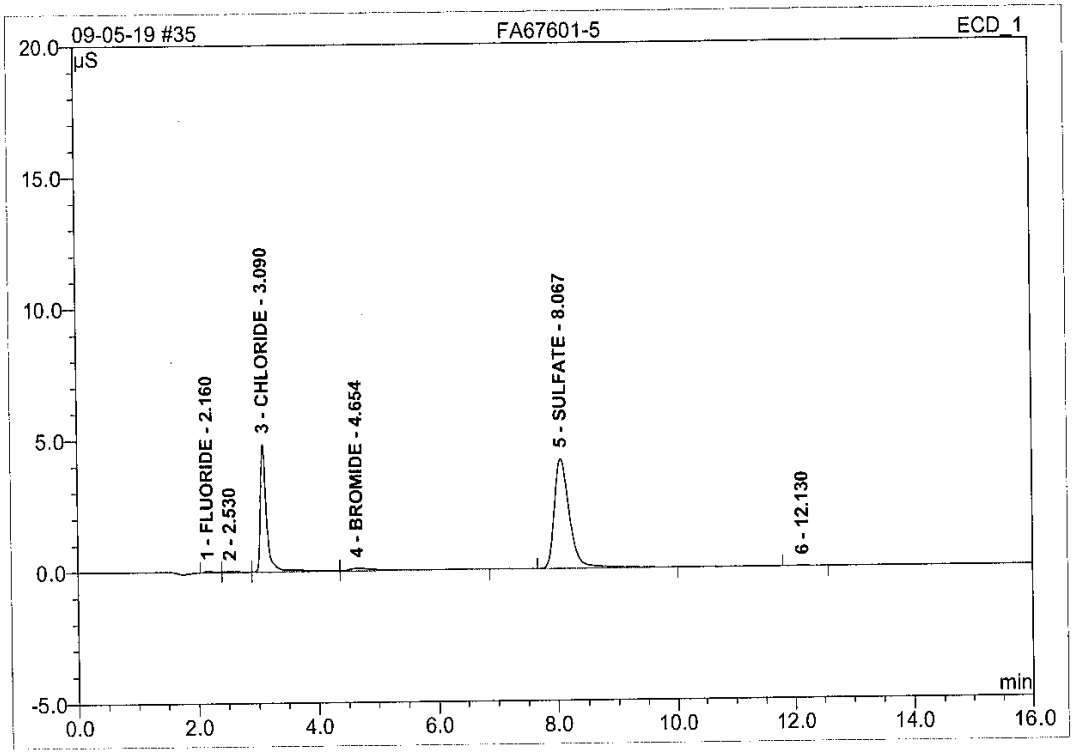
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

35 FA67601-5

System Operator: JB IC 2000

Sample Name:	**FA67601-5**	*Injection Volume:*	**10.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 16:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.064	0.012	0.63	-0.018	BM
2	2.53	n.a.	0.042	0.012	0.66	n.a.	M
3	3.09	CHLORIDE	4.846	0.593	31.31	8.938	M
4	4.65	BROMIDE	0.093	0.061	3.25	2.126	MB
5	8.07	SULFATE	4.159	1.213	64.06	26.605	BMB
6	12.13	n.a.	0.005	0.002	0.09	n.a.	BMB
Total:			9.209	1.893	100.00	37.651	

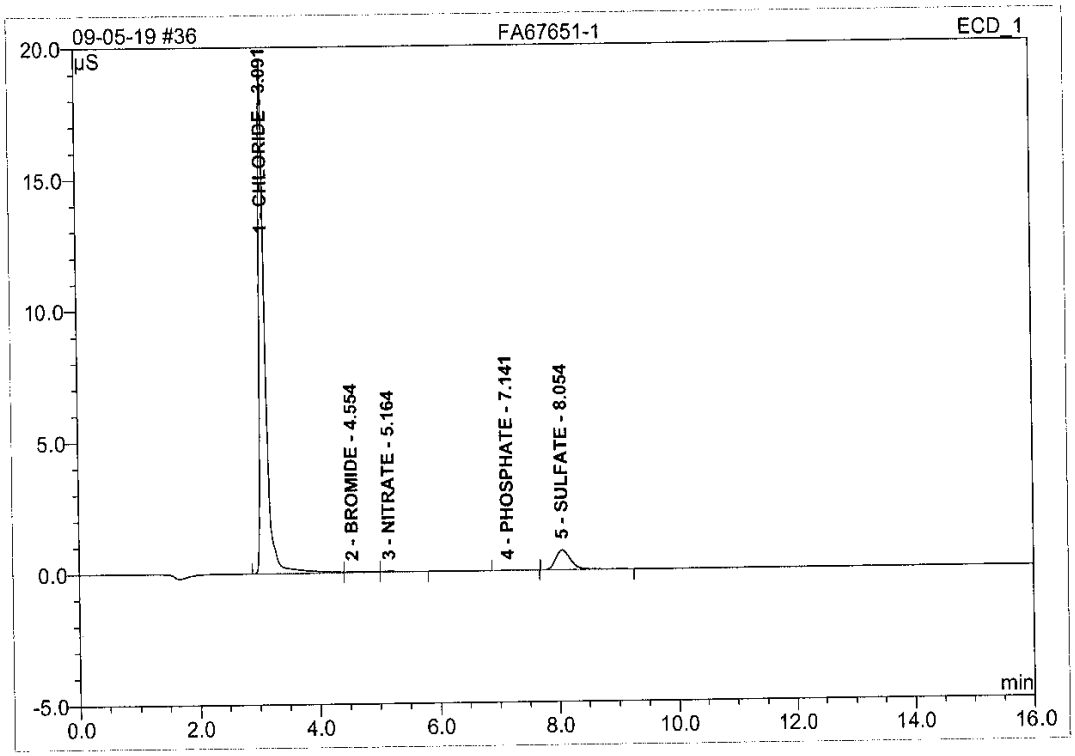
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

36 FA67651-1

System Operator: JB IC 2000

Sample Name:	**FA67651-1**	*Injection Volume:*	**10.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**100.0000**
Recording Time:	**9/5/2019 17:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	19.579	2.153	89.68	3088.717	BM
2	4.55	BROMIDE	0.035	0.017	0.69	34.990	M
3	5.16	NITRATE	0.036	0.010	0.41	3.693	MB
4	7.14	PHOSPHATE	0.003	0.001	0.06	-55.264	BMB
5	8.05	SULFATE	0.748	0.220	9.16	527.793	BMB
Total:			20.402	2.400	100.00	3599.929	

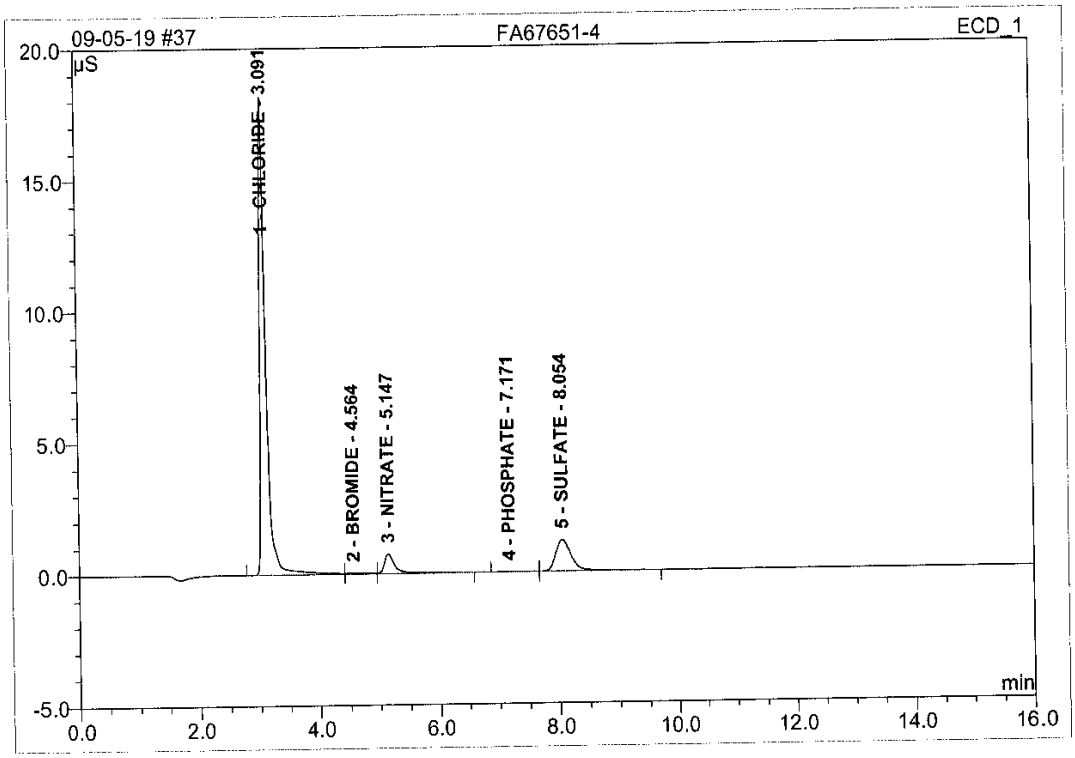
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

37 FA67651-4

System Operator: JB IC 2000

Sample Name:	**FA67651-4**	*Injection Volume:*	**10.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/5/2019 17:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	18.146	2.006	79.35	288.180	BM
2	4.56	BROMIDE	0.039	0.017	0.69	3.801	M
3	5.15	NITRATE	0.734	0.149	5.90	9.464	MB
4	7.17	PHOSPHATE	0.017	0.006	0.24	-4.807	BMB
5	8.05	SULFATE	1.185	0.349	13.82	80.577	bMB
Total:			20.121	2.528	100.00	377.215	

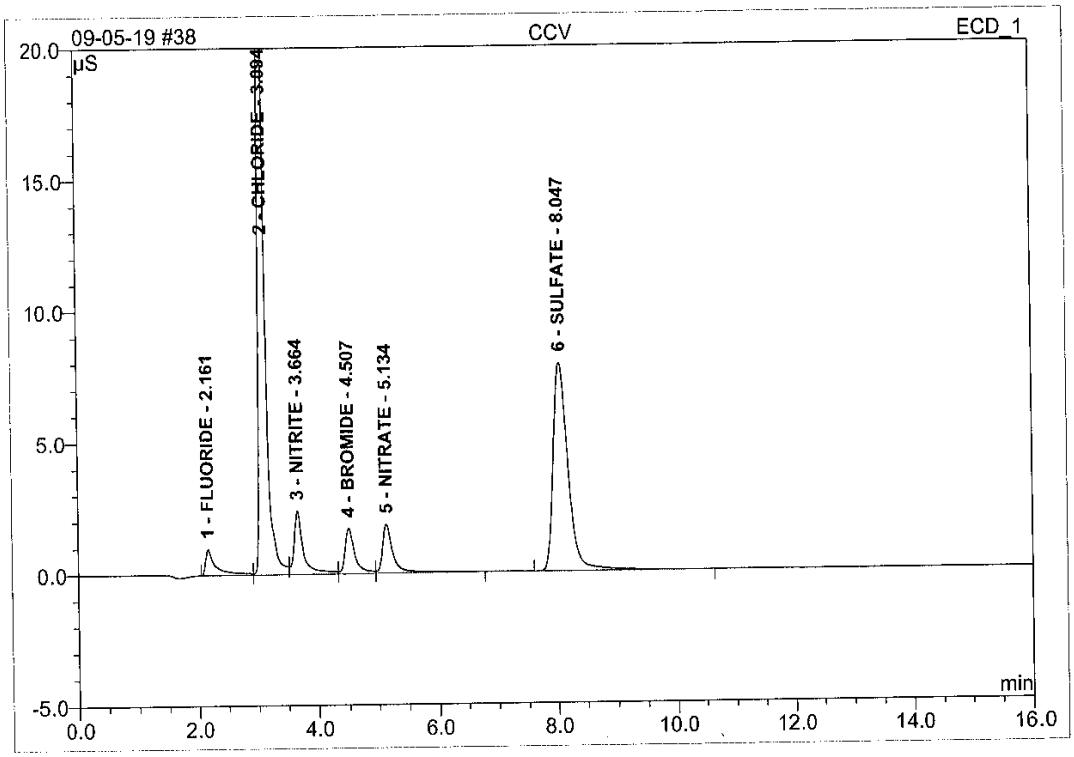
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

38 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 17:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

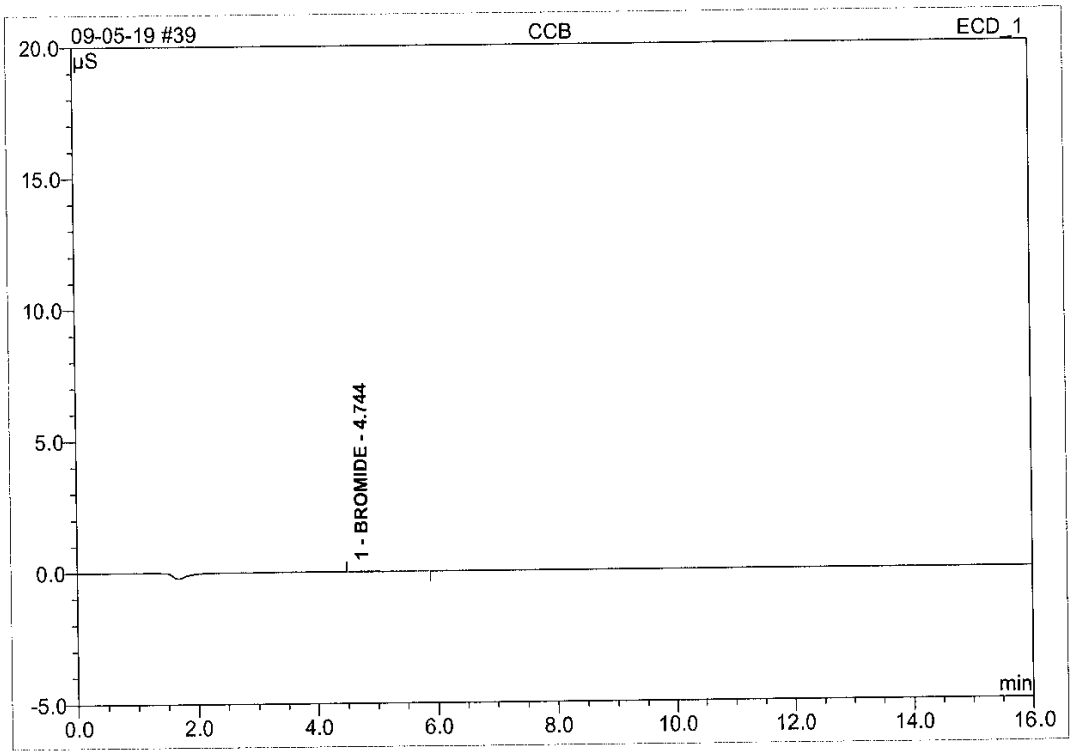


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.987	0.204	2.92	2.216	BM
2	3.09	CHLORIDE	32.067	3.384	48.38	48.212	M
3	3.66	NITRITE	2.402	0.426	6.09	2.501	M
4	4.51	BROMIDE	1.723	0.325	4.64	12.555	M
5	5.13	NITRATE	1.842	0.375	5.35	2.416	MB
6	8.05	SULFATE	7.917	2.281	32.61	49.552	BMB
Total:			46.938	6.995	100.00	117.451	

39 CCB

System Operator: JB IC 2000

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 18:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

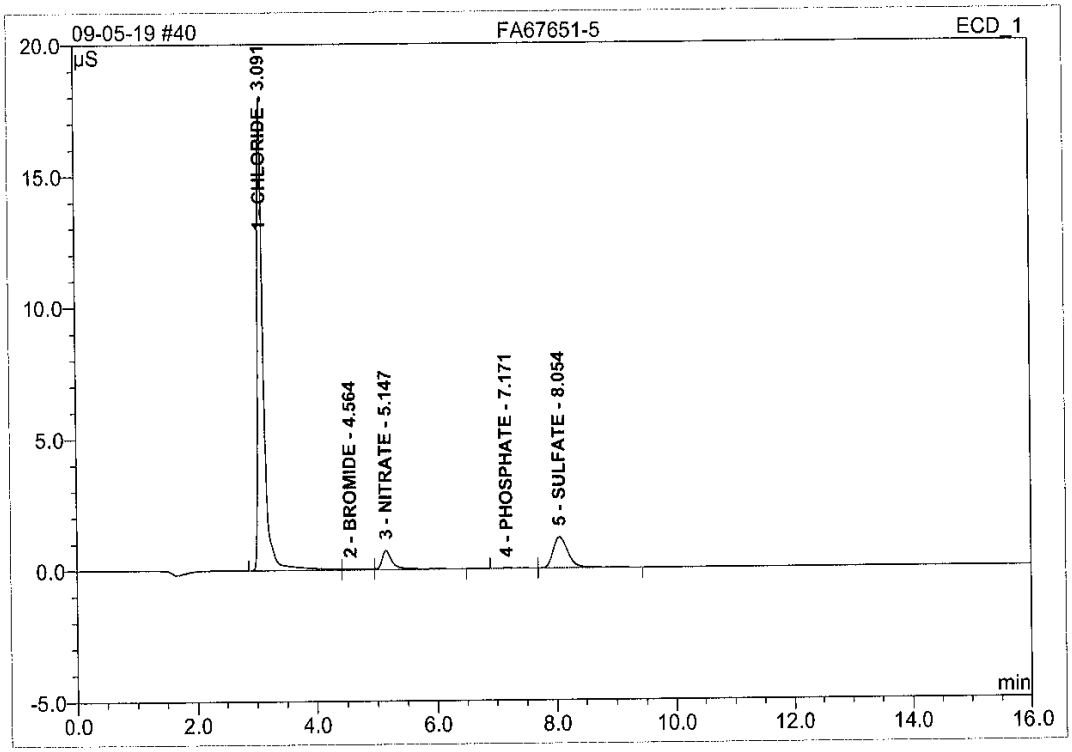


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.74	BROMIDE	0.019	0.010	100.00	0.081	BMB
Total:			0.019	0.010	100.00	0.081	

40 FA67651-5

System Operator: JB IC 2000

Sample Name:	**FA67651-5**	*Injection Volume:*	**10.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/5/2019 18:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

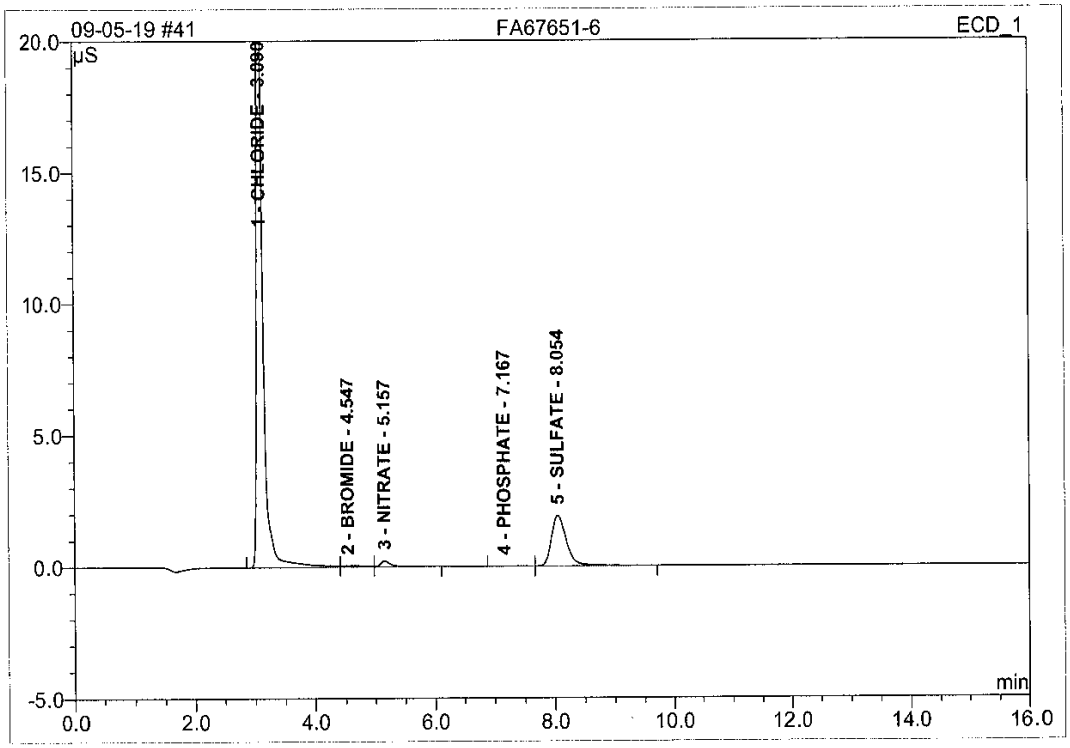


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	17.929	1.975	79.58	283.798	BM
2	4.56	BROMIDE	0.036	0.016	0.64	3.223	M
3	5.15	NITRATE	0.720	0.144	5.79	9.110	MB
4	7.17	PHOSPHATE	0.017	0.006	0.24	-4.832	BMB
5	8.05	SULFATE	1.174	0.341	13.75	78.828	bMB
Total:			19.876	2.481	100.00	370.129	

41 FA67651-6

System Operator: JB IC 2000

Sample Name:	**FA67651-6**	*Injection Volume:*	**10.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/5/2019 18:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	27.219	2.948	82.43	420.742	BM
2	4.55	BROMIDE	0.048	0.020	0.56	4.880	M
3	5.16	NITRATE	0.227	0.048	1.34	2.867	MB
4	7.17	PHOSPHATE	0.012	0.004	0.11	-5.104	BMB
5	8.05	SULFATE	1.910	0.556	15.55	124.996	bMB
Total:			29.415	3.576	100.00	548.380	

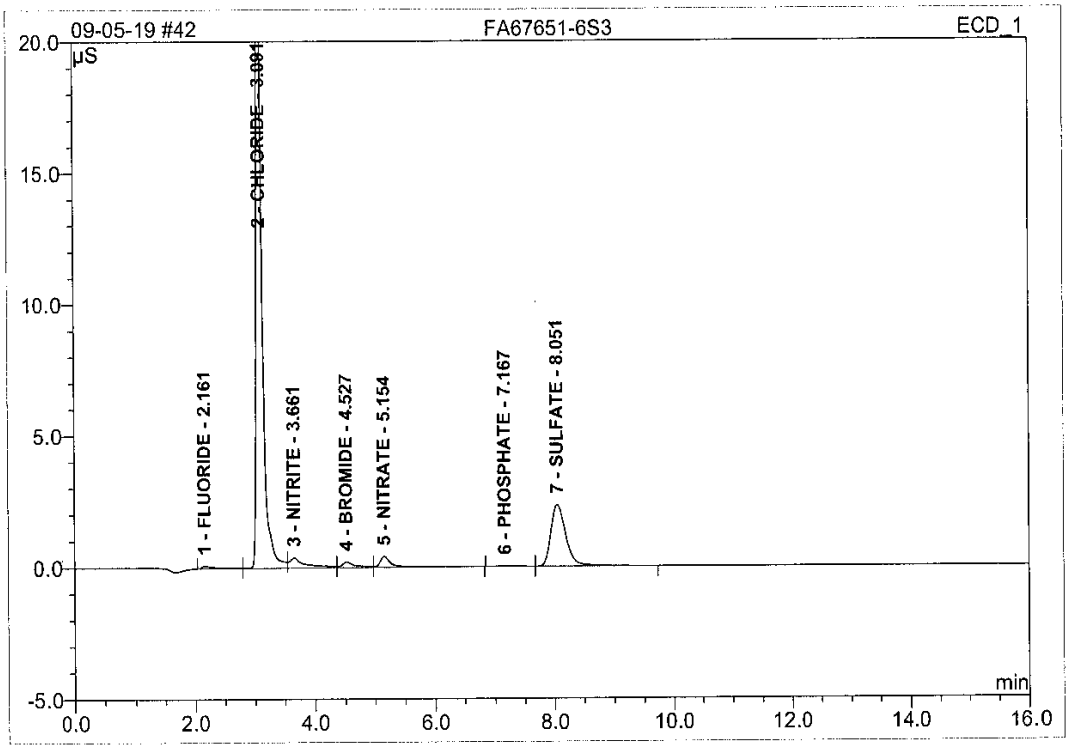
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

42 FA67651-6S3

System Operator: JB IC 2000

Sample Name:	**FA67651-6S3**	*Injection Volume:*	**10.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/5/2019 19:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.103	0.028	0.77	1.738	BM
2	3.09	CHLORIDE	25.584	2.716	73.34	388.175	M
3	3.66	NITRITE	0.387	0.118	3.17	6.432	M
4	4.53	BROMIDE	0.216	0.056	1.50	18.906	M
5	5.15	NITRATE	0.412	0.097	2.62	6.070	MB
6	7.17	PHOSPHATE	0.031	0.011	0.29	-4.097	BMB
7	8.05	SULFATE	2.326	0.678	18.30	151.158	bMB
Total:			29.060	3.704	100.00	568.381	

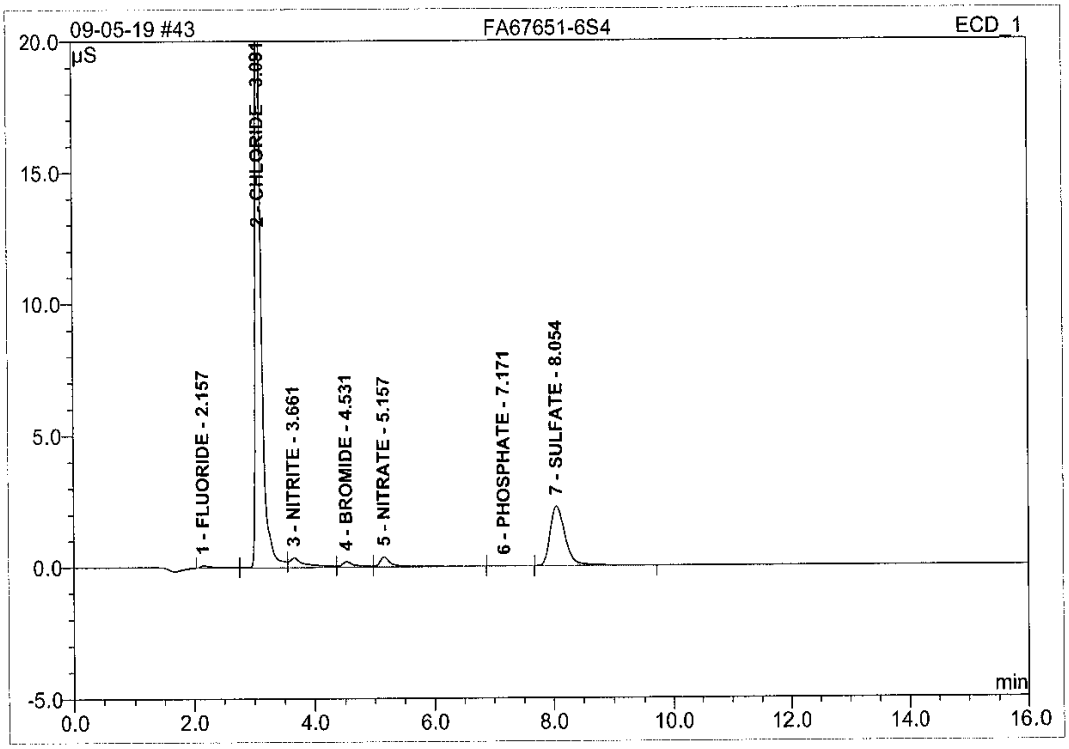
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

43 FA67651-6S4

System Operator: JB IC 2000

Sample Name:	**FA67651-6S4**	*Injection Volume:*	**10.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/5/2019 19:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

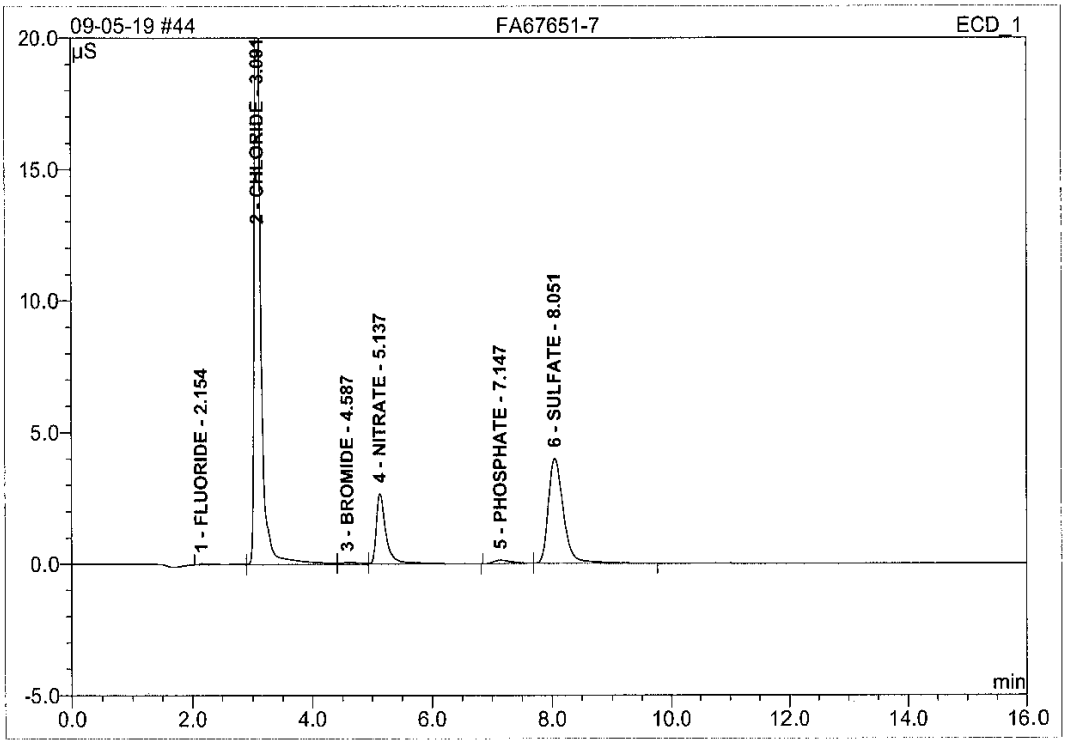


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.100	0.027	0.74	1.517	BM
2	3.09	CHLORIDE	24.650	2.624	73.49	375.195	M
3	3.66	NITRITE	0.376	0.114	3.20	6.240	M
4	4.53	BROMIDE	0.210	0.054	1.51	18.304	M
5	5.16	NITRATE	0.376	0.089	2.50	5.547	MB
6	7.17	PHOSPHATE	0.012	0.004	0.11	-5.117	BMB
7	8.05	SULFATE	2.259	0.659	18.45	147.031	BMB
Total:			27.984	3.571	100.00	548.718	

44 FA67651-7

System Operator: JB IC 2000

Sample Name:	**FA67651-7**	*Injection Volume:*	**10.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 19:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

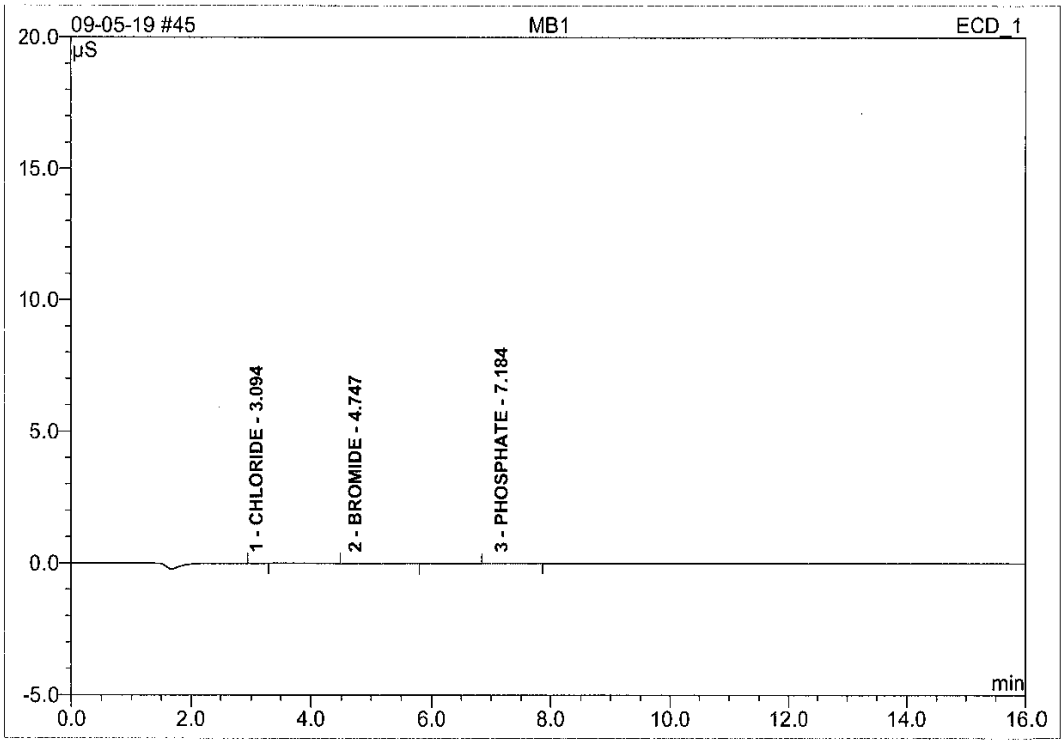


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.15	FLUORIDE	0.046	0.016	0.34	0.028	BM
2	3.09	CHLORIDE	26.495	2.908	62.43	41.516	M
3	4.59	BROMIDE	0.065	0.027	0.58	0.766	M
4	5.14	NITRATE	2.677	0.519	11.15	3.360	MB
5	7.15	PHOSPHATE	0.131	0.044	0.95	0.104	BMb
6	8.05	SULFATE	3.972	1.144	24.55	25.124	bMB
Total:			33.385	4.659	100.00	70.899	

45 MB1

System Operator: JB IC 2000

Sample Name:	**MB1**	*Injection Volume:*	**10.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 20:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

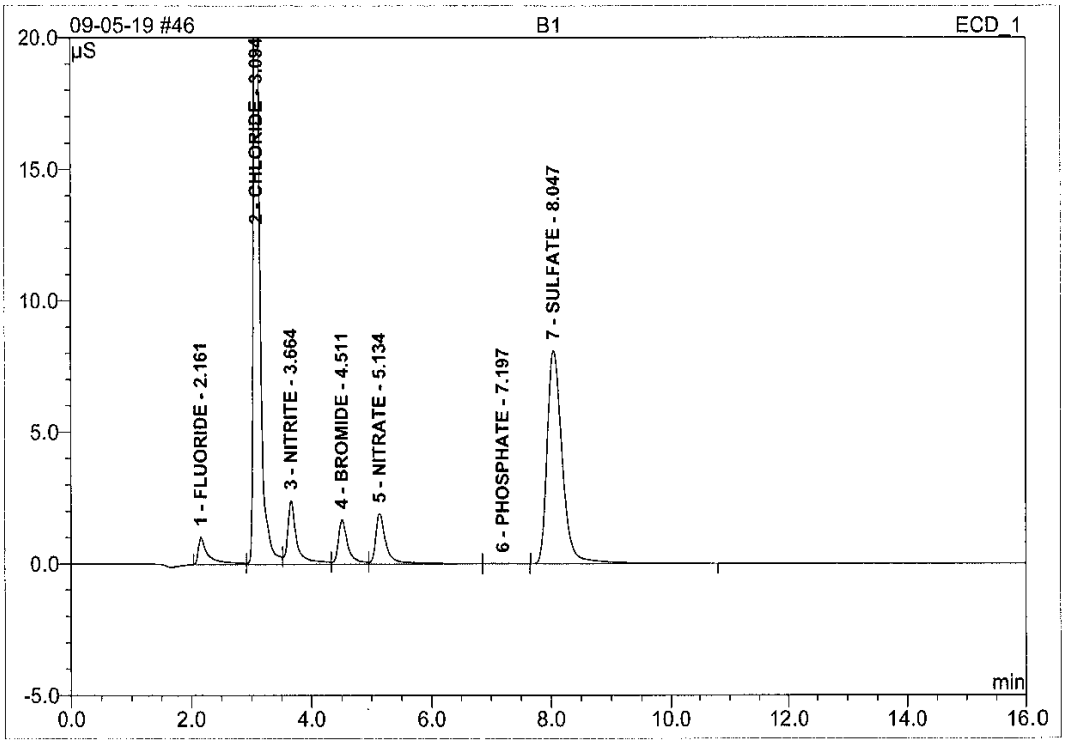


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	0.010	0.001	7.14	0.611	BMB
2	4.75	BROMIDE	0.017	0.009	57.50	0.042	BMB
3	7.18	PHOSPHATE	0.013	0.005	35.35	-0.489	BMB
Total:			0.041	0.015	100.00	0.164	

46 B1

System Operator: JB IC 2000

Sample Name:	**B1**	*Injection Volume:*	**10.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 20:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

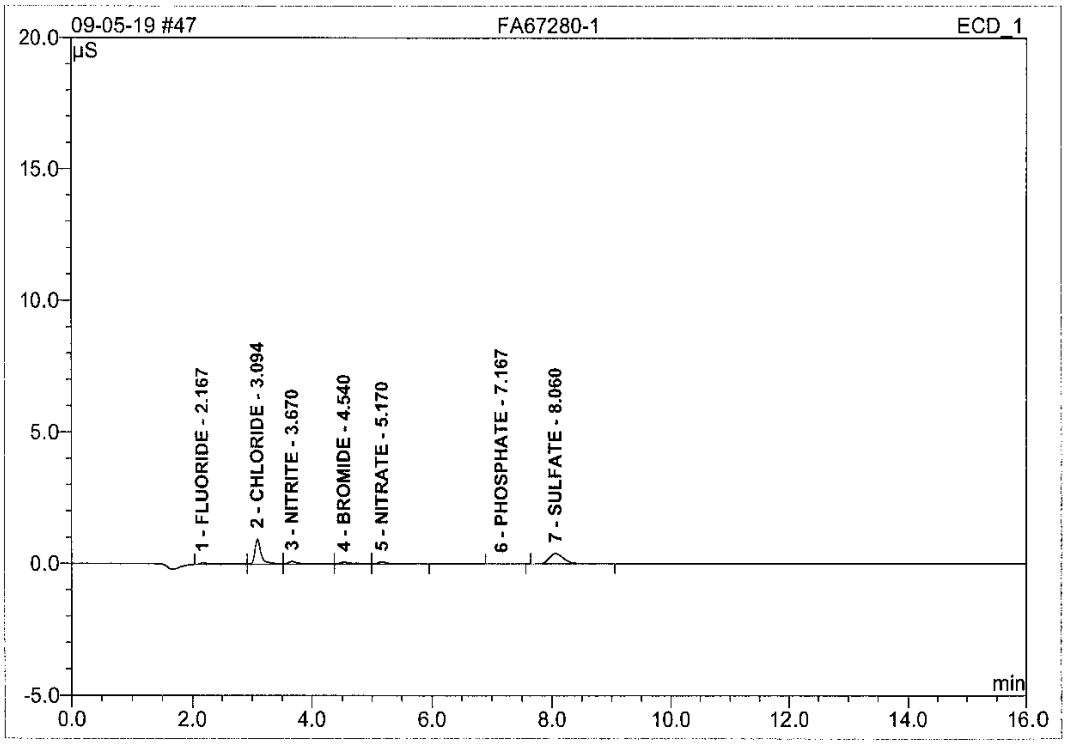


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.043	0.208	2.94	2.255	BM
2	3.09	CHLORIDE	32.053	3.379	47.88	48.144	M
3	3.66	NITRITE	2.409	0.427	6.06	2.510	M
4	4.51	BROMIDE	1.683	0.319	4.52	12.335	M
5	5.13	NITRATE	1.911	0.390	5.52	2.515	Mb
6	7.20	PHOSPHATE	0.008	0.003	0.04	-0.526	bMB
7	8.05	SULFATE	8.084	2.332	33.04	50.646	BMB
Total:			47.192	7.058	100.00	117.879	

47 FA67280-1

System Operator: JB IC 2000

Sample Name:	**FA67280-1**	*Injection Volume:*	**10.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 20:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

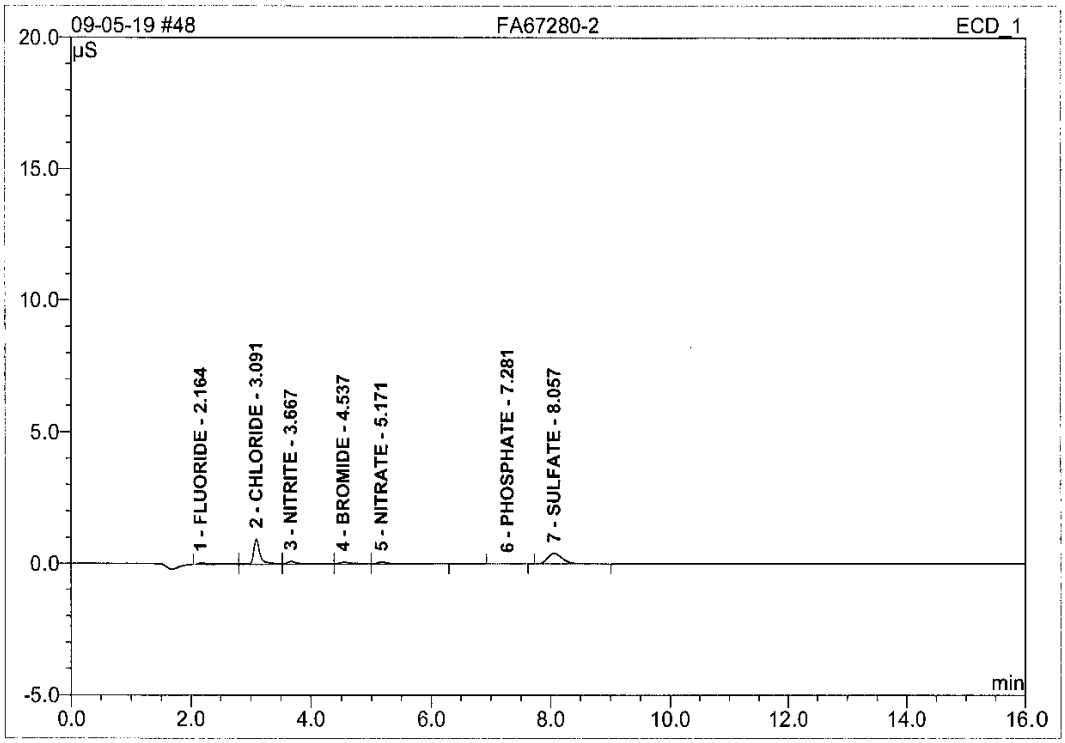


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.067	0.025	7.73	0.134	BM
2	3.09	CHLORIDE	0.954	0.119	36.78	2.271	M
3	3.67	NITRITE	0.104	0.027	8.29	0.097	M
4	4.54	BROMIDE	0.069	0.020	6.21	0.486	M
5	5.17	NITRATE	0.074	0.018	5.45	0.088	MB
6	7.17	PHOSPHATE	0.004	0.001	0.40	-0.553	BMB
7	8.06	SULFATE	0.390	0.114	35.13	2.997	BMB
Total:			1.662	0.324	100.00	5.519	

48 FA67280-2

System Operator: JB IC 2000

Sample Name:	**FA67280-2**	*Injection Volume:*	**10.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 20:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

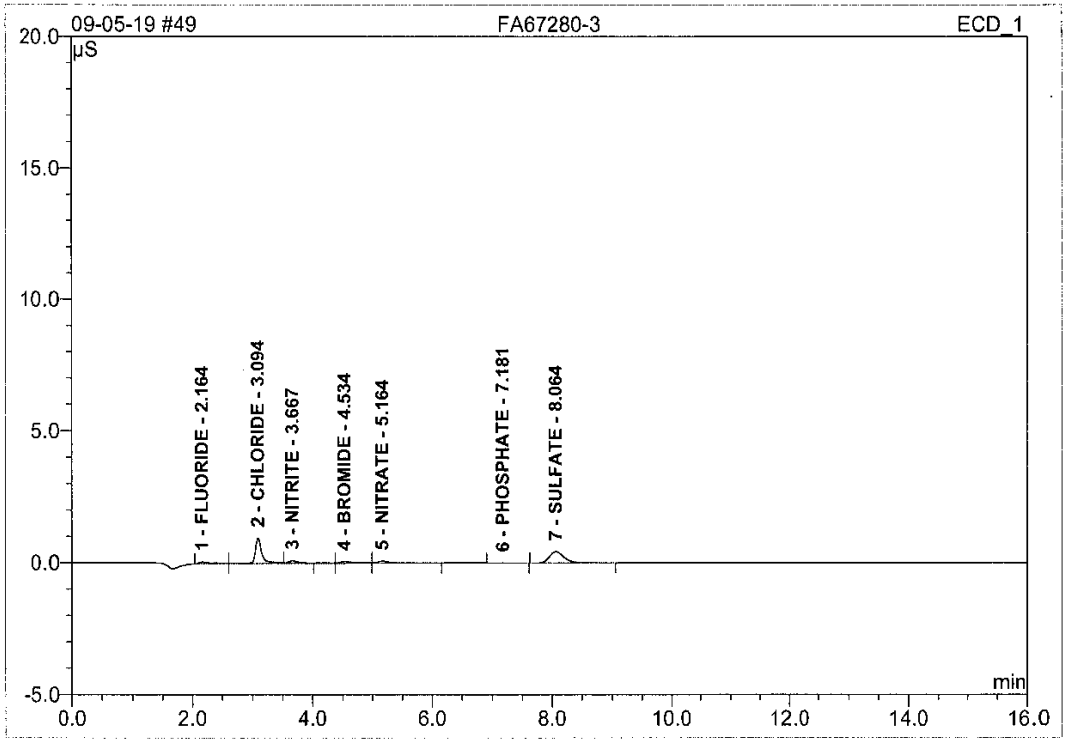


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.066	0.022	6.53	0.099	BM
2	3.09	CHLORIDE	0.961	0.124	36.66	2.334	M
3	3.67	NITRITE	0.107	0.030	8.88	0.115	M
4	4.54	BROMIDE	0.073	0.022	6.67	0.580	M
5	5.17	NITRATE	0.077	0.022	6.44	0.115	MB
6	7.28	PHOSPHATE	0.003	0.001	0.34	-0.556	BMB
7	8.06	SULFATE	0.400	0.116	34.48	3.050	BMB
Total:			1.688	0.337	100.00	5.738	

49 FA67280-3

System Operator: JB IC 2000

Sample Name:	**FA67280-3**	*Injection Volume:*	**10.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 21:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

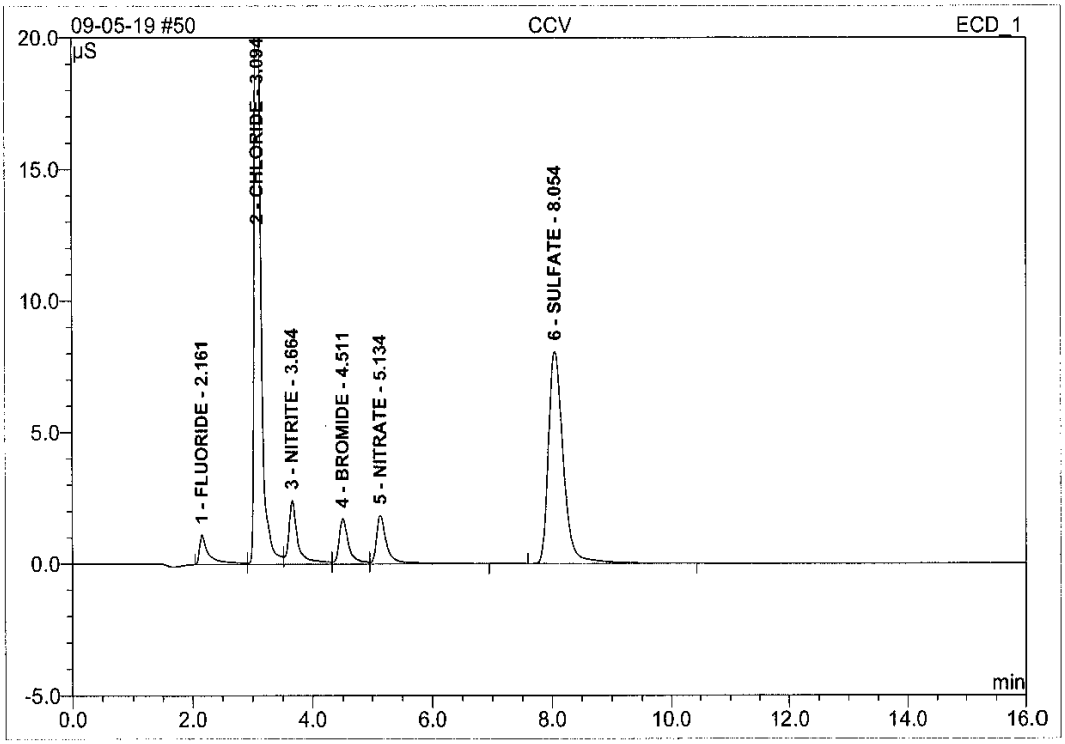


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.067	0.018	5.25	0.051	BM
2	3.09	CHLORIDE	0.963	0.145	42.46	2.634	M
3	3.67	NITRITE	0.081	0.011	3.20	0.001	Rd
4	4.53	BROMIDE	0.071	0.022	6.35	0.548	M
5	5.16	NITRATE	0.077	0.020	5.83	0.103	MB
6	7.18	PHOSPHATE	0.003	0.001	0.33	-0.556	BMB
7	8.06	SULFATE	0.428	0.125	36.58	3.235	BMB
Total:			1.690	0.341	100.00	6.016	

50 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**36**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 21:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

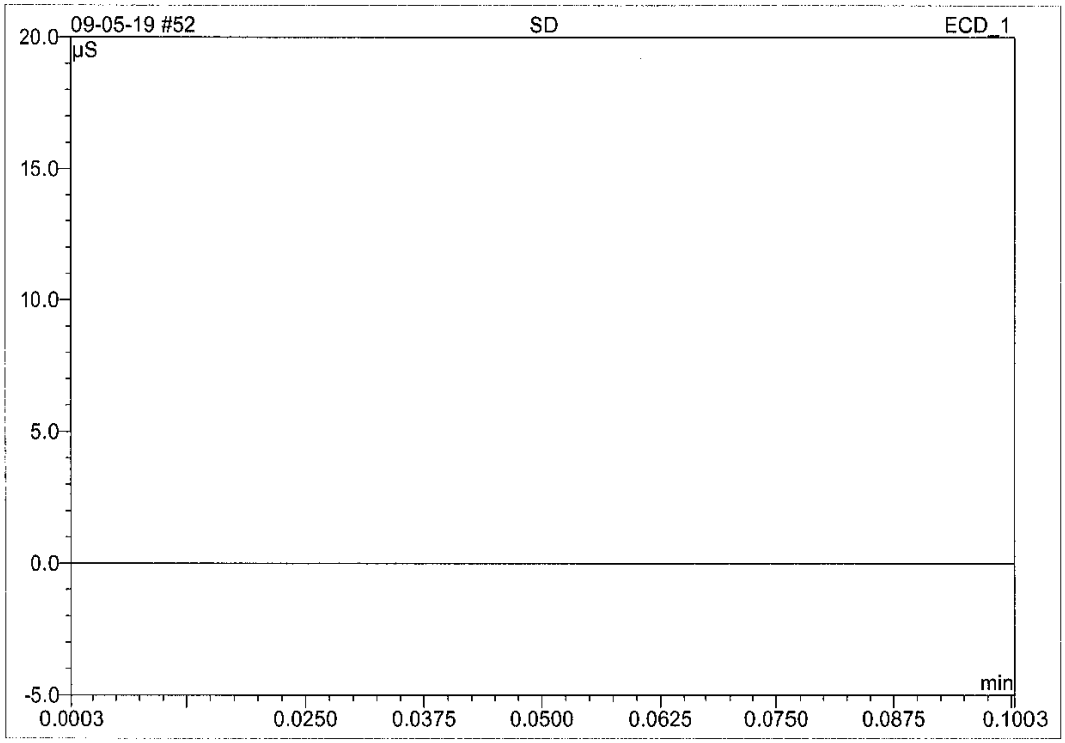


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.119	0.214	3.04	2.326	BM
2	3.09	CHLORIDE	32.264	3.389	48.10	48.280	M
3	3.66	NITRITE	2.418	0.428	6.07	2.512	M
4	4.51	BROMIDE	1.722	0.325	4.62	12.574	M
5	5.13	NITRATE	1.846	0.376	5.34	2.426	MB
6	8.05	SULFATE	8.071	2.314	32.84	50.262	BMB
Total:			47.440	7.046	100.00	118.380	

52 SD

System Operator: JB IC 2000

Sample Name:	**SD**	*Injection Volume:*	**10.0**
Vial Number:	**38**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**SHUTDOWN_A22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/5/2019 22:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**0.10**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
Total:			0.000	0.000	0.00	0.000	

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Ahtna Environmental Inc

Fort Ord Groundwater Monitoring

SGS Job Number: FA67764

Sampling Date: 09/04/19

Report to:

Ahtna Environmental Inc
3100 Beacon Blvd
West Sacramento, CA 95691
hdillon@ahtna.net; mfisler@ahtna.net;
dlieberman@ahtna.net; eschmidt@ahtna.net;
ATTN: Derek Lieberman

Total number of pages in report: 83

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

Sections:

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Table of Contents

SGS North America Inc.

Sample Summary

Ahtna Environmental Inc

Job No: FA67764

Fort Ord Groundwater Monitoring

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA67764-1	09/04/19	12:20	AMTS	09/06/19	AQ	Ground Water	1936Y212086F
FA67764-2	09/04/19	12:25	AMTS	09/06/19	AQ	Ground Water	1936Y212087D
FA67764-3	09/04/19	12:45	AMTS	09/06/19	AQ	Ground Water	1936Y212088F

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Ahtna Environmental Inc **Job No:** FA67764

Site: Fort Ord Groundwater Monitoring **Report Date** 9/12/2019 3:02:59

3 Samples were collected on 09/04/2019 and were received at SGS North America Inc - Orlando on 09/06/2019 properly preserved, at 2.4 Deg. C and intact. These Samples received an SGS Orlando job number of FA67764. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP33612

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA67730-6MSD, FA67730-6MS were used as the QC samples for Chloride.

Matrix Spike Recovery(s) for Chloride are outside control limits. Spike recovery indicates possible matrix interference.

Matrix Spike Duplicate Recovery(s) for Chloride are outside control limits. Probable cause is due to matrix interference.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Ariel Hartney, Client Services *(Signature on file)*

Summary of Hits

Job Number: FA67764
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 09/04/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA67764-1	**1936Y212086F**					
Chloride		124	10	5.0	mg/l	EPA 300/SW846 9056A
FA67764-2	**1936Y212087D**					
Chloride		133	20	10	mg/l	EPA 300/SW846 9056A
FA67764-3	**1936Y212088F**					
Chloride		58.9	10	5.0	mg/l	EPA 300/SW846 9056A

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1936Y212086F		
Lab Sample ID:	FA67764-1	**Date Sampled:**	09/04/19
Matrix:	AQ - Ground Water	**Date Received:**	09/06/19
		Percent Solids:	n/a
Project:	Fort Ord Groundwater Monitoring		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	124	10	5.0	4.0	mg/l	5	09/06/19 16:53	JB	EPA 300/SW846 9056A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	1936Y212087D		
Lab Sample ID:	FA67764-2	**Date Sampled:**	09/04/19
Matrix:	AQ - Ground Water	**Date Received:**	09/06/19
		Percent Solids:	n/a
Project:	Fort Ord Groundwater Monitoring		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	133	20	10	8.0	mg/l	10	09/06/19 17:50	JB	EPA 300/SW846 9056A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	1936Y212088F		
Lab Sample ID:	FA67764-3	**Date Sampled:**	09/04/19
Matrix:	AQ - Ground Water	**Date Received:**	09/06/19
		Percent Solids:	n/a
Project:	Fort Ord Groundwater Monitoring		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	58.9	10	5.0	4.0	mg/l	5	09/06/19 18:09	JB	EPA 300/SW846 9056A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

CADS 1727

FA67764

1 of 1

CHAIN OF CUSTODY

Ahtna — 296 12th St, Marina, CA 93933, (831) 384-3735

WATER / SOIL — Chain of Custody #: 2438

Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:

Project Location: FFO, Marina, CA — Sampler/s: A. Maude/T. Stuart

Project Name: Basewide GWM Program — Report To: Derek Lieberman

Project Number: 21065.000.01.000 — E-Mail: dlieberman@ahtnanet

Sampling Event: 3Q2019 — Laboratory: SGS

Analysis Requested: 9056A (Chloride)

Lab Sample Receipt: Laboratory Sample Delivery; Group #: ; Custody Seal: ; Temp (°C):

Lab Number	Sample Number/Description	Sample Collection: Date	Time	Matrix: Water	Soil	Other	Total # of Bottles	Number of Preserved Bottles: HCl	HNO_3	H_2SO_4	NaOH	MeOH	$NaHSO_4$	None	Other	Notes
1	1936V212066F	9/4/19	1220	X										1		X
2	1936V212087D	9/4/19	1225	X										1		X
3	1936V212088F	9/4/19	1245	X										1		X

Turnaround Time: ____: Standard ____: 3-5 Day Rush ____: 48 Hour Rush ____: 24 Hour Rush — Shipment: — Method: — Tracking ID:

Comments: 212

Chain of Custody Tracking:

Relinquished By/Sampler:	Date/Time:	Received By:	Date/Time:
	9/4/19 1315	Steve Hotlzay	9.4.19 1330
Relinquished By: Steve Hotlzay	9/5/19 1525	Received By: Lee Baker	9/5/19 1525
Relinquished By: Lee Baker	9/5/19 1600	Received By Laboratory: FEDEX	9/5/19 1600
2.4			9/6/19 9:40

FA67764: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA67764 **Client:** AHTNA **Project:** Fort Ord 3Q2019 - 212

Date / Time Received: 9/6/2019 9:40:00 AM **Delivery Method:** FedEx **Airbill #'s:** 776169344967

Therm ID: IR 1; **Therm CF:** 1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.4);

Cooler Temps (Corrected) °C: Cooler 1: (2.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: TRINITYM Date: 9/6/2019 9:40:00 AM Reviewer: PH Date: 9/12/2019

FA67764: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA67764
Account: Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring
Collected: 09/04/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
GP33612	EPA 300/SW846 9056A						
GP33612-B1	16887-00-6	Chloride	BSP	REC	96.6	%	87-111
GP33612-S1*	16887-00-6	Chloride	MS	REC	78.4 [a]	%	87-111
GP33612-S2*	16887-00-6	Chloride	MSD	RPD	2.4	%	15
GP33612-S2*	16887-00-6	Chloride	MSD	REC	75	%	87-111

(a) Spike recovery indicates possible matrix interference.

* Sample used for QC is not from job FA67764

General Chemistry

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QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA67764
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP33612/GN82995	2.0	0.0	mg/l	50	48.3	96.6	90-110%
Nitrogen, Nitrate	GP33612/GN82995	0.10	0.0	mg/l	2.5	2.54	101.6	90-110%
Nitrogen, Nitrite	GP33612/GN82995	0.10	0.0	mg/l	2.5	2.47	98.8	90-110%
Sulfate	GP33612/GN82995	2.0	0.68	mg/l	50	52.0	104.0	90-110%

Associated Samples:
Batch GP33612: FA67764-1, FA67764-2, FA67764-3
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA67764
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP33612/GN82995	FA67730-6	mg/l	33.7	50	72.9	78.4N(a)	90-110%
Nitrogen, Nitrate	GP33612/GN82995	FA67730-6	mg/l	0.0	2.5	2.7	108.0	90-110%
Nitrogen, Nitrite	GP33612/GN82995	FA67730-6	mg/l	0.0	2.5	2.5	100.0	90-110%
Sulfate	GP33612/GN82995	FA67730-6	mg/l	51.6	50	68.1	33.0N(a)	90-110%

Associated Samples:
Batch GP33612: FA67764-1, FA67764-2, FA67764-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA67764
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP33612/GN82995	FA67730-6	mg/l	33.7	50	71.2	2.4	20%
Nitrogen, Nitrate	GP33612/GN82995	FA67730-6	mg/l	0.0	2.5	1.9	34.8*(a)	20%
Nitrogen, Nitrite	GP33612/GN82995	FA67730-6	mg/l	0.0	2.5	2.4	4.1	20%
Sulfate	GP33612/GN82995	FA67730-6	mg/l	51.6	50	67.8	0.4	20%

Associated Samples:
Batch GP33612: FA67764-1, FA67764-2, FA67764-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) High RPD due to matrix interference.

SGS Instrument Runlog
Inorganics Analyses

Login Number: FA67764
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

File ID: 22019090601.TXT Date Analyzed: 08/27/19 Methods: EPA 300/SW846 9056A
Analyst: JB Run ID: GN82995
Parameters: Chloride

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:17	GN82995-STD1	1		STDA
14:36	GN82995-STD2	1		STDB
14:54	GN82995-STD3	1		STDC
15:13	GN82995-STD4	1		STDD
15:32	GN82995-STD5	1		STDE
15:51	GN82995-STD6	1		STDF
16:10	GN82995-STD7	1		STDG
16:29	GN82995-STD8	1		STDH
16:48	GN82995-STD9	1		STDI
17:07	GN82995-ICB1	1		
17:26	GN82995-ICV1	1		
17:45	GN82995-CRI1	1		
18:04	GN82995-CCV1	1		
18:23	GN82995-CCB1	1		
09:29	GN82995-CCV2	1		
09:48	GP33612-MB1	1		
10:06	GP33612-B1	1		
10:38	FA67730-6	25		(sample used for QC only; not part of login FA67764)
10:57	GP33612-S1	25		
11:16	GP33612-S2	25		
11:35	ZZZZZZ	25		
12:13	ZZZZZZ	50		
13:06	ZZZZZZ	1		
13:25	GN82995-CCV3	1		
13:44	GN82995-CCB2	1		
14:03	ZZZZZZ	50		
14:22	ZZZZZZ	1		
14:41	ZZZZZZ	5		
15:00	FA67760-2	1		(sample used for QC only; not part of login FA67764)
15:18	GP33612-S3	1		
15:37	GP33612-S4	1		
15:56	ZZZZZZ	10		
16:15	ZZZZZZ	10		

SGS Instrument Runlog
Inorganics Analyses

Login Number: FA67764
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

File ID: 22019090601.TXT Date Analyzed: 08/27/19 Methods: EPA 300/SW846 9056A
Analyst: JB Run ID: GN82995
Parameters: Chloride

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:34	ZZZZZZ	10		
16:53	FA67764-1	5		
17:12	GN82995-CCV4	1		
17:31	GN82995-CCB3	1		
17:50	FA67764-2	10		
18:09	FA67764-3	5		
18:28	GP33613-MB1	1		
18:47	GP33613-B1	1		
19:06	ZZZZZZ	1		
19:25	ZZZZZZ	1		
19:44	ZZZZZZ	1		
20:03	GN82995-CCV5	1		
20:21	GN82995-CCB4	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: FA67764
Account: AHTNACAS - Ahtna Environmental Inc
Project: Fort Ord Groundwater Monitoring

File ID: 22019090601.TXT Date Analyzed: 08/27/19 Methods: EPA 300/SW846 9056A
Run ID: GN82995 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN82995-ICB1	Chloride	0.880	2.0	0.80			
GN82995-ICV1	Chloride	47.6	2.0	0.80	50	95.2	90-110
GN82995-CRI1	Chloride	2.54	2.0	0.80	2	127.0	50-150
GN82995-CCV1	Chloride	48.3	2.0	0.80	50	96.6	90-110
GN82995-CCB1	Chloride	0.80 U	2.0	0.80			
GN82995-CCV2	Chloride	48.6	2.0	0.80	50	97.2	90-110
GN82995-CCV3	Chloride	48.5	2.0	0.80	50	97.0	90-110
GN82995-CCB2	Chloride	0.875	2.0	0.80			
GN82995-CCV4	Chloride	48.3	2.0	0.80	50	96.6	90-110
GN82995-CCB3	Chloride	0.80 U	2.0	0.80			
GN82995-CCV5	Chloride	48.3	2.0	0.80	50	96.6	90-110
GN82995-CCB4	Chloride	0.874	2.0	0.80			

(!) Outside of QC limits

General Chemistry

Raw Data

IC STANDARDS PREP LOG

STANDARD NAME	ANALYTES	STOCK MFG. #	STOCK LOT #	STOCK EXP. DATE	STOCK CONC. (mg/l)	VOLUME ADDED (ml)	TOTAL VOLUME (ml)	STANDARD CONC. (mg/l)	PREP DATE	INITIALS	STD LOT #	EXP. DATE
CCV	NO_2/NO_3	IC0104823	Ref	9-6-19	100	2.5	100	2.5	9-5-19	JB	IC0104866	9-6-19
	SO_4	WC1455	LGC	6-20-20	1000	5		50				
	Cl	WC1454	↓	↓	↓	↓		↓				
	F	WC1328	↓	2-1-20		0.25		2.5				
	Br	WC1457	Fisher	7-1-20	↓	1.25	↓	12.5			↓	
B1	NO_2/NO_3	IC0104845	Ref	9-6-19	100	↓	50	2.5			IC0104867	
	SO_4	GN28192	↓	10-13-19	1000	2.5	↓	50			↓	
	Cl	↓ 3	↓	↓	↓	↓		↓				
	F	WC1456	Labchem	3-7-21		0.125		2.5				
	Br	GN28191	Ref	10-13-19	↓	0.625	↓	12.5	↓	↓	↓	9-7-19
	NO_2	WC1441	Absolute	6-8-22	1000	5	~~100~~ 50	100	9-6-19	JB	IC0104868	
	NO_3	WC1440	↓	6-6-22		↓	↓	↓			89	
	NO_2	WC1484		6-24-21							90	
	NO_3	WC1483	↓	6-6-22	↓	↓	↓	↓	↓	↓	91	
B1 ~~CCV~~ *	NO_2/NO_3	IC0104~~8847~~ 90/1	Ref	9-7-19	100	1.25	50	2.5			IC0104892	
	SO_4	GN28192	↓	10-13-19	1000	2.5	↓	50			↓	
	Cl	↓ 3	↓	↓	↓	↓		↓				
	F	WC1456	Lab Chem	3-7-21		0.125		2.5				
	Br	GN28191	Ref	10-13-19	↓	0.625	↓	12.5	↓	↓	↓	
CCV ~~B1~~ *	NO_2/NO_3	IC0104~~9067~~ 89/9	↓	9-7-19	100	2.5	100	2.5			IC0104893	
	SO_4	WC1455	LGC	6-20-20	1000	5		50				
	Cl	WC1454	↓	↓	↓	↓		↓				
	F	WC1328	↓	2-1-20		0.25		2.5				
	Br	WC1457	fisher	7-1-20	↓	1.25	↓	12.5	↓	↓	↓	↓

* JB 9-6-19

* JB 9-6-19

Rev. 0116 LM

SGS Accutest - Orlando

IC Instrument Log

Method: EPA300.0 / SW846 9056A (circle one)

Date:	9-6-19 @ 9:10
Analyst:	JB
Instrument:	#2
Inst. File Name:	2801909060l.txt

Prep Batchs:	336121 3
Analytical Batch:	82995
Calibration Date:	8-27-19
Pump pressure:	2163 psi.

Vial lot#	19022B1-9192-9200-FA
Cap lot#	↓
Syringe lot#	18H05C8
Filter lot#	0619718IK-P

Standards	
ICAL:	
ICV:	
CCV:	IC010493
QC:	IC010492

Sample#	Bot#	Matrix	Scon	DF	Filter (y/n)	Ions Needed						Results OK or Dilution Needed						Comments
						F	Cl	NO2	Br	NO3	SO4	F	Cl	NO2	Br	NO3	SO4	
Rinse	—	AQ	—	1	N		—	—		—	—	(1)						(1) OL unless marked.
CCV	—		—	↓			—	—		—	—							
MB1	—		—	↓			—	—		—	—							
B1	—		—	↓			—	—		—	—							
FA67730-6	1		3.51mS	25							—							
↓ -6S1	↓		↓	↓			—	—		—	—							
↓ -6S2							—	—		—	—							
↓ -7			3.52mS	↓							—							
FA67738-1	↓		5.61mS	50							—							
FA67757-1	5		493µS	1			—			—	—							Ran before 738-1 to catch in hold; DHR, per PM, 757-1 was resampled.
FA67759-1	1		558µS	↓			—	—		—								
CCV	—		—				—	—		—	—							
CCB	—		—	↓			—	—		—	—							
FA67759-2	1		5.37mS	50			—	—		—								
↓ -3	↓		697µS	1			—	—		—								
↓ -4	↓		796µS	5			—	—		—								
FA67760-2	8		426µS	1			—			—	—							
↓ -2S3	↓		↓	↓			—	—		—	—							
↓ -2S4	↓		↓	↓			—	—		—	—							
FA67767-1	4		2.07mS	10						—	—							
↓ -2	↓		2.18mS	1						—	—							
↓ -3	↓		2.02mS	↓						—	—							
FA67764-1	1		923µS	5			—											
CCV	—		—	1		—	—	—	—	—	—							
CCB	—		—	↓		—	—	—	—	—	—							
FA67764-2	1		1058µS	10			—											
↓ -3	↓	↓	700µS	5	↓		—											
MB1	—	SO	—	1	V	—	—	—	—	—	→							
B1	—	↓	—	↓		—	—	—	—	—	—							

Rev 0116 LM

SGS Accutest - Orlando

IC Instrument Log

Method: EPA300.0 / SW846 9056A (circle one)

Date:	9-6-19
Analyst:	
Instrument:	
Inst. File Name:	

Prep Batchs:	
Analytical Batch:	
Calibration Date:	
Pump pressure:	

Vial lot#	
Cap lot#	
Syringe lot#	
Filter lot#	

Standards	
ICAL:	
ICV:	
CCV:	
QC:	

Sample#	Bot#	Matrix	Scon	DF	Filter (y/n)	Ions Needed						Results OK or Dilution Needed						Comments
						F	Cl	NO2	Br	NO3	SO4	F	Cl	NO2	Br	NO3	SO4	
FA67280-1	1	SO	—	1	Y							0						(1) OK unless marked
↓ -2	↓	↓	—	↓	↓													SD MDLs
↓ -3	↓	↓	—	↓	↓													↓
CCV	—	AQ	—		N													
CCB	—	↓	—		↓													
SD	—	↓	—	↓	↓													

JB 9-7-19

Rev 0116 LM

SGS Accutest - Orlando

Page 19 of 100

IC Soil Prep

Method: SW846 9056A

Analyst: JB
GP 336613

Date (mm/dd/yy): 9-5-19
Time (24:00): 13:26

	Sample ID	Bottle #	Weight g	Final Vol ml
MB	MB1	—	4.99	50
SB	B1	—	4.99	↓
MS1	JB 9-5-19			
MSD1				
QC1	MDL 1	—	4.97	50
2	MDL 2	—	5.10	↓
3	MDL 3	—	4.98	↓
4				
5				
6				
7				
8				
9				
10				
MS2	JB 9-5-19			
MSD2				
QC2				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Balance ID Adv Pro 1

REAGENTS
Spike Lot # IC01X187
Cup Lot # WC1490
SRM Lot # WC1410
Vial Lot # 1902289-9192-9200-FA
Syringe Lot # 18M05C8
Filter Lot # 0e19218IV-P

Comments: FA67280-1,2,3

Analyst's Signature: Judyann Gannon Date: 9-5-19

Reveiwer's Signature: _____ Date: _____

7 7.1

Sequence: 09-06-19
Operator: Chemistry

Printed: 9/7/2019 10:51:20 AM

Title: HIGH LEVELS
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019
Timebase: FLCHMIC2_1
#Samples: 49

Created: 9/6/2019 8:19:55 AM by Chemistry
(Modified, not saved)

No.	Pos.	Name	Dil. Factor	Status	Program	Type	Method	Inj. Date/Time
1	1	STD 0	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 2:17:29 PM
2	2	STD A	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 2:36:02 PM
3	3	STD B	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 2:54:58 PM
4	4	STD C	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 3:13:56 PM
5	5	STD D	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 3:32:53 PM
6	6	STD E	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 3:51:51 PM
7	7	STD F	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 4:10:49 PM
8	8	STD G	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 4:29:47 PM
9	9	STD H	1.0000	Finished	ANIONS_AS22	Standard	ANIONS-B	8/27/2019 4:48:44 PM
10	10	ICB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	8/27/2019 5:07:43 PM
11	11	ICV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	8/27/2019 5:26:40 PM
12	12	CRI	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	8/27/2019 5:45:38 PM
13	13	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	8/27/2019 6:04:36 PM
14	14	CCB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	8/27/2019 6:23:34 PM
15	1	RINSE	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 9:10:34 AM
16	2	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 9:29:03 AM
17	3	MB1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 9:48:00 AM
18	4	B1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 10:06:57 AM
19	5	FA67730-6	25.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 10:38:46 AM
20	6	FA67730-6S1	25.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 10:57:20 AM
21	7	FA67730-6S2	25.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 11:16:16 AM
22	8	FA67730-7	25.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 11:35:12 AM
23	9	FA67757-1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 11:54:29 AM
24	10	FA67738-1	50.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 12:13:01 PM
25	11	FA67759-1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 1:06:47 PM
26	12	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 1:25:24 PM
27	13	CCB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 1:44:21 PM
28	14	FA67759-2	50.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 2:03:18 PM
29	15	FA67759-3	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 2:22:14 PM
30	16	FA67759-4	5.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 2:41:10 PM
31	17	FA67760-2	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 3:00:04 PM
32	18	FA67760-2S3	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 3:18:47 PM
33	19	FA67760-2S4	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 3:37:43 PM
34	20	FA67767-1	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 3:56:40 PM
35	21	FA67767-2	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 4:15:38 PM
36	22	FA67767-3	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 4:34:36 PM
37	23	FA67764-1	5.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 4:53:35 PM
38	24	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 5:12:29 PM
39	25	CCB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 5:31:24 PM
40	26	FA67764-2	10.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 5:50:21 PM
41	27	FA67764-3	5.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 6:09:19 PM
42	28	MB1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 6:28:17 PM

Sequence: 09-06-19
Operator: Chemistry

Printed: 9/7/2019 10:51:20 AM

Title: HIGH LEVELS
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019
Timebase: FLCHMIC2_1
#Samples: 49

Created: 9/6/2019 8:19:55 AM by Chemistry
(Modified, not saved)

No.	Pos.	Inj. Vol.	Comment
1	1	10.0	System Operator: JB IC 2000
2	2	10.0	System Operator: JB IC 2000
3	3	10.0	System Operator: JB IC 2000
4	4	10.0	System Operator: JB IC 2000
5	5	10.0	System Operator: JB IC 2000
6	6	10.0	System Operator: JB IC 2000
7	7	10.0	System Operator: JB IC 2000
8	8	10.0	System Operator: JB IC 2000
9	9	10.0	System Operator: JB IC 2000
10	10	10.0	System Operator: JB IC 2000
11	11	10.0	System Operator: JB IC 2000
12	12	10.0	System Operator: JB IC 2000
13	13	10.0	System Operator: JB IC 2000
14	14	10.0	System Operator: JB IC 2000
15	1	10.0	System Operator: JB IC 2000
16	2	10.0	System Operator: JB IC 2000
17	3	10.0	System Operator: JB IC 2000
18	4	10.0	System Operator: JB IC 2000
19	5	10.0	System Operator: JB IC 2000
20	6	10.0	System Operator: JB IC 2000
21	7	10.0	System Operator: JB IC 2000
22	8	10.0	System Operator: JB IC 2000
23	9	10.0	System Operator: JB IC 2000
24	10	10.0	System Operator: JB IC 2000
25	11	10.0	System Operator: JB IC 2000
26	12	10.0	System Operator: JB IC 2000
27	13	10.0	System Operator: JB IC 2000
28	14	10.0	System Operator: JB IC 2000
29	15	10.0	System Operator: JB IC 2000
30	16	10.0	System Operator: JB IC 2000
31	17	10.0	System Operator: JB IC 2000
32	18	10.0	System Operator: JB IC 2000
33	19	10.0	System Operator: JB IC 2000
34	20	10.0	System Operator: JB IC 2000
35	21	10.0	System Operator: JB IC 2000
36	22	10.0	System Operator: JB IC 2000
37	23	10.0	System Operator: JB IC 2000
38	24	10.0	System Operator: JB IC 2000
39	25	10.0	System Operator: JB IC 2000
40	26	10.0	System Operator: JB IC 2000
41	27	10.0	System Operator: JB IC 2000
42	28	10.0	System Operator: JB IC 2000

Sequence: 09-06-19
Operator: Chemistry

Printed: 9/7/2019 10:51:20 AM

Title: HIGH LEVELS
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019
Timebase: FLCHMIC2_1
#Samples: 49

Created: 9/6/2019 8:19:55 AM by Chemistry
(Modified, not saved)

No.	Pos.	Name	Dil. Factor	Status	Program	Type	Method	Inj. Date/Time
43	29	B1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 6:47:13 PM
44	30	FA67280-1	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 7:06:11 PM
45	31	FA67280-2	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 7:25:08 PM
46	32	FA67280-3	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 7:44:02 PM
47	33	CCV	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 8:03:01 PM
48	34	CCB	1.0000	Finished	ANIONS_AS22	Unknown	ANIONS-B	9/6/2019 8:21:58 PM
49	35	SD	1.0000	Finished	SHUTDOWN_A22	Unknown	ANIONS-B	9/6/2019 8:40:54 PM

Sequence: 09-06-19
Operator: Chemistry
Printed: 9/7/2019 10:51:20 AM

Title: HIGH LEVELS
Datasource: FLCHMIC2_local
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019
Timebase: FLCHMIC2_1
#Samples: 49
Created: 9/6/2019 8:19:55 AM by Chemistry (Modified, not saved)

No.	Pos.	Inj. Vol.	Comment
43	29	10.0	System Operator: JB IC 2000
44	30	10.0	System Operator: JB IC 2000
45	31	10.0	System Operator: JB IC 2000
46	32	10.0	System Operator: JB IC 2000
47	33	10.0	System Operator: JB IC 2000
48	34	10.0	System Operator: JB IC 2000
49	35	10.0	System Operator: JB IC 2000

```
Program File: ANIONS_AS22                                   Commands, Page 1 of 1
Operator:     Chemistry                                     Printed: 9/7/2019 10:51:21 AM

Title:      ANIONS_1
Datasource: FLCHMIC2_local                    Created: 6/13/2017 5:36:17 PM by Chemistry
Location:   ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019\09-06-19.SEQ
Timebase:   FLCHMIC2_1                        Changed: 3/28/2019 7:04:21 PM by Chemistry

              Pressure.LowerLimit =                 200 [psi]
              Pressure.UpperLimit =                 3000 [psi]
              %A.Equate =                           "%A"
              DeliverSpeed =                        4.0 [ml/min]
              DelayVolume =                         125 [µl]
              FlushFactor =                         10
              Sampler.LoadPosition
              DeliverSample                         Volume=Full
              EndSamplePrep
              CR_TC =                               Off
              Data_Collection_Rate =                5.0 [Hz]
              CellTemperature.Nominal =             30.0 [°C]
              ColumnTemperature.Nominal =           30.0 [°C]
              Suppressor_Type =                     ASRS_4mm
              ; Pump_ECD.Carbonate =                4.05
              ; Pump_ECD.Bicarbonate =              1.26
              ; Pump_ECD.Recommended Current =      26
              ; Pump_ECD.Hydroxide =                0.0
              ; Pump_ECD.Tetraborate =              0.0
              ; Pump_ECD.Other eluent =             0.0
              Suppressor_Current =                  30[mA]
              Channel_Pressure.Step =               Auto
              Channel_Pressure.Average =            On


              Flow =                                1.20[ml/min]


 0.000        Autozero
              Wait                                  CycleTimeState
              Inject
              ECD_1.AcqOn
              Channel_Pressure.AcqOn

 0.500        BeginOverlap

16.00 ECD_1.AcqOff
              Channel_Pressure.AcqOff
              End
```

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Program File:	ANIONS_AS22	Post-acquisition steps, Page 1 of 1
Operator:	Chemistry	Printed: 9/7/2019 10:51:21 AM
Title:	ANIONS_1	
Datasource:	FLCHMIC2_local	
Location:	ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019\09-06-19.SEQ	Created: 6/13/2017 5:36:17 PM by Chemistry
Timebase:	FLCHMIC2_1	Changed: 3/28/2019 7:04:21 PM by Chemistry

No.	Channel	Operation	Parameters

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Program File: SHUTDOWN_A22 Commands, Page 1 of 1
Operator: Chemistry Printed: 9/7/2019 10:51:21 AM

Title: SHUTDOWN_1
Datasource: FLCHMIC2_local Created: 6/27/2017 11:57:49 AM by Chemistry
Location: ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019\09-06-19.SEQ
Timebase: FLCHMIC2_1 Changed: 7/27/2018 11:37:33 AM by Chemistry

```
                Pressure.LowerLimit =                200 [psi]
                Pressure.UpperLimit =                3000 [psi]
                %A.Equate =                          "%A"
                CR_TC =                              Off
                DeliverSpeed =                       4.0 [ml/min]
                DelayVolume =                        125 [µl]
                FlushFactor =                        10
                Sampler.LoadPosition
                DeliverSample                        Volume=Full
                EndSamplePrep
                Data_Collection_Rate =               5.0 [Hz]
                CellTemperature.Nominal =            30.0 [°C]
                ColumnTemperature.Nominal =          30.0 [°C]
                Suppressor_Type =                    ASRS_4mm
                ; Pump_ECD.Carbonate =              4.5
                ; Pump_ECD.Bicarbonate =            1.4
                ; Pump_ECD.Hydroxide =              0.0
                ; Pump_ECD.Tetraborate =            0.0
                ; Pump_ECD.Other eluent =           0.0
                ; Pump_ECD.Recommended Current =    22
                Suppressor_Current =                 30[mA]

               Suppressor_Mode =                     Off
                Flow =                               1.20 [ml/min]

  0.000         Autozero
                Wait                                 CycleTimeState
                Inject
                ECD_1.AcqOn

  0.100         ECD_1.AcqOff
                Off
  0.500         BeginOverlap

                End
```

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7.1

Program File:	SHUTDOWN_A22	Post-acquisition steps, Page 1 of 1
Operator:	Chemistry	Printed: 9/7/2019 10:51:22 AM
Title:	SHUTDOWN_1	
Datasource:	FLCHMIC2_local	
Location:	ICS-2000\My Sequences\ANIONS\ANIONS 2019\SEP 2019\09-06-19.SEQ	Created: 6/27/2017 11:57:49 AM by Chemistry
Timebase:	FLCHMIC2_1	Changed: 7/27/2018 11:37:33 AM by Chemistry

No.	Channel	Operation	Parameters

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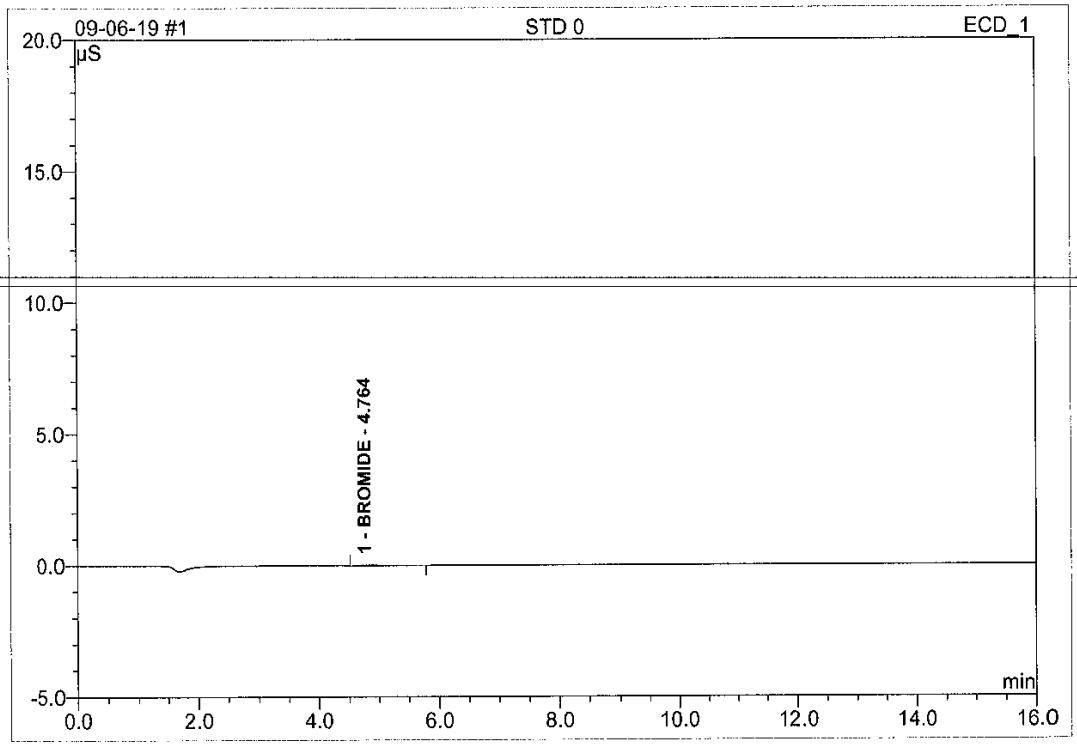
1 STD 0

System Operator: JB IC 2000

Sample Name:	**STD 0**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 14:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

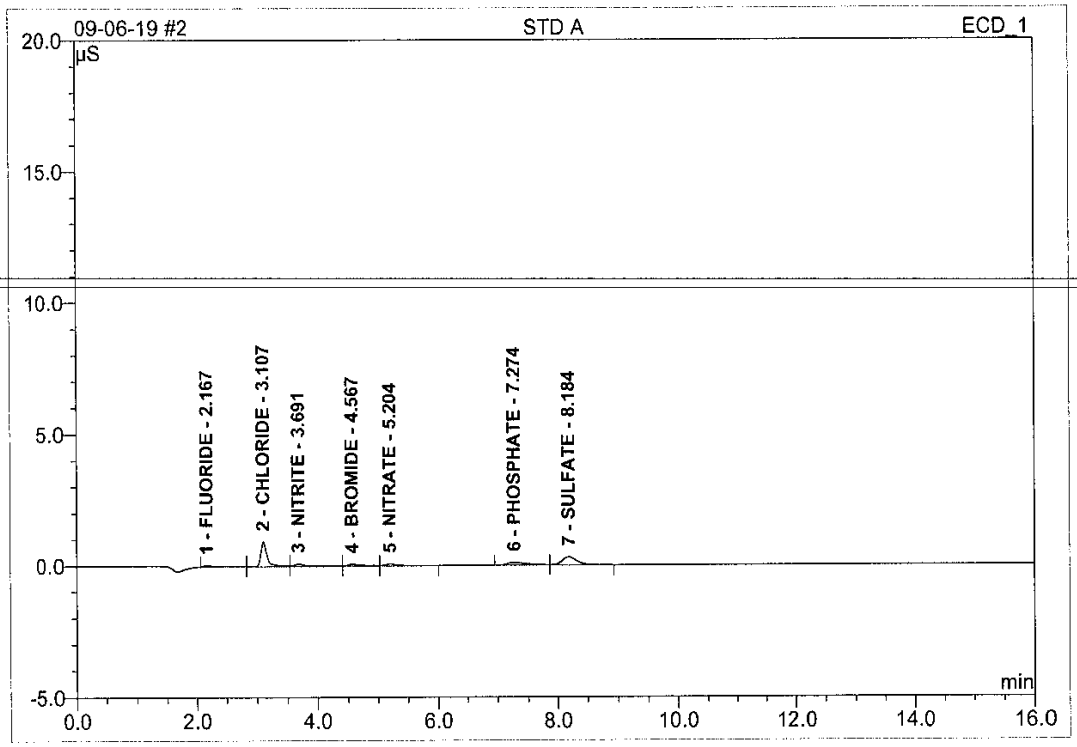


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.76	BROMIDE	0.017	0.009	100.00	0.071	BMB
Total:			0.017	0.009	100.00	0.071	

2 STD A

System Operator: JB IC 2000

Sample Name:	**STD A**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 14:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

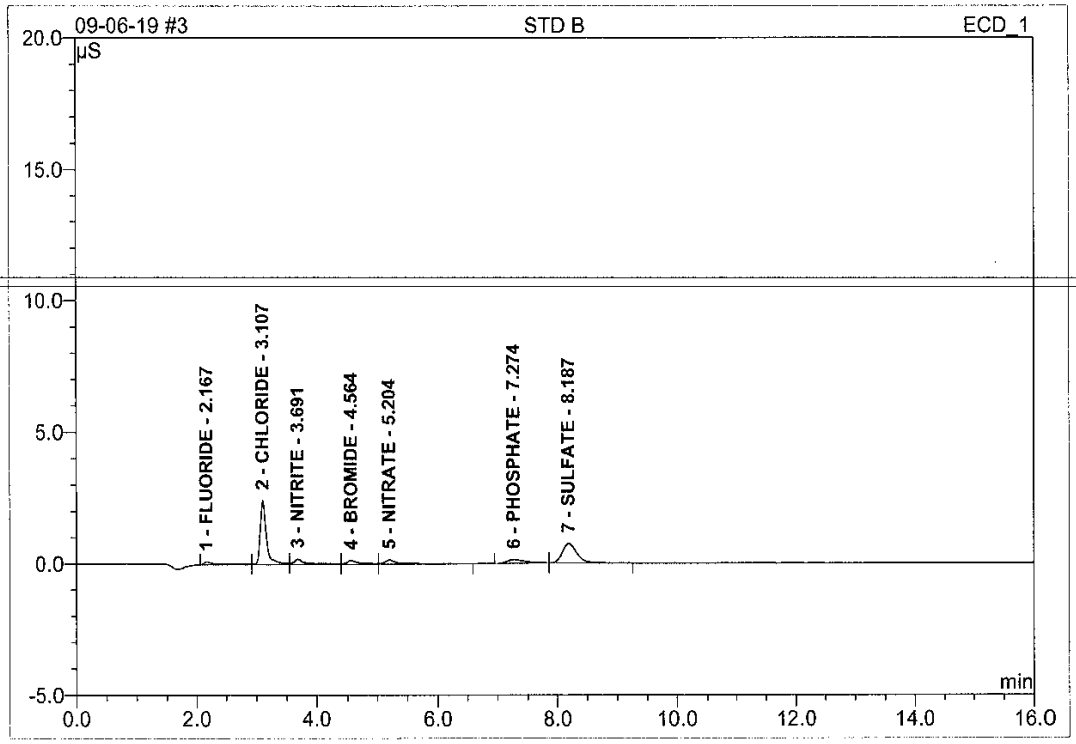


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.059	0.018	5.77	0.079	BM
2	3.11	CHLORIDE	0.934	0.117	37.49	2.501	M
3	3.69	NITRITE	0.099	0.025	8.01	0.096	M
4	4.57	BROMIDE	0.068	0.019	6.10	0.494	M
5	5.20	NITRATE	0.075	0.017	5.45	0.087	MB
6	7.27	PHOSPHATE	0.101	0.035	11.23	-0.033	BMb
7	8.18	SULFATE	0.294	0.081	25.95	2.302	bMB
Total:			1.632	0.313	100.00	5.526	

3 STD B

System Operator: JB IC 2000

Sample Name:	**STD B**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 14:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

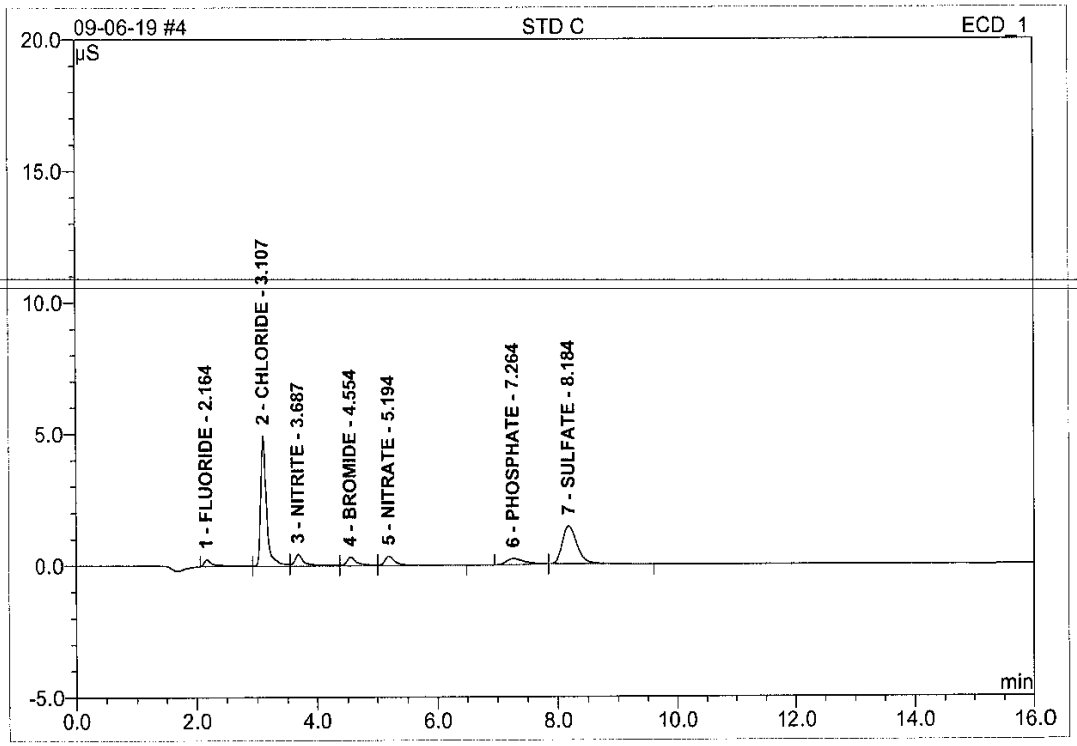


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.109	0.029	4.22	0.215	BM
2	3.11	CHLORIDE	2.427	0.287	41.85	4.872	M
3	3.69	NITRITE	0.192	0.045	6.63	0.221	M
4	4.56	BROMIDE	0.135	0.033	4.81	1.052	M
5	5.20	NITRATE	0.149	0.038	5.56	0.229	MB
6	7.27	PHOSPHATE	0.139	0.048	7.00	0.164	BMb
7	8.19	SULFATE	0.733	0.205	29.93	4.963	bMB
Total:			3.885	0.686	100.00	11.716	

4 STD C

System Operator: JB IC 2000

Sample Name:	**STD C**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 15:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.258	0.053	3.98	0.514	BM
2	3.11	CHLORIDE	4.949	0.565	42.53	8.766	M
3	3.69	NITRITE	0.448	0.088	6.59	0.481	M
4	4.55	BROMIDE	0.323	0.066	5.00	2.396	M
5	5.19	NITRATE	0.359	0.077	5.77	0.490	MB
6	7.26	PHOSPHATE	0.228	0.077	5.81	0.613	BMb
7	8.18	SULFATE	1.433	0.403	30.32	9.212	bMB
Total:			7.998	1.329	100.00	22.470	

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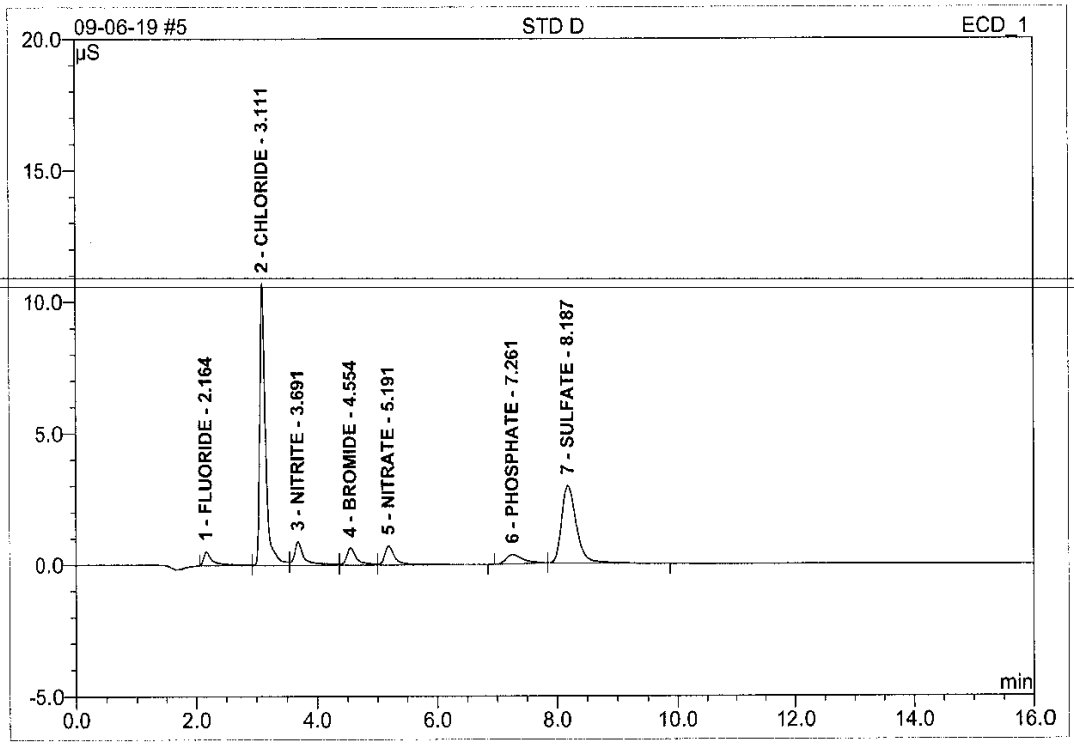
5 STD D

System Operator: JB IC 2000

Sample Name:	**STD D**	*Injection Volume:*	**10.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 15:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

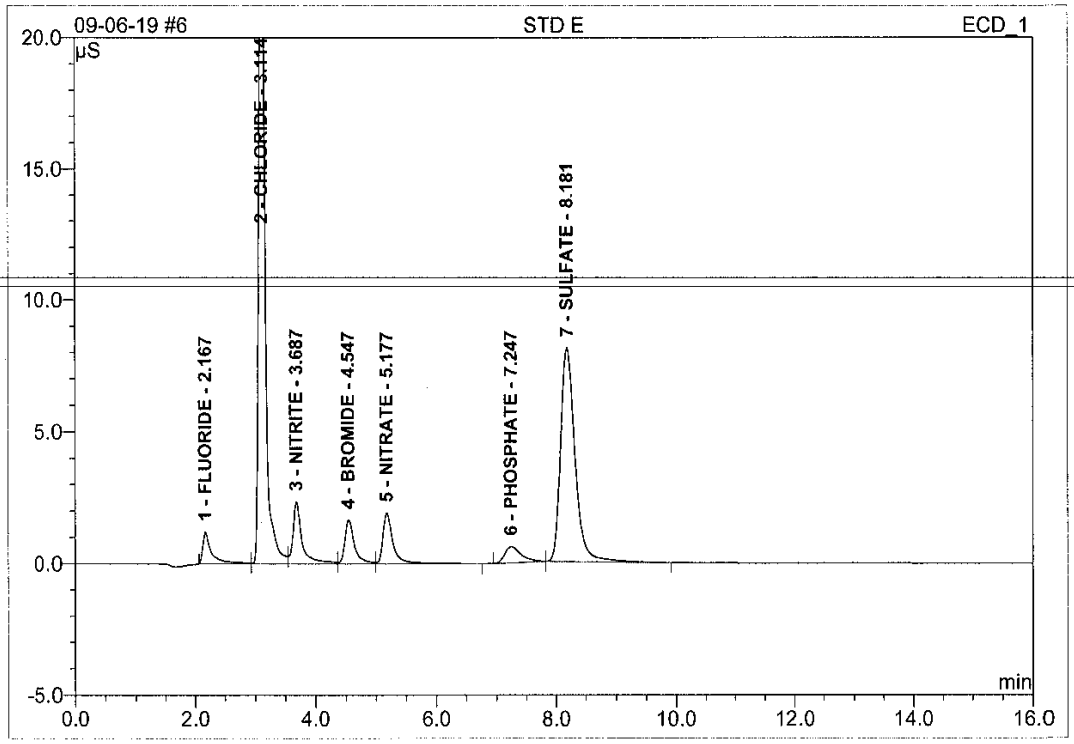


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.538	0.099	3.70	1.095	BM
2	3.11	CHLORIDE	10.719	1.189	44.27	17.486	M
3	3.69	NITRITE	0.895	0.169	6.29	0.981	M
4	4.55	BROMIDE	0.647	0.126	4.71	4.803	M
5	5.19	NITRATE	0.719	0.152	5.66	0.998	MB
6	7.26	PHOSPHATE	0.349	0.115	4.28	1.192	BMb
7	8.19	SULFATE	2.947	0.835	31.09	18.485	bMB
Total:			16.814	2.685	100.00	45.041	

6 STD E

System Operator: JB IC 2000

Sample Name:	**STD E**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 15:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

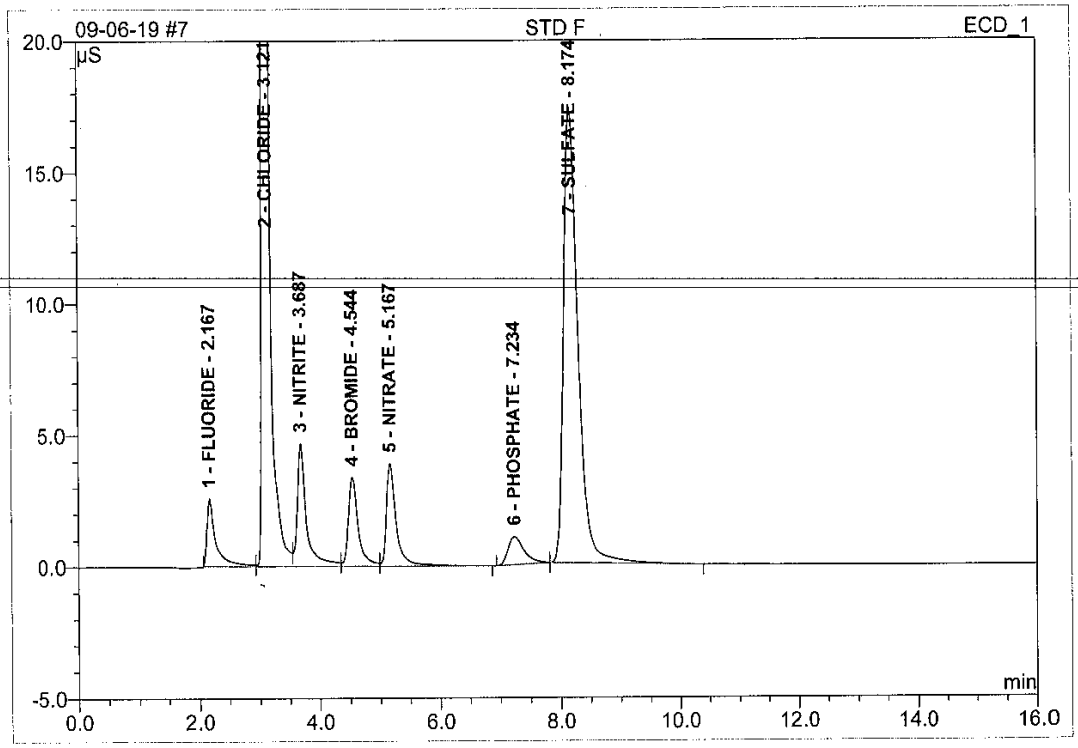


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	1.209	0.212	2.94	2.500	BM
2	3.11	CHLORIDE	32.299	3.443	47.79	49.018	M
3	3.69	NITRITE	2.349	0.410	5.69	2.461	M
4	4.55	BROMIDE	1.666	0.309	4.29	12.155	M
5	5.18	NITRATE	1.925	0.377	5.23	2.517	MB
6	7.25	PHOSPHATE	0.613	0.195	2.70	2.414	BMb
7	8.18	SULFATE	8.101	2.259	31.36	49.077	bMB
Total:			48.162	7.204	100.00	120.141	

7 STD F

System Operator: JB IC 2000

Sample Name:	**STD F**	*Injection Volume:*	**10.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 16:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

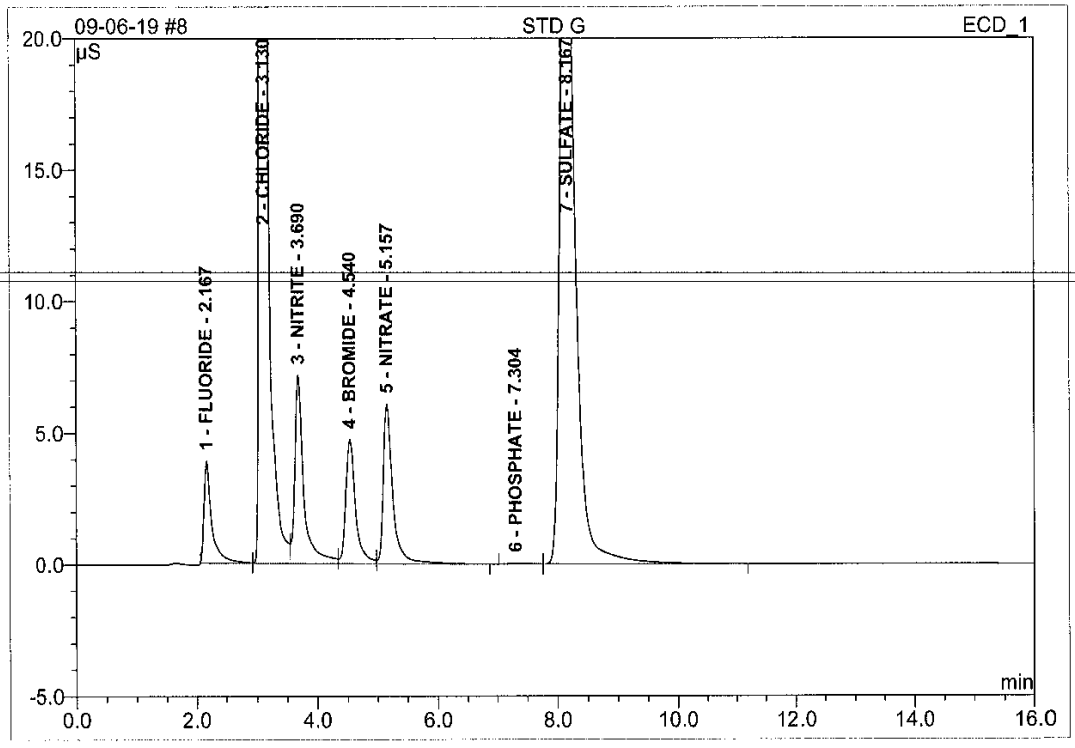


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	2.563	0.435	2.88	5.294	BM
2	3.12	CHLORIDE	69.601	7.399	48.87	104.356	M
3	3.69	NITRITE	4.670	0.818	5.40	4.973	M
4	4.54	BROMIDE	3.384	0.644	4.25	25.601	M
5	5.17	NITRATE	3.901	0.750	4.95	5.036	MB
6	7.23	PHOSPHATE	1.068	0.327	2.16	4.452	BMb
7	8.17	SULFATE	17.276	4.767	31.49	102.961	bMB
Total:			102.463	15.141	100.00	252.673	

8 STD G

System Operator: JB IC 2000

Sample Name:	**STD G**	*Injection Volume:*	**10.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 16:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	3.869	0.594	2.52	7.269	BM
2	3.13	CHLORIDE	109.837	11.871	50.37	166.914	M
3	3.69	NITRITE	7.147	1.243	5.28	7.588	M
4	4.54	BROMIDE	4.711	0.904	3.84	36.058	M
5	5.16	NITRATE	6.064	1.139	4.83	7.666	MB
6	7.30	PHOSPHATE	0.033	0.011	0.05	-0.402	BMb
7	8.17	SULFATE	28.184	7.806	33.12	168.225	bMB
Total:			159.844	23.568	100.00	393.318	

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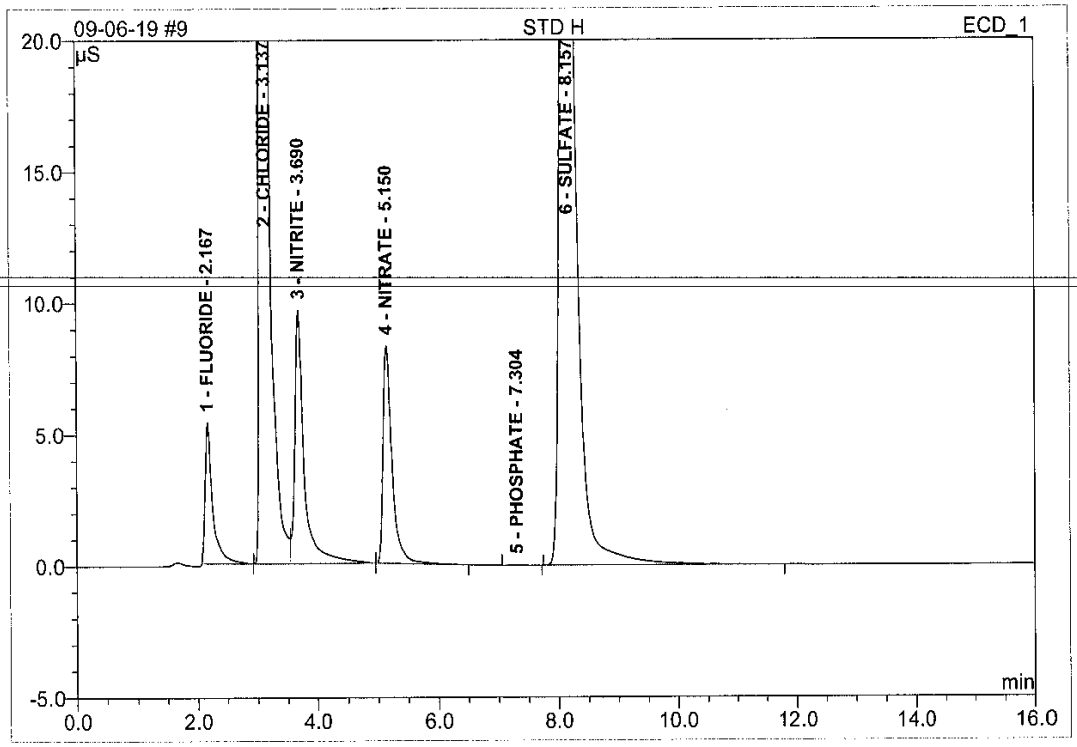
9 STD H

System Operator: JB IC 2000

Sample Name:	**STD H**	*Injection Volume:*	**10.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 16:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

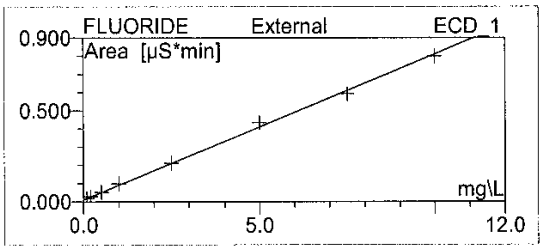


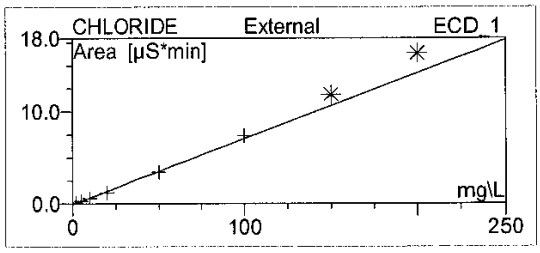
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	5.350	0.799	2.55	9.834	BMB
2	3.14	CHLORIDE	148.140	16.390	52.30	230.125	BM
3	3.69	NITRITE	9.632	1.730	5.52	10.578	MB
4	5.15	NITRATE	8.263	1.451	4.63	9.778	BMB
5	7.30	PHOSPHATE	0.009	0.003	0.01	-0.530	BMB
6	8.16	SULFATE	39.447	10.963	34.99	236.052	BMB
Total:			210.839	31.336	100.00	495.836	

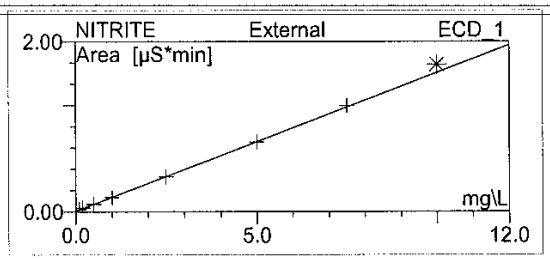
9 STD H

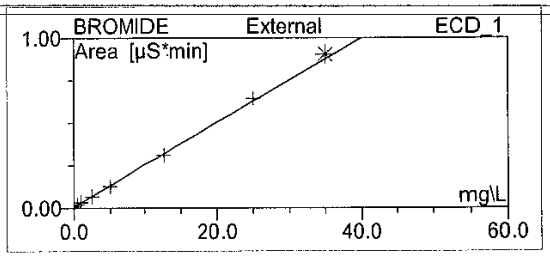
System Operator: JB IC 2000

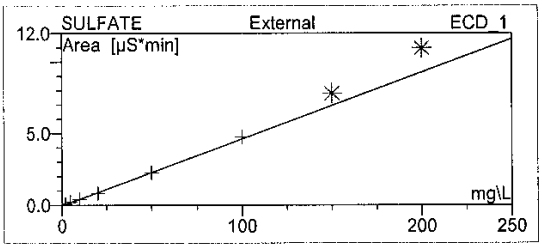
Sample Name:	**STD H**	*Injection Volume:*	**10.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 16:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

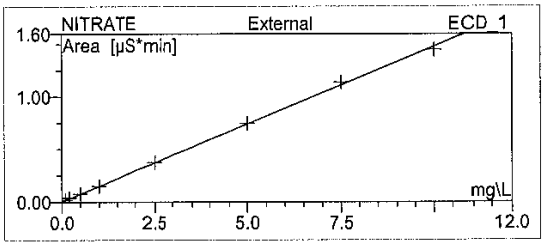










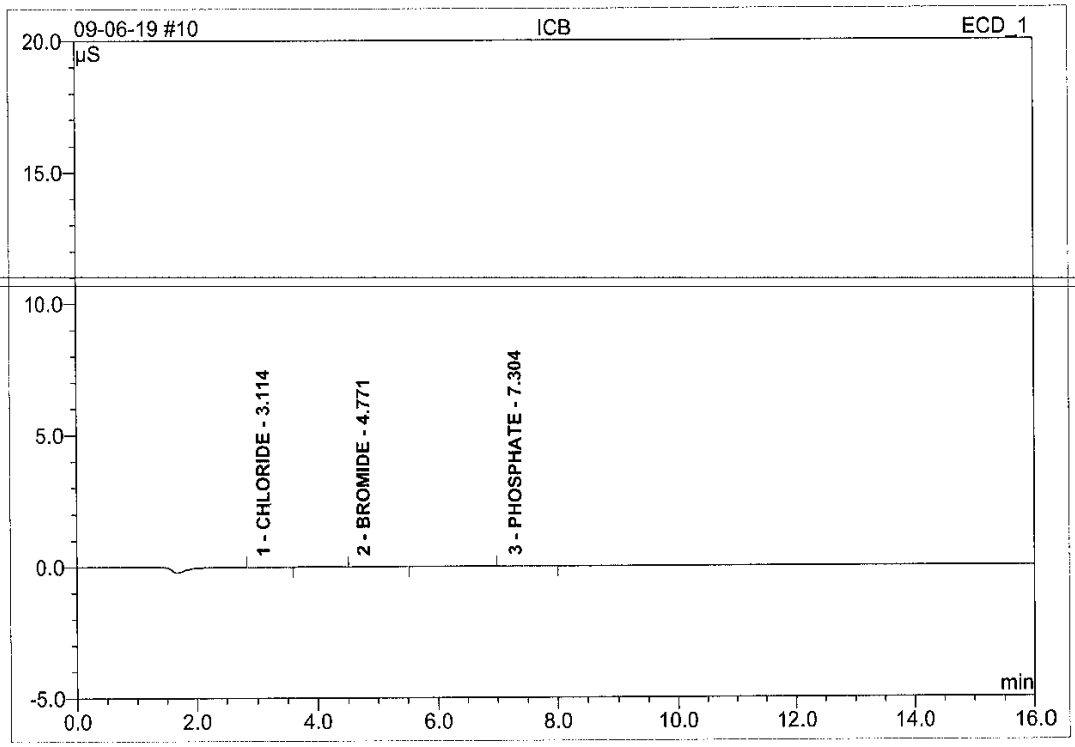


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.17	FLUORIDE	XLOff	8	99.9100	0.0117	0.0800	0.0000
2	3.14	CHLORIDE	XLOff	6	99.7252	-0.0614	0.0715	0.0000
3	3.69	NITRITE	XLOff	7	99.9814	0.0095	0.1626	0.0000
4	5.15	NITRATE	XLOff	8	99.9676	0.0043	0.1480	0.0000
5	7.30	PHOSPHATE	LOff	5	98.9327	0.0373	0.0652	0.0000
6	8.16	SULFATE	XLOff	6	99.8881	-0.0258	0.0466	0.0000
Average:					99.7342	-0.0041	0.0956	0.0000

10 ICB

System Operator: JB IC 2000

Sample Name:	**ICB**	*Injection Volume:*	**10.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 17:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

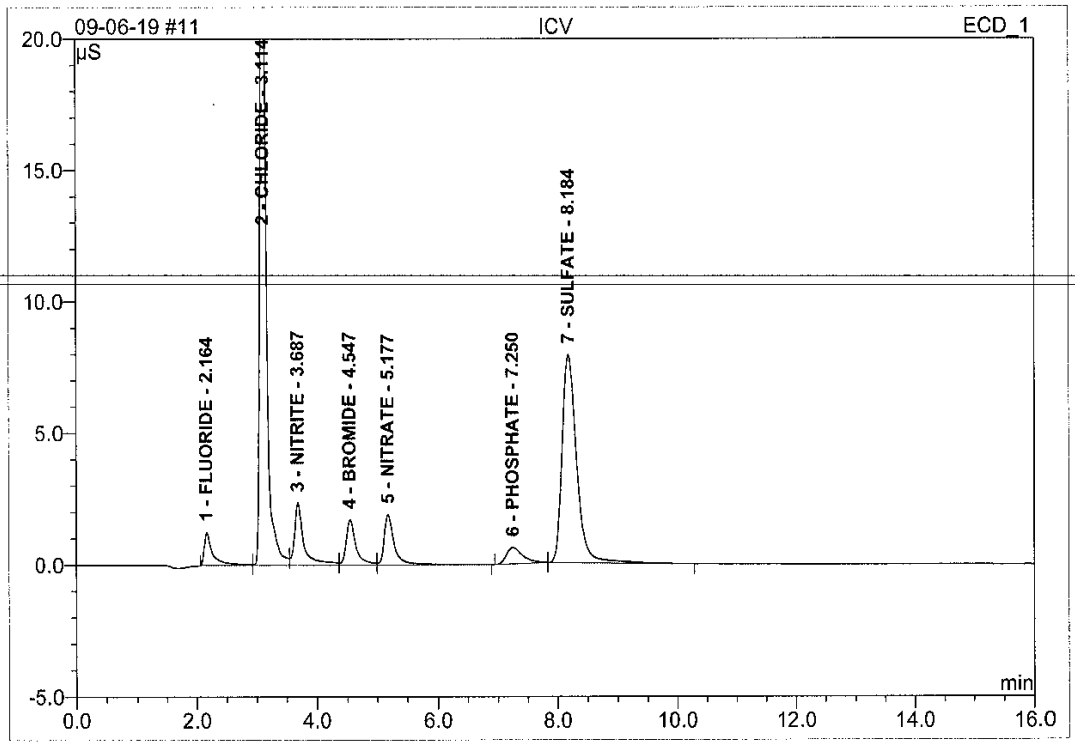


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.11	CHLORIDE	0.007	0.002	12.44	0.880	BMB
2	4.77	BROMIDE	0.017	0.008	64.25	0.047	BMB
3	7.30	PHOSPHATE	0.007	0.003	23.31	-0.529	BMB
Total:			0.032	0.012	100.00	0.398	

11 ICV

System Operator: JB IC 2000

Sample Name:	**ICV**	*Injection Volume:*	**10.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 17:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

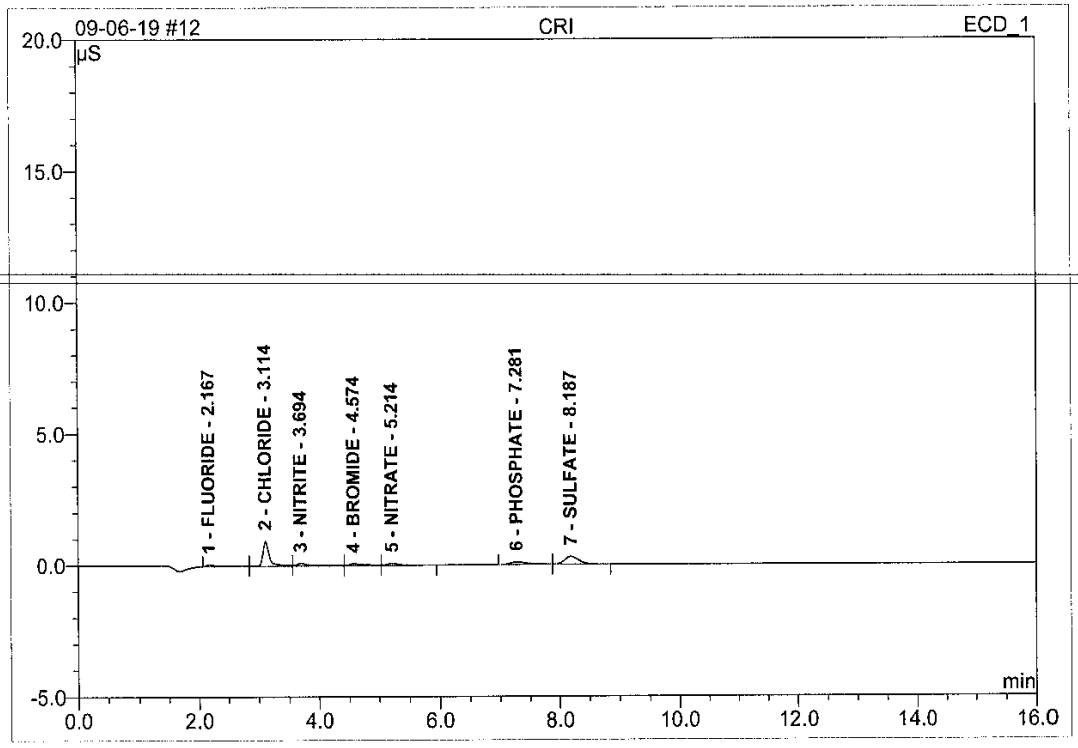


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.252	0.212	3.00	2.503	BM
2	3.11	CHLORIDE	31.575	3.341	47.18	47.598	M
3	3.69	NITRITE	2.352	0.422	5.96	2.539	M
4	4.55	BROMIDE	1.709	0.325	4.59	12.783	M
5	5.18	NITRATE	1.907	0.382	5.39	2.553	MB
6	7.25	PHOSPHATE	0.617	0.197	2.78	2.445	BMb
7	8.18	SULFATE	7.893	2.203	31.10	47.870	bMB
Total:			47.305	7.082	100.00	118.292	

12 CRI

System Operator: JB IC 2000

Sample Name:	**CRI**	*Injection Volume:*	**10.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 17:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

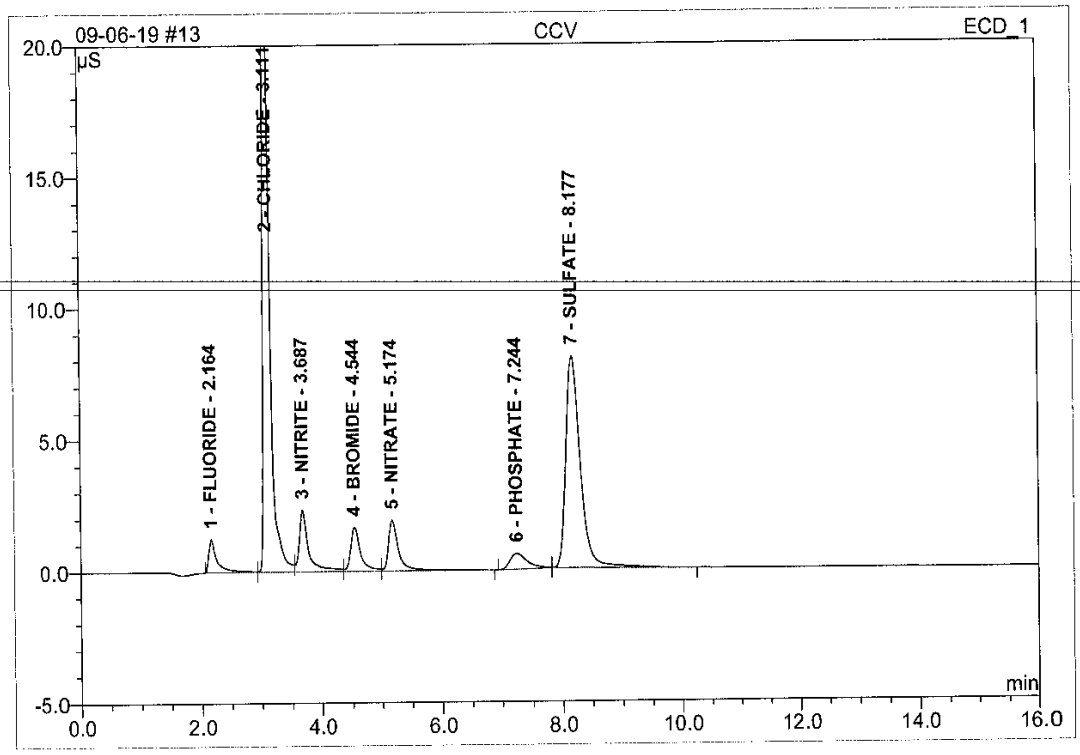


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.065	0.020	6.12	0.098	BM
2	3.11	CHLORIDE	0.949	0.120	37.48	2.536	M
3	3.69	NITRITE	0.102	0.028	8.60	0.111	M
4	4.57	BROMIDE	0.071	0.021	6.51	0.563	M
5	5.21	NITRATE	0.078	0.018	5.70	0.094	MB
6	7.28	PHOSPHATE	0.099	0.035	10.97	-0.034	BMb
7	8.19	SULFATE	0.288	0.079	24.63	2.248	bMB
Total:			1.652	0.320	100.00	5.616	

13 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 18:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

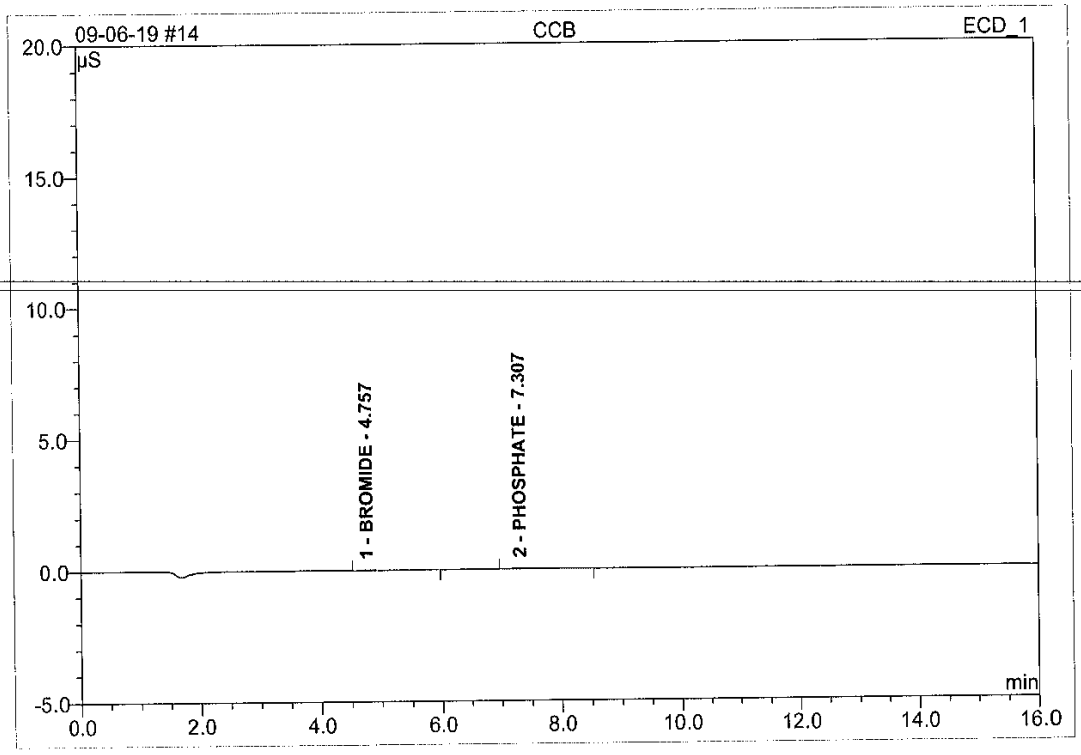


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.250	0.207	2.90	2.441	BM
2	3.11	CHLORIDE	32.090	3.394	47.47	48.335	M
3	3.69	NITRITE	2.344	0.421	5.89	2.531	M
4	4.54	BROMIDE	1.681	0.320	4.47	12.566	M
5	5.17	NITRATE	1.925	0.385	5.39	2.575	MB
6	7.24	PHOSPHATE	0.600	0.191	2.67	2.353	BMb
7	8.18	SULFATE	8.026	2.232	31.21	48.491	bMB
Total:			47.916	7.149	100.00	119.292	

14 CCB

System Operator: JB IC 2000

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**8/27/2019 18:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

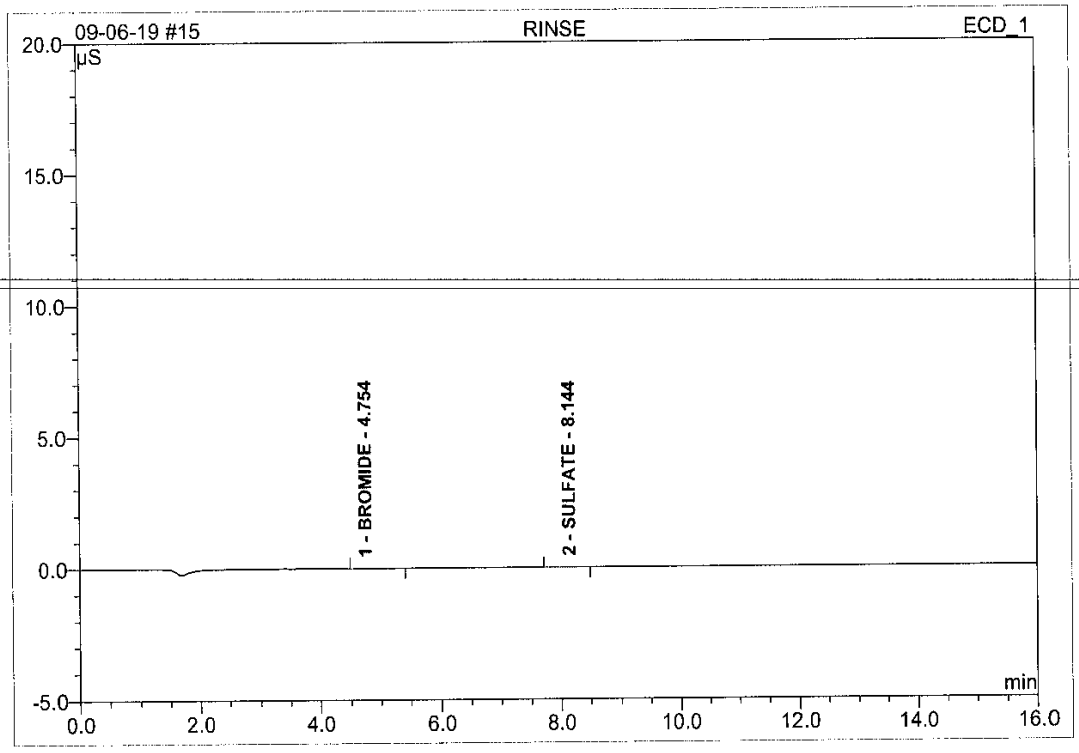


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.76	BROMIDE	0.019	0.010	42.36	0.131	BMB
2	7.31	PHOSPHATE	0.029	0.014	57.64	-0.363	BMB
Total:			0.047	0.024	100.00	-0.232	

15 RINSE

System Operator: JB IC 2000

Sample Name:	**RINSE**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 9:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

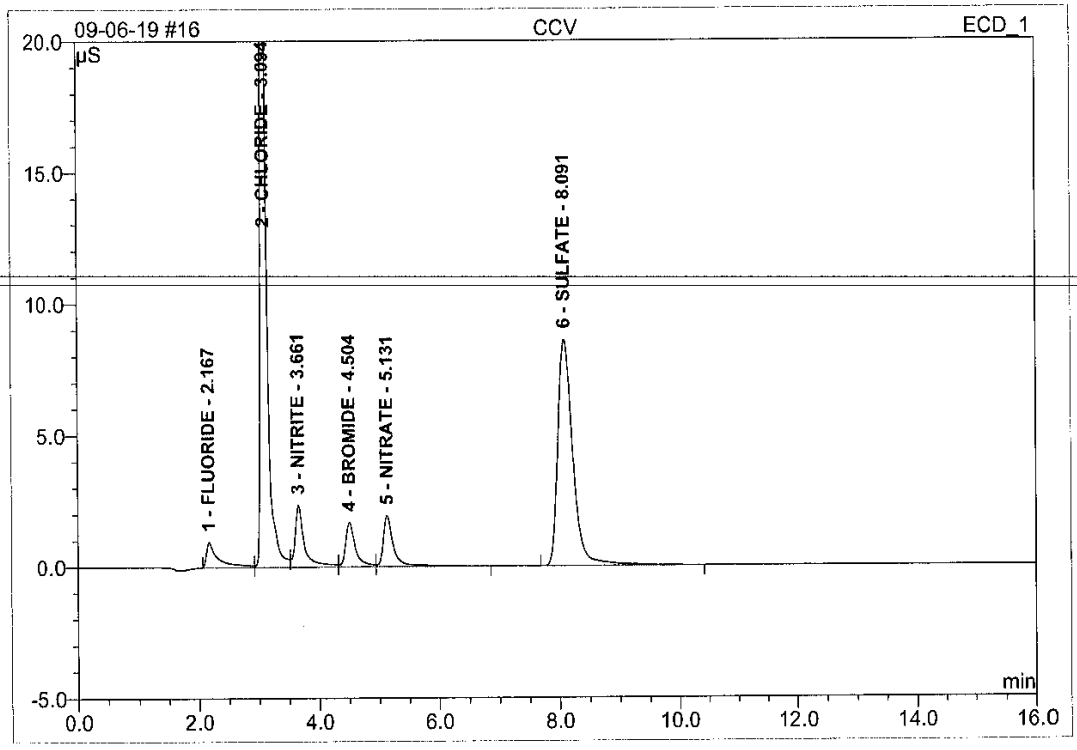


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.75	BROMIDE	0.017	0.007	84.58	0.007	BMB
2	8.14	SULFATE	0.003	0.001	15.42	0.582	BMB
Total:			0.020	0.008	100.00	0.589	

16 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 9:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

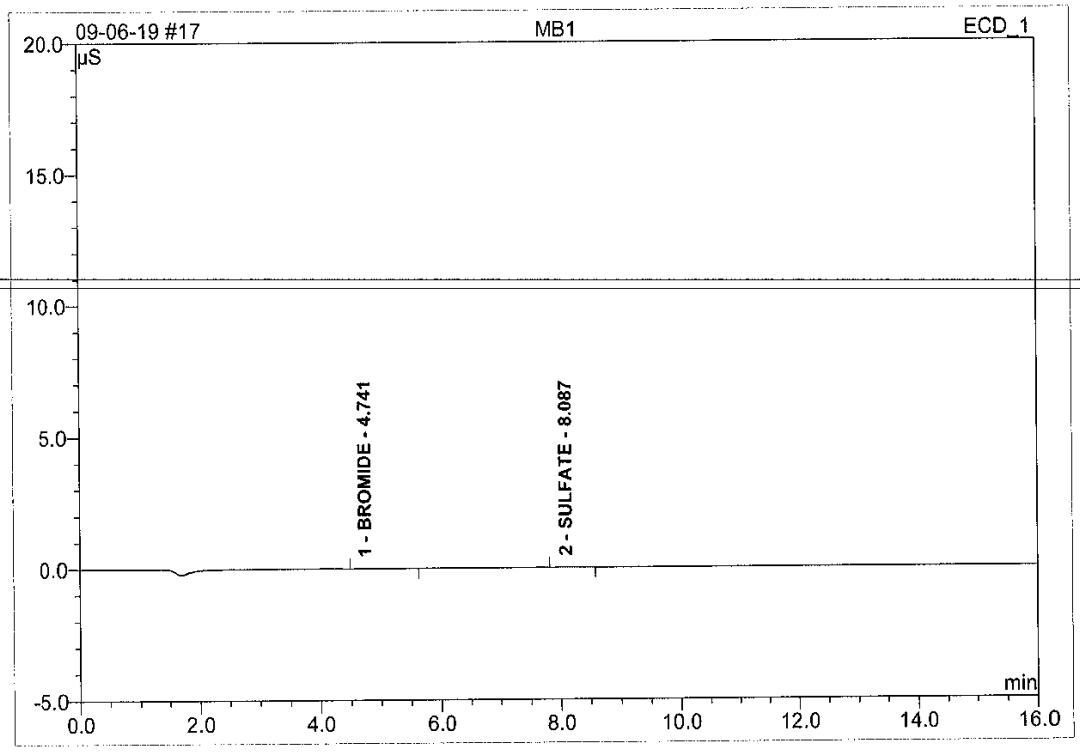


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.17	FLUORIDE	0.956	0.222	3.07	2.624	BM
2	3.09	CHLORIDE	32.301	3.410	47.23	48.558	M
3	3.66	NITRITE	2.351	0.418	5.79	2.511	M
4	4.50	BROMIDE	1.695	0.324	4.48	12.736	M
5	5.13	NITRATE	1.929	0.387	5.36	2.589	MB
6	8.09	SULFATE	8.601	2.459	34.06	53.379	BMB
Total:			47.833	7.220	100.00	122.397	

17 MB1

System Operator: JB IC 2000

Sample Name:	**MB1**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 9:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.74	BROMIDE	0.019	0.009	59.86	0.087	BMB
2	8.09	SULFATE	0.021	0.006	40.14	0.685	BMB
Total:			0.040	0.015	100.00	0.772	

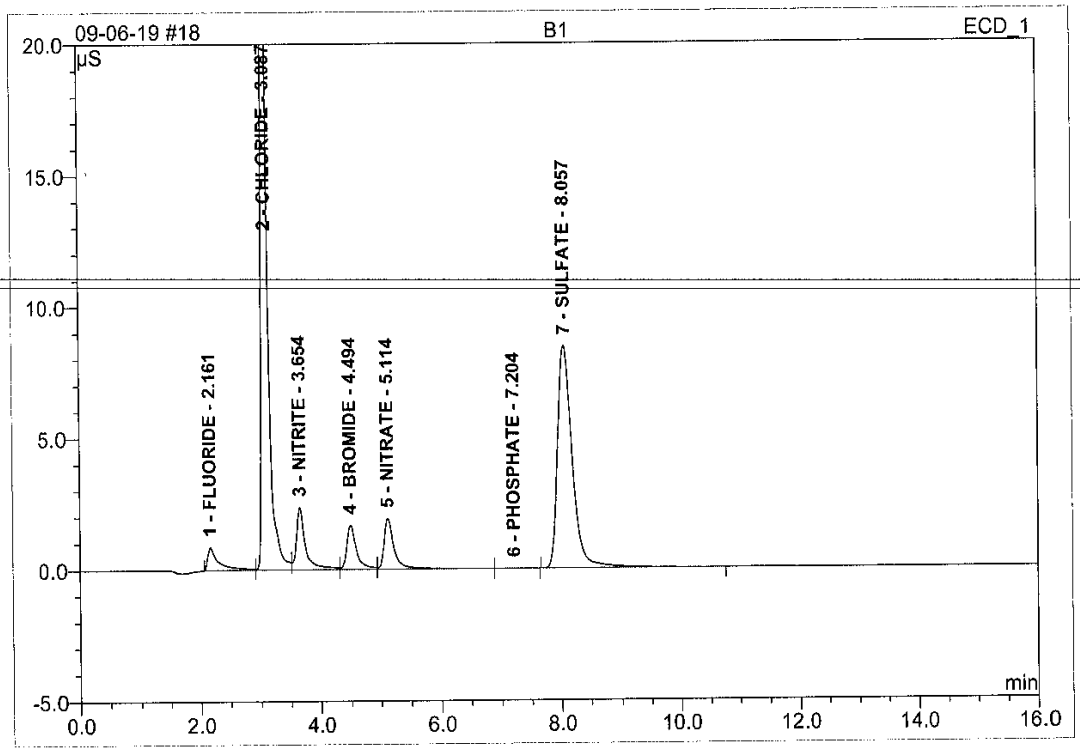
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

18 B1

System Operator: JB IC 2000

Sample Name:	**B1**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 10:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.866	0.189	2.66	2.209	BM
2	3.09	CHLORIDE	32.151	3.389	47.86	48.266	M
3	3.65	NITRITE	2.362	0.411	5.81	2.470	M
4	4.49	BROMIDE	1.675	0.315	4.45	12.390	M
5	5.11	NITRATE	1.918	0.380	5.36	2.537	Mb
6	7.20	PHOSPHATE	0.006	0.002	0.03	-0.543	bMB
7	8.06	SULFATE	8.455	2.396	33.83	52.018	BMB
Total:			47.433	7.081	100.00	119.345	

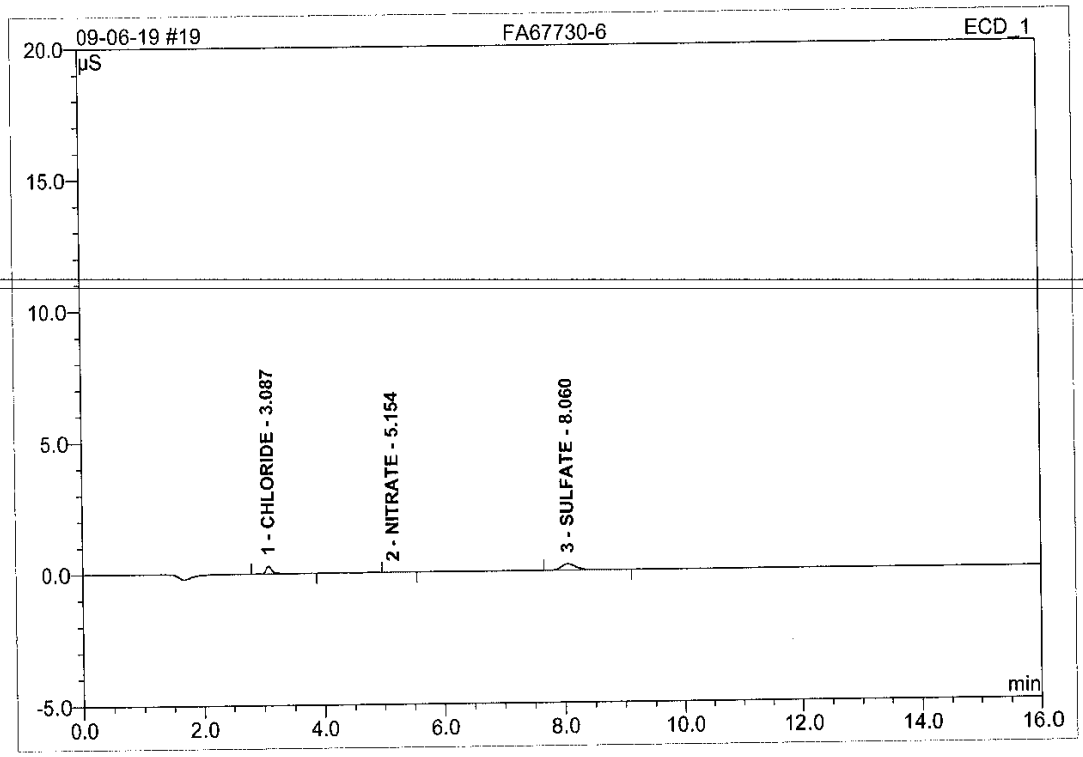
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

19 FA67730-6

System Operator: JB IC 2000

Sample Name:	**FA67730-6**	*Injection Volume:*	**10.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**25.0000**
Recording Time:	**9/6/2019 10:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

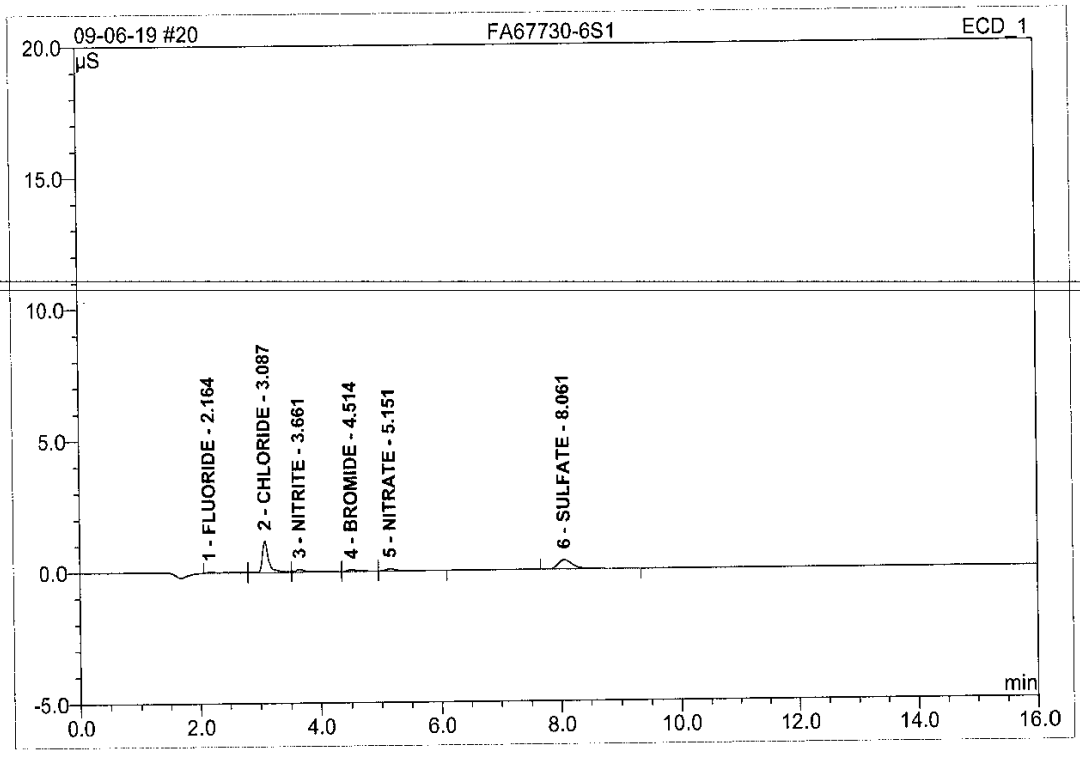


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	0.290	0.035	32.62	33.653	BMB
2	5.15	NITRATE	0.010	0.002	1.64	-0.424	BMB
3	8.06	SULFATE	0.242	0.070	65.73	51.598	BMB
Total:			0.542	0.107	100.00	84.827	

20 FA67730-6S1

System Operator: JB IC 2000

Sample Name:	**FA67730-6S1**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**25.0000**
Recording Time:	**9/6/2019 10:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

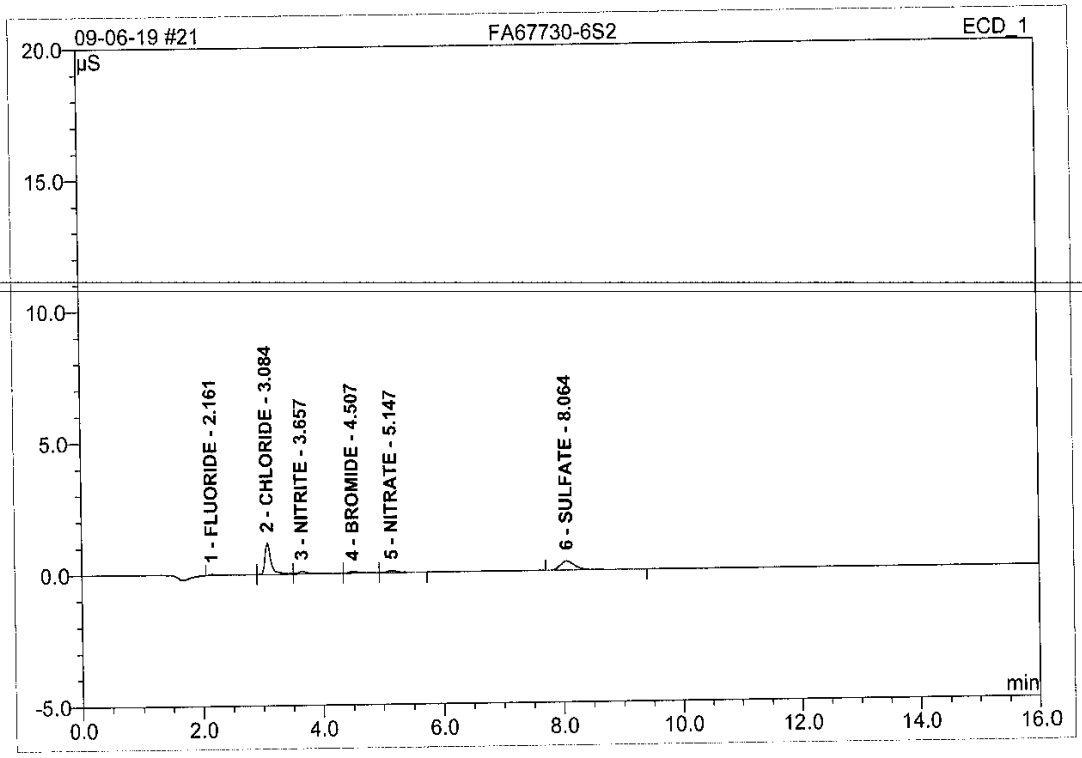


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.042	0.015	4.51	0.897	BM
2	3.09	CHLORIDE	1.195	0.147	45.37	72.865	M
3	3.66	NITRITE	0.104	0.026	8.02	2.537	M
4	4.51	BROMIDE	0.067	0.015	4.75	8.606	M
5	5.15	NITRATE	0.088	0.020	6.17	2.657	MB
6	8.06	SULFATE	0.348	0.101	31.19	68.133	BMB
Total:			1.843	0.324	100.00	155.695	

21 FA67730-6S2

System Operator: JB IC 2000

Sample Name:	**FA67730-6S2**	*Injection Volume:*	**10.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**25.0000**
Recording Time:	**9/6/2019 11:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.042	0.016	5.02	1.246	BM
2	3.08	CHLORIDE	1.181	0.142	45.45	71.231	M
3	3.66	NITRITE	0.104	0.025	8.04	2.417	M
4	4.51	BROMIDE	0.067	0.014	4.52	7.357	M
5	5.15	NITRATE	0.075	0.015	4.89	1.868	MB
6	8.06	SULFATE	0.345	0.100	32.08	67.812	BMB
Total:			1.814	0.313	100.00	151.931	

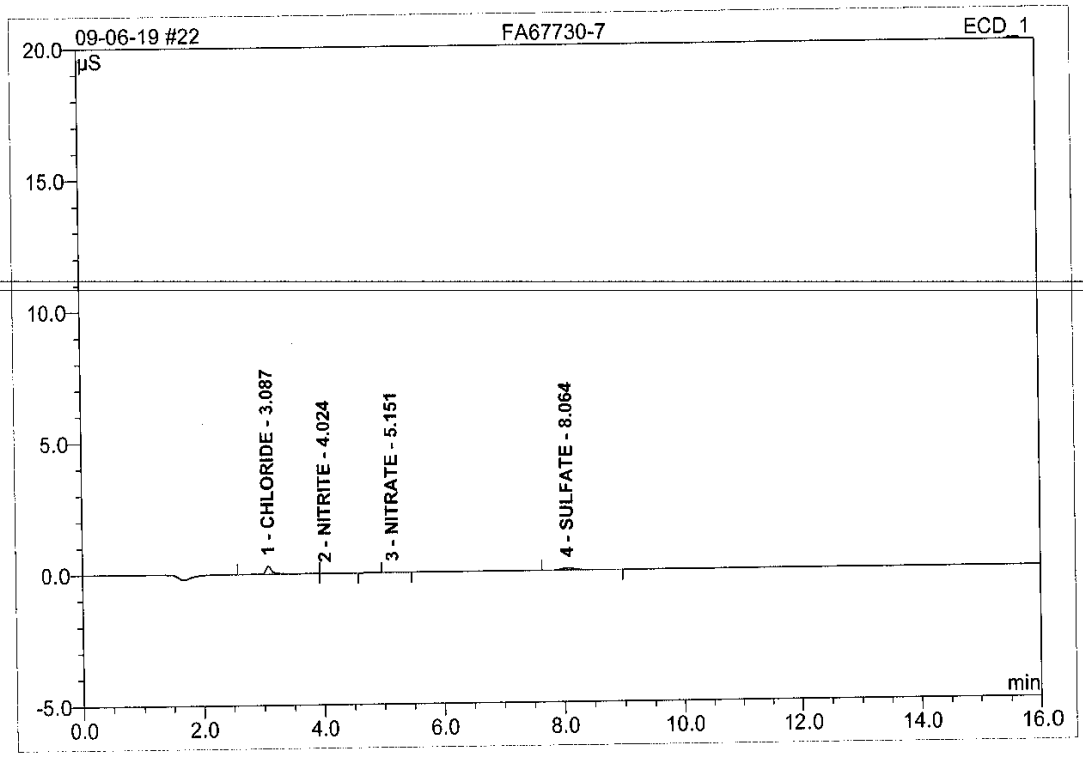
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

22 FA67730-7

System Operator: JB IC 2000

Sample Name:	**FA67730-7**	*Injection Volume:*	**10.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**25.0000**
Recording Time:	**9/6/2019 11:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

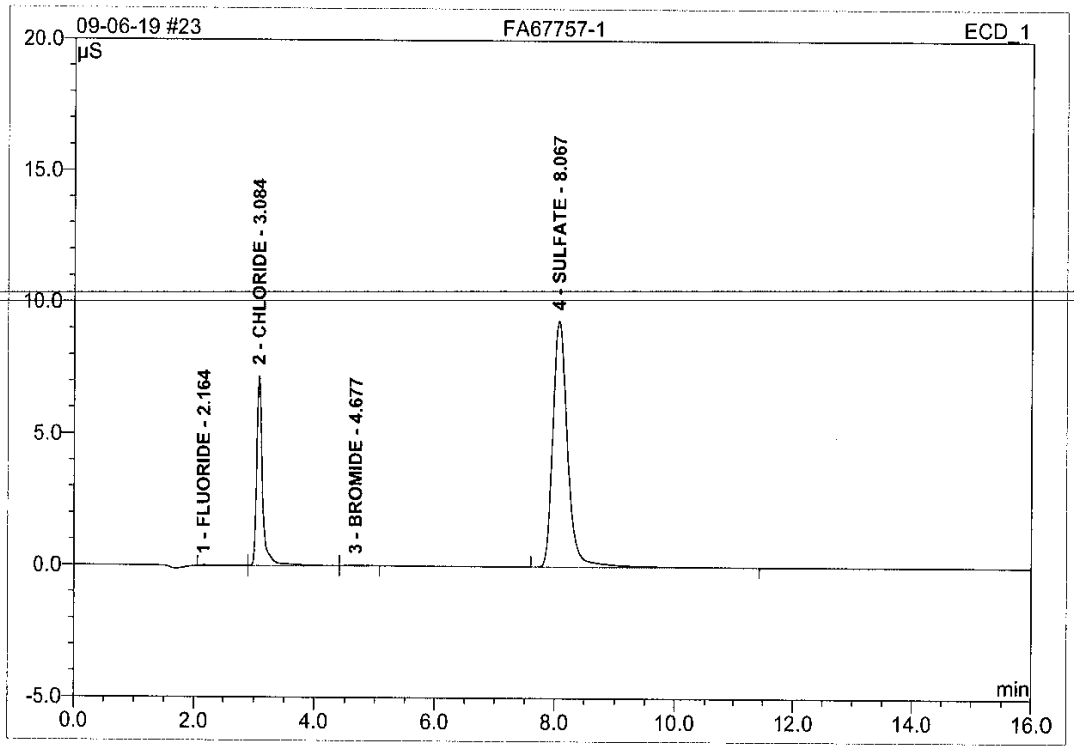


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	0.301	0.041	59.11	35.933	BM
2	4.02	NITRITE	0.008	0.004	5.37	-0.877	MB
3	5.15	NITRATE	0.006	0.001	1.52	-0.542	BMB
4	8.06	SULFATE	0.082	0.024	34.00	26.657	BMB
Total:			0.397	0.070	100.00	61.171	

23 FA67757-1

System Operator: JB IC 2000 DMR

Sample Name:	**FA67757-1**	*Injection Volume:*	**10.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 11:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

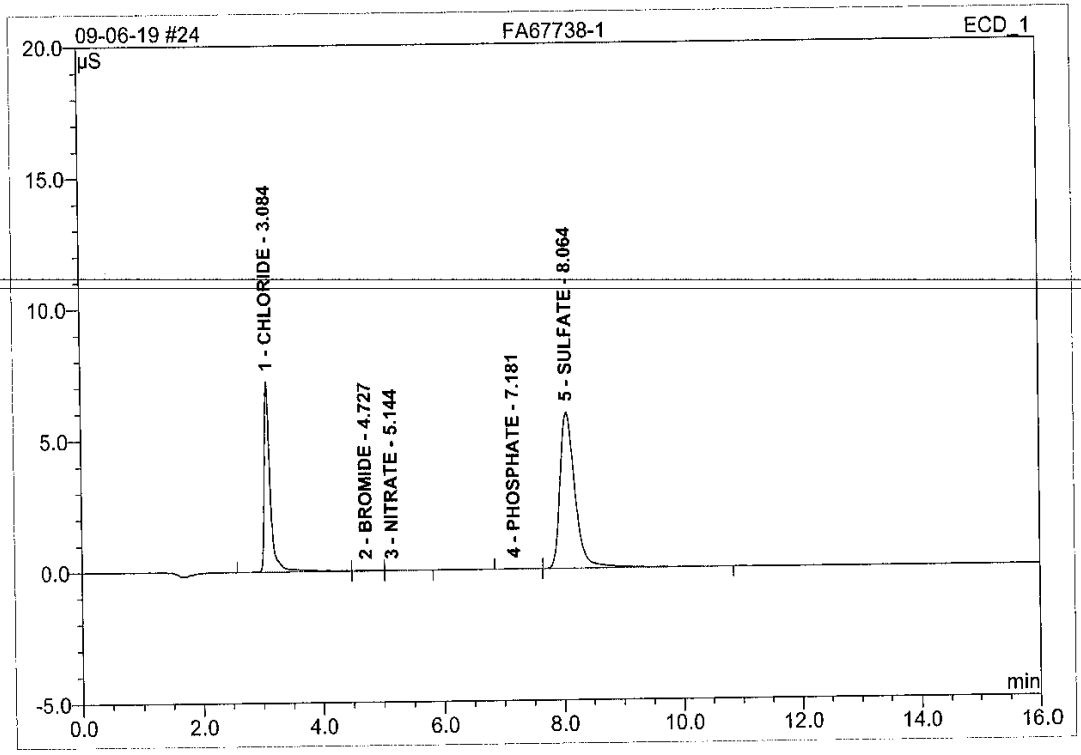


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.026	0.011	0.31	-0.011	BM
2	3.08	CHLORIDE	7.208	0.829	23.54	12.453	M
3	4.68	BROMIDE	0.025	0.009	0.25	0.079	MB
4	8.07	SULFATE	9.348	2.673	75.90	57.969	BMB
Total:			16.607	3.521	100.00	70.489	

24 FA67738-1

System Operator: JB IC 2000

Sample Name:	**FA67738-1**	*Injection Volume:*	**10.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**50.0000**
Recording Time:	**9/6/2019 12:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

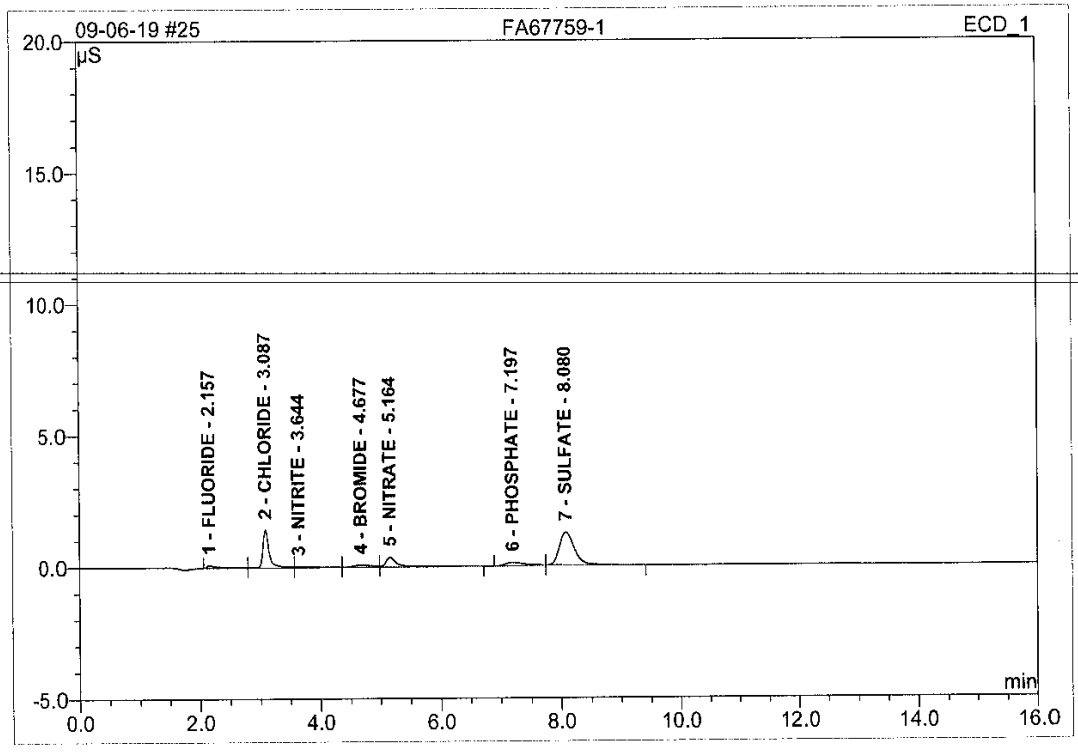


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.08	CHLORIDE	7.212	0.831	32.62	623.892	BM
2	4.73	BROMIDE	0.018	0.007	0.27	0.212	M
3	5.14	NITRATE	0.014	0.004	0.16	-0.069	MB
4	7.18	PHOSPHATE	0.011	0.004	0.15	-25.678	BMB
5	8.06	SULFATE	5.912	1.701	66.80	1854.508	BMB
Total:			13.168	2.546	100.00	2452.865	

25 FA67759-1

System Operator: JB IC 2000

Sample Name:	**FA67759-1**	*Injection Volume:*	**10.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 13:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

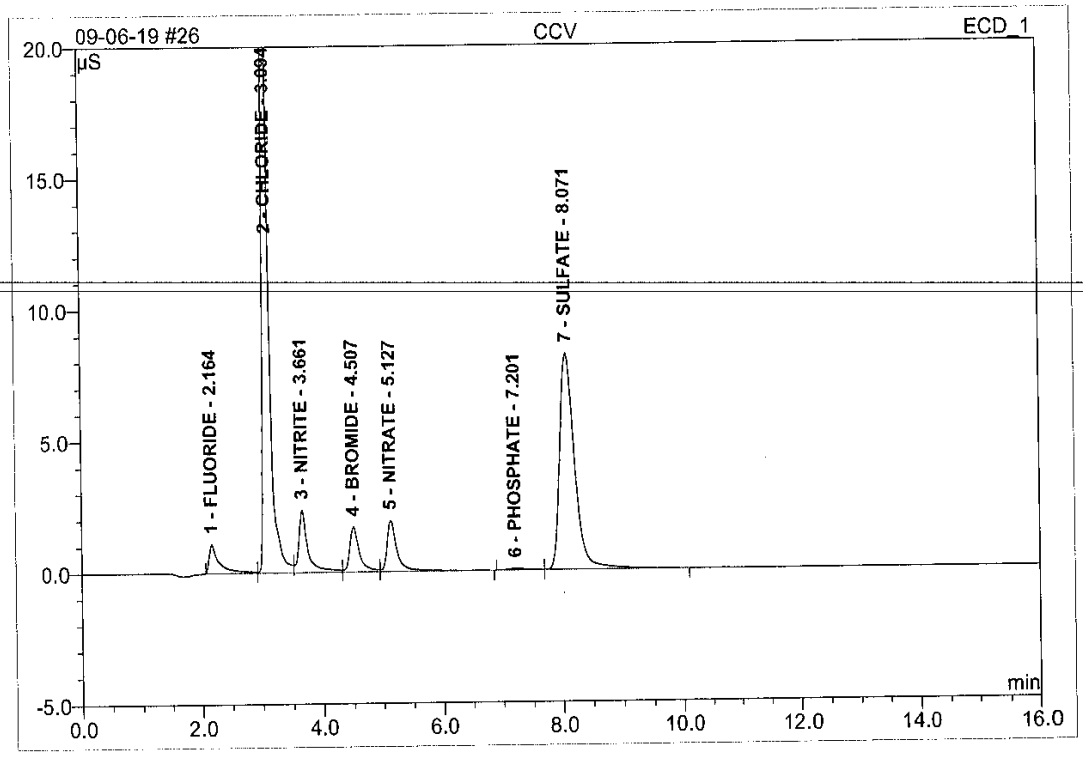


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.102	0.024	3.37	0.155	BM
2	3.09	CHLORIDE	1.431	0.176	24.54	3.322	M
3	3.64	NITRITE	0.028	0.013	1.81	0.022	M
4	4.68	BROMIDE	0.072	0.028	3.88	0.844	M
5	5.16	NITRATE	0.360	0.081	11.26	0.517	MB
6	7.20	PHOSPHATE	0.117	0.041	5.78	0.063	BMb
7	8.08	SULFATE	1.239	0.354	49.37	8.166	bMB
Total:			3.349	0.718	100.00	13.089	

26 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 13:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

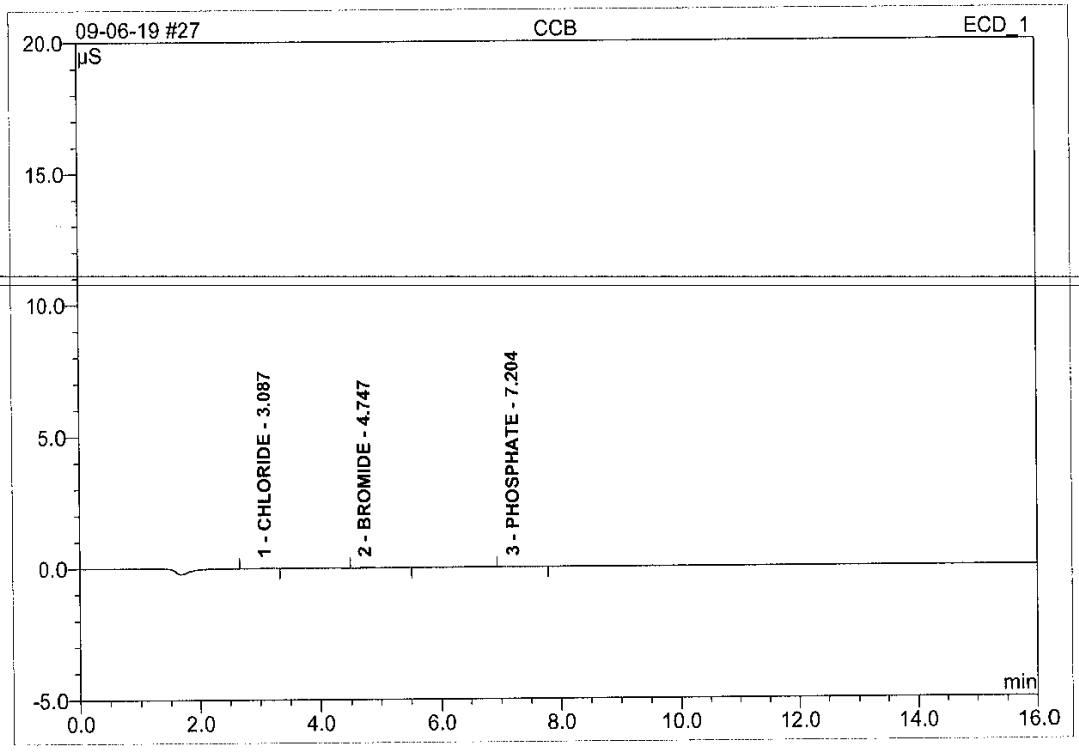


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.093	0.220	3.10	2.603	BM
2	3.09	CHLORIDE	32.413	3.407	47.97	48.516	M
3	3.66	NITRITE	2.359	0.416	5.86	2.501	M
4	4.51	BROMIDE	1.707	0.321	4.52	12.631	M
5	5.13	NITRATE	1.926	0.385	5.42	2.573	MB
6	7.20	PHOSPHATE	0.046	0.016	0.23	-0.327	BMB
7	8.07	SULFATE	8.207	2.337	32.90	50.746	bMB
Total:			47.751	7.102	100.00	119.243	

27 CCB

System Operator: JB IC 2000

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 13:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

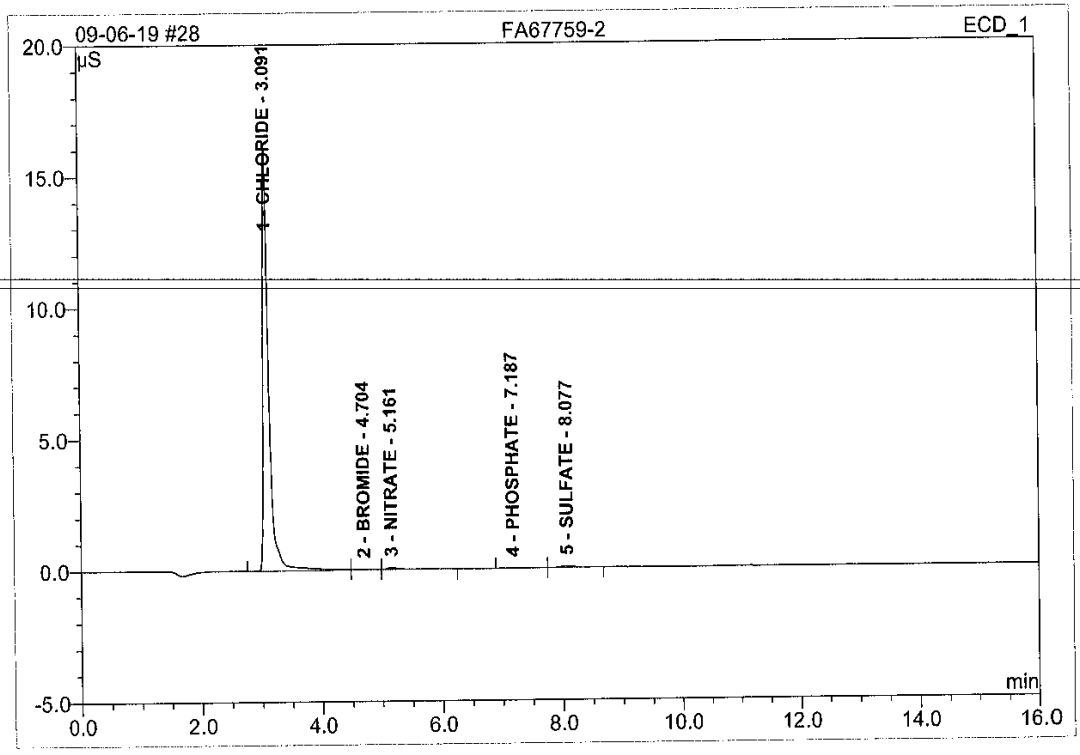


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	0.005	0.001	11.25	0.875	BMB
2	4.75	BROMIDE	0.017	0.007	70.62	0.017	BMB
3	7.20	PHOSPHATE	0.005	0.002	18.13	-0.545	BMB
Total:			0.027	0.010	100.00	0.347	

28 FA67759-2

System Operator: JB IC 2000

Sample Name:	**FA67759-2**	*Injection Volume:*	**10.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**50.0000**
Recording Time:	**9/6/2019 14:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

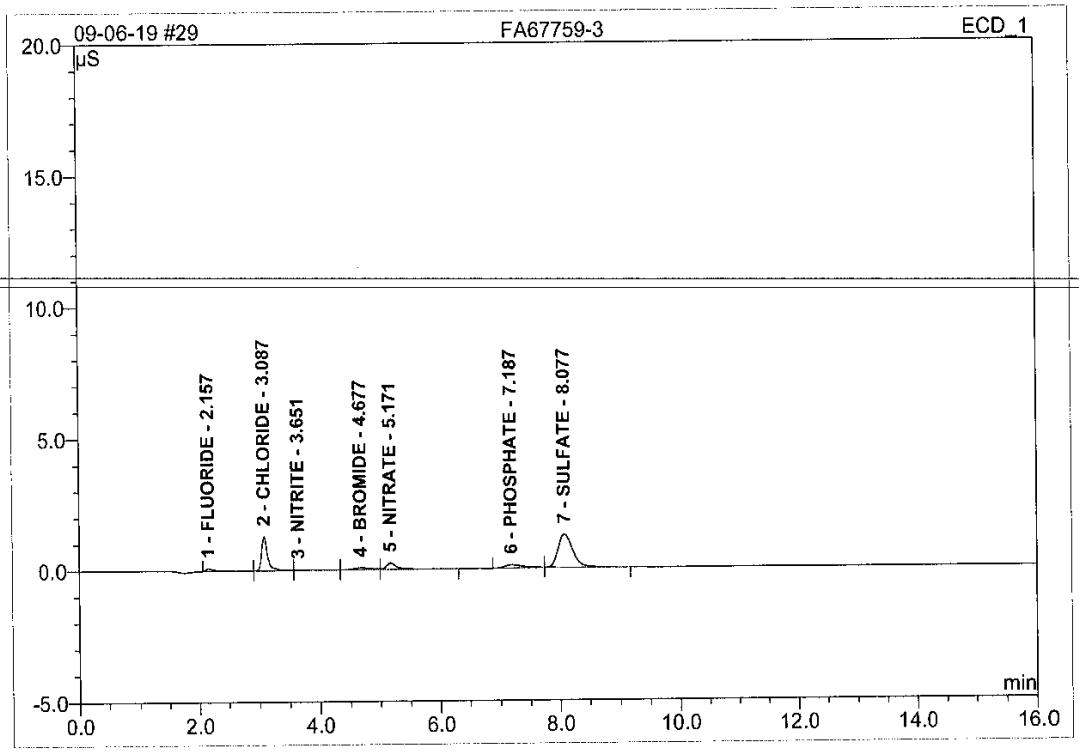


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	16.151	1.774	97.08	1283.790	BM
2	4.70	BROMIDE	0.026	0.011	0.60	8.221	M
3	5.16	NITRATE	0.070	0.018	1.01	4.780	MB
4	7.19	PHOSPHATE	0.019	0.007	0.39	-23.150	BMB
5	8.08	SULFATE	0.059	0.017	0.92	45.797	bMB
Total:			16.325	1.827	100.00	1319.438	

29 FA67759-3

System Operator: JB IC 2000

Sample Name:	**FA67759-3**	*Injection Volume:*	**10.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 14:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.099	0.023	3.53	0.147	BM
2	3.09	CHLORIDE	1.292	0.156	23.38	3.036	M
3	3.65	NITRITE	0.022	0.010	1.47	0.002	M
4	4.68	BROMIDE	0.068	0.026	3.93	0.778	M
5	5.17	NITRATE	0.245	0.053	7.95	0.329	MB
6	7.19	PHOSPHATE	0.120	0.042	6.35	0.075	BMb
7	8.08	SULFATE	1.254	0.356	53.39	8.192	bMB
Total:			3.101	0.666	100.00	12.559	

ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
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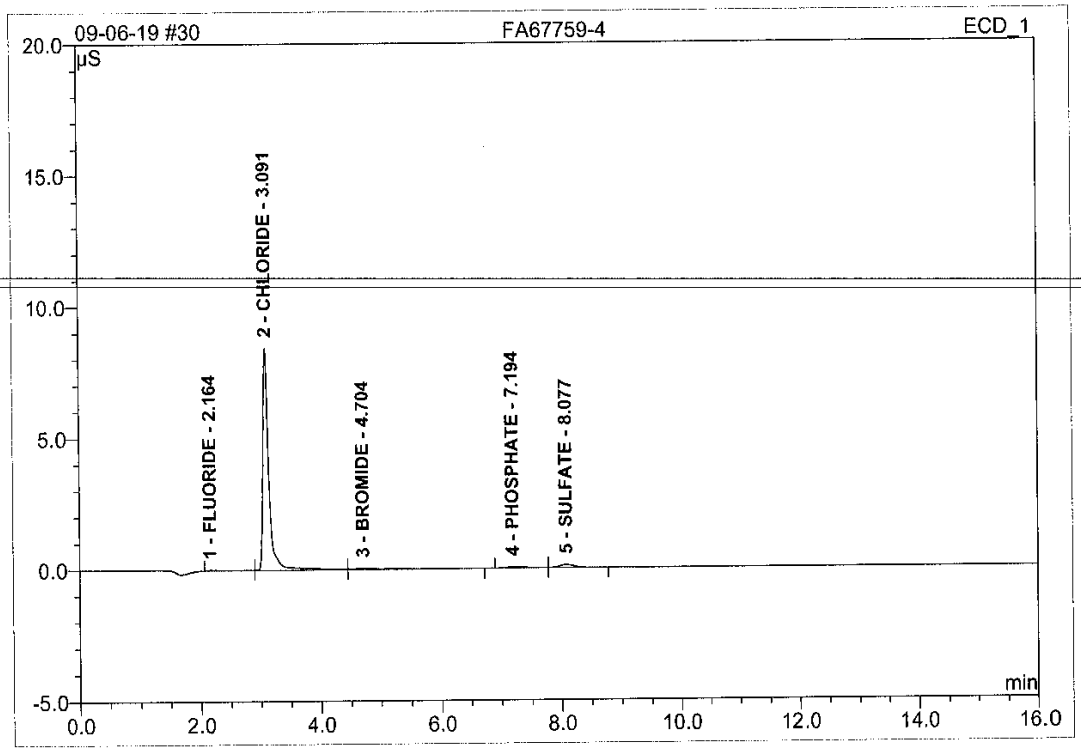
30 FA67759-4

System Operator: JB IC 2000

Sample Name:	**FA67759-4**	*Injection Volume:*	**10.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**5.0000**
Recording Time:	**9/6/2019 14:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

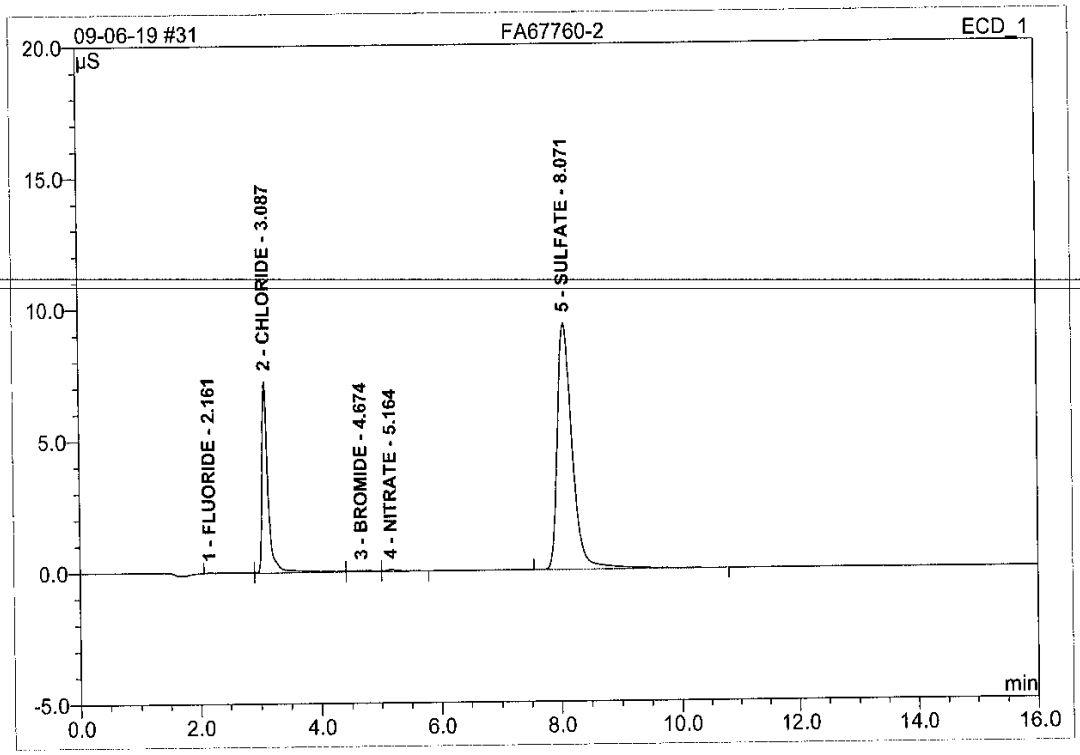


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.030	0.014	1.33	0.155	BM
2	3.09	CHLORIDE	8.447	0.981	91.55	72.885	M
3	4.70	BROMIDE	0.036	0.030	2.84	4.742	MB
4	7.19	PHOSPHATE	0.043	0.016	1.50	-1.630	BMb
5	8.08	SULFATE	0.106	0.030	2.78	5.978	bMB
Total:			8.663	1.071	100.00	82.130	

31 FA67760-2

System Operator: JB IC 2000

Sample Name:	**FA67760-2**	*Injection Volume:*	**10.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 15:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.031	0.014	0.40	0.030	BM
2	3.09	CHLORIDE	7.259	0.841	23.72	12.616	M
3	4.67	BROMIDE	0.039	0.017	0.48	0.404	M
4	5.16	NITRATE	0.059	0.014	0.39	0.064	MB
5	8.07	SULFATE	9.349	2.658	75.02	57.659	BMB
Total:			16.736	3.544	100.00	70.773	

ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
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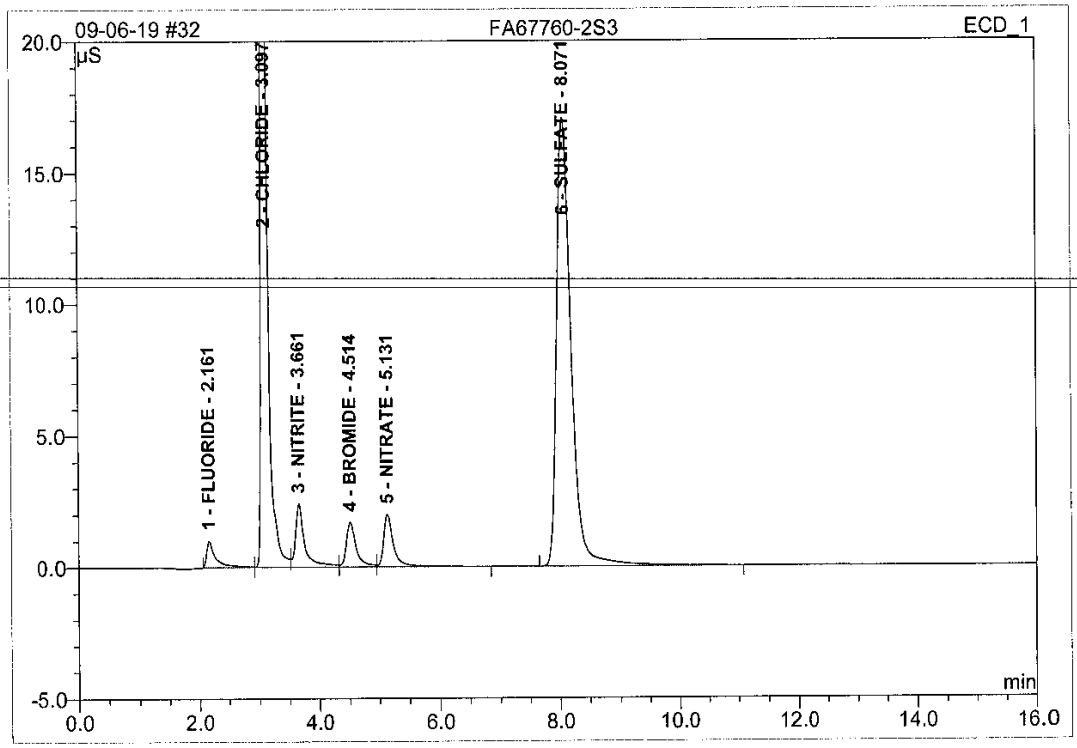
32 FA67760-2S3

System Operator: JB IC 2000

Sample Name:	**FA67760-2S3**	*Injection Volume:*	**10.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 15:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.013	0.182	1.75	2.128	BM
2	3.10	CHLORIDE	41.292	4.296	41.32	60.953	M
3	3.66	NITRITE	2.406	0.432	4.16	2.599	M
4	4.51	BROMIDE	1.700	0.326	3.14	12.827	M
5	5.13	NITRATE	1.979	0.391	3.77	2.617	MB
6	8.07	SULFATE	17.062	4.769	45.87	102.996	BMB
Total:			65.451	10.397	100.00	184.120	

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Chromeleon (c) Dionex 1996-2001
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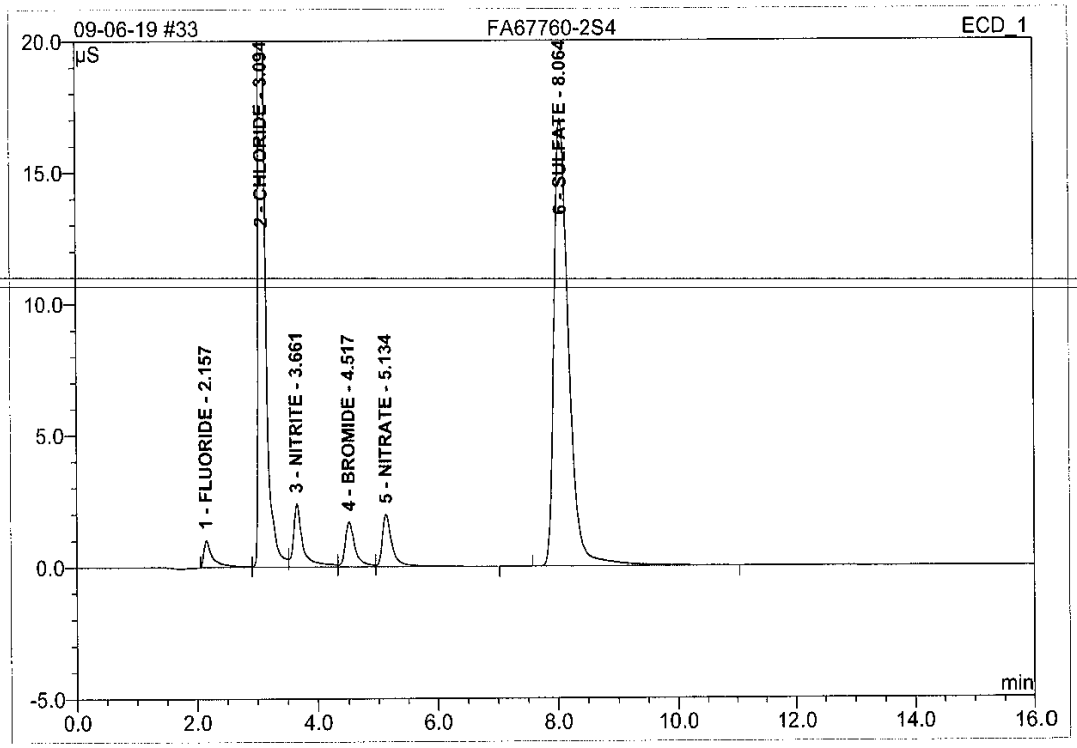
33 FA67760-2S4

System Operator: JB IC 2000

Sample Name:	**FA67760-2S4**	*Injection Volume:*	**10.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 15:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.015	0.177	1.71	2.067	BM
2	3.09	CHLORIDE	41.155	4.289	41.35	60.856	M
3	3.66	NITRITE	2.390	0.428	4.13	2.576	M
4	4.52	BROMIDE	1.696	0.325	3.14	12.794	M
5	5.13	NITRATE	1.969	0.392	3.78	2.619	MB
6	8.06	SULFATE	17.022	4.762	45.90	102.838	BMB
Total:			65.247	10.373	100.00	183.749	

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Chromeleon (c) Dionex 1996-2001
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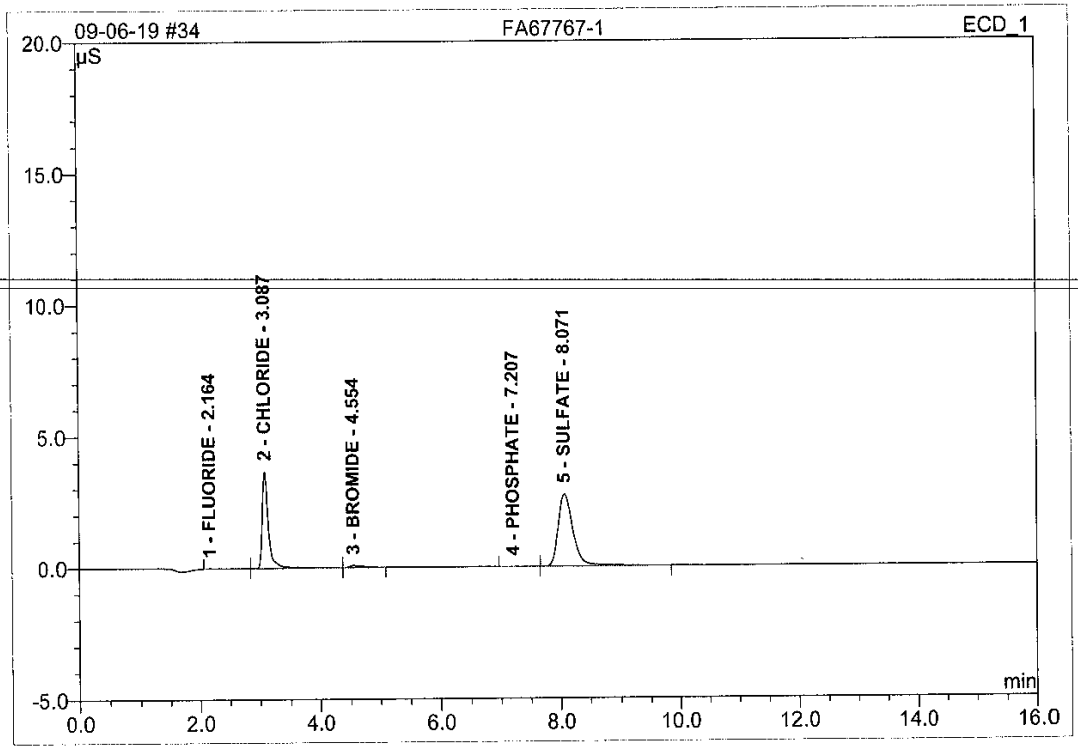
34 FA67767-1

System Operator: JB IC 2000

Sample Name:	**FA67767-1**	*Injection Volume:*	**10.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/6/2019 15:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

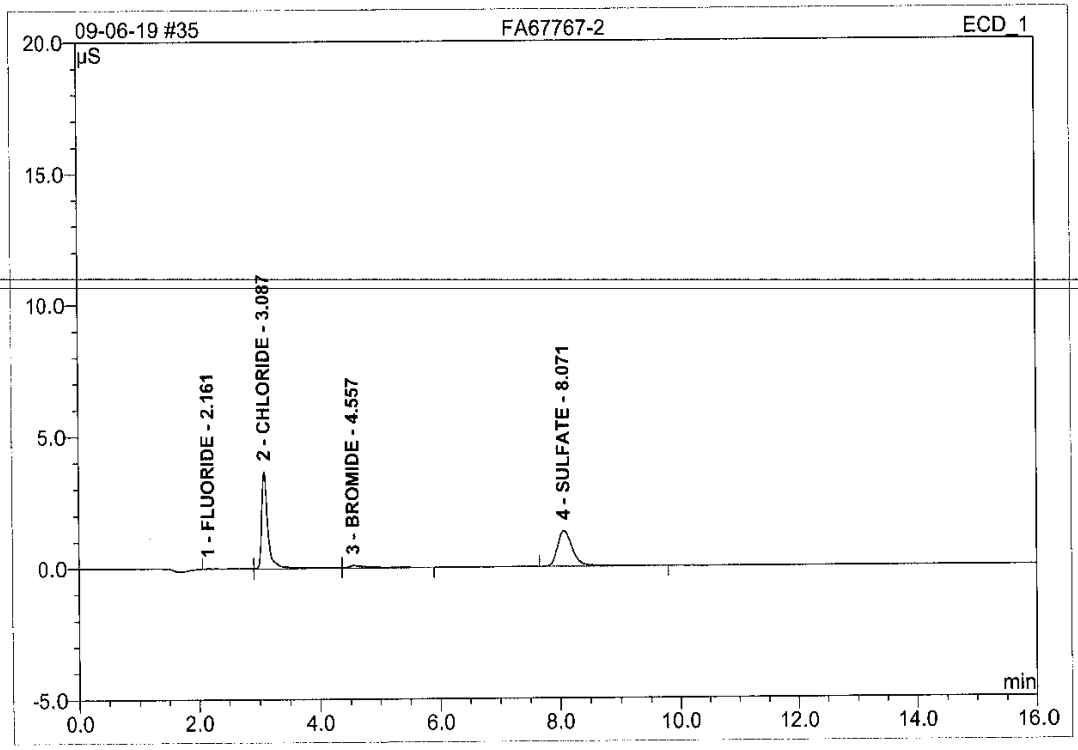


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.017	0.008	0.64	-0.471	BM
2	3.09	CHLORIDE	3.685	0.432	34.52	69.033	M
3	4.55	BROMIDE	0.072	0.018	1.48	4.680	MB
4	7.21	PHOSPHATE	0.005	0.002	0.13	-5.483	BMB
5	8.07	SULFATE	2.746	0.792	63.24	175.607	BMB
Total:			6.525	1.252	100.00	243.367	

35 FA67767-2

System Operator: JB IC 2000

Sample Name:	**FA67767-2**	*Injection Volume:*	**10.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/6/2019 16:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

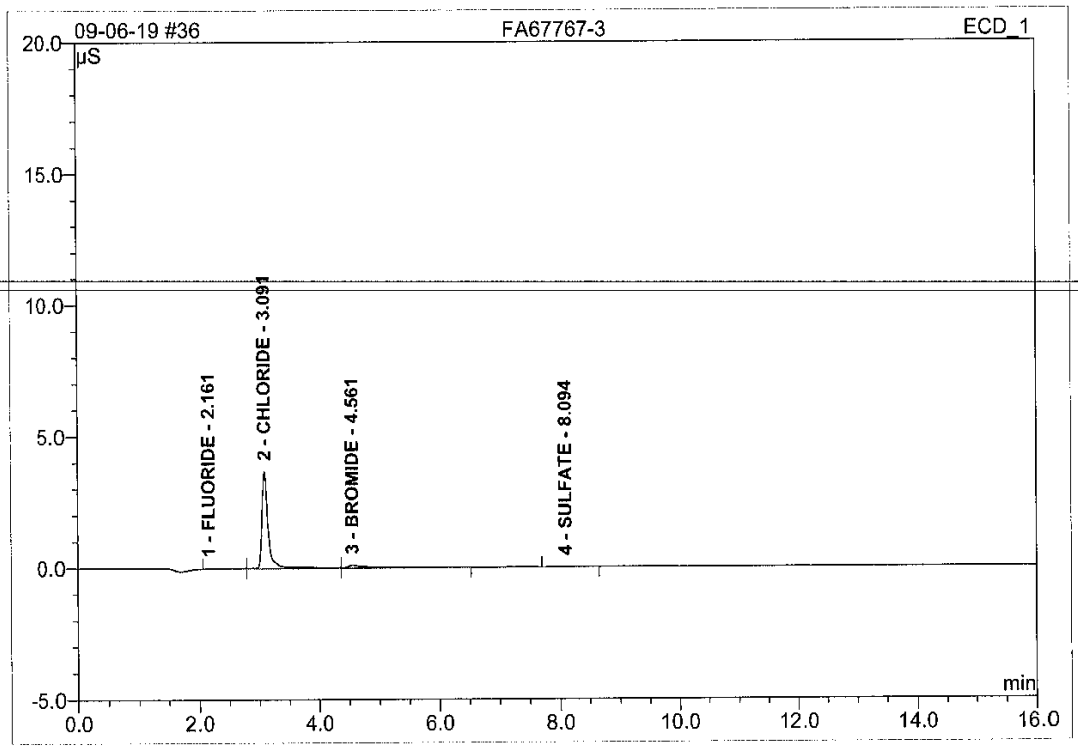


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.031	0.013	1.44	0.120	BM
2	3.09	CHLORIDE	3.679	0.445	50.44	70.845	M
3	4.56	BROMIDE	0.091	0.035	3.91	11.126	MB
4	8.07	SULFATE	1.346	0.390	44.21	89.354	BMB
Total:			5.148	0.882	100.00	171.445	

36 FA67767-3

System Operator: JB IC 2000

Sample Name:	**FA67767-3**	*Injection Volume:*	**10.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/6/2019 16:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.034	0.012	2.40	0.085	BM
2	3.09	CHLORIDE	3.690	0.452	87.47	71.808	M
3	4.56	BROMIDE	0.107	0.047	9.11	16.179	MB
4	8.09	SULFATE	0.017	0.005	1.02	6.680	BMB
Total:			3.848	0.517	100.00	94.752	

ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
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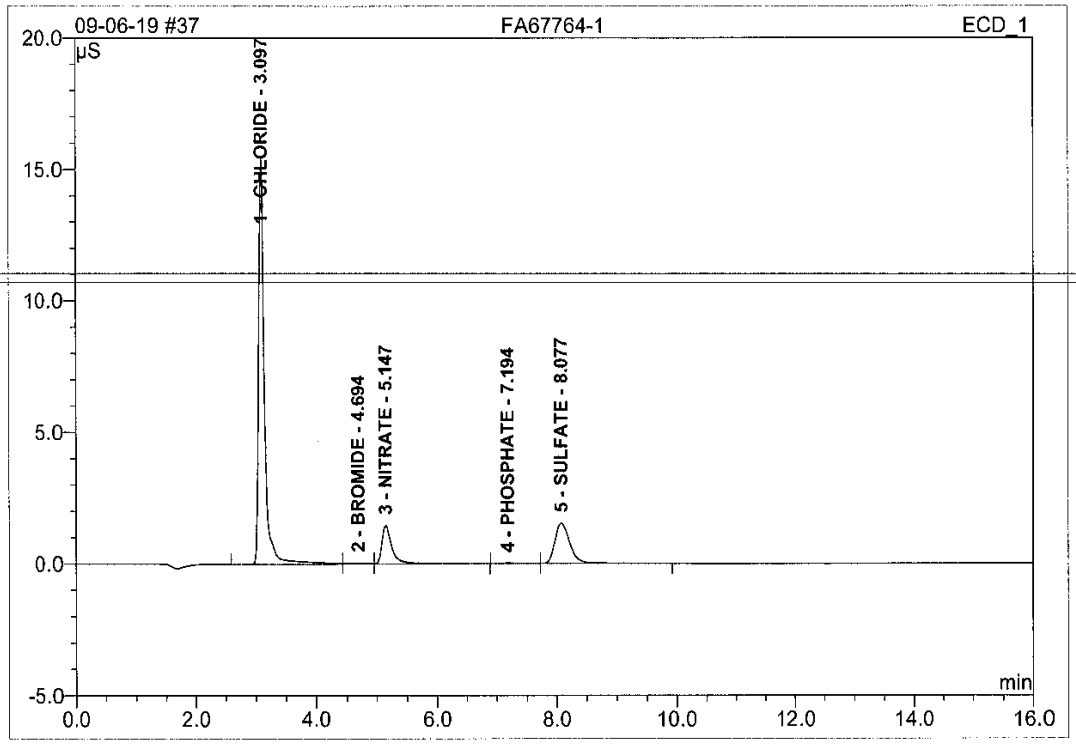
37 FA67764-1

System Operator: JB IC 2000

Sample Name:	**FA67764-1**	*Injection Volume:*	**10.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**5.0000**
Recording Time:	**9/6/2019 16:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.10	CHLORIDE	15.399	1.714	69.50	124.164	BM
2	4.69	BROMIDE	0.037	0.016	0.66	1.903	M
3	5.15	NITRATE	1.454	0.287	11.63	9.542	MB
4	7.19	PHOSPHATE	0.021	0.007	0.29	-2.310	BMB
5	8.08	SULFATE	1.529	0.442	17.92	50.237	BMB
Total:			18.439	2.466	100.00	183.536	

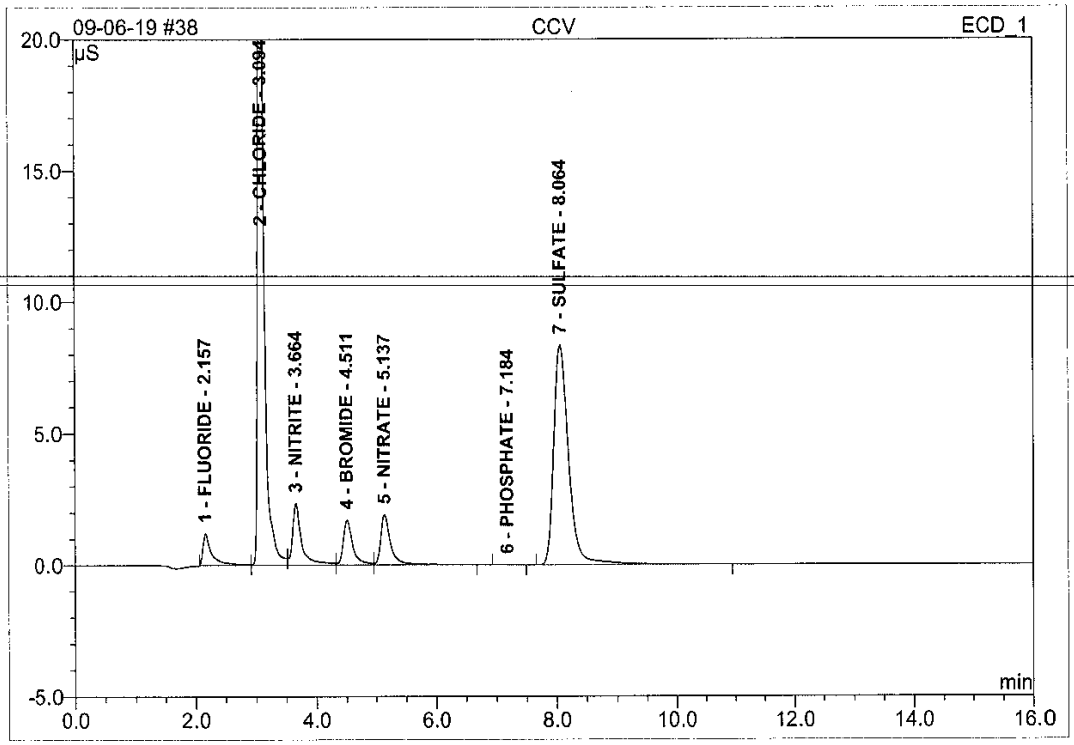
ALSE ANION REPORT/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SR10 Build 2818 (166959)

38 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 17:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

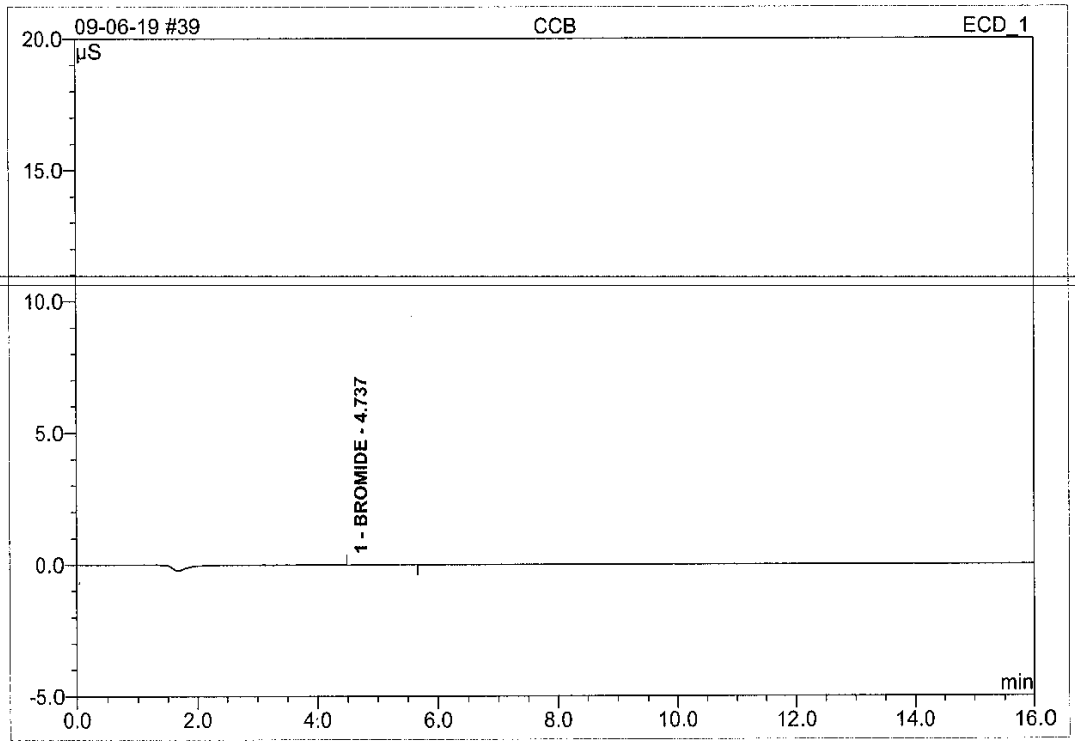


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.211	0.209	2.95	2.466	BM
2	3.09	CHLORIDE	32.345	3.391	47.88	48.295	M
3	3.66	NITRITE	2.349	0.409	5.78	2.459	M
4	4.51	BROMIDE	1.706	0.317	4.48	12.480	M
5	5.14	NITRATE	1.905	0.377	5.32	2.518	MB
6	7.18	PHOSPHATE	0.004	0.001	0.02	-0.553	BMB
7	8.06	SULFATE	8.346	2.377	33.57	51.620	BMB
Total:			47.865	7.083	100.00	119.284	

39 CCB

System Operator: JB IC 2000

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 17:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

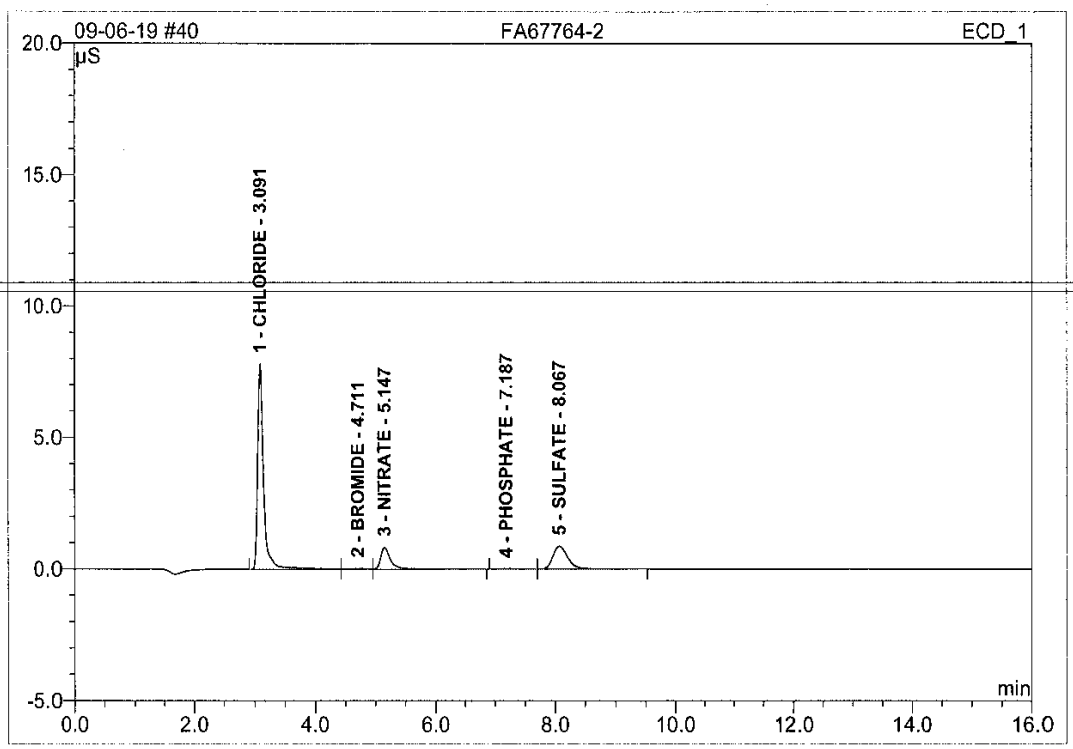


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	4.74	BROMIDE	0.016	0.008	100.00	0.045	BMB
Total:			0.016	0.008	100.00	0.045	

40 FA67764-2

System Operator: JB IC 2000

Sample Name:	**FA67764-2**	*Injection Volume:*	**10.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**10.0000**
Recording Time:	**9/6/2019 17:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

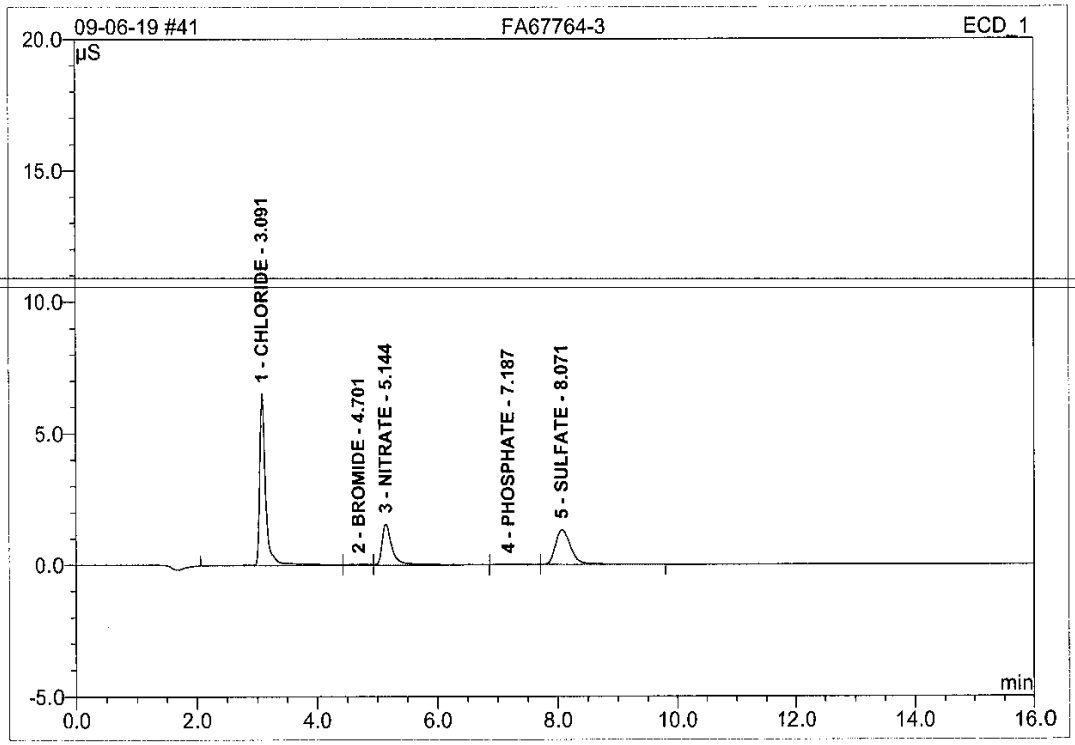


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	7.807	0.890	67.35	133.058	BM
2	4.71	BROMIDE	0.026	0.010	0.79	1.458	M
3	5.15	NITRATE	0.815	0.164	12.41	10.787	MB
4	7.19	PHOSPHATE	0.014	0.005	0.38	-4.960	BMB
5	8.07	SULFATE	0.866	0.252	19.07	59.673	BMB
Total:			9.529	1.321	100.00	200.015	

41 FA67764-3

System Operator: JB IC 2000

Sample Name:	**FA67764-3**	*Injection Volume:*	**10.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**5.0000**
Recording Time:	**9/6/2019 18:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

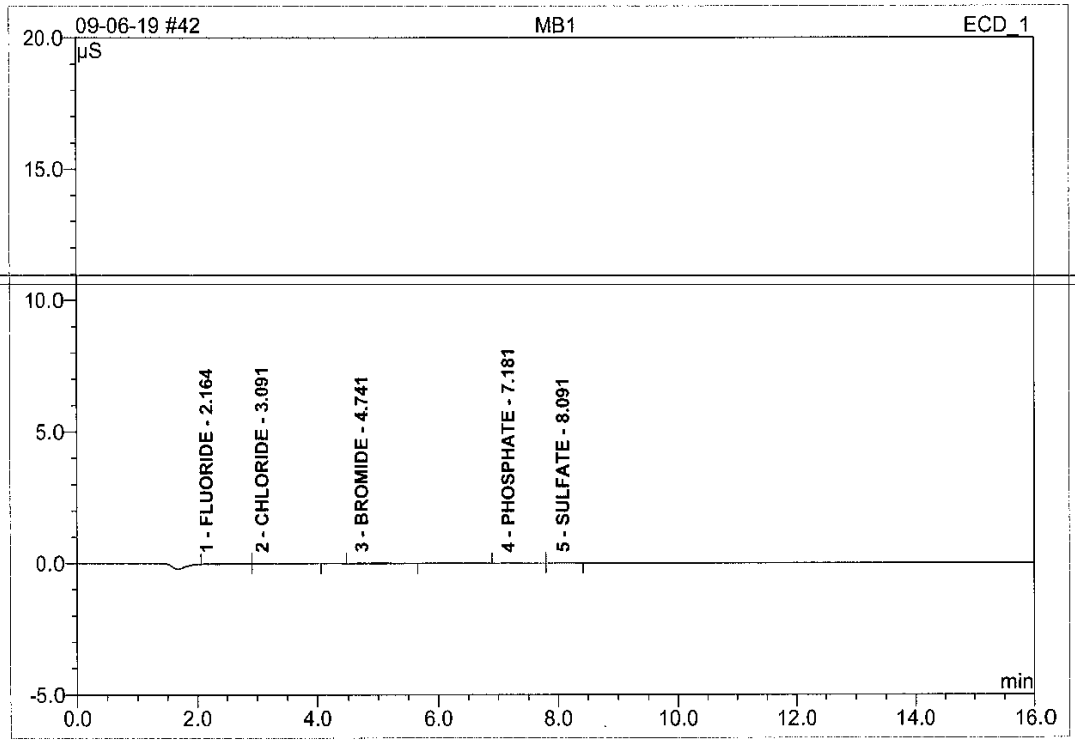


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	6.536	0.780	52.15	58.871	BM
2	4.70	BROMIDE	0.035	0.015	0.99	1.611	M
3	5.14	NITRATE	1.556	0.309	20.64	10.290	MB
4	7.19	PHOSPHATE	0.025	0.009	0.59	-2.187	BMB
5	8.07	SULFATE	1.321	0.384	25.63	43.971	bMB
Total:			9.474	1.496	100.00	112.555	

42 MB1

System Operator: JB IC 2000

Sample Name:	**MB1**	*Injection Volume:*	**10.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 18:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

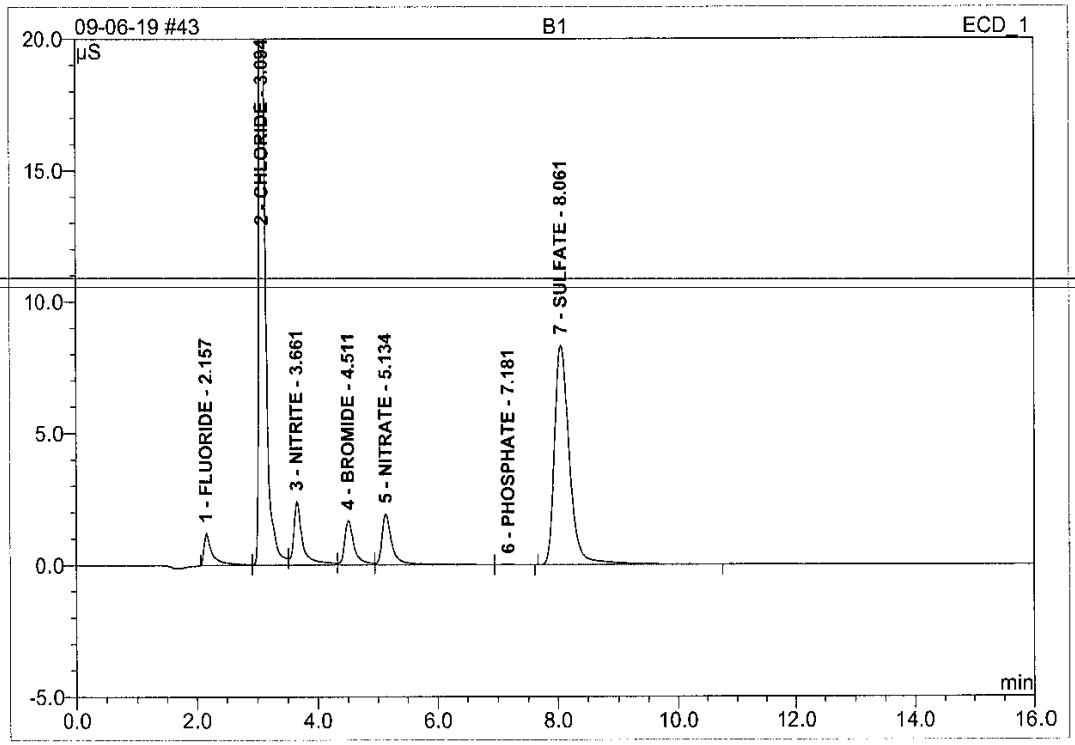


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.023	0.011	33.84	-0.012	BM
2	3.09	CHLORIDE	0.021	0.008	24.20	0.966	MB
3	4.74	BROMIDE	0.018	0.009	28.54	0.092	BMB
4	7.18	PHOSPHATE	0.007	0.002	7.52	-0.536	BMB
5	8.09	SULFATE	0.007	0.002	5.91	0.595	BMB
Total:			0.075	0.032	100.00	1.106	

43 B1

System Operator: JB IC 2000

Sample Name:	**B1**	*Injection Volume:*	**10.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 18:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

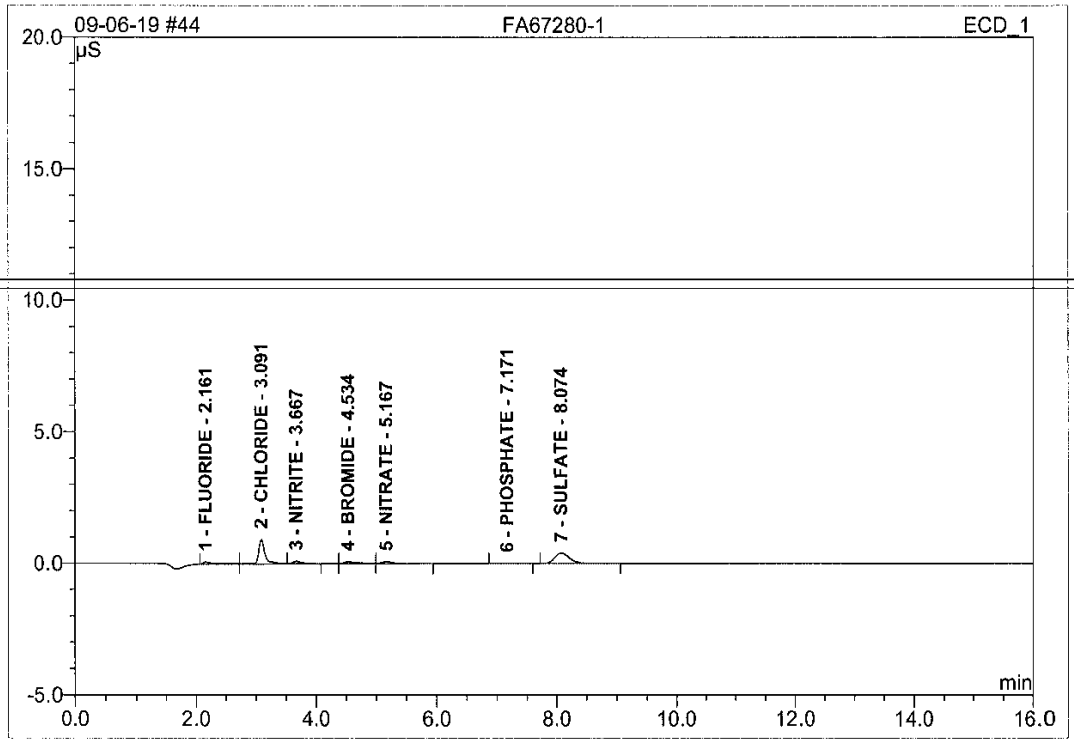


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.197	0.198	2.82	2.329	BM
2	3.09	CHLORIDE	32.207	3.357	47.70	47.812	M
3	3.66	NITRITE	2.391	0.415	5.89	2.492	M
4	4.51	BROMIDE	1.675	0.313	4.45	12.297	M
5	5.13	NITRATE	1.905	0.380	5.40	2.537	Mb
6	7.18	PHOSPHATE	0.006	0.002	0.03	-0.545	bMB
7	8.06	SULFATE	8.316	2.374	33.73	51.538	BMB
Total:			47.696	7.037	100.00	118.460	

44 FA67280-1

System Operator: JB IC 2000

Sample Name:	**FA67280-1**	*Injection Volume:*	**10.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 19:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

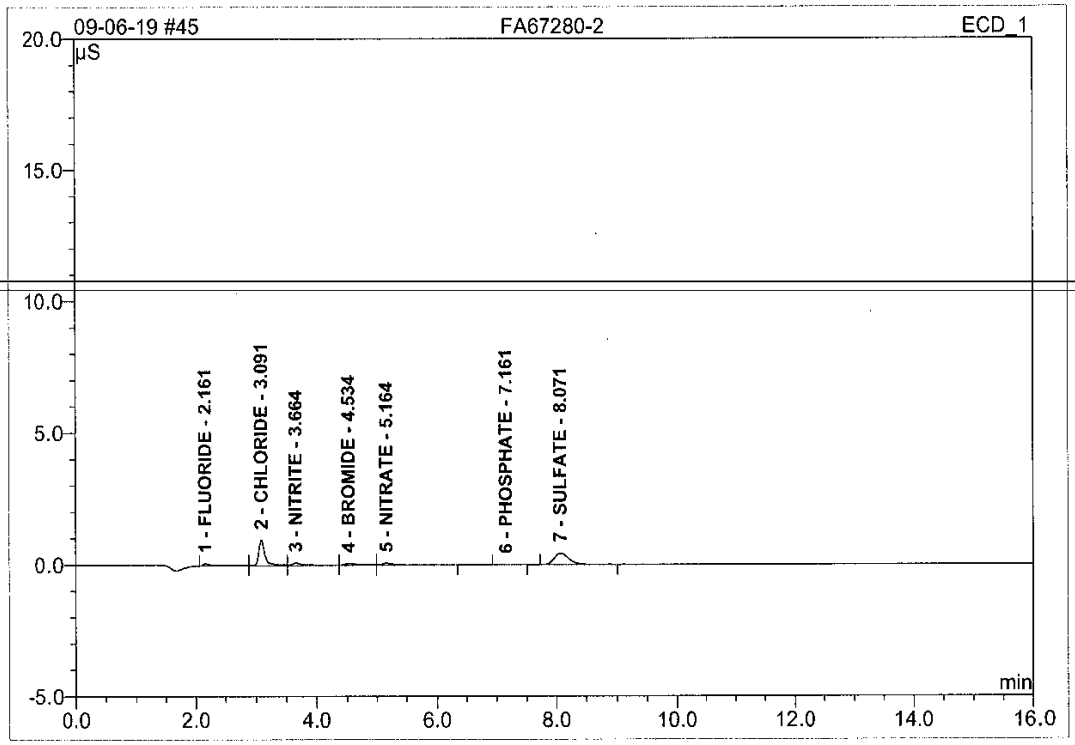


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.076	0.019	6.06	0.090	BM
2	3.09	CHLORIDE	0.926	0.130	41.69	2.684	M
3	3.67	NITRITE	0.078	0.011	3.45	0.008	Rd
4	4.53	BROMIDE	0.066	0.019	6.00	0.481	M
5	5.17	NITRATE	0.071	0.017	5.38	0.085	MB
6	7.17	PHOSPHATE	0.004	0.001	0.41	-0.554	BMB
7	8.07	SULFATE	0.400	0.116	37.02	3.044	BMB
Total:			1.620	0.313	100.00	5.839	

45 FA67280-2

System Operator: JB IC 2000

Sample Name:	**FA67280-2**	*Injection Volume:*	**10.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 19:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

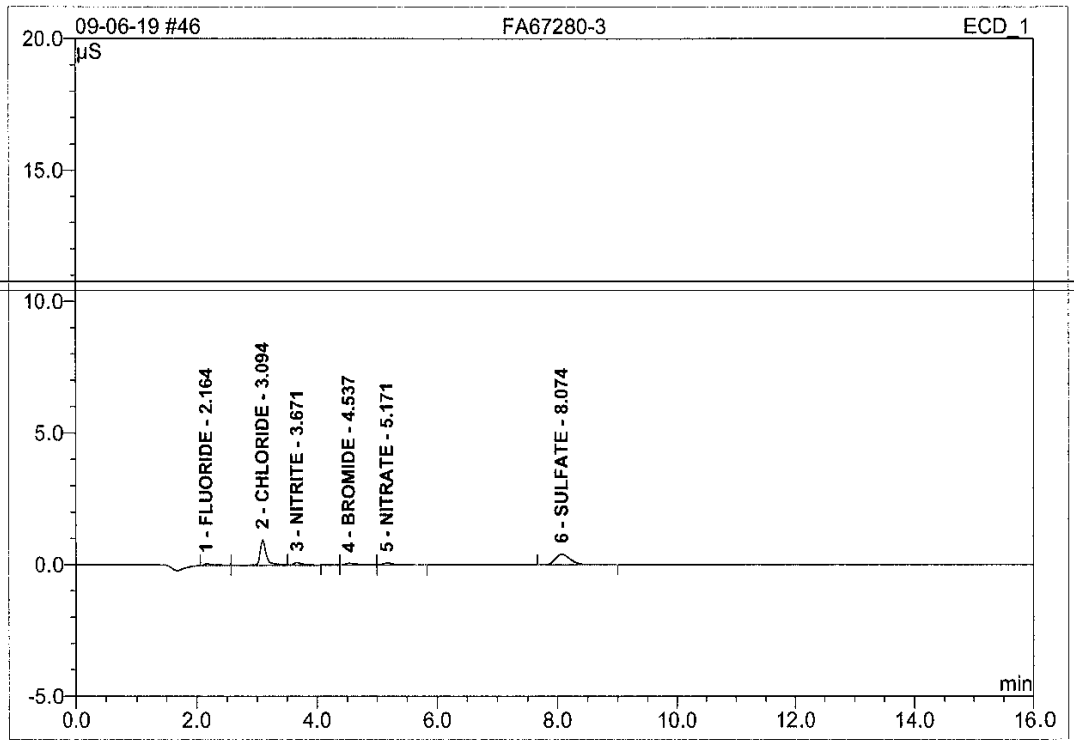


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.078	0.022	6.70	0.133	BM
2	3.09	CHLORIDE	0.961	0.118	35.44	2.511	M
3	3.66	NITRITE	0.103	0.027	7.96	0.105	M
4	4.53	BROMIDE	0.070	0.021	6.32	0.573	M
5	5.16	NITRATE	0.076	0.020	6.08	0.108	MB
6	7.16	PHOSPHATE	0.004	0.001	0.35	-0.555	BMB
7	8.07	SULFATE	0.433	0.124	37.15	3.216	BMB
Total:			1.724	0.333	100.00	6.092	

46 FA67280-3

System Operator: JB IC 2000

Sample Name:	**FA67280-3**	*Injection Volume:*	**10.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 19:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

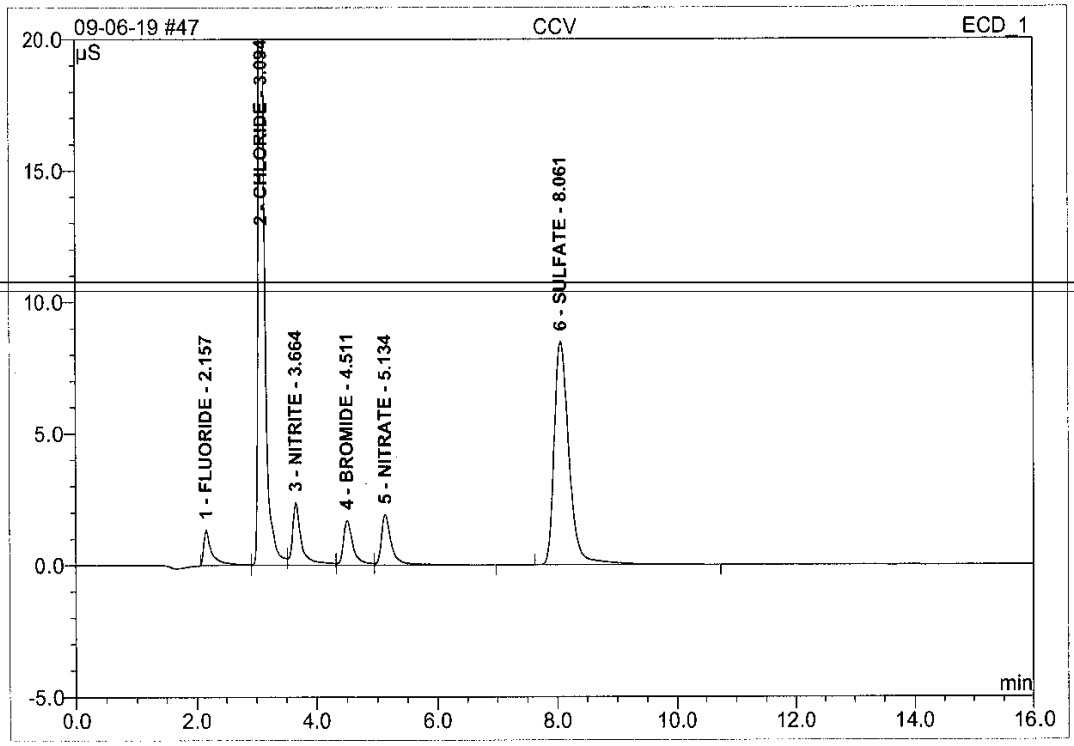


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	0.075	0.016	5.04	0.053	BM
2	3.09	CHLORIDE	0.964	0.139	43.87	2.809	M
3	3.67	NITRITE	0.081	0.011	3.47	0.010	Rd
4	4.54	BROMIDE	0.069	0.020	6.30	0.531	M
5	5.17	NITRATE	0.074	0.016	5.19	0.083	MB
6	8.07	SULFATE	0.399	0.115	36.14	3.023	BMB
Total:			1.663	0.318	100.00	6.508	

47 CCV

System Operator: JB IC 2000

Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 20:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

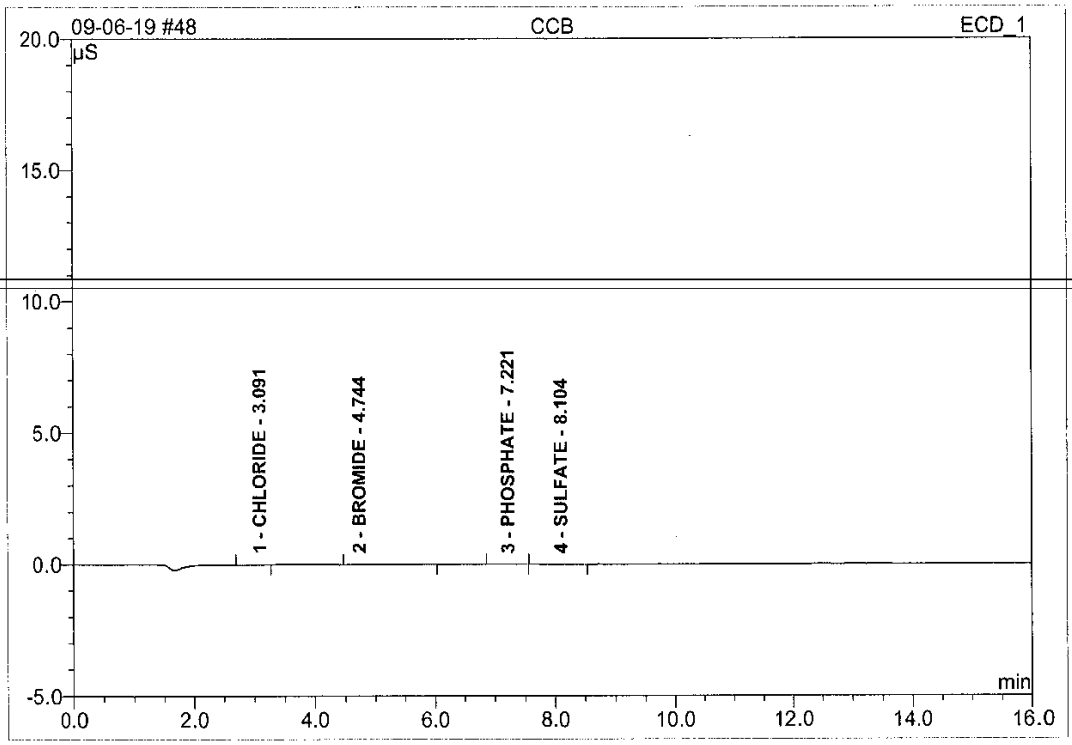


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	2.16	FLUORIDE	1.330	0.218	3.05	2.574	BM
2	3.09	CHLORIDE	32.485	3.390	47.42	48.279	M
3	3.66	NITRITE	2.364	0.411	5.75	2.468	M
4	4.51	BROMIDE	1.697	0.318	4.44	12.486	M
5	5.13	NITRATE	1.905	0.381	5.32	2.543	MB
6	8.06	SULFATE	8.475	2.432	34.02	52.804	BMB
Total:			48.254	7.149	100.00	121.153	

48 CCB

System Operator: JB IC 2000

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANIONS_AS22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 20:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

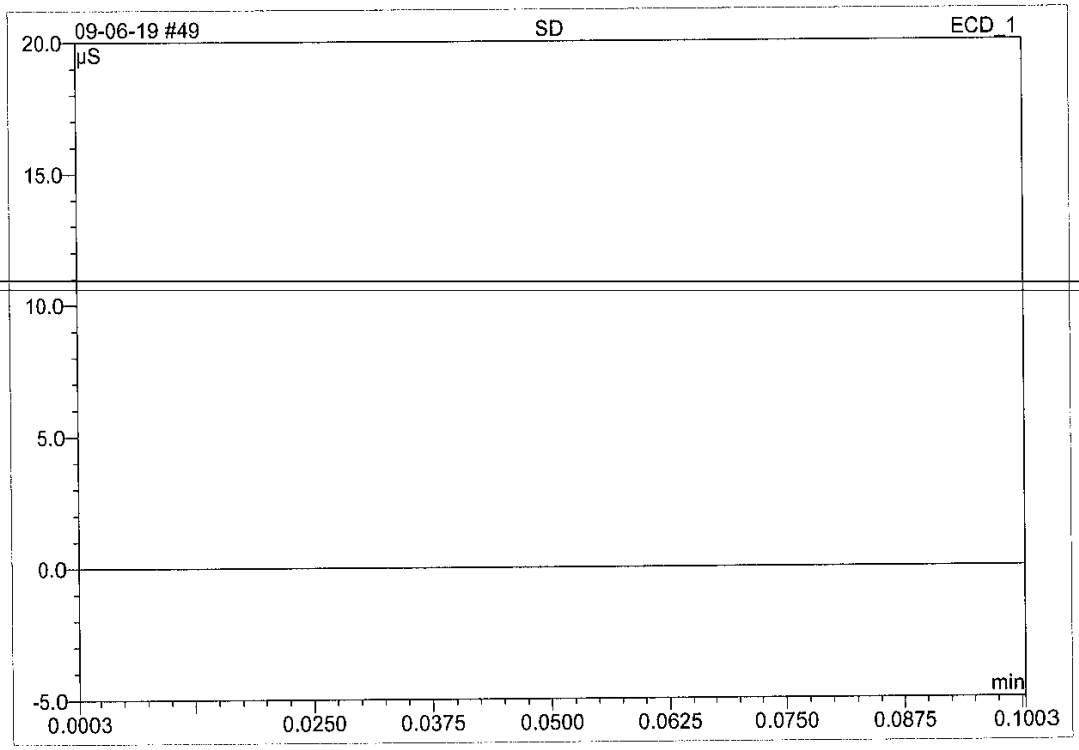


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
1	3.09	CHLORIDE	0.007	0.001	7.27	0.874	BMB
2	4.74	BROMIDE	0.019	0.011	72.78	0.174	BMB
3	7.22	PHOSPHATE	0.003	0.001	7.44	-0.556	BMB
4	8.10	SULFATE	0.005	0.002	12.51	0.596	BMB
Total:			0.034	0.015	100.00	1.089	

49 SD

System Operator: JB IC 2000

Sample Name:	**SD**	*Injection Volume:*	**10.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**SHUTDOWN_A22**	*Bandwidth:*	**n.a.**
Quantif. Method:	**ANIONS-B**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/6/2019 20:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**0.10**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg\L	Type
Total:			0.000	0.000	0.00	0.000	

APPENDIX C

Select Groundwater Extraction Wells and Groundwater Monitoring Wells COC Trends

Figures

C1 EW-12-03-180M
C2 EW-12-05-180M
C3 EW-12-06-180M
C4 EW-12-07-180M
C5A EW-12-08-180U
C5B EW-12-08-180U Mann-Kendall Trend Test PCE 2015-2019
C6 MW-12-09R-180
C7 MW-12-14-180M
C8 MW-12-15-180M
C9 MW-12-16-180M
C10 MW-12-18-180U
C11A MW-12-20-180U
C11B MW-12-20-180U Mann-Kendall Statistical Analysis PCE 2017-2019
C12 MW-12-21-180U
C13 MW-12-22-180U
C14 MW-12-24-180U
C15 MW-12-25-180U
C16 MW-12-31-180M

Figure C1. EW-12-03-180M

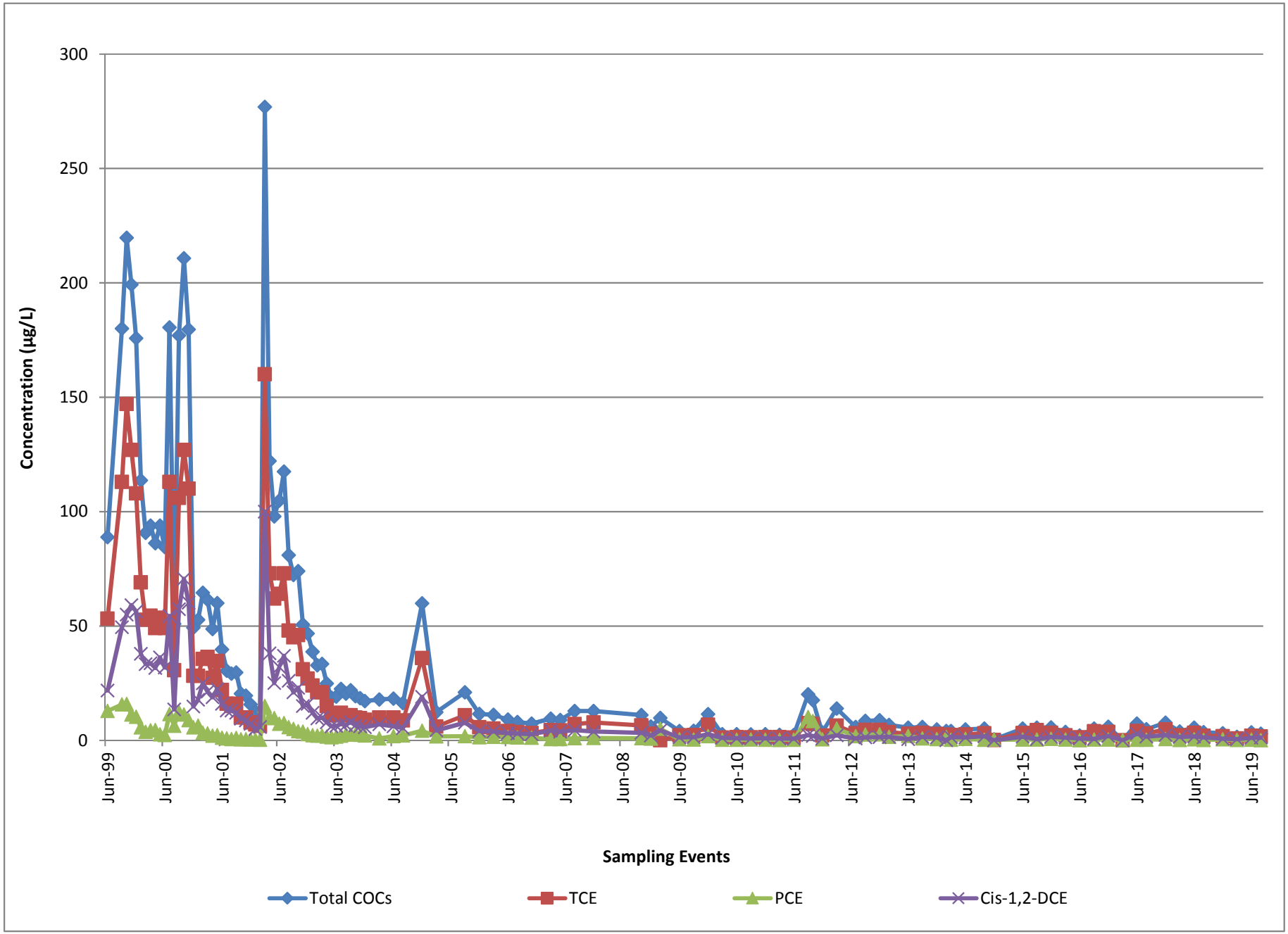


Figure C2. EW-12-05-180M

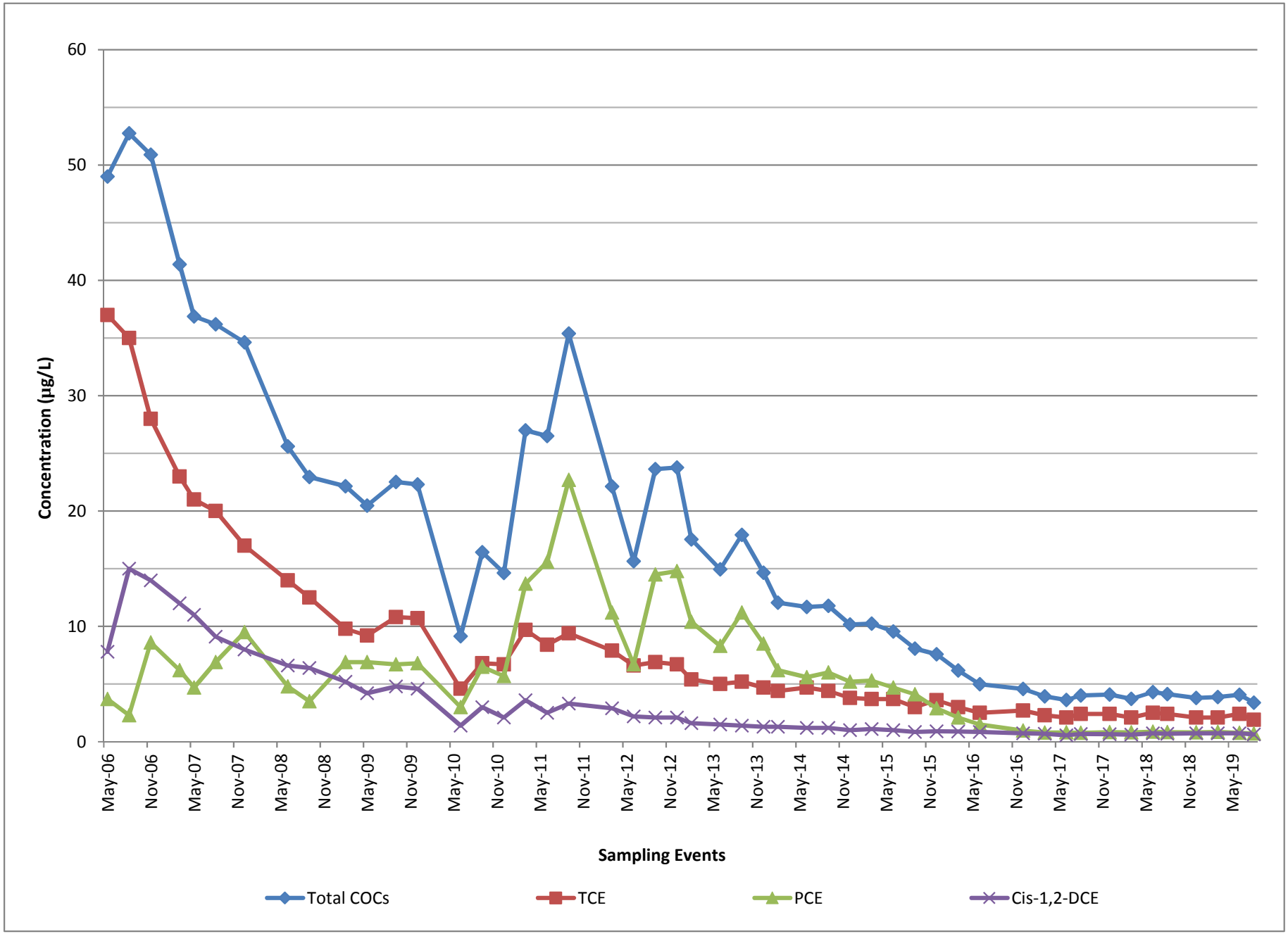


Figure C3. EW-12-06-180M

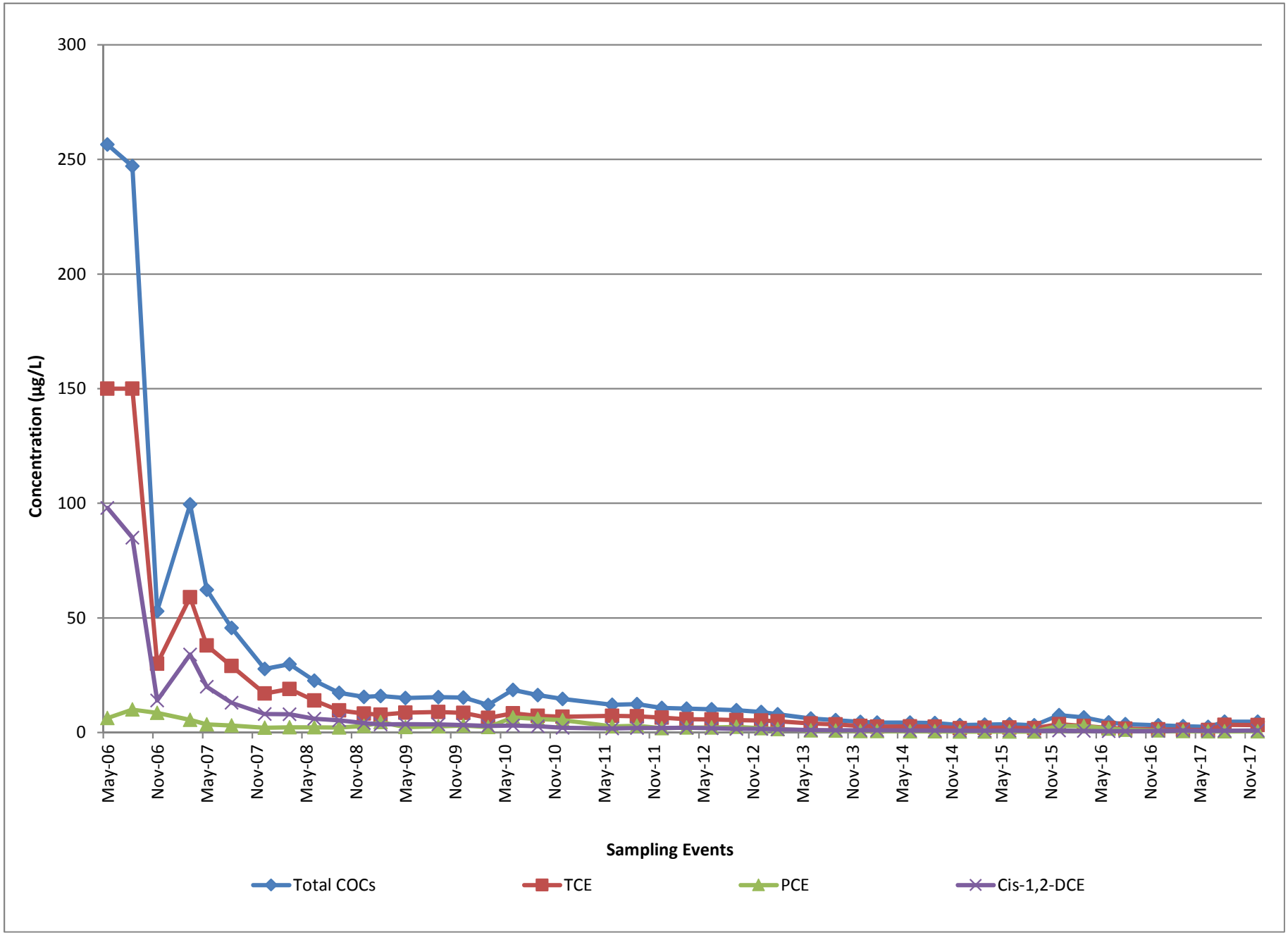


Figure C4. EW-12-07-180M

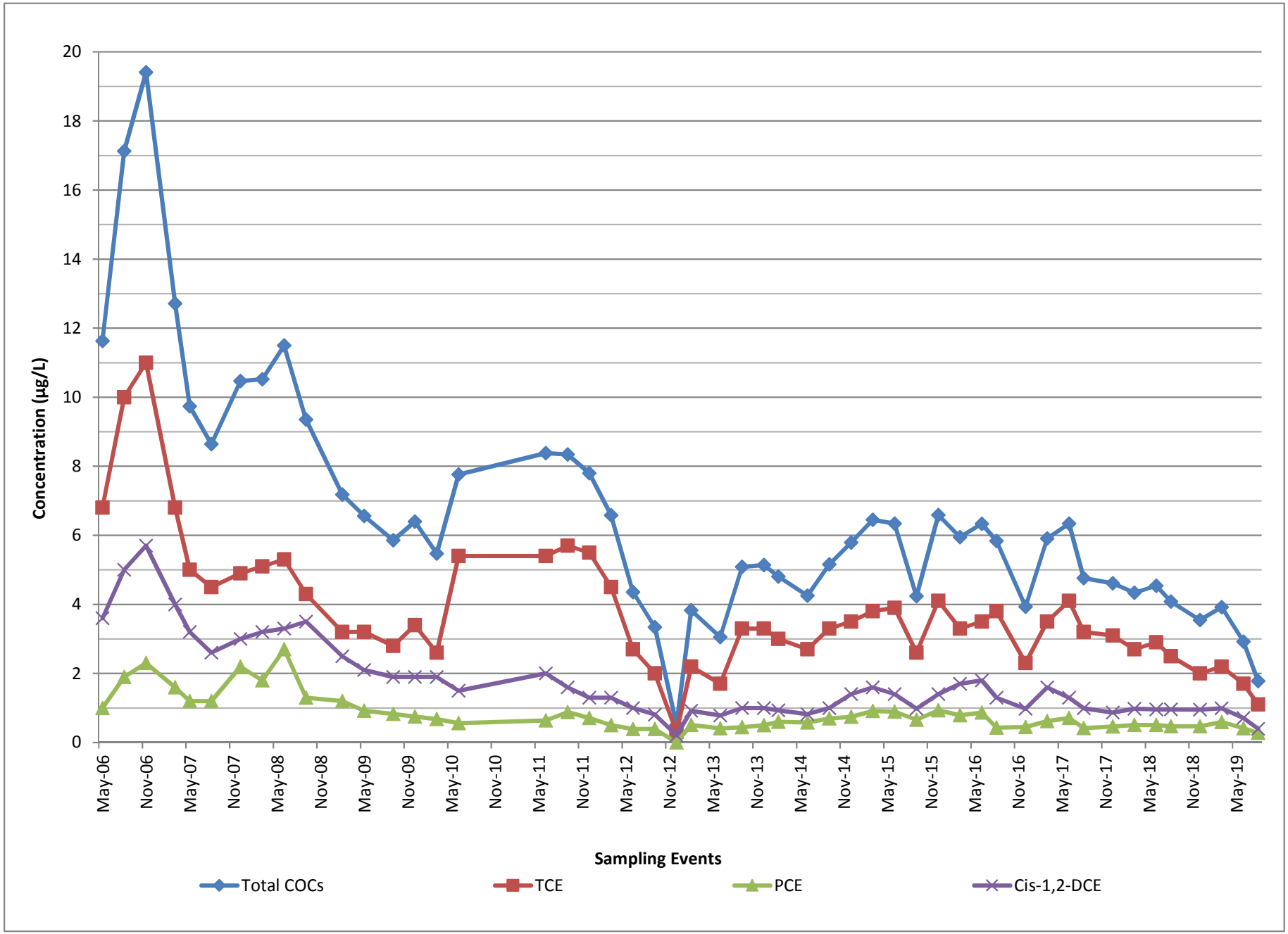


Figure C5A. EW-12-08-180U

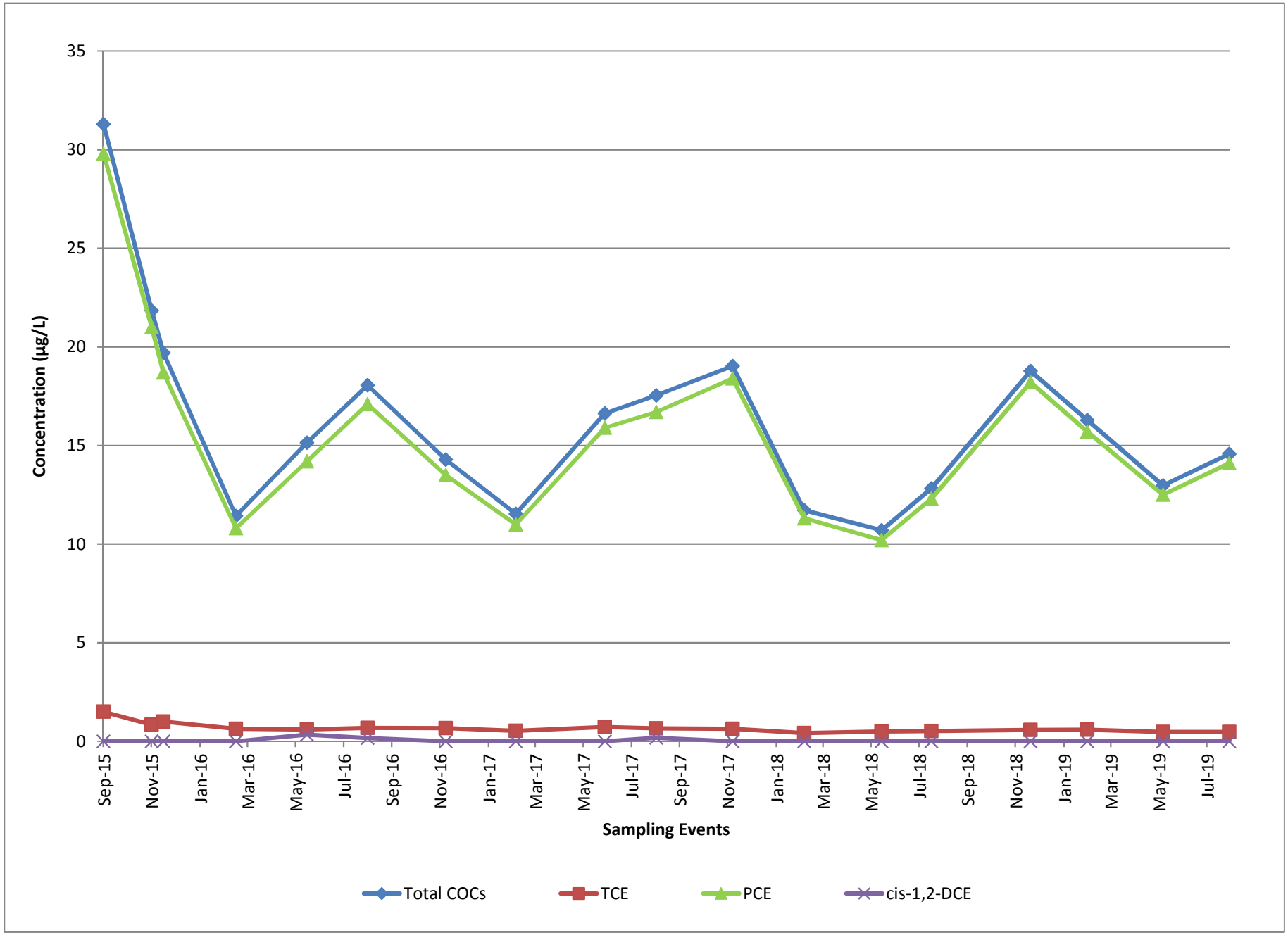
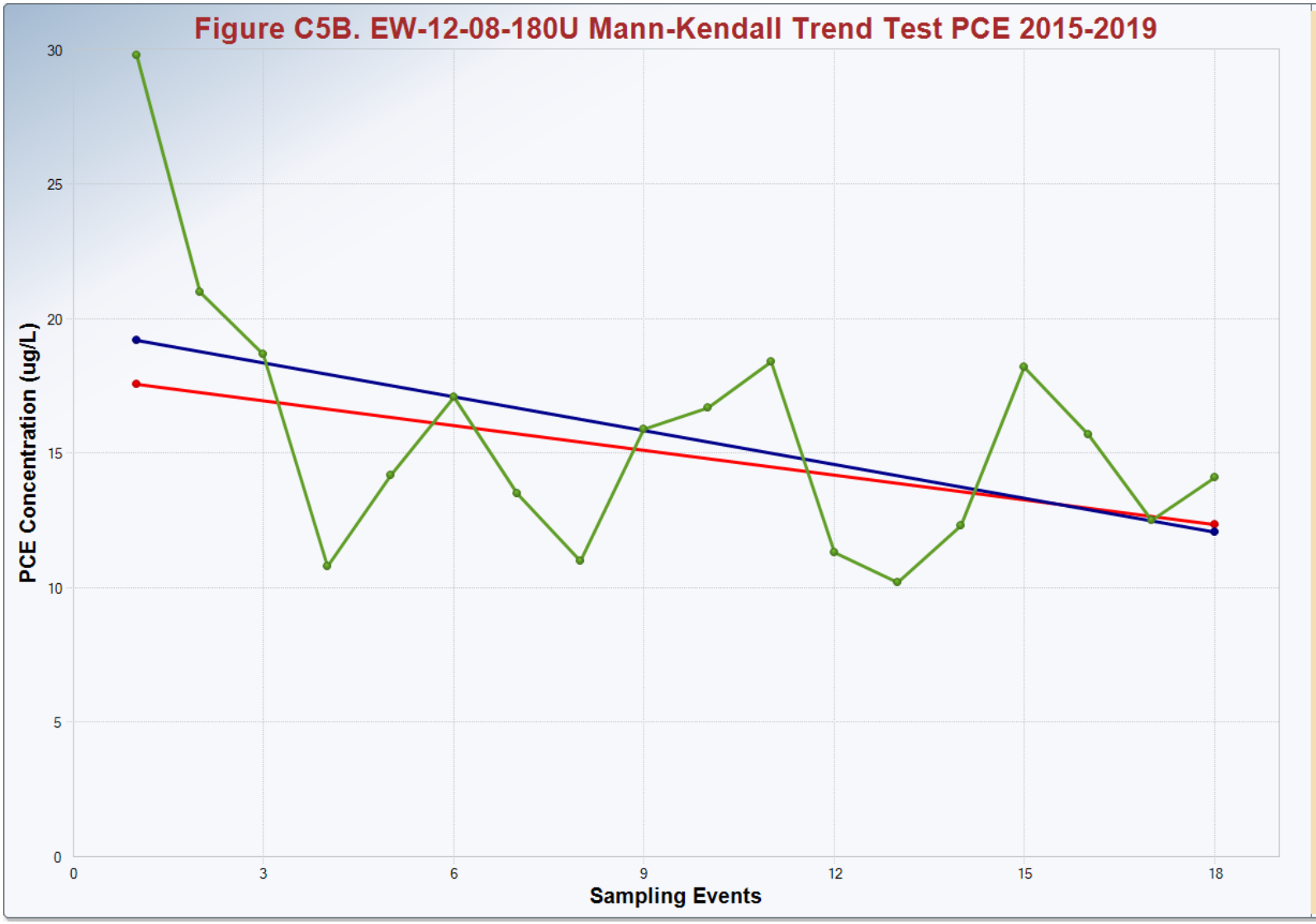


Figure C5B. EW-12-08-180U Mann-Kendall Trend Test PCE 2015-2019



Mann-Kendall Trend Analysis

n	18
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	26.4008
Standardized Value of S	-1.5151
M-K Test Value (S)	-41
Tabulated p-value	0.0660
Approximate p-value	0.0649

OLS Regression Line (Blue)

OLS Regression Slope	-0.4184
OLS Regression Intercept	19.6078

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-0.3067
Theil-Sen Intercept	17.8633

Insufficient statistical evidence of a significant trend at the specified level of significance.

Figure C6. MW-12-09R-180

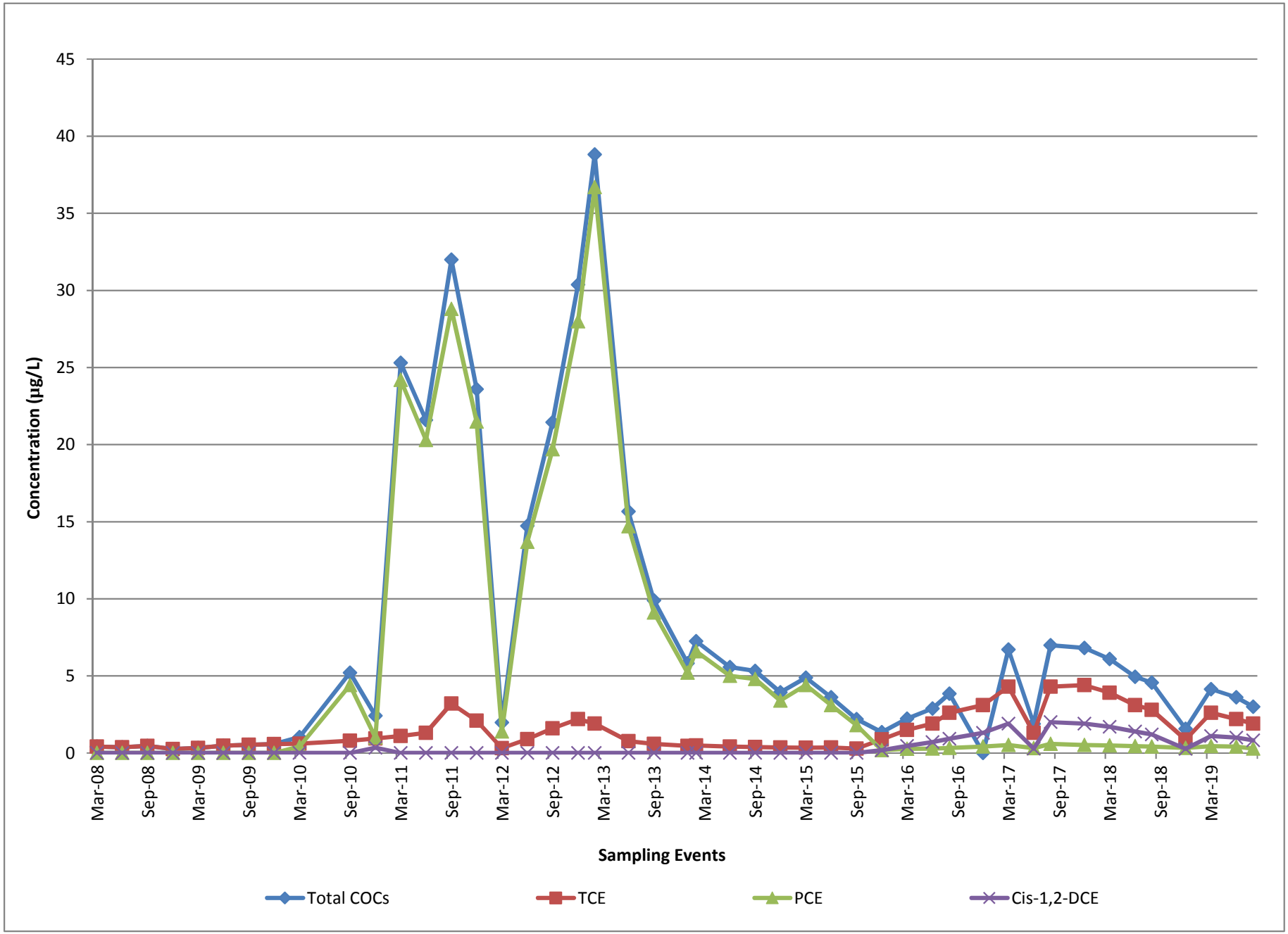


Figure C7. MW-12-14-180M

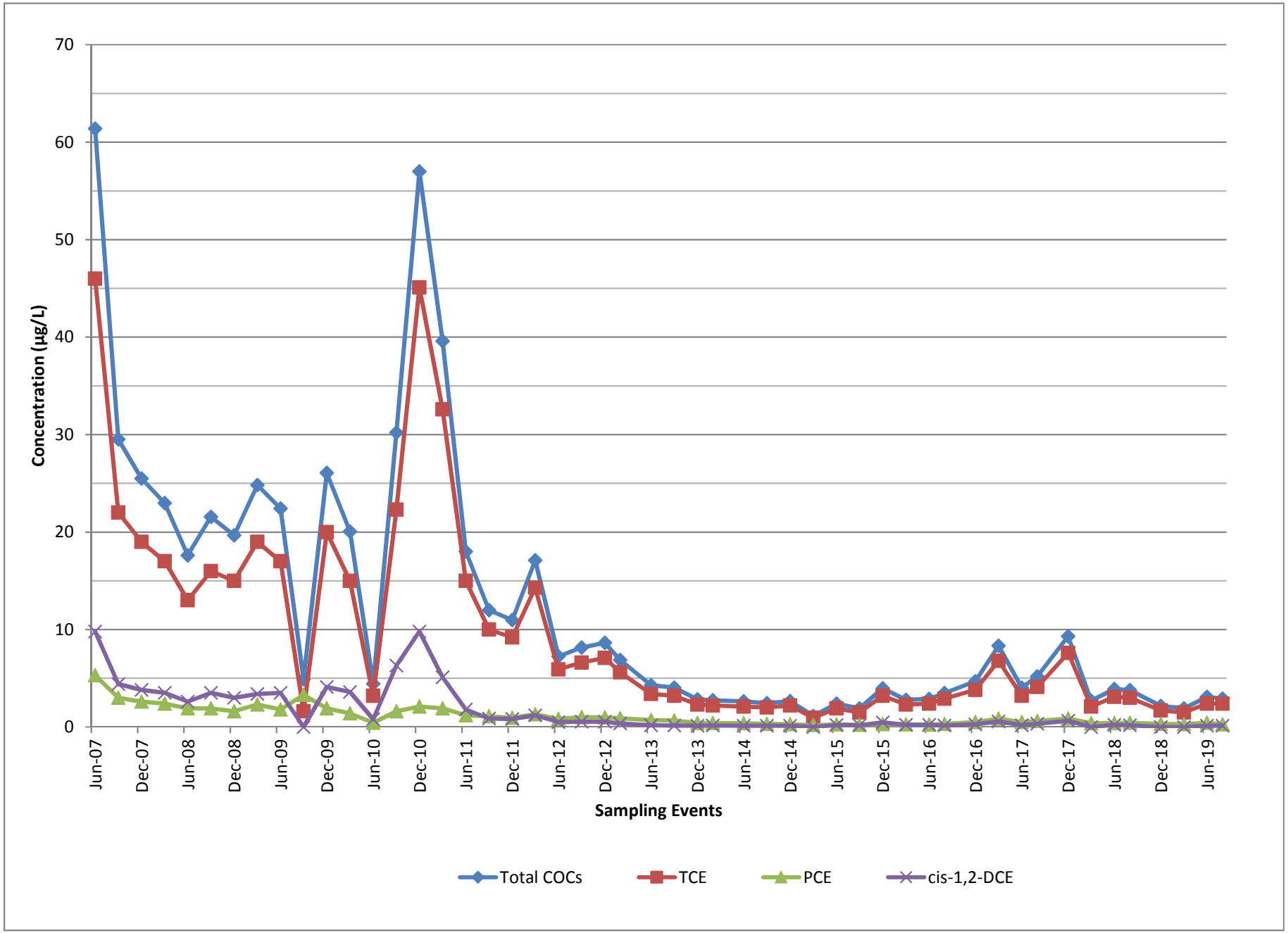


Figure C8. MW-12-15-180M

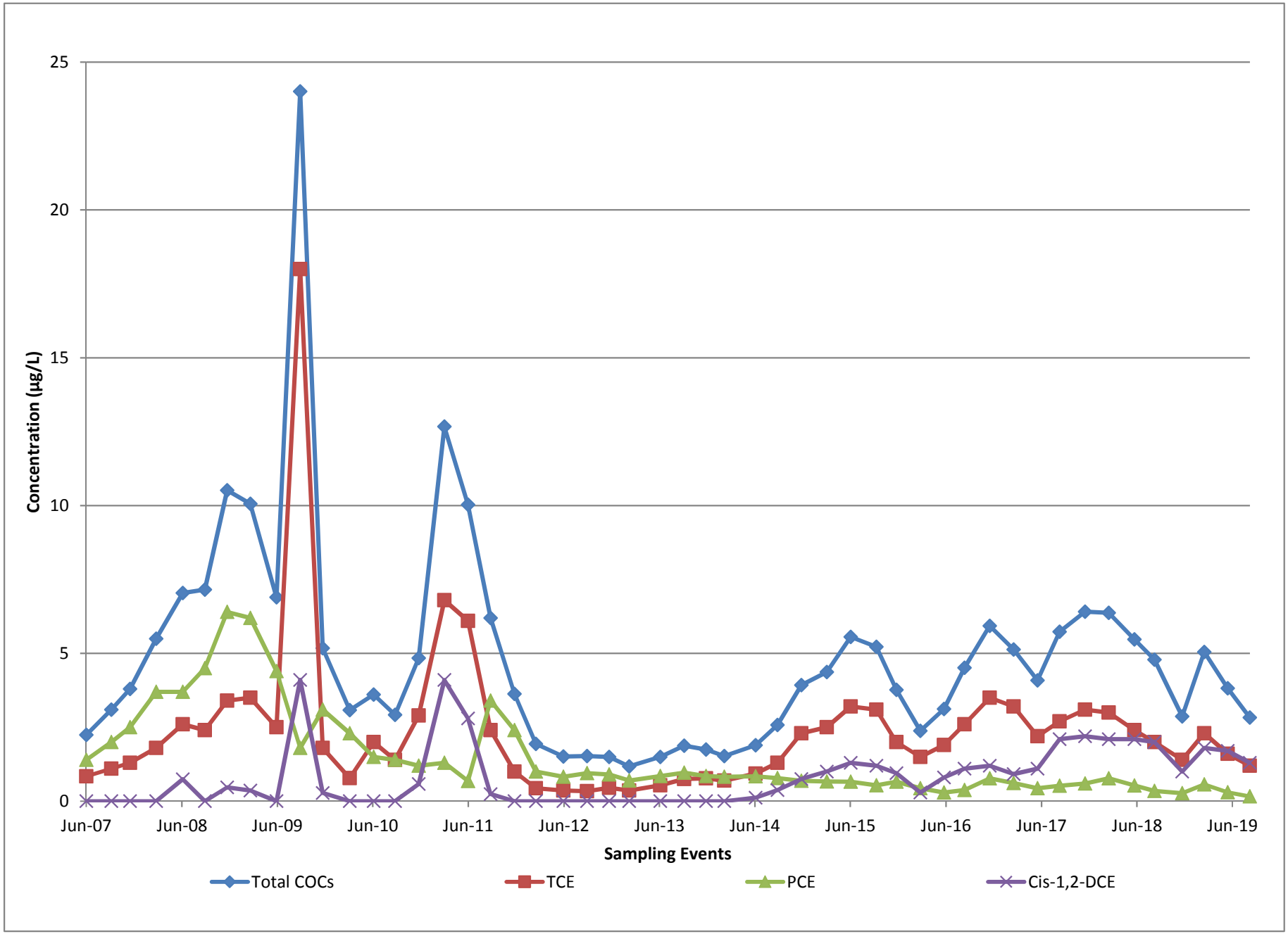


Figure C9. MW-12-16-180M

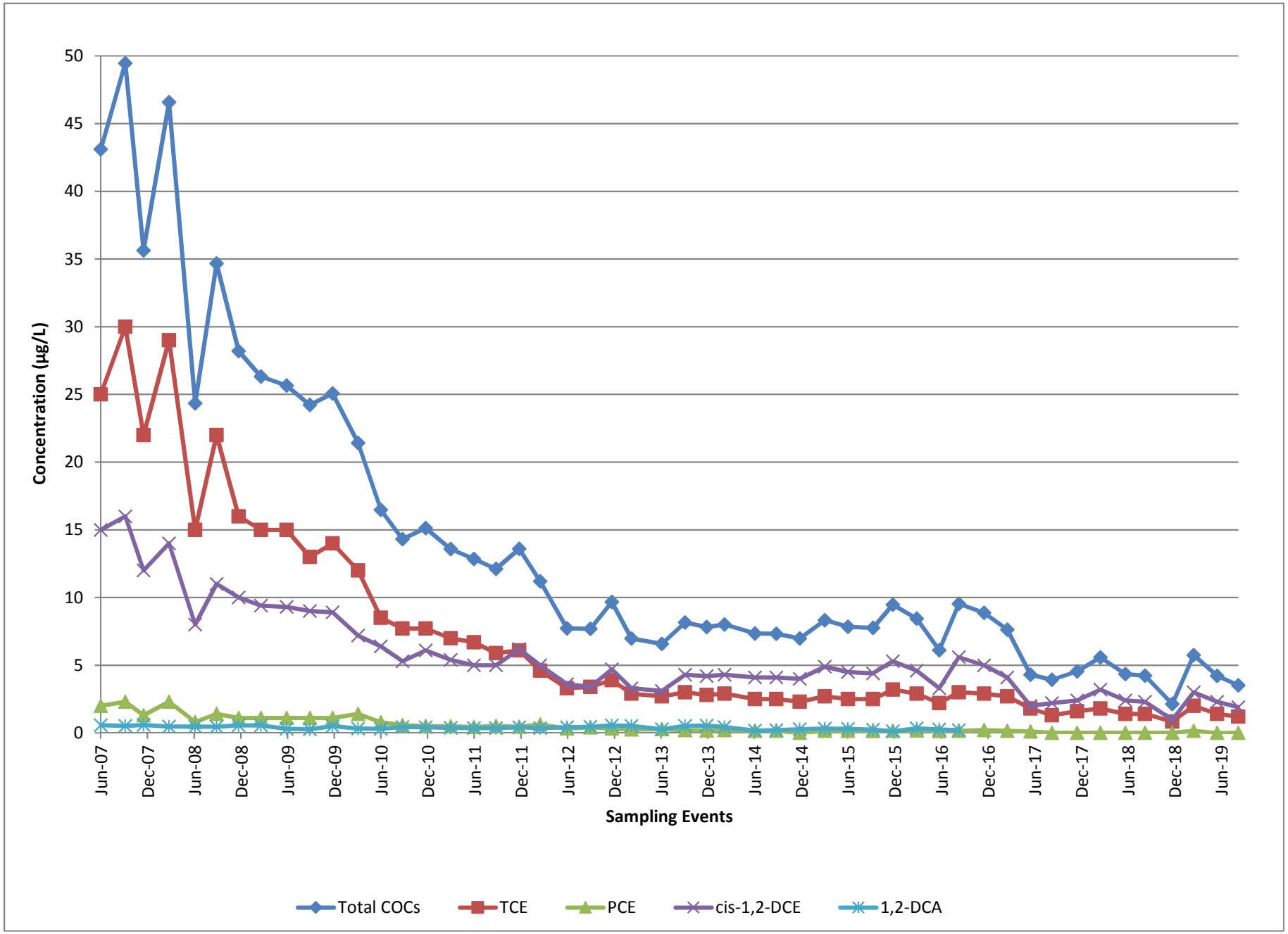


Figure C10. MW-12-18-180U

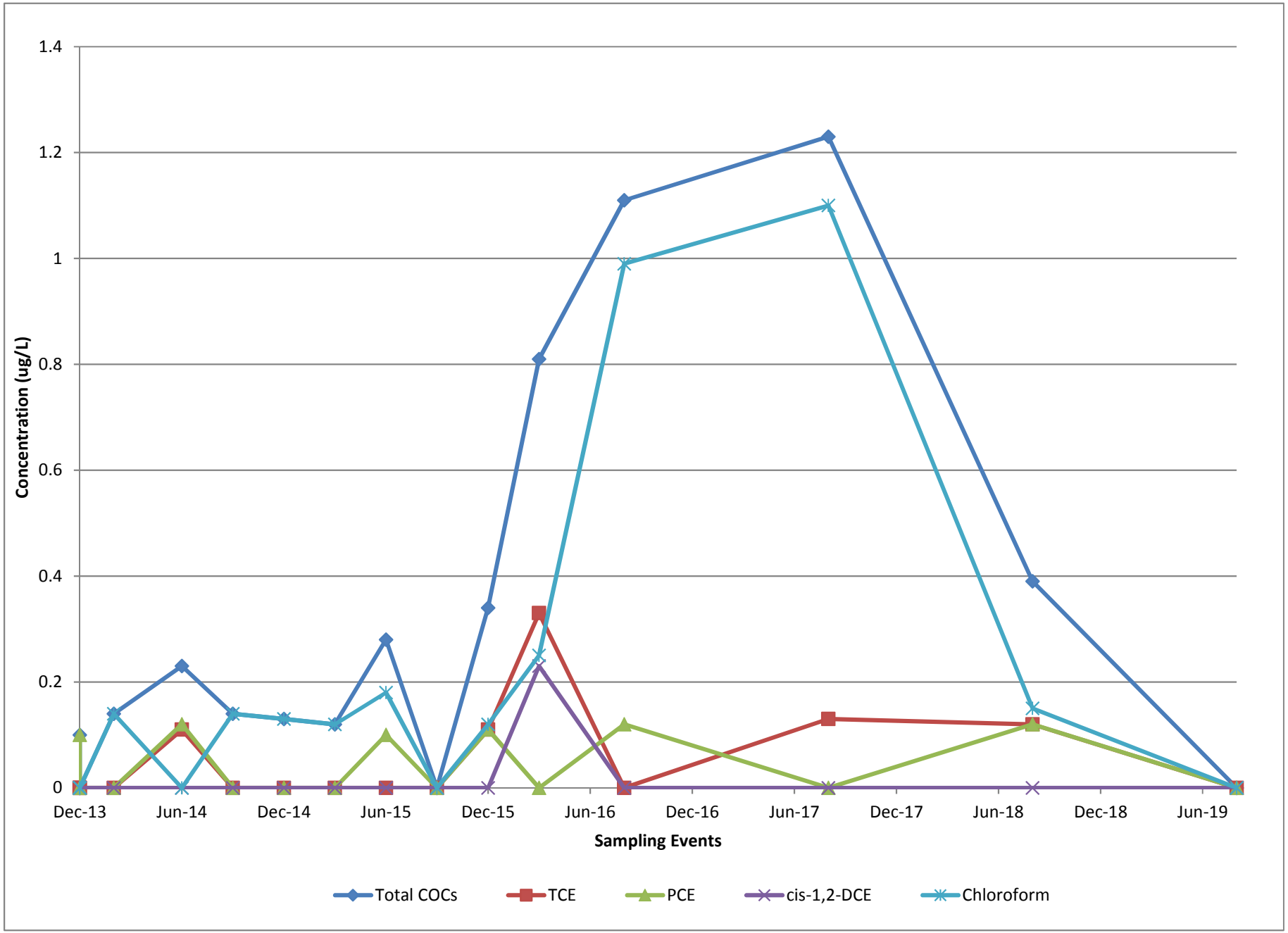


Figure C11A. MW-12-20-180U

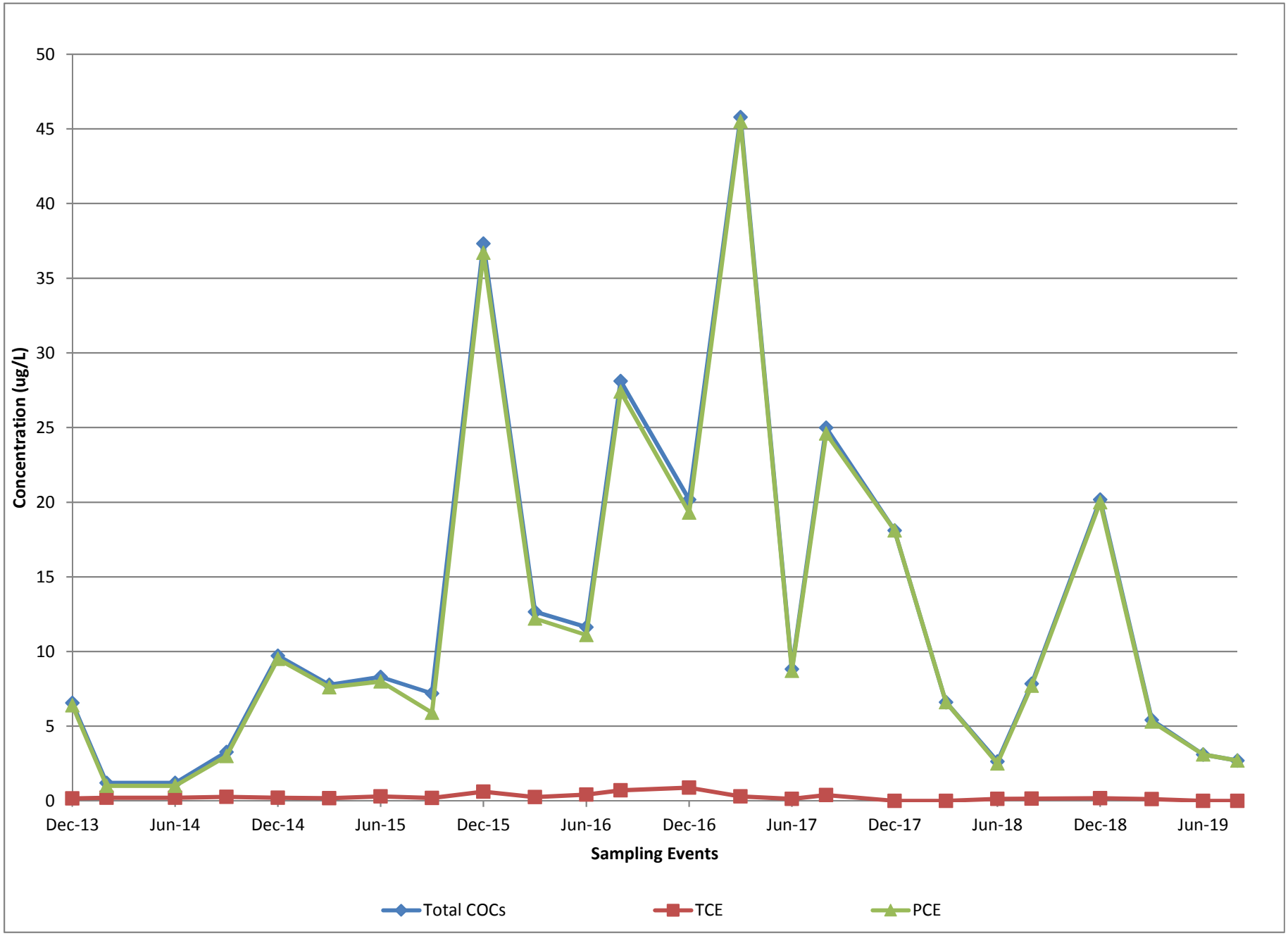
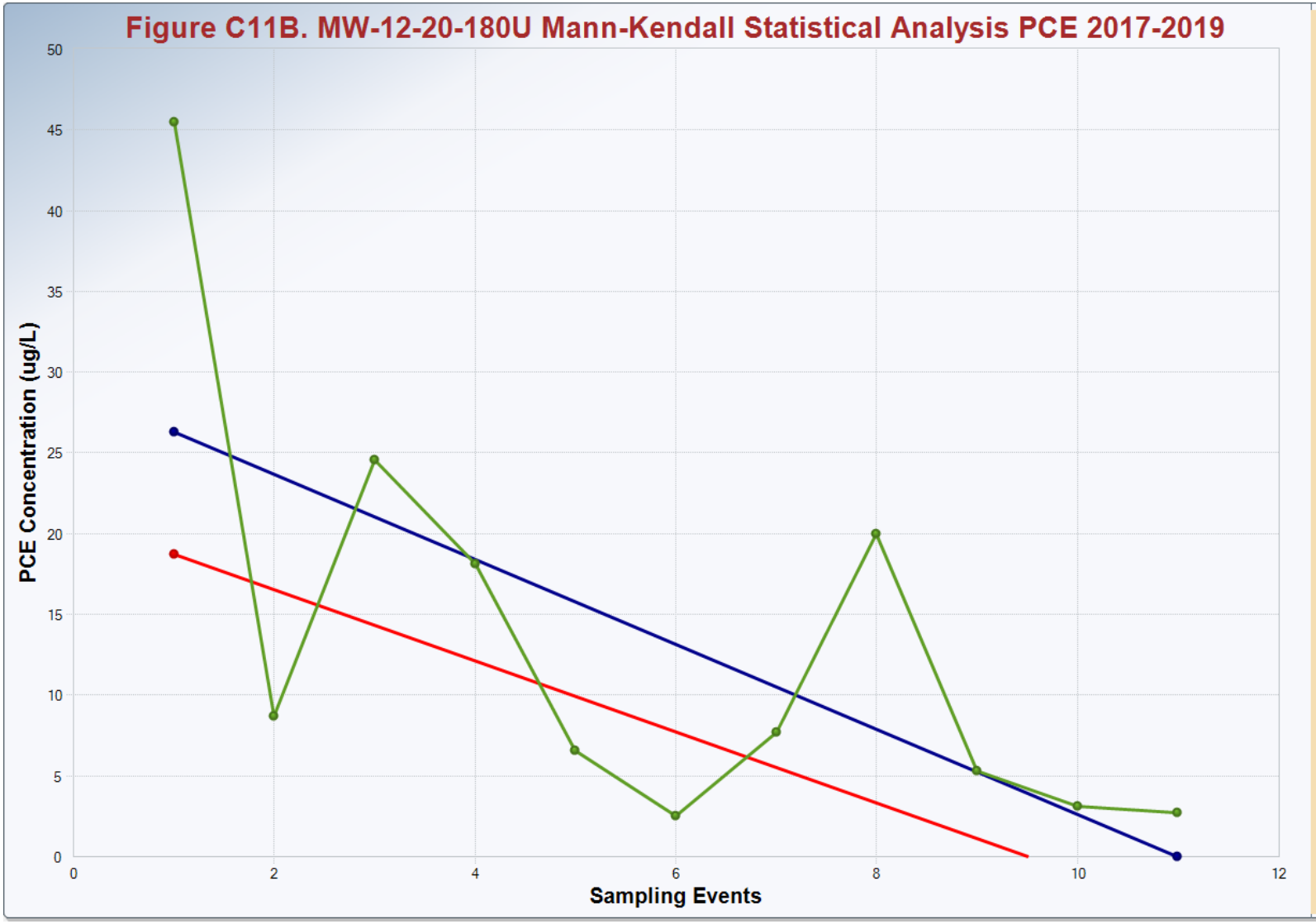


Figure C11B. MW-12-20-180U Mann-Kendall Statistical Analysis PCE 2017-2019



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	-2.3355
M-K Test Value (S)	-31
Tabulated p-value	0.0080
Approximate p-value	0.0098

OLS Regression Line (Blue)

OLS Regression Slope	-2.6309
OLS Regression Intercept	28.9491

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-2.2000
Theil-Sen Intercept	20.9000

Statistically significant evidence of a decreasing trend at the specified level of significance.

Figure C12. MW-12-21-180U

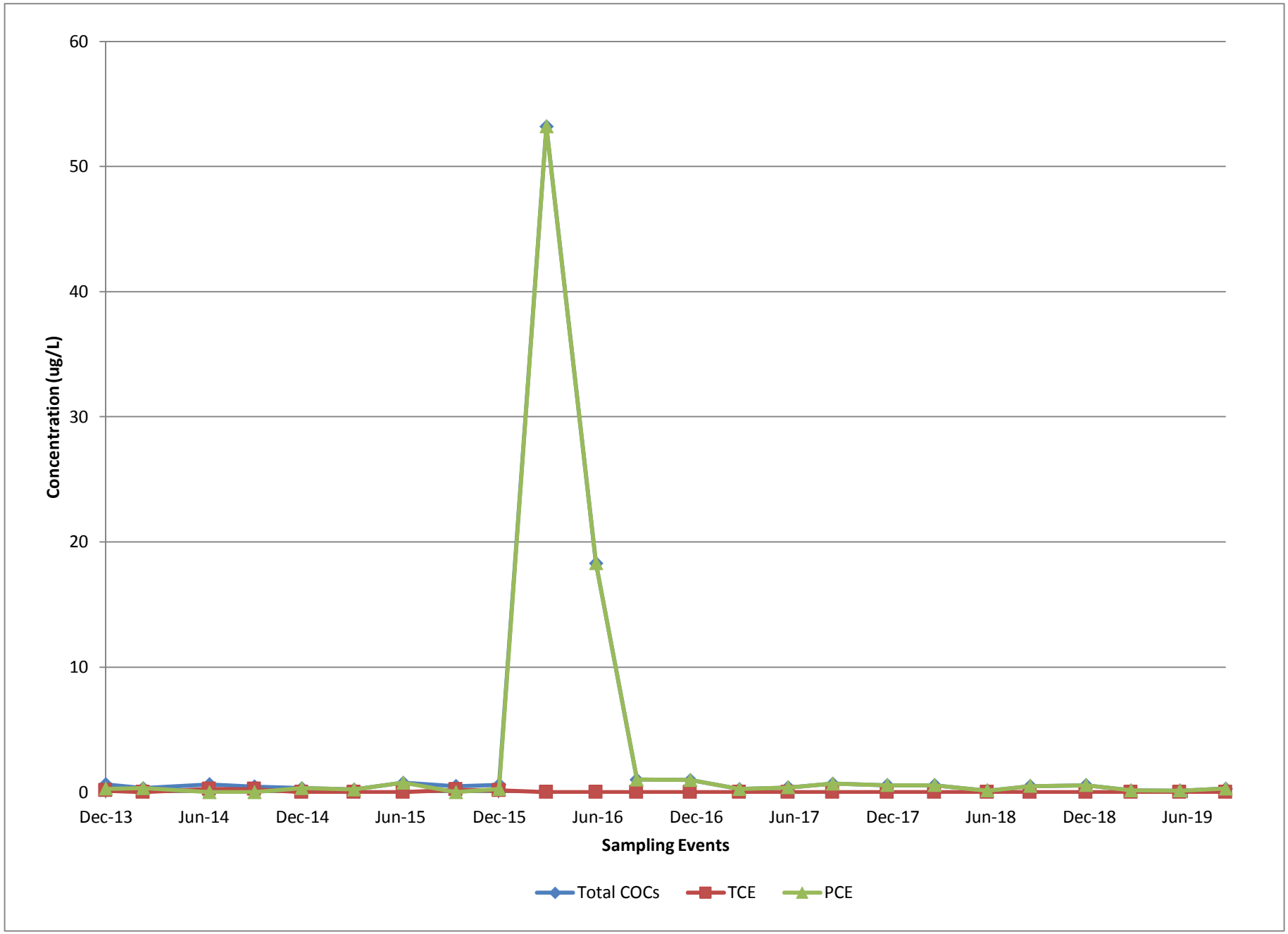


Figure C13. MW-12-24-180U

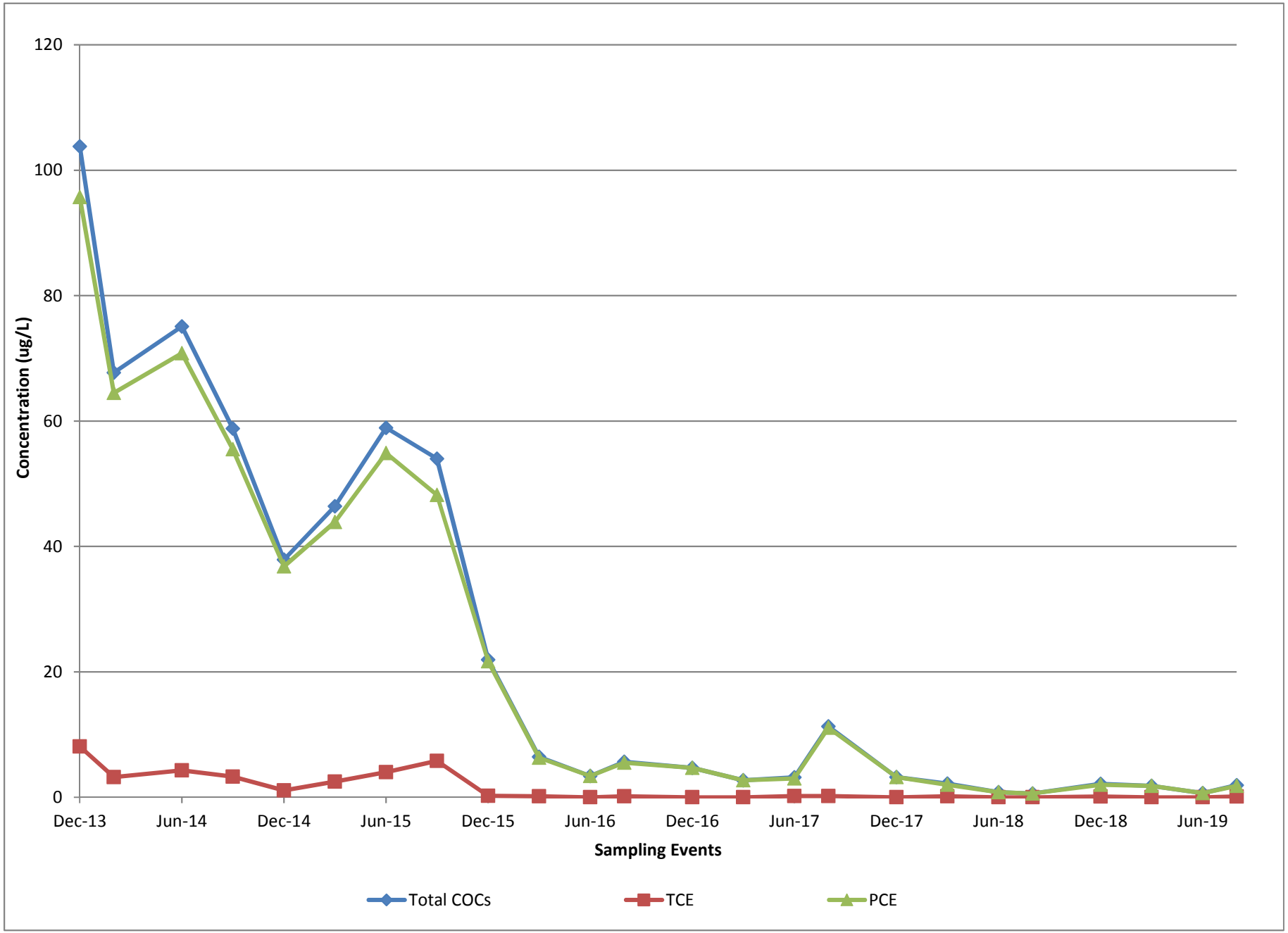


Figure C14. MW-12-25-180U

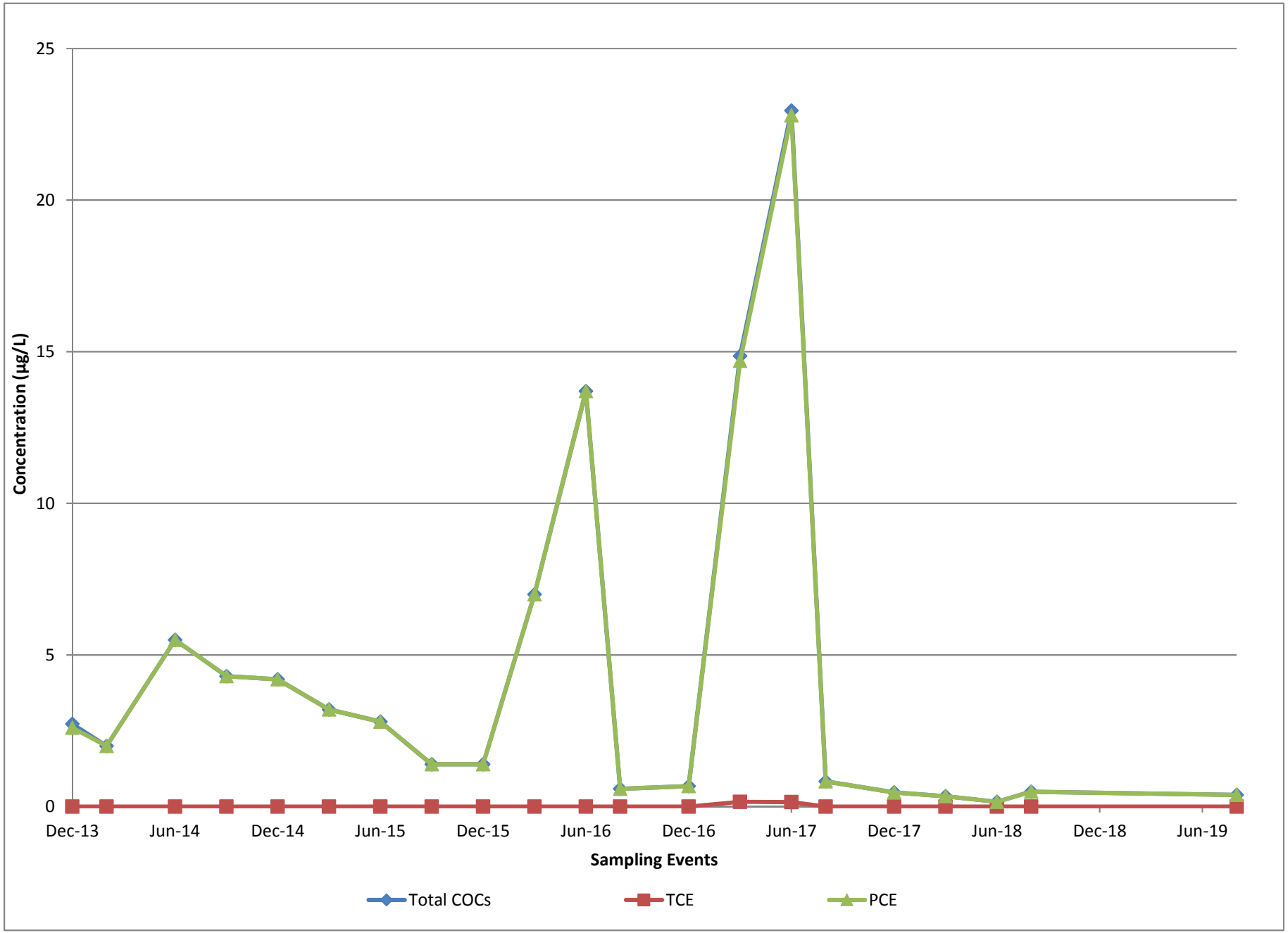
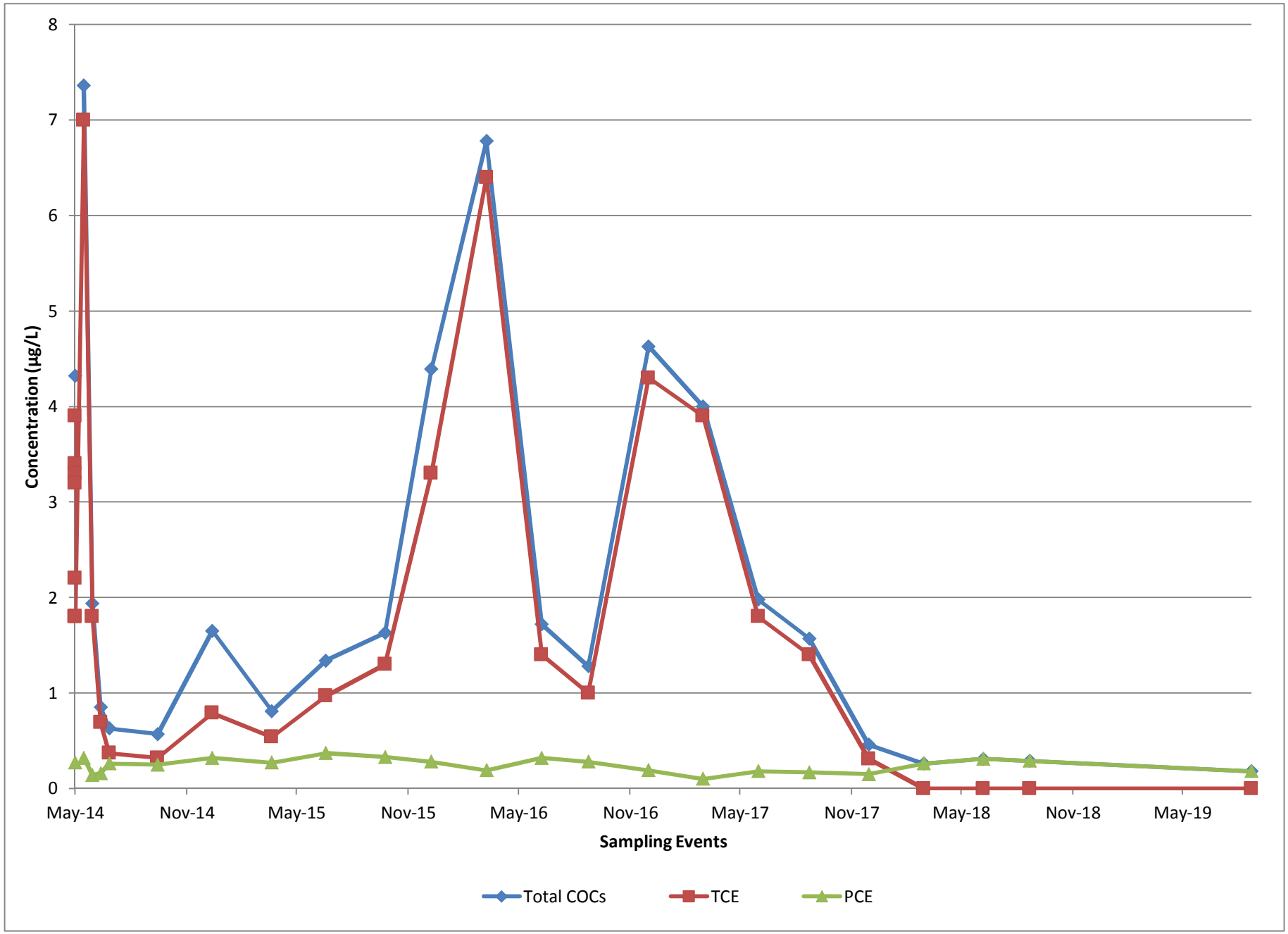


Figure C15. MW-12-31-180M



APPENDIX D

Soil Gas Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Appendix D. Soil Gas Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Sample Depth	Matrix	Method	Analyte	Units	Result	Quantitation Limit	Limit of Detection	Non Detect	Lab Qual	Val Qual
SG-12-01-58	1902594	02/25/19	1909A212001F	58	SG	TO-15	Tetrachloroethene	ug/m^3	120	80	64			
	1902594	02/25/19	1909A212001F	58	SG	TO-15	Trichloroethene	ug/m^3	< 51	63	51	ND	U	U
	1905462	05/20/19	1921A212012F	58	SG	TO-15	Tetrachloroethene	ug/m^3	180	82	49			
	1905462	05/20/19	1921A212012F	58	SG	TO-15	Trichloroethene	ug/m^3	< 39	65	39	ND	U	U
SG-12-01-65	1811330	11/13/18	1846A212050F	65	SG	TO-15	Tetrachloroethene	ug/m^3	< 65	82	65	ND	U	U
	1811330	11/13/18	1846A212050F	65	SG	TO-15	Trichloroethene	ug/m^3	< 52	65	52	ND	U	U
	1902594	02/25/19	1909A212002F	65	SG	TO-15	Tetrachloroethene	ug/m^3	140	78	62			
	1902594	02/25/19	1909A212002F	65	SG	TO-15	Trichloroethene	ug/m^3	< 49	62	49	ND	U	U
	1905462	05/20/19	1921A212013F	65	SG	TO-15	Tetrachloroethene	ug/m^3	180	85	51			
	1905462	05/20/19	1921A212013F	65	SG	TO-15	Trichloroethene	ug/m^3	< 40	67	40	ND	U	U
	1905462	05/20/19	1921A212014D	65	SG	TO-15	Tetrachloroethene	ug/m^3	170	82	49			
	1905462	05/20/19	1921A212014D	65	SG	TO-15	Trichloroethene	ug/m^3	< 39	65	39	ND	U	U
	1908555	8/19/2019	1934A212023F	65	SG	TO-15	Tetrachloroethene	ug/m^3	< 53	89	53	ND	U	U
	1908555	8/19/2019	1934A212023F	65	SG	TO-15	Trichloroethene	ug/m^3	< 42	70	42	ND	U	U
SG-12-02-10	1811330	11/13/18	1846A212046F	10	SG	TO-15	Tetrachloroethene	ug/m^3	1300	84	67			
	1811330	11/13/18	1846A212046F	10	SG	TO-15	Trichloroethene	ug/m^3	< 53	66	53	ND	U	U
	1811330	11/13/18	1846A212047D	10	SG	TO-15	Tetrachloroethene	ug/m^3	1400	86	69			
	1811330	11/13/18	1846A212047D	10	SG	TO-15	Trichloroethene	ug/m^3	< 54	68	54	ND	U	U
	1902594	02/25/19	1909A212003F	10	SG	TO-15	Tetrachloroethene	ug/m^3	810	84	67			
	1902594	02/25/19	1909A212003F	10	SG	TO-15	Trichloroethene	ug/m^3	< 53	67	53	ND	U	U
	1902594	02/25/19	1909A212004D	10	SG	TO-15	Tetrachloroethene	ug/m^3	710	85	68			
	1902594	02/25/19	1909A212004D	10	SG	TO-15	Trichloroethene	ug/m^3	< 54	68	54	ND	U	U
	1905462	05/21/19	1921A212021F	10	SG	TO-15	Tetrachloroethene	ug/m^3	1200	86	51			
	1905462	05/21/19	1921A212021F	10	SG	TO-15	Trichloroethene	ug/m^3	< 41	68	41	ND	U	U
	1905462	05/21/19	1921A212022D	10	SG	TO-15	Tetrachloroethene	ug/m^3	1100	82	49			
	1905462	05/21/19	1921A212022D	10	SG	TO-15	Trichloroethene	ug/m^3	< 39	65	39	ND	U	U

Appendix D. Soil Gas Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Sample Depth	Matrix	Method	Analyte	Units	Result	Quantitation Limit	Limit of Detection	Non Detect	Lab Qual	Val Qual
	1908555	8/20/2019	1934A212031F	10	SG	TO-15	Tetrachloroethene	ug/m^3	1300	86	52			
	1908555	8/20/2019	1934A212031F	10	SG	TO-15	Trichloroethene	ug/m^3	< 41	68	41	ND	U	U
	1908555	8/20/2019	1934A212032D	10	SG	TO-15	Tetrachloroethene	ug/m^3	< 42	70	42	ND	U	U
	1908555	8/20/2019	1934A212032D	10	SG	TO-15	Trichloroethene	ug/m^3	1200	88	53			
SG-12-02-20	1908555	8/20/2019	1934A212027F	20	SG	TO-15	Tetrachloroethene	ug/m^3	860	82	49			
	1908555	8/20/2019	1934A212027F	20	SG	TO-15	Trichloroethene	ug/m^3	< 39	65	39	ND	U	U
SG-12-02-30	1908555	8/20/2019	1934A212029F	30	SG	TO-15	Tetrachloroethene	ug/m^3	810	91	54			
	1908555	8/20/2019	1934A212029F	30	SG	TO-15	Trichloroethene	ug/m^3	< 43	72	43	ND	U	U
SG-12-02-40	1908555	8/20/2019	1934A212033F	40	SG	TO-15	Tetrachloroethene	ug/m^3	690	85	51			
	1908555	8/20/2019	1934A212033F	40	SG	TO-15	Trichloroethene	ug/m^3	< 40	67	40	ND	U	U
SG-12-02-50	1908555	8/20/2019	1934A212028F	50	SG	TO-15	Tetrachloroethene	ug/m^3	630	79	48			
	1908555	8/20/2019	1934A212028F	50	SG	TO-15	Trichloroethene	ug/m^3	45	63	38		J	J
SG-12-02-57	1908555	8/20/2019	1934A212030F	57	SG	TO-15	Tetrachloroethene	ug/m^3	570	87	52			
	1908555	8/20/2019	1934A212030F	57	SG	TO-15	Trichloroethene	ug/m^3	< 41	69	41	ND	U	U
SG-12-02-65	1908555	8/20/2019	1934A212034F	65	SG	TO-15	Tetrachloroethene	ug/m^3	580	84	50			
	1908555	8/20/2019	1934A212034F	65	SG	TO-15	Trichloroethene	ug/m^3	< 40	67	40	ND	U	U
SG-12-04-10	1811330	11/13/18	1846A212049F	10	SG	TO-15	Tetrachloroethene	ug/m^3	< 69	86	69	ND	U	U
	1811330	11/13/18	1846A212049F	10	SG	TO-15	Trichloroethene	ug/m^3	< 54	68	54	ND	U	U
	1902594	02/25/19	1909A212006F	10	SG	TO-15	Tetrachloroethene	ug/m^3	100	77	62			
	1902594	02/25/19	1909A212006F	10	SG	TO-15	Trichloroethene	ug/m^3	< 49	61	49	ND	U	U
	1905462	05/20/19	1921A212017F	10	SG	TO-15	Tetrachloroethene	ug/m^3	< 50	83	50	ND	U	U
	1905462	05/20/19	1921A212017F	10	SG	TO-15	Trichloroethene	ug/m^3	100	66	40			
	1908555	8/19/2019	1934A212025F	10	SG	TO-15	Tetrachloroethene	ug/m^3	62	88	52		J	J
	1908555	8/19/2019	1934A212025F	10	SG	TO-15	Trichloroethene	ug/m^3	580	69	42			
	1908555	8/19/2019	1934A212026D	10	SG	TO-15	Tetrachloroethene	ug/m^3	570	68	41			
	1908555	8/19/2019	1934A212026D	10	SG	TO-15	Trichloroethene	ug/m^3	66	86	52		J	J

Appendix D. Soil Gas Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Sample Depth	Matrix	Method	Analyte	Units	Result	Quantitation Limit	Limit of Detection	Non Detect	Lab Qual	Val Qual
SG-12-04-58	1902594	02/25/19	1909A212005F	58	SG	TO-15	Tetrachloroethene	ug/m^3	87	83	66			
	1902594	02/25/19	1909A212005F	58	SG	TO-15	Trichloroethene	ug/m^3	< 53	66	53	ND	U	U
	1905462	05/20/19	1921A212015F	58	SG	TO-15	Tetrachloroethene	ug/m^3	71	85	51		J	J
	1905462	05/20/19	1921A212015F	58	SG	TO-15	Trichloroethene	ug/m^3	< 40	67	40	ND	U	U
SG-12-04-65	1811330	11/13/18	1846A212048F	65	SG	TO-15	Tetrachloroethene	ug/m^3	< 64	80	64	ND	U	U
	1811330	11/13/18	1846A212048F	65	SG	TO-15	Trichloroethene	ug/m^3	< 50	63	50	ND	U	U
	1902594	02/25/19	1909A212007F	65	SG	TO-15	Tetrachloroethene	ug/m^3	< 69	86	69	ND	U	U
	1902594	02/25/19	1909A212007F	65	SG	TO-15	Trichloroethene	ug/m^3	< 54	68	54	ND	U	U
	1905462	05/20/19	1921A212016F	65	SG	TO-15	Tetrachloroethene	ug/m^3	< 50	84	50	ND	U	U
	1905462	05/20/19	1921A212016F	65	SG	TO-15	Trichloroethene	ug/m^3	90	66	40			
	1908555	8/19/2019	1934A212024F	65	SG	TO-15	Tetrachloroethene	ug/m^3	54	85	51		J	J
	1908555	8/19/2019	1934A212024F	65	SG	TO-15	Trichloroethene	ug/m^3	400	68	41			
SG-12-06-10	1811330	11/14/18	1846A212052F	10	SG	TO-15	Tetrachloroethene	ug/m^3	< 67	83	67	ND	U	U
	1811330	11/14/18	1846A212052F	10	SG	TO-15	Trichloroethene	ug/m^3	< 53	66	53	ND	U	U
	1902594	02/25/19	1909A212008F	10	SG	TO-15	Tetrachloroethene	ug/m^3	< 63	79	63	ND	U	U
	1902594	02/25/19	1909A212008F	10	SG	TO-15	Trichloroethene	ug/m^3	< 50	62	50	ND	U	U
	1905462	05/21/19	1921A212019F	10	SG	TO-15	Tetrachloroethene	ug/m^3	< 49	82	49	ND	U	U
	1905462	05/21/19	1921A212019F	10	SG	TO-15	Trichloroethene	ug/m^3	< 39	65	39	ND	U	U
	1908555	8/21/2019	1934A212037F	10	SG	TO-15	Tetrachloroethene	ug/m^3	84	81	49			
	1908555	8/21/2019	1934A212037F	10	SG	TO-15	Trichloroethene	ug/m^3	< 39	64	39	ND	U	U
SG-12-06-50	1905462	05/21/19	1921A212018F	50	SG	TO-15	Tetrachloroethene	ug/m^3	70	83	50		J	J
	1905462	05/21/19	1921A212018F	50	SG	TO-15	Trichloroethene	ug/m^3	< 39	66	39	ND	U	U
SG-12-06-60	1902594	02/26/19	1909A212009F	60	SG	TO-15	Tetrachloroethene	ug/m^3	< 66	82	66	ND	U	U
	1902594	02/26/19	1909A212009F	60	SG	TO-15	Trichloroethene	ug/m^3	< 52	65	52	ND	U	U
	1902594	02/26/19	1909A212010D	60	SG	TO-15	Tetrachloroethene	ug/m^3	< 66	83	66	ND	U	U
	1902594	02/26/19	1909A212010D	60	SG	TO-15	Trichloroethene	ug/m^3	< 52	66	52	ND	U	U

Appendix D. Soil Gas Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Sample Depth	Matrix	Method	Analyte	Units	Result	Quantitation Limit	Limit of Detection	Non Detect	Lab Qual	Val Qual
	1905462	05/21/19	1921A212020F	60	SG	TO-15	Tetrachloroethene	ug/m^3	< 45	75	45	ND	U	U
	1905462	05/21/19	1921A212020F	60	SG	TO-15	Trichloroethene	ug/m^3	< 36	60	36	ND	U	U
SG-12-06-70	1811330	11/14/18	1846A212051F	70	SG	TO-15	Tetrachloroethene	ug/m^3	< 64	81	64	ND	U	U
	1811330	11/14/18	1846A212051F	70	SG	TO-15	Trichloroethene	ug/m^3	< 51	64	51	ND	U	U
	1902594	02/26/19	1909A212011F	70	SG	TO-15	Tetrachloroethene	ug/m^3	< 64	80	64	ND	U	U
	1902594	02/26/19	1909A212011F	70	SG	TO-15	Trichloroethene	ug/m^3	< 51	64	51	ND	U	U
	1908555	8/21/2019	1934A212036F	70	SG	TO-15	Tetrachloroethene	ug/m^3	95	86	52			
	1908555	8/21/2019	1934A212036F	70	SG	TO-15	Trichloroethene	ug/m^3	< 41	68	41	ND	U	U
SG-12-16-60	1908555	8/21/2019	1934A212038F	60	SG	TO-15	Tetrachloroethene	ug/m^3	< 49	82	49	ND	U	U
	1908555	8/21/2019	1934A212038F	60	SG	TO-15	Trichloroethene	ug/m^3	560	65	39			
SG-12-17-40	1908555	8/20/2019	1934A212035F	40	SG	TO-15	Tetrachloroethene	ug/m^3	< 51	86	51	ND	U	U
	1908555	8/20/2019	1934A212035F	40	SG	TO-15	Trichloroethene	ug/m^3	640	68	41			
SG-12-20-10	1908555	8/21/2019	1934A212040F	10	SG	TO-15	Tetrachloroethene	ug/m^3	1200	82	49			
	1908555	8/21/2019	1934A212040F	10	SG	TO-15	Trichloroethene	ug/m^3	< 39	65	39	ND	U	U
SG-12-20-20	1908555	8/21/2019	1934A212039F	20	SG	TO-15	Tetrachloroethene	ug/m^3	750	88	53			
	1908555	8/21/2019	1934A212039F	20	SG	TO-15	Trichloroethene	ug/m^3	< 42	70	42	ND	U	U
VE-12-06	1903060	02/27/19	1909M212043F	6	SG	TO-15	Tetrachloroethene	ug/m^3	< 50	84	50	ND	U	U
	1903060	02/27/19	1909M212043F	6	SG	TO-15	Trichloroethene	ug/m^3	< 40	66	40	ND	U	U
	1905485	05/22/19	1921M212108F	6	SG	TO-15	Tetrachloroethene	ug/m^3	< 51	84	51	ND	U	U
	1905485	05/22/19	1921M212108F	6	SG	TO-15	Trichloroethene	ug/m^3	< 40	67	40	ND	U	U
VE-12-09	1811317B	11/13/18	1846M212250F	9	SG	TO-15	Tetrachloroethene	ug/m^3	< 63	79	63	ND	U	U
	1811317B	11/13/18	1846M212250F	9	SG	TO-15	Trichloroethene	ug/m^3	< 50	63	50	ND	U	U
	1903060	02/27/19	1909M212044F	9	SG	TO-15	Tetrachloroethene	ug/m^3	< 51	85	51	ND	U	U
	1903060	02/27/19	1909M212044F	9	SG	TO-15	Trichloroethene	ug/m^3	< 41	68	41	ND	U	U
	1905485	05/22/19	1921M212109F	9	SG	TO-15	Tetrachloroethene	ug/m^3	64	85	51		J	J
	1905485	05/22/19	1921M212109F	9	SG	TO-15	Trichloroethene	ug/m^3	< 40	67	40	ND	U	U

Appendix D. Soil Gas Analytical Data, Fourth Quarter 2018 through Third Quarter 2019

Location Id	Lab Batch	Sample Date	Sample Number	Sample Depth	Matrix	Method	Analyte	Units	Result	Quantitation Limit	Limit of Detection	Non Detect	Lab Qual	Val Qual

Acronyms and Abbreviations:

ug/m^3: micrograms per cubic meter

Qual: qualifier

ND: Non Detect

SG: Soil Gas

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

APPENDIX E

Soil Gas Validation Summary Reports, Third Quarter 2019

Third Quarter 2019

Soil Gas Sample

Cross Reference Table

Table E1. Third Quarter 2019 Soil Gas Sample Cross Reference Table

Station ID	Sample ID	Sample Date	Sample Type	COC Number	Package Lab ID
SG-12-01-65	1934A212023F	8/19/2019	SG	1707	1908555-01A
SG-12-02-10	1934A212031F	8/20/2019	SG	1707	1908555-09A
SG-12-02-10-DUP	1934A212032D	8/20/2019	DUP	1707	1908555-10A
SG-12-02-20	1934A212027F	8/20/2019	SG	1707	1908555-05A
SG-12-02-30	1934A212029F	8/20/2019	SG	1707	1908555-07A
SG-12-02-40	1934A212033F	8/20/2019	SG	1707	1908555-11A
SG-12-02-50	1934A212028F	8/20/2019	SG	1707	1908555-06A
SG-12-02-57	1934A212030F	8/20/2019	SG	1707	1908555-08A
SG-12-02-65	1934A212034F	8/20/2019	SG	1707	1908555-12A
SG-12-04-10	1934A212025F	8/19/2019	SG	1707	1908555-03A
SG-12-04-10-DUP	1934A212026D	8/19/2019	DUP	1707	1908555-04A
SG-12-04-65	1934A212024F	8/19/2019	SG	1707	1908555-02A
SG-12-06-10	1934A212037F	8/21/2019	SG	1709	1908555-15A
SG-12-06-70	1934A212036F	8/21/2019	SG	1709	1908555-14A
SG-12-16-60	1934A212038F	8/21/2019	SG	1709	1908555-16A
SG-12-17-40	1934A212035F	8/20/2019	SG	1707	1908555-13A
SG-12-20-10	1934A212040F	8/21/2019	SG	1709	1908555-18A
SG-12-20-20	1934A212039F	8/21/2019	SG	1709	1908555-17A

Notes:

COC: chain of custody

DUP: duplicate sample

ID: identification

SG: soil gas probe sample

Third Quarter 2019

Soil Gas Laboratory Data

Validation Summary Report (VSR)

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AHTNA
296 12th Street
Marina, CA 93933
ATTN: Mr. Eric A. Schmidt
Eschmidt@ahtna.net

October 7, 2019

SUBJECT: Fort Ord, Site 12, Data Validation

Dear Mr. Schmidt,

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 16, 2019. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #45945:

SDG #	Fraction
1908555	Volatiles

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California; Revision7, August 2019
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.1; 2017
- USACE Guidance for Evaluating Performance-Based Chemical Data; June 2005
- USEPA National Functional Guidelines for Superfund Organic Methods Data Review; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Pgeng@lab-data.com
Project Manager/Senior Chemist

ADR/IV Client Select | **LDC#45945 (AHTNA Engineering Services-Marina, CA / Fort Ord, Site 12)** | **Project # NA**

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (TO-15)																																	
Matrix: Air/Water/Soil				A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	1908555	09/16/19	10/07/19	16	0																																
A	1908555	09/16/19	10/07/19	2	0																																
Total	J/PG			18	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	0	0	0	0	0	0	18

Shaded cells indicate Level IV validation (all other cells are ADR validation). These sample counts do not include MS/MSD, and DUPs

Data Validation Report
Fort Ord, Site 12

SDG: 1908555

Prepared for

Ahtna Environmental Inc.
296 12th Street
Marina, California 93933-6001

Prepared by

Laboratory Data Consultants, Inc
2701 Loker Ave West, Suite 220
Carlsbad, CA 92010

October 7, 2019

INTRODUCTION

This Data Validation Report (DVR) presents Level III and Level IV data validation results for samples collected during the August 2019 sampling period. Data validation was performed in accordance with the Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California (Revision 7, August 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), the USACE Guidance for Evaluating Performance-Based Chemical Data (June 2005), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Method Data Review (January 2017). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatiles (VOCs) by Environmental Protection Agency (EPA) Method TO-15

The sample identification and method of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Level III Automated Data Review outliers are presented in Enclosure I. DVRs for samples on which Level IV validation was performed are presented in Enclosure II.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibrations, surrogates, internal standards, duplicate sample analysis (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), laboratory blanks, and field duplicate samples. Approximately 10 percent of samples were subjected to Level IV evaluation as indicated in Attachment 1, which comprised a review of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR.net) software program (LDC, 2013). Quality assurance (QA)/QC criteria specified in the QAPP, EM-200-1-10, and NFG were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detect at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt & Technical Holding Times

All canisters were properly pressurized and handled.

All technical holding time requirements were met.

II. Instrument Performance Check

Instrument performance was checked at the frequency required by the method.

All criteria for the instrument performance check were met.

III. Initial Calibration and Initial Calibration Verification

All criteria for the initial calibration and initial calibration verifications of the method were met.

IV. Continuing Calibration

All criteria for the continuing calibration of the method were met.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

All canisters were cleaned as required by the method. The laboratory indicated that canister certification was performed by batch. No contaminants were found in the representative canister blank.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analysis was not required per the method.

IX. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

XI. Field Duplicates

Two field duplicate pairs were collected and analyzed for VOCs. All RPDs were within QC limits. The field duplicate result comparisons are provided in Enclosures I and II.

XII. Internal Standards

All internal standard areas and retention times were within QC limits.

XIII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the LOQ as detected by the laboratory were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosures I and II.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to results below the LOQ, data were qualified as estimated four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

Data flags are summarized and are presented as Attachment 2.

Attachment 1

Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
19-Aug-2019	1934A212023F	1908555-01A	N	Gen Prep	TO-15 MOD	III
19-Aug-2019	1934A212023FDUP	1908555-01AA	DUP	Gen Prep	TO-15 MOD	III
19-Aug-2019	1934A212024F	1908555-02A	N	Gen Prep	TO-15 MOD	IV
19-Aug-2019	1934A212025F	1908555-03A	N	Gen Prep	TO-15 MOD	IV
19-Aug-2019	1934A212026D	1908555-04A	FD	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212027F	1908555-05A	N	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212028F	1908555-06A	N	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212029F	1908555-07A	N	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212030F	1908555-08A	N	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212031F	1908555-09A	N	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212032D	1908555-10A	FD	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212033F	1908555-11A	N	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212034F	1908555-12A	N	Gen Prep	TO-15 MOD	III
20-Aug-2019	1934A212035F	1908555-13A	N	Gen Prep	TO-15 MOD	III
21-Aug-2019	1934A212036F	1908555-14A	N	Gen Prep	TO-15 MOD	III
21-Aug-2019	1934A212037F	1908555-15A	N	Gen Prep	TO-15 MOD	III
21-Aug-2019	1934A212038F	1908555-16A	N	Gen Prep	TO-15 MOD	III
21-Aug-2019	1934A212039F	1908555-17A	N	Gen Prep	TO-15 MOD	III
21-Aug-2019	1934A212040F	1908555-18A	N	Gen Prep	TO-15 MOD	III

N = Normal Sample FD = Field Duplicate DUP = Laboratory Duplicate
III = EPA Level III Validation IV = EPA Level IV Validation

Attachment 2

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: 1908555 **Laboratory: ATL**

EDD Filename: 1908555_ **eQAPP Name: AHTNA_FortOrd_Site12_191002**

Method Category: **VOA**

Method: **TO-15 MOD** ***Matrix:*** **AIR**

Sample ID: **1934A212024-F** ***Collected:*** **8/19/2019 3:18:00 PM** ***Analysis Type:*** **RES** ***Dilution:*** **2.52**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
TETRACHLOROETHENE	54	J	51	LOD	85	LOQ	UG/M3	J	RI

Sample ID: **1934A212025-F** ***Collected:*** **8/19/2019 4:19:00 PM** ***Analysis Type:*** **RES** ***Dilution:*** **2.58**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
TETRACHLOROETHENE	62	J	52	LOD	88	LOQ	UG/M3	J	RI

Sample ID: **1934A212026-D** ***Collected:*** **8/19/2019 4:25:00 PM** ***Analysis Type:*** **RES** ***Dilution:*** **2.55**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
TETRACHLOROETHENE	66	J	52	LOD	86	LOQ	UG/M3	J	RI

Sample ID: **1934A212028-F** ***Collected:*** **8/20/2019 9:21:00 AM** ***Analysis Type:*** **RES** ***Dilution:*** **2.34**

Analyte	*Lab Result*	*Lab Qual*	*DL*	*DL Type*	*RL*	*RL Type*	*Units*	*Data Review Qual*	*Reason Code*
TRICHLOROETHENE	45	J	38	LOD	63	LOQ	UG/M3	J	RI

* denotes a non-reportable result

Project Name and Number: 21065.000.01.0000 - SITE 12 SOIL GAS SAMPLING

Data Qualifier Summary

Lab Reporting Batch ID: 1908555 **Laboratory: ATL**

EDD Filename: 1908555_ **eQAPP Name: AHTNA_FortOrd_Site12_191002**

Reason Code Legend

Reason Code	*Description*
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 21065.000.01.0000 - SITE 12 SOIL GAS SAMPLING

Enclosure I

Level III ADR Outliers

Quality Control
Outlier Reports

1908555

Reporting Limit Outliers

Lab Reporting Batch ID: 1908555 **Laboratory: ATL**

EDD Filename: 1908555_ **eQAPP Name: AHTNA_FortOrd_Site12_191002**

Method: **TO-15 MOD**

Matrix: **AIR**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
1934A212024F	TETRACHLOROETHENE	J	54	85	LOQ	UG/M3	J (all detects)
1934A212025F	TETRACHLOROETHENE	J	62	88	LOQ	UG/M3	J (all detects)
1934A212026D	TETRACHLOROETHENE	J	66	86	LOQ	UG/M3	J (all detects)
1934A212028F	TRICHLOROETHENE	J	45	63	LOQ	UG/M3	J (all detects)

Field Duplicate RPD Report

Lab Reporting Batch ID: 1908555 **Laboratory: ATL**

EDD Filename: 1908555_ **eQAPP Name: AHTNA_FortOrd_Site12_191002**

Method: TO-15 MOD
Matrix: AIR

Analyte	Concentration (UG/M3) 1934A212031F	Concentration (UG/M3) 1934A212032D	Sample RPD	eQAPP RPD	Flag
TETRACHLOROETHENE	1300	1200	8	30.00	No Qualifiers Applied

Analyte	Concentration (UG/M3) 1934A212025F	Concentration (UG/M3) 1934A212026D	Sample RPD	eQAPP RPD	Flag
TETRACHLOROETHENE	62	66	6	30.00	No Qualifiers Applied
TRICHLOROETHENE	580	570	2	30.00	

Project Name and Number: 21065.000.01.0000 - SITE 12 SOIL GAS SAMPLING

LDC #: 45945A48 **VALIDATION COMPLETENESS WORKSHEET** Date: 10/1/19
SDG #: 1908555 ADR Page: 1 of 2
Laboratory: Eurofins Reviewer: 9
2nd Reviewer: KK

METHOD: GC/MS Volatiles (EPA Method TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 30%. ICV ≤ 30%
IV.	Continuing calibration	A	CCV ≤ 30/50%
V.	Laboratory Blanks/Canister Blanks	N/A	by batch
VI.	Field blanks	N	Not reviewed for ADR validation.
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
IX.	Laboratory control samples		
X.	Field duplicates		Not reviewed for ADR validation. (3,4) (9,10)
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	Not reviewed for ADR validation.
XIII.	Target compound identification		Not reviewed for ADR validation.
XIV.	System performance		Not reviewed for ADR validation.
XV.	Leak Check Compounds		Not reviewed for ADR validation.
XVI.	Overall assessment of data		Not reviewed for ADR validation.

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank
** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	1934A212023F**	1908555-01**	Air	08/19/19
2	1934A212024F**	1908555-02**	Air	08/19/19
3	1934A212025F **	1908555-03 **	Air	08/19/19
4	1934A212026D	1908555-04	Air	08/19/19
5	1934A212027F	1908555-05	Air	08/20/19
6	1934A212028F	1908555-06	Air	08/20/19
7	1934A212029F	1908555-07	Air	08/20/19
8	1934A212030F	1908555-08	Air	08/20/19
9	1934A212031F	1908555-09	Air	08/20/19
10	1934A212032D	1908555-10	Air	08/20/19
11	1934A212033F	1908555-11	Air	08/20/19
12	1934A212034F	1908555-12	Air	08/20/19

LDC #: 45945A48

SDG #: 1908555

Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 10/1/19

Reviewer: 9

2nd Reviewer: KM

METHOD: GC/MS Volatiles (EPA Method TO-15)

13	1934A212035F	1908555-13	Air	08/20/19
14	1934A212036F	1908555-14	Air	08/21/19
15	1934A212037F	1908555-15	Air	08/21/19
16	1934A212038F	1908555-16	Air	08/21/19
17	1934A212039F	1908555-17	Air	08/21/19
18	1934A212040F	1908555-18	Air	08/21/19
19	1934A212023FDUP	1908555-01DUP	Air	08/19/19
20				
21				
22				

Notes:

Enclosure II

Level IV Data Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Fort Ord, Site 12

LDC Report Date: October 2, 2019

Parameters: Volatiles

Validation Level: Level IV

Laboratory: Eurofins

Sample Delivery Group (SDG): 1908555

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
1934A212024F	1908555-02	Air	08/19/19
1934A212025F	1908555-03	Air	08/19/19

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan Volume I, Appendix A for Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume, Former Fort Ord, California (Revision 7, August 2019), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and the USACE Guidance for Evaluating Performance-Based Chemical Data (June 2005). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) Method TO-15

All sample results were subjected to Level IV data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 24 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

All canisters were cleaned as required by the method. The laboratory indicated that canister certification was performed by batch. No contaminants were found in the representative canister blank.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Although surrogates were not required by the method, surrogate analysis was performed by the laboratory. Surrogate recoveries (%R) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

Samples 1934A212025F and 1934A212026D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/m³)		RPD (Limits)
	1934A212025F	1934A212026D	
Tetrachloroethene	62	66	6 (≤30)
Trichloroethene	580	570	2 (≤30)

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria.

All compounds reported below the LOQ were qualified as follows:

Sample	Finding	Flag	A or P
1934A212024F 1934A212025F	All compounds reported below the LOQ.	J (all detects)	A

XIII. Target Compound Identifications

All target compound identifications met validation criteria.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to results below the LOQ, data were qualified as estimated in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

Fort Ord, Site 12
Volatiles – Data Qualification Summary - SDG 1908555

Sample	Compound	Flag	A or P	Reason
1934A212024F 1934A212025F	All compounds reported below the LOQ.	J (all detects)	A	Compound quantitation

Fort Ord, Site 12
Volatiles - Laboratory Blank Data Qualification Summary - SDG 1908555

No Sample Data Qualified in this SDG

Fort Ord, Site 12
Volatiles - Field Blank Data Qualification Summary - SDG 1908555

No Sample Data Qualified in this SDG

LDC #: 45945A48
SDG #: 1908555
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Level IV

Date: 10/1/19
Page: 1 of 2
Reviewer: CJ
2nd Reviewer: RW

METHOD: GC/MS Volatiles (EPA Method TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 30%. ICV = 30%
IV.	Continuing calibration	A	CCV = 30/50%
V.	Laboratory Blanks/Canister Blanks	A/A	by batch
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	~~Matrix spike/Matrix spike~~ duplicates	A	LCS/D
IX.	Laboratory control samples	A	LCS/D
X.	Field duplicates	SW	~~5=4+3~~ 6 = 3+4
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	
XIII.	Target compound identification	A	
XIV.	System performance	A	
XV.	Leak Check Compounds	N	
XVI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
~~1~~	~~1934A212023F**~~	~~1908555-01**~~	~~Air~~	~~08/19/19~~
2	1934A212024F**	1908555-02**	Air	08/19/19
3	1934A212025F **	1908555-03 **	Air	08/19/19
~~4~~	~~1934A212026D~~	~~1908555-04~~	~~Air~~	~~08/19/19~~
5	1934A212027F	1908555-05	Air	08/20/19
6	1934A212028F	1908555-06	Air	08/20/19
7	1934A212029F	1908555-07	Air	08/20/19
8	1934A212030F	1908555-08	Air	08/20/19
9	1934A212031F	1908555-09	Air	08/20/19
10	1934A212032D	1908555-10	Air	08/20/19
11	1934A212033F	1908555-11	Air	08/20/19
12	1934A212034F	1908555-12	Air	08/20/19

LDC #: 45945A48
SDG #: 1908555
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Level IV

Date: 9/30/19

Reviewer: CF
2nd Reviewer: KW

METHOD: GC/MS Volatiles (EPA Method TO-15)

	Client ID	Lab ID	Matrix	Date
13	1934A212035F	1908555-13	Air	08/20/19
14	1934A212036F	1908555-14	Air	08/21/19
15	1934A212037F	1908555-15	Air	08/21/19
16	1934A212038F	1908555-16	Air	08/21/19
17	1934A212039F	1908555-17	Air	08/21/19
18	1934A212040F	1908555-18	Air	08/21/19
19	1934A212023FDUP	1908555-01DUP	Air	08/19/19
20				
21				
22				

Notes:

LDC #: 45945A48 **VALIDATION FINDINGS CHECKLIST** Page: 1 of 2
Reviewer: EA
2nd Reviewer: RW

Method: Volatiles (EPA Method TO-15)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was canister pressure criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 24 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30%?	✓			
IIIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after every ICAL for each instrument?	✓			
Were all percent differences (%D) ≤ 30% or percent recoveries (%R) 70-130%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 24 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 30% or percent recoveries (%R) 70-130%?	✓			
V. Laboratory Blanks/Canister Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 24 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation findings worksheet.		✓		
Was a canister blank analyzed for every canister?	✓			
Was there contamination in the canister blanks? If yes, please see the Canister Blanks validation findings worksheet.		✓		
VI. Field Blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	
VII. Surrogate spikes (Optional)				
Were all surrogate percent recoveries (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VIII. Laboratory Duplicate				
Was a laboratory duplicate analyzed for this SDG?	✓			
Were the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 45945A45

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: 2
2nd Reviewer: RW

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
XI. Internal standards				
Were internal standard area counts within ± 40% from the associated calibration standard?	✓			
Were retention times within ± 20.0 seconds from the associated calibration standard?	✓			
XII. Compound quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Leak check compounds				
Was a leak check compound used to evaluate sample integrity and included in the laboratory analyte list?		✓		
Was the leak check compound detected in the samples? If yes, please see leak check validation findings worksheet.			✓	
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC#: 45945A48

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer:
2nd Reviewer: KK

METHOD: GCMS VOCs (TO-15)

Compound	Concentration (ug/m3)		RPD (≤30)
	3	4	
AA	62	66	6
S	580	570	2

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2019\4594548_Fort Ord.wpd

LDC #: 45945A48

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: CQ
2nd Reviewer: CCC

METHOD: GC/MS VOA (EPA Method TO-15)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (200 std)	Recalculated RRF (200 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	8/21/19	QQQ (1st internal standard)						
	(Msd14)		S (2nd internal standard)	0.54547	0.54547	0.54457	0.54457	11.529	11.529
			AA (3rd internal standard)	0.82128	0.82128	0.81194	0.81194	12.292	12.292
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45945A48

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA TO-15)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	14082902	8/29/19	QQQ (1st internal standard)					
			S (2nd internal standard)	0.54457	0.52875	0.52875	2.90374	2.9051
			AA (3rd internal standard)	0.81194	0.78629	0.78629	3.15849	3.159
2			QQQ (1st internal standard)					
			S (2nd internal standard)					
			AA (3rd internal standard)					
3			QQQ (1st internal standard)					
			S (2nd internal standard)					
			AA (3rd internal standard)					
4			QQQ (1st internal standard)					
			S (2nd internal standard)					
			AA (3rd internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 45943A48

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: GT
2nd reviewer: KW

METHOD: GC/MS Volatiles (EPA Method TO-15)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:
% Recovery: SF/SS * 100
Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	400.0	405.30	101	101	
Bromofluorobenzene	↓	395.39	99	99	
1,2-Dichloroethane-d4	↓	421.20	105	105	
Octafluorotoluene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Octafluorotoluene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Octafluorotoluene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Octafluorotoluene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Octafluorotoluene					

LDC #[illegible]

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method TO-15)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 140829044a/030

Compound	Spike Added (ppbV)		Spiked Sample Concentration (ppbV)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene	200	200	198.7	199.2	99	99	100	100	1.0	0.4
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 15243A48

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: Q
2nd reviewer: KK

METHOD: GC/MS VOA (EPA Method TO-15)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 3 , S :

Conc. = $\frac{(15346)(400)(13.29)(2.58)}{(26836)(0.5445)(24.5)(\quad)}$

= 581.9 µg/m³

#	Sample ID	Compound	Reported Concentration (µg/m³)	Calculated Concentration ( )	Qualification
	3	S	580		

Third Quarter 2019

Soil Gas Data

Eurofins Laboratory Report

Electronic Comprehensive Validation Package (eCVP)

eurofins | Air Toxics

COMPREHENSIVE VALIDATION PACKAGE

Modified TO-15 (5&20 ppbv)

INVENTORY SHEET

Work Order #: 1908555

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Comments:

Completed by:

Vera Belitsky	Vera Belitsky / Document Control	9/9/19
(Signature)	(Print Name & Title)	(Date)

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WORK ORDER #: 1908555

Work Order Summary

CLIENT:	Ms. Holly Dillon AHTNA 296 12th Street Marina, CA 93933	**BILL TO:**	Accounts Payable AHTNA 110 West 38th Avenue Suite 200A Anchorage, AK 99503
PHONE:	831-384-3735	**P.O. #**	PO0500288
FAX:		**PROJECT #**	21065.000.01.0000 Site 12 Soil Gas Sampling
DATE RECEIVED:	08/23/2019	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	09/04/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	1934A212023F	Modified TO-15 (5&20 ppbv	6.9 "Hg	15 psi
01AA	1934A212023F Lab Duplicate	Modified TO-15 (5&20 ppbv	6.9 "Hg	15 psi
02A	1934A212024F	Modified TO-15 (5&20 ppbv	5.9 "Hg	15 psi
03A	1934A212025F	Modified TO-15 (5&20 ppbv	6.5 "Hg	15 psi
04A	1934A212026D	Modified TO-15 (5&20 ppbv	6.3 "Hg	14.9 psi
05A	1934A212027F	Modified TO-15 (5&20 ppbv	4.9 "Hg	15 psi
06A	1934A212028F	Modified TO-15 (5&20 ppbv	4.3 "Hg	14.8 psi
07A	1934A212029F	Modified TO-15 (5&20 ppbv	7.3 "Hg	15 psi
08A	1934A212030F	Modified TO-15 (5&20 ppbv	6.5 "Hg	14.7 psi
09A	1934A212031F	Modified TO-15 (5&20 ppbv	6.3 "Hg	14.9 psi
10A	1934A212032D	Modified TO-15 (5&20 ppbv	6.7 "Hg	14.9 psi
11A	1934A212033F	Modified TO-15 (5&20 ppbv	5.9 "Hg	14.9 psi
12A	1934A212034F	Modified TO-15 (5&20 ppbv	5.5 "Hg	15 psi
13A	1934A212035F	Modified TO-15 (5&20 ppbv	6.1 "Hg	14.9 psi
14A	1934A212036F	Modified TO-15 (5&20 ppbv	6.3 "Hg	14.8 psi
15A	1934A212037F	Modified TO-15 (5&20 ppbv	4.9 "Hg	14.8 psi
16A	1934A212038F	Modified TO-15 (5&20 ppbv	5.1 "Hg	15 psi
17A	1934A212039F	Modified TO-15 (5&20 ppbv	6.7 "Hg	15.1 psi
18A	1934A212040F	Modified TO-15 (5&20 ppbv	5.3 "Hg	14.7 psi
19A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
20A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
20B	CCV	Modified TO-15 (5&20 ppbv	NA	NA
21A	LCS	Modified TO-15 (5&20 ppbv	NA	NA

Continued on next page

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WORK ORDER #: 1908555

Work Order Summary

CLIENT:	Ms. Holly Dillon AHTNA 296 12th Street Marina, CA 93933	**BILL TO:**	Accounts Payable AHTNA 110 West 38th Avenue Suite 200A Anchorage, AK 99503
PHONE:	831-384-3735	**P.O. #**	PO0500288
FAX:		**PROJECT #**	21065.000.01.0000 Site 12 Soil Gas Sampling
DATE RECEIVED:	08/23/2019	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	09/04/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
21AA	LCSD	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/04/19

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

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LABORATORY NARRATIVE
DoD QSM - TO-15
AHTNA
Workorder# 1908555

Eighteen 1 Liter Summa Canister samples were received on August 23, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Limit of Detection (LOD). Concentrations that are below the level at which the canister was certified may be false positives.

Samples were analyzed in analytical batch on MSD-14 on 8/29/19. The initial continuing calibration verification (CCV) for the batch is reported as lab fraction 20A and the ending CCV is reported as lab fraction 20B.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample Holding Time (Days)	Sample Extract Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
1934A212023F	1908555-01A	8/19/2019	8/23/2019	NA	10	8/29/2019	NA	Good
1934A212023F Lab Dupl	1908555-01AA	8/19/2019	8/23/2019	NA	10	8/29/2019	NA	Good
1934A212024F	1908555-02A	8/19/2019	8/23/2019	NA	10	8/29/2019	NA	Good
1934A212025F	1908555-03A	8/19/2019	8/23/2019	NA	10	8/29/2019	NA	Good
1934A212026D	1908555-04A	8/19/2019	8/23/2019	NA	10	8/29/2019	NA	Good
1934A212027F	1908555-05A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212028F	1908555-06A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212029F	1908555-07A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212030F	1908555-08A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212031F	1908555-09A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212032D	1908555-10A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212033F	1908555-11A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212034F	1908555-12A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212035F	1908555-13A	8/20/2019	8/23/2019	NA	9	8/29/2019	NA	Good
1934A212036F	1908555-14A	8/21/2019	8/23/2019	NA	8	8/29/2019	NA	Good
1934A212037F	1908555-15A	8/21/2019	8/23/2019	NA	8	8/29/2019	NA	Good
1934A212038F	1908555-16A	8/21/2019	8/23/2019	NA	8	8/29/2019	NA	Good
1934A212039F	1908555-17A	8/21/2019	8/23/2019	NA	8	8/29/2019	NA	Good
1934A212040F	1908555-18A	8/21/2019	8/23/2019	NA	8	8/29/2019	NA	Good
Lab Blank	1908555-19A	NA	NA	NA	NA	8/29/2019	NA	Good
CCV	1908555-20A	NA	NA	NA	NA	8/29/2019	NA	Good
CCV	1908555-20B	NA	NA	NA	NA	8/29/2019	NA	Good
LCS	1908555-21A	NA	NA	NA	NA	8/29/2019	NA	Good
LCSD	1908555-21AA	NA	NA	NA	NA	8/29/2019	NA	Good

Sample Results and Raw Data

EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212023F		
Lab ID:	1908555-01A	**Date/Time Analyzed:**	8/29/19 10:49 AM
Date/Time Collected:	8/19/19 01:31 PM	**Dilution Factor:**	2.62
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082906

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	31	53	89	Not Detected U
Trichloroethene	79-01-6	21	42	70	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	103
4-Bromofluorobenzene	460-00-4	83-110	98
Toluene-d8	2037-26-5	86-115	100

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082906.d
Lab Smp Id: 1908555-01A
Inj Date : 29-AUG-2019 10:49
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #1L3885
Misc Info : 6.9"Hg->15.psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.62000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	68023	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	52271			46.63- 106.63	76.84
5.298	5.294 (1.000)	49	74583			70.93- 130.93	109.64
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	272950	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41657			0.00- 45.07	15.26
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	257528	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	136764			24.37- 84.37	53.11
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	90059	411.600	411.60	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	45859			24.83- 84.83	50.92
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	277423	399.560	399.56	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	31222			0.00- 41.24	11.25

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	181364			35.45- 95.45	65.37
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	151655	392.537	392.54	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	193149			91.49- 151.49	127.36
11.329	11.329 (1.098)	176	148611			65.46- 125.46	97.99

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082906.d
Lab Smp Id: 1908555-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.9"Hg->15.psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	68023	-10.57
127 1,4-Difluorobenze	286922	172153	401691	272950	-4.87
179 Chlorobenzene-d5	262234	157340	367128	257528	-1.79

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:41

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-01A
Level: LOW Operator: AK
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.9"Hg->15.psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	411.60	102.90
$ 155 Toluene-d8	400.00	399.56	99.89
$ 198 4-Bromofluorobenzene	400.00	392.54	98.13

Data File: /chem/msd14.i/29AUG19.b/14082906.d

Date : 29-AUG-2019 10:49

Client ID:

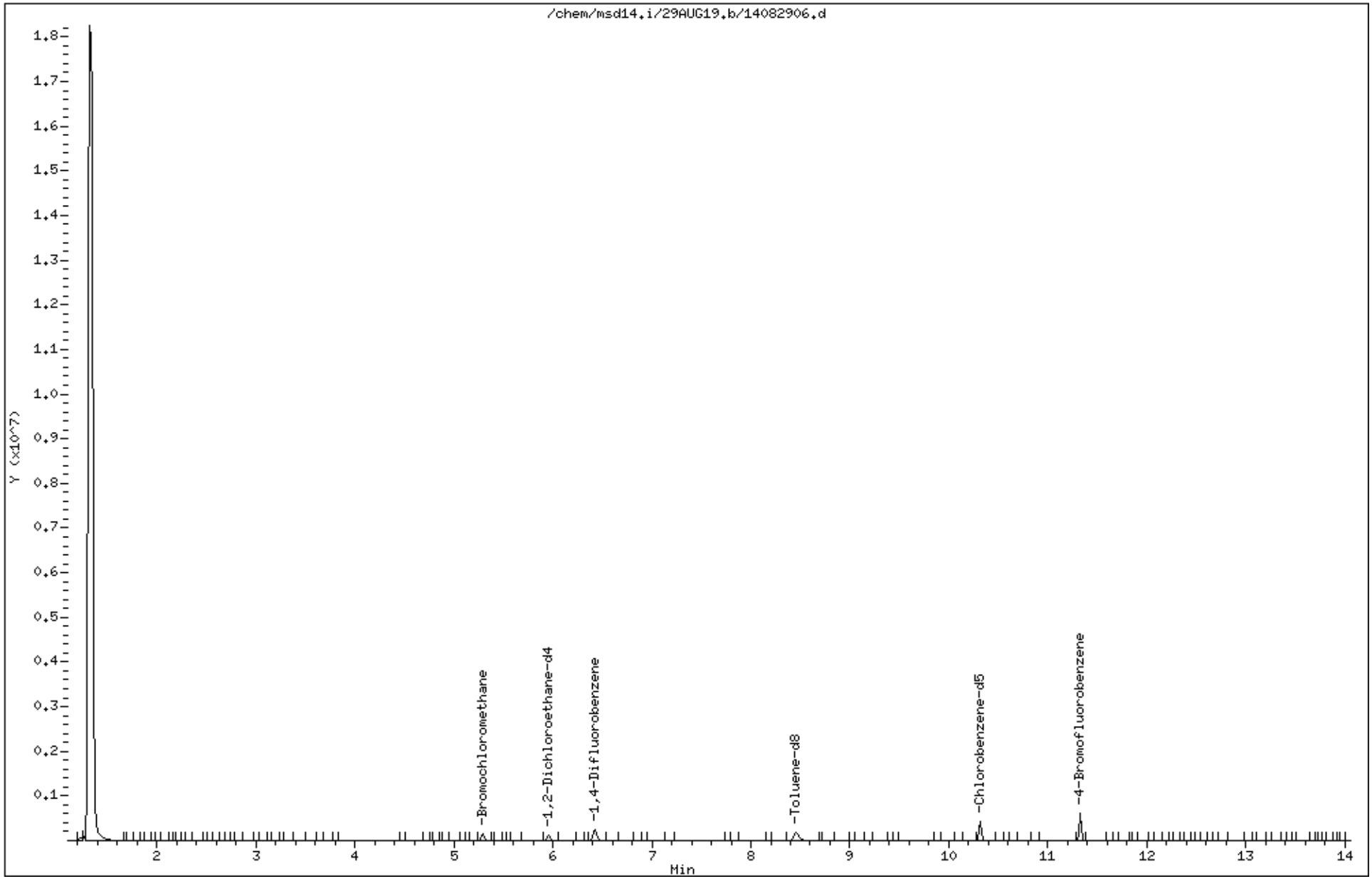
Instrument: msd14.i

Sample Info: 50mL #1L3885

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212023F Lab Duplicate		
Lab ID:	1908555-01AA	**Date/Time Analyzed:**	8/29/19 11:13 AM
Date/Time Collected:	8/19/19 01:31 PM	**Dilution Factor:**	2.62
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082907

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	31	53	89	Not Detected U
Trichloroethene	79-01-6	21	42	70	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	101
4-Bromofluorobenzene	460-00-4	83-110	101
Toluene-d8	2037-26-5	86-115	100

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082907.d
Lab Smp Id: 1908555-01AA
Inj Date : 29-AUG-2019 11:13
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #1L3885
Misc Info : 6.9"Hg->15.psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.62000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	71634	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	55451			46.63- 106.63	77.41
5.298	5.294 (1.000)	49	77447			70.93- 130.93	108.11
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	277047	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	43411			0.00- 45.07	15.67
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	256079	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	137588			24.37- 84.37	53.73
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	93170	404.353	404.35	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	49109			24.83- 84.83	52.71
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	282051	400.218	400.22	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	31424			0.00- 41.24	11.14

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	182843			35.45- 95.45	64.83
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	155215	404.025	404.02	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	189648			91.49- 151.49	122.18
11.329	11.329 (1.098)	176	147664			65.46- 125.46	95.13

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082907.d
Lab Smp Id: 1908555-01AA
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.9"Hg->15.psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	71634	-5.82
127 1,4-Difluorobenze	286922	172153	401691	277047	-3.44
179 Chlorobenzene-d5	262234	157340	367128	256079	-2.35

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:41

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-01AA
Level: LOW Operator: AK
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.9"Hg->15.psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	404.35	101.09
$ 155 Toluene-d8	400.00	400.22	100.05
$ 198 4-Bromofluorobenzene	400.00	404.02	101.01

Data File: /chem/msd14.i/29AUG19.b/14082907.d

Page 1

Date : 29-AUG-2019 11:13

Client ID:

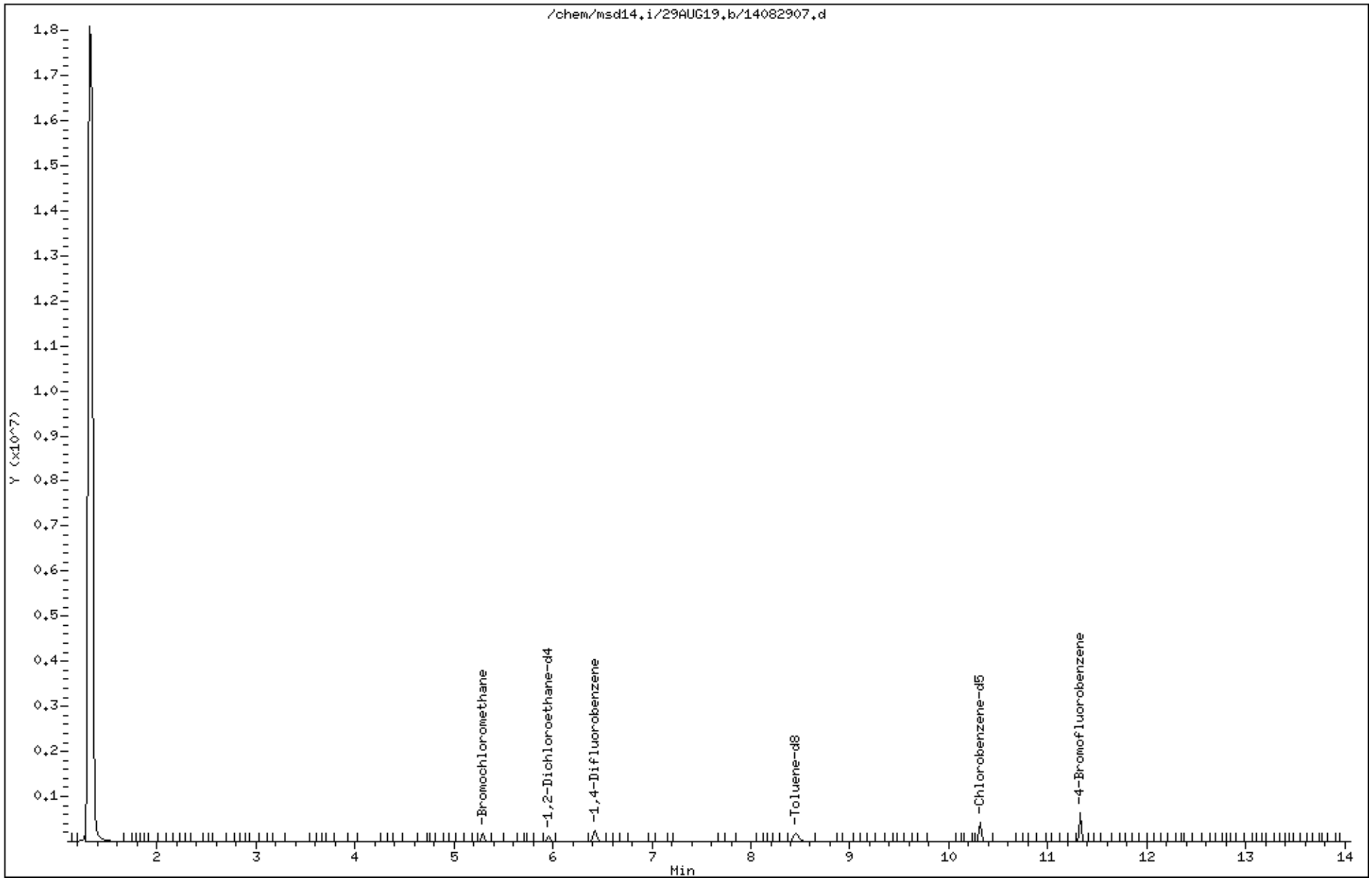
Instrument: msd14.i

Sample Info: 50mL #1L3885

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212024F		
Lab ID:	1908555-02A	**Date/Time Analyzed:**	8/29/19 11:36 AM
Date/Time Collected:	8/19/19 03:18 PM	**Dilution Factor:**	2.52
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082908

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	30	51	85	54 J
Trichloroethene	79-01-6	20	41	68	400

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	105
4-Bromofluorobenzene	460-00-4	83-110	99
Toluene-d8	2037-26-5	86-115	101

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082908.d
Lab Smp Id: 1908555-02A
Inj Date : 29-AUG-2019 11:36
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #1L2376
Misc Info : 5.9"Hg->15.psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.52000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	65958	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	51279			46.63- 106.63	77.74
5.298	5.294 (1.000)	49	72674			70.93- 130.93	110.18
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	268971	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	42688			0.00- 45.07	15.87
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	257416	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	138513			24.37- 84.37	53.81
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	89374	421.258	421.26	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	47484			24.83- 84.83	53.13
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	277304	405.297	405.30	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	30574			0.00- 41.24	11.03

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	179103			35.45- 95.45	64.59
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	152691	395.391	395.39	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	191124			91.49- 151.49	125.17
11.329	11.329 (1.098)	176	148881			65.46- 125.46	97.50
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.037)	95	10931	29.8514	75.225	80.00- 120.00	100.00
6.670	6.671 (1.037)	130	10544			78.88- 138.88	96.46
6.683	6.671 (1.039)	97	6777			35.90- 95.90	62.00
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	1657	3.17121	7.991	80.00- 120.00	100.00(a)
9.328	9.330 (0.904)	129	1013			46.86- 106.86	61.14
9.328	9.328 (0.904)	131	1347			46.25- 106.25	81.31

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082908.d
Lab Smp Id: 1908555-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.9"Hg->15.psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	65958	-13.28
127 1,4-Difluorobenze	286922	172153	401691	268971	-6.26
179 Chlorobenzene-d5	262234	157340	367128	257416	-1.84

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:41

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-02A
Level: LOW Operator: AK
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.9"Hg->15.psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	421.26	105.31
$ 155 Toluene-d8	400.00	405.30	101.32
$ 198 4-Bromofluorobenzene	400.00	395.39	98.85

Data File: /chem/msd14.i/29AUG19.b/14082908.d

Date : 29-AUG-2019 11:36

Client ID:

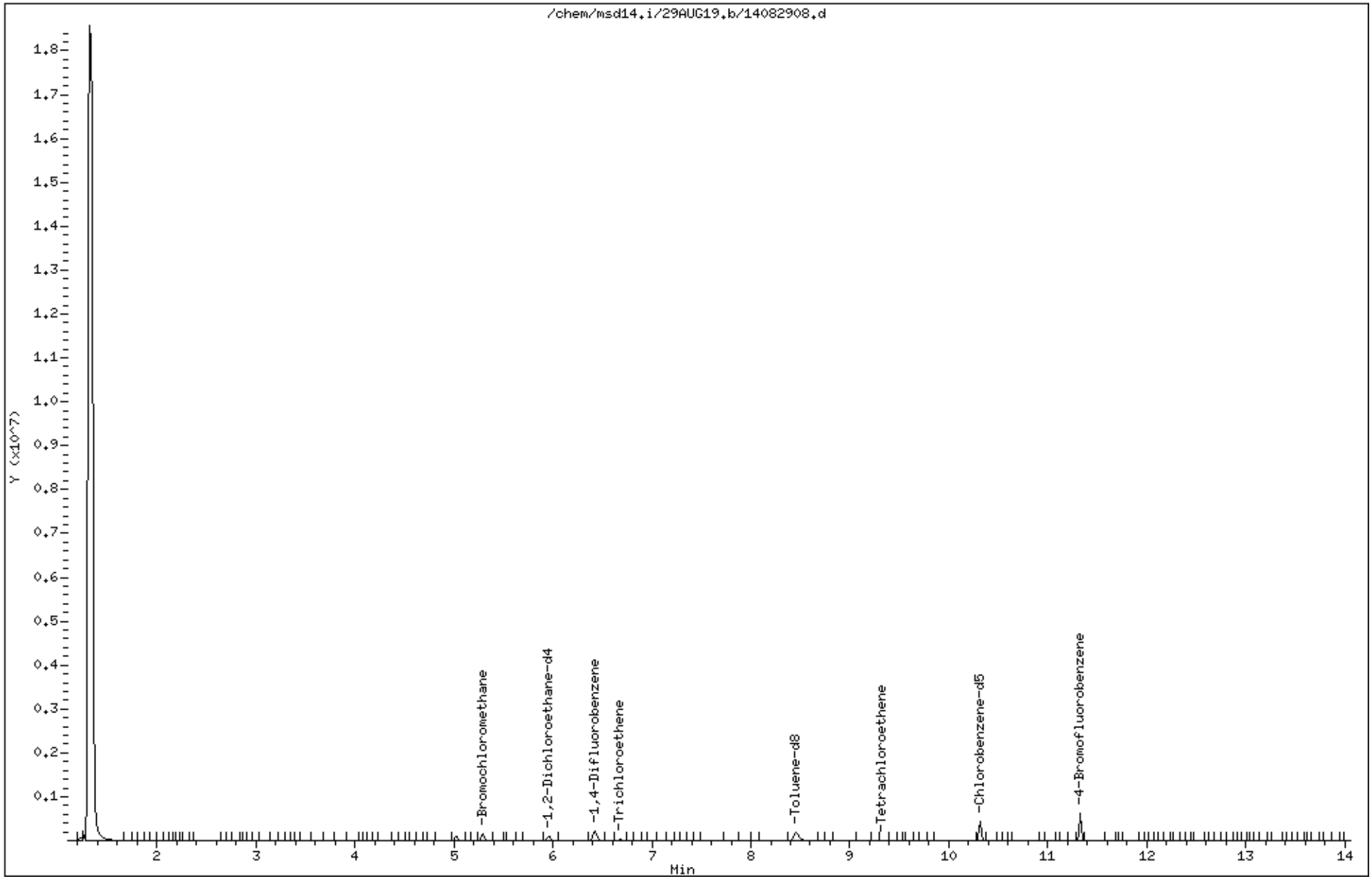
Instrument: msd14.i

Sample Info: 50mL #1L2376

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082908.d

Date : 29-AUG-2019 11:36

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2376

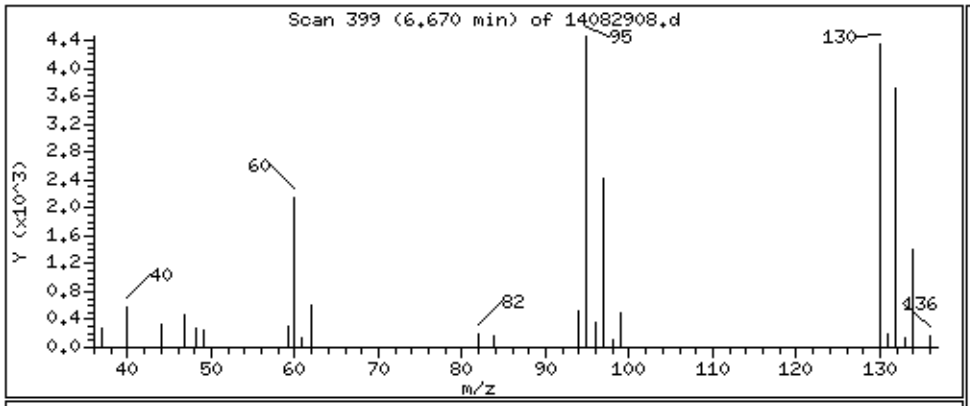
Operator: AK

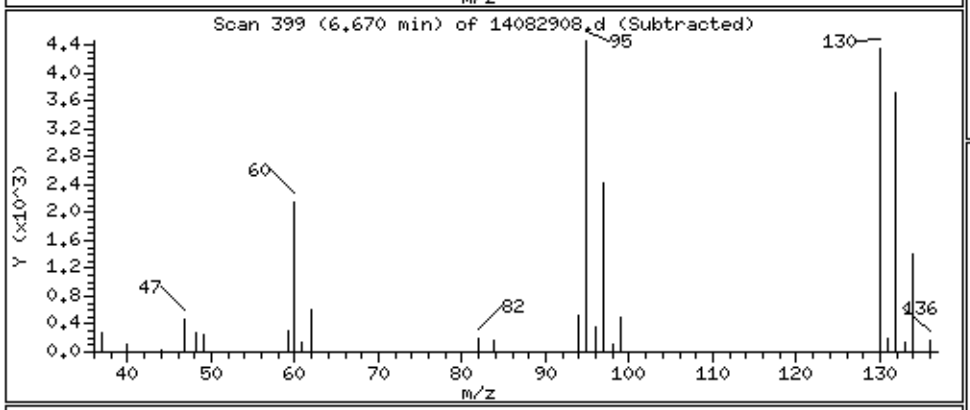
Column phase: RTX-624

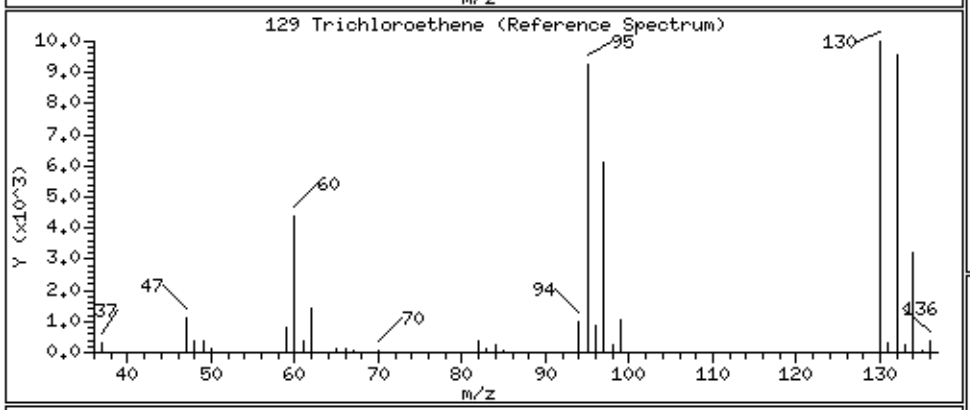
Column diameter: 0.18

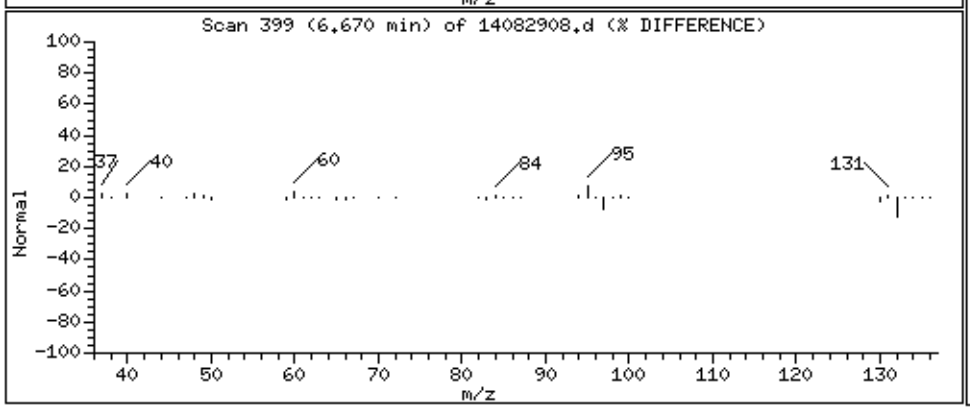
129 Trichloroethene

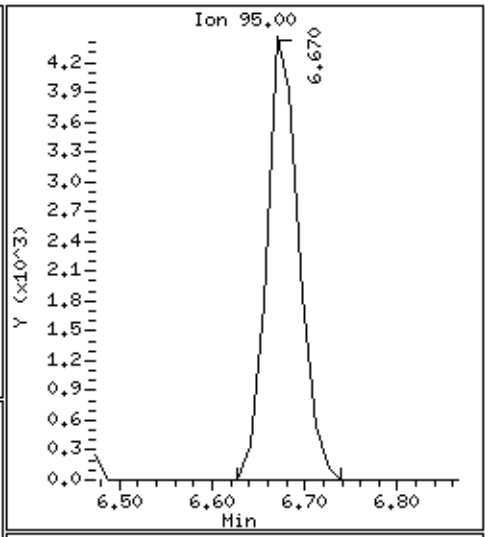
Concentration: 75.225 PPBV

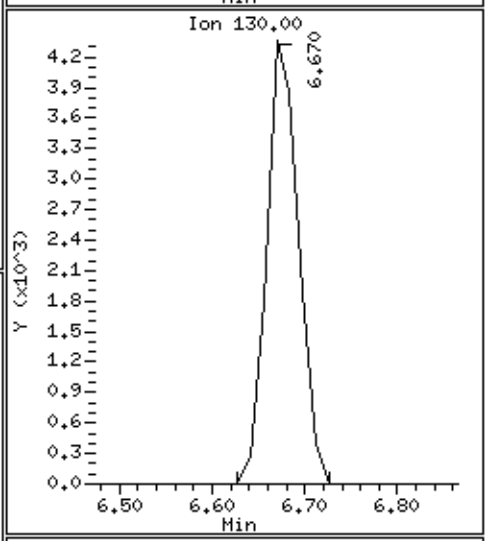


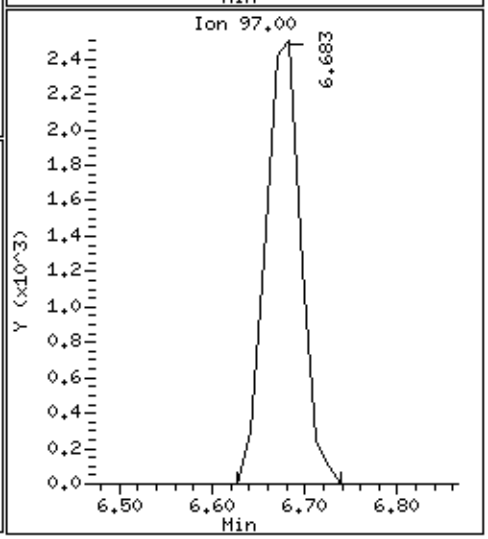












Data File: /chem/msd14.i/29AUG19.b/14082908.d

Date : 29-AUG-2019 11:36

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2376

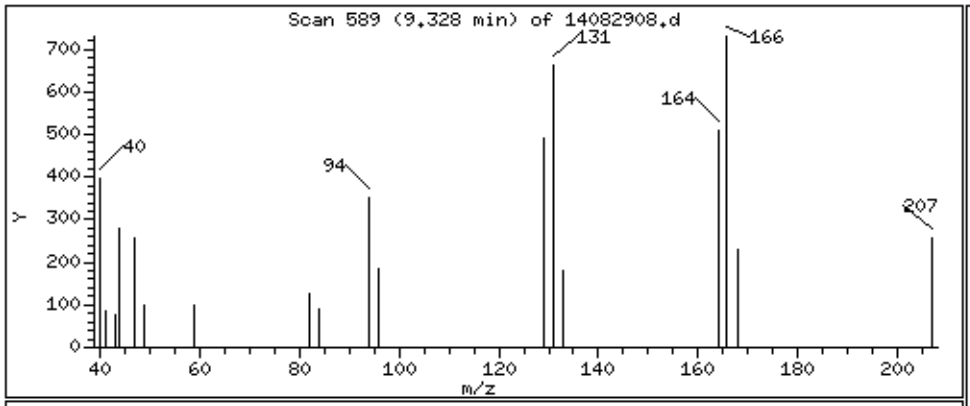
Operator: AK

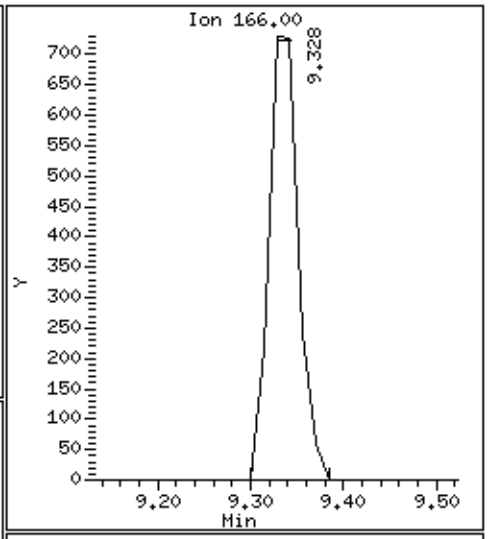
Column phase: RTX-624

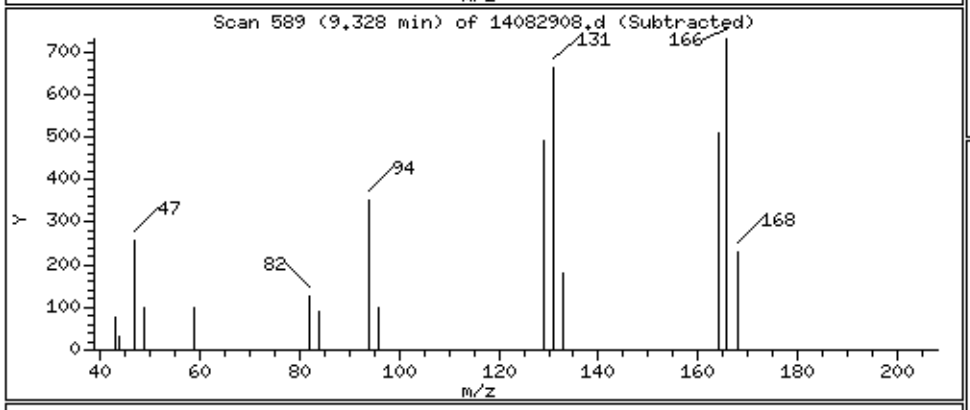
Column diameter: 0.18

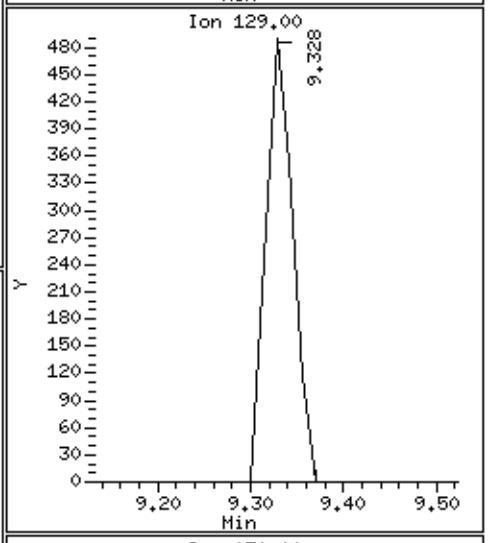
163 Tetrachloroethene

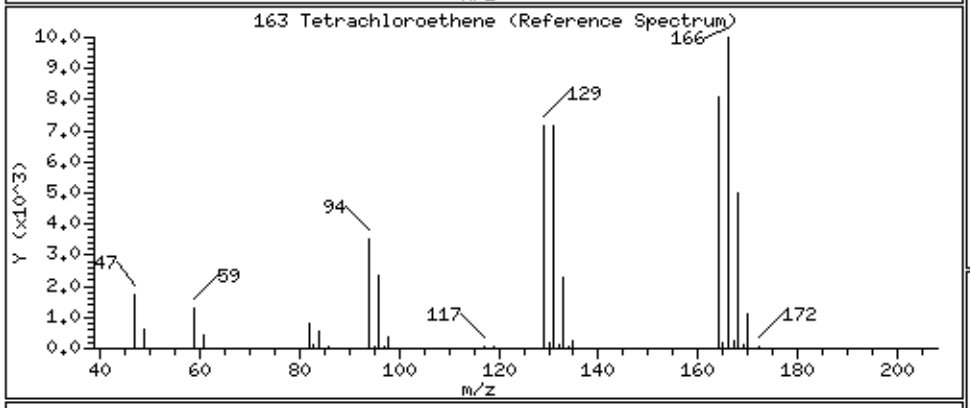
Concentration: 7.991 PPBV

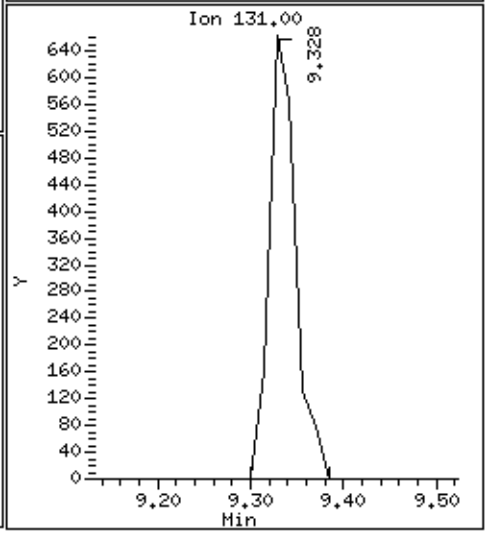


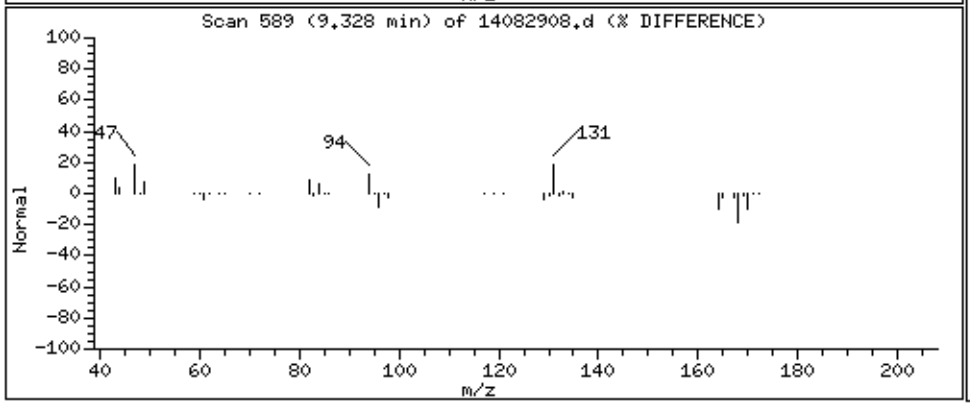












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212025F		
Lab ID:	1908555-03A	**Date/Time Analyzed:**	8/29/19 12:00 PM
Date/Time Collected:	8/19/19 04:19 PM	**Dilution Factor:**	2.58
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082909

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	31	52	88	62 J
Trichloroethene	79-01-6	20	42	69	580

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	105
4-Bromofluorobenzene	460-00-4	83-110	101
Toluene-d8	2037-26-5	86-115	101

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082909.d
Lab Smp Id: 1908555-03A
Inj Date : 29-AUG-2019 12:00
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #1L2403
Misc Info : 6.5"Hg->15.psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.58000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	64238	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	50711			46.63- 106.63	78.94
5.298	5.294 (1.000)	49	69354			70.93- 130.93	107.96
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	268363	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	42490			0.00- 45.07	15.83
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	255782	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	136683			24.37- 84.37	53.44
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	86746	419.818	419.82	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	45574			24.83- 84.83	52.54
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	276265	404.693	404.69	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	30021			0.00- 41.24	10.87

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	179227			35.45- 95.45	64.87
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	155651	405.630	405.63	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	189960			91.49- 151.49	122.04
11.329	11.329 (1.098)	176	146826			65.46- 125.46	94.33
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.671 (1.037)	95	15346	42.0032	108.37	80.00- 120.00	100.00
6.683	6.671 (1.039)	130	15288			78.88- 138.88	99.62
6.683	6.671 (1.039)	97	9253			35.90- 95.90	60.30
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	1841	3.54587	9.148	80.00- 120.00	100.00(a)
9.342	9.330 (0.905)	129	1120			46.86- 106.86	60.86
9.328	9.328 (0.904)	131	1216			46.25- 106.25	66.05

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082909.d
Lab Smp Id: 1908555-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.5"Hg->15.psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	64238	-15.54
127 1,4-Difluorobenze	286922	172153	401691	268363	-6.47
179 Chlorobenzene-d5	262234	157340	367128	255782	-2.46

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:42

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-03A
Level: LOW Operator: AK
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.5"Hg->15.psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	419.82	104.95
$ 155 Toluene-d8	400.00	404.69	101.17
$ 198 4-Bromofluorobenzene	400.00	405.63	101.41

Data File: /chem/msd14.i/29AUG19.b/14082909.d

Page 1

Date : 29-AUG-2019 12:00

Client ID:

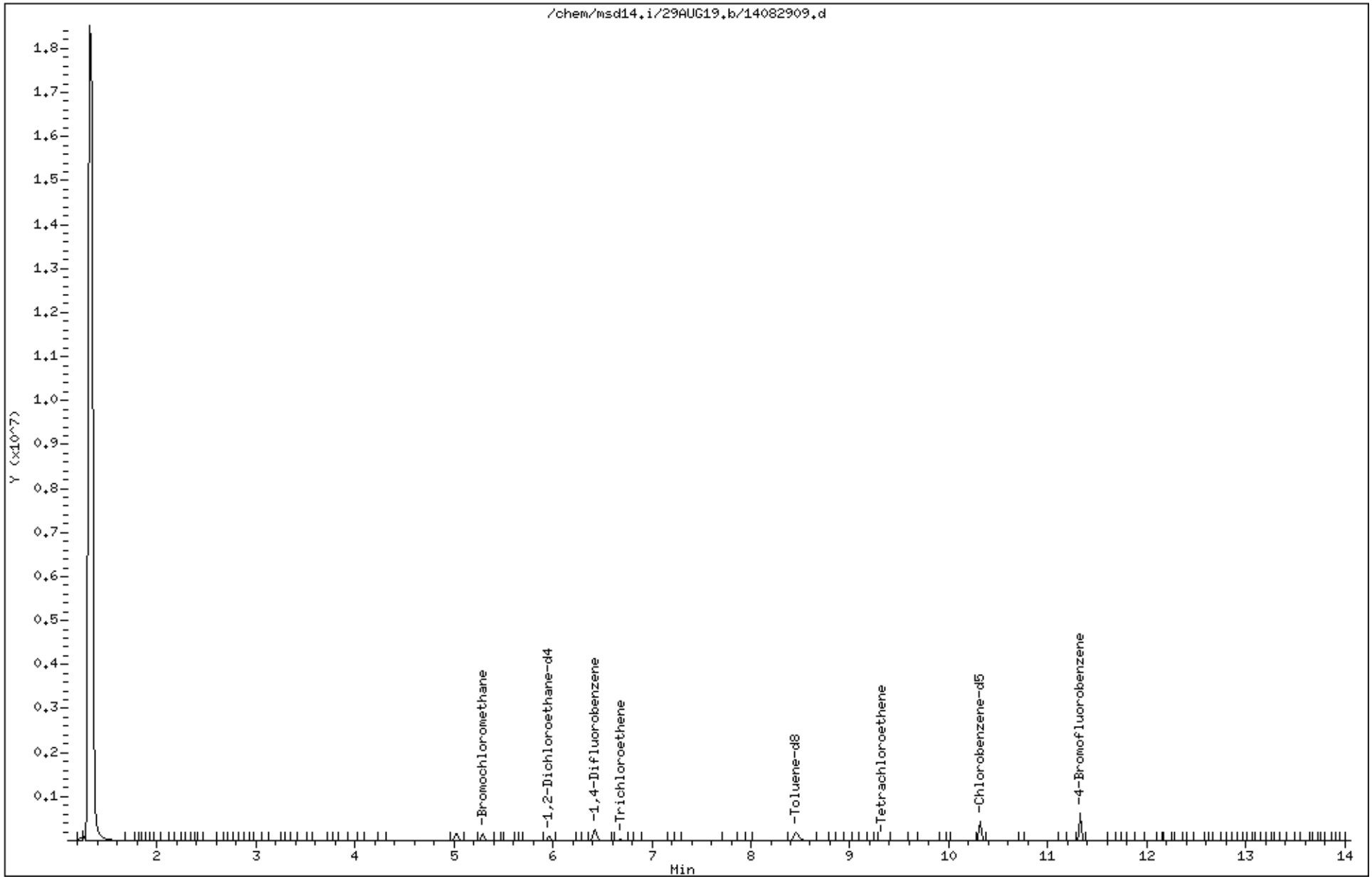
Instrument: msd14.i

Sample Info: 50mL #1L2403

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082909.d

Date : 29-AUG-2019 12:00

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2403

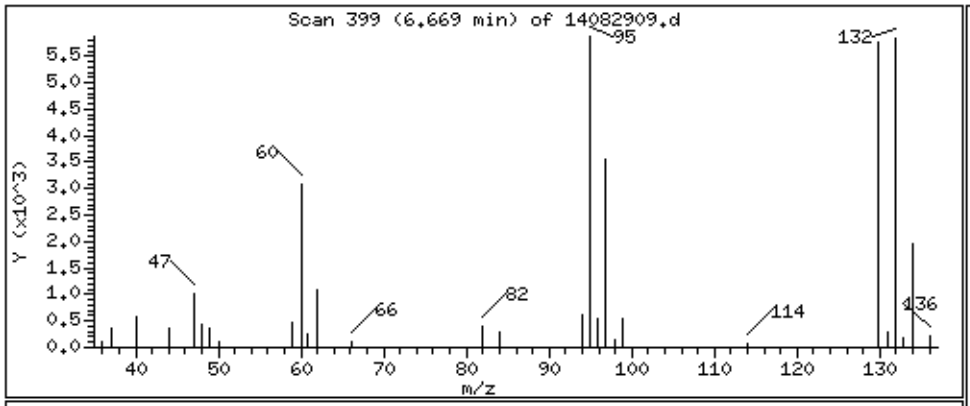
Operator: AK

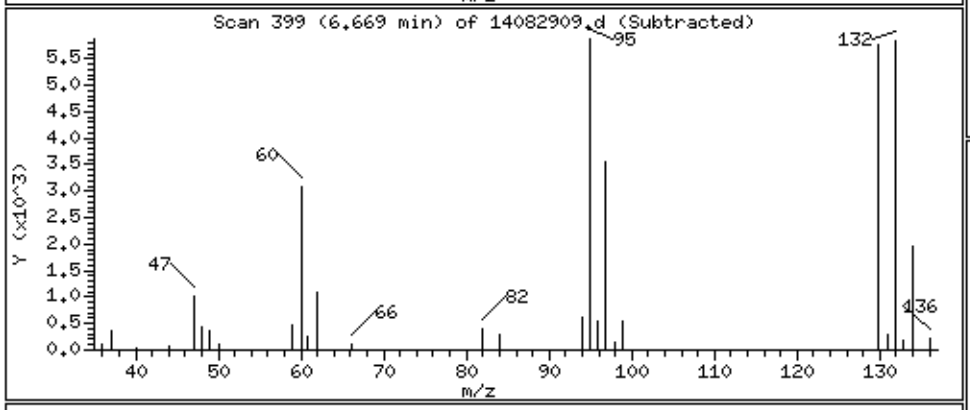
Column phase: RTX-624

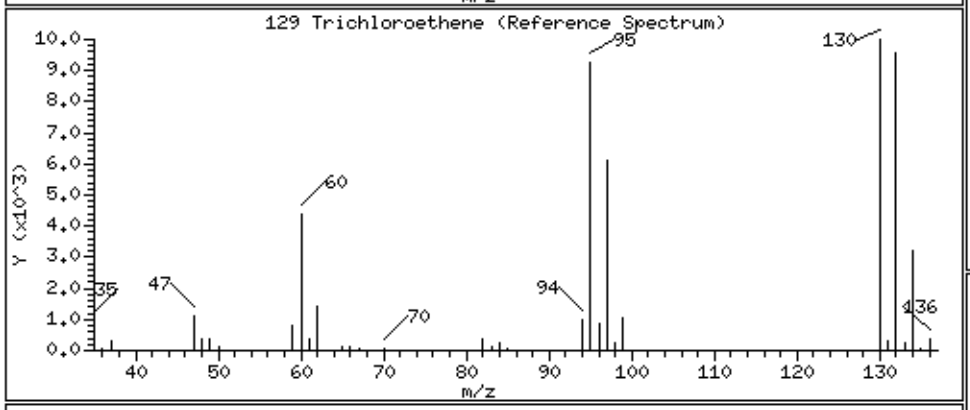
Column diameter: 0.18

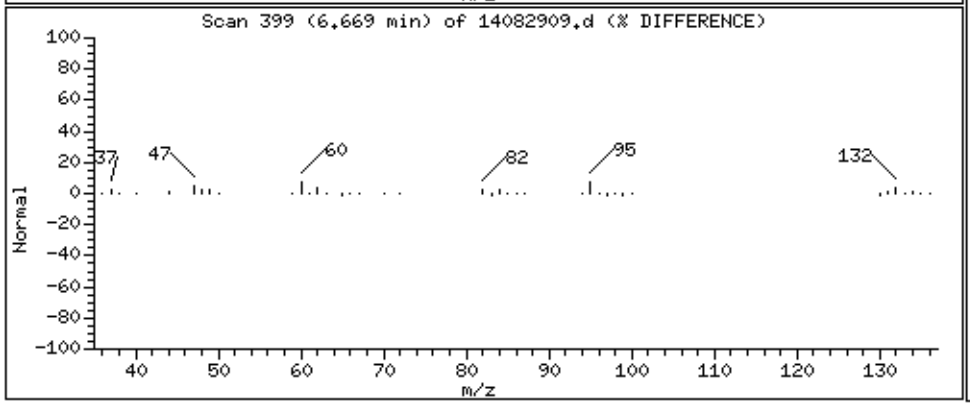
129 Trichloroethene

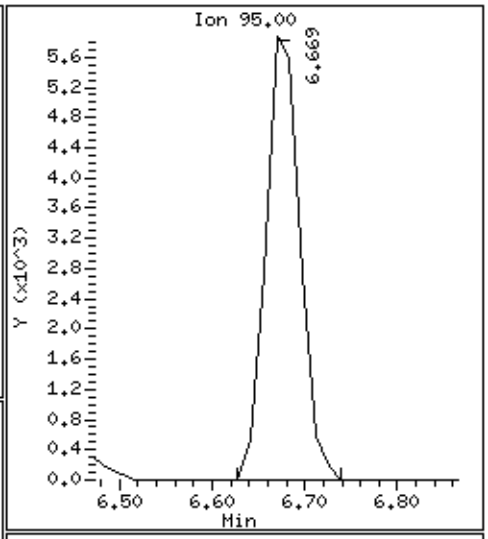
Concentration: 108.37 PPBV

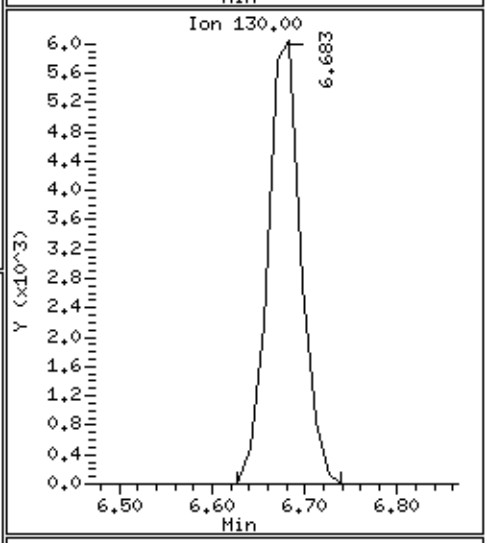


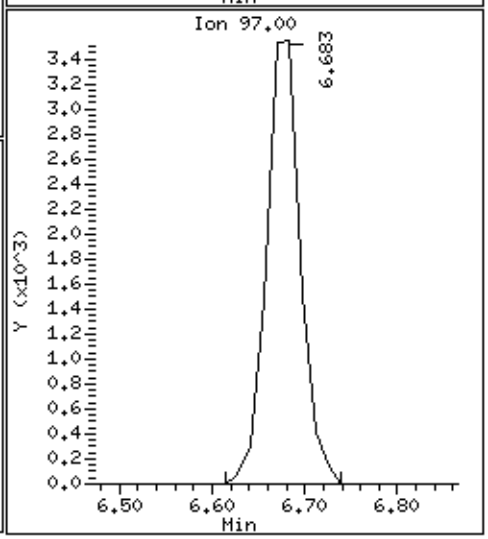












Data File: /chem/msd14.i/29AUG19.b/14082909.d

Date : 29-AUG-2019 12:00

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2403

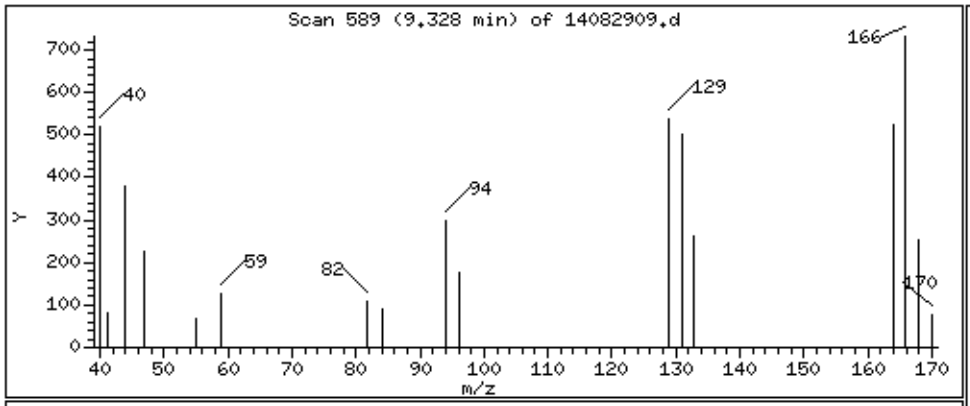
Operator: AK

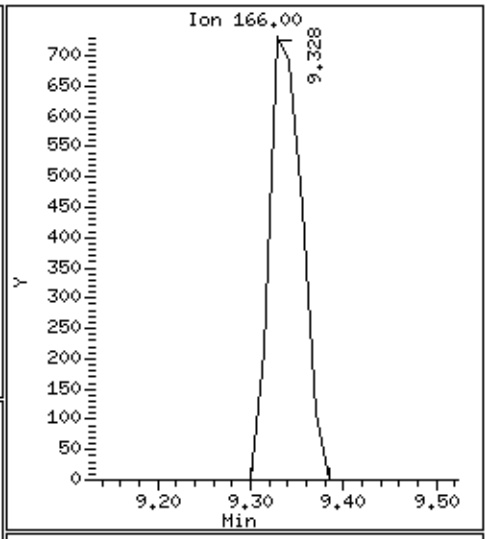
Column phase: RTX-624

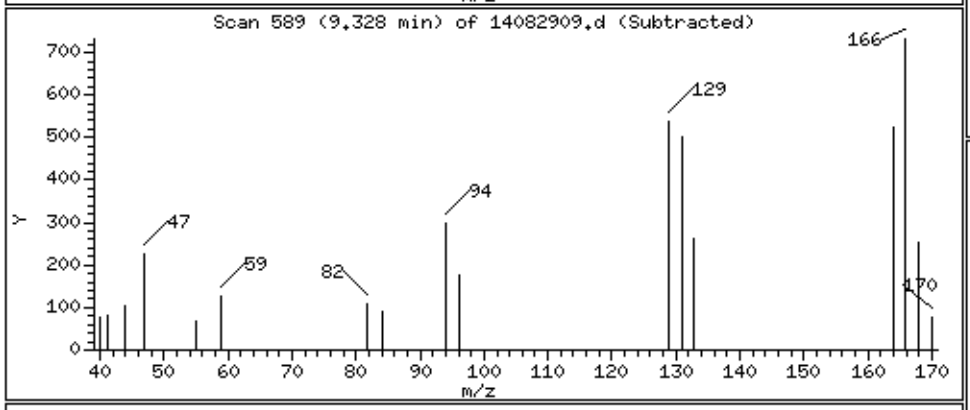
Column diameter: 0.18

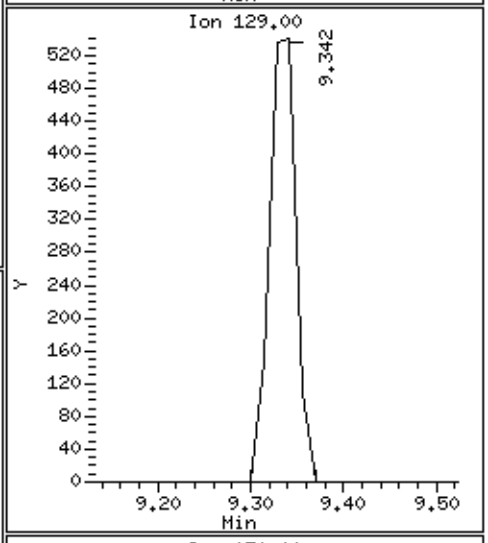
163 Tetrachloroethene

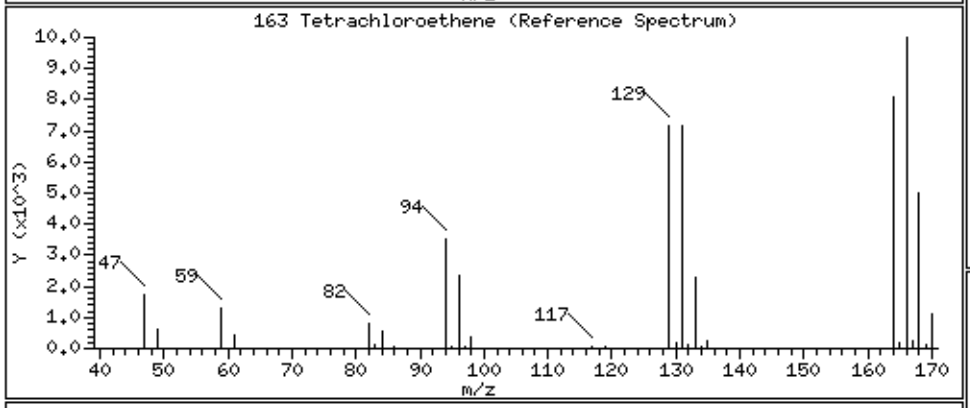
Concentration: 9.148 PPBV

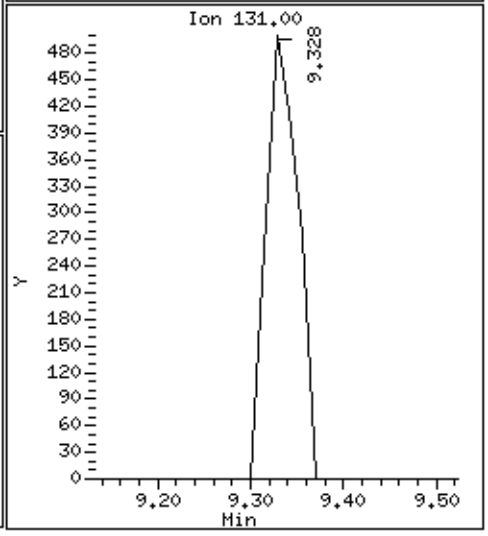


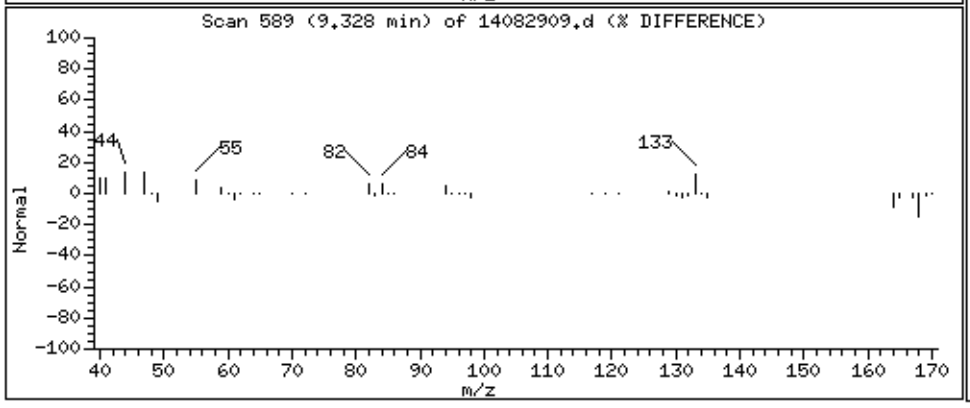












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212026D		
Lab ID:	1908555-04A	**Date/Time Analyzed:**	8/29/19 12:28 PM
Date/Time Collected:	8/19/19 04:25 PM	**Dilution Factor:**	2.55
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082910

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	30	52	86	66 J
Trichloroethene	79-01-6	20	41	68	570

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	101
4-Bromofluorobenzene	460-00-4	83-110	98
Toluene-d8	2037-26-5	86-115	100

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082910.d
Lab Smp Id: 1908555-04A
Inj Date : 29-AUG-2019 12:28
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #1L1549
Misc Info : 6.3"Hg->14.9psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.55000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	69262	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	53492			46.63- 106.63	77.23
5.298	5.294 (1.000)	49	76244			70.93- 130.93	110.08
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	271836	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41627			0.00- 45.07	15.31
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	258492	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	132329			24.37- 84.37	51.19
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	89660	402.446	402.45	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	45610			24.83- 84.83	50.87
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	275851	398.924	398.92	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	31222			0.00- 41.24	11.32

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	178383			35.45- 95.45	64.67
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	152546	393.371	393.37	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	185309			91.49- 151.49	121.48
11.329	11.329 (1.098)	176	146616			65.46- 125.46	96.11
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.671 (1.037)	95	15338	41.4450	105.68	80.00- 120.00	100.00
6.669	6.671 (1.037)	130	16326			78.88- 138.88	106.44
6.669	6.671 (1.037)	97	10686			35.90- 95.90	69.67
163 Tetrachloroethene					CAS #: 127-18-4		
9.342	9.330 (0.905)	166	1987	3.78695	9.657	80.00- 120.00	100.00(a)
9.328	9.330 (0.904)	129	1335			46.86- 106.86	67.21
9.342	9.328 (0.905)	131	1191			46.25- 106.25	59.98

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082910.d
Lab Smp Id: 1908555-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.3"Hg->14.9psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	69262	-8.94
127 1,4-Difluorobenze	286922	172153	401691	271836	-5.26
179 Chlorobenzene-d5	262234	157340	367128	258492	-1.43

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:42

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-04A
Level: LOW Operator: AK
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.3"Hg->14.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	402.45	100.61
$ 155 Toluene-d8	400.00	398.92	99.73
$ 198 4-Bromofluorobenzene	400.00	393.37	98.34

Data File: /chem/msd14.i/29AUG19.b/14082910.d

Date : 29-AUG-2019 12:28

Client ID:

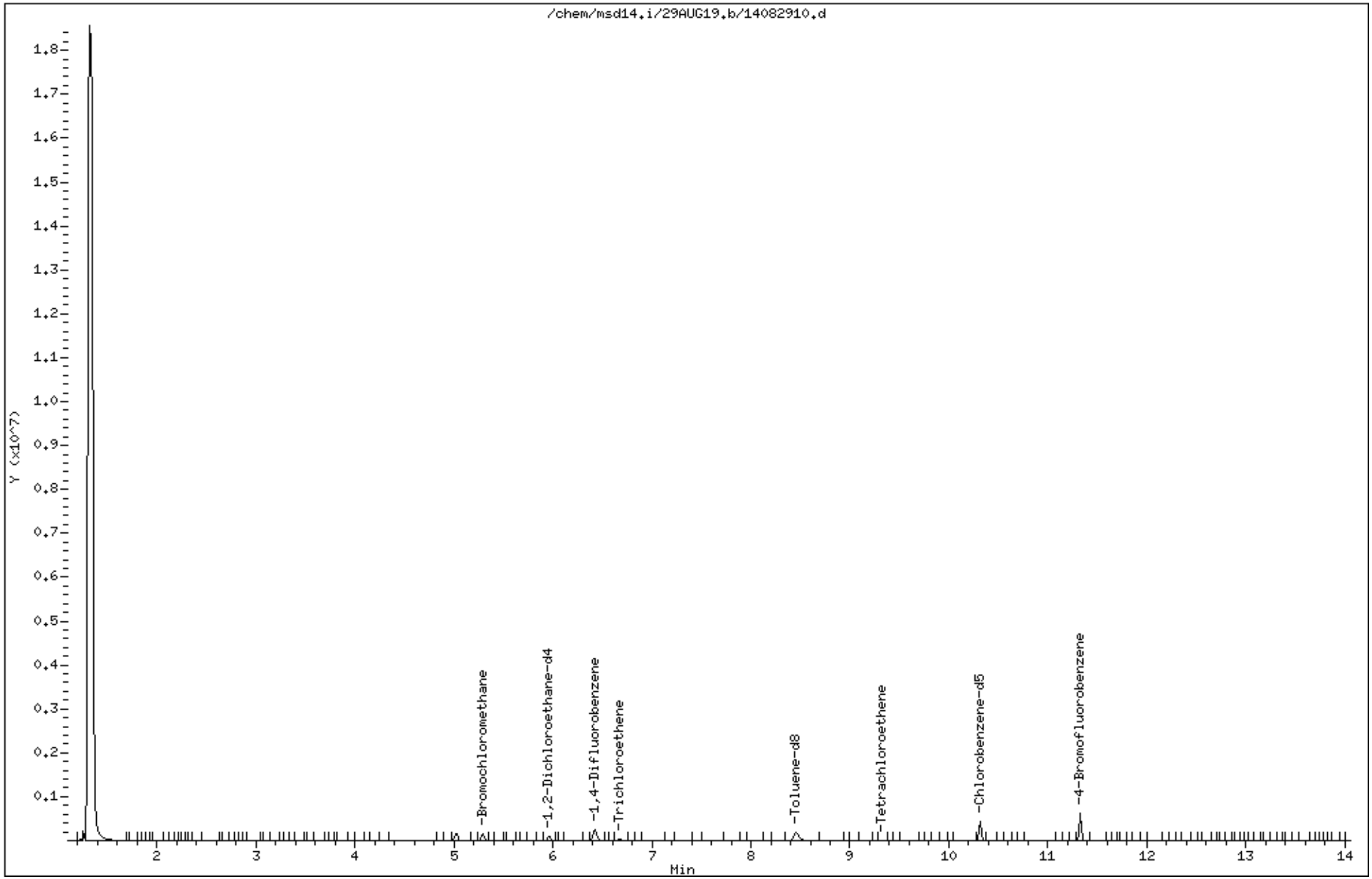
Instrument: msd14.i

Sample Info: 50mL #1L1549

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082910.d

Date : 29-AUG-2019 12:28

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L1549

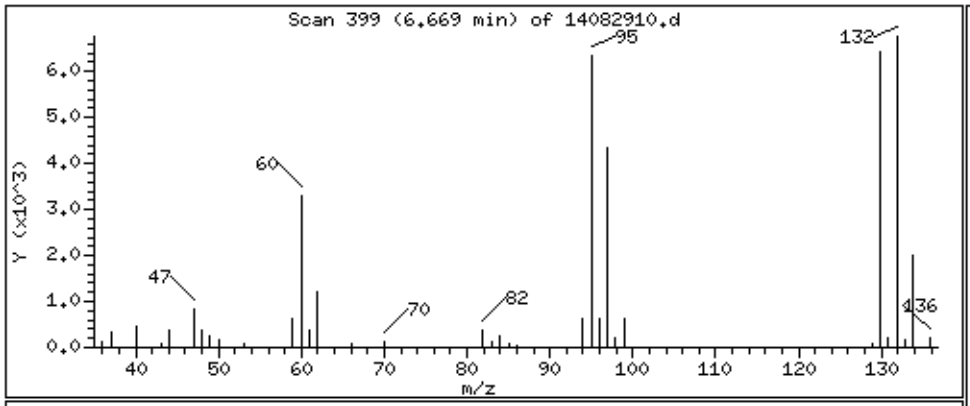
Operator: AK

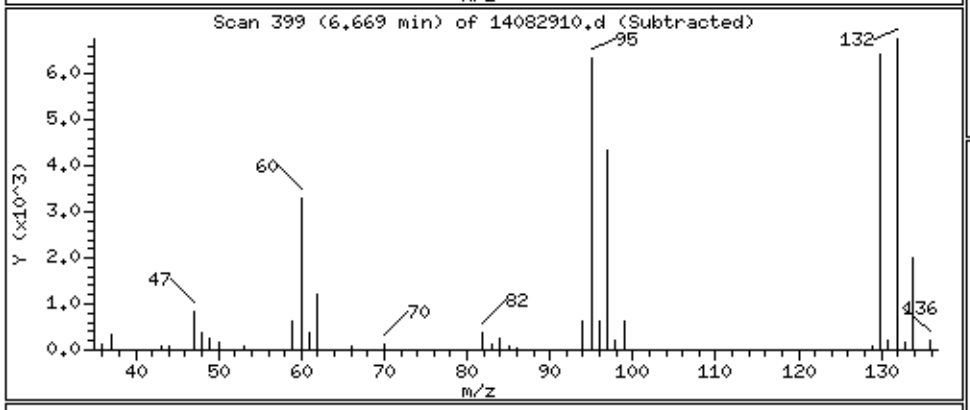
Column phase: RTX-624

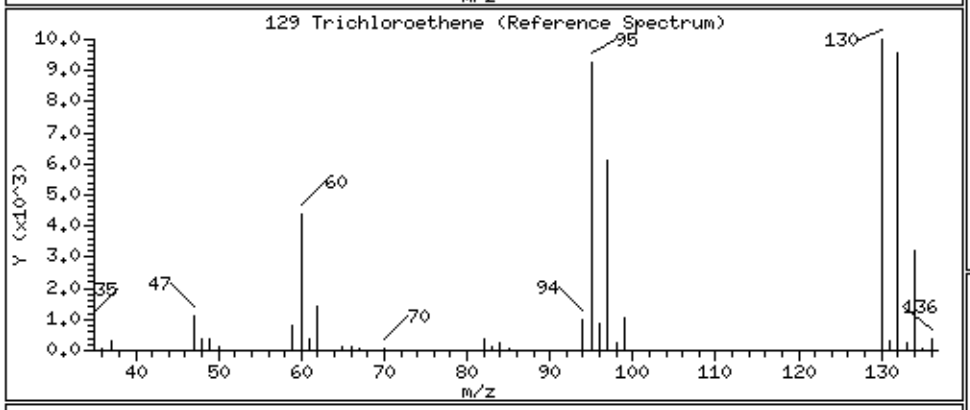
Column diameter: 0.18

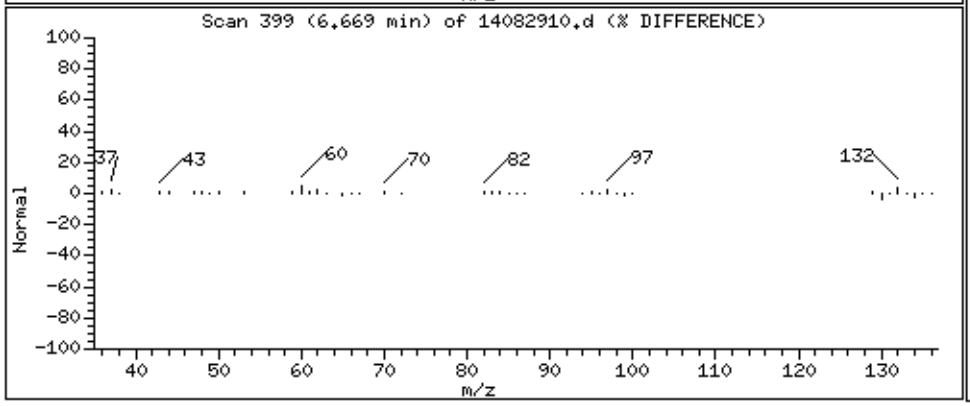
129 Trichloroethene

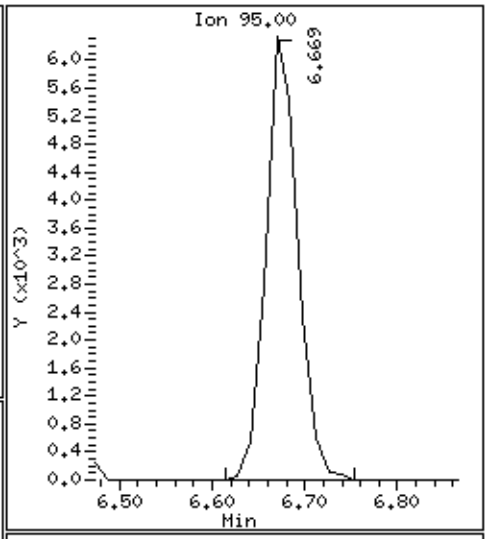
Concentration: 105.68 PPBV

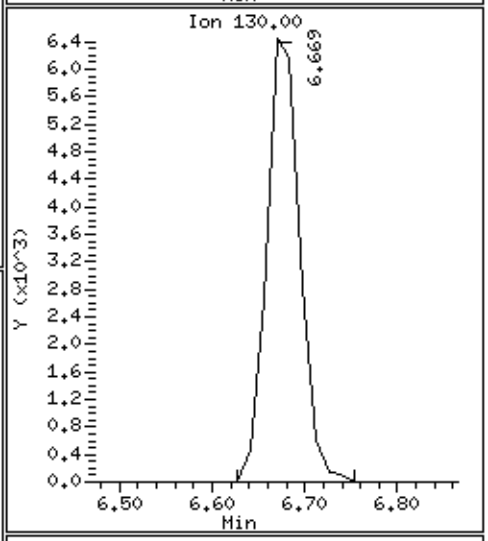


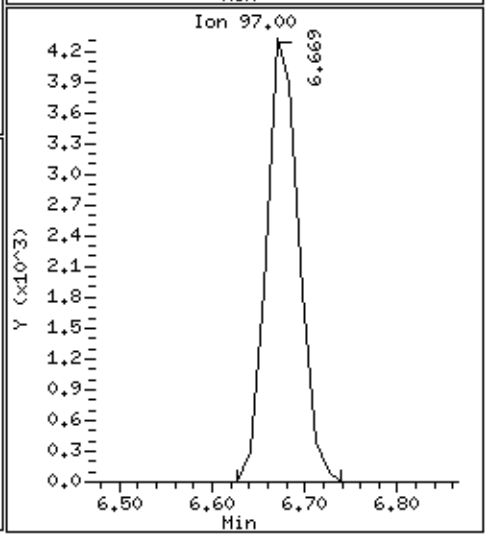












Data File: /chem/msd14.i/29AUG19.b/14082910.d

Date : 29-AUG-2019 12:28

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L1549

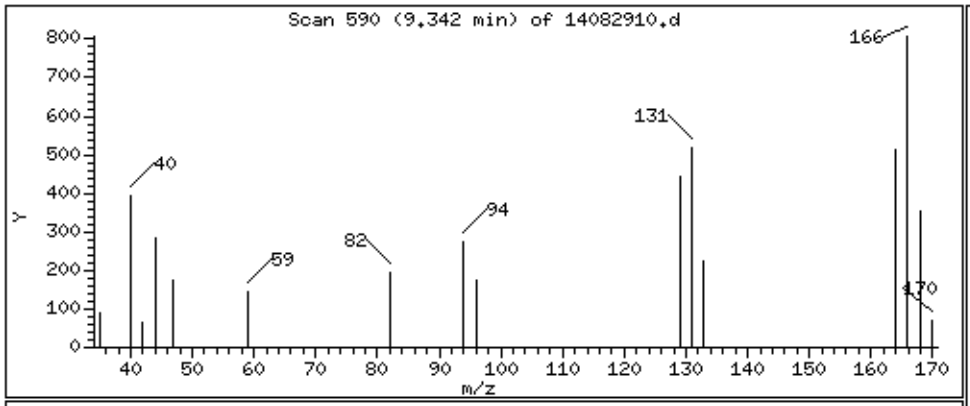
Operator: AK

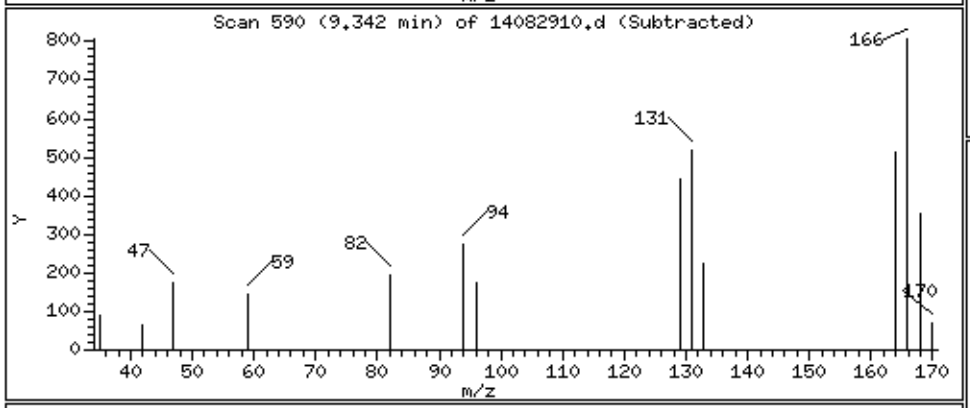
Column phase: RTX-624

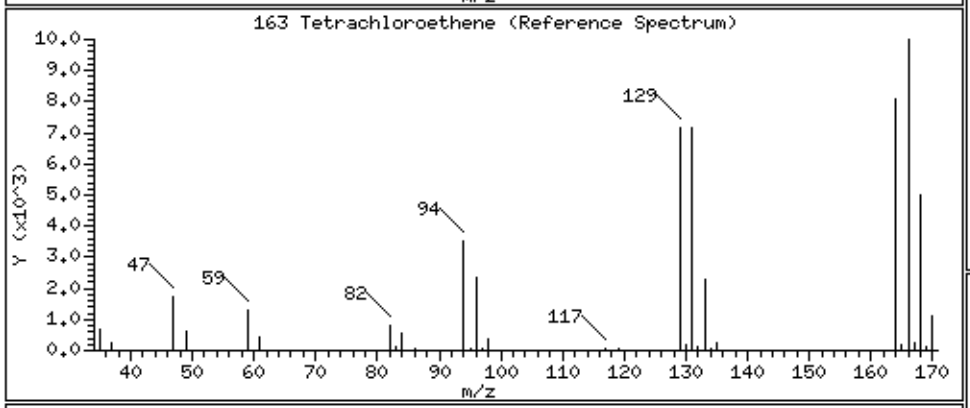
Column diameter: 0.18

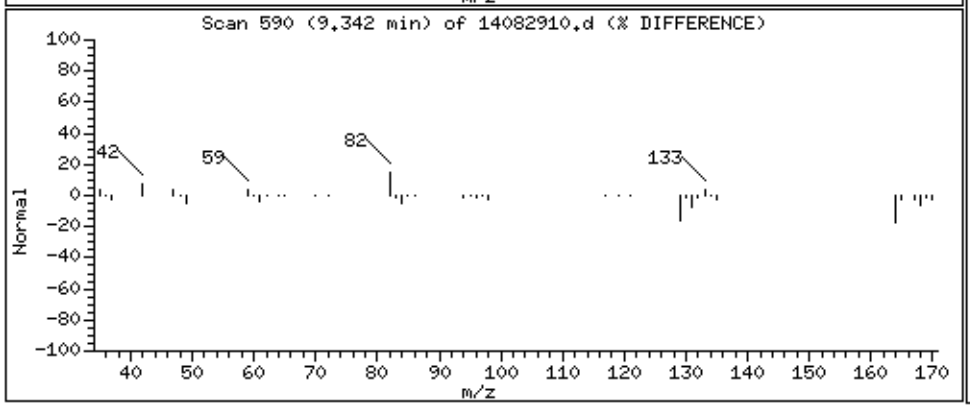
163 Tetrachloroethene

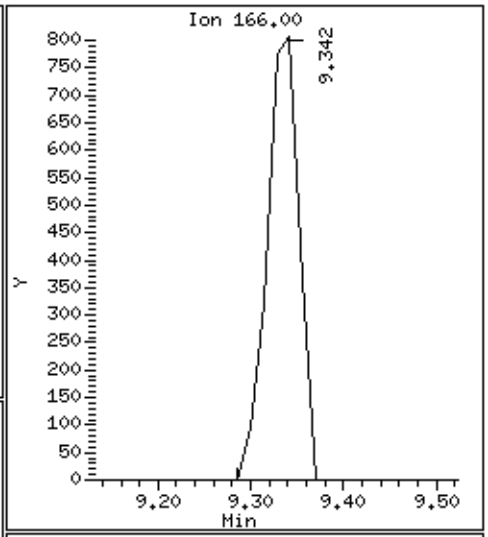
Concentration: 9.657 PPBV

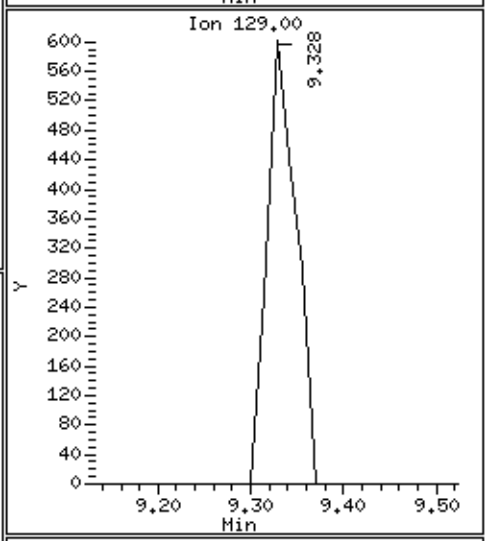


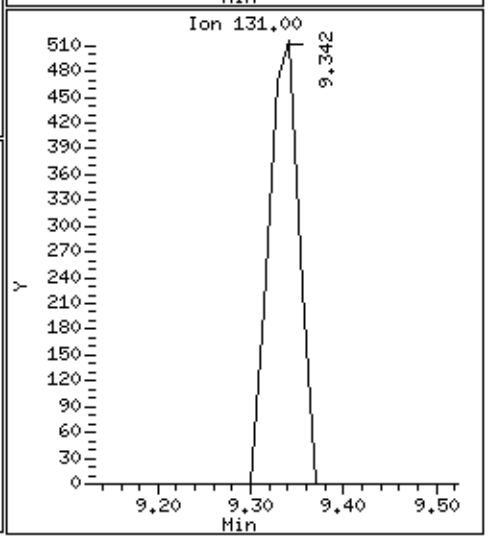












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212027F		
Lab ID:	1908555-05A	**Date/Time Analyzed:**	8/29/19 01:39 PM
Date/Time Collected:	8/20/19 09:18 AM	**Dilution Factor:**	2.41
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082911

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	29	49	82	860
Trichloroethene	79-01-6	19	39	65	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	100
4-Bromofluorobenzene	460-00-4	83-110	100
Toluene-d8	2037-26-5	86-115	100

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082911.d
Lab Smp Id: 1908555-05A
Inj Date : 29-AUG-2019 13:39
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #1L2953
Misc Info : 4.9"Hg->15psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.41000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	70805	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	55184			46.63- 106.63	77.94
5.298	5.294 (1.000)	49	77927			70.93- 130.93	110.06
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	271746	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41383			0.00- 45.07	15.23
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	250267	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	135181			24.37- 84.37	54.01
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	91232	400.578	400.58	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	46646			24.83- 84.83	51.13
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	277014	400.739	400.74	80.00- 120.00	100.00
8.475	8.459 (1.318)	70	30502			0.00- 41.24	11.01

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	175962			35.45- 95.45	63.52
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	150778	401.590	401.59	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	186007			91.49- 151.49	123.36
11.329	11.329 (1.098)	176	143379			65.46- 125.46	95.09
163 Tetrachloroethene					CAS #: 127-18-4		
9.342	9.330 (0.905)	166	26738	52.6337	126.85	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	20499			46.86- 106.86	76.67
9.328	9.328 (0.904)	131	19354			46.25- 106.25	72.38

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082911.d
Lab Smp Id: 1908555-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 4.9"Hg->15psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	70805	-6.91
127 1,4-Difluorobenze	286922	172153	401691	271746	-5.29
179 Chlorobenzene-d5	262234	157340	367128	250267	-4.56

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:42

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-05A
Level: LOW Operator: AK
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 4.9"Hg->15psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	400.58	100.14
$ 155 Toluene-d8	400.00	400.74	100.18
$ 198 4-Bromofluorobenzene	400.00	401.59	100.40

Data File: /chem/msd14.i/29AUG19.b/14082911.d

Date : 29-AUG-2019 13:39

Client ID:

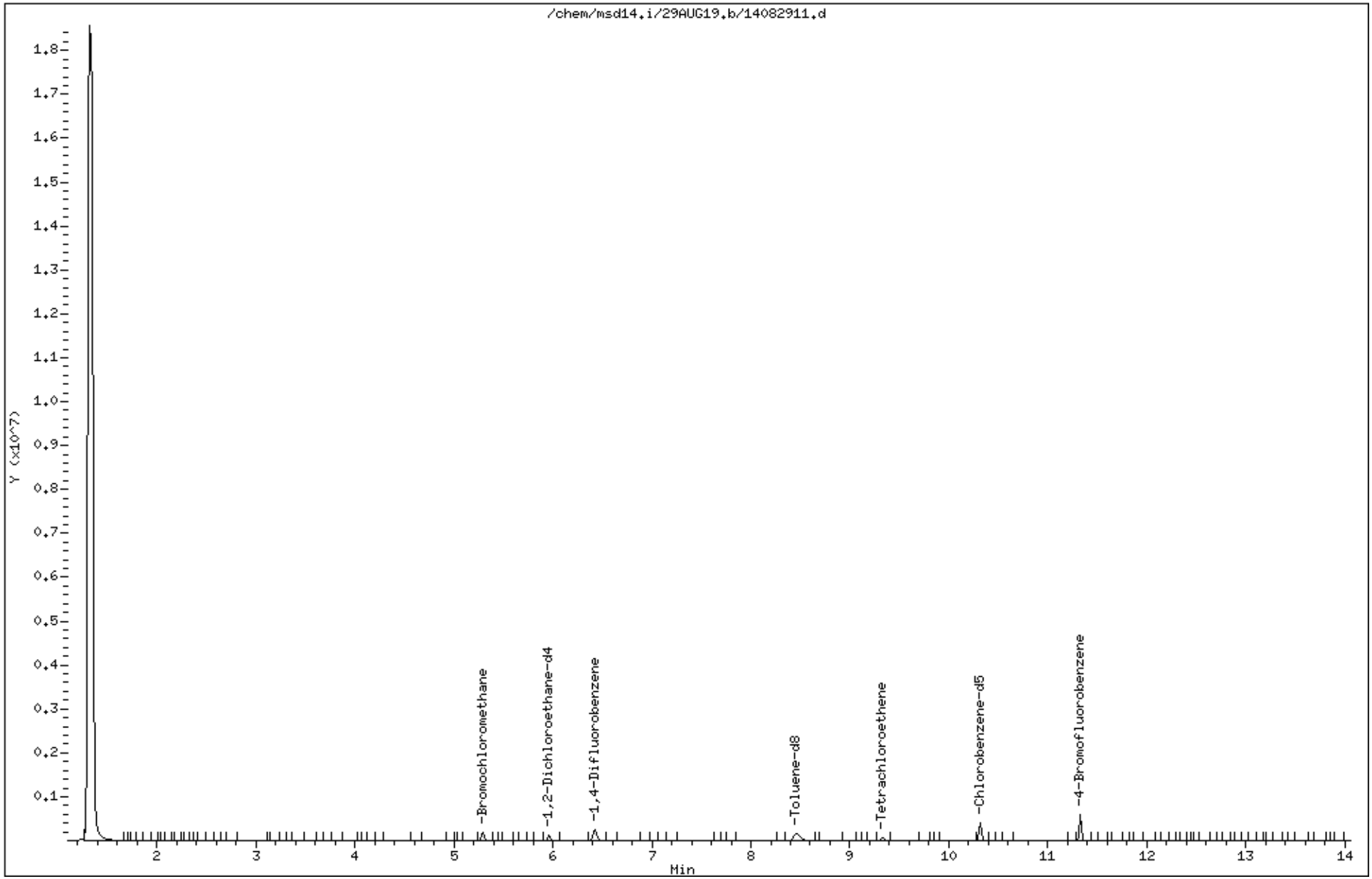
Instrument: msd14.i

Sample Info: 50mL #1L2953

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082911.d

Date : 29-AUG-2019 13:39

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2953

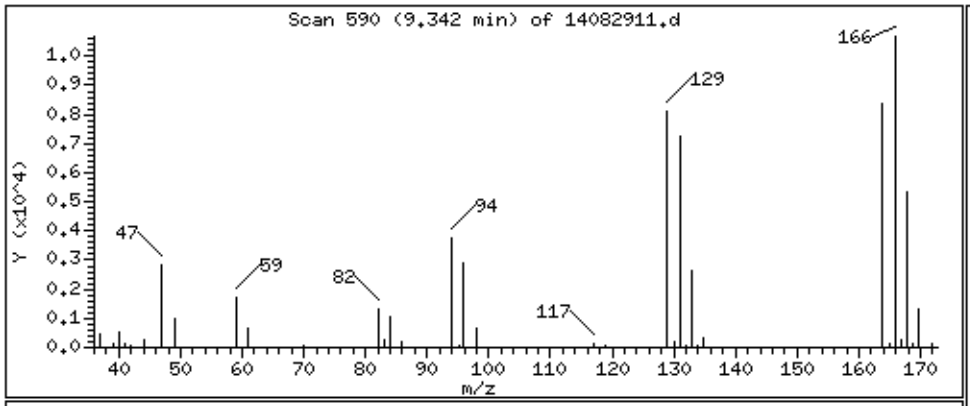
Operator: AK

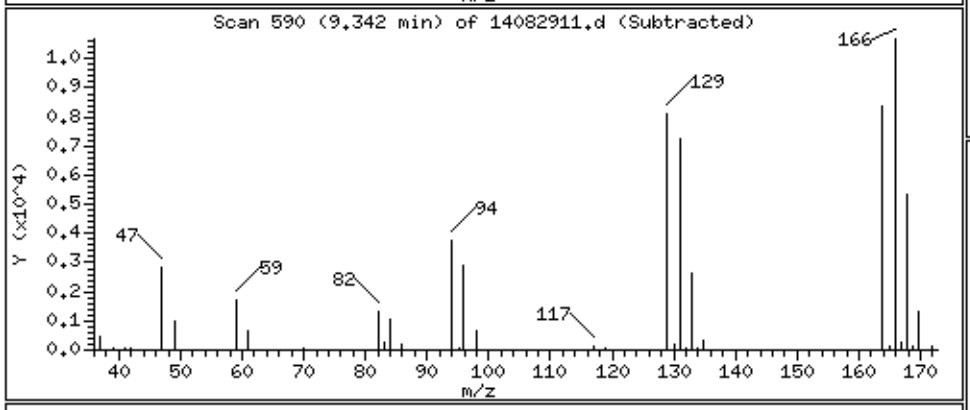
Column phase: RTX-624

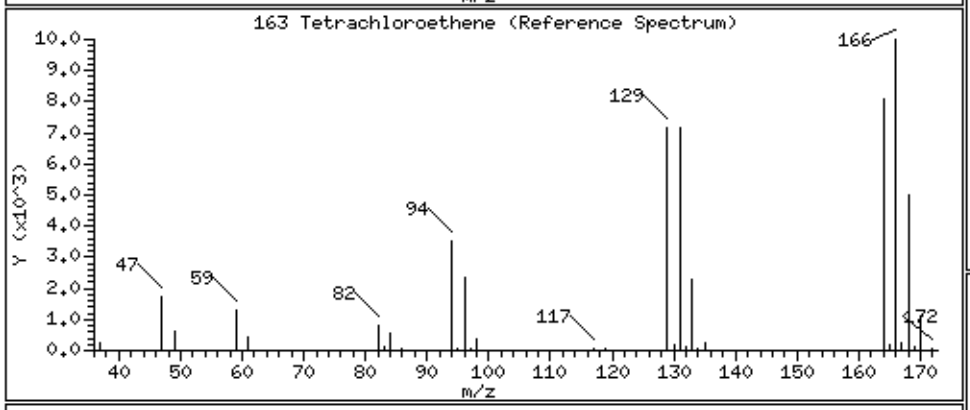
Column diameter: 0.18

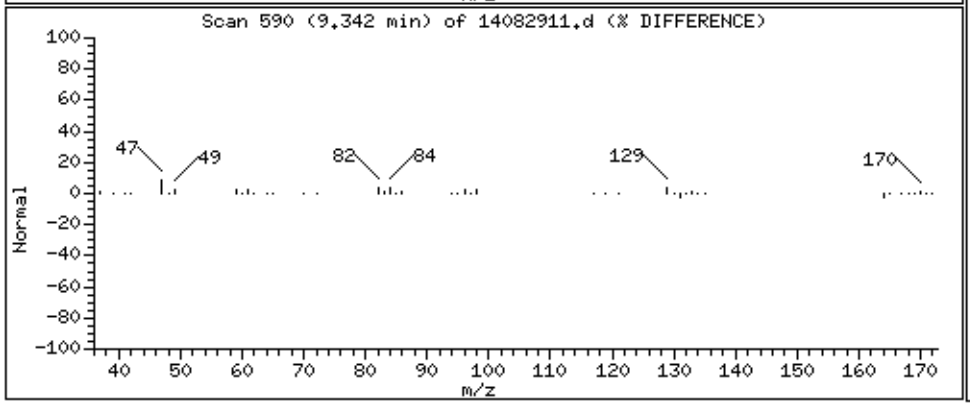
163 Tetrachloroethene

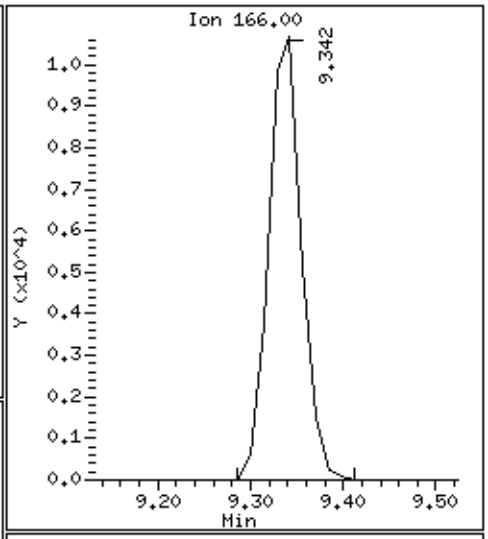
Concentration: 126.85 PPBV

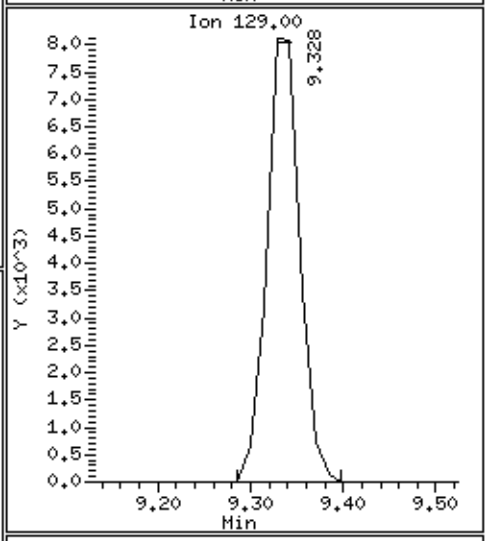


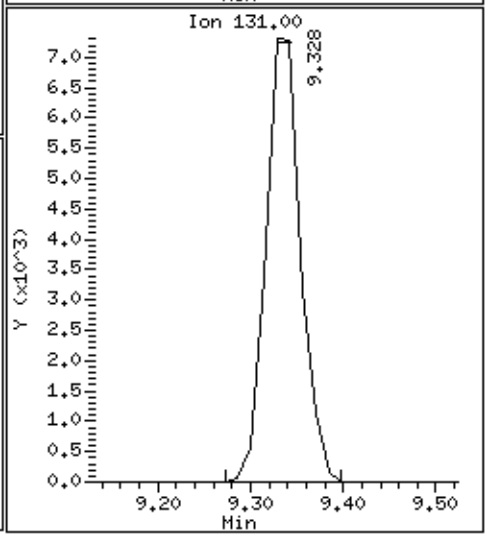












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212028F		
Lab ID:	1908555-06A	**Date/Time Analyzed:**	8/29/19 02:25 PM
Date/Time Collected:	8/20/19 09:21 AM	**Dilution Factor:**	2.34
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082913

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	28	48	79	630
Trichloroethene	79-01-6	19	38	63	45 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	110
4-Bromofluorobenzene	460-00-4	83-110	100
Toluene-d8	2037-26-5	86-115	98

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082913.d
Lab Smp Id: 1908555-06A
Inj Date : 29-AUG-2019 14:25
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L2779
Misc Info : 4.3"Hg->14.8psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.34000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	62819	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	49477			46.63- 106.63	78.76
5.298	5.294 (1.000)	49	69970			70.93- 130.93	111.38
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	272697	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41277			0.00- 45.07	15.14
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	252089	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	134053			24.37- 84.37	53.18
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	88588	438.417	438.42	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	45282			24.83- 84.83	51.12
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	271856	391.906	391.90	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	29547			0.00- 41.24	10.87

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.475	8.460 (1.318)	100	174816			35.45- 95.45	64.30
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	151239	399.906	399.91	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	184912			91.49- 151.49	122.26
11.329	11.329 (1.098)	176	144858			65.46- 125.46	95.78
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.037)	95	1322	3.56091	8.332	80.00- 120.00	100.00(a)
6.684	6.671 (1.039)	130	958			78.88- 138.88	72.47
6.684	6.671 (1.039)	97	525			35.90- 95.90	39.73
163 Tetrachloroethene					CAS #: 127-18-4		
9.342	9.330 (0.905)	166	20327	39.7244	92.955	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	16834			46.86- 106.86	82.82
9.328	9.328 (0.904)	131	15606			46.25- 106.25	76.77

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082913.d
Lab Smp Id: 1908555-06A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 4.3"Hg->14.8psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	62819	-17.41
127 1,4-Difluorobenze	286922	172153	401691	272697	-4.96
179 Chlorobenzene-d5	262234	157340	367128	252089	-3.87

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:43

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-06A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 4.3"Hg->14.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	438.42	109.60
$ 155 Toluene-d8	400.00	391.90	97.98
$ 198 4-Bromofluorobenzene	400.00	399.91	99.98

Data File: /chem/msd14.i/29AUG19.b/14082913.d

Date : 29-AUG-2019 14:25

Client ID:

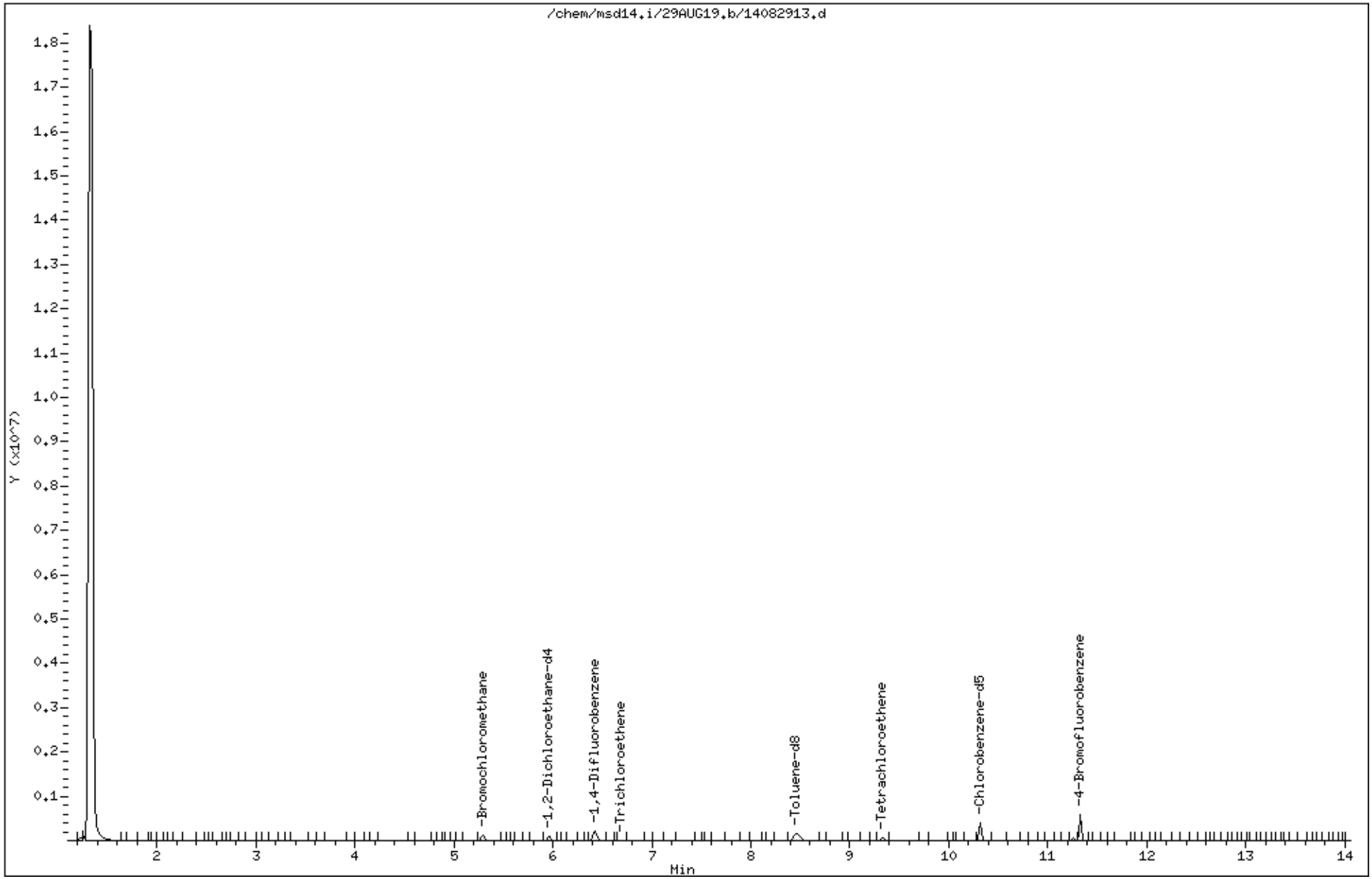
Instrument: msd14.i

Sample Info: 50mL #1L2779

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082913.d

Date : 29-AUG-2019 14:25

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2779

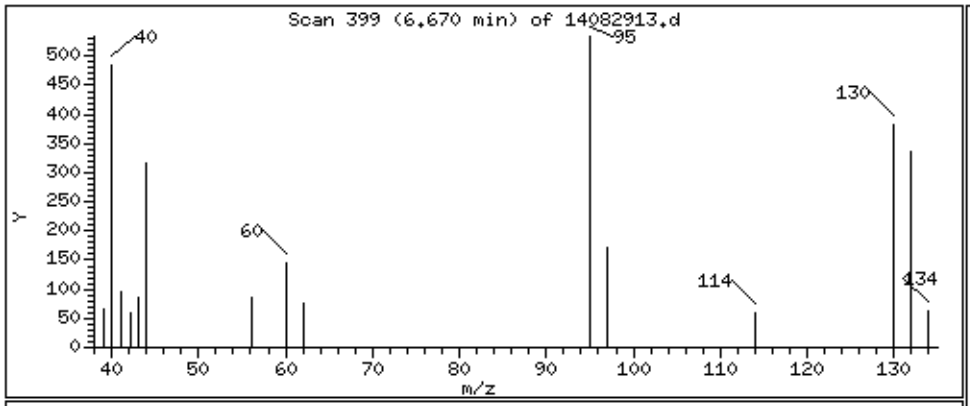
Operator: kk

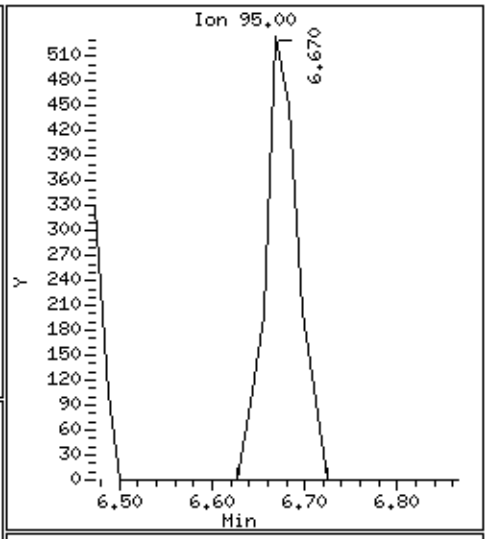
Column phase: RTX-624

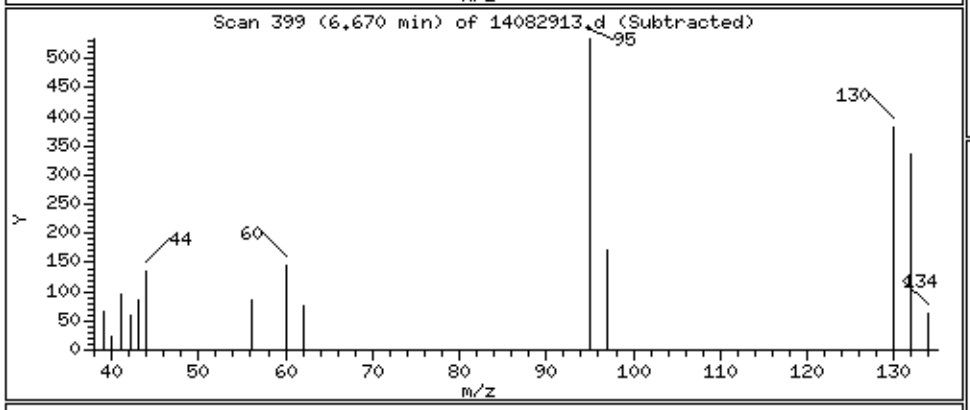
Column diameter: 0.18

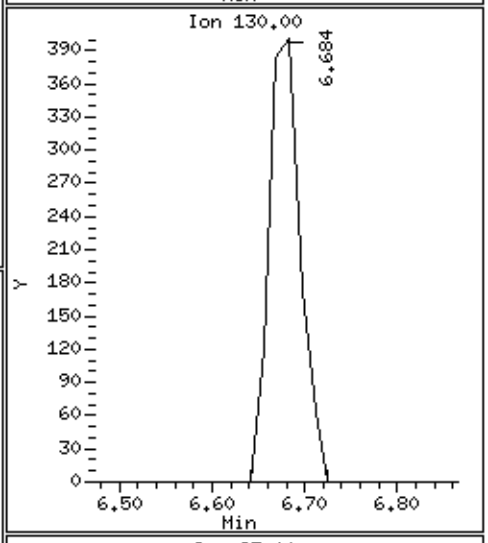
129 Trichloroethene

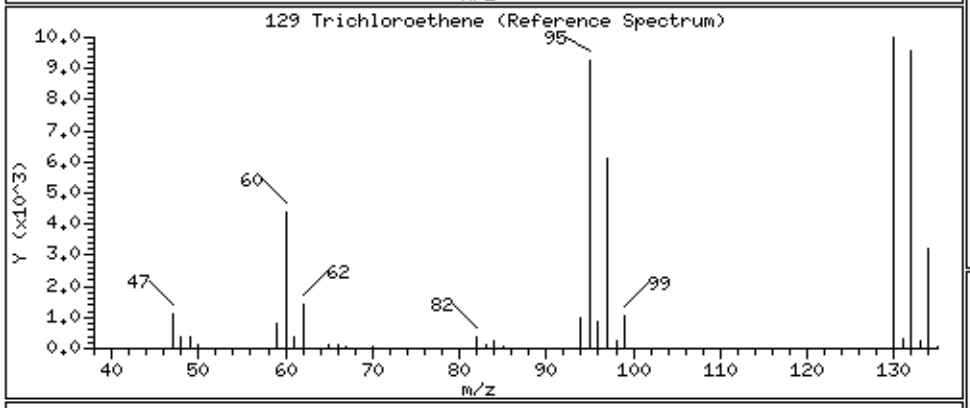
Concentration: 8.332 PPBV

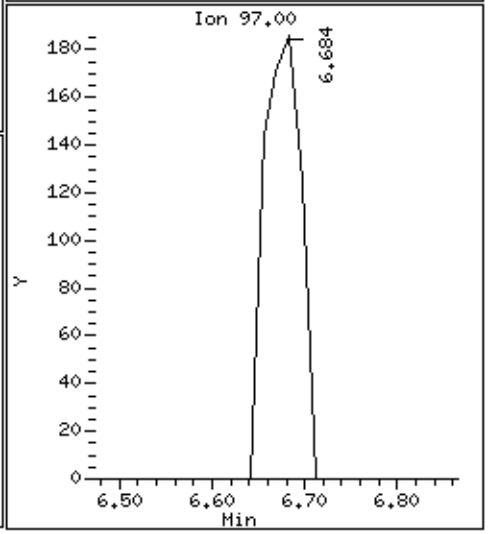


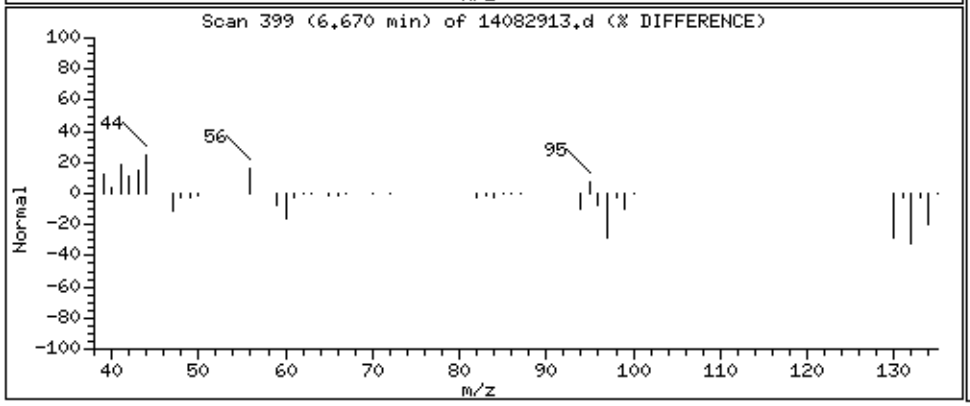












Data File: /chem/msd14.i/29AUG19.b/14082913.d

Date : 29-AUG-2019 14:25

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2779

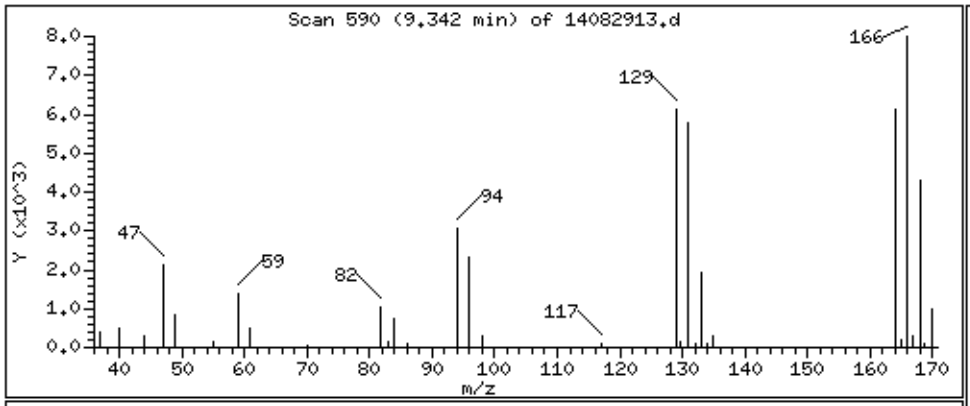
Operator: kk

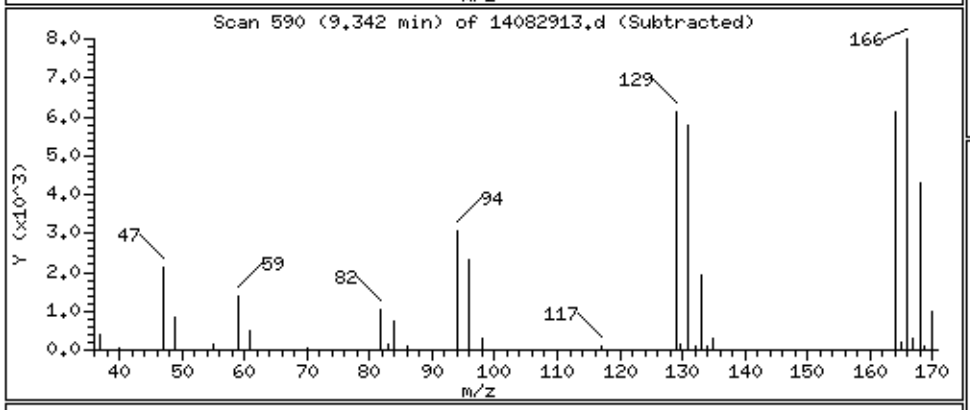
Column phase: RTX-624

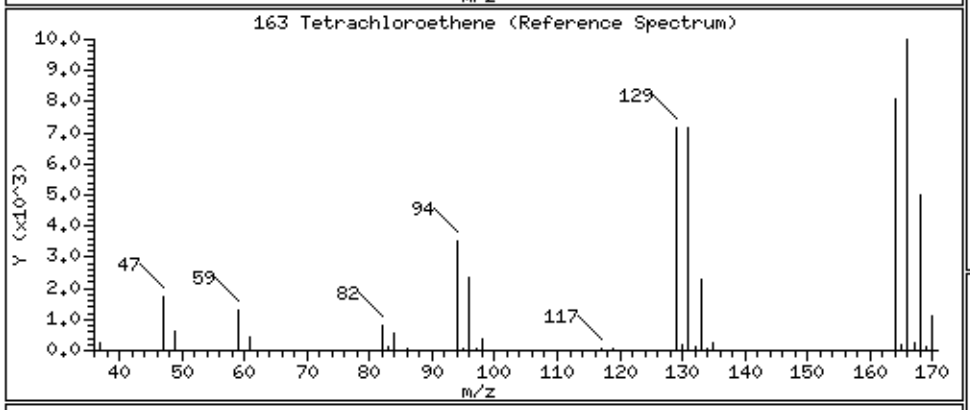
Column diameter: 0.18

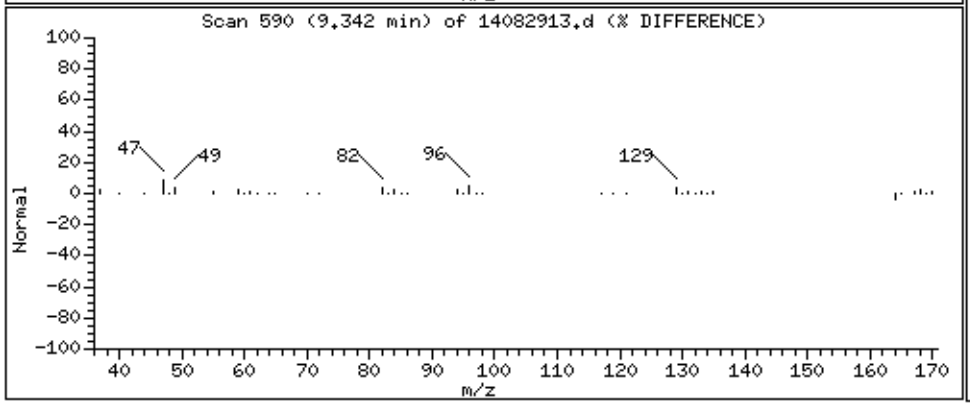
163 Tetrachloroethene

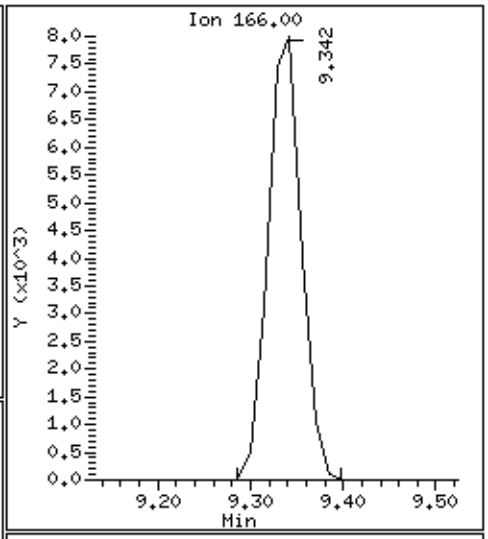
Concentration: 92.955 PPBV

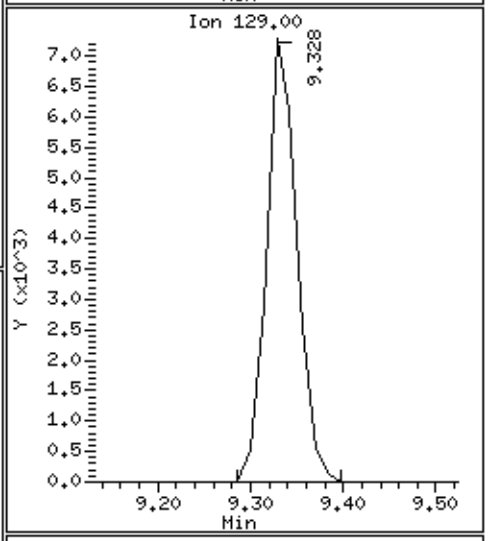


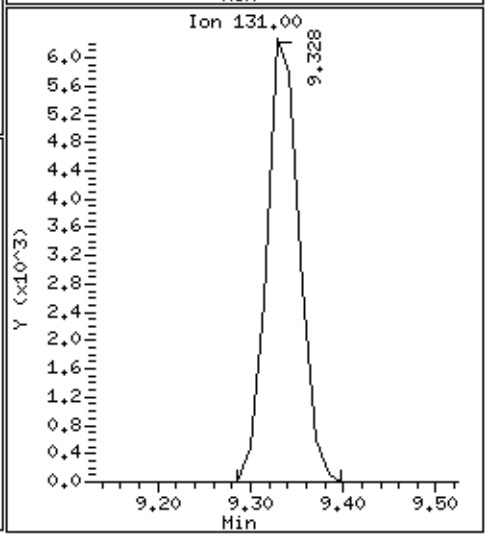












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212029F		
Lab ID:	1908555-07A	**Date/Time Analyzed:**	8/29/19 02:46 PM
Date/Time Collected:	8/20/19 11:12 AM	**Dilution Factor:**	2.68
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082914

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	32	54	91	810
Trichloroethene	79-01-6	21	43	72	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	101
4-Bromofluorobenzene	460-00-4	83-110	99
Toluene-d8	2037-26-5	86-115	99

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082914.d
Lab Smp Id: 1908555-07A
Inj Date : 29-AUG-2019 14:46
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1368
Misc Info : 7.3"Hg->15psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.68000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	69286	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	53902			46.63- 106.63	77.80
5.298	5.294 (1.000)	49	74217			70.93- 130.93	107.12
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	267952	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41859			0.00- 45.07	15.62
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	250191	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	131422			24.37- 84.37	52.53
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	90291	405.138	405.14	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	45843			24.83- 84.83	50.77
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	271105	397.744	397.74	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	29673			0.00- 41.24	10.95

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	175459			35.45- 95.45	64.72
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	149336	397.870	397.87	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	184654			91.49- 151.49	123.65
11.329	11.329 (1.098)	176	142885			65.46- 125.46	95.68
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	22754	44.8048	120.08	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	16812			46.86- 106.86	73.89
9.328	9.328 (0.904)	131	16795			46.25- 106.25	73.81

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082914.d
Lab Smp Id: 1908555-07A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 7.3"Hg->15psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	69286	-8.91
127 1,4-Difluorobenze	286922	172153	401691	267952	-6.61
179 Chlorobenzene-d5	262234	157340	367128	250191	-4.59

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:43

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-07A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 7.3"Hg->15psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	405.14	101.28
$ 155 Toluene-d8	400.00	397.74	99.44
$ 198 4-Bromofluorobenzene	400.00	397.87	99.47

Data File: /chem/msd14.i/29AUG19.b/14082914.d

Date : 29-AUG-2019 14:46

Client ID:

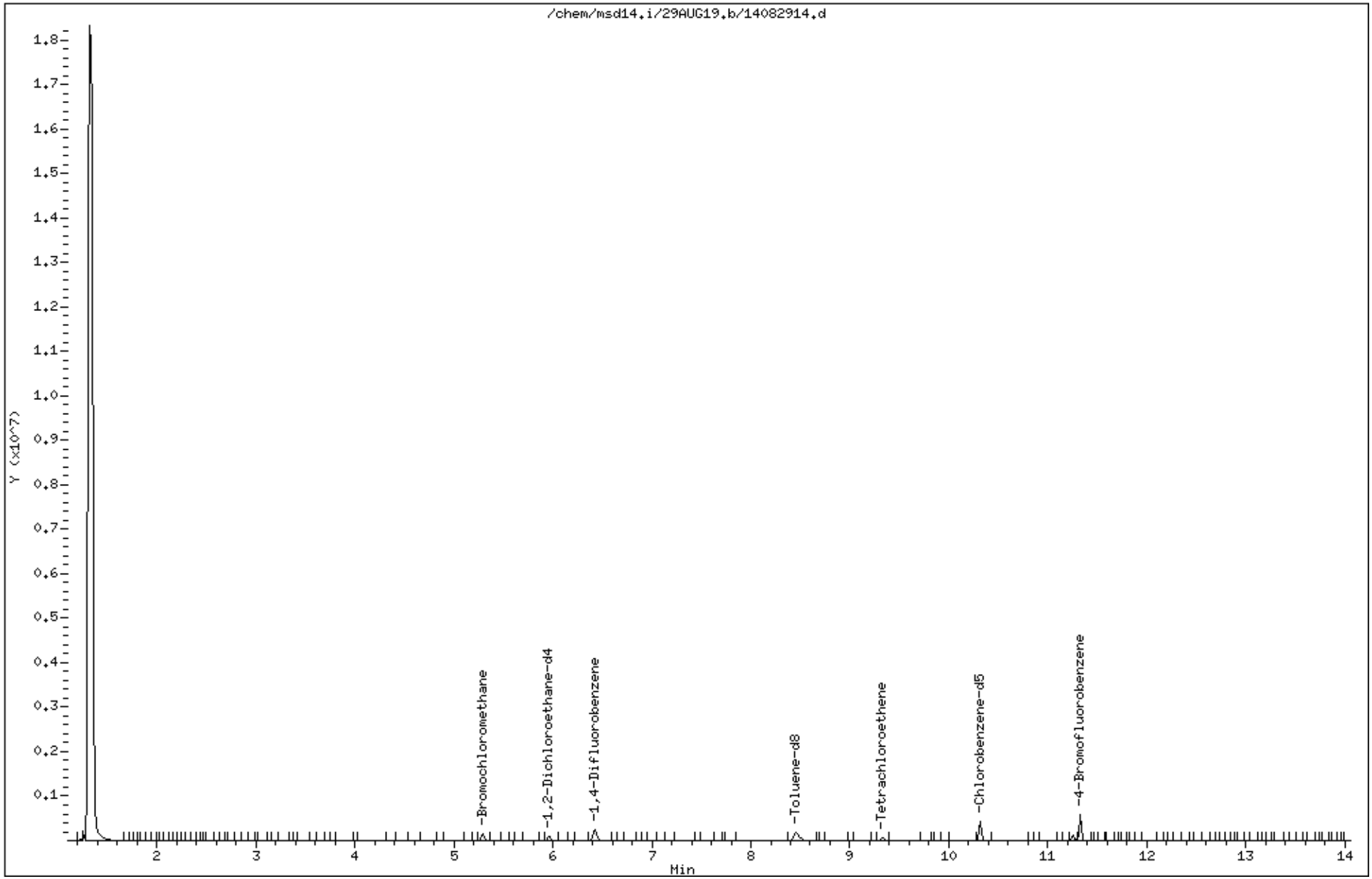
Instrument: msd14.i

Sample Info: 50mL #1368

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082914.d

Date : 29-AUG-2019 14:46

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1368

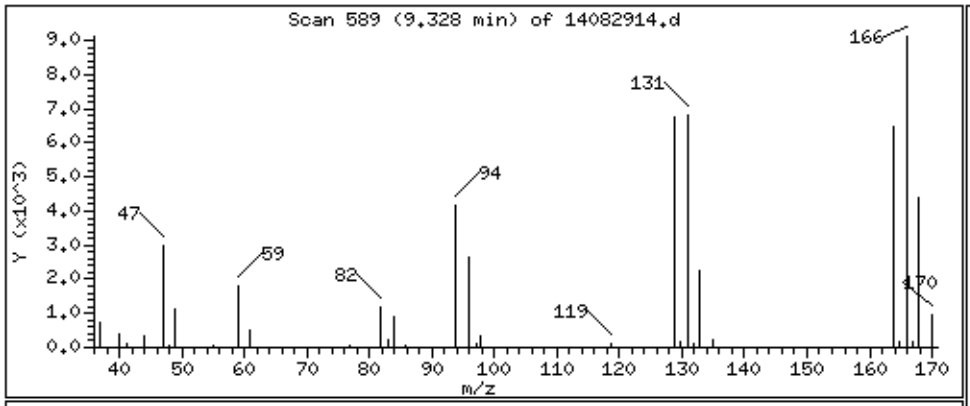
Operator: kk

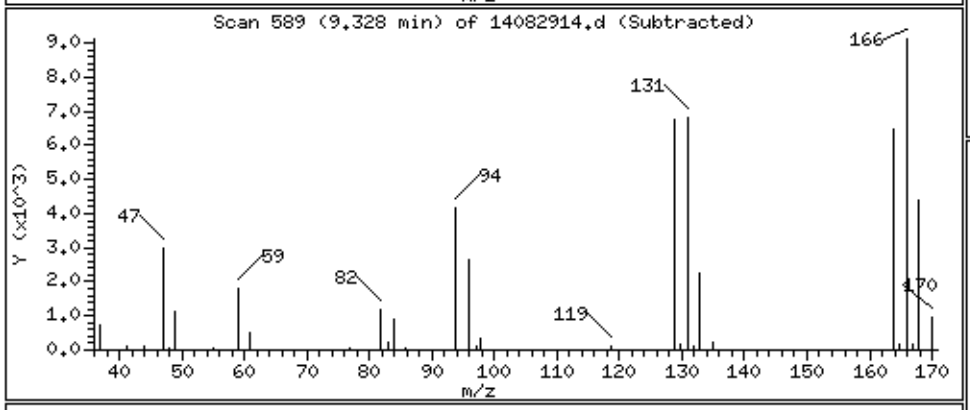
Column phase: RTX-624

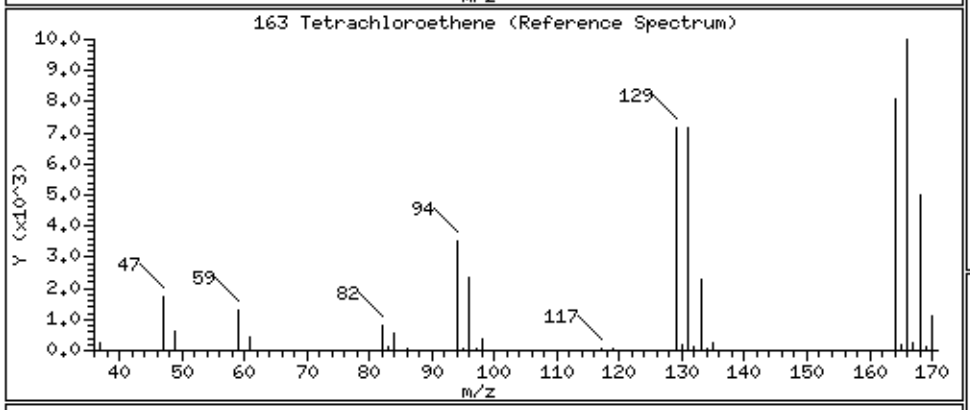
Column diameter: 0.18

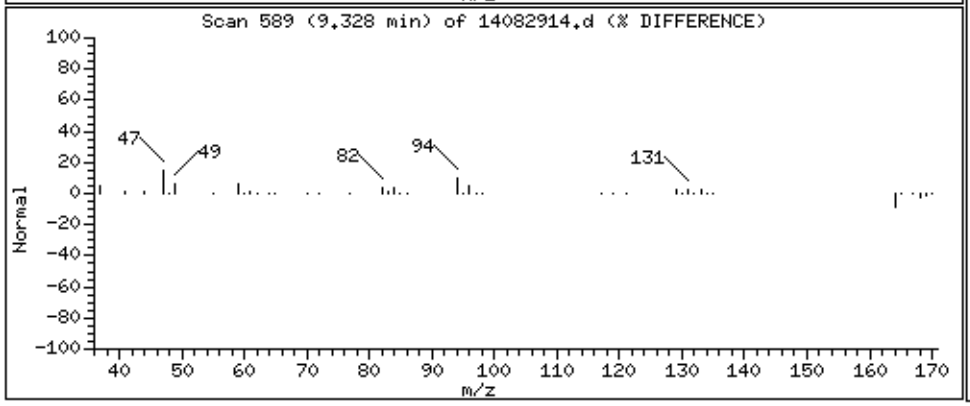
163 Tetrachloroethene

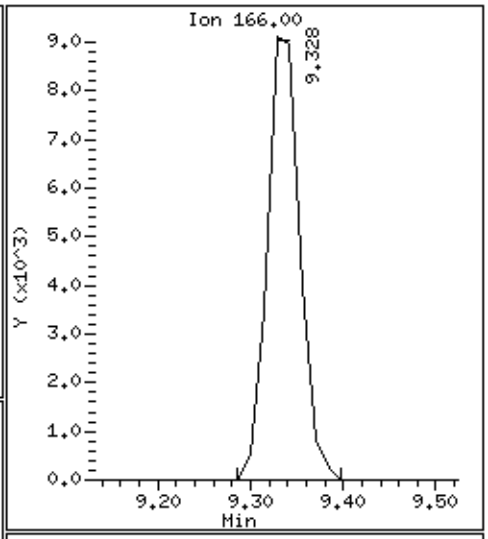
Concentration: 120.08 PPBV

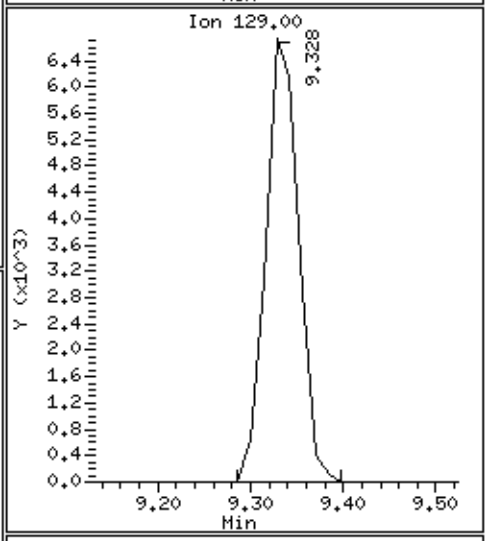


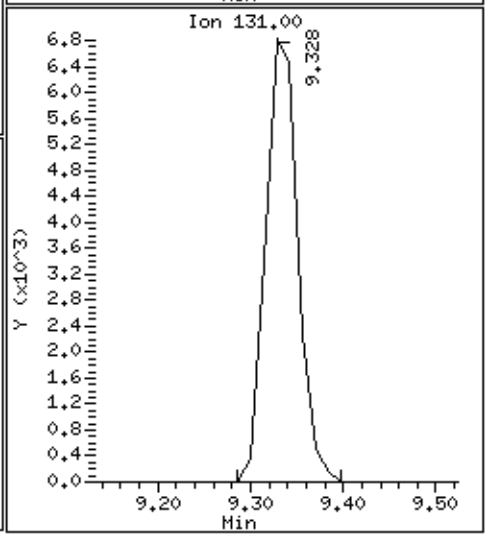












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212030F		
Lab ID:	1908555-08A	**Date/Time Analyzed:**	8/29/19 03:08 PM
Date/Time Collected:	8/20/19 11:15 AM	**Dilution Factor:**	2.56
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082915

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	30	52	87	570
Trichloroethene	79-01-6	20	41	69	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	107
4-Bromofluorobenzene	460-00-4	83-110	102
Toluene-d8	2037-26-5	86-115	101

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082915.d
Lab Smp Id: 1908555-08A
Inj Date : 29-AUG-2019 15:08
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L2344
Misc Info : 6.5"Hg->14.7psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.56000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	63155	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	51270			46.63- 106.63	81.18
5.298	5.294 (1.000)	49	71895			70.93- 130.93	113.84
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	264102	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41699			0.00- 45.07	15.79
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	241314	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	132500			24.37- 84.37	54.91
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	87232	429.410	429.41	80.00- 120.00	100.00
5.970	5.956 (1.127)	67	45786			24.83- 84.83	52.49
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	271420	404.011	404.01	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	29253			0.00- 41.24	10.78

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	171928			35.45- 95.45	63.34
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	147071	406.250	406.25	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	181765			91.49- 151.49	123.59
11.329	11.329 (1.098)	176	142231			65.46- 125.46	96.71
163 Tetrachloroethene					CAS #: 127-18-4		
9.342	9.330 (0.905)	166	16042	32.7502	83.841	80.00- 120.00	100.00
9.342	9.330 (0.905)	129	12580			46.86- 106.86	78.42
9.328	9.328 (0.904)	131	11988			46.25- 106.25	74.73

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082915.d
Lab Smp Id: 1908555-08A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.5"Hg->14.7psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	63155	-16.97
127 1,4-Difluorobenze	286922	172153	401691	264102	-7.95
179 Chlorobenzene-d5	262234	157340	367128	241314	-7.98

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:44

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-08A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.5"Hg->14.7psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	429.41	107.35
$ 155 Toluene-d8	400.00	404.01	101.00
$ 198 4-Bromofluorobenzene	400.00	406.25	101.56

Data File: /chem/msd14.i/29AUG19.b/14082915.d

Date : 29-AUG-2019 15:08

Client ID:

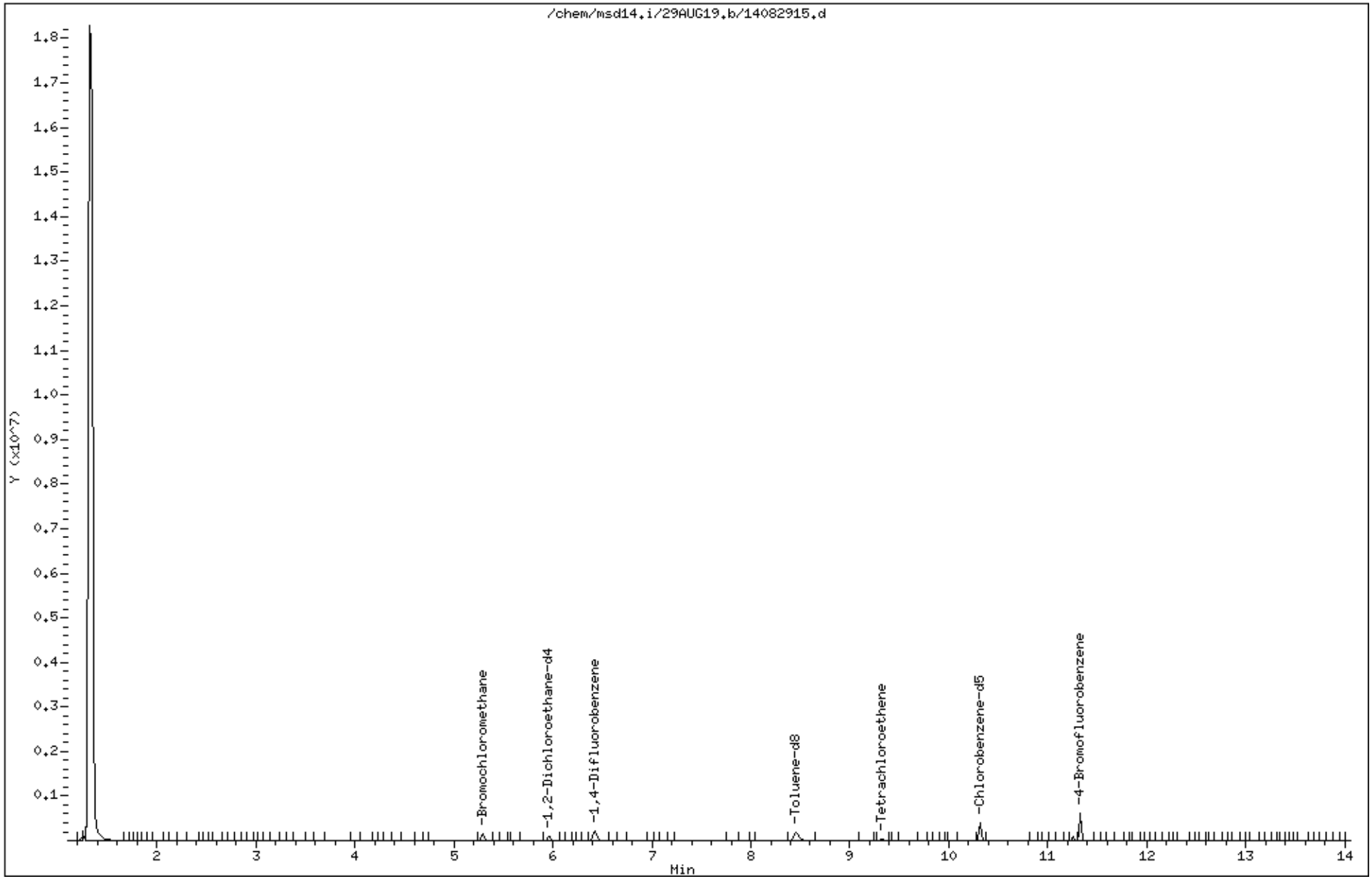
Instrument: msd14.i

Sample Info: 50mL #1L2344

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082915.d

Date : 29-AUG-2019 15:08

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2344

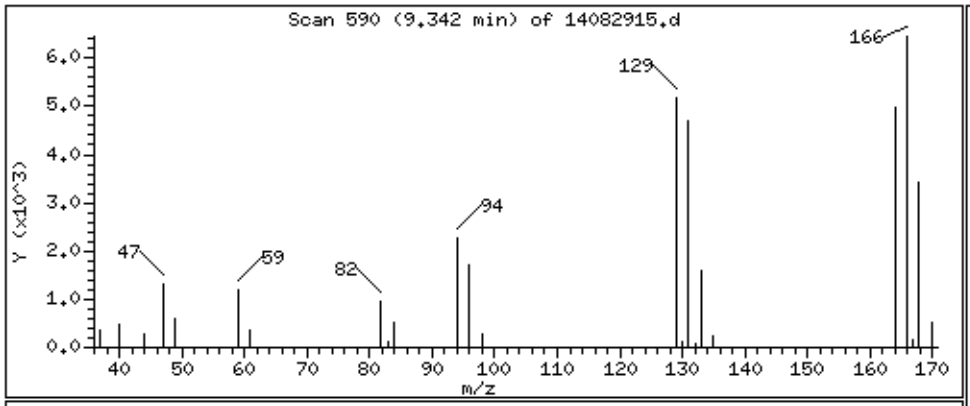
Operator: kk

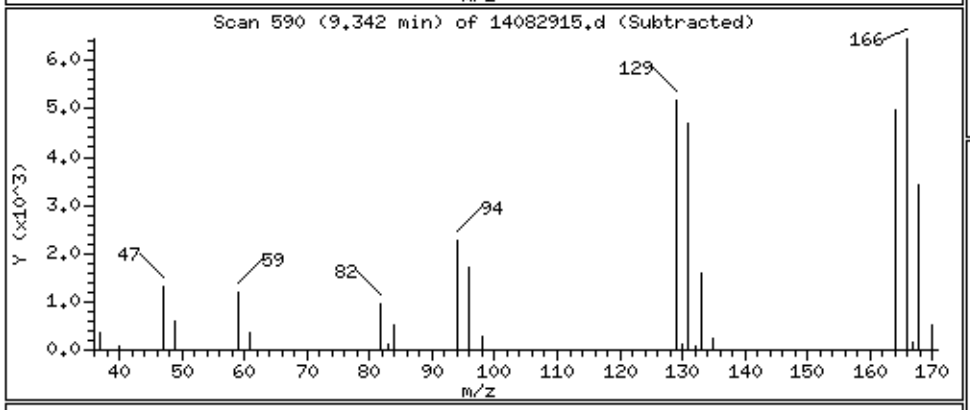
Column phase: RTX-624

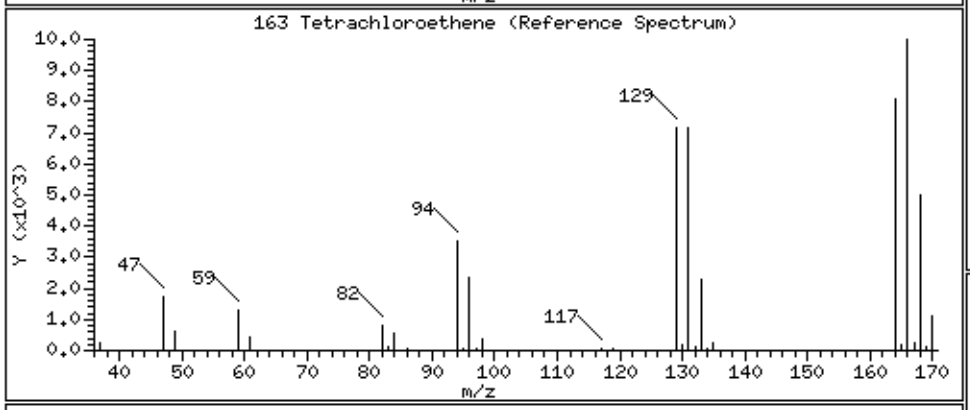
Column diameter: 0.18

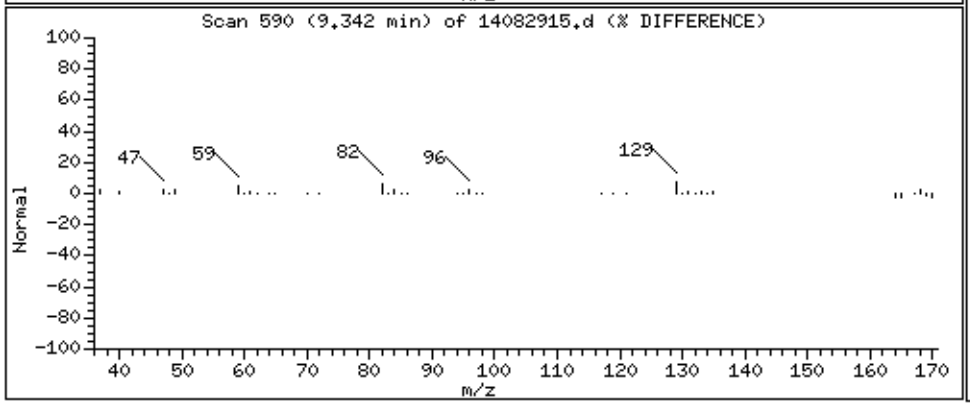
163 Tetrachloroethene

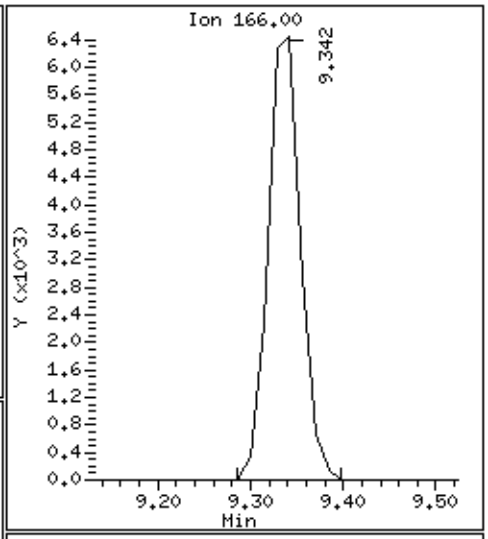
Concentration: 83.841 PPBV

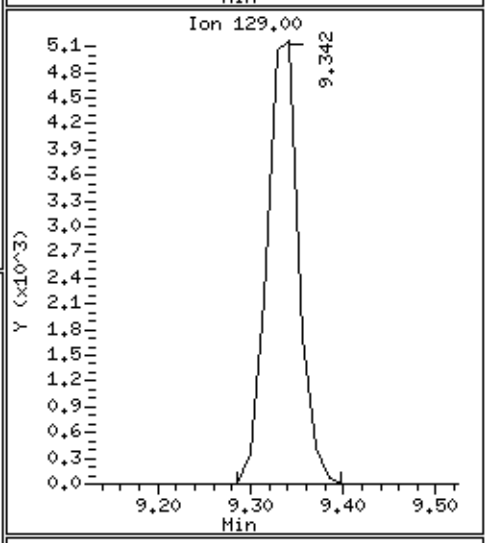


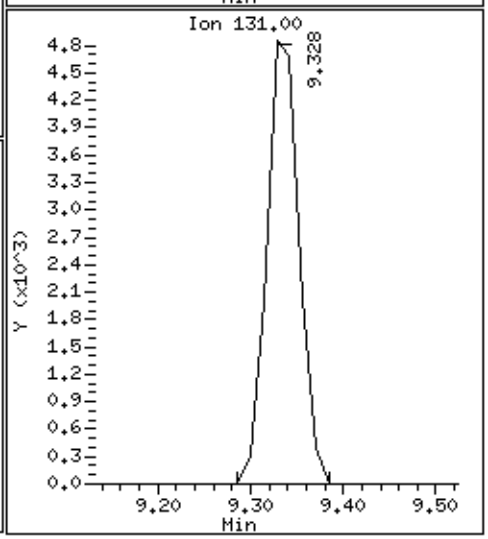












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212031F		
Lab ID:	1908555-09A	**Date/Time Analyzed:**	8/29/19 03:29 PM
Date/Time Collected:	8/20/19 02:58 PM	**Dilution Factor:**	2.55
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082916

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	30	52	86	1300
Trichloroethene	79-01-6	20	41	68	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	102
4-Bromofluorobenzene	460-00-4	83-110	99
Toluene-d8	2037-26-5	86-115	101

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082916.d
Lab Smp Id: 1908555-09A
Inj Date : 29-AUG-2019 15:29
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L1518
Misc Info : 6.3"Hg->14.9psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.55000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
RT	EXP RT (REL RT)	MASS	RESPONSE					
* 97 Bromochloromethane						CAS #: 74-97-5		
5.298	5.297 (1.000)	130	66802	400.000			80.00- 120.00	100.00
5.298	5.298 (1.000)	128	53219				46.63- 106.63	79.67
5.298	5.294 (1.000)	49	75137				70.93- 130.93	112.48
* 127 1,4-Difluorobenzene						CAS #: 540-36-3		
6.432	6.430 (1.000)	114	265656	400.000			80.00- 120.00	100.00
6.432	6.427 (1.000)	88	40431				0.00- 45.07	15.22
* 179 Chlorobenzene-d5						CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	245641	400.000			80.00- 120.00	100.00
10.321	10.321 (1.000)	82	130633				24.37- 84.37	53.18
$ 119 1,2-Dichloroethane-d4						CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	87514	407.279	407.28		80.00- 120.00	100.00
5.956	5.956 (1.124)	67	43586				24.83- 84.83	49.80
$ 155 Toluene-d8						CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	272005	402.513	402.51		80.00- 120.00	100.00
8.461	8.459 (1.315)	70	29640				0.00- 41.24	10.90

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	172434			35.45- 95.45	63.39
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	145757	395.528	395.53	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	180798			91.49- 151.49	124.04
11.329	11.329 (1.098)	176	140594			65.46- 125.46	96.46
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	37137	74.4808	189.93	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	28187			46.86- 106.86	75.90
9.328	9.328 (0.904)	131	27525			46.25- 106.25	74.12

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082916.d
Lab Smp Id: 1908555-09A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.3"Hg->14.9psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	66802	-12.17
127 1,4-Difluorobenze	286922	172153	401691	265656	-7.41
179 Chlorobenzene-d5	262234	157340	367128	245641	-6.33

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:44

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-09A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.3"Hg->14.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	407.28	101.82
$ 155 Toluene-d8	400.00	402.51	100.63
$ 198 4-Bromofluorobenzene	400.00	395.53	98.88

Data File: /chem/msd14.i/29AUG19.b/14082916.d

Date : 29-AUG-2019 15:29

Client ID:

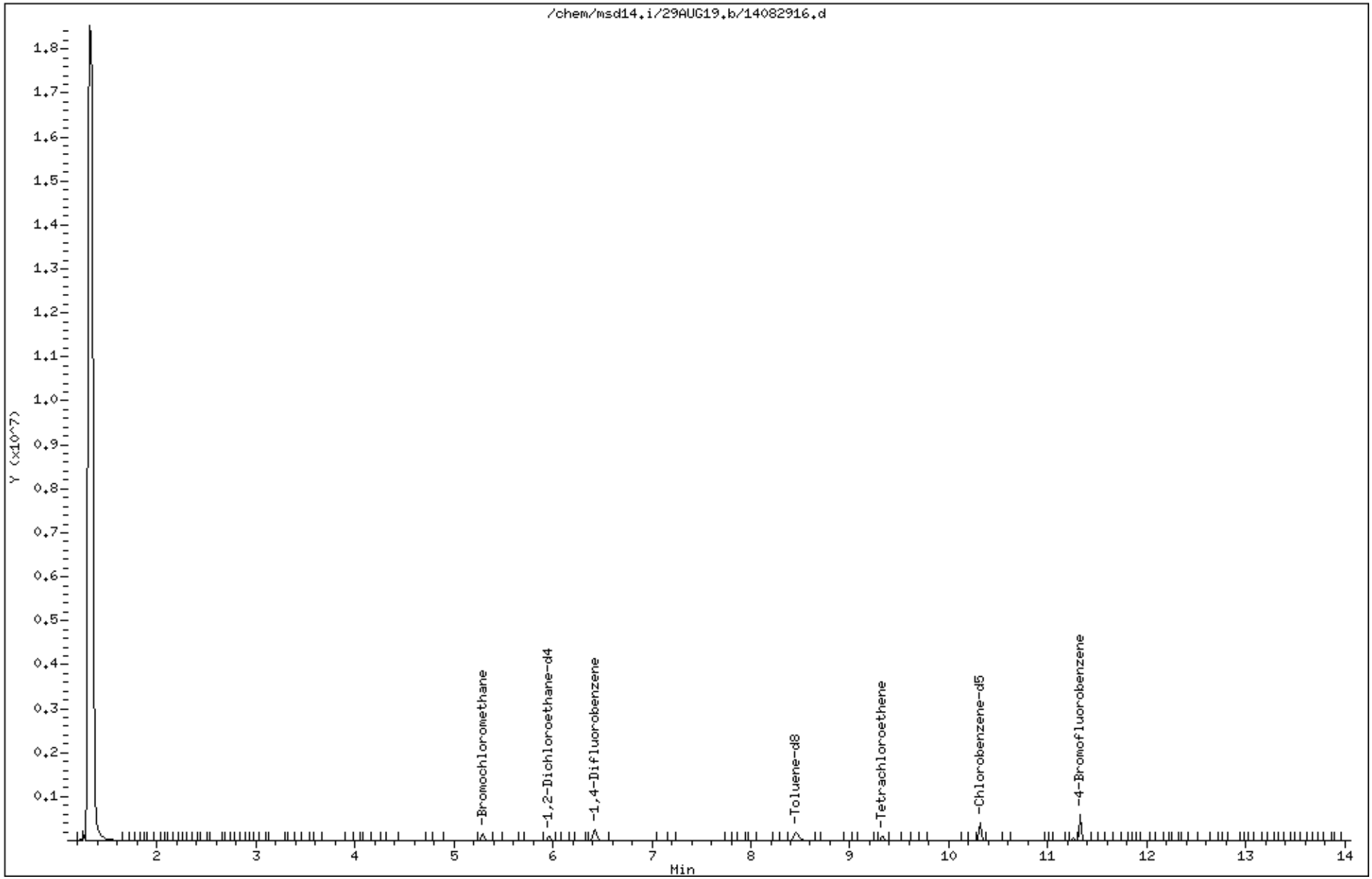
Instrument: msd14.i

Sample Info: 50mL #1L1518

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082916.d

Date : 29-AUG-2019 15:29

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L1518

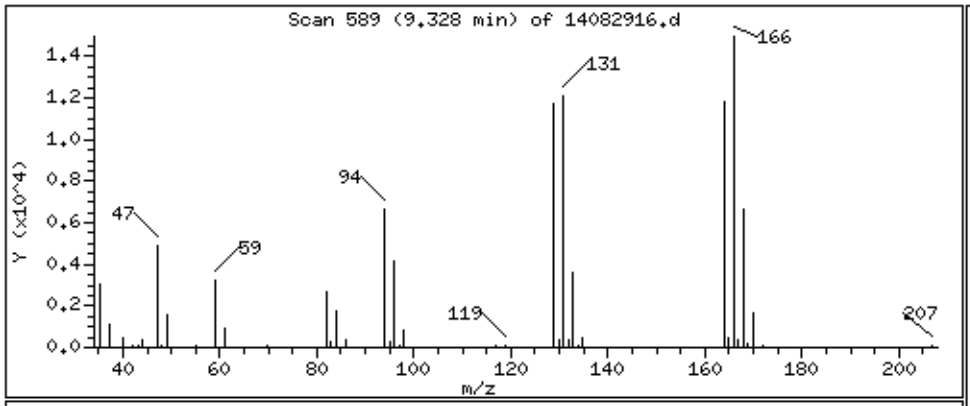
Operator: kk

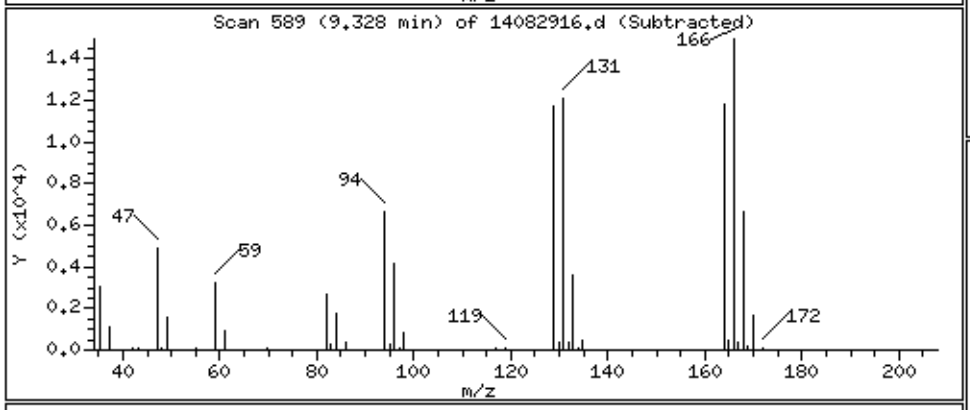
Column phase: RTX-624

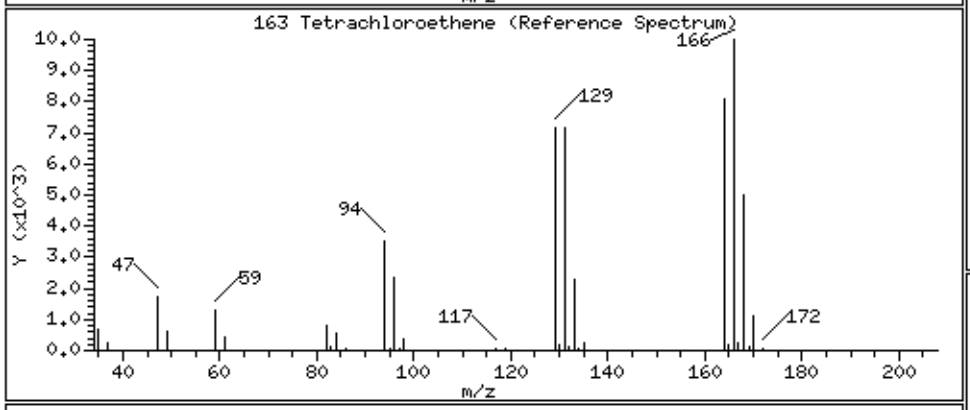
Column diameter: 0.18

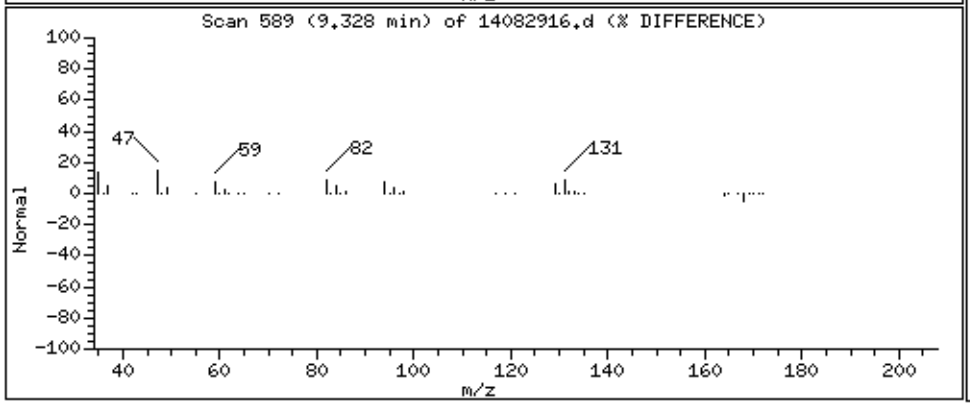
163 Tetrachloroethene

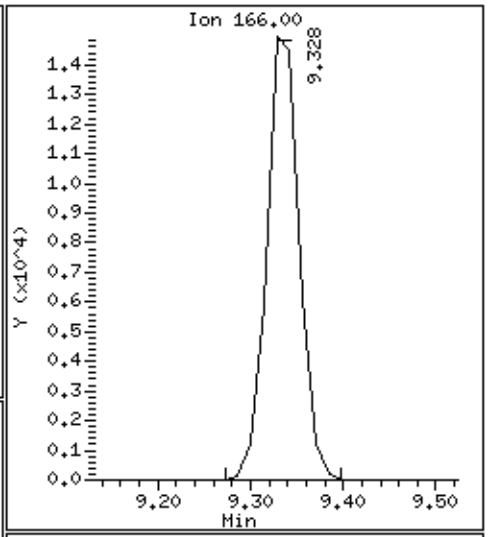
Concentration: 189.93 PPBV

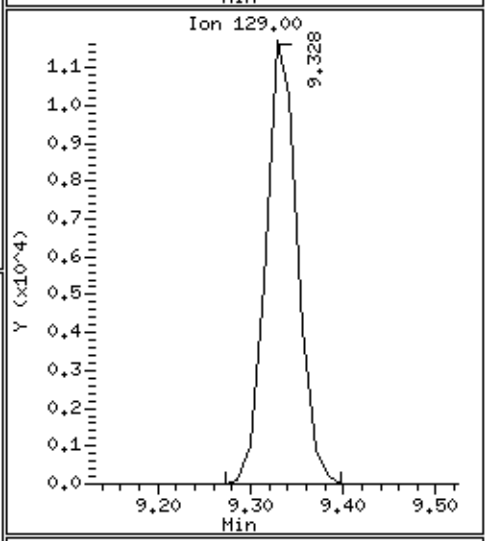


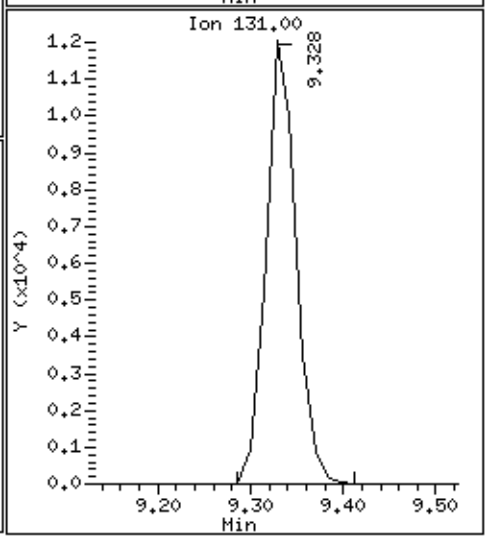












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212032D		
Lab ID:	1908555-10A	**Date/Time Analyzed:**	8/29/19 03:49 PM
Date/Time Collected:	8/20/19 03:04 PM	**Dilution Factor:**	2.60
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082917

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	31	53	88	1200
Trichloroethene	79-01-6	21	42	70	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	104
4-Bromofluorobenzene	460-00-4	83-110	98
Toluene-d8	2037-26-5	86-115	100

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082917.d
Lab Smp Id: 1908555-10A
Inj Date : 29-AUG-2019 15:49
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L3081
Misc Info : 6.7"Hg->14.9psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.60000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	65997	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	52700			46.63- 106.63	79.85
5.298	5.294 (1.000)	49	72426			70.93- 130.93	109.74
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	263744	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	40343			0.00- 45.07	15.30
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	245594	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	130177			24.37- 84.37	53.01
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	88041	414.729	414.73	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	46837			24.83- 84.83	53.20
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	267368	398.520	398.52	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	28630			0.00- 41.24	10.71

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	174047			35.45- 95.45	65.10
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	144704	392.746	392.74	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	175315			91.49- 151.49	121.15
11.329	11.329 (1.098)	176	140026			65.46- 125.46	96.77
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	34448	69.1011	179.66	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	26549			46.86- 106.86	77.07
9.328	9.328 (0.904)	131	25834			46.25- 106.25	75.00

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082917.d
Lab Smp Id: 1908555-10A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.7"Hg->14.9psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	65997	-13.23
127 1,4-Difluorobenze	286922	172153	401691	263744	-8.08
179 Chlorobenzene-d5	262234	157340	367128	245594	-6.35

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:44

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-10A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.7"Hg->14.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	414.73	103.68
$ 155 Toluene-d8	400.00	398.52	99.63
$ 198 4-Bromofluorobenzene	400.00	392.74	98.19

Data File: /chem/msd14.i/29AUG19.b/14082917.d

Date : 29-AUG-2019 15:49

Client ID:

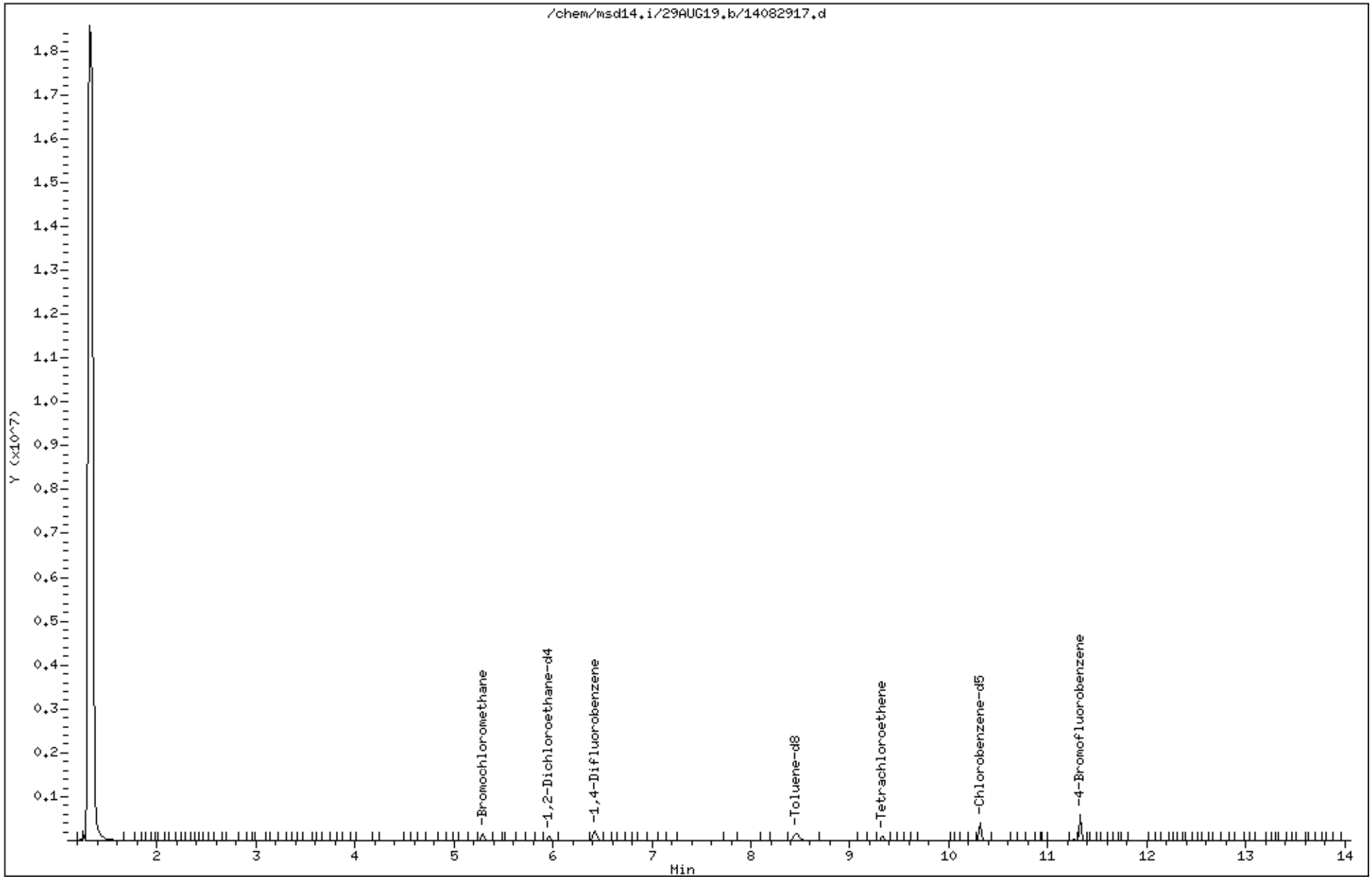
Instrument: msd14.i

Sample Info: 50mL #1L3081

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082917.d

Date : 29-AUG-2019 15:49

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L3081

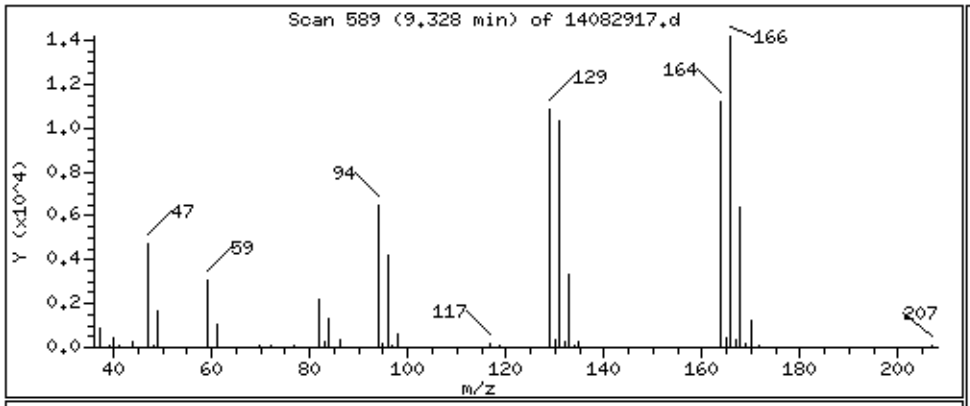
Operator: kk

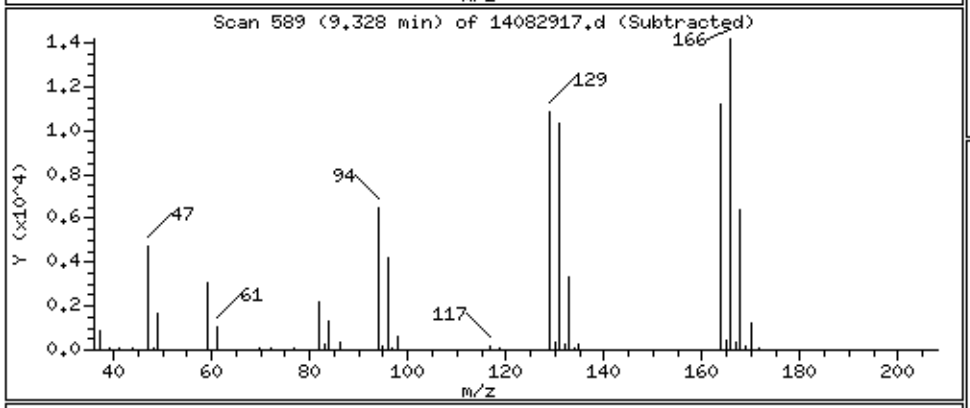
Column phase: RTX-624

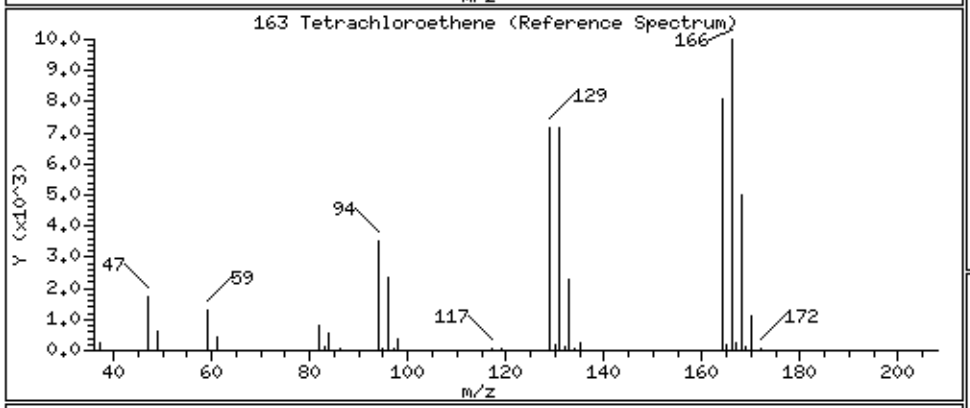
Column diameter: 0.18

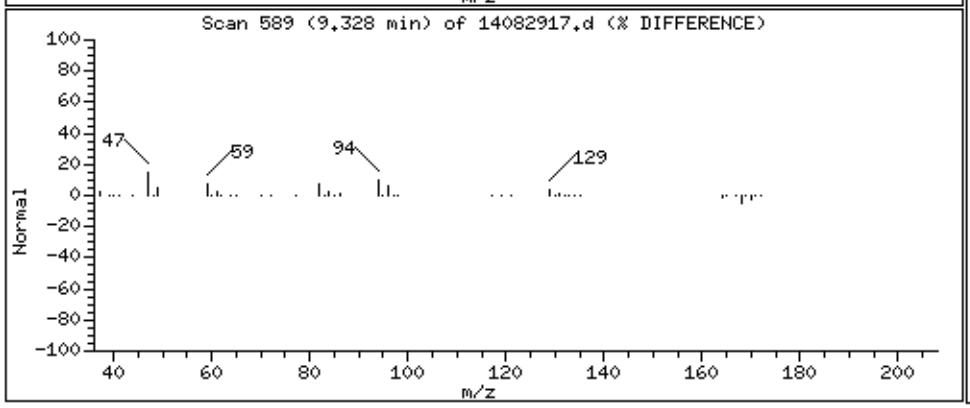
163 Tetrachloroethene

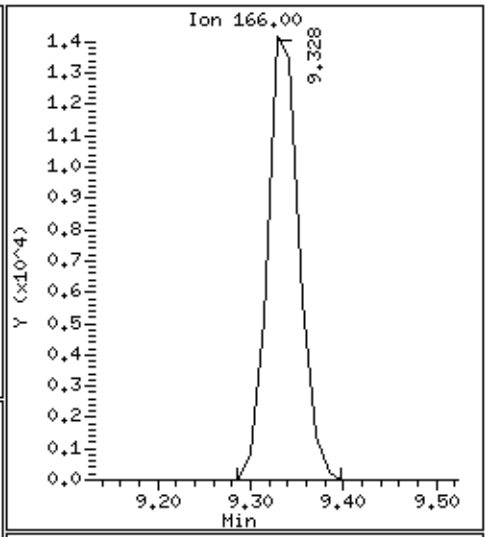
Concentration: 179.66 PPBV

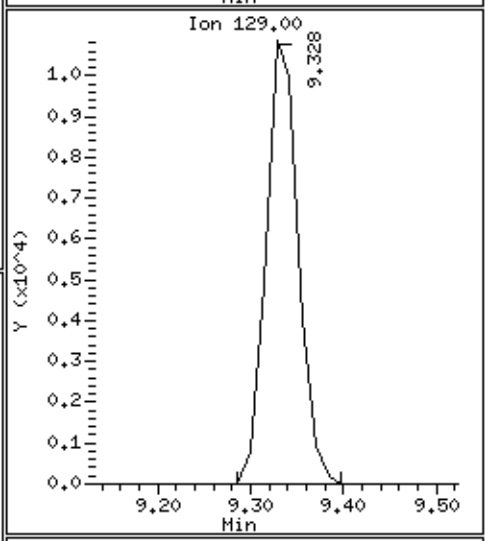


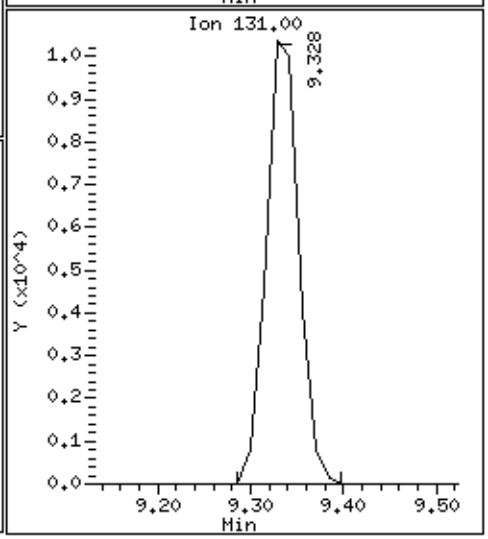












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212033F		
Lab ID:	1908555-11A	**Date/Time Analyzed:**	8/29/19 04:10 PM
Date/Time Collected:	8/20/19 04:44 PM	**Dilution Factor:**	2.51
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082918

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	30	51	85	690
Trichloroethene	79-01-6	20	40	67	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	101
4-Bromofluorobenzene	460-00-4	83-110	102
Toluene-d8	2037-26-5	86-115	100

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082918.d
Lab Smp Id: 1908555-11A
Inj Date : 29-AUG-2019 16:10
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L1680
Misc Info : 5.9"Hg->14.9psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.51000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	67650	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	52394			46.63- 106.63	77.45
5.298	5.294 (1.000)	49	73752			70.93- 130.93	109.02
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	262344	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	40024			0.00- 45.07	15.26
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	240787	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	129257			24.37- 84.37	53.68
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	87881	403.860	403.86	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	44069			24.83- 84.83	50.15
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	267675	401.106	401.11	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	29122			0.00- 41.24	10.88

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	170559			35.45- 95.45	63.72
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	146834	406.483	406.48	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	182741			91.49- 151.49	124.45
11.329	11.329 (1.098)	176	139238			65.46- 125.46	94.83
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	19839	40.5906	101.88	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	14899			46.86- 106.86	75.10
9.328	9.328 (0.904)	131	14198			46.25- 106.25	71.57

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082918.d
Lab Smp Id: 1908555-11A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.9"Hg->14.9psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	67650	-11.06
127 1,4-Difluorobenze	286922	172153	401691	262344	-8.57
179 Chlorobenzene-d5	262234	157340	367128	240787	-8.18

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:45

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-11A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.9"Hg->14.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	403.86	100.97
$ 155 Toluene-d8	400.00	401.11	100.28
$ 198 4-Bromofluorobenzene	400.00	406.48	101.62

Data File: /chem/msd14.i/29AUG19.b/14082918.d

Page 1

Date : 29-AUG-2019 16:10

Client ID:

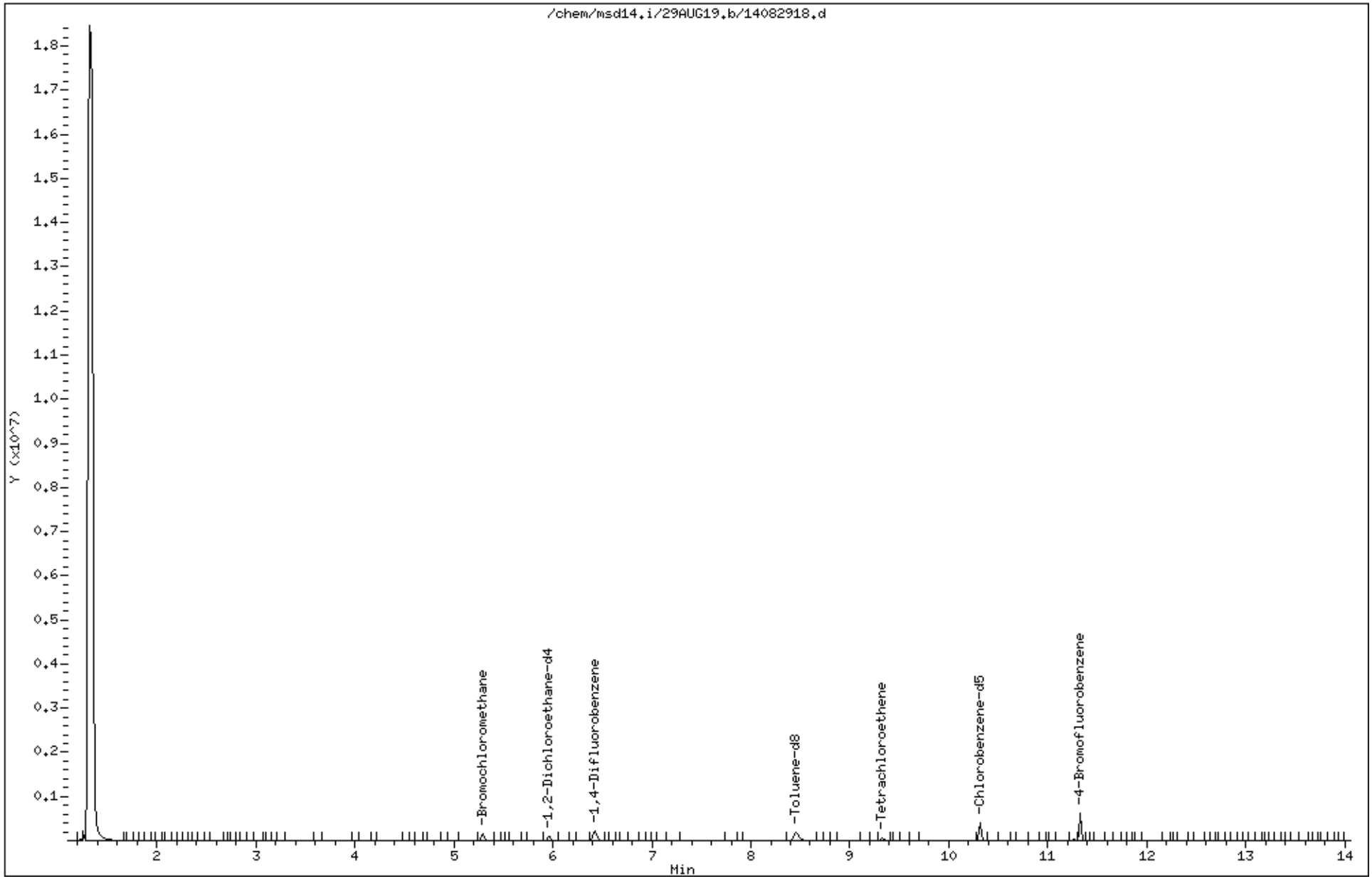
Instrument: msd14.i

Sample Info: 50mL #1L1680

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082918.d

Date : 29-AUG-2019 16:10

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L1680

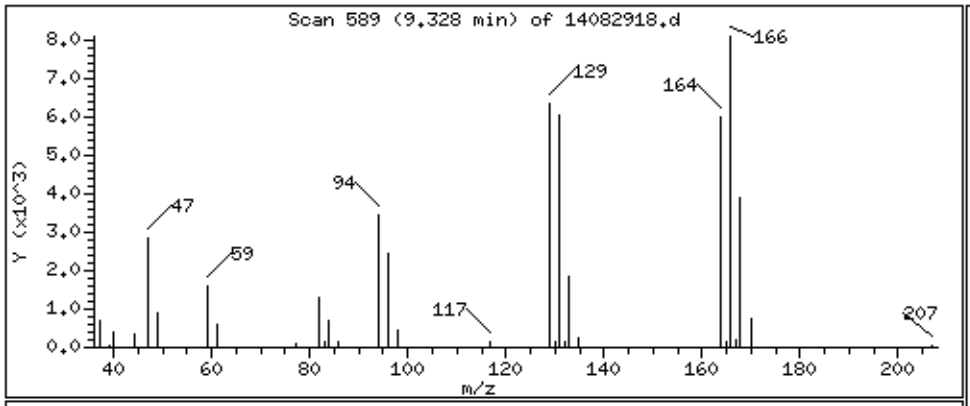
Operator: kk

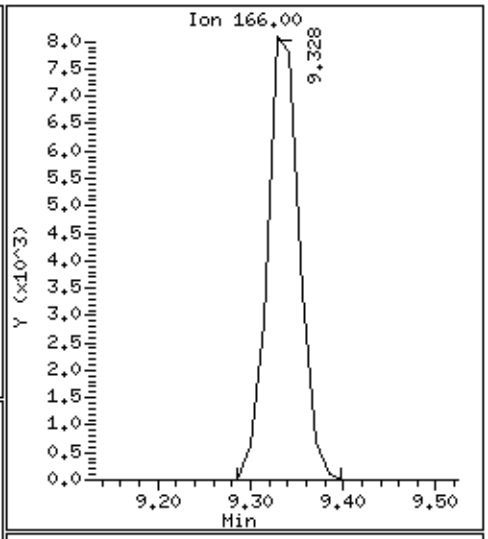
Column phase: RTX-624

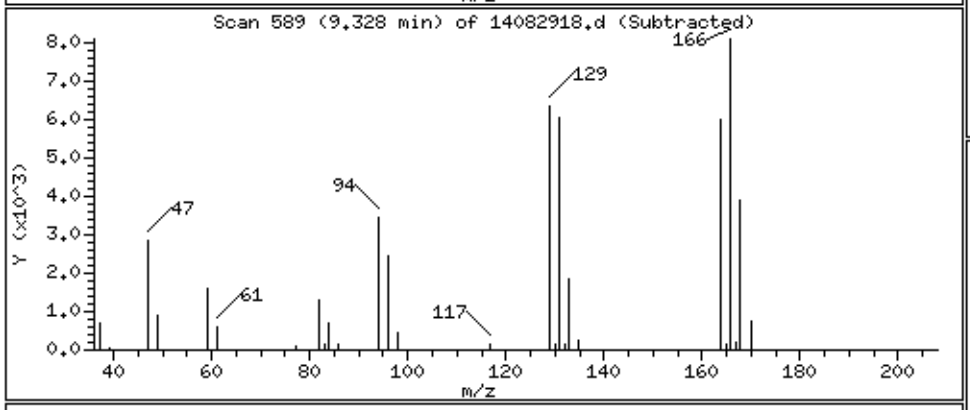
Column diameter: 0.18

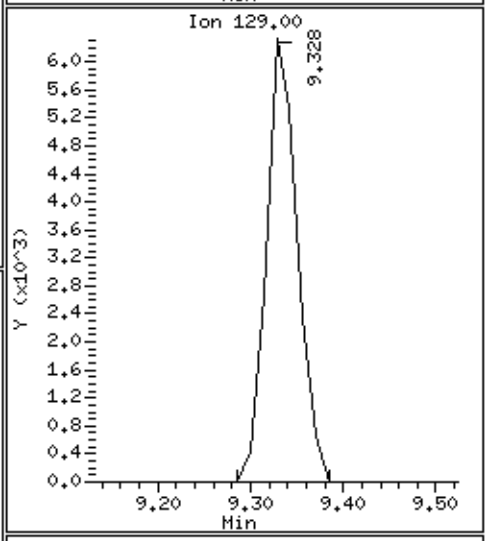
163 Tetrachloroethene

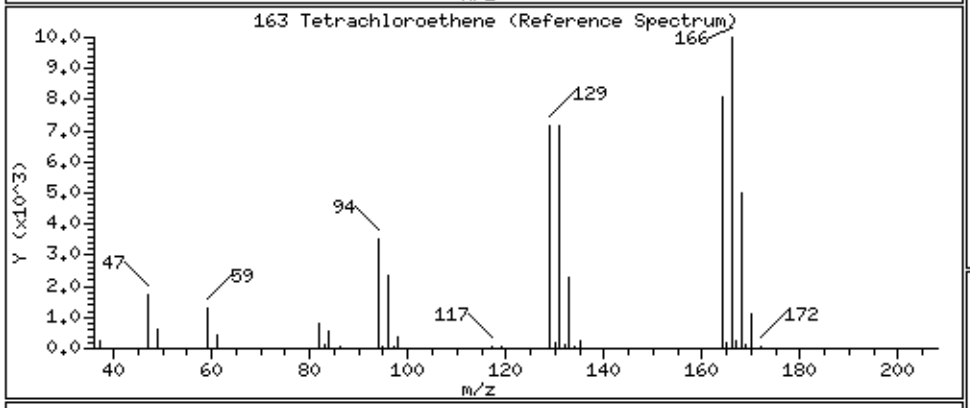
Concentration: 101.88 PPBV

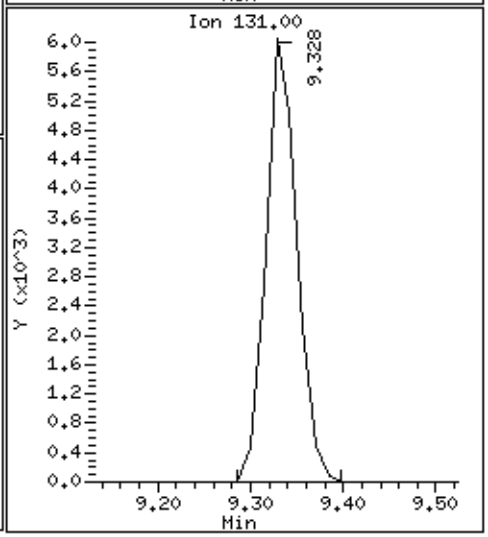


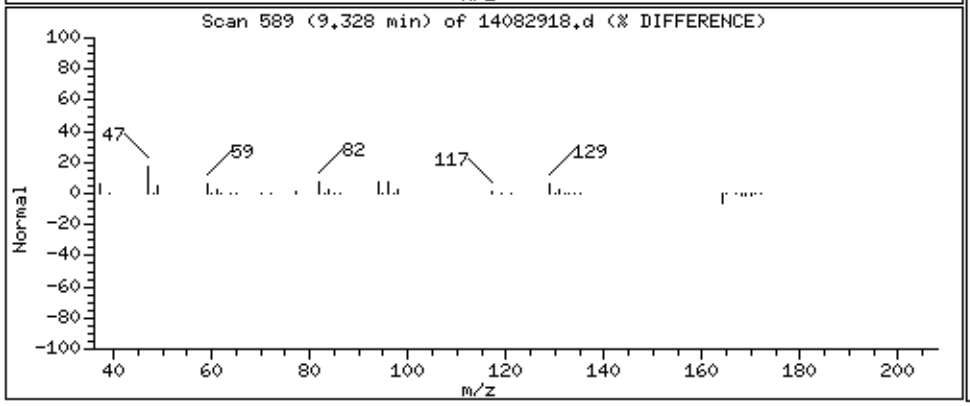












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212034F		
Lab ID:	1908555-12A	**Date/Time Analyzed:**	8/29/19 04:30 PM
Date/Time Collected:	8/20/19 04:47 PM	**Dilution Factor:**	2.48
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082919

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	30	50	84	580
Trichloroethene	79-01-6	20	40	67	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	101
4-Bromofluorobenzene	460-00-4	83-110	96
Toluene-d8	2037-26-5	86-115	98

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082919.d
Lab Smp Id: 1908555-12A
Inj Date : 29-AUG-2019 16:30
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L2679
Misc Info : 5.5"Hg->15psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.48000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	66708	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	53639			46.63- 106.63	80.41
5.298	5.294 (1.000)	49	71689			70.93- 130.93	107.47
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	263195	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	39466			0.00- 45.07	15.00
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	245209	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	129367			24.37- 84.37	52.76
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	86493	403.095	403.09	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	45115			24.83- 84.83	52.16
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	263927	394.211	394.21	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	29885			0.00- 41.24	11.32

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	170962			35.45- 95.45	64.78
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	141938	385.843	385.84	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	177911			91.49- 151.49	125.34
11.329	11.329 (1.098)	176	138295			65.46- 125.46	97.43
163 Tetrachloroethene					CAS #: 127-18-4		
9.342	9.330 (0.905)	166	17204	34.5646	85.720	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	12553			46.86- 106.86	72.96
9.328	9.328 (0.904)	131	12834			46.25- 106.25	74.60

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082919.d
Lab Smp Id: 1908555-12A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.5"Hg->15psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	66708	-12.30
127 1,4-Difluorobenze	286922	172153	401691	263195	-8.27
179 Chlorobenzene-d5	262234	157340	367128	245209	-6.49

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:45

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-12A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.5"Hg->15psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	403.09	100.77
$ 155 Toluene-d8	400.00	394.21	98.55
$ 198 4-Bromofluorobenzene	400.00	385.84	96.46

Data File: /chem/msd14.i/29AUG19.b/14082919.d

Date : 29-AUG-2019 16:30

Client ID:

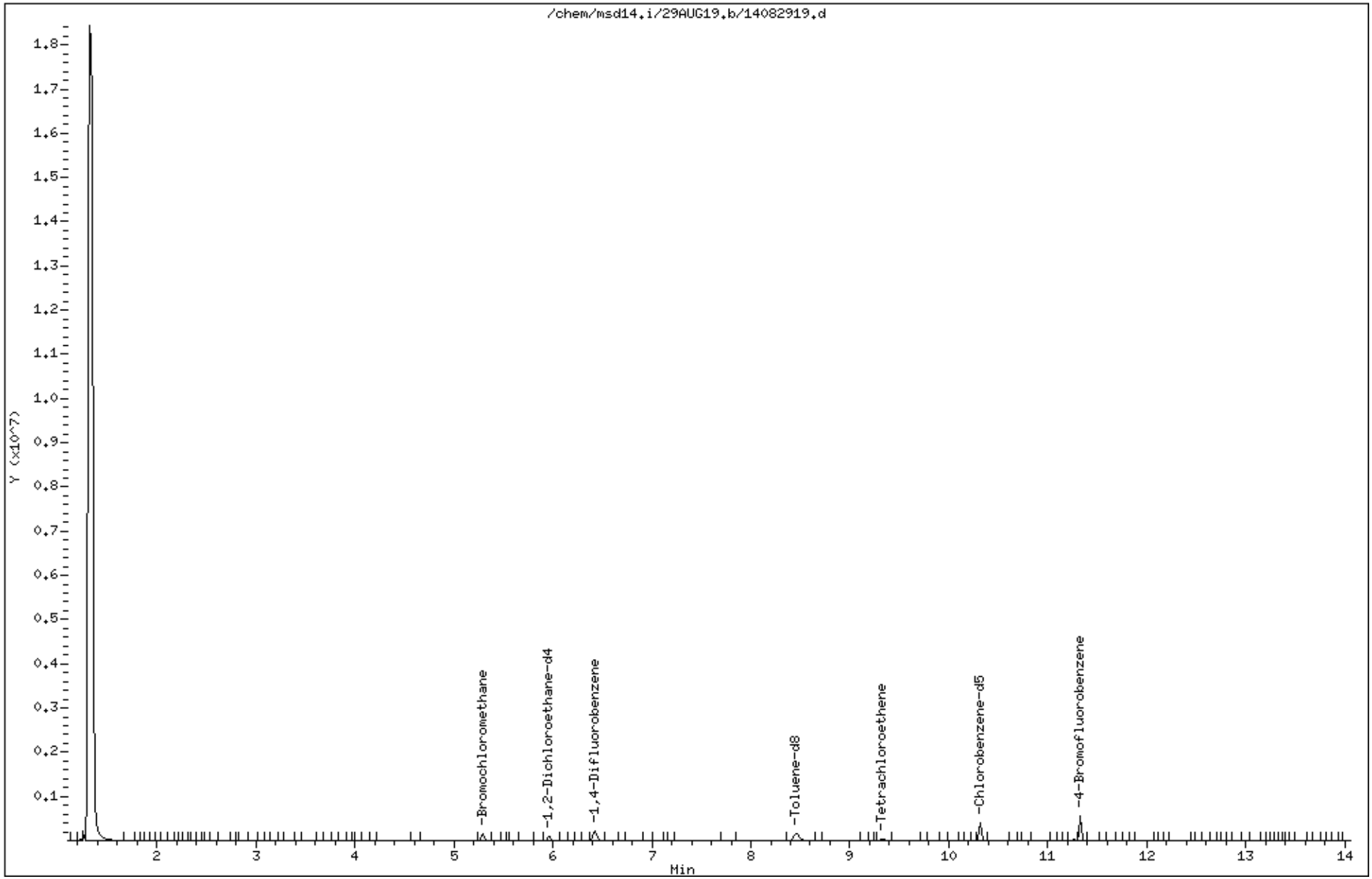
Instrument: msd14.i

Sample Info: 50mL #1L2679

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082919.d

Date : 29-AUG-2019 16:30

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2679

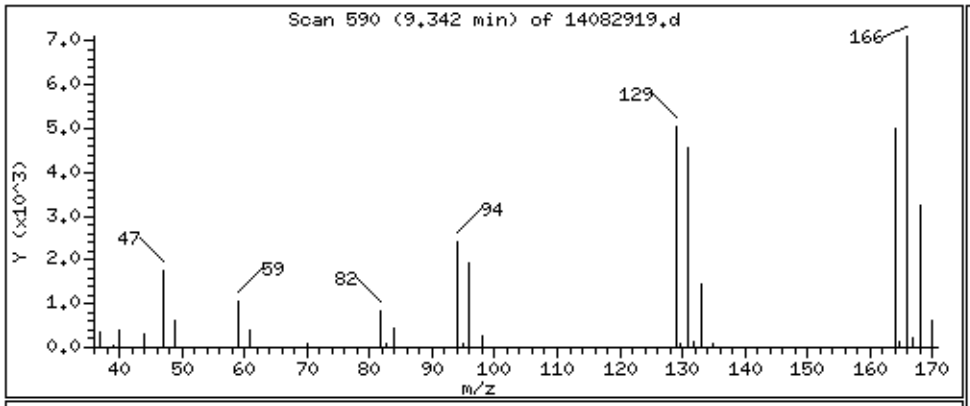
Operator: kk

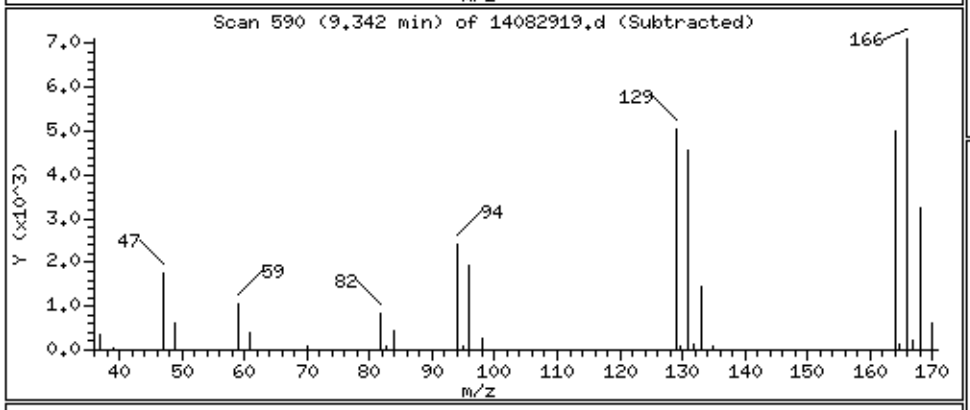
Column phase: RTX-624

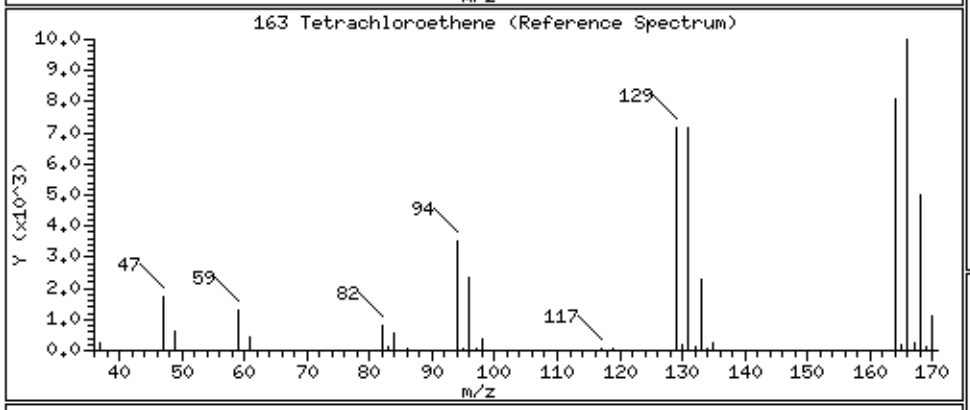
Column diameter: 0.18

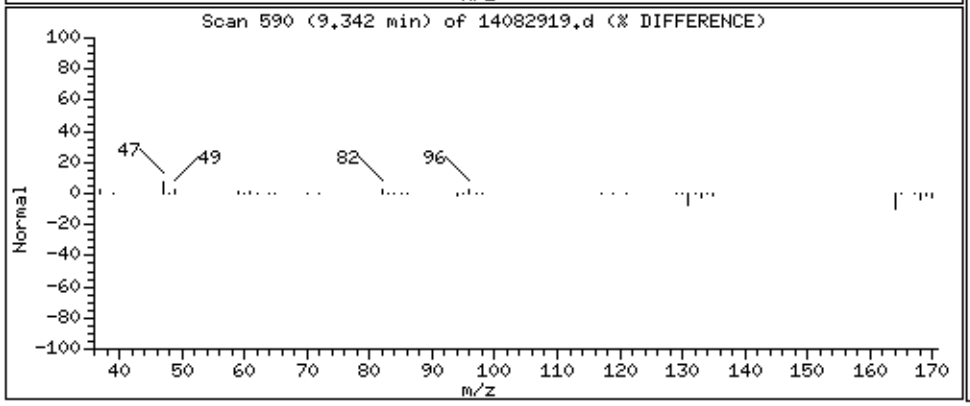
163 Tetrachloroethene

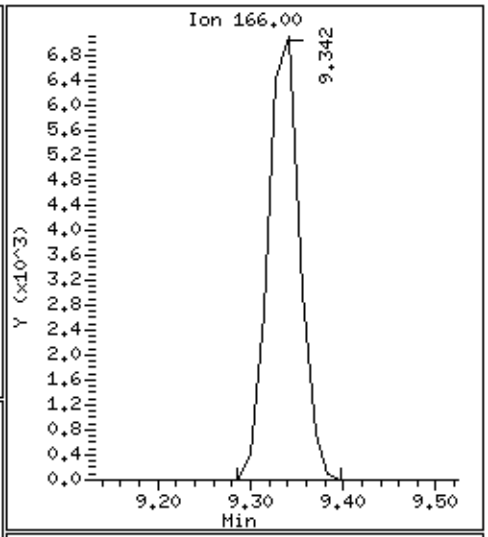
Concentration: 85.720 PPBV

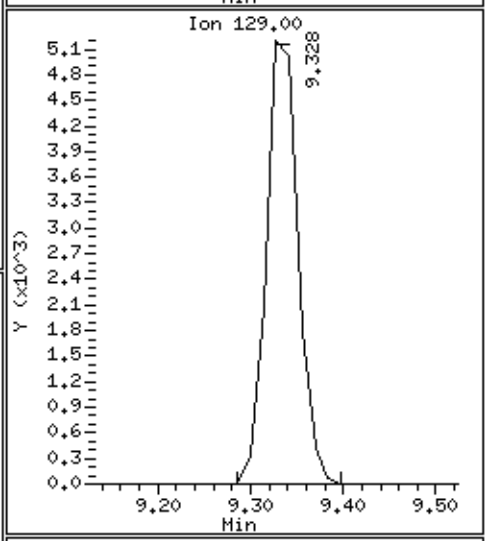


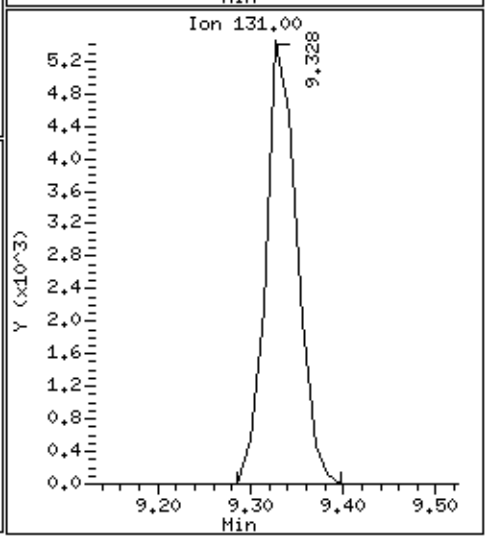












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212035F		
Lab ID:	1908555-13A	**Date/Time Analyzed:**	8/29/19 04:51 PM
Date/Time Collected:	8/20/19 06:30 PM	**Dilution Factor:**	2.53
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082920

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	30	51	86	Not Detected U
Trichloroethene	79-01-6	20	41	68	640

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	103
4-Bromofluorobenzene	460-00-4	83-110	98
Toluene-d8	2037-26-5	86-115	98

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082920.d
Lab Smp Id: 1908555-13A
Inj Date : 29-AUG-2019 16:51
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L2444
Misc Info : 6.1"Hg->14.9psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.53000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	68105	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	52663			46.63- 106.63	77.33
5.298	5.294 (1.000)	49	77346			70.93- 130.93	113.57
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	265463	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41695			0.00- 45.07	15.71
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	242153	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	132337			24.37- 84.37	54.65
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	90112	411.346	411.35	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	46195			24.83- 84.83	51.26
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	264362	391.488	391.49	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	28562			0.00- 41.24	10.80

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	170684			35.45- 95.45	64.56
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	142953	393.507	393.51	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	180283			91.49- 151.49	126.11
11.329	11.329 (1.098)	176	136827			65.46- 125.46	95.72
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.037)	95	17013	47.0746	119.10	80.00- 120.00	100.00
6.684	6.671 (1.039)	130	16679			78.88- 138.88	98.03
6.670	6.671 (1.037)	97	10115			35.90- 95.90	59.46

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082920.d
Lab Smp Id: 1908555-13A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.1"Hg->14.9psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	68105	-10.46
127 1,4-Difluorobenze	286922	172153	401691	265463	-7.48
179 Chlorobenzene-d5	262234	157340	367128	242153	-7.66

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:45

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-13A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.1"Hg->14.9psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	411.35	102.84
$ 155 Toluene-d8	400.00	391.49	97.87
$ 198 4-Bromofluorobenzene	400.00	393.51	98.38

Data File: /chem/msd14.i/29AUG19.b/14082920.d

Date : 29-AUG-2019 16:51

Client ID:

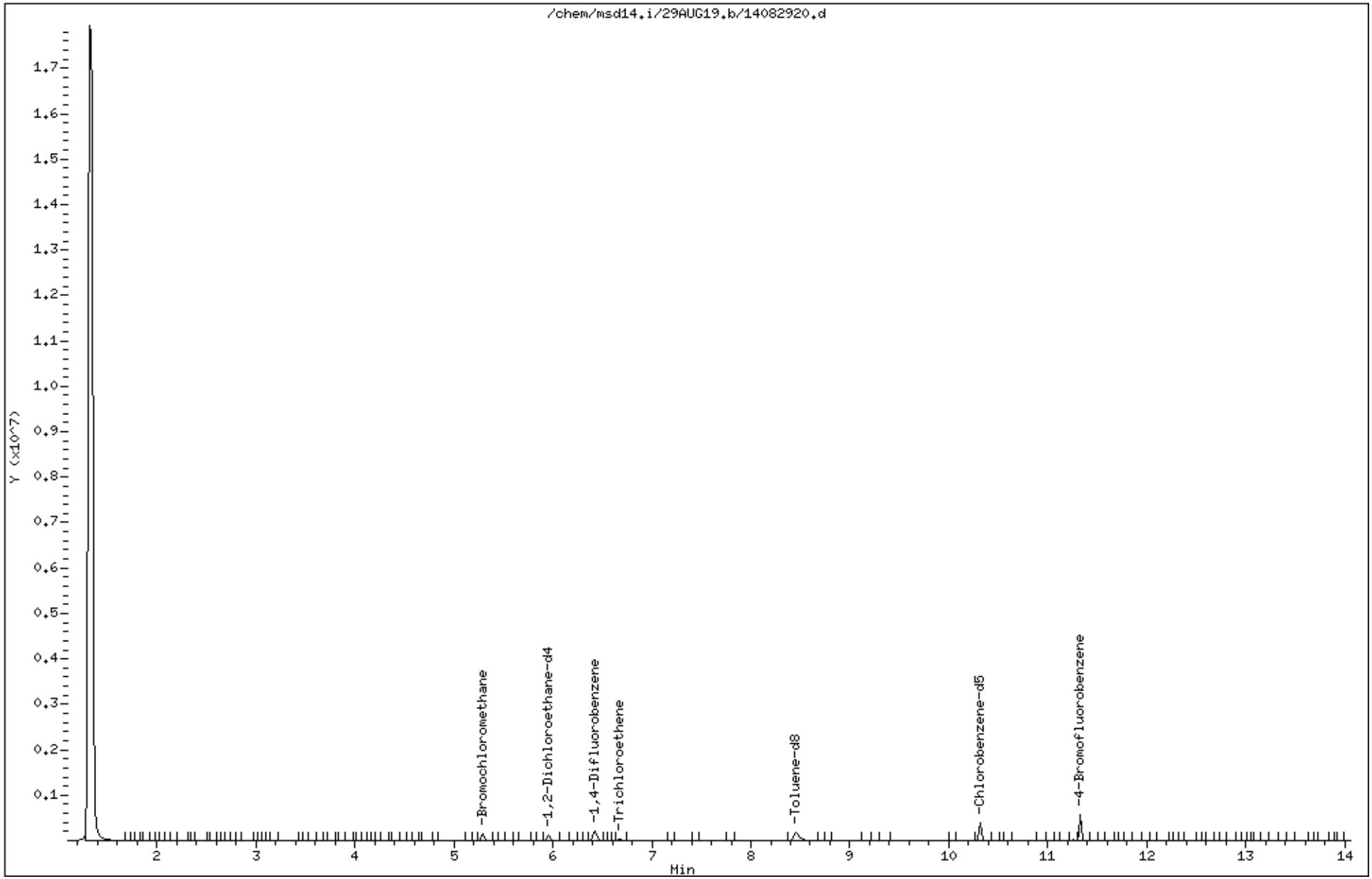
Instrument: msd14.i

Sample Info: 50mL #1L2444

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082920.d

Date : 29-AUG-2019 16:51

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2444

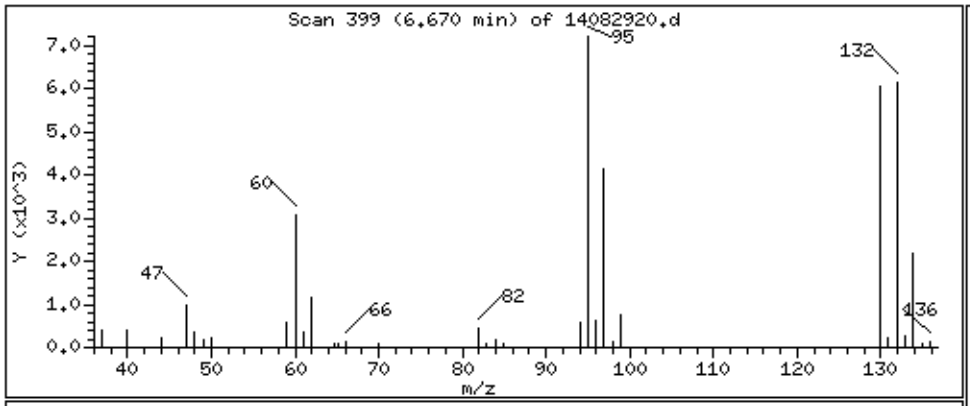
Operator: kk

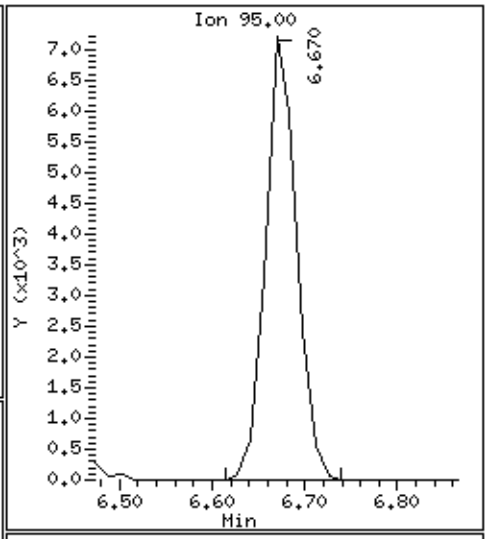
Column phase: RTX-624

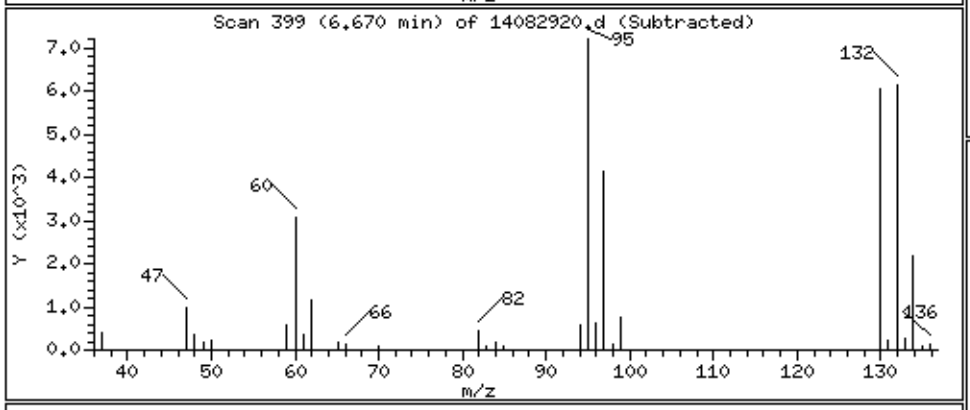
Column diameter: 0.18

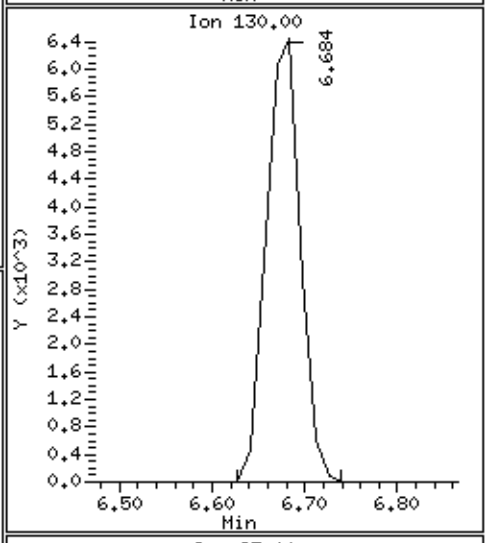
129 Trichloroethene

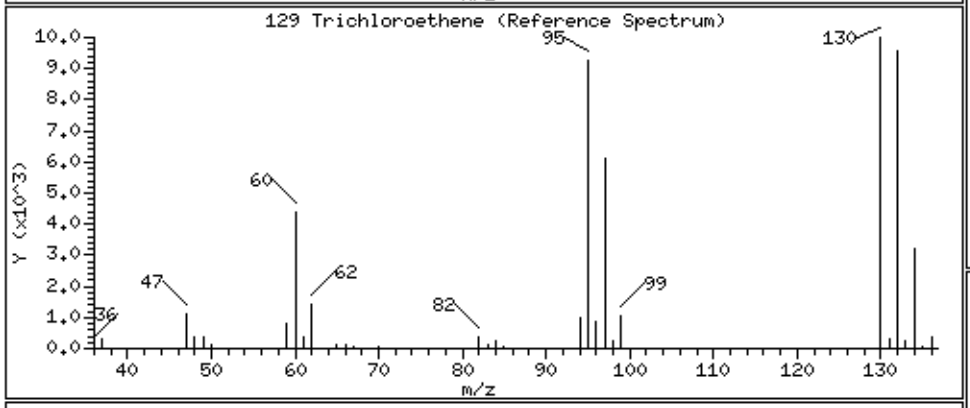
Concentration: 119.10 PPBV

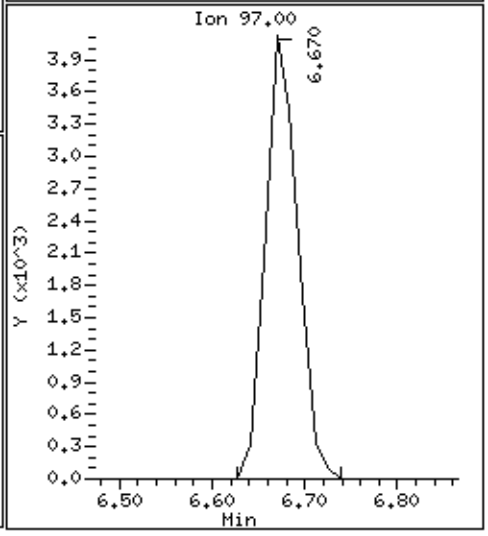


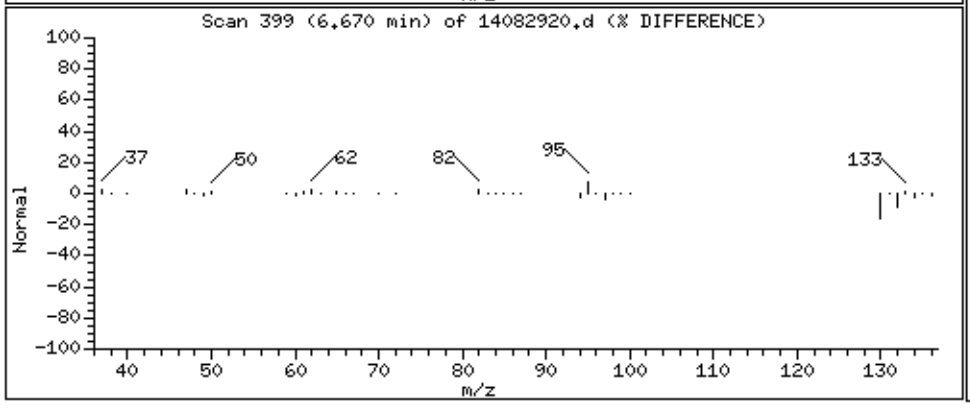












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212036F		
Lab ID:	1908555-14A	**Date/Time Analyzed:**	8/29/19 05:11 PM
Date/Time Collected:	8/21/19 09:20 AM	**Dilution Factor:**	2.54
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082921

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	30	52	86	95
Trichloroethene	79-01-6	20	41	68	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	100
4-Bromofluorobenzene	460-00-4	83-110	98
Toluene-d8	2037-26-5	86-115	99

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082921.d
Lab Smp Id: 1908555-14A
Inj Date : 29-AUG-2019 17:11
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L3132
Misc Info : 6.3"Hg->14.8psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.54000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	68309	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	53701			46.63- 106.63	78.61
5.298	5.294 (1.000)	49	73692			70.93- 130.93	107.88
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	262450	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41559			0.00- 45.07	15.84
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	243660	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	131407			24.37- 84.37	53.93
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	87766	399.441	399.44	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	45729			24.83- 84.83	52.10
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	265086	397.066	397.07	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	27663			0.00- 41.24	10.44

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	168662			35.45- 95.45	63.63
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	142880	390.873	390.87	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	173476			91.49- 151.49	121.41
11.329	11.329 (1.098)	176	137937			65.46- 125.46	96.54
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	2726	5.51163	14.000	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	2349			46.86- 106.86	86.18
9.328	9.328 (0.904)	131	2017			46.25- 106.25	73.98

Report Date: 04-Sep-2019 07:46

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082921.d
Lab Smp Id: 1908555-14A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.3"Hg->14.8psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	68309	-10.19
127 1,4-Difluorobenze	286922	172153	401691	262450	-8.53
179 Chlorobenzene-d5	262234	157340	367128	243660	-7.08

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:46

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-14A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.3"Hg->14.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	399.44	99.86
$ 155 Toluene-d8	400.00	397.07	99.27
$ 198 4-Bromofluorobenzene	400.00	390.87	97.72

Data File: /chem/msd14.i/29AUG19.b/14082921.d

Date : 29-AUG-2019 17:11

Client ID:

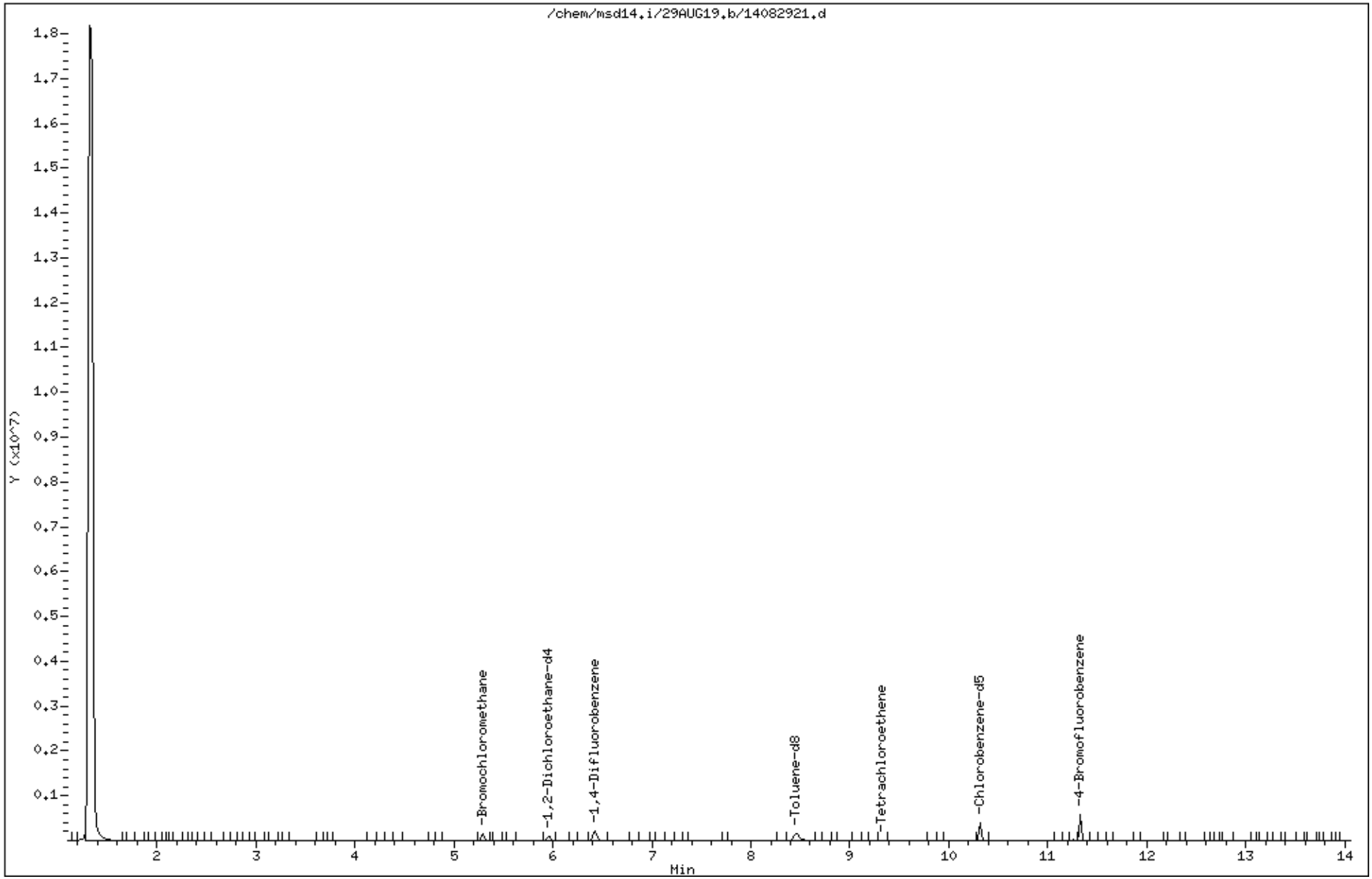
Instrument: msd14.i

Sample Info: 50mL #1L3132

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082921.d

Date : 29-AUG-2019 17:11

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L3132

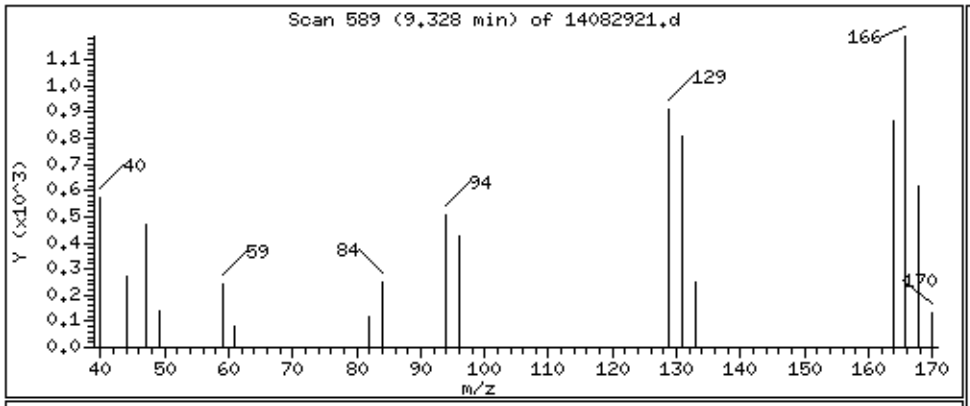
Operator: kk

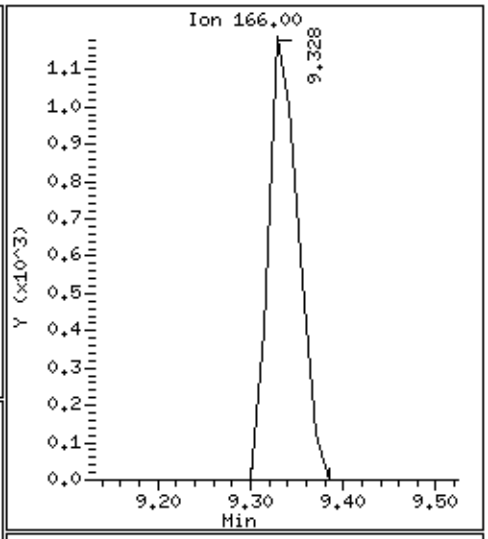
Column phase: RTX-624

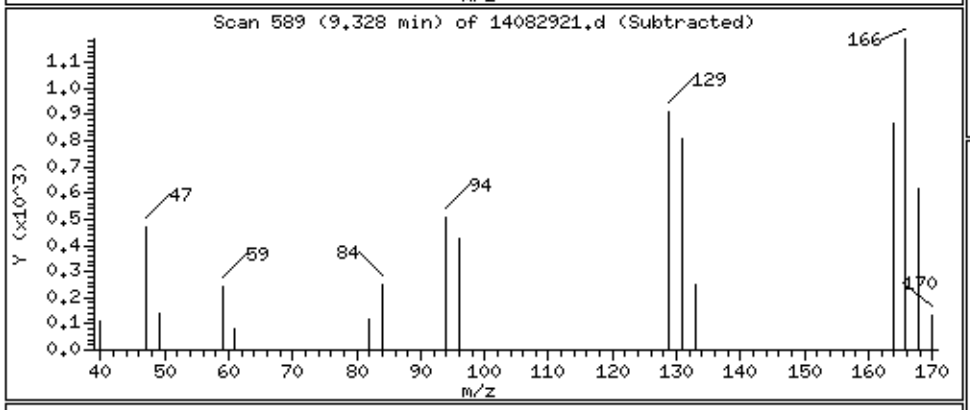
Column diameter: 0.18

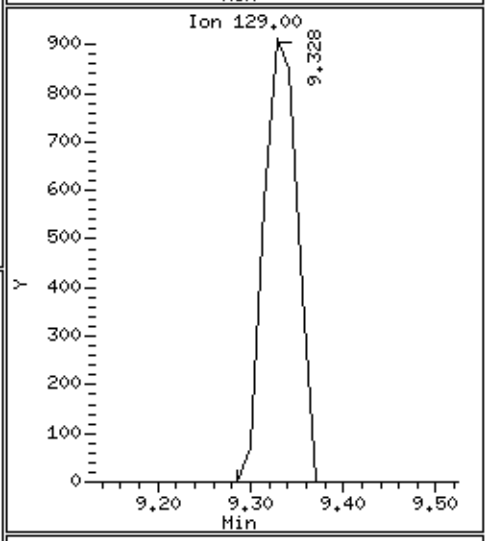
163 Tetrachloroethene

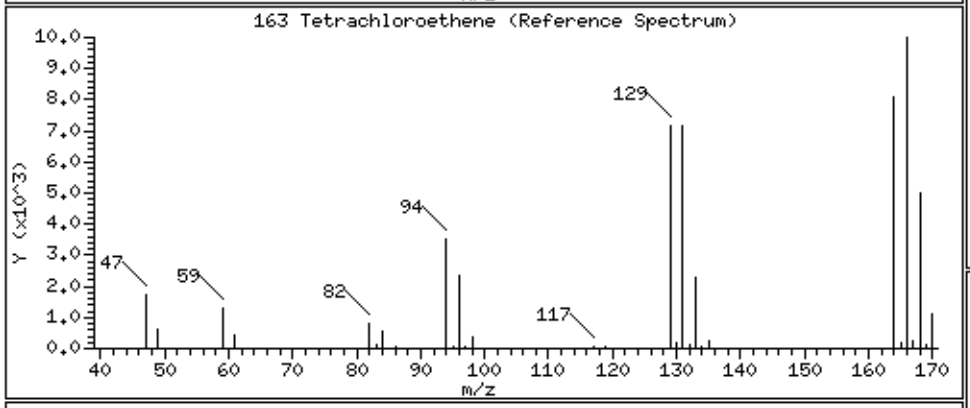
Concentration: 14.000 PPBV

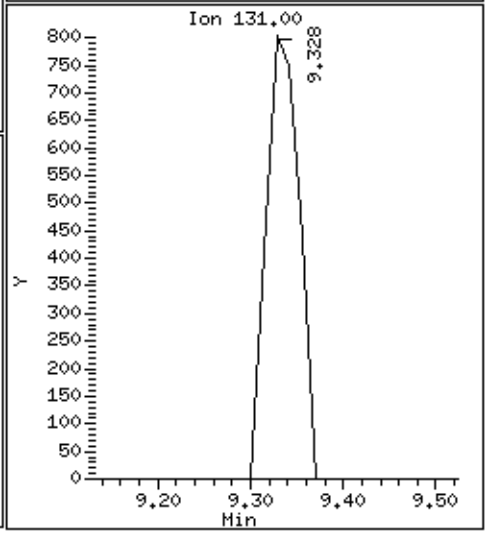


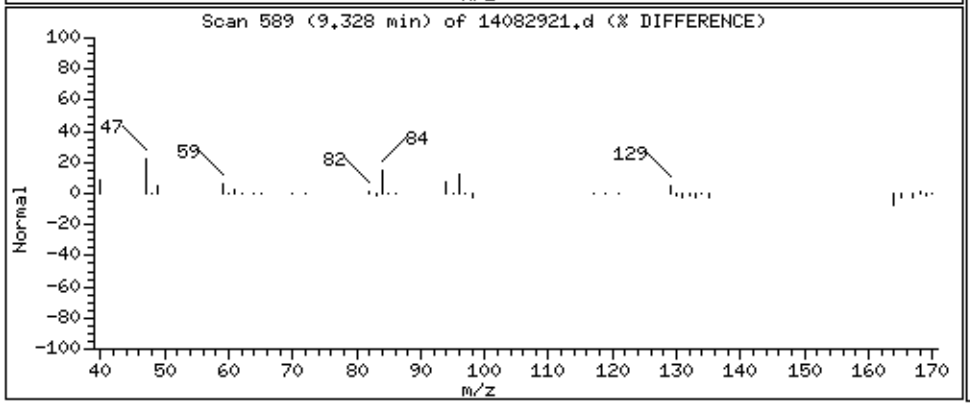












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212037F		
Lab ID:	1908555-15A	**Date/Time Analyzed:**	8/29/19 05:32 PM
Date/Time Collected:	8/21/19 10:20 AM	**Dilution Factor:**	2.40
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082922

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	29	49	81	84
Trichloroethene	79-01-6	19	39	64	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	106
4-Bromofluorobenzene	460-00-4	83-110	100
Toluene-d8	2037-26-5	86-115	100

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082922.d
Lab Smp Id: 1908555-15A
Inj Date : 29-AUG-2019 17:32
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #34002438
Misc Info : 4.9"Hg->14.8psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.40000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE		(PPBV)	(PPBV)	TARGET RANGE	RATIO
==	====== ========	====	========		=======	=======	==========	=====
* 97 Bromochloromethane						CAS #: 74-97-5		
5.298	5.297 (1.000)	130	62357	400.000			80.00- 120.00	100.00
5.298	5.298 (1.000)	128	48712				46.63- 106.63	78.12
5.298	5.294 (1.000)	49	70755				70.93- 130.93	113.47
* 127 1,4-Difluorobenzene						CAS #: 540-36-3		
6.432	6.430 (1.000)	114	255487	400.000			80.00- 120.00	100.00
6.432	6.427 (1.000)	88	39426				0.00- 45.07	15.43
* 179 Chlorobenzene-d5						CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	238020	400.000			80.00- 120.00	100.00
10.322	10.321 (1.000)	82	128059				24.37- 84.37	53.80
$ 119 1,2-Dichloroethane-d4						CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	84687	422.217	422.22		80.00- 120.00	100.00
5.956	5.956 (1.124)	67	42646				24.83- 84.83	50.36
$ 155 Toluene-d8						CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	260042	400.127	400.13		80.00- 120.00	100.00
8.461	8.459 (1.315)	70	28332				0.00- 41.24	10.90

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	167492			35.45- 95.45	64.41
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	143391	401.566	401.57	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	175997			91.49- 151.49	122.74
11.329	11.329 (1.098)	176	139833			65.46- 125.46	97.52
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	2493	5.15997	12.384	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	1998			46.86- 106.86	80.17
9.342	9.328 (0.905)	131	1909			46.25- 106.25	76.60

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082922.d
Lab Smp Id: 1908555-15A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 4.9"Hg->14.8psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	62357	-18.02
127 1,4-Difluorobenze	286922	172153	401691	255487	-10.96
179 Chlorobenzene-d5	262234	157340	367128	238020	-9.23

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:46

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-15A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 4.9"Hg->14.8psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	422.22	105.55
$ 155 Toluene-d8	400.00	400.13	100.03
$ 198 4-Bromofluorobenzene	400.00	401.57	100.39

Data File: /chem/msd14.i/29AUG19.b/14082922.d

Date : 29-AUG-2019 17:32

Client ID:

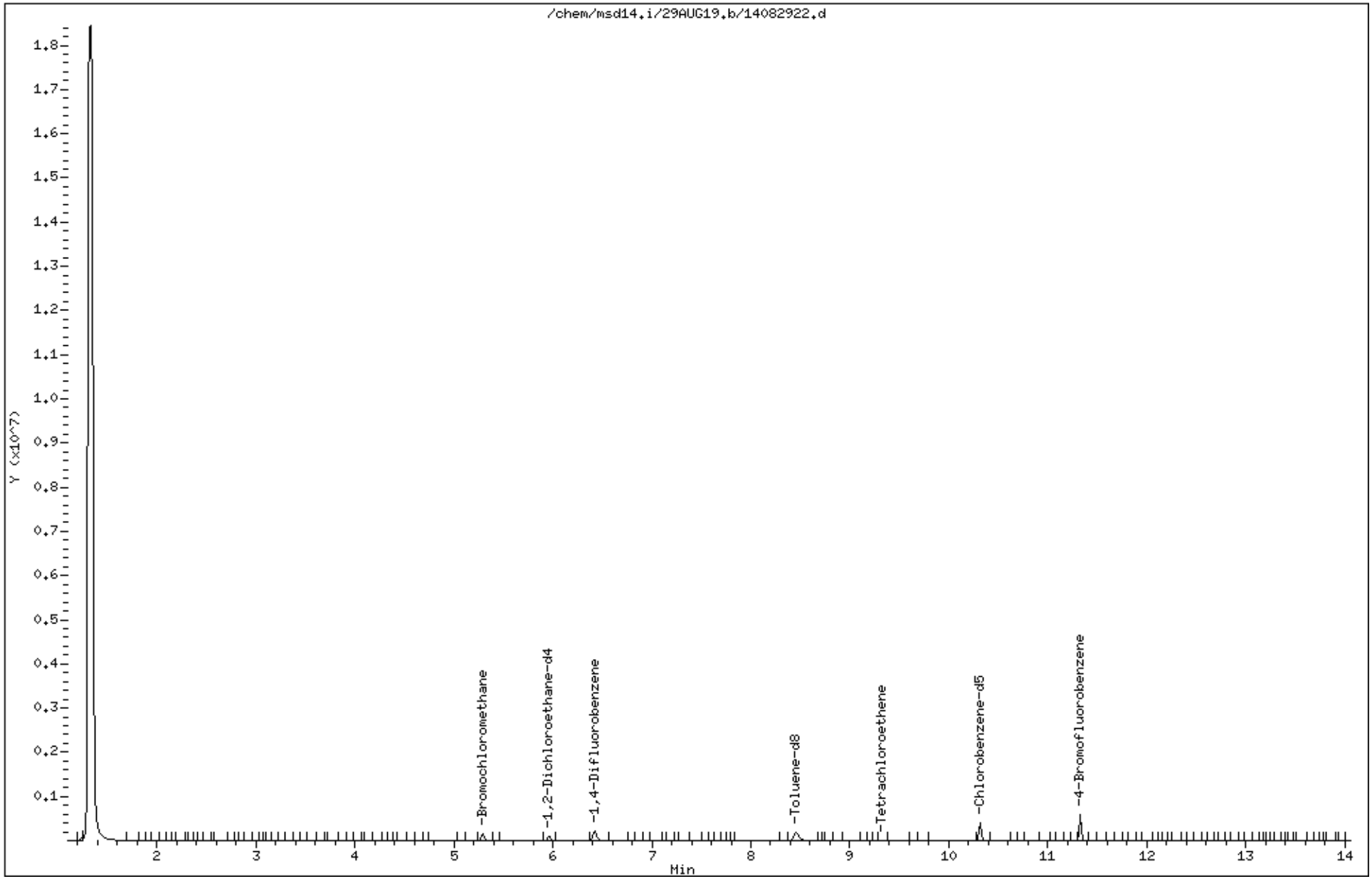
Instrument: msd14.i

Sample Info: 50mL #34002438

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082922.d

Date : 29-AUG-2019 17:32

Client ID:

Instrument: msd14.i

Sample Info: 50mL #34002438

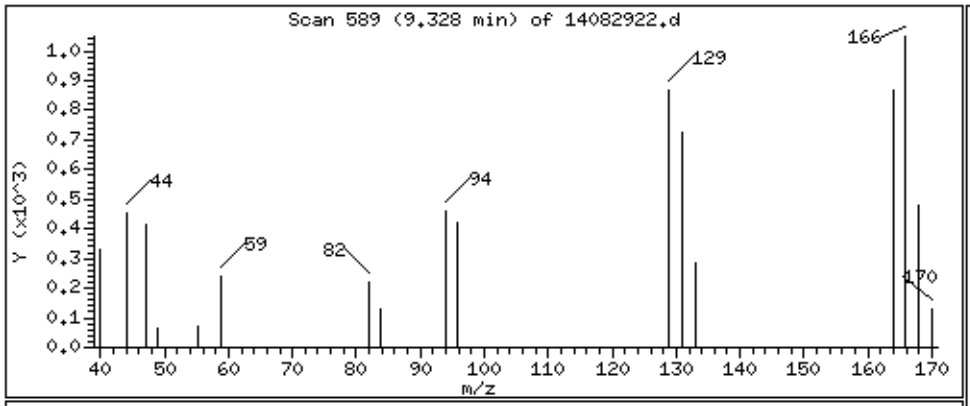
Operator: kk

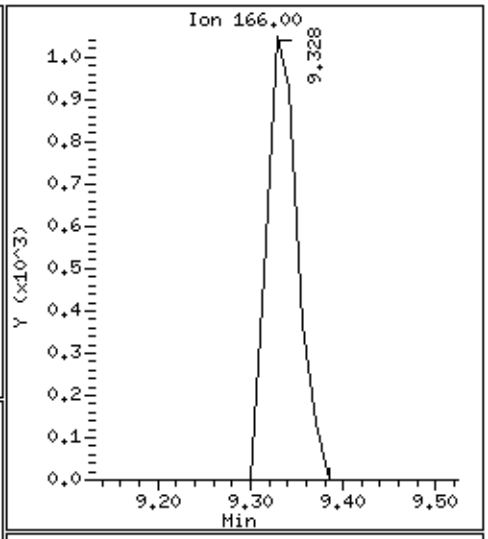
Column phase: RTX-624

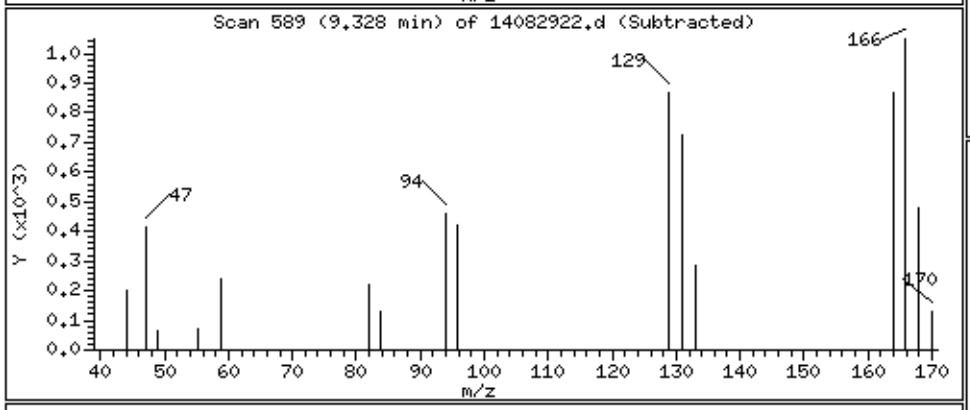
Column diameter: 0.18

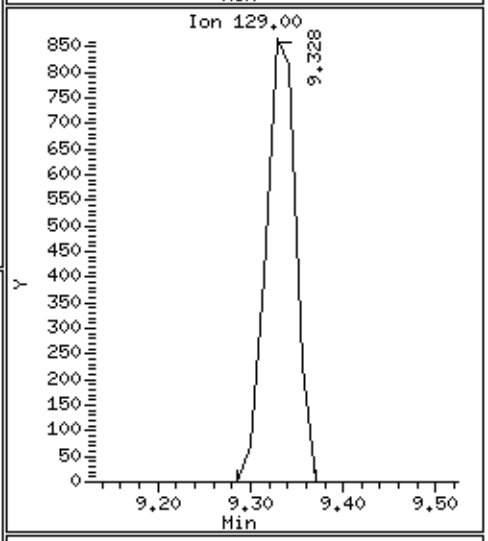
163 Tetrachloroethene

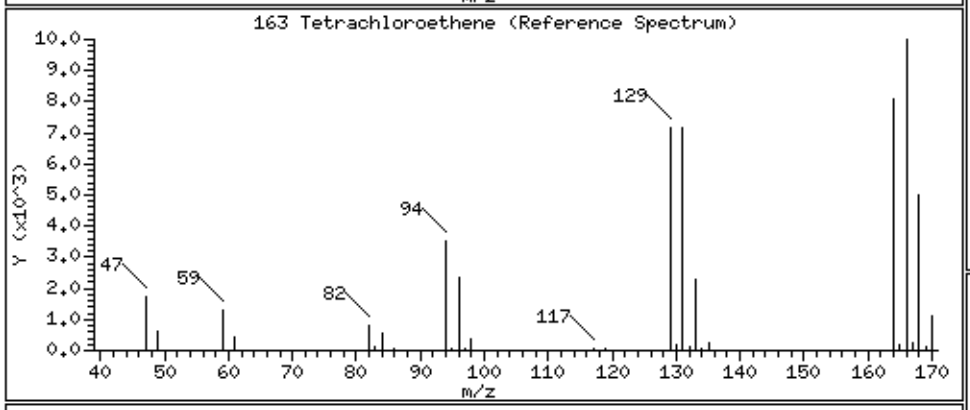
Concentration: 12.384 PPBV

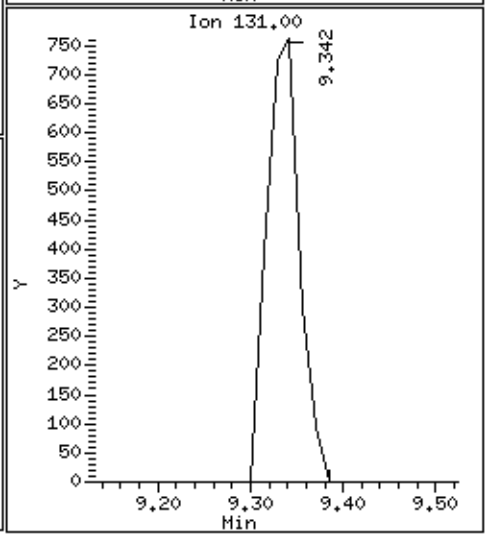


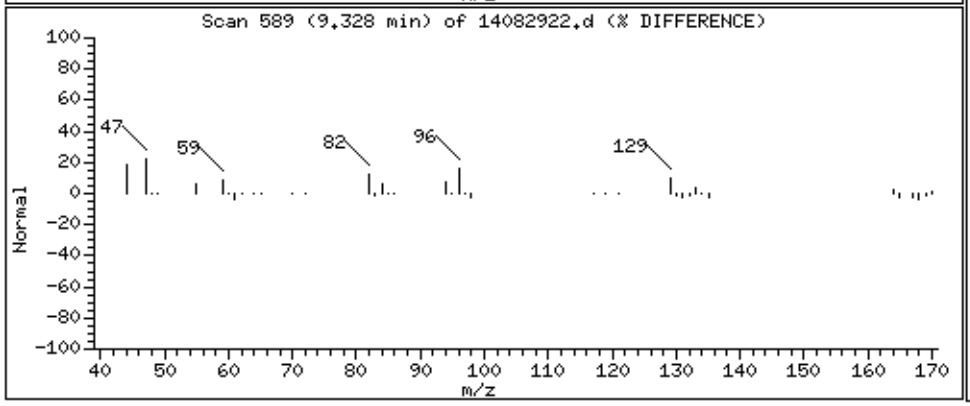












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212038F		
Lab ID:	1908555-16A	**Date/Time Analyzed:**	8/29/19 05:53 PM
Date/Time Collected:	8/21/19 12:05 PM	**Dilution Factor:**	2.43
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082923

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	29	49	82	Not Detected U
Trichloroethene	79-01-6	19	39	65	560

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	99
4-Bromofluorobenzene	460-00-4	83-110	101
Toluene-d8	2037-26-5	86-115	99

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082923.d
Lab Smp Id: 1908555-16A
Inj Date : 29-AUG-2019 17:53
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L2828
Misc Info : 5.1"Hg->15psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.43000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	68829	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	52541			46.63- 106.63	76.34
5.298	5.294 (1.000)	49	73097			70.93- 130.93	106.20
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	262327	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	38981			0.00- 45.07	14.86
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	238791	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	127356			24.37- 84.37	53.33
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	87714	396.188	396.19	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	46279			24.83- 84.83	52.76
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	263881	395.447	395.45	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	28732			0.00- 41.24	10.89

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	166231			35.45- 95.45	62.99
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	145008	404.783	404.78	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	174572			91.49- 151.49	120.39
11.329	11.329 (1.098)	176	138457			65.46- 125.46	95.48
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.671 (1.037)	95	15465	43.3029	105.23	80.00- 120.00	100.00
6.669	6.671 (1.037)	130	16662			78.88- 138.88	107.74
6.669	6.671 (1.037)	97	10560			35.90- 95.90	68.29

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082923.d
Lab Smp Id: 1908555-16A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.1"Hg->15psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	68829	-9.51
127 1,4-Difluorobenze	286922	172153	401691	262327	-8.57
179 Chlorobenzene-d5	262234	157340	367128	238791	-8.94

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:47

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-16A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.1"Hg->15psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	396.19	99.05
$ 155 Toluene-d8	400.00	395.45	98.86
$ 198 4-Bromofluorobenzene	400.00	404.78	101.20

Data File: /chem/msd14.i/29AUG19.b/14082923.d

Page 1

Date : 29-AUG-2019 17:53

Client ID:

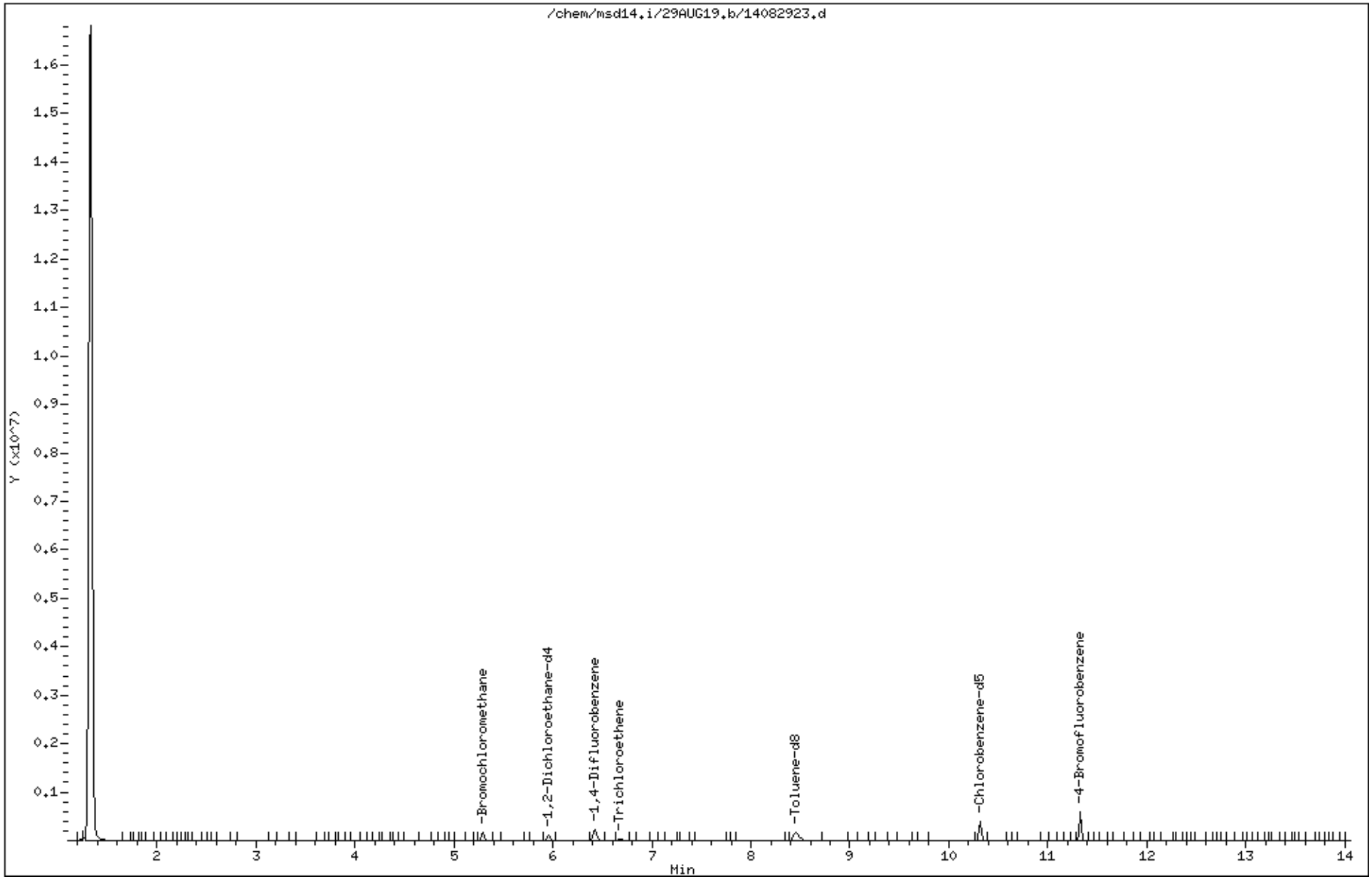
Instrument: msd14.i

Sample Info: 50mL #1L2828

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082923.d

Date : 29-AUG-2019 17:53

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2828

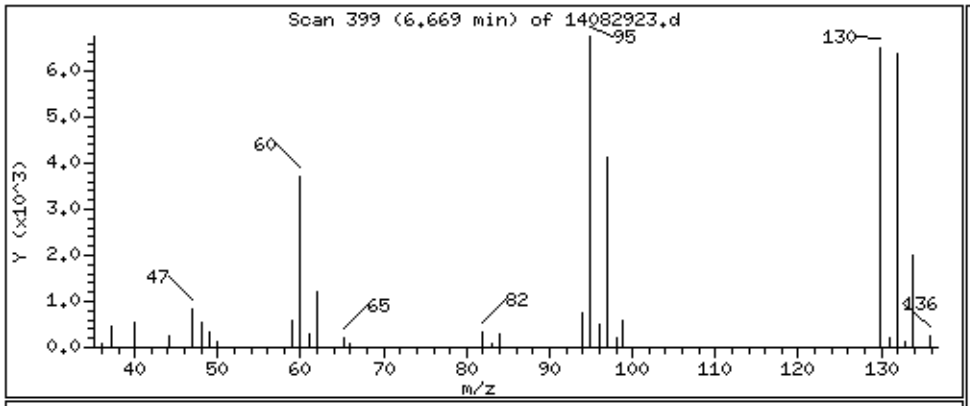
Operator: kk

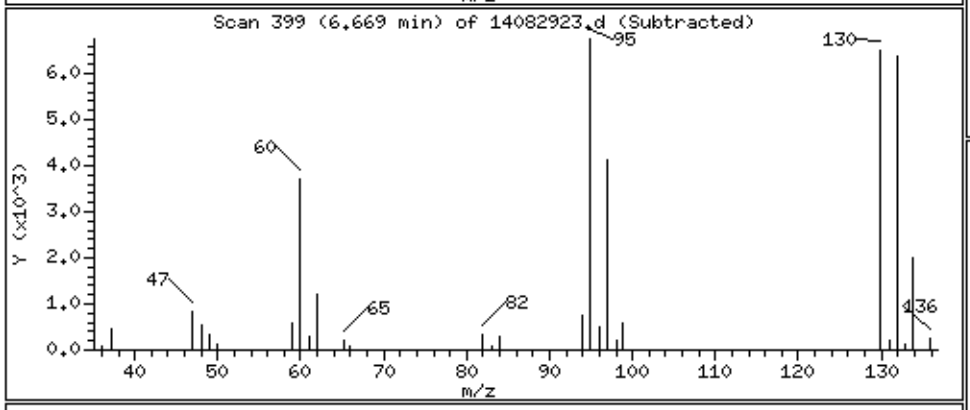
Column phase: RTX-624

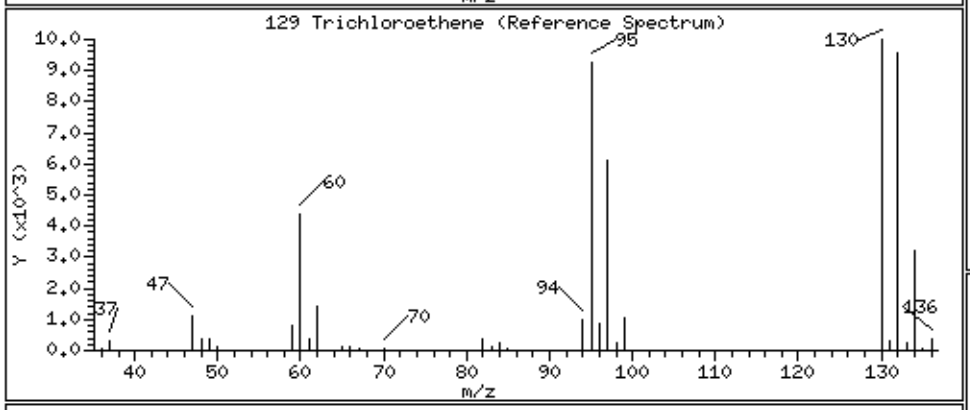
Column diameter: 0.18

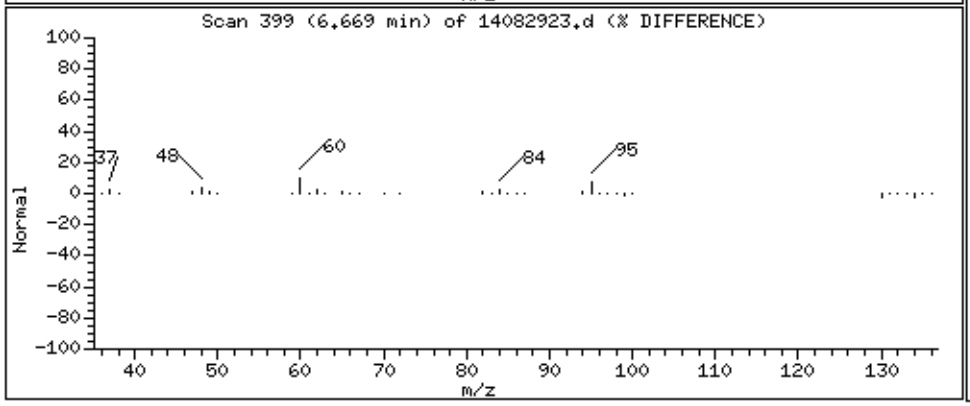
129 Trichloroethene

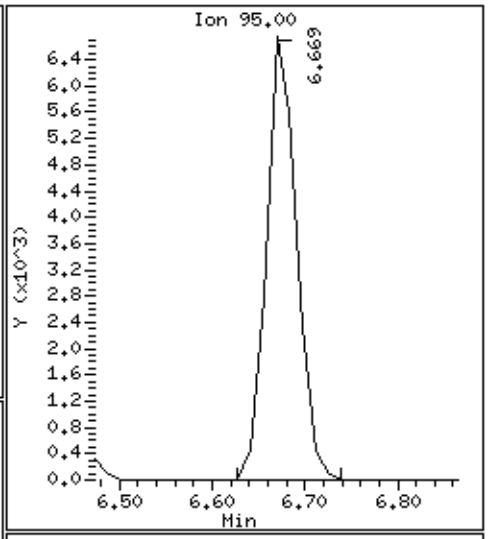
Concentration: 105.23 PPBV

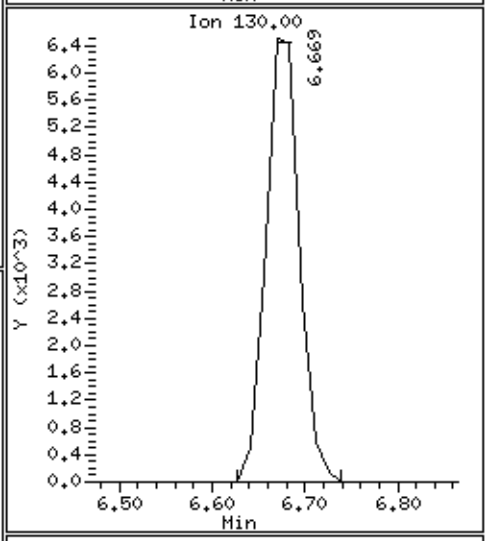


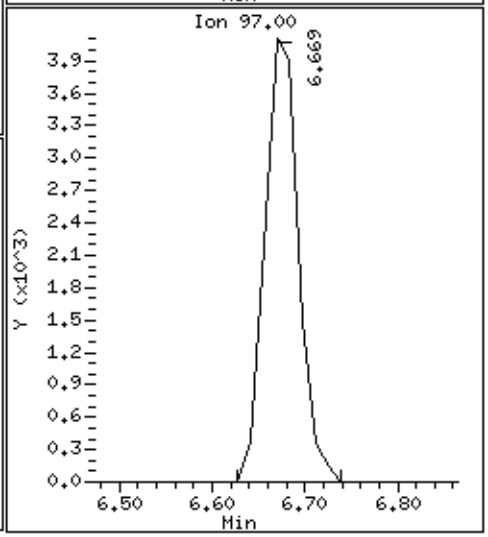












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212039F		
Lab ID:	1908555-17A	**Date/Time Analyzed:**	8/29/19 06:13 PM
Date/Time Collected:	8/21/19 02:05 PM	**Dilution Factor:**	2.61
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082924

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	31	53	88	750
Trichloroethene	79-01-6	21	42	70	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	103
4-Bromofluorobenzene	460-00-4	83-110	100
Toluene-d8	2037-26-5	86-115	97

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082924.d
Lab Smp Id: 1908555-17A
Inj Date : 29-AUG-2019 18:13
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #6599
Misc Info : 6.7"Hg->15.1psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.61000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	65838	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	52475			46.63- 106.63	79.70
5.298	5.294 (1.000)	49	74548			70.93- 130.93	113.23
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	259433	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	41357			0.00- 45.07	15.94
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	238512	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	126818			24.37- 84.37	53.17
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	87129	411.426	411.42	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	44455			24.83- 84.83	51.02
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	256877	389.245	389.24	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	27736			0.00- 41.24	10.80

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	165575			35.45- 95.45	64.46
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	143303	400.494	400.49	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	173674			91.49- 151.49	121.19
11.329	11.329 (1.098)	176	135901			65.46- 125.46	94.83
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	20581	42.5107	110.95	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	16101			46.86- 106.86	78.23
9.328	9.328 (0.904)	131	16366			46.25- 106.25	79.52

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082924.d
Lab Smp Id: 1908555-17A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.7"Hg->15.1psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	65838	-13.44
127 1,4-Difluorobenze	286922	172153	401691	259433	-9.58
179 Chlorobenzene-d5	262234	157340	367128	238512	-9.05

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:33

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-17A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 6.7"Hg->15.1psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	411.42	102.86
$ 155 Toluene-d8	400.00	389.24	97.31
$ 198 4-Bromofluorobenzene	400.00	400.49	100.12

Data File: /chem/msd14.i/29AUG19.b/14082924.d

Date : 29-AUG-2019 18:13

Client ID:

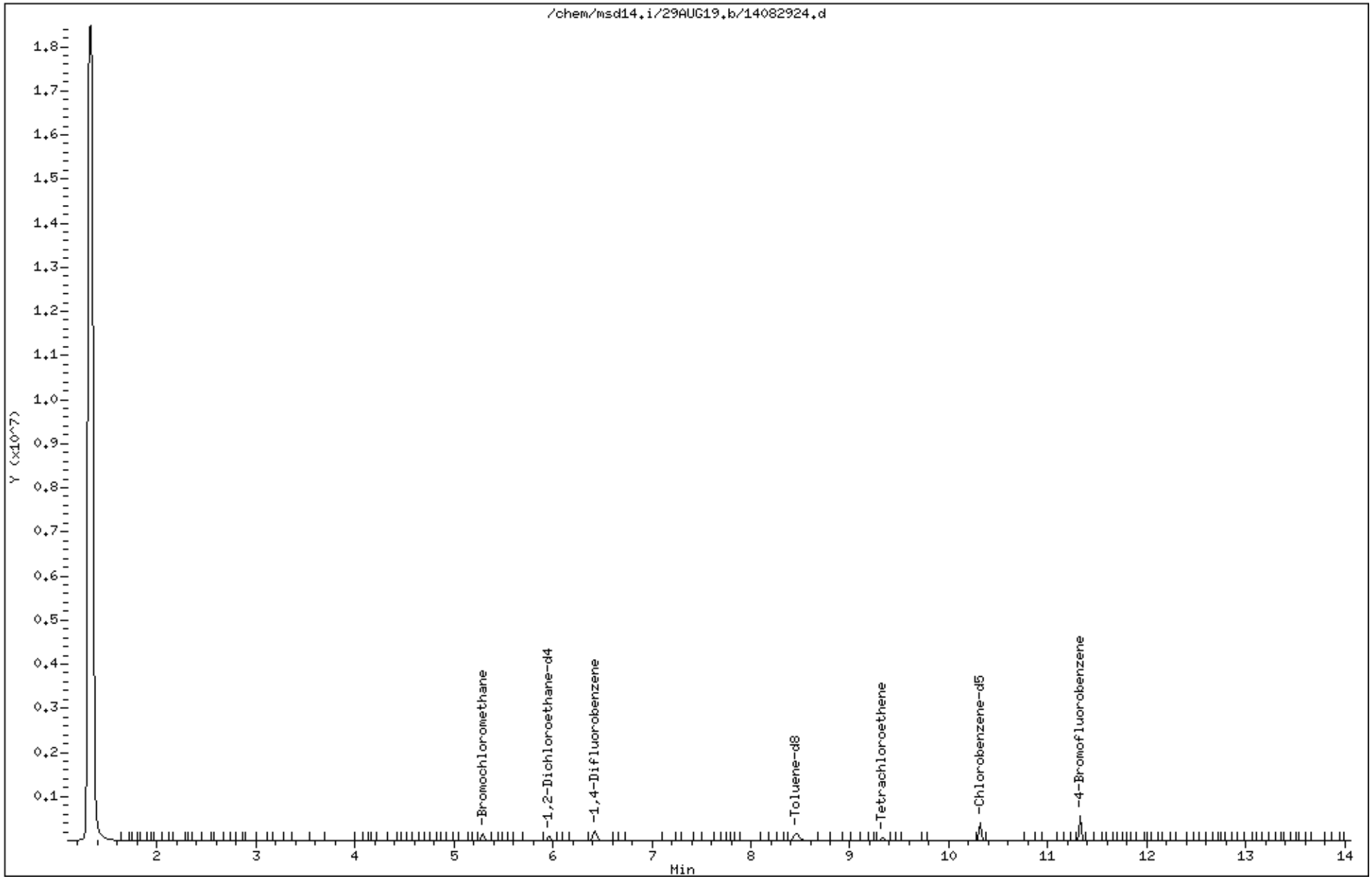
Instrument: msd14.i

Sample Info: 50mL #6599

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082924.d

Date : 29-AUG-2019 18:13

Client ID:

Instrument: msd14.i

Sample Info: 50mL #6599

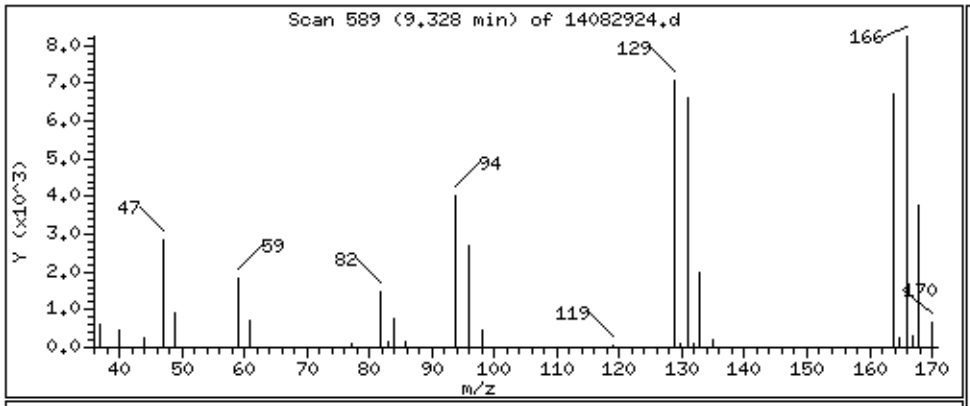
Operator: kk

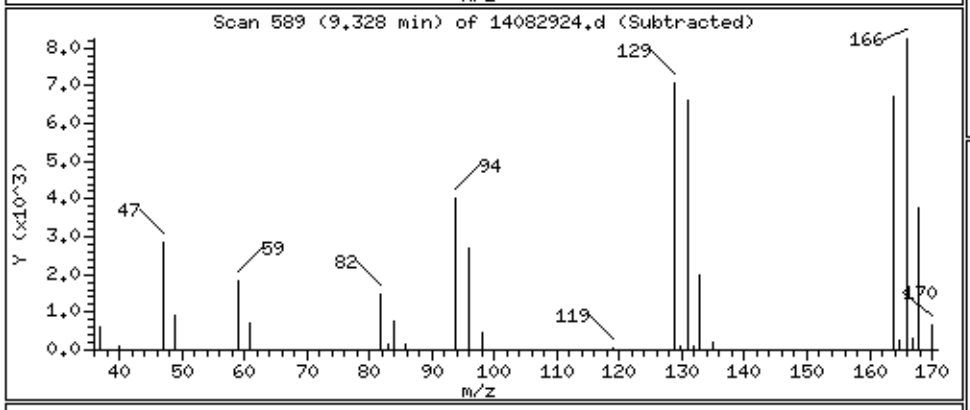
Column phase: RTX-624

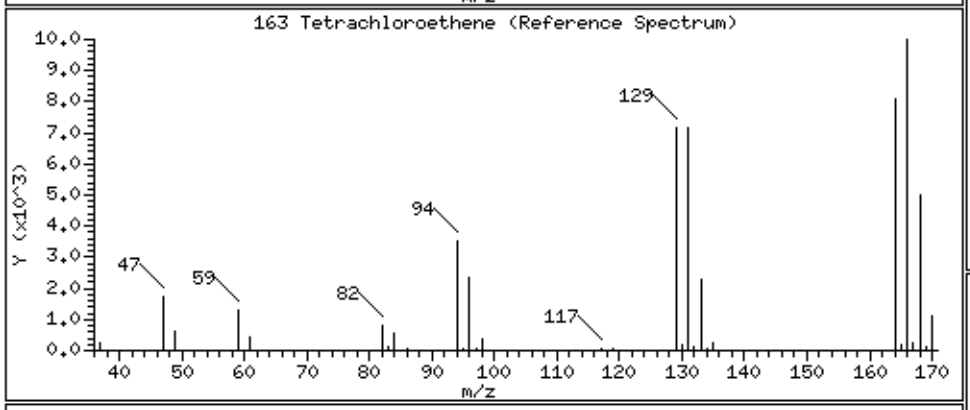
Column diameter: 0.18

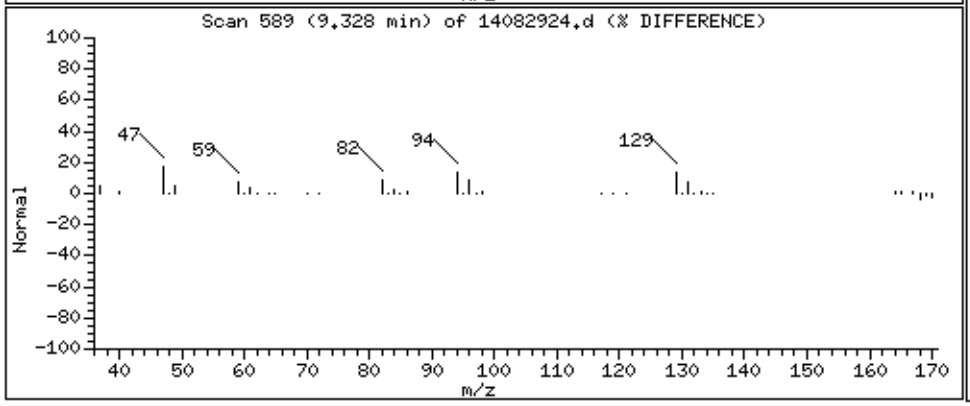
163 Tetrachloroethene

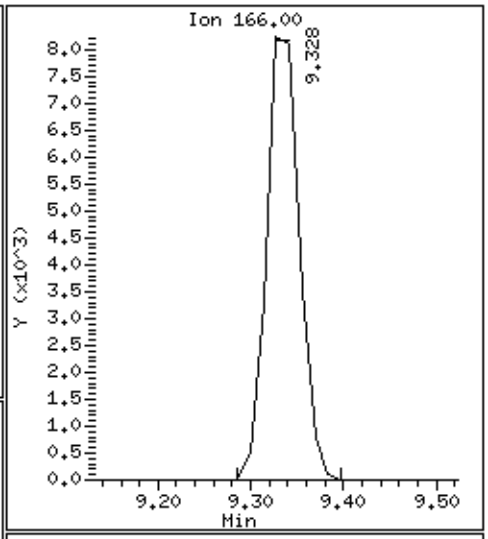
Concentration: 110.95 PPBV

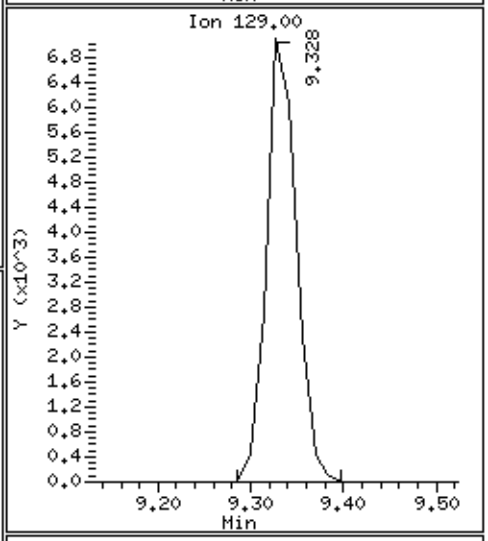


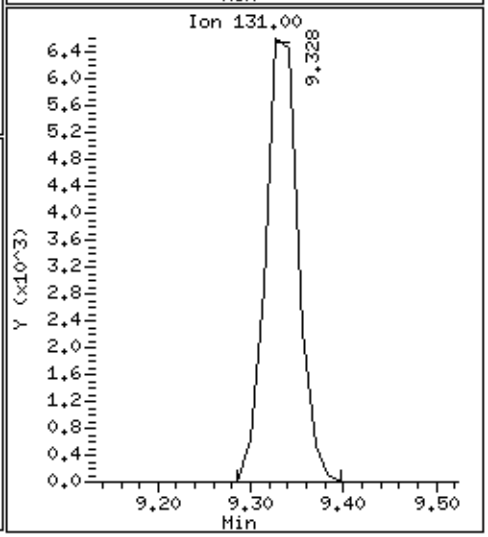












EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	1934A212040F		
Lab ID:	1908555-18A	**Date/Time Analyzed:**	8/29/19 06:34 PM
Date/Time Collected:	8/21/19 03:00 PM	**Dilution Factor:**	2.43
Media:	1 Liter Summa Canister	**Instrument/Filename:**	msd14.i / 14082925

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	29	49	82	1200
Trichloroethene	79-01-6	19	39	65	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	104
4-Bromofluorobenzene	460-00-4	83-110	98
Toluene-d8	2037-26-5	86-115	100

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082925.d
Lab Smp Id: 1908555-18A
Inj Date : 29-AUG-2019 18:34
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #1L2342
Misc Info : 5.3"Hg->14.7psi
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:14 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 2.43000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
==	====== ========	====	========	=======	=======	==========	=====
* 97 Bromochloromethane						CAS #: 74-97-5	
5.298	5.297 (1.000)	130	62426	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	47206			46.63- 106.63	75.62
5.298	5.294 (1.000)	49	68636			70.93- 130.93	109.95
* 127 1,4-Difluorobenzene						CAS #: 540-36-3	
6.432	6.430 (1.000)	114	254126	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	38338			0.00- 45.07	15.09
* 179 Chlorobenzene-d5						CAS #: 3114-55-4	
10.321	10.321 (1.000)	117	238026	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	126920			24.37- 84.37	53.32
$ 119 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
5.956	5.956 (1.124)	65	83649	416.581	416.58	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	43745			24.83- 84.83	52.30
$ 155 Toluene-d8						CAS #: 2037-26-5	
8.460	8.460 (1.315)	98	258816	400.373	400.37	80.00- 120.00	100.00
8.474	8.459 (1.318)	70	28833			0.00- 41.24	11.14

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	168402			35.45- 95.45	65.07
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	140044	392.183	392.18	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	171292			91.49- 151.49	122.31
11.329	11.329 (1.098)	176	135895			65.46- 125.46	97.04
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	33906	70.1763	170.53	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	26304			46.86- 106.86	77.58
9.342	9.328 (0.905)	131	24409			46.25- 106.25	71.99

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082925.d
Lab Smp Id: 1908555-18A
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.3"Hg->14.7psi

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	62426	-17.93
127 1,4-Difluorobenze	286922	172153	401691	254126	-11.43
179 Chlorobenzene-d5	262234	157340	367128	238026	-9.23

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 04-Sep-2019 07:48

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 1908555-18A
Level: LOW Operator: kk
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 5.3"Hg->14.7psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	416.58	104.15
$ 155 Toluene-d8	400.00	400.37	100.09
$ 198 4-Bromofluorobenzene	400.00	392.18	98.05

Data File: /chem/msd14.i/29AUG19.b/14082925.d

Date : 29-AUG-2019 18:34

Client ID:

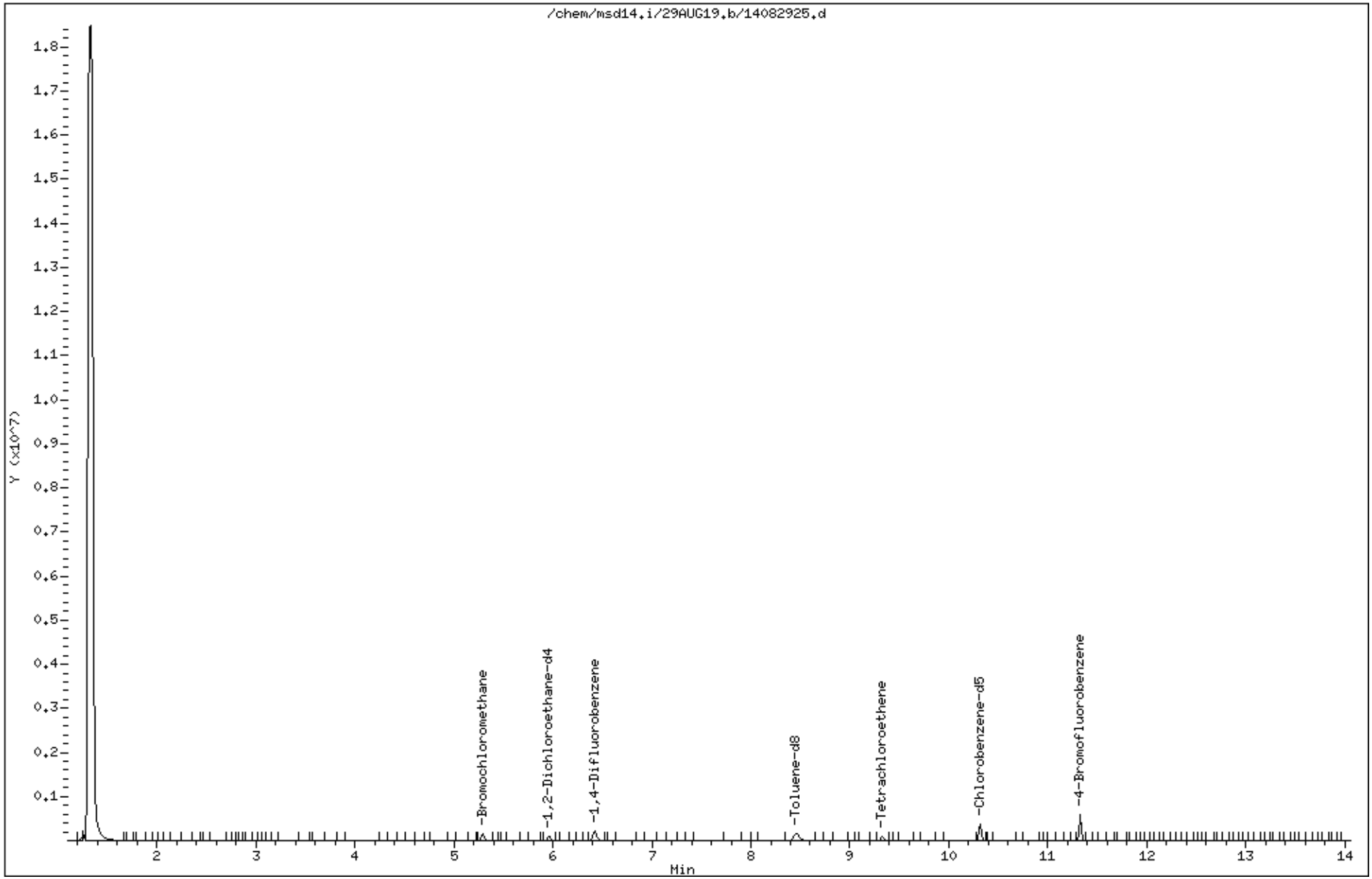
Instrument: msd14.i

Sample Info: 50mL #1L2342

Operator: kk

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem/msd14.i/29AUG19.b/14082925.d

Date : 29-AUG-2019 18:34

Client ID:

Instrument: msd14.i

Sample Info: 50mL #1L2342

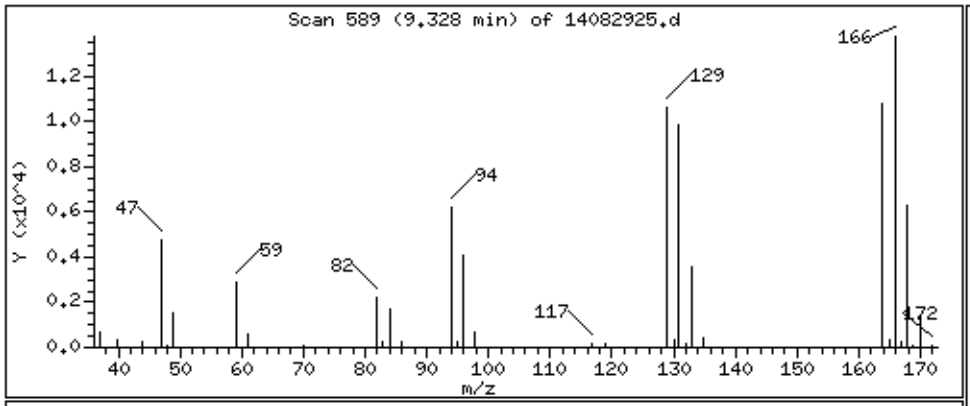
Operator: kk

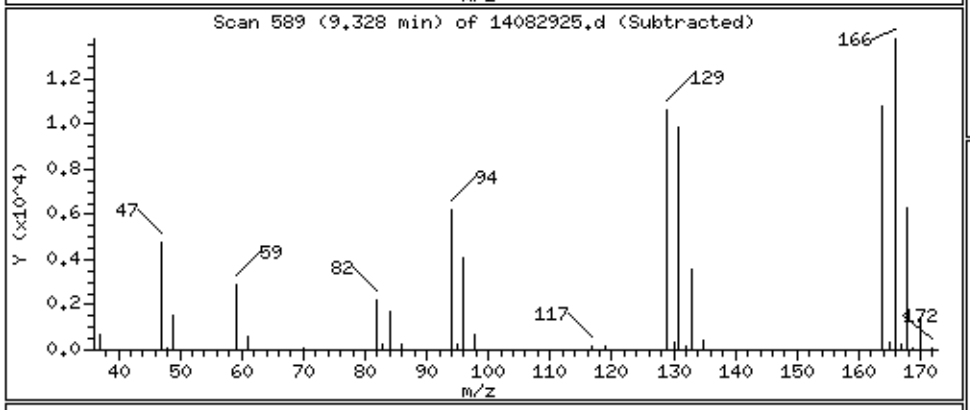
Column phase: RTX-624

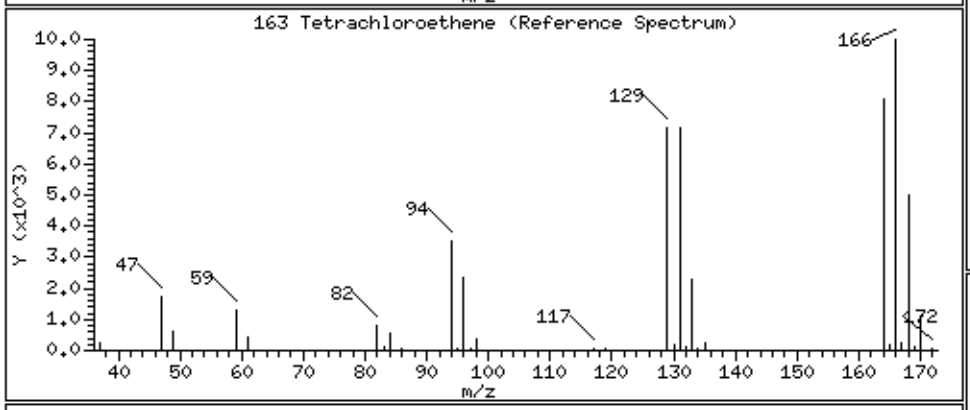
Column diameter: 0.18

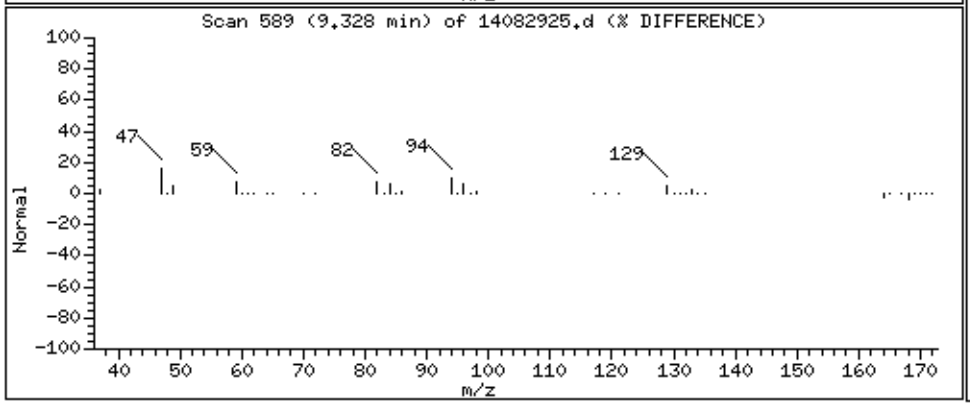
163 Tetrachloroethene

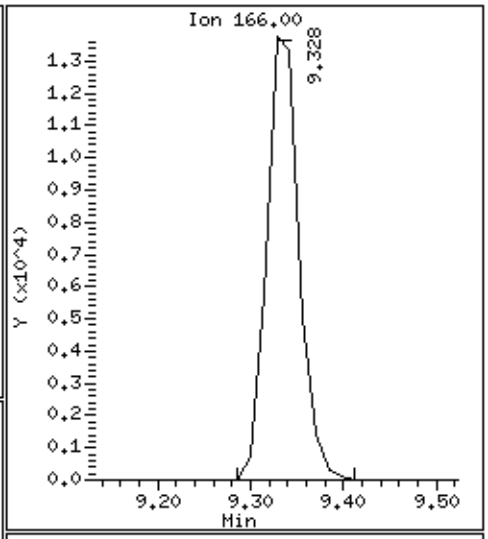
Concentration: 170.53 PPBV

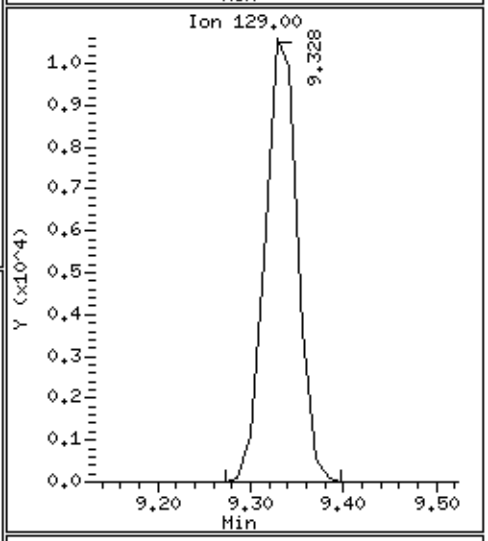


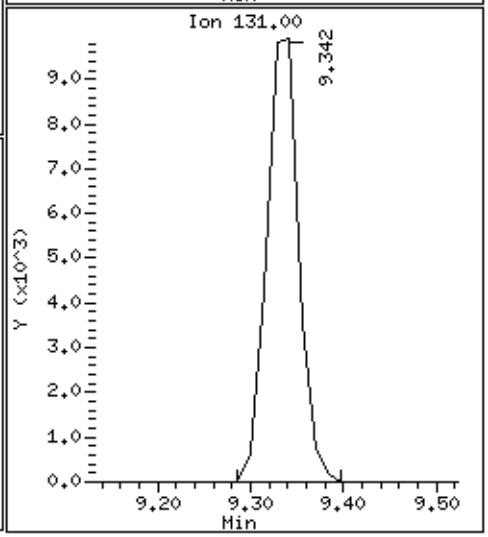












QC Results and Raw Data

EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	Lab Blank		
Lab ID:	1908555-19A	**Date/Time Analyzed:**	8/29/19 09:49 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd14.i / 14082905a

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	127-18-4	12	20	34	Not Detected U
Trichloroethene	79-01-6	8.0	16	27	Not Detected U

U = The analyte was not detected above the LOD.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	101
4-Bromofluorobenzene	460-00-4	83-110	99
Toluene-d8	2037-26-5	86-115	100

US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/29AUG19.b/14082905a.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 29-AUG-2019 09:49
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #33665
Misc Info : Humid
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 29-Aug-2019 09:07 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AHT20154.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	73427	400.000		80.00- 120.00	100.00
5.298	5.297 (1.000)	128	57152			46.63- 106.63	77.83
5.298	5.297 (1.000)	49	82189			70.93- 130.93	111.93
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	285382	400.000		80.00- 120.00	100.00
6.432	6.430 (1.000)	88	42894			0.00- 45.07	15.03
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	262558	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	144294			24.37- 84.37	54.96
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	95355	403.730	403.73	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	50482			24.83- 84.83	52.94
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	289658	399.007	399.01	80.00- 120.00	100.00
8.461	8.460 (1.315)	70	32601			0.00- 41.24	11.26

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	185038			35.45- 95.45	63.88
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	156403	397.072	397.07	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	193376			91.49- 151.49	123.64
11.329	11.329 (1.098)	176	149481			65.46- 125.46	95.57

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082905a.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: Humid

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	73427	-3.46
127 1,4-Difluorobenze	286922	172153	401691	285382	-0.54
179 Chlorobenzene-d5	262234	157340	367128	262558	0.12

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Level: LOW Operator: AK
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: AHT20154.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	403.73	100.93
$ 155 Toluene-d8	400.00	399.01	99.75
$ 198 4-Bromofluorobenzene	400.00	397.07	99.27

Data File: /chem1/msd14.i/29AUG19.b/14082905a.d

Date : 29-AUG-2019 09:49

Client ID: Lab Blank

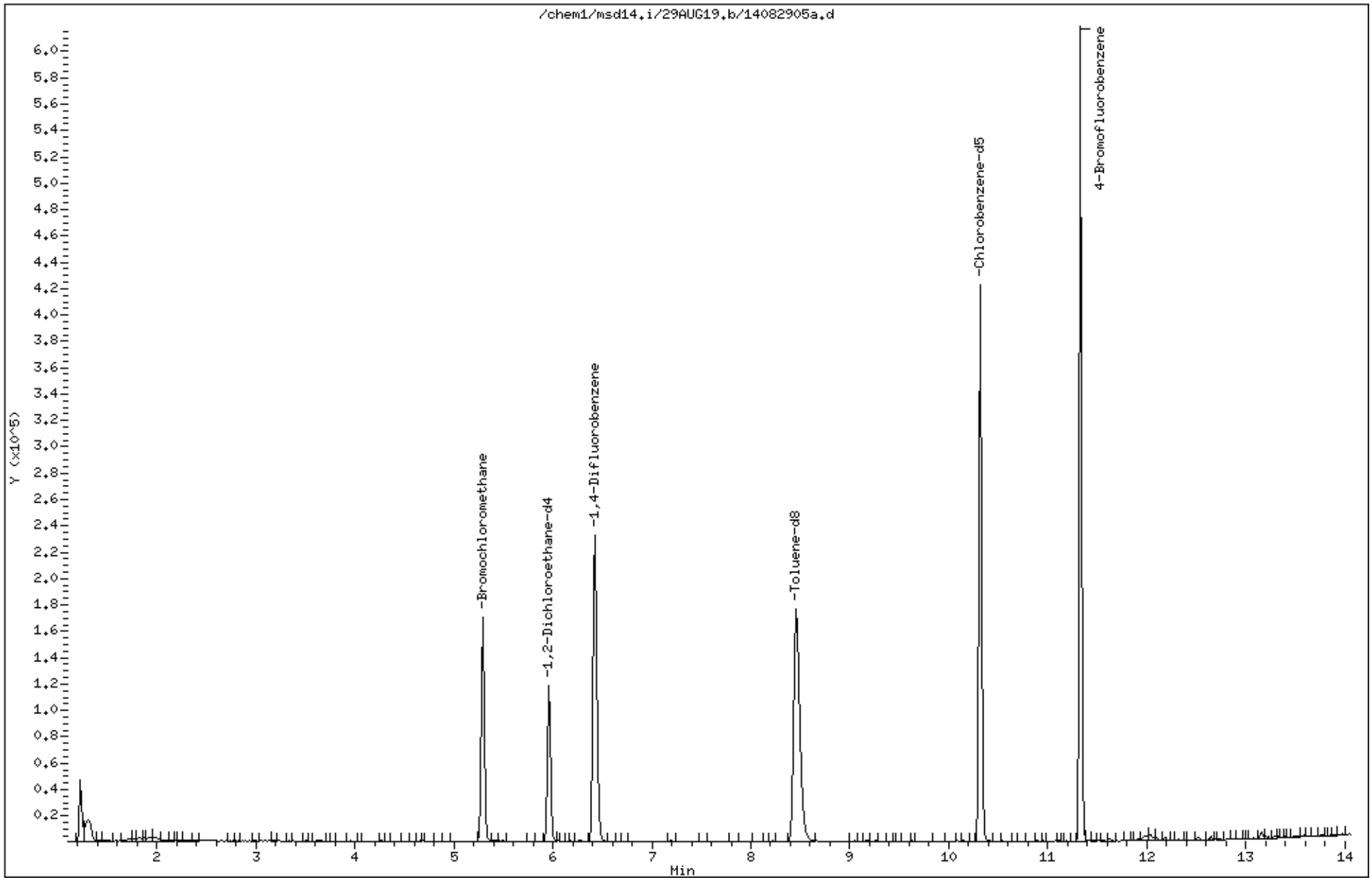
Instrument: msd14.i

Sample Info: 50mL #33665

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



LEVEL-IV VALIDATABLE

EPA METHOD TO-15 GC/MS

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED. SDG No.: 1908555

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		#	TOTAL OUT
01	1934A212023F	103		100		98				0
02	1934A212023F Lab Duplicate	101		100		101				0
03	1934A212024F	105		101		99				0
04	1934A212025F	105		101		101				0
05	1934A212026D	101		100		98				0
06	1934A212027F	100		100		100				0
07	1934A212028F	110		98		100				0
08	1934A212029F	101		99		99				0
09	1934A212030F	107		101		102				0
10	1934A212031F	102		101		99				0
11	1934A212032D	104		100		98				0
12	1934A212033F	101		100		102				0
13	1934A212034F	101		98		96				0
14	1934A212035F	103		98		98				0
15	1934A212036F	100		99		98				0
16	1934A212037F	106		100		100				0
17	1934A212038F	99		99		101				0
18	1934A212039F	103		97		100				0
19	1934A212040F	104		100		98				0
20	Lab Blank	101		100		99				0
21	CCV	99		100		100				0
22	CCV	100		101		98				0
23	LCS	99		101		99				0
24	LCSD	101		100		101				0

Surrogate Recovery Limits

1,2-Dichloroethane-d4 64 - 133
Toluene-d8 86 - 115
4-Bromofluorobenzene 83 - 110

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD | SDG No: 1908555

Lab File ID: 14082902a.d | Date Analyzed: 08/29/2019

Instrument ID: msd14.i | Time Analyzed: 08:30 AM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	262234		10.32		286922		6.43		76060		5.3	
	UPPER LIMIT	367128		10.65		401691		06.76		106484		05.63	
	LOWER LIMIT	157340		09.99		172153		06.10		45636		04.97	
	CLIENT SAMPLE NO												
01	1934A212023F	257528		10.32		272950		6.43		68023		5.3	
02	1934A212023F Lab Duplicate	256079		10.32		277047		6.43		71634		5.3	
03	1934A212024F	257416		10.32		268971		6.43		65958		5.3	
04	1934A212025F	255782		10.32		268363		6.43		64238		5.3	
05	1934A212026D	258492		10.32		271836		6.43		69262		5.3	
06	1934A212027F	250267		10.32		271746		6.43		70805		5.3	
07	1934A212028F	252089		10.32		272697		6.43		62819		5.3	
08	1934A212029F	250191		10.32		267952		6.43		69286		5.3	
09	1934A212030F	241314		10.32		264102		6.43		63155		5.3	
10	1934A212031F	245641		10.32		265656		6.43		66802		5.3	
11	1934A212032D	245594		10.32		263744		6.43		65997		5.3	
12	1934A212033F	240787		10.32		262344		6.43		67650		5.3	
13	1934A212034F	245209		10.32		263195		6.43		66708		5.3	
14	1934A212035F	242153		10.32		265463		6.43		68105		5.3	
15	1934A212036F	243660		10.32		262450		6.43		68309		5.3	
16	1934A212037F	238020		10.32		255487		6.43		62357		5.3	
17	1934A212038F	238791		10.32		262327		6.43		68829		5.3	
18	1934A212039F	238512		10.32		259433		6.43		65838		5.3	
19	1934A212040F	238026		10.32		254126		6.43		62426		5.3	
20	Lab Blank	262558		10.32		285382		6.43		73427		5.3	
21	CCV	262234		10.32		286922		6.43		76060		5.3	
22	CCV	247434		10.32		264105		6.43		68577		5.3	
23	LCS	263187		10.32		282941		6.43		74104		5.3	
24	LCSD	260827		10.32		281661		6.43		73366		5.3	
25													
26													
27													
28													
29													

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD | SDG No: 1908555

Lab File ID: 14082902a.d | Date Analyzed: 08/29/2019

Instrument ID: msd14.i | Time Analyzed: 08:30 AM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	262234		10.32		286922		6.43		76060		5.3	
	UPPER LIMIT	367128		10.65		401691		06.76		106484		05.63	
	LOWER LIMIT	157340		09.99		172153		06.10		45636		04.97	
	CLIENT SAMPLE NO												
30													
31													
32													
33													
34													
35													
36													
37													
38													
39													
40													
41													
42													
43													
44													

'Area Upper Limit=+40% of internal standard area'

'Area Lower Limit=-40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT

RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD | SDG No: 1908555

Lab File ID: 14082927.d | Date Analyzed: 08/29/2019

Instrument ID: msd14.i | Time Analyzed: 07:16 PM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	247434		10.32		264105		6.43		68577		5.3	
	UPPER LIMIT	346408		10.65		369747		06.76		96008		05.63	
	LOWER LIMIT	148460		09.99		158463		06.10		41146		04.97	
	CLIENT SAMPLE NO												
01	1934A212023F	257528		10.32		272950		6.43		68023		5.3	
02	1934A212023F Lab Duplicate	256079		10.32		277047		6.43		71634		5.3	
03	1934A212024F	257416		10.32		268971		6.43		65958		5.3	
04	1934A212025F	255782		10.32		268363		6.43		64238		5.3	
05	1934A212026D	258492		10.32		271836		6.43		69262		5.3	
06	1934A212027F	250267		10.32		271746		6.43		70805		5.3	
07	1934A212028F	252089		10.32		272697		6.43		62819		5.3	
08	1934A212029F	250191		10.32		267952		6.43		69286		5.3	
09	1934A212030F	241314		10.32		264102		6.43		63155		5.3	
10	1934A212031F	245641		10.32		265656		6.43		66802		5.3	
11	1934A212032D	245594		10.32		263744		6.43		65997		5.3	
12	1934A212033F	240787		10.32		262344		6.43		67650		5.3	
13	1934A212034F	245209		10.32		263195		6.43		66708		5.3	
14	1934A212035F	242153		10.32		265463		6.43		68105		5.3	
15	1934A212036F	243660		10.32		262450		6.43		68309		5.3	
16	1934A212037F	238020		10.32		255487		6.43		62357		5.3	
17	1934A212038F	238791		10.32		262327		6.43		68829		5.3	
18	1934A212039F	238512		10.32		259433		6.43		65838		5.3	
19	1934A212040F	238026		10.32		254126		6.43		62426		5.3	
20	Lab Blank	262558		10.32		285382		6.43		73427		5.3	
21	CCV	262234		10.32		286922		6.43		76060		5.3	
22	CCV	247434		10.32		264105		6.43		68577		5.3	
23	LCS	263187		10.32		282941		6.43		74104		5.3	
24	LCSD	260827		10.32		281661		6.43		73366		5.3	
25													
26													
27													
28													
29													

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

EPA Method TO-15 GC/MS

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD | SDG No: 1908555

Lab File ID: 14082927.d | Date Analyzed: 08/29/2019

Instrument ID: msd14.i | Time Analyzed: 07:16 PM

	Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
24-HOUR STD	247434		10.32		264105		6.43		68577		5.3	
UPPER LIMIT	346408		10.65		369747		06.76		96008		05.63	
LOWER LIMIT	148460		09.99		158463		06.10		41146		04.97	
CLIENT SAMPLE NO												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
41												
42												
43												
44												

'Area Upper Limit=+40% of internal standard area'

'Area Lower Limit=-40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT

RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 14082907.d & 14082906.d

Lab Sample ID: 01A & 01AA

Dilution: 2.62 & 2.62

Client Sample ID: &

Date Analyzed: 8/29/19 & 8/29/19

CAS Number	Compound	Original Amount	Original Flags	Duplicate Amount	Duplicate Flags	RPD	Result Less Than 5X RL
127-18-4	Tetrachloroethene	ND	U	ND	U	0	
79-01-6	Trichloroethene	ND	U	ND	U	0	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 14082904a.d & 14082903a.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 8/29/19 & 8/29/19

		Original		Duplicate			Result Less Than
CAS Number	Compound	Amount	Flags	Amount	Flags	RPD	5X RL
127-18-4	Tetrachloroethene	96		96		0	
79-01-6	Trichloroethene	99		100		1.0	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
End Cal Date : 22-AUG-2019 12:26
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Calibration File Names:
Level 2: /chem1/msd14.i/21AUG19.b/14082112.d
Level 3: /chem1/msd14.i/21AUG19.b/14082126.d
Level 4: /chem/msd14.i/21AUG19.b/14082132.d
Level 5: /chem1/msd14.i/21AUG19.b/14082128.d
Level 6: /chem1/msd14.i/21AUG19.b/14082129.d
Level 7: /chem1/msd14.i/21AUG19.b/14082130.d
Level 8: /chem1/msd14.i/21AUG19.b/14082120.d
Level 9: /chem1/msd14.i/21AUG19.b/14082121.d
Level 10: /chem1/msd14.i/21AUG19.b/14082122.d

Compound	5.000 Level 2	20.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	1000.000 Level 7	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10	___ RRF	% RSD
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
End Cal Date : 22-AUG-2019 12:26
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Compound	5.000 Level 2	20.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	1000.000 Level 7	RRF	% RSD
	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
6 Freon 143a	+++++	3.23089	3.25056	3.13333	3.14727	3.41473		
	+++++	+++++	+++++				3.23536	3.476
7 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
8 Freon 134a	+++++	1.05124	1.19466	1.07681	1.06320	1.19020		
	+++++	+++++	+++++				1.11522	6.373
9 1,1-Difluoroethane	+++++	0.71732	0.69922	0.71915	0.70076	0.75585		
	+++++	+++++	+++++				0.71846	3.176
10 Propylene	+++++	+++++	1.04949	0.89882	0.75617	0.78584		
	+++++	+++++	+++++				0.87258	15.241
11 Freon 12	3.49724	2.57281	2.83781	3.86693	2.92631	3.22881		
	+++++	+++++	+++++				3.15498	15.010
12 Chlorodifluoromethane	+++++	0.36967	0.32680	0.29794	0.29804	0.32089		
	+++++	+++++	+++++				0.32267	9.098
13 Freon 114	2.85435	2.37101	2.48819	3.18813	2.72382	2.72318		
	+++++	+++++	+++++				2.72478	10.543
14 Freon 142b	+++++	2.17856	2.07166	2.08958	2.02098	2.32495		
	+++++	+++++	+++++				2.13715	5.587

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End Cal Date : 22-AUG-2019 12:26
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Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Compound	5.000 Level 2	20.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	1000.000 Level 7	RRF	% RSD
	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
15 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
16 Chloromethane	+++++	0.82062	0.81711	1.11275	0.87205	0.89410		
	+++++	+++++	+++++				0.90333	13.467
17 Butane	+++++	0.28163	0.27848	0.32064	0.27091	0.26382		
	0.21810	0.27639	0.24070				0.26883	11.242
18 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
19 Vinyl Chloride	1.32705	1.20083	1.25702	1.53985	1.20347	1.28663		
	+++++	+++++	+++++				1.30248	9.675
20 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
21 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
22 trans-2-butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
23 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
25 1,3-Butadiene	1.28665	0.87179	0.82408	1.08763	0.91356	0.90476		
	+++++	+++++	+++++				0.98141	17.748
26 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
27 Vinyl Bromide	+++++	1.20186	1.20165	1.14671	1.11827	1.25393		
	+++++	+++++	+++++				1.18448	4.473
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
29 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
30 Bromomethane	+++++	0.67970	0.63561	0.95728	0.64504	0.96771		
	+++++	+++++	+++++				0.77707	21.890
31 Chloroethane	+++++	0.52224	0.54514	0.56641	0.45726	0.62089		
	+++++	+++++	+++++				0.54239	11.062
32 Isopentane	+++++	1.22487	1.18158	1.45939	1.21586	1.24379		
	0.59442	0.74760	0.66658				1.04176	30.914

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Compound	5.000 Level 2 2500.000 Level 8	20.000 Level 3 5000.000 Level 9	50.000 Level 4 1.000e+04 Level 10	100.000 Level 5	200.000 Level 6	1000.000 Level 7	RRF	% RSD
33 2,3-Dimethylbutane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
34 Freon 11	3.49109 2.67043	3.15062 3.37536	3.27102 3.03402	4.27778	3.62490	3.66582	3.39567	13.356
35 1-Pentene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
36 Dichlorofluoromethane	+++++ +++++	2.73131 +++++	2.44453 +++++	2.61534	2.43407	2.84459	2.61397	6.844
37 2-Chloropropane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
38 Pentane	+++++ +++++	2.13453 +++++	1.81099 +++++	1.78552	1.75062	1.87732	1.87179	8.228
39 Freon 123a	+++++ +++++	2.09878 +++++	1.82175 +++++	1.88592	1.78202	1.99604	1.91690	6.779
40 2-Methyl-2-butene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
41 trans-2-Pentene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
42 Ethanol	+++++	0.38396	0.33165	0.56096	0.47138	0.43769		
	0.30651	0.41396	0.36234				0.40856	20.082
43 Ethyl Ether	+++++	0.59766	0.58022	0.61915	0.63950	0.70469		
	+++++	+++++	+++++				0.62824	7.673
44 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
45 1,2-Dichloro-1-fluoroethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
46 cis-2-Pentene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
47 Acrolein	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
48 Freon 123	+++++	2.97151	3.00243	2.88467	2.78593	3.08492		
	+++++	+++++	+++++				2.94589	3.890
49 Freon 113	3.01683	2.31632	2.45858	3.13227	2.64322	2.66602		
	1.99965	2.51079	2.21907				2.55142	14.240
50 Methyl Acetate	+++++	1.74524	1.76198	1.76727	1.64185	1.96936		
	+++++	+++++	+++++				1.77714	6.693

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Compound	5.000 Level 2 / 2500.000 Level 8	20.000 Level 3 / 5000.000 Level 9	50.000 Level 4 / 1.000e+04 Level 10	100.000 Level 5	200.000 Level 6	1000.000 Level 7	RRF	% RSD	
51 1,1-Dichloroethene	2.15701 1.83775	2.03778 2.31631	2.09907 2.07643	2.64487	2.31073	2.35580	2.20397	10.552	
52 2,2-Dimethylbutane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++	
53 Acetone	+++++ 0.50115	0.54958 0.64871	0.60986 0.57445	0.76470	0.63791	0.63275	0.61489	12.790	
54 Iodomethane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++	
55 Carbon Disulfide	+++++ +++++	3.63823 +++++	3.58975 +++++	4.78525	4.09039	4.08171	4.03706	11.904	
56 2-Propanol	+++++ 1.56726	1.82253 2.02056	1.70499 1.78893	2.32936	2.01965	2.04430	1.91220	12.500	
57 Bromoethane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++	
58 4-Methyl-1-pentene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++	
59 3-Chloropropene	+++++ +++++	0.30346 +++++	0.35842 +++++	0.68275	0.54878	0.64799	0.50828	33.505	<-

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
60 Cyclopentene	+++++	2.98960	2.66927	2.72944	2.67154	2.96262		
	+++++	+++++	+++++				2.80450	5.662
61 3-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
62 2-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
63 Acetonitrile	+++++	0.68114	0.54921	0.57005	0.52382	0.72678		
	+++++	+++++	+++++				0.61020	14.524
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
65 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
66 Methylene Chloride	+++++	1.52238	1.31605	1.63959	1.40651	1.37773		
	1.07764	1.39717	1.24191				1.37237	12.402
67 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
68 tert-Butyl alcohol	+++++	2.80415	2.52156	3.27795	2.10240	+++++		
	+++++	+++++	+++++				2.67651	18.451

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Compound	5.000 Level 2 / 2500.000 Level 8	20.000 Level 3 / 5000.000 Level 9	50.000 Level 4 / 1.000e+04 Level 10	100.000 Level 5	200.000 Level 6	1000.000 Level 7	___ RRF	% RSD
69 Methyl tert-butyl ether	3.97765 2.98697	3.62323 4.08419	3.70195 3.52335	4.69922	3.89858	4.15119	3.84959	12.357
70 2-Methyl-1-pentene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
71 2,4-Dimethylpentane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
72 tert-Butyl chloride	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
73 trans-1,2-Dichloroethene	1.42103 +++++	1.33227 +++++	1.25995 +++++	1.62979	1.40987	1.41792	1.41181	8.792
74 Chloroprene	+++++ +++++	1.90523 +++++	1.78976 +++++	1.75515	1.77689	1.99941	1.84529	5.634
75 Acrylonitrile	+++++ +++++	0.87273 +++++	0.72028 +++++	0.74643	0.80805	0.91081	0.81166	9.967
76 1-Hexene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
77 Hexane	2.82800 1.69555	2.09071 2.17686	1.99677 1.93471	2.61830	2.19237	2.22013	2.19482	15.686

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
78 trans-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
79 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
80 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
81 cis-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
82 Isopropyl ether	+++++	3.81378	3.72312	4.82368	4.14803	+++++		
	+++++	+++++	+++++				4.12715	12.091
83 1,1-Dichloroethane	2.82800	2.07637	2.31613	3.05897	2.62129	2.66477		
	2.12671	2.73771	2.44765				2.54196	12.883
84 Vinyl Acetate	+++++	0.31890	0.35117	0.50712	0.42034	0.43792		
	+++++	+++++	+++++				0.40709	18.233
85 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
86 1-Propanol	+++++	0.14582	0.14167	0.16819	0.16538	0.18946		
	+++++	+++++	+++++				0.16210	11.861

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
87 Ethyl-tert-butyl ether	+++++	4.51288	4.32198	5.95294	4.95286	+++++		
	+++++	+++++	+++++				4.93517	14.754
88 Butanal	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
89 2,2-Dichloropropane	+++++	2.17768	1.74289	2.06622	1.82586	2.47243		
	+++++	+++++	+++++				2.05702	14.159
90 Isobutyl chloride	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
91 cis-1,2-Dichloroethene	2.10783	1.95706	1.96854	2.53204	2.15551	2.18674		
	1.64722	2.09855	1.89201				2.06061	11.755
92 2-Butanone	+++++	0.60847	0.67796	0.92390	0.79458	0.79084		
	+++++	+++++	+++++				0.75915	15.957
93 Ethyl Acetate	+++++	0.44814	0.34311	0.31345	0.32017	0.36022		
	+++++	+++++	+++++				0.35702	15.189
94 Methyl Acrylate	+++++	2.15807	2.06969	2.12400	2.10556	2.41141		
	+++++	+++++	+++++				2.17374	6.286
95 Methacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
96 Tetrahydrofuran	2.09465	1.25442	1.10036	1.59255	1.31403	1.33001		
	+++++	+++++	+++++				1.44767	24.505
98 Chloroacetonitrile	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
99 2-Chloropentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
100 Chloroform	3.37077	2.79070	2.79097	3.46640	3.03865	3.11306		
	2.47838	3.15062	2.83310				3.00363	10.391
101 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
102 1-Bromopropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
103 Cyclohexane	2.09465	2.08872	1.90694	2.51092	2.17061	2.16047		
	1.66627	2.09368	1.84532				2.05973	11.557
104 1,1,1-Trichloroethane	3.40766	2.91949	2.70058	3.69868	3.17462	3.20676		
	2.56198	3.26941	2.92011				3.09548	11.493
105 n-Butylchloride	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

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106 Cyclohexene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
107 3-Methylhexane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
108 Carbon Tetrachloride	2.94481 2.73569	2.83635 3.52439	2.90821 3.14995	3.92003	3.29759	3.34974	3.18520	11.925
109 1,1-Dichloropropene	+++++ +++++	0.82151 +++++	0.73345 +++++	0.75203	0.76230	0.84251	0.78236	6.017
110 2-Methylhexane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
111 1-Methoxy-2-propanol	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
112 1-Heptene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
113 2,3-Dichloro-1-propene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
114 Thiophene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
116 Isobutanol	+++++	0.23892	0.22326	0.21108	0.21531	0.25662		
	+++++	+++++	+++++				0.22904	8.175
117 2,2,4-Trimethylpentane	7.75593	6.82700	6.52875	8.27971	7.12277	7.26838		
	5.71484	7.34403	6.57764				7.04656	10.616
118 Benzene	1.25450	1.06599	1.01546	1.44524	1.22718	1.24537		
	0.99744	1.28480	1.15275				1.18764	12.165
120 tert-Amyl methyl ether	+++++	4.45091	4.22536	5.78715	4.86459	+++++		
	+++++	+++++	+++++				4.83200	14.271
121 1,2-Dichloroethane	0.63308	0.48093	0.45050	0.62240	0.53882	0.55437		
	+++++	+++++	+++++				0.54668	13.416
122 Bromodichloroethene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
123 3-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
124 Heptane	0.53287	0.46181	0.35833	0.49168	0.42133	0.45999		
	0.36392	0.47213	0.42297				0.44278	12.932
125 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

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INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
End Cal Date : 22-AUG-2019 12:26
Quant Method : ISTD
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Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Compound	5.000 Level 2	20.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	1000.000 Level 7	___ RRF	% RSD
	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
126 2-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
128 n-Butanol	+++++	0.22606	0.21410	0.20935	0.23392	0.27767		
	+++++	+++++	+++++				0.23222	11.710
129 Trichloroethene	0.55964	0.52374	0.48138	0.67020	0.54547	0.55862		
	0.44929	0.58412	0.52862				0.54457	11.529
130 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
131 bis(chloromethyl) Ether	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
132 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
133 Methylcyclohexane	+++++	0.70311	0.67000	0.89773	0.76192	0.78088		
	0.63767	0.81400	0.73233				0.74971	11.108
134 Ethyl acrylate	+++++	0.83759	0.73949	0.73594	0.75965	0.86777		
	+++++	+++++	+++++				0.78809	7.689
135 1-Octene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
136 2-Chloroethyl Vinyl Ether	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
137 2-Pentanone	+++++	0.81605	0.72331	0.74958	0.78076	0.88847		
	+++++	+++++	+++++				0.79163	8.120
138 1,2-Dichloropropane	0.48894	0.40921	0.36270	0.53170	0.45178	0.46620		
	+++++	+++++	+++++				0.45176	13.179
139 1,4-Dioxane	+++++	0.27478	0.23135	0.34992	0.28630	0.30443		
	+++++	+++++	+++++				0.28936	14.946
140 Methyl Methacrylate	+++++	0.42111	0.38532	0.40099	0.38864	0.46673		
	+++++	+++++	+++++				0.41256	8.089
141 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
142 Dibromomethane	+++++	0.49712	0.43327	0.42352	0.42939	0.47951		
	+++++	+++++	+++++				0.45256	7.382
143 1-Chloro-2-Bromopropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
144 Bromodichloromethane	0.83351	0.78863	0.70032	0.99653	0.86442	0.89405		
	+++++	+++++	+++++				0.84624	11.814

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
145 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
146 Vinyl Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
147 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
148 Bromodichloroethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
149 1-Chlorohexane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
150 Butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
151 cis-1,3-Dichloropropene	0.79462	0.67690	0.60370	0.83240	0.73488	0.76855		
	+++++	+++++	+++++				0.73517	11.345
152 Dimethyl Disulfide	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
153 1-Nonene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
154 4-Methyl-2-pentanone	0.21850	0.16713	0.14317	0.20460	0.16815	0.17682		
	+++++	+++++	+++++				0.17973	15.257
156 Toluene	1.75854	1.47017	1.31582	1.82843	1.55785	1.60738		
	1.29203	1.66706	1.51187				1.55657	11.734
157 Octane	+++++	0.40543	0.33687	0.31671	0.32253	0.37919		
	+++++	+++++	+++++				0.35215	10.940
158 3-Methyl-2-pentanone	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
159 1-Decene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
160 trans-1,3-Dichloropropene	0.73171	0.67831	0.60317	0.86216	0.75719	0.79138		
	+++++	+++++	+++++				0.73732	12.193
161 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
162 1,1,2-Trichloroethane	0.54922	0.52857	0.47300	0.69016	0.58659	0.58516		
	+++++	+++++	+++++				0.56878	12.798
163 Tetrachloroethene	0.96156	0.77553	0.70413	0.94400	0.82128	0.84288		
	0.65935	0.83303	0.76566				0.81194	12.292

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
164 1,3-Dichloropropane	+++++	2.79474	2.61622	2.46095	2.50363	2.74842	2.62479	5.579
	+++++	+++++	+++++					
165 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++	+++++	+++++					
166 2-Hexanone	+++++	0.47798	0.41011	0.60948	0.53602	0.56271	0.51926	14.894
	+++++	+++++	+++++					
167 1,4-Dichloro-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++	+++++	+++++					
168 Butyl Acetate	+++++	0.39697	0.41721	0.39975	0.39607	0.45703	0.41341	6.255
	+++++	+++++	+++++					
169 Dibromochloromethane	1.12695	1.04291	0.90770	1.27419	1.11846	1.13337	1.10059	10.960
	+++++	+++++	+++++					
170 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++	+++++	+++++					
171 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++	+++++	+++++					
172 alpha Methyl Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++	+++++	+++++					

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173 Indan	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
174 Isobutylbenzene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
175 Benzaldehyde	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
176 1,2-Dibromoethane (EDB)	0.94817 +++++	0.86541 +++++	0.76314 +++++	1.07899	0.94140	0.93602	0.92219	11.305
177 2-Ethyltoluene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
178 1-Undecene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
180 Chlorobenzene	1.49292 +++++	1.35649 +++++	1.14311 +++++	1.60115	1.40477	1.40239	1.40014	10.926
181 Ethyl Benzene	0.75675 0.58404	0.70018 0.72527	0.58812 0.67916	0.81941	0.72538	0.73043	0.70097	10.827
182 1,1,1,2-Tetrachloroethane	+++++ +++++	0.50132 +++++	0.61955 +++++	0.63069	0.62774	0.72137	0.62014	12.629

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
183 Nonane	+++++	0.58968	0.66563	0.66225	0.65729	0.84638		
	+++++	+++++	+++++				0.68425	14.015
184 m,p-Xylene	0.94520	0.88344	0.71163	0.99711	0.87728	0.89178		
	0.71447	0.90042	0.83782				0.86213	11.095
185 4-Ethyl-1,2-dimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
186 1,3-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
187 1,4-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
188 1,2,4,5-tetramethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
189 o-Xylene	0.79543	0.78700	0.69911	0.93129	0.80958	0.84612		
	0.68219	0.84064	0.79173				0.79812	9.438
190 Styrene	0.74311	1.31143	1.11332	1.58419	1.37834	1.39940		
	+++++	+++++	+++++				1.25497	23.360
191 1-Dodecene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
192 2-Heptanone	+++++	0.39164	0.61160	0.59645	0.65928	0.78252		
	+++++	+++++	+++++				0.60830	23.255
193 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
194 Bromoform	1.03768	0.92201	0.80623	1.14284	1.02074	1.04595		
	+++++	+++++	+++++				0.99591	11.701
195 alpha-Pinene	+++++	1.08789	1.36230	1.23269	1.29618	1.41510		
	+++++	+++++	+++++				1.27883	9.924
196 Cumene	2.64888	2.40451	2.10036	2.86488	2.52989	2.59135		
	+++++	+++++	+++++				2.52331	10.183
197 Cyclohexanone	+++++	0.31096	0.43835	0.41032	0.46088	0.53318		
	+++++	+++++	+++++				0.43074	18.798
199 Bromobenzene	+++++	0.59567	0.74542	0.71326	0.71942	0.77752		
	+++++	+++++	+++++				0.71026	9.700
200 1,1,2,2-Tetrachloroethane	1.50755	1.07379	1.04050	1.43316	1.28164	1.29246		
	+++++	+++++	+++++				1.27152	14.707
201 Propylbenzene	2.91419	2.59426	2.39259	3.06107	2.70455	2.86571		
	+++++	+++++	+++++				2.75539	8.755

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	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
202 1,2,3-Trichloropropane	+++++	0.27903	0.33773	0.31883	0.33604	0.36757		
	+++++	+++++	+++++				0.32784	9.893
203 trans-1,4-Dichloro-2-butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
204 2-Chlorotoluene	+++++	0.42858	0.56560	0.53770	0.55993	0.60106		
	+++++	+++++	+++++				0.53857	12.172
205 Decane	+++++	0.47262	0.65396	0.70350	0.64107	0.93440		
	+++++	+++++	+++++				0.68111	24.399
206 4-Ethyltoluene	2.30348	2.00446	1.89854	2.41603	2.08639	2.31090		
	+++++	+++++	+++++				2.16996	9.360
207 1,3,5-Trimethylbenzene	1.84254	2.02230	1.97948	2.40063	2.12418	2.16156		
	1.64980	1.94035	1.58040				1.96680	12.964
208 4-Chlorotoluene	+++++	0.35903	0.56432	0.53500	0.57538	0.62110		
	+++++	+++++	+++++				0.53097	19.019
209 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
210 tert-Butylbenzene	+++++	0.96306	1.62853	1.52003	1.65560	1.89472		
	+++++	+++++	+++++				1.53239	22.606

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211 Pentachloroethane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++	
212 1,2,4-Trimethylbenzene	1.63029 1.50078	1.40570 1.74134	1.50537 1.47037	1.80263	1.47911	1.74031	1.58621	9.133	
213 Tridecane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++	
214 sec-Butylbenzene	+++++ +++++	1.37290 +++++	2.34522 +++++	2.25150	2.45134	2.83711	2.25162	23.954	
215 D-Limonene	+++++ +++++	0.30871 +++++	0.53865 +++++	0.52607	0.61248	0.77596	0.55237	30.543	<-
216 Indene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++	
217 bis(2-Chloroethyl) Ether	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++	
218 p-Cymene	+++++ +++++	0.96886 +++++	1.72528 +++++	1.66035	1.86935	2.33446	1.71166	28.730	
219 1,3-Dichlorobenzene	1.56359 +++++	1.18874 +++++	1.20057 +++++	1.51611	1.35193	1.39178	1.36879	11.374	

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220 Hexachloroethane	+++++ / +++++	+++++ / +++++	0.38965 / +++++	0.44932	0.59034	0.69834	0.53191	26.179	
221 1,4-Dichlorobenzene	1.56557 / +++++	1.10786 / +++++	1.14470 / +++++	1.46542	1.29051	1.37103	1.32418	13.533	
222 1,2,3-Trimethylbenzene	+++++ / +++++	0.29741 / +++++	0.55002 / +++++	0.55254	0.60243	0.76358	0.55320	30.265	<-
223 alpha-Chlorotoluene	1.81501 / +++++	1.35968 / +++++	1.40528 / +++++	1.84640	1.73785	1.87339	1.67294	13.747	
224 Quinoline	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	
225 Undecane	+++++ / +++++	0.33808 / +++++	0.62019 / +++++	0.67514	0.70135	0.96629	0.66021	33.951	<-
226 Butylbenzene	+++++ / +++++	0.20171 / +++++	0.33952 / +++++	0.35099	0.39817	0.53391	0.36486	32.758	<-
227 1,2-Dichlorobenzene	1.52541 / +++++	1.02584 / +++++	1.06971 / +++++	1.32810	1.22055	1.27188	1.24025	14.668	
228 1,3,5-Trichlorobenzene	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	

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229 1,2-Dibromo-3-chloropropane	+++++ / +++++	+++++ / +++++	0.29067 / +++++	0.35572	0.52681	0.65078	0.45599	35.888	
230 Dodecane	+++++ / +++++	+++++ / +++++	0.43363 / +++++	0.47086	0.64864	0.70579	0.56473	23.522	
231 1,3,5-Triethylbenzene	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	
232 2-Methylnaphthalene	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	
233 1,2,4-Trichlorobenzene	+++++ / +++++	0.38833 / +++++	0.72996 / +++++	0.57748	0.46309	0.52074	0.53592	24.094	
234 Hexachlorobutadiene	+++++ / +++++	0.22526 / +++++	0.59604 / +++++	0.38122	0.37444	0.37262	0.38991	33.978	<-
235 Naphthalene	+++++ / 0.85080	+++++ / 0.88629	+++++ / +++++	1.43052	1.02628	0.92084	1.02295	23.178	
236 Acenaphthylene	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	
237 Phenanthrene	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
End Cal Date : 22-AUG-2019 12:26
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Compound	5.000 Level 2 2500.000 Level 8	20.000 Level 3 5000.000 Level 9	50.000 Level 4 1.000e+04 Level 10	100.000 Level 5	200.000 Level 6	1000.000 Level 7	___ RRF	% RSD
238 Anthracene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
M 239 1,2-Dichloroethene (Total)	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
M 240 Chlorobutane (Total)	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
M 241 Total Xylene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
M 242 3 and 4-Ethyltoluene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
243 Total Volatile Hydrocarbons	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
244 TPH reference to Hexane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
245 TPH reference to Heptane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
246 TPH reference to Gasoline	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
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Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
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Curve Type : Average

Compound	5.000 Level 2 2500.000 Level 8	20.000 Level 3 5000.000 Level 9	50.000 Level 4 1.000e+04 Level 10	100.000 Level 5	200.000 Level 6	1000.000 Level 7	___ RRF	% RSD
247 TPH reference MineralSpirits	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
248 TPH reference to Stoddard	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
249 TVOC reference to Hexane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
250 TVOC reference to Heptane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
251 TVOC reference to Toluene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
252 TVOC reference to Toluene-d8	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
253 NMOC reference to Hexane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
254 NMOC reference to Heptane	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++
255 NMOC reference to Toluene	+++++ +++++	+++++ +++++	+++++ +++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
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Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Compound	5.000 Level 2	20.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	1000.000 Level 7	RRF	% RSD
	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
256 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
257 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
258 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
259 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
260 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
261 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
262 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
263 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
264 C5 - C6 Aliphatic ref C5 + C6	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
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Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Compound	5.000 Level 2	20.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	1000.000 Level 7	RRF	% RSD
	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
265 C6-C8 Aliphatic ref Heptane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
266 C8-C10 Aliphatic ref Decane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
267 C10-C12 Aliphatic ref Dodecan	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
268 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
269 C8-C10 Aromatic ref 1,2,3-TMB	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
270 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
271 C10-C12 Aromatic 1,2,4,5-TMB	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
272 C10-C12 Aromatic Naphthalene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
$ 115 Benzene-d6	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
End Cal Date : 22-AUG-2019 12:26
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Compound	5.000 Level 2	20.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	1000.000 Level 7	RRF	% RSD
	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10					
$ 119 1,2-Dichloroethane-d4	1.24788	1.26379	1.30542	1.20106	1.23215	1.29451		
	1.30628	1.39020	1.33845				1.28664	4.475
$ 155 Toluene-d8	1.01501	1.03414	1.02406	1.01547	0.99596	1.02907		
	1.02165	1.00948	1.01270				1.01751	1.117
$ 198 4-Bromofluorobenzene	0.59914	0.59388	0.60644	0.60423	0.61043	0.60530		
	0.59752	0.58871	0.59510				0.60008	1.166

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
End Cal Date : 22-AUG-2019 12:26
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 10:11 ums9
Curve Type : Average

Average %RSD Results.
Calculated Average %RSD = 13.67375
Maximun Average %RSD = 30.00000
* Passed Average %RSD Test.

Calibration History

Method : /chem/msd14.i/21AUG19.b/14950821a.m
Start Cal Date: 21-AUG-2019 17:39
End Cal Date : 22-AUG-2019 12:26

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 5.00000		
21-AUG-2019 17:39	Level2	/chem1/msd14.i/21AUG19.b/14082112.d
Cal Level: 3 , Cal Amount: 20.00000		
22-AUG-2019 09:02	MasterCRV	/chem1/msd14.i/21AUG19.b/14082126.d
21-AUG-2019 18:25	AT12low	/chem1/msd14.i/21AUG19.b/14082113.d
Cal Level: 4 , Cal Amount: 50.00000		
22-AUG-2019 12:26	AT12	/chem/msd14.i/21AUG19.b/14082132.d
22-AUG-2019 09:28	MasterCRV	/chem1/msd14.i/21AUG19.b/14082127.d
Cal Level: 5 , Cal Amount: 100.00000		
22-AUG-2019 09:53	MasterCRV	/chem1/msd14.i/21AUG19.b/14082128.d
21-AUG-2019 19:36	AT12	/chem1/msd14.i/21AUG19.b/14082115.d
Cal Level: 6 , Cal Amount: 200.00000		
22-AUG-2019 10:23	MasterCRV	/chem1/msd14.i/21AUG19.b/14082129.d
21-AUG-2019 20:47	AT12	/chem1/msd14.i/21AUG19.b/14082116.d
Cal Level: 7 , Cal Amount: 1000.00000		
22-AUG-2019 10:49	MasterCRV	/chem1/msd14.i/21AUG19.b/14082130.d
21-AUG-2019 21:13	AT12NoOxys	/chem1/msd14.i/21AUG19.b/14082117.d
Cal Level: 8 , Cal Amount: 2500.00000		
21-AUG-2019 22:29	NaphICAL	/chem1/msd14.i/21AUG19.b/14082120.d

21-AUG-2019 21:42	520HL	/chem1/msd14.i/21AUG19.b/14082118.d

Cal Level: 9 , Cal Amount: 5000.00000

21-AUG-2019 22:56	NaphICAL	/chem1/msd14.i/21AUG19.b/14082121.d
21-AUG-2019 22:05	520HL	/chem1/msd14.i/21AUG19.b/14082119.d

Cal Level: 10, Cal Amount: 10000.00000

21-AUG-2019 23:41	520HL	/chem1/msd14.i/21AUG19.b/14082122.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 6

Ccal Level: 6 , Ccal Amount: 200.00

21-AUG-2019 20:47	AT12	/chem1/msd14.i/21AUG19.b/14082116a.d

Ccal Level: 6 , Ccal Amount: 200.00

22-AUG-2019 10:23	MasterCRV	/chem1/msd14.i/21AUG19.b/14082129.d

Ccal Level: 6 , Ccal Amount: 200.00

21-AUG-2019 20:47	AT12	/chem1/msd14.i/21AUG19.b/14082116.d

US32APPTV002

INITIAL CALIBRATION DATA

Start Cal Date : 21-AUG-2019 17:39
End Cal Date : 22-AUG-2019 12:26
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem1/msd14.i/21AUG19.b/14950821a.m
Cal Date : 23-Aug-2019 07:25 ikh2
Curve Type : Average

Please see Calibration History page(s) for all the calibration files.

AK 8/23/19
MS 8/23/19

Calibration File Names:
Level 2: /chem1/msd14.i/21AUG19.b/14082112.d
Level 3: /chem1/msd14.i/21AUG19.b/14082126.d
Level 4: /chem1/msd14.i/21AUG19.b/14082132.d
Level 5: /chem1/msd14.i/21AUG19.b/14082128.d
Level 6: /chem1/msd14.i/21AUG19.b/14082129.d
Level 7: /chem1/msd14.i/21AUG19.b/14082130.d
Level 8: /chem1/msd14.i/21AUG19.b/14082120.d
Level 9: /chem1/msd14.i/21AUG19.b/14082121.d
Level 10: /chem1/msd14.i/21AUG19.b/14082122.d

Compound	5.000 Level 2	20.000 Level 3	50.000 Level 4	100.000 Level 5	200.000 Level 6	1000.000 Level 7	2500.000 Level 8	5000.000 Level 9	1.000e+04 Level 10	___ RRF	% RSD
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Initial Calibration Narrative

14950821A.M

An initial calibration was performed on 08/21/19.

ICAL: 2 out.
3-Chloropropene @ 33.5%
Hexachlorobutadiene @ 34.0%
Naph w/in 70-130%

Level #4 reanalyzed due to anomalous linearity

Propylene raised RL to 50ppbv

ICV: File 14082125; **0 out.**
Naph w/in 70-130%

DOD and In-House controls:

- **DOD 5.0/5.1- 0 out, File# 14082125a**
- **DOD 4.2- 0 out, File# 14082125c**
- **RPC 1 out, 1,2,4 Trichlorobenzene @ 79.3% File # 14082125d**
- **DODsp. File# 14082125e**

The upper end of the curve is 10,000ppbv for the following compounds:

1. Butane
2. Freon 11
3. Ethanol
4. Freon 113
5. 1,1 Dichloroethene
6. Acetone
7. 2-propanol
8. Methylene Chloride
9. MTBE
10. Hexane
11. 1,1- Dichlorethane
12. Cis-1,2- Dichlroethene
13. Chloroform
14. Cyclohexane
15. 1,1,1- Trichlorethane
16. Carbon Tetrachloride
17. 2,2,4 –Trimethylpentane
18. Benzene
19. Heptane
20. Trichloroethane
21. Methylcyclohexane
22. Toluene
23. Tetrachloroethene
24. Ethyl Benzene
25. M,p-Xylene
26. O-Xylene
27. 1.3.5- Trimethylbenzene
28. 1,2,4- Trimethylbenzene
29. Isopentane

All other compounds within TO-15 standards were calibrated up to **1,000 ppbv** only

Propylene: 50ppbv → 1000ppbv **(4-point Calibration)**

Naph.: 10 ppbv → 500 ppbv

Oxygenates: 20 ppbv →200 ppbv **(4-point Calibration)**

A 5-point **Master Combo** curve was analyzed on 8/21/19 at levels: 20ppbv, 50ppbv, 100ppbv, 200ppbv, 1000ppbv.

No Idomethane, Propane, 1,3,5-Trichlorobenzene and 1,2,3-Trichlorobenzene.

Hexachloroethane, 1,2 Dibromo 3-chloropropane, and Dodecane have an RL of 50ppbv.

Eurofins Air Toxics | **MSD-14** | **Logbook #3105**

BFB Verification of 176/174 m/z Ratio: (195,452 / 201,214) · 100% = 97.14%
Method Name: 14950821a.m

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IS/S Std. #: 3084 - ~~171~~	Exp. Date: 10/3/19
BCM	95389
1,4-DFB	366541
CB-d5	327904

Verified CCV IS vs ICAL mid-point (-40%D): AK/MS

SOP# (Circle one): 6 / 83 / 38 / (91) / 109 / 132 Method (Circle one): (TO-14A) / (TO-15)/TO-17

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date/Syringe ID
1	✓	14082101 (11 of 6th)	BFB Tune check	2810 -1270	50 ng	2.0mL	1.00	DF	8/21/19	1703	DF	
2	✓	i14082 N2	ICAL Level #2	3018 -848	5.0 ppbv	5mL	1.00	DF		1739	AK/MS	Exp 10/17/19 ~~#13168~~ PF 8/20/19
3	✓	13	#3	3018 -901	20 ppbv	5.0mL	1.00	DF		1825	AK/MS	Exp 11/21/19 #121101
4	✓ X	14	#4		50 ppbv	12.5mL	1.00	DF		1911	AK/MS	#130101
5	✓	15	#5		100 ppbv	25mL	1.00	DF		1936	AK/MS	
6	✓	16	#6	↓	200 ppbv	50mL	1.00	DF		2017	AK/MS	↓
7	✓	17	#7	3084 -209	1000 ppbv	50mL	1.00	DF		2113	AK/MS	Exp 10/24/19
8	✓	18	#8	3084 -167	2500 ppbv	12.5mL	1.00	DF		2142	AK/MS	Exp 9/20/19 #130101
9	✓	19	#9	↓	5000 ppbv	25mL	1.00	DF		2205	AK/MS	↓
10	✓	20	#8	3084 -136	250 ppbv	25mL	1.00	DF		2229	AK/MS	Exp 8/21/19
11	✓	21	#9	↓	500 ppbv	50mL	1.00	DF		2256	AK/MS	b
12	✓	22	#10	3084 -167	10,000 ppbv	50mL	1.00	DF		2341	AK/MS	Exp 9/20/19
13	X	23	System blank	3366 5	Humid	50mL	1.00	AK	8/22/19	0733	AK/MS	Above RL
14	✓	24	↓	↓	↓	↓	↓	AK		0756	AK/MS	
15	✓	25	ICV (200 ppbv)	3018 -871	200 ppbv	50mL		AK		0823	AK/MS	
16	✓	26	ICAL Level #3	3084 -162	20 ppbv	10mL		AK		0902	AK/MS	#170102
17	✓	27	↓ #4	↓	50 ppbv	2.5mL	↓	AK	↓	0928	AK/MS	#170102

Reviewed* 8/23/19 Date

*Must be an independent reviewer

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date/Syringe ID
18	✓	19082128	ICAL Level #5	3084 -162	100 ppbv	5.0mL	1.00	AK	8/22/19	0953	AK/MB	#17010
19	✓	29	#6		200 ppbv	10mL	1.00	AK		1023	AK/MB	#180214
20	✓	30	#7		1000 ppbv	50mL	1.00	AK		1049	AK/MB	
21	✓	31	System Blank	33665	Humid		↓	AK		1201	AK/MB	
22	✓	32	ICAL Level #4	3018 -909	50 ppbv	12.5mL	↓	AK	↓	1226	AK/MB	Exp 11/21/19 #15030
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												

AK 8/23/19

Reviewed*

8/23/19
Date

*Must be an independent reviewer

IS and Associated Target Compounds and Surr.
Instruction #: I1.20

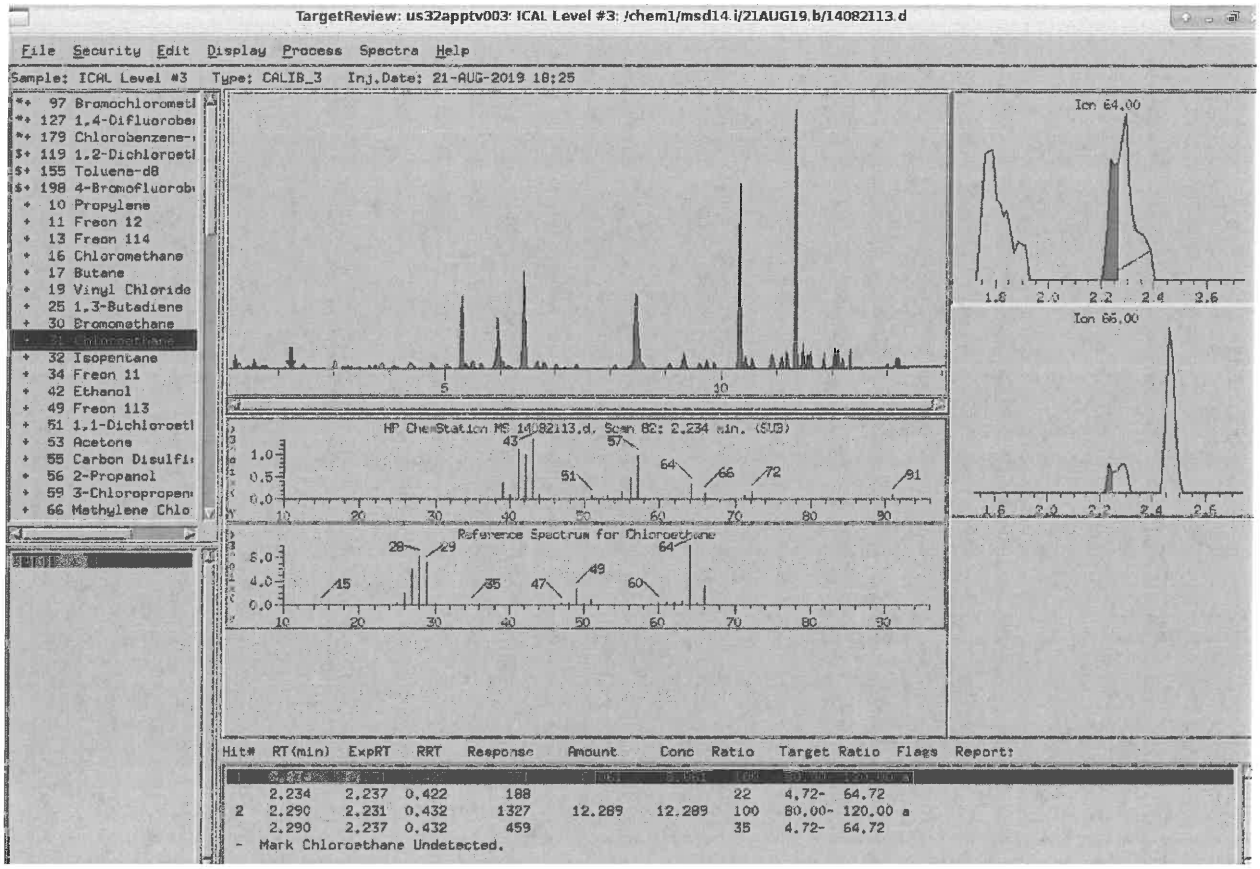
Modified EPA Methods TO-14A/TO-15
Internal Standard and Associated Target Compounds and Surrogates

Bromochloromethane*
Target Compounds:
Freon 12
Freon 114
Chloromethane
Vinyl Chloride
1,3-Butadiene
Bromomethane
Chloroethane
Freon 11
Ethanol
Freon 113
1,1-Dichloroethene
Acetone
2-Propanol
Carbon Disulfide
3-Chloropropene
Methylene Chloride
Methyl tert-butyl ether
trans-1,2-Dichloroethene
Hexane
1,1-Dichloroethane
2-Butanone (Methyl Ethyl Ketone)
cis-1,2-Dichloroethene
Tetrahydrofuran
Chloroform
1,1,1-Trichloroethane
Cyclohexane
Carbon Tetrachloride
2,2,4-Trimethylpentane
Surrogates:
1,2-Dichloroethane-d4

1,4-Difluorobenzene
Target Compounds:
Benzene
1,2-Dichloroethane
Heptane
Trichloroethene
1,2-Dichloropropane
1,4-Dioxane
Bromodichloromethane
cis-1,3-Dichloropropene
4-Methyl-2-pentanone
Toluene
Surrogates:
Toluene-d8

Chlorobenzene-d5
Target Compounds:
trans-1,3-Dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
2-Hexanone
Dibromochloromethane
1,2-Dibromoethane (EDB)
Chlorobenzene
Ethyl Benzene
m,p-Xylene
o-Xylene
Styrene
Bromoform
Cumene
1,1,2,2-Tetrachloroethane
Propylbenzene
4-Ethyltoluene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
alpha-Chlorotoluene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene
Surrogates:
Bromofluorobenzene

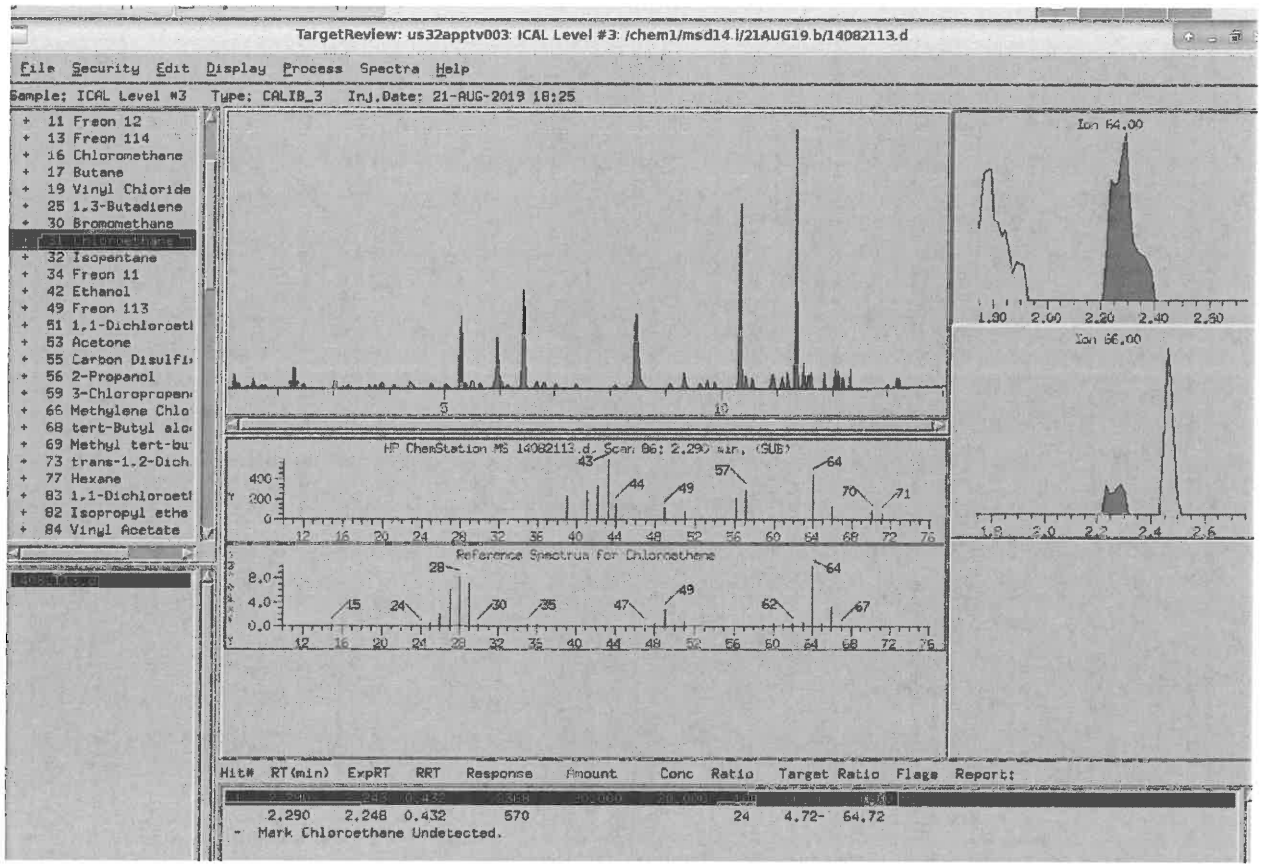
*Note: If Bromochloromethane (BCM) is required as a target compound, the internal standard mix is blended without BCM. Compounds and surrogates assigned to BCM are re-assigned to 1,4-Difluorobenzene for calibration and subsequent quantitation.



Before

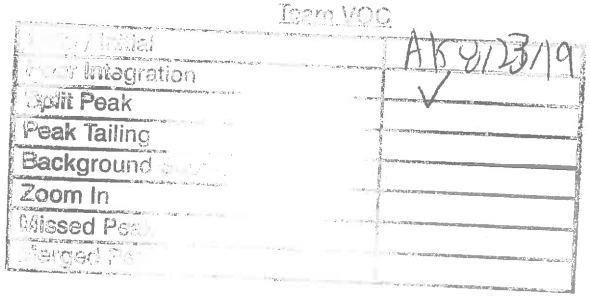
Team VOC

[illegible]	AK 9/23/19
Poor integration	✓
Split Peak	
Peak Tailing	
Background	
Zoom In	
Missed Peak	
[illegible]	



8/23/19
AK

After



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082125a.d
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 22-AUG-2019 08:23
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #3018-871
Misc Info : 200ppbv (200ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 22-Aug-2019 13:43 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 09:02 Cal File: 14082126.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: Cont010120.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	88996	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	69092			46.63- 106.63	77.63
5.285	5.294 (1.000)	49	90477			70.93- 130.93	101.66
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	343498	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	53228			0.00- 45.07	15.50
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	316784	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	172616			24.37- 84.37	54.49
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	108643	379.521	379.52	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	61461			24.83- 84.83	56.57
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	350989	401.691	401.69	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	37648			0.00- 41.24	10.73

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	226621			35.45- 95.45	64.57
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	193197	406.523	406.52	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	239563			91.49- 151.49	124.00
11.329	11.329 (1.098)	176	184329			65.46- 125.46	95.41
10 Propylene					CAS #: 115-07-1		
1.423	1.430 (0.269)	41	33580	172.968	172.97	80.00- 120.00	100.00
1.423	1.426 (0.269)	42	21577			37.53- 97.53	64.26
1.423	1.426 (0.269)	39	25532			47.16- 107.16	76.03
11 Freon 12					CAS #: 75-71-8		
1.451	1.460 (0.274)	85	134285	191.302	191.30	80.00- 120.00	100.00
1.451	1.462 (0.274)	87	47323			2.22- 62.22	35.24
13 Freon 114					CAS #: 76-14-2		
1.563	1.574 (0.295)	135	122405	201.910	201.91	80.00- 120.00	100.00
1.563	1.572 (0.295)	137	38706			1.53- 61.53	31.62
16 Chloromethane					CAS #: 74-87-3		
1.647	1.649 (0.311)	50	40707	202.541	202.54	80.00- 120.00	100.00
1.647	1.646 (0.311)	52	14607			6.04- 66.04	35.88
17 Butane					CAS #: 106-97-8		
1.717	1.722 (0.324)	58	12361	206.661	206.66	80.00- 120.00	100.00
1.717	1.722 (0.324)	43	68420			529.81- 589.81	553.49
19 Vinyl Chloride					CAS #: 75-01-4		
1.759	1.768 (0.332)	62	59664	205.888	205.89	80.00- 120.00	100.00
1.759	1.765 (0.332)	64	19598			3.29- 63.29	32.85
25 1,3-Butadiene					CAS #: 106-99-0		
1.773	1.777 (0.335)	54	41352	189.380	189.38	80.00- 120.00	100.00
1.773	1.777 (0.335)	39	37926			64.50- 124.50	91.71
30 Bromomethane					CAS #: 74-83-9		
2.122	2.128 (0.401)	94	30921	178.848	178.85	80.00- 120.00	100.00
2.122	2.128 (0.401)	96	29524			68.11- 128.11	95.48
31 Chloroethane					CAS #: 75-00-3		
2.220	2.243 (0.419)	64	20512	169.976	169.98	80.00- 120.00	100.00
2.220	2.248 (0.419)	66	6565			4.72- 64.72	32.01
32 Isopentane					CAS #: 78-78-4		
2.234	2.243 (0.422)	43	54679	235.907	235.91	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.243 (0.424)	57	46158			53.88- 113.88	84.42
2.248	2.248 (0.424)	72	5803			0.00- 40.86	10.61
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	162728	215.390	215.39	80.00- 120.00	100.00
2.458	2.461 (0.464)	103	105771			34.80- 94.80	65.00
42 Ethanol					CAS #: 64-17-5		
2.752	2.745 (0.519)	45	20734	228.098	228.10	80.00- 120.00	100.00
2.752	2.745 (0.519)	46	8214			7.83- 67.83	39.62
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	117585	207.138	207.14	80.00- 120.00	100.00
3.004	3.007 (0.567)	153	75640			35.43- 95.43	64.33
3.004	3.005 (0.567)	101	142784			91.24- 151.24	121.43
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.032	3.035 (0.572)	61	104139	212.372	212.37	80.00- 120.00	100.00
3.032	3.038 (0.572)	96	64156			32.67- 92.67	61.61
3.032	3.038 (0.572)	98	41508			10.54- 70.54	39.86
53 Acetone					CAS #: 67-64-1		
3.172	3.172 (0.599)	58	31647	231.326	231.33	80.00- 120.00	100.00
3.172	3.172 (0.599)	43	86622			259.09- 319.09	273.71
55 Carbon Disulfide					CAS #: 75-15-0		
3.242	3.250 (0.612)	76	186603	207.751	207.75	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.312	3.313 (0.625)	45	88061	206.986	206.98	80.00- 120.00	100.00
3.312	3.313 (0.625)	43	18510			0.00- 51.35	21.02
3.312	3.311 (0.625)	59	4292			0.00- 34.59	4.87
59 3-Chloropropene					CAS #: 107-05-1		
3.466	3.465 (0.654)	76	26121	230.981	230.98	80.00- 120.00	100.00
3.466	3.465 (0.654)	41	51391			162.76- 222.76	196.74
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.635 (0.686)	49	60934	199.562	199.56	80.00- 120.00	100.00
3.633	3.635 (0.686)	84	60100			63.99- 123.99	98.63
3.633	3.635 (0.686)	51	20493			0.02- 60.02	33.63
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	175485	204.887	204.89	80.00- 120.00	100.00(A)
3.843	3.842 (0.725)	57	40347			0.00- 53.23	22.99

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
69 Methyl tert-butyl ether (continued)							
3.843	3.840 (0.725)	41	33405			0.00- 48.43	19.04
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	68922	219.418	219.42	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	95311			107.35- 167.35	138.29
3.871	3.871 (0.731)	98	43109			33.11- 93.11	62.55
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	101337	207.519	207.52	80.00- 120.00	100.00
4.081	4.081 (0.770)	43	49808			23.47- 83.47	49.15
4.081	4.084 (0.770)	86	18683			0.00- 49.00	18.44
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.378 (0.826)	63	115463	204.157	204.16	80.00- 120.00	100.00
4.375	4.381 (0.826)	65	35923			2.01- 62.01	31.11
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	17530	193.544	193.54	80.00- 120.00	100.00
4.431	4.431 (0.836)	43	137407			834.16- 894.16	783.81
4.431	4.431 (0.836)	42	14807			70.06- 130.06	84.47
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.019	5.018 (0.947)	61	91694	200.002	200.00	80.00- 120.00	100.00
5.019	5.025 (0.947)	96	70953			48.23- 108.23	77.38
5.019	5.026 (0.947)	98	44791			21.56- 81.56	48.85
92 2-Butanone					CAS #: 78-93-3		
5.061	5.063 (0.955)	72	33752	199.830	199.83	80.00- 120.00	100.00
5.061	5.060 (0.955)	43	107773			263.34- 323.34	319.30
5.061	5.066 (0.955)	57	10171			0.72- 60.72	30.13
96 Tetrahydrofuran					CAS #: 109-99-9		
5.285	5.284 (0.997)	42	60689	188.421	188.42	80.00- 120.00	100.00
5.285	5.284 (0.997)	71	30622			23.22- 83.22	50.46
5.285	5.284 (0.997)	72	33126			25.49- 85.49	54.58
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	139100	208.147	208.15	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	90394			36.07- 96.07	64.98
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	96985	211.633	211.63	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	106034			77.00- 137.00	109.33
5.480	5.480 (1.034)	41	51936			24.48- 84.48	53.55

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.508	5.516 (1.040)	97	142412	206.780	206.78	80.00- 120.00	100.00
5.508	5.514 (1.040)	99	90244			34.24- 94.24	63.37
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	148309	209.277	209.28	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	152001			73.64- 133.64	102.49
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	322262	205.552	205.55	80.00- 120.00	100.00
5.900	5.905 (1.114)	56	99571			2.41- 62.41	30.90
5.900	5.902 (1.114)	41	83204			0.00- 53.81	25.82
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	209079	205.004	205.00	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	51206			0.00- 54.09	24.49
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.040	6.045 (0.939)	62	94275	200.816	200.82	80.00- 120.00	100.00
6.040	6.052 (0.939)	64	29722			3.21- 63.21	31.53
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.954)	71	78004	205.146	205.15	80.00- 120.00	100.00
6.138	6.135 (0.954)	43	96070			90.25- 150.25	123.16
6.138	6.136 (0.954)	100	23578			0.00- 58.91	30.23
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.037)	95	97302	208.069	208.07	80.00- 120.00	100.00
6.670	6.671 (1.037)	130	101380			78.88- 138.88	104.19
6.670	6.671 (1.037)	97	61377			35.90- 95.90	63.08
133 Methylcyclohexane					CAS #: 108-87-2		
6.796	6.804 (1.057)	83	132618	205.991	205.99	80.00- 120.00	100.00
6.810	6.802 (1.059)	98	62016			16.99- 76.99	46.76
6.796	6.802 (1.057)	55	98624			43.70- 103.70	74.37
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	78582	202.561	202.56	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	55321			40.28- 100.28	70.40
7.019	7.019 (1.091)	41	39400			21.25- 81.25	50.14
139 1,4-Dioxane					CAS #: 123-91-1		
7.159	7.168 (1.113)	88	51987	209.216	209.22	80.00- 120.00	100.00
7.159	7.165 (1.113)	58	34597			38.82- 98.82	66.55
7.159	7.162 (1.113)	57	12121			0.00- 54.14	23.32

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
144 Bromodichloromethane					CAS #: 75-27-4		
7.383	7.395 (1.148)	83	150614	207.255	207.26	80.00- 120.00	100.00
7.383	7.397 (1.148)	85	97020			35.00- 95.00	64.42
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	132648	210.110	210.11	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	41658			2.65- 62.65	31.41
8.097	8.094 (1.259)	39	61961			18.79- 78.79	46.71
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.377	8.374 (1.302)	85	29585	191.686	191.68	80.00- 120.00	100.00
8.377	8.374 (1.302)	43	140788			460.46- 520.46	475.87
8.377	8.374 (1.302)	58	64809			186.56- 246.56	219.06
156 Toluene					CAS #: 108-88-3		
8.573	8.582 (1.333)	91	265635	198.725	198.72	80.00- 120.00	100.00
8.573	8.580 (1.333)	92	151530			26.83- 86.83	57.04
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	116016	198.682	198.68	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	37759			2.27- 62.27	32.55
9.076	9.076 (0.879)	39	55796			17.57- 77.57	48.09
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	89468	198.617	198.62	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	56009			31.36- 91.36	62.60
9.314	9.314 (0.902)	83	78452			57.18- 117.18	87.69
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	125925	195.834	195.83	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	99029			46.86- 106.86	78.64
9.328	9.328 (0.904)	131	94360			46.25- 106.25	74.93
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	81593	198.410	198.41	80.00- 120.00	100.00
9.608	9.608 (0.931)	43	131151			132.92- 192.92	160.74
9.608	9.608 (0.931)	100	17433			0.00- 52.05	21.37
169 Dibromochloromethane					CAS #: 124-48-1		
9.734	9.748 (0.943)	129	171637	196.916	196.92	80.00- 120.00	100.00
9.734	9.748 (0.943)	127	134305			47.27- 107.27	78.25
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	141754	194.094	194.09	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	134678			62.36- 122.36	95.01

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
180 Chlorobenzene					CAS #: 108-90-7		
10.350	10.349 (1.003)	112	216008	194.803	194.80	80.00- 120.00	100.00
10.350	10.349 (1.003)	114	68953			1.61- 61.61	31.92
10.350	10.347 (1.003)	77	123092			26.63- 86.63	56.98
181 Ethyl Benzene					CAS #: 100-41-4		
10.434	10.433 (1.011)	106	114280	205.857	205.86	80.00- 120.00	100.00
10.434	10.429 (1.011)	91	352659			276.73- 336.73	308.59
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	134834	197.481	197.48	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	268162			166.48- 226.48	198.88
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	129827	205.396	205.40	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	274601			183.14- 243.14	211.51
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	209720	211.011	211.01	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	101969			17.49- 77.49	48.62
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	164661	208.770	208.77	80.00- 120.00	100.00
11.091	11.091 (1.075)	171	82815			21.78- 81.78	50.29
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	393399	196.861	196.86	80.00- 120.00	100.00
11.175	11.177 (1.083)	120	108095			0.00- 57.49	27.48
11.175	11.175 (1.083)	51	36026			0.00- 38.96	9.16
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	198802	197.422	197.42	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	128709			35.12- 95.12	64.74
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	425685	195.075	195.07	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	103035			0.00- 54.39	24.20
11.483	11.480 (1.113)	105	16052			0.00- 33.66	3.77
206 4-Ethyltoluene					CAS #: 622-96-8		
11.553	11.562 (1.119)	105	340405	198.080	198.08	80.00- 120.00	100.00
11.567	11.564 (1.121)	120	103550			0.69- 60.69	30.42
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	338388	217.245	217.24	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	159821			16.81- 76.81	47.23

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.847	11.847 (1.148)	105	239016	190.267	190.27	80.00- 120.00	100.00
11.847	11.847 (1.148)	120	111074			16.57- 76.57	46.47
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.043	12.042 (1.167)	146	212542	196.068	196.07	80.00- 120.00	100.00
12.043	12.042 (1.167)	148	135463			32.90- 92.90	63.73
12.043	12.042 (1.167)	111	84070			9.17- 69.17	39.55
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.099	12.098 (1.172)	146	211982	202.138	202.14	80.00- 120.00	100.00
12.099	12.098 (1.172)	148	136492			35.22- 95.22	64.39
12.099	12.098 (1.172)	111	80446			7.96- 67.96	37.95
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	269888	203.705	203.70	80.00- 120.00	100.00
12.182	12.192 (1.180)	126	60130			0.00- 51.56	22.28
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	195239	198.772	198.77	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	124636			33.30- 93.30	63.84
12.322	12.322 (1.194)	111	79065			10.19- 70.19	40.50
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	67372	158.737	158.74	80.00- 120.00	100.00
13.162	13.162 (1.275)	182	65403			67.17- 127.17	97.08
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.207 (1.279)	225	54653	176.987	176.99	80.00- 120.00	100.00
13.204	13.207 (1.279)	223	34072			31.62- 91.62	62.34
235 Naphthalene					CAS #: 91-20-3		
13.302	13.295 (1.289)	128	14127	17.4379	17.438	80.00- 120.00	100.00(a)
13.302	13.290 (1.289)	127	1900			0.00- 45.62	13.45

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.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082125a.d
Lab Smp Id: ICV
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 22-AUG-2019
Calibration Time: 10:23
Client Smp ID: ICV
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	90833	54500	127166	88996	-2.02
127 1,4-Difluorobenze	351271	210763	491779	343498	-2.21
179 Chlorobenzene-d5	331783	199070	464496	316784	-4.52

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 21AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICV Client Smp ID: ICV
Level: LOW Operator: AK
Data Type: MS DATA SampleType: LCS
SpikeList File: AT12.spk Quant Type: ISTD
Sublist File: Cont010120.sub
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
10 Propylene	200.00	172.97	86.48
11 Freon 12	200.00	191.30	95.65
13 Freon 114	200.00	201.91	100.95
16 Chloromethane	200.00	202.54	101.27
17 Butane	200.00	206.66	103.33
19 Vinyl Chloride	200.00	205.89	102.94
25 1,3-Butadiene	200.00	189.38	94.69
30 Bromomethane	200.00	178.85	89.42
31 Chloroethane	200.00	169.98	84.99
32 Isopentane	200.00	235.91	117.95
34 Freon 11	200.00	215.39	107.70
42 Ethanol	200.00	228.10	114.05
49 Freon 113	200.00	207.14	103.57
51 1,1-Dichloroethene	200.00	212.37	106.19
53 Acetone	200.00	231.33	115.66
55 Carbon Disulfide	200.00	207.75	103.88
56 2-Propanol	200.00	206.98	103.49
59 3-Chloropropene	200.00	230.98	115.49
66 Methylene Chloride	200.00	199.56	99.78
69 Methyl tert-butyl ether	200.00	204.89	102.44
73 trans-1,2-Dichloroethene	200.00	219.42	109.71
77 Hexane	200.00	207.52	103.76
83 1,1-Dichloroethane	200.00	204.16	102.08
84 Vinyl Acetate	200.00	193.54	96.77
91 cis-1,2-Dichloroethene	200.00	200.00	100.00
92 2-Butanone	200.00	199.83	99.92
96 Tetrahydrofuran	200.00	188.42	94.21
100 Chloroform	200.00	208.15	104.07
104 1,1,1-Trichloroethane	200.00	206.78	103.39
108 Carbon Tetrachloride	200.00	209.28	104.64
103 Cyclohexane	200.00	211.63	105.82
117 2,2,4-Trimethylpentane	200.00	205.55	102.78
118 Benzene	200.00	205.00	102.50

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
121 1,2-Dichloroethane	200.00	200.82	100.41
124 Heptane	200.00	205.15	102.57
129 Trichloroethene	200.00	208.07	104.03
133 Methylcyclohexane	200.00	205.99	103.00
138 1,2-Dichloropropane	200.00	202.56	101.28
139 1,4-Dioxane	200.00	209.22	104.61
144 Bromodichloromethane	200.00	207.26	103.63
151 cis-1,3-Dichloropropene	200.00	210.11	105.06
154 4-Methyl-2-pentanone	200.00	191.68	95.84
156 Toluene	200.00	198.72	99.36
160 trans-1,3-Dichloropropene	200.00	198.68	99.34
162 1,1,2-Trichloroethane	200.00	198.62	99.31
163 Tetrachloroethene	200.00	195.83	97.92
166 2-Hexanone	200.00	198.41	99.20
169 Dibromochloromethane	200.00	196.92	98.46
176 1,2-Dibromoethane (EDB)	200.00	194.09	97.05
180 Chlorobenzene	200.00	194.80	97.40
181 Ethyl Benzene	200.00	205.86	102.93
184 m,p-Xylene	200.00	197.48	98.74
189 o-Xylene	200.00	205.40	102.70
190 Styrene	200.00	211.01	105.51
194 Bromoform	200.00	208.77	104.38
196 Cumene	200.00	196.86	98.43
200 1,1,2,2-Tetrachloroethane	200.00	197.42	98.71
201 Propylbenzene	200.00	195.07	97.54
206 4-Ethyltoluene	200.00	198.08	99.04
207 1,3,5-Trimethylbenzene	200.00	217.24	108.62
212 1,2,4-Trimethylbenzene	200.00	190.27	95.13
219 1,3-Dichlorobenzene	200.00	196.07	98.03
221 1,4-Dichlorobenzene	200.00	202.14	101.07
223 alpha-Chlorotoluene	200.00	203.70	101.85
227 1,2-Dichlorobenzene	200.00	198.77	99.39
233 1,2,4-Trichlorobenzene	200.00	158.74	79.37
234 Hexachlorobutadiene	200.00	176.99	88.49
235 Naphthalene	20.000	17.438	87.19

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	379.52	94.88
$ 155 Toluene-d8	400.00	401.69	100.42
$ 198 4-Bromofluorobenzene	400.00	406.52	101.63

Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

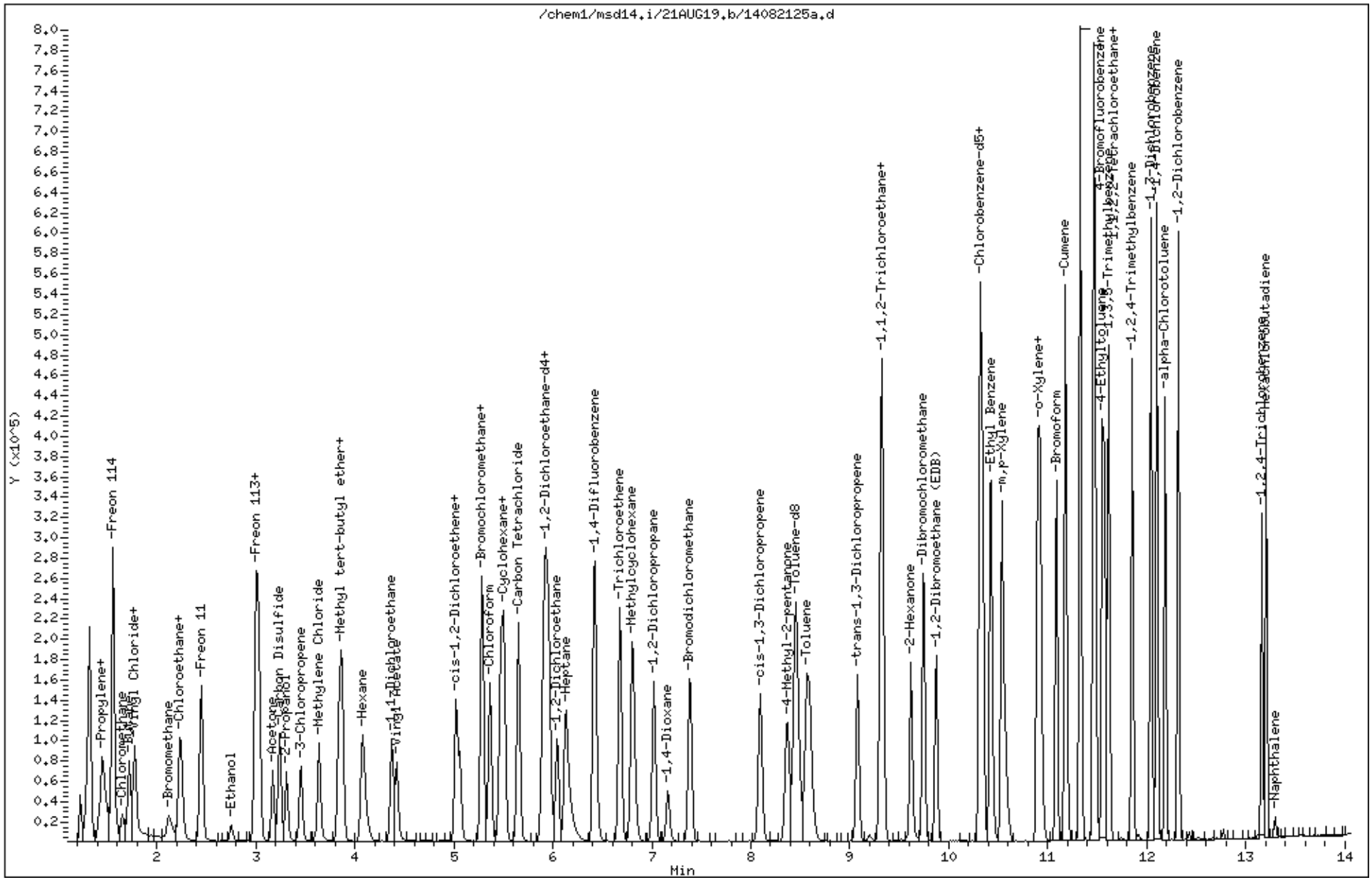
Instrument: msd14.i

Sample Info: 50mL #3018-871

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

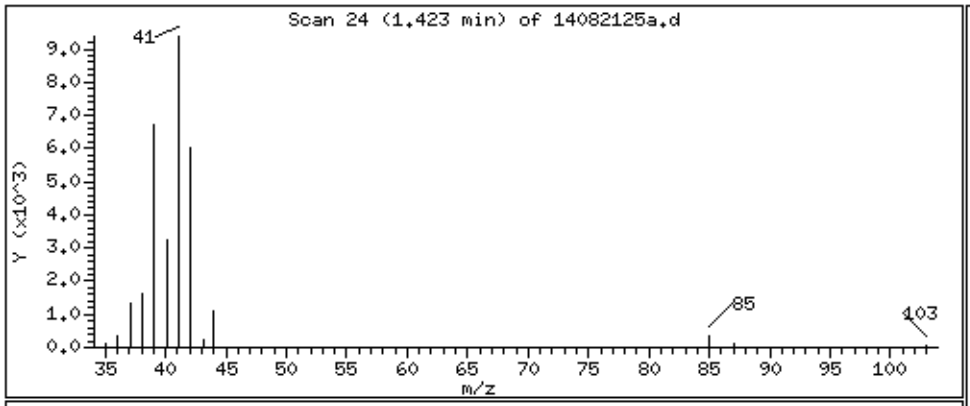
Operator: AK

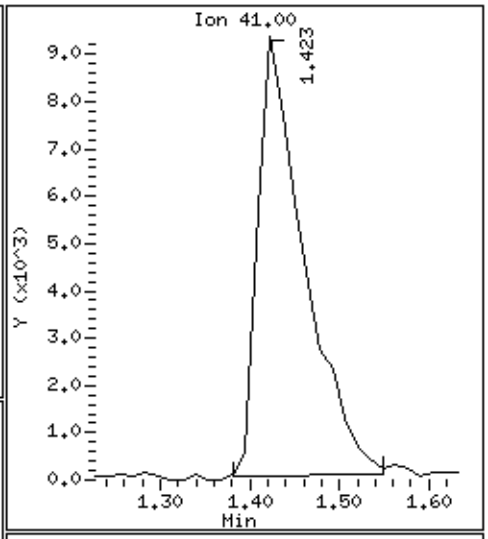
Column phase: RTX-624

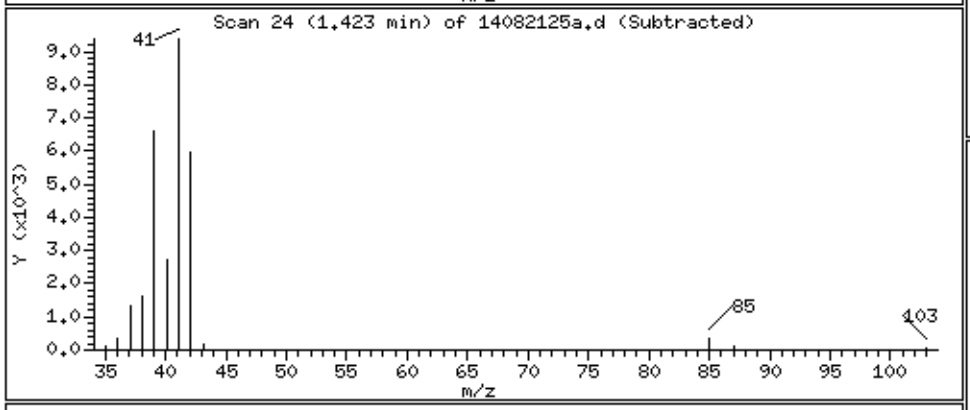
Column diameter: 0.18

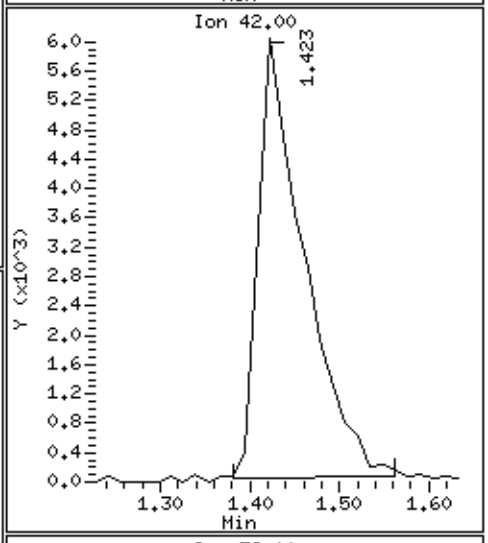
10 Propylene

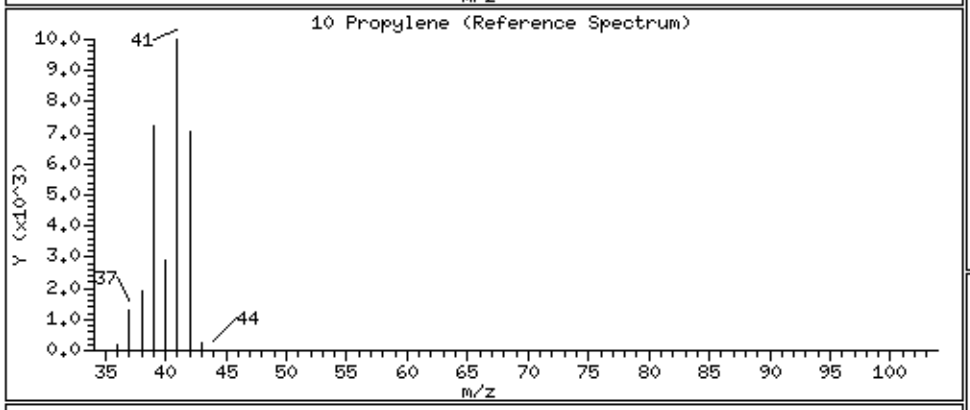
Concentration: 172.97 PPBV

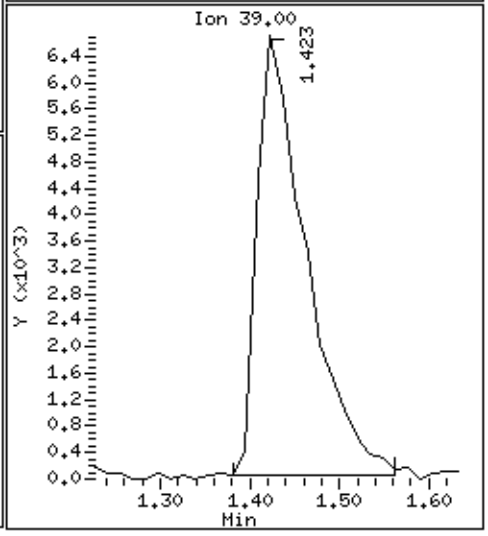


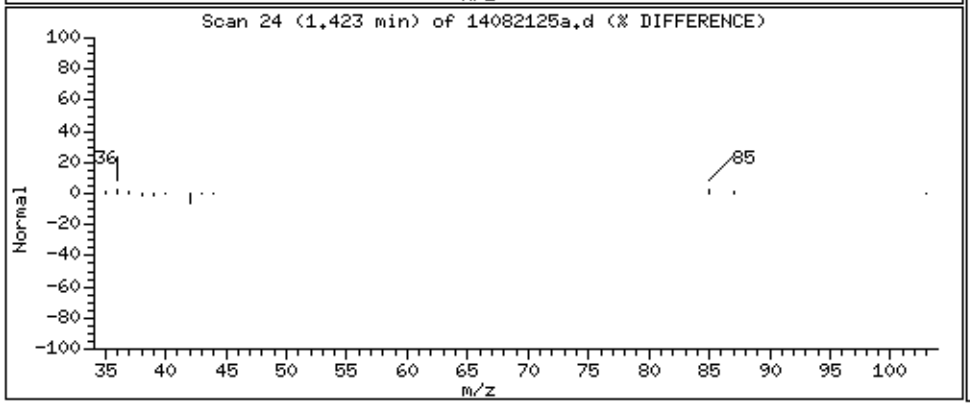












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

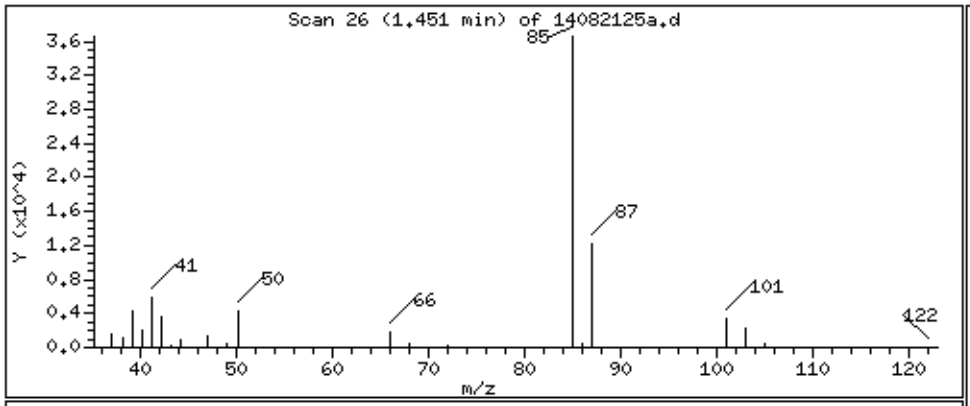
Operator: AK

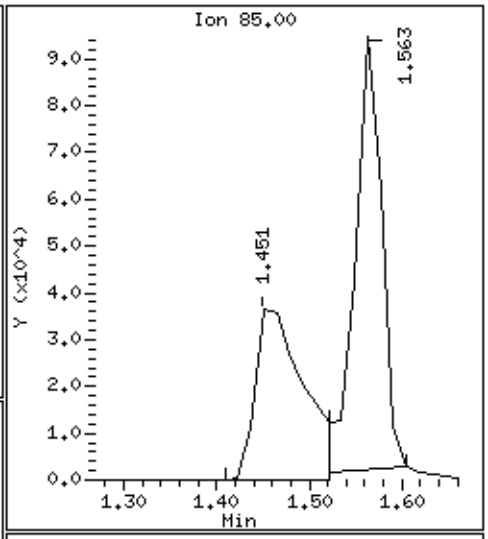
Column phase: RTX-624

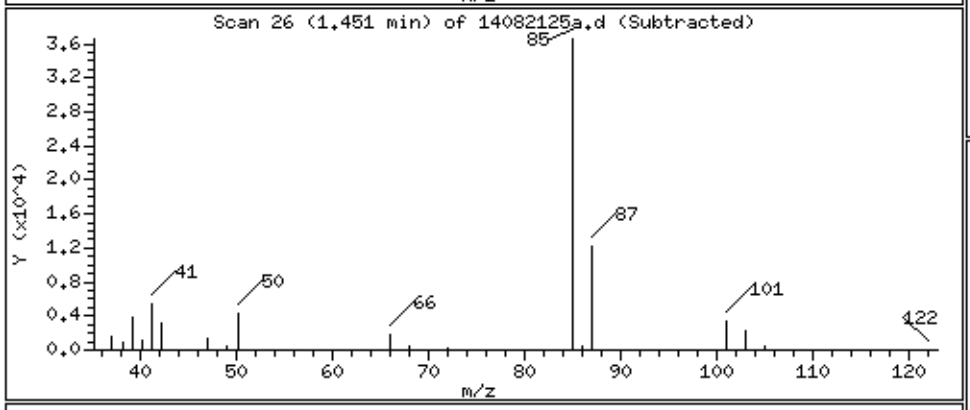
Column diameter: 0.18

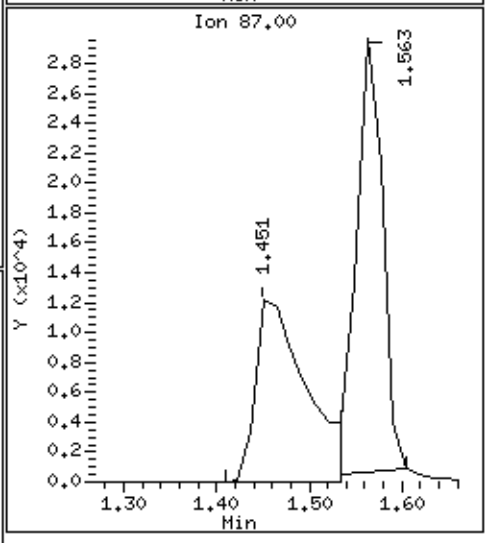
11 Freon 12

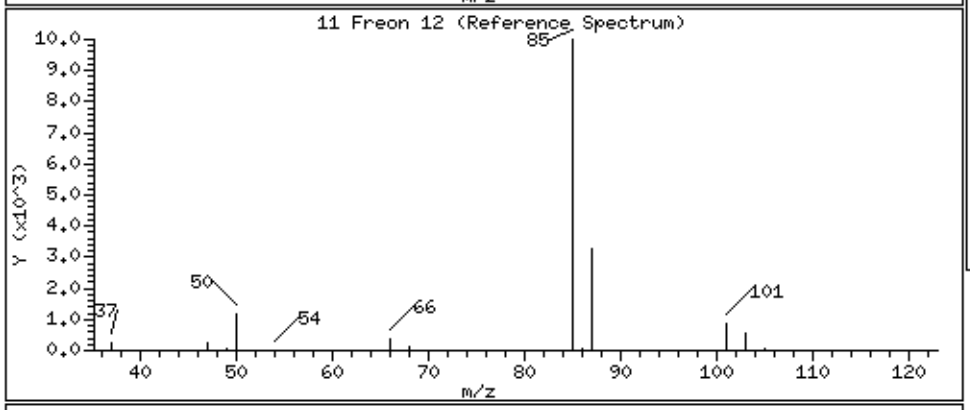
Concentration: 191.30 PPBV

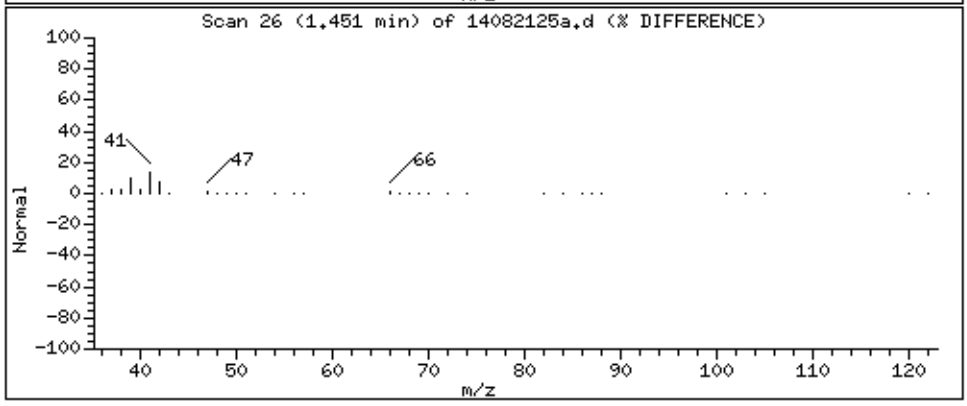












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

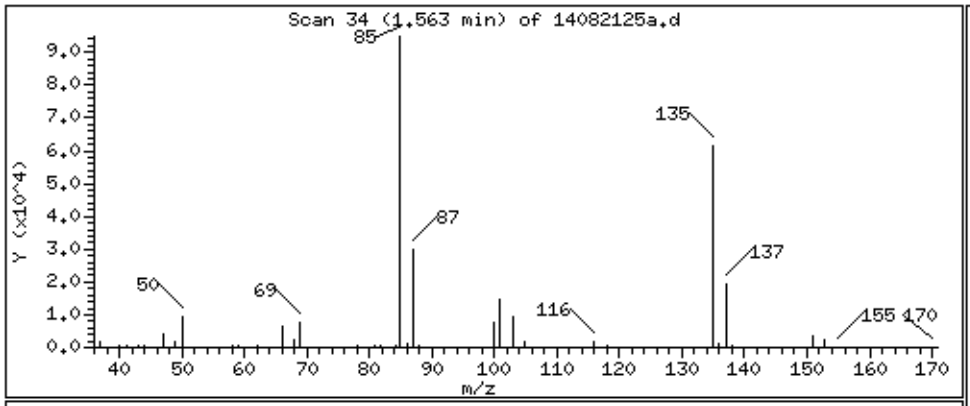
Operator: AK

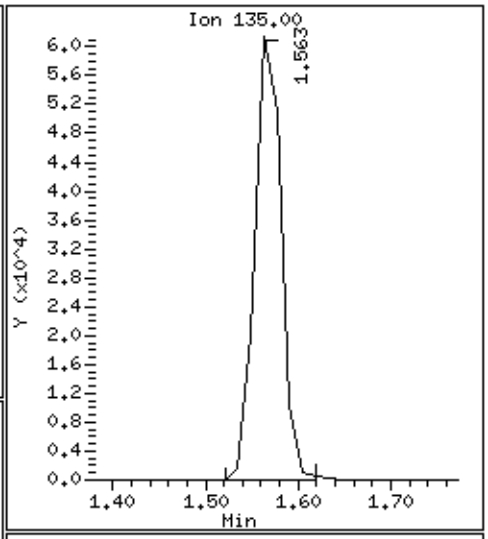
Column phase: RTX-624

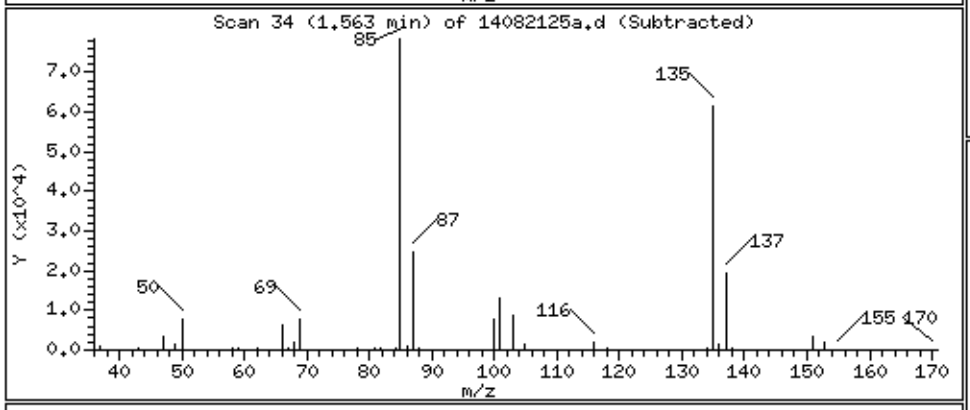
Column diameter: 0.18

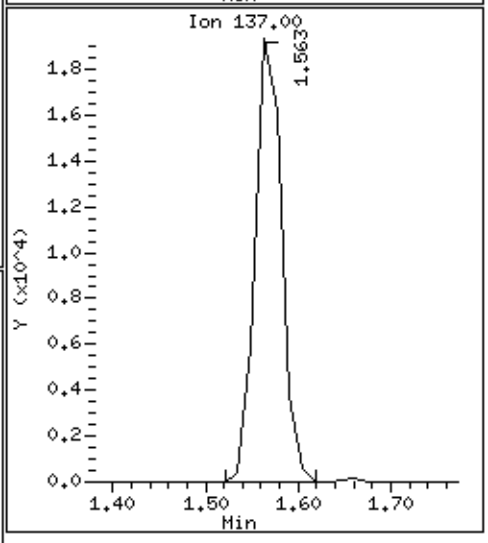
13 Freon 114

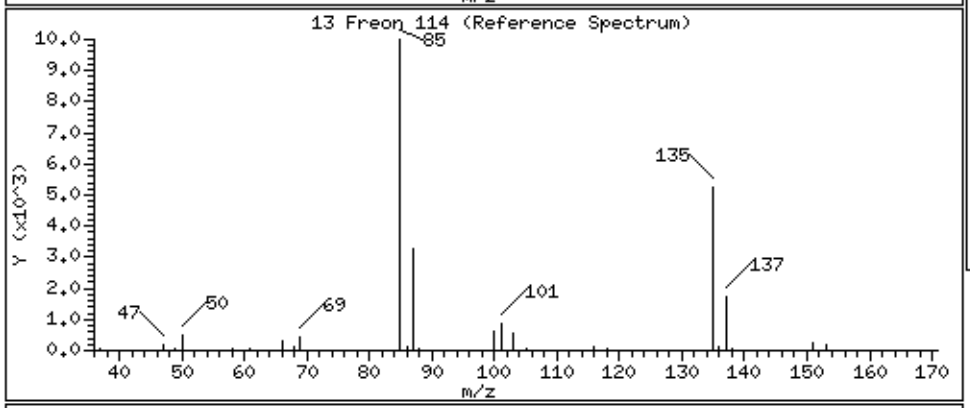
Concentration: 201.91 PPBV

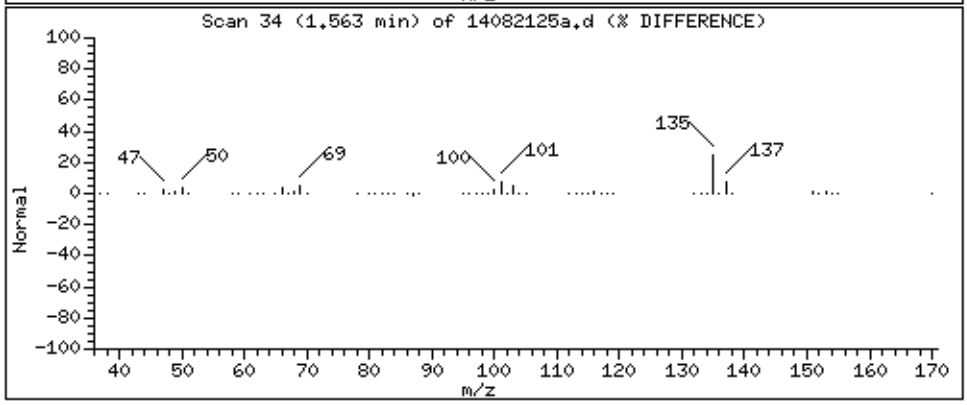












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

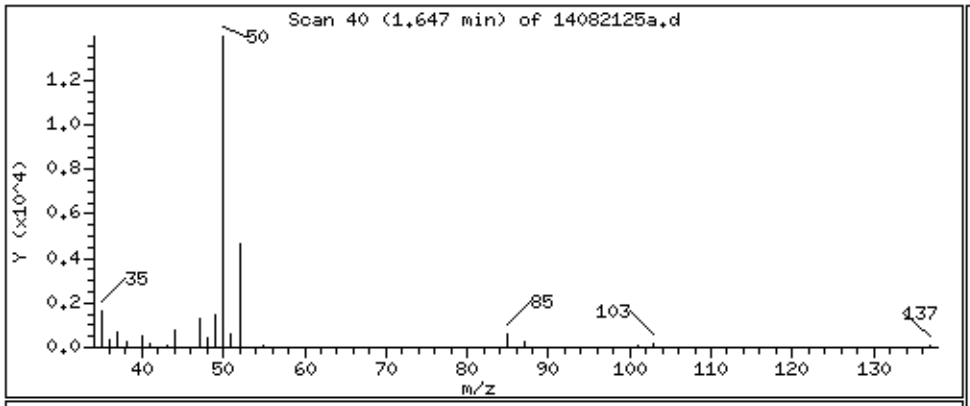
Operator: AK

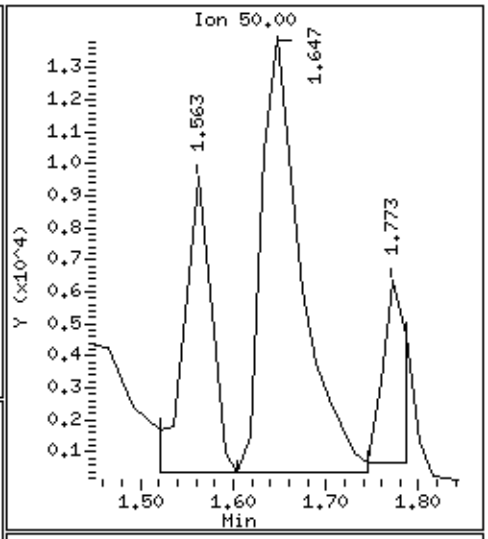
Column phase: RTX-624

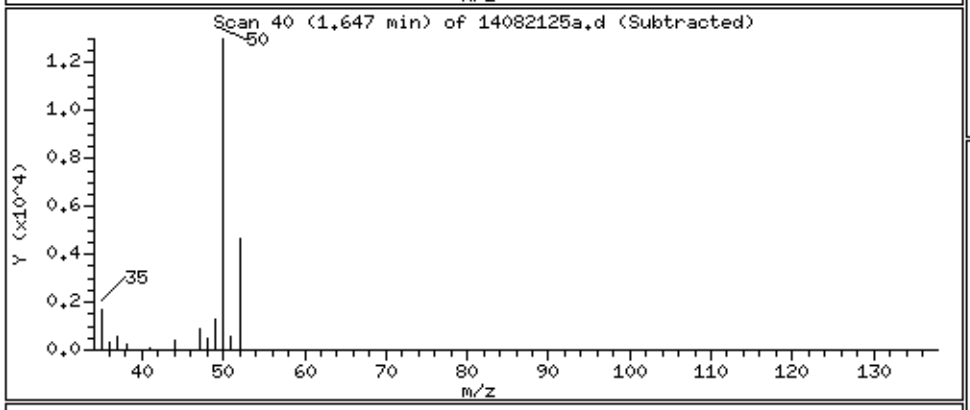
Column diameter: 0.18

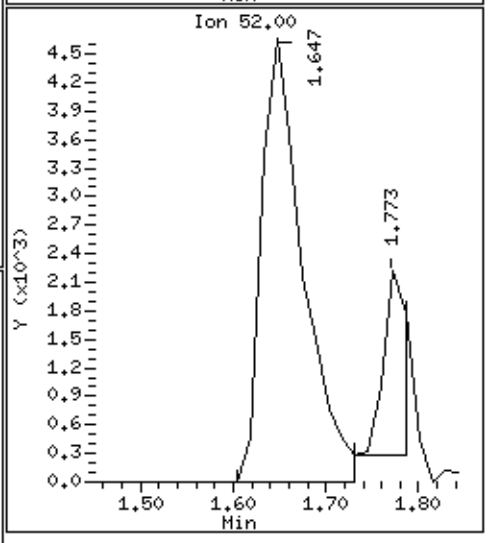
16 Chloromethane

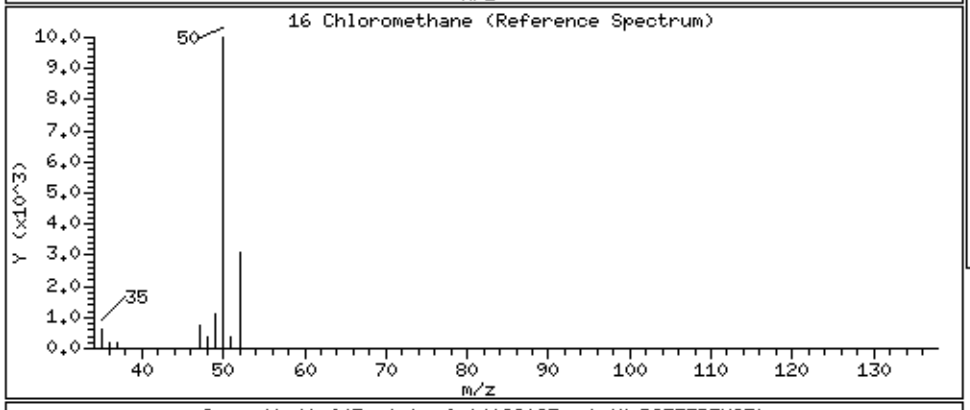
Concentration: 202.54 PPBV

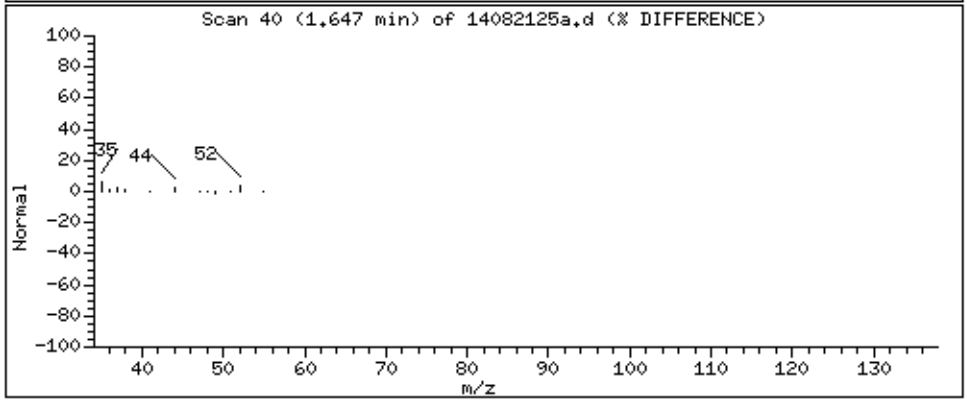












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

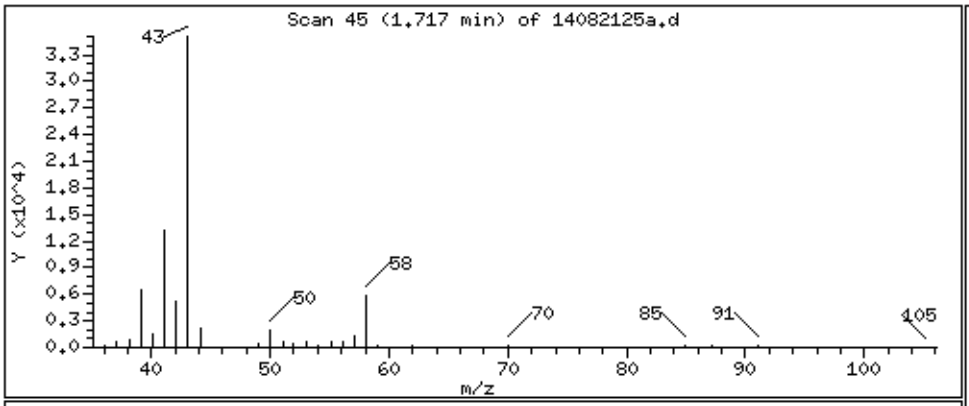
Operator: AK

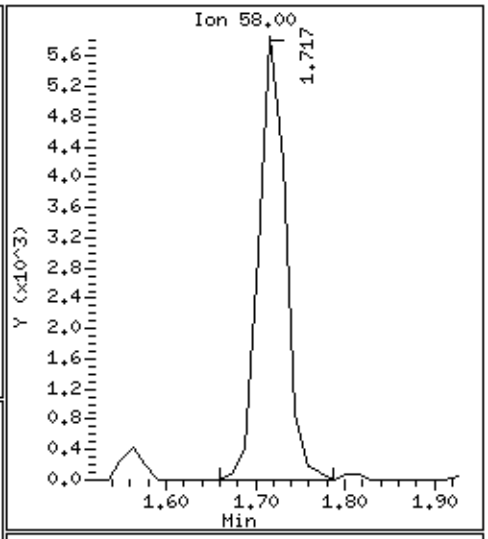
Column phase: RTX-624

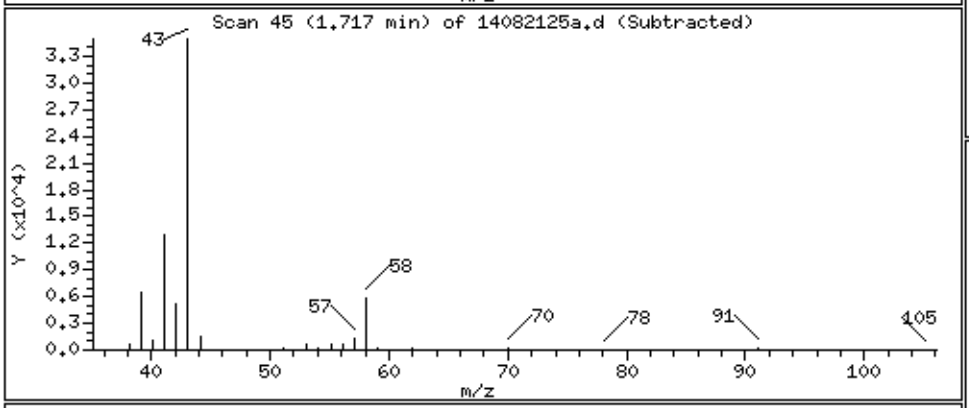
Column diameter: 0.18

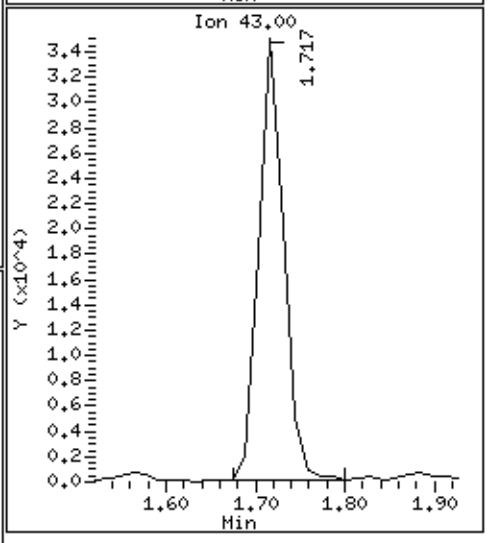
17 Butane

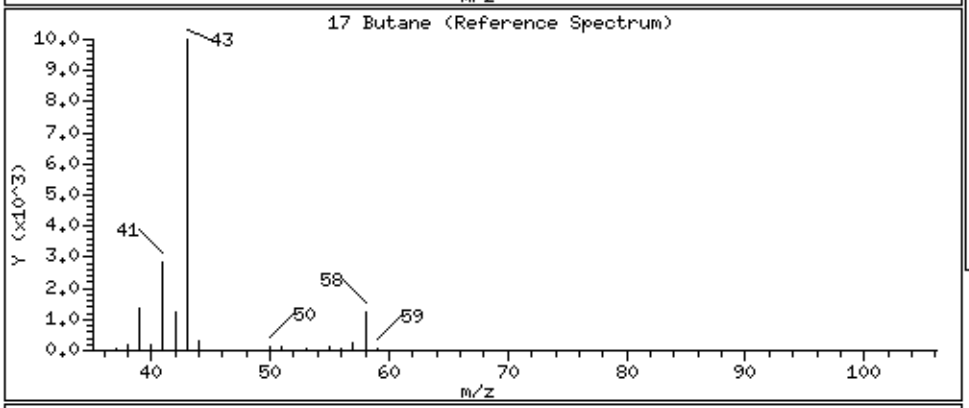
Concentration: 206.66 PPBV

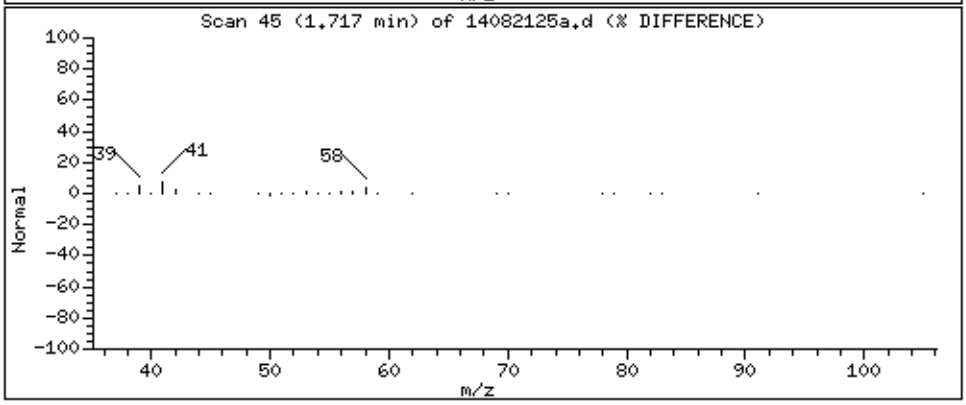












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

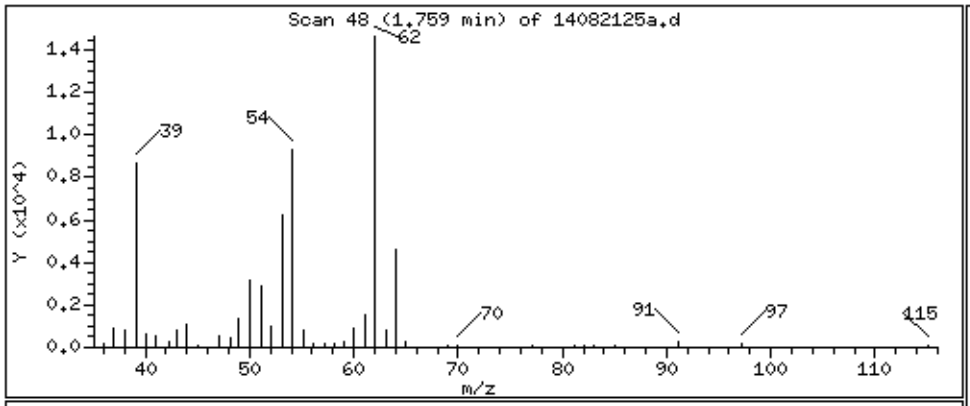
Operator: AK

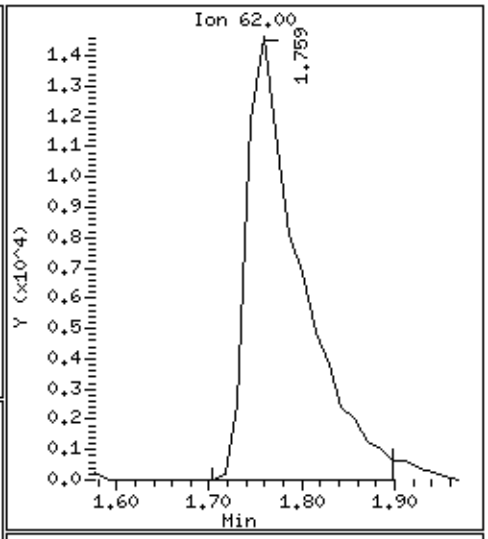
Column phase: RTX-624

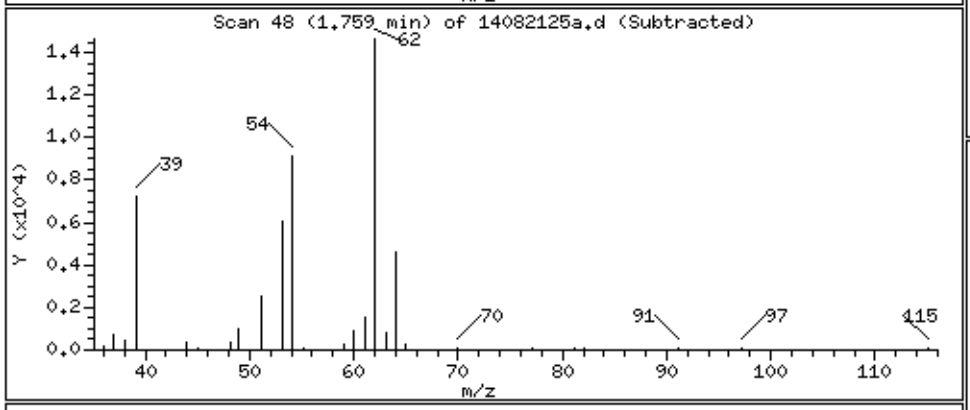
Column diameter: 0.18

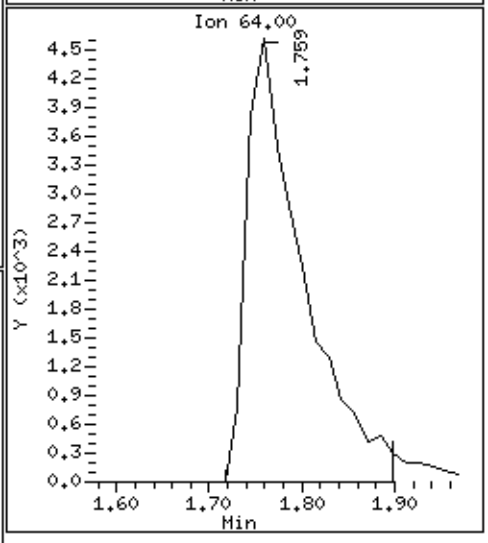
19 Vinyl Chloride

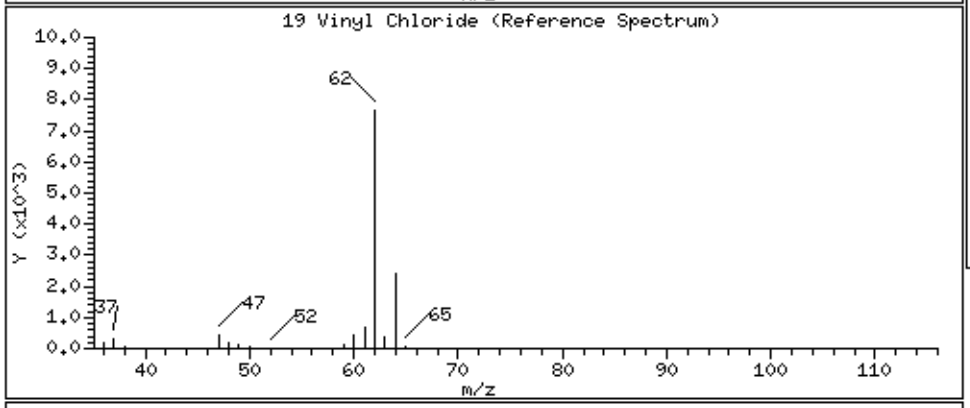
Concentration: 205.89 PPBV

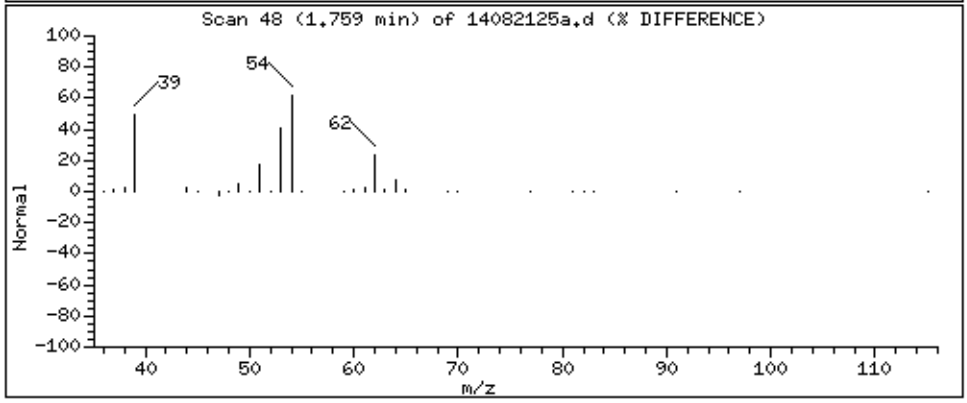












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

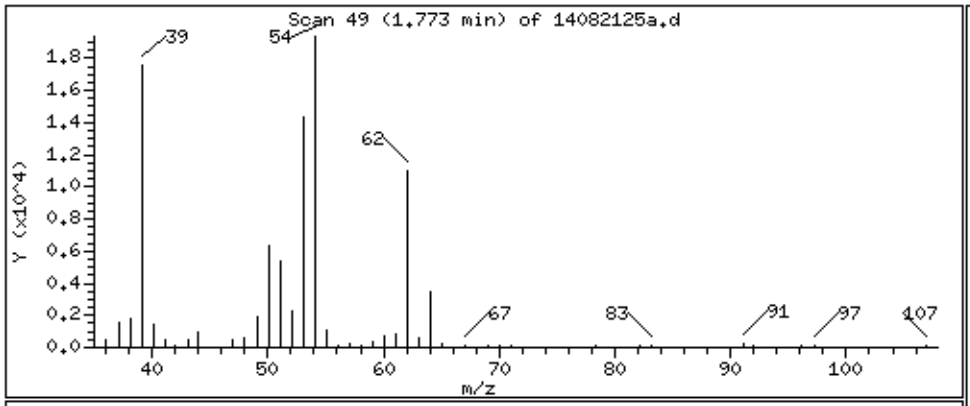
Operator: AK

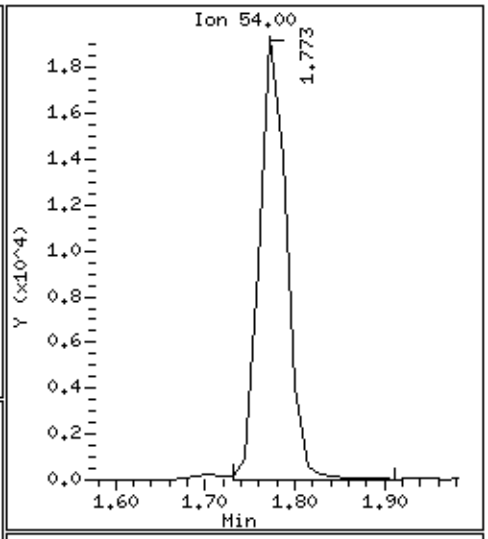
Column phase: RTX-624

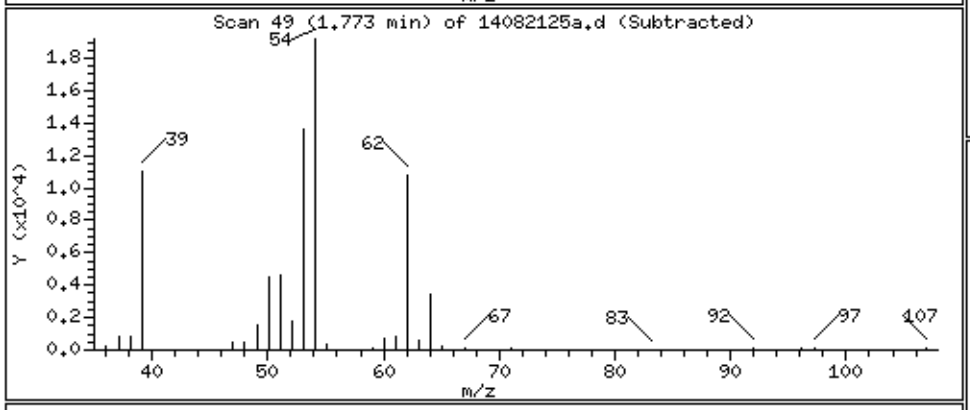
Column diameter: 0.18

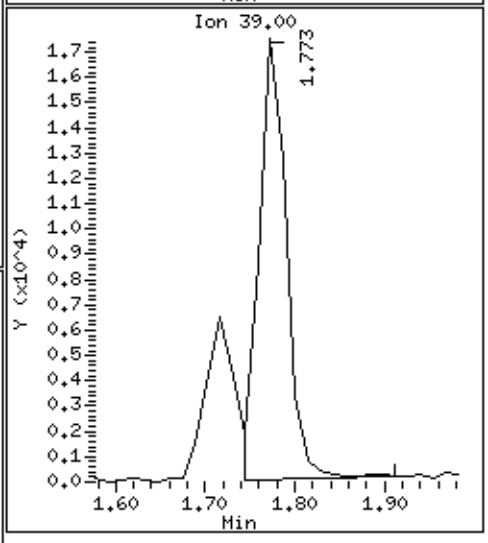
25 1,3-Butadiene

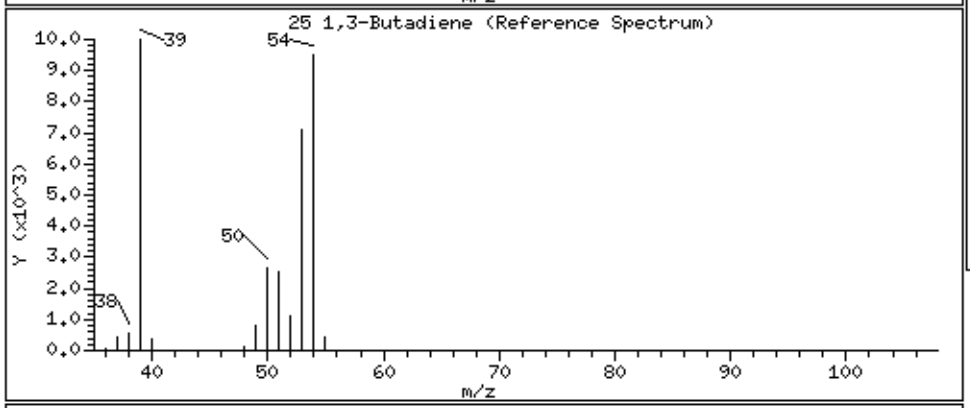
Concentration: 189.38 PPBV

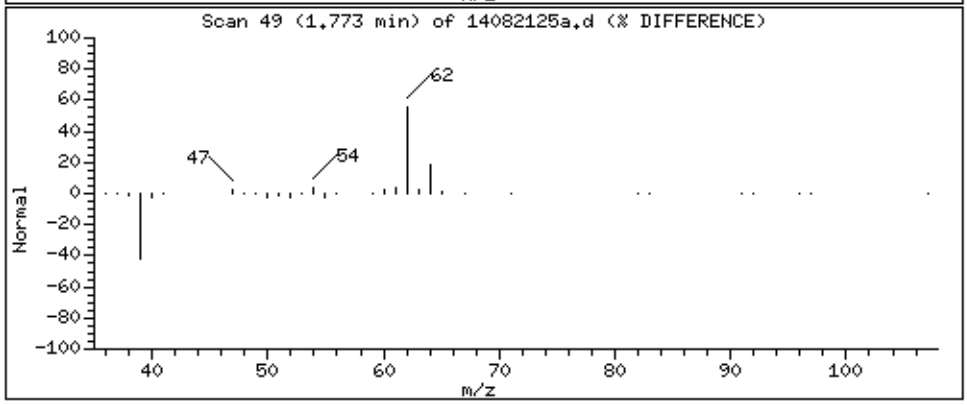












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

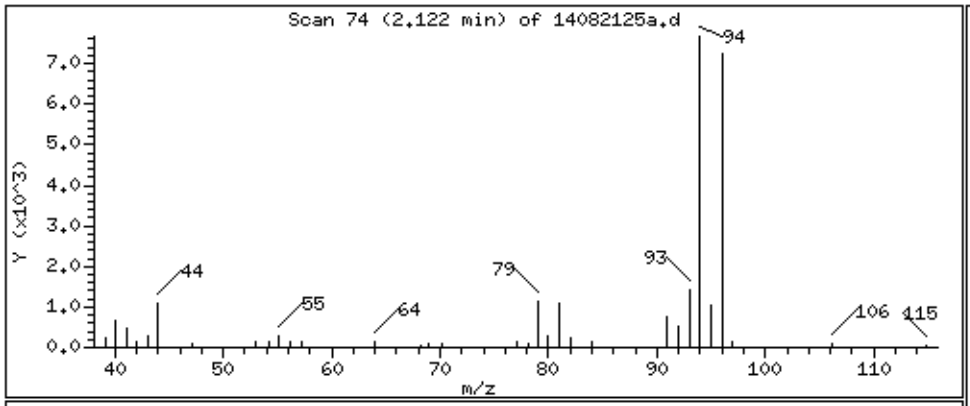
Operator: AK

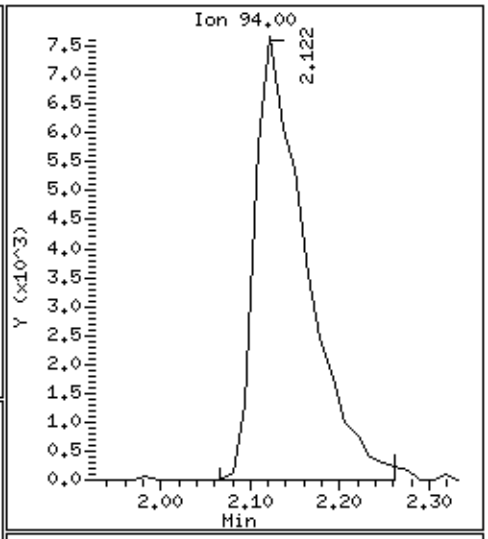
Column phase: RTX-624

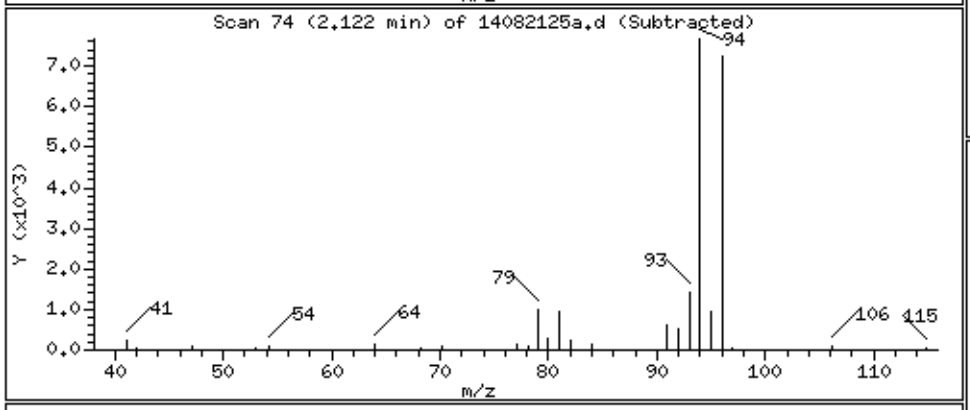
Column diameter: 0.18

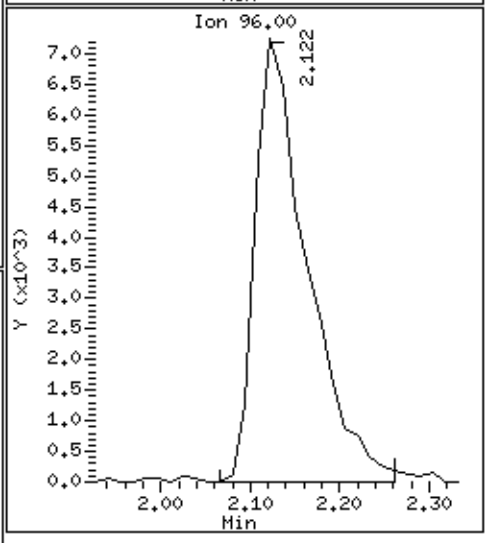
30 Bromomethane

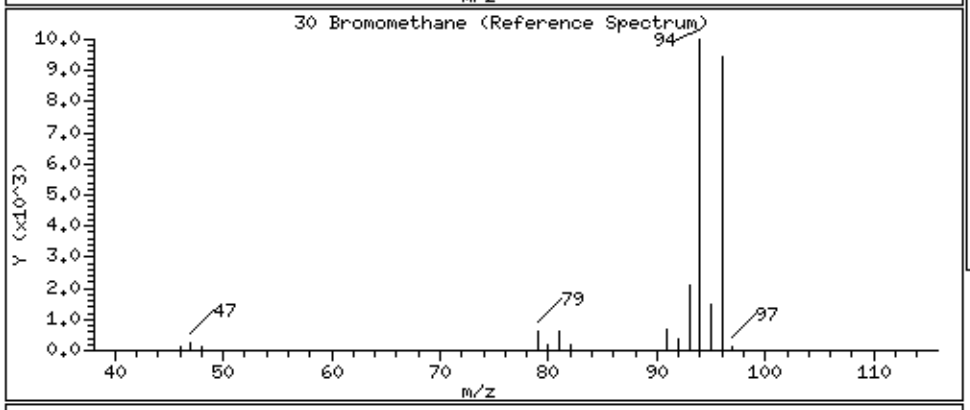
Concentration: 178.85 PPBV

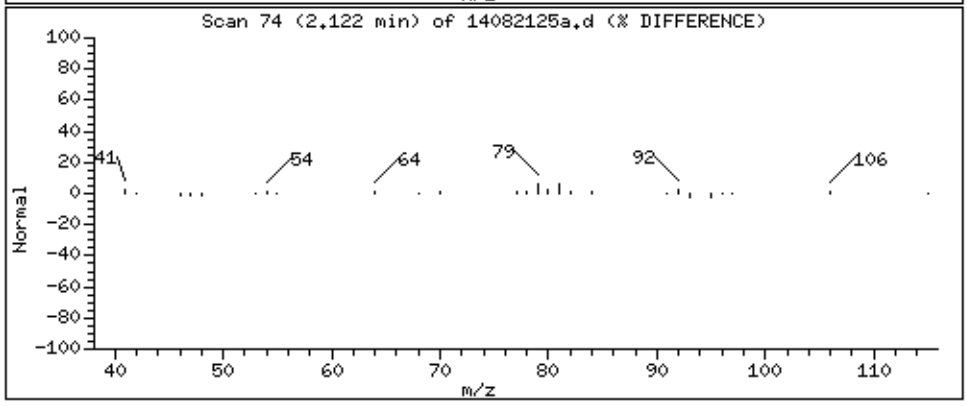












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

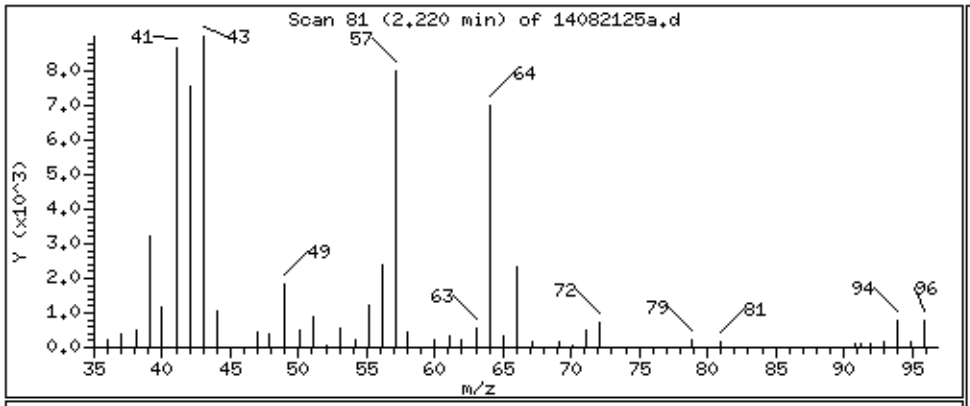
Operator: AK

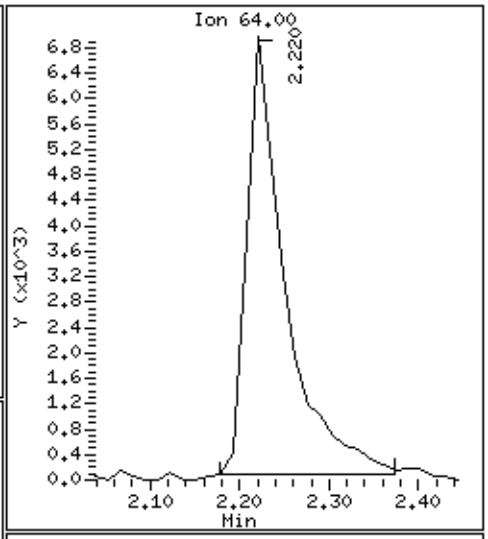
Column phase: RTX-624

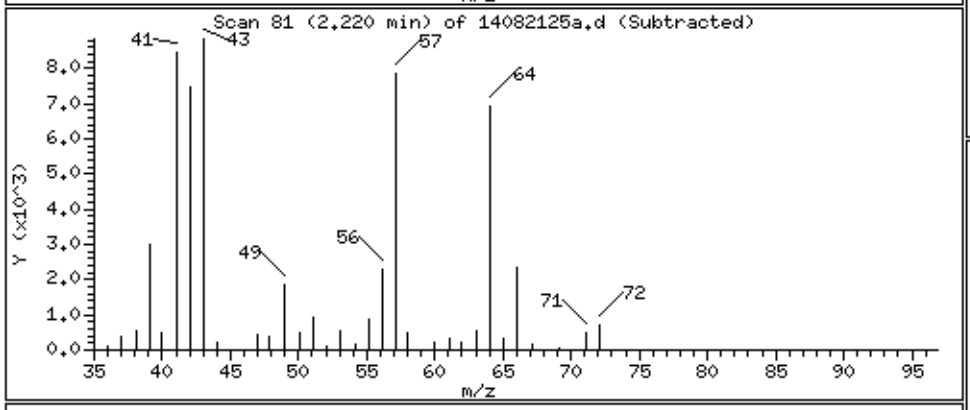
Column diameter: 0.18

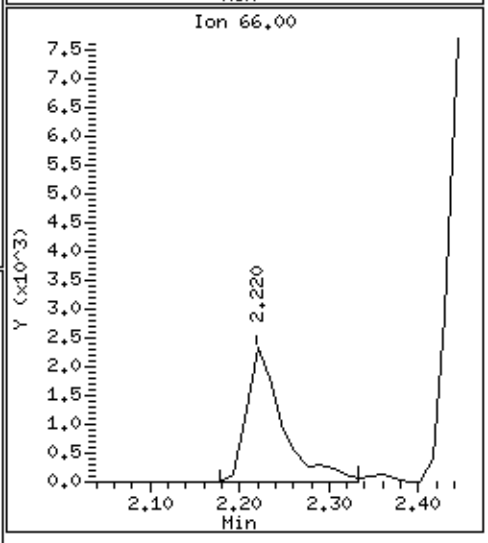
31 Chloroethane

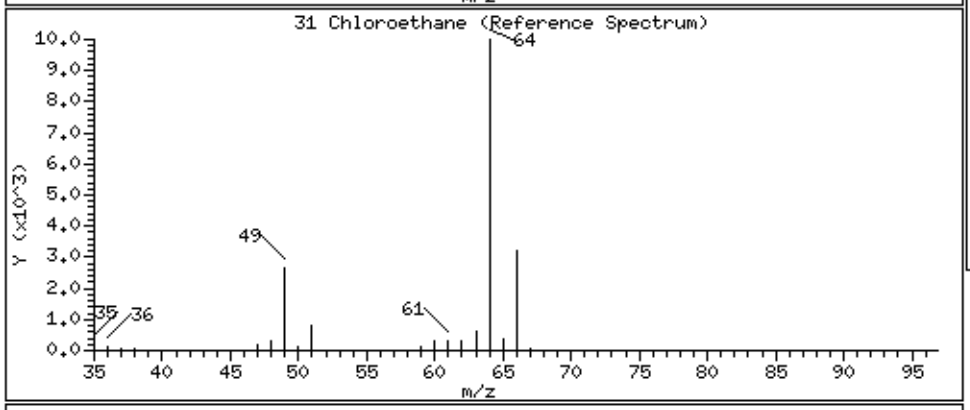
Concentration: 169.98 PPBV

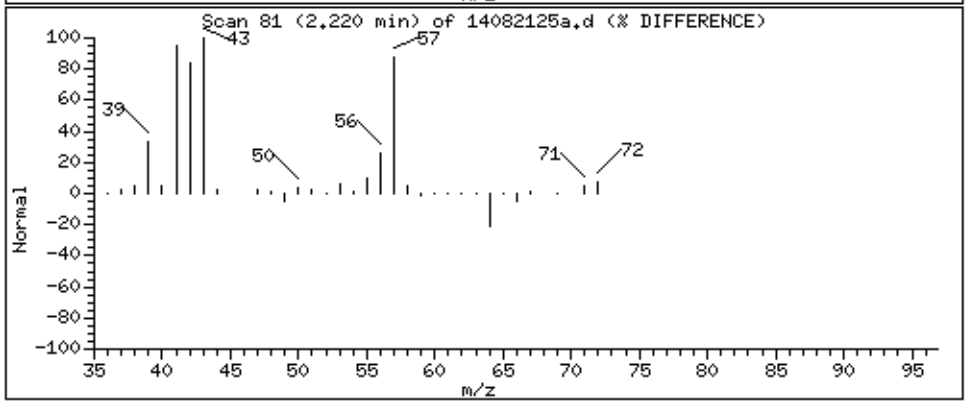












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

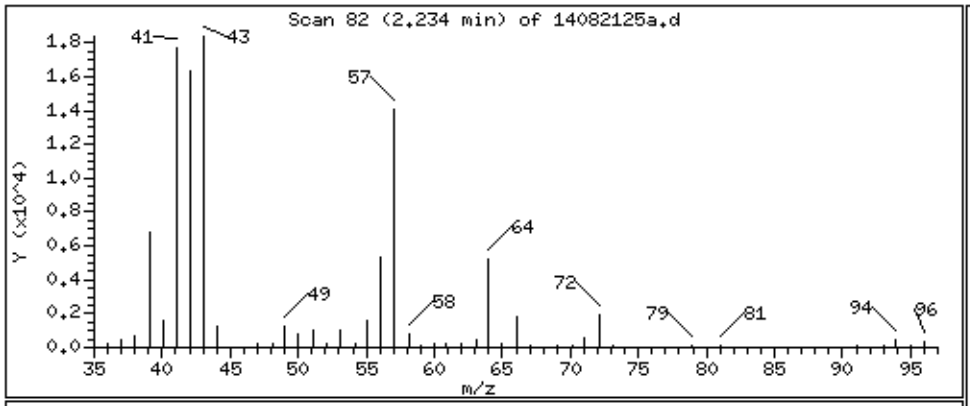
Operator: AK

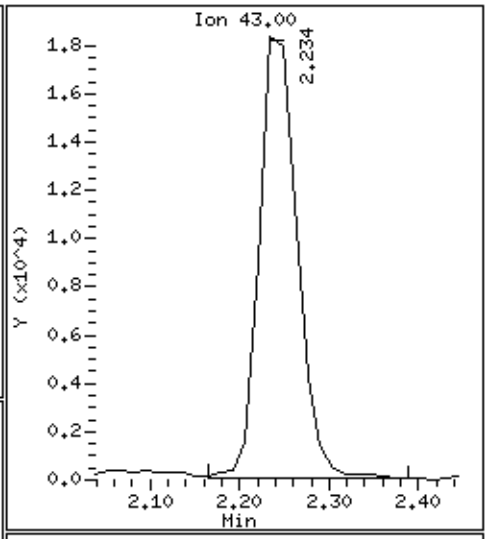
Column phase: RTX-624

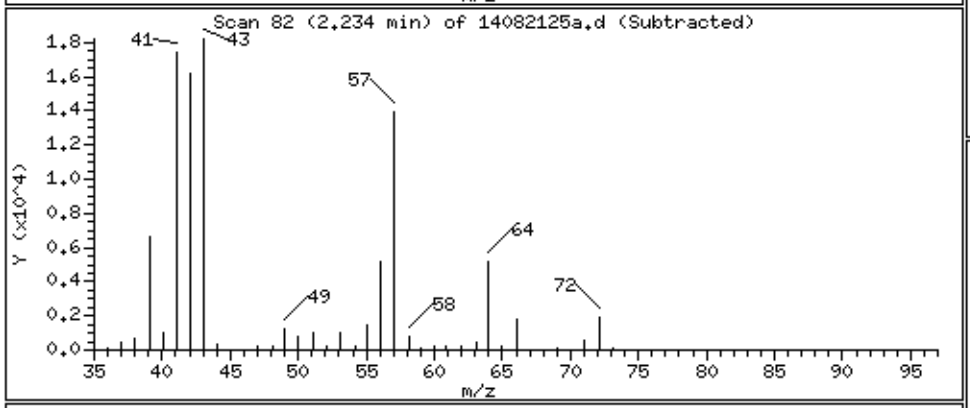
Column diameter: 0.18

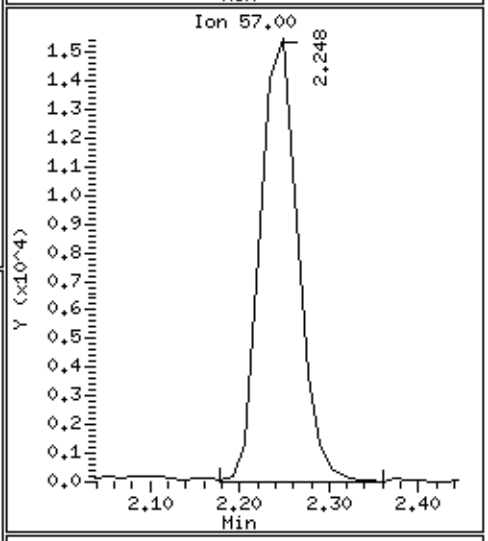
32 Isopentane

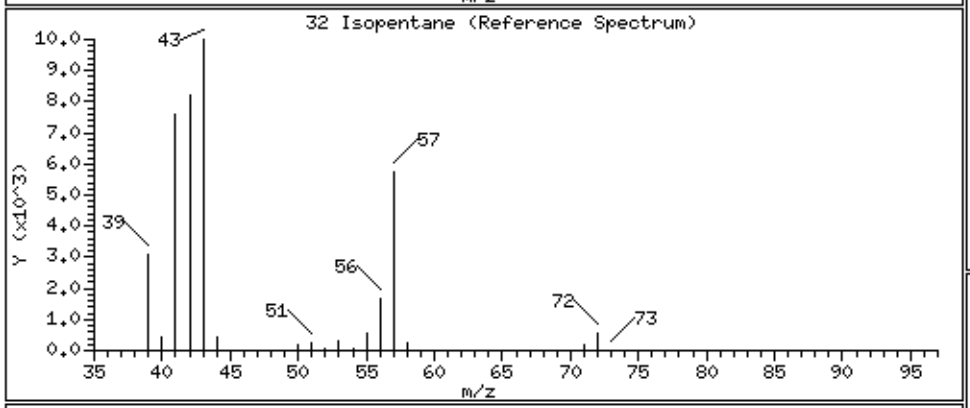
Concentration: 235.91 PPBV

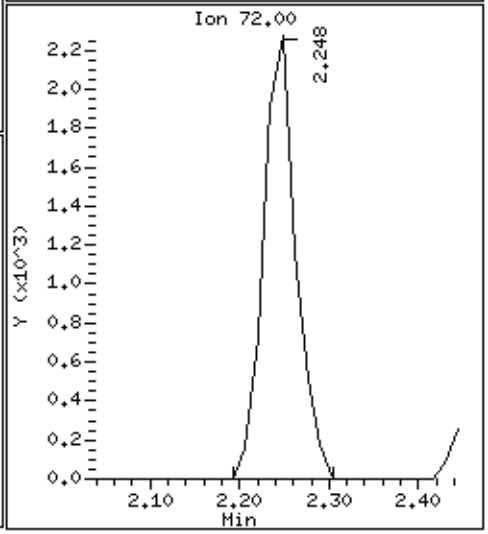


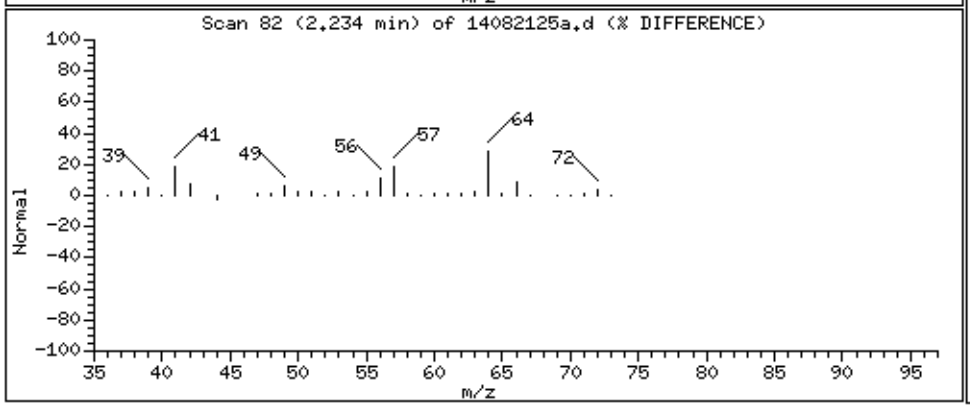












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

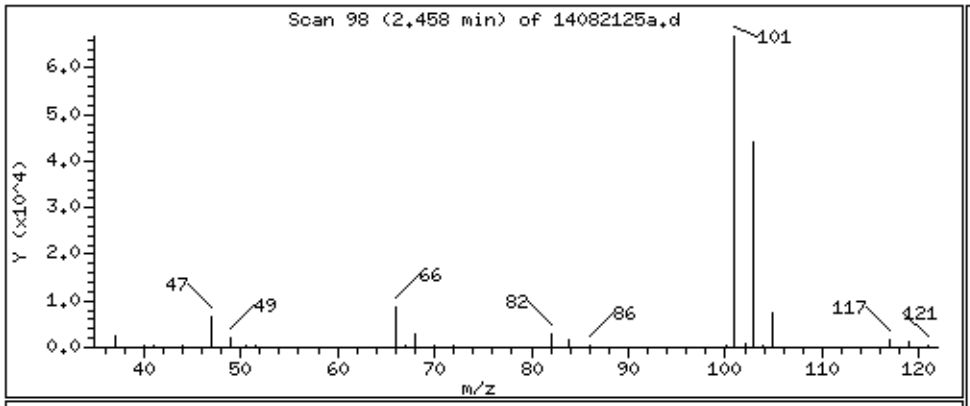
Operator: AK

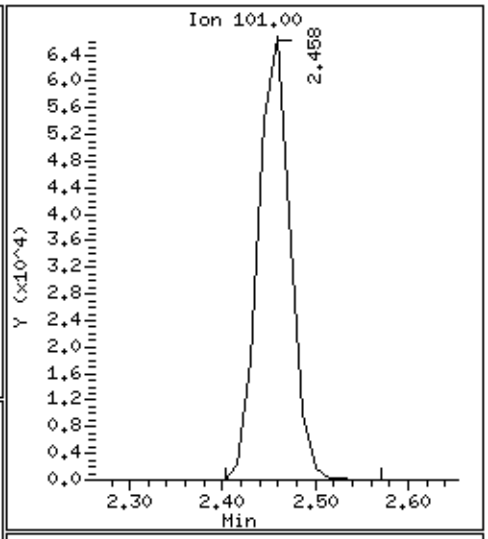
Column phase: RTX-624

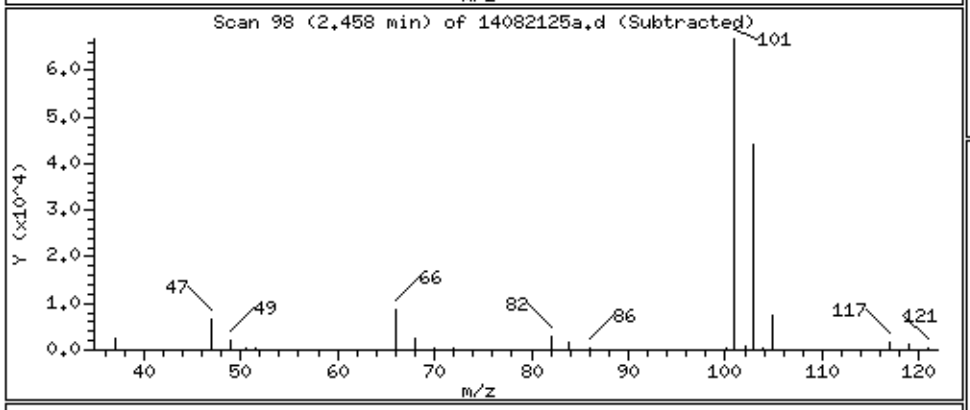
Column diameter: 0.18

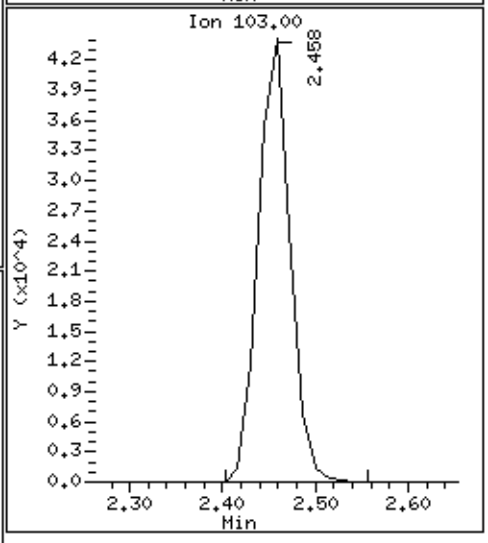
34 Freon 11

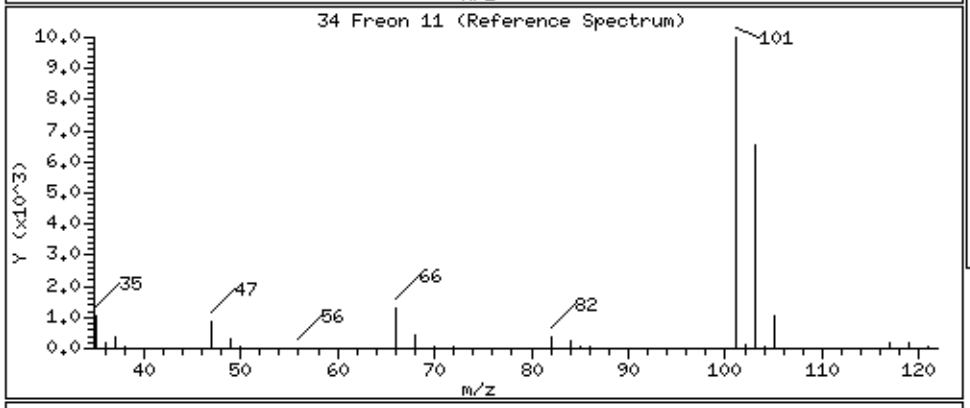
Concentration: 215.39 PPBV

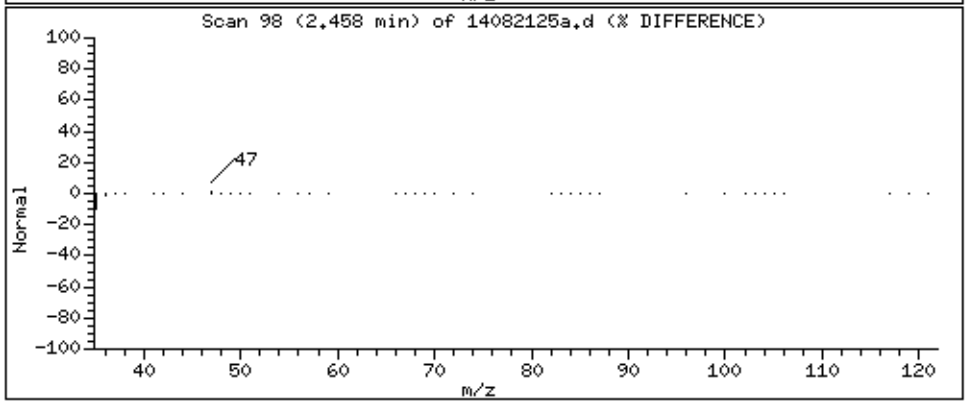












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

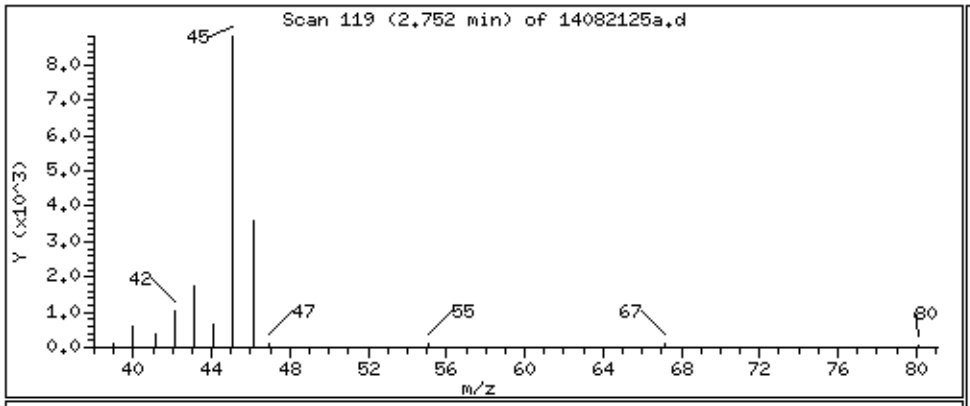
Operator: AK

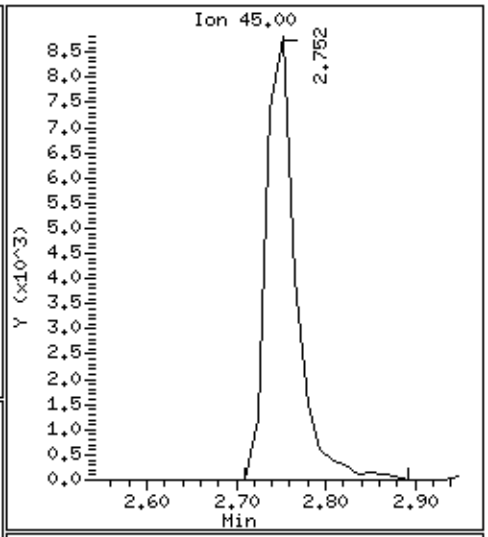
Column phase: RTX-624

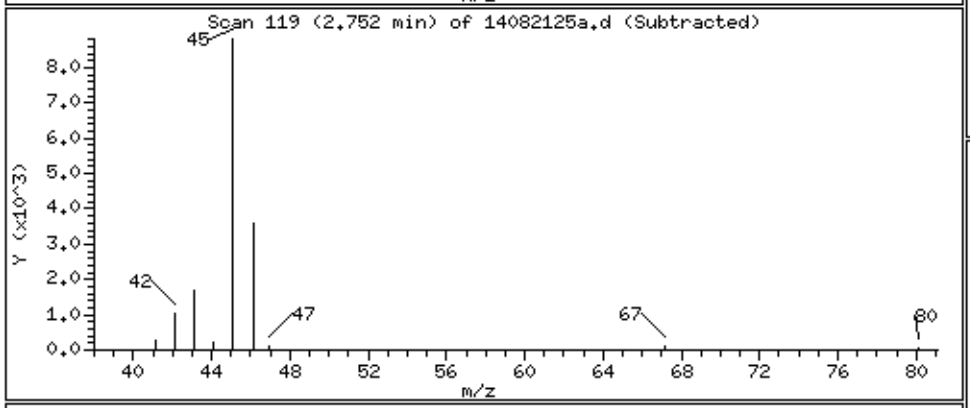
Column diameter: 0.18

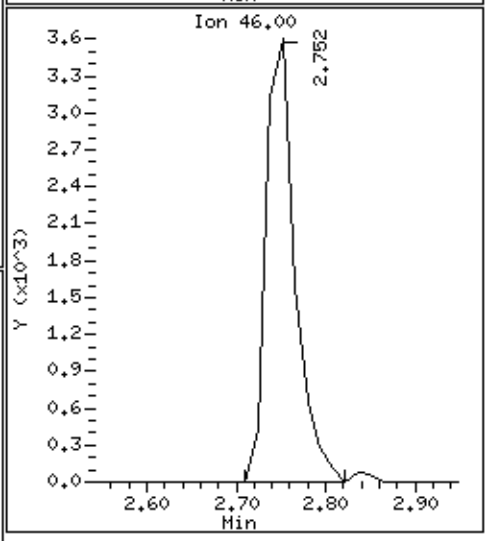
42 Ethanol

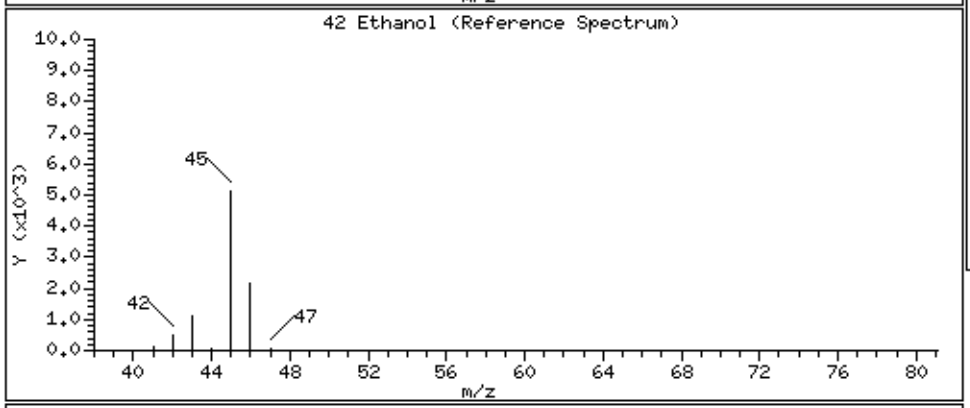
Concentration: 228.10 PPBV

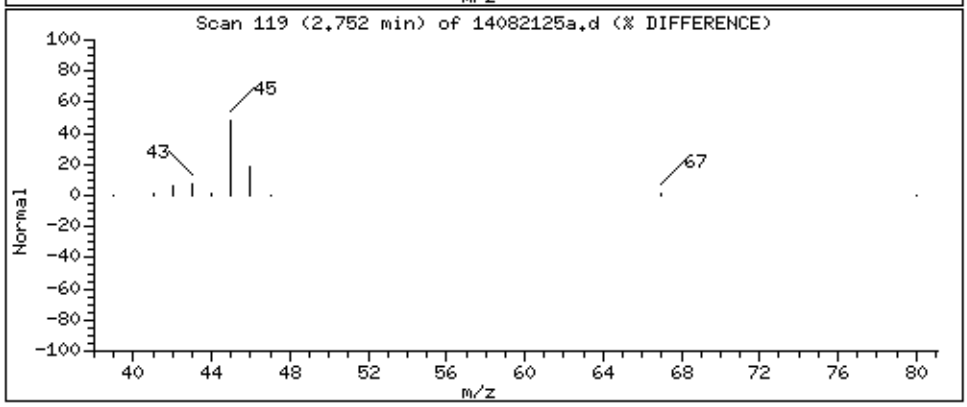












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

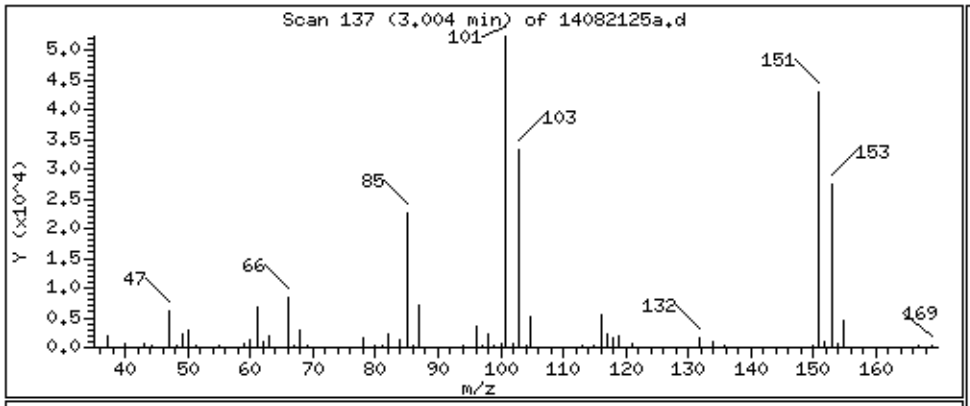
Operator: AK

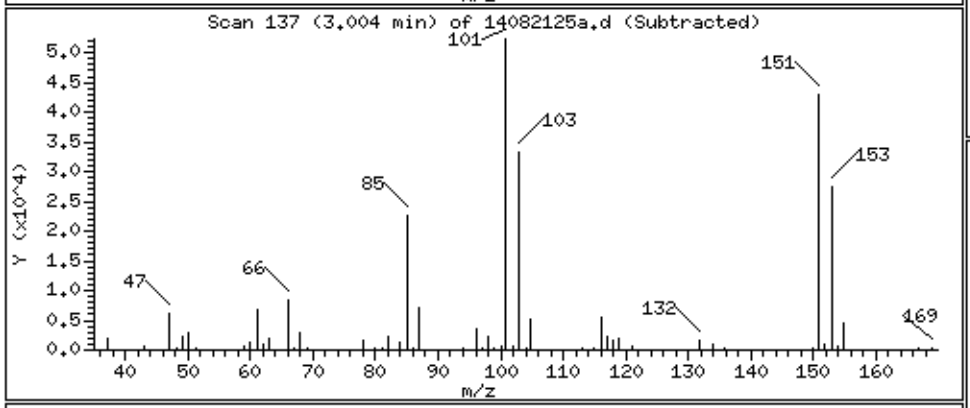
Column phase: RTX-624

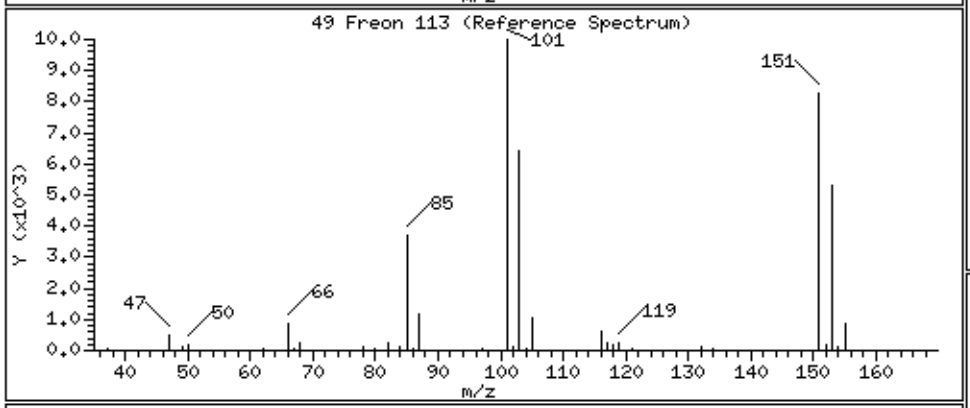
Column diameter: 0.18

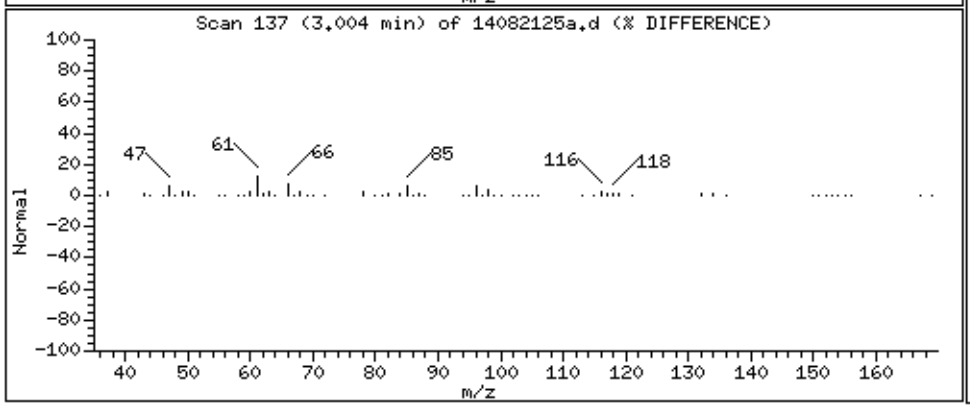
49 Freon 113

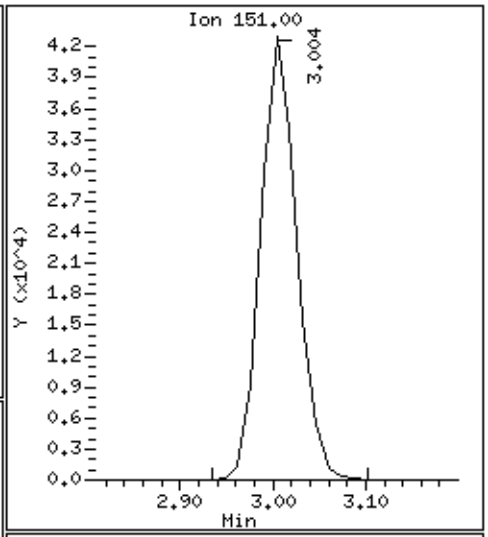
Concentration: 207.14 PPBV

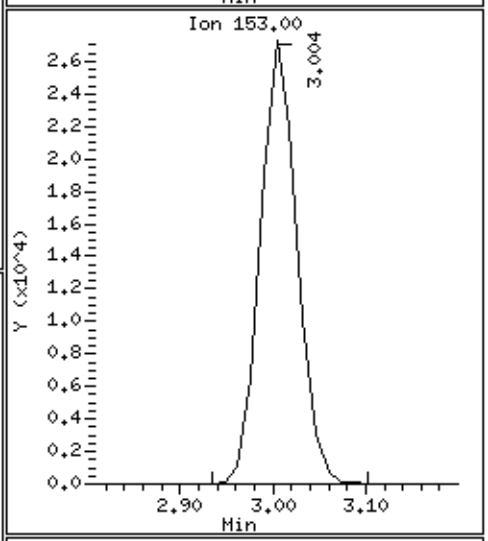


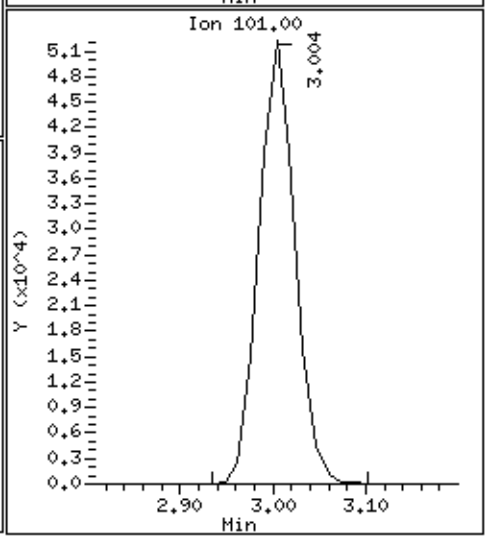












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

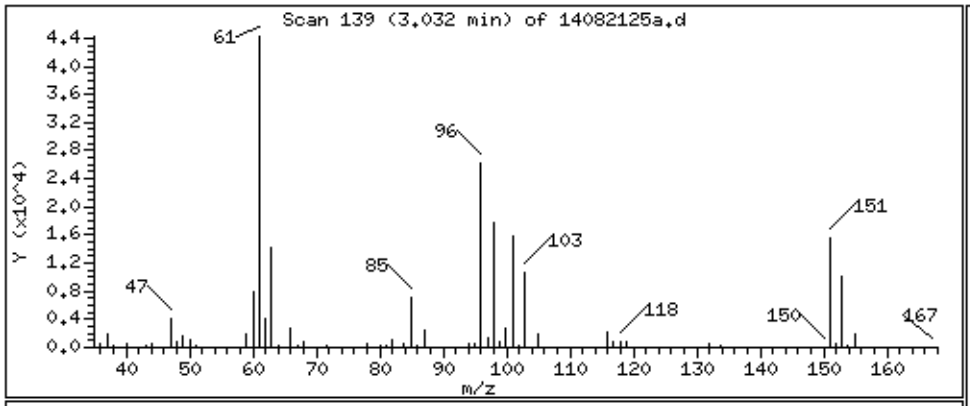
Operator: AK

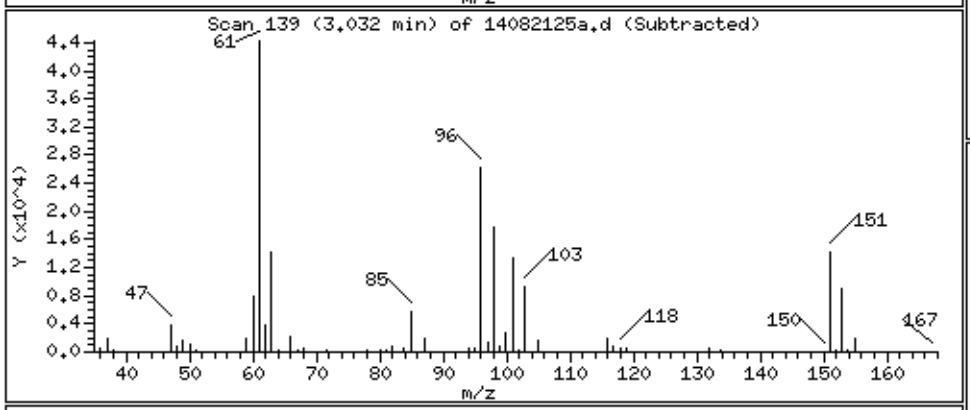
Column phase: RTX-624

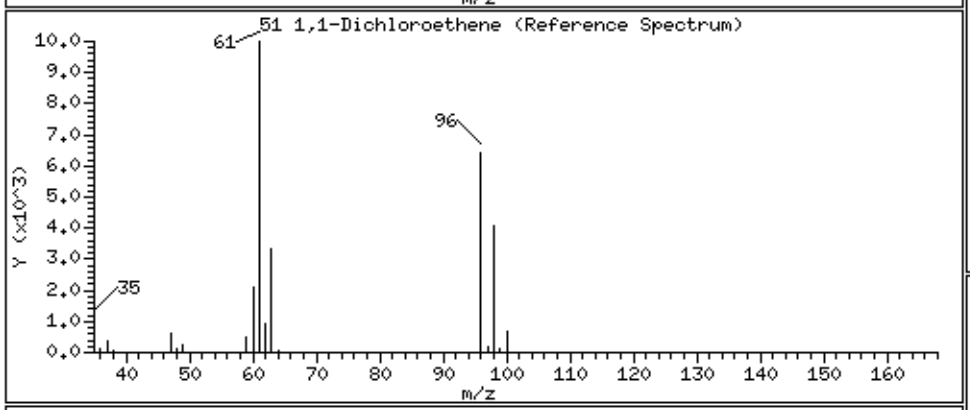
Column diameter: 0.18

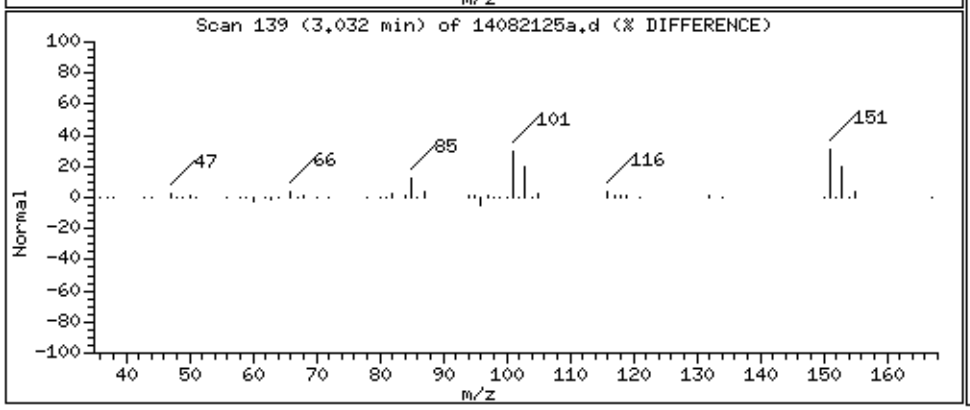
51 1,1-Dichloroethene

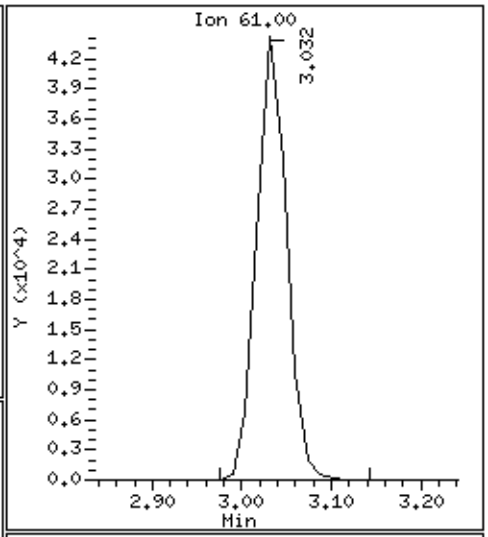
Concentration: 212.37 PPBV

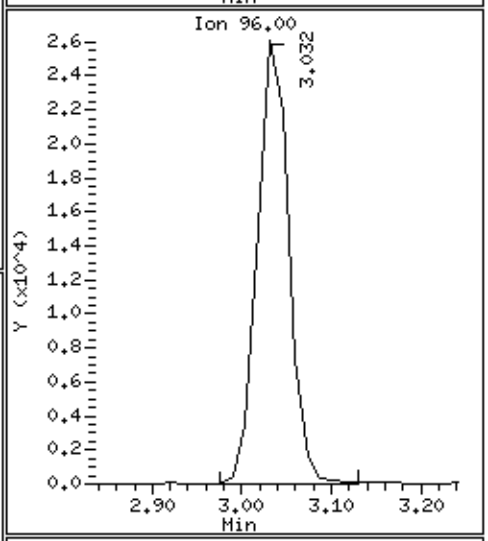


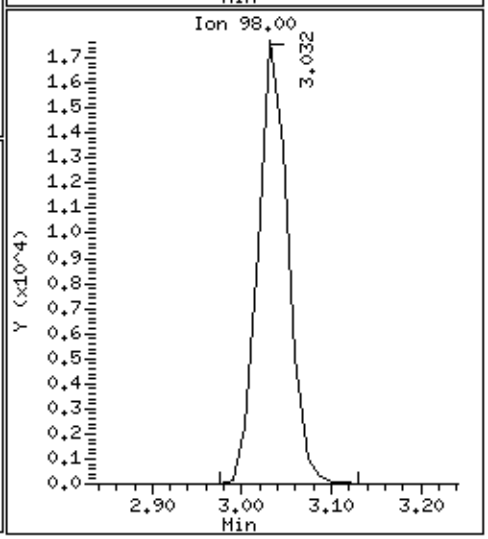












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

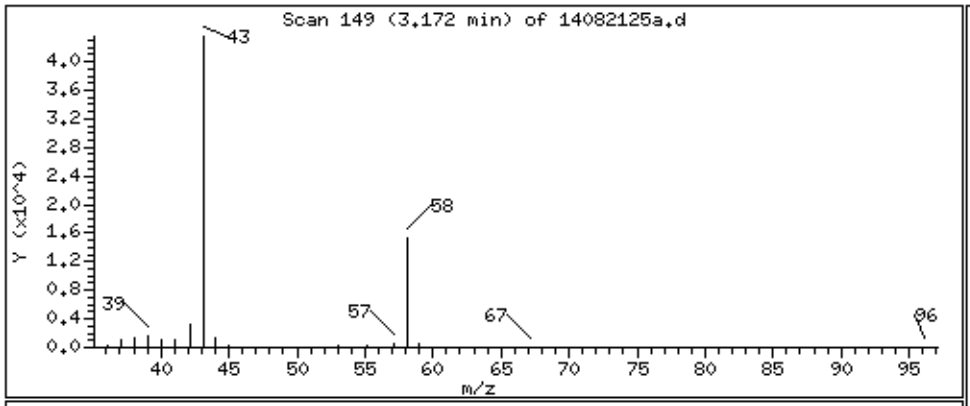
Operator: AK

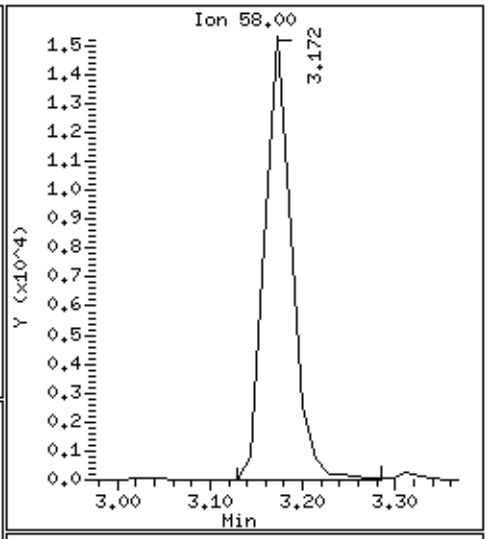
Column phase: RTX-624

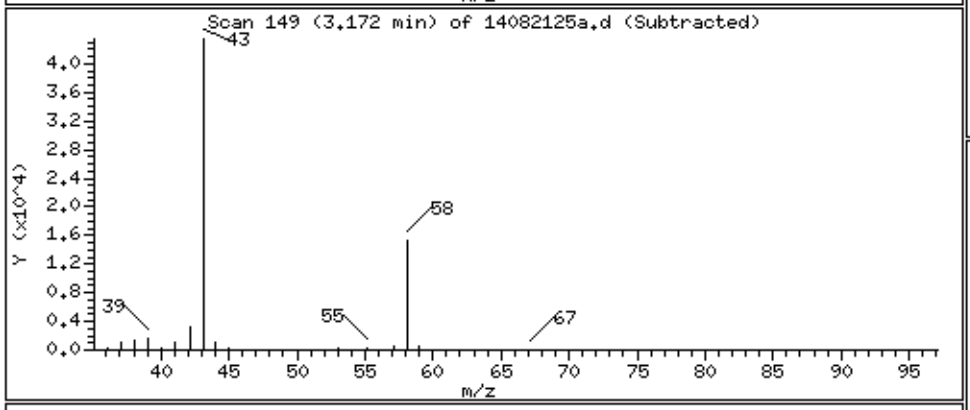
Column diameter: 0.18

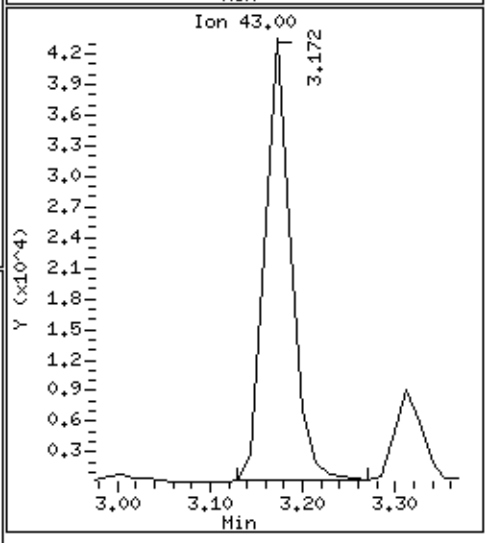
53 Acetone

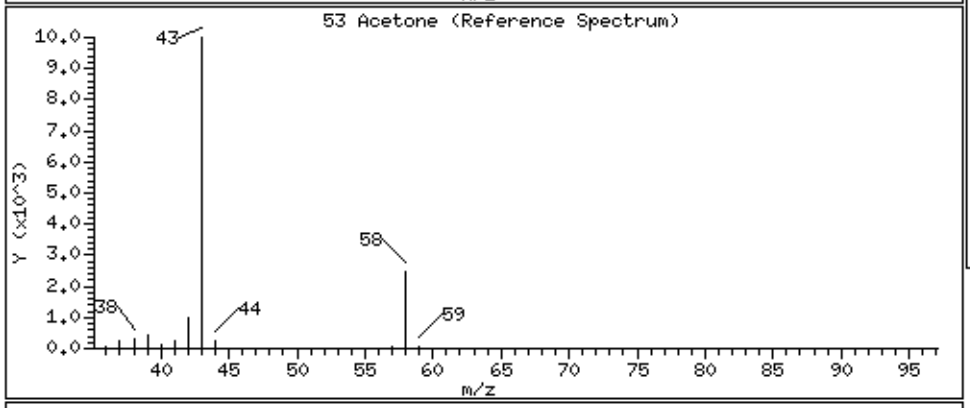
Concentration: 231.33 PPBV

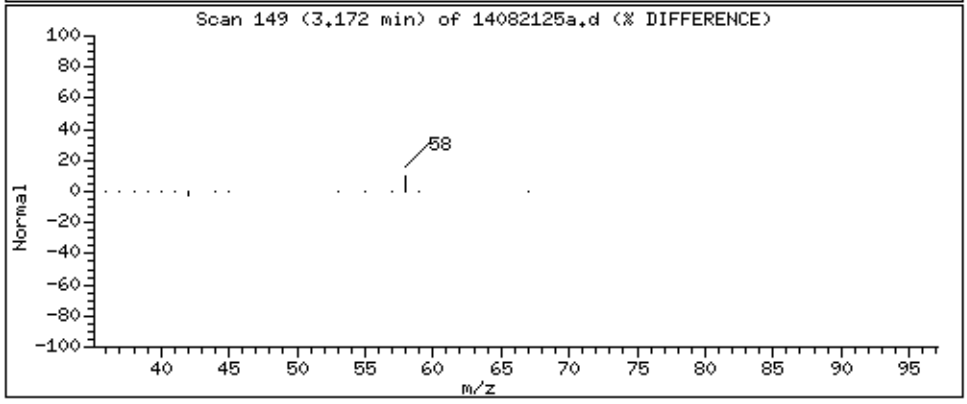












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

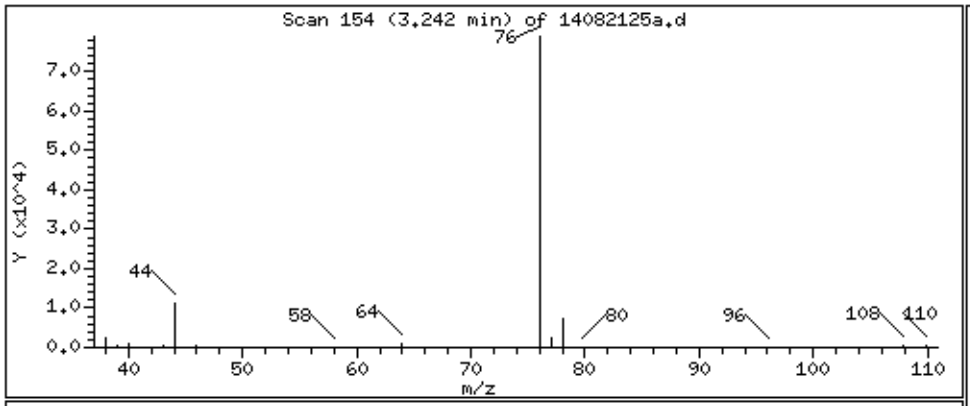
Operator: AK

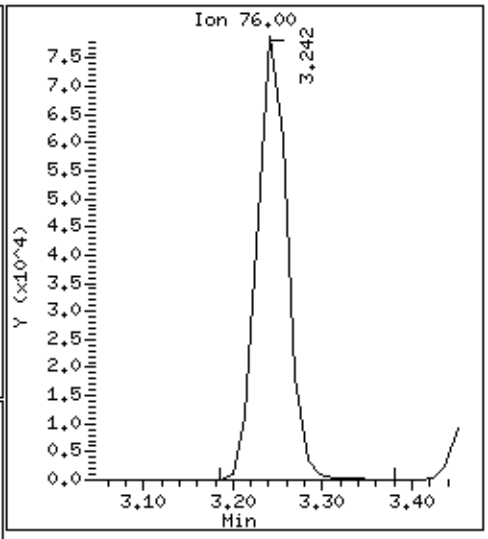
Column phase: RTX-624

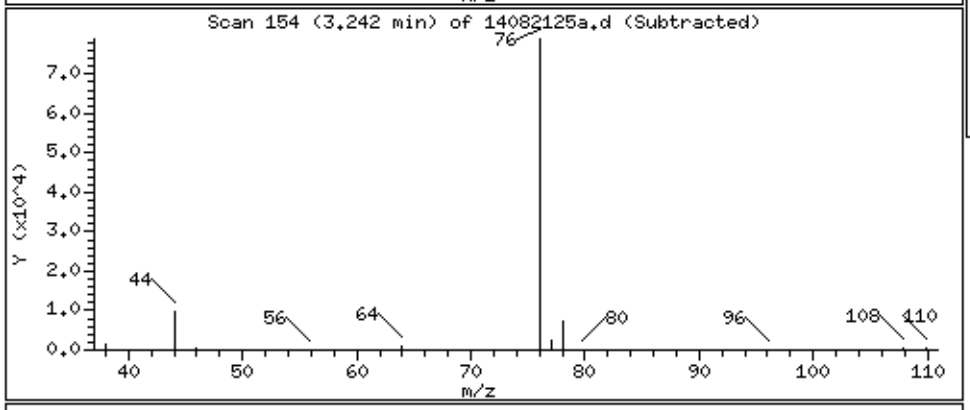
Column diameter: 0.18

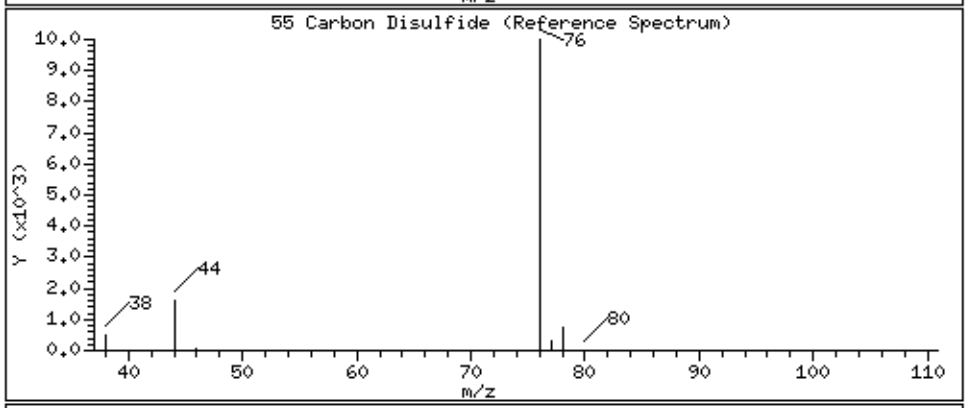
55 Carbon Disulfide

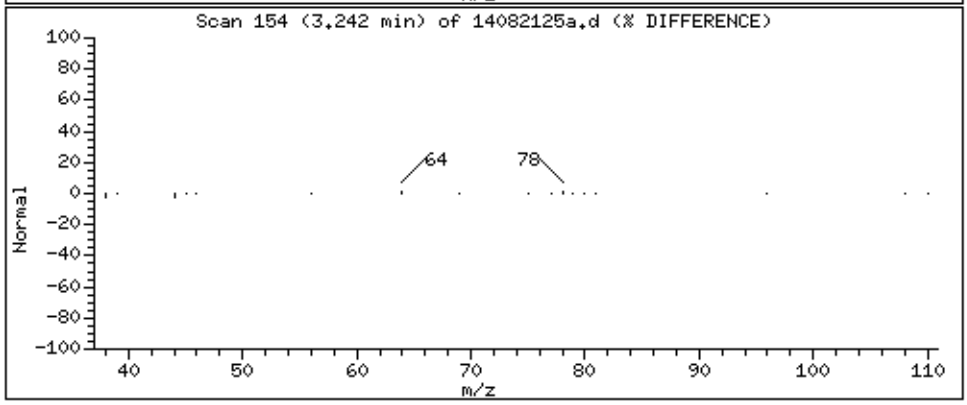
Concentration: 207.75 PPBV











Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

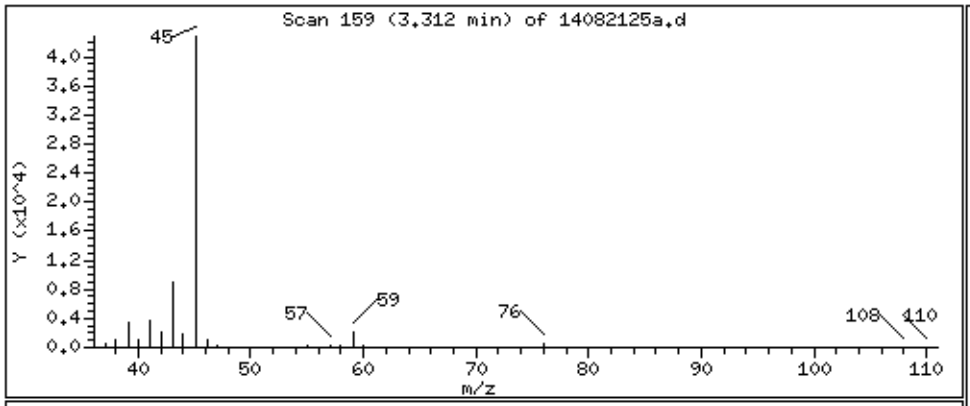
Operator: AK

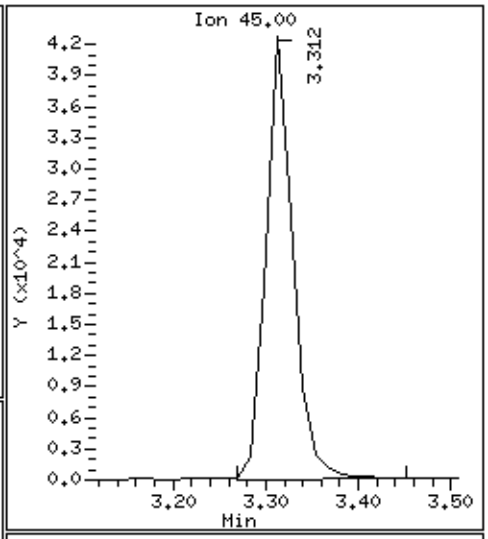
Column phase: RTX-624

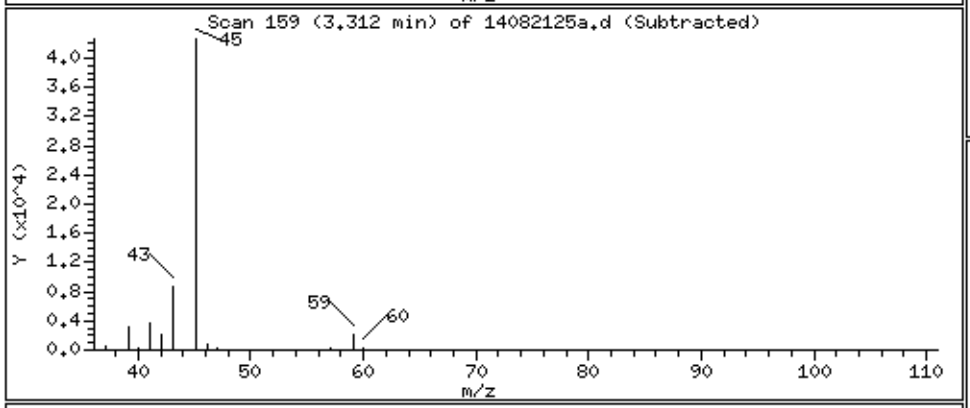
Column diameter: 0.18

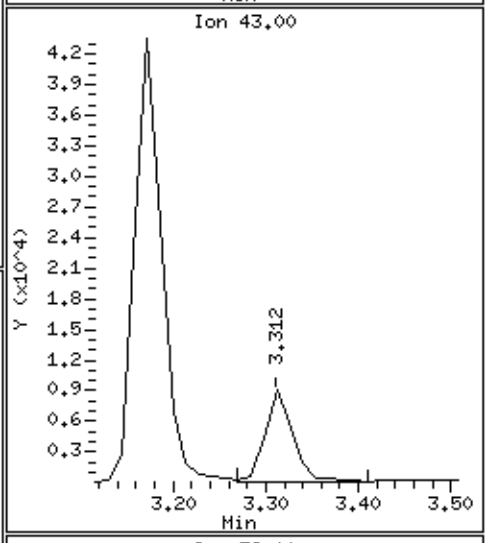
56 2-Propanol

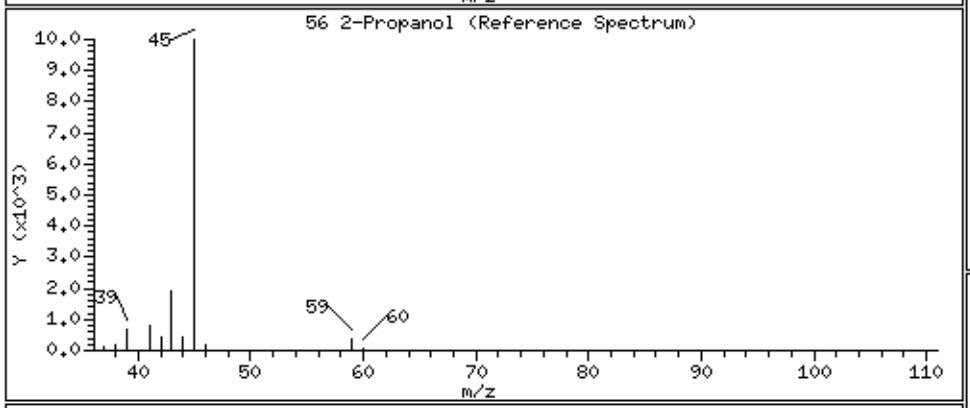
Concentration: 206.98 PPBV

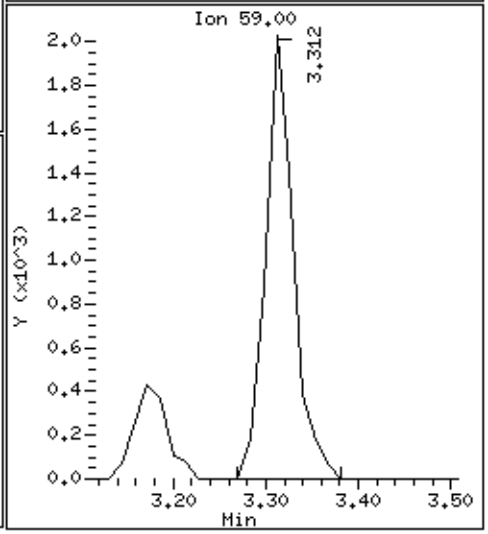


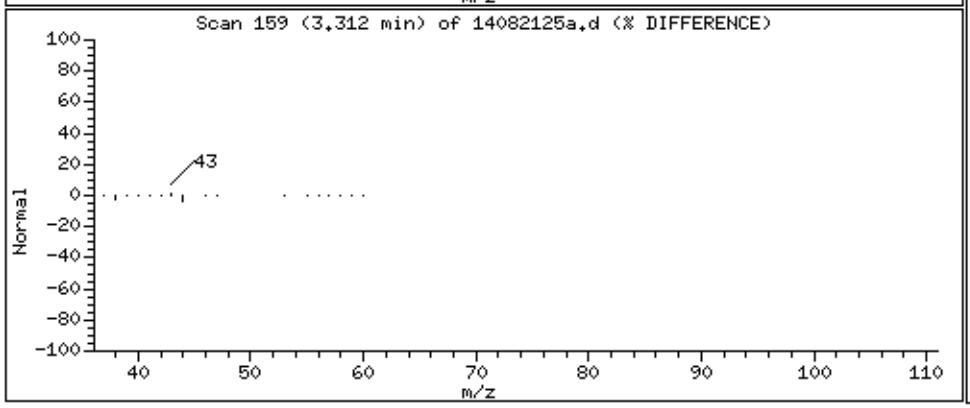












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

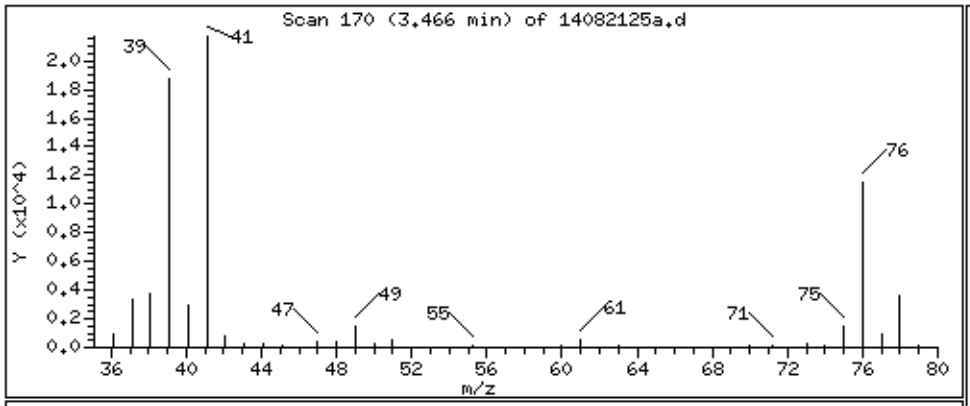
Operator: AK

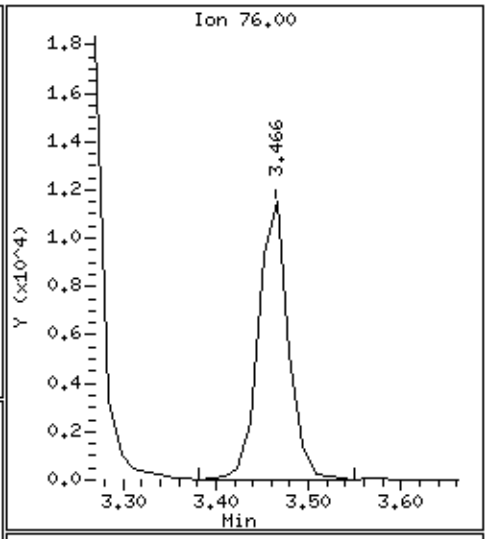
Column phase: RTX-624

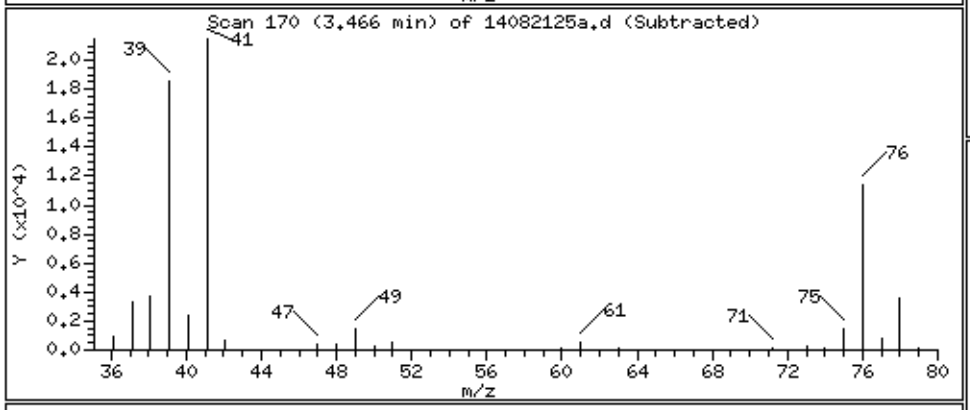
Column diameter: 0.18

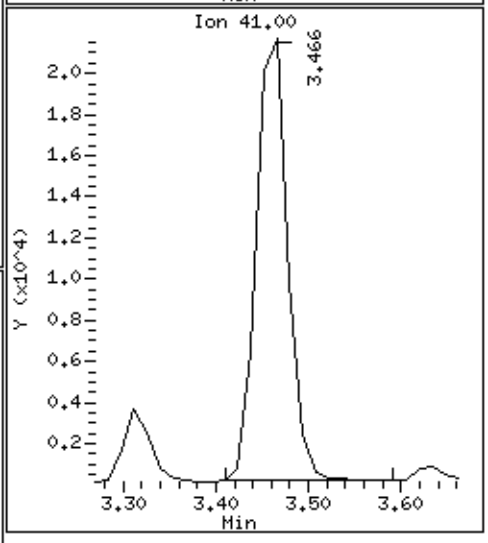
59 3-Chloropropene

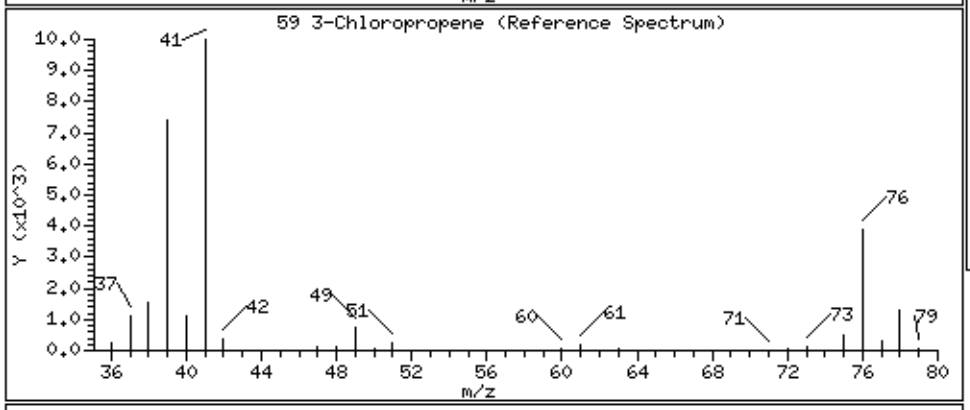
Concentration: 230.98 PPBV

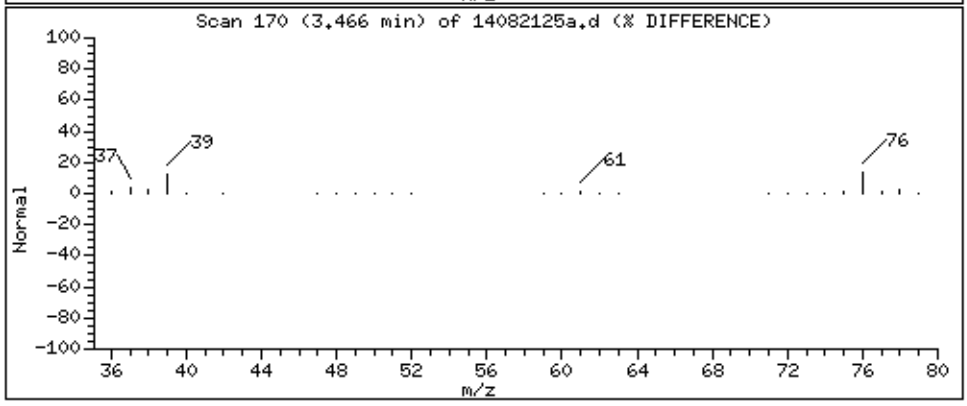












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

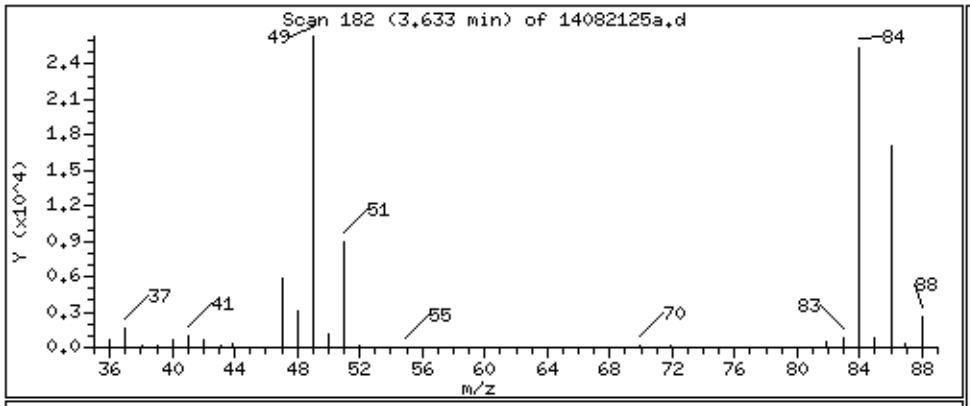
Operator: AK

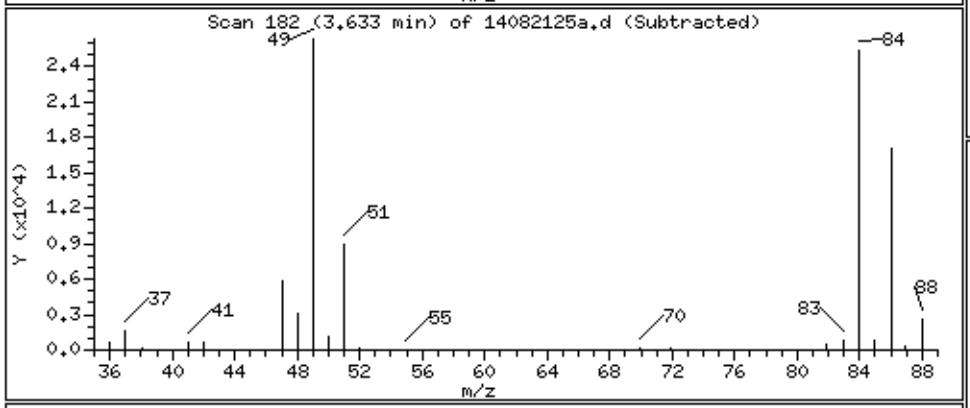
Column phase: RTX-624

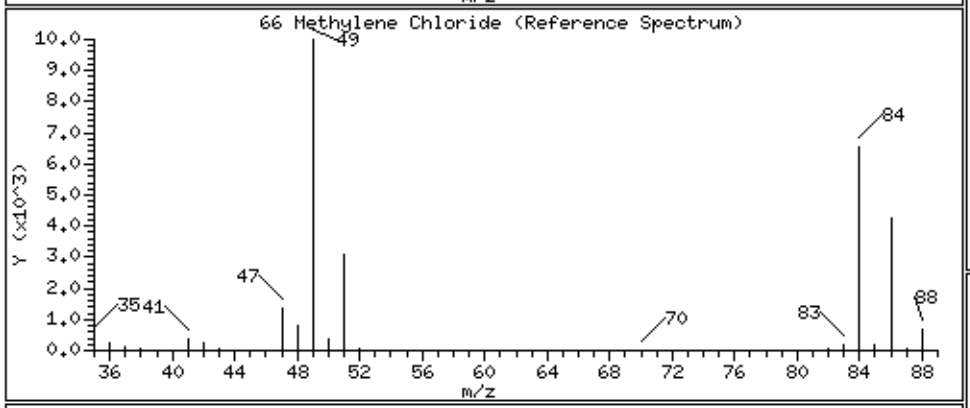
Column diameter: 0.18

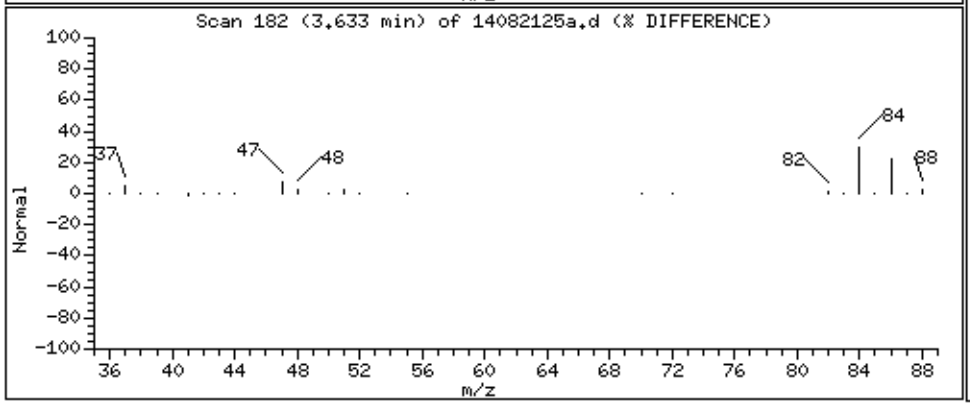
66 Methylene Chloride

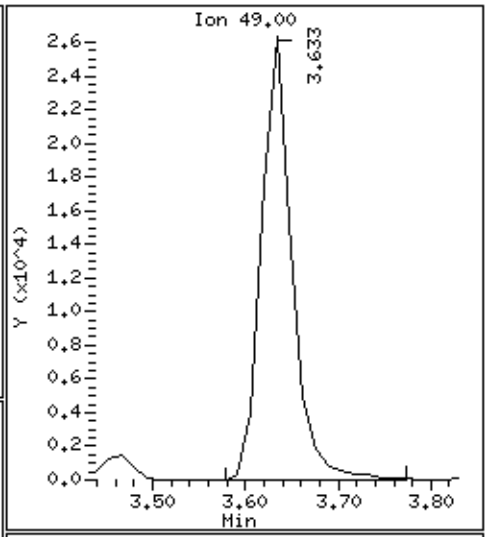
Concentration: 199.56 PPBV

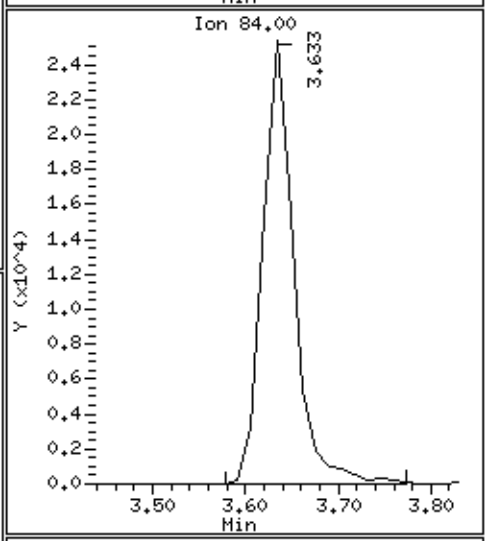


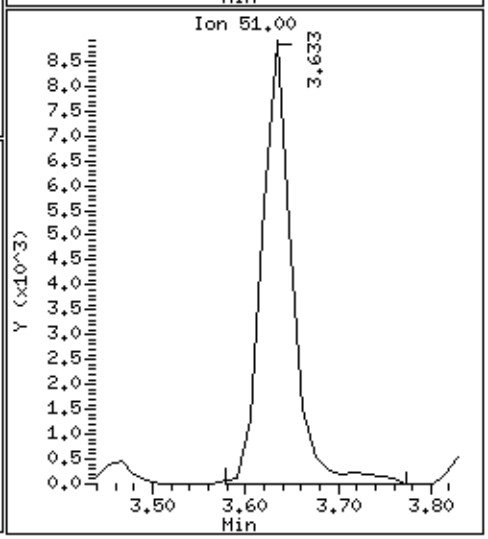












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

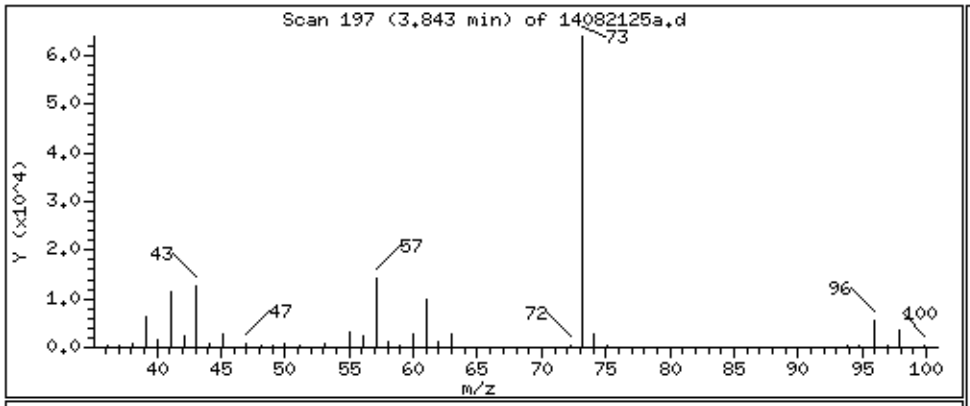
Operator: AK

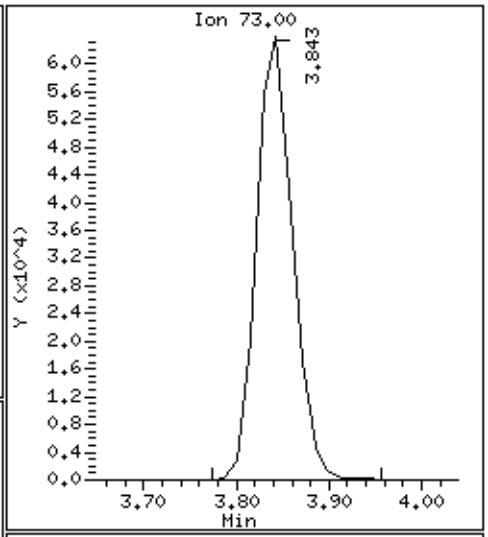
Column phase: RTX-624

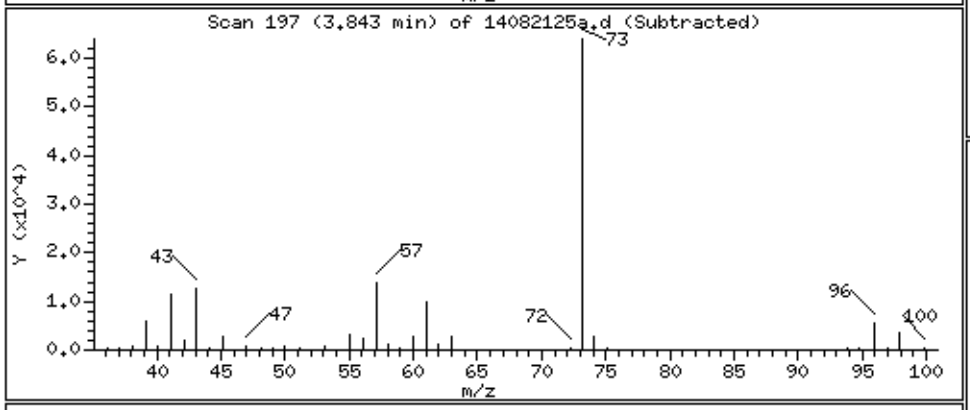
Column diameter: 0.18

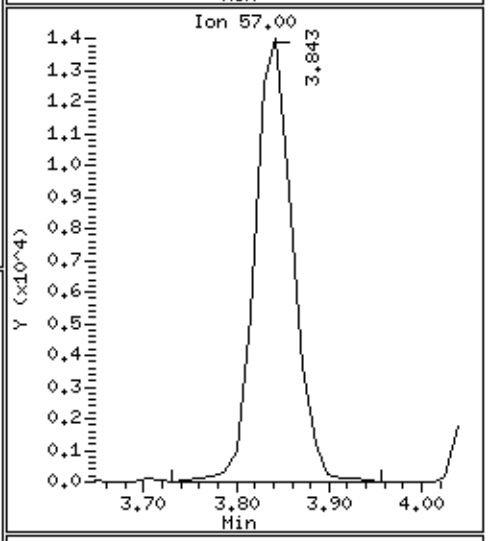
69 Methyl tert-butyl ether

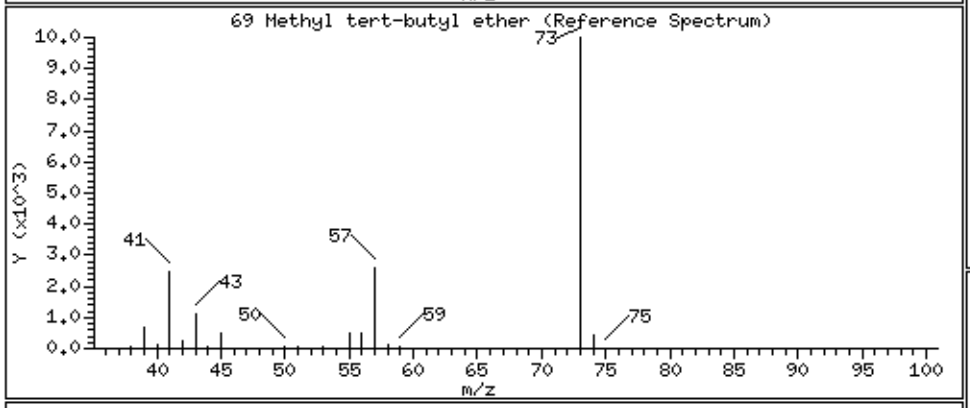
Concentration: 204.89 PPBV

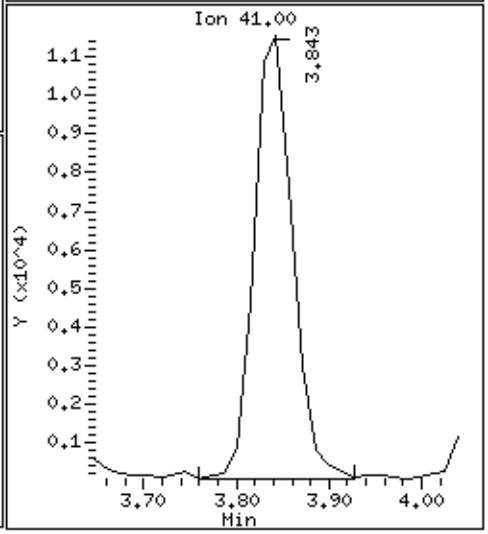


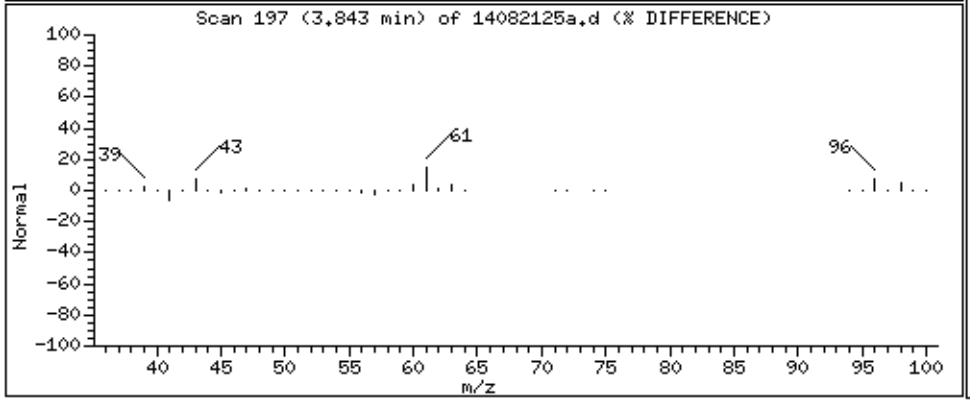












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

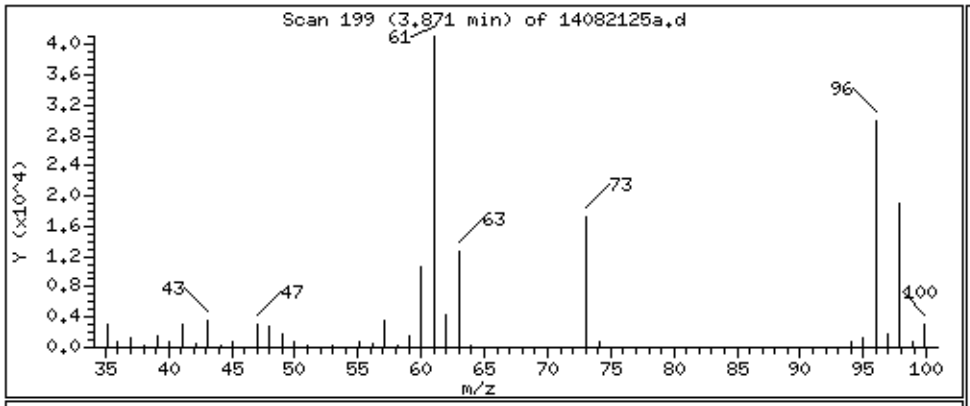
Operator: AK

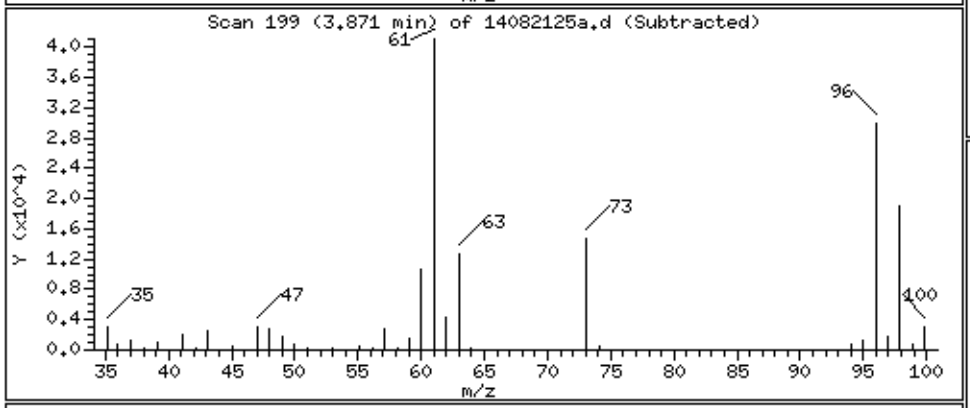
Column phase: RTX-624

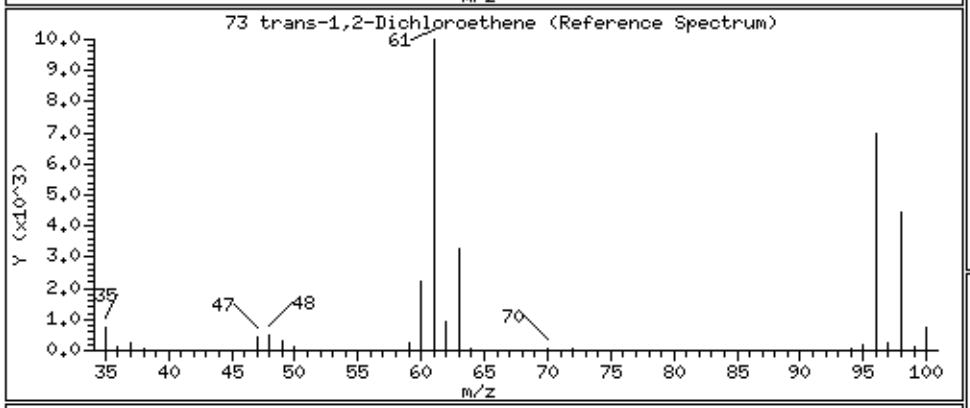
Column diameter: 0.18

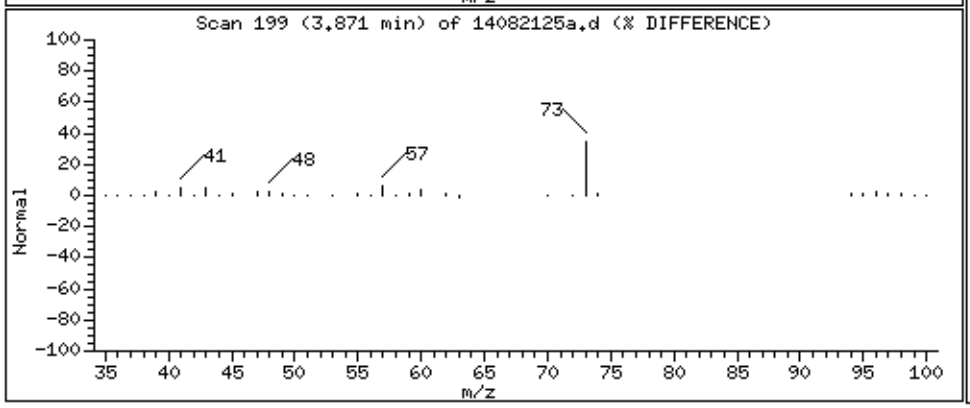
73 trans-1,2-Dichloroethene

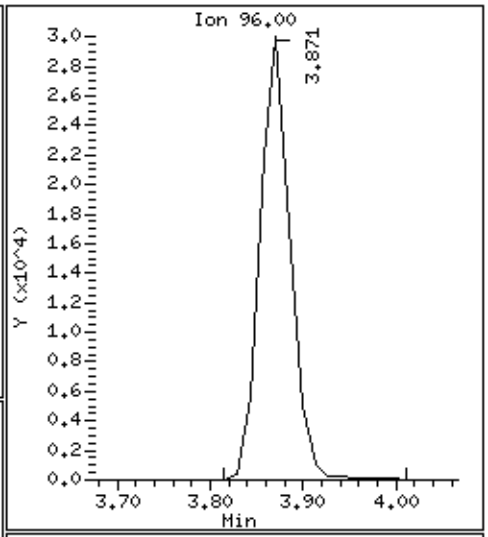
Concentration: 219.42 PPBV

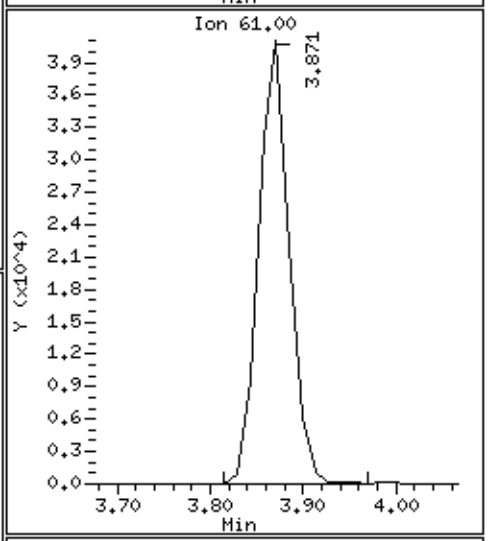


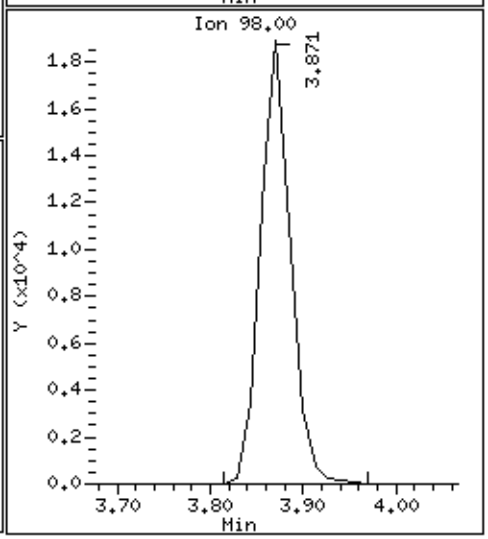












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

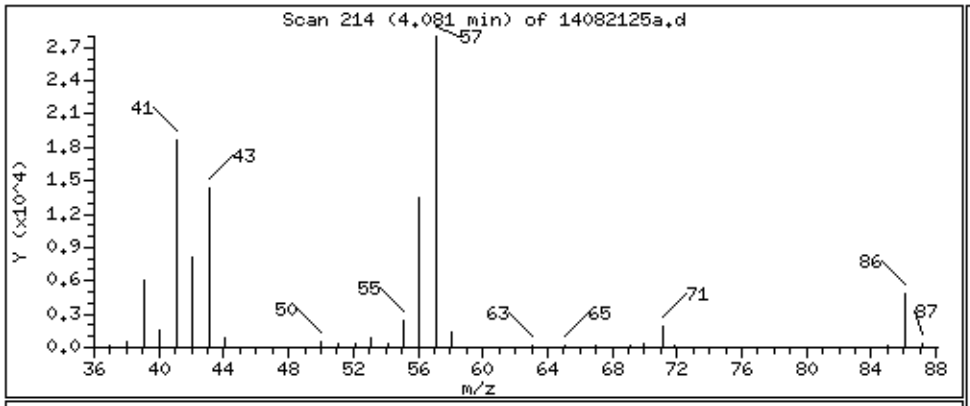
Operator: AK

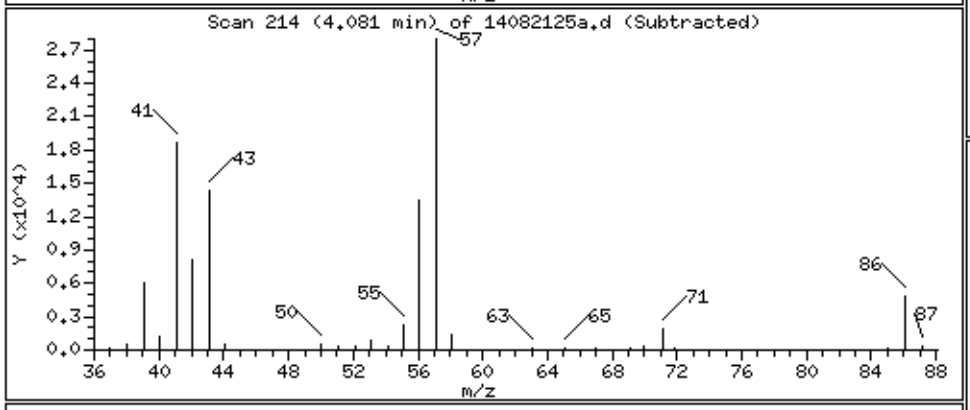
Column phase: RTX-624

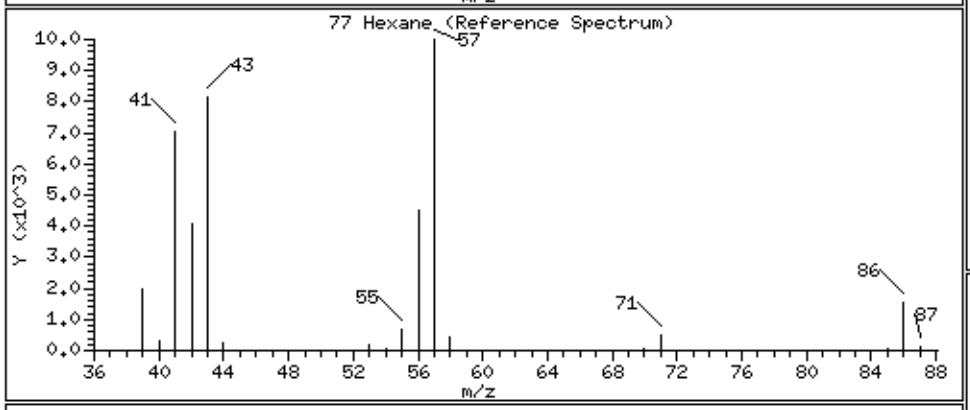
Column diameter: 0.18

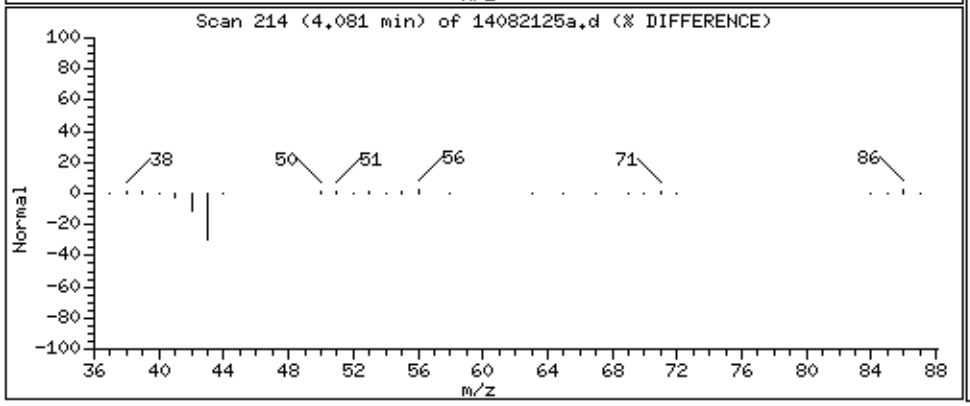
77 Hexane

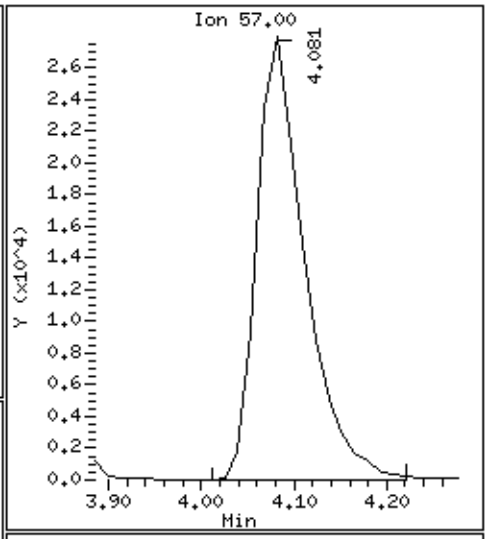
Concentration: 207.52 PPBV

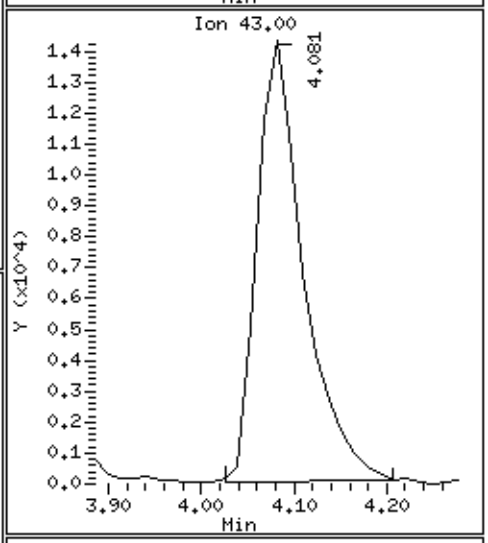


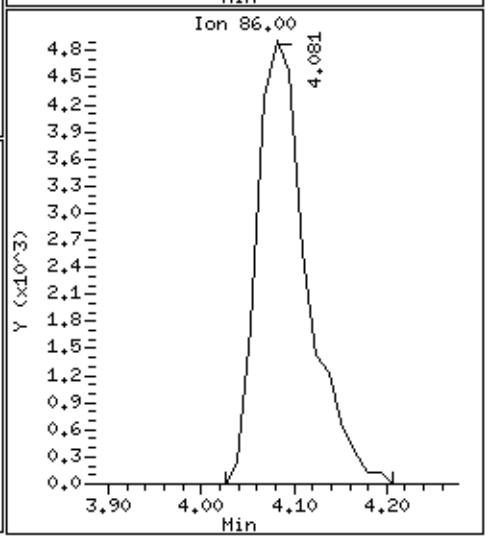












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

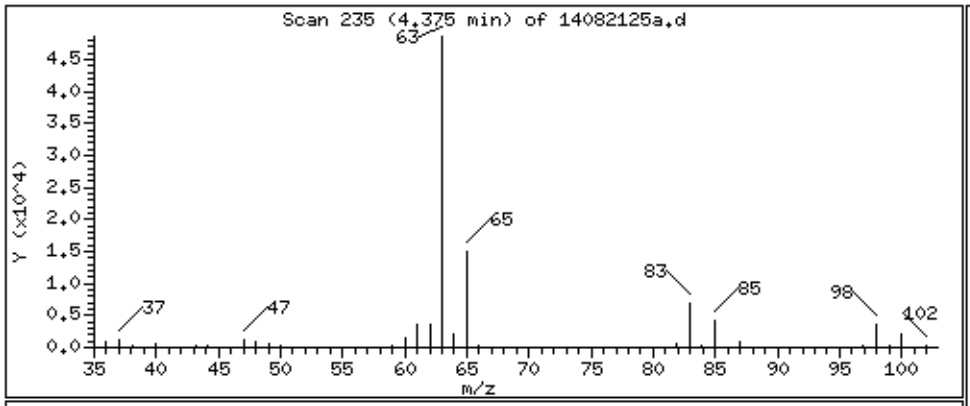
Operator: AK

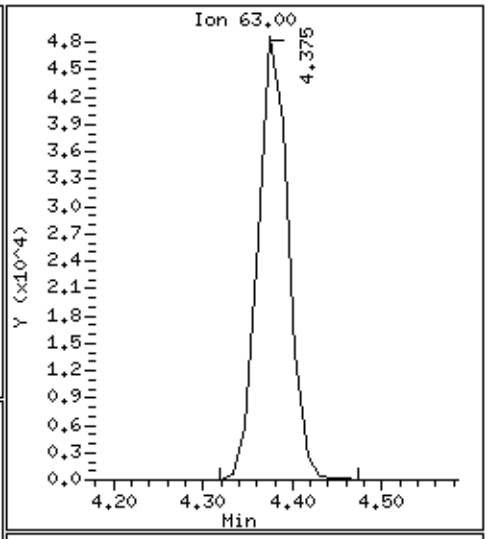
Column phase: RTX-624

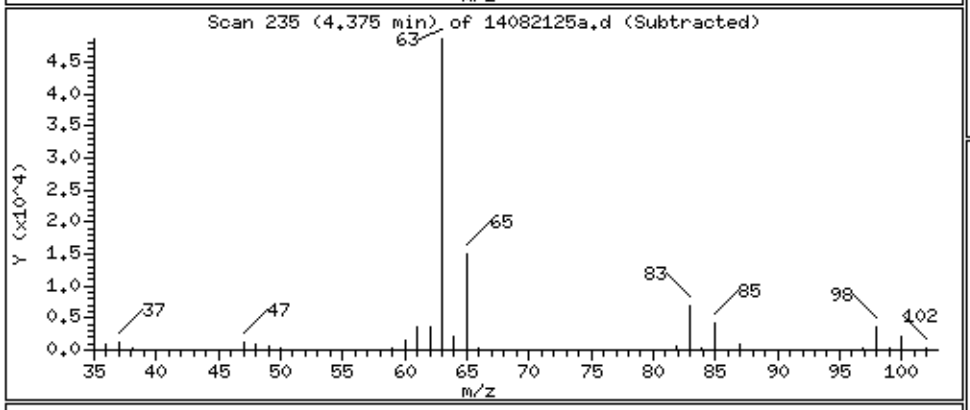
Column diameter: 0.18

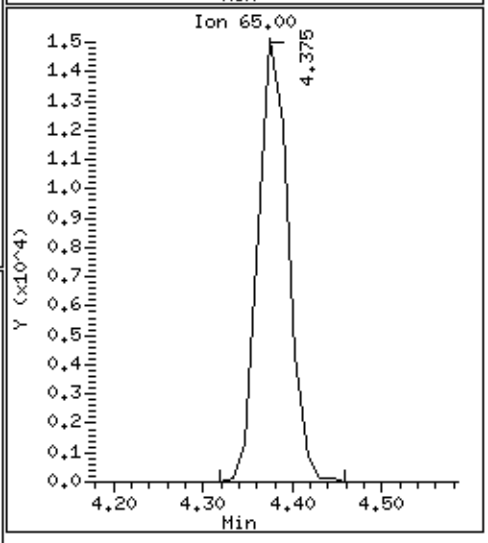
83 1,1-Dichloroethane

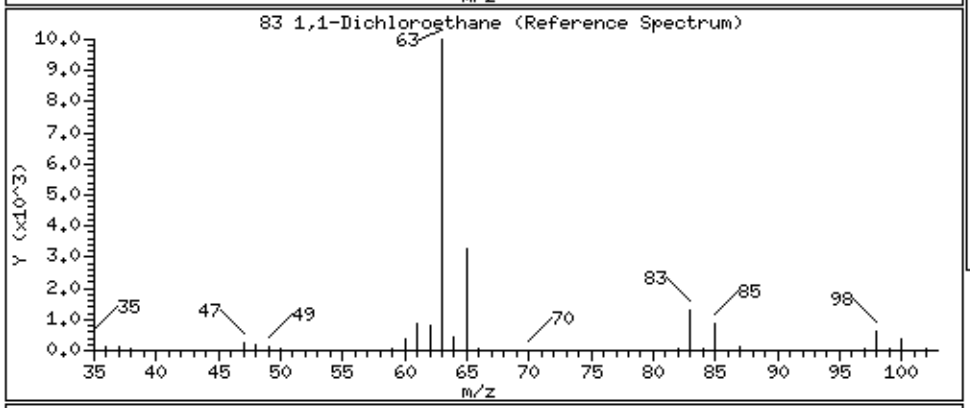
Concentration: 204.16 PPBV

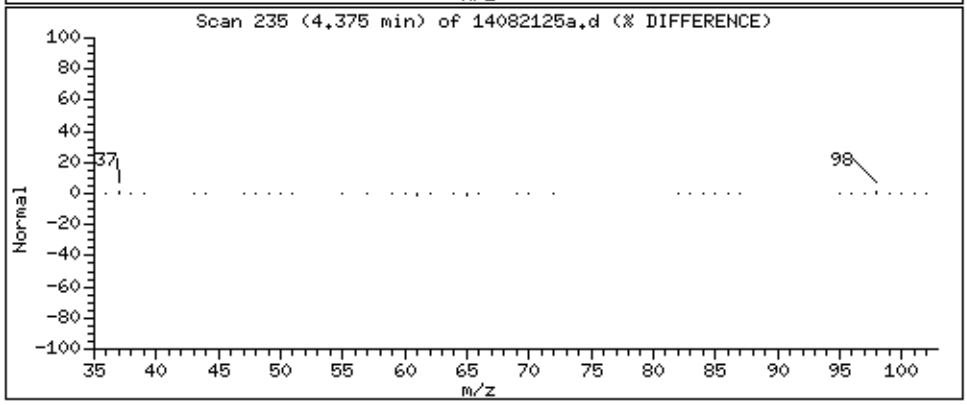












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

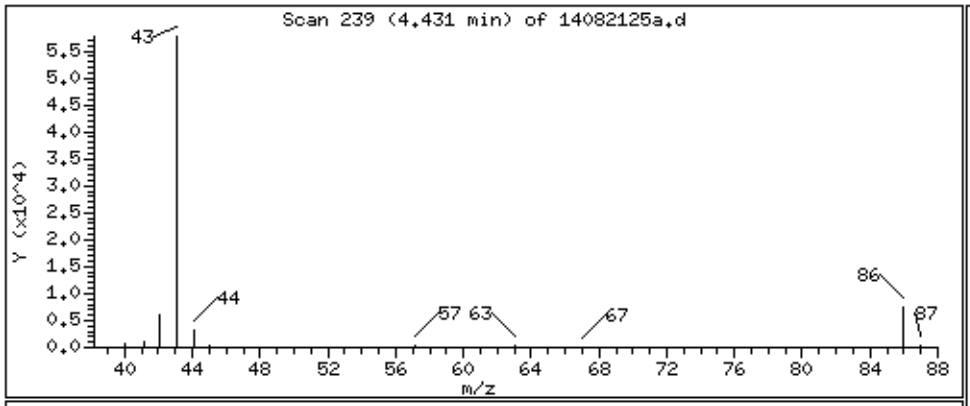
Operator: AK

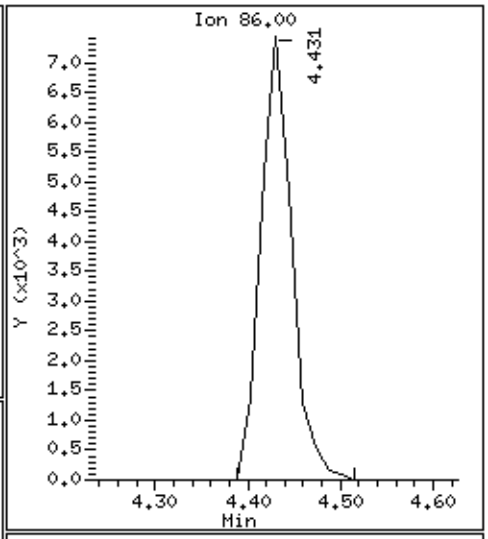
Column phase: RTX-624

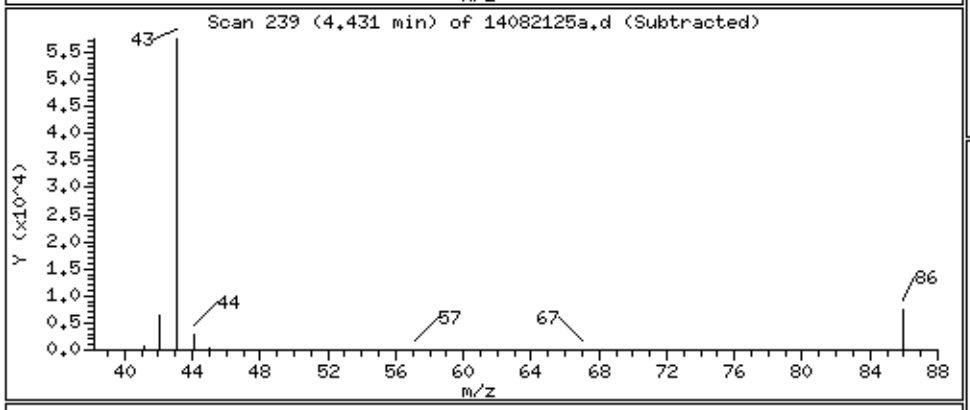
Column diameter: 0.18

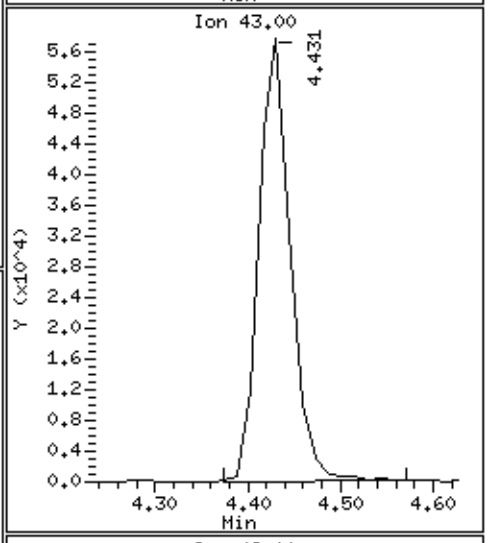
84 Vinyl Acetate

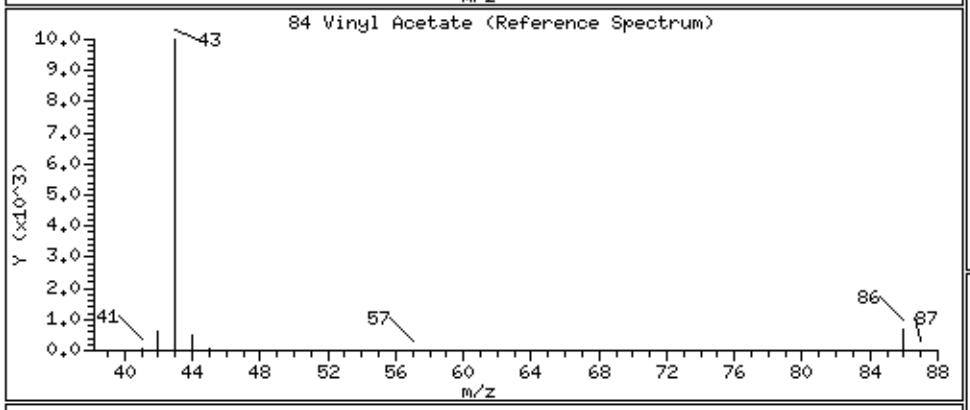
Concentration: 193.54 PPBV

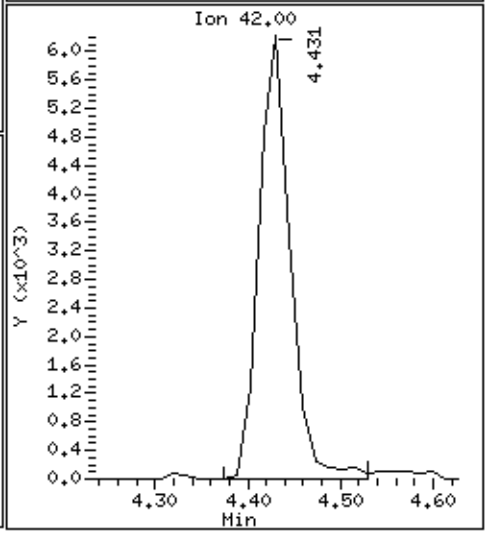


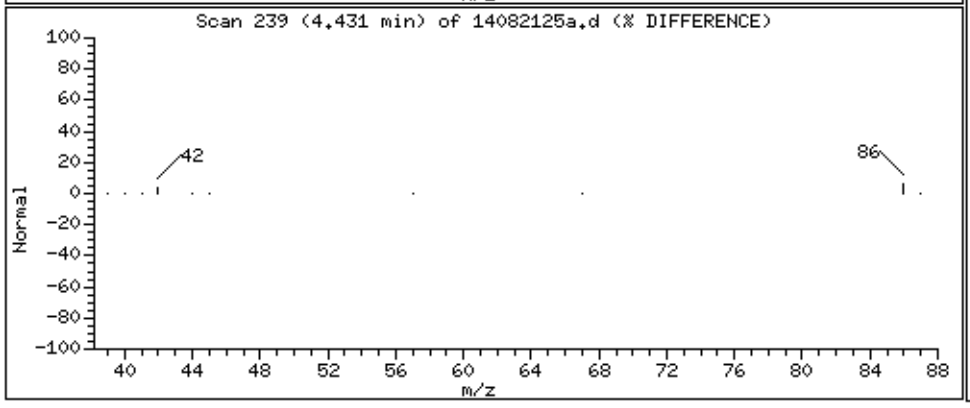












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

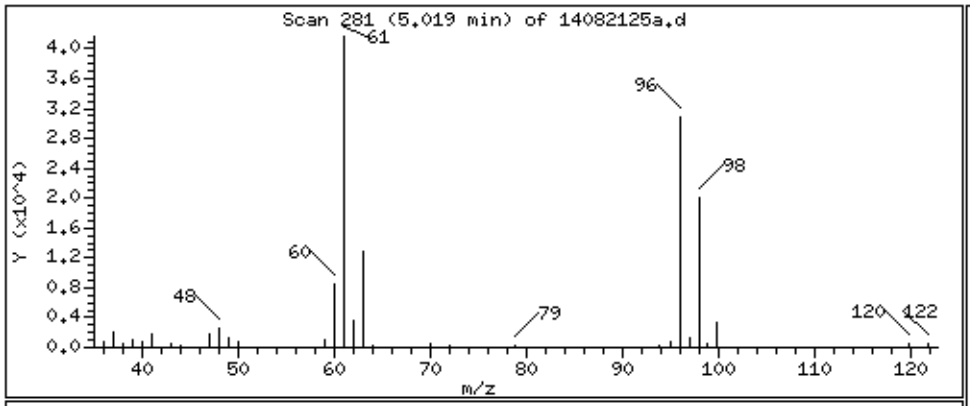
Operator: AK

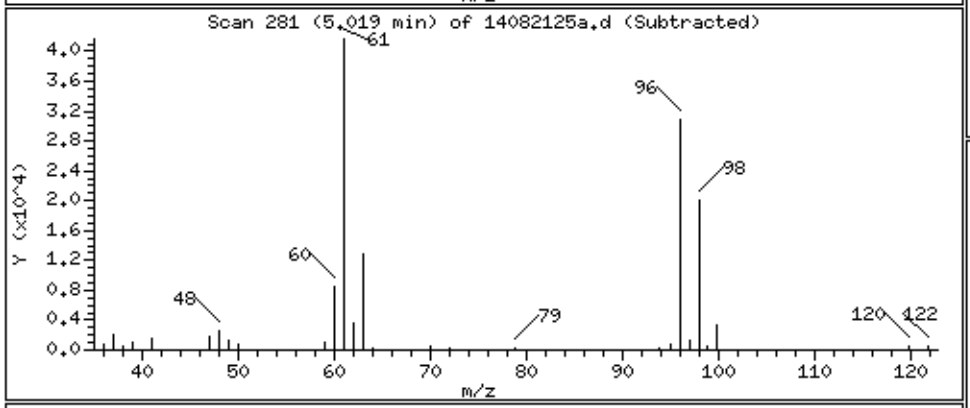
Column phase: RTX-624

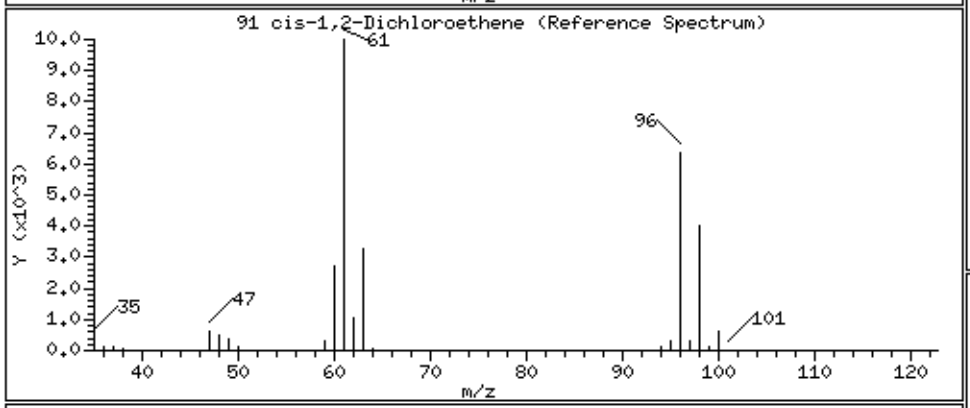
Column diameter: 0.18

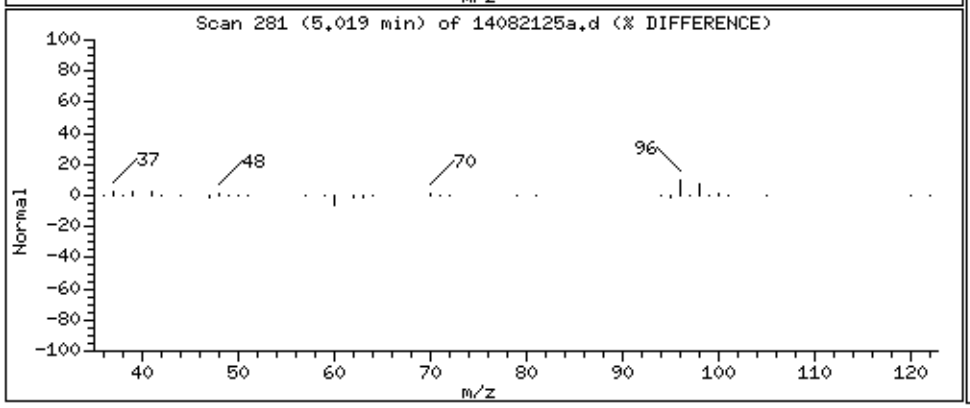
91 cis-1,2-Dichloroethene

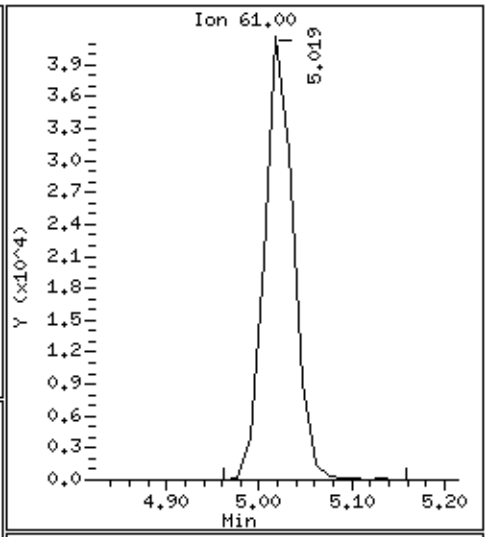
Concentration: 200.00 PPBV

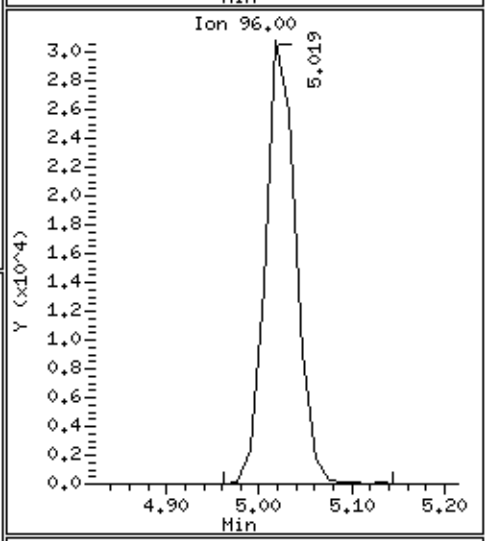


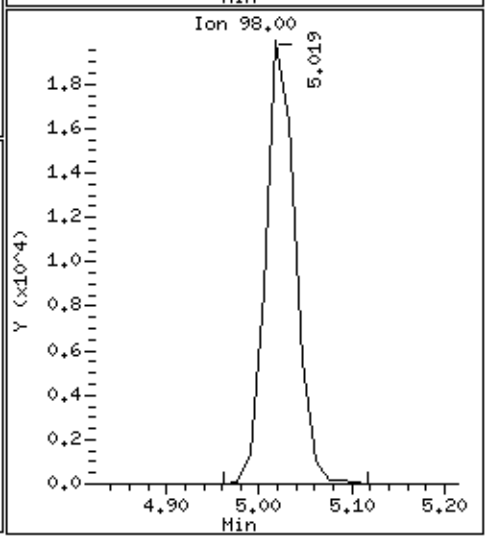












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

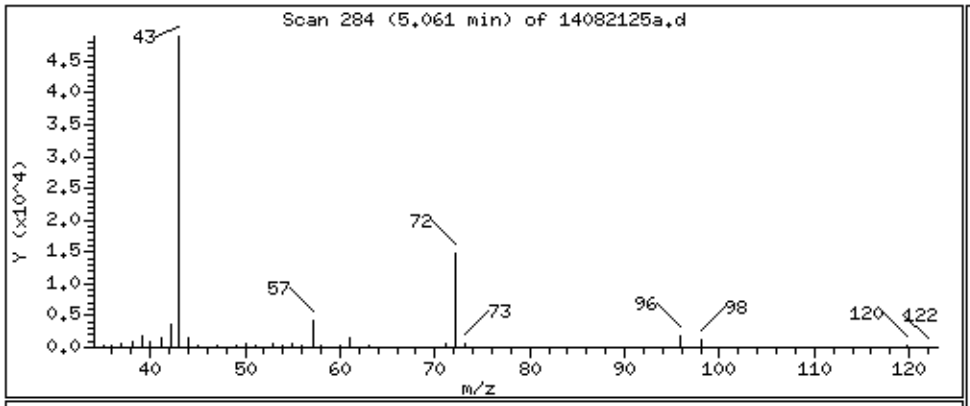
Operator: AK

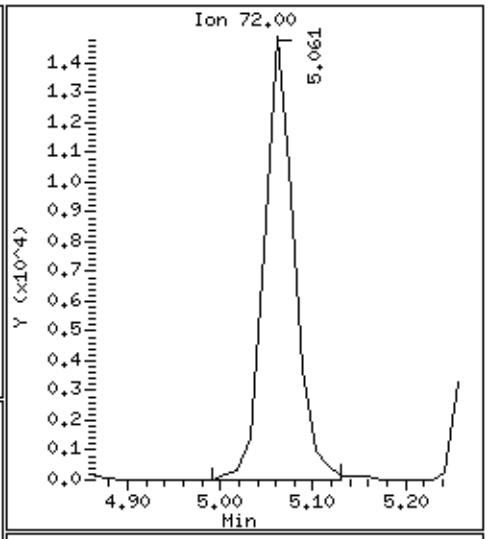
Column phase: RTX-624

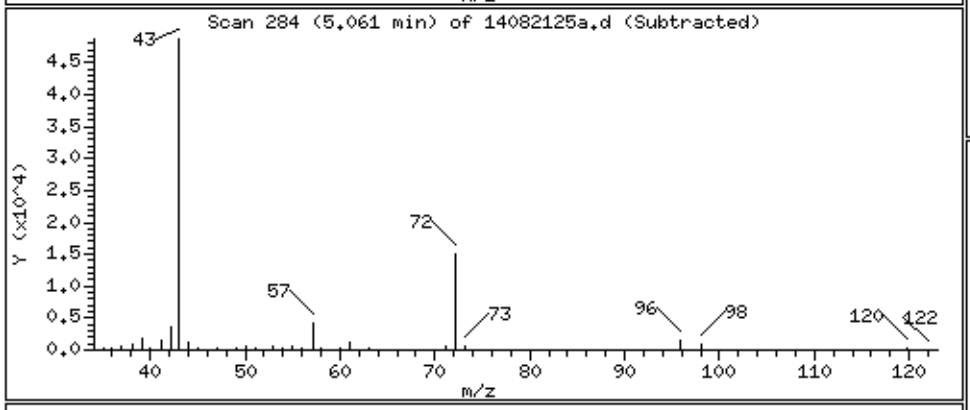
Column diameter: 0.18

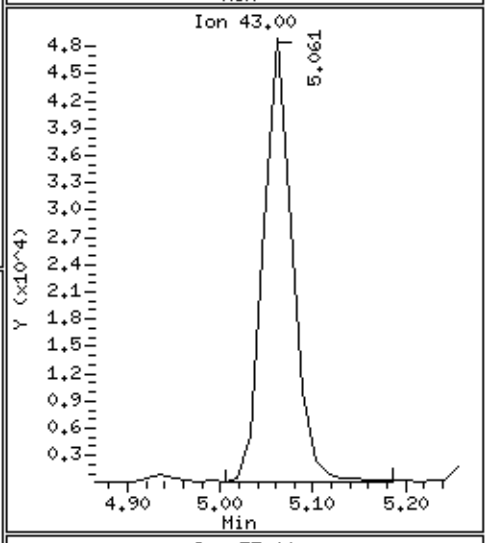
92 2-Butanone

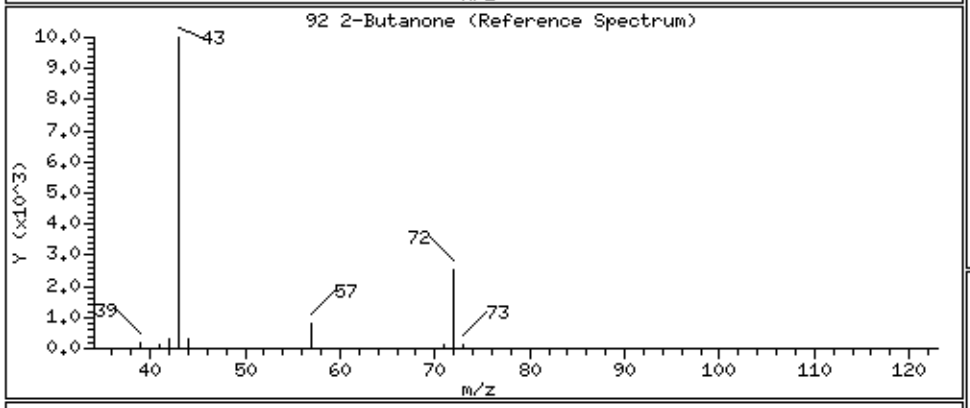
Concentration: 199.83 PPBV

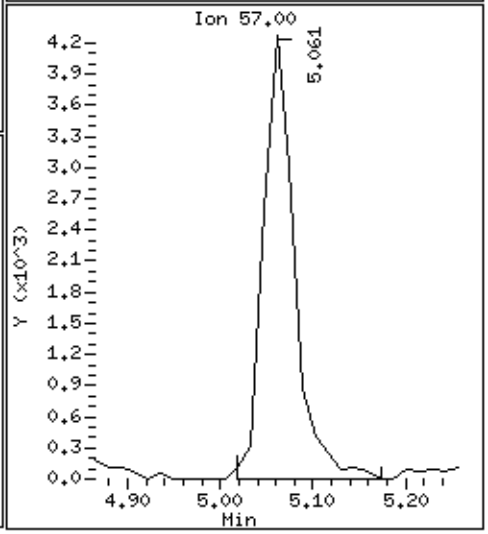


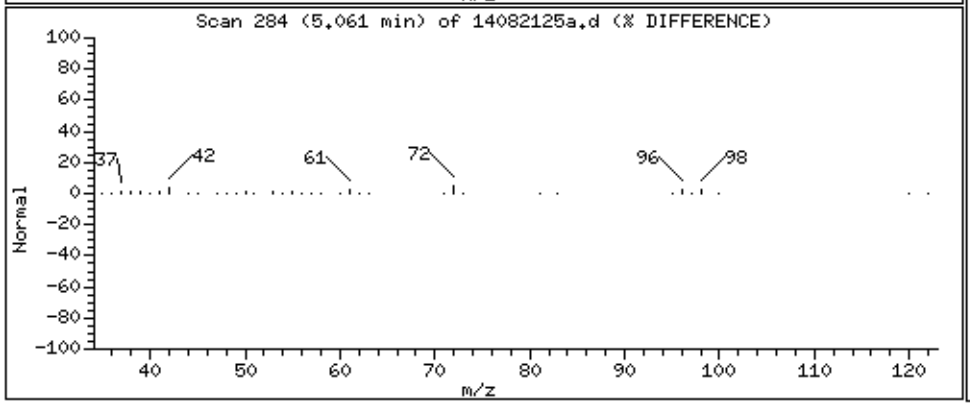












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

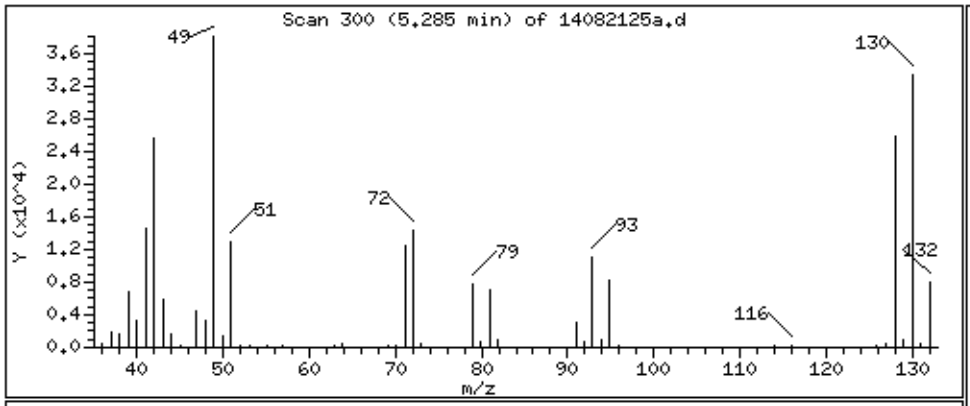
Operator: AK

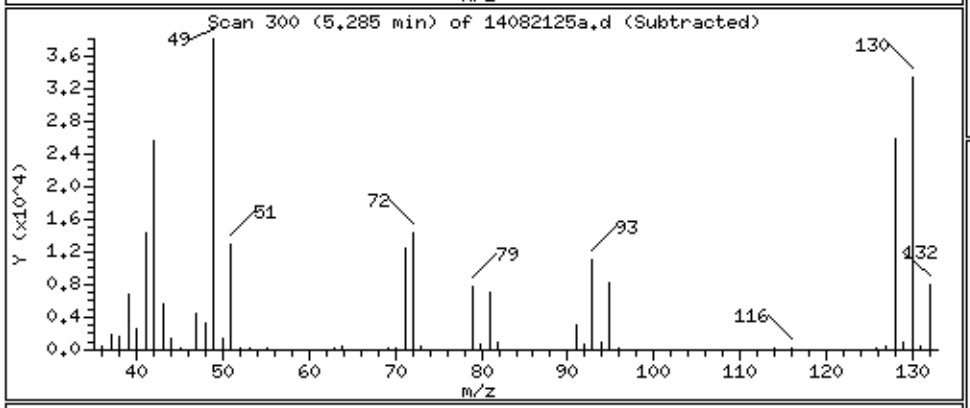
Column phase: RTX-624

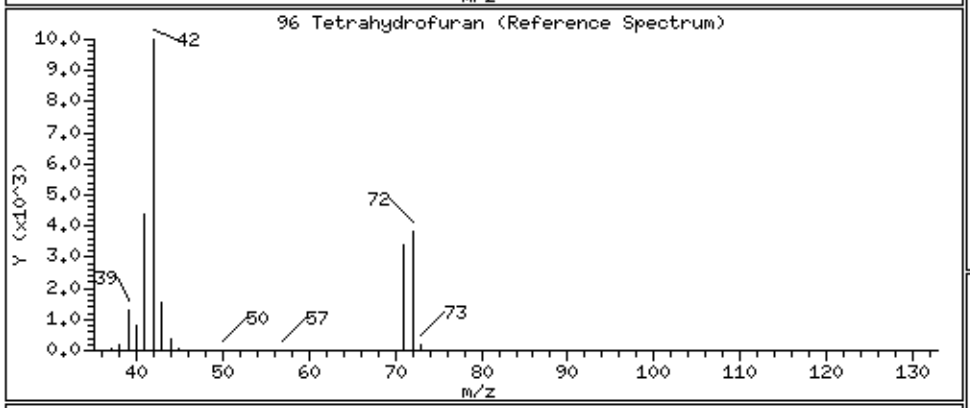
Column diameter: 0.18

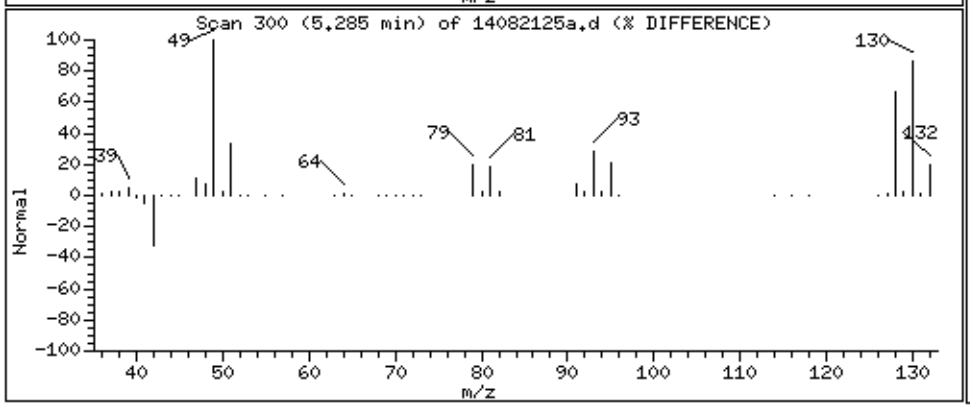
96 Tetrahydrofuran

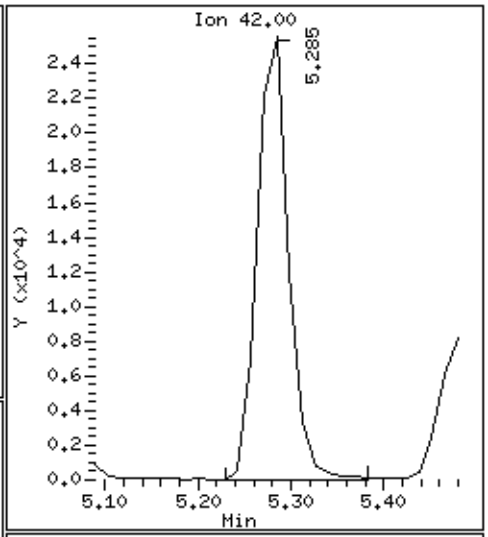
Concentration: 188.42 PPBV

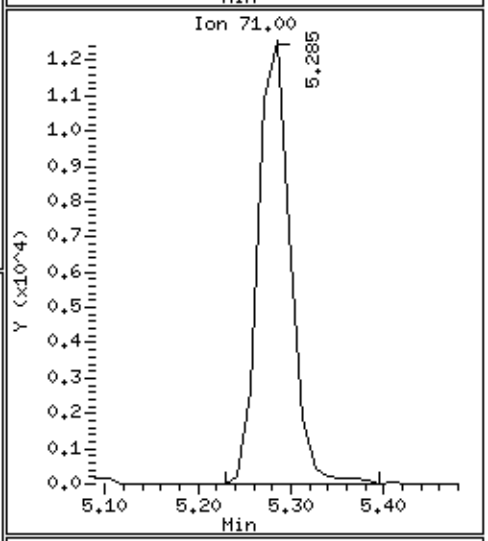


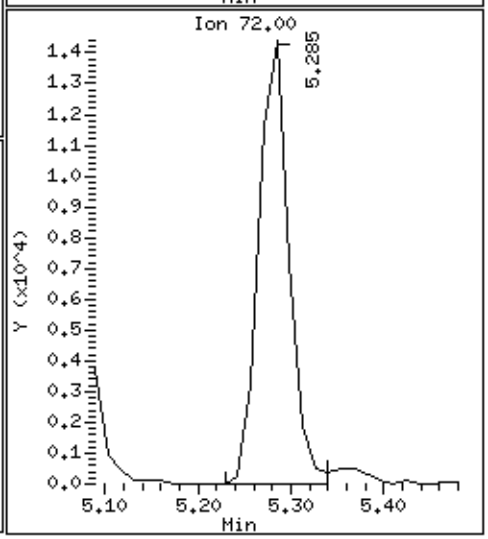












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

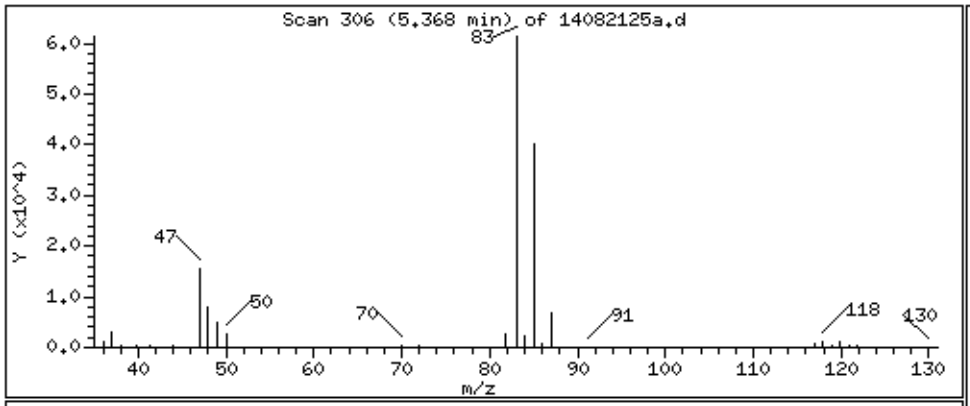
Operator: AK

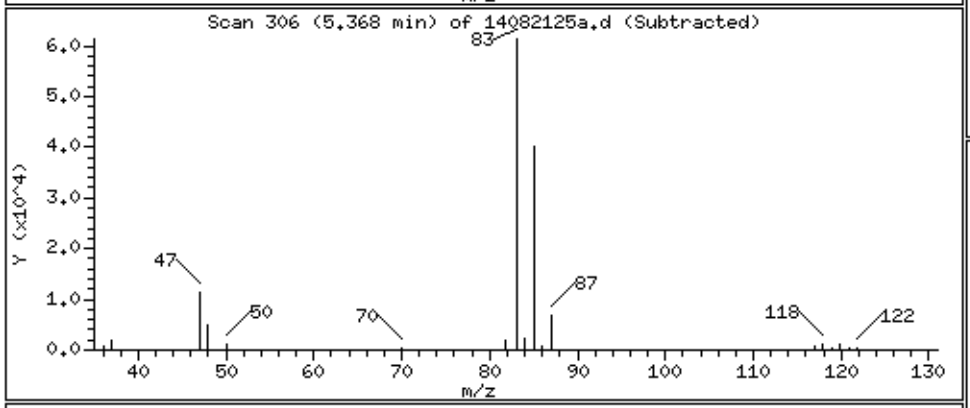
Column phase: RTX-624

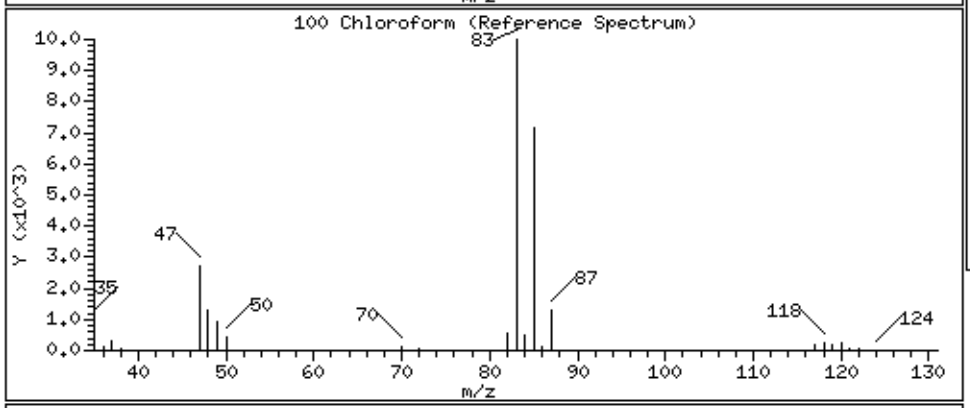
Column diameter: 0.18

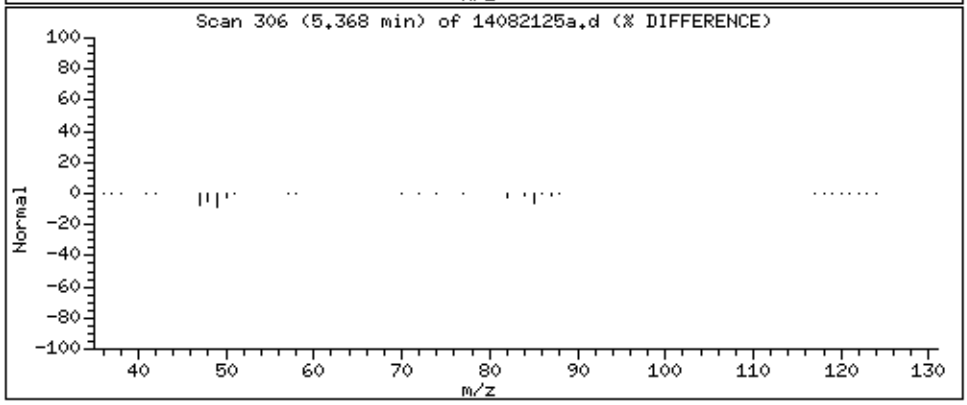
100 Chloroform

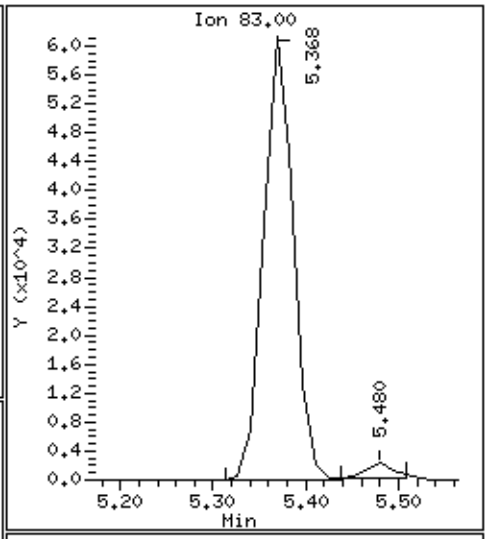
Concentration: 208.15 PPBV

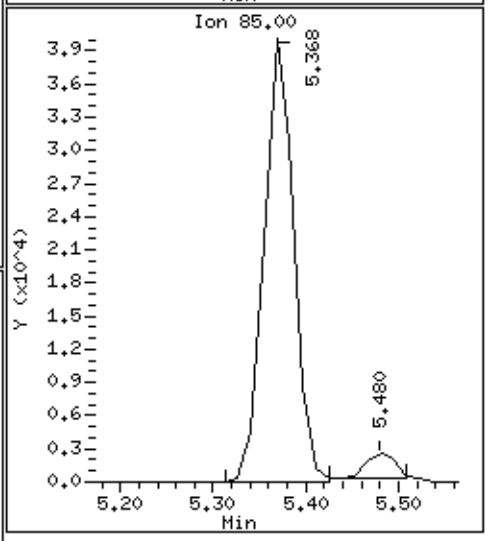












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

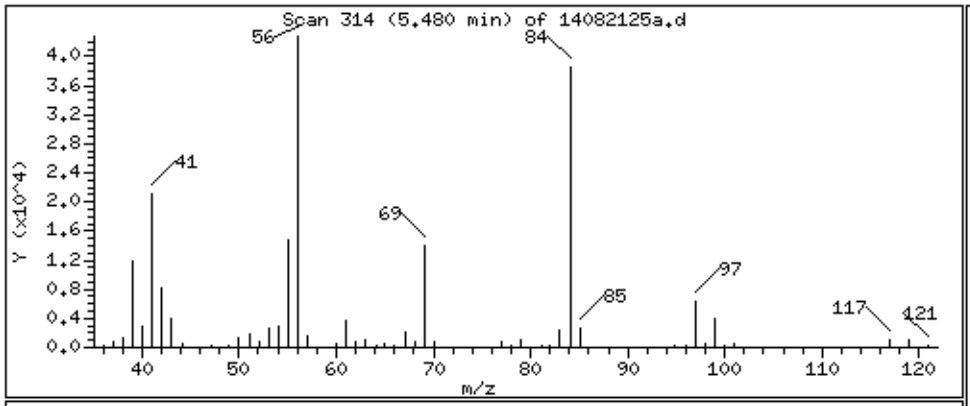
Operator: AK

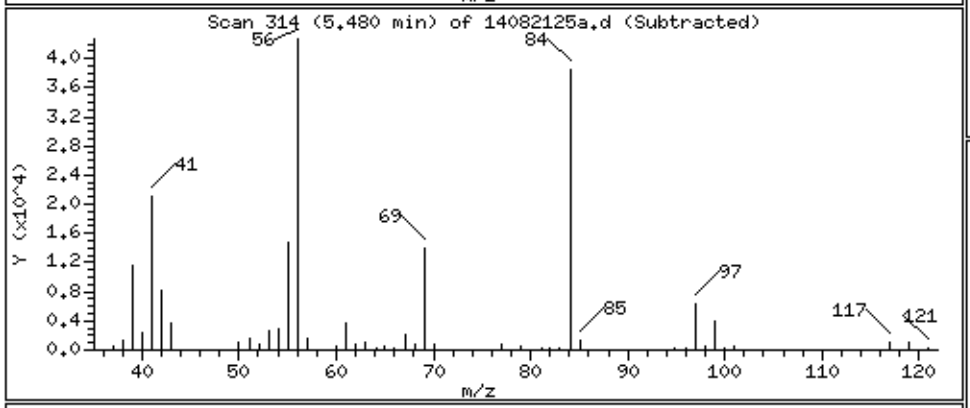
Column phase: RTX-624

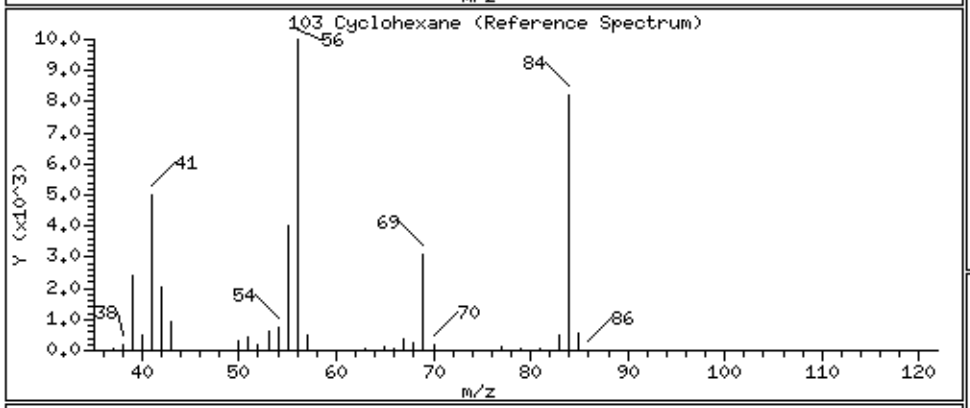
Column diameter: 0.18

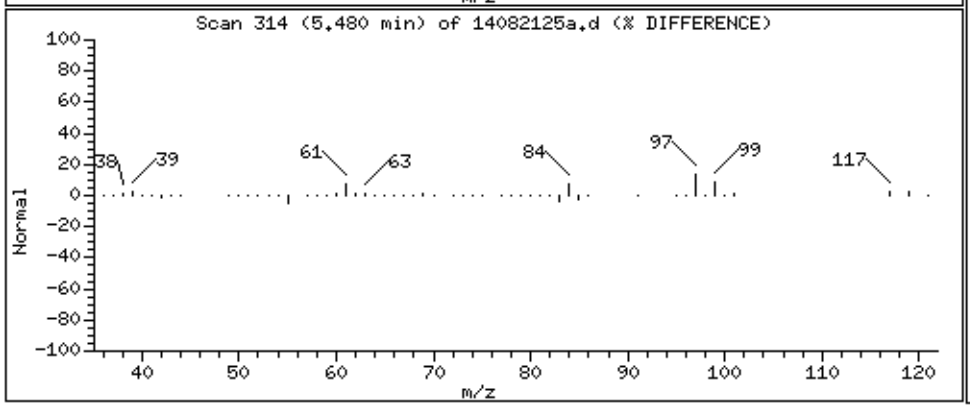
103 Cyclohexane

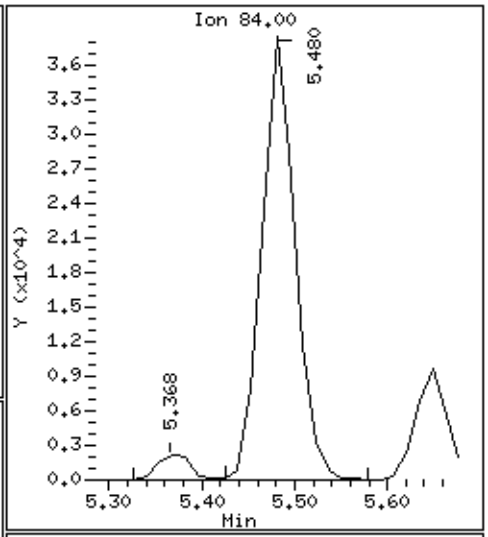
Concentration: 211.63 PPBV

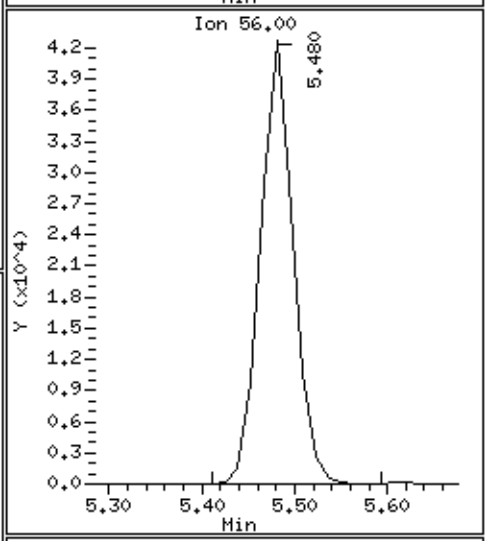


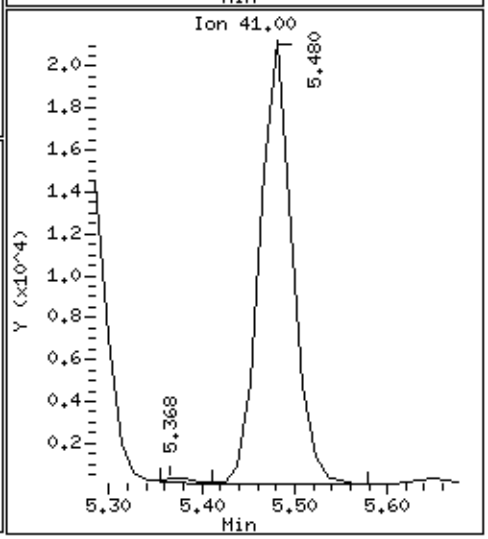












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

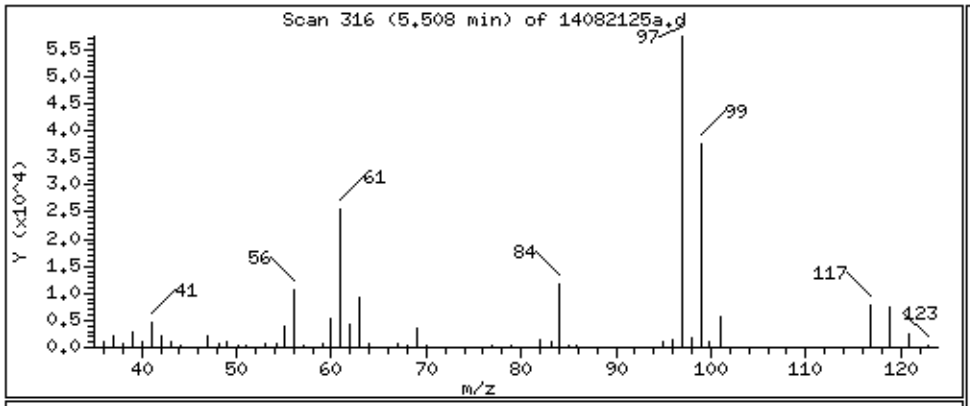
Operator: AK

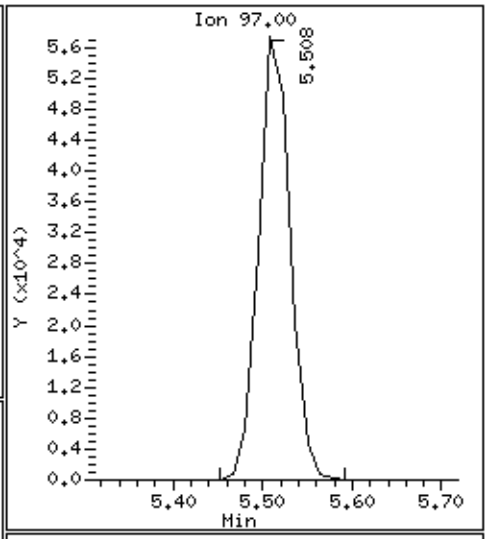
Column phase: RTX-624

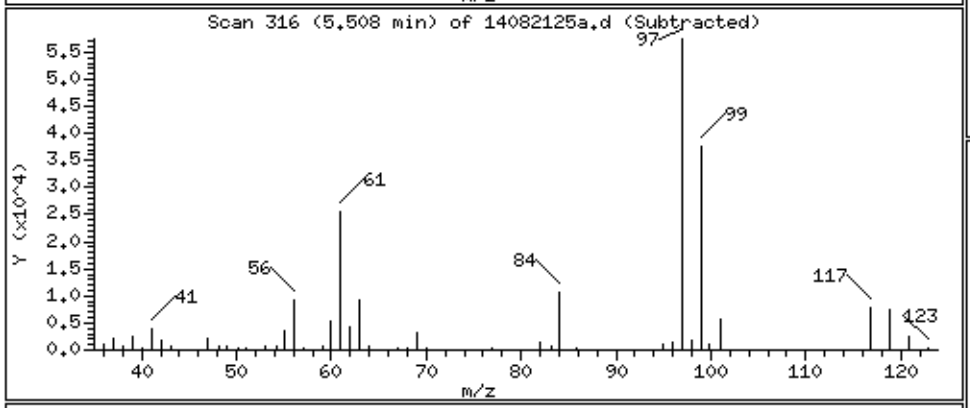
Column diameter: 0.18

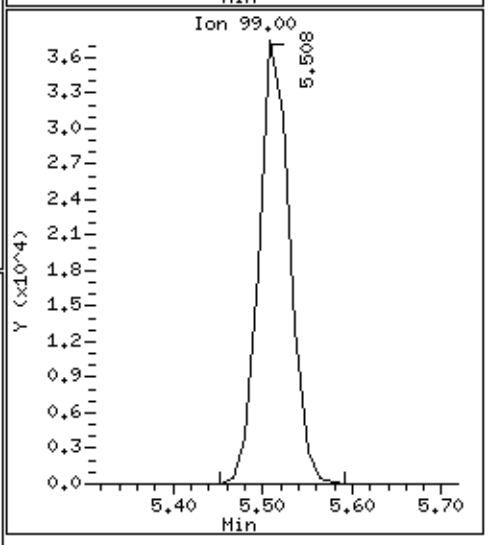
104 1,1,1-Trichloroethane

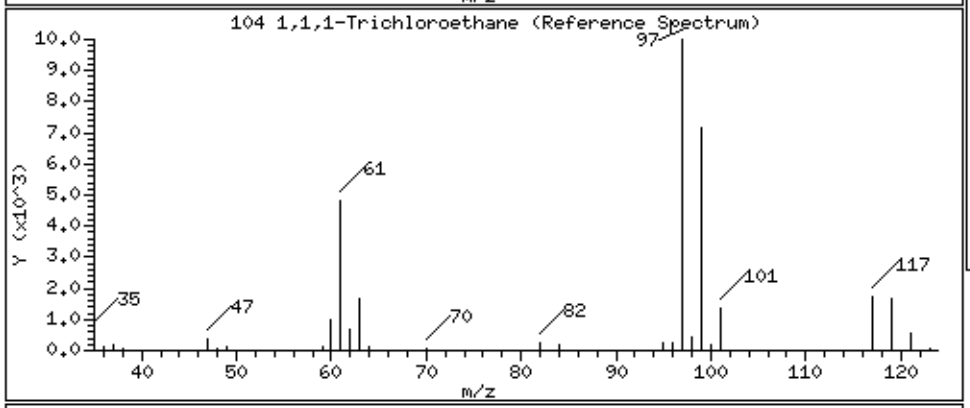
Concentration: 206.78 PPBV

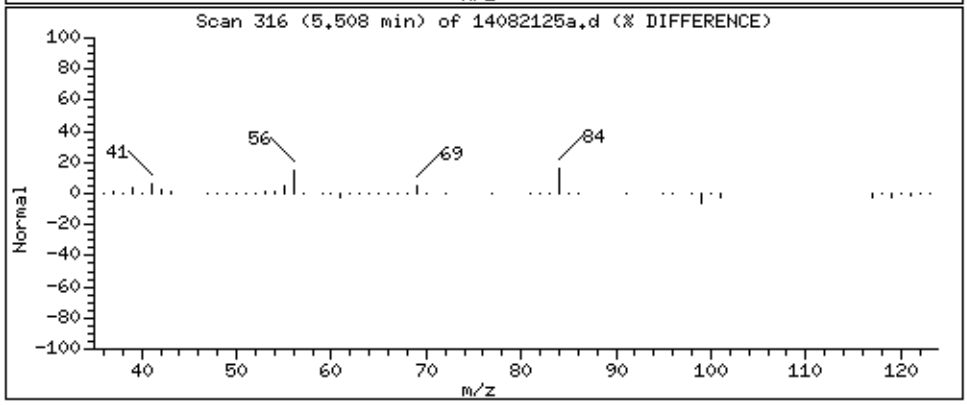












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

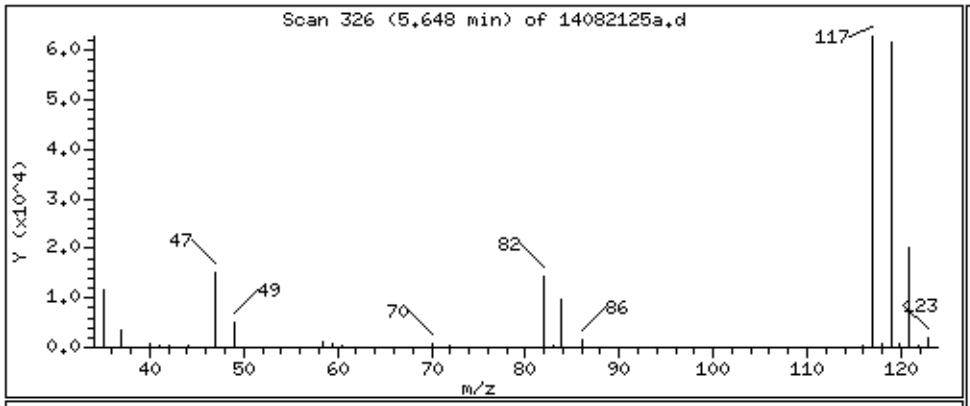
Operator: AK

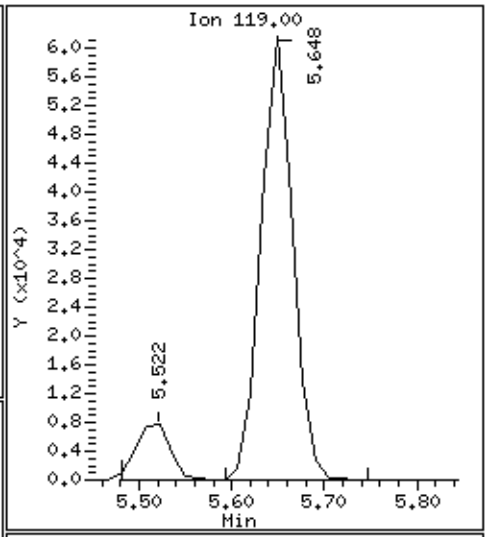
Column phase: RTX-624

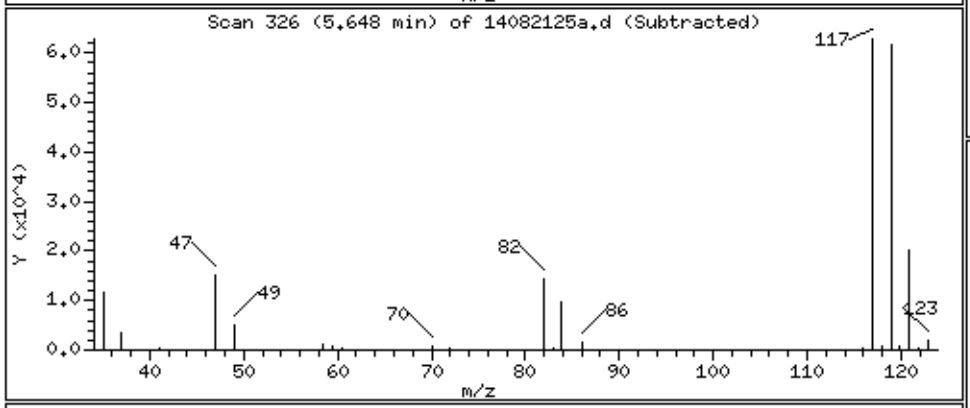
Column diameter: 0.18

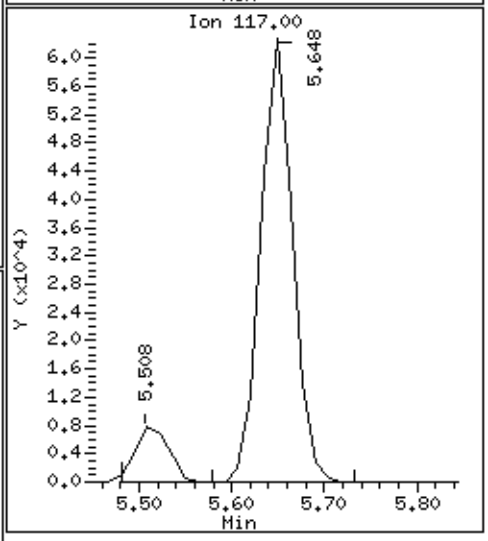
108 Carbon Tetrachloride

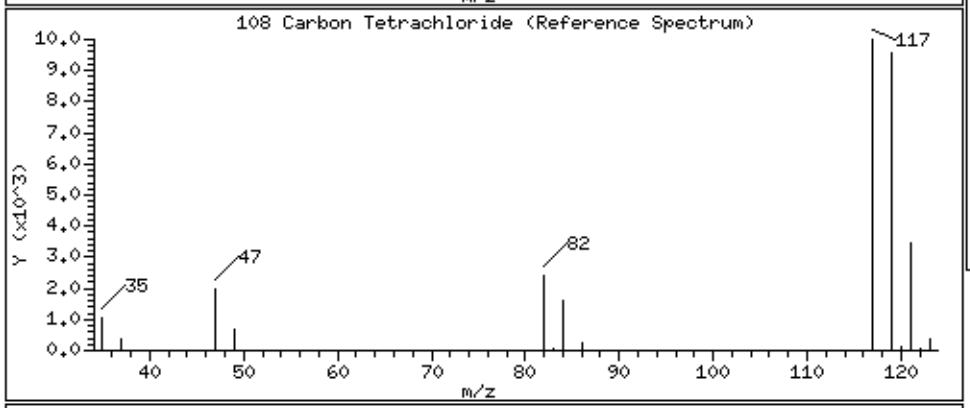
Concentration: 209.28 PPBV

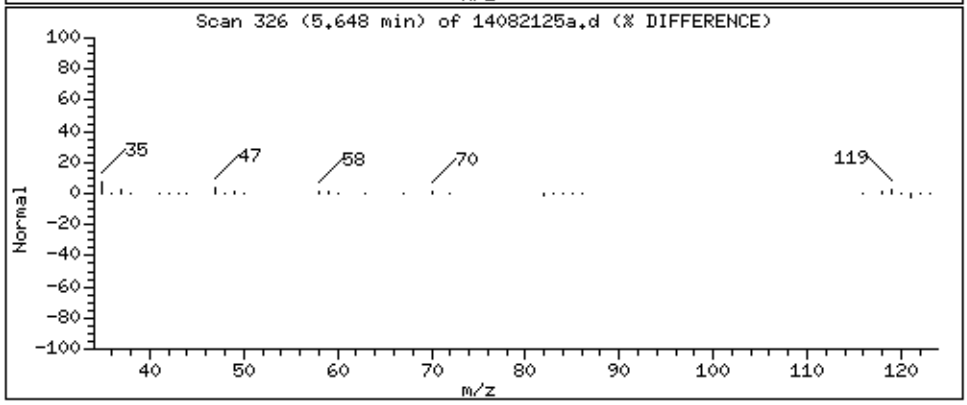












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

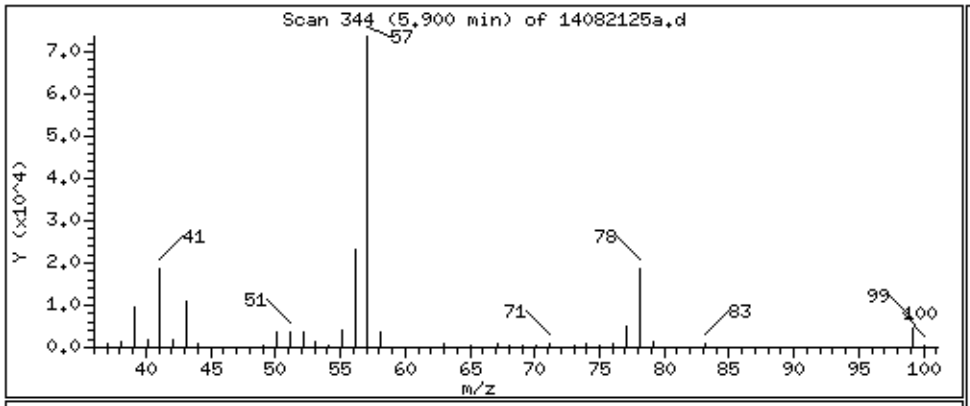
Operator: AK

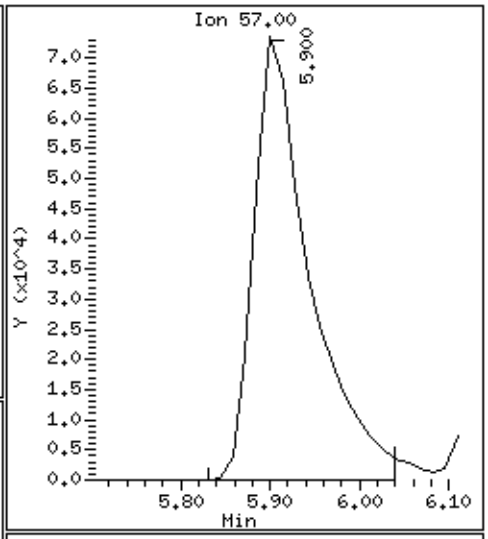
Column phase: RTX-624

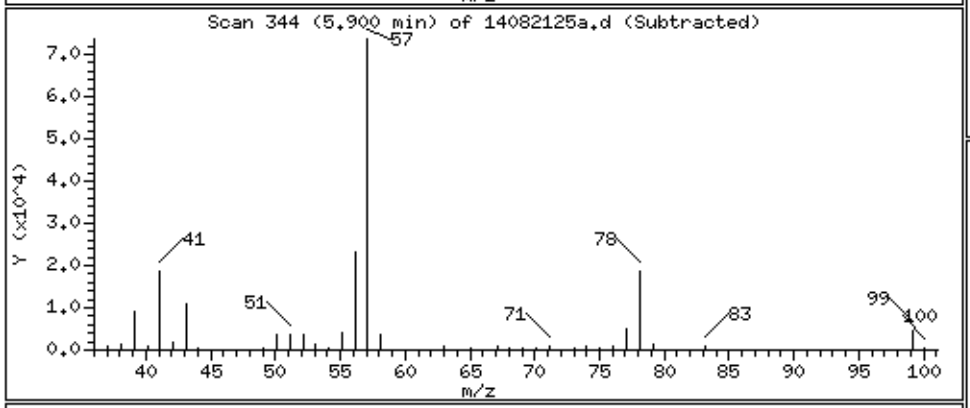
Column diameter: 0.18

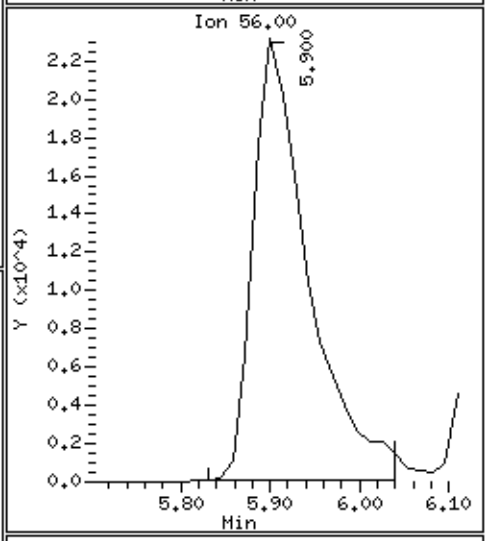
117 2,2,4-Trimethylpentane

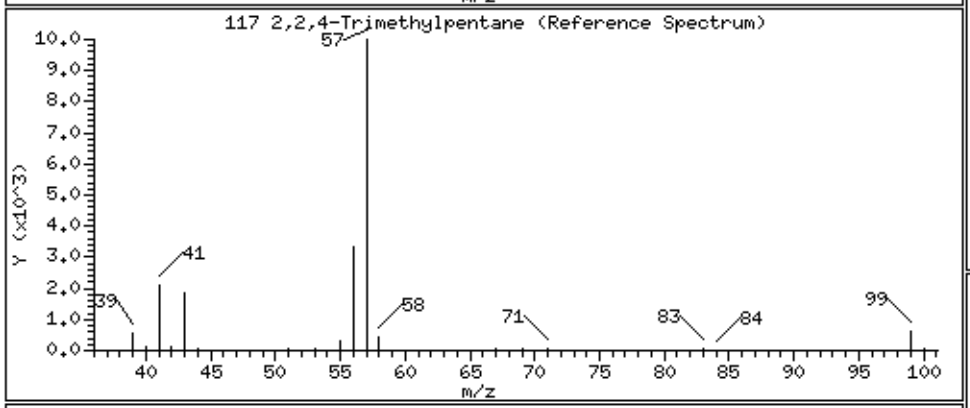
Concentration: 205.55 PPBV

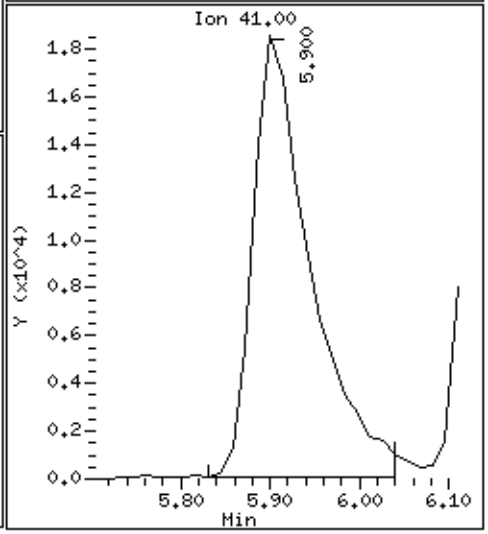


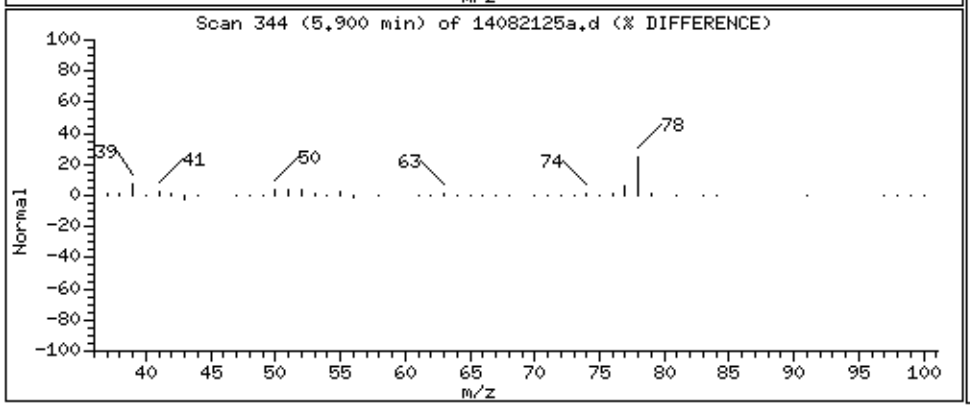












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

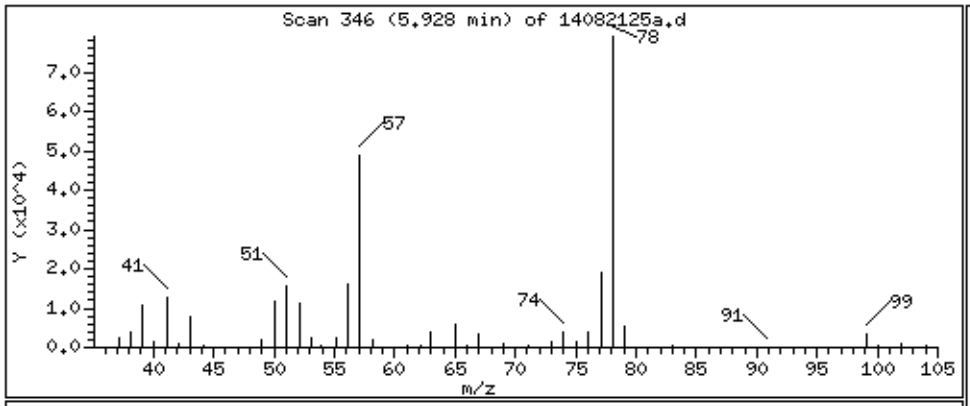
Operator: AK

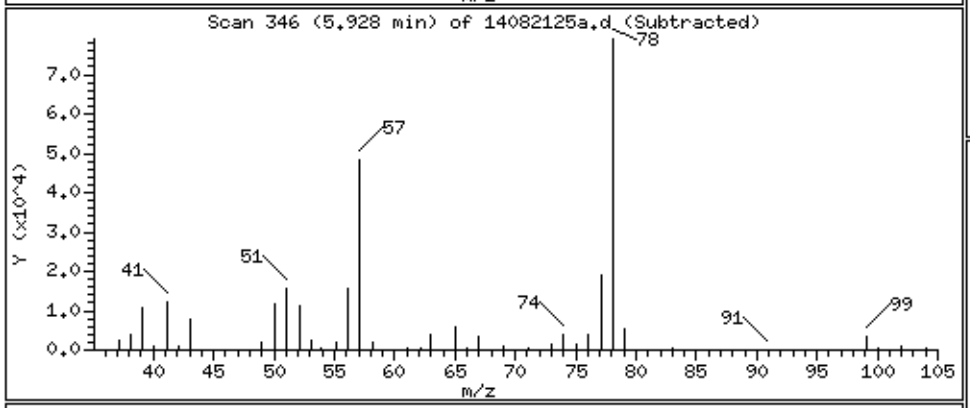
Column phase: RTX-624

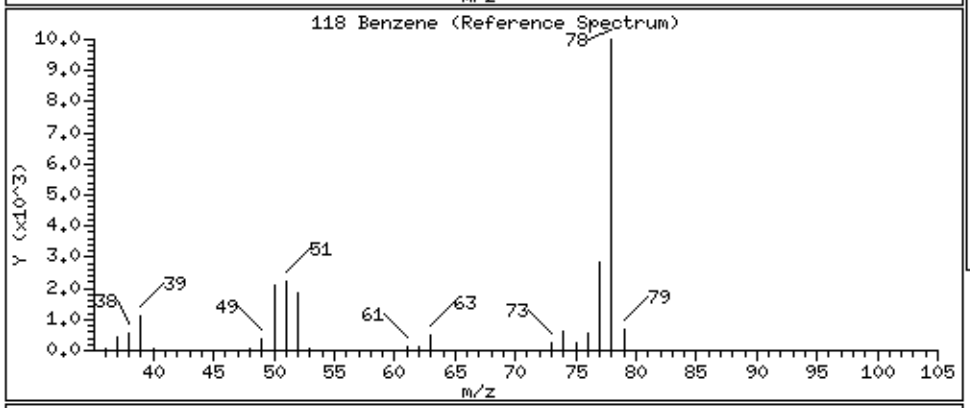
Column diameter: 0.18

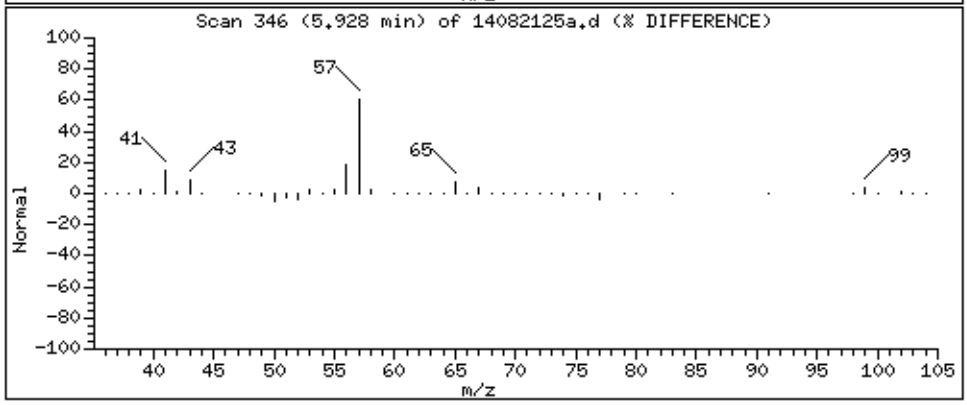
118 Benzene

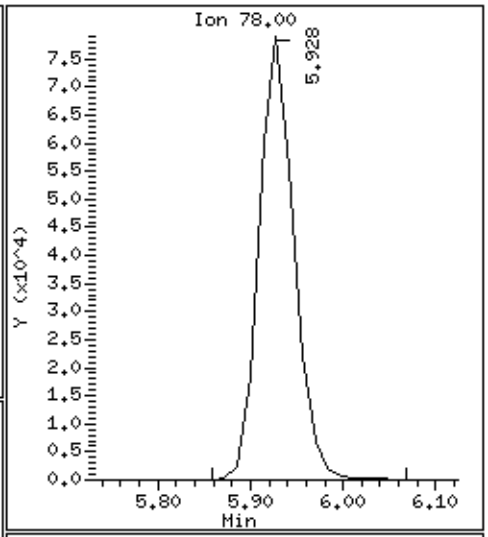
Concentration: 205.00 PPBV

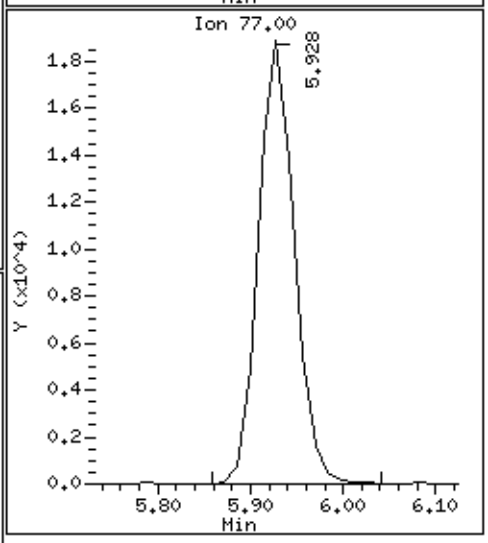












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

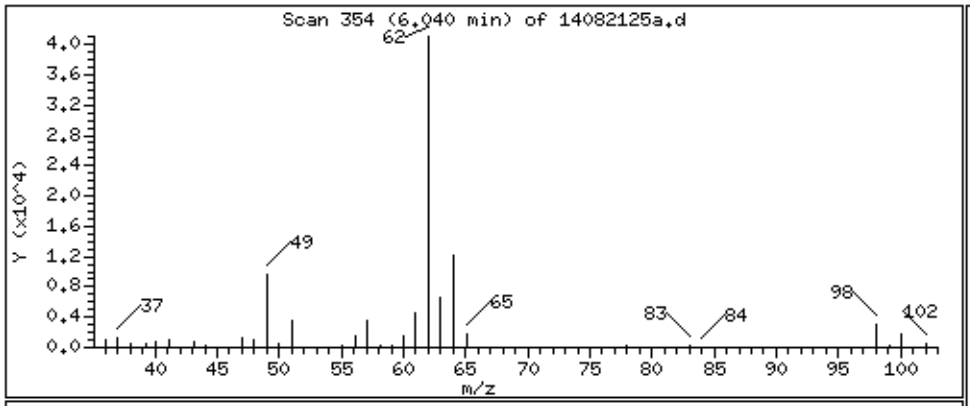
Operator: AK

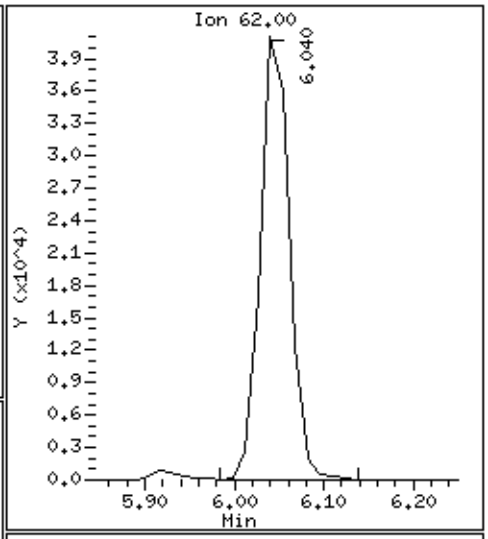
Column phase: RTX-624

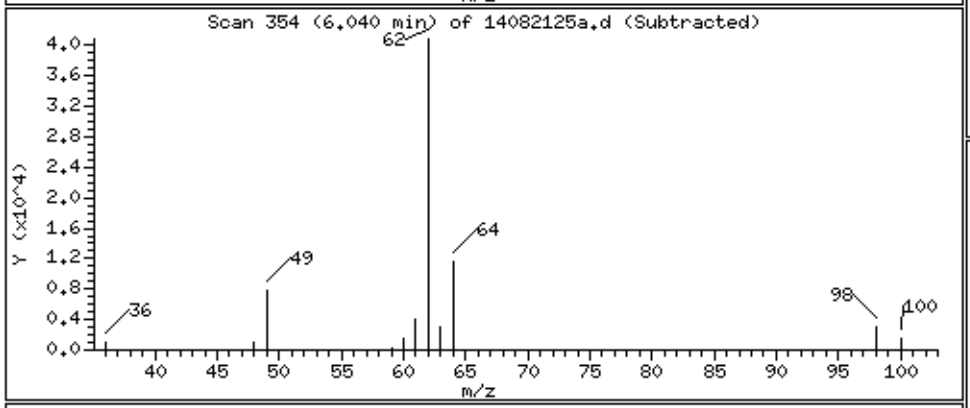
Column diameter: 0.18

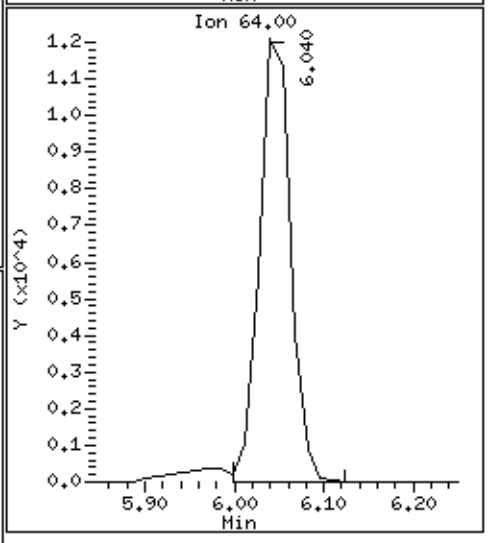
121 1,2-Dichloroethane

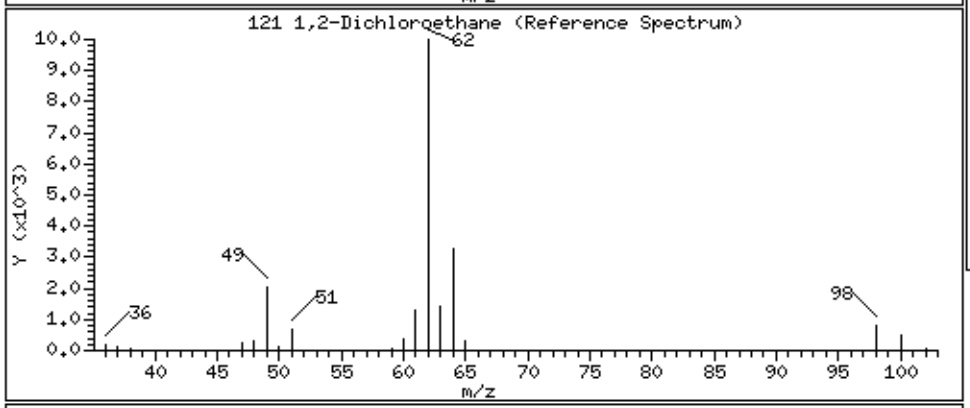
Concentration: 200.82 PPBV

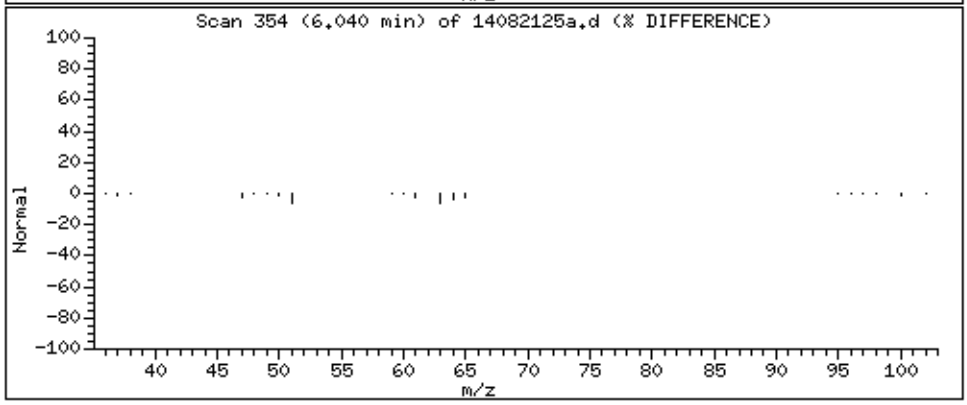












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

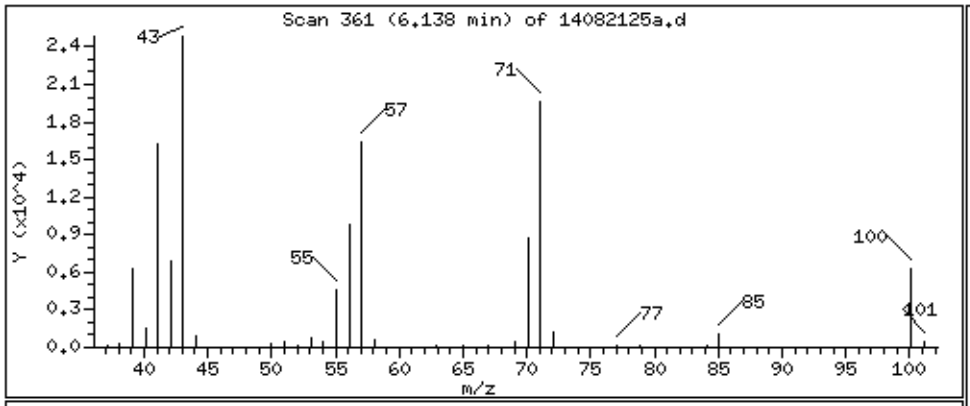
Operator: AK

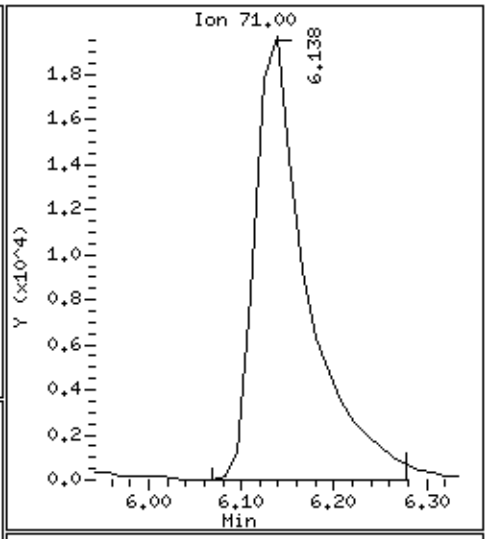
Column phase: RTX-624

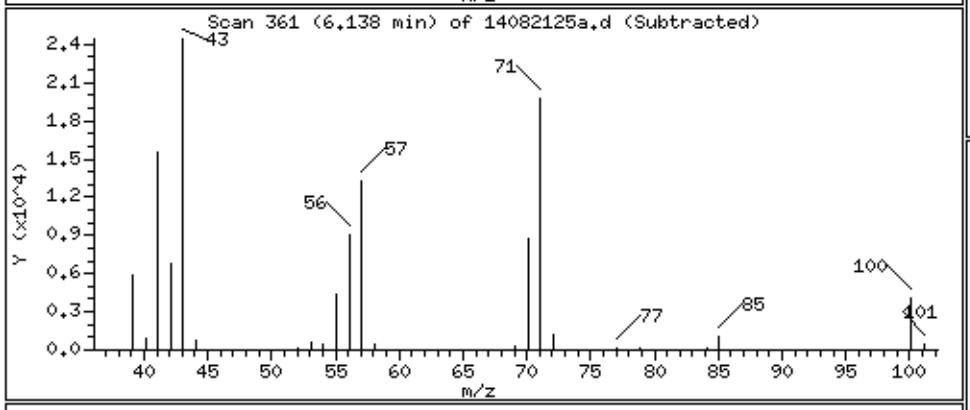
Column diameter: 0.18

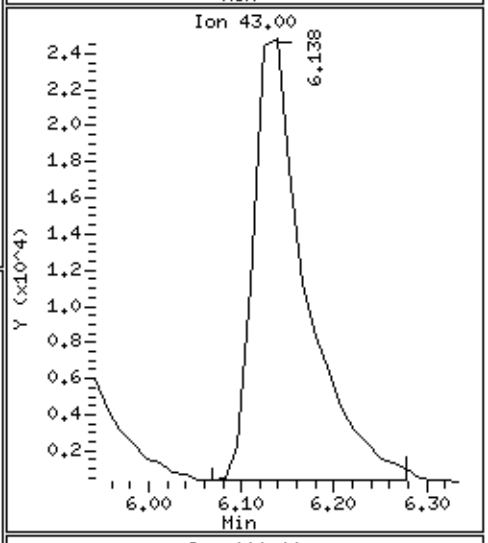
124 Heptane

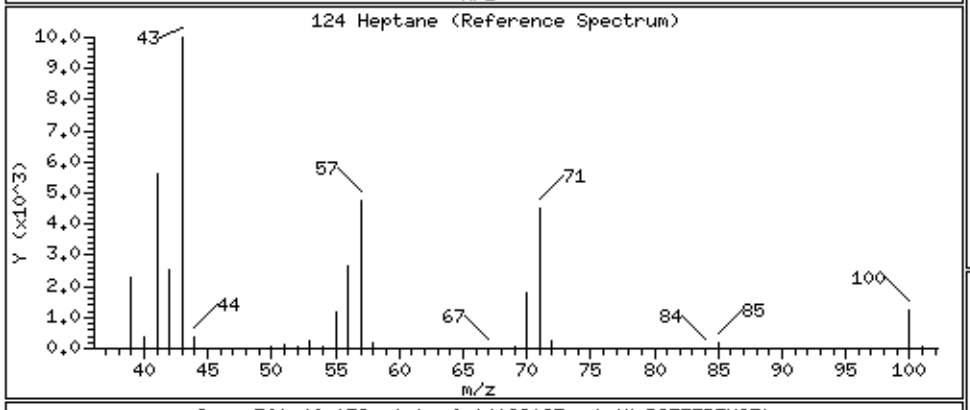
Concentration: 205.15 PPBV

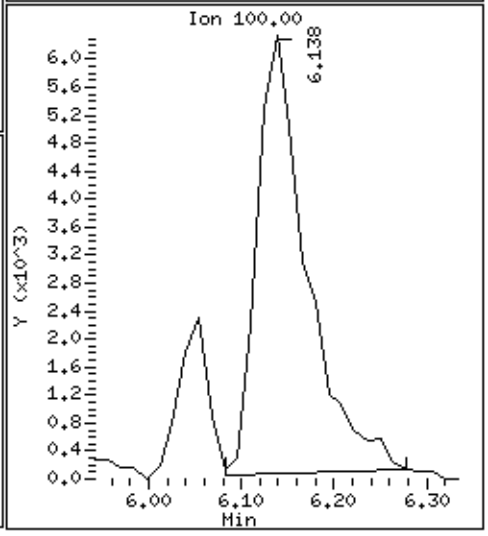


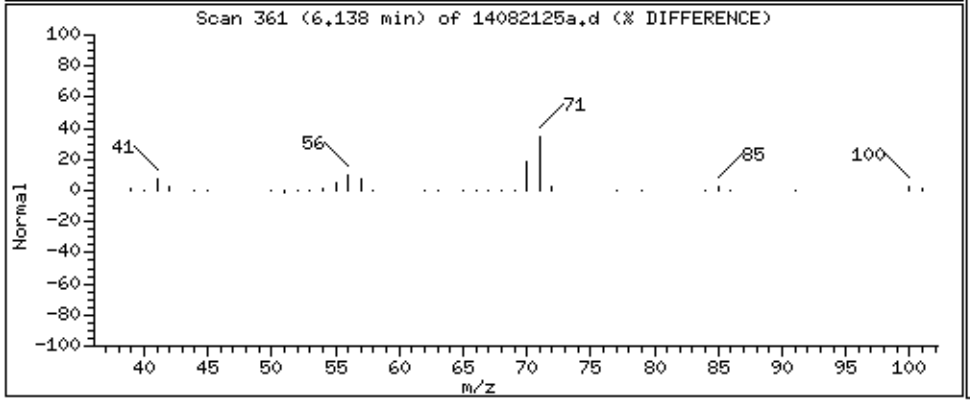












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

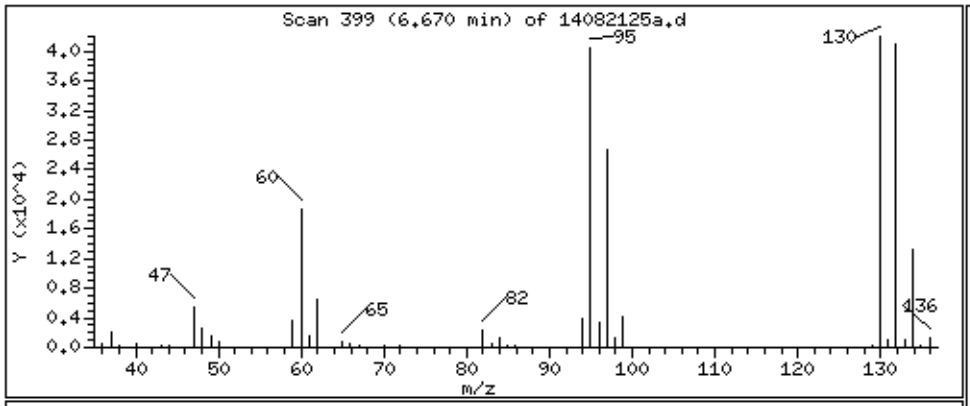
Operator: AK

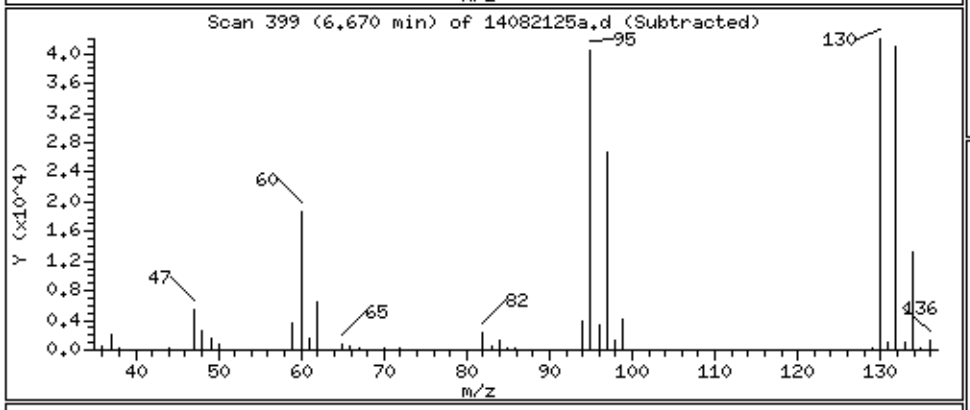
Column phase: RTX-624

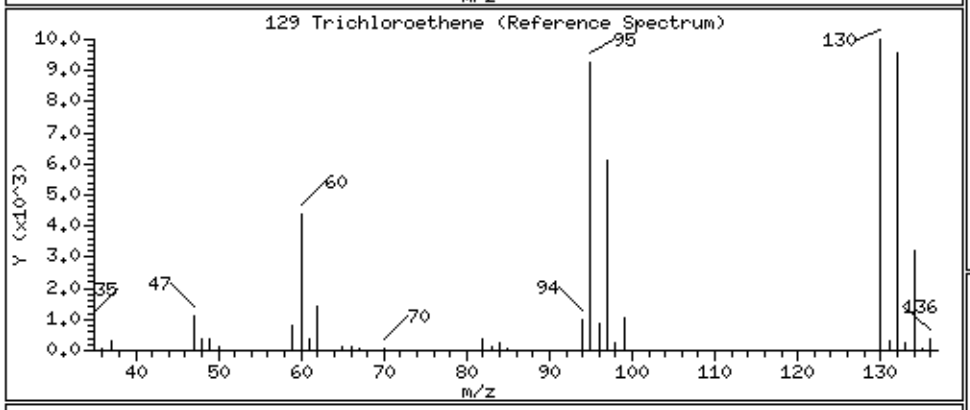
Column diameter: 0.18

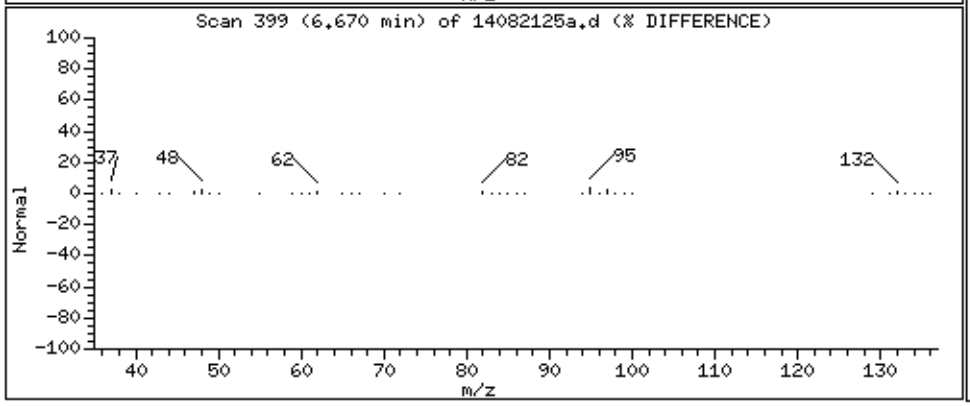
129 Trichloroethene

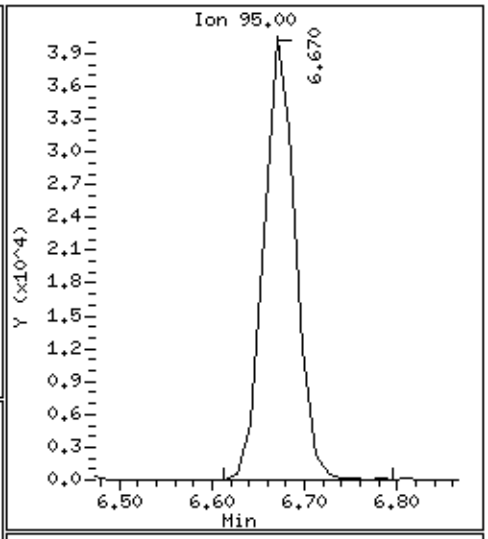
Concentration: 208.07 PPBV

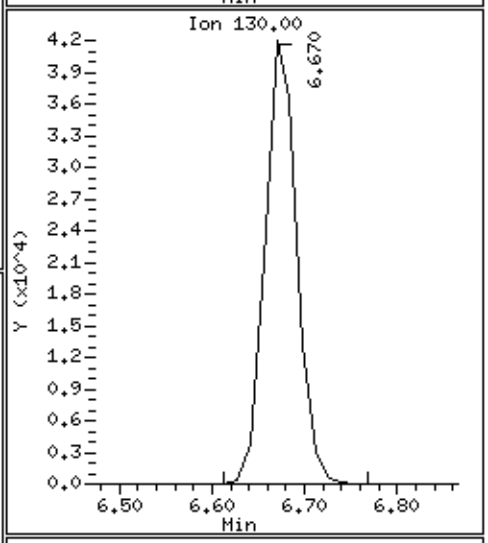


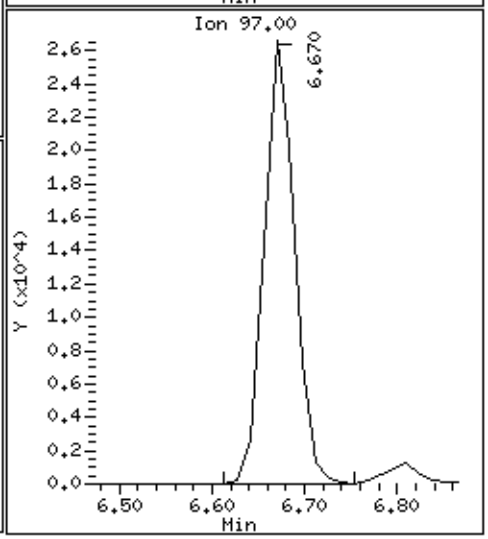












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

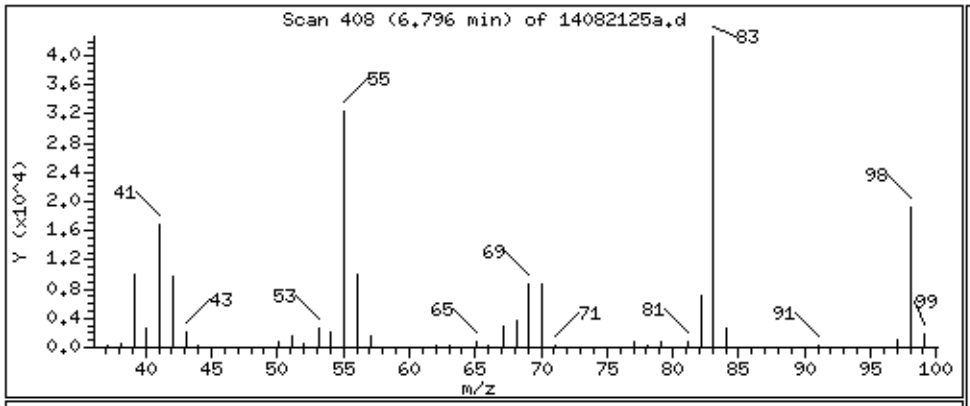
Operator: AK

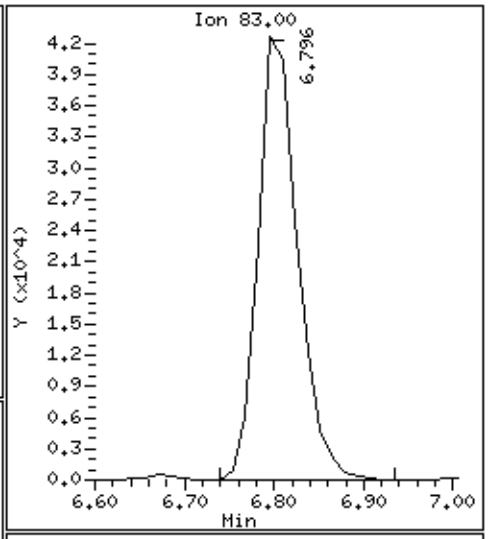
Column phase: RTX-624

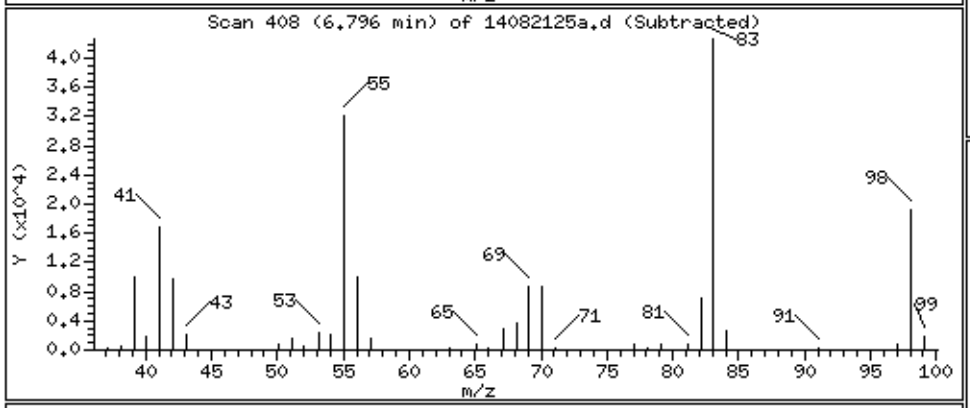
Column diameter: 0.18

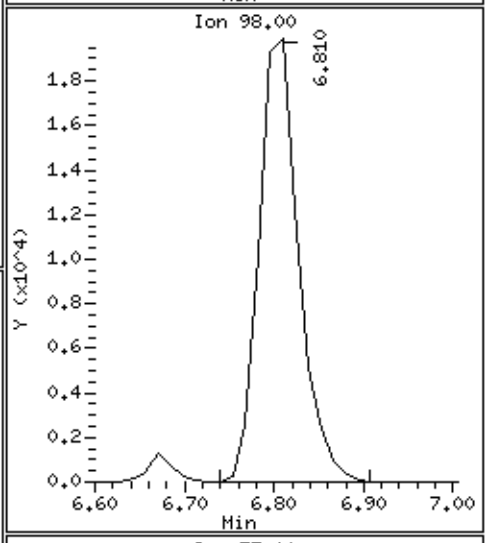
133 Methylcyclohexane

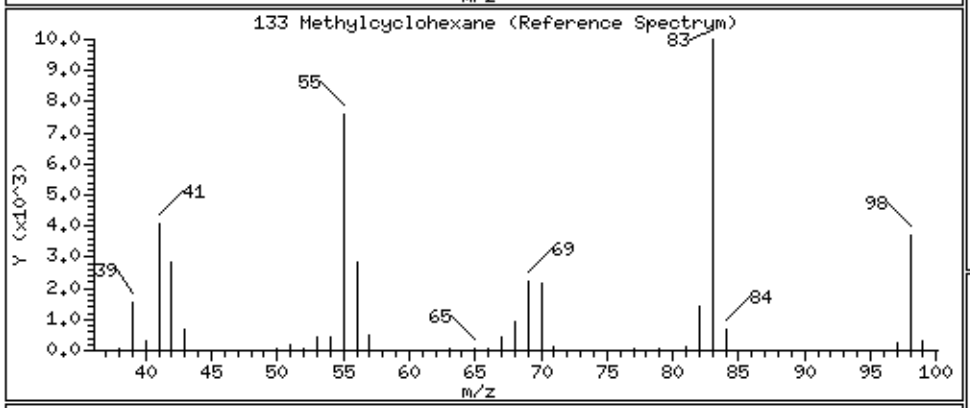
Concentration: 205.99 PPBV

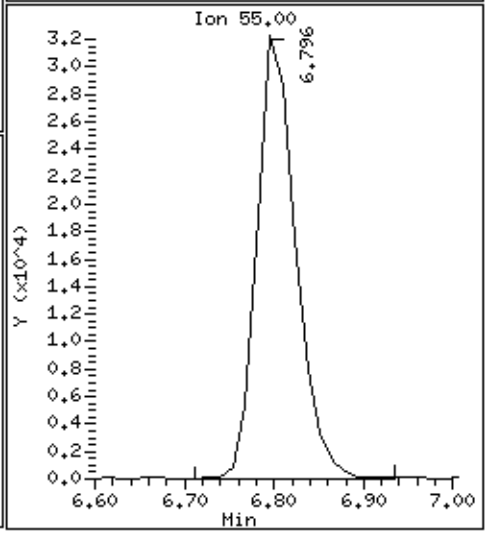


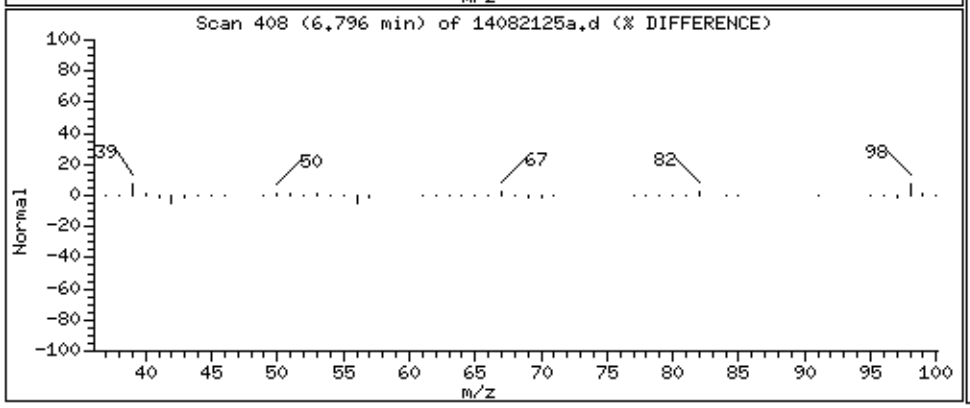












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

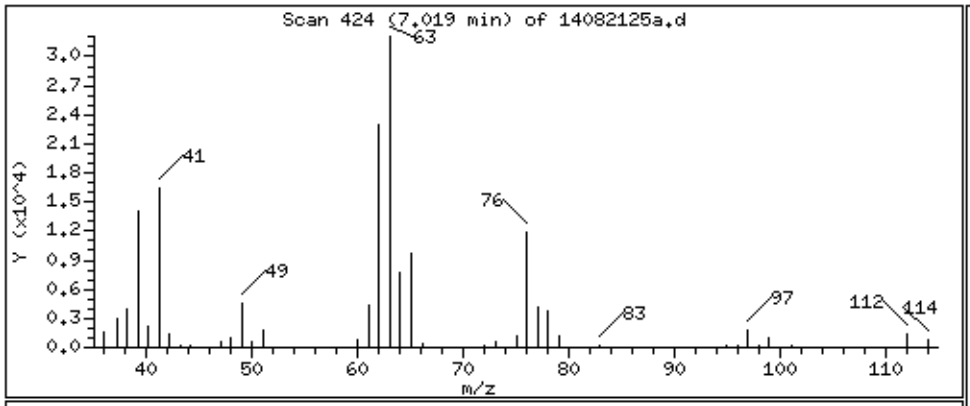
Operator: AK

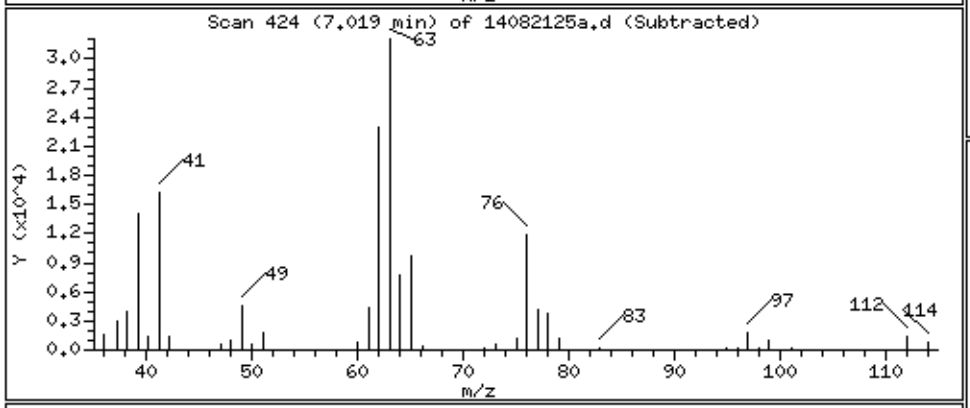
Column phase: RTX-624

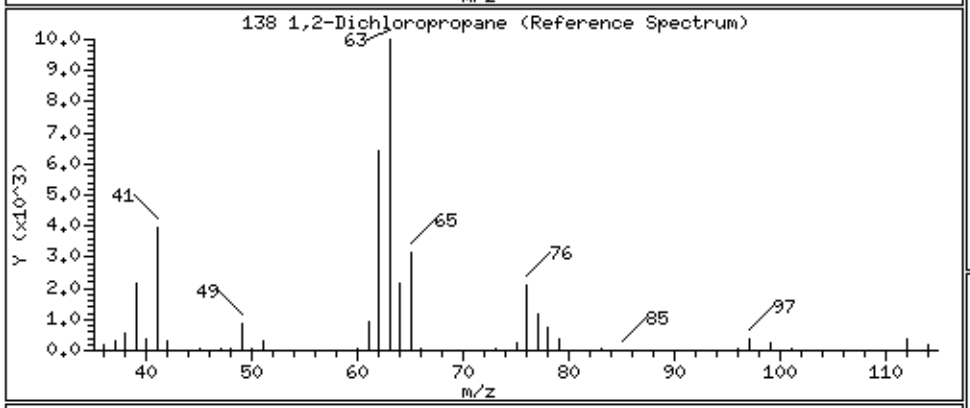
Column diameter: 0.18

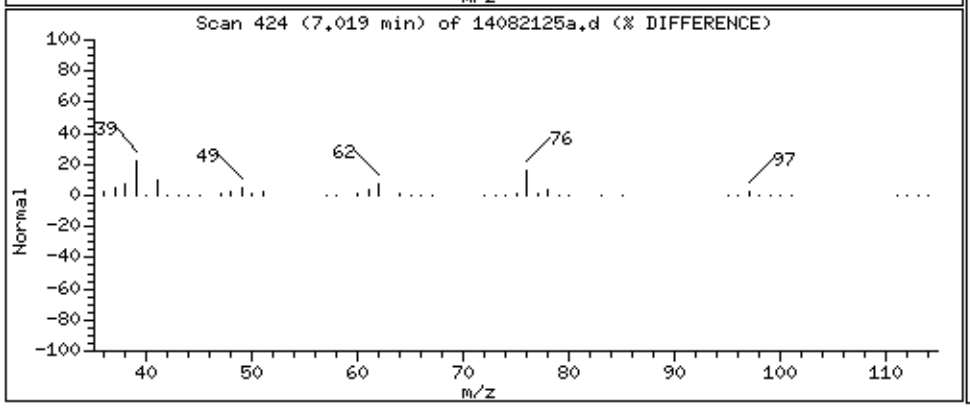
138 1,2-Dichloropropane

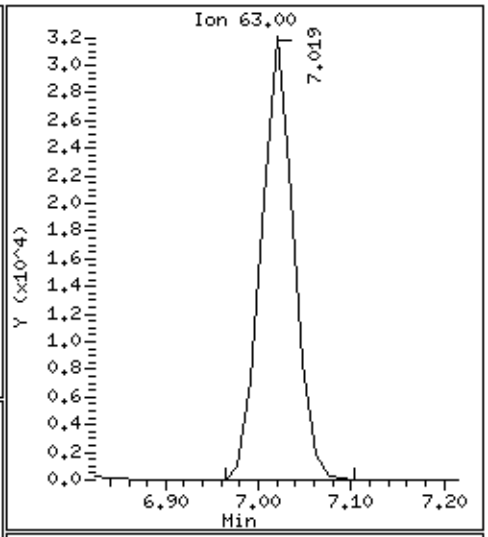
Concentration: 202.56 PPBV

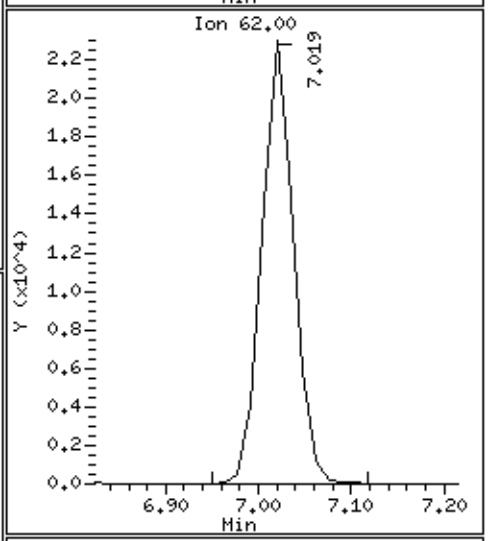


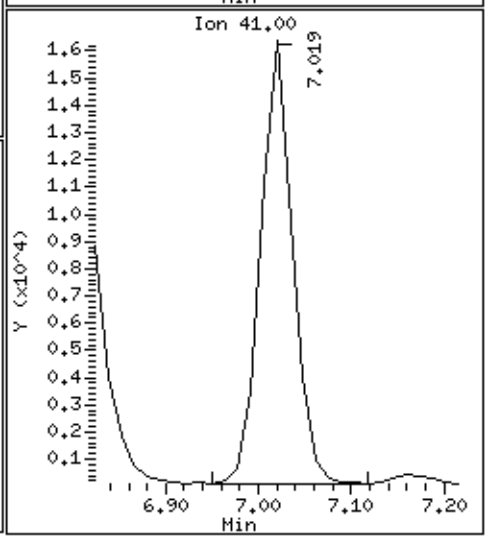












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

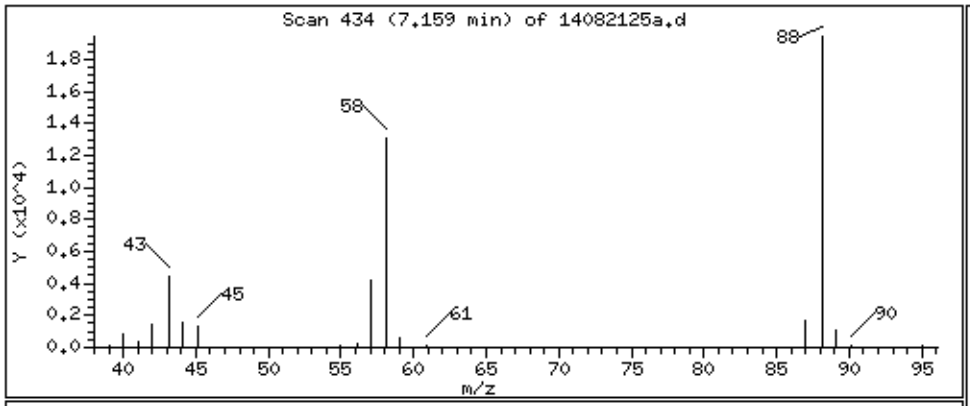
Operator: AK

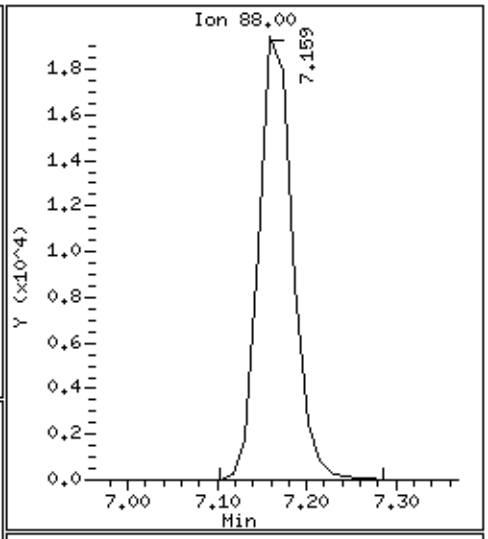
Column phase: RTX-624

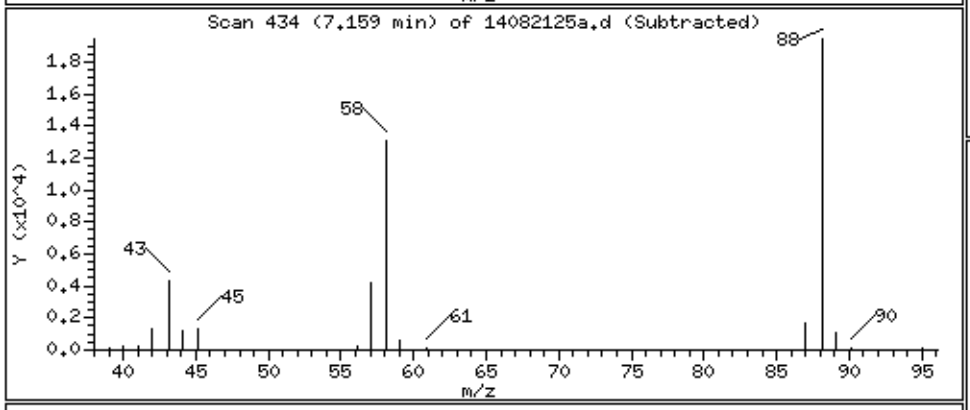
Column diameter: 0.18

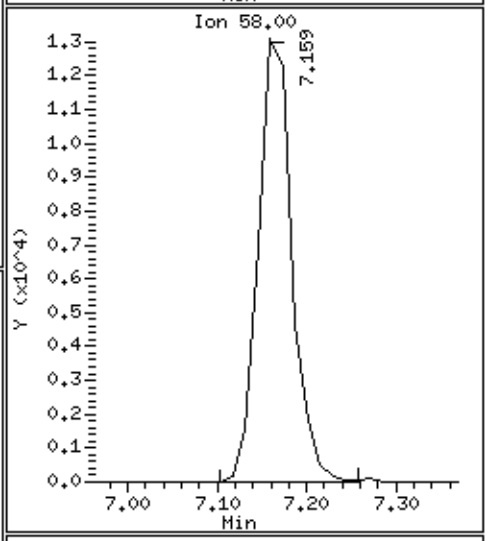
139 1,4-Dioxane

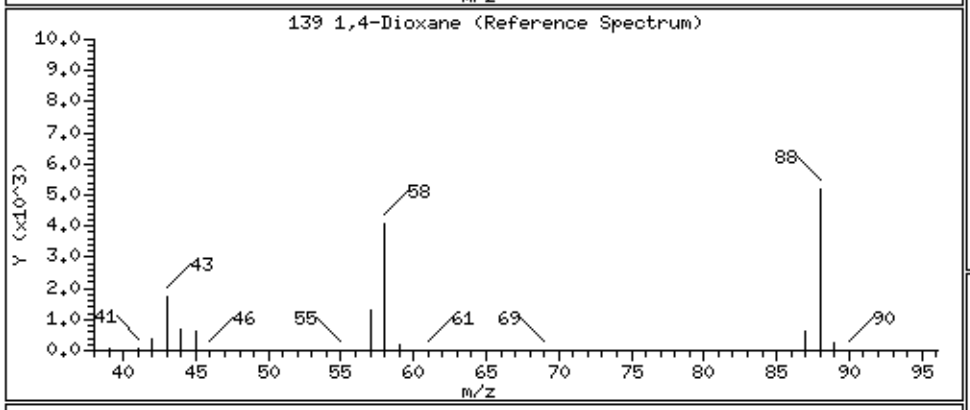
Concentration: 209.22 PPBV

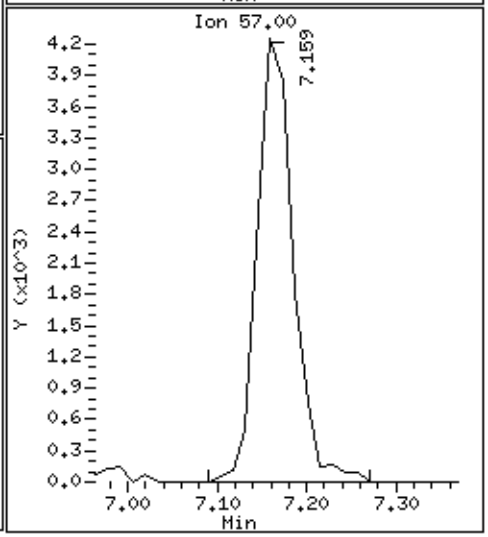


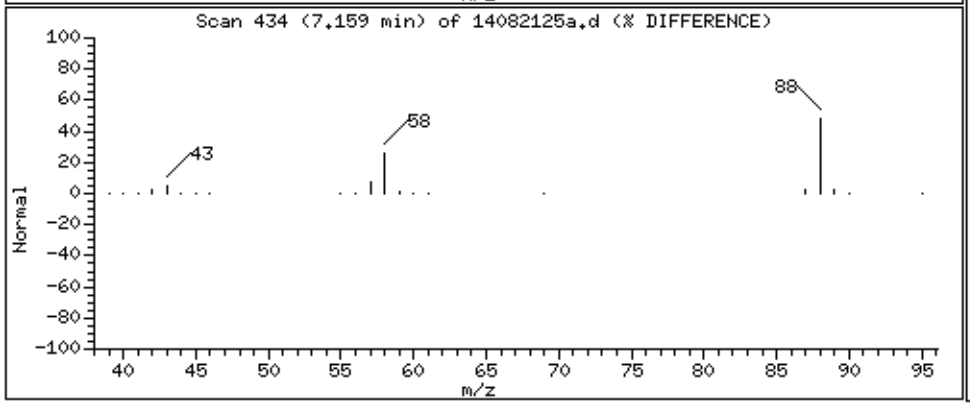












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

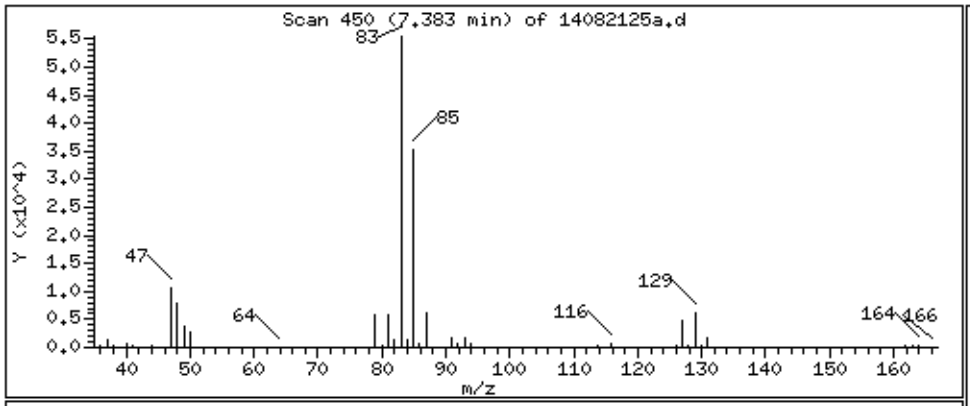
Operator: AK

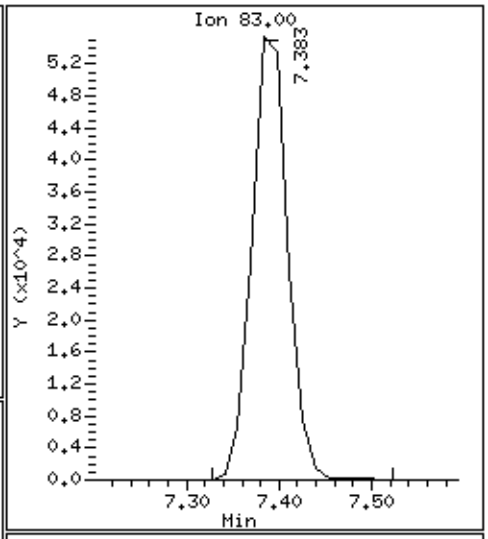
Column phase: RTX-624

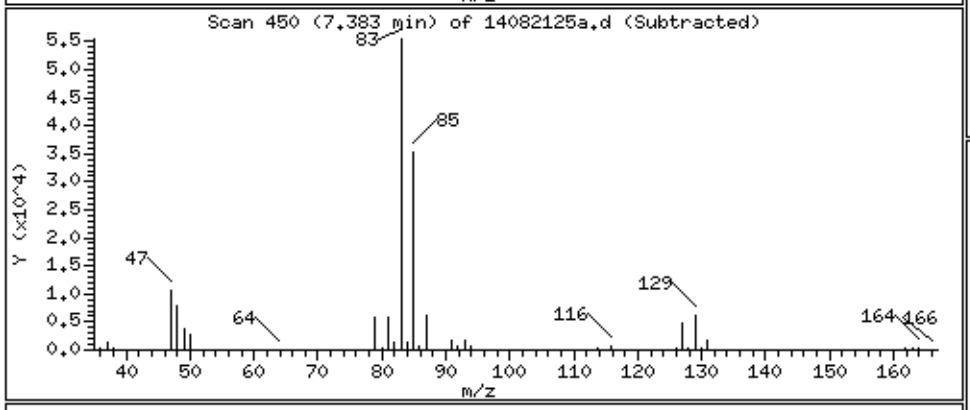
Column diameter: 0.18

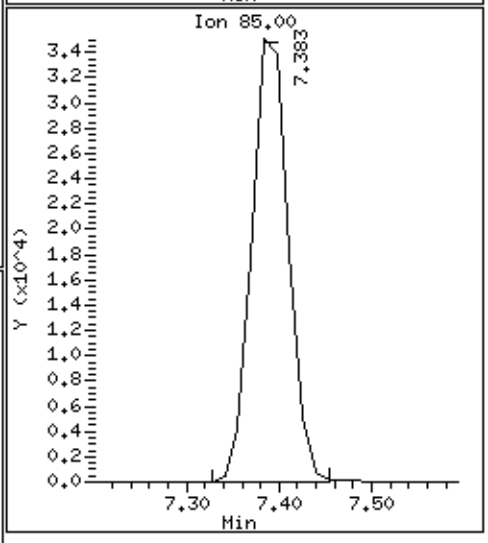
144 Bromodichloromethane

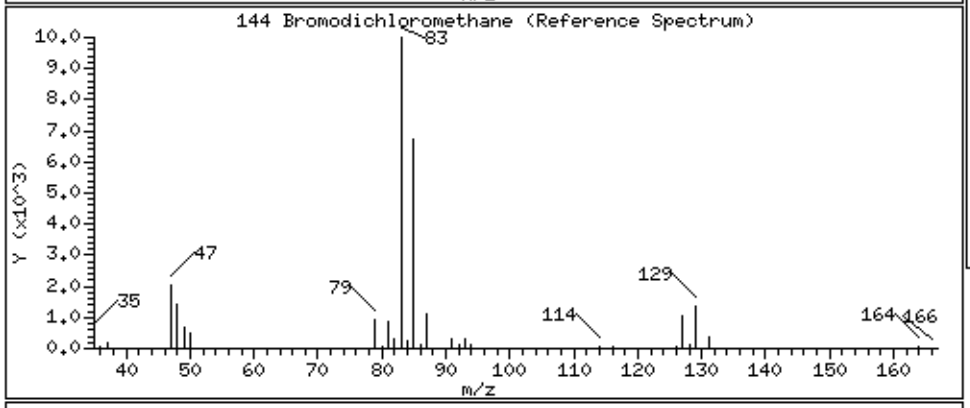
Concentration: 207.26 PPBV

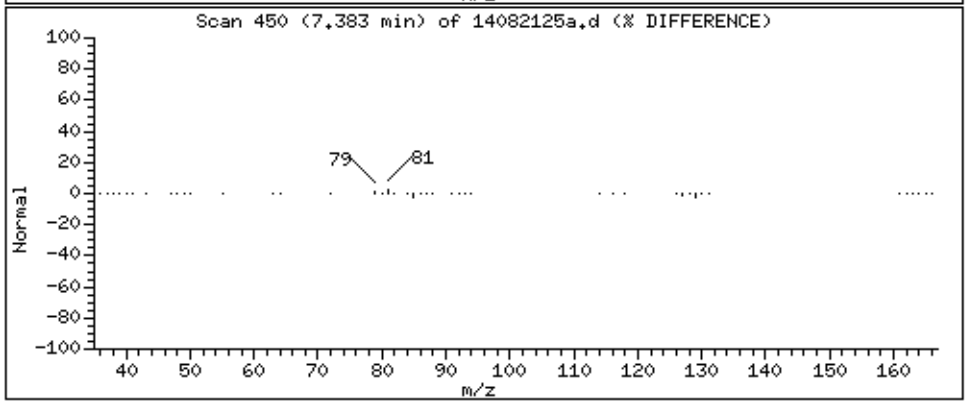












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

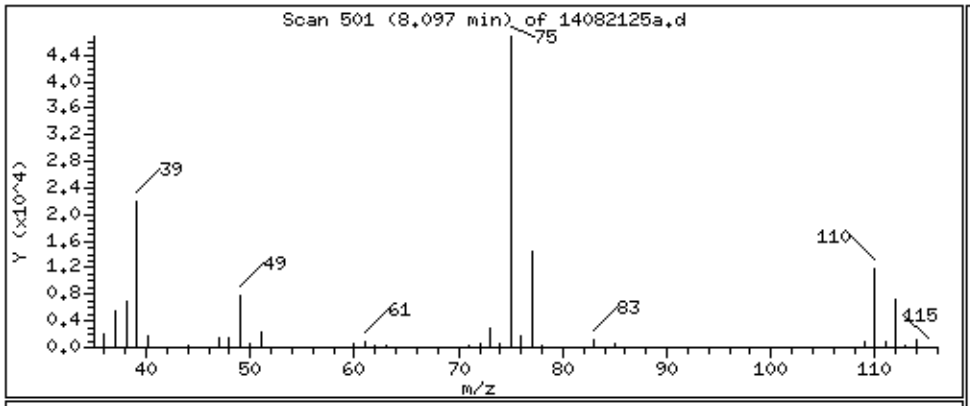
Operator: AK

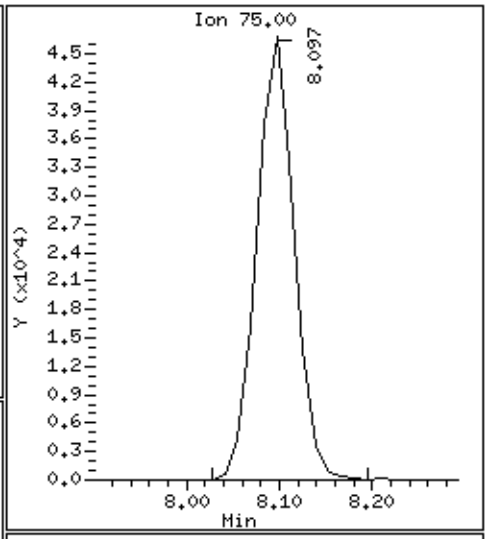
Column phase: RTX-624

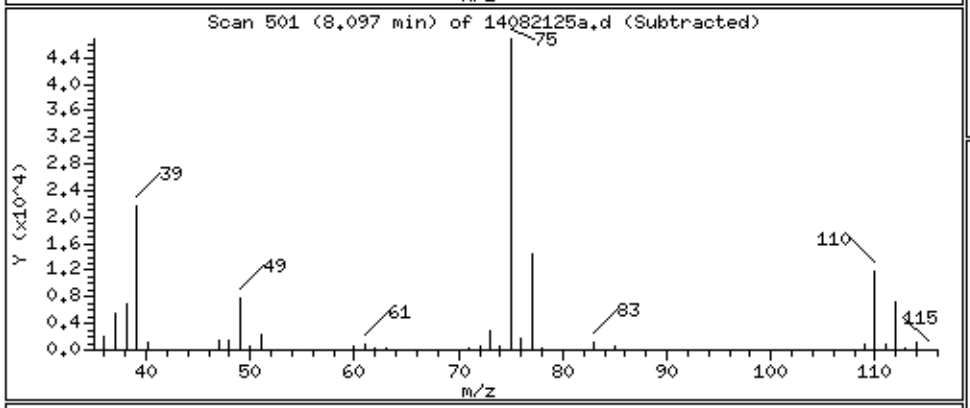
Column diameter: 0.18

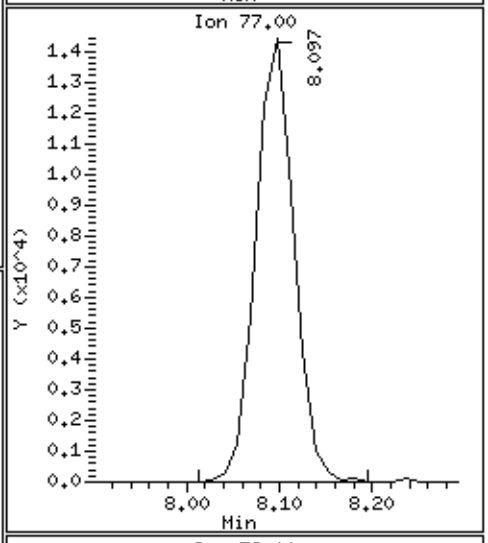
151 cis-1,3-Dichloropropene

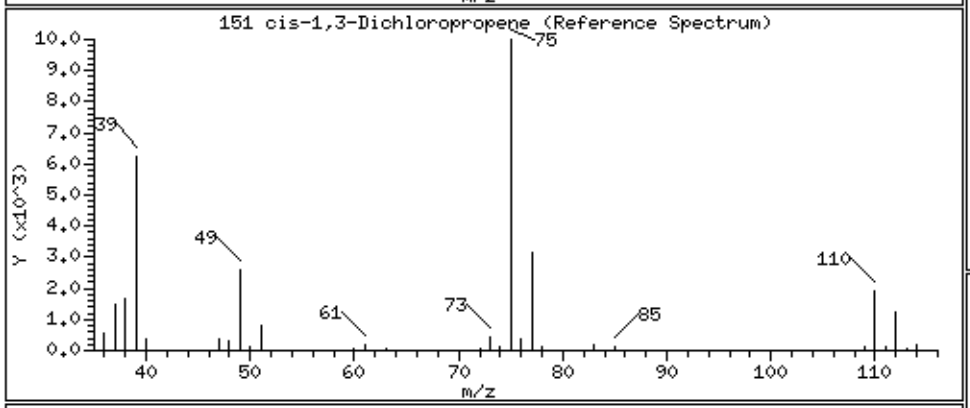
Concentration: 210.11 PPBV

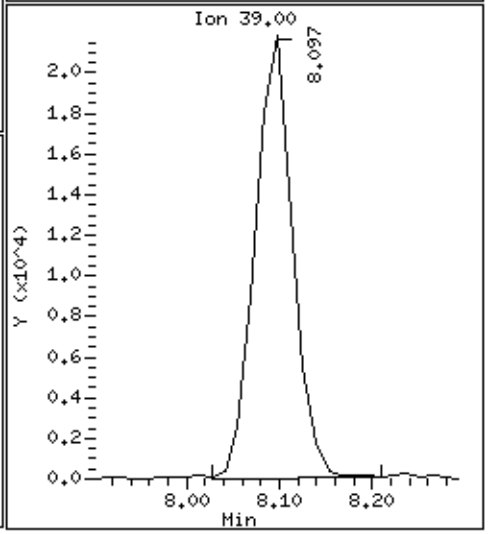


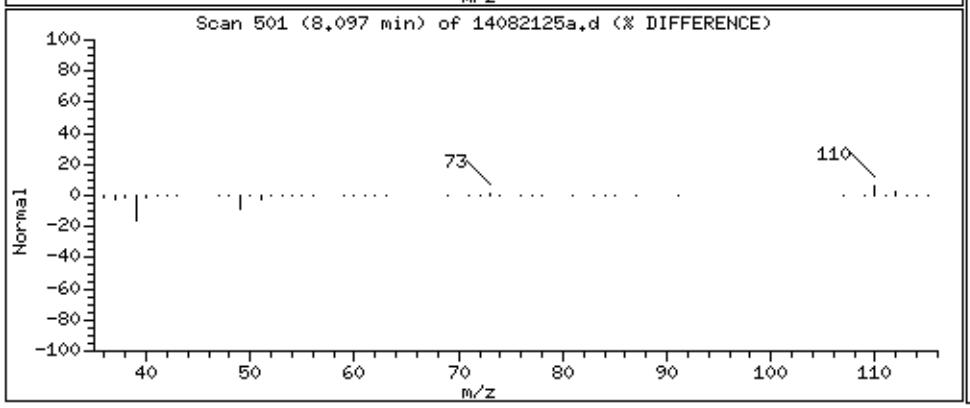












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

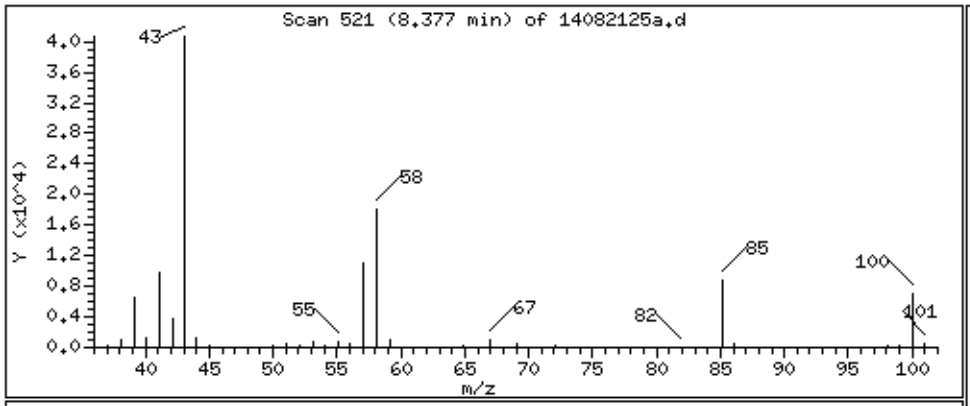
Operator: AK

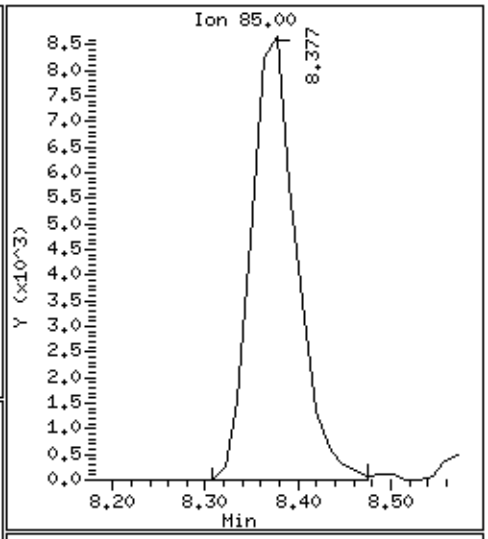
Column phase: RTX-624

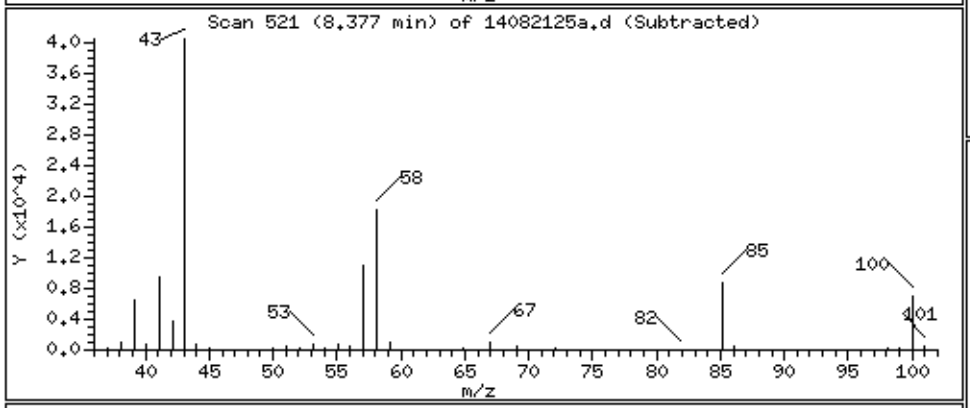
Column diameter: 0.18

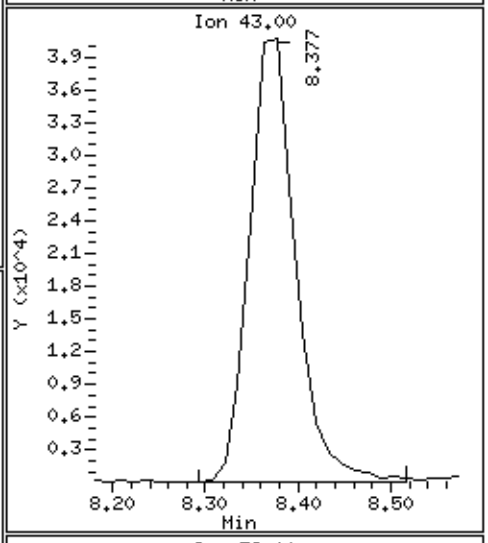
154 4-Methyl-2-pentanone

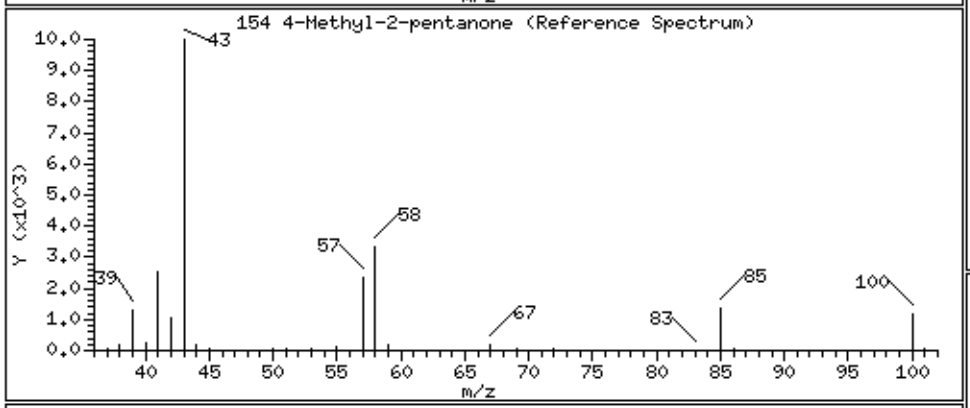
Concentration: 191.68 PPBV

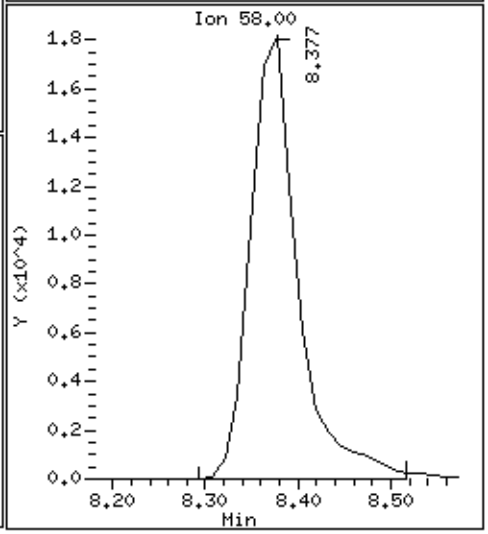


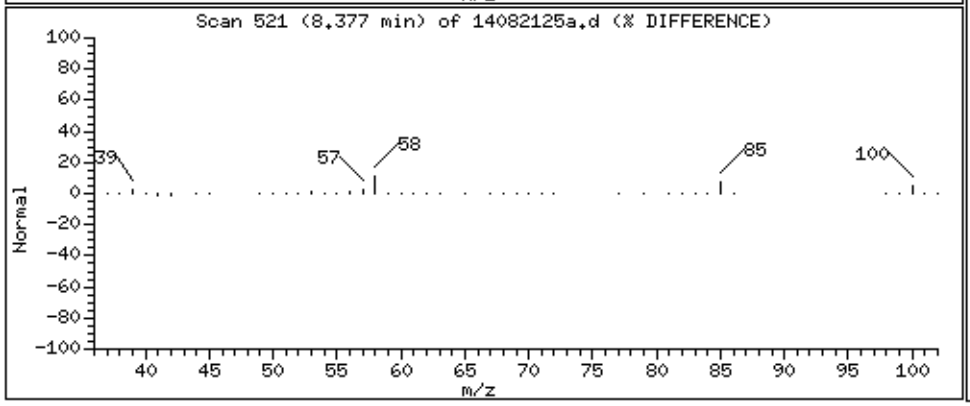












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

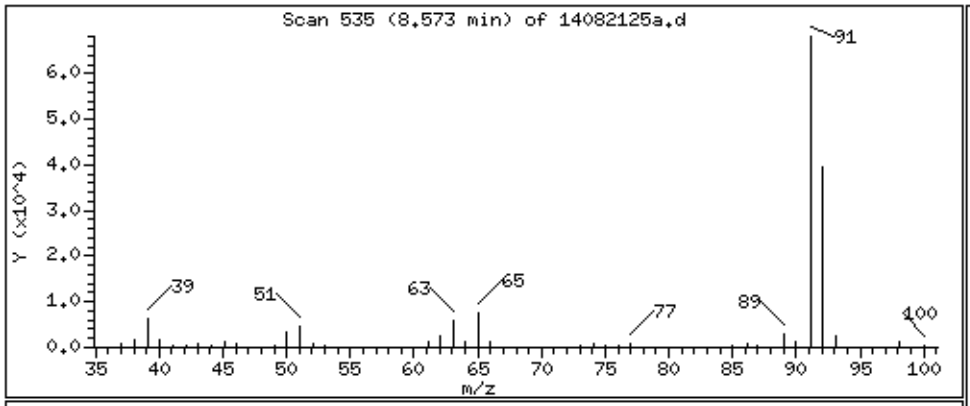
Operator: AK

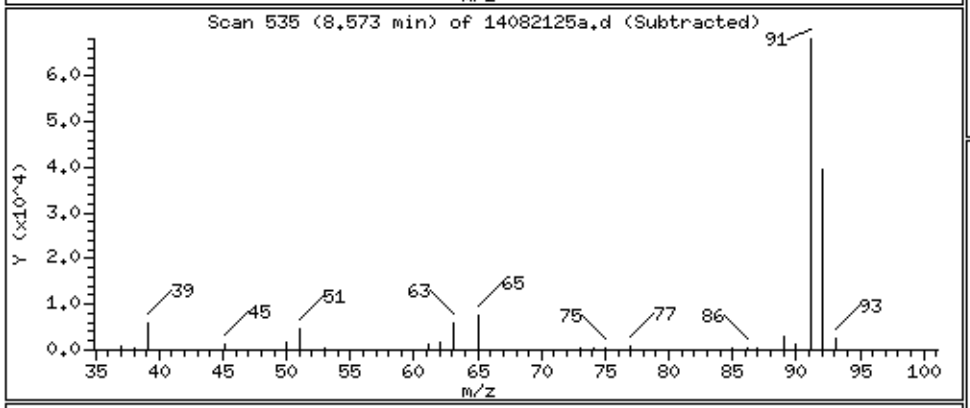
Column phase: RTX-624

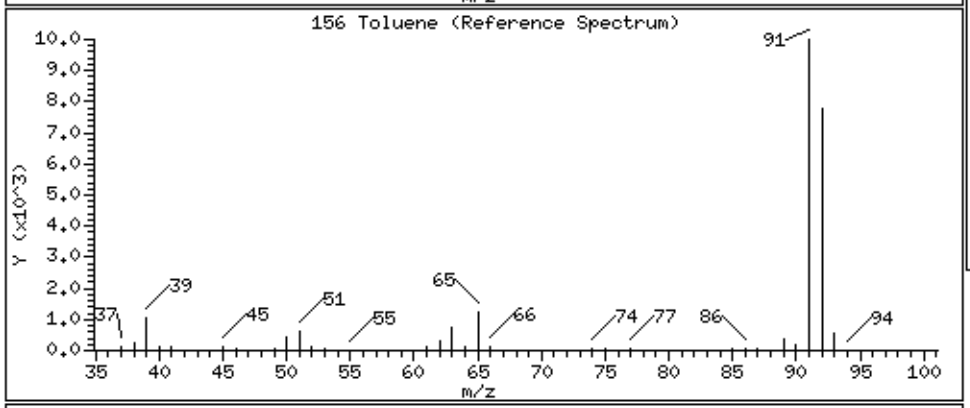
Column diameter: 0.18

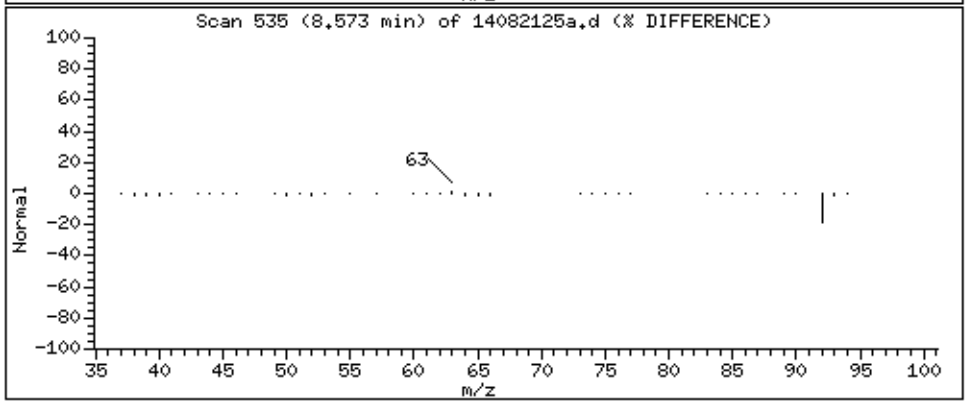
156 Toluene

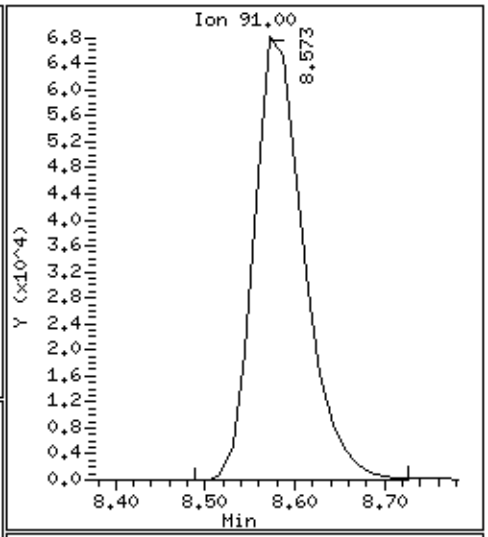
Concentration: 198.72 PPBV

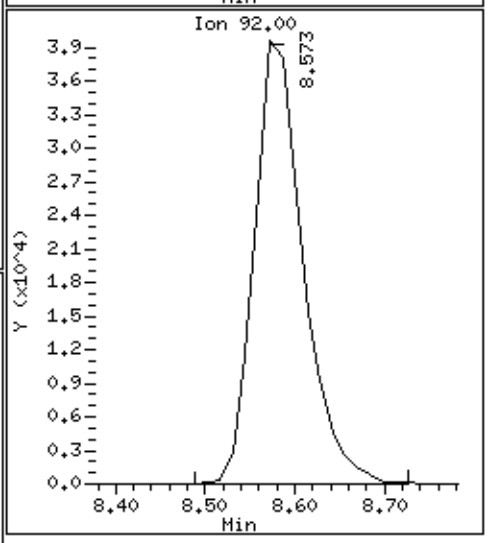












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

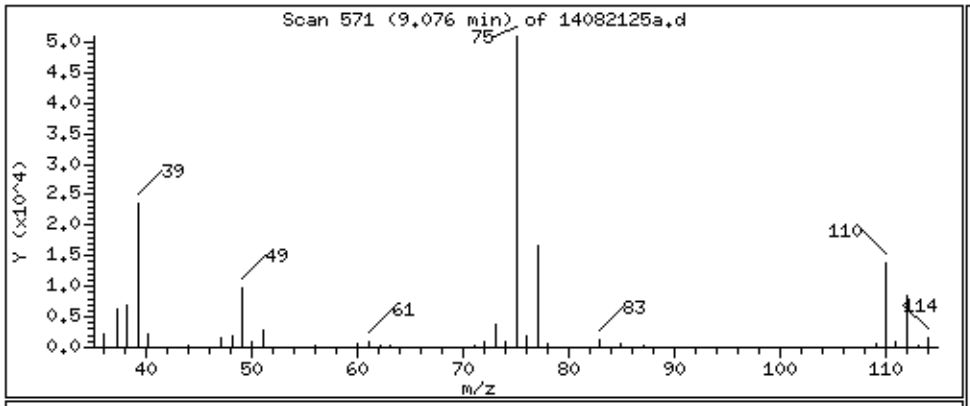
Operator: AK

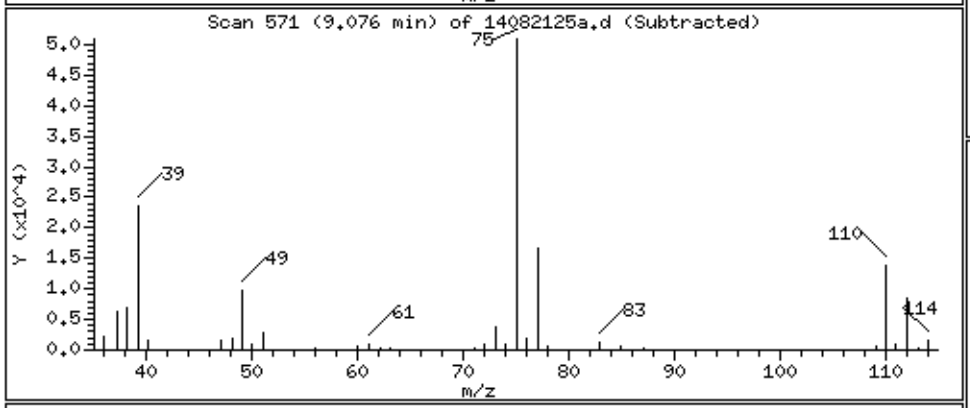
Column phase: RTX-624

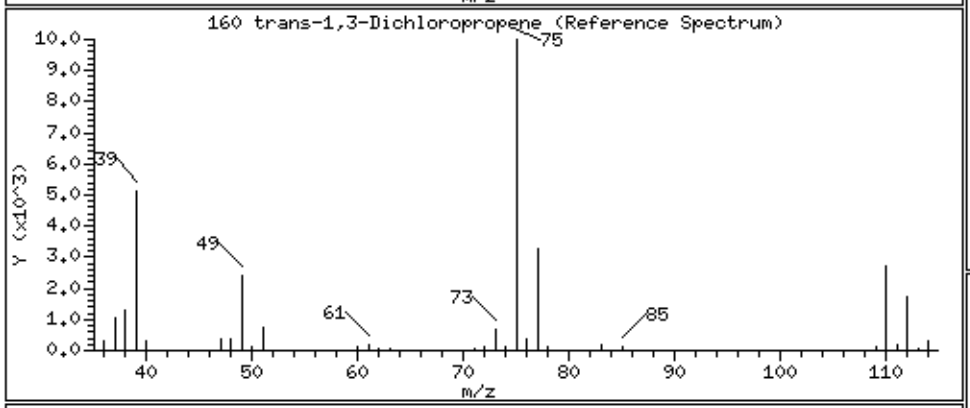
Column diameter: 0.18

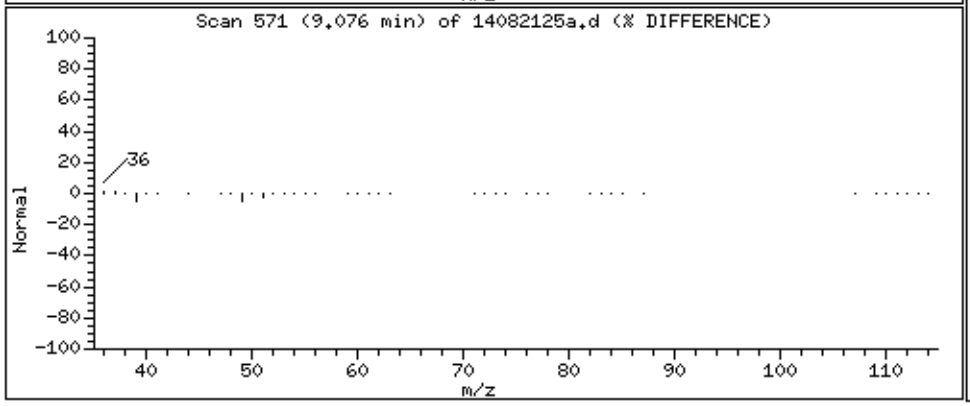
160 trans-1,3-Dichloropropene

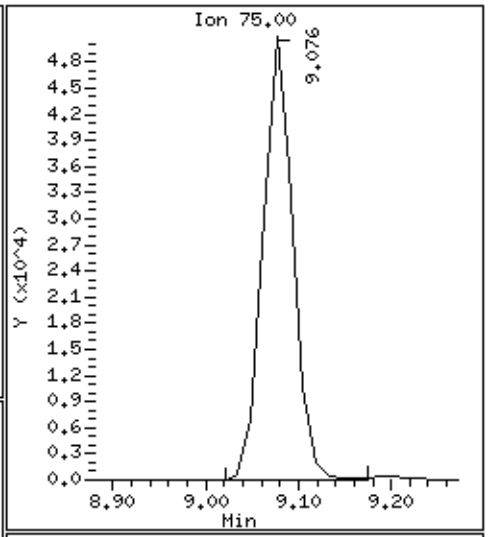
Concentration: 198.68 PPBV

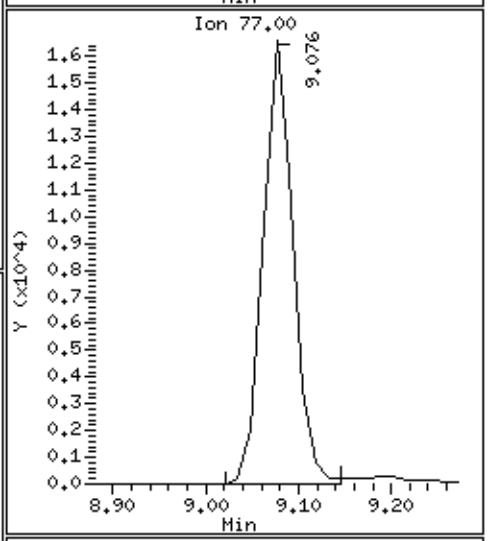


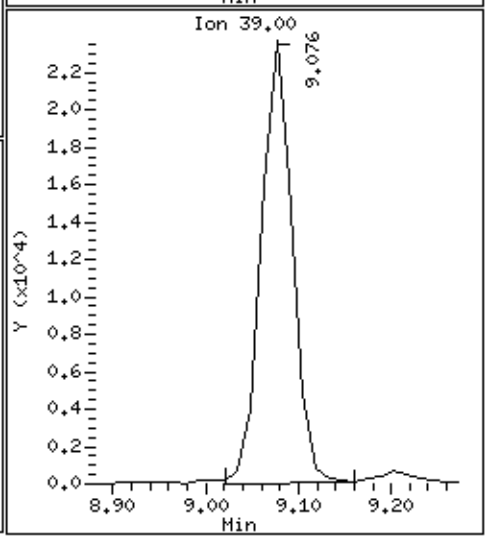












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

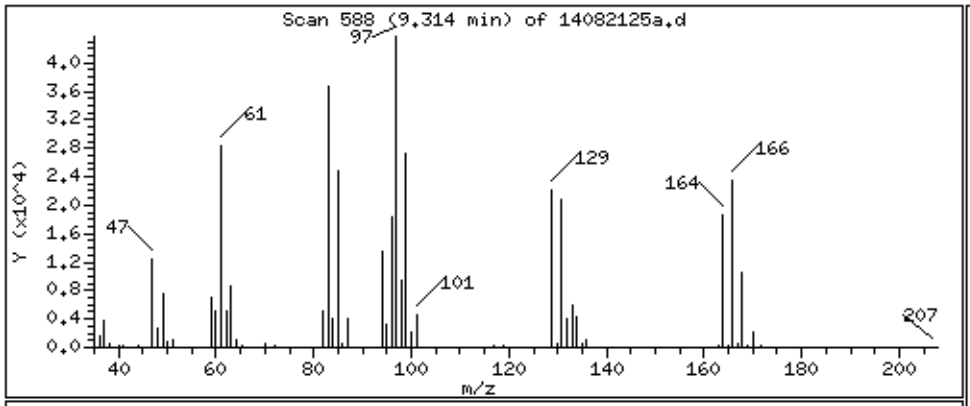
Operator: AK

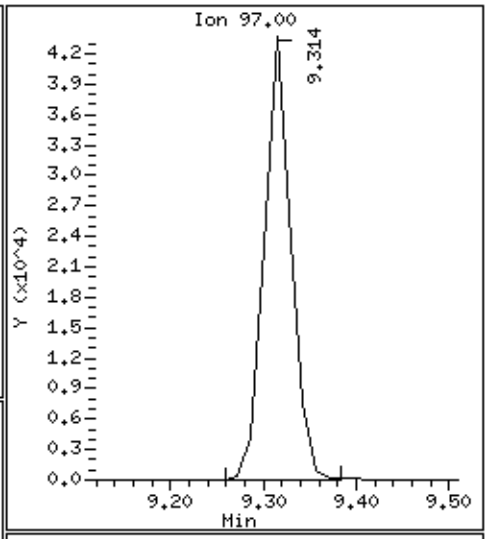
Column phase: RTX-624

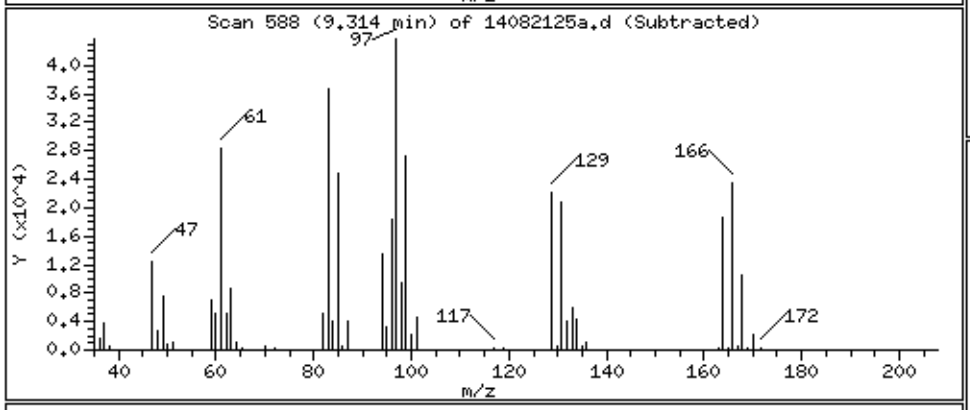
Column diameter: 0.18

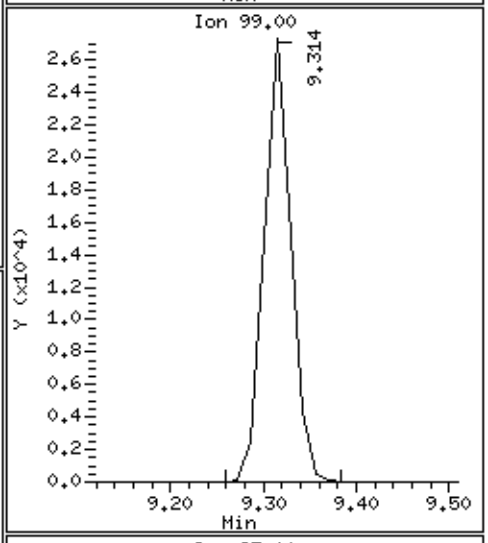
162 1,1,2-Trichloroethane

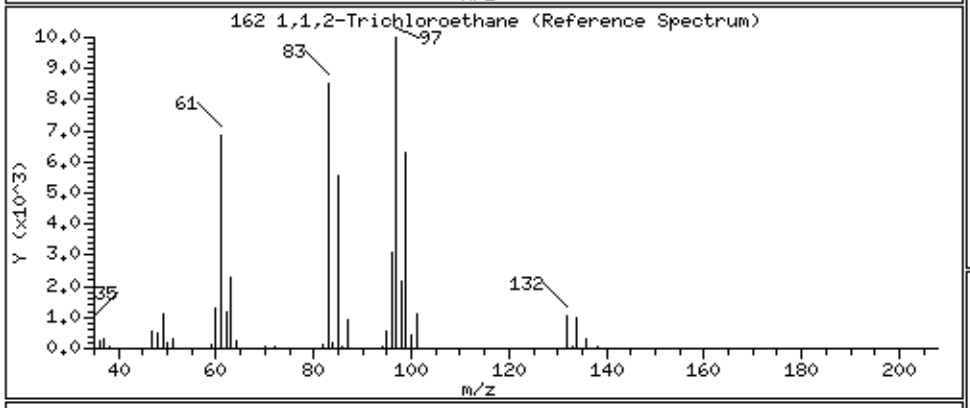
Concentration: 198.62 PPBV

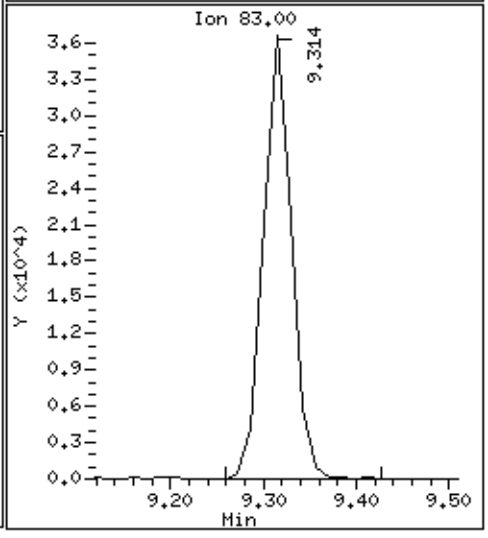


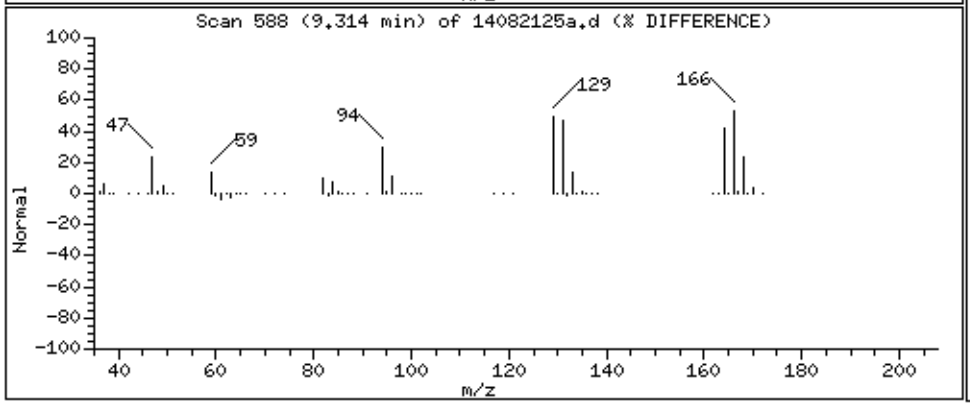












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

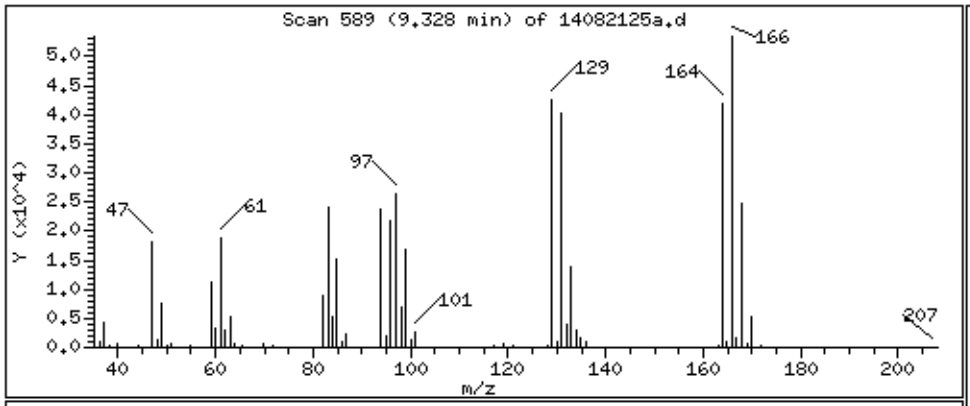
Operator: AK

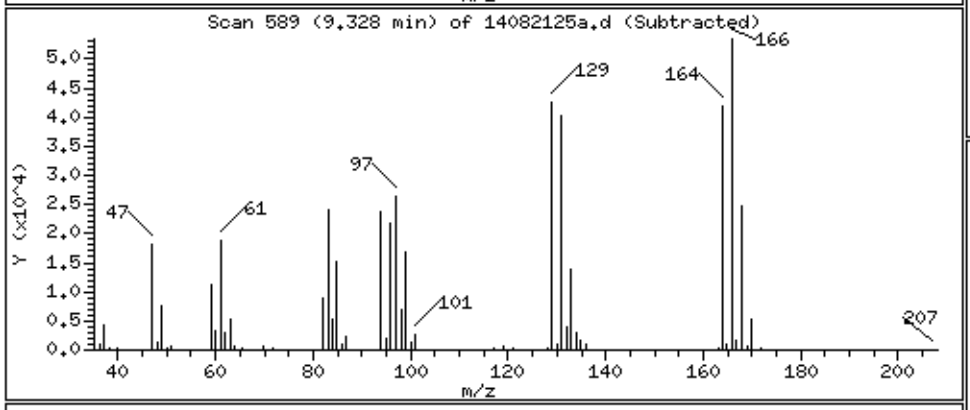
Column phase: RTX-624

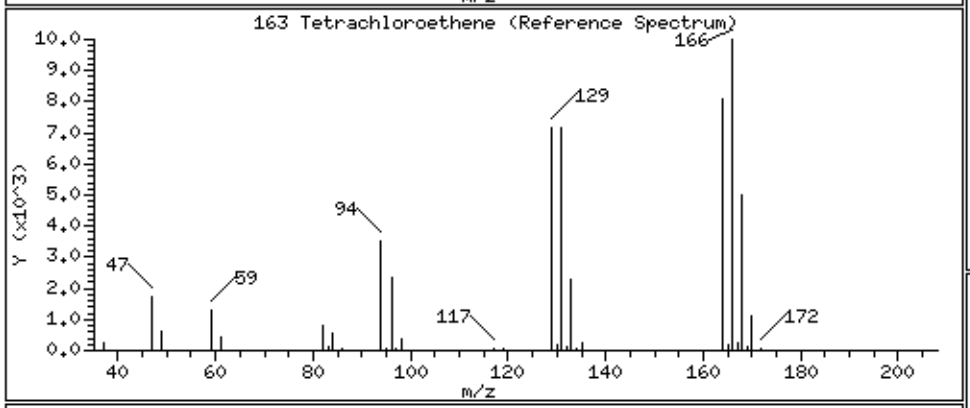
Column diameter: 0.18

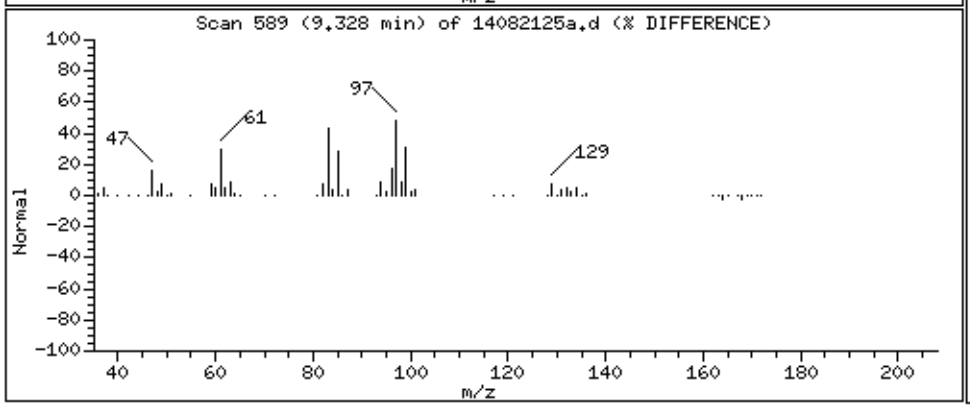
163 Tetrachloroethene

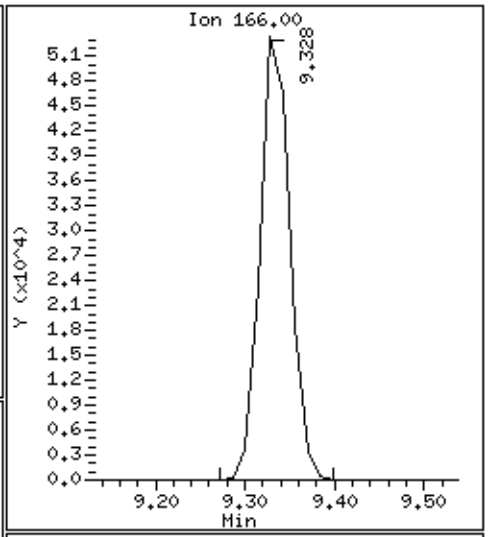
Concentration: 195.83 PPBV

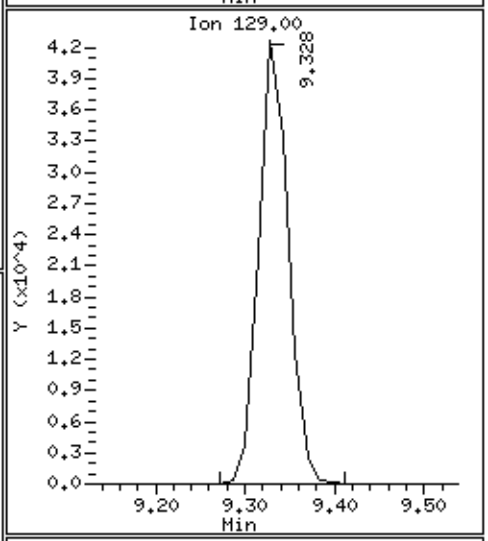


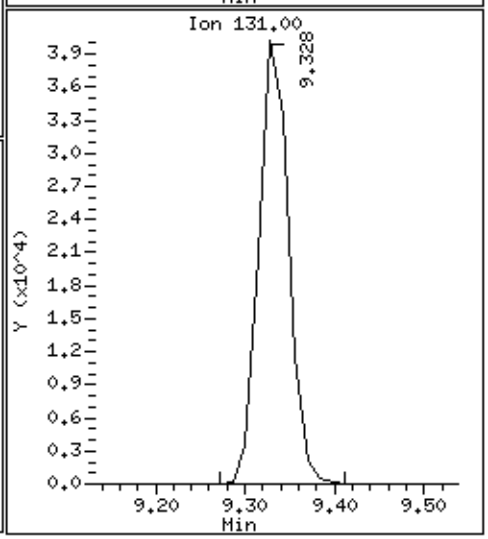












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

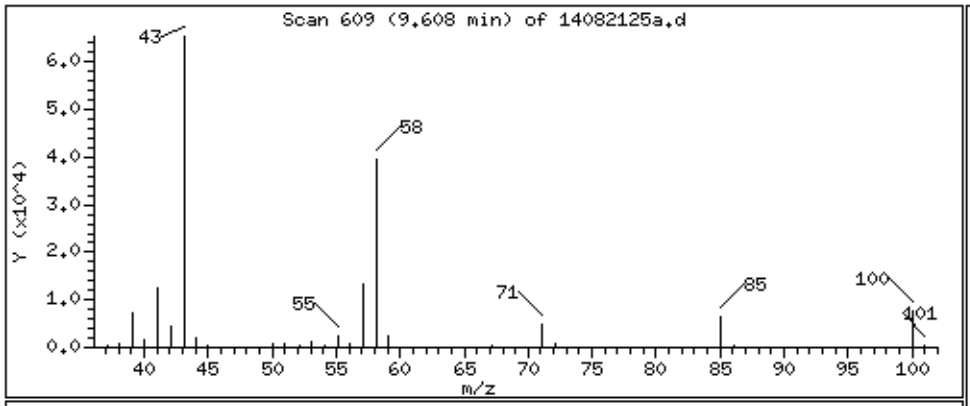
Operator: AK

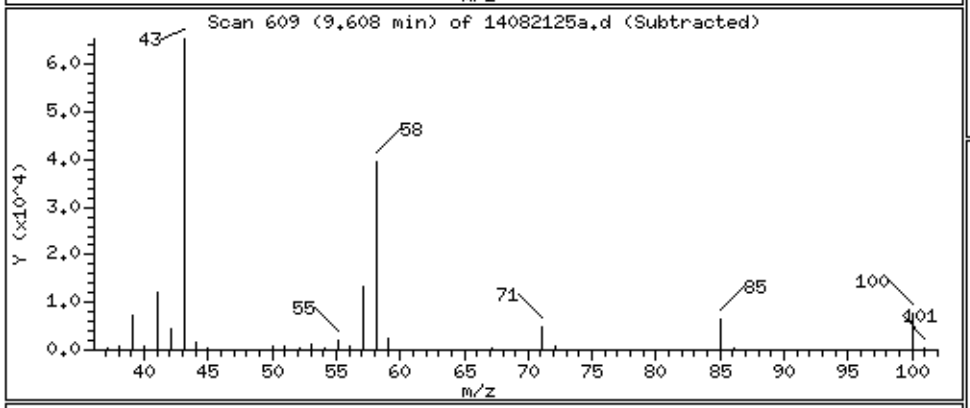
Column phase: RTX-624

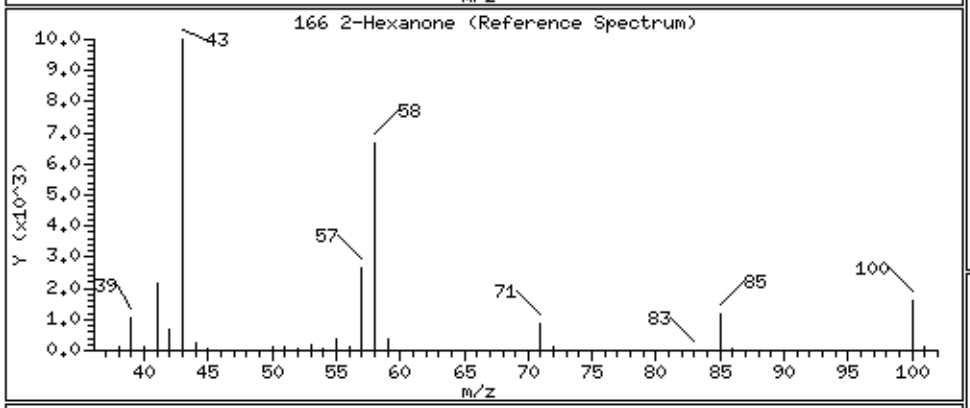
Column diameter: 0.18

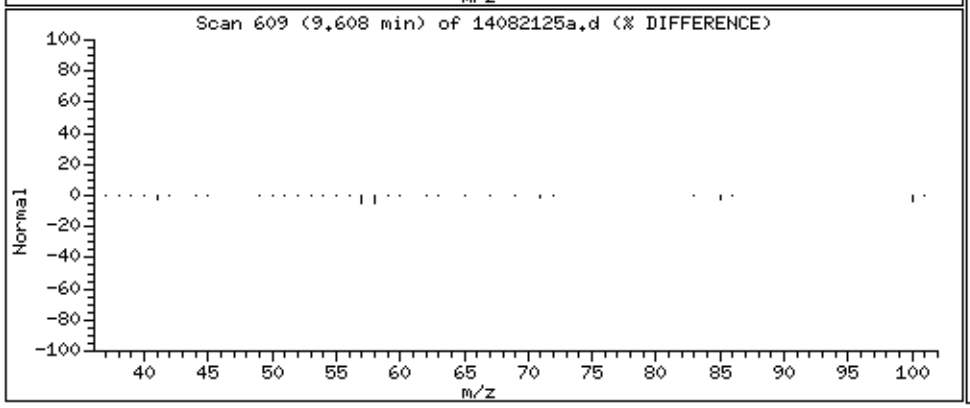
166 2-Hexanone

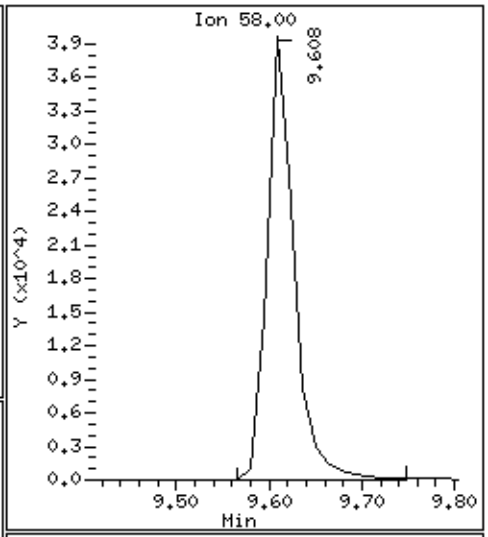
Concentration: 198.41 PPBV

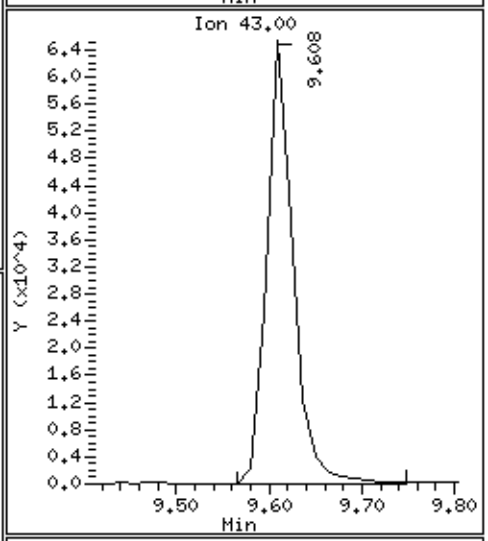


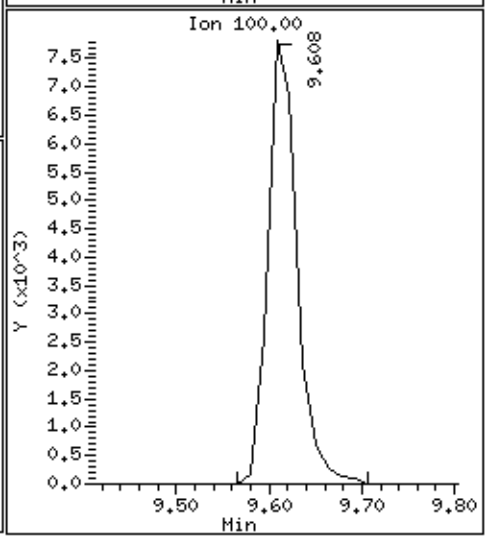












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

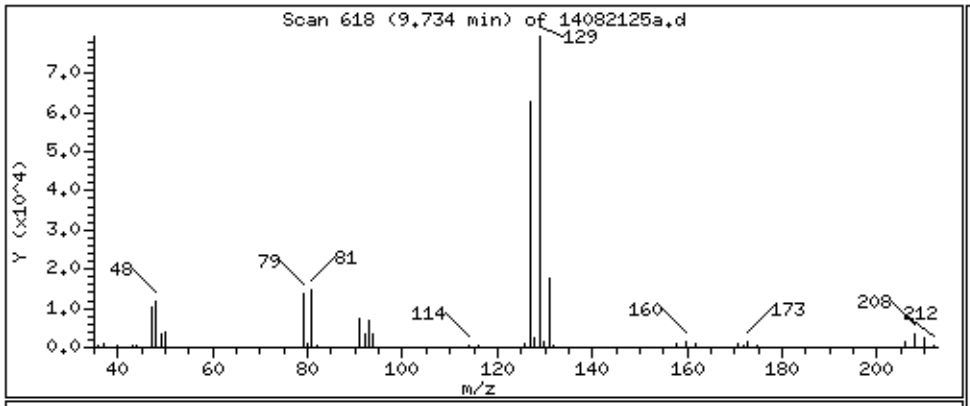
Operator: AK

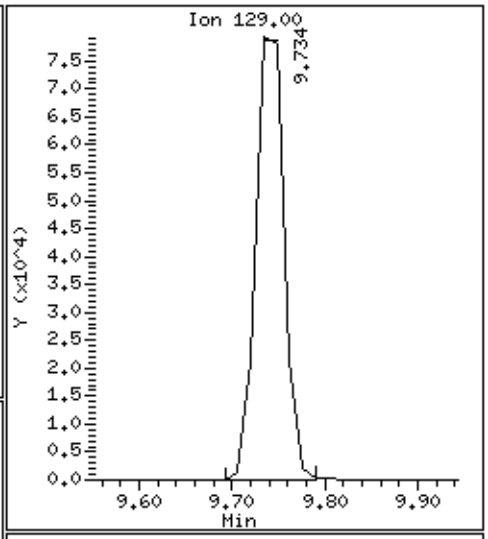
Column phase: RTX-624

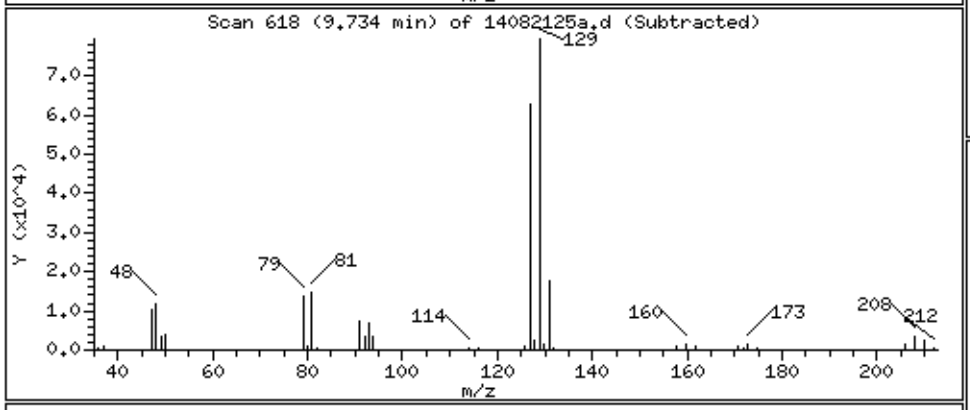
Column diameter: 0.18

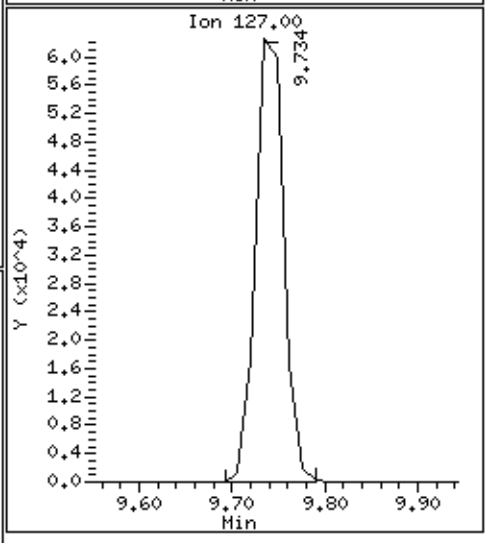
169 Dibromochloromethane

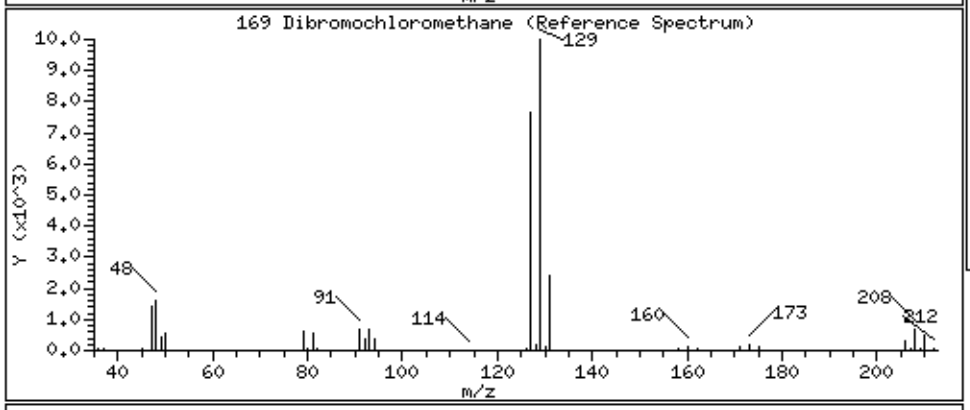
Concentration: 196.92 PPBV

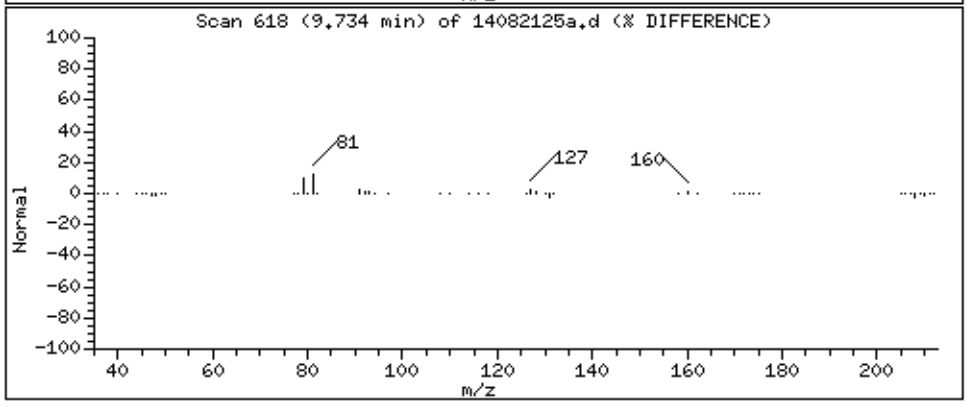












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

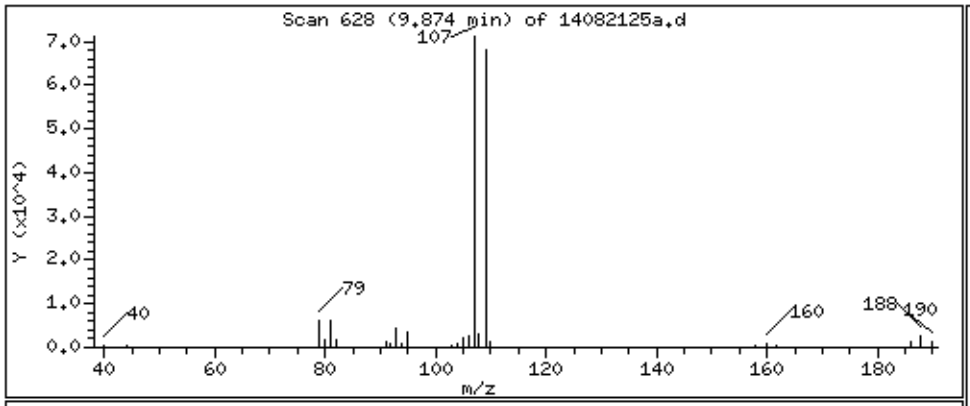
Operator: AK

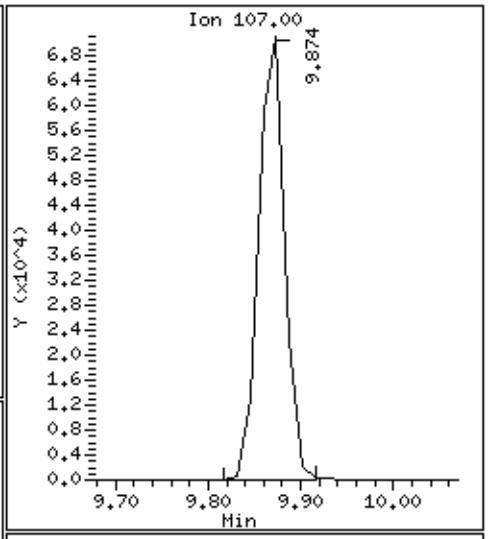
Column phase: RTX-624

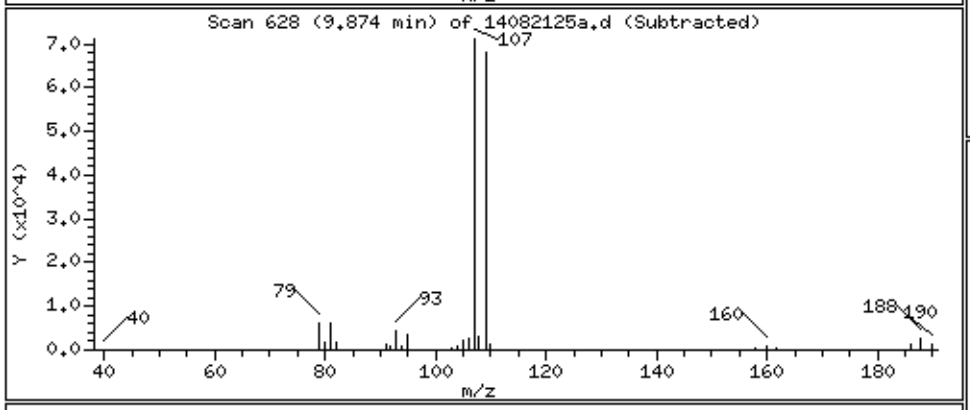
Column diameter: 0.18

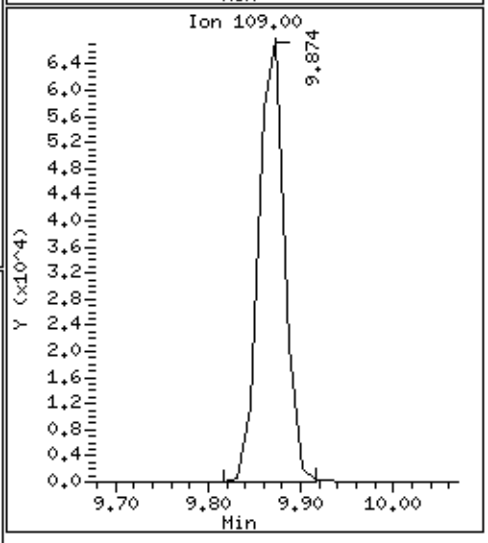
176 1,2-Dibromoethane (EDB)

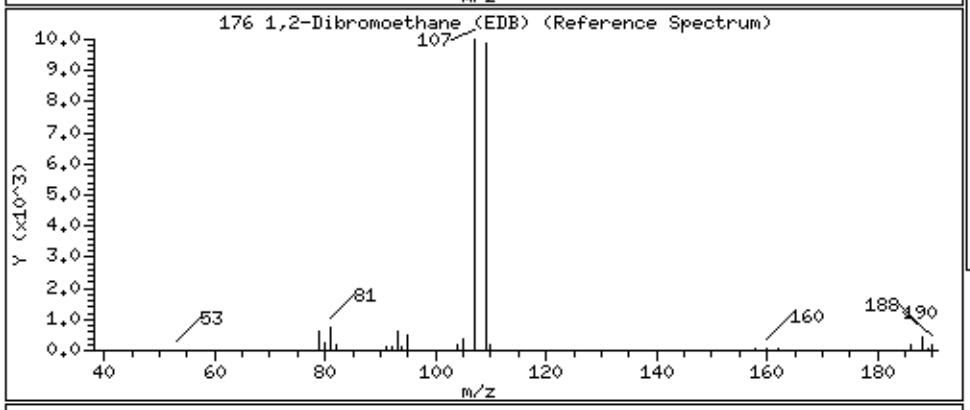
Concentration: 194.09 PPBV

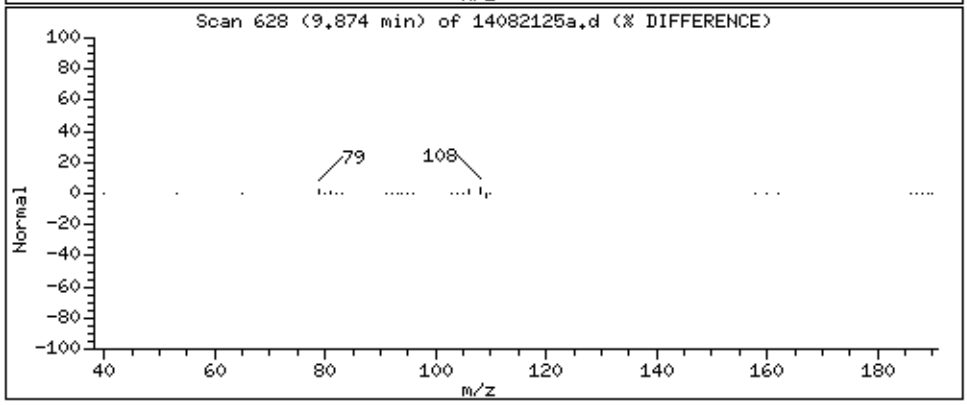












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

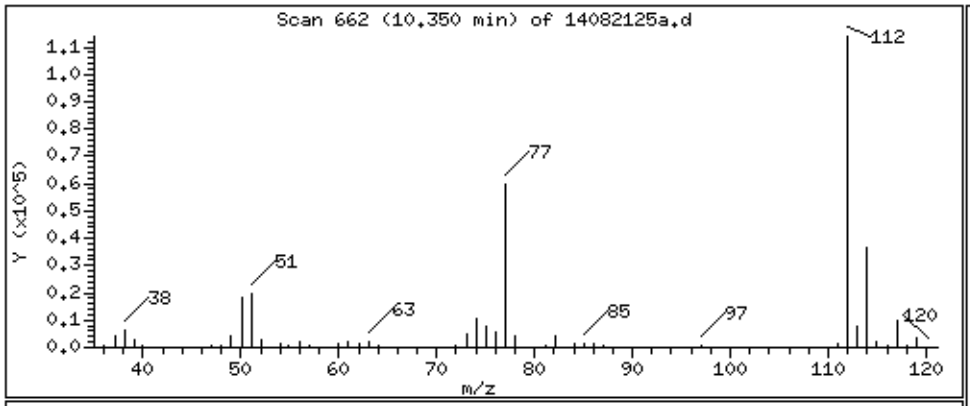
Operator: AK

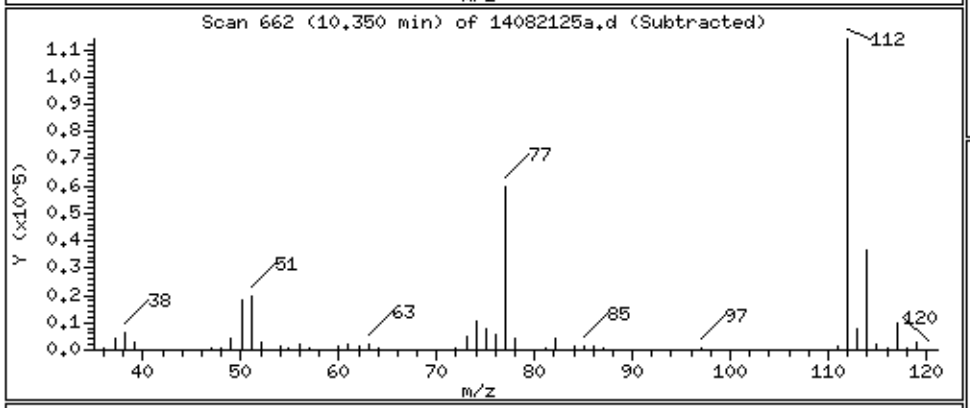
Column phase: RTX-624

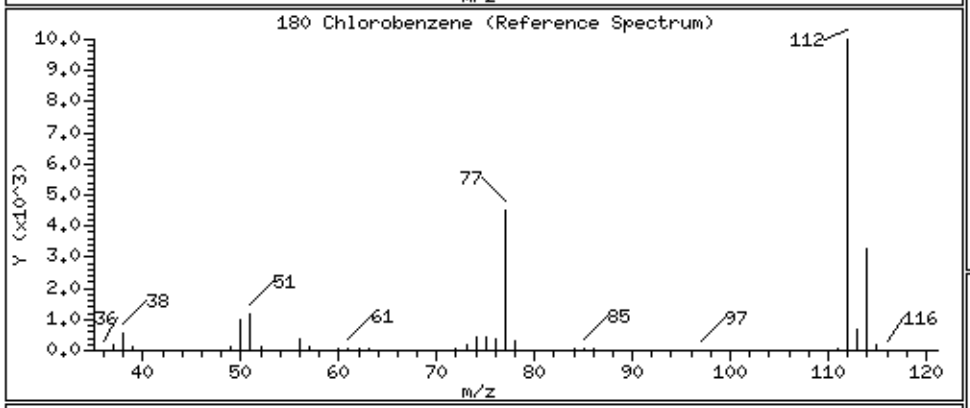
Column diameter: 0.18

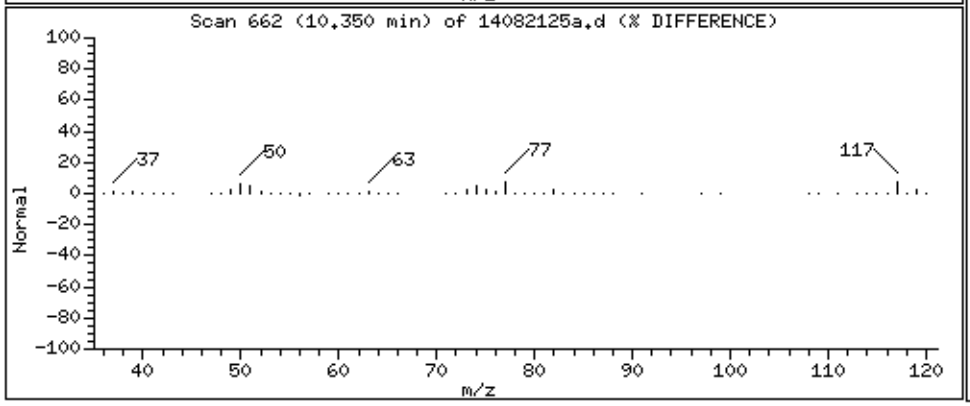
180 Chlorobenzene

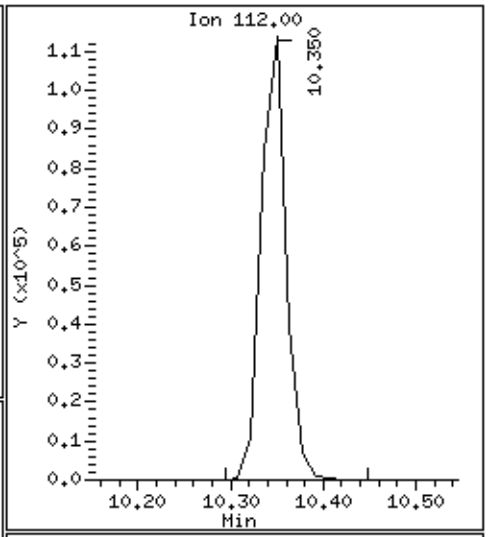
Concentration: 194.80 PPBV

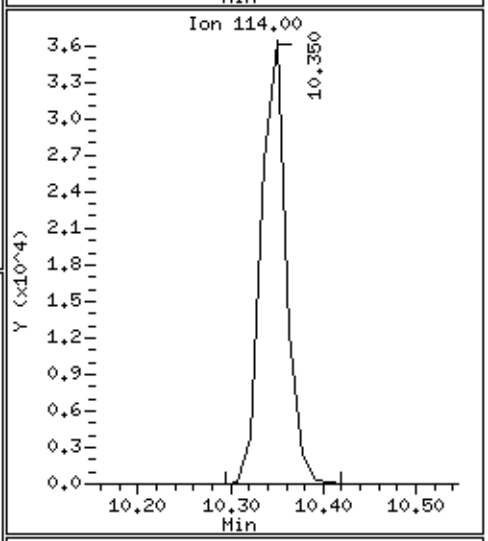


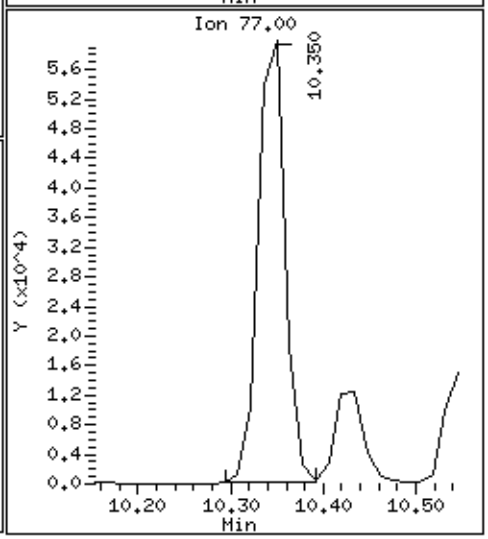












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

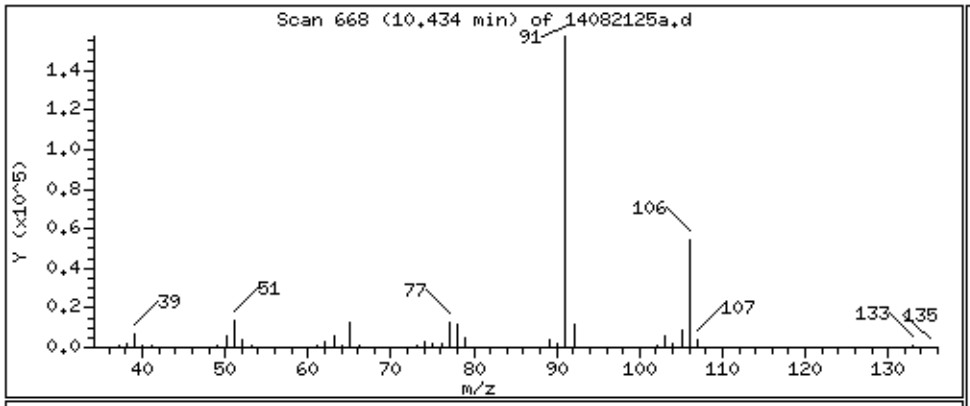
Operator: AK

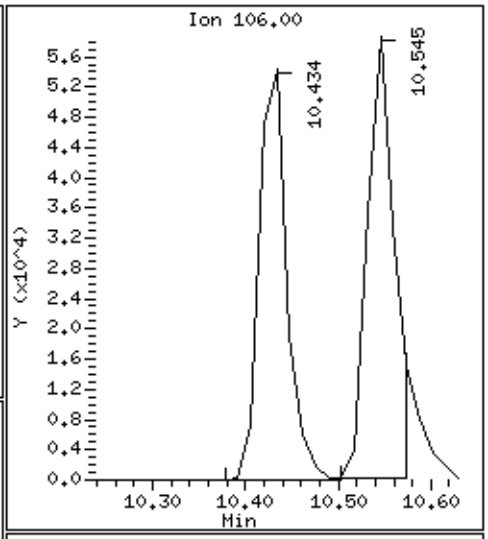
Column phase: RTX-624

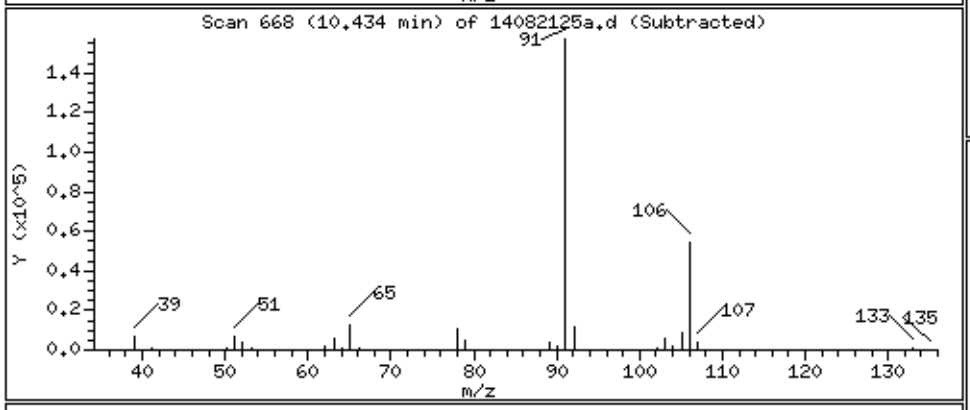
Column diameter: 0.18

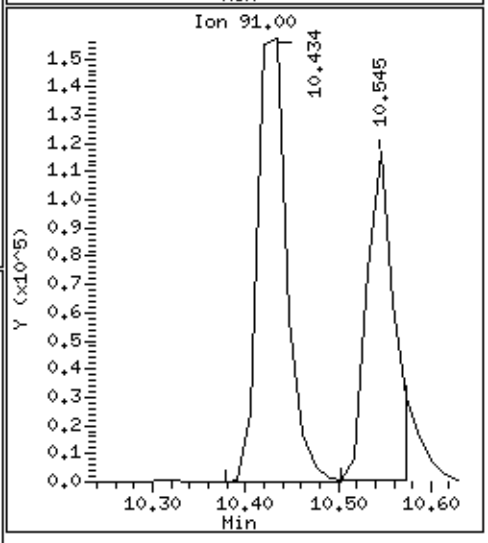
181 Ethyl Benzene

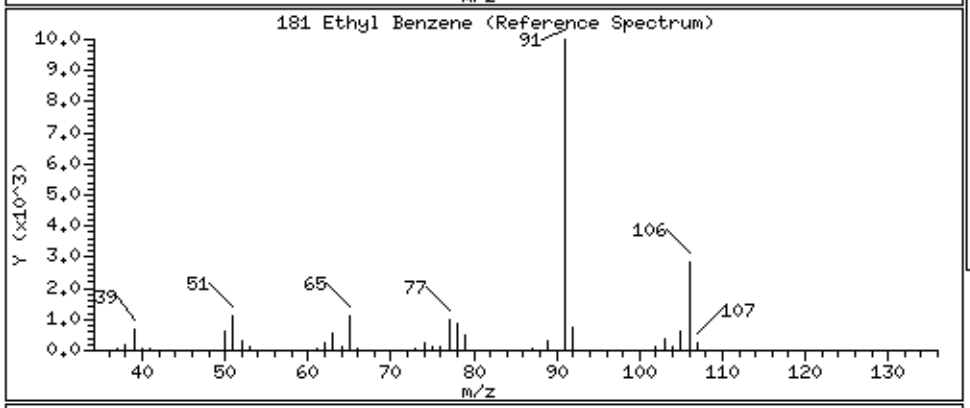
Concentration: 205.86 PPBV

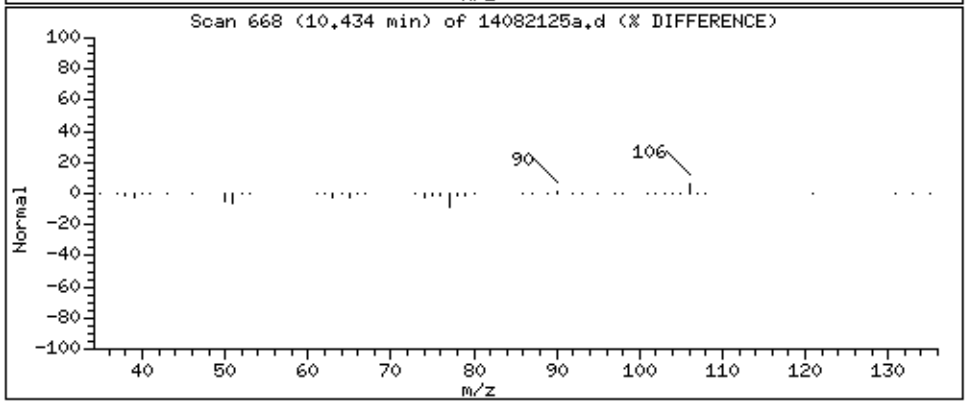












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

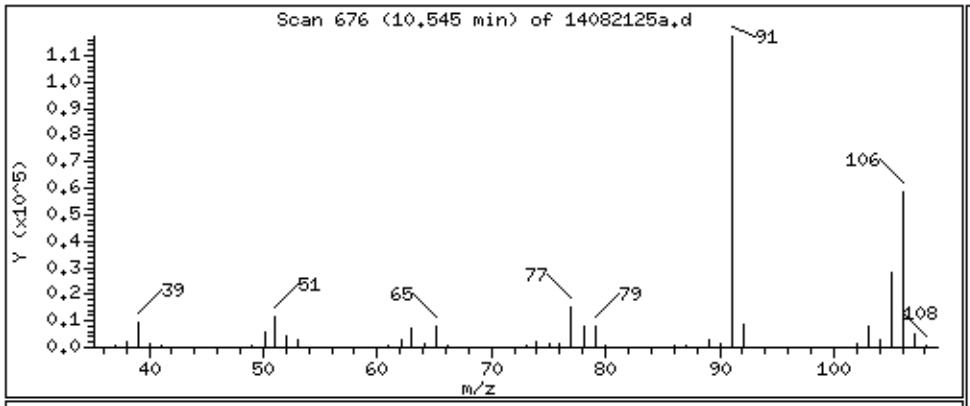
Operator: AK

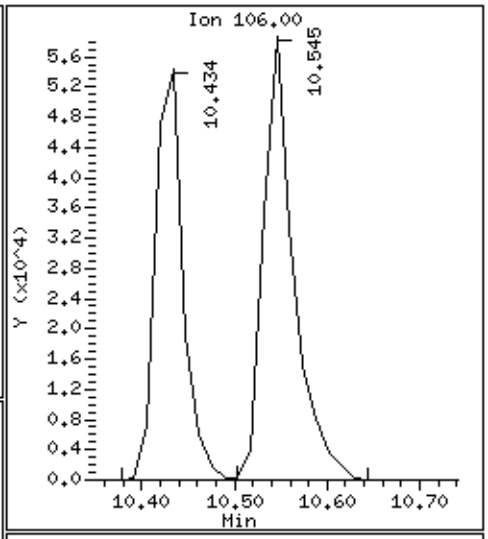
Column phase: RTX-624

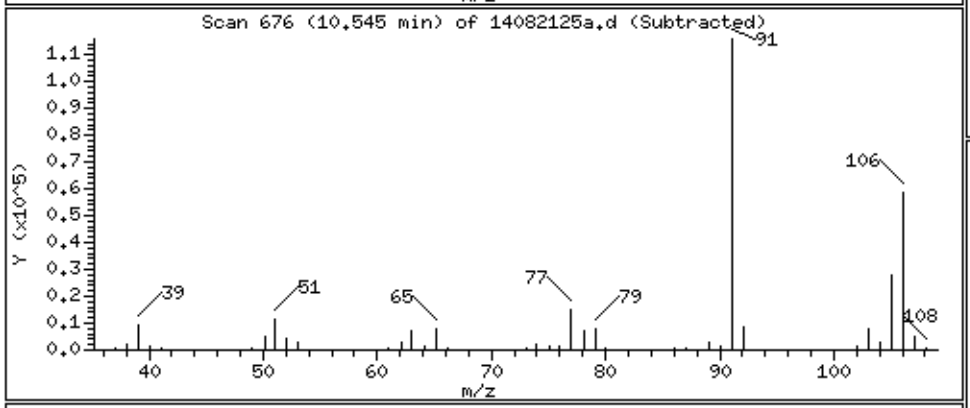
Column diameter: 0.18

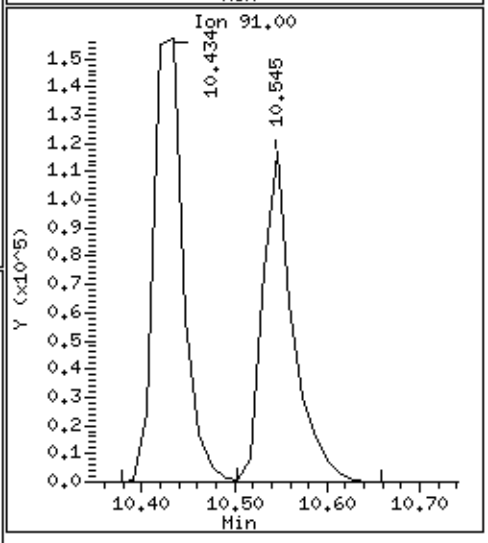
184 m,p-Xylene

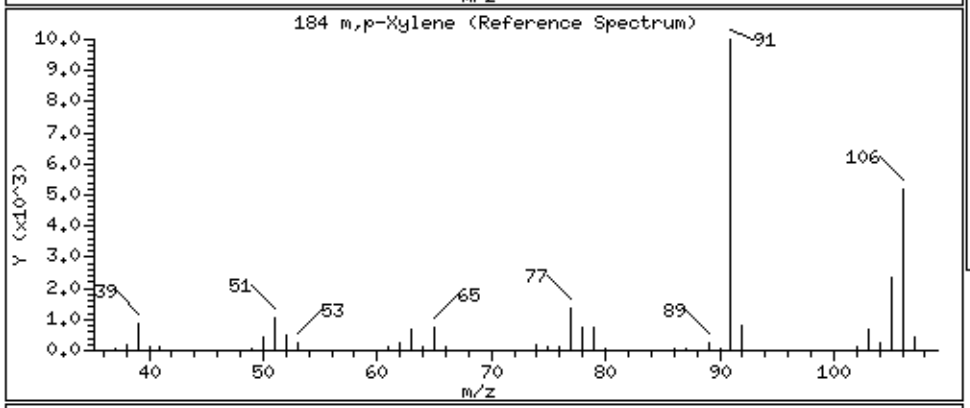
Concentration: 197.48 PPBV

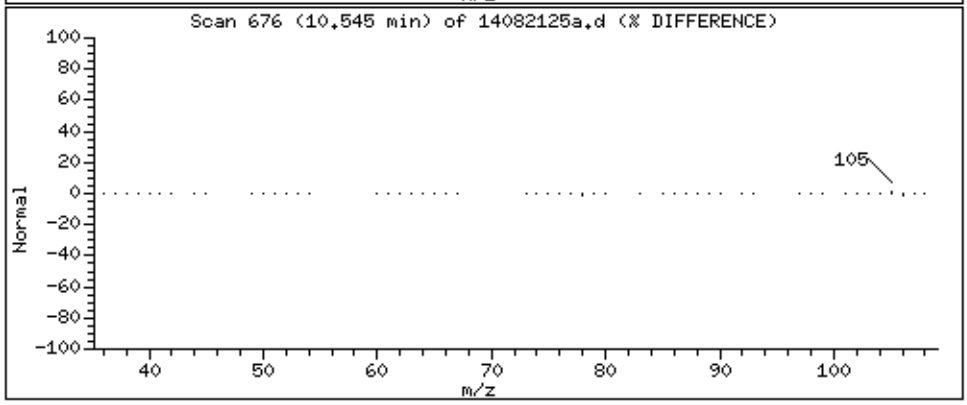












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

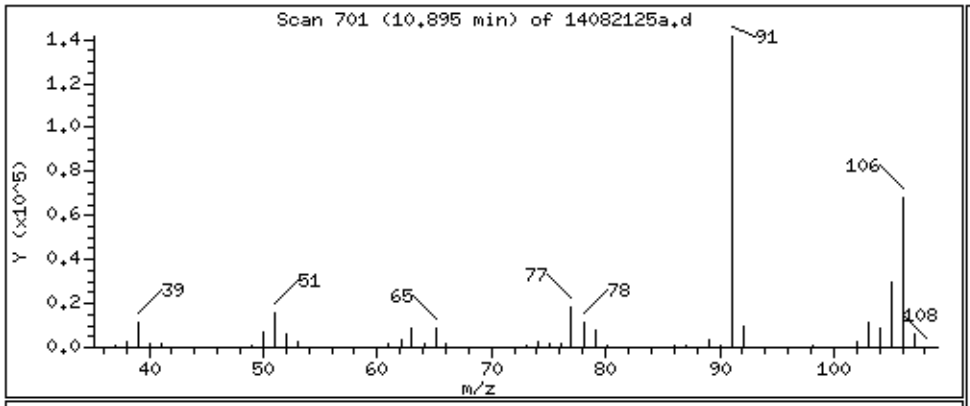
Operator: AK

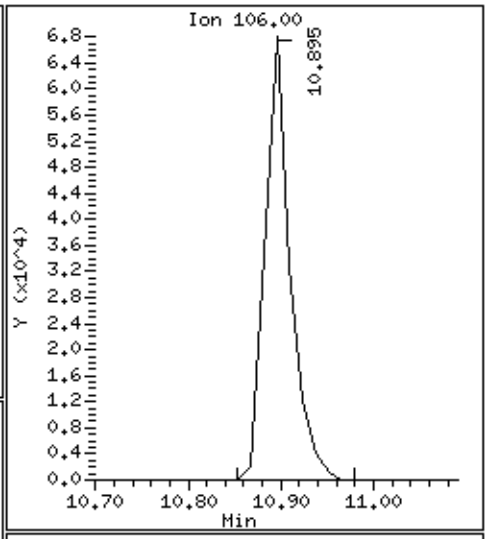
Column phase: RTX-624

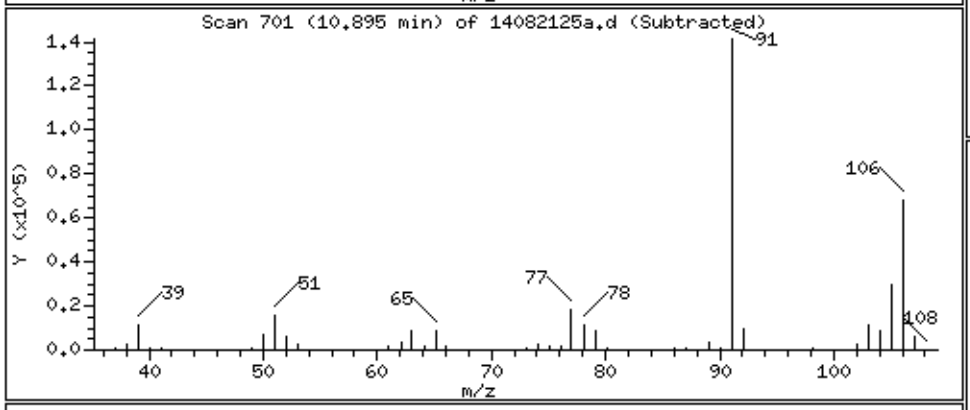
Column diameter: 0.18

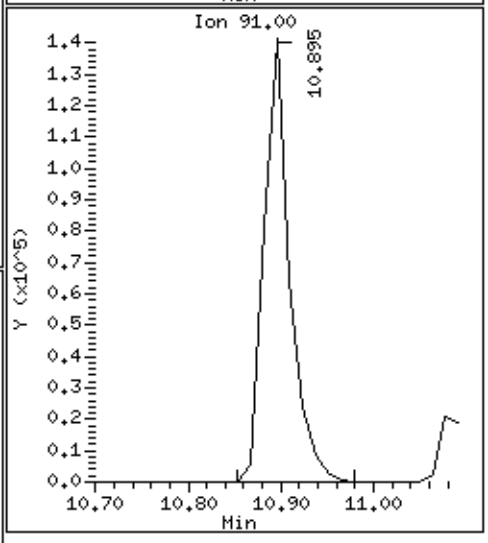
189 o-Xylene

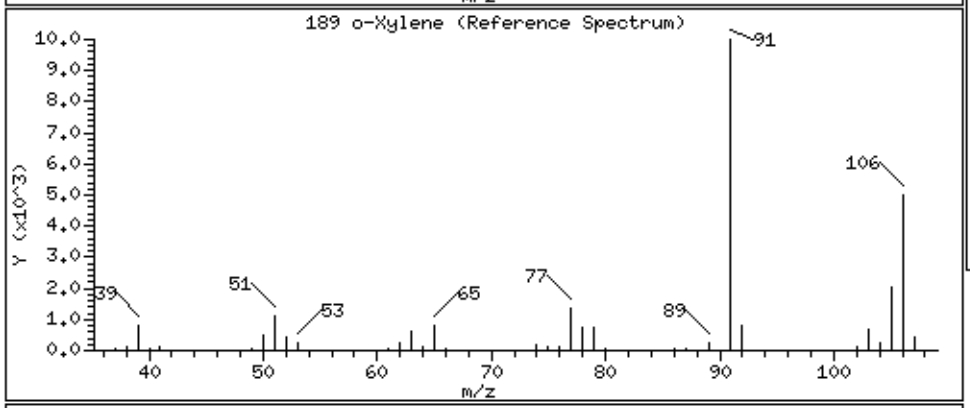
Concentration: 205.40 PPBV

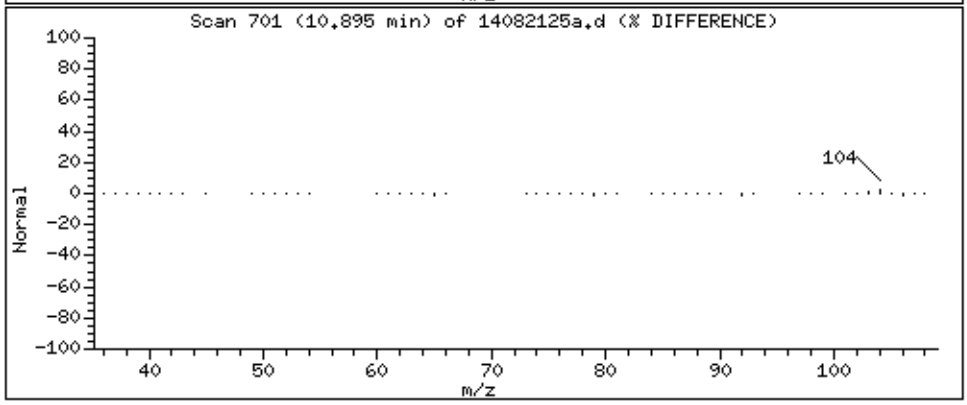












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

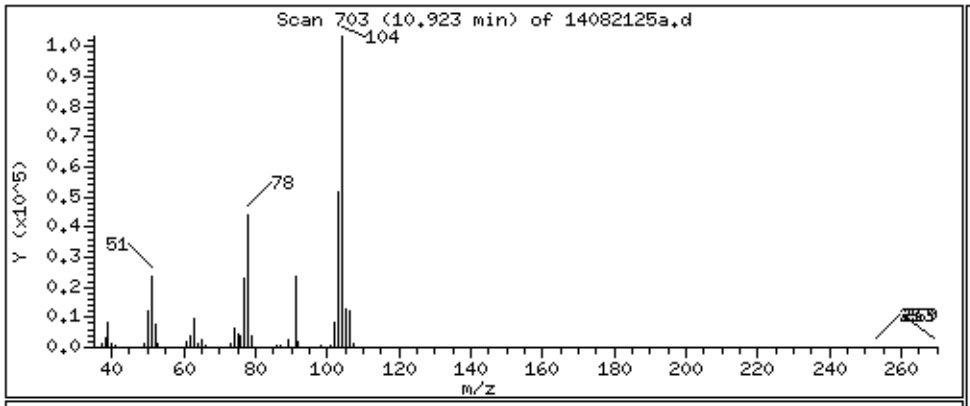
Operator: AK

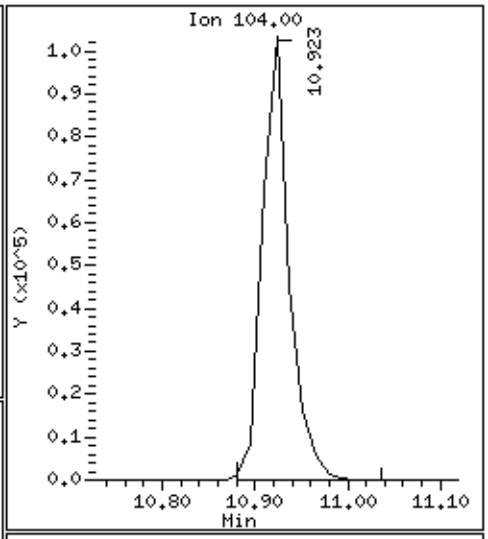
Column phase: RTX-624

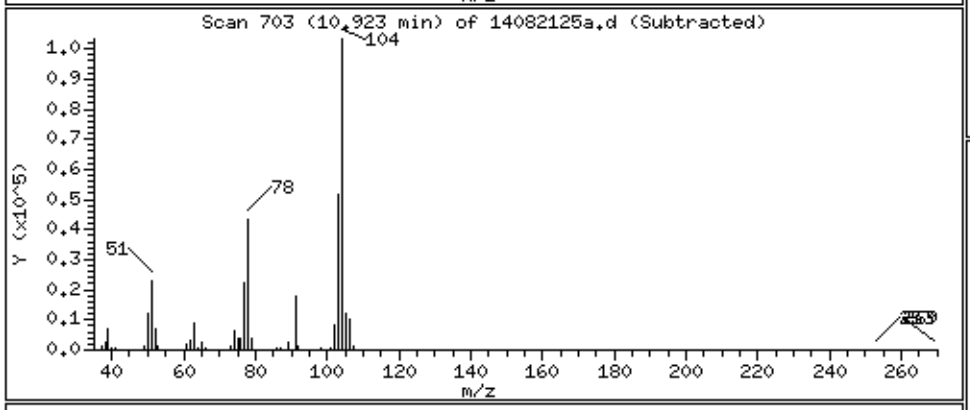
Column diameter: 0.18

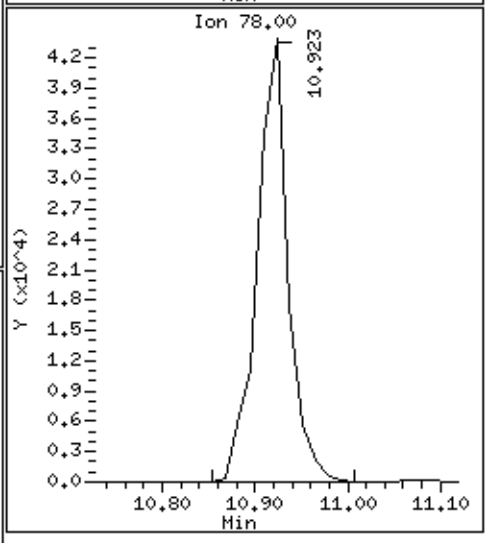
190 Styrene

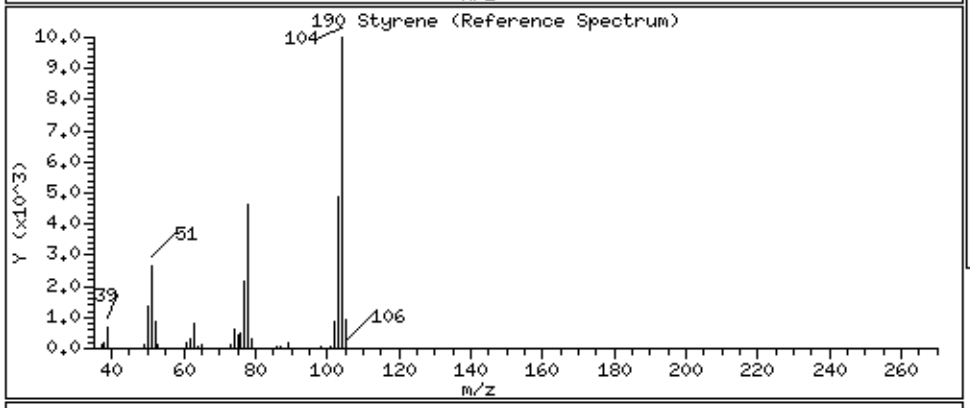
Concentration: 211.01 PPBV

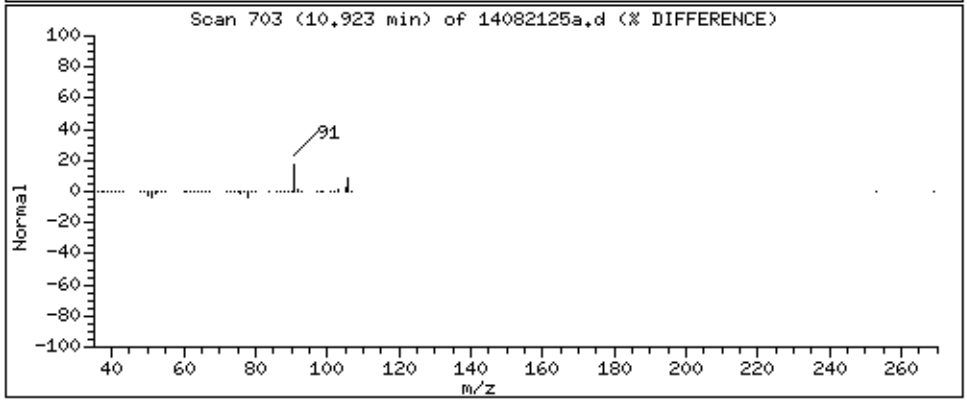












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

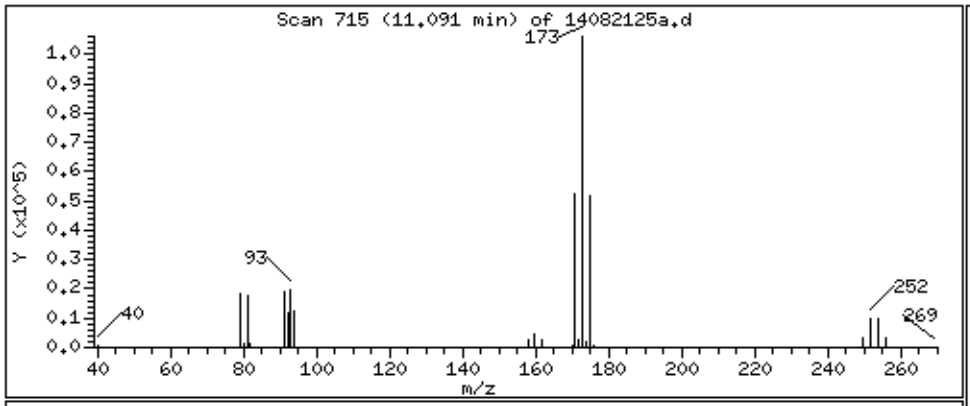
Operator: AK

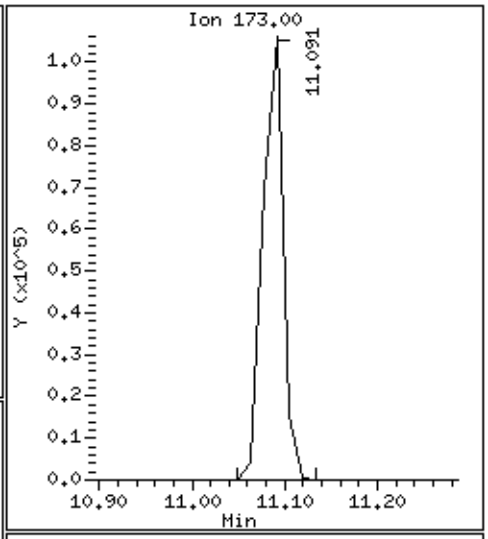
Column phase: RTX-624

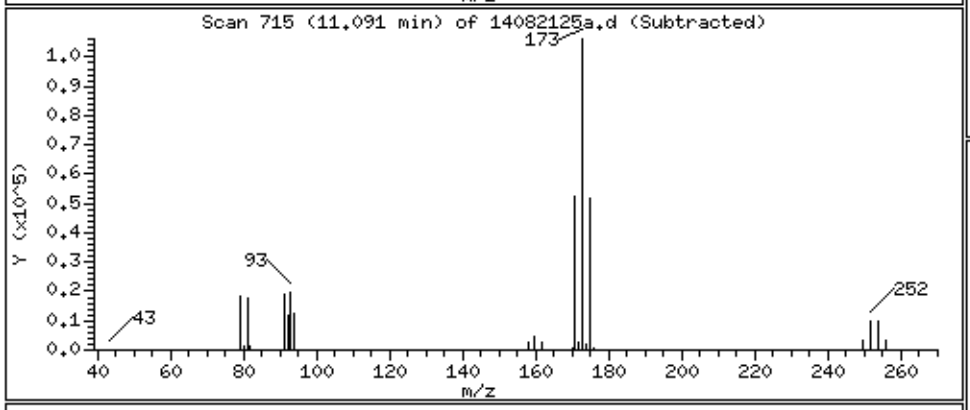
Column diameter: 0.18

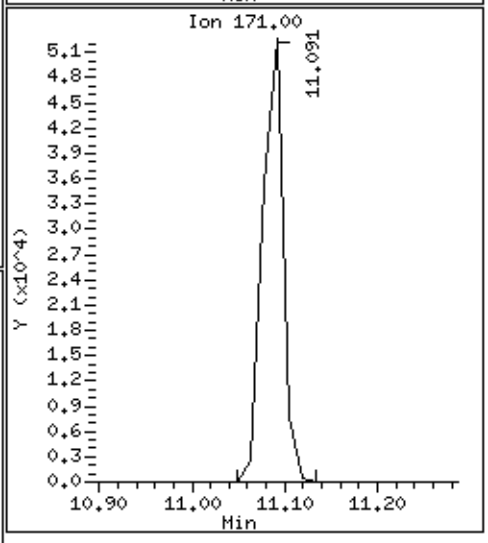
194 Bromoform

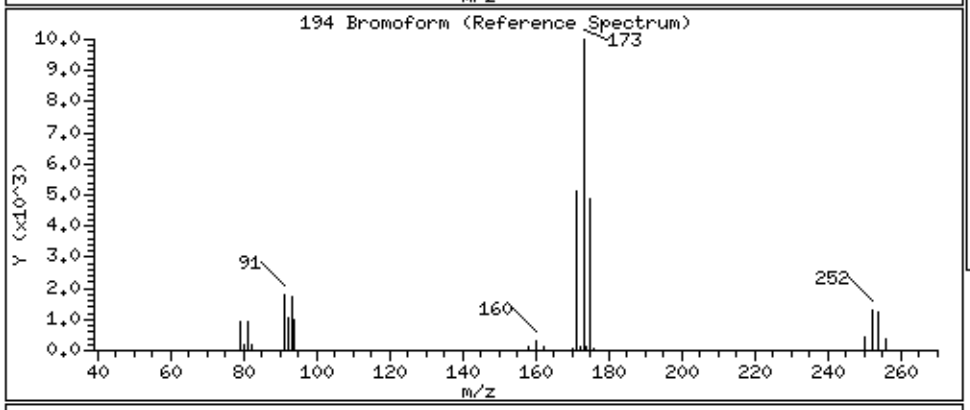
Concentration: 208.77 PPBV

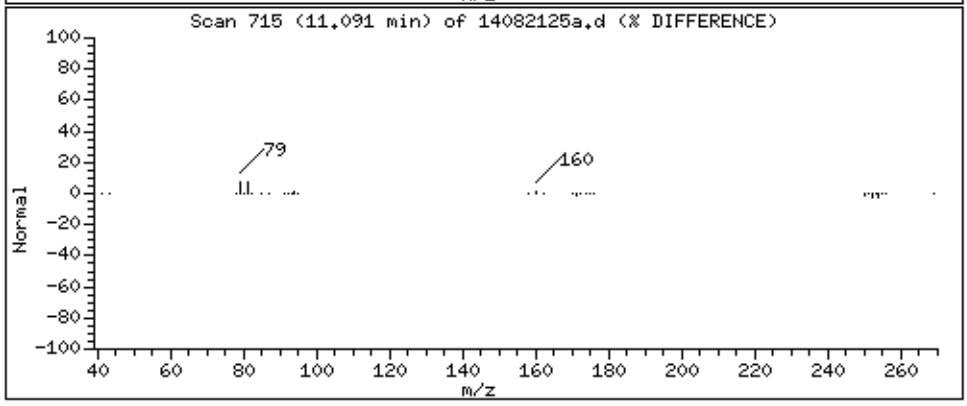












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

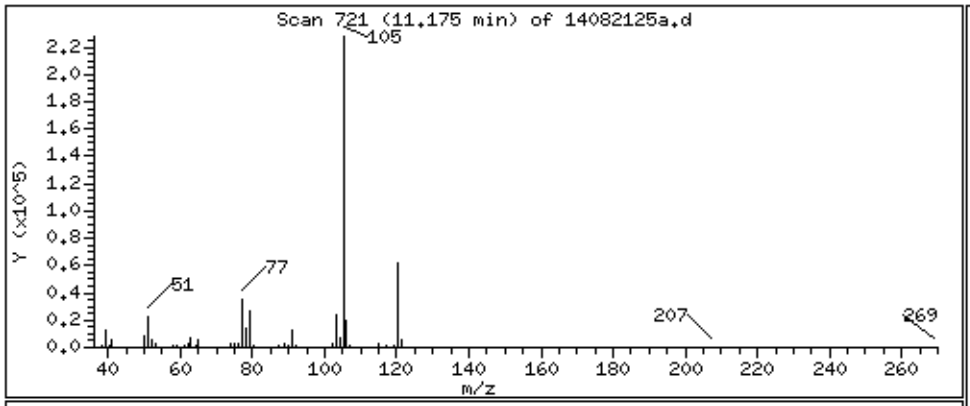
Operator: AK

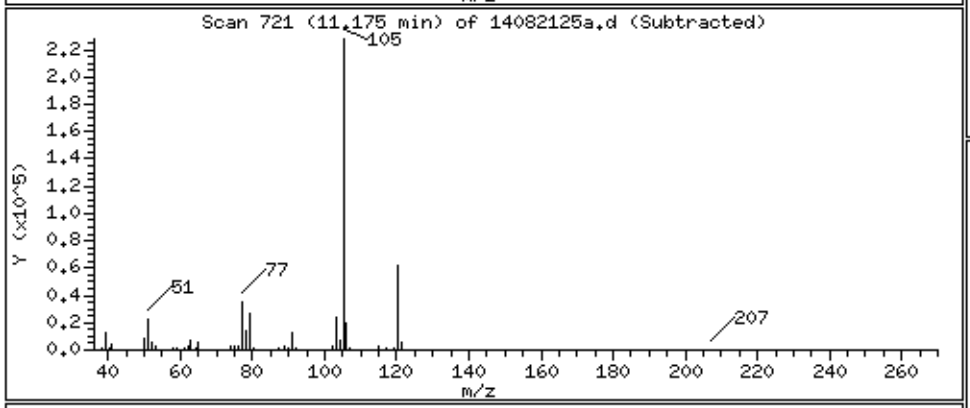
Column phase: RTX-624

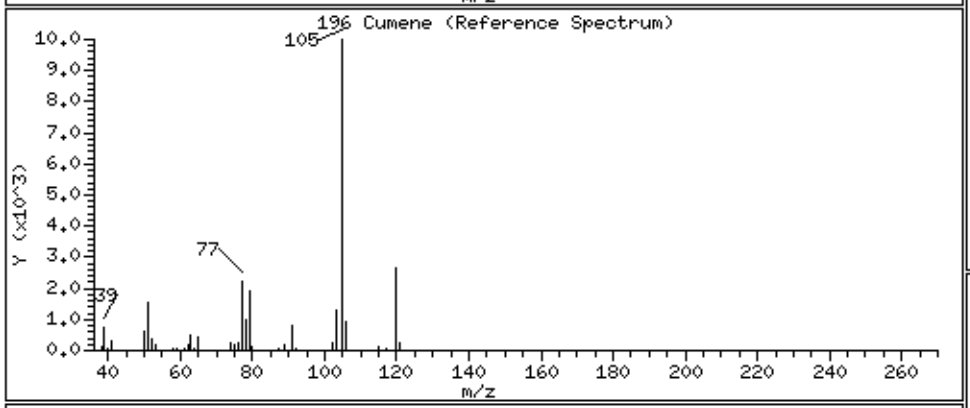
Column diameter: 0.18

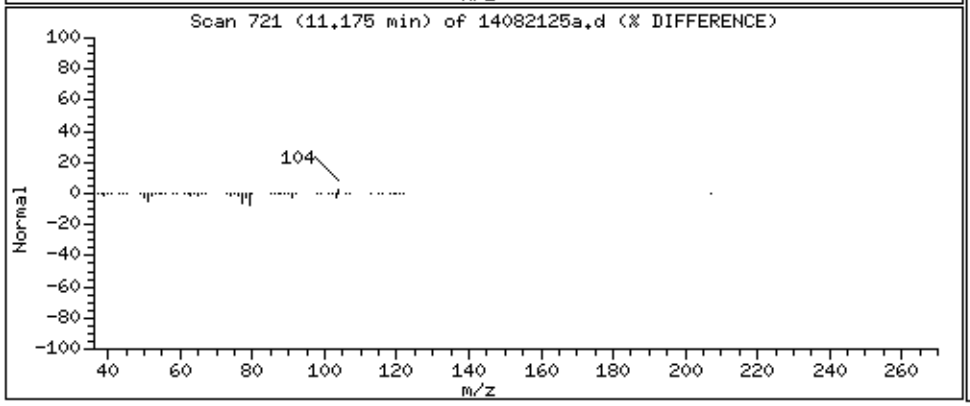
196 Cumene

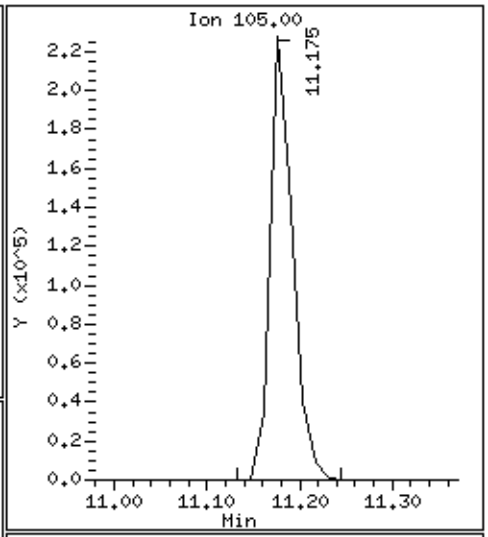
Concentration: 196.86 PPBV

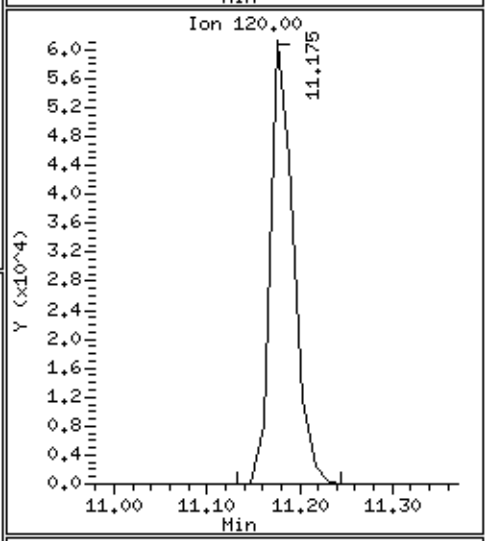


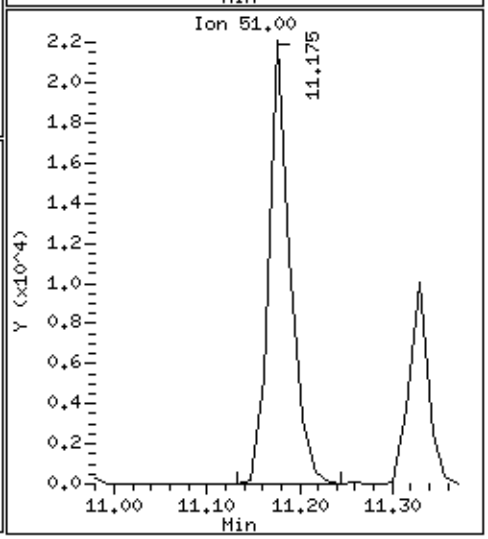












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

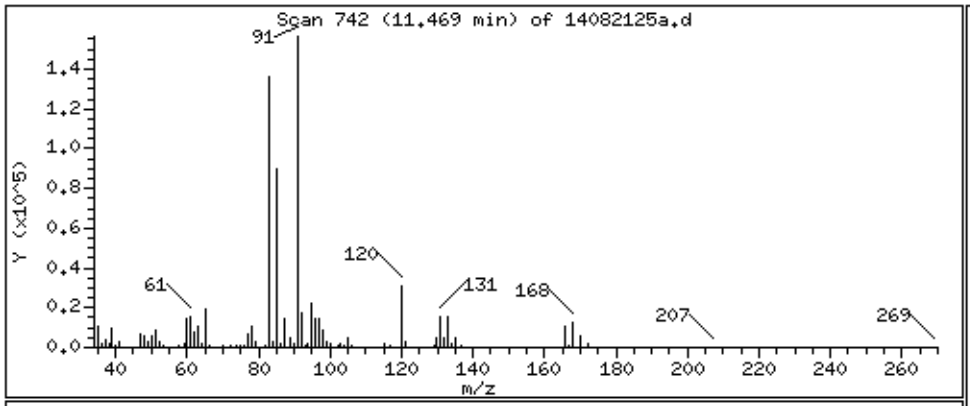
Operator: AK

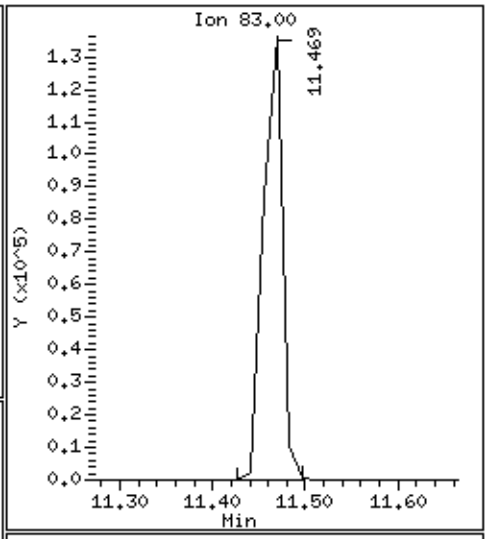
Column phase: RTX-624

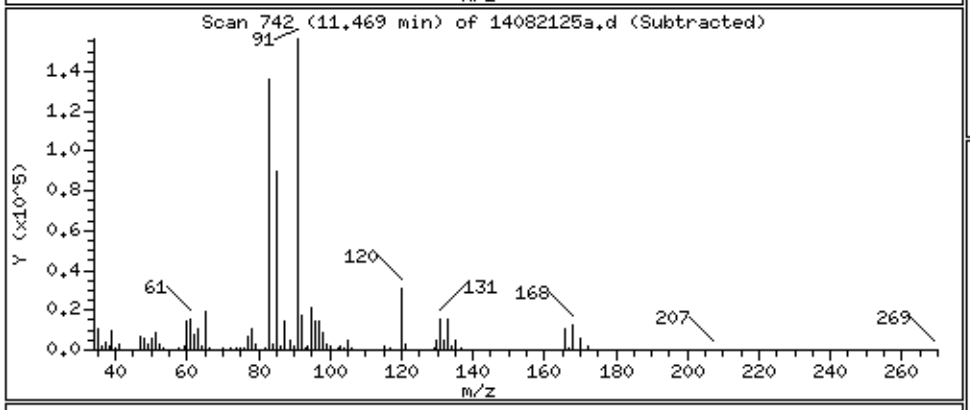
Column diameter: 0.18

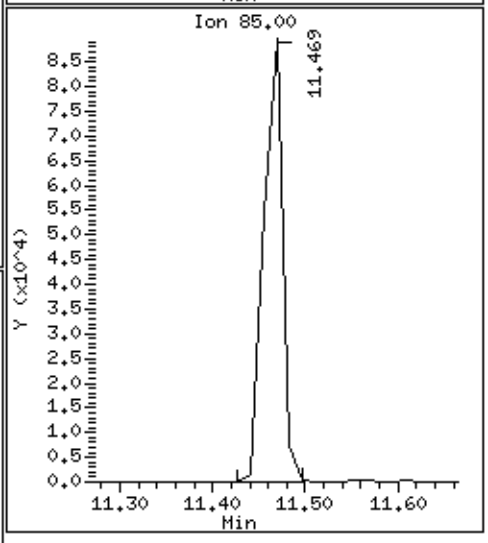
200 1,1,2,2-Tetrachloroethane

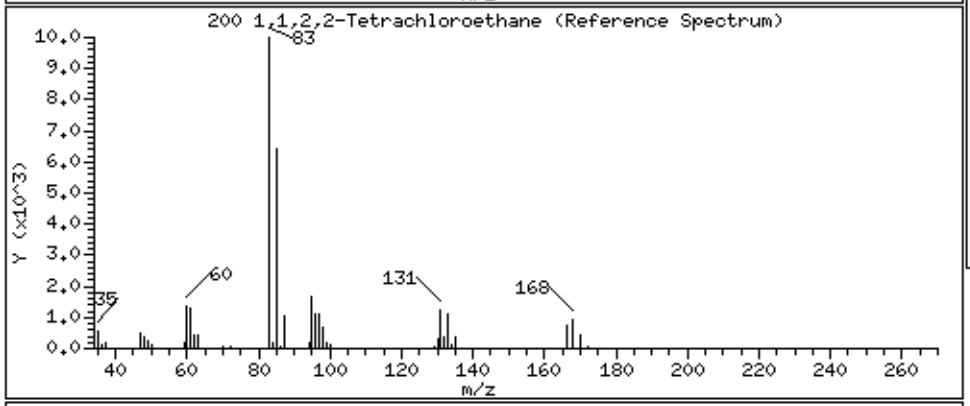
Concentration: 197.42 PPBV

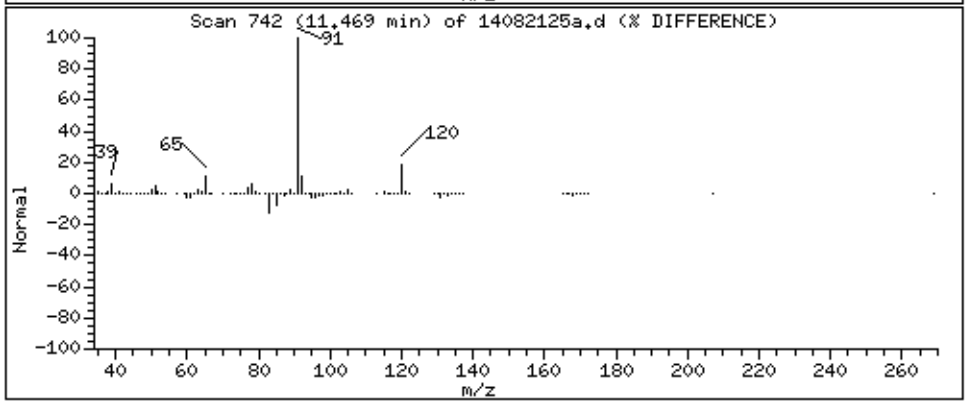












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

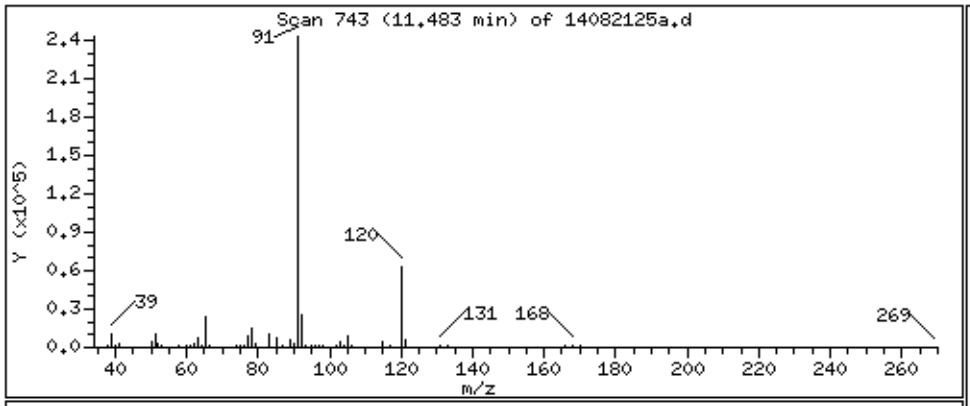
Operator: AK

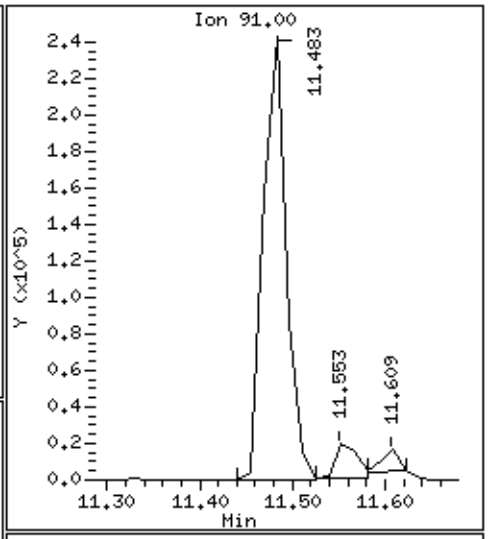
Column phase: RTX-624

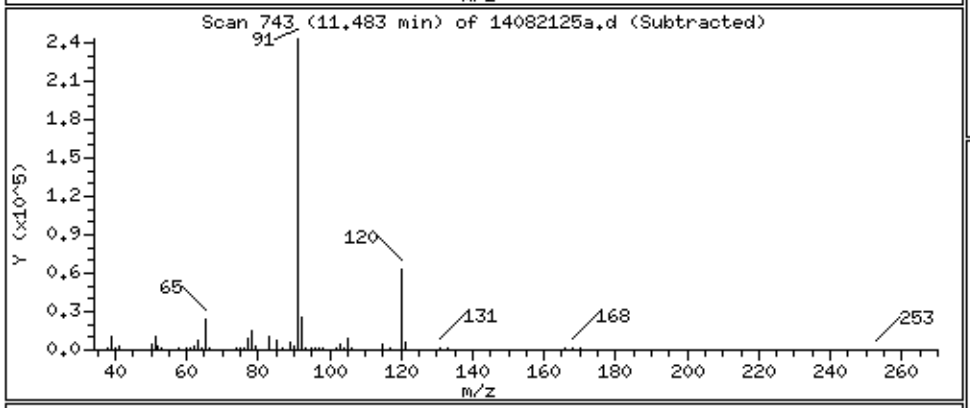
Column diameter: 0.18

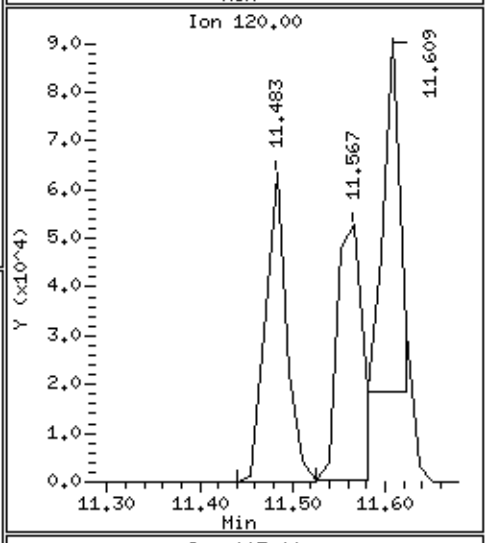
201 Propylbenzene

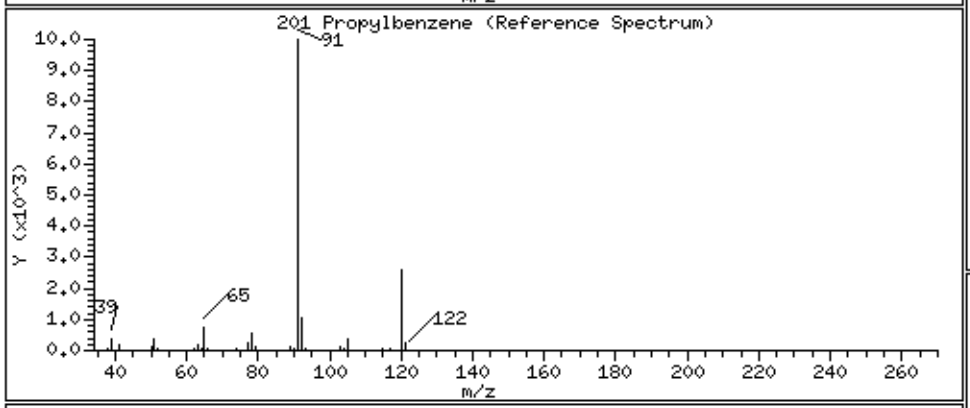
Concentration: 195.07 PPBV

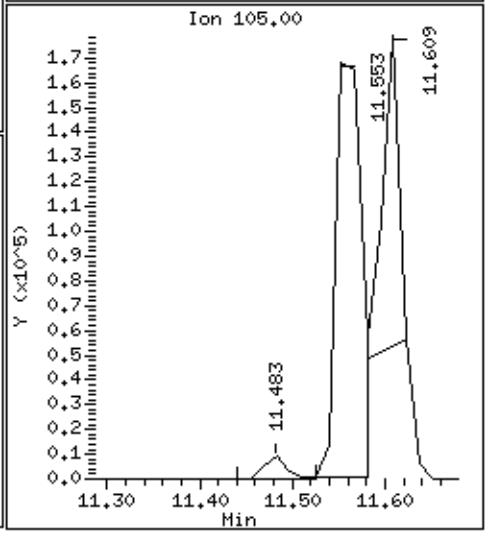


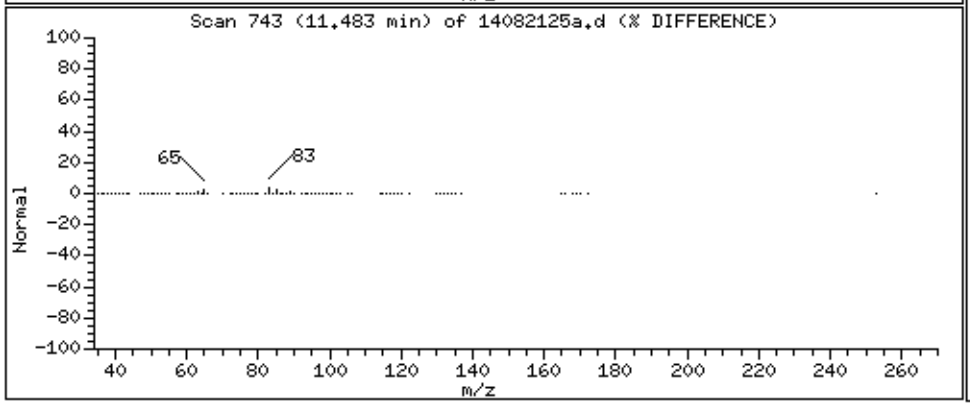












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

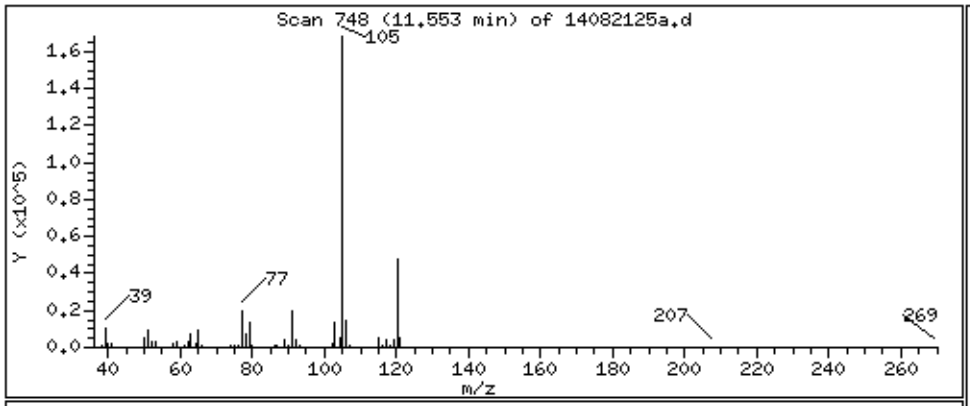
Operator: AK

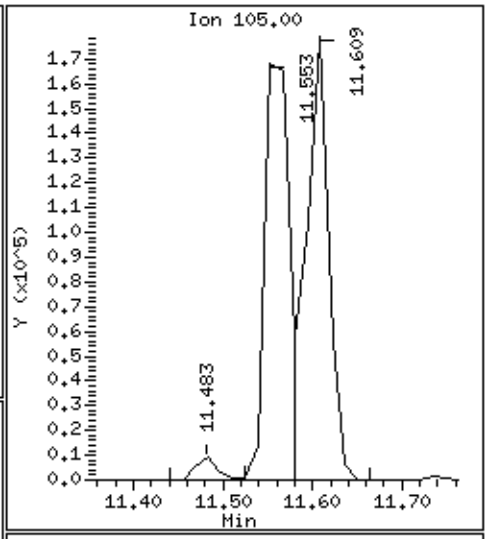
Column phase: RTX-624

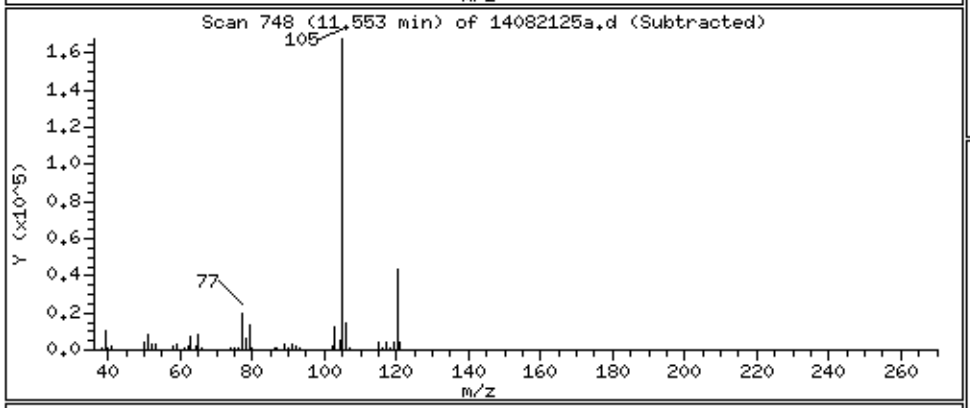
Column diameter: 0.18

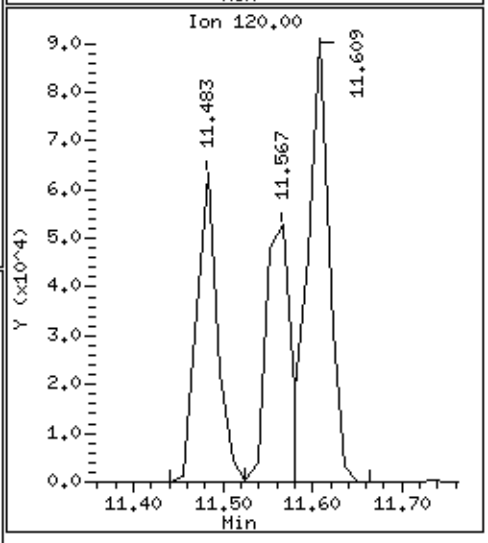
206 4-Ethyltoluene

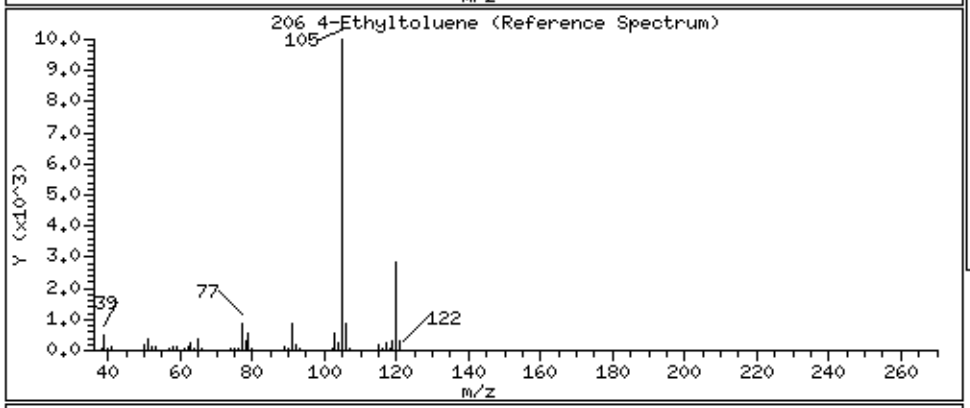
Concentration: 198.08 PPBV

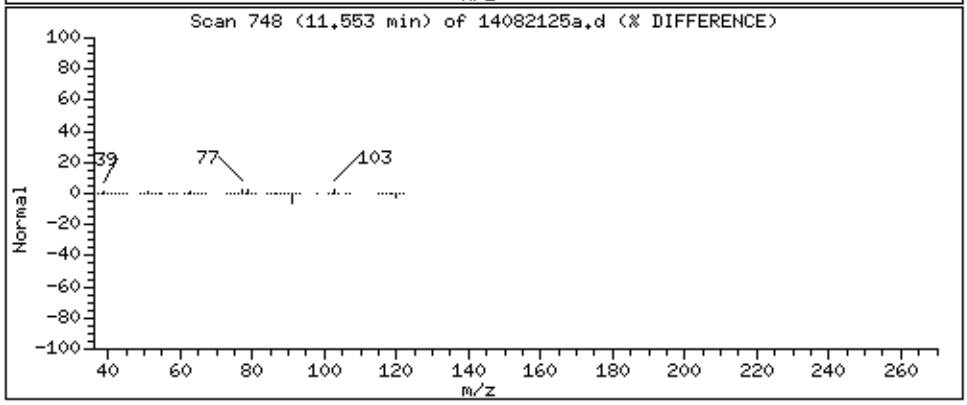












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

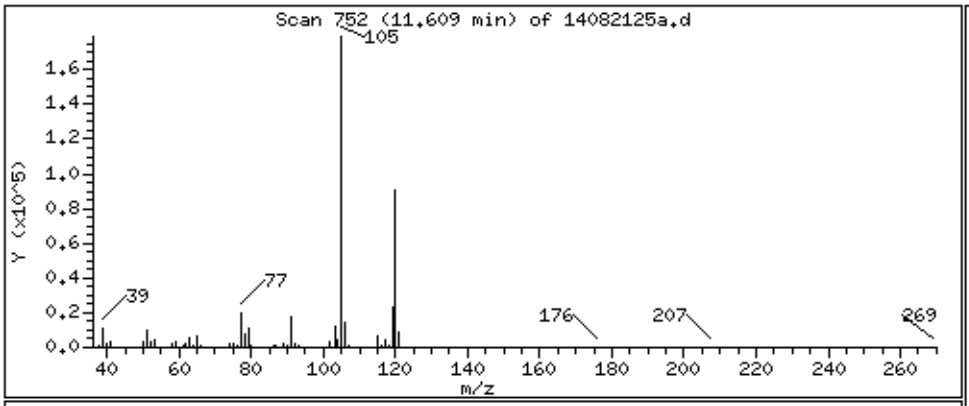
Operator: AK

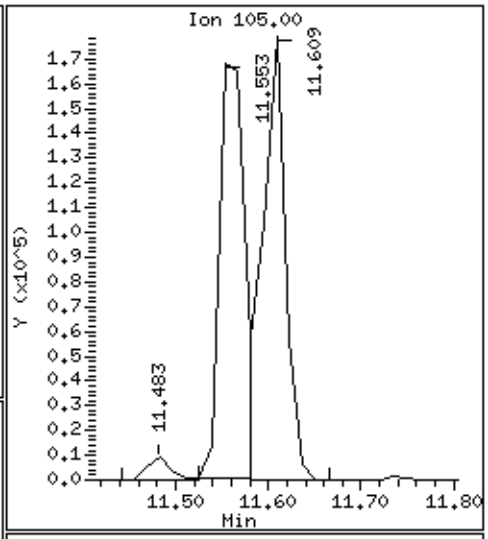
Column phase: RTX-624

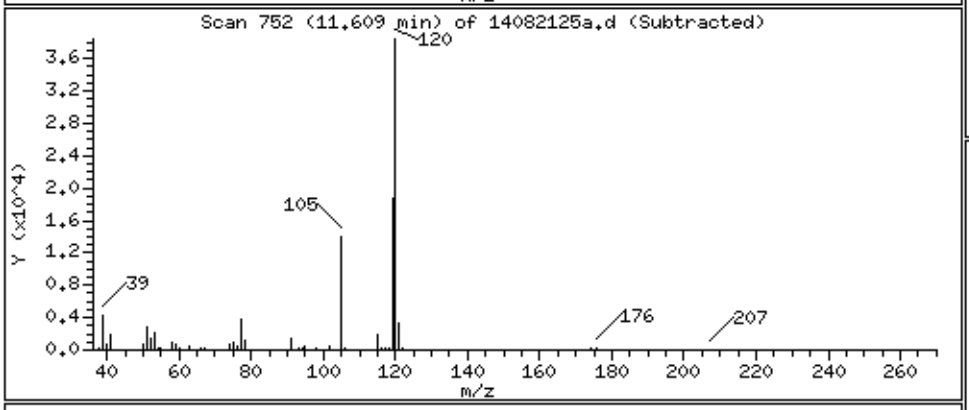
Column diameter: 0.18

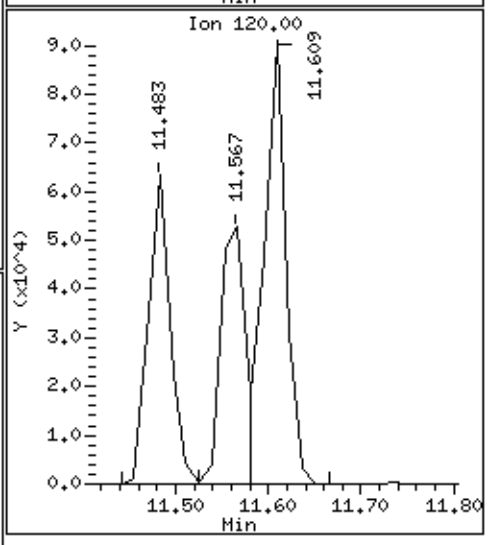
207 1,3,5-Trimethylbenzene

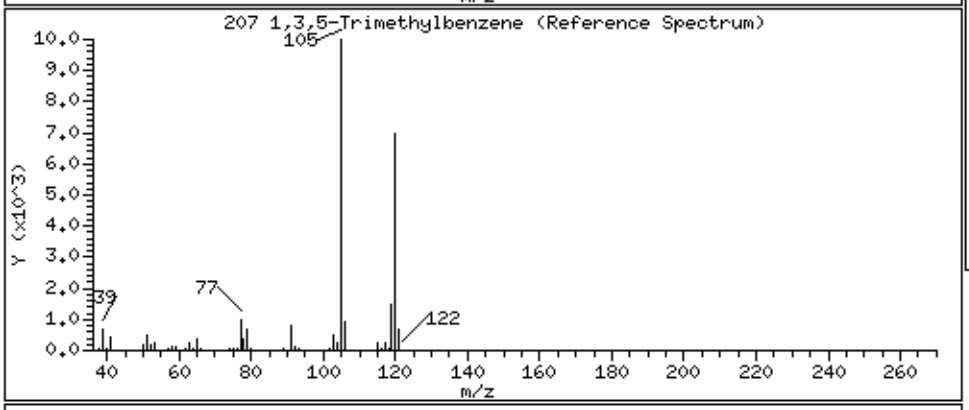
Concentration: 217.24 PPBV

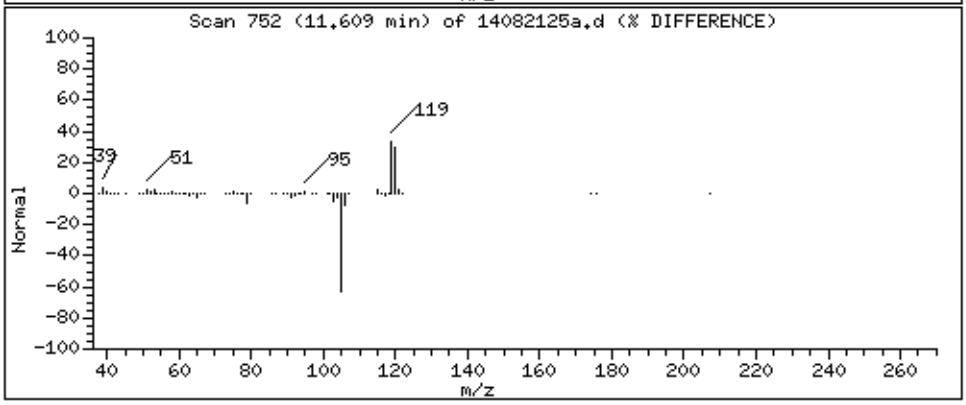












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

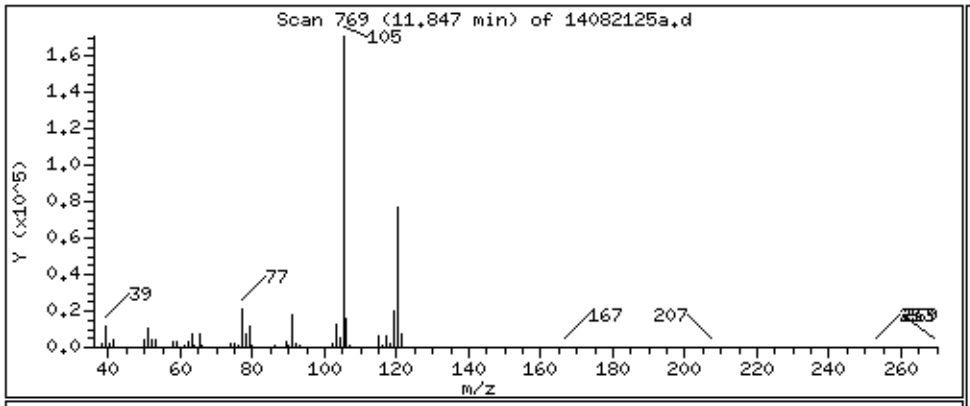
Operator: AK

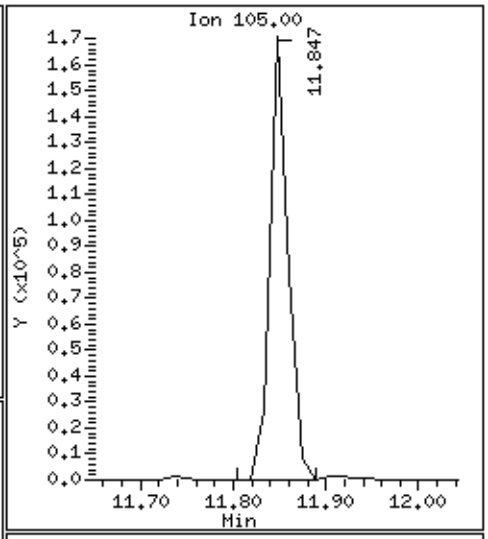
Column phase: RTX-624

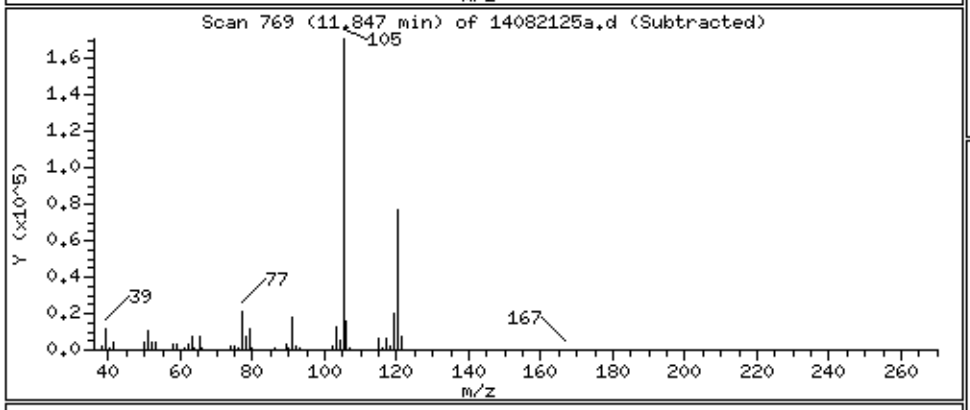
Column diameter: 0.18

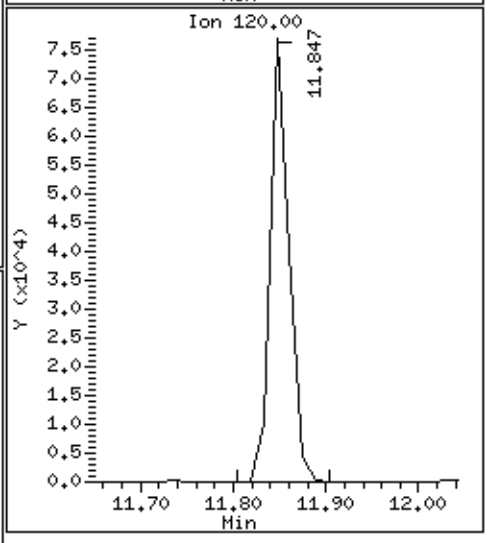
212 1,2,4-Trimethylbenzene

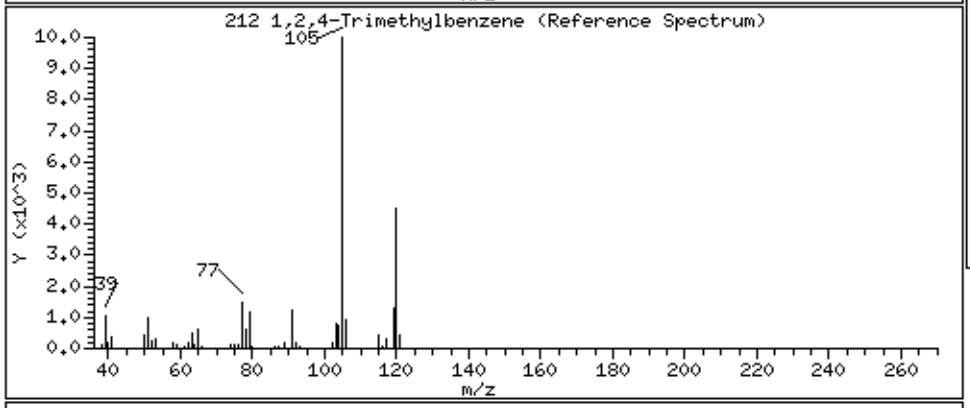
Concentration: 190.27 PPBV

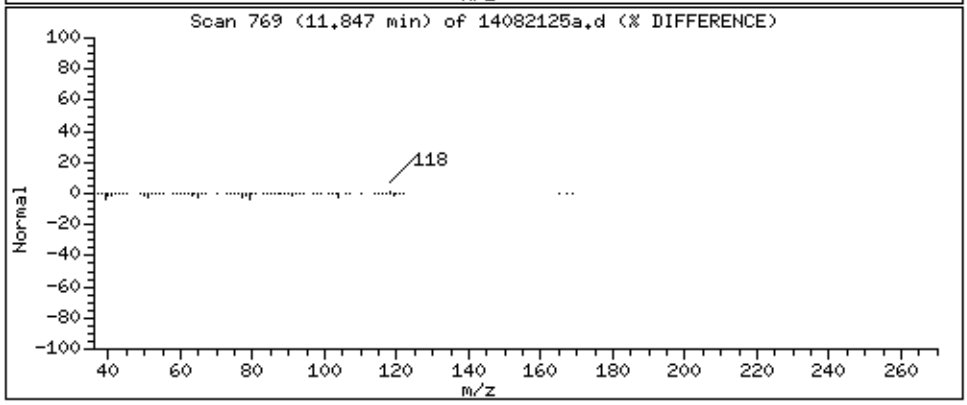












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

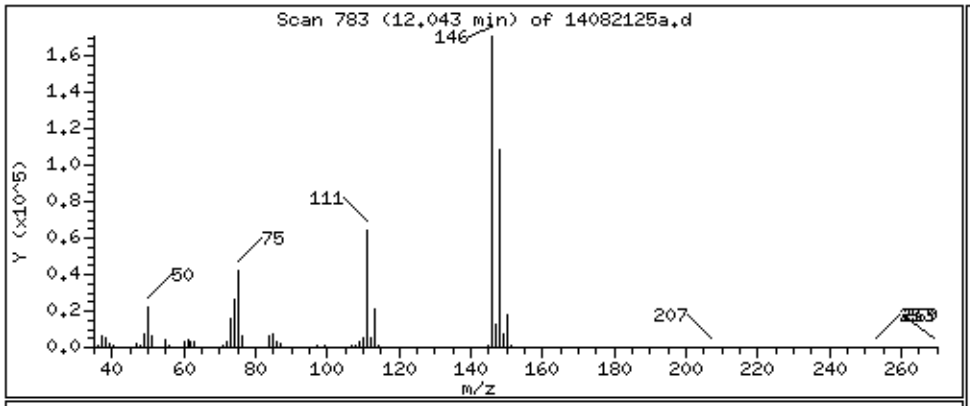
Operator: AK

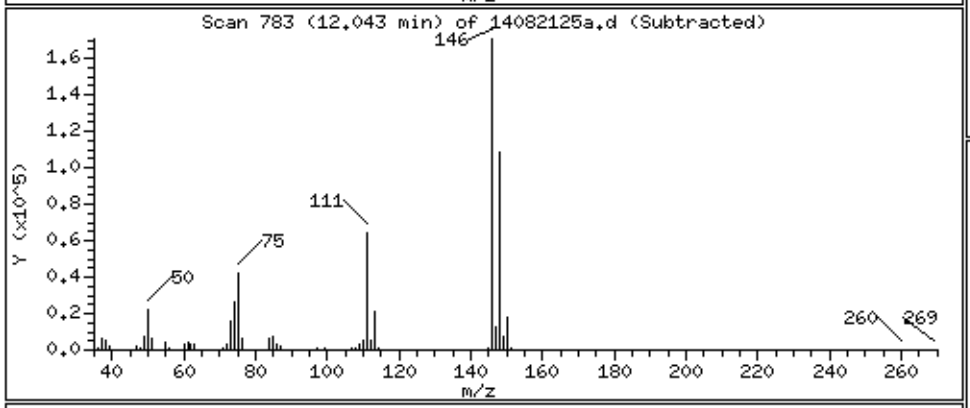
Column phase: RTX-624

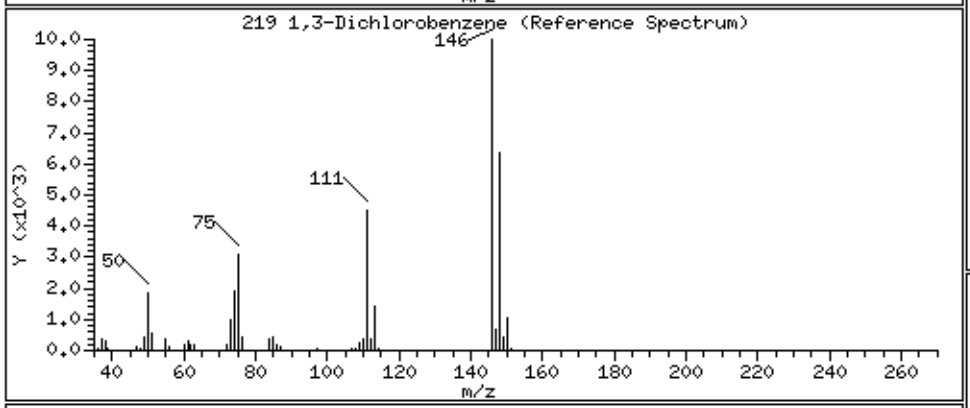
Column diameter: 0.18

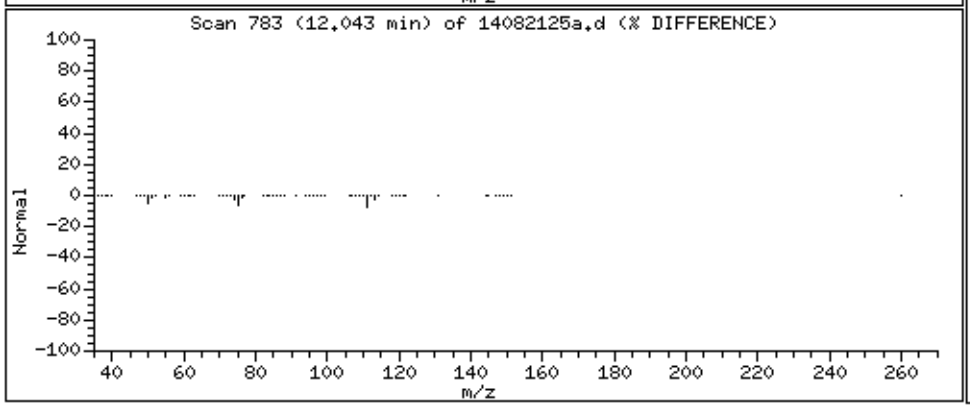
219 1,3-Dichlorobenzene

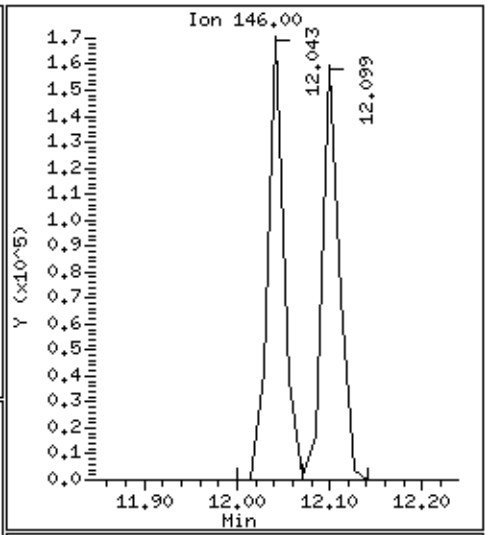
Concentration: 196.07 PPBV

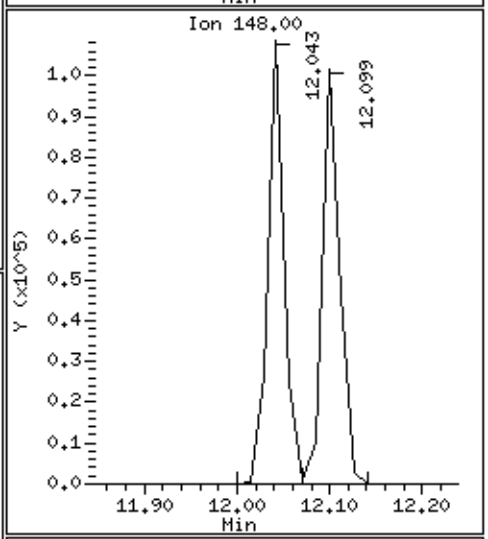


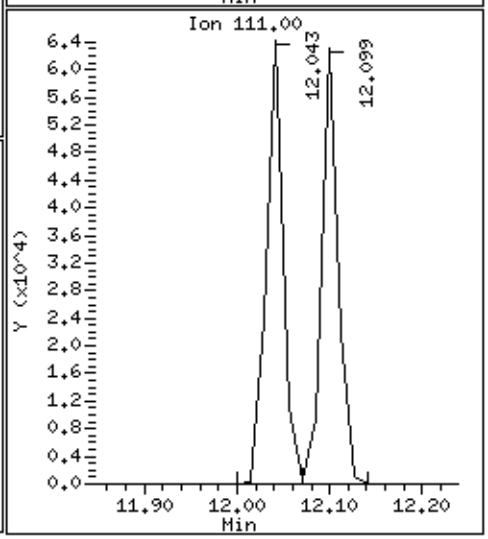












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

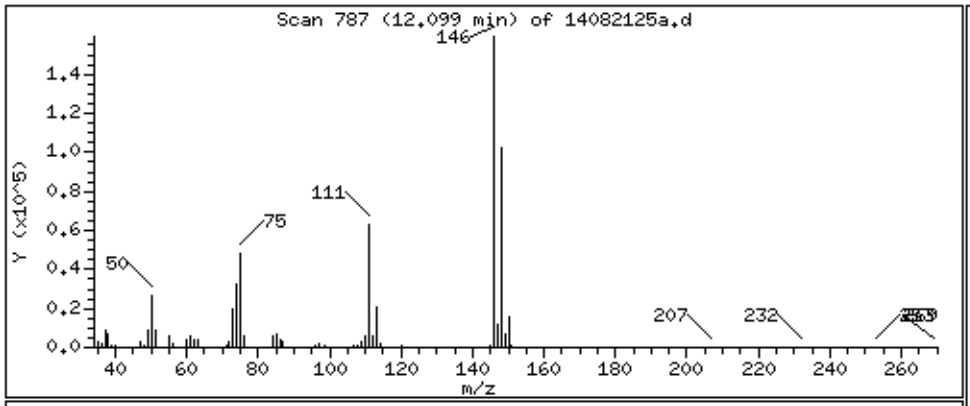
Operator: AK

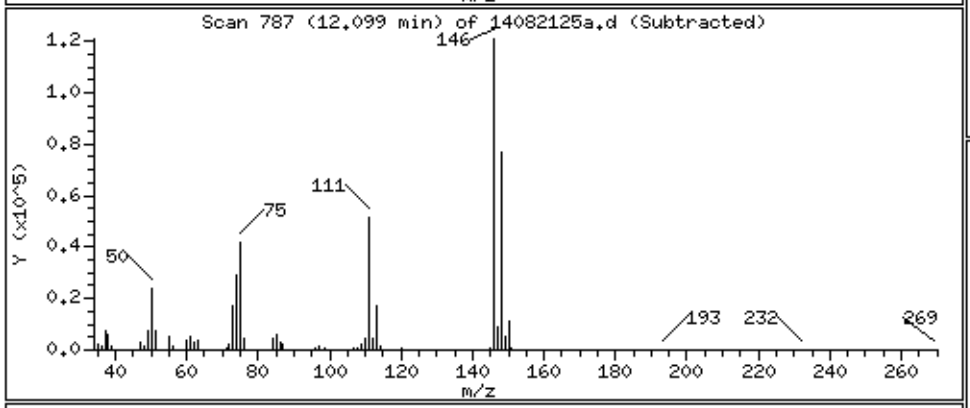
Column phase: RTX-624

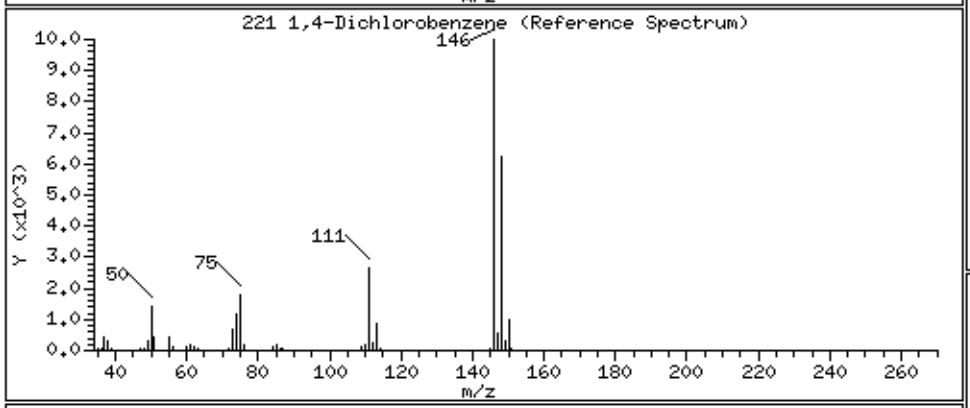
Column diameter: 0.18

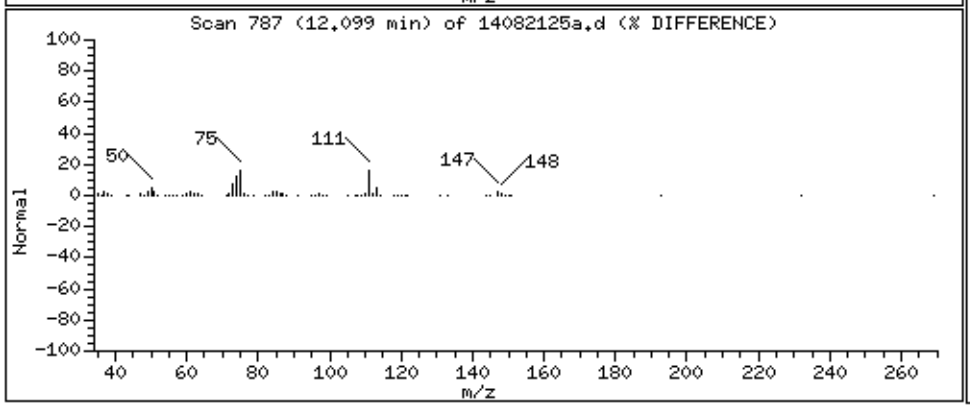
221 1,4-Dichlorobenzene

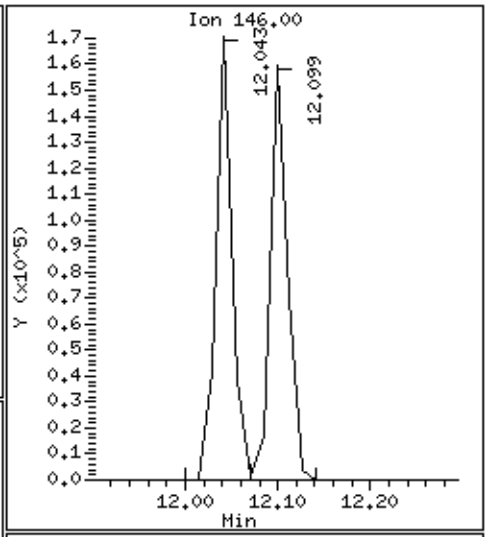
Concentration: 202.14 PPBV

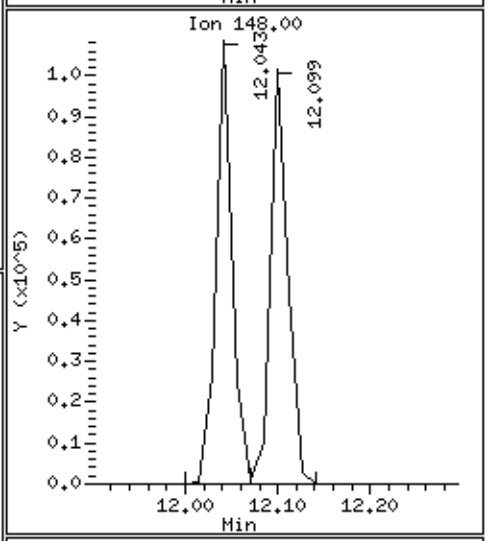


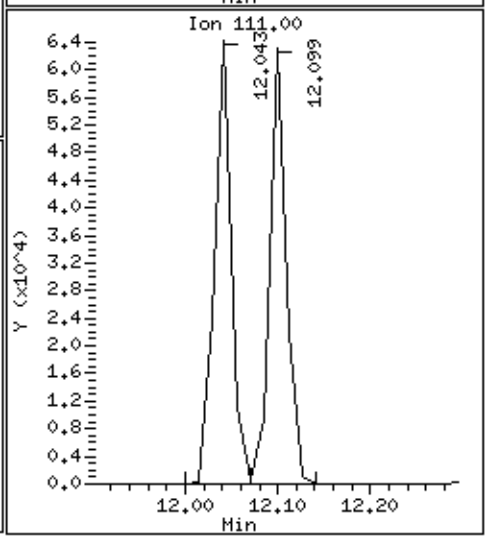












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

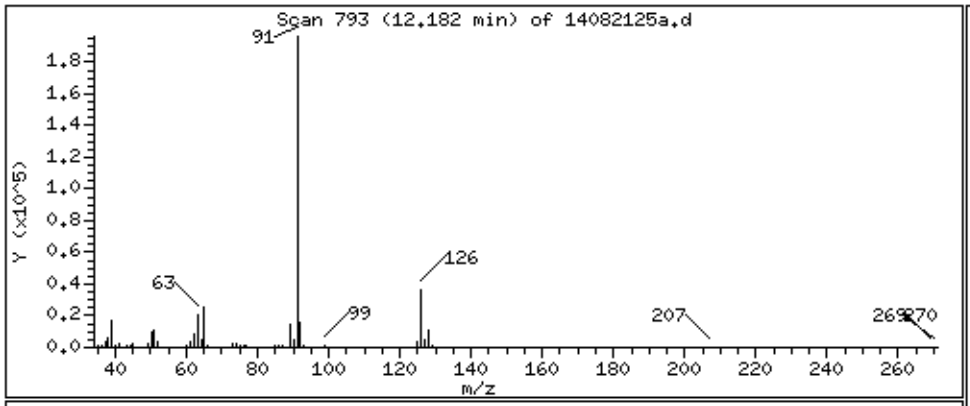
Operator: AK

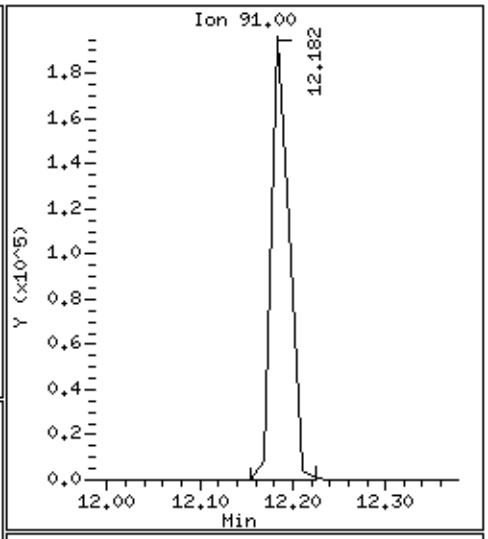
Column phase: RTX-624

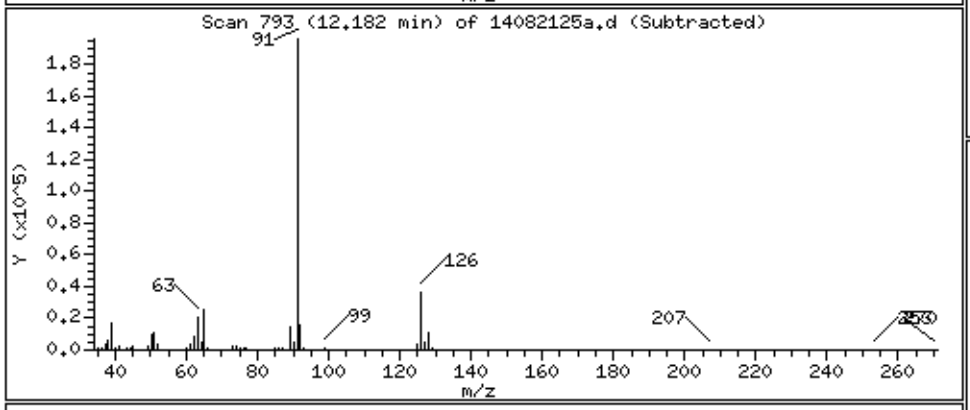
Column diameter: 0.18

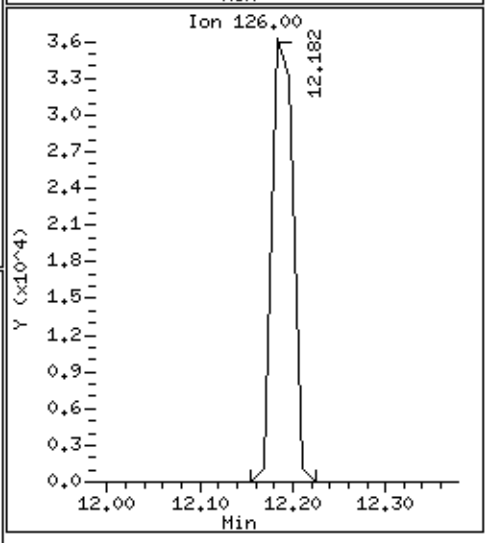
223 alpha-Chlorotoluene

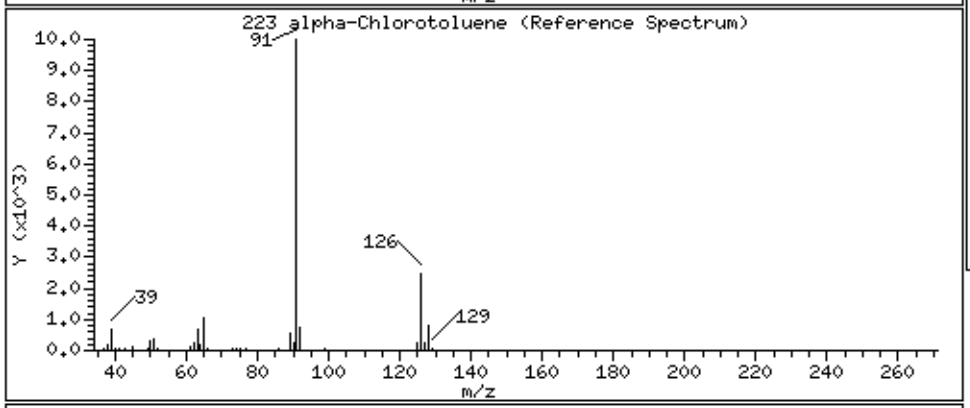
Concentration: 203.70 PPBV

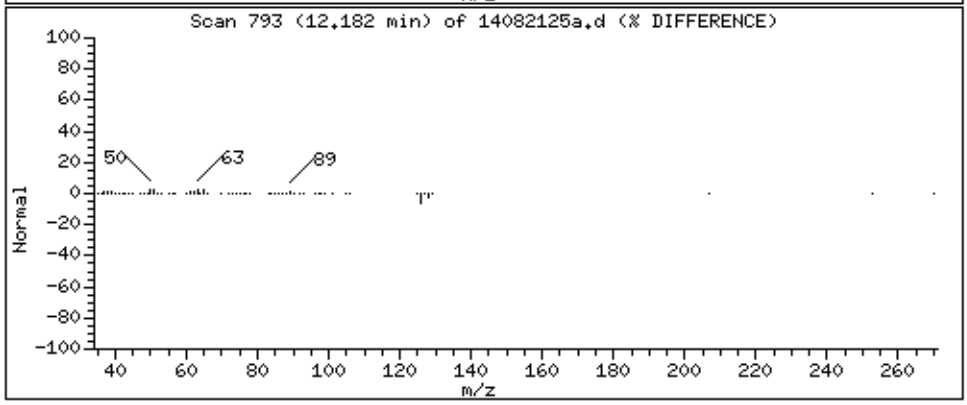












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

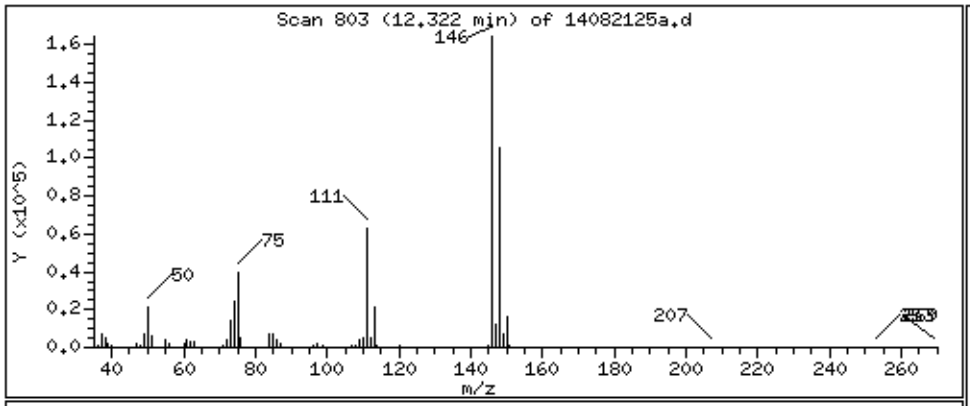
Operator: AK

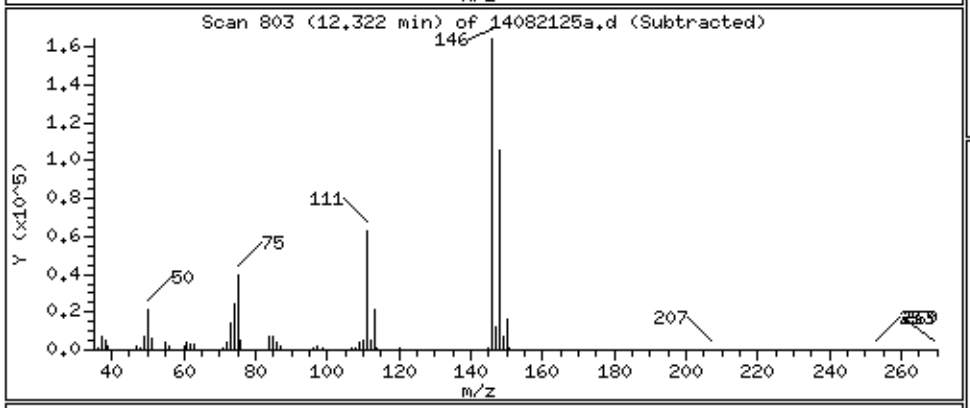
Column phase: RTX-624

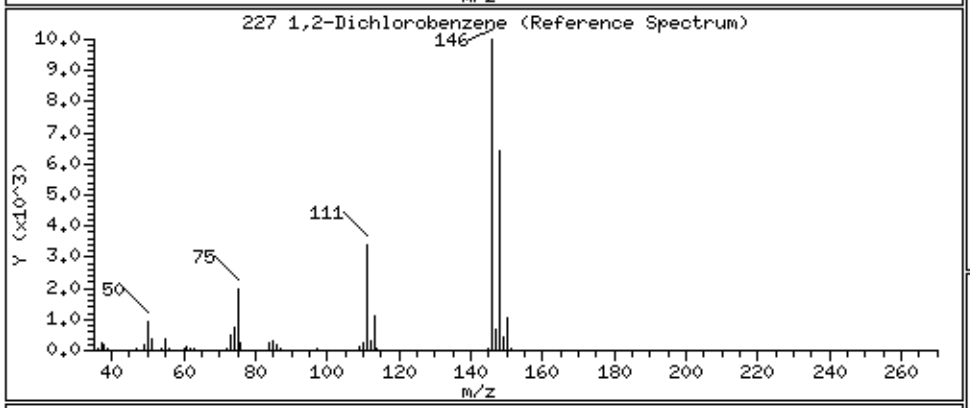
Column diameter: 0.18

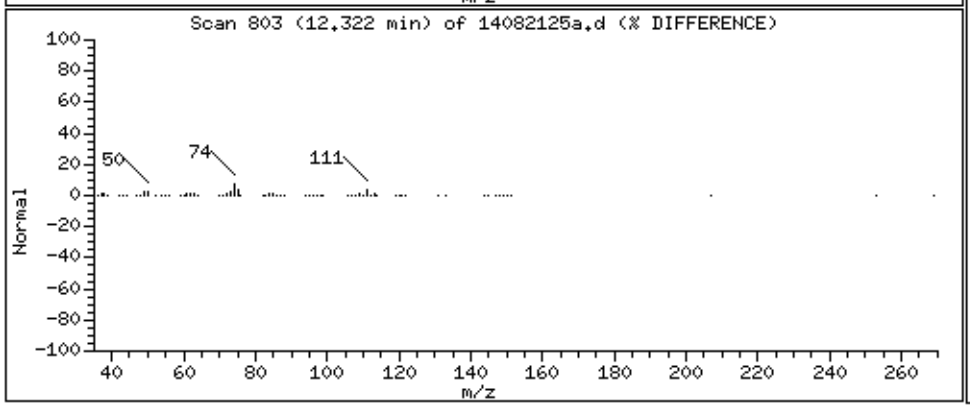
227 1,2-Dichlorobenzene

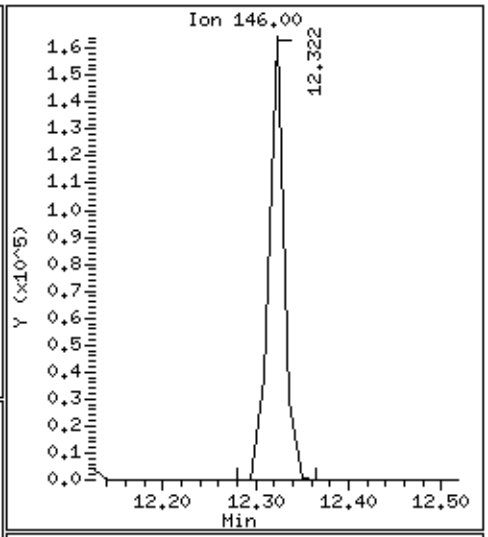
Concentration: 198.77 PPBV

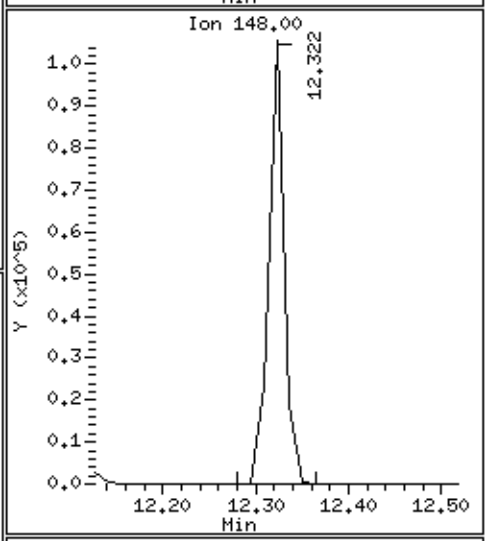


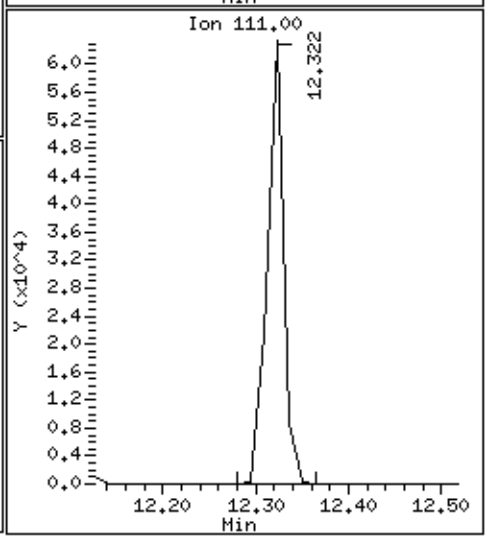












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

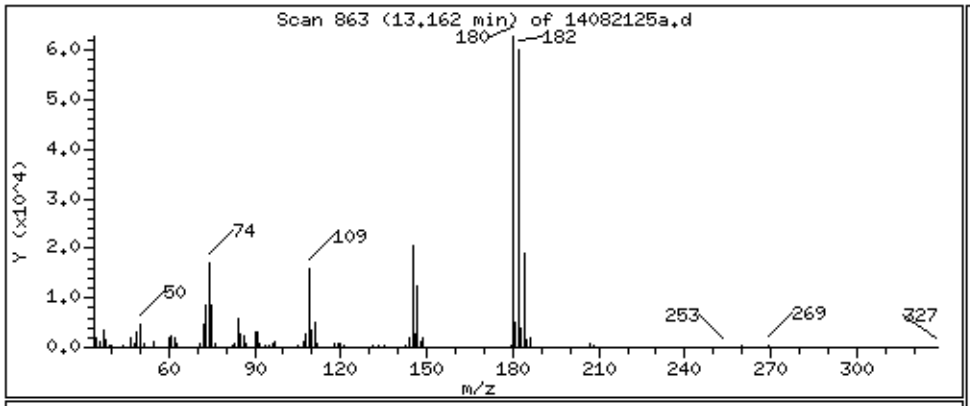
Operator: AK

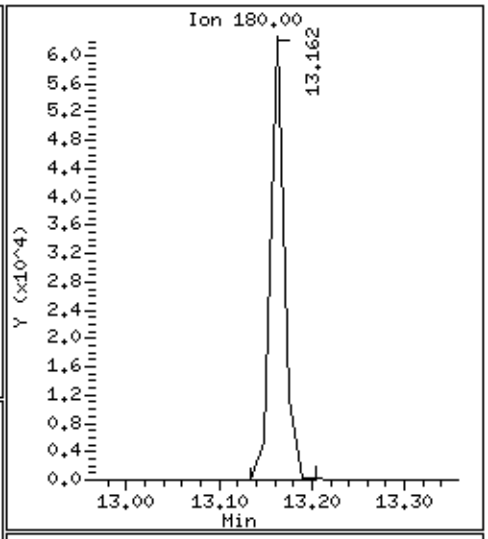
Column phase: RTX-624

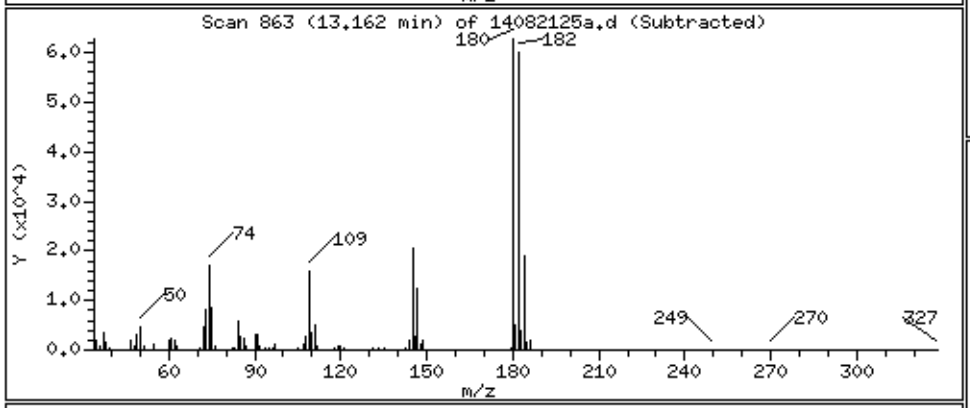
Column diameter: 0.18

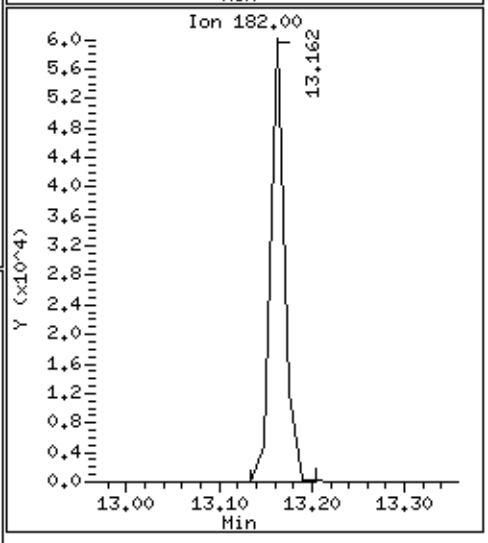
233 1,2,4-Trichlorobenzene

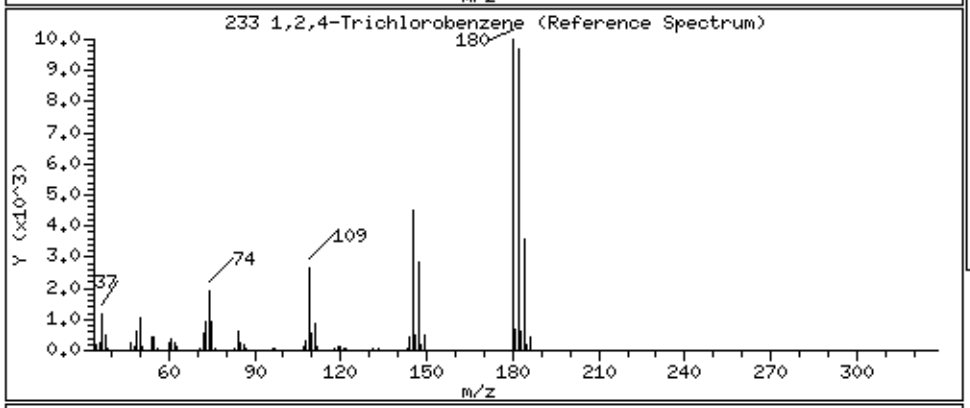
Concentration: 158.74 PPBV

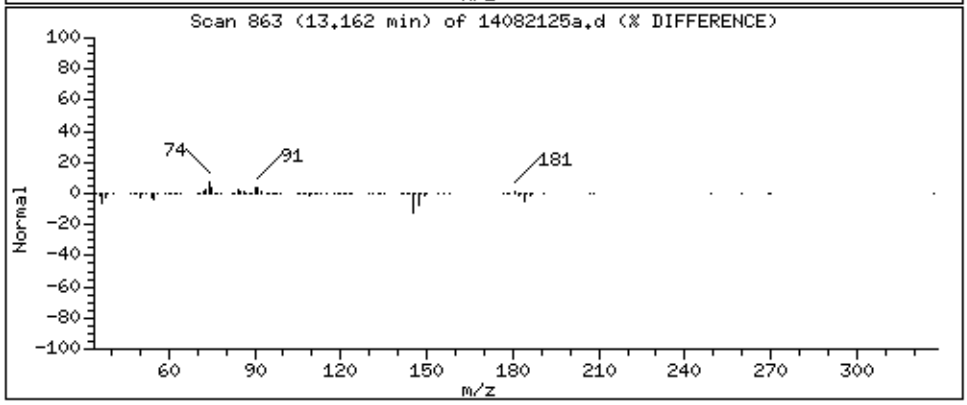












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

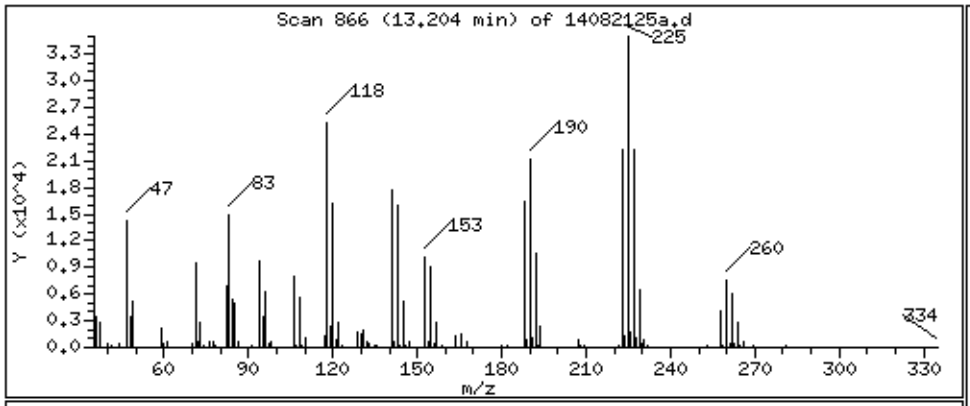
Operator: AK

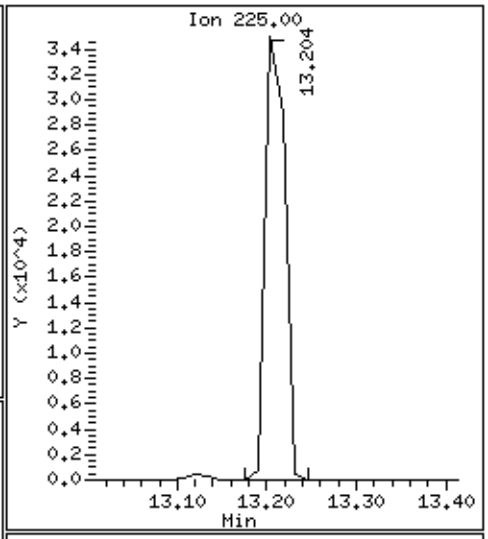
Column phase: RTX-624

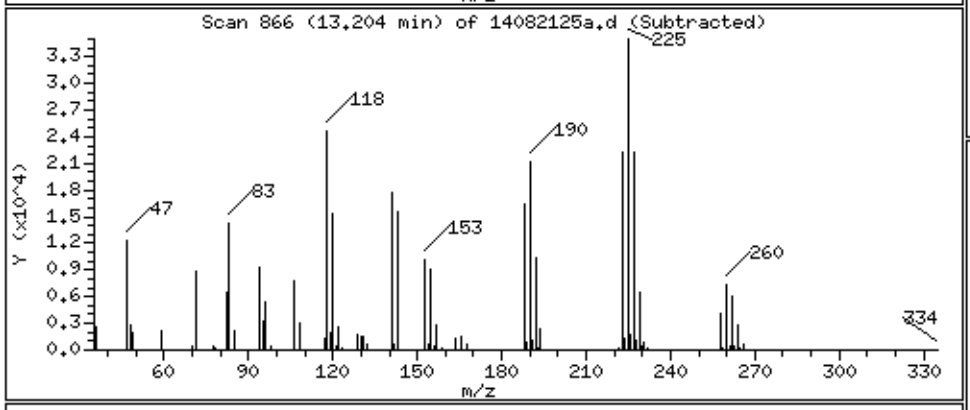
Column diameter: 0.18

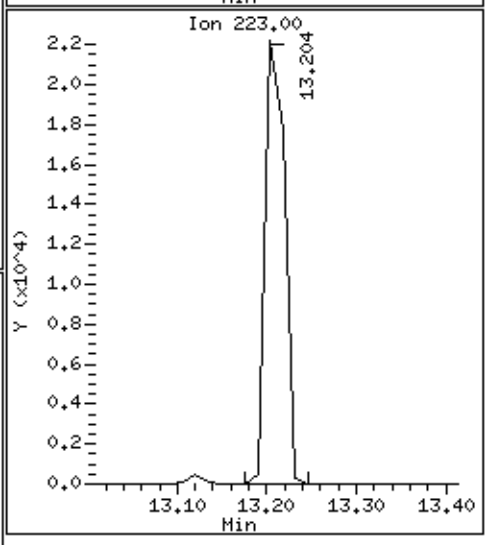
234 Hexachlorobutadiene

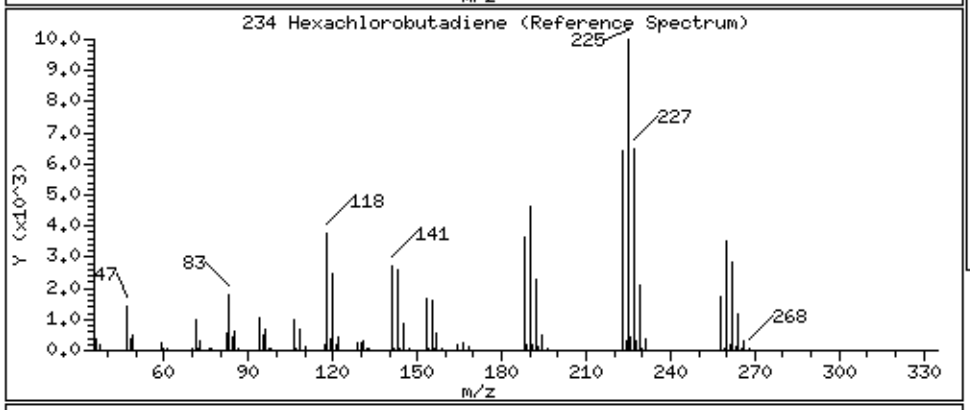
Concentration: 176.99 PPBV

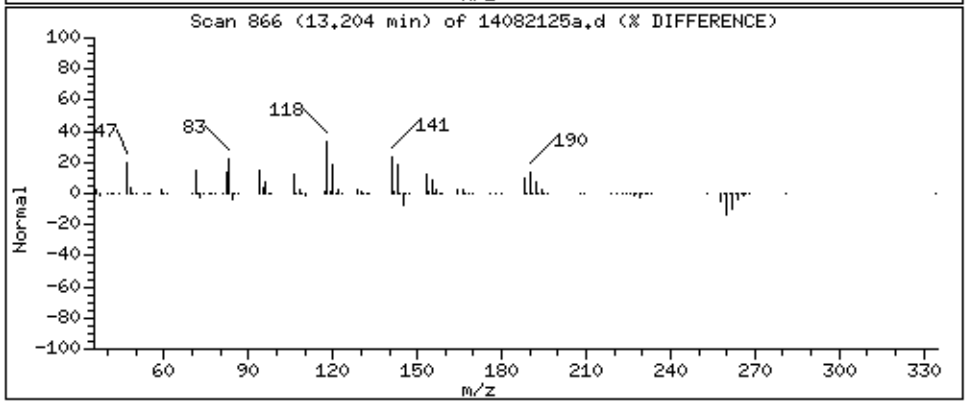












Data File: /chem1/msd14.i/21AUG19.b/14082125a.d

Date : 22-AUG-2019 08:23

Client ID: ICV

Instrument: msd14.i

Sample Info: 50mL #3018-871

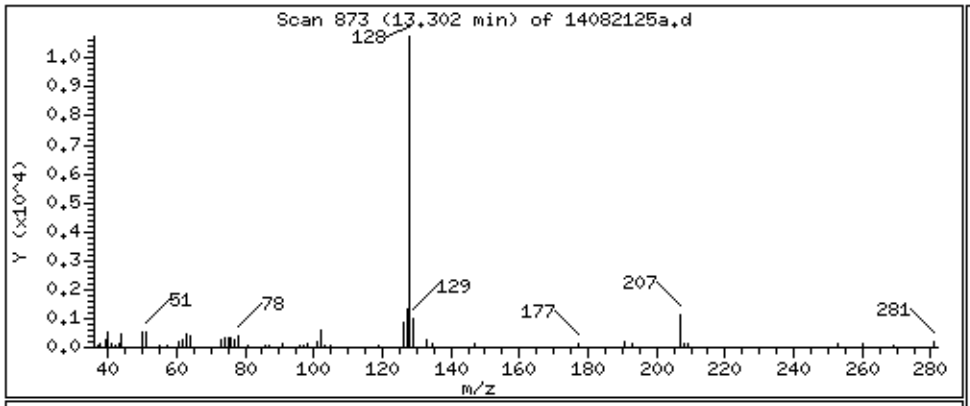
Operator: AK

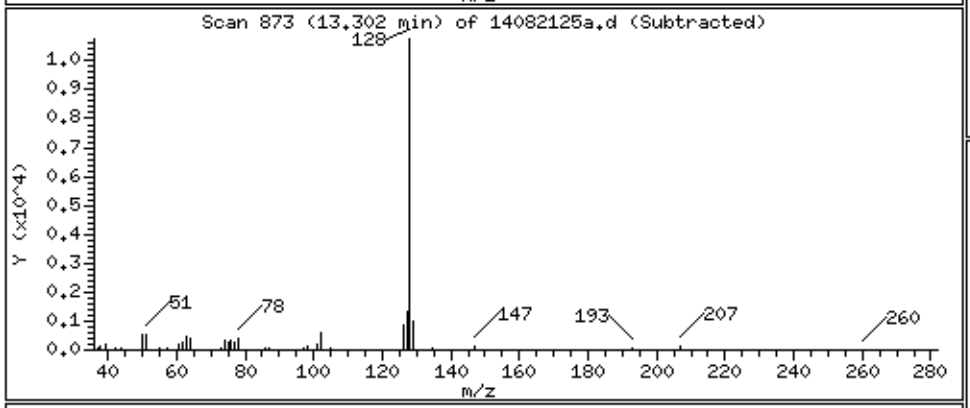
Column phase: RTX-624

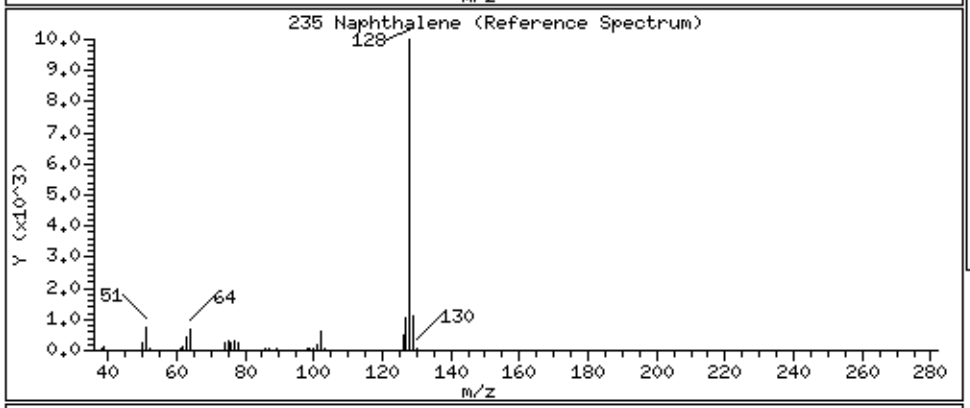
Column diameter: 0.18

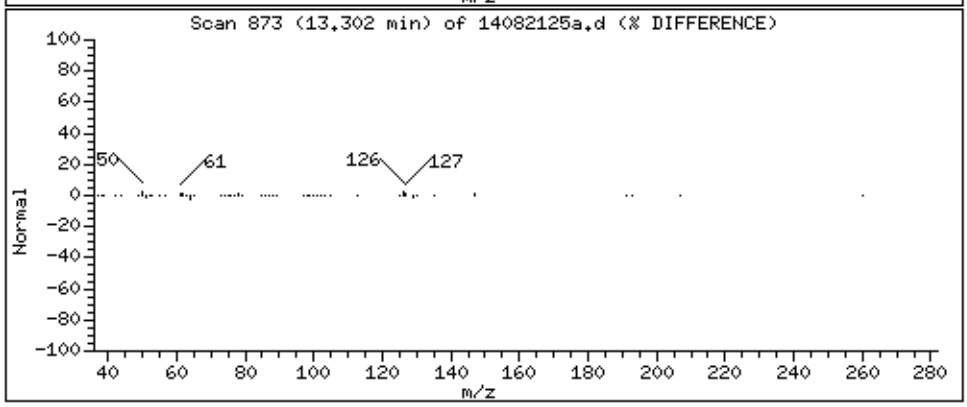
235 Naphthalene

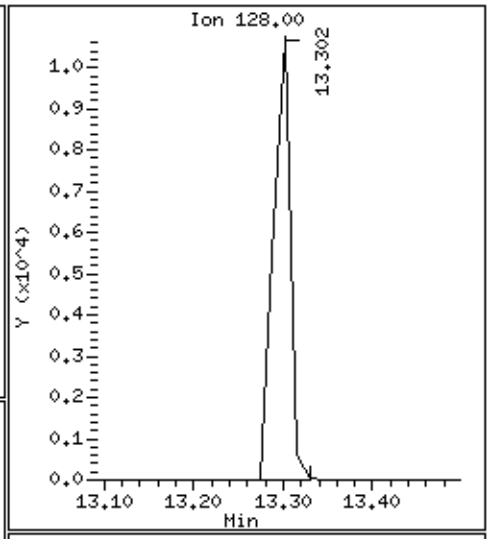
Concentration: 17.438 PPBV

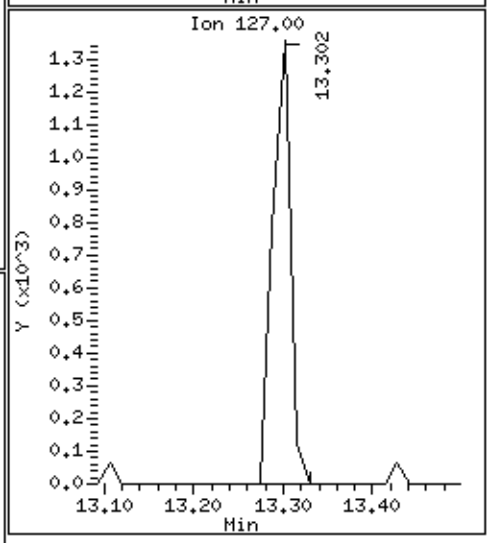












US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082112.d
Lab Smp Id: ICAL Level #2 Client Smp ID: ICAL Level #2
Inj Date : 21-AUG-2019 17:39
Operator : DF Inst ID: msd14.i
Smp Info : 50ml #3018-848
Misc Info : 5.0ppbv (5.0ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 08:58 ikh2 Quant Type: ISTD
Cal Date : 21-AUG-2019 17:39 Cal File: 14082112.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: Level2.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	91089	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	69028			46.63- 106.63	75.78
5.298	5.294 (1.000)	49	94216			70.93- 130.93	103.43
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	349653	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	54075			0.00- 45.07	15.47
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	322642	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	173613			24.37- 84.37	53.81
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	113668	400.000	387.95	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	59586			24.83- 84.83	52.42
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	354903	400.000	399.02	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	38441			0.00- 41.24	10.83

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	226807			35.45- 95.45	63.91
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	193309	400.000	399.37	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	237770			91.49- 151.49	123.00
11.329	11.329 (1.098)	176	186728			65.46- 125.46	96.60
11 Freon 12					CAS #: 75-71-8		
1.464	1.460 (0.276)	85	3982	5.00000	5.542	80.00- 120.00	100.00
1.464	1.462 (0.276)	87	1218			2.22- 62.22	30.59
13 Freon 114					CAS #: 76-14-2		
1.562	1.574 (0.295)	135	3250	5.00000	5.238	80.00- 120.00	100.00
1.562	1.572 (0.295)	137	917			1.53- 61.53	28.22
19 Vinyl Chloride					CAS #: 75-01-4		
1.772	1.768 (0.335)	62	1511	5.00000	5.094	80.00- 120.00	100.00
1.772	1.765 (0.335)	64	564			3.29- 63.29	37.33
25 1,3-Butadiene					CAS #: 106-99-0		
1.772	1.777 (0.335)	54	1465	5.00000	6.555	80.00- 120.00	100.00
1.772	1.777 (0.335)	39	1321			64.50- 124.50	90.17
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	3975	5.00000	5.140	80.00- 120.00	100.00
2.458	2.461 (0.464)	103	2681			34.80- 94.80	67.45
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	3435	5.00000	5.912	80.00- 120.00	100.00
3.004	3.007 (0.567)	153	1876			35.43- 95.43	54.61
3.004	3.005 (0.567)	101	3365			91.24- 151.24	97.96
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.032	3.035 (0.572)	61	2456	5.00000	4.893	80.00- 120.00	100.00(a)
3.032	3.038 (0.572)	96	1779			32.67- 92.67	72.43
3.032	3.038 (0.572)	98	1347			10.54- 70.54	54.85
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	4529	5.00000	5.166	80.00- 120.00	100.00
3.843	3.842 (0.725)	57	1639			0.00- 53.23	36.19
3.857	3.840 (0.728)	41	1113			0.00- 48.43	24.57
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	1618	5.00000	5.033	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	2289			107.35- 167.35	141.47

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 trans-1,2-Dichloroethene (continued)							
3.871	3.871 (0.731)	98	1422			33.11- 93.11	87.89
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	3220	5.00000	6.442	80.00- 120.00	100.00
4.095	4.081 (0.773)	43	2307			23.47- 83.47	71.65
4.081	4.084 (0.770)	86	418			0.00- 49.00	12.98
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.378 (0.826)	63	3220	5.00000	5.563	80.00- 120.00	100.00
4.375	4.381 (0.826)	65	851			2.01- 62.01	26.43
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.018	5.018 (0.947)	61	2400	5.00000	5.114	80.00- 120.00	100.00
5.032	5.025 (0.950)	96	1864			48.23- 108.23	77.67
5.018	5.026 (0.947)	98	1338			21.56- 81.56	55.75
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	2385	5.00000	7.234	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	1182			23.22- 83.22	49.56
5.284	5.284 (0.997)	72	1134			25.49- 85.49	47.55
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	3838	5.00000	5.611	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	2512			36.07- 96.07	65.45
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	2385	5.00000	5.085	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	2775			77.00- 137.00	116.35
5.480	5.480 (1.034)	41	1537			24.48- 84.48	64.44
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.522	5.516 (1.042)	97	3880	5.00000	5.504	80.00- 120.00	100.00
5.522	5.514 (1.042)	99	2731			34.24- 94.24	70.39
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	3353	5.00000	4.623	80.00- 120.00	100.00(a)
5.648	5.648 (1.066)	117	3708			73.64- 133.64	110.59
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.914	5.902 (1.116)	57	8831	5.00000	5.503	80.00- 120.00	100.00
5.914	5.905 (1.116)	56	3184			2.41- 62.41	36.05
5.914	5.902 (1.116)	41	1737			0.00- 53.81	19.67
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	5483	5.00000	5.281	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
118 Benzene (continued)							
5.928	5.928 (0.922)	77	1341			0.00- 54.09	24.46
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.054	6.045 (0.941)	62	2767	5.00000	5.790	80.00- 120.00	100.00
6.054	6.052 (0.941)	64	878			3.21- 63.21	31.73
124 Heptane					CAS #: 142-82-5		
6.124	6.136 (0.952)	71	2329	5.00000	6.017	80.00- 120.00	100.00
6.138	6.135 (0.954)	43	1820			90.25- 150.25	78.15
6.138	6.136 (0.954)	100	366			0.00- 58.91	15.71
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.671 (1.037)	95	2446	5.00000	5.138	80.00- 120.00	100.00
6.669	6.671 (1.037)	130	2526			78.88- 138.88	103.27
6.683	6.671 (1.039)	97	2024			35.90- 95.90	82.75
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	2137	5.00000	5.412	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	1552			40.28- 100.28	72.63
7.019	7.019 (1.091)	41	1772			21.25- 81.25	82.92
144 Bromodichloromethane					CAS #: 75-27-4		
7.383	7.395 (1.148)	83	3643	5.00000	4.925	80.00- 120.00	100.00(a)
7.397	7.397 (1.150)	85	2259			35.00- 95.00	62.01
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	3473	5.00000	5.404	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	1140			2.65- 62.65	32.82
8.083	8.094 (1.257)	39	2440			18.79- 78.79	70.26
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.376	8.374 (1.302)	85	955	5.00000	6.079	80.00- 120.00	100.00
8.376	8.374 (1.302)	43	4052			460.46- 520.46	424.29
8.390	8.374 (1.305)	58	1555			186.56- 246.56	162.83
156 Toluene					CAS #: 108-88-3		
8.586	8.582 (1.335)	91	7686	5.00000	5.649	80.00- 120.00	100.00
8.586	8.580 (1.335)	92	4535			26.83- 86.83	59.00
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	2951	5.00000	4.962	80.00- 120.00	100.00(a)
9.076	9.076 (0.879)	77	1636			2.27- 62.27	55.44
9.076	9.076 (0.879)	39	1916			17.57- 77.57	64.93
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	2215	5.00000	4.828	80.00- 120.00	100.00(a)

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
162 1,1,2-Trichloroethane (continued)							
9.314	9.314 (0.902)	99	1365			31.36- 91.36	61.63
9.314	9.314 (0.902)	83	2428			57.18- 117.18	109.62
163 Tetrachloroethene					CAS #: 127-18-4		
9.342	9.330 (0.905)	166	3878	5.00000	5.921	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	2049			46.86- 106.86	52.84
9.328	9.328 (0.904)	131	2466			46.25- 106.25	63.59
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	4545	5.00000	5.120	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	3295			47.27- 107.27	72.50
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	3824	5.00000	5.141	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	3676			62.36- 122.36	96.13
180 Chlorobenzene					CAS #: 108-90-7		
10.349	10.349 (1.003)	112	6021	5.00000	5.331	80.00- 120.00	100.00
10.349	10.349 (1.003)	114	2136			1.61- 61.61	35.48
10.335	10.347 (1.001)	77	6610			26.63- 86.63	109.78
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	3052	5.00000	5.398	80.00- 120.00	100.00
10.433	10.429 (1.011)	91	9486			276.73- 336.73	310.81
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	3812	5.00000	5.482	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	7459			166.48- 226.48	195.67
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	3208	5.00000	4.983	80.00- 120.00	100.00(a)
10.895	10.895 (1.056)	91	7251			183.14- 243.14	226.03
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	2997	5.00000	2.961	80.00- 120.00	100.00(a)
10.923	10.923 (1.058)	78	1646			17.49- 77.49	54.92
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	4185	5.00000	5.210	80.00- 120.00	100.00(a)
11.091	11.091 (1.075)	171	2255			21.78- 81.78	53.88
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	10683	5.00000	5.249	80.00- 120.00	100.00(a)
11.189	11.177 (1.084)	120	2421			0.00- 57.49	22.66
11.175	11.175 (1.083)	51	999			0.00- 38.96	9.35

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	6080	5.00000	5.928	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	3629			35.12- 95.12	59.69
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	11753	5.00000	5.288	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	2587			0.00- 54.39	22.01
11.469	11.480 (1.111)	105	539			0.00- 33.66	4.59
206 4-Ethyltoluene					CAS #: 622-96-8		
11.553	11.562 (1.119)	105	9290	5.00000	5.308	80.00- 120.00	100.00
11.567	11.564 (1.121)	120	2792			0.69- 60.69	30.05
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	7431	5.00000	4.684	80.00- 120.00	100.00(a)
11.609	11.609 (1.125)	120	3326			16.81- 76.81	44.76
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.846	11.847 (1.148)	105	6575	5.00000	5.139	80.00- 120.00	100.00
11.846	11.847 (1.148)	120	3194			16.57- 76.57	48.58
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.042	12.042 (1.167)	146	6306	5.00000	5.712	80.00- 120.00	100.00
12.042	12.042 (1.167)	148	3682			32.90- 92.90	58.39
12.042	12.042 (1.167)	111	2302			9.17- 69.17	36.50
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	6314	5.00000	5.911	80.00- 120.00	100.00
12.098	12.098 (1.172)	148	3885			35.22- 95.22	61.53
12.098	12.098 (1.172)	111	2525			7.96- 67.96	39.99
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	7320	5.00000	5.425	80.00- 120.00	100.00
12.196	12.192 (1.182)	126	1759			0.00- 51.56	24.03
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	6152	5.00000	6.150	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	3911			33.30- 93.30	63.57
12.322	12.322 (1.194)	111	2443			10.19- 70.19	39.71

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082112.d
Lab Smp Id: ICAL Level #2
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 5.0ppbv (5.0ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #2
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	91089	-4.51
127 1,4-Difluorobenze	366541	219925	513157	349653	-4.61
179 Chlorobenzene-d5	327904	196742	459066	322642	-1.60

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082112.d

Date : 21-AUG-2019 17:39

Client ID: ICAL Level #2

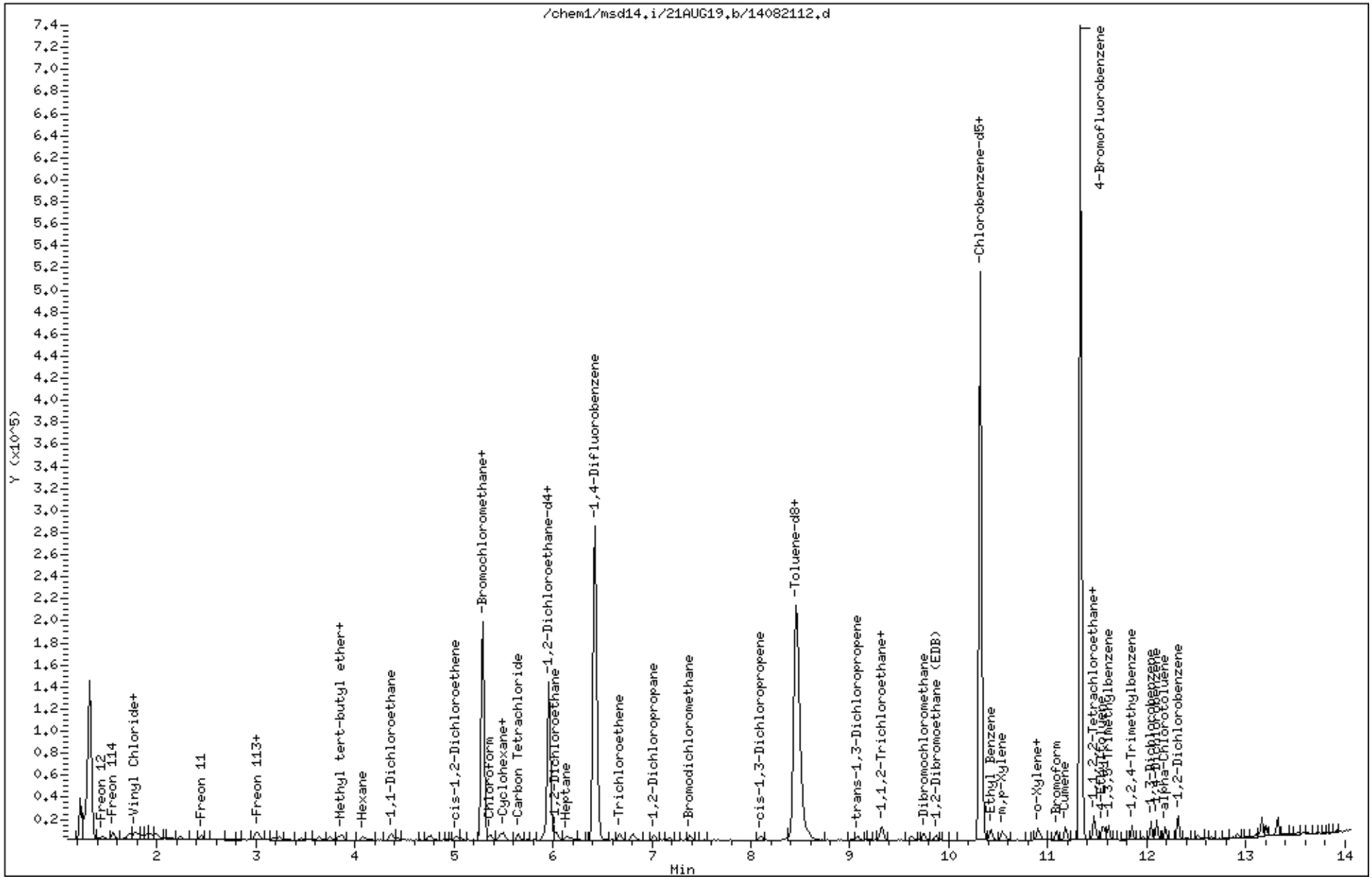
Sample Info: 50ml #3018-848

Column phase: RTX-624

Instrument: msd14.i

Operator: DF

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082126.d
Lab Smp Id: ICAL Level #3 Client Smp ID: ICAL Level #3
Inj Date : 22-AUG-2019 09:02
Operator : AK Inst ID: msd14.i
Smp Info : 1.0ml #3084-162
Misc Info : 20ppbv (1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 09:02 Cal File: 14082126.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MasterCRV.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	91758	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	70766			46.63- 106.63	77.12
5.298	5.295 (1.000)	49	94103			70.93- 130.93	102.56
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	354683	400.000		80.00- 120.00	100.00
6.432	6.428 (1.000)	88	56036			0.00- 45.07	15.80
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	327497	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	176532			24.37- 84.37	53.90
6 Freon 143a					CAS #: 420-46-2		
1.325	1.325 (0.250)	69	14823	20.0000	20.000	0.00- 30.00	100.00
1.339	1.339 (0.253)	65	3801			0.00- 30.00	25.64
8 Freon 134a					CAS #: 811-97-2		
1.381	1.381 (0.261)	83	4823	20.0000	20.000	0.00- 30.00	100.00
1.325	1.325 (0.250)	69	14823			0.00- 30.00	307.34

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
9 1,1-Difluoroethane					CAS #: 75-37-6		
1.423	1.423 (0.269)	65	3291	20.0000	20.000	0.00- 30.00	100.00
1.479	1.479 (0.279)	51	10076			0.00- 30.00	306.17
12 Chlorodifluoromethane					CAS #: 75-45-6		
1.465	1.465 (0.276)	67	1696	20.0000	20.000	0.00- 30.00	100.00
1.479	1.479 (0.279)	51	10076			0.00- 30.00	594.10
14 Freon 142b					CAS #: 75-68-3		
1.619	1.619 (0.305)	65	9995	20.0000	20.000	0.00- 30.00	100.00
1.633	1.633 (0.308)	45	1587			0.00- 30.00	15.88
27 Vinyl Bromide					CAS #: 593-60-2		
2.416	2.416 (0.456)	106	5514	20.0000	20.000	0.00- 30.00	100.00
2.416	2.416 (0.456)	108	5176			0.00- 30.00	93.87
36 Dichlorofluoromethane					CAS #: 75-43-4		
2.472	2.472 (0.467)	67	12531	20.0000	20.000	0.00- 30.00	100.00
2.472	2.472 (0.467)	69	3758			0.00- 30.00	29.99
38 Pentane					CAS #: 109-66-0		
2.514	2.514 (0.474)	43	9793	20.0000	20.000	0.00- 30.00	100.00
2.514	2.514 (0.474)	57	2096			0.00- 30.00	21.40
2.500	2.500 (0.472)	72	1309			0.00- 30.00	13.37
39 Freon 123a					CAS #: 354-23-4		
2.878	2.878 (0.543)	117	9629	20.0000	20.000	0.00- 30.00	100.00
2.864	2.864 (0.540)	67	11960			0.00- 30.00	124.21
43 Ethyl Ether					CAS #: 60-29-7		
2.794	2.794 (0.527)	74	2742	20.0000	20.000	0.00- 30.00	100.00
2.780	2.780 (0.525)	59	3783			0.00- 30.00	137.96
48 Freon 123					CAS #: 306-83-2		
2.948	2.948 (0.556)	83	13633	20.0000	20.000	0.00- 30.00	100.00
2.948	2.948 (0.556)	133	2816			0.00- 30.00	20.66
2.948	2.948 (0.556)	85	9352			0.00- 30.00	68.60
50 Methyl Acetate					CAS #: 79-20-9		
3.494	3.494 (0.659)	43	8007	20.0000	20.000	0.00- 30.00	100.00
3.508	3.508 (0.662)	74	2141			0.00- 30.00	26.74
3.494	3.494 (0.659)	59	791			0.00- 30.00	9.88
60 Cyclopentene					CAS #: 142-29-0		
3.466	3.466 (0.654)	67	13716	20.0000	20.000	0.00- 30.00	100.00
3.466	3.466 (0.654)	68	5224			0.00- 30.00	38.09

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
60 Cyclopentene (continued)							
3.480	3.480 (0.657)	53	2525			0.00- 30.00	18.41
63 Acetonitrile					CAS #: 75-05-8		
3.563	3.563 (0.673)	41	3125	20.0000	20.000	0.00- 30.00	100.00
3.577	3.577 (0.675)	38	408			0.00- 30.00	13.06
3.563	3.563 (0.673)	40	1441			0.00- 30.00	46.11
75 Acrylonitrile					CAS #: 107-13-1		
3.983	3.983 (0.752)	53	4004	20.0000	20.000	0.00- 30.00	100.00
3.983	3.983 (0.752)	52	2572			0.00- 30.00	64.24
74 Chloroprene					CAS #: 126-99-8		
4.431	4.431 (0.836)	53	8741	20.0000	20.000	0.00- 30.00	100.00
4.431	4.431 (0.836)	88	5291			0.00- 30.00	60.53
4.431	4.431 (0.836)	50	2640			0.00- 30.00	30.20
86 1-Propanol					CAS #: 71-23-8		
4.529	4.529 (0.855)	42	669	20.0000	20.000	0.00- 30.00	100.00
4.515	4.515 (0.852)	59	1212			0.00- 30.00	181.17
4.515	4.515 (0.852)	41	867			0.00- 30.00	129.60
89 2,2-Dichloropropane					CAS #: 594-20-7		
4.977	4.977 (0.939)	77	9991	20.0000	20.000	0.00- 30.00	100.00
4.977	4.977 (0.939)	79	3350			0.00- 30.00	33.53
4.977	4.977 (0.939)	97	2554			0.00- 30.00	25.56
93 Ethyl Acetate					CAS #: 141-78-6		
5.089	5.089 (0.960)	70	2056	20.0000	20.000	0.00- 30.00	100.00
5.089	5.089 (0.960)	43	11978			0.00- 30.00	582.59
5.075	5.075 (0.958)	61	1907			0.00- 30.00	92.75
94 Methyl Acrylate					CAS #: 96-33-3		
5.145	5.145 (0.971)	55	9901	20.0000	20.000	0.00- 30.00	100.00
5.145	5.145 (0.971)	85	1828			0.00- 30.00	18.46
5.131	5.131 (0.968)	58	1011			0.00- 30.00	10.21
109 1,1-Dichloropropene					CAS #: 563-58-6		
5.690	5.690 (1.074)	110	3769	20.0000	20.000	0.00- 30.00	100.00
5.704	5.704 (1.077)	75	10280			0.00- 30.00	272.75
116 Isobutanol					CAS #: 78-83-1		
5.900	5.900 (0.917)	43	4237	20.0000	20.000	0.00- 30.00	100.00
5.900	5.900 (0.917)	41	3864			0.00- 30.00	91.20
128 n-Butanol					CAS #: 71-36-3		
6.670	6.670 (1.037)	56	4009	20.0000	20.000	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
128 n-Butanol (continued)							
6.670	6.670 (1.037)	41	2688			0.00- 30.00	67.05
6.670	6.670 (1.037)	43	2147			0.00- 30.00	53.55
134 Ethyl acrylate					CAS #: 140-88-5		
6.852	6.852 (1.065)	55	14854	20.0000	20.000	0.00- 30.00	100.00
6.866	6.866 (1.067)	99	1265			0.00- 30.00	8.52
6.852	6.852 (1.065)	45	1232			0.00- 30.00	8.29
137 2-Pentanone					CAS #: 107-87-9		
6.978	6.978 (1.085)	43	14472	20.0000	20.000	0.00- 30.00	100.00
6.991	6.991 (1.087)	58	1562			0.00- 30.00	10.79
6.978	6.978 (1.085)	86	3610			0.00- 30.00	24.94
140 Methyl Methacrylate					CAS #: 80-62-6		
7.159	7.159 (1.113)	41	7468	20.0000	20.000	0.00- 30.00	100.00
7.159	7.159 (1.113)	69	7600			0.00- 30.00	101.77
7.173	7.173 (1.115)	100	2592			0.00- 30.00	34.71
142 Dibromomethane					CAS #: 74-95-3		
7.187	7.187 (1.117)	174	8816	20.0000	20.000	0.00- 30.00	100.00
7.173	7.173 (1.115)	93	8762			0.00- 30.00	99.39
7.187	7.187 (1.117)	95	6858			0.00- 30.00	77.79
157 Octane					CAS #: 111-65-9		
8.671	8.671 (1.348)	57	7190	20.0000	20.000	0.00- 30.00	100.00
8.671	8.671 (1.348)	85	8111			0.00- 30.00	112.81
8.671	8.671 (1.348)	43	13578			0.00- 30.00	188.85
164 1,3-Dichloropropane					CAS #: 142-28-9		
9.524	9.524 (1.798)	76	12822	20.0000	20.000	0.00- 30.00	100.00
9.524	9.524 (1.798)	41	7854			0.00- 30.00	61.25
9.524	9.524 (1.798)	78	3962			0.00- 30.00	30.90
168 Butyl Acetate					CAS #: 123-86-4		
9.734	9.734 (1.513)	56	7040	20.0000	20.000	0.00- 30.00	100.00
9.734	9.734 (1.513)	73	3022			0.00- 30.00	42.93
9.734	9.734 (1.513)	43	14395			0.00- 30.00	204.47
182 1,1,1,2-Tetrachloroethane					CAS #: 630-20-6		
10.433	10.433 (1.011)	131	8209	20.0000	20.000	0.00- 30.00	100.00
10.433	10.433 (1.011)	117	6776			0.00- 30.00	82.54
10.433	10.433 (1.011)	95	3103			0.00- 30.00	37.80
183 Nonane					CAS #: 111-84-2		
10.503	10.503 (1.018)	43	9656	20.0000	20.000	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
183 Nonane (continued)							
10.503	10.503 (1.018)	57	9942			0.00- 30.00	102.96
10.503	10.503 (1.018)	85	4505			0.00- 30.00	46.65
192 2-Heptanone					CAS #: 110-43-0		
11.035	11.035 (1.069)	58	6413	20.0000	20.000	0.00- 30.00	100.00
11.035	11.035 (1.069)	43	9211			0.00- 30.00	143.63
195 alpha-Pinene					CAS #: 80-56-8		
11.119	11.119 (1.077)	93	17814	20.0000	20.000	0.00- 30.00	100.00
11.119	11.119 (1.077)	121	2168			0.00- 30.00	12.17
11.119	11.119 (1.077)	92	6648			0.00- 30.00	37.32
197 Cyclohexanone					CAS #: 108-94-1		
11.301	11.301 (1.095)	55	5092	20.0000	20.000	0.00- 30.00	100.00
11.301	11.301 (1.095)	98	2239			0.00- 30.00	43.97
11.301	11.301 (1.095)	42	2770			0.00- 30.00	54.40
199 Bromobenzene					CAS #: 108-86-1		
11.427	11.427 (1.107)	156	9754	20.0000	20.000	0.00- 30.00	100.00
11.427	11.427 (1.107)	77	14418			0.00- 30.00	147.82
11.427	11.427 (1.107)	158	9186			0.00- 30.00	94.18
202 1,2,3-Trichloropropane					CAS #: 96-18-4		
11.497	11.497 (1.114)	110	4569	20.0000	20.000	0.00- 30.00	100.00
11.497	11.497 (1.114)	61	3192			0.00- 30.00	69.86
11.497	11.497 (1.114)	112	2672			0.00- 30.00	58.48
204 2-Chlorotoluene					CAS #: 95-49-8		
11.553	11.553 (1.119)	126	7018	20.0000	20.000	0.00- 30.00	100.00
11.553	11.553 (1.119)	91	18343			0.00- 30.00	261.37
11.553	11.553 (1.119)	65	1723			0.00- 30.00	24.55
205 Decane					CAS #: 124-18-5		
11.553	11.553 (1.119)	57	7739	20.0000	20.000	0.00- 30.00	100.00
11.553	11.553 (1.119)	71	3484			0.00- 30.00	45.02
11.567	11.567 (1.121)	142	294			0.00- 30.00	3.80
208 4-Chlorotoluene					CAS #: 106-43-4		
11.637	11.637 (1.127)	126	5879	20.0000	20.000	0.00- 30.00	100.00
11.637	11.637 (1.127)	91	20640			0.00- 30.00	351.08
11.637	11.637 (1.127)	63	2586			0.00- 30.00	43.99
210 tert-Butylbenzene					CAS #: 98-06-6		
11.805	11.805 (1.144)	119	15770	20.0000	20.000	0.00- 30.00	100.00
11.805	11.805 (1.144)	134	4074			0.00- 30.00	25.83

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
210 tert-Butylbenzene (continued)							
11.805	11.805 (1.144)	91	11109			0.00- 30.00	70.44
214 sec-Butylbenzene					CAS #: 135-98-8		
11.945	11.945 (1.157)	105	22481	20.0000	20.000	0.00- 30.00	100.00
11.945	11.945 (1.157)	134	4955			0.00- 30.00	22.04
11.945	11.945 (1.157)	91	3024			0.00- 30.00	13.45
215 D-Limonene					CAS #: 5989-27-5		
11.987	11.987 (1.161)	68	5055	20.0000	20.000	0.00- 30.00	100.00
11.987	11.987 (1.161)	93	3596			0.00- 30.00	71.14
11.987	11.987 (1.161)	79	1653			0.00- 30.00	32.70
218 p-Cymene					CAS #: 99-87-6		
12.029	12.029 (1.165)	119	15865	20.0000	20.000	0.00- 30.00	100.00
12.029	12.029 (1.165)	134	4207			0.00- 30.00	26.52
12.029	12.029 (1.165)	91	4026			0.00- 30.00	25.38
222 1,2,3-Trimethylbenzene					CAS #: 526-73-8		
12.113	12.113 (1.174)	120	4870	20.0000	20.000	0.00- 30.00	100.00
12.113	12.113 (1.174)	105	11099			0.00- 30.00	227.91
12.113	12.113 (1.174)	77	1478			0.00- 30.00	30.35
225 Undecane					CAS #: 1120-21-4		
12.280	12.280 (1.190)	57	5536	20.0000	20.000	0.00- 30.00	100.00
12.280	12.280 (1.190)	43	4174			0.00- 30.00	75.40
226 Butylbenzene					CAS #: 104-51-8		
12.266	12.266 (1.188)	134	3303	20.0000	20.000	0.00- 30.00	100.00
12.266	12.266 (1.188)	91	10877			0.00- 30.00	329.31
12.266	12.266 (1.188)	92	6213			0.00- 30.00	188.10

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082126.d
Lab Smp Id: ICAL Level #3
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 20ppbv (1000ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #3
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	91758	-3.81
127 1,4-Difluorobenze	366541	219925	513157	354683	-3.24
179 Chlorobenzene-d5	327904	196742	459066	327497	-0.12

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082126.d

Date : 22-AUG-2019 09:02

Client ID: ICAL Level #3

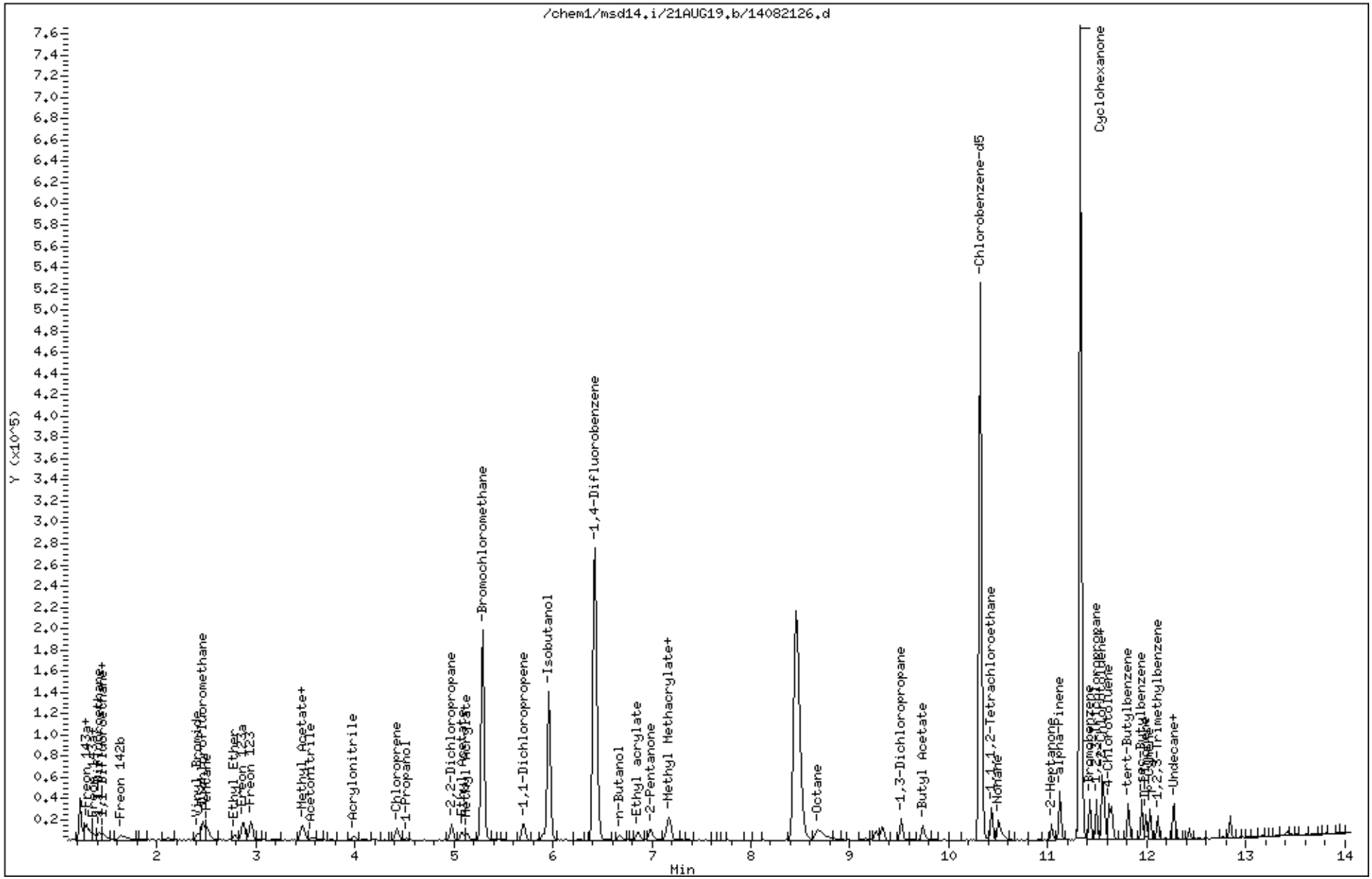
Instrument: msd14.i

Sample Info: 1.0ml #3084-162

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082113.d
Lab Smp Id: ICAL Level #3 Client Smp ID: ICAL Level #3
Inj Date : 21-AUG-2019 18:25
Operator : DF Inst ID: msd14.i
Smp Info : 5.0ml #3018-909
Misc Info : 20ppbv (200ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 08:57 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 09:02 Cal File: 14082126.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12low.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
==	====== ========	====	========	=======	=======	==========	=====
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	90687	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	71281			46.63- 106.63	78.60
5.298	5.294 (1.000)	49	93199			70.93- 130.93	102.77
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	357809	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	56693			0.00- 45.07	15.84
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	332858	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	173383			24.37- 84.37	52.09
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	114609	400.000	392.90	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	62307			24.83- 84.83	54.36
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	370024	400.000	406.54	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	39144			0.00- 41.24	10.58

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO	
$ 155 Toluene-d8 (continued)								
8.461	8.460 (1.315)	100	227105			35.45- 95.45	61.38	
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4			
11.329	11.329 (1.098)	174	197678	400.000	395.86	80.00- 120.00	100.00	
11.329	11.329 (1.098)	95	246159			91.49- 151.49	124.53	
11.329	11.329 (1.098)	176	192186			65.46- 125.46	97.22	
11 Freon 12					CAS #: 75-71-8			
1.465	1.460 (0.276)	85	11666	20.0000	16.309	80.00- 120.00	100.00	
1.465	1.462 (0.276)	87	3830			2.22- 62.22	32.83	
13 Freon 114					CAS #: 76-14-2			
1.577	1.574 (0.298)	135	10751	20.0000	17.403	80.00- 120.00	100.00	
1.577	1.572 (0.298)	137	3784			1.53- 61.53	35.20	
16 Chloromethane					CAS #: 74-87-3			
1.646	1.649 (0.311)	50	3721	20.0000	18.169	80.00- 120.00	100.00	
1.646	1.646 (0.311)	52	1404			6.04- 66.04	37.73	
17 Butane					CAS #: 106-97-8			
1.730	1.722 (0.327)	58	1277	20.0000	20.952	80.00- 120.00	100.00	
1.730	1.722 (0.327)	43	7111			529.81- 589.81	556.85	
19 Vinyl Chloride					CAS #: 75-01-4			
1.786	1.768 (0.337)	62	5445	20.0000	18.439	80.00- 120.00	100.00	
1.786	1.765 (0.337)	64	1826			3.29- 63.29	33.54	
25 1,3-Butadiene					CAS #: 106-99-0			
1.786	1.777 (0.337)	54	3953	20.0000	17.766	80.00- 120.00	100.00	
1.786	1.777 (0.337)	39	3663			64.50- 124.50	92.66	
30 Bromomethane					CAS #: 74-83-9			
2.136	2.128 (0.403)	94	3082	20.0000	17.494	80.00- 120.00	100.00	
2.122	2.128 (0.401)	96	2797			68.11- 128.11	90.75	
31 Chloroethane					CAS #: 75-00-3			
2.290	2.243 (0.432)	64	2368	20.0000	19.257	80.00- 120.00	100.00	(aM1)
2.290	2.248 (0.432)	66	570			4.72- 64.72	24.07	
32 Isopentane					CAS #: 78-78-4			
2.248	2.243 (0.424)	43	5554	20.0000	23.515	80.00- 120.00	100.00	
2.248	2.243 (0.424)	57	4662			53.88- 113.88	83.94	
2.262	2.248 (0.427)	72	630			0.00- 40.86	11.34	
34 Freon 11					CAS #: 75-69-4			
2.458	2.460 (0.464)	101	14286	20.0000	18.557	80.00- 120.00	100.00	

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
34 Freon 11 (continued)							
2.472	2.461 (0.467)	103	9229			34.80- 94.80	64.60
42 Ethanol					CAS #: 64-17-5		
2.738	2.745 (0.517)	45	1741	20.0000	18.796	80.00- 120.00	100.00(a)
2.738	2.745 (0.517)	46	521			7.83- 67.83	29.93
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	10503	20.0000	18.157	80.00- 120.00	100.00
3.004	3.007 (0.567)	153	6880			35.43- 95.43	65.51
3.004	3.005 (0.567)	101	13052			91.24- 151.24	124.27
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.032	3.035 (0.572)	61	9240	20.0000	18.492	80.00- 120.00	100.00
3.046	3.038 (0.575)	96	6024			32.67- 92.67	65.19
3.046	3.038 (0.575)	98	3943			10.54- 70.54	42.67
53 Acetone					CAS #: 67-64-1		
3.172	3.172 (0.599)	58	2492	20.0000	17.876	80.00- 120.00	100.00(a)
3.172	3.172 (0.599)	43	7216			259.09- 319.09	289.57
55 Carbon Disulfide					CAS #: 75-15-0		
3.256	3.250 (0.614)	76	16497	20.0000	18.024	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.312	3.313 (0.625)	45	8264	20.0000	19.062	80.00- 120.00	100.00(a)
3.312	3.313 (0.625)	43	2570			0.00- 51.35	31.10
3.298	3.311 (0.622)	59	191			0.00- 34.59	2.31
59 3-Chloropropene					CAS #: 107-05-1		
3.465	3.465 (0.654)	76	1376	20.0000	11.941	80.00- 120.00	100.00(a)
3.465	3.465 (0.654)	41	4213			162.76- 222.76	306.18
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.635 (0.686)	49	6903	20.0000	22.186	80.00- 120.00	100.00
3.633	3.635 (0.686)	84	6234			63.99- 123.99	90.31
3.633	3.635 (0.686)	51	1971			0.02- 60.02	28.55
68 tert-Butyl alcohol					CAS #: 75-65-0		
3.745	3.745 (0.707)	59	12715	20.0000	20.954	80.00- 120.00	100.00
3.745	3.745 (0.707)	41	2006			0.00- 47.07	15.78
3.745	3.745 (0.707)	57	1558			0.00- 39.91	12.25
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	16429	20.0000	18.824	80.00- 120.00	100.00
3.843	3.842 (0.725)	57	3950			0.00- 53.23	24.04

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
69 Methyl tert-butyl ether (continued)							
3.829	3.840 (0.723)	41	4088			0.00- 48.43	24.88
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	6041	20.0000	18.873	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	7925			107.35- 167.35	131.19
3.871	3.871 (0.731)	98	3772			33.11- 93.11	62.44
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	9480	20.0000	19.051	80.00- 120.00	100.00
4.081	4.081 (0.770)	43	5275			23.47- 83.47	55.64
4.081	4.084 (0.770)	86	1852			0.00- 49.00	19.54
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.378 (0.826)	63	9415	20.0000	16.337	80.00- 120.00	100.00
4.389	4.381 (0.828)	65	3253			2.01- 62.01	34.55
82 Isopropyl ether					CAS #: 108-20-3		
4.361	4.364 (0.823)	45	17293	20.0000	18.481	80.00- 120.00	100.00(a)
4.361	4.364 (0.823)	87	6018			5.22- 65.22	34.80
4.361	4.364 (0.823)	59	2087			0.00- 43.54	12.07
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	1446	20.0000	15.667	80.00- 120.00	100.00(a)
4.431	4.431 (0.836)	43	13840			834.16- 894.16	957.12
4.431	4.431 (0.836)	42	1892			70.06- 130.06	130.84
87 Ethyl-tert-butyl ether					CAS #: 637-92-3		
4.753	4.753 (0.897)	59	20463	20.0000	18.289	80.00- 120.00	100.00(a)
4.753	4.756 (0.897)	87	8441			13.01- 73.01	41.25
4.753	4.753 (0.897)	41	4450			0.00- 45.61	21.75
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.019	5.018 (0.947)	61	8874	20.0000	18.995	80.00- 120.00	100.00
5.033	5.025 (0.950)	96	6833			48.23- 108.23	77.00
5.033	5.026 (0.950)	98	4574			21.56- 81.56	51.54
92 2-Butanone					CAS #: 78-93-3		
5.074	5.063 (0.958)	72	2759	20.0000	16.030	80.00- 120.00	100.00(a)
5.061	5.060 (0.955)	43	9161			263.34- 323.34	332.04
5.061	5.066 (0.955)	57	1181			0.72- 60.72	42.81
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	5688	20.0000	17.330	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	2976			23.22- 83.22	52.32
5.284	5.284 (0.997)	72	2758			25.49- 85.49	48.49

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	12654	20.0000	18.582	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	8568			36.07- 96.07	67.71
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	9471	20.0000	20.282	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	9559			77.00- 137.00	100.93
5.480	5.480 (1.034)	41	5460			24.48- 84.48	57.65
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.522	5.516 (1.042)	97	13238	20.0000	18.863	80.00- 120.00	100.00
5.508	5.514 (1.040)	99	8389			34.24- 94.24	63.37
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	12861	20.0000	17.810	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	13151			73.64- 133.64	102.25
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	30956	20.0000	19.377	80.00- 120.00	100.00
5.914	5.905 (1.116)	56	10403			2.41- 62.41	33.61
5.900	5.902 (1.114)	41	7002			0.00- 53.81	22.62
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	19071	20.0000	17.951	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	5339			0.00- 54.09	28.00
120 tert-Amyl methyl ether					CAS #: 994-05-8		
6.026	6.026 (1.137)	73	20182	20.0000	18.423	80.00- 120.00	100.00(a)
6.026	6.026 (1.137)	87	4558			0.00- 53.84	22.58
6.026	6.026 (1.137)	55	5207			0.00- 51.48	25.80
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.040	6.045 (0.939)	62	8604	20.0000	17.594	80.00- 120.00	100.00
6.054	6.052 (0.941)	64	3017			3.21- 63.21	35.07
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.954)	71	8262	20.0000	20.860	80.00- 120.00	100.00
6.138	6.135 (0.954)	43	8177			90.25- 150.25	98.97
6.138	6.136 (0.954)	100	2086			0.00- 58.91	25.25
129 Trichloroethene					CAS #: 79-01-6		
6.684	6.671 (1.039)	95	9370	20.0000	19.235	80.00- 120.00	100.00
6.684	6.671 (1.039)	130	9982			78.88- 138.88	106.53
6.670	6.671 (1.037)	97	6081			35.90- 95.90	64.90
133 Methylcyclohexane					CAS #: 108-87-2		
6.809	6.804 (1.059)	83	12579	20.0000	18.757	80.00- 120.00	100.00(a)

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
133 Methylcyclohexane (continued)							
6.795	6.802 (1.057)	98	6270			16.99- 76.99	49.84
6.809	6.802 (1.059)	55	10074			43.70- 103.70	80.09
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	7321	20.0000	18.116	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	4948			40.28- 100.28	67.59
7.019	7.019 (1.091)	41	4471			21.25- 81.25	61.07
139 1,4-Dioxane					CAS #: 123-91-1		
7.173	7.168 (1.115)	88	4916	20.0000	18.993	80.00- 120.00	100.00(a)
7.173	7.165 (1.115)	58	2657			38.82- 98.82	54.05
7.159	7.162 (1.113)	57	1325			0.00- 54.14	26.95
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.395 (1.150)	83	14109	20.0000	18.638	80.00- 120.00	100.00
7.397	7.397 (1.150)	85	9160			35.00- 95.00	64.92
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	12110	20.0000	18.415	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	3952			2.65- 62.65	32.63
8.097	8.094 (1.259)	39	5915			18.79- 78.79	48.84
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.363	8.374 (1.300)	85	2990	20.0000	18.598	80.00- 120.00	100.00
8.377	8.374 (1.302)	43	15696			460.46- 520.46	524.95
8.377	8.374 (1.302)	58	5522			186.56- 246.56	184.68
156 Toluene					CAS #: 108-88-3		
8.586	8.582 (1.335)	91	26302	20.0000	18.890	80.00- 120.00	100.00
8.586	8.580 (1.335)	92	15276			26.83- 86.83	58.08
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	11289	20.0000	18.399	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	4550			2.27- 62.27	40.30
9.076	9.076 (0.879)	39	5761			17.57- 77.57	51.03
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	8797	20.0000	18.586	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	5468			31.36- 91.36	62.16
9.314	9.314 (0.902)	83	8424			57.18- 117.18	95.76
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	12907	20.0000	19.103	80.00- 120.00	100.00
9.342	9.330 (0.905)	129	9518			46.86- 106.86	73.74
9.328	9.328 (0.904)	131	9183			46.25- 106.25	71.15

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	7955	20.0000	18.410	80.00- 120.00	100.00(a)
9.608	9.608 (0.931)	43	13136			132.92- 192.92	165.13
9.608	9.608 (0.931)	100	1354			0.00- 52.05	17.02
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	17357	20.0000	18.952	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	13055			47.27- 107.27	75.21
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	14403	20.0000	18.769	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	13560			62.36- 122.36	94.15
180 Chlorobenzene					CAS #: 108-90-7		
10.349	10.349 (1.003)	112	22576	20.0000	19.376	80.00- 120.00	100.00
10.349	10.349 (1.003)	114	7305			1.61- 61.61	32.36
10.349	10.347 (1.003)	77	15714			26.63- 86.63	69.60
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	11653	20.0000	19.977	80.00- 120.00	100.00
10.433	10.429 (1.011)	91	34751			276.73- 336.73	298.22
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	14703	20.0000	20.494	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	27401			166.48- 226.48	186.36
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	13098	20.0000	19.721	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	29276			183.14- 243.14	223.52
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	21826	20.0000	20.900	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	10616			17.49- 77.49	48.64
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	15345	20.0000	18.516	80.00- 120.00	100.00(a)
11.091	11.091 (1.075)	171	8289			21.78- 81.78	54.02
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	40018	20.0000	19.058	80.00- 120.00	100.00(a)
11.175	11.177 (1.083)	120	10345			0.00- 57.49	25.85
11.175	11.175 (1.083)	51	3501			0.00- 38.96	8.75
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	17871	20.0000	16.890	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	11693			35.12- 95.12	65.43

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	43176	20.0000	18.830	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	10926			0.00- 54.39	25.31
11.483	11.480 (1.113)	105	1574			0.00- 33.66	3.65
206 4-Ethyltoluene					CAS #: 622-96-8		
11.567	11.562 (1.121)	105	33360	20.0000	18.474	80.00- 120.00	100.00
11.567	11.564 (1.121)	120	10425			0.69- 60.69	31.25
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	33657	20.0000	20.564	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	14735			16.81- 76.81	43.78
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.847	11.847 (1.148)	105	23395	20.0000	17.724	80.00- 120.00	100.00
11.847	11.847 (1.148)	120	10737			16.57- 76.57	45.89
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.042	12.042 (1.167)	146	19784	20.0000	17.369	80.00- 120.00	100.00
12.042	12.042 (1.167)	148	12258			32.90- 92.90	61.96
12.042	12.042 (1.167)	111	7940			9.17- 69.17	40.13
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	18438	20.0000	16.733	80.00- 120.00	100.00
12.098	12.098 (1.172)	148	12190			35.22- 95.22	66.11
12.098	12.098 (1.172)	111	7228			7.96- 67.96	39.20
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	22629	20.0000	16.255	80.00- 120.00	100.00
12.196	12.192 (1.182)	126	4845			0.00- 51.56	21.41
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	17073	20.0000	16.542	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	10952			33.30- 93.30	64.15
12.322	12.322 (1.194)	111	6391			10.19- 70.19	37.43
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	6463	20.0000	14.492	80.00- 120.00	100.00(a)
13.162	13.162 (1.275)	182	5900			67.17- 127.17	91.29
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.207 (1.279)	225	3749	20.0000	11.554	80.00- 120.00	100.00(a)
13.204	13.207 (1.279)	223	2474			31.62- 91.62	65.99

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M1- Compound response manually integrated because
    Target system did not integrate.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082113.d
Lab Smp Id: ICAL Level #3
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 20ppbv (200ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #3
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	90687	-4.93
127 1,4-Difluorobenze	366541	219925	513157	357809	-2.38
179 Chlorobenzene-d5	327904	196742	459066	332858	1.51

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082113.d

Page 1

Date : 21-AUG-2019 18:25

Client ID: ICAL Level #3

Instrument: msd14.i

Sample Info: 5.0ml #3018-909

Operator: DF

Column phase: RTX-624

Column diameter: 0.18

US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/21AUG19.b/14082132.d
Lab Smp Id: ICAL Level #4 Client Smp ID: ICAL Level #4
Inj Date : 22-AUG-2019 12:26
Operator : AK Inst ID: msd14.i
Smp Info : 12.5ml #3018-909
Misc Info : 50ppbv(1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 09:46 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	87273	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	66665			46.63- 106.63	76.39
5.298	5.294 (1.000)	49	89374			70.93- 130.93	102.41
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	355093	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	55800			0.00- 45.07	15.71
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	328611	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	175230			24.37- 84.37	53.32
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	113928	400.000	405.84	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	59879			24.83- 84.83	52.56
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	363637	400.000	402.58	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	39555			0.00- 41.24	10.88

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	236780			35.45- 95.45	65.11
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	199284	400.000	404.24	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	248766			91.49- 151.49	124.83
11.329	11.329 (1.098)	176	193949			65.46- 125.46	97.32
10 Propylene					CAS #: 115-07-1		
1.437	1.430 (0.271)	41	11449	50.0000	60.137	80.00- 120.00	100.00
1.423	1.426 (0.268)	42	6595			37.53- 97.53	57.60
1.423	1.426 (0.268)	39	10744			47.16- 107.16	93.84
11 Freon 12					CAS #: 75-71-8		
1.451	1.460 (0.274)	85	30958	50.0000	44.973	80.00- 120.00	100.00
1.465	1.462 (0.276)	87	9387			2.22- 62.22	30.32
13 Freon 114					CAS #: 76-14-2		
1.576	1.574 (0.298)	135	27144	50.0000	45.658	80.00- 120.00	100.00
1.576	1.572 (0.298)	137	8433			1.53- 61.53	31.07
16 Chloromethane					CAS #: 74-87-3		
1.646	1.649 (0.311)	50	8914	50.0000	45.228	80.00- 120.00	100.00
1.646	1.646 (0.311)	52	3467			6.04- 66.04	38.89
17 Butane					CAS #: 106-97-8		
1.716	1.722 (0.324)	58	3038	50.0000	51.794	80.00- 120.00	100.00
1.716	1.722 (0.324)	43	15817			529.81- 589.81	520.64
19 Vinyl Chloride					CAS #: 75-01-4		
1.758	1.768 (0.332)	62	13713	50.0000	48.255	80.00- 120.00	100.00
1.758	1.765 (0.332)	64	4278			3.29- 63.29	31.20
25 1,3-Butadiene					CAS #: 106-99-0		
1.772	1.777 (0.335)	54	8990	50.0000	41.984	80.00- 120.00	100.00
1.772	1.777 (0.335)	39	9030			64.50- 124.50	100.44
30 Bromomethane					CAS #: 74-83-9		
2.122	2.128 (0.401)	94	6934	50.0000	40.898	80.00- 120.00	100.00
2.136	2.128 (0.403)	96	6829			68.11- 128.11	98.49
31 Chloroethane					CAS #: 75-00-3		
2.248	2.243 (0.424)	64	5947	50.0000	50.254	80.00- 120.00	100.00
2.276	2.248 (0.430)	66	1930			4.72- 64.72	32.45
32 Isopentane					CAS #: 78-78-4		
2.248	2.243 (0.424)	43	12890	50.0000	56.711	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.243 (0.424)	57	10879			53.88- 113.88	84.40
2.262	2.248 (0.427)	72	1202			0.00- 40.86	9.33
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	35684	50.0000	48.164	80.00- 120.00	100.00
2.458	2.461 (0.464)	103	23352			34.80- 94.80	65.44
42 Ethanol					CAS #: 64-17-5		
2.738	2.745 (0.517)	45	3618	50.0000	40.588	80.00- 120.00	100.00
2.738	2.745 (0.517)	46	1543			7.83- 67.83	42.65
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	26821	50.0000	48.181	80.00- 120.00	100.00
3.004	3.007 (0.567)	153	16160			35.43- 95.43	60.25
3.004	3.005 (0.567)	101	31534			91.24- 151.24	117.57
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.032	3.035 (0.572)	61	22899	50.0000	47.620	80.00- 120.00	100.00
3.046	3.038 (0.575)	96	14285			32.67- 92.67	62.38
3.046	3.038 (0.575)	98	9395			10.54- 70.54	41.03
53 Acetone					CAS #: 67-64-1		
3.172	3.172 (0.599)	58	6653	50.0000	49.591	80.00- 120.00	100.00
3.172	3.172 (0.599)	43	18667			259.09- 319.09	280.58
55 Carbon Disulfide					CAS #: 75-15-0		
3.256	3.250 (0.614)	76	39161	50.0000	44.460	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.311	3.313 (0.625)	45	18600	50.0000	44.582	80.00- 120.00	100.00
3.311	3.313 (0.625)	43	4837			0.00- 51.35	26.01
3.311	3.311 (0.625)	59	906			0.00- 34.59	4.87
59 3-Chloropropene					CAS #: 107-05-1		
3.465	3.465 (0.654)	76	3910	50.0000	35.258	80.00- 120.00	100.00
3.465	3.465 (0.654)	41	8920			162.76- 222.76	228.13
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.635 (0.686)	49	14357	50.0000	47.948	80.00- 120.00	100.00
3.633	3.635 (0.686)	84	12829			63.99- 123.99	89.36
3.633	3.635 (0.686)	51	4640			0.02- 60.02	32.32
68 tert-Butyl alcohol					CAS #: 75-65-0		
3.745	3.745 (0.707)	59	27508	50.0000	47.105	80.00- 120.00	100.00
3.745	3.745 (0.707)	41	4785			0.00- 47.07	17.39

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
68 tert-Butyl alcohol (continued)							
3.731	3.745 (0.704)	57	3067			0.00- 39.91	11.15
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	40385	50.0000	48.082	80.00- 120.00	100.00
3.843	3.842 (0.725)	57	9379			0.00- 53.23	23.22
3.829	3.840 (0.723)	41	7614			0.00- 48.43	18.85
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	13745	50.0000	44.622	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	18629			107.35- 167.35	135.53
3.871	3.871 (0.731)	98	8880			33.11- 93.11	64.61
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	21783	50.0000	45.488	80.00- 120.00	100.00
4.081	4.081 (0.770)	43	12548			23.47- 83.47	57.60
4.095	4.084 (0.773)	86	4112			0.00- 49.00	18.88
82 Isopropyl ether					CAS #: 108-20-3		
4.361	4.364 (0.823)	45	40616	50.0000	45.105	80.00- 120.00	100.00
4.361	4.364 (0.823)	87	14182			5.22- 65.22	34.92
4.361	4.364 (0.823)	59	5857			0.00- 43.54	14.42
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.378 (0.826)	63	25267	50.0000	45.558	80.00- 120.00	100.00
4.389	4.381 (0.828)	65	7741			2.01- 62.01	30.64
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	3831	50.0000	43.132	80.00- 120.00	100.00
4.431	4.431 (0.836)	43	36413			834.16- 894.16	950.48
4.431	4.431 (0.836)	42	3193			70.06- 130.06	83.35
87 Ethyl-tert-butyl ether					CAS #: 637-92-3		
4.753	4.753 (0.897)	59	47149	50.0000	43.788	80.00- 120.00	100.00
4.753	4.756 (0.897)	87	20599			13.01- 73.01	43.69
4.753	4.753 (0.897)	41	8248			0.00- 45.61	17.49
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.018	5.018 (0.947)	61	21475	50.0000	47.766	80.00- 120.00	100.00
5.018	5.025 (0.947)	96	16481			48.23- 108.23	76.75
5.032	5.026 (0.950)	98	10859			21.56- 81.56	50.57
92 2-Butanone					CAS #: 78-93-3		
5.060	5.063 (0.955)	72	7396	50.0000	44.653	80.00- 120.00	100.00
5.060	5.060 (0.955)	43	23061			263.34- 323.34	311.80
5.074	5.066 (0.958)	57	2315			0.72- 60.72	31.30

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	12004	50.0000	38.004	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	6841			23.22- 83.22	56.99
5.284	5.284 (0.997)	72	6782			25.49- 85.49	56.50
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	30447	50.0000	46.460	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	19176			36.07- 96.07	62.98
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	20803	50.0000	46.291	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	22277			77.00- 137.00	107.09
5.480	5.480 (1.034)	41	11569			24.48- 84.48	55.61
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.508	5.516 (1.040)	97	29461	50.0000	43.621	80.00- 120.00	100.00
5.508	5.514 (1.040)	99	19857			34.24- 94.24	67.40
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	31726	50.0000	45.652	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	33540			73.64- 133.64	105.72
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	71223	50.0000	46.326	80.00- 120.00	100.00
5.900	5.905 (1.114)	56	23319			2.41- 62.41	32.74
5.900	5.902 (1.114)	41	15593			0.00- 53.81	21.89
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	45073	50.0000	42.751	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	11831			0.00- 54.09	26.25
120 tert-Amyl methyl ether					CAS #: 994-05-8		
6.026	6.026 (1.137)	73	46095	50.0000	43.723	80.00- 120.00	100.00
6.026	6.026 (1.137)	87	10918			0.00- 53.84	23.69
6.026	6.026 (1.137)	55	11554			0.00- 51.48	25.07
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.040	6.045 (0.939)	62	19996	50.0000	41.203	80.00- 120.00	100.00
6.054	6.052 (0.941)	64	6515			3.21- 63.21	32.58
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.954)	71	15905	50.0000	40.463	80.00- 120.00	100.00
6.138	6.135 (0.954)	43	18705			90.25- 150.25	117.60
6.124	6.136 (0.952)	100	5330			0.00- 58.91	33.51
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.037)	95	21367	50.0000	44.199	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
129 Trichloroethene (continued)							
6.670	6.671 (1.037)	130	23035			78.88- 138.88	107.81
6.670	6.671 (1.037)	97	13304			35.90- 95.90	62.26
133 Methylcyclohexane					CAS #: 108-87-2		
6.809	6.804 (1.059)	83	29739	50.0000	44.684	80.00- 120.00	100.00
6.809	6.802 (1.059)	98	13249			16.99- 76.99	44.55
6.809	6.802 (1.059)	55	22229			43.70- 103.70	74.75
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	16099	50.0000	40.143	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	10818			40.28- 100.28	67.20
7.019	7.019 (1.091)	41	9056			21.25- 81.25	56.25
139 1,4-Dioxane					CAS #: 123-91-1		
7.173	7.168 (1.115)	88	10269	50.0000	39.977	80.00- 120.00	100.00
7.159	7.165 (1.113)	58	6332			38.82- 98.82	61.66
7.173	7.162 (1.115)	57	2564			0.00- 54.14	24.97
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.395 (1.150)	83	31085	50.0000	41.378	80.00- 120.00	100.00
7.397	7.397 (1.150)	85	20352			35.00- 95.00	65.47
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	26796	50.0000	41.058	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	8332			2.65- 62.65	31.09
8.097	8.094 (1.259)	39	13393			18.79- 78.79	49.98
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.377	8.374 (1.302)	85	6355	50.0000	39.830	80.00- 120.00	100.00
8.377	8.374 (1.302)	43	30617			460.46- 520.46	481.78
8.377	8.374 (1.302)	58	15051			186.56- 246.56	236.84
156 Toluene					CAS #: 108-88-3		
8.586	8.582 (1.335)	91	58405	50.0000	42.267	80.00- 120.00	100.00
8.586	8.580 (1.335)	92	34007			26.83- 86.83	58.23
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	24776	50.0000	40.903	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	8167			2.27- 62.27	32.96
9.076	9.076 (0.879)	39	11435			17.57- 77.57	46.15
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	19429	50.0000	41.580	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	12206			31.36- 91.36	62.82
9.314	9.314 (0.902)	83	17085			57.18- 117.18	87.94

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	28923	50.0000	43.361	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	21681			46.86- 106.86	74.96
9.328	9.328 (0.904)	131	20843			46.25- 106.25	72.06
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	16846	50.0000	39.490	80.00- 120.00	100.00
9.608	9.608 (0.931)	43	27068			132.92- 192.92	160.68
9.608	9.608 (0.931)	100	3775			0.00- 52.05	22.41
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	37285	50.0000	41.237	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	27343			47.27- 107.27	73.34
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	31347	50.0000	41.376	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	29223			62.36- 122.36	93.22
180 Chlorobenzene					CAS #: 108-90-7		
10.349	10.349 (1.003)	112	46955	50.0000	40.821	80.00- 120.00	100.00
10.349	10.349 (1.003)	114	15285			1.61- 61.61	32.55
10.349	10.347 (1.003)	77	28930			26.63- 86.63	61.61
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	24158	50.0000	41.951	80.00- 120.00	100.00
10.433	10.429 (1.011)	91	77309			276.73- 336.73	320.01
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	29231	50.0000	41.272	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	59513			166.48- 226.48	203.60
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	28717	50.0000	43.797	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	59310			183.14- 243.14	206.53
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	45731	50.0000	44.356	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	22407			17.49- 77.49	49.00
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	33117	50.0000	40.477	80.00- 120.00	100.00
11.091	11.091 (1.075)	171	17662			21.78- 81.78	53.33
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	86275	50.0000	41.619	80.00- 120.00	100.00
11.175	11.177 (1.083)	120	24071			0.00- 57.49	27.90

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
196 Cumene (continued)							
11.175	11.175 (1.083)	51	7949			0.00- 38.96	9.21
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	42740	50.0000	40.916	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	26858			35.12- 95.12	62.84
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	98279	50.0000	43.416	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	22955			0.00- 54.39	23.36
11.483	11.480 (1.113)	105	3698			0.00- 33.66	3.76
206 4-Ethyltoluene					CAS #: 622-96-8		
11.567	11.562 (1.121)	105	77985	50.0000	43.746	80.00- 120.00	100.00
11.567	11.564 (1.121)	120	22551			0.69- 60.69	28.92
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	81310	50.0000	50.322	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	35975			16.81- 76.81	44.24
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.846	11.847 (1.148)	105	61835	50.0000	47.452	80.00- 120.00	100.00
11.846	11.847 (1.148)	120	27548			16.57- 76.57	44.55
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.042	12.042 (1.167)	146	49315	50.0000	43.855	80.00- 120.00	100.00
12.042	12.042 (1.167)	148	31354			32.90- 92.90	63.58
12.042	12.042 (1.167)	111	18564			9.17- 69.17	37.64
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	47020	50.0000	43.223	80.00- 120.00	100.00
12.098	12.098 (1.172)	148	31420			35.22- 95.22	66.82
12.098	12.098 (1.172)	111	18706			7.96- 67.96	39.78
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	57724	50.0000	42.000	80.00- 120.00	100.00
12.196	12.192 (1.182)	126	12840			0.00- 51.56	22.24
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	43940	50.0000	43.125	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	29003			33.30- 93.30	66.01
12.322	12.322 (1.194)	111	19016			10.19- 70.19	43.28
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	29984	50.0000	68.103	80.00- 120.00	100.00
13.162	13.162 (1.275)	182	27983			67.17- 127.17	93.33

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.207 (1.279)	225	24483	50.0000	76.432	80.00- 120.00	100.00
13.204	13.207 (1.279)	223	15327			31.62- 91.62	62.60
235 Naphthalene					CAS #: 91-20-3		
13.302	13.295 (1.289)	128	6758	5.00000	8.042	80.00- 120.00	100.00(a)
13.288	13.290 (1.287)	127	1062			0.00- 45.62	15.71

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082132.d
Lab Smp Id: ICAL Level #4
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 50ppbv(1000ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #4
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	87273	-8.51
127 1,4-Difluorobenze	366541	219925	513157	355093	-3.12
179 Chlorobenzene-d5	327904	196742	459066	328611	0.22

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082132.d

Date : 22-AUG-2019 12:26

Client ID: ICAL Level #4

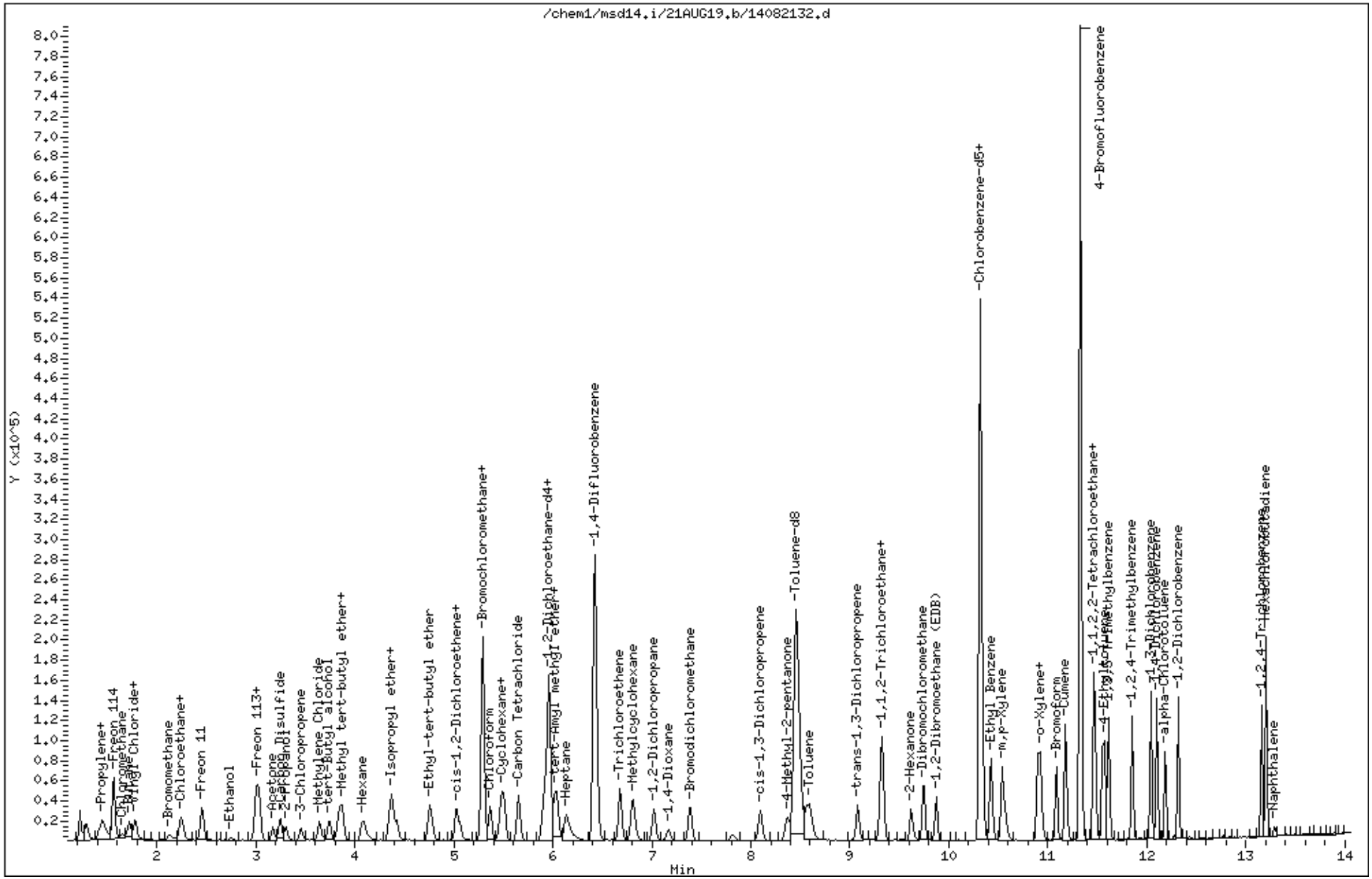
Sample Info: 12.5ml #3018-909

Column phase: RTX-624

Instrument: msd14.i

Operator: AK

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082127.d
Lab Smp Id: ICAL Level #4 Client Smp ID: ICAL Level #4
Inj Date : 22-AUG-2019 09:28
Operator : AK Inst ID: msd14.i
Smp Info : 2.5ml #3084-162
Misc Info : 50ppbv(1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 09:28 Cal File: 14082127.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MasterCRV.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	89277	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	68134			46.63- 106.63	76.32
5.298	5.295 (1.000)	49	89488			70.93- 130.93	100.24
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	352017	400.000		80.00- 120.00	100.00
6.432	6.429 (1.000)	88	54874			0.00- 45.07	15.59
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	325731	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	178345			24.37- 84.37	54.75
6 Freon 143a					CAS #: 420-46-2		
1.325	1.325 (0.250)	69	36275	50.0000	50.152	0.00- 30.00	100.00
1.339	1.339 (0.253)	65	8018			0.00- 30.00	22.10
8 Freon 134a					CAS #: 811-97-2		
1.381	1.381 (0.261)	83	13332	50.0000	53.193	0.00- 30.00	100.00
1.325	1.325 (0.250)	69	36275			0.00- 30.00	272.09

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
9 1,1-Difluoroethane					CAS #: 75-37-6		
1.423	1.423 (0.268)	65	7803	50.0000	49.361	0.00- 30.00	100.00
1.478	1.479 (0.279)	51	26542			0.00- 30.00	340.15
12 Chlorodifluoromethane					CAS #: 75-45-6		
1.478	1.472 (0.279)	67	3647	50.0000	46.923	0.00- 30.00	100.00
1.478	1.479 (0.279)	51	26542			0.00- 30.00	727.78
14 Freon 142b					CAS #: 75-68-3		
1.618	1.619 (0.305)	65	23119	50.0000	48.742	0.00- 30.00	100.00
1.632	1.633 (0.308)	45	6208			0.00- 30.00	26.85
27 Vinyl Bromide					CAS #: 593-60-2		
2.416	2.416 (0.456)	106	13410	50.0000	49.996	0.00- 30.00	100.00
2.416	2.416 (0.456)	108	12758			0.00- 30.00	95.14
36 Dichlorofluoromethane					CAS #: 75-43-4		
2.472	2.472 (0.467)	67	27280	50.0000	47.230	0.00- 30.00	100.00
2.472	2.472 (0.467)	69	10219			0.00- 30.00	37.46
38 Pentane					CAS #: 109-66-0		
2.514	2.514 (0.474)	43	20210	50.0000	45.900	0.00- 30.00	100.00
2.514	2.514 (0.474)	57	4274			0.00- 30.00	21.15
2.528	2.514 (0.477)	72	3199			0.00- 30.00	15.83
39 Freon 123a					CAS #: 354-23-4		
2.864	2.871 (0.540)	117	20330	50.0000	46.467	0.00- 30.00	100.00
2.864	2.864 (0.540)	67	27295			0.00- 30.00	134.26
43 Ethyl Ether					CAS #: 60-29-7		
2.780	2.787 (0.525)	74	6475	50.0000	49.260	0.00- 30.00	100.00
2.780	2.780 (0.525)	59	9711			0.00- 30.00	149.98
48 Freon 123					CAS #: 306-83-2		
2.948	2.948 (0.556)	83	33506	50.0000	50.259	0.00- 30.00	100.00
2.948	2.948 (0.556)	133	6597			0.00- 30.00	19.69
2.948	2.948 (0.556)	85	22265			0.00- 30.00	66.45
50 Methyl Acetate					CAS #: 79-20-9		
3.493	3.493 (0.659)	43	19663	50.0000	50.238	0.00- 30.00	100.00
3.507	3.507 (0.662)	74	5009			0.00- 30.00	25.47
3.507	3.500 (0.662)	59	1925			0.00- 30.00	9.79
60 Cyclopentene					CAS #: 142-29-0		
3.465	3.465 (0.654)	67	29788	50.0000	47.170	0.00- 30.00	100.00
3.465	3.465 (0.654)	68	11700			0.00- 30.00	39.28

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
60 Cyclopentene (continued)							
3.465	3.472 (0.654)	53	5419			0.00- 30.00	18.19
63 Acetonitrile					CAS #: 75-05-8		
3.563	3.563 (0.673)	41	6129	50.0000	44.639	0.00- 30.00	100.00
3.563	3.570 (0.673)	38	999			0.00- 30.00	16.30
3.563	3.563 (0.673)	40	3748			0.00- 30.00	61.15
75 Acrylonitrile					CAS #: 107-13-1		
3.983	3.983 (0.752)	53	8038	50.0000	45.215	0.00- 30.00	100.00
3.983	3.983 (0.752)	52	7339			0.00- 30.00	91.30
74 Chloroprene					CAS #: 126-99-8		
4.431	4.431 (0.836)	53	19973	50.0000	48.437	0.00- 30.00	100.00
4.431	4.431 (0.836)	88	11281			0.00- 30.00	56.48
4.431	4.431 (0.836)	50	6119			0.00- 30.00	30.64
86 1-Propanol					CAS #: 71-23-8		
4.515	4.522 (0.852)	42	1581	50.0000	49.279	0.00- 30.00	100.00
4.515	4.515 (0.852)	59	2476			0.00- 30.00	156.61
4.515	4.515 (0.852)	41	1679			0.00- 30.00	106.20
89 2,2-Dichloropropane					CAS #: 594-20-7		
4.976	4.977 (0.939)	77	19450	50.0000	44.455	0.00- 30.00	100.00
4.976	4.977 (0.939)	79	6003			0.00- 30.00	30.86
4.976	4.977 (0.939)	97	3916			0.00- 30.00	20.13
93 Ethyl Acetate					CAS #: 141-78-6		
5.088	5.088 (0.960)	70	3829	50.0000	43.363	0.00- 30.00	100.00
5.088	5.088 (0.960)	43	27735			0.00- 30.00	724.34
5.088	5.081 (0.960)	61	4620			0.00- 30.00	120.66
94 Methyl Acrylate					CAS #: 96-33-3		
5.130	5.137 (0.968)	55	23097	50.0000	48.955	0.00- 30.00	100.00
5.144	5.144 (0.971)	85	4363			0.00- 30.00	18.89
5.130	5.130 (0.968)	58	1943			0.00- 30.00	8.41
109 1,1-Dichloropropene					CAS #: 563-58-6		
5.704	5.697 (1.077)	110	8185	50.0000	47.168	0.00- 30.00	100.00
5.704	5.704 (1.077)	75	23084			0.00- 30.00	282.03
116 Isobutanol					CAS #: 78-83-1		
5.900	5.900 (0.917)	43	9824	50.0000	48.306	0.00- 30.00	100.00
5.900	5.900 (0.917)	41	8805			0.00- 30.00	89.63
128 n-Butanol					CAS #: 71-36-3		
6.669	6.670 (1.037)	56	9421	50.0000	48.642	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
128 n-Butanol (continued)							
6.669	6.670 (1.037)	41	5607			0.00- 30.00	59.52
6.669	6.670 (1.037)	43	4602			0.00- 30.00	48.85
134 Ethyl acrylate					CAS #: 140-88-5		
6.865	6.858 (1.067)	55	32539	50.0000	46.890	0.00- 30.00	100.00
6.865	6.865 (1.067)	99	2832			0.00- 30.00	8.70
6.865	6.858 (1.067)	45	2841			0.00- 30.00	8.73
137 2-Pentanone					CAS #: 107-87-9		
6.991	6.984 (1.087)	43	31827	50.0000	46.987	0.00- 30.00	100.00
6.991	6.991 (1.087)	58	3492			0.00- 30.00	10.97
6.991	6.984 (1.087)	86	7595			0.00- 30.00	23.86
140 Methyl Methacrylate					CAS #: 80-62-6		
7.159	7.159 (1.113)	41	16955	50.0000	47.781	0.00- 30.00	100.00
7.159	7.159 (1.113)	69	18571			0.00- 30.00	109.53
7.159	7.166 (1.113)	100	7018			0.00- 30.00	41.39
142 Dibromomethane					CAS #: 74-95-3		
7.187	7.187 (1.117)	174	19065	50.0000	46.569	0.00- 30.00	100.00
7.187	7.180 (1.117)	93	19626			0.00- 30.00	102.94
7.173	7.180 (1.115)	95	16159			0.00- 30.00	84.76
157 Octane					CAS #: 111-65-9		
8.684	8.677 (1.350)	57	14823	50.0000	45.382	0.00- 30.00	100.00
8.670	8.670 (1.348)	85	17689			0.00- 30.00	119.33
8.670	8.670 (1.348)	43	28665			0.00- 30.00	193.38
164 1,3-Dichloropropane					CAS #: 142-28-9		
9.524	9.524 (1.798)	76	29196	50.0000	48.350	0.00- 30.00	100.00
9.524	9.524 (1.798)	41	15524			0.00- 30.00	53.17
9.524	9.524 (1.798)	78	9953			0.00- 30.00	34.09
168 Butyl Acetate					CAS #: 123-86-4		
9.734	9.734 (1.513)	56	18358	50.0000	51.242	0.00- 30.00	100.00
9.734	9.734 (1.513)	73	8954			0.00- 30.00	48.77
9.734	9.734 (1.513)	43	40303			0.00- 30.00	219.54
182 1,1,1,2-Tetrachloroethane					CAS #: 630-20-6		
10.433	10.433 (1.011)	131	25226	50.0000	55.274	0.00- 30.00	100.00
10.433	10.433 (1.011)	117	18920			0.00- 30.00	75.00
10.433	10.433 (1.011)	95	9519			0.00- 30.00	37.73
183 Nonane					CAS #: 111-84-2		
10.503	10.503 (1.018)	43	27102	50.0000	53.025	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
183 Nonane (continued)							
10.503	10.503 (1.018)	57	28461			0.00- 30.00	105.01
10.517	10.510 (1.019)	85	12844			0.00- 30.00	47.39
192 2-Heptanone					CAS #: 110-43-0		
11.035	11.035 (1.069)	58	24902	50.0000	60.962	0.00- 30.00	100.00
11.035	11.035 (1.069)	43	34402			0.00- 30.00	138.15
195 alpha-Pinene					CAS #: 80-56-8		
11.119	11.119 (1.077)	93	55468	50.0000	55.600	0.00- 30.00	100.00
11.119	11.119 (1.077)	121	6332			0.00- 30.00	11.42
11.119	11.119 (1.077)	92	20010			0.00- 30.00	36.07
197 Cyclohexanone					CAS #: 108-94-1		
11.301	11.301 (1.095)	55	17848	50.0000	58.500	0.00- 30.00	100.00
11.301	11.301 (1.095)	98	8604			0.00- 30.00	48.21
11.301	11.301 (1.095)	42	11697			0.00- 30.00	65.54
199 Bromobenzene					CAS #: 108-86-1		
11.427	11.427 (1.107)	156	30351	50.0000	55.583	0.00- 30.00	100.00
11.427	11.427 (1.107)	77	45915			0.00- 30.00	151.28
11.427	11.427 (1.107)	158	28287			0.00- 30.00	93.20
202 1,2,3-Trichloropropane					CAS #: 96-18-4		
11.497	11.497 (1.114)	110	13751	50.0000	54.759	0.00- 30.00	100.00
11.497	11.497 (1.114)	61	9771			0.00- 30.00	71.06
11.497	11.497 (1.114)	112	9027			0.00- 30.00	65.65
204 2-Chlorotoluene					CAS #: 95-49-8		
11.553	11.553 (1.119)	126	23029	50.0000	56.891	0.00- 30.00	100.00
11.553	11.553 (1.119)	91	65224			0.00- 30.00	283.23
11.553	11.553 (1.119)	65	6193			0.00- 30.00	26.89
205 Decane					CAS #: 124-18-5		
11.553	11.553 (1.119)	57	26627	50.0000	58.049	0.00- 30.00	100.00
11.553	11.553 (1.119)	71	11643			0.00- 30.00	43.73
11.567	11.567 (1.121)	142	1493			0.00- 30.00	5.61
208 4-Chlorotoluene					CAS #: 106-43-4		
11.637	11.637 (1.127)	126	22977	50.0000	61.117	0.00- 30.00	100.00
11.637	11.637 (1.127)	91	76938			0.00- 30.00	334.85
11.637	11.637 (1.127)	63	9515			0.00- 30.00	41.41
210 tert-Butylbenzene					CAS #: 98-06-6		
11.804	11.805 (1.144)	119	66308	50.0000	62.839	0.00- 30.00	100.00
11.804	11.805 (1.144)	134	17289			0.00- 30.00	26.07

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
210 tert-Butylbenzene (continued)							
11.804	11.805 (1.144)	91	43099			0.00- 30.00	65.00
214 sec-Butylbenzene					CAS #: 135-98-8		
11.944	11.944 (1.157)	105	95489	50.0000	63.075	0.00- 30.00	100.00
11.944	11.944 (1.157)	134	19690			0.00- 30.00	20.62
11.944	11.944 (1.157)	91	14132			0.00- 30.00	14.80
215 D-Limonene					CAS #: 5989-27-5		
11.986	11.986 (1.161)	68	21932	50.0000	63.568	0.00- 30.00	100.00
11.986	11.986 (1.161)	93	14260			0.00- 30.00	65.02
11.986	11.986 (1.161)	79	7000			0.00- 30.00	31.92
218 p-Cymene					CAS #: 99-87-6		
12.028	12.028 (1.165)	119	70247	50.0000	64.038	0.00- 30.00	100.00
12.028	12.028 (1.165)	134	18805			0.00- 30.00	26.77
12.028	12.028 (1.165)	91	17012			0.00- 30.00	24.22
222 1,2,3-Trimethylbenzene					CAS #: 526-73-8		
12.112	12.112 (1.174)	120	22395	50.0000	64.905	0.00- 30.00	100.00
12.112	12.112 (1.174)	105	49773			0.00- 30.00	222.25
12.112	12.112 (1.174)	77	6499			0.00- 30.00	29.02
225 Undecane					CAS #: 1120-21-4		
12.280	12.280 (1.190)	57	25252	50.0000	64.720	0.00- 30.00	100.00
12.280	12.280 (1.190)	43	20249			0.00- 30.00	80.19
226 Butylbenzene					CAS #: 104-51-8		
12.266	12.266 (1.188)	134	13824	50.0000	62.731	0.00- 30.00	100.00
12.266	12.266 (1.188)	91	51024			0.00- 30.00	369.10
12.266	12.266 (1.188)	92	27165			0.00- 30.00	196.51
220 Hexachloroethane					CAS #: 67-72-1		
12.434	12.434 (1.205)	117	15865	50.0000	50.000	0.00- 30.00	100.00
12.434	12.434 (1.205)	201	11169			0.00- 30.00	70.40
229 1,2-Dibromo-3-chloropropane					CAS #: 96-12-8		
12.770	12.770 (1.237)	157	11835	50.0000	50.000	0.00- 30.00	100.00
12.756	12.756 (1.236)	75	9659			0.00- 30.00	81.61
12.756	12.756 (1.236)	155	8804			0.00- 30.00	74.39
230 Dodecane					CAS #: 112-40-3		
12.840	12.840 (1.244)	57	17656	50.0000	50.000	0.00- 30.00	100.00(H)
12.840	12.840 (1.244)	43	13662			0.00- 30.00	77.38

QC Flag Legend

H - Operator selected an alternate compound hit.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082127.d
Lab Smp Id: ICAL Level #4
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 50ppbv(1000ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #4
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	89277	-6.41
127 1,4-Difluorobenze	366541	219925	513157	352017	-3.96
179 Chlorobenzene-d5	327904	196742	459066	325731	-0.66

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082127.d

Date : 22-AUG-2019 09:28

Client ID: ICAL Level #4

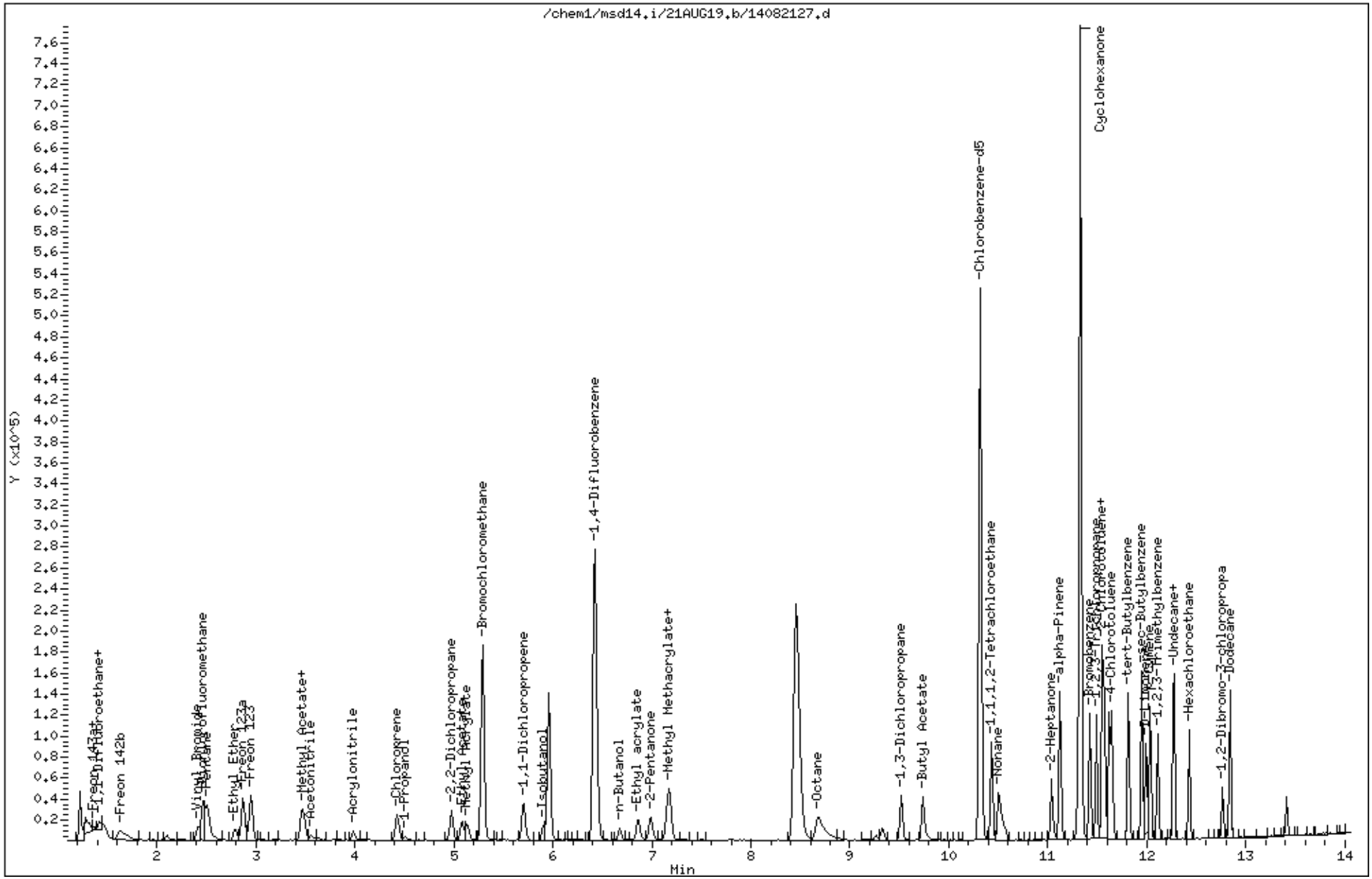
Instrument: msd14.i

Sample Info: 2.5ml #3084-162

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082128.d
Lab Smp Id: ICAL Level #5 Client Smp ID: ICAL Level #5
Inj Date : 22-AUG-2019 09:53
Operator : AK Inst ID: msd14.i
Smp Info : 5.0ml #3084-162
Misc Info : 100ppbv(1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 09:53 Cal File: 14082128.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MasterCRV.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	90757	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	70900			46.63- 106.63	78.12
5.298	5.295 (1.000)	49	91374			70.93- 130.93	100.68
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	351712	400.000		80.00- 120.00	100.00
6.432	6.429 (1.000)	88	55096			0.00- 45.07	15.67
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	328167	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	175621			24.37- 84.37	53.52
6 Freon 143a					CAS #: 420-46-2		
1.325	1.325 (0.250)	69	71093	100.000	97.766	0.00- 30.00	100.00
1.325	1.334 (0.250)	65	15808			0.00- 30.00	22.24
8 Freon 134a					CAS #: 811-97-2		
1.381	1.381 (0.261)	83	24432	100.000	97.222	0.00- 30.00	100.00
1.325	1.325 (0.250)	69	71093			0.00- 30.00	290.98

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
9 1,1-Difluoroethane					CAS #: 75-37-6		
1.423	1.423 (0.269)	65	16317	100.000	101.02	0.00- 30.00	100.00
1.479	1.479 (0.279)	51	43852			0.00- 30.00	268.75
12 Chlorodifluoromethane					CAS #: 75-45-6		
1.479	1.474 (0.279)	67	6760	100.000	89.884	0.00- 30.00	100.00
1.479	1.479 (0.279)	51	43852			0.00- 30.00	648.70
14 Freon 142b					CAS #: 75-68-3		
1.619	1.619 (0.305)	65	47411	100.000	98.879	0.00- 30.00	100.00
1.619	1.628 (0.305)	45	11672			0.00- 30.00	24.62
27 Vinyl Bromide					CAS #: 593-60-2		
2.430	2.421 (0.459)	106	26018	100.000	96.899	0.00- 30.00	100.00
2.416	2.416 (0.456)	108	24041			0.00- 30.00	92.40
36 Dichlorofluoromethane					CAS #: 75-43-4		
2.472	2.472 (0.467)	67	59340	100.000	100.70	0.00- 30.00	100.00
2.472	2.472 (0.467)	69	20204			0.00- 30.00	34.05
38 Pentane					CAS #: 109-66-0		
2.514	2.514 (0.474)	43	40512	100.000	93.466	0.00- 30.00	100.00
2.528	2.519 (0.477)	57	8107			0.00- 30.00	20.01
2.528	2.519 (0.477)	72	5831			0.00- 30.00	14.39
39 Freon 123a					CAS #: 354-23-4		
2.878	2.873 (0.543)	117	42790	100.000	97.439	0.00- 30.00	100.00
2.878	2.868 (0.543)	67	54823			0.00- 30.00	128.12
43 Ethyl Ether					CAS #: 60-29-7		
2.794	2.789 (0.527)	74	14048	100.000	103.36	0.00- 30.00	100.00
2.794	2.785 (0.527)	59	18887			0.00- 30.00	134.45
48 Freon 123					CAS #: 306-83-2		
2.948	2.948 (0.556)	83	65451	100.000	97.690	0.00- 30.00	100.00
2.948	2.948 (0.556)	133	13166			0.00- 30.00	20.12
2.948	2.948 (0.556)	85	44667			0.00- 30.00	68.24
50 Methyl Acetate					CAS #: 79-20-9		
3.493	3.493 (0.659)	43	40098	100.000	100.52	0.00- 30.00	100.00
3.507	3.507 (0.662)	74	11000			0.00- 30.00	27.43
3.493	3.498 (0.659)	59	3634			0.00- 30.00	9.06
60 Cyclopentene					CAS #: 142-29-0		
3.479	3.470 (0.657)	67	61929	100.000	97.616	0.00- 30.00	100.00
3.466	3.465 (0.654)	68	22748			0.00- 30.00	36.73

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
60 Cyclopentene (continued)							
3.466	3.470 (0.654)	53	10792			0.00- 30.00	17.43
63 Acetonitrile					CAS #: 75-05-8		
3.563	3.563 (0.673)	41	12934	100.000	94.987	0.00- 30.00	100.00
3.577	3.573 (0.675)	38	1844			0.00- 30.00	14.26
3.563	3.563 (0.673)	40	5771			0.00- 30.00	44.62
75 Acrylonitrile					CAS #: 107-13-1		
3.983	3.983 (0.752)	53	16936	100.000	95.719	0.00- 30.00	100.00
3.983	3.983 (0.752)	52	15205			0.00- 30.00	89.78
74 Chloroprene					CAS #: 126-99-8		
4.431	4.431 (0.836)	53	39823	100.000	96.611	0.00- 30.00	100.00
4.431	4.431 (0.836)	88	24148			0.00- 30.00	60.64
4.431	4.431 (0.836)	50	11218			0.00- 30.00	28.17
86 1-Propanol					CAS #: 71-23-8		
4.515	4.519 (0.852)	42	3816	100.000	110.73	0.00- 30.00	100.00
4.515	4.515 (0.852)	59	5255			0.00- 30.00	137.71
4.515	4.515 (0.852)	41	2895			0.00- 30.00	75.86
89 2,2-Dichloropropane					CAS #: 594-20-7		
4.977	4.977 (0.939)	77	46881	100.000	103.54	0.00- 30.00	100.00
4.977	4.977 (0.939)	79	15895			0.00- 30.00	33.90
4.977	4.977 (0.939)	97	10383			0.00- 30.00	22.15
93 Ethyl Acetate					CAS #: 141-78-6		
5.089	5.089 (0.960)	70	7112	100.000	85.123	0.00- 30.00	100.00
5.075	5.084 (0.958)	43	54035			0.00- 30.00	759.77
5.089	5.084 (0.960)	61	9171			0.00- 30.00	128.95
94 Methyl Acrylate					CAS #: 96-33-3		
5.131	5.135 (0.968)	55	48192	100.000	100.32	0.00- 30.00	100.00
5.131	5.140 (0.968)	85	8433			0.00- 30.00	17.50
5.131	5.130 (0.968)	58	4519			0.00- 30.00	9.38
109 1,1-Dichloropropene					CAS #: 563-58-6		
5.704	5.699 (1.077)	110	17063	100.000	97.794	0.00- 30.00	100.00
5.704	5.704 (1.077)	75	45094			0.00- 30.00	264.28
116 Isobutanol					CAS #: 78-83-1		
5.900	5.900 (0.917)	43	18560	100.000	94.056	0.00- 30.00	100.00
5.900	5.900 (0.917)	41	15213			0.00- 30.00	81.97
128 n-Butanol					CAS #: 71-36-3		
6.670	6.670 (1.037)	56	18408	100.000	96.696	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
128 n-Butanol (continued)							
6.670	6.670 (1.037)	41	11540			0.00- 30.00	62.69
6.670	6.670 (1.037)	43	9380			0.00- 30.00	50.96
134 Ethyl acrylate					CAS #: 140-88-5		
6.852	6.856 (1.065)	55	64710	100.000	95.452	0.00- 30.00	100.00
6.866	6.865 (1.067)	99	5357			0.00- 30.00	8.28
6.852	6.856 (1.065)	45	5338			0.00- 30.00	8.25
137 2-Pentanone					CAS #: 107-87-9		
6.991	6.987 (1.087)	43	65909	100.000	98.244	0.00- 30.00	100.00
6.977	6.987 (1.085)	58	6755			0.00- 30.00	10.25
6.991	6.987 (1.087)	86	15657			0.00- 30.00	23.76
140 Methyl Methacrylate					CAS #: 80-62-6		
7.159	7.159 (1.113)	41	35258	100.000	99.631	0.00- 30.00	100.00
7.159	7.159 (1.113)	69	35534			0.00- 30.00	100.78
7.159	7.164 (1.113)	100	12205			0.00- 30.00	34.62
142 Dibromomethane					CAS #: 74-95-3		
7.187	7.187 (1.117)	174	37239	100.000	93.843	0.00- 30.00	100.00
7.187	7.183 (1.117)	93	36572			0.00- 30.00	98.21
7.187	7.183 (1.117)	95	31074			0.00- 30.00	83.44
157 Octane					CAS #: 111-65-9		
8.684	8.680 (1.350)	57	27848	100.000	89.719	0.00- 30.00	100.00
8.670	8.670 (1.348)	85	35759			0.00- 30.00	128.41
8.670	8.670 (1.348)	43	56053			0.00- 30.00	201.28
164 1,3-Dichloropropane					CAS #: 142-28-9		
9.524	9.524 (1.798)	76	55837	100.000	93.787	0.00- 30.00	100.00
9.524	9.524 (1.798)	41	31024			0.00- 30.00	55.56
9.524	9.524 (1.798)	78	18635			0.00- 30.00	33.37
168 Butyl Acetate					CAS #: 123-86-4		
9.734	9.734 (1.513)	56	35149	100.000	98.790	0.00- 30.00	100.00
9.734	9.734 (1.513)	73	17717			0.00- 30.00	50.41
9.734	9.734 (1.513)	43	76836			0.00- 30.00	218.60
182 1,1,1,2-Tetrachloroethane					CAS #: 630-20-6		
10.433	10.433 (1.011)	131	51743	100.000	108.02	0.00- 30.00	100.00
10.433	10.433 (1.011)	117	36750			0.00- 30.00	71.02
10.433	10.433 (1.011)	95	18750			0.00- 30.00	36.24
183 Nonane					CAS #: 111-84-2		
10.503	10.503 (1.018)	43	54332	100.000	103.61	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
183 Nonane (continued)							
10.503	10.503 (1.018)	57	57764			0.00- 30.00	106.32
10.503	10.508 (1.018)	85	24905			0.00- 30.00	45.84
192 2-Heptanone					CAS #: 110-43-0		
11.035	11.035 (1.069)	58	48934	100.000	111.86	0.00- 30.00	100.00
11.035	11.035 (1.069)	43	68634			0.00- 30.00	140.26
195 alpha-Pinene					CAS #: 80-56-8		
11.119	11.119 (1.077)	93	101132	100.000	100.41	0.00- 30.00	100.00
11.119	11.119 (1.077)	121	11693			0.00- 30.00	11.56
11.119	11.119 (1.077)	92	36592			0.00- 30.00	36.18
197 Cyclohexanone					CAS #: 108-94-1		
11.301	11.301 (1.095)	55	33663	100.000	106.15	0.00- 30.00	100.00
11.301	11.301 (1.095)	98	17783			0.00- 30.00	52.83
11.301	11.301 (1.095)	42	22177			0.00- 30.00	65.88
199 Bromobenzene					CAS #: 108-86-1		
11.427	11.427 (1.107)	156	58517	100.000	104.16	0.00- 30.00	100.00
11.427	11.427 (1.107)	77	83993			0.00- 30.00	143.54
11.427	11.427 (1.107)	158	54521			0.00- 30.00	93.17
202 1,2,3-Trichloropropane					CAS #: 96-18-4		
11.497	11.497 (1.114)	110	26157	100.000	102.23	0.00- 30.00	100.00
11.497	11.497 (1.114)	61	17524			0.00- 30.00	67.00
11.497	11.497 (1.114)	112	16406			0.00- 30.00	62.72
204 2-Chlorotoluene					CAS #: 95-49-8		
11.553	11.553 (1.119)	126	44114	100.000	105.30	0.00- 30.00	100.00
11.553	11.553 (1.119)	91	122880			0.00- 30.00	278.55
11.553	11.553 (1.119)	65	11588			0.00- 30.00	26.27
205 Decane					CAS #: 124-18-5		
11.553	11.553 (1.119)	57	57716	100.000	115.32	0.00- 30.00	100.00
11.553	11.553 (1.119)	71	24716			0.00- 30.00	42.82
11.567	11.567 (1.121)	142	3266			0.00- 30.00	5.66
208 4-Chlorotoluene					CAS #: 106-43-4		
11.637	11.637 (1.127)	126	43892	100.000	110.06	0.00- 30.00	100.00
11.637	11.637 (1.127)	91	144468			0.00- 30.00	329.14
11.637	11.637 (1.127)	63	18212			0.00- 30.00	41.49
210 tert-Butylbenzene					CAS #: 98-06-6		
11.805	11.805 (1.144)	119	124706	100.000	110.91	0.00- 30.00	100.00
11.805	11.805 (1.144)	134	31004			0.00- 30.00	24.86

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
210 tert-Butylbenzene (continued)							
11.805	11.805 (1.144)	91	79141			0.00- 30.00	63.46
214 sec-Butylbenzene					CAS #: 135-98-8		
11.945	11.945 (1.157)	105	184717	100.000	113.15	0.00- 30.00	100.00
11.945	11.945 (1.157)	134	37769			0.00- 30.00	20.45
11.945	11.945 (1.157)	91	29058			0.00- 30.00	15.73
215 D-Limonene					CAS #: 5989-27-5		
11.987	11.986 (1.161)	68	43160	100.000	114.91	0.00- 30.00	100.00
11.987	11.986 (1.161)	93	29722			0.00- 30.00	68.86
11.987	11.986 (1.161)	79	14341			0.00- 30.00	33.23
218 p-Cymene					CAS #: 99-87-6		
12.029	12.028 (1.165)	119	136218	100.000	114.39	0.00- 30.00	100.00
12.029	12.028 (1.165)	134	35900			0.00- 30.00	26.35
12.029	12.028 (1.165)	91	31732			0.00- 30.00	23.30
222 1,2,3-Trimethylbenzene					CAS #: 526-73-8		
12.112	12.112 (1.174)	120	45331	100.000	118.40	0.00- 30.00	100.00
12.112	12.112 (1.174)	105	106504			0.00- 30.00	234.95
12.112	12.112 (1.174)	77	12814			0.00- 30.00	28.27
225 Undecane					CAS #: 1120-21-4		
12.280	12.280 (1.190)	57	55390	100.000	124.00	0.00- 30.00	100.00
12.280	12.280 (1.190)	43	42479			0.00- 30.00	76.69
226 Butylbenzene					CAS #: 104-51-8		
12.266	12.266 (1.188)	134	28796	100.000	118.02	0.00- 30.00	100.00
12.266	12.266 (1.188)	91	108743			0.00- 30.00	377.63
12.266	12.266 (1.188)	92	58037			0.00- 30.00	201.55
220 Hexachloroethane					CAS #: 67-72-1		
12.434	12.434 (1.205)	117	36863	100.000	107.11	0.00- 30.00	100.00
12.434	12.434 (1.205)	201	24900			0.00- 30.00	67.55
229 1,2-Dibromo-3-chloropropane					CAS #: 96-12-8		
12.756	12.763 (1.236)	157	29184	100.000	110.06	0.00- 30.00	100.00
12.756	12.756 (1.236)	75	24935			0.00- 30.00	85.44
12.756	12.756 (1.236)	155	23523			0.00- 30.00	80.60
230 Dodecane					CAS #: 112-40-3		
12.840	12.840 (1.244)	57	38630	100.000	104.12	0.00- 30.00	100.00(H)
12.840	12.840 (1.244)	43	28916			0.00- 30.00	74.85

QC Flag Legend

H - Operator selected an alternate compound hit.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082128.d
Lab Smp Id: ICAL Level #5
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 100ppbv(1000ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #5
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	90757	-4.86
127 1,4-Difluorobenze	366541	219925	513157	351712	-4.05
179 Chlorobenzene-d5	327904	196742	459066	328167	0.08

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082128.d

Page 1

Date : 22-AUG-2019 09:53

Client ID: ICAL Level #5

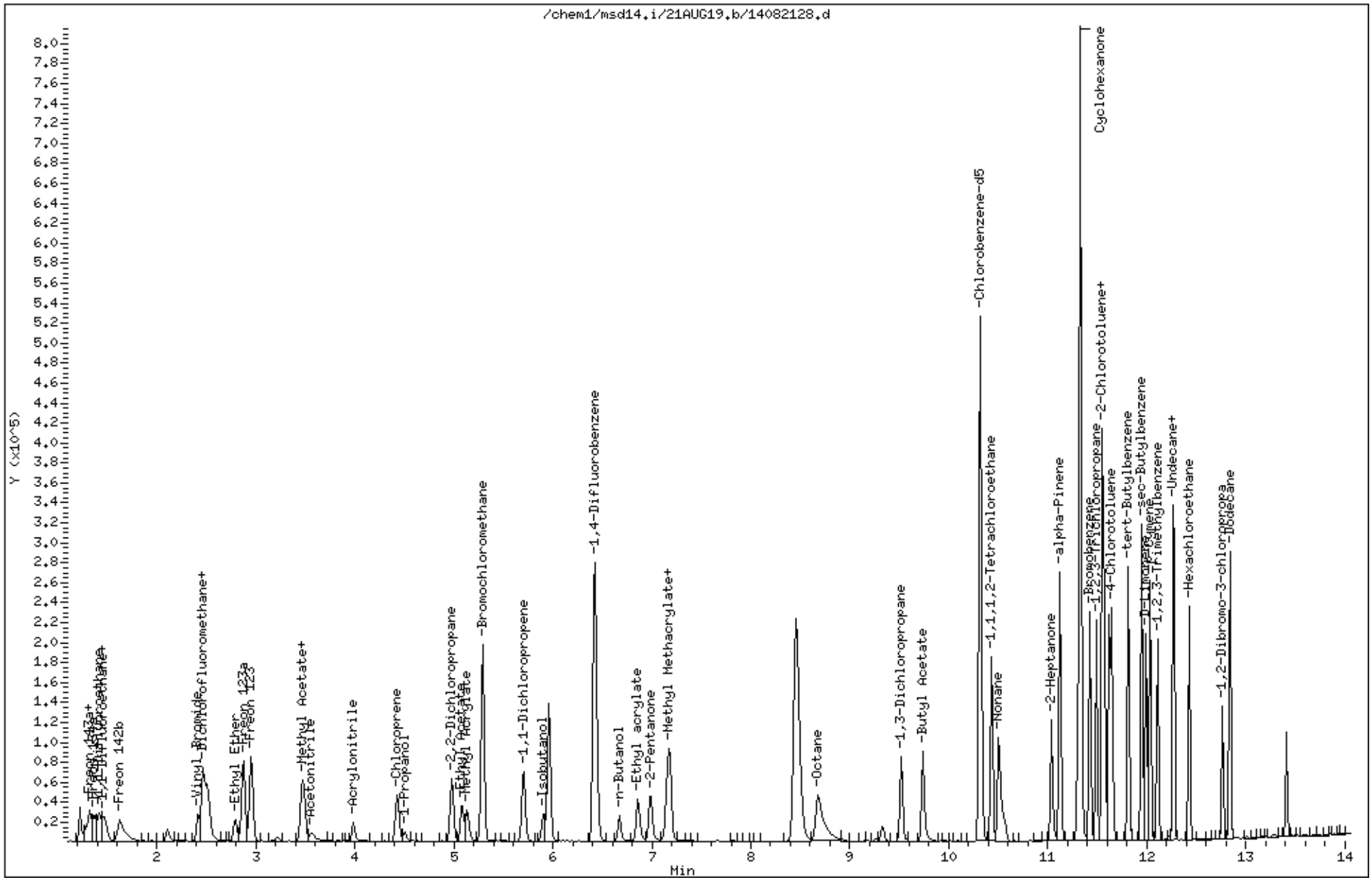
Instrument: msd14.i

Sample Info: 5.0ml #3084-162

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082115.d
Lab Smp Id: ICAL Level #5 Client Smp ID: ICAL Level #5
Inj Date : 21-AUG-2019 19:36
Operator : DF Inst ID: msd14.i
Smp Info : 25ml #3018-909
Misc Info : 100ppbv (200ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 08:57 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 09:53 Cal File: 14082128.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	91079	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	71467			46.63- 106.63	78.47
5.298	5.294 (1.000)	49	94843			70.93- 130.93	104.13
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	353094	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	54823			0.00- 45.07	15.53
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	321309	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	175357			24.37- 84.37	54.58
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	109391	400.000	373.39	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	59215			24.83- 84.83	54.13
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	358557	400.000	399.20	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	37708			0.00- 41.24	10.52

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	235397			35.45- 95.45	65.65
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	194146	400.000	402.77	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	239418			91.49- 151.49	123.32
11.329	11.329 (1.098)	176	185073			65.46- 125.46	95.33
10 Propylene					CAS #: 115-07-1		
1.423	1.430 (0.269)	41	20466	100.000	103.01	80.00- 120.00	100.00
1.423	1.426 (0.269)	42	13763			37.53- 97.53	67.25
1.423	1.426 (0.269)	39	16970			47.16- 107.16	82.92
11 Freon 12					CAS #: 75-71-8		
1.451	1.460 (0.274)	85	88049	100.000	122.56	80.00- 120.00	100.00
1.451	1.462 (0.274)	87	26309			2.22- 62.22	29.88
13 Freon 114					CAS #: 76-14-2		
1.577	1.574 (0.298)	135	72593	100.000	117.00	80.00- 120.00	100.00
1.563	1.572 (0.295)	137	23517			1.53- 61.53	32.40
16 Chloromethane					CAS #: 74-87-3		
1.647	1.649 (0.311)	50	25337	100.000	123.18	80.00- 120.00	100.00
1.647	1.646 (0.311)	52	8515			6.04- 66.04	33.61
17 Butane					CAS #: 106-97-8		
1.717	1.722 (0.324)	58	7301	100.000	119.27	80.00- 120.00	100.00
1.717	1.722 (0.324)	43	41054			529.81- 589.81	562.31
19 Vinyl Chloride					CAS #: 75-01-4		
1.759	1.768 (0.332)	62	35062	100.000	118.22	80.00- 120.00	100.00
1.759	1.765 (0.332)	64	12017			3.29- 63.29	34.27
25 1,3-Butadiene					CAS #: 106-99-0		
1.773	1.777 (0.335)	54	24765	100.000	110.82	80.00- 120.00	100.00
1.773	1.777 (0.335)	39	21935			64.50- 124.50	88.57
30 Bromomethane					CAS #: 74-83-9		
2.122	2.128 (0.401)	94	21797	100.000	123.19	80.00- 120.00	100.00
2.122	2.128 (0.401)	96	21654			68.11- 128.11	99.34
31 Chloroethane					CAS #: 75-00-3		
2.220	2.243 (0.419)	64	12897	100.000	104.43	80.00- 120.00	100.00
2.220	2.248 (0.419)	66	3954			4.72- 64.72	30.66
32 Isopentane					CAS #: 78-78-4		
2.248	2.243 (0.424)	43	33230	100.000	140.09	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.243 (0.424)	57	27911			53.88- 113.88	83.99
2.248	2.248 (0.424)	72	3504			0.00- 40.86	10.54
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	97404	100.000	125.98	80.00- 120.00	100.00
2.458	2.461 (0.464)	103	64042			34.80- 94.80	65.75
42 Ethanol					CAS #: 64-17-5		
2.752	2.745 (0.519)	45	12773	100.000	137.30	80.00- 120.00	100.00
2.752	2.745 (0.519)	46	4898			7.83- 67.83	38.35
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	71321	100.000	122.76	80.00- 120.00	100.00
3.004	3.007 (0.567)	153	45400			35.43- 95.43	63.66
3.004	3.005 (0.567)	101	85786			91.24- 151.24	120.28
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.032	3.035 (0.572)	61	60223	100.000	120.00	80.00- 120.00	100.00
3.032	3.038 (0.572)	96	38677			32.67- 92.67	64.22
3.032	3.038 (0.572)	98	24884			10.54- 70.54	41.32
53 Acetone					CAS #: 67-64-1		
3.172	3.172 (0.599)	58	17412	100.000	124.36	80.00- 120.00	100.00
3.172	3.172 (0.599)	43	49166			259.09- 319.09	282.37
55 Carbon Disulfide					CAS #: 75-15-0		
3.242	3.250 (0.612)	76	108959	100.000	118.53	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.312	3.313 (0.625)	45	53039	100.000	121.82	80.00- 120.00	100.00
3.312	3.313 (0.625)	43	12061			0.00- 51.35	22.74
3.312	3.311 (0.625)	59	2464			0.00- 34.59	4.65
59 3-Chloropropene					CAS #: 107-05-1		
3.466	3.465 (0.654)	76	15546	100.000	134.32	80.00- 120.00	100.00
3.466	3.465 (0.654)	41	30889			162.76- 222.76	198.69
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.635 (0.686)	49	37333	100.000	119.47	80.00- 120.00	100.00
3.633	3.635 (0.686)	84	34022			63.99- 123.99	91.13
3.633	3.635 (0.686)	51	12565			0.02- 60.02	33.66
68 tert-Butyl alcohol					CAS #: 75-65-0		
3.745	3.745 (0.707)	59	74638	100.000	122.47	80.00- 120.00	100.00
3.745	3.745 (0.707)	41	12989			0.00- 47.07	17.40

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
68 tert-Butyl alcohol (continued)							
3.745	3.745 (0.707)	57	8227			0.00- 39.91	11.02
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	107000	100.000	122.07	80.00- 120.00	100.00
3.843	3.842 (0.725)	57	25942			0.00- 53.23	24.24
3.843	3.840 (0.725)	41	20534			0.00- 48.43	19.19
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	37110	100.000	115.44	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	52725			107.35- 167.35	142.08
3.871	3.871 (0.731)	98	24525			33.11- 93.11	66.09
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	59618	100.000	119.29	80.00- 120.00	100.00
4.081	4.081 (0.770)	43	32950			23.47- 83.47	55.27
4.095	4.084 (0.773)	86	10647			0.00- 49.00	17.86
82 Isopropyl ether					CAS #: 108-20-3		
4.361	4.364 (0.823)	45	109834	100.000	116.88	80.00- 120.00	100.00
4.361	4.364 (0.823)	87	40191			5.22- 65.22	36.59
4.361	4.364 (0.823)	59	15754			0.00- 43.54	14.34
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.378 (0.826)	63	69652	100.000	120.34	80.00- 120.00	100.00
4.375	4.381 (0.826)	65	22686			2.01- 62.01	32.57
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	11547	100.000	124.57	80.00- 120.00	100.00
4.431	4.431 (0.836)	43	108403			834.16- 894.16	938.80
4.431	4.431 (0.836)	42	10842			70.06- 130.06	93.89
87 Ethyl-tert-butyl ether					CAS #: 637-92-3		
4.753	4.753 (0.897)	59	135547	100.000	120.62	80.00- 120.00	100.00
4.753	4.756 (0.897)	87	55929			13.01- 73.01	41.26
4.753	4.753 (0.897)	41	21773			0.00- 45.61	16.06
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.019	5.018 (0.947)	61	57654	100.000	122.88	80.00- 120.00	100.00
5.019	5.025 (0.947)	96	47019			48.23- 108.23	81.55
5.033	5.026 (0.950)	98	27636			21.56- 81.56	47.93
92 2-Butanone					CAS #: 78-93-3		
5.061	5.063 (0.955)	72	21037	100.000	121.70	80.00- 120.00	100.00
5.061	5.060 (0.955)	43	62244			263.34- 323.34	295.88
5.061	5.066 (0.955)	57	6741			0.72- 60.72	32.04

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	36262	100.000	110.01	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	18147			23.22- 83.22	50.04
5.284	5.284 (0.997)	72	20310			25.49- 85.49	56.01
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	78929	100.000	115.41	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	53485			36.07- 96.07	67.76
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	57173	100.000	121.90	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	62116			77.00- 137.00	108.65
5.480	5.480 (1.034)	41	32379			24.48- 84.48	56.63
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.508	5.516 (1.040)	97	84218	100.000	119.49	80.00- 120.00	100.00
5.508	5.514 (1.040)	99	54239			34.24- 94.24	64.40
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	89258	100.000	123.07	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	92919			73.64- 133.64	104.10
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	188527	100.000	117.50	80.00- 120.00	100.00
5.914	5.905 (1.116)	56	62020			2.41- 62.41	32.90
5.900	5.902 (1.114)	41	45285			0.00- 53.81	24.02
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	127576	100.000	121.69	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	30673			0.00- 54.09	24.04
120 tert-Amyl methyl ether					CAS #: 994-05-8		
6.026	6.026 (1.137)	73	131772	100.000	119.77	80.00- 120.00	100.00
6.026	6.026 (1.137)	87	31379			0.00- 53.84	23.81
6.026	6.026 (1.137)	55	28981			0.00- 51.48	21.99
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.040	6.045 (0.939)	62	54941	100.000	113.85	80.00- 120.00	100.00
6.040	6.052 (0.939)	64	17553			3.21- 63.21	31.95
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.954)	71	43402	100.000	111.04	80.00- 120.00	100.00
6.138	6.135 (0.954)	43	51363			90.25- 150.25	118.34
6.138	6.136 (0.954)	100	12830			0.00- 58.91	29.56
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.037)	95	59161	100.000	123.07	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
129 Trichloroethene (continued)							
6.670	6.671 (1.037)	130	62034			78.88- 138.88	104.86
6.670	6.671 (1.037)	97	36477			35.90- 95.90	61.66
133 Methylcyclohexane					CAS #: 108-87-2		
6.810	6.804 (1.059)	83	79246	100.000	119.74	80.00- 120.00	100.00
6.810	6.802 (1.059)	98	37399			16.99- 76.99	47.19
6.810	6.802 (1.059)	55	58465			43.70- 103.70	73.78
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	46935	100.000	117.70	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	33750			40.28- 100.28	71.91
7.019	7.019 (1.091)	41	24259			21.25- 81.25	51.69
139 1,4-Dioxane					CAS #: 123-91-1		
7.159	7.168 (1.113)	88	30889	100.000	120.93	80.00- 120.00	100.00
7.159	7.165 (1.113)	58	20446			38.82- 98.82	66.19
7.159	7.162 (1.113)	57	6717			0.00- 54.14	21.75
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.395 (1.150)	83	87967	100.000	117.76	80.00- 120.00	100.00
7.397	7.397 (1.150)	85	58307			35.00- 95.00	66.28
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	73479	100.000	113.22	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	23889			2.65- 62.65	32.51
8.097	8.094 (1.259)	39	36987			18.79- 78.79	50.34
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.377	8.374 (1.302)	85	18061	100.000	113.84	80.00- 120.00	100.00
8.377	8.374 (1.302)	43	84077			460.46- 520.46	465.52
8.363	8.374 (1.300)	58	38694			186.56- 246.56	214.24
156 Toluene					CAS #: 108-88-3		
8.587	8.582 (1.335)	91	161402	100.000	117.46	80.00- 120.00	100.00
8.587	8.580 (1.335)	92	93917			26.83- 86.83	58.19
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	69255	100.000	116.93	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	23088			2.27- 62.27	33.34
9.076	9.076 (0.879)	39	33809			17.57- 77.57	48.82
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	55439	100.000	121.34	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	33967			31.36- 91.36	61.27
9.314	9.314 (0.902)	83	46399			57.18- 117.18	83.69

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	75829	100.000	116.26	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	60942			46.86- 106.86	80.37
9.328	9.328 (0.904)	131	58864			46.25- 106.25	77.63
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	48958	100.000	117.37	80.00- 120.00	100.00
9.608	9.608 (0.931)	43	79710			132.92- 192.92	162.81
9.608	9.608 (0.931)	100	10271			0.00- 52.05	20.98
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	102352	100.000	115.77	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	79675			47.27- 107.27	77.84
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	86672	100.000	117.00	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	81990			62.36- 122.36	94.60
180 Chlorobenzene					CAS #: 108-90-7		
10.350	10.349 (1.003)	112	128616	100.000	114.36	80.00- 120.00	100.00
10.350	10.349 (1.003)	114	40959			1.61- 61.61	31.85
10.350	10.347 (1.003)	77	75078			26.63- 86.63	58.37
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	65821	100.000	116.90	80.00- 120.00	100.00
10.433	10.429 (1.011)	91	207901			276.73- 336.73	315.86
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	80095	100.000	115.66	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	161381			166.48- 226.48	201.49
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	74808	100.000	116.68	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	157662			183.14- 243.14	210.76
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	127254	100.000	126.23	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	60118			17.49- 77.49	47.24
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	91801	100.000	114.75	80.00- 120.00	100.00
11.091	11.091 (1.075)	171	47310			21.78- 81.78	51.54
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	230128	100.000	113.54	80.00- 120.00	100.00
11.175	11.177 (1.083)	120	64059			0.00- 57.49	27.84

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
196 Cumene (continued)							
11.175	11.175 (1.083)	51	20297			0.00- 38.96	8.82
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	115122	100.000	112.71	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	75786			35.12- 95.12	65.83
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	245887	100.000	111.09	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	59163			0.00- 54.39	24.06
11.483	11.480 (1.113)	105	9172			0.00- 33.66	3.73
206 4-Ethyltoluene					CAS #: 622-96-8		
11.567	11.562 (1.121)	105	194073	100.000	111.34	80.00- 120.00	100.00
11.567	11.564 (1.121)	120	59533			0.69- 60.69	30.68
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	192836	100.000	122.06	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	92371			16.81- 76.81	47.90
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.847	11.847 (1.148)	105	144800	100.000	113.64	80.00- 120.00	100.00
11.847	11.847 (1.148)	120	68537			16.57- 76.57	47.33
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.043	12.042 (1.167)	146	121785	100.000	110.76	80.00- 120.00	100.00
12.043	12.042 (1.167)	148	76497			32.90- 92.90	62.81
12.043	12.042 (1.167)	111	46649			9.17- 69.17	38.30
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.099	12.098 (1.172)	146	117713	100.000	110.66	80.00- 120.00	100.00
12.099	12.098 (1.172)	148	74647			35.22- 95.22	63.41
12.099	12.098 (1.172)	111	43888			7.96- 67.96	37.28
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	148316	100.000	110.37	80.00- 120.00	100.00
12.182	12.192 (1.180)	126	33235			0.00- 51.56	22.41
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	106683	100.000	107.08	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	70081			33.30- 93.30	65.69
12.322	12.322 (1.194)	111	45166			10.19- 70.19	42.34
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	46387	100.000	107.75	80.00- 120.00	100.00
13.162	13.162 (1.275)	182	43976			67.17- 127.17	94.80

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.207 (1.279)	225	30622	100.000	97.769	80.00- 120.00	100.00
13.204	13.207 (1.279)	223	20901			31.62- 91.62	68.25
235 Naphthalene					CAS #: 91-20-3		
13.288	13.295 (1.287)	128	11491	10.0000	13.984	80.00- 120.00	100.00(a)
13.288	13.290 (1.287)	127	1531			0.00- 45.62	13.32

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082115.d
Lab Smp Id: ICAL Level #5
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 100ppbv (200ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #5
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	91079	-4.52
127 1,4-Difluorobenze	366541	219925	513157	353094	-3.67
179 Chlorobenzene-d5	327904	196742	459066	321309	-2.01

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082115.d

Date : 21-AUG-2019 19:36

Client ID: ICAL Level #5

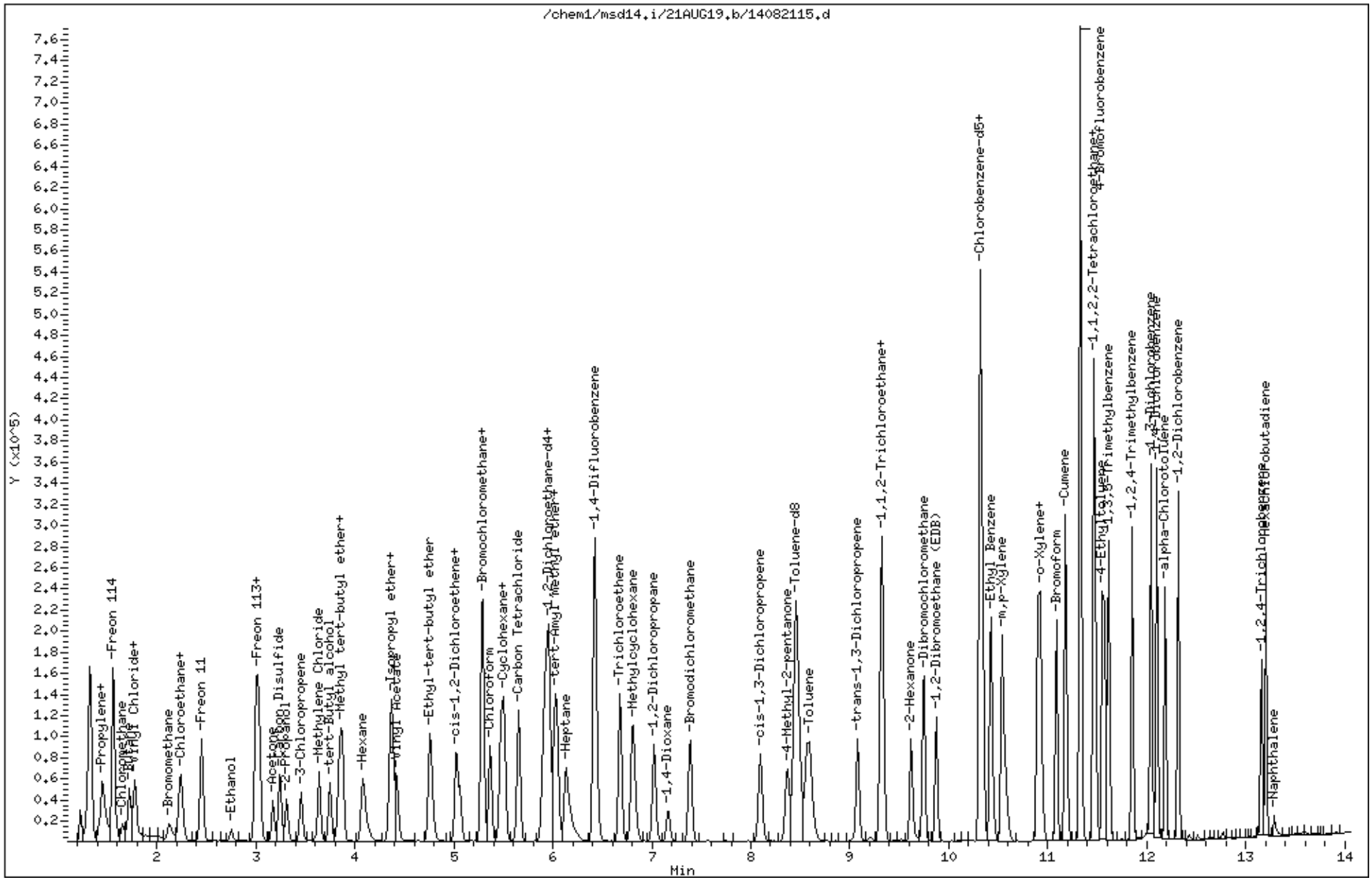
Sample Info: 25ml #3018-909

Column phase: RTX-624

Instrument: msd14.i

Operator: DF

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082129.d
Lab Smp Id: ICAL Level #6 Client Smp ID: ICAL Level #6
Inj Date : 22-AUG-2019 10:23
Operator : AK Inst ID: msd14.i
Smp Info : 10ml #3084-162
Misc Info : 200ppbv(1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 10:23 Cal File: 14082129.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MasterCRV.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	90833	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	68799			46.63- 106.63	75.74
5.298	5.295 (1.000)	49	90924			70.93- 130.93	100.10
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	351271	400.000		80.00- 120.00	100.00
6.432	6.429 (1.000)	88	54897			0.00- 45.07	15.63
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	331783	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	177696			24.37- 84.37	53.56
6 Freon 143a					CAS #: 420-46-2		
1.339	1.328 (0.253)	69	142938	200.000	197.29	0.00- 30.00	100.00
1.325	1.332 (0.250)	65	32123			0.00- 30.00	22.47
8 Freon 134a					CAS #: 811-97-2		
1.381	1.381 (0.261)	83	48287	200.000	193.93	0.00- 30.00	100.00
1.339	1.328 (0.253)	69	142938			0.00- 30.00	296.02

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
9 1,1-Difluoroethane					CAS #: 75-37-6		
1.423	1.423 (0.268)	65	31826	200.000	197.64	0.00- 30.00	100.00
1.478	1.479 (0.279)	51	102965			0.00- 30.00	323.52
12 Chlorodifluoromethane					CAS #: 75-45-6		
1.478	1.475 (0.279)	67	13536	200.000	184.48	0.00- 30.00	100.00
1.478	1.479 (0.279)	51	102965			0.00- 30.00	760.68
14 Freon 142b					CAS #: 75-68-3		
1.618	1.619 (0.305)	65	91786	200.000	193.38	0.00- 30.00	100.00
1.618	1.625 (0.305)	45	22421			0.00- 30.00	24.43
27 Vinyl Bromide					CAS #: 593-60-2		
2.430	2.423 (0.459)	106	50788	200.000	191.63	0.00- 30.00	100.00
2.416	2.416 (0.456)	108	47869			0.00- 30.00	94.25
36 Dichlorofluoromethane					CAS #: 75-43-4		
2.472	2.472 (0.467)	67	110547	200.000	190.44	0.00- 30.00	100.00
2.472	2.472 (0.467)	69	37267			0.00- 30.00	33.71
38 Pentane					CAS #: 109-66-0		
2.528	2.517 (0.477)	43	79507	200.000	187.19	0.00- 30.00	100.00
2.514	2.517 (0.474)	57	14980			0.00- 30.00	18.84
2.528	2.521 (0.477)	72	12199			0.00- 30.00	15.34
39 Freon 123a					CAS #: 354-23-4		
2.878	2.874 (0.543)	117	80933	200.000	187.87	0.00- 30.00	100.00
2.878	2.871 (0.543)	67	109976			0.00- 30.00	135.89
43 Ethyl Ether					CAS #: 60-29-7		
2.794	2.790 (0.527)	74	29044	200.000	209.97	0.00- 30.00	100.00
2.780	2.783 (0.525)	59	38600			0.00- 30.00	132.90
48 Freon 123					CAS #: 306-83-2		
2.948	2.948 (0.556)	83	126527	200.000	191.40	0.00- 30.00	100.00
2.948	2.948 (0.556)	133	27816			0.00- 30.00	21.98
2.948	2.948 (0.556)	85	87645			0.00- 30.00	69.27
50 Methyl Acetate					CAS #: 79-20-9		
3.493	3.493 (0.659)	43	74567	200.000	189.91	0.00- 30.00	100.00
3.507	3.507 (0.662)	74	21795			0.00- 30.00	29.23
3.493	3.497 (0.659)	59	7770			0.00- 30.00	10.42
60 Cyclopentene					CAS #: 142-29-0		
3.479	3.472 (0.657)	67	121332	200.000	193.24	0.00- 30.00	100.00
3.479	3.469 (0.657)	68	46882			0.00- 30.00	38.64

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
60 Cyclopentene (continued)							
3.465	3.469 (0.654)	53	21170			0.00- 30.00	17.45
63 Acetonitrile					CAS #: 75-05-8		
3.577	3.567 (0.675)	41	23790	200.000	180.30	0.00- 30.00	100.00
3.591	3.577 (0.678)	38	2971			0.00- 30.00	12.49
3.577	3.567 (0.675)	40	11038			0.00- 30.00	46.40
75 Acrylonitrile					CAS #: 107-13-1		
3.983	3.983 (0.752)	53	36699	200.000	205.38	0.00- 30.00	100.00
3.983	3.983 (0.752)	52	29304			0.00- 30.00	79.85
74 Chloroprene					CAS #: 126-99-8		
4.431	4.431 (0.836)	53	80700	200.000	196.69	0.00- 30.00	100.00
4.431	4.431 (0.836)	88	49237			0.00- 30.00	61.01
4.431	4.431 (0.836)	50	23838			0.00- 30.00	29.54
86 1-Propanol					CAS #: 71-23-8		
4.515	4.518 (0.852)	42	7511	200.000	213.03	0.00- 30.00	100.00
4.515	4.515 (0.852)	59	10332			0.00- 30.00	137.56
4.515	4.515 (0.852)	41	5103			0.00- 30.00	67.94
89 2,2-Dichloropropane					CAS #: 594-20-7		
4.976	4.977 (0.939)	77	82924	200.000	186.96	0.00- 30.00	100.00
4.976	4.977 (0.939)	79	26675			0.00- 30.00	32.17
4.976	4.977 (0.939)	97	18887			0.00- 30.00	22.78
93 Ethyl Acetate					CAS #: 141-78-6		
5.088	5.088 (0.960)	70	14541	200.000	179.76	0.00- 30.00	100.00
5.074	5.081 (0.958)	43	111369			0.00- 30.00	765.90
5.074	5.081 (0.958)	61	18118			0.00- 30.00	124.60
94 Methyl Acrylate					CAS #: 96-33-3		
5.130	5.134 (0.968)	55	95627	200.000	199.17	0.00- 30.00	100.00
5.130	5.137 (0.968)	85	18044			0.00- 30.00	18.87
5.144	5.134 (0.971)	58	8740			0.00- 30.00	9.14
109 1,1-Dichloropropene					CAS #: 563-58-6		
5.704	5.701 (1.077)	110	34621	200.000	198.69	0.00- 30.00	100.00
5.704	5.704 (1.077)	75	92111			0.00- 30.00	266.06
116 Isobutanol					CAS #: 78-83-1		
5.900	5.900 (0.917)	43	37816	200.000	193.85	0.00- 30.00	100.00
5.900	5.900 (0.917)	41	30183			0.00- 30.00	79.82
128 n-Butanol					CAS #: 71-36-3		
6.669	6.670 (1.037)	56	41084	200.000	211.82	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
128 n-Butanol (continued)							
6.669	6.670 (1.037)	41	23993			0.00- 30.00	58.40
6.669	6.670 (1.037)	43	20608			0.00- 30.00	50.16
134 Ethyl acrylate					CAS #: 140-88-5		
6.851	6.855 (1.065)	55	133422	200.000	197.78	0.00- 30.00	100.00
6.865	6.865 (1.067)	99	11449			0.00- 30.00	8.58
6.851	6.855 (1.065)	45	10386			0.00- 30.00	7.78
137 2-Pentanone					CAS #: 107-87-9		
6.977	6.984 (1.085)	43	137129	200.000	203.48	0.00- 30.00	100.00
6.991	6.988 (1.087)	58	13037			0.00- 30.00	9.51
6.991	6.988 (1.087)	86	32389			0.00- 30.00	23.62
140 Methyl Methacrylate					CAS #: 80-62-6		
7.159	7.159 (1.113)	41	68259	200.000	194.80	0.00- 30.00	100.00
7.159	7.159 (1.113)	69	70820			0.00- 30.00	103.75
7.159	7.163 (1.113)	100	25107			0.00- 30.00	36.78
142 Dibromomethane					CAS #: 74-95-3		
7.187	7.187 (1.117)	174	75416	200.000	192.63	0.00- 30.00	100.00
7.187	7.184 (1.117)	93	75536			0.00- 30.00	100.16
7.187	7.184 (1.117)	95	62970			0.00- 30.00	83.50
157 Octane					CAS #: 111-65-9		
8.670	8.677 (1.348)	57	56648	200.000	186.76	0.00- 30.00	100.00
8.670	8.670 (1.348)	85	70794			0.00- 30.00	124.97
8.670	8.670 (1.348)	43	115982			0.00- 30.00	204.74
164 1,3-Dichloropropane					CAS #: 142-28-9		
9.524	9.524 (1.798)	76	113706	200.000	193.04	0.00- 30.00	100.00
9.524	9.524 (1.798)	41	58268			0.00- 30.00	51.24
9.524	9.524 (1.798)	78	35386			0.00- 30.00	31.12
168 Butyl Acetate					CAS #: 123-86-4		
9.734	9.734 (1.513)	56	69564	200.000	196.80	0.00- 30.00	100.00
9.734	9.734 (1.513)	73	34934			0.00- 30.00	50.22
9.734	9.734 (1.513)	43	156442			0.00- 30.00	224.89
182 1,1,1,2-Tetrachloroethane					CAS #: 630-20-6		
10.433	10.433 (1.011)	131	104137	200.000	211.07	0.00- 30.00	100.00
10.433	10.433 (1.011)	117	74825			0.00- 30.00	71.85
10.433	10.433 (1.011)	95	36753			0.00- 30.00	35.29
183 Nonane					CAS #: 111-84-2		
10.503	10.503 (1.018)	43	109039	200.000	204.22	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
183 Nonane (continued)							
10.503	10.503 (1.018)	57	114071			0.00- 30.00	104.61
10.517	10.510 (1.019)	85	49482			0.00- 30.00	45.38
192 2-Heptanone					CAS #: 110-43-0		
11.035	11.035 (1.069)	58	109369	200.000	233.48	0.00- 30.00	100.00
11.035	11.035 (1.069)	43	152258			0.00- 30.00	139.21
195 alpha-Pinene					CAS #: 80-56-8		
11.119	11.119 (1.077)	93	215025	200.000	208.26	0.00- 30.00	100.00
11.119	11.119 (1.077)	121	25228			0.00- 30.00	11.73
11.119	11.119 (1.077)	92	77520			0.00- 30.00	36.05
197 Cyclohexanone					CAS #: 108-94-1		
11.301	11.301 (1.095)	55	76456	200.000	227.52	0.00- 30.00	100.00
11.301	11.301 (1.095)	98	38355			0.00- 30.00	50.17
11.301	11.301 (1.095)	42	49812			0.00- 30.00	65.15
199 Bromobenzene					CAS #: 108-86-1		
11.427	11.427 (1.107)	156	119346	200.000	207.49	0.00- 30.00	100.00
11.427	11.427 (1.107)	77	178956			0.00- 30.00	149.95
11.427	11.427 (1.107)	158	116136			0.00- 30.00	97.31
202 1,2,3-Trichloropropane					CAS #: 96-18-4		
11.497	11.497 (1.114)	110	55746	200.000	211.41	0.00- 30.00	100.00
11.497	11.497 (1.114)	61	35546			0.00- 30.00	63.76
11.497	11.497 (1.114)	112	34646			0.00- 30.00	62.15
204 2-Chlorotoluene					CAS #: 95-49-8		
11.553	11.553 (1.119)	126	92888	200.000	214.14	0.00- 30.00	100.00
11.553	11.553 (1.119)	91	256970			0.00- 30.00	276.64
11.553	11.553 (1.119)	65	23666			0.00- 30.00	25.48
205 Decane					CAS #: 124-18-5		
11.553	11.553 (1.119)	57	106348	200.000	207.54	0.00- 30.00	100.00
11.553	11.553 (1.119)	71	48006			0.00- 30.00	45.14
11.567	11.567 (1.121)	142	6119			0.00- 30.00	5.75
208 4-Chlorotoluene					CAS #: 106-43-4		
11.637	11.637 (1.127)	126	95451	200.000	226.34	0.00- 30.00	100.00
11.637	11.637 (1.127)	91	309237			0.00- 30.00	323.97
11.637	11.637 (1.127)	63	37122			0.00- 30.00	38.89
210 tert-Butylbenzene					CAS #: 98-06-6		
11.804	11.805 (1.144)	119	274650	200.000	229.66	0.00- 30.00	100.00
11.804	11.805 (1.144)	134	69406			0.00- 30.00	25.27

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
210 tert-Butylbenzene (continued)							
11.804	11.805 (1.144)	91	178418			0.00- 30.00	64.96
214 sec-Butylbenzene					CAS #: 135-98-8		
11.944	11.944 (1.157)	105	406657	200.000	232.88	0.00- 30.00	100.00
11.944	11.944 (1.157)	134	85434			0.00- 30.00	21.01
11.944	11.944 (1.157)	91	61170			0.00- 30.00	15.04
215 D-Limonene					CAS #: 5989-27-5		
11.986	11.986 (1.161)	68	101605	200.000	246.73	0.00- 30.00	100.00
11.986	11.986 (1.161)	93	68437			0.00- 30.00	67.36
11.986	11.986 (1.161)	79	32705			0.00- 30.00	32.19
218 p-Cymene					CAS #: 99-87-6		
12.028	12.028 (1.165)	119	310110	200.000	240.28	0.00- 30.00	100.00
12.028	12.028 (1.165)	134	85015			0.00- 30.00	27.41
12.028	12.028 (1.165)	91	72565			0.00- 30.00	23.40
222 1,2,3-Trimethylbenzene					CAS #: 526-73-8		
12.112	12.112 (1.174)	120	99938	200.000	240.68	0.00- 30.00	100.00
12.112	12.112 (1.174)	105	226572			0.00- 30.00	226.71
12.112	12.112 (1.174)	77	26838			0.00- 30.00	26.85
225 Undecane					CAS #: 1120-21-4		
12.280	12.280 (1.190)	57	116348	200.000	240.32	0.00- 30.00	100.00
12.280	12.280 (1.190)	43	92458			0.00- 30.00	79.47
226 Butylbenzene					CAS #: 104-51-8		
12.266	12.266 (1.188)	134	66053	200.000	246.85	0.00- 30.00	100.00
12.266	12.266 (1.188)	91	249407			0.00- 30.00	377.59
12.266	12.266 (1.188)	92	129973			0.00- 30.00	196.77
220 Hexachloroethane					CAS #: 67-72-1		
12.434	12.434 (1.205)	117	97933	200.000	247.82	0.00- 30.00	100.00
12.434	12.434 (1.205)	201	70253			0.00- 30.00	71.74
229 1,2-Dibromo-3-chloropropane					CAS #: 96-12-8		
12.770	12.765 (1.237)	157	87393	200.000	269.42	0.00- 30.00	100.00
12.756	12.756 (1.236)	75	70014			0.00- 30.00	80.11
12.770	12.761 (1.237)	155	64343			0.00- 30.00	73.62
230 Dodecane					CAS #: 112-40-3		
12.840	12.840 (1.244)	57	107604	200.000	250.58	0.00- 30.00	100.00(H)
12.840	12.840 (1.244)	43	78504			0.00- 30.00	72.96

QC Flag Legend

H - Operator selected an alternate compound hit.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082129.d
Lab Smp Id: ICAL Level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 200ppbv(1000ppbv)

Calibration Date: 22-AUG-2019
Calibration Time: 10:23
Client Smp ID: ICAL Level #6
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	90833	54500	127166	90833	0.00
127 1,4-Difluorobenze	351271	210763	491779	351271	0.00
179 Chlorobenzene-d5	331783	199070	464496	331783	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082129.d

Date : 22-AUG-2019 10:23

Client ID: ICAL Level #6

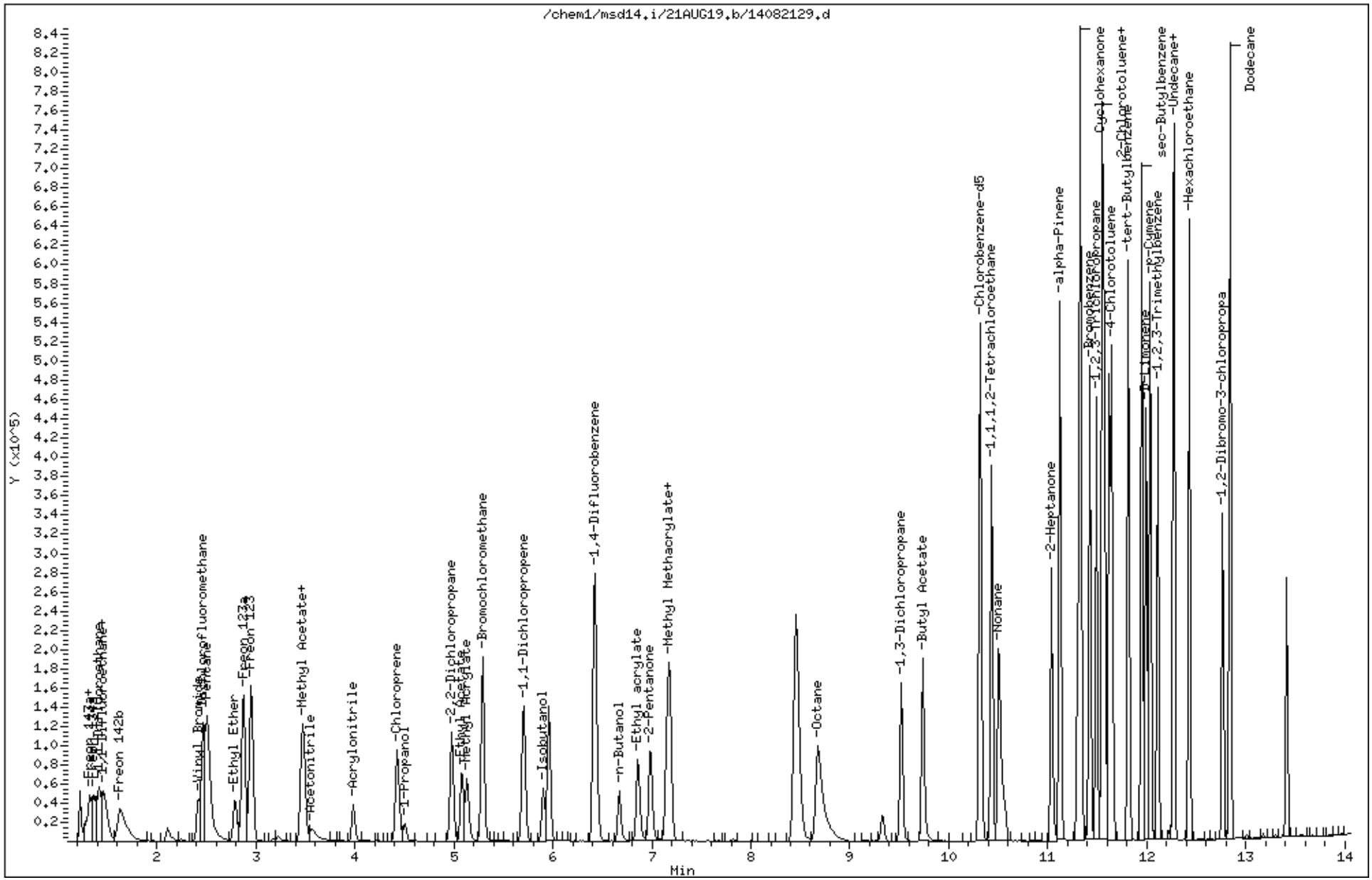
Instrument: msd14.i

Sample Info: 10ml #3084-162

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082116.d
Lab Smp Id: ICAL Level #6 Client Smp ID: ICAL Level #6
Inj Date : 21-AUG-2019 20:47
Operator : DF Inst ID: msd14.i
Smp Info : 50ml #3018-909
Misc Info : 200ppbv (200ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 21-AUG-2019 20:47 Cal File: 14082116.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
==	====== ========	====	========	=======	=======	==========	=====
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.298 (1.000)	130	95389	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	73101			46.63- 106.63	76.63
5.298	5.298 (1.000)	49	96279			70.93- 130.93	100.93
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.432 (1.000)	114	366541	400.000		80.00- 120.00	100.00
6.432	6.432 (1.000)	88	55223			0.00- 45.07	15.07
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	327904	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	178276			24.37- 84.37	54.37
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	117534	400.000	398.68	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	64442			24.83- 84.83	54.83
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	365061	400.000	392.44	80.00- 120.00	100.00
8.460	8.460 (1.315)	70	41025			0.00- 41.24	11.24

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	238920			35.45- 95.45	65.45
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	200161	400.000	405.65	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	243177			91.49- 151.49	121.49
11.329	11.329 (1.098)	176	191068			65.46- 125.46	95.46
10 Propylene					CAS #: 115-07-1		
1.437	1.430 (0.271)	41	36065	200.000	182.76	80.00- 120.00	100.00
1.437	1.430 (0.271)	42	24356			37.53- 97.53	67.53
1.437	1.430 (0.271)	39	27829			47.16- 107.16	77.16
11 Freon 12					CAS #: 75-71-8		
1.465	1.461 (0.276)	85	139569	200.000	181.99	80.00- 120.00	100.00
1.465	1.461 (0.276)	87	44971			2.22- 62.22	32.22
13 Freon 114					CAS #: 76-14-2		
1.576	1.573 (0.298)	135	129911	200.000	195.65	80.00- 120.00	100.00
1.576	1.570 (0.298)	137	40959			1.53- 61.53	31.53
16 Chloromethane					CAS #: 74-87-3		
1.660	1.651 (0.313)	50	41592	200.000	186.51	80.00- 120.00	100.00
1.646	1.647 (0.311)	52	14990			6.04- 66.04	36.04
17 Butane					CAS #: 106-97-8		
1.730	1.726 (0.327)	58	12921	200.000	186.15	80.00- 120.00	100.00
1.730	1.726 (0.327)	43	72333			529.81- 589.81	559.81
19 Vinyl Chloride					CAS #: 75-01-4		
1.772	1.772 (0.335)	62	57399	200.000	182.65	80.00- 120.00	100.00
1.758	1.769 (0.332)	64	19107			3.29- 63.29	33.29
25 1,3-Butadiene					CAS #: 106-99-0		
1.786	1.779 (0.337)	54	43572	200.000	175.70	80.00- 120.00	100.00
1.786	1.779 (0.337)	39	41177			64.50- 124.50	94.50
30 Bromomethane					CAS #: 74-83-9		
2.136	2.132 (0.403)	94	30765	200.000	169.60	80.00- 120.00	100.00
2.136	2.127 (0.403)	96	30184			68.11- 128.11	98.11
31 Chloroethane					CAS #: 75-00-3		
2.234	2.248 (0.422)	64	21809	200.000	177.47	80.00- 120.00	100.00
2.234	2.248 (0.422)	66	7573			4.72- 64.72	34.72
32 Isopentane					CAS #: 78-78-4		
2.248	2.248 (0.424)	43	57990	200.000	187.05	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.248 (0.424)	57	48644			53.88- 113.88	83.88
2.248	2.253 (0.424)	72	6295			0.00- 40.86	10.86
34 Freon 11					CAS #: 75-69-4		
2.458	2.458 (0.464)	101	172888	200.000	199.38	80.00- 120.00	100.00
2.458	2.461 (0.464)	103	112035			34.80- 94.80	64.80
42 Ethanol					CAS #: 64-17-5		
2.752	2.747 (0.519)	45	22482	200.000	199.69	80.00- 120.00	100.00
2.752	2.747 (0.519)	46	8504			7.83- 67.83	37.83
49 Freon 113					CAS #: 76-13-1		
3.004	3.004 (0.567)	151	126067	200.000	190.35	80.00- 120.00	100.00
3.018	3.007 (0.570)	153	82489			35.43- 95.43	65.43
3.004	3.004 (0.567)	101	152842			91.24- 151.24	121.24
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.046	3.035 (0.575)	61	110209	200.000	202.02	80.00- 120.00	100.00
3.046	3.039 (0.575)	96	69071			32.67- 92.67	62.67
3.046	3.039 (0.575)	98	44681			10.54- 70.54	40.54
53 Acetone					CAS #: 67-64-1		
3.186	3.176 (0.601)	58	30425	200.000	196.06	80.00- 120.00	100.00
3.186	3.176 (0.601)	43	87957			259.09- 319.09	289.09
55 Carbon Disulfide					CAS #: 75-15-0		
3.255	3.251 (0.614)	76	195089	200.000	196.12	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.325	3.316 (0.628)	45	96326	200.000	196.35	80.00- 120.00	100.00
3.325	3.316 (0.628)	43	20569			0.00- 51.35	21.35
3.325	3.312 (0.628)	59	4421			0.00- 34.59	4.59
59 3-Chloropropene					CAS #: 107-05-1		
3.465	3.465 (0.654)	76	26174	200.000	214.51	80.00- 120.00	100.00
3.465	3.465 (0.654)	41	50454			162.76- 222.76	192.76
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.633 (0.686)	49	67083	200.000	184.72	80.00- 120.00	100.00
3.633	3.633 (0.686)	84	63049			63.99- 123.99	93.99
3.633	3.633 (0.686)	51	20138			0.02- 60.02	30.02
68 tert-Butyl alcohol					CAS #: 75-65-0		
3.745	3.745 (0.707)	59	100273	200.000	154.12	80.00- 120.00	100.00
3.745	3.745 (0.707)	41	17112			0.00- 47.07	17.07

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
68 tert-Butyl alcohol (continued)							
3.759	3.750 (0.710)	57	9941			0.00- 39.91	9.91
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	185941	200.000	192.54	80.00- 120.00	100.00
3.843	3.843 (0.725)	57	43187			0.00- 53.23	23.23
3.843	3.843 (0.725)	41	34265			0.00- 48.43	18.43
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	67243	200.000	194.70	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	92357			107.35- 167.35	137.35
3.871	3.871 (0.731)	98	42435			33.11- 93.11	63.11
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	104564	200.000	180.27	80.00- 120.00	100.00
4.081	4.085 (0.770)	43	55909			23.47- 83.47	53.47
4.081	4.085 (0.770)	86	19872			0.00- 49.00	19.00
82 Isopropyl ether					CAS #: 108-20-3		
4.375	4.366 (0.826)	45	197838	200.000	194.66	80.00- 120.00	100.00
4.375	4.366 (0.826)	87	69672			5.22- 65.22	35.22
4.375	4.366 (0.826)	59	26781			0.00- 43.54	13.54
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.389	4.378 (0.828)	63	125021	200.000	198.12	80.00- 120.00	100.00
4.389	4.382 (0.828)	65	40023			2.01- 62.01	32.01
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	20048	200.000	202.35	80.00- 120.00	100.00
4.431	4.431 (0.836)	43	173246			834.16- 894.16	864.16
4.431	4.431 (0.836)	42	20060			70.06- 130.06	100.06
87 Ethyl-tert-butyl ether					CAS #: 637-92-3		
4.753	4.753 (0.897)	59	236224	200.000	192.73	80.00- 120.00	100.00
4.767	4.757 (0.900)	87	101605			13.01- 73.01	43.01
4.753	4.753 (0.897)	41	36864			0.00- 45.61	15.61
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.018	5.019 (0.947)	61	102806	200.000	197.02	80.00- 120.00	100.00
5.032	5.029 (0.950)	96	80422			48.23- 108.23	78.23
5.032	5.029 (0.950)	98	53010			21.56- 81.56	51.56
92 2-Butanone					CAS #: 78-93-3		
5.060	5.065 (0.955)	72	37897	200.000	204.88	80.00- 120.00	100.00
5.060	5.061 (0.955)	43	111166			263.34- 323.34	293.34
5.074	5.065 (0.958)	57	11642			0.72- 60.72	30.72

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	62672	200.000	168.04	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	33357			23.22- 83.22	53.22
5.284	5.284 (0.997)	72	34779			25.49- 85.49	55.49
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	144927	200.000	191.92	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	95754			36.07- 96.07	66.07
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	103526	200.000	195.88	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	110772			77.00- 137.00	107.00
5.480	5.480 (1.034)	41	56397			24.48- 84.48	54.48
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.522	5.519 (1.042)	97	151412	200.000	192.39	80.00- 120.00	100.00
5.522	5.515 (1.042)	99	97274			34.24- 94.24	64.24
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	157277	200.000	202.95	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	163009			73.64- 133.64	103.64
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.903 (1.114)	57	339717	200.000	190.03	80.00- 120.00	100.00
5.900	5.910 (1.114)	56	110088			2.41- 62.41	32.41
5.900	5.903 (1.114)	41	80887			0.00- 53.81	23.81
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	224905	200.000	196.63	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	54177			0.00- 54.09	24.09
120 tert-Amyl methyl ether					CAS #: 994-05-8		
6.026	6.026 (1.137)	73	232014	200.000	193.26	80.00- 120.00	100.00
6.026	6.026 (1.137)	87	55306			0.00- 53.84	23.84
6.026	6.026 (1.137)	55	49830			0.00- 51.48	21.48
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.054	6.047 (0.941)	62	98749	200.000	189.46	80.00- 120.00	100.00
6.054	6.050 (0.941)	64	32795			3.21- 63.21	33.21
124 Heptane					CAS #: 142-82-5		
6.138	6.134 (0.954)	71	77217	200.000	176.69	80.00- 120.00	100.00
6.138	6.138 (0.954)	43	92850			90.25- 150.25	120.25
6.138	6.138 (0.954)	100	22321			0.00- 58.91	28.91
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.673 (1.037)	95	99969	200.000	189.81	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
129 Trichloroethene (continued)							
6.669	6.673 (1.037)	130	108849			78.88- 138.88	108.88
6.669	6.673 (1.037)	97	65878			35.90- 95.90	65.90
133 Methylcyclohexane					CAS #: 108-87-2		
6.809	6.809 (1.059)	83	139638	200.000	193.48	80.00- 120.00	100.00
6.809	6.805 (1.059)	98	65620			16.99- 76.99	46.99
6.809	6.809 (1.059)	55	102914			43.70- 103.70	73.70
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	82798	200.000	192.08	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	58187			40.28- 100.28	70.28
7.019	7.019 (1.091)	41	42435			21.25- 81.25	51.25
139 1,4-Dioxane					CAS #: 123-91-1		
7.173	7.169 (1.115)	88	52471	200.000	188.56	80.00- 120.00	100.00
7.173	7.169 (1.115)	58	36108			38.82- 98.82	68.82
7.159	7.159 (1.113)	57	12669			0.00- 54.14	24.14
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.394 (1.150)	83	158423	200.000	198.54	80.00- 120.00	100.00
7.397	7.397 (1.150)	85	102969			35.00- 95.00	65.00
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	134681	200.000	193.46	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	43973			2.65- 62.65	32.65
8.097	8.093 (1.259)	39	65714			18.79- 78.79	48.79
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.377	8.373 (1.302)	85	30817	200.000	177.38	80.00- 120.00	100.00
8.377	8.377 (1.302)	43	151145			460.46- 520.46	490.46
8.377	8.377 (1.302)	58	66738			186.56- 246.56	216.56
156 Toluene					CAS #: 108-88-3		
8.586	8.586 (1.335)	91	285508	200.000	188.40	80.00- 120.00	100.00
8.586	8.586 (1.335)	92	162245			26.83- 86.83	56.83
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	124143	200.000	199.96	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	40062			2.27- 62.27	32.27
9.076	9.076 (0.879)	39	59056			17.57- 77.57	47.57
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	96173	200.000	199.30	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	59011			31.36- 91.36	61.36
9.314	9.314 (0.902)	83	83847			57.18- 117.18	87.18

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.331 (0.904)	166	134650	200.000	187.59	80.00- 120.00	100.00
9.328	9.331 (0.904)	129	103490			46.86- 106.86	76.86
9.328	9.328 (0.904)	131	102675			46.25- 106.25	76.25
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	87882	200.000	198.10	80.00- 120.00	100.00
9.608	9.608 (0.931)	43	143173			132.92- 192.92	162.92
9.608	9.608 (0.931)	100	19376			0.00- 52.05	22.05
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	183373	200.000	196.11	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	141696			47.27- 107.27	77.27
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	154345	200.000	196.43	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	142560			62.36- 122.36	92.36
180 Chlorobenzene					CAS #: 108-90-7		
10.349	10.349 (1.003)	112	230315	200.000	191.93	80.00- 120.00	100.00
10.349	10.349 (1.003)	114	72793			1.61- 61.61	31.61
10.349	10.346 (1.003)	77	130432			26.63- 86.63	56.63
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	118927	200.000	193.32	80.00- 120.00	100.00
10.433	10.433 (1.011)	91	364787			276.73- 336.73	306.73
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	143831	200.000	189.53	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	282593			166.48- 226.48	196.48
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	132732	200.000	194.88	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	282902			183.14- 243.14	213.14
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	225981	200.000	219.78	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	107317			17.49- 77.49	47.49
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	167353	200.000	198.04	80.00- 120.00	100.00
11.091	11.091 (1.075)	171	86654			21.78- 81.78	51.78
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	414781	200.000	193.71	80.00- 120.00	100.00
11.175	11.178 (1.083)	120	114010			0.00- 57.49	27.49

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
196 Cumene (continued)							
11.175	11.175 (1.083)	51	37164			0.00- 38.96	8.96
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	210128	200.000	193.60	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	136828			35.12- 95.12	65.12
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	443416	200.000	191.91	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	108144			0.00- 54.39	24.39
11.483	11.479 (1.113)	105	16217			0.00- 33.66	3.66
206 4-Ethyltoluene					CAS #: 622-96-8		
11.567	11.563 (1.121)	105	342067	200.000	189.45	80.00- 120.00	100.00
11.567	11.567 (1.121)	120	104973			0.69- 60.69	30.69
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	348264	200.000	202.55	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	163022			16.81- 76.81	46.81
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.846	11.847 (1.148)	105	242503	200.000	187.30	80.00- 120.00	100.00
11.846	11.847 (1.148)	120	112924			16.57- 76.57	46.57
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.042	12.042 (1.167)	146	221652	200.000	192.43	80.00- 120.00	100.00
12.042	12.042 (1.167)	148	139419			32.90- 92.90	62.90
12.042	12.042 (1.167)	111	86817			9.17- 69.17	39.17
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	211582	200.000	190.15	80.00- 120.00	100.00
12.098	12.098 (1.172)	148	137995			35.22- 95.22	65.22
12.098	12.098 (1.172)	111	80318			7.96- 67.96	37.96
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	284924	200.000	205.69	80.00- 120.00	100.00
12.196	12.193 (1.182)	126	61421			0.00- 51.56	21.56
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	200111	200.000	191.46	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	126666			33.30- 93.30	63.30
12.322	12.322 (1.194)	111	80416			10.19- 70.19	40.19
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	75924	200.000	194.45	80.00- 120.00	100.00
13.162	13.162 (1.275)	182	73774			67.17- 127.17	97.17

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.218	13.208 (1.281)	225	61390	200.000	229.03	80.00- 120.00	100.00
13.218	13.208 (1.281)	223	37827			31.62- 91.62	61.62
235 Naphthalene					CAS #: 91-20-3		
13.302	13.295 (1.289)	128	16826	20.0000	16.709	80.00- 120.00	100.00(a)
13.302	13.295 (1.289)	127	2628			0.00- 45.62	15.62

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082116.d
Lab Smp Id: ICAL Level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #6
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	95389	0.00
127 1,4-Difluorobenze	366541	219925	513157	366541	0.00
179 Chlorobenzene-d5	327904	196742	459066	327904	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082116.d

Date : 21-AUG-2019 20:47

Client ID: ICAL Level #6

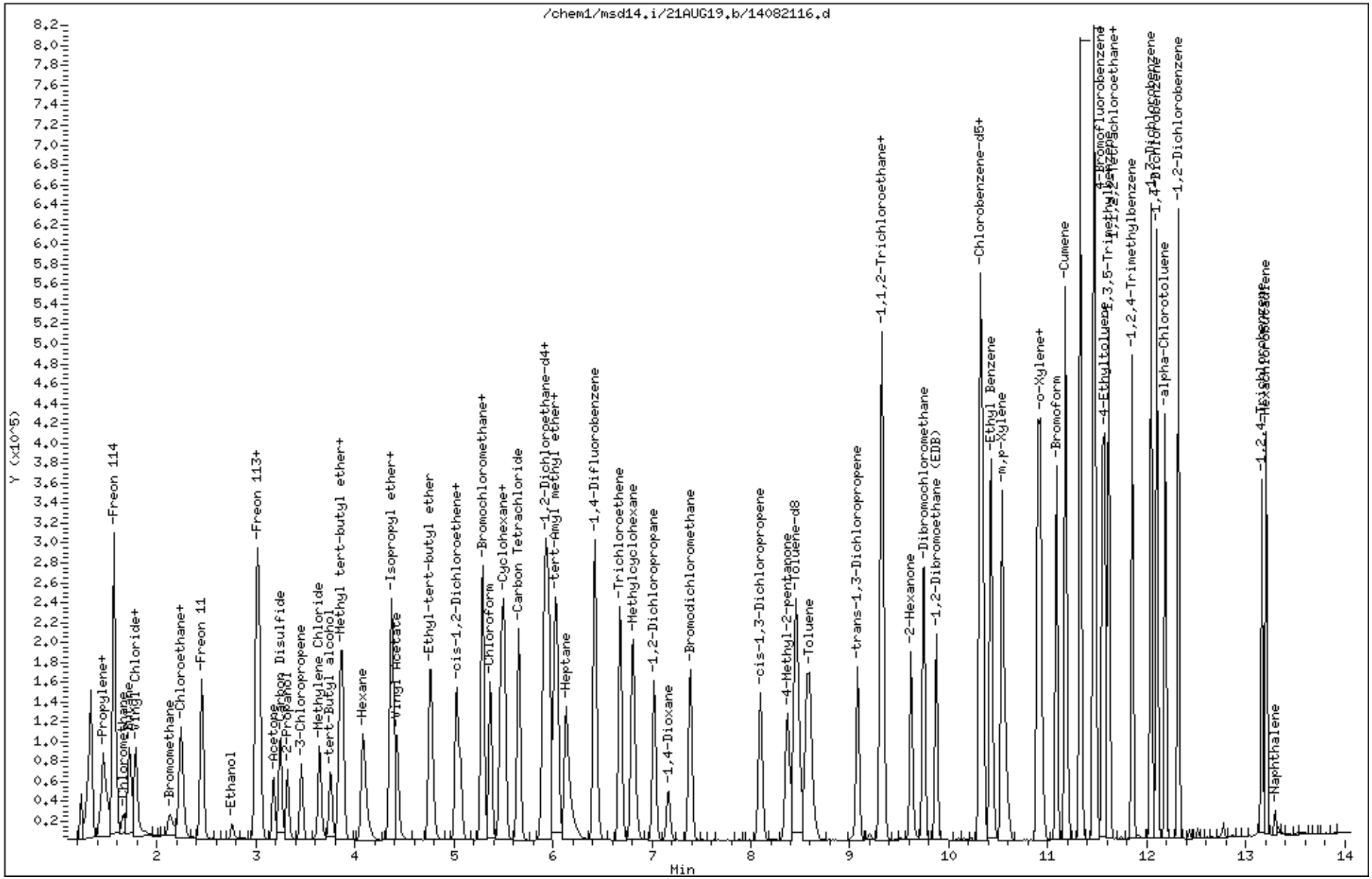
Instrument: msd14.i

Sample Info: 50ml #3018-909

Operator: DF

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082130.d
Lab Smp Id: ICAL Level #7 Client Smp ID: ICAL Level #7
Inj Date : 22-AUG-2019 10:49
Operator : AK Inst ID: msd14.i
Smp Info : 50ml #3084-162
Misc Info : 1000ppbv(1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 10:49 Cal File: 14082130.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MasterCRV.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	91917	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	69863			46.63- 106.63	76.01
5.284	5.294 (1.000)	49	92810			70.93- 130.93	100.97
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	351228	400.000		80.00- 120.00	100.00
6.418	6.427 (1.000)	88	54982			0.00- 45.07	15.65
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	323199	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	176629			24.37- 84.37	54.65
6 Freon 143a					CAS #: 420-46-2		
1.325	1.327 (0.250)	69	784679	1000.00	1055.4	0.00- 30.00	100.00
1.325	1.330 (0.250)	65	179710			0.00- 30.00	22.90
8 Freon 134a					CAS #: 811-97-2		
1.381	1.381 (0.261)	83	273498	1000.00	1067.2	0.00- 30.00	100.00
1.325	1.327 (0.250)	69	784679			0.00- 30.00	286.90

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
9 1,1-Difluoroethane					CAS #: 75-37-6		
1.423	1.423 (0.269)	65	173688	1000.00	1052.0	0.00- 30.00	100.00
1.479	1.479 (0.279)	51	488693			0.00- 30.00	281.36
12 Chlorodifluoromethane					CAS #: 75-45-6		
1.479	1.476 (0.279)	67	73737	1000.00	994.48	0.00- 30.00	100.00
1.479	1.479 (0.279)	51	488693			0.00- 30.00	662.75
14 Freon 142b					CAS #: 75-68-3		
1.619	1.619 (0.305)	65	534256	1000.00	1087.9	0.00- 30.00	100.00
1.619	1.624 (0.305)	45	128425			0.00- 30.00	24.04
27 Vinyl Bromide					CAS #: 593-60-2		
2.416	2.422 (0.456)	106	288144	1000.00	1058.6	0.00- 30.00	100.00
2.416	2.416 (0.456)	108	271595			0.00- 30.00	94.26
36 Dichlorofluoromethane					CAS #: 75-43-4		
2.472	2.472 (0.467)	67	653665	1000.00	1088.2	0.00- 30.00	100.00
2.472	2.472 (0.467)	69	217835			0.00- 30.00	33.33
38 Pentane					CAS #: 109-66-0		
2.528	2.520 (0.477)	43	431393	1000.00	1002.9	0.00- 30.00	100.00
2.528	2.520 (0.477)	57	81738			0.00- 30.00	18.95
2.528	2.522 (0.477)	72	64602			0.00- 30.00	14.98
39 Freon 123a					CAS #: 354-23-4		
2.878	2.875 (0.543)	117	458675	1000.00	1041.3	0.00- 30.00	100.00
2.864	2.869 (0.540)	67	609209			0.00- 30.00	132.82
43 Ethyl Ether					CAS #: 60-29-7		
2.780	2.788 (0.525)	74	161933	1000.00	1121.7	0.00- 30.00	100.00
2.780	2.783 (0.525)	59	211028			0.00- 30.00	130.32
48 Freon 123					CAS #: 306-83-2		
2.948	2.948 (0.556)	83	708891	1000.00	1047.2	0.00- 30.00	100.00
2.948	2.948 (0.556)	133	152081			0.00- 30.00	21.45
2.948	2.948 (0.556)	85	479460			0.00- 30.00	67.64
50 Methyl Acetate					CAS #: 79-20-9		
3.494	3.493 (0.659)	43	452544	1000.00	1108.2	0.00- 30.00	100.00
3.494	3.505 (0.659)	74	127954			0.00- 30.00	28.27
3.494	3.496 (0.659)	59	45216			0.00- 30.00	9.99
60 Cyclopentene					CAS #: 142-29-0		
3.480	3.474 (0.657)	67	680789	1000.00	1056.4	0.00- 30.00	100.00
3.480	3.471 (0.657)	68	264714			0.00- 30.00	38.88

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
60 Cyclopentene (continued)							
3.480	3.471 (0.657)	53	119472			0.00- 30.00	17.55
63 Acetonitrile					CAS #: 75-05-8		
3.563	3.566 (0.673)	41	167009	1000.00	1191.0	0.00- 30.00	100.00
3.563	3.575 (0.673)	38	22438			0.00- 30.00	13.44
3.563	3.566 (0.673)	40	87788			0.00- 30.00	52.56
75 Acrylonitrile					CAS #: 107-13-1		
3.983	3.983 (0.752)	53	209297	1000.00	1122.2	0.00- 30.00	100.00
3.983	3.983 (0.752)	52	171335			0.00- 30.00	81.86
74 Chloroprene					CAS #: 126-99-8		
4.431	4.431 (0.836)	53	459450	1000.00	1083.5	0.00- 30.00	100.00
4.431	4.431 (0.836)	88	278562			0.00- 30.00	60.63
4.431	4.431 (0.836)	50	132488			0.00- 30.00	28.84
86 1-Propanol					CAS #: 71-23-8		
4.515	4.518 (0.852)	42	43536	1000.00	1168.8	0.00- 30.00	100.00
4.515	4.515 (0.852)	59	63674			0.00- 30.00	146.26
4.515	4.515 (0.852)	41	28861			0.00- 30.00	66.29
89 2,2-Dichloropropane					CAS #: 594-20-7		
4.977	4.977 (0.939)	77	568145	1000.00	1201.9	0.00- 30.00	100.00
4.977	4.977 (0.939)	79	184624			0.00- 30.00	32.50
4.977	4.977 (0.939)	97	124706			0.00- 30.00	21.95
93 Ethyl Acetate					CAS #: 141-78-6		
5.075	5.086 (0.958)	70	82777	1000.00	1009.0	0.00- 30.00	100.00
5.075	5.080 (0.958)	43	638270			0.00- 30.00	771.07
5.075	5.080 (0.958)	61	109608			0.00- 30.00	132.41
94 Methyl Acrylate					CAS #: 96-33-3		
5.131	5.133 (0.968)	55	554123	1000.00	1109.3	0.00- 30.00	100.00
5.131	5.136 (0.968)	85	105817			0.00- 30.00	19.10
5.131	5.133 (0.968)	58	51924			0.00- 30.00	9.37
109 1,1-Dichloropropene					CAS #: 563-58-6		
5.704	5.701 (1.077)	110	193602	1000.00	1076.9	0.00- 30.00	100.00
5.704	5.704 (1.077)	75	518367			0.00- 30.00	267.75
116 Isobutanol					CAS #: 78-83-1		
5.900	5.900 (0.917)	43	225328	1000.00	1120.4	0.00- 30.00	100.00
5.900	5.900 (0.917)	41	169149			0.00- 30.00	75.07
128 n-Butanol					CAS #: 71-36-3		
6.670	6.670 (1.037)	56	243817	1000.00	1195.7	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
128 n-Butanol (continued)							
6.670	6.670 (1.037)	41	150144			0.00- 30.00	61.58
6.670	6.670 (1.037)	43	117525			0.00- 30.00	48.20
134 Ethyl acrylate					CAS #: 140-88-5		
6.852	6.854 (1.065)	55	761959	1000.00	1101.1	0.00- 30.00	100.00
6.852	6.863 (1.065)	99	62605			0.00- 30.00	8.22
6.852	6.854 (1.065)	45	62101			0.00- 30.00	8.15
137 2-Pentanone					CAS #: 107-87-9		
6.978	6.983 (1.085)	43	780137	1000.00	1122.3	0.00- 30.00	100.00
6.978	6.986 (1.085)	58	72848			0.00- 30.00	9.34
6.978	6.986 (1.085)	86	185177			0.00- 30.00	23.74
140 Methyl Methacrylate					CAS #: 80-62-6		
7.145	7.156 (1.111)	41	409819	1000.00	1131.3	0.00- 30.00	100.00
7.145	7.156 (1.111)	69	397661			0.00- 30.00	97.03
7.159	7.162 (1.113)	100	147406			0.00- 30.00	35.97
142 Dibromomethane					CAS #: 74-95-3		
7.187	7.187 (1.117)	174	421047	1000.00	1059.6	0.00- 30.00	100.00
7.187	7.184 (1.117)	93	418273			0.00- 30.00	99.34
7.187	7.184 (1.117)	95	348261			0.00- 30.00	82.71
157 Octane					CAS #: 111-65-9		
8.671	8.676 (1.348)	57	332954	1000.00	1076.8	0.00- 30.00	100.00
8.671	8.670 (1.348)	85	412423			0.00- 30.00	123.87
8.671	8.670 (1.348)	43	673216			0.00- 30.00	202.19
164 1,3-Dichloropropane					CAS #: 142-28-9		
9.524	9.524 (1.798)	76	631567	1000.00	1047.1	0.00- 30.00	100.00
9.524	9.524 (1.798)	41	332541			0.00- 30.00	52.65
9.524	9.524 (1.798)	78	205556			0.00- 30.00	32.55
168 Butyl Acetate					CAS #: 123-86-4		
9.734	9.734 (1.513)	56	401304	1000.00	1105.5	0.00- 30.00	100.00
9.734	9.734 (1.513)	73	199539			0.00- 30.00	49.72
9.734	9.734 (1.513)	43	894827			0.00- 30.00	222.98
182 1,1,1,2-Tetrachloroethane					CAS #: 630-20-6		
10.433	10.433 (1.011)	131	582866	1000.00	1163.2	0.00- 30.00	100.00
10.433	10.433 (1.011)	117	401881			0.00- 30.00	68.95
10.433	10.433 (1.011)	95	206550			0.00- 30.00	35.44
183 Nonane					CAS #: 111-84-2		
10.503	10.503 (1.018)	43	683871	1000.00	1236.9	0.00- 30.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
183 Nonane (continued)							
10.503	10.503 (1.018)	57	714127			0.00- 30.00	104.42
10.503	10.509 (1.018)	85	314312			0.00- 30.00	45.96
192 2-Heptanone					CAS #: 110-43-0		
11.035	11.035 (1.069)	58	632277	1000.00	1286.4	0.00- 30.00	100.00
11.035	11.035 (1.069)	43	888562			0.00- 30.00	140.53
195 alpha-Pinene					CAS #: 80-56-8		
11.119	11.119 (1.077)	93	1143401	1000.00	1106.6	0.00- 30.00	100.00
11.119	11.119 (1.077)	121	138221			0.00- 30.00	12.09
11.119	11.119 (1.077)	92	416589			0.00- 30.00	36.43
197 Cyclohexanone					CAS #: 108-94-1		
11.301	11.301 (1.095)	55	430810	1000.00	1237.8	0.00- 30.00	100.00
11.301	11.301 (1.095)	98	213452			0.00- 30.00	49.55
11.301	11.301 (1.095)	42	285236			0.00- 30.00	66.21
199 Bromobenzene					CAS #: 108-86-1		
11.427	11.427 (1.107)	156	628236	1000.00	1094.7	0.00- 30.00	100.00
11.427	11.427 (1.107)	77	973080			0.00- 30.00	154.89
11.427	11.427 (1.107)	158	603325			0.00- 30.00	96.03
202 1,2,3-Trichloropropane					CAS #: 96-18-4		
11.497	11.497 (1.114)	110	296994	1000.00	1121.2	0.00- 30.00	100.00
11.497	11.497 (1.114)	61	206973			0.00- 30.00	69.69
11.497	11.497 (1.114)	112	184909			0.00- 30.00	62.26
204 2-Chlorotoluene					CAS #: 95-49-8		
11.553	11.553 (1.119)	126	485656	1000.00	1116.0	0.00- 30.00	100.00
11.553	11.553 (1.119)	91	1418687			0.00- 30.00	292.12
11.553	11.553 (1.119)	65	134627			0.00- 30.00	27.72
205 Decane					CAS #: 124-18-5		
11.553	11.553 (1.119)	57	754990	1000.00	1371.9	0.00- 30.00	100.00
11.553	11.553 (1.119)	71	322068			0.00- 30.00	42.66
11.567	11.567 (1.121)	142	43596			0.00- 30.00	5.77
208 4-Chlorotoluene					CAS #: 106-43-4		
11.637	11.637 (1.127)	126	501851	1000.00	1169.8	0.00- 30.00	100.00
11.637	11.637 (1.127)	91	1705073			0.00- 30.00	339.76
11.637	11.637 (1.127)	63	216244			0.00- 30.00	43.09
210 tert-Butylbenzene					CAS #: 98-06-6		
11.805	11.805 (1.144)	119	1530927	1000.00	1236.4	0.00- 30.00	100.00
11.805	11.805 (1.144)	134	380699			0.00- 30.00	24.87

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
210 tert-Butylbenzene (continued)							
11.805	11.805 (1.144)	91	999879			0.00- 30.00	65.31
214 sec-Butylbenzene					CAS #: 135-98-8		
11.945	11.944 (1.157)	105	2292380	1000.00	1260.0	0.00- 30.00	100.00
11.945	11.944 (1.157)	134	476417			0.00- 30.00	20.78
11.945	11.944 (1.157)	91	357237			0.00- 30.00	15.58
215 D-Limonene					CAS #: 5989-27-5		
11.987	11.986 (1.161)	68	626972	1000.00	1404.8	0.00- 30.00	100.00
11.987	11.986 (1.161)	93	446589			0.00- 30.00	71.23
11.987	11.986 (1.161)	79	216924			0.00- 30.00	34.60
218 p-Cymene					CAS #: 99-87-6		
12.029	12.028 (1.165)	119	1886237	1000.00	1363.8	0.00- 30.00	100.00
12.029	12.028 (1.165)	134	503015			0.00- 30.00	26.67
12.029	12.028 (1.165)	91	446041			0.00- 30.00	23.65
222 1,2,3-Trimethylbenzene					CAS #: 526-73-8		
12.113	12.112 (1.174)	120	616974	1000.00	1380.3	0.00- 30.00	100.00
12.113	12.112 (1.174)	105	1444941			0.00- 30.00	234.20
12.113	12.112 (1.174)	77	170336			0.00- 30.00	27.61
225 Undecane					CAS #: 1120-21-4		
12.280	12.280 (1.190)	57	780758	1000.00	1463.6	0.00- 30.00	100.00
12.280	12.280 (1.190)	43	606500			0.00- 30.00	77.68
226 Butylbenzene					CAS #: 104-51-8		
12.266	12.266 (1.188)	134	431401	1000.00	1463.3	0.00- 30.00	100.00
12.266	12.266 (1.188)	91	1600003			0.00- 30.00	370.89
12.266	12.266 (1.188)	92	845572			0.00- 30.00	196.01
220 Hexachloroethane					CAS #: 67-72-1		
12.434	12.434 (1.205)	117	564256	1000.00	1312.9	0.00- 30.00	100.00
12.434	12.434 (1.205)	201	395463			0.00- 30.00	70.09
229 1,2-Dibromo-3-chloropropane					CAS #: 96-12-8		
12.756	12.763 (1.236)	157	525827	1000.00	1427.2	0.00- 30.00	100.00
12.756	12.756 (1.236)	75	453797			0.00- 30.00	86.30
12.756	12.759 (1.236)	155	408406			0.00- 30.00	77.67
230 Dodecane					CAS #: 112-40-3		
12.840	12.840 (1.244)	57	570276	1000.00	1249.8	0.00- 30.00	100.00(H)
12.840	12.840 (1.244)	43	415957			0.00- 30.00	72.94

QC Flag Legend

H - Operator selected an alternate compound hit.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082130.d
Lab Smp Id: ICAL Level #7
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 1000ppbv(1000ppbv)

Calibration Date: 22-AUG-2019
Calibration Time: 10:23
Client Smp ID: ICAL Level #7
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	90833	54500	127166	91917	1.19
127 1,4-Difluorobenze	351271	210763	491779	351228	-0.01
179 Chlorobenzene-d5	331783	199070	464496	323199	-2.59

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

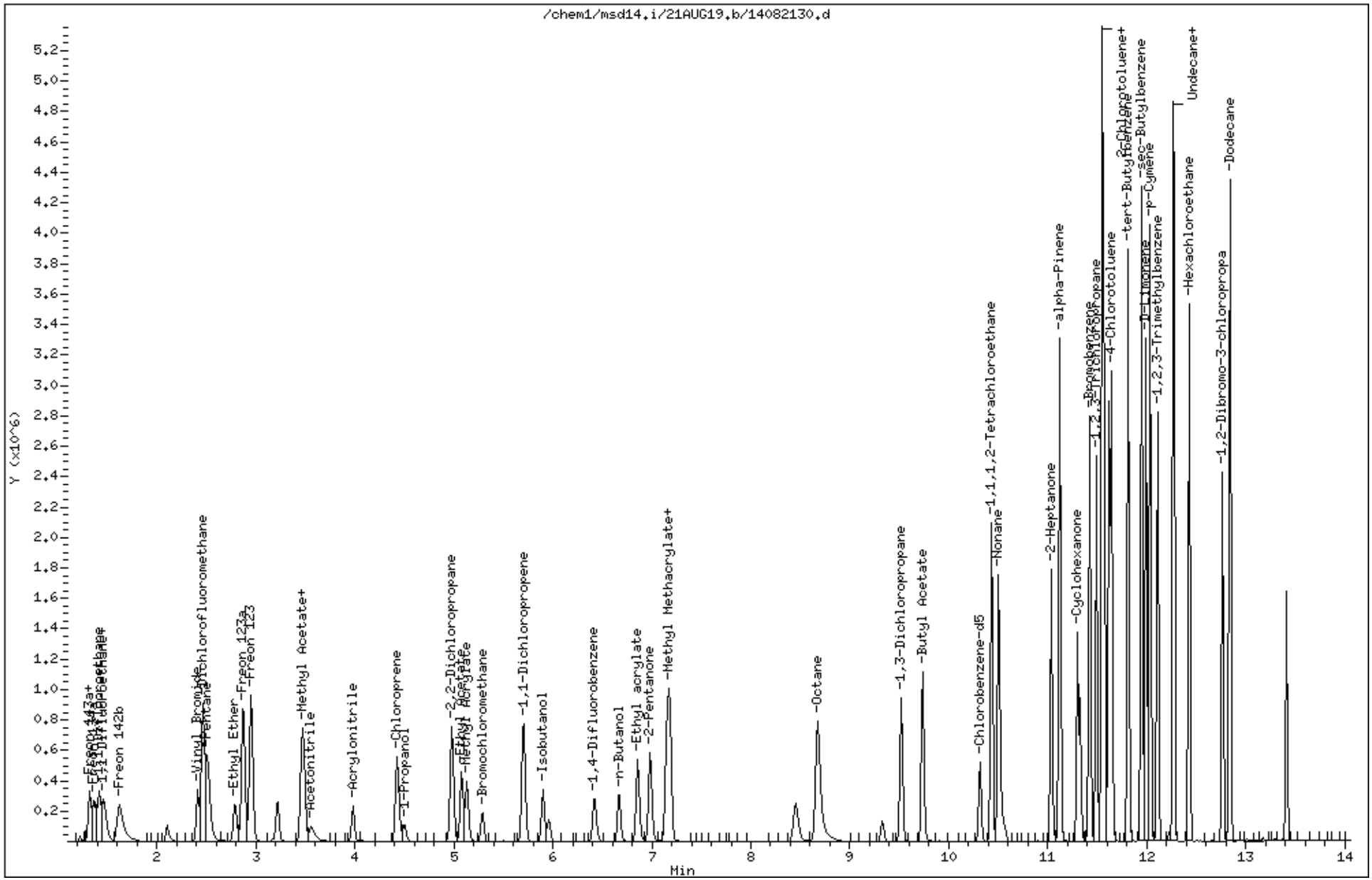
AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082130.d
Date : 22-AUG-2019 10:49
Client ID: ICAL Level #7
Sample Info: 50ml #3084-162

Instrument: msd14.i

Operator: AK

Column phase: RTX-624
Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082117.d
Lab Smp Id: ICAL Level #7 Client Smp ID: ICAL Level #7
Inj Date : 21-AUG-2019 21:13
Operator : DF Inst ID: msd14.i
Smp Info : 50ml #3084-209
Misc Info : 1000ppbv (1000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 21-AUG-2019 21:13 Cal File: 14082117.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT12NoOxys.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.298 (1.000)	130	89546	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	69924			46.63- 106.63	78.09
5.298	5.298 (1.000)	49	92302			70.93- 130.93	103.08
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.432 (1.000)	114	341475	400.000		80.00- 120.00	100.00
6.432	6.432 (1.000)	88	52912			0.00- 45.07	15.50
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	309477	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	172427			24.37- 84.37	55.72
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	115918	400.000	414.95	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	64237			24.83- 84.83	55.42
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	351402	400.000	404.38	80.00- 120.00	100.00
8.460	8.460 (1.315)	70	38683			0.00- 41.24	11.01

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	239104			35.45- 95.45	68.04
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	187325	400.000	401.79	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	232723			91.49- 151.49	124.23
11.329	11.329 (1.098)	176	177759			65.46- 125.46	94.89
10 Propylene					CAS #: 115-07-1		
1.422	1.427 (0.268)	41	175921	1000.00	965.86	80.00- 120.00	100.00
1.422	1.427 (0.268)	42	116740			37.53- 97.53	66.36
1.422	1.427 (0.268)	39	134559			47.16- 107.16	76.49
11 Freon 12					CAS #: 75-71-8		
1.464	1.462 (0.276)	85	722818	1000.00	1003.2	80.00- 120.00	100.00(A)
1.464	1.462 (0.276)	87	233208			2.22- 62.22	32.26
13 Freon 114					CAS #: 76-14-2		
1.576	1.574 (0.298)	135	609625	1000.00	982.35	80.00- 120.00	100.00
1.576	1.571 (0.298)	137	195966			1.53- 61.53	32.15
16 Chloromethane					CAS #: 74-87-3		
1.646	1.650 (0.311)	50	200158	1000.00	966.72	80.00- 120.00	100.00
1.646	1.646 (0.311)	52	71000			6.04- 66.04	35.47
17 Butane					CAS #: 106-97-8		
1.716	1.723 (0.324)	58	59059	1000.00	928.11	80.00- 120.00	100.00
1.716	1.723 (0.324)	43	335376			529.81- 589.81	567.87
19 Vinyl Chloride					CAS #: 75-01-4		
1.758	1.770 (0.332)	62	288031	1000.00	980.98	80.00- 120.00	100.00
1.758	1.767 (0.332)	64	94239			3.29- 63.29	32.72
25 1,3-Butadiene					CAS #: 106-99-0		
1.772	1.778 (0.335)	54	202545	1000.00	893.26	80.00- 120.00	100.00
1.772	1.778 (0.335)	39	189787			64.50- 124.50	93.70
30 Bromomethane					CAS #: 74-83-9		
2.122	2.129 (0.401)	94	216637	1000.00	1191.1	80.00- 120.00	100.00(A)
2.122	2.126 (0.401)	96	205772			68.11- 128.11	94.98
31 Chloroethane					CAS #: 75-00-3		
2.220	2.241 (0.419)	64	138996	1000.00	1146.2	80.00- 120.00	100.00(A)
2.220	2.241 (0.419)	66	44012			4.72- 64.72	31.66
32 Isopentane					CAS #: 78-78-4		
2.248	2.248 (0.424)	43	278442	1000.00	967.20	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.248 (0.424)	57	232739			53.88- 113.88	83.59
2.248	2.252 (0.424)	72	29561			0.00- 40.86	10.62
34 Freon 11					CAS #: 75-69-4		
2.458	2.458 (0.464)	101	820648	1000.00	1006.5	80.00- 120.00	100.00
2.458	2.461 (0.464)	103	532680			34.80- 94.80	64.91
42 Ethanol					CAS #: 64-17-5		
2.752	2.748 (0.519)	45	97983	1000.00	944.32	80.00- 120.00	100.00
2.752	2.748 (0.519)	46	38543			7.83- 67.83	39.34
49 Freon 113					CAS #: 76-13-1		
3.004	3.004 (0.567)	151	596828	1000.00	967.72	80.00- 120.00	100.00
3.004	3.006 (0.567)	153	384387			35.43- 95.43	64.40
3.004	3.004 (0.567)	101	710776			91.24- 151.24	119.09
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.032	3.034 (0.572)	61	527381	1000.00	1023.7	80.00- 120.00	100.00
3.032	3.037 (0.572)	96	328095			32.67- 92.67	62.21
3.032	3.037 (0.572)	98	209278			10.54- 70.54	39.68
53 Acetone					CAS #: 67-64-1		
3.171	3.175 (0.599)	58	141650	1000.00	979.13	80.00- 120.00	100.00
3.171	3.175 (0.599)	43	412773			259.09- 319.09	291.40
55 Carbon Disulfide					CAS #: 75-15-0		
3.241	3.249 (0.612)	76	913751	1000.00	983.80	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.311	3.315 (0.625)	45	457648	1000.00	995.30	80.00- 120.00	100.00
3.311	3.315 (0.625)	43	94210			0.00- 51.35	20.59
3.311	3.311 (0.625)	59	21499			0.00- 34.59	4.70
59 3-Chloropropene					CAS #: 107-05-1		
3.465	3.465 (0.654)	76	145063	1000.00	1187.4	80.00- 120.00	100.00(A)
3.465	3.465 (0.654)	41	291898			162.76- 222.76	201.22
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.633 (0.686)	49	308426	1000.00	926.80	80.00- 120.00	100.00
3.633	3.633 (0.686)	84	288379			63.99- 123.99	93.50
3.633	3.633 (0.686)	51	95517			0.02- 60.02	30.97
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	929306	1000.00	1020.0	80.00- 120.00	100.00
3.843	3.843 (0.725)	57	205486			0.00- 53.23	22.11

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
69 Methyl tert-butyl ether (continued)							
3.843	3.843 (0.725)	41	168831			0.00- 48.43	18.17
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	317423	1000.00	983.18	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	446174			107.35- 167.35	140.56
3.871	3.871 (0.731)	98	204623			33.11- 93.11	64.46
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	497009	1000.00	928.96	80.00- 120.00	100.00
4.081	4.084 (0.770)	43	259350			23.47- 83.47	52.18
4.081	4.084 (0.770)	86	95121			0.00- 49.00	19.14
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.378 (0.826)	63	596548	1000.00	1005.6	80.00- 120.00	100.00
4.375	4.380 (0.826)	65	192541			2.01- 62.01	32.28
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	98034	1000.00	1040.0	80.00- 120.00	100.00(A)
4.431	4.431 (0.836)	43	766283			834.16- 894.16	781.65
4.431	4.431 (0.836)	42	77441			70.06- 130.06	78.99
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.018	5.018 (0.947)	61	489534	1000.00	999.50	80.00- 120.00	100.00
5.018	5.027 (0.947)	96	384461			48.23- 108.23	78.54
5.018	5.027 (0.947)	98	245541			21.56- 81.56	50.16
92 2-Butanone					CAS #: 78-93-3		
5.060	5.064 (0.955)	72	177042	1000.00	1014.6	80.00- 120.00	100.00(A)
5.060	5.060 (0.955)	43	546684			263.34- 323.34	308.79
5.060	5.064 (0.955)	57	50718			0.72- 60.72	28.65
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	297742	1000.00	876.66	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	155558			23.22- 83.22	52.25
5.284	5.284 (0.997)	72	166714			25.49- 85.49	55.99
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	696906	1000.00	986.42	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	455434			36.07- 96.07	65.35
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	483654	1000.00	979.77	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	521194			77.00- 137.00	107.76
5.480	5.480 (1.034)	41	265786			24.48- 84.48	54.95

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.508	5.517 (1.040)	97	717882	1000.00	977.24	80.00- 120.00	100.00
5.508	5.514 (1.040)	99	464638			34.24- 94.24	64.72
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	749889	1000.00	1024.5	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	781737			73.64- 133.64	104.25
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.903 (1.114)	57	1627135	1000.00	975.52	80.00- 120.00	100.00
5.900	5.908 (1.114)	56	510580			2.41- 62.41	31.38
5.900	5.903 (1.114)	41	423536			0.00- 53.81	26.03
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	1063157	1000.00	998.17	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	253793			0.00- 54.09	23.87
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.040	6.045 (0.939)	62	473261	1000.00	979.60	80.00- 120.00	100.00
6.054	6.051 (0.941)	64	151667			3.21- 63.21	32.05
124 Heptane					CAS #: 142-82-5		
6.138	6.135 (0.954)	71	392690	1000.00	971.40	80.00- 120.00	100.00
6.124	6.135 (0.952)	43	481013			90.25- 150.25	122.49
6.138	6.138 (0.954)	100	116462			0.00- 58.91	29.66
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.672 (1.037)	95	476885	1000.00	977.40	80.00- 120.00	100.00
6.669	6.672 (1.037)	130	510304			78.88- 138.88	107.01
6.669	6.672 (1.037)	97	308778			35.90- 95.90	64.75
133 Methylcyclohexane					CAS #: 108-87-2		
6.795	6.806 (1.057)	83	666629	1000.00	993.60	80.00- 120.00	100.00
6.795	6.802 (1.057)	98	316281			16.99- 76.99	47.44
6.795	6.806 (1.057)	55	486557			43.70- 103.70	72.99
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	397990	1000.00	992.83	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	276355			40.28- 100.28	69.44
7.019	7.019 (1.091)	41	198401			21.25- 81.25	49.85
139 1,4-Dioxane					CAS #: 123-91-1		
7.159	7.166 (1.113)	88	259884	1000.00	1001.9	80.00- 120.00	100.00(A)
7.159	7.166 (1.113)	58	170952			38.82- 98.82	65.78
7.159	7.159 (1.113)	57	56169			0.00- 54.14	21.61

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.394 (1.150)	83	763239	1000.00	1021.3	80.00- 120.00	100.00(A)
7.397	7.397 (1.150)	85	491462			35.00- 95.00	64.39
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	656104	1000.00	1009.3	80.00- 120.00	100.00(A)
8.097	8.097 (1.259)	77	208007			2.65- 62.65	31.70
8.097	8.094 (1.259)	39	312482			18.79- 78.79	47.63
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.376	8.374 (1.302)	85	150945	1000.00	945.34	80.00- 120.00	100.00
8.362	8.374 (1.300)	43	727599			460.46- 520.46	482.03
8.362	8.374 (1.300)	58	323313			186.56- 246.56	214.19
156 Toluene					CAS #: 108-88-3		
8.572	8.584 (1.333)	91	1372196	1000.00	977.44	80.00- 120.00	100.00
8.572	8.584 (1.333)	92	787471			26.83- 86.83	57.39
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	612285	1000.00	1035.6	80.00- 120.00	100.00(A)
9.076	9.076 (0.879)	77	191285			2.27- 62.27	31.24
9.076	9.076 (0.879)	39	288033			17.57- 77.57	47.04
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	452736	1000.00	995.27	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	286073			31.36- 91.36	63.19
9.314	9.314 (0.902)	83	403292			57.18- 117.18	89.08
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.331 (0.904)	166	652133	1000.00	969.89	80.00- 120.00	100.00
9.328	9.331 (0.904)	129	494475			46.86- 106.86	75.82
9.328	9.328 (0.904)	131	483273			46.25- 106.25	74.11
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	435363	1000.00	1029.6	80.00- 120.00	100.00(A)
9.608	9.608 (0.931)	43	709689			132.92- 192.92	163.01
9.608	9.608 (0.931)	100	95871			0.00- 52.05	22.02
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	876881	1000.00	994.91	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	679676			47.27- 107.27	77.51
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	724195	1000.00	981.16	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	684841			62.36- 122.36	94.57

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
180 Chlorobenzene					CAS #: 108-90-7		
10.349	10.349 (1.003)	112	1085016	1000.00	966.13	80.00- 120.00	100.00
10.349	10.349 (1.003)	114	346927			1.61- 61.61	31.97
10.349	10.347 (1.003)	77	609039			26.63- 86.63	56.13
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	565129	1000.00	978.57	80.00- 120.00	100.00
10.419	10.431 (1.009)	91	1768042			276.73- 336.73	312.86
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	689961	1000.00	970.42	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	1375181			166.48- 226.48	199.31
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	654635	1000.00	1014.7	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	1361488			183.14- 243.14	207.98
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	1082709	1000.00	1090.5	80.00- 120.00	100.00(A)
10.923	10.923 (1.058)	78	531080			17.49- 77.49	49.05
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	809247	1000.00	1011.7	80.00- 120.00	100.00(A)
11.091	11.091 (1.075)	171	417017			21.78- 81.78	51.53
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	2004905	1000.00	993.65	80.00- 120.00	100.00
11.175	11.178 (1.083)	120	547453			0.00- 57.49	27.31
11.175	11.175 (1.083)	51	186295			0.00- 38.96	9.29
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	999966	1000.00	980.83	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	645381			35.12- 95.12	64.54
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	2217181	1000.00	1013.4	80.00- 120.00	100.00(A)
11.483	11.483 (1.113)	120	531173			0.00- 54.39	23.96
11.483	11.480 (1.113)	105	84257			0.00- 33.66	3.80
206 4-Ethyltoluene					CAS #: 622-96-8		
11.553	11.561 (1.119)	105	1787923	1000.00	1039.0	80.00- 120.00	100.00(A)
11.553	11.564 (1.119)	120	539229			0.69- 60.69	30.16
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	1672380	1000.00	1024.3	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	800947			16.81- 76.81	47.89

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.846	11.847 (1.148)	105	1346462	1000.00	1079.8	80.00- 120.00	100.00
11.846	11.847 (1.148)	120	620752			16.57- 76.57	46.10
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.042	12.042 (1.167)	146	1076811	1000.00	992.41	80.00- 120.00	100.00
12.042	12.042 (1.167)	148	683360			32.90- 92.90	63.46
12.042	12.042 (1.167)	111	428162			9.17- 69.17	39.76
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	1060756	1000.00	1008.0	80.00- 120.00	100.00(A)
12.098	12.098 (1.172)	148	679026			35.22- 95.22	64.01
12.098	12.098 (1.172)	111	409343			7.96- 67.96	38.59
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	1449429	1000.00	1085.1	80.00- 120.00	100.00(A)
12.182	12.191 (1.180)	126	312235			0.00- 51.56	21.54
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	984041	1000.00	998.05	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	618609			33.30- 93.30	62.86
12.322	12.322 (1.194)	111	401281			10.19- 70.19	40.78
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	402892	1000.00	1068.4	80.00- 120.00	100.00(A)
13.162	13.162 (1.275)	182	384549			67.17- 127.17	95.45
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.207 (1.279)	225	288292	1000.00	1101.2	80.00- 120.00	100.00(A)
13.204	13.207 (1.279)	223	184240			31.62- 91.62	63.91
235 Naphthalene					CAS #: 91-20-3		
13.302	13.297 (1.289)	128	71245	100.000	81.789	80.00- 120.00	100.00
13.288	13.292 (1.287)	127	9039			0.00- 45.62	12.69

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082117.d
Lab Smp Id: ICAL Level #7
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 1000ppbv (1000ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #7
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	89546	-6.13
127 1,4-Difluorobenze	366541	219925	513157	341475	-6.84
179 Chlorobenzene-d5	327904	196742	459066	309477	-5.62

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082117.d

Page 1

Date : 21-AUG-2019 21:13

Client ID: ICAL Level #7

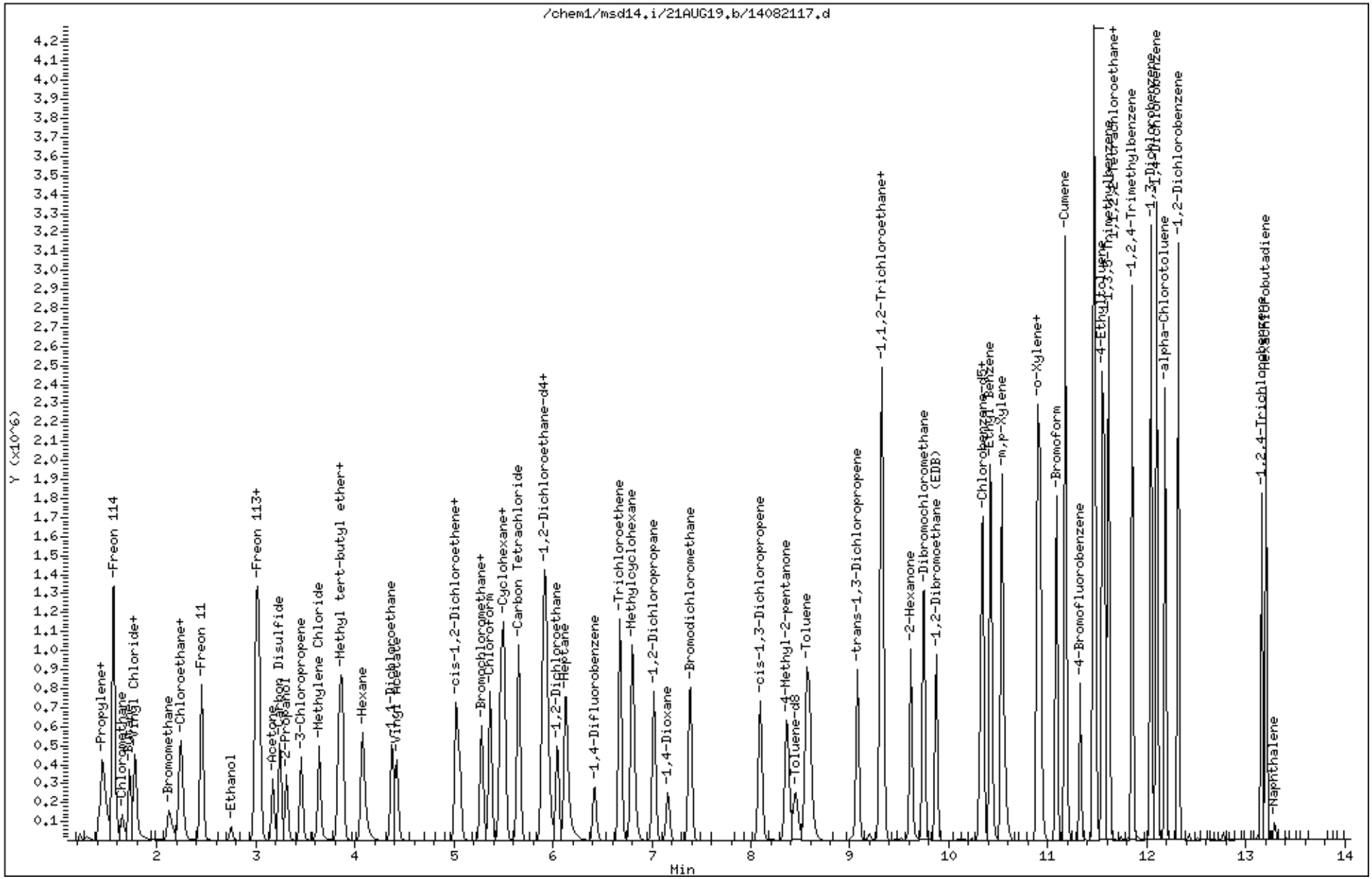
Instrument: msd14.i

Sample Info: 50ml #3084-209

Operator: DF

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082120.d
Lab Smp Id: ICAL Level #8 Client Smp ID: ICAL Level #8
Inj Date : 21-AUG-2019 22:29
Operator : DF Inst ID: msd14.i
Smp Info : 25ml #3084-136
Misc Info : 250ppbv (500ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 21-AUG-2019 22:29 Cal File: 14082120.d
Als bottle: 1 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: NaphICAL.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
==	====== ========	====	========	=======	=======	==========	=====
* 97 Bromochloromethane					CAS #: 74-97-5		
5.284	5.296 (1.000)	130	89420	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	68431			46.63- 106.63	76.53
5.284	5.294 (1.000)	49	92052			70.93- 130.93	102.94
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	350147	400.000		80.00- 120.00	100.00
6.432	6.430 (1.000)	88	54326			0.00- 45.07	15.52
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	315625	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	173365			24.37- 84.37	54.93
235 Naphthalene					CAS #: 91-20-3		
13.288	13.295 (1.287)	128	167834	250.000	201.21	80.00- 120.00	100.00
13.288	13.291 (1.287)	127	20982			0.00- 45.62	12.50

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082120.d
Lab Smp Id: ICAL Level #8
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 250ppbv (500ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #8
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	89420	-6.26
127 1,4-Difluorobenze	366541	219925	513157	350147	-4.47
179 Chlorobenzene-d5	327904	196742	459066	315625	-3.74

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.28	-0.26
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082120.d

Page 1

Date : 21-AUG-2019 22:29

Client ID: ICAL Level #8

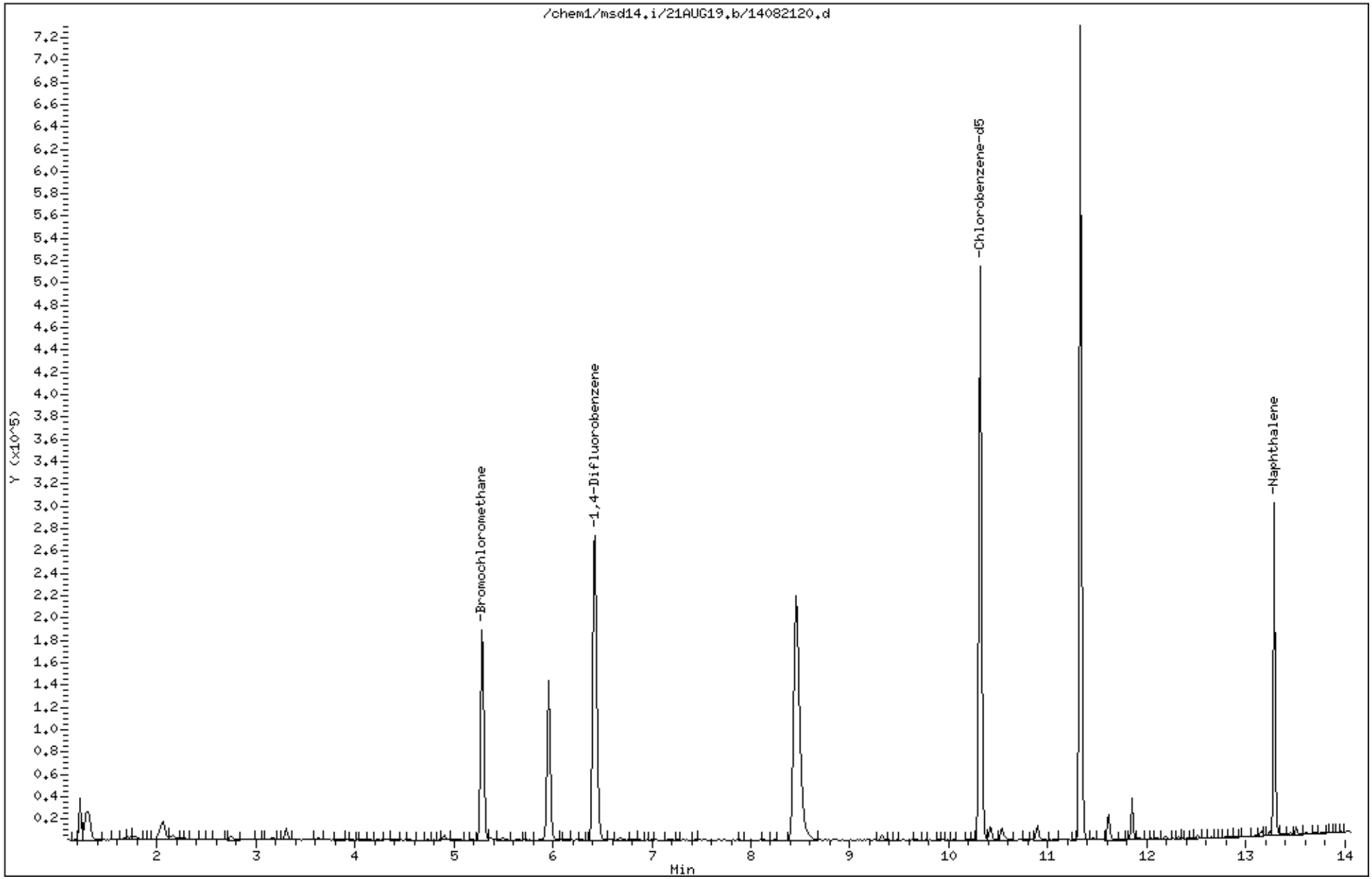
Instrument: msd14.i

Sample Info: 25ml #3084-136

Operator: DF

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082118.d
Lab Smp Id: ICAL Level #8 Client Smp ID: ICAL Level #8
Inj Date : 21-AUG-2019 21:42
Operator : DF Inst ID: msd14.i
Smp Info : 12.5ml #3084-167
Misc Info : 2500ppbv (10000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 21-AUG-2019 21:42 Cal File: 14082118.d
Als bottle: 1 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 520HL.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
==	====== ========	====	========	=======	=======	==========	=====
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.298 (1.000)	130	93822	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	73125			46.63- 106.63	77.94
5.298	5.298 (1.000)	49	97659			70.93- 130.93	104.09
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.432 (1.000)	114	352651	400.000		80.00- 120.00	100.00
6.432	6.432 (1.000)	88	56596			0.00- 45.07	16.05
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	324433	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	178026			24.37- 84.37	54.87
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	122558	400.000	415.48	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	73560			24.83- 84.83	60.02
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	360287	400.000	401.22	80.00- 120.00	100.00
8.460	8.460 (1.315)	70	39903			0.00- 41.24	11.08

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	233555			35.45- 95.45	64.82
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	193855	400.000	397.19	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	244071			91.49- 151.49	125.90
11.329	11.329 (1.098)	176	187556			65.46- 125.46	96.75
17 Butane					CAS #: 106-97-8		
1.730	1.725 (0.327)	58	127889	2500.00	2011.8	80.00- 120.00	100.00
1.730	1.725 (0.327)	43	744584			529.81- 589.81	582.21
32 Isopentane					CAS #: 78-78-4		
2.248	2.248 (0.424)	43	348559	2500.00	1294.8	80.00- 120.00	100.00
2.248	2.248 (0.424)	57	287769			53.88- 113.88	82.56
2.248	2.251 (0.424)	72	37164			0.00- 40.86	10.66
34 Freon 11					CAS #: 75-69-4		
2.472	2.460 (0.467)	101	1565909	2500.00	1918.4	80.00- 120.00	100.00
2.472	2.463 (0.467)	103	1014780			34.80- 94.80	64.80
42 Ethanol					CAS #: 64-17-5		
2.738	2.746 (0.517)	45	179734	2500.00	1773.4	80.00- 120.00	100.00
2.738	2.746 (0.517)	46	70065			7.83- 67.83	38.98
49 Freon 113					CAS #: 76-13-1		
3.018	3.006 (0.570)	151	1172572	2500.00	1901.5	80.00- 120.00	100.00
3.018	3.008 (0.570)	153	750747			35.43- 95.43	64.03
3.018	3.006 (0.570)	101	1412190			91.24- 151.24	120.44
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.046	3.036 (0.575)	61	1077632	2500.00	2065.8	80.00- 120.00	100.00
3.046	3.039 (0.575)	96	665079			32.67- 92.67	61.72
3.046	3.039 (0.575)	98	426306			10.54- 70.54	39.56
53 Acetone					CAS #: 67-64-1		
3.171	3.174 (0.599)	58	293871	2500.00	2029.9	80.00- 120.00	100.00
3.171	3.174 (0.599)	43	843265			259.09- 319.09	286.95
56 2-Propanol					CAS #: 67-63-0		
3.311	3.314 (0.625)	45	919019	2500.00	2002.5	80.00- 120.00	100.00
3.311	3.314 (0.625)	43	194869			0.00- 51.35	21.20
3.311	3.311 (0.625)	59	43957			0.00- 34.59	4.78
66 Methylene Chloride					CAS #: 75-09-2		
3.647	3.636 (0.688)	49	631912	2500.00	1917.8	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
66 Methylene Chloride (continued)							
3.647	3.636 (0.688)	84	579666			63.99- 123.99	91.73
3.647	3.636 (0.688)	51	198024			0.02- 60.02	31.34
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	1751524	2500.00	1919.9	80.00- 120.00	100.00
3.843	3.843 (0.725)	57	387721			0.00- 53.23	22.14
3.843	3.843 (0.725)	41	323825			0.00- 48.43	18.49
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	994249	2500.00	1863.9	80.00- 120.00	100.00
4.081	4.083 (0.770)	43	523426			23.47- 83.47	52.65
4.081	4.083 (0.770)	86	179101			0.00- 49.00	18.01
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.389	4.380 (0.828)	63	1247076	2500.00	2074.7	80.00- 120.00	100.00
4.389	4.382 (0.828)	65	398084			2.01- 62.01	31.92
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.018	5.018 (0.947)	61	965909	2500.00	1963.1	80.00- 120.00	100.00
5.032	5.028 (0.950)	96	755943			48.23- 108.23	78.26
5.032	5.028 (0.950)	98	479718			21.56- 81.56	49.66
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	1453289	2500.00	2036.1	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	955771			36.07- 96.07	65.77
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	977082	2500.00	1969.3	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	1053611			77.00- 137.00	107.83
5.480	5.480 (1.034)	41	546412			24.48- 84.48	55.92
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.522	5.518 (1.042)	97	1502315	2500.00	2025.9	80.00- 120.00	100.00
5.522	5.515 (1.042)	99	962272			34.24- 94.24	64.05
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	1604174	2500.00	2150.2	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	1680604			73.64- 133.64	104.76
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	3351113	2500.00	1995.0	80.00- 120.00	100.00
5.900	5.907 (1.114)	56	1064473			2.41- 62.41	31.76
5.900	5.902 (1.114)	41	880484			0.00- 53.81	26.27
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	2198434	2500.00	2067.8	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
118 Benzene (continued)							
5.928	5.928 (0.922)	77	527897			0.00- 54.09	24.01
124 Heptane					CAS #: 142-82-5		
6.138	6.135 (0.954)	71	802096	2500.00	1998.4	80.00- 120.00	100.00
6.138	6.135 (0.954)	43	1007300			90.25- 150.25	125.58
6.138	6.138 (0.954)	100	248932			0.00- 58.91	31.04
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.672 (1.037)	95	990268	2500.00	2037.9	80.00- 120.00	100.00
6.669	6.672 (1.037)	130	1044209			78.88- 138.88	105.45
6.669	6.672 (1.037)	97	637002			35.90- 95.90	64.33
133 Methylcyclohexane					CAS #: 108-87-2		
6.809	6.807 (1.059)	83	1405471	2500.00	2108.0	80.00- 120.00	100.00
6.809	6.804 (1.059)	98	659473			16.99- 76.99	46.92
6.795	6.804 (1.057)	55	1025042			43.70- 103.70	72.93
156 Toluene					CAS #: 108-88-3		
8.586	8.584 (1.335)	91	2847712	2500.00	2037.0	80.00- 120.00	100.00
8.572	8.582 (1.333)	92	1622554			26.83- 86.83	56.98
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	1336969	2500.00	1976.2	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	1023540			46.86- 106.86	76.56
9.328	9.328 (0.904)	131	993282			46.25- 106.25	74.29
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	1184267	2500.00	2029.7	80.00- 120.00	100.00
10.419	10.429 (1.009)	91	3696245			276.73- 336.73	312.11
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	1448731	2500.00	2018.6	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	2910678			166.48- 226.48	200.91
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	1383291	2500.00	2109.2	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	2937781			183.14- 243.14	212.38
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	3345306	2500.00	2028.3	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	1646725			16.81- 76.81	49.22
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.846	11.846 (1.148)	105	3043132	2500.00	2355.1	80.00- 120.00	100.00
11.846	11.846 (1.148)	120	1391935			16.57- 76.57	45.74

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082118.d
Lab Smp Id: ICAL Level #8
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 2500ppbv (10000ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #8
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	93822	-1.64
127 1,4-Difluorobenze	366541	219925	513157	352651	-3.79
179 Chlorobenzene-d5	327904	196742	459066	324433	-1.06

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082118.d

Date : 21-AUG-2019 21:42

Client ID: ICAL Level #8

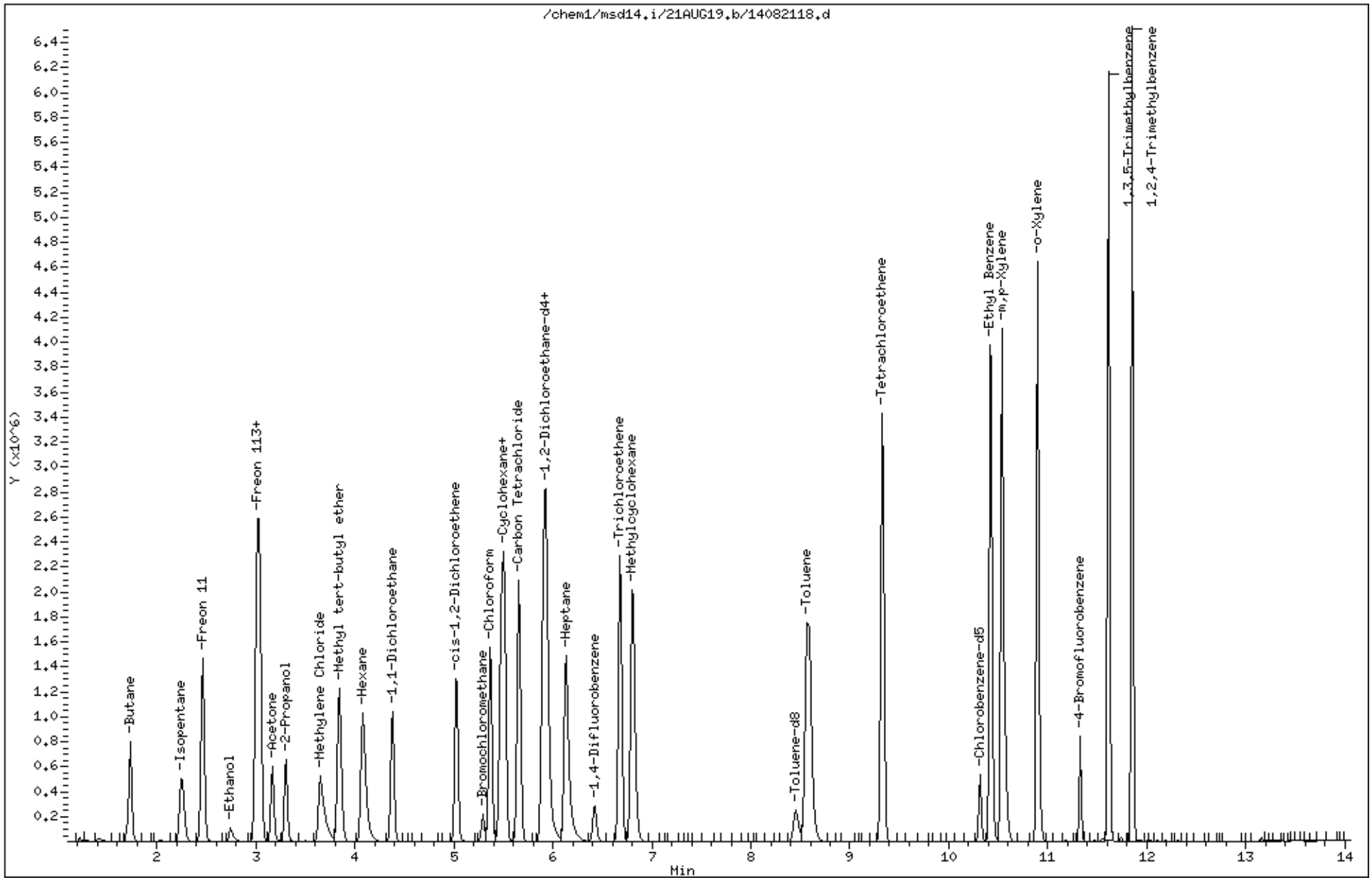
Instrument: msd14.i

Sample Info: 12.5ml #3084-167

Operator: DF

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082121.d
Lab Smp Id: ICAL Level #9 Client Smp ID: ICAL Level #9
Inj Date : 21-AUG-2019 22:56
Operator : DF Inst ID: msd14.i
Smp Info : 50ml #3084-136
Misc Info : 500ppbv (500ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 21-AUG-2019 22:56 Cal File: 14082121.d
Als bottle: 1 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: NaphICAL.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.296 (1.000)	130	87715	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	69179			46.63- 106.63	78.87
5.284	5.294 (1.000)	49	90498			70.93- 130.93	103.17
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.432 (1.000)	114	343403	400.000		80.00- 120.00	100.00
6.418	6.430 (1.000)	88	55399			0.00- 45.07	16.13
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	316625	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	170360			24.37- 84.37	53.80
235 Naphthalene					CAS #: 91-20-3		
13.288	13.293 (1.287)	128	350777	500.000	433.20	80.00- 120.00	100.00
13.288	13.290 (1.287)	127	44718			0.00- 45.62	12.75

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082121.d
Lab Smp Id: ICAL Level #9
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 500ppbv (500ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #9
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	87715	-8.04
127 1,4-Difluorobenze	366541	219925	513157	343403	-6.31
179 Chlorobenzene-d5	327904	196742	459066	316625	-3.44

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082121.d

Date : 21-AUG-2019 22:56

Client ID: ICAL Level #9

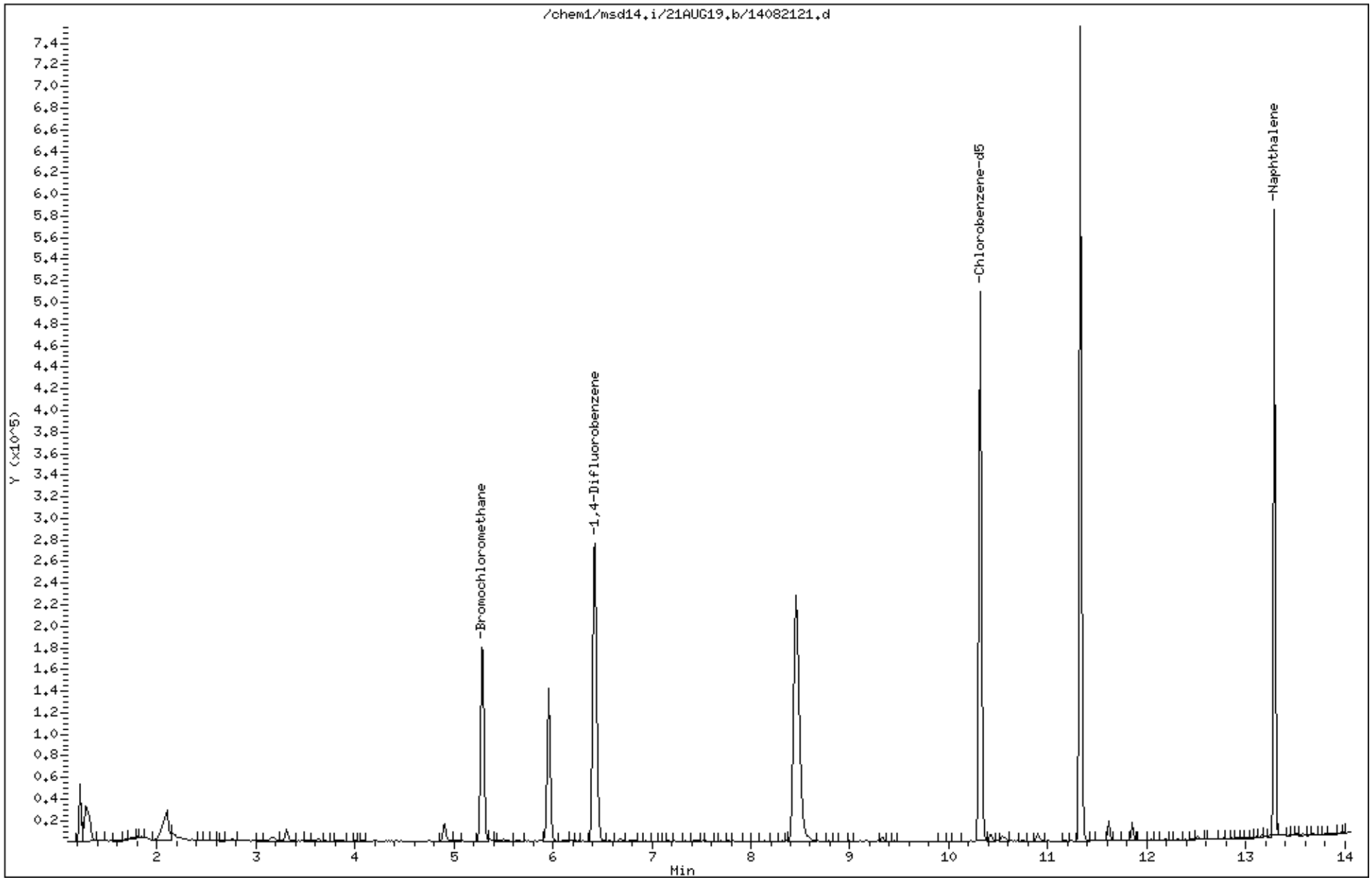
Instrument: msd14.i

Sample Info: 50ml #3084-136

Operator: DF

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082119.d
Lab Smp Id: ICAL Level #9 Client Smp ID: ICAL Level #9
Inj Date : 21-AUG-2019 22:05
Operator : DF Inst ID: msd14.i
Smp Info : 25ml #3084-167
Misc Info : 5000ppbv (10000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 21-AUG-2019 22:05 Cal File: 14082119.d
Als bottle: 1 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 520HL.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.298 (1.000)	130	94773	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	73353			46.63- 106.63	77.40
5.284	5.296 (1.000)	49	98694			70.93- 130.93	104.14
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.418	6.430 (1.000)	114	350109	400.000		80.00- 120.00	100.00
6.418	6.430 (1.000)	88	56290			0.00- 45.07	16.08
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	323533	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	171813			24.37- 84.37	53.11
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	131753	400.000	435.61	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	82487			24.83- 84.83	62.61
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.318)	98	353429	400.000	396.94	80.00- 120.00	100.00
8.447	8.458 (1.316)	70	40740			0.00- 41.24	11.53

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.318)	100	226986			35.45- 95.45	64.22
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	190467	400.000	392.55	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	241270			91.49- 151.49	126.67
11.329	11.329 (1.098)	176	181708			65.46- 125.46	95.40
17 Butane					CAS #: 106-97-8		
1.717	1.723 (0.324)	58	327432	5000.00	5082.3	80.00- 120.00	100.00(A)
1.717	1.723 (0.324)	43	1887705			529.81- 589.81	576.52
32 Isopentane					CAS #: 78-78-4		
2.234	2.246 (0.422)	43	885651	5000.00	3457.9	80.00- 120.00	100.00
2.234	2.246 (0.422)	57	742496			53.88- 113.88	83.84
2.234	2.248 (0.422)	72	93263			0.00- 40.86	10.53
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	3998663	5000.00	4870.4	80.00- 120.00	100.00
2.458	2.462 (0.464)	103	2598621			34.80- 94.80	64.99
42 Ethanol					CAS #: 64-17-5		
2.738	2.745 (0.517)	45	490408	5000.00	4823.9	80.00- 120.00	100.00
2.738	2.745 (0.517)	46	191607			7.83- 67.83	39.07
49 Freon 113					CAS #: 76-13-1		
3.004	3.006 (0.567)	151	2974438	5000.00	4806.0	80.00- 120.00	100.00
3.004	3.008 (0.567)	153	1904226			35.43- 95.43	64.02
3.004	3.006 (0.567)	101	3602627			91.24- 151.24	121.12
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.032	3.036 (0.572)	61	2744043	5000.00	5176.8	80.00- 120.00	100.00(A)
3.032	3.038 (0.572)	96	1692189			32.67- 92.67	61.67
3.032	3.038 (0.572)	98	1073492			10.54- 70.54	39.12
53 Acetone					CAS #: 67-64-1		
3.158	3.172 (0.596)	58	768504	5000.00	5210.8	80.00- 120.00	100.00(A)
3.158	3.172 (0.596)	43	2216076			259.09- 319.09	288.36
56 2-Propanol					CAS #: 67-63-0		
3.312	3.314 (0.625)	45	2393681	5000.00	5135.4	80.00- 120.00	100.00(A)
3.312	3.314 (0.625)	43	501425			0.00- 51.35	20.95
3.312	3.311 (0.625)	59	111373			0.00- 34.59	4.65
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.636 (0.686)	49	1655169	5000.00	4977.4	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
66 Methylene Chloride (continued)							
3.633	3.636 (0.686)	84	1533542			63.99- 123.99	92.65
3.633	3.636 (0.686)	51	521507			0.02- 60.02	31.51
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	4838389	5000.00	5213.0	80.00- 120.00	100.00(A)
3.829	3.841 (0.723)	57	1063006			0.00- 53.23	21.97
3.829	3.841 (0.723)	41	890672			0.00- 48.43	18.41
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	2578844	5000.00	4815.5	80.00- 120.00	100.00
4.081	4.083 (0.770)	43	1357420			23.47- 83.47	52.64
4.081	4.083 (0.770)	86	466980			0.00- 49.00	18.11
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.379 (0.826)	63	3243258	5000.00	5289.9	80.00- 120.00	100.00(A)
4.375	4.381 (0.826)	65	1027739			2.01- 62.01	31.69
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.019	5.018 (0.947)	61	2486074	5000.00	5001.7	80.00- 120.00	100.00(A)
5.019	5.026 (0.947)	96	1930168			48.23- 108.23	77.64
5.019	5.026 (0.947)	98	1229792			21.56- 81.56	49.47
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	3732417	5000.00	5150.8	80.00- 120.00	100.00(A)
5.368	5.368 (1.013)	85	2448206			36.07- 96.07	65.59
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	2480301	5000.00	4956.2	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	2720582			77.00- 137.00	109.69
5.480	5.480 (1.034)	41	1407801			24.48- 84.48	56.76
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.508	5.516 (1.040)	97	3873147	5000.00	5145.5	80.00- 120.00	100.00(A)
5.508	5.514 (1.040)	99	2484615			34.24- 94.24	64.15
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	4175218	5000.00	5456.0	80.00- 120.00	100.00(A)
5.648	5.648 (1.066)	117	4340934			73.64- 133.64	103.97
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	8700201	5000.00	5108.9	80.00- 120.00	100.00(A)
5.900	5.906 (1.114)	56	2729541			2.41- 62.41	31.37
5.900	5.902 (1.114)	41	2294120			0.00- 53.81	26.37
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.924)	78	5622772	5000.00	5277.6	80.00- 120.00	100.00(A)

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
118 Benzene (continued)							
5.928	5.928 (0.924)	77	1342744			0.00- 54.09	23.88
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.956)	71	2066215	5000.00	5157.9	80.00- 120.00	100.00
6.124	6.134 (0.954)	43	2623879			90.25- 150.25	126.99
6.138	6.138 (0.956)	100	638504			0.00- 58.91	30.90
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.672 (1.039)	95	2556312	5000.00	5254.1	80.00- 120.00	100.00(A)
6.670	6.672 (1.039)	130	2685142			78.88- 138.88	105.04
6.670	6.672 (1.039)	97	1639970			35.90- 95.90	64.15
133 Methylcyclohexane					CAS #: 108-87-2		
6.796	6.805 (1.059)	83	3562339	5000.00	5314.1	80.00- 120.00	100.00(A)
6.796	6.802 (1.059)	98	1673233			16.99- 76.99	46.97
6.796	6.802 (1.059)	55	2635728			43.70- 103.70	73.99
156 Toluene					CAS #: 108-88-3		
8.573	8.582 (1.336)	91	7295667	5000.00	5218.2	80.00- 120.00	100.00(A)
8.573	8.580 (1.336)	92	4162839			26.83- 86.83	57.06
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	3368920	5000.00	4994.5	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	2600061			46.86- 106.86	77.18
9.328	9.328 (0.904)	131	2527429			46.25- 106.25	75.02
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	2933110	5000.00	5035.1	80.00- 120.00	100.00
10.419	10.427 (1.009)	91	9303523			276.73- 336.73	317.19
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	3641457	5000.00	5075.1	80.00- 120.00	100.00(A)
10.545	10.545 (1.022)	91	7390576			166.48- 226.48	202.96
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	3399702	5000.00	5168.9	80.00- 120.00	100.00(A)
10.895	10.895 (1.056)	91	7313594			183.14- 243.14	215.12
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	7847078	5000.00	4802.4	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	3804254			16.81- 76.81	48.48
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.847	11.847 (1.148)	105	7042281	5000.00	5393.5	80.00- 120.00	100.00(A)
11.847	11.847 (1.148)	120	3187418			16.57- 76.57	45.26

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082119.d
Lab Smp Id: ICAL Level #9
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 5000ppbv (10000ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #9
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	94773	-0.65
127 1,4-Difluorobenze	366541	219925	513157	350109	-4.48
179 Chlorobenzene-d5	327904	196742	459066	323533	-1.33

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.42	-0.22
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082119.d

Date : 21-AUG-2019 22:05

Client ID: ICAL Level #9

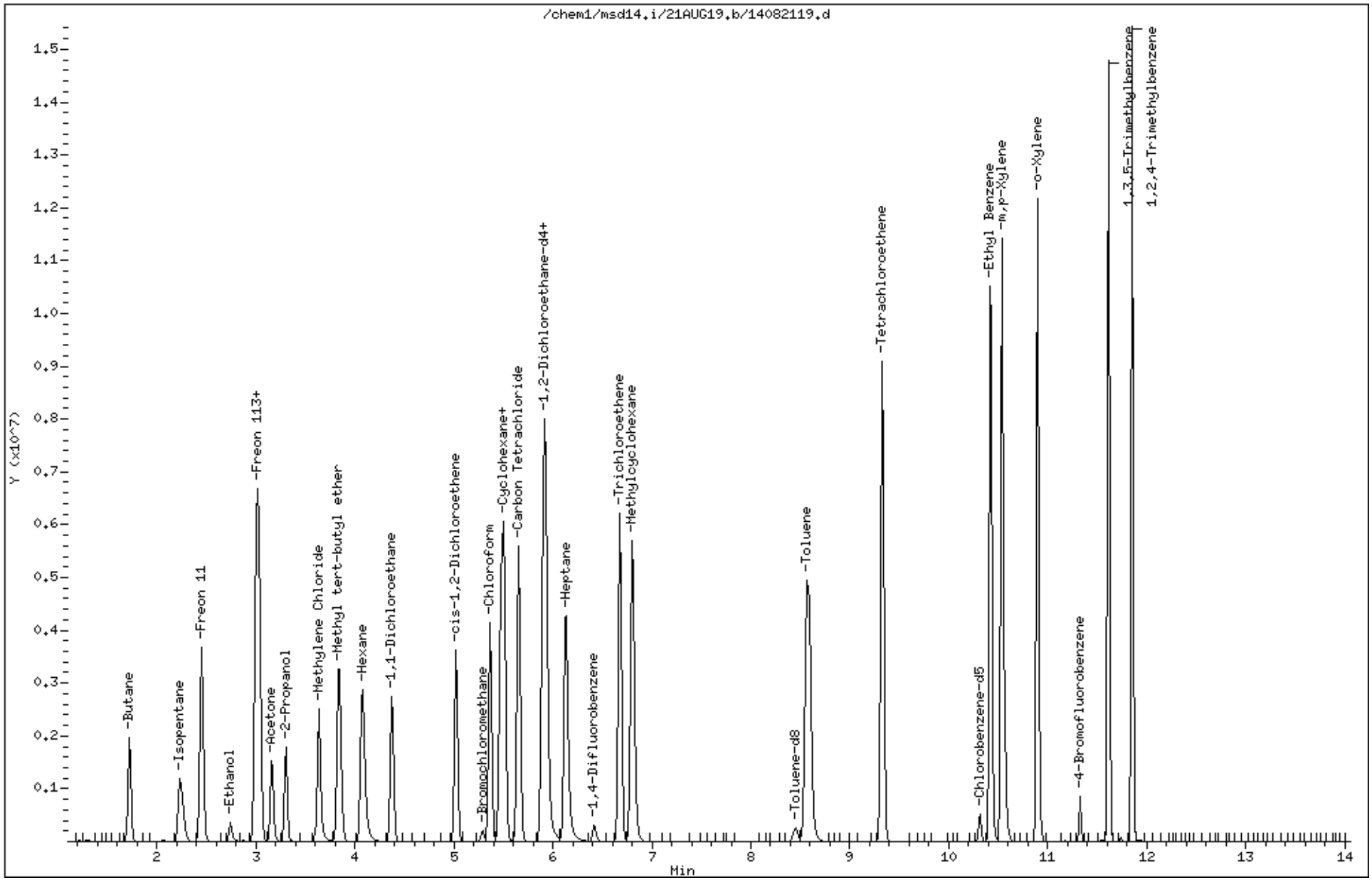
Instrument: msd14.i

Sample Info: 25ml #3084-167

Operator: DF

Column phase: RTX-624

Column diameter: 0.18



US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/21AUG19.b/14082122.d
Lab Smp Id: ICAL Level #10 Client Smp ID: ICAL Level #10
Inj Date : 21-AUG-2019 23:41
Operator : DF Inst ID: msd14.i
Smp Info : 50ml #3084-167
Misc Info : 10000ppbv (10000ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/21AUG19.b/14950821a.m
Meth Date : 23-Aug-2019 07:25 ikh2 Quant Type: ISTD
Cal Date : 21-AUG-2019 23:41 Cal File: 14082122.d
Als bottle: 1 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 520HL.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	99477	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	78552			46.63- 106.63	78.96
5.298	5.295 (1.000)	49	104019			70.93- 130.93	104.57
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.418	6.430 (1.000)	114	362053	400.000		80.00- 120.00	100.00
6.418	6.428 (1.000)	88	55925			0.00- 45.07	15.45
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	325129	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	176779			24.37- 84.37	54.37
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	133145	400.000	416.87	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	78397			24.83- 84.83	58.88
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.318)	98	366651	400.000	398.43	80.00- 120.00	100.00
8.461	8.459 (1.318)	70	41064			0.00- 41.24	11.20

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.318)	100	232588			35.45- 95.45	63.44
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	193483	400.000	397.20	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	248200			91.49- 151.49	128.28
11.329	11.329 (1.098)	176	187190			65.46- 125.46	96.75
17 Butane					CAS #: 106-97-8		
1.716	1.722 (0.324)	58	598602	10000.0	8999.6	80.00- 120.00	100.00(A)
1.716	1.722 (0.324)	43	3458690			529.81- 589.81	577.79
32 Isopentane					CAS #: 78-78-4		
2.220	2.242 (0.419)	43	1657740	10000.0	6523.7	80.00- 120.00	100.00(A)
2.220	2.242 (0.419)	57	1401966			53.88- 113.88	84.57
2.234	2.246 (0.422)	72	177728			0.00- 40.86	10.72
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	7545378	10000.0	8894.1	80.00- 120.00	100.00(A)
2.458	2.461 (0.464)	103	4861267			34.80- 94.80	64.43
42 Ethanol					CAS #: 64-17-5		
2.752	2.746 (0.519)	45	901111	10000.0	8636.5	80.00- 120.00	100.00(A)
2.752	2.746 (0.519)	46	357998			7.83- 67.83	39.73
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	5518670	10000.0	8658.0	80.00- 120.00	100.00(A)
3.004	3.007 (0.567)	153	3533437			35.43- 95.43	64.03
3.004	3.005 (0.567)	101	6721308			91.24- 151.24	121.79
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.032	3.035 (0.572)	61	5163937	10000.0	9365.6	80.00- 120.00	100.00(A)
3.032	3.037 (0.572)	96	3187907			32.67- 92.67	61.73
3.032	3.037 (0.572)	98	2029380			10.54- 70.54	39.30
53 Acetone					CAS #: 67-64-1		
3.172	3.172 (0.599)	58	1428622	10000.0	9331.5	80.00- 120.00	100.00(A)
3.172	3.172 (0.599)	43	4085846			259.09- 319.09	286.00
56 2-Propanol					CAS #: 67-63-0		
3.312	3.313 (0.625)	45	4448946	10000.0	9212.8	80.00- 120.00	100.00(A)
3.312	3.313 (0.625)	43	936026			0.00- 51.35	21.04
3.312	3.312 (0.625)	59	208136			0.00- 34.59	4.68
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.635 (0.686)	49	3088541	10000.0	8996.6	80.00- 120.00	100.00(A)

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
66 Methylene Chloride (continued)							
3.633	3.635 (0.686)	84	2896496			63.99- 123.99	93.78
3.633	3.635 (0.686)	51	978705			0.02- 60.02	31.69
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	8762304	10000.0	9108.8	80.00- 120.00	100.00(A)
3.843	3.841 (0.725)	57	1939078			0.00- 53.23	22.13
3.843	3.841 (0.725)	41	1601105			0.00- 48.43	18.27
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	4811483	10000.0	8716.6	80.00- 120.00	100.00(A)
4.067	4.081 (0.768)	43	2515582			23.47- 83.47	52.28
4.081	4.083 (0.770)	86	873266			0.00- 49.00	18.15
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.378 (0.826)	63	6087127	10000.0	9523.2	80.00- 120.00	100.00(A)
4.375	4.380 (0.826)	65	1939363			2.01- 62.01	31.86
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.019	5.018 (0.947)	61	4705294	10000.0	9130.8	80.00- 120.00	100.00(A)
5.019	5.025 (0.947)	96	3641374			48.23- 108.23	77.39
5.019	5.025 (0.947)	98	2321432			21.56- 81.56	49.34
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	7045704	10000.0	9349.5	80.00- 120.00	100.00(A)
5.368	5.368 (1.013)	85	4622933			36.07- 96.07	65.61
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	4589167	10000.0	8876.7	80.00- 120.00	100.00(A)
5.480	5.480 (1.034)	56	5090263			77.00- 137.00	110.92
5.480	5.480 (1.034)	41	2586159			24.48- 84.48	56.35
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.522	5.517 (1.042)	97	7262086	10000.0	9285.4	80.00- 120.00	100.00(A)
5.522	5.515 (1.042)	99	4654033			34.24- 94.24	64.09
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	7833701	10000.0	9783.0	80.00- 120.00	100.00(A)
5.648	5.648 (1.066)	117	8156521			73.64- 133.64	104.12
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	16358107	10000.0	9249.6	80.00- 120.00	100.00(A)
5.900	5.905 (1.114)	56	5152727			2.41- 62.41	31.50
5.900	5.902 (1.114)	41	4276655			0.00- 53.81	26.14
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.924)	78	10433929	10000.0	9533.5	80.00- 120.00	100.00(A)

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
118 Benzene (continued)							
5.928	5.928 (0.924)	77	2480219			0.00- 54.09	23.77
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.956)	71	3828478	10000.0	9330.2	80.00- 120.00	100.00
6.138	6.134 (0.956)	43	4898819			90.25- 150.25	127.96
6.138	6.138 (0.956)	100	1178783			0.00- 58.91	30.79
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.039)	95	4784724	10000.0	9568.4	80.00- 120.00	100.00(A)
6.670	6.671 (1.039)	130	4992757			78.88- 138.88	104.35
6.670	6.671 (1.039)	97	3073360			35.90- 95.90	64.23
133 Methylcyclohexane					CAS #: 108-87-2		
6.796	6.803 (1.059)	83	6628566	10000.0	9622.1	80.00- 120.00	100.00(A)
6.796	6.801 (1.059)	98	3078529			16.99- 76.99	46.44
6.796	6.801 (1.059)	55	4923315			43.70- 103.70	74.27
156 Toluene					CAS #: 108-88-3		
8.572	8.581 (1.336)	91	13684436	10000.0	9528.6	80.00- 120.00	100.00(A)
8.572	8.579 (1.336)	92	7808131			26.83- 86.83	57.06
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	6223454	10000.0	9276.1	80.00- 120.00	100.00(A)
9.328	9.330 (0.904)	129	4829248			46.86- 106.86	77.60
9.328	9.328 (0.904)	131	4714179			46.25- 106.25	75.75
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	5520349	10000.0	9497.7	80.00- 120.00	100.00
10.433	10.428 (1.011)	91	16884054			276.73- 336.73	305.85
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	6809978	10000.0	9510.5	80.00- 120.00	100.00(A)
10.545	10.545 (1.022)	91	13842614			166.48- 226.48	203.27
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	6435381	10000.0	9768.4	80.00- 120.00	100.00(A)
10.895	10.895 (1.056)	91	13284418			183.14- 243.14	206.43
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	12845810	10000.0	8041.8	80.00- 120.00	100.00(A)
11.609	11.609 (1.125)	120	7585491			16.81- 76.81	59.05
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.847	11.847 (1.148)	105	11951512	10000.0	9211.0	80.00- 120.00	100.00(A)
11.847	11.847 (1.148)	120	6383395			16.57- 76.57	53.41

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082122.d
Lab Smp Id: ICAL Level #10
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem1/msd14.i/21AUG19.b/14950821a.m
Misc Info: 10000ppbv (10000ppbv)

Calibration Date: 21-AUG-2019
Calibration Time: 20:47
Client Smp ID: ICAL Level #10
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	95389	57233	133545	99477	4.29
127 1,4-Difluorobenze	366541	219925	513157	362053	-1.22
179 Chlorobenzene-d5	327904	196742	459066	325129	-0.85

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.42	-0.22
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/21AUG19.b/14082122.d

Date : 21-AUG-2019 23:41

Client ID: ICAL Level #10

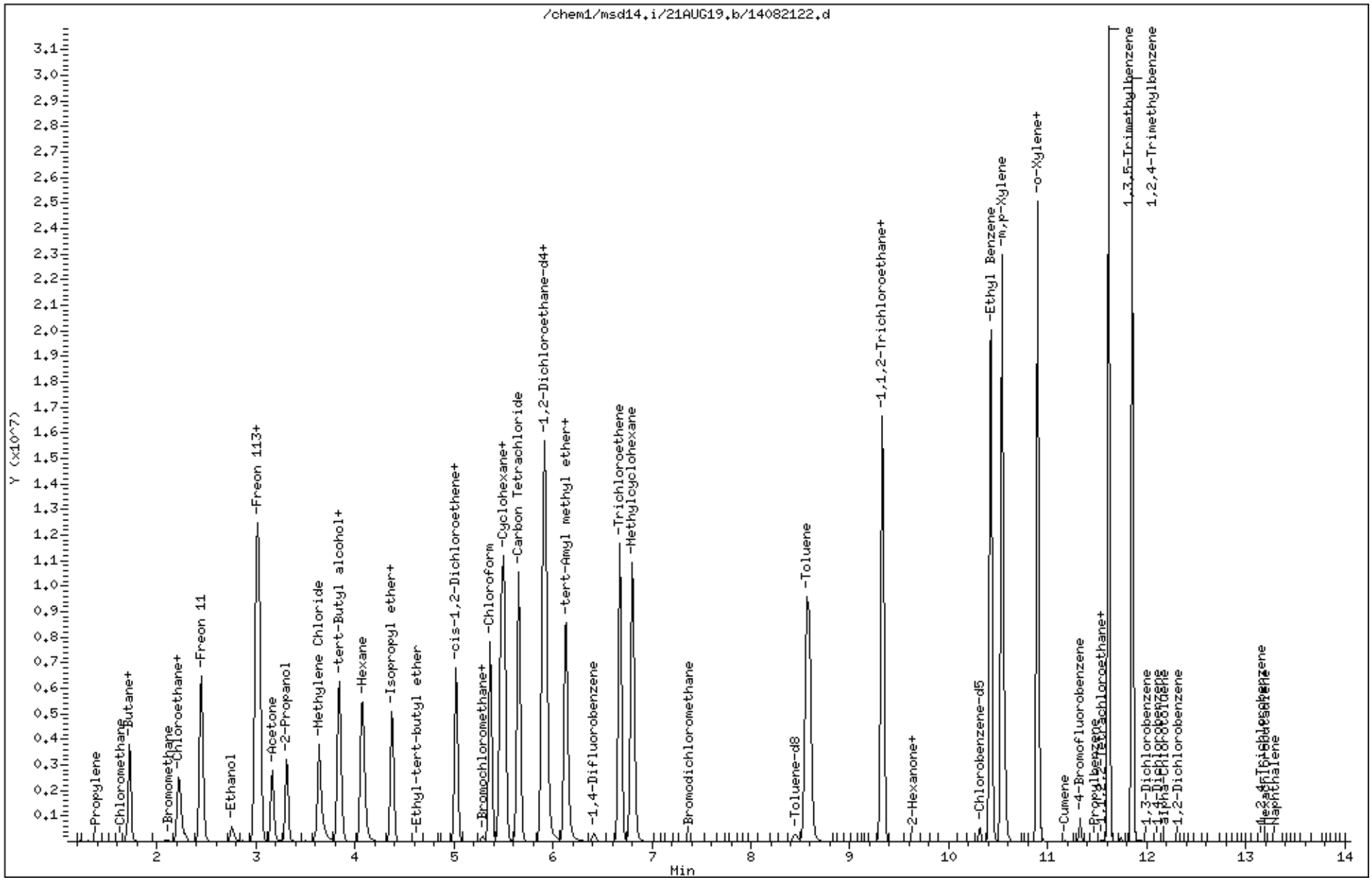
Instrument: msd14.i

Sample Info: 50ml #3084-167

Operator: DF

Column phase: RTX-624

Column diameter: 0.18



Eurofins Air Toxics 2Q 2019 TO-14A/TO-15 5&20 DoD Limit of Detections (LODs) Effective 07-01-19						
CAS #	Analyte	Molecular Weight (MW)	LOD (ppbv)	LOQ (ppbv)	LOD (ug/m3)	LOQ (ug/m3)
71-55-6	1,1,1-Trichloroethane	133.42	3	5	16.37055	27.28425
79-34-5	1,1,2,2-Tetrachloroethane	167.86	3	5	20.59632	34.3272
79-00-5	1,1,2-Trichloroethane	133.42	3	5	16.37055	27.28425
75-34-3	1,1-Dichloroethane	98.97	3	5	12.14356	20.23926
75-35-4	1,1-Dichloroethene	96.95	3	5	11.89571	19.82618
120-82-1	1,2,4-Trichlorobenzene	181.46	15	20	111.32515	148.43354
95-63-6	1,2,4-Trimethylbenzene	120.19	3	5	14.74724	24.57873
106-93-4	1,2-Dibromoethane (EDB)	187.88	3	5	23.05276	38.42127
95-50-1	1,2-Dichlorobenzene	147.01	3	5	18.03804	30.06339
107-06-2	1,2-Dichloroethane	98.96	3	5	12.14233	20.23722
78-87-5	1,2-Dichloropropane	112.99	3	5	13.8638	23.10634
108-67-8	1,3,5-Trimethylbenzene	120.19	3	5	14.74724	24.57873
106-99-0	1,3-Butadiene	54.09	3	5	6.63681	11.06135
541-73-1	1,3-Dichlorobenzene	147.01	3	5	18.03804	30.06339
106-46-7	1,4-Dichlorobenzene	147.01	3	5	18.03804	30.06339
123-91-1	1,4-Dioxane	88.11	15	20	54.05521	72.07362
540-84-1	2,2,4-Trimethylpentane	114.22	3	5	14.01472	23.35787
78-93-3	2-Butanone	72.11	15	20	44.23926	58.98569
591-78-6	2-Hexanone	100.16	15	20	61.44785	81.93047
67-63-0	2-Propanol	60.09	15	20	36.86503	49.15337
107-05-1	3-Chloropropene	76.53	15	20	46.95092	62.60123
622-96-8	4-Ethyltoluene	120.19	3	5	14.74724	24.57873
108-10-1	4-Methyl-2-pentanone	100.16	3	5	12.28957	20.48262
67-64-1	Acetone	58.08	15	20	35.6319	47.5092
100-44-7	alpha-Chlorotoluene	126.58	3	5	15.53129	25.88548
71-43-2	Benzene	78.11	3	5	9.58405	15.97342
75-27-4	Bromodichloromethane	163.83	3	5	20.10184	33.50307
75-25-2	Bromoform	252.77	3	5	31.01472	51.69121
74-83-9	Bromomethane	94.95	15	20	58.25153	77.6687
75-15-0	Carbon Disulfide	76.14	15	20	46.71166	62.2822
56-23-5	Carbon Tetrachloride	153.84	3	5	18.87607	31.46012
108-90-7	Chlorobenzene	112.56	3	5	13.81104	23.0184
75-00-3	Chloroethane	64.52	15	20	39.58282	52.7771
67-66-3	Chloroform	119.39	3	5	14.64908	24.41513
74-87-3	Chloromethane	50.49	15	20	30.97546	41.30061
156-59-2	cis-1,2-Dichloroethene	96.94	3	5	11.89448	19.82413
10061-01-5	cis-1,3-Dichloropropene	110.97	3	5	13.61595	22.69325
98-82-8	Cumene	120.19	3	5	14.74724	24.57873
110-82-7	Cyclohexane	84.16	3	5	10.32638	17.21063
124-48-1	Dibromochloromethane	208.28	3	5	25.55583	42.59305
64-17-5	Ethanol	46.07	15	20	28.2638	37.68507

100-41-4	Ethyl Benzene	106.16	3	5	13.02577	21.70961
75-69-4	Freon 11	137.38	3	5	16.85644	28.09407
76-13-1	Freon 113	187.39	3	5	22.99264	38.32106
76-14-2	Freon 114	170.93	3	5	20.97301	34.95501
75-71-8	Freon 12	120.92	3	5	14.83681	24.72802
142-82-5	Heptane	100.2	3	5	12.29448	20.4908
87-68-3	Hexachlorobutadiene	260.76	15	20	159.97546	213.30061
110-54-3	Hexane	86.17	3	5	10.57301	17.62168
108-38-3	m,p-Xylene	106.17	3	5	13.02699	21.71166
1634-04-4	Methyl tert-butyl ether	88.15	3	5	10.81595	18.02658
75-09-2	Methylene Chloride	84.94	15	20	52.11043	69.4806
91-20-3	Naphthalene	128.17	2	20	10.48425	104.84254
95-47-6	o-Xylene	106.17	3	5	13.02699	21.71166
103-65-1	Propylbenzene	120.19	3	5	14.74724	24.57873
115-07-1	Propylene	42.08	15	20	25.81595	34.42127
100-42-5	Styrene	104.14	3	5	12.77791	21.29652
127-18-4	Tetrachloroethene	165.85	3	5	20.34969	33.91616
109-99-9	Tetrahydrofuran	72.1	3	5	8.84663	14.74438
108-88-3	Toluene	92.13	3	5	11.30429	18.84049
156-60-5	trans-1,2-Dichloroethene	96.94	3	5	11.89448	19.82413
10061-02-6	trans-1,3-Dichloropropene	110.97	3	5	13.61595	22.69325
79-01-6	Trichloroethene	131.39	3	5	16.12147	26.86912
108-05-4	Vinyl Acetate	86.09	15	20	52.816	70.4213
75-01-4	Vinyl Chloride	62.5	3	5	7.66871	12.78119

ppbv - part per billion by volume

Concentration (ug/m3) = Concentration (ppbv)*MW/24.45

Instrument ID - msd14.i file msd14.i//11JUN19.b//14061108.d/ msd14.i//11JUN19.b//14061109.d/ msd14.i//02APR19.b//14040203c.d/

MSD-14 5+20 To-15 5.0ppbv MDL
Loaded @ 5mL of 3018-604
5.0ppbv → 5.0ppbv

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US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07
FILENAME:	14021113	14021114	14021115	14021208	14021209	14021308	14021309
INJ.DATE:	11-FEB-2019	11-FEB-2019	11-FEB-2019	12-FEB-2019	12-FEB-2019	13-FEB-2019	13-FEB-2019
INJ.TIME:	18:58	19:19	19:43	13:07	13:30	09:49	10:13

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
2 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
3 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
4 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
5 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
7 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
8 Freon 134a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
9 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
10 Propylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
11 Freon 12	5.35	4.48	5.32	5.11	4.63	5.15	5.31	5.05	0.35	1.11	5.0	
12 Chlorodifluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
13 Freon 114	5.36	4.66	5.34	5.69	4.63	4.68	5.02	5.06	0.42	1.32	5.0	
14 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
15 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
16 Chloromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
17 Butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

Reviewer 1 _____ Date: 2/18/19
Reviewer 2 _____ Date: 2/19/19

$\bar{X} = 1.12$

$2\bar{X} = 2.24$

Ratio of the mean recovered concentrations and the MDL values are between 1 and 20

MDL verification:

14021506, 3018-604 3.0ppbv (5.0ppbv) @30mL

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US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	RL	Blank
18 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
19 Vinyl Chloride	4.92	4.52	3.47	4.66	4.84	4.40	5.18	4.57	0.55	1.73	5.0	
20 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
21 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
22 trans-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
23 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
25 1,3-Butadiene	5.05	4.73	5.79	4.13	5.17	5.03	4.99	4.99	0.50	1.57	5.0	
26 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
27 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
29 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
30 Bromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
31 Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
32 Isopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
33 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
34 Freon 11	5.25	5.74	5.26	5.14	5.50	5.23	5.06	5.31	0.23	0.74	5.0	
35 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
36 Dichlorofluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
37 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
38 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
39 Freon 123a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R2.	Blank
40 2-Methyl-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
41 trans-2-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
42 Ethanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
43 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
44 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
45 1,2-Dichloro-1-fluoroe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
46 cis-2-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
47 Acrolein	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
48 Freon 123	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
49 Freon 113	5.08	4.61	5.48	5.02	5.26	5.33	4.97	5.11	0.28	0.89	5.0	
50 Methyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
51 1,1-Dichloroethene	4.83	4.92	4.55	4.70	4.30	4.88	4.75	4.71	0.22	0.68	5.0	
52 2,2-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
53 Acetone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
54 Iodomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
55 Carbon Disulfide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
56 2-Propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
57 Bromoethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
58 4-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
59 3-Chloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
60 Cyclopentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
61 3-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
62 2-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
63 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
65 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
66 Methylene Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
67 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
68 tert-Butyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
69 Methyl tert-butyl ethe	4.57	4.56	4.34	4.65	4.77	4.85	4.67	4.63	0.16	0.51	5.0	
70 2-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
71 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
72 tert-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
73 trans-1,2-Dichloroethe	4.62	6.04	5.94	4.81	4.81	4.65	4.97	5.12	0.61	1.91	5.0	
74 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
75 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
76 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
77 Hexane	4.57	4.51	4.40	4.20	3.51	4.68	4.16	4.29	0.39	1.23	5.0	
78 trans-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
79 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
80 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
81 cis-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
82 Isopropyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
83 1,1-Dichloroethane	5.06	5.63	5.11	4.99	4.16	4.75	4.81	4.93	0.44	1.39	5.0	
84 Vinyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
85 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
86 1-Propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
87 Ethyl-tert-butyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
88 Butanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
89 2,2-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
90 Isobutyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
91 cis-1,2-Dichloroethene	4.31	4.85	4.35	5.04	3.90	4.68	5.35	4.64	0.49	1.54	5.0	
92 2-Butanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
93 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
94 Methyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
95 Methacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
96 Tetrahydrofuran	6.97	6.74	6.91	5.61	6.32	6.49	5.64	6.39	0.56	1.77	5.0	
* 97 Bromochloromethane	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.00	0.00		
98 Chloroacetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
99 2-Chloropentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
100 Chloroform	5.41	5.20	5.24	4.80	4.63	5.03	4.87	5.03	0.27	0.86	5.0	
101 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
102 1-Bromopropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
103 Cyclohexane	4.74	4.69	4.53	4.32	4.82	5.46	4.69	4.75	0.35	1.11	5.0	
104 1,1,1-Trichloroethane	5.42	4.84	4.77	4.64	5.23	5.11	4.97	5.00	0.27	0.86	5.0	
105 n-Butylchloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
106 Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
107 3-Methylhexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
108 Carbon Tetrachloride	4.65	5.07	5.33	5.14	4.38	4.47	5.16	4.88	0.38	1.19	5.0	
109 1,1-Dichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
110 2-Methylhexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
111 1-Methoxy-2-propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
112 1-Heptene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
113 2,3-Dichloro-1-propene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
114 Thiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
$ 115 Benzene-d6	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
116 Isobutanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
117 2,2,4-Trimethylpentane	4.49	3.71	4.63	4.75	4.46	4.74	4.23	4.43	0.36	1.14	5.0	
118 Benzene	4.94	4.61	5.04	4.60	4.39	4.79	4.83	4.74	0.22	0.70	5.0	
$ 119 1,2-Dichloroethane-d4	375.41	380.68	385.55	389.11	380.88	381.09	378.09	381.54	4.55	14.31		
120 tert-Amyl methyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
121 1,2-Dichloroethane	4.98	5.56	4.75	5.61	5.31	5.07	5.20	5.21	0.31	0.97	5.0	
122 Bromodichloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
123 3-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
124 Heptane	4.68	4.13	4.94	3.55	4.36	4.60	5.16	4.49	0.54	1.69	5.0	
125 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
126 2-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
* 127 1,4-Difluorobenzene	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.00	0.00		
128 n-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
129 Trichloroethene	5.44	5.68	4.35	4.63	5.01	4.89	5.33	5.05	0.47	1.48	5.0	
130 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
131 bis(chloromethyl) Ethe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
132 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
133 Methylcyclohexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
134 Ethyl acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
135 1-Octene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
136 2-Chloroethyl Vinyl Et	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
137 2-Pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
138 1,2-Dichloropropane	5.21	4.21	4.66	4.37	4.56	3.88	4.73	4.52	0.42	1.33	5.0	
139 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
140 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
141 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
142 Dibromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
143 1-Chloro-2-Bromopropan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
144 Bromodichloromethane	4.90	4.88	4.80	4.73	4.98	5.19	4.75	4.89	0.16	0.50	5.0	
145 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
146 Vinyl Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
147 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
148 Bromodichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
149 1-Chlorohexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
150 Butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
151 cis-1,3-Dichloropropen	4.77	5.00	4.29	5.19	4.84	4.67	4.80	4.79	0.28	0.88	5.0	
152 Dimethyl Disulfide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
153 1-Nonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
154 4-Methyl-2-pentanone	4.23	6.23	4.74	5.64	5.25	6.37	5.12	5.37	0.77	2.43	5.0	
$ 155 Toluene-d8	381.90	377.56	385.09	385.97	381.66	379.94	383.20	382.19	2.90	9.13		
156 Toluene	5.46	5.47	5.38	4.73	4.91	5.06	5.14	5.16	0.29	0.90	5.0	
157 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
158 3-Methyl-2-pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

Report Date : 18-Feb-2019 10:32

US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(ppb,v)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
159 1-Decene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
160 trans-1,3-Dichloroprop	4.61	4.56	4.99	4.89	4.78	4.51	4.64	4.71	0.18	0.56	5.0	
161 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
162 1,1,2-Trichloroethane	5.30	4.92	5.07	6.41	4.91	4.82	4.78	5.17	0.57	1.81	5.0	
163 Tetrachloroethene	5.61	5.54	4.76	4.63	5.40	4.97	5.57	5.21	0.42	1.30	5.0	1.76
164 1,3-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
165 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
166 2-Hexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
167 1,4-Dichloro-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
168 Butyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
169 Dibromochloromethane	5.61	4.92	5.09	4.78	4.74	5.05	5.44	5.09	0.33	1.03	5.0	
170 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
171 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
172 alpha Methyl Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
173 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
174 Isobutylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
175 Benzaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
176 1,2-Dibromoethane (EDB	5.90	5.39	5.48	5.31	5.23	5.79	5.17	5.47	0.28	0.88	5.0	
177 2-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
178 1-Undecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
* 179 Chlorobenzene-d5	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.00	0.00		
180 Chlorobenzene	6.18	5.40	5.23	4.84	5.06	5.20	5.05	5.28	0.43	1.36	5.0	
181 Ethyl Benzene	5.55	4.96	4.74	4.88	4.82	5.23	5.43	5.09	0.32	1.00	5.0	
182 1,1,1,2-Tetrachloroeth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
183 Nonane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
184 m,p-Xylene	5.20	4.88	4.45	4.80	4.60	5.27	5.00	4.89	0.30	0.94	5.0	
185 4-Ethyl-1,2-dimethylbe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
186 1,3-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
187 1,4-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
188 1,2,4,5-tetramethylben	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
189 o-Xylene	5.50	5.12	5.53	4.83	4.76	4.58	4.46	4.97	0.43	1.35	5.0	
190 Styrene	4.75	5.35	4.83	5.27	4.62	5.33	5.08	5.03	0.30	0.95	5.0	
191 1-Dodecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
192 2-Heptanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
193 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
194 Bromoform	5.03	5.43	4.79	4.87	5.22	4.98	4.95	5.04	0.22	0.69	5.0	
195 alpha-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
196 Cumene	4.63	4.81	4.52	4.78	4.55	4.73	4.70	4.67	0.11	0.35	5.0	
197 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
$ 198 4-Bromofluorobenzene	400.08	398.37	401.79	400.63	397.39	399.41	398.24	399.42	1.54	4.83		
199 Bromobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
200 1,1,2,2-Tetrachloroeth	5.29	4.87	4.83	5.03	4.55	5.02	5.21	4.97	0.25	0.78	5.0	
201 Propylbenzene	5.03	5.10	5.32	5.00	5.00	4.75	5.29	5.07	0.19	0.61	5.0	
202 1,2,3-Trichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
203 trans-1,4-Dichloro-2-b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
204 2-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
205 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
206 4-Ethyltoluene	5.30	5.12	5.00	5.04	4.64	6.15	5.53	5.26	0.48	1.50	5.0	
207 1,3,5-Trimethylbenzene	5.01	4.96	4.76	4.78	4.70	4.22	4.90	4.76	0.27	0.83	5.0	
208 4-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
209 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
210 tert-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
211 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
212 1,2,4-Trimethylbenzene	4.66	5.02	4.89	4.96	5.04	4.80	5.61	5.00	0.30	0.95	5.0	
213 Tridecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
214 sec-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
215 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
216 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
217 bis(2-Chloroethyl) Eth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
218 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
219 1,3-Dichlorobenzene	6.09	6.25	6.21	5.83	5.94	5.66	6.33	6.04	0.24	0.77	5.0	
220 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
221 1,4-Dichlorobenzene	6.69	6.39	6.17	6.54	6.23	6.19	6.87	6.44	0.27	0.85	5.0	
222 1,2,3-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
223 alpha-Chlorotoluene	3.46	3.92	3.56	3.25	3.99	3.15	3.83	3.59	0.33	1.04	5.0	1.17
224 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
225 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
226 Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
227 1,2-Dichlorobenzene	6.67	6.00	6.19	5.60	5.60	6.31	5.93	6.04	0.39	1.21	5.0	
228 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
229 1,2-Dibromo-3-chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL
230 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
231 1,3,5-Triethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
232 2-Methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
233 1,2,4-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
234 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
235 Naphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
236 Acenaphthylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
237 Phenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
238 Anthracene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
M 239 1,2-Dichloroethene (To	2604.71	2600.82	2612.57	2612.51	2593.24	2601.29	2603.17	2604.04	6.83	21.48
M 240 Chlorobutane (Total)	2604.71	2600.82	2612.57	2612.51	2593.24	2601.29	2603.17	2604.04	6.83	21.48
M 241 Total Xylene	2604.71	2600.82	2612.57	2612.51	2593.24	2601.29	2603.17	2604.04	6.83	21.48
M 242 3 and 4-Ethyltoluene	2604.71	2600.82	2612.57	2612.51	2593.24	2601.29	2603.17	2604.04	6.83	21.48
243 Total Volatile Hydroca	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
244 TPH reference to Hexan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
245 TPH reference to Hepta	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
246 TPH reference to Gasol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
247 TPH reference MineralS	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
248 TPH reference to Stodd	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
249 TVOC reference to Hexa	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
250 TVOC reference to Hept	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
251 TVOC reference to Tolu	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
252 TVOC reference to Tolu	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
253 NMOC reference to Hexa	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL
254 NMOC reference to Hept	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 NMOC reference to Tolu	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
257 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C5 - C6 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C6-C8 Aliphatic ref He	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
266 C8-C10 Aliphatic ref D	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C10-C12 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C8-C10 Aromatic ref 1,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
271 C10-C12 Aromatic 1,2,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
272 C10-C12 Aromatic Naph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

MSD-14 5+20 TO-15 20ppbv MDL
Loaded @ 5.0mL of 3018-594
200ppbv → 20ppbv

Report Date : 19-Feb-2019 06:24

US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07
FILENAME:	14021116	14021117	14021118	14021210	14021211	14021310	14021311
INJ.DATE:	11-FEB-2019	11-FEB-2019	11-FEB-2019	12-FEB-2019	12-FEB-2019	13-FEB-2019	13-FEB-2019
INJ.TIME:	20:44	21:18	21:49	13:56	14:25	10:56	11:42

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	(PPBV) R.L.	Blank
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
2 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
3 Hexafluoropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
4 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
5 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
6 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
7 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
8 Freon 134a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
9 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
10 Propylene	20.19	18.72	16.73	18.96	18.49	17.85	17.76	18.38	1.09	3.42	20	
11 Freon 12	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
12 Chlorodifluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
13 Freon 114	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
14 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
15 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
16 Chloromethane	17.74	19.41	18.51	16.74	15.82	19.31	18.57	18.01	1.34	4.20	20	
17 Butane	14.44	15.35	18.40	13.48	12.50	13.55	14.83	14.65	1.91	5.99	20	

Reviewer 1 _____ Date: 2/19/19
Reviewer 2 _____ Date: 2/19/19

$\bar{x} = 4.60$
$2\bar{x} = 9.20$

Ratio of the mean recovered concentrations and the MDL values are between 1 and 20.

MDL verification:

14021507, 3018-594
10ppbv (200ppbv)
@ 2.5mL

Report Date : 19-Feb-2019 06:24

US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

(PPBV)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
18 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
19 Vinyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
20 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
21 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
22 trans-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
23 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
24 cis-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
25 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
26 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
27 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
28 Methanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
29 3-Methyl-1-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
30 Bromomethane	9.77	15.86	12.86	15.94	16.41	11.09	16.82	14.11	2.84	8.94	20	
31 Chloroethane	12.16	13.59	11.33	14.61	16.08	11.83	15.18	13.54	1.83	5.74	20	
32 Isopentane	16.90	17.48	18.36	17.00	16.50	15.90	17.00	17.02	0.77	2.42	20	
33 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
34 Freon 11	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
35 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
36 Dichlorofluoromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
37 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
38 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
39 Freon 123a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
40 2-Methyl-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
41 trans-2-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
42 Ethanol	16.06	18.14	17.04	15.64	14.43	16.17	14.17	15.95	1.39	4.38	20	
43 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
44 Isoprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
45 1,2-Dichloro-1-fluoroe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
46 cis-2-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
47 Acrolein	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
48 Freon 123	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
49 Freon 113	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
50 Methyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
51 1,1-Dichloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
52 2,2-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
53 Acetone	16.58	15.62	15.48	15.76	17.03	17.48	14.88	16.12	0.93	2.92	20	
54 Iodomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
55 Carbon Disulfide	17.14	16.91	18.52	16.47	16.76	15.26	16.56	16.80	0.97	3.04	20	
56 2-Propanol	16.14	15.73	15.64	14.73	13.81	15.03	14.48	15.08	0.81	2.55	20	
57 Bromoethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
58 4-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
59 3-Chloropropene	10.63	12.23	12.75	14.00	10.06	11.74	12.91	12.04	1.36	4.28	20	
60 Cyclopentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
61 3-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
62 2-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
63 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
64 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
65 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
66 Methylene Chloride	18.60	19.53	18.70	17.78	18.83	16.57	17.54	18.22	0.98	3.10	20	
67 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
68 tert-Butyl alcohol	16.57	16.26	15.93	14.89	15.18	15.09	16.03	15.71	0.65	2.04	20	
69 Methyl tert-butyl ethe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
70 2-Methyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
71 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
72 tert-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
73 trans-1,2-Dichloroethe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
74 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
75 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
76 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
77 Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
78 trans-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
79 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
80 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
81 cis-2-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
82 Isopropyl ether	16.55	16.73	16.43	14.95	15.69	15.31	15.04	15.81	0.75	2.36	20	
83 1,1-Dichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
84 Vinyl Acetate	13.79	13.53	14.72	11.20	16.12	12.92	15.36	13.95	1.64	5.15	20	
85 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
86 1-Propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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	Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
	87 Ethyl-tert-butyl ether	16.55	16.61	17.35	14.84	15.39	15.04	15.70	15.93	0.93	2.92	20	
	88 Butanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	89 2,2-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	90 Isobutyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	91 cis-1,2-Dichloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	92 2-Butanone	17.41	15.85	15.27	14.95	13.24	13.32	13.57	14.80	1.54	4.85	20	
	93 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	94 Methyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	95 Methacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	96 Tetrahydrofuran	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
*	97 Bromochloromethane	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.00	0.00		
	98 Chloroacetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	99 2-Chloropentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	100 Chloroform	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	101 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	102 1-Bromopropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	103 Cyclohexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	104 1,1,1-Trichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	105 n-Butylchloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	106 Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	107 3-Methylhexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	108 Carbon Tetrachloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	109 1,1-Dichloropropene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
	110 2-Methylhexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
111 1-Methoxy-2-propanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
112 1-Heptene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
113 2,3-Dichloro-1-propene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
114 Thiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
$ 115 Benzene-d6	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
116 Isobutanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
117 2,2,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
118 Benzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
$ 119 1,2-Dichloroethane-d4	383.00	375.12	377.52	384.13	375.81	372.84	393.78	380.32	7.23	22.73		
120 tert-Amyl methyl ether	16.82	16.48	16.22	14.37	14.52	14.13	14.90	15.35	1.12	3.52	20	
121 1,2-Dichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
122 Bromodichloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
123 3-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
124 Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
125 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
126 2-Methylheptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
* 127 1,4-Difluorobenzene	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.00	0.00		
128 n-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
129 Trichloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
130 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
131 bis(chloromethyl) Ethe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
132 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
133 Methylcyclohexane	18.42	17.91	17.44	15.42	15.48	16.31	16.92	16.84	1.16	3.66	20	
134 Ethyl acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
135 1-Octene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
136 2-Chloroethyl Vinyl Et	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
137 2-Pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
138 1,2-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
139 1,4-Dioxane	18.75	17.92	18.34	13.96	16.70	15.25	16.08	16.72	1.75	5.50	20	
140 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
141 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
142 Dibromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
143 1-Chloro-2-Bromopropan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
144 Bromodichloromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
145 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
146 Vinyl Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
147 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
148 Bromodichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
149 1-Chlorohexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
150 Butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
151 cis-1,3-Dichloropropen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
152 Dimethyl Disulfide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
153 1-Nonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
154 4-Methyl-2-pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
$ 155 Toluene-d8	382.86	380.59	375.56	374.50	377.04	380.86	376.68	378.30	3.13	9.84		
156 Toluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
157 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
158 3-Methyl-2-pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
159 1-Decene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
160 trans-1,3-Dichloroprop	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
161 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
162 1,1,2-Trichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
163 Tetrachloroethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
164 1,3-Dichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
165 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
166 2-Hexanone	16.39	18.77	17.78	12.10	14.86	13.83	13.87	15.37	2.38	7.48	20	
167 1,4-Dichloro-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
168 Butyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
169 Dibromochloromethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
170 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
171 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
172 alpha Methyl Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
173 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
174 Isobutylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
175 Benzaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
176 1,2-Dibromoethane (EDB	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
177 2-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
178 1-Undecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
* 179 Chlorobenzene-d5	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.00	0.00		
180 Chlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
181 Ethyl Benzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
182 1,1,1,2-Tetrachloroeth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL
183 Nonane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
184 m,p-Xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
185 4-Ethyl-1,2-dimethylbe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
186 1,3-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
187 1,4-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
188 1,2,4,5-tetramethylben	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
189 o-Xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
190 Styrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
191 1-Dodecene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
192 2-Heptanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
193 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
194 Bromoform	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
195 alpha-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
196 Cumene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
197 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 198 4-Bromofluorobenzene	378.67	389.76	384.80	392.82	387.37	387.95	394.22	387.94	5.21	16.36
199 Bromobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
200 1,1,2,2-Tetrachloroeth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
201 Propylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
202 1,2,3-Trichloropropane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
203 trans-1,4-Dichloro-2-b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
204 2-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
205 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/11FEB19.b/14950201a.m
Batch File: /chem/msd14.i/11FEB19.b
Inst ID: msd14.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL
206 4-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
207 1,3,5-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
208 4-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
209 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
210 tert-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
211 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
212 1,2,4-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
213 Tridecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
214 sec-Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
215 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
216 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
217 bis(2-Chloroethyl) Eth	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
218 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
219 1,3-Dichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
220 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
221 1,4-Dichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
222 1,2,3-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
223 alpha-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
224 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
225 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
226 Butylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
227 1,2-Dichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
228 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
229 1,2-Dibromo-3-chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Report Date : 19-Feb-2019 06:24

US32APPTV002
METHOD DETECTION LIMIT SUMMARY REPORT

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Inst ID: msd14.i

(ppbv)

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	R.L.	Blank
230 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
231 1,3,5-Triethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
232 2-Methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
233 1,2,4-Trichlorobenzene	14.81	19.99	19.71	13.65	18.71	15.39	18.47	17.25	2.57	8.08	20	
234 Hexachlorobutadiene	16.52	20.11	22.25	11.08	17.10	13.09	14.15	16.33	3.93	12.36	20	
235 Naphthalene	1.58	2.67	2.36	1.33	2.12	1.50	2.03	1.94	0.49	1.54	20	
236 Acenaphthylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
237 Phenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
238 Anthracene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
M 239 1,2-Dichloroethene (To	2715.05	2736.88	2725.99	2695.29	2702.04	2684.63	2727.52	2712.49	19.11	60.07		
M 240 Chlorobutane (Total)	2715.05	2736.88	2725.99	2695.29	2702.04	2684.63	2727.52	2712.49	19.11	60.07		
M 241 Total Xylene	2715.05	2736.88	2725.99	2695.29	2702.04	2684.63	2727.52	2712.49	19.11	60.07		
M 242 3 and 4-Ethyltoluene	2715.05	2736.88	2725.99	2695.29	2702.04	2684.63	2727.52	2712.49	19.11	60.07		
243 Total Volatile Hydroca	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
244 TPH reference to Hexan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
245 TPH reference to Hepta	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
246 TPH reference to Gasol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
247 TPH reference MineralS	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
248 TPH reference to Stodd	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
249 TVOC reference to Hexa	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
250 TVOC reference to Hept	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
251 TVOC reference to Tolu	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
252 TVOC reference to Tolu	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
253 NMOC reference to Hexa	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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Inst ID: msd14.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL
254 NMOC reference to Hept	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
255 NMOC reference to Tolu	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
256 C3 - C4 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
257 C4 - C5 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
258 C5 - C6 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
259 C6 - C7 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
260 C7 - C8 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
261 C8 - C9 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
262 C9 - C10 Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
263 C10+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
264 C5 - C6 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
265 C6-C8 Aliphatic ref He	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
266 C8-C10 Aliphatic ref D	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
267 C10-C12 Aliphatic ref	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
268 C8-C10 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
269 C8-C10 Aromatic ref 1,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
270 C10-C12 Aromatic	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
271 C10-C12 Aromatic 1,2,	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
272 C10-C12 Aromatic Naph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

MSD-14 5+20 TO-15 MDL Blank

Blank_MDL.rp

Report Date : 15-FEB-2019 09:41

US32APPTV002

SPIKED METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/13FEB19.b/14950201a.m

Batch File: /chem/msd14.i/13FEB19.b

Instrument Names: msd14.i

Student T 3.143 for 7 Replicates with 99% Confidence

Spiked ID(s) _____ Spiked Vol(s) _____

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07
FILENAME:	14021107c	14021108	14021109	14021205c	14021206	14021305a	14021306
INJ.DATE:	11-FEB-2019	11-FEB-2019	11-FEB-2019	12-FEB-2019	12-FEB-2019	13-FEB-2019	13-FEB-2019
INJ.TIME:	14:55	15:38	16:15	11:19	12:17	08:33	08:58

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	SPK AMT	RL	RATIO	MDL		
1 Propylene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
2 Freon 12	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000		
3 Freon 114	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000		
4 Chloromethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
5 Butane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
6 Vinyl Chloride	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000		
7 1,3-Butadiene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000		
8 Bromomethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
9 Chloroethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
10 Isopentane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
11 Freon 11	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000		
12 Ethanol	2.06	2.19	1.48	0.000000	0.000000	1.38	0.000000	1.02	0.993	0.000000	20.00	0.325	3.12	Ratio 1 to 20	Failed 2,19
13 Freon 113	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000		
14 1,1-Dichloroethene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000		
15 Acetone	0.994	0.698	0.000000	2.27	0.000000	0.000000	0.000000	0.565	0.853	0.000000	20.00	0.211	2.68	Ratio 1 to 20	Failed 2,27
16 Carbon Disulfide	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
17 2-Propanol	0.194	0.176	0.000000	0.438	0.000000	0.585	0.000000	0.199	0.233	0.000000	20.00	0.272	0.732	Ratio 1 to 20	Failed 0,585
18 3-Chloropropene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
19 Methylene Chloride	0.633	0.920	0.000000	0.430	0.356	0.221	0.000000	0.366	0.335	0.000000	20.00	0.348	1.05	Ratio 1 to 20	Failed 0,920
20 tert-Butyl alcohol	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000		
21 Methyl tert-butyl ether	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000		

Reviewer 1 _____ Date: 2/18/19

Reviewer 2 _____ Date: 2/15/19

Report Date : 15-FEB-2019 09:41

US32APPTV002

SPIKED METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msd14.i/13FEB19.b/14950201a.m

Batch File: /chem/msd14.i/13FEB19.b

Instrument Names: msd14.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	SPK AMT	RL	RATIO	MDL	
22 trans-1,2-Dichloroethene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
23 Hexane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
24 Isopropyl ether	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000	
25 1,1-Dichloroethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
26 Vinyl Acetate	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000	
27 Ethyl-tert-butyl ether	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000	
28 cis-1,2-Dichloroethene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
29 2-Butanone	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000	
30 Tetrahydrofuran	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
* 31 Bromochloromethane	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.000000	0.000000	20.00	1.00	0.000000	
32 Chloroform	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
33 Cyclohexane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
34 1,1,1-Trichloroethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
35 Carbon Tetrachloride	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
36 2,2,4-Trimethylpentane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
37 Benzene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
$ 38 1,2-Dichloroethane-d4	380.05	387.42	380.78	385.66	391.95	377.90	390.02	384.83	5.36	0.000000	20.00	22.85	16.84	
39 tert-Amyl methyl ether	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000	
40 1,2-Dichloroethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
41 Heptane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
* 42 1,4-Difluorobenzene	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.000000	0.000000	20.00	1.00	0.000000	
43 Trichloroethene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
44 Methylcyclohexane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	20.00	1.00	0.000000	
45 1,2-Dichloropropane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
46 1,4-Dioxane	1.59	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.227	0.602	0.000000	20.00	0.120	1.89	Ratio 1 to 20 Failed
47 Bromodichloromethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
48 cis-1,3-Dichloropropene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
49 4-Methyl-2-pentanone	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	

Reviewer 1 _____ Date:_____

Reviewer 2 _____ Date:_____

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Instrument Names: msd14.i

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	SPK AMT	RL	RATIO	MDL	
$ 50 Toluene-d8	384.02	379.72	385.92	381.59	388.34	381.75	378.83	382.88	3.41	0.000000	20.00	35.75	10.71	
51 Toluene	0.219	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.0313	0.0829	0.000000	5.00	0.120	0.261	Ratio 1 to 20 Failed 0.219
52 trans-1,3-Dichloropropene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
53 1,1,2-Trichloroethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
54 Tetrachloroethene	1.76	1.50	1.27	0.000000	0.000000	0.000000	0.000000	0.647	0.820	0.000000	5.00	0.251	2.58	Ratio 1 to 20 Failed 1.76
55 2-Hexanone	1.41	0.000000	0.000000	1.31	0.000000	0.878	0.000000	0.514	0.662	0.000000	20.00	0.247	2.08	Ratio 1 to 20 Failed 1.41
56 Dibromochloromethane	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
57 1,2-Dibromoethane (EDB)	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
* 58 Chlorobenzene-d5	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	0.000000	0.000000	20.00	1.00	0.000000	
59 Chlorobenzene	0.222	0.000000	0.000000	0.0792	0.000000	0.000000	0.000000	0.0430	0.0842	0.000000	5.00	0.163	0.265	Ratio 1 to 20 Failed 0.222
60 Ethyl Benzene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
61 m,p-Xylene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
62 o-Xylene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
63 Styrene	0.233	0.000000	0.000000	0.213	0.000000	0.000000	0.000000	0.0637	0.109	0.000000	5.00	0.186	0.342	Ratio 1 to 20 Failed 0.233
64 Bromoform	0.284	0.000000	0.000000	0.342	0.000000	0.277	0.000000	0.129	0.162	0.000000	5.00	0.253	0.510	Ratio 1 to 20 Failed 0.342
65 Cumene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
$ 66 4-Bromofluorobenzene	400.46	401.69	392.26	395.80	389.45	409.65	398.16	398.21	6.66	0.000000	20.00	19.03	20.93	
67 1,1,2,2-Tetrachloroethane	0.374	0.000000	0.000000	0.429	0.000000	0.458	0.000000	0.180	0.226	0.000000	5.00	0.254	0.711	Ratio 1 to 20 Failed 0.458
68 Propylbenzene	0.000000	0.000000	0.000000	0.000000	0.000000	0.240	0.000000	0.0342	0.0906	0.000000	5.00	0.120	0.285	Ratio 1 to 20 Failed 0.240
69 4-Ethyltoluene	0.000000	0.000000	0.000000	0.000000	0.000000	0.108	0.000000	0.0154	0.0407	0.000000	5.00	0.120	0.128	Ratio 1 to 20 Failed 0.108
70 1,3,5-Trimethylbenzene	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	5.00	1.00	0.000000	
71 1,2,4-Trimethylbenzene	0.000000	0.000000	0.000000	0.255	0.000000	0.000000	0.000000	0.0365	0.0965	0.000000	5.00	0.120	0.303	Ratio 1 to 20 Failed 0.255
72 1,3-Dichlorobenzene	0.566	0.000000	0.000000	0.417	0.000000	0.469	0.000000	0.207	0.262	0.000000	5.00	0.252	0.824	Ratio 1 to 20 Failed 0.566
73 1,4-Dichlorobenzene	0.486	0.000000	0.000000	0.490	0.000000	0.546	0.000000	0.217	0.272	0.000000	5.00	0.254	0.855	Ratio 1 to 20 Failed 0.546
74 alpha-Chlorotoluene	1.17	0.000000	0.000000	0.811	0.000000	0.863	0.000000	0.407	0.519	0.000000	5.00	0.249	1.63	Ratio 1 to 20 Failed 1.17
75 1,2-Dichlorobenzene	0.580	0.000000	0.000000	0.643	0.000000	0.567	0.000000	0.256	0.320	0.000000	5.00	0.254	1.01	Ratio 1 to 20 Failed 0.643
76 1,2,4-Trichlorobenzene	4.31	0.798	0.000000	3.85	0.000000	4.31	0.995	2.04	2.02	0.000000	20.00	0.321	6.36	Ratio 1 to 20 Failed 4.31
77 Hexachlorobutadiene	1.49	0.000000	0.000000	1.34	0.000000	2.32	0.000000	0.735	0.967	0.000000	20.00	0.242	3.04	Ratio 1 to 20 Failed 2.32
78 Naphthalene	0.983	0.000000	0.000000	1.04	0.000000	1.26	0.193	0.496	0.569	0.000000	20.00	0.277	1.79	Ratio 1 to 20 Failed 1.26

EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	CCV		
Lab ID:	1908555-20A	**Date/Time Analyzed:**	8/29/19 08:30 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd14.i / 14082902a

Compound	CAS#	%Recovery
Tetrachloroethene	127-18-4	97
Trichloroethene	79-01-6	97

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	99
4-Bromofluorobenzene	460-00-4	83-110	100
Toluene-d8	2037-26-5	86-115	100

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 29-AUG-2019 08:30
Lab File ID: 14082902a.d Init. Cal. Date(s): 21-AUG-2019 22-AUG-2019
Analysis Type: AIR Init. Cal. Times: 17:39 12:26
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd14.i/29AUG19.b/14950821a.m

COMPOUND	RRF / AMOUNT	RF200	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 119 1,2-Dichloroethane-d4	1.28664	1.27785	0.010	0.68314	30.00000	Averaged	
$ 155 Toluene-d8	1.01751	1.02141	0.010	-0.38344	30.00000	Averaged	
$ 198 4-Bromofluorobenzene	0.60008	0.60186	0.010	-0.29549	30.00000	Averaged	
10 Propylene	0.87258	0.76393	0.010	12.45182	30.00000	Averaged	
11 Freon 12	3.15498	2.94122	0.010	6.77556	30.00000	Averaged	
13 Freon 114	2.72478	2.61160	0.010	4.15368	30.00000	Averaged	
16 Chloromethane	0.90333	0.87923	0.010	2.66750	30.00000	Averaged	
17 Butane	0.26883	0.25145	0.010	6.46774	40.00000	Averaged	
19 Vinyl Chloride	1.30248	1.24437	0.010	4.46142	30.00000	Averaged	
25 1,3-Butadiene	0.98141	0.89747	0.010	8.55350	30.00000	Averaged	
30 Bromomethane	0.77707	0.51379	0.010	33.88163	30.00000	Averaged	<-
31 Chloroethane	0.54239	0.44034	0.010	18.81385	30.00000	Averaged	
32 Isopentane	1.04176	1.23909	0.010	-18.94187	40.00000	Averaged	
34 Freon 11	3.39567	3.55762	0.010	-4.76919	30.00000	Averaged	
42 Ethanol	0.40856	0.45566	0.010	-11.53007	30.00000	Averaged	
49 Freon 113	2.55142	2.51337	0.010	1.49121	30.00000	Averaged	
51 1,1-Dichloroethene	2.20397	2.29530	0.010	-4.14360	30.00000	Averaged	
53 Acetone	0.61489	0.61330	0.010	0.25819	30.00000	Averaged	
55 Carbon Disulfide	4.03706	3.77796	0.010	6.41807	30.00000	Averaged	
56 2-Propanol	1.91220	1.97949	0.010	-3.51925	30.00000	Averaged	
59 3-Chloropropene	0.50828	0.35454	0.010	30.24686	30.00000	Averaged	<-
66 Methylene Chloride	1.37237	1.37779	0.010	-0.39450	30.00000	Averaged	
68 tert-Butyl alcohol	2.67651	1.43441	0.010	46.40761	40.00000	Averaged	<-
69 Methyl tert-butyl ether	3.84959	3.29638	0.010	14.37071	30.00000	Averaged	
73 trans-1,2-Dichloroethene	1.41181	1.33801	0.010	5.22727	30.00000	Averaged	
77 Hexane	2.19482	2.11689	0.010	3.55063	30.00000	Averaged	
82 Isopropyl ether	4.12715	4.13826	0.010	-0.26916	40.00000	Averaged	
83 1,1-Dichloroethane	2.54196	2.37935	0.010	6.39681	30.00000	Averaged	
84 Vinyl Acetate	0.40709	0.37224	0.010	8.56027	30.00000	Averaged	
87 Ethyl-tert-butyl ether	4.93517	4.75662	0.010	3.61789	40.00000	Averaged	
91 cis-1,2-Dichloroethene	2.06061	2.13294	0.010	-3.50991	30.00000	Averaged	
92 2-Butanone	0.75915	0.69496	0.010	8.45568	30.00000	Averaged	
96 Tetrahydrofuran	1.44767	1.30498	0.010	9.85634	30.00000	Averaged	
100 Chloroform	3.00363	2.88940	0.010	3.80283	30.00000	Averaged	
103 Cyclohexane	2.05973	2.04314	0.010	0.80562	30.00000	Averaged	
104 1,1,1-Trichloroethane	3.09548	3.01065	0.010	2.74035	30.00000	Averaged	

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 29-AUG-2019 08:30
Lab File ID: 14082902a.d Init. Cal. Date(s): 21-AUG-2019 22-AUG-2019
Analysis Type: AIR Init. Cal. Times: 17:39 12:26
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd14.i/29AUG19.b/14950821a.m

COMPOUND	RRF / AMOUNT	RF200	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
108 Carbon Tetrachloride	3.18520	3.13832	0.010	1.47154	30.00000	Averaged
117 2,2,4-Trimethylpentane	7.04656	7.06295	0.010	-0.23250	30.00000	Averaged
118 Benzene	1.18764	1.16632	0.010	1.79468	30.00000	Averaged
120 tert-Amyl methyl ether	4.83200	4.51924	0.010	6.47269	40.00000	Averaged
121 1,2-Dichloroethane	0.54668	0.55739	0.010	-1.95845	30.00000	Averaged
124 Heptane	0.44278	0.39674	0.010	10.39919	30.00000	Averaged
129 Trichloroethene	0.54457	0.52875	0.010	2.90374	30.00000	Averaged
133 Methylcyclohexane	0.74971	0.71694	0.010	4.37101	40.00000	Averaged
138 1,2-Dichloropropane	0.45176	0.43738	0.010	3.18158	30.00000	Averaged
139 1,4-Dioxane	0.28936	0.28456	0.010	1.65729	30.00000	Averaged
144 Bromodichloromethane	0.84624	0.85343	0.010	-0.84850	30.00000	Averaged
151 cis-1,3-Dichloropropene	0.73517	0.68778	0.010	6.44692	30.00000	Averaged
154 4-Methyl-2-pentanone	0.17973	0.16104	0.010	10.39915	30.00000	Averaged
156 Toluene	1.55657	1.49762	0.010	3.78735	30.00000	Averaged
160 trans-1,3-Dichloropropene	0.73732	0.67286	0.010	8.74216	30.00000	Averaged
162 1,1,2-Trichloroethane	0.56878	0.54418	0.010	4.32555	30.00000	Averaged
163 Tetrachloroethene	0.81194	0.78629	0.010	3.15849	30.00000	Averaged
166 2-Hexanone	0.51926	0.50239	0.010	3.24823	30.00000	Averaged
169 Dibromochloromethane	1.10059	1.04359	0.010	5.17904	30.00000	Averaged
176 1,2-Dibromoethane (EDB)	0.92219	0.88271	0.010	4.28060	30.00000	Averaged
180 Chlorobenzene	1.40014	1.33018	0.010	4.99645	30.00000	Averaged
181 Ethyl Benzene	0.70097	0.68220	0.010	2.67832	30.00000	Averaged
184 m,p-Xylene	0.86213	0.80768	0.010	6.31560	30.00000	Averaged
189 o-Xylene	0.79812	0.78188	0.010	2.03508	30.00000	Averaged
190 Styrene	1.25497	1.29110	0.010	-2.87893	30.00000	Averaged
194 Bromoform	0.99591	0.94586	0.010	5.02576	30.00000	Averaged
196 Cumene	2.52331	2.39237	0.010	5.18913	30.00000	Averaged
200 1,1,2,2-Tetrachloroethane	1.27152	1.21631	0.010	4.34186	30.00000	Averaged
201 Propylbenzene	2.75539	2.63858	0.010	4.23946	30.00000	Averaged
206 4-Ethyltoluene	2.16996	2.08516	0.010	3.90823	30.00000	Averaged
207 1,3,5-Trimethylbenzene	1.96680	2.06979	0.010	-5.23627	30.00000	Averaged
212 1,2,4-Trimethylbenzene	1.58621	1.51392	0.010	4.55734	30.00000	Averaged
219 1,3-Dichlorobenzene	1.36879	1.32199	0.010	3.41909	30.00000	Averaged
221 1,4-Dichlorobenzene	1.32418	1.30523	0.010	1.43110	30.00000	Averaged
223 alpha-Chlorotoluene	1.67294	1.60865	0.010	3.84275	30.00000	Averaged

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 29-AUG-2019 08:30
Lab File ID: 14082902a.d Init. Cal. Date(s): 21-AUG-2019 22-AUG-2019
Analysis Type: AIR Init. Cal. Times: 17:39 12:26
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd14.i/29AUG19.b/14950821a.m

COMPOUND	RRF / AMOUNT	RF200	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
227 1,2-Dichlorobenzene	1.24025	1.23075	0.010	0.76575	30.00000	Averaged
233 1,2,4-Trichlorobenzene	0.53592	0.43827	0.010	18.21987	30.00000	Averaged
234 Hexachlorobutadiene	0.38991	0.35608	0.010	8.67856	30.00000	Averaged
235 Naphthalene	1.02295	0.86965	0.010	14.98595	40.00000	Averaged

Average %D / Drift Results.
Calculated Average %D/Drift = 6.48636
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem1/msd14.i/29AUG19.b/14082902a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 29-AUG-2019 08:30
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #3018-909
Misc Info : 200ppbv (200ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem/msd14.i/29AUG19.b/14950821a.m
Meth Date : 29-Aug-2019 08:50 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: Cont010120.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	76060	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	57737			46.63- 106.63	75.91
5.298	5.294 (1.000)	49	81404			70.93- 130.93	107.03
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	286922	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	46122			0.00- 45.07	16.08
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	262234	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	145708			24.37- 84.37	55.56
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	97193	400.000	397.27	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	54126			24.83- 84.83	55.69
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	293065	400.000	401.53	80.00- 120.00	100.00
8.461	8.459 (1.315)	70	31741			0.00- 41.24	10.83

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	189269			35.45- 95.45	64.58
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	157827	400.000	401.18	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	200573			91.49- 151.49	127.08
11.329	11.329 (1.098)	176	151108			65.46- 125.46	95.74
10 Propylene					CAS #: 115-07-1		
1.437	1.430 (0.271)	41	29052	200.000	175.10	80.00- 120.00	100.00
1.437	1.426 (0.271)	42	20208			37.53- 97.53	69.56
1.423	1.423 (0.269)	39	22599			47.16- 107.16	77.79
11 Freon 12					CAS #: 75-71-8		
1.465	1.460 (0.276)	85	111854	200.000	186.45	80.00- 120.00	100.00
1.465	1.462 (0.276)	87	34506			2.22- 62.22	30.85
13 Freon 114					CAS #: 76-14-2		
1.577	1.574 (0.298)	135	99319	200.000	191.69	80.00- 120.00	100.00
1.577	1.572 (0.298)	137	30993			1.53- 61.53	31.21
16 Chloromethane					CAS #: 74-87-3		
1.647	1.646 (0.311)	50	33437	200.000	194.66	80.00- 120.00	100.00
1.647	1.646 (0.311)	52	12645			6.04- 66.04	37.82
17 Butane					CAS #: 106-97-8		
1.731	1.722 (0.327)	58	9562	200.000	187.06	80.00- 120.00	100.00
1.731	1.722 (0.327)	43	56867			529.81- 589.81	594.69
19 Vinyl Chloride					CAS #: 75-01-4		
1.772	1.768 (0.335)	62	47323	200.000	191.08	80.00- 120.00	100.00
1.772	1.768 (0.335)	64	14765			3.29- 63.29	31.20
25 1,3-Butadiene					CAS #: 106-99-0		
1.786	1.777 (0.337)	54	34130	200.000	182.89	80.00- 120.00	100.00
1.786	1.777 (0.337)	39	33249			64.50- 124.50	97.42
30 Bromomethane					CAS #: 74-83-9		
2.122	2.125 (0.401)	94	19539	200.000	132.24	80.00- 120.00	100.00
2.122	2.125 (0.401)	96	18186			68.11- 128.11	93.08
31 Chloroethane					CAS #: 75-00-3		
2.248	2.245 (0.424)	64	16746	200.000	162.37	80.00- 120.00	100.00
2.248	2.251 (0.424)	66	5462			4.72- 64.72	32.62
32 Isopentane					CAS #: 78-78-4		
2.248	2.243 (0.424)	43	47122	200.000	237.88	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.243 (0.424)	57	38037			53.88- 113.88	80.72
2.248	2.248 (0.424)	72	4690			0.00- 40.86	9.95
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	135296	200.000	209.54	80.00- 120.00	100.00
2.458	2.461 (0.464)	103	88996			34.80- 94.80	65.78
42 Ethanol					CAS #: 64-17-5		
2.752	2.745 (0.519)	45	17328	200.000	223.06	80.00- 120.00	100.00
2.752	2.745 (0.519)	46	6590			7.83- 67.83	38.03
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	95583	200.000	197.02	80.00- 120.00	100.00
3.018	3.007 (0.570)	153	61166			35.43- 95.43	63.99
3.004	3.005 (0.567)	101	115834			91.24- 151.24	121.19
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.046	3.035 (0.575)	61	87290	200.000	208.29	80.00- 120.00	100.00
3.046	3.038 (0.575)	96	52462			32.67- 92.67	60.10
3.046	3.038 (0.575)	98	33087			10.54- 70.54	37.90
53 Acetone					CAS #: 67-64-1		
3.172	3.170 (0.599)	58	23323	200.000	199.48	80.00- 120.00	100.00
3.172	3.170 (0.599)	43	69163			259.09- 319.09	296.53
55 Carbon Disulfide					CAS #: 75-15-0		
3.256	3.250 (0.614)	76	143676	200.000	187.16	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.326	3.313 (0.628)	45	75280	200.000	207.04	80.00- 120.00	100.00
3.326	3.313 (0.628)	43	16420			0.00- 51.35	21.81
3.326	3.312 (0.628)	59	2972			0.00- 34.59	3.95
59 3-Chloropropene					CAS #: 107-05-1		
3.466	3.465 (0.654)	76	13483	200.000	139.51	80.00- 120.00	100.00
3.466	3.465 (0.654)	41	27563			162.76- 222.76	204.42
66 Methylene Chloride					CAS #: 75-09-2		
3.647	3.637 (0.688)	49	52397	200.000	200.79	80.00- 120.00	100.00
3.647	3.637 (0.688)	84	44516			63.99- 123.99	84.96
3.647	3.637 (0.688)	51	17303			0.02- 60.02	33.02
68 tert-Butyl alcohol					CAS #: 75-65-0		
3.745	3.745 (0.707)	59	54550	200.000	107.18	80.00- 120.00	100.00
3.745	3.745 (0.707)	41	9652			0.00- 47.07	17.69

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
68 tert-Butyl alcohol (continued)							
3.745	3.742 (0.707)	57	5603			0.00- 39.91	10.27
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	125361	200.000	171.26	80.00- 120.00	100.00
3.843	3.842 (0.725)	57	29499			0.00- 53.23	23.53
3.843	3.840 (0.725)	41	26594			0.00- 48.43	21.21
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	50884	200.000	189.54	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	71772			107.35- 167.35	141.05
3.871	3.871 (0.731)	98	32289			33.11- 93.11	63.46
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	80505	200.000	192.90	80.00- 120.00	100.00
4.081	4.081 (0.770)	43	45283			23.47- 83.47	56.25
4.081	4.084 (0.770)	86	13976			0.00- 49.00	17.36
82 Isopropyl ether					CAS #: 108-20-3		
4.361	4.361 (0.823)	45	157378	200.000	200.54	80.00- 120.00	100.00(A)
4.361	4.361 (0.823)	87	51142			5.22- 65.22	32.50
4.361	4.361 (0.823)	59	21762			0.00- 43.54	13.83
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.376 (0.826)	63	90487	200.000	187.21	80.00- 120.00	100.00
4.375	4.380 (0.826)	65	27882			2.01- 62.01	30.81
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	14156	200.000	182.88	80.00- 120.00	100.00
4.431	4.431 (0.836)	43	144536			834.16- 894.16	1021.00
4.431	4.431 (0.836)	42	14545			70.06- 130.06	102.75
87 Ethyl-tert-butyl ether					CAS #: 637-92-3		
4.753	4.753 (0.897)	59	180894	200.000	192.76	80.00- 120.00	100.00
4.753	4.753 (0.897)	87	75603			13.01- 73.01	41.79
4.753	4.753 (0.897)	41	30625			0.00- 45.61	16.93
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.019	5.019 (0.947)	61	81115	200.000	207.02	80.00- 120.00	100.00
5.033	5.025 (0.950)	96	61202			48.23- 108.23	75.45
5.033	5.026 (0.950)	98	39513			21.56- 81.56	48.71
92 2-Butanone					CAS #: 78-93-3		
5.061	5.063 (0.955)	72	26429	200.000	183.09	80.00- 120.00	100.00
5.061	5.060 (0.955)	43	87861			263.34- 323.34	332.44
5.061	5.063 (0.955)	57	8766			0.72- 60.72	33.17

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	49628	200.000	180.29	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	23609			23.22- 83.22	47.57
5.284	5.284 (0.997)	72	25713			25.49- 85.49	51.81
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	109884	200.000	192.39	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	74001			36.07- 96.07	67.35
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	77700	200.000	198.39	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	84146			77.00- 137.00	108.30
5.480	5.480 (1.034)	41	44388			24.48- 84.48	57.13
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.508	5.514 (1.040)	97	114495	200.000	194.52	80.00- 120.00	100.00
5.522	5.514 (1.042)	99	74867			34.24- 94.24	65.39
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	119350	200.000	197.06	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	125667			73.64- 133.64	105.29
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	268604	200.000	200.46	80.00- 120.00	100.00
5.900	5.905 (1.114)	56	86269			2.41- 62.41	32.12
5.900	5.902 (1.114)	41	66968			0.00- 53.81	24.93
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	167322	200.000	196.41	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	40705			0.00- 54.09	24.33
120 tert-Amyl methyl ether					CAS #: 994-05-8		
6.026	6.026 (1.137)	73	171867	200.000	187.05	80.00- 120.00	100.00
6.026	6.026 (1.137)	87	40889			0.00- 53.84	23.79
6.026	6.026 (1.137)	55	40921			0.00- 51.48	23.81
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.040	6.042 (0.939)	62	79963	200.000	203.92	80.00- 120.00	100.00
6.054	6.052 (0.941)	64	26331			3.21- 63.21	32.93
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.954)	71	56916	200.000	179.20	80.00- 120.00	100.00
6.138	6.135 (0.954)	43	73950			90.25- 150.25	129.93
6.138	6.136 (0.954)	100	17864			0.00- 58.91	31.39
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.037)	95	75855	200.000	194.19	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
129 Trichloroethene (continued)							
6.670	6.671 (1.037)	130	82739			78.88- 138.88	109.07
6.670	6.671 (1.037)	97	50568			35.90- 95.90	66.66
133 Methylcyclohexane					CAS #: 108-87-2		
6.810	6.804 (1.059)	83	102852	200.000	191.26	80.00- 120.00	100.00
6.810	6.802 (1.059)	98	48241			16.99- 76.99	46.90
6.810	6.802 (1.059)	55	79987			43.70- 103.70	77.77
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	62747	200.000	193.64	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	43507			40.28- 100.28	69.34
7.019	7.019 (1.091)	41	34713			21.25- 81.25	55.32
139 1,4-Dioxane					CAS #: 123-91-1		
7.173	7.168 (1.115)	88	40823	200.000	196.68	80.00- 120.00	100.00
7.159	7.162 (1.113)	58	27887			38.82- 98.82	68.31
7.173	7.165 (1.115)	57	9254			0.00- 54.14	22.67
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.395 (1.150)	83	122433	200.000	201.70	80.00- 120.00	100.00
7.397	7.397 (1.150)	85	78008			35.00- 95.00	63.71
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	98669	200.000	187.11	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	31127			2.65- 62.65	31.55
8.097	8.094 (1.259)	39	51522			18.79- 78.79	52.22
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.377	8.374 (1.302)	85	23102	200.000	179.20	80.00- 120.00	100.00
8.377	8.374 (1.302)	43	119642			460.46- 520.46	517.87
8.377	8.374 (1.302)	58	51606			186.56- 246.56	223.38
156 Toluene					CAS #: 108-88-3		
8.573	8.580 (1.333)	91	214850	200.000	192.42	80.00- 120.00	100.00
8.573	8.579 (1.333)	92	121084			26.83- 86.83	56.36
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	88223	200.000	182.52	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	29249			2.27- 62.27	33.15
9.076	9.076 (0.879)	39	44726			17.57- 77.57	50.70
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	71351	200.000	191.35	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	44281			31.36- 91.36	62.06
9.314	9.314 (0.902)	83	62619			57.18- 117.18	87.76

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	103096	200.000	193.68	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	80613			46.86- 106.86	78.19
9.328	9.328 (0.904)	131	76770			46.25- 106.25	74.46
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	65872	200.000	193.50	80.00- 120.00	100.00
9.608	9.608 (0.931)	43	111103			132.92- 192.92	168.66
9.608	9.608 (0.931)	100	14156			0.00- 52.05	21.49
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	136833	200.000	189.64	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	104478			47.27- 107.27	76.35
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	115739	200.000	191.44	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	109099			62.36- 122.36	94.26
180 Chlorobenzene					CAS #: 108-90-7		
10.349	10.349 (1.003)	112	174410	200.000	190.01	80.00- 120.00	100.00
10.349	10.349 (1.003)	114	55935			1.61- 61.61	32.07
10.349	10.347 (1.003)	77	100209			26.63- 86.63	57.46
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	89447	200.000	194.64	80.00- 120.00	100.00
10.433	10.429 (1.011)	91	280126			276.73- 336.73	313.17
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	105900	200.000	187.37	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	214089			166.48- 226.48	202.16
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	102518	200.000	195.93	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	217992			183.14- 243.14	212.64
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	169285	200.000	205.76	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	81836			17.49- 77.49	48.34
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	124018	200.000	189.95	80.00- 120.00	100.00
11.091	11.091 (1.075)	171	62230			21.78- 81.78	50.18
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	313681	200.000	189.62	80.00- 120.00	100.00
11.175	11.177 (1.083)	120	87110			0.00- 57.49	27.77

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
196 Cumene (continued)							
11.175	11.175 (1.083)	51	30977			0.00- 38.96	9.88
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	159479	200.000	191.32	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	101948			35.12- 95.12	63.93
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	345963	200.000	191.52	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	83989			0.00- 54.39	24.28
11.483	11.480 (1.113)	105	12729			0.00- 33.66	3.68
206 4-Ethyltoluene					CAS #: 622-96-8		
11.567	11.562 (1.121)	105	273400	200.000	192.18	80.00- 120.00	100.00
11.567	11.564 (1.121)	120	84164			0.69- 60.69	30.78
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	271385	200.000	210.47	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	126130			16.81- 76.81	46.48
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.847	11.847 (1.148)	105	198501	200.000	190.88	80.00- 120.00	100.00
11.847	11.847 (1.148)	120	90262			16.57- 76.57	45.47
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.043	12.042 (1.167)	146	173335	200.000	193.16	80.00- 120.00	100.00
12.043	12.042 (1.167)	148	110867			32.90- 92.90	63.96
12.043	12.042 (1.167)	111	68262			9.17- 69.17	39.38
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	171138	200.000	197.14	80.00- 120.00	100.00
12.098	12.098 (1.172)	148	107716			35.22- 95.22	62.94
12.098	12.098 (1.172)	111	64757			7.96- 67.96	37.84
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	210921	200.000	192.31	80.00- 120.00	100.00
12.182	12.189 (1.180)	126	45897			0.00- 51.56	21.76
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	161372	200.000	198.47	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	102533			33.30- 93.30	63.54
12.322	12.322 (1.194)	111	65047			10.19- 70.19	40.31
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	57465	200.000	163.56	80.00- 120.00	100.00
13.162	13.162 (1.275)	182	55536			67.17- 127.17	96.64

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.204 (1.279)	225	46687	200.000	182.64	80.00- 120.00	100.00
13.204	13.204 (1.279)	223	30433			31.62- 91.62	65.19
235 Naphthalene					CAS #: 91-20-3		
13.302	13.295 (1.289)	128	11402	20.0000	17.003	80.00- 120.00	100.00(a)
13.302	13.290 (1.289)	127	1388			0.00- 45.62	12.17

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.

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082902a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem/msd14.i/29AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	76060	0.00
127 1,4-Difluorobenze	286922	172153	401691	286922	0.00
179 Chlorobenzene-d5	262234	157340	367128	262234	0.00

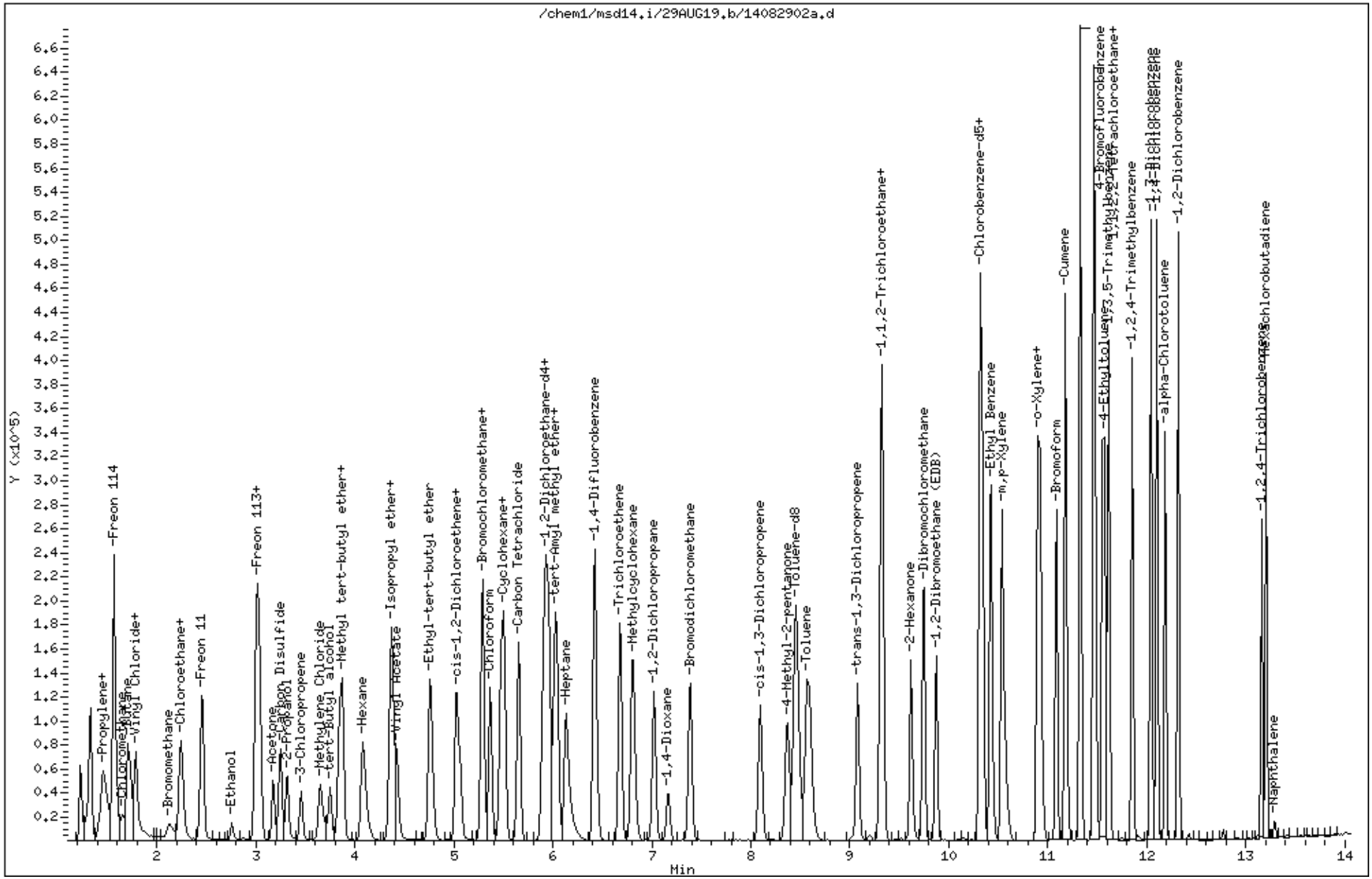
		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/29AUG19.b/14082902a.d
Date : 29-AUG-2019 08:30
Client ID: CCV
Sample Info: 50mL #3018-909

Instrument: msd14.i
Operator: AK
Column diameter: 0.18

Column phase: RTX-624



EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	CCV		
Lab ID:	1908555-20B	**Date/Time Analyzed:**	8/29/19 07:16 PM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd14.i / 14082927

Compound	CAS#	%Recovery
Tetrachloroethene	127-18-4	96
Trichloroethene	79-01-6	98

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	100
4-Bromofluorobenzene	460-00-4	83-110	98
Toluene-d8	2037-26-5	86-115	101

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 29-AUG-2019 19:16
Lab File ID: 14082927.d Init. Cal. Date(s): 21-AUG-2019 22-AUG-2019
Analysis Type: AIR Init. Cal. Times: 17:39 12:26
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem1/msd14.i/29AUG19.b/14950821a.m

COMPOUND	RRF / AMOUNT	RF200	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 119 1,2-Dichloroethane-d4	1.28664	1.28845	0.010	-0.14088	30.00000	Averaged
$ 155 Toluene-d8	1.01751	1.02382	0.010	-0.62016	30.00000	Averaged
$ 198 4-Bromofluorobenzene	0.60008	0.58835	0.010	1.95580	30.00000	Averaged
10 Propylene	0.87258	0.77720	0.010	10.93074	30.00000	Averaged
11 Freon 12	3.15498	3.15062	0.010	0.13836	30.00000	Averaged
13 Freon 114	2.72478	2.68574	0.010	1.43281	30.00000	Averaged
16 Chloromethane	0.90333	0.92985	0.010	-2.93554	30.00000	Averaged
17 Butane	0.26883	0.26388	0.010	1.84326	40.00000	Averaged
19 Vinyl Chloride	1.30248	1.27713	0.010	1.94573	30.00000	Averaged
25 1,3-Butadiene	0.98141	0.95749	0.010	2.43733	30.00000	Averaged
30 Bromomethane	0.77707	0.72228	0.010	7.05045	30.00000	Averaged
31 Chloroethane	0.54239	0.46103	0.010	15.00016	30.00000	Averaged
32 Isopentane	1.04176	1.30038	0.010	-24.82478	40.00000	Averaged
34 Freon 11	3.39567	3.65857	0.010	-7.74226	30.00000	Averaged
42 Ethanol	0.40856	0.45750	0.010	-11.97984	30.00000	Averaged
49 Freon 113	2.55142	2.59763	0.010	-1.81144	30.00000	Averaged
51 1,1-Dichloroethene	2.20397	2.34627	0.010	-6.45636	30.00000	Averaged
53 Acetone	0.61489	0.63179	0.010	-2.74786	30.00000	Averaged
55 Carbon Disulfide	4.03706	3.88950	0.010	3.65532	30.00000	Averaged
56 2-Propanol	1.91220	1.96360	0.010	-2.68824	30.00000	Averaged
59 3-Chloropropene	0.50828	0.43396	0.010	14.62101	30.00000	Averaged
66 Methylene Chloride	1.37237	1.42823	0.010	-4.07043	30.00000	Averaged
68 tert-Butyl alcohol	2.67651	2.21509	0.010	17.23987	40.00000	Averaged
69 Methyl tert-butyl ether	3.84959	3.85298	0.010	-0.08807	30.00000	Averaged
73 trans-1,2-Dichloroethene	1.41181	1.36991	0.010	2.96794	30.00000	Averaged
77 Hexane	2.19482	2.20800	0.010	-0.60041	30.00000	Averaged
82 Isopropyl ether	4.12715	4.10934	0.010	0.43164	40.00000	Averaged
83 1,1-Dichloroethane	2.54196	2.50825	0.010	1.32613	30.00000	Averaged
84 Vinyl Acetate	0.40709	0.39436	0.010	3.12720	30.00000	Averaged
87 Ethyl-tert-butyl ether	4.93517	4.92503	0.010	0.20531	40.00000	Averaged
91 cis-1,2-Dichloroethene	2.06061	2.19849	0.010	-6.69127	30.00000	Averaged
92 2-Butanone	0.75915	0.72692	0.010	4.24560	30.00000	Averaged
96 Tetrahydrofuran	1.44767	1.34494	0.010	7.09630	30.00000	Averaged
100 Chloroform	3.00363	2.99121	0.010	0.41348	30.00000	Averaged
103 Cyclohexane	2.05973	1.99761	0.010	3.01605	30.00000	Averaged
104 1,1,1-Trichloroethane	3.09548	3.11577	0.010	-0.65549	30.00000	Averaged

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 29-AUG-2019 19:16
Lab File ID: 14082927.d Init. Cal. Date(s): 21-AUG-2019 22-AUG-2019
Analysis Type: AIR Init. Cal. Times: 17:39 12:26
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem1/msd14.i/29AUG19.b/14950821a.m

COMPOUND	RRF / AMOUNT	RF200	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
108 Carbon Tetrachloride	3.18520	3.20568	0.010	-0.64314	30.00000	Averaged
117 2,2,4-Trimethylpentane	7.04656	7.18174	0.010	-1.91830	30.00000	Averaged
118 Benzene	1.18764	1.15590	0.010	2.67259	30.00000	Averaged
120 tert-Amyl methyl ether	4.83200	4.56162	0.010	5.59574	40.00000	Averaged
121 1,2-Dichloroethane	0.54668	0.54986	0.010	-0.58220	30.00000	Averaged
124 Heptane	0.44278	0.40073	0.010	9.49769	30.00000	Averaged
129 Trichloroethene	0.54457	0.53399	0.010	1.94160	30.00000	Averaged
133 Methylcyclohexane	0.74971	0.71534	0.010	4.58334	40.00000	Averaged
138 1,2-Dichloropropane	0.45176	0.45174	0.010	0.00417	30.00000	Averaged
139 1,4-Dioxane	0.28936	0.27625	0.010	4.52870	30.00000	Averaged
144 Bromodichloromethane	0.84624	0.83863	0.010	0.89998	30.00000	Averaged
151 cis-1,3-Dichloropropene	0.73517	0.67866	0.010	7.68680	30.00000	Averaged
154 4-Methyl-2-pentanone	0.17973	0.15562	0.010	13.41403	30.00000	Averaged
156 Toluene	1.55657	1.45620	0.010	6.44823	30.00000	Averaged
160 trans-1,3-Dichloropropene	0.73732	0.68331	0.010	7.32519	30.00000	Averaged
162 1,1,2-Trichloroethane	0.56878	0.52735	0.010	7.28494	30.00000	Averaged
163 Tetrachloroethene	0.81194	0.78210	0.010	3.67468	30.00000	Averaged
166 2-Hexanone	0.51926	0.49671	0.010	4.34376	30.00000	Averaged
169 Dibromochloromethane	1.10059	1.00724	0.010	8.48197	30.00000	Averaged
176 1,2-Dibromoethane (EDB)	0.92219	0.84945	0.010	7.88809	30.00000	Averaged
180 Chlorobenzene	1.40014	1.28454	0.010	8.25600	30.00000	Averaged
181 Ethyl Benzene	0.70097	0.66646	0.010	4.92273	30.00000	Averaged
184 m,p-Xylene	0.86213	0.80189	0.010	6.98728	30.00000	Averaged
189 o-Xylene	0.79812	0.73867	0.010	7.44912	30.00000	Averaged
190 Styrene	1.25497	1.23299	0.010	1.75102	30.00000	Averaged
194 Bromoform	0.99591	0.89577	0.010	10.05515	30.00000	Averaged
196 Cumene	2.52331	2.31515	0.010	8.24932	30.00000	Averaged
200 1,1,2,2-Tetrachloroethane	1.27152	1.16506	0.010	8.37237	30.00000	Averaged
201 Propylbenzene	2.75539	2.53544	0.010	7.98270	30.00000	Averaged
206 4-Ethyltoluene	2.16996	2.01115	0.010	7.31893	30.00000	Averaged
207 1,3,5-Trimethylbenzene	1.96680	1.99496	0.010	-1.43179	30.00000	Averaged
212 1,2,4-Trimethylbenzene	1.58621	1.48392	0.010	6.44881	30.00000	Averaged
219 1,3-Dichlorobenzene	1.36879	1.24559	0.010	9.00021	30.00000	Averaged
221 1,4-Dichlorobenzene	1.32418	1.24221	0.010	6.19068	30.00000	Averaged
223 alpha-Chlorotoluene	1.67294	1.54441	0.010	7.68256	30.00000	Averaged

US32APPTV002

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd14.i Injection Date: 29-AUG-2019 19:16
Lab File ID: 14082927.d Init. Cal. Date(s): 21-AUG-2019 22-AUG-2019
Analysis Type: AIR Init. Cal. Times: 17:39 12:26
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem1/msd14.i/29AUG19.b/14950821a.m

COMPOUND	RRF / AMOUNT	RF200	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
227 1,2-Dichlorobenzene	1.24025	1.13814	0.010	8.23307	30.00000	Averaged
233 1,2,4-Trichlorobenzene	0.53592	0.44183	0.010	17.55631	30.00000	Averaged
234 Hexachlorobutadiene	0.38991	0.35034	0.010	10.14945	30.00000	Averaged
235 Naphthalene	1.02295	0.91224	0.010	10.82204	40.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 5.64544
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082927.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 29-AUG-2019 19:16
Operator : kk Inst ID: msd14.i
Smp Info : 50mL #3018-909
Misc Info : 200ppbv (200ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 30-Aug-2019 06:13 ums9 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: Cont010120.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

				AMOUNTS			
				CAL-AMT	ON-COL		
RT	EXP RT (REL RT)	MASS	RESPONSE	(PPBV)	(PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	68577	400.000		80.00- 120.00	100.00
5.298	5.298 (1.000)	128	52683			46.63- 106.63	76.82
5.298	5.294 (1.000)	49	77463			70.93- 130.93	112.96
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	264105	400.000		80.00- 120.00	100.00
6.432	6.427 (1.000)	88	40210			0.00- 45.07	15.23
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	247434	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	129804			24.37- 84.37	52.46
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	88358	400.000	400.56	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	48240			24.83- 84.83	54.60
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	270395	400.000	402.48	80.00- 120.00	100.00
8.460	8.459 (1.315)	70	29657			0.00- 41.24	10.97

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	174335			35.45- 95.45	64.47
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	145577	400.000	392.18	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	179890			91.49- 151.49	123.57
11.329	11.329 (1.098)	176	139913			65.46- 125.46	96.11
10 Propylene					CAS #: 115-07-1		
1.437	1.430 (0.271)	41	26649	200.000	178.14	80.00- 120.00	100.00
1.437	1.426 (0.271)	42	17897			37.53- 97.53	67.16
1.437	1.426 (0.271)	39	22781			47.16- 107.16	85.49
11 Freon 12					CAS #: 75-71-8		
1.465	1.460 (0.276)	85	108030	200.000	199.72	80.00- 120.00	100.00
1.465	1.462 (0.276)	87	33692			2.22- 62.22	31.19
13 Freon 114					CAS #: 76-14-2		
1.576	1.574 (0.298)	135	92090	200.000	197.13	80.00- 120.00	100.00
1.576	1.572 (0.298)	137	29172			1.53- 61.53	31.68
16 Chloromethane					CAS #: 74-87-3		
1.646	1.646 (0.311)	50	31883	200.000	205.87	80.00- 120.00	100.00
1.660	1.649 (0.313)	52	11673			6.04- 66.04	36.61
17 Butane					CAS #: 106-97-8		
1.730	1.722 (0.327)	58	9048	200.000	196.31	80.00- 120.00	100.00
1.730	1.722 (0.327)	43	53518			529.81- 589.81	591.49
19 Vinyl Chloride					CAS #: 75-01-4		
1.758	1.765 (0.332)	62	43791	200.000	196.11	80.00- 120.00	100.00
1.772	1.768 (0.335)	64	14114			3.29- 63.29	32.23
25 1,3-Butadiene					CAS #: 106-99-0		
1.786	1.777 (0.337)	54	32831	200.000	195.12	80.00- 120.00	100.00
1.786	1.777 (0.337)	39	29148			64.50- 124.50	88.78
30 Bromomethane					CAS #: 74-83-9		
2.122	2.125 (0.401)	94	24766	200.000	185.90	80.00- 120.00	100.00
2.136	2.128 (0.403)	96	23417			68.11- 128.11	94.55
31 Chloroethane					CAS #: 75-00-3		
2.234	2.243 (0.422)	64	15808	200.000	170.00	80.00- 120.00	100.00
2.248	2.251 (0.424)	66	5132			4.72- 64.72	32.46
32 Isopentane					CAS #: 78-78-4		
2.248	2.243 (0.424)	43	44588	200.000	249.65	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.243 (0.424)	57	36757			53.88- 113.88	82.44
2.234	2.246 (0.422)	72	3866			0.00- 40.86	8.67
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	125447	200.000	215.48	80.00- 120.00	100.00
2.458	2.461 (0.464)	103	80597			34.80- 94.80	64.25
42 Ethanol					CAS #: 64-17-5		
2.752	2.745 (0.519)	45	15687	200.000	223.96	80.00- 120.00	100.00
2.752	2.745 (0.519)	46	5874			7.83- 67.83	37.45
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	89069	200.000	203.62	80.00- 120.00	100.00
3.004	3.005 (0.567)	153	55306			35.43- 95.43	62.09
3.004	3.005 (0.567)	101	107319			91.24- 151.24	120.49
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.046	3.035 (0.575)	61	80450	200.000	212.91	80.00- 120.00	100.00
3.046	3.038 (0.575)	96	48832			32.67- 92.67	60.70
3.046	3.038 (0.575)	98	30466			10.54- 70.54	37.87
53 Acetone					CAS #: 67-64-1		
3.186	3.172 (0.601)	58	21663	200.000	205.50	80.00- 120.00	100.00
3.172	3.170 (0.599)	43	65475			259.09- 319.09	302.24
55 Carbon Disulfide					CAS #: 75-15-0		
3.255	3.250 (0.614)	76	133365	200.000	192.69	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.325	3.313 (0.628)	45	67329	200.000	205.38	80.00- 120.00	100.00
3.325	3.313 (0.628)	43	15920			0.00- 51.35	23.65
3.325	3.311 (0.628)	59	3468			0.00- 34.59	5.15
59 3-Chloropropene					CAS #: 107-05-1		
3.465	3.465 (0.654)	76	14880	200.000	170.76	80.00- 120.00	100.00
3.465	3.465 (0.654)	41	32932			162.76- 222.76	221.32
66 Methylene Chloride					CAS #: 75-09-2		
3.633	3.635 (0.686)	49	48972	200.000	208.14	80.00- 120.00	100.00
3.647	3.637 (0.688)	84	41910			63.99- 123.99	85.58
3.647	3.637 (0.688)	51	14797			0.02- 60.02	30.22
68 tert-Butyl alcohol					CAS #: 75-65-0		
3.745	3.745 (0.707)	59	75952	200.000	165.52	80.00- 120.00	100.00
3.745	3.745 (0.707)	41	12331			0.00- 47.07	16.24

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
68 tert-Butyl alcohol (continued)							
3.745	3.742 (0.707)	57	7138			0.00- 39.91	9.40
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	132113	200.000	200.18	80.00- 120.00	100.00(A)
3.843	3.842 (0.725)	57	29630			0.00- 53.23	22.43
3.843	3.840 (0.725)	41	28004			0.00- 48.43	21.20
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	46972	200.000	194.06	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	66233			107.35- 167.35	141.01
3.871	3.871 (0.731)	98	29813			33.11- 93.11	63.47
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	75709	200.000	201.20	80.00- 120.00	100.00
4.081	4.081 (0.770)	43	42867			23.47- 83.47	56.62
4.081	4.084 (0.770)	86	13851			0.00- 49.00	18.30
82 Isopropyl ether					CAS #: 108-20-3		
4.361	4.361 (0.823)	45	140903	200.000	199.14	80.00- 120.00	100.00
4.361	4.361 (0.823)	87	46428			5.22- 65.22	32.95
4.361	4.361 (0.823)	59	19078			0.00- 43.54	13.54
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.389	4.378 (0.828)	63	86004	200.000	197.35	80.00- 120.00	100.00
4.389	4.381 (0.828)	65	27778			2.01- 62.01	32.30
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	13522	200.000	193.74	80.00- 120.00	100.00
4.431	4.431 (0.836)	43	122864			834.16- 894.16	908.62
4.431	4.431 (0.836)	42	14608			70.06- 130.06	108.03
87 Ethyl-tert-butyl ether					CAS #: 637-92-3		
4.753	4.753 (0.897)	59	168872	200.000	199.59	80.00- 120.00	100.00
4.753	4.753 (0.897)	87	68930			13.01- 73.01	40.82
4.753	4.753 (0.897)	41	27854			0.00- 45.61	16.49
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.018	5.018 (0.947)	61	75383	200.000	213.38	80.00- 120.00	100.00
5.032	5.025 (0.950)	96	55440			48.23- 108.23	73.54
5.032	5.026 (0.950)	98	36705			21.56- 81.56	48.69
92 2-Butanone					CAS #: 78-93-3		
5.060	5.063 (0.955)	72	24925	200.000	191.51	80.00- 120.00	100.00
5.060	5.060 (0.955)	43	81602			263.34- 323.34	327.39
5.060	5.063 (0.955)	57	7821			0.72- 60.72	31.38

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	46116	200.000	185.81	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	22348			23.22- 83.22	48.46
5.284	5.284 (0.997)	72	23645			25.49- 85.49	51.27
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	102564	200.000	199.17	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	69030			36.07- 96.07	67.30
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	68495	200.000	193.97	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	79038			77.00- 137.00	115.39
5.480	5.480 (1.034)	41	43381			24.48- 84.48	63.33
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.508	5.514 (1.040)	97	106835	200.000	201.31	80.00- 120.00	100.00
5.508	5.513 (1.040)	99	69691			34.24- 94.24	65.23
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	109918	200.000	201.29	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	115814			73.64- 133.64	105.36
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	246251	200.000	203.84	80.00- 120.00	100.00
5.900	5.905 (1.114)	56	79559			2.41- 62.41	32.31
5.900	5.902 (1.114)	41	61175			0.00- 53.81	24.84
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	152639	200.000	194.65	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	37569			0.00- 54.09	24.61
120 tert-Amyl methyl ether					CAS #: 994-05-8		
6.026	6.026 (1.137)	73	156411	200.000	188.81	80.00- 120.00	100.00
6.026	6.026 (1.137)	87	36776			0.00- 53.84	23.51
6.026	6.026 (1.137)	55	38554			0.00- 51.48	24.65
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.040	6.042 (0.939)	62	72611	200.000	201.16	80.00- 120.00	100.00
6.040	6.049 (0.939)	64	23866			3.21- 63.21	32.87
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.954)	71	52917	200.000	181.00	80.00- 120.00	100.00
6.138	6.135 (0.954)	43	70065			90.25- 150.25	132.41
6.138	6.136 (0.954)	100	17206			0.00- 58.91	32.52
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.671 (1.037)	95	70515	200.000	196.12	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
129 Trichloroethene (continued)							
6.669	6.671 (1.037)	130	75434			78.88- 138.88	106.98
6.669	6.671 (1.037)	97	46488			35.90- 95.90	65.93
133 Methylcyclohexane					CAS #: 108-87-2		
6.809	6.804 (1.059)	83	94463	200.000	190.83	80.00- 120.00	100.00
6.809	6.802 (1.059)	98	46700			16.99- 76.99	49.44
6.809	6.802 (1.059)	55	74517			43.70- 103.70	78.88
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	59653	200.000	199.99	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	42209			40.28- 100.28	70.76
7.019	7.019 (1.091)	41	31325			21.25- 81.25	52.51
139 1,4-Dioxane					CAS #: 123-91-1		
7.173	7.168 (1.115)	88	36480	200.000	190.94	80.00- 120.00	100.00
7.173	7.165 (1.115)	58	24754			38.82- 98.82	67.86
7.173	7.165 (1.115)	57	8774			0.00- 54.14	24.05
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.395 (1.150)	83	110743	200.000	198.20	80.00- 120.00	100.00
7.397	7.397 (1.150)	85	70831			35.00- 95.00	63.96
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	89619	200.000	184.63	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	29737			2.65- 62.65	33.18
8.097	8.094 (1.259)	39	46907			18.79- 78.79	52.34
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.376	8.374 (1.302)	85	20550	200.000	173.17	80.00- 120.00	100.00
8.376	8.374 (1.302)	43	109168			460.46- 520.46	531.23
8.363	8.372 (1.300)	58	48048			186.56- 246.56	233.81
156 Toluene					CAS #: 108-88-3		
8.572	8.580 (1.333)	91	192295	200.000	187.10	80.00- 120.00	100.00
8.572	8.579 (1.333)	92	110400			26.83- 86.83	57.41
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	84537	200.000	185.35	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	27296			2.27- 62.27	32.29
9.076	9.076 (0.879)	39	42846			17.57- 77.57	50.68
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	65242	200.000	185.43	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	40357			31.36- 91.36	61.86
9.314	9.314 (0.902)	83	58243			57.18- 117.18	89.27

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	96759	200.000	192.65	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	73395			46.86- 106.86	75.85
9.328	9.328 (0.904)	131	71238			46.25- 106.25	73.62
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	61451	200.000	191.31	80.00- 120.00	100.00
9.608	9.608 (0.931)	43	101755			132.92- 192.92	165.59
9.608	9.608 (0.931)	100	12356			0.00- 52.05	20.11
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	124613	200.000	183.04	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	96565			47.27- 107.27	77.49
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	105091	200.000	184.22	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	98428			62.36- 122.36	93.66
180 Chlorobenzene					CAS #: 108-90-7		
10.349	10.349 (1.003)	112	158920	200.000	183.49	80.00- 120.00	100.00
10.349	10.349 (1.003)	114	51102			1.61- 61.61	32.16
10.349	10.347 (1.003)	77	89455			26.63- 86.63	56.29
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	82453	200.000	190.15	80.00- 120.00	100.00
10.433	10.429 (1.011)	91	254570			276.73- 336.73	308.75
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	99207	200.000	186.02	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	194119			166.48- 226.48	195.67
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	91386	200.000	185.10	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	194907			183.14- 243.14	213.28
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	152542	200.000	196.50	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	76308			17.49- 77.49	50.02
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	110822	200.000	179.89	80.00- 120.00	100.00
11.091	11.091 (1.075)	171	57203			21.78- 81.78	51.62
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	286424	200.000	183.50	80.00- 120.00	100.00
11.175	11.177 (1.083)	120	79136			0.00- 57.49	27.63

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
196 Cumene (continued)							
11.175	11.175 (1.083)	51	28241			0.00- 38.96	9.86
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	144138	200.000	183.26	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	94241			35.12- 95.12	65.38
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	313677	200.000	184.03	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	75461			0.00- 54.39	24.06
11.483	11.480 (1.113)	105	11761			0.00- 33.66	3.75
206 4-Ethyltoluene					CAS #: 622-96-8		
11.553	11.560 (1.119)	105	248813	200.000	185.36	80.00- 120.00	100.00
11.567	11.564 (1.121)	120	76152			0.69- 60.69	30.61
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	246811	200.000	202.86	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	116166			16.81- 76.81	47.07
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.846	11.847 (1.148)	105	183586	200.000	187.10	80.00- 120.00	100.00
11.846	11.847 (1.148)	120	82791			16.57- 76.57	45.10
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.042	12.042 (1.167)	146	154101	200.000	182.00	80.00- 120.00	100.00
12.042	12.042 (1.167)	148	97375			32.90- 92.90	63.19
12.042	12.042 (1.167)	111	60812			9.17- 69.17	39.46
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	153682	200.000	187.62	80.00- 120.00	100.00
12.098	12.098 (1.172)	148	98178			35.22- 95.22	63.88
12.098	12.098 (1.172)	111	56515			7.96- 67.96	36.77
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	191070	200.000	184.63	80.00- 120.00	100.00
12.182	12.189 (1.180)	126	41160			0.00- 51.56	21.54
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	140807	200.000	183.53	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	91911			33.30- 93.30	65.27
12.322	12.322 (1.194)	111	58943			10.19- 70.19	41.86
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	54662	200.000	164.89	80.00- 120.00	100.00
13.162	13.162 (1.275)	182	50784			67.17- 127.17	92.91

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.204 (1.279)	225	43343	200.000	179.70	80.00- 120.00	100.00
13.204	13.204 (1.279)	223	28111			31.62- 91.62	64.86
235 Naphthalene					CAS #: 91-20-3		
13.288	13.292 (1.287)	128	11286	20.0000	17.836	80.00- 120.00	100.00(a)
13.288	13.288 (1.287)	127	1594			0.00- 45.62	14.12

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.

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082927.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: kk
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

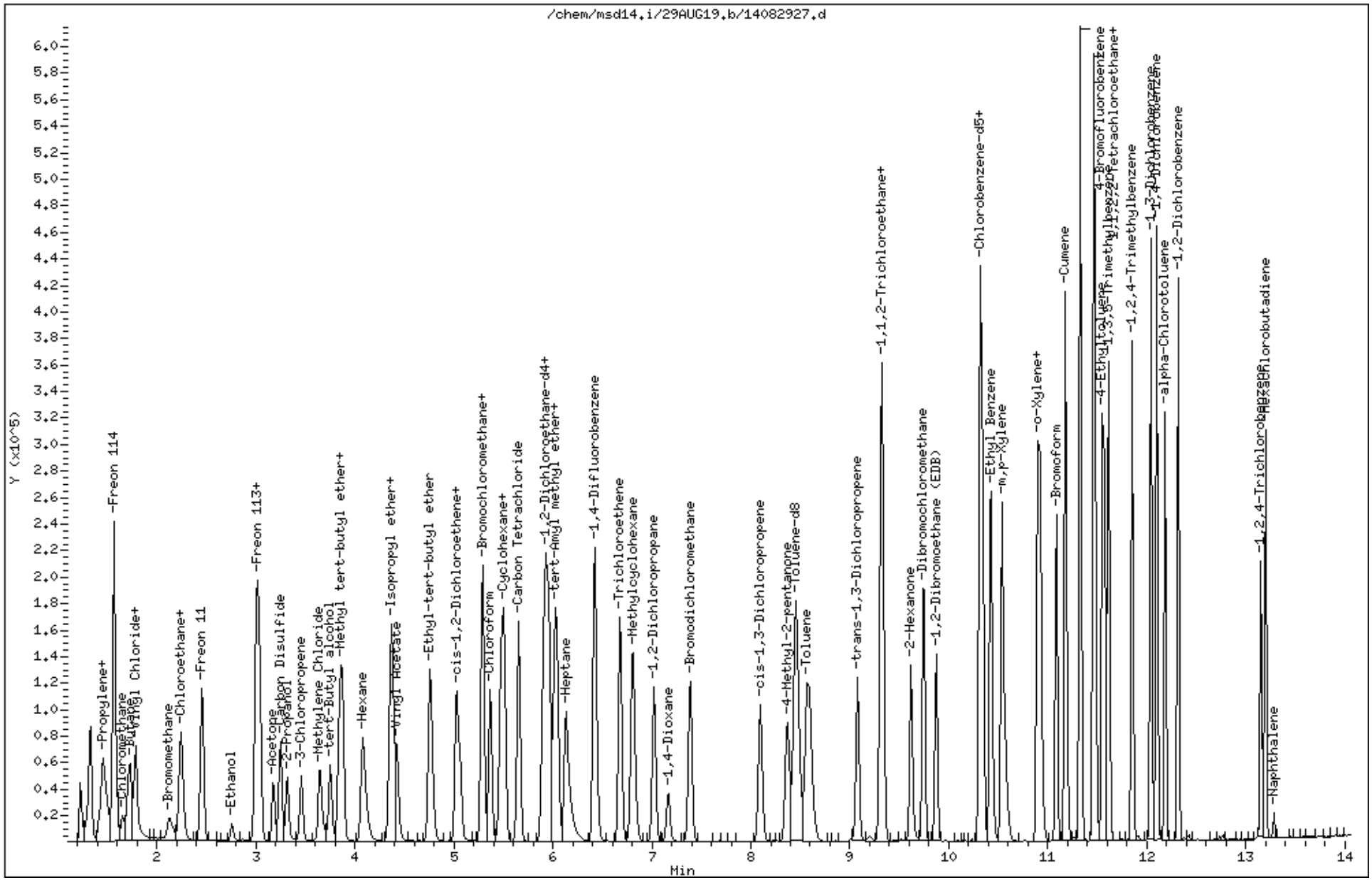
		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	68577	-9.84
127 1,4-Difluorobenze	286922	172153	401691	264105	-7.95
179 Chlorobenzene-d5	262234	157340	367128	247434	-5.64

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd14.i/29AUG19.b/14082927.d
Date : 29-AUG-2019 19:16
Client ID: CCV
Sample Info: 50mL #3018-909

Instrument: msd14.i
Operator: kk
Column phase: RTX-624
Column diameter: 0.18



EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	LCS		
Lab ID:	1908555-21A	**Date/Time Analyzed:**	8/29/19 08:58 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd14.i / 14082903a

Compound	CAS#	%Recovery
Tetrachloroethene	127-18-4	96
Trichloroethene	79-01-6	99

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	99
4-Bromofluorobenzene	460-00-4	83-110	99
Toluene-d8	2037-26-5	86-115	101

* % Recovery is calculated using unrounded analytical results.

Report Date: 29-Aug-2019 09:40

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCS Client Smp ID: LCS
Level: LOW Operator: AK
Data Type: MS DATA SampleType: LCS
SpikeList File: ControlDOD.spk Quant Type: ISTD
Sublist File: Cont010120.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
11 Freon 12	200.00	191.29	95.64
10 Propylene	200.00	182.33	91.16
13 Freon 114	200.00	198.70	99.35
16 Chloromethane	200.00	189.55	94.77
17 Butane	200.00	197.11	98.56
19 Vinyl Chloride	200.00	198.40	99.20
25 1,3-Butadiene	200.00	177.52	88.76
30 Bromomethane	200.00	160.64	80.32
31 Chloroethane	200.00	167.21	83.61
32 Isopentane	200.00	245.29	122.65
34 Freon 11	200.00	219.66	109.83
42 Ethanol	200.00	224.39	112.20
49 Freon 113	200.00	196.87	98.44
51 1,1-Dichloroethene	200.00	214.13	107.07
53 Acetone	200.00	228.80	114.40
55 Carbon Disulfide	200.00	199.04	99.52
56 2-Propanol	200.00	204.92	102.46
59 3-Chloropropene	200.00	167.82	83.91
66 Methylene Chloride	200.00	209.41	104.70
69 Methyl tert-butyl ether	200.00	186.47	93.24
73 trans-1,2-Dichloroethene	200.00	210.24	105.12
77 Hexane	200.00	210.57	105.29
83 1,1-Dichloroethane	200.00	197.74	98.87
84 Vinyl Acetate	200.00	177.40	88.70
91 cis-1,2-Dichloroethene	200.00	198.41	99.20
92 2-Butanone	200.00	200.09	100.05
96 Tetrahydrofuran	200.00	192.14	96.07
100 Chloroform	200.00	202.70	101.35
104 1,1,1-Trichloroethane	200.00	201.30	100.65
108 Carbon Tetrachloride	200.00	204.34	102.17
103 Cyclohexane	200.00	199.39	99.69
117 2,2,4-Trimethylpentane	200.00	204.97	102.49
118 Benzene	200.00	199.43	99.71

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
121 1,2-Dichloroethane	200.00	204.19	102.09
124 Heptane	200.00	197.33	98.67
129 Trichloroethene	200.00	198.71	99.35
133 Methylcyclohexane	200.00	202.08	101.04
138 1,2-Dichloropropane	200.00	201.03	100.51
139 1,4-Dioxane	200.00	193.88	96.94
144 Bromodichloromethane	200.00	205.67	102.83
151 cis-1,3-Dichloropropene	200.00	202.94	101.47
154 4-Methyl-2-pentanone	200.00	180.88	90.44
156 Toluene	200.00	191.82	95.91
160 trans-1,3-Dichloropropene	200.00	185.72	92.86
162 1,1,2-Trichloroethane	200.00	197.59	98.80
163 Tetrachloroethene	200.00	191.05	95.52
166 2-Hexanone	200.00	181.90	90.95
169 Dibromochloromethane	200.00	190.61	95.31
176 1,2-Dibromoethane (EDB)	200.00	192.06	96.03
180 Chlorobenzene	200.00	186.68	93.34
181 Ethyl Benzene	200.00	195.69	97.85
184 m,p-Xylene	200.00	188.21	94.10
189 o-Xylene	200.00	196.84	98.42
190 Styrene	200.00	198.08	99.04
194 Bromoform	200.00	192.44	96.22
196 Cumene	200.00	187.12	93.56
200 1,1,2,2-Tetrachloroethane	200.00	190.66	95.33
201 Propylbenzene	200.00	193.22	96.61
206 4-Ethyltoluene	200.00	193.20	96.60
207 1,3,5-Trimethylbenzene	200.00	212.27	106.14
212 1,2,4-Trimethylbenzene	200.00	188.62	94.31
219 1,3-Dichlorobenzene	200.00	193.06	96.53
221 1,4-Dichlorobenzene	200.00	196.41	98.21
223 alpha-Chlorotoluene	200.00	193.46	96.73
227 1,2-Dichlorobenzene	200.00	195.27	97.63
233 1,2,4-Trichlorobenzene	200.00	168.35	84.17
234 Hexachlorobutadiene	200.00	178.83	89.42
235 Naphthalene	20.000	17.327	86.63

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	396.30	99.08
$ 155 Toluene-d8	400.00	403.47	100.87
$ 198 4-Bromofluorobenzene	400.00	397.10	99.27

US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082903a.d
Lab Smp Id: LCS Client Smp ID: LCS
Inj Date : 29-AUG-2019 08:58
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #3018-871
Misc Info : 200ppbv (200ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 29-Aug-2019 09:07 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: Cont010120.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	74104	400.000		80.00- 120.00	100.00
5.298	5.297 (1.000)	128	58117			46.63- 106.63	78.43
5.298	5.297 (1.000)	49	80000			70.93- 130.93	107.96
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	282941	400.000		80.00- 120.00	100.00
6.432	6.430 (1.000)	88	44938			0.00- 45.07	15.88
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.322	10.321 (1.000)	117	263187	400.000		80.00- 120.00	100.00
10.322	10.321 (1.000)	82	140375			24.37- 84.37	53.34
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	94464	396.304	396.30	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	50885			24.83- 84.83	53.87
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.461	8.460 (1.315)	98	290391	403.469	403.47	80.00- 120.00	100.00
8.461	8.460 (1.315)	70	31553			0.00- 41.24	10.87

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.461	8.460 (1.315)	100	185406			35.45- 95.45	63.85
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	156789	397.100	397.10	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	195891			91.49- 151.49	124.94
11.329	11.329 (1.098)	176	150227			65.46- 125.46	95.81
10 Propylene					CAS #: 115-07-1		
1.437	1.430 (0.271)	41	29474	182.328	182.33	80.00- 120.00	100.00
1.437	1.430 (0.271)	42	19313			37.53- 97.53	65.53
1.437	1.430 (0.271)	39	22176			47.16- 107.16	75.24
11 Freon 12					CAS #: 75-71-8		
1.465	1.460 (0.276)	85	111807	191.289	191.29	80.00- 120.00	100.00
1.465	1.460 (0.276)	87	36632			2.22- 62.22	32.76
13 Freon 114					CAS #: 76-14-2		
1.577	1.574 (0.298)	135	100300	198.695	198.70	80.00- 120.00	100.00
1.577	1.574 (0.298)	137	30965			1.53- 61.53	30.87
16 Chloromethane					CAS #: 74-87-3		
1.647	1.646 (0.311)	50	31721	189.548	189.55	80.00- 120.00	100.00
1.661	1.646 (0.313)	52	12614			6.04- 66.04	39.77
17 Butane					CAS #: 106-97-8		
1.731	1.722 (0.327)	58	9817	197.112	197.11	80.00- 120.00	100.00
1.731	1.722 (0.327)	43	58758			529.81- 589.81	598.53
19 Vinyl Chloride					CAS #: 75-01-4		
1.773	1.768 (0.335)	62	47874	198.403	198.40	80.00- 120.00	100.00
1.773	1.768 (0.335)	64	15443			3.29- 63.29	32.26
25 1,3-Butadiene					CAS #: 106-99-0		
1.787	1.777 (0.337)	54	32276	177.520	177.52	80.00- 120.00	100.00
1.787	1.777 (0.337)	39	31698			64.50- 124.50	98.21
30 Bromomethane					CAS #: 74-83-9		
2.122	2.125 (0.401)	94	23126	160.642	160.64	80.00- 120.00	100.00
2.136	2.125 (0.403)	96	21959			68.11- 128.11	94.95
31 Chloroethane					CAS #: 75-00-3		
2.248	2.245 (0.424)	64	16802	167.213	167.21	80.00- 120.00	100.00
2.248	2.245 (0.424)	66	5760			4.72- 64.72	34.28
32 Isopentane					CAS #: 78-78-4		
2.248	2.243 (0.424)	43	47341	245.294	245.29	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.243 (0.424)	57	40427			53.88- 113.88	85.40
2.248	2.243 (0.424)	72	4743			0.00- 40.86	10.02
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	138182	219.657	219.66	80.00- 120.00	100.00
2.458	2.460 (0.464)	103	89342			34.80- 94.80	64.66
42 Ethanol					CAS #: 64-17-5		
2.752	2.745 (0.519)	45	16984	224.392	224.39	80.00- 120.00	100.00
2.752	2.745 (0.519)	46	7175			7.83- 67.83	42.25
49 Freon 113					CAS #: 76-13-1		
3.004	3.005 (0.567)	151	93058	196.875	196.87	80.00- 120.00	100.00
3.004	3.005 (0.567)	153	61014			35.43- 95.43	65.57
3.004	3.005 (0.567)	101	114342			91.24- 151.24	122.87
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.046	3.035 (0.575)	61	87432	214.133	214.13	80.00- 120.00	100.00
3.046	3.035 (0.575)	96	51268			32.67- 92.67	58.64
3.046	3.035 (0.575)	98	33411			10.54- 70.54	38.21
53 Acetone					CAS #: 67-64-1		
3.172	3.170 (0.599)	58	26064	228.803	228.80	80.00- 120.00	100.00
3.172	3.170 (0.599)	43	78030			259.09- 319.09	299.38
55 Carbon Disulfide					CAS #: 75-15-0		
3.256	3.250 (0.614)	76	148860	199.036	199.04	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.312	3.313 (0.625)	45	72595	204.924	204.92	80.00- 120.00	100.00
3.312	3.313 (0.625)	43	16659			0.00- 51.35	22.95
3.312	3.313 (0.625)	59	3327			0.00- 34.59	4.58
59 3-Chloropropene					CAS #: 107-05-1		
3.466	3.465 (0.654)	76	15803	167.824	167.82	80.00- 120.00	100.00
3.466	3.465 (0.654)	41	33042			162.76- 222.76	209.09
66 Methylene Chloride					CAS #: 75-09-2		
3.647	3.637 (0.688)	49	53241	209.408	209.41	80.00- 120.00	100.00
3.647	3.637 (0.688)	84	46105			63.99- 123.99	86.60
3.647	3.637 (0.688)	51	16543			0.02- 60.02	31.07
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	132989	186.474	186.47	80.00- 120.00	100.00
3.843	3.843 (0.725)	57	30262			0.00- 53.23	22.76

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
69 Methyl tert-butyl ether (continued)							
3.843	3.843 (0.725)	41	27680			0.00- 48.43	20.81
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	54989	210.242	210.24	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	79166			107.35- 167.35	143.97
3.871	3.871 (0.731)	98	35981			33.11- 93.11	65.43
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	85621	210.571	210.57	80.00- 120.00	100.00
4.081	4.081 (0.770)	43	45072			23.47- 83.47	52.64
4.081	4.081 (0.770)	86	15187			0.00- 49.00	17.74
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.376 (0.826)	63	93123	197.746	197.74	80.00- 120.00	100.00
4.375	4.376 (0.826)	65	29968			2.01- 62.01	32.18
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	13379	177.399	177.40	80.00- 120.00	100.00
4.431	4.431 (0.836)	43	113377			834.16- 894.16	847.43
4.431	4.431 (0.836)	42	12275			70.06- 130.06	91.75
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.019	5.019 (0.947)	61	75742	198.408	198.41	80.00- 120.00	100.00
5.033	5.019 (0.950)	96	56469			48.23- 108.23	74.55
5.033	5.019 (0.950)	98	35885			21.56- 81.56	47.38
92 2-Butanone					CAS #: 78-93-3		
5.061	5.063 (0.955)	72	28141	200.092	200.09	80.00- 120.00	100.00
5.061	5.063 (0.955)	43	90944			263.34- 323.34	323.17
5.061	5.063 (0.955)	57	8928			0.72- 60.72	31.73
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	51531	192.140	192.14	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	24029			23.22- 83.22	46.63
5.284	5.284 (0.997)	72	25560			25.49- 85.49	49.60
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	112795	202.704	202.70	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	75048			36.07- 96.07	66.53
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	76083	199.386	199.39	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	84050			77.00- 137.00	110.47
5.480	5.480 (1.034)	41	45958			24.48- 84.48	60.41

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.522	5.514 (1.042)	97	115437	201.296	201.30	80.00- 120.00	100.00
5.508	5.514 (1.040)	99	74956			34.24- 94.24	64.93
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	120581	204.344	204.34	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	126552			73.64- 133.64	104.95
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	267581	204.973	204.97	80.00- 120.00	100.00
5.900	5.902 (1.114)	56	84434			2.41- 62.41	31.55
5.900	5.902 (1.114)	41	71949			0.00- 53.81	26.89
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	167536	199.429	199.43	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	41786			0.00- 54.09	24.94
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.054	6.042 (0.941)	62	78959	204.188	204.19	80.00- 120.00	100.00
6.054	6.042 (0.941)	64	25464			3.21- 63.21	32.25
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.954)	71	61805	197.333	197.33	80.00- 120.00	100.00
6.138	6.136 (0.954)	43	78652			90.25- 150.25	127.26
6.138	6.136 (0.954)	100	18863			0.00- 58.91	30.52
129 Trichloroethene					CAS #: 79-01-6		
6.670	6.671 (1.037)	95	76543	198.710	198.71	80.00- 120.00	100.00
6.670	6.671 (1.037)	130	82916			78.88- 138.88	108.33
6.670	6.671 (1.037)	97	48343			35.90- 95.90	63.16
133 Methylcyclohexane					CAS #: 108-87-2		
6.810	6.804 (1.059)	83	107162	202.076	202.08	80.00- 120.00	100.00
6.810	6.804 (1.059)	98	47671			16.99- 76.99	44.48
6.796	6.804 (1.057)	55	80751			43.70- 103.70	75.35
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	64239	201.029	201.03	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	44771			40.28- 100.28	69.69
7.019	7.019 (1.091)	41	35305			21.25- 81.25	54.96
139 1,4-Dioxane					CAS #: 123-91-1		
7.159	7.168 (1.113)	88	39684	193.885	193.88	80.00- 120.00	100.00
7.159	7.168 (1.113)	58	26908			38.82- 98.82	67.81
7.159	7.168 (1.113)	57	9531			0.00- 54.14	24.02

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.395 (1.150)	83	123111	205.667	205.67	80.00- 120.00	100.00
7.397	7.395 (1.150)	85	79412			35.00- 95.00	64.50
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	105533	202.938	202.94	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	32676			2.65- 62.65	30.96
8.097	8.097 (1.259)	39	53502			18.79- 78.79	50.70
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.377	8.374 (1.302)	85	22996	180.883	180.88	80.00- 120.00	100.00
8.377	8.374 (1.302)	43	118105			460.46- 520.46	513.59
8.377	8.374 (1.302)	58	52715			186.56- 246.56	229.24
156 Toluene					CAS #: 108-88-3		
8.573	8.580 (1.333)	91	211200	191.818	191.82	80.00- 120.00	100.00
8.573	8.580 (1.333)	92	120987			26.83- 86.83	57.29
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	90100	185.723	185.72	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	28145			2.27- 62.27	31.24
9.076	9.076 (0.879)	39	46833			17.57- 77.57	51.98
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	73947	197.592	197.59	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	44237			31.36- 91.36	59.82
9.314	9.314 (0.902)	83	64633			57.18- 117.18	87.40
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	102064	191.050	191.05	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	78470			46.86- 106.86	76.88
9.328	9.330 (0.904)	131	77572			46.25- 106.25	76.00
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	62147	181.899	181.90	80.00- 120.00	100.00
9.608	9.608 (0.931)	43	102961			132.92- 192.92	165.67
9.608	9.608 (0.931)	100	13218			0.00- 52.05	21.27
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	138032	190.611	190.61	80.00- 120.00	100.00
9.734	9.748 (0.943)	127	109056			47.27- 107.27	79.01
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	116539	192.064	192.06	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	109018			62.36- 122.36	93.55

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
180 Chlorobenzene					CAS #: 108-90-7		
10.350	10.349 (1.003)	112	171977	186.679	186.68	80.00- 120.00	100.00
10.350	10.349 (1.003)	114	55099			1.61- 61.61	32.04
10.350	10.349 (1.003)	77	96948			26.63- 86.63	56.37
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	90257	195.693	195.69	80.00- 120.00	100.00
10.433	10.433 (1.011)	91	277876			276.73- 336.73	307.87
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	106761	188.208	188.21	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	214087			166.48- 226.48	200.53
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	103366	196.836	196.84	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	217086			183.14- 243.14	210.02
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	163558	198.078	198.08	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	81172			17.49- 77.49	49.63
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	126105	192.445	192.44	80.00- 120.00	100.00
11.091	11.091 (1.075)	171	66391			21.78- 81.78	52.65
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	310675	187.125	187.12	80.00- 120.00	100.00
11.175	11.175 (1.083)	120	84803			0.00- 57.49	27.30
11.175	11.175 (1.083)	51	31495			0.00- 38.96	10.14
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	159513	190.664	190.66	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	106531			35.12- 95.12	66.79
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	350300	193.220	193.22	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	85100			0.00- 54.39	24.29
11.483	11.483 (1.113)	105	13893			0.00- 33.66	3.97
206 4-Ethyltoluene					CAS #: 622-96-8		
11.567	11.562 (1.121)	105	275838	193.196	193.20	80.00- 120.00	100.00
11.567	11.562 (1.121)	120	84848			0.69- 60.69	30.76
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	274702	212.274	212.27	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	128675			16.81- 76.81	46.84

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.847	11.847 (1.148)	105	196857	188.619	188.62	80.00- 120.00	100.00
11.847	11.847 (1.148)	120	89795			16.57- 76.57	45.61
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.043	12.042 (1.167)	146	173878	193.065	193.06	80.00- 120.00	100.00
12.043	12.042 (1.167)	148	108365			32.90- 92.90	62.32
12.043	12.042 (1.167)	111	68680			9.17- 69.17	39.50
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	171126	196.410	196.41	80.00- 120.00	100.00
12.098	12.098 (1.172)	148	109699			35.22- 95.22	64.10
12.098	12.098 (1.172)	111	65805			7.96- 67.96	38.45
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	212953	193.464	193.46	80.00- 120.00	100.00
12.182	12.182 (1.180)	126	46240			0.00- 51.56	21.71
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	159348	195.269	195.27	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	101953			33.30- 93.30	63.98
12.322	12.322 (1.194)	111	64372			10.19- 70.19	40.40
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	59362	168.347	168.35	80.00- 120.00	100.00
13.162	13.162 (1.275)	182	56646			67.17- 127.17	95.42
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.204 (1.279)	225	45880	178.834	178.83	80.00- 120.00	100.00
13.204	13.204 (1.279)	223	28751			31.62- 91.62	62.67
235 Naphthalene					CAS #: 91-20-3		
13.302	13.295 (1.289)	128	11662	17.3267	17.327	80.00- 120.00	100.00(a)
13.288	13.295 (1.287)	127	1525			0.00- 45.62	13.08

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082903a.d
Lab Smp Id: LCS
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Client Smp ID: LCS
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	74104	-2.57
127 1,4-Difluorobenze	286922	172153	401691	282941	-1.39
179 Chlorobenzene-d5	262234	157340	367128	263187	0.36

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/29AUG19.b/14082903a.d

Date : 29-AUG-2019 08:58

Client ID: LCS

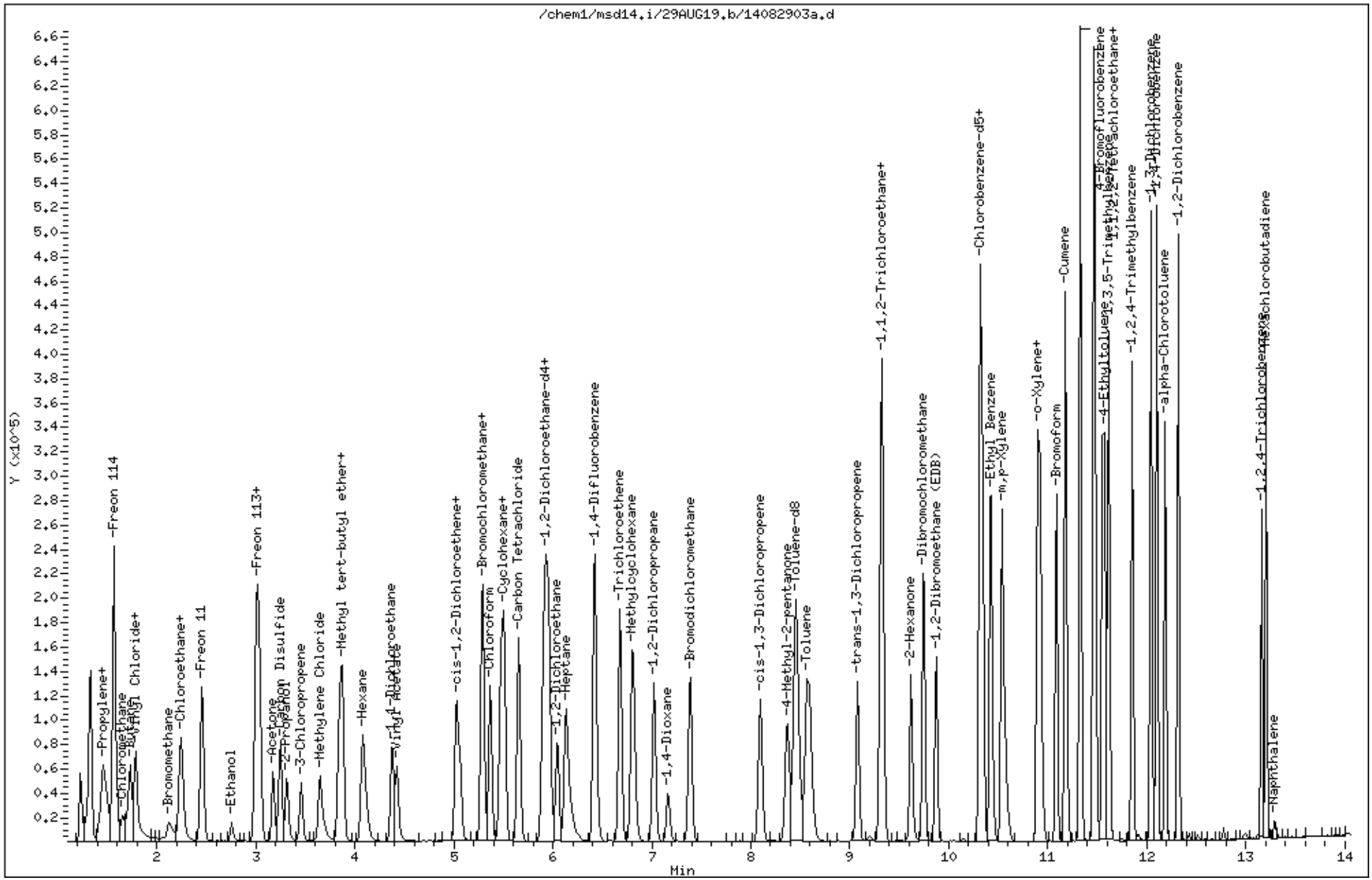
Instrument: msd14.i

Sample Info: 50mL #3018-871

Operator: AK

Column phase: RTX-624

Column diameter: 0.18



EPA METHOD TO-15 GC/MS
Site 12 Soil Gas Sampling

Client ID:	LCSD		
Lab ID:	1908555-21AA	**Date/Time Analyzed:**	8/29/19 09:22 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd14.i / 14082904a

Compound	CAS#	%Recovery
Tetrachloroethene	127-18-4	96
Trichloroethene	79-01-6	100

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	64-133	101
4-Bromofluorobenzene	460-00-4	83-110	101
Toluene-d8	2037-26-5	86-115	100

* % Recovery is calculated using unrounded analytical results.

Report Date: 29-Aug-2019 09:58

US32APPTV002

RECOVERY REPORT

Client Name: Client SDG: 29AUG19
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCSD Client Smp ID: LCSD
Level: LOW Operator: AK
Data Type: MS DATA SampleType: LCSD
SpikeList File: ControlDOD.spk Quant Type: ISTD
Sublist File: Cont010120.sub
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
11 Freon 12	200.00	191.32	95.66
10 Propylene	200.00	184.06	92.03
13 Freon 114	200.00	203.66	101.83
16 Chloromethane	200.00	200.50	100.25
17 Butane	200.00	213.09	106.54
19 Vinyl Chloride	200.00	204.91	102.45
25 1,3-Butadiene	200.00	188.99	94.50
30 Bromomethane	200.00	166.78	83.39
31 Chloroethane	200.00	179.44	89.72
32 Isopentane	200.00	246.21	123.10
34 Freon 11	200.00	216.14	108.07
42 Ethanol	200.00	225.79	112.90
49 Freon 113	200.00	206.07	103.03
51 1,1-Dichloroethene	200.00	216.22	108.11
53 Acetone	200.00	231.57	115.79
55 Carbon Disulfide	200.00	198.83	99.42
56 2-Propanol	200.00	207.78	103.89
59 3-Chloropropene	200.00	158.41	79.21
66 Methylene Chloride	200.00	211.20	105.60
69 Methyl tert-butyl ether	200.00	188.20	94.10
73 trans-1,2-Dichloroethene	200.00	218.14	109.07
77 Hexane	200.00	208.12	104.06
83 1,1-Dichloroethane	200.00	199.94	99.97
84 Vinyl Acetate	200.00	194.24	97.12
91 cis-1,2-Dichloroethene	200.00	198.12	99.06
92 2-Butanone	200.00	199.72	99.86
96 Tetrahydrofuran	200.00	191.30	95.65
100 Chloroform	200.00	204.65	102.32
104 1,1,1-Trichloroethane	200.00	205.58	102.79
108 Carbon Tetrachloride	200.00	212.04	106.02
103 Cyclohexane	200.00	205.71	102.86
117 2,2,4-Trimethylpentane	200.00	209.02	104.51
118 Benzene	200.00	198.91	99.45

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
121 1,2-Dichloroethane	200.00	202.56	101.28
124 Heptane	200.00	195.66	97.83
129 Trichloroethene	200.00	199.42	99.71
133 Methylcyclohexane	200.00	201.56	100.78
138 1,2-Dichloropropane	200.00	205.41	102.71
139 1,4-Dioxane	200.00	201.18	100.59
144 Bromodichloromethane	200.00	207.81	103.91
151 cis-1,3-Dichloropropene	200.00	202.46	101.23
154 4-Methyl-2-pentanone	200.00	177.80	88.90
156 Toluene	200.00	194.30	97.15
160 trans-1,3-Dichloropropene	200.00	190.68	95.34
162 1,1,2-Trichloroethane	200.00	200.22	100.11
163 Tetrachloroethene	200.00	191.65	95.82
166 2-Hexanone	200.00	185.12	92.56
169 Dibromochloromethane	200.00	192.14	96.07
176 1,2-Dibromoethane (EDB)	200.00	195.41	97.71
180 Chlorobenzene	200.00	190.66	95.33
181 Ethyl Benzene	200.00	195.68	97.84
184 m,p-Xylene	200.00	194.44	97.22
189 o-Xylene	200.00	198.40	99.20
190 Styrene	200.00	200.59	100.29
194 Bromoform	200.00	197.18	98.59
196 Cumene	200.00	194.68	97.34
200 1,1,2,2-Tetrachloroethane	200.00	196.69	98.35
201 Propylbenzene	200.00	194.69	97.35
206 4-Ethyltoluene	200.00	200.49	100.24
207 1,3,5-Trimethylbenzene	200.00	212.71	106.36
212 1,2,4-Trimethylbenzene	200.00	190.22	95.11
219 1,3-Dichlorobenzene	200.00	196.09	98.04
221 1,4-Dichlorobenzene	200.00	203.01	101.50
223 alpha-Chlorotoluene	200.00	197.08	98.54
227 1,2-Dichlorobenzene	200.00	199.29	99.65
233 1,2,4-Trichlorobenzene	200.00	177.76	88.88
234 Hexachlorobutadiene	200.00	196.70	98.35
235 Naphthalene	20.000	17.364	86.82

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED
$ 119 1,2-Dichloroethane-d4	400.00	403.42	100.86
$ 155 Toluene-d8	400.00	401.91	100.48
$ 198 4-Bromofluorobenzene	400.00	405.32	101.33

US32APPTV002

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd14.i/29AUG19.b/14082904a.d
Lab Smp Id: LCSD Client Smp ID: LCSD
Inj Date : 29-AUG-2019 09:22
Operator : AK Inst ID: msd14.i
Smp Info : 50mL #3018-871
Misc Info : 200ppbv (200ppbv)
Comment : 5 and 20 - GC/MS
Method : /chem1/msd14.i/29AUG19.b/14950821a.m
Meth Date : 29-Aug-2019 09:07 ikh2 Quant Type: ISTD
Cal Date : 22-AUG-2019 12:26 Cal File: 14082132.d
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: Cont010120.sub
Sample Matrix: AIR
Processing Host: us32apptv003

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	CONCENTRATIONS FINAL (PPBV)	TARGET RANGE	RATIO
* 97 Bromochloromethane					CAS #: 74-97-5		
5.298	5.297 (1.000)	130	73366	400.000		80.00- 120.00	100.00
5.298	5.297 (1.000)	128	56254			46.63- 106.63	76.68
5.298	5.297 (1.000)	49	81199			70.93- 130.93	110.68
* 127 1,4-Difluorobenzene					CAS #: 540-36-3		
6.432	6.430 (1.000)	114	281661	400.000		80.00- 120.00	100.00
6.432	6.430 (1.000)	88	43387			0.00- 45.07	15.40
* 179 Chlorobenzene-d5					CAS #: 3114-55-4		
10.321	10.321 (1.000)	117	260827	400.000		80.00- 120.00	100.00
10.321	10.321 (1.000)	82	141285			24.37- 84.37	54.17
$ 119 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
5.956	5.956 (1.124)	65	95203	403.422	403.42	80.00- 120.00	100.00
5.956	5.956 (1.124)	67	53683			24.83- 84.83	56.39
$ 155 Toluene-d8					CAS #: 2037-26-5		
8.460	8.460 (1.315)	98	287959	401.908	401.91	80.00- 120.00	100.00
8.460	8.460 (1.315)	70	31970			0.00- 41.24	11.10

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 155 Toluene-d8 (continued)							
8.460	8.460 (1.315)	100	188139			35.45- 95.45	65.34
$ 198 4-Bromofluorobenzene					CAS #: 460-00-4		
11.329	11.329 (1.098)	174	158601	405.324	405.32	80.00- 120.00	100.00
11.329	11.329 (1.098)	95	195762			91.49- 151.49	123.43
11.329	11.329 (1.098)	176	152753			65.46- 125.46	96.31
10 Propylene					CAS #: 115-07-1		
1.437	1.430 (0.271)	41	29458	184.062	184.06	80.00- 120.00	100.00
1.437	1.430 (0.271)	42	18977			37.53- 97.53	64.42
1.423	1.430 (0.268)	39	22097			47.16- 107.16	75.01
11 Freon 12					CAS #: 75-71-8		
1.464	1.460 (0.276)	85	110714	191.324	191.32	80.00- 120.00	100.00
1.464	1.460 (0.276)	87	36652			2.22- 62.22	33.11
13 Freon 114					CAS #: 76-14-2		
1.576	1.574 (0.298)	135	101784	203.663	203.66	80.00- 120.00	100.00
1.576	1.574 (0.298)	137	31724			1.53- 61.53	31.17
16 Chloromethane					CAS #: 74-87-3		
1.660	1.646 (0.313)	50	33220	200.502	200.50	80.00- 120.00	100.00
1.646	1.646 (0.311)	52	13077			6.04- 66.04	39.36
17 Butane					CAS #: 106-97-8		
1.730	1.722 (0.327)	58	10507	213.088	213.09	80.00- 120.00	100.00
1.730	1.722 (0.327)	43	58232			529.81- 589.81	554.22
19 Vinyl Chloride					CAS #: 75-01-4		
1.772	1.768 (0.335)	62	48951	204.907	204.91	80.00- 120.00	100.00
1.758	1.768 (0.332)	64	15701			3.29- 63.29	32.07
25 1,3-Butadiene					CAS #: 106-99-0		
1.786	1.777 (0.337)	54	34020	188.994	188.99	80.00- 120.00	100.00
1.786	1.777 (0.337)	39	31850			64.50- 124.50	93.62
30 Bromomethane					CAS #: 74-83-9		
2.122	2.125 (0.401)	94	23770	166.776	166.78	80.00- 120.00	100.00
2.122	2.125 (0.401)	96	22343			68.11- 128.11	94.00
31 Chloroethane					CAS #: 75-00-3		
2.234	2.245 (0.422)	64	17851	179.439	179.44	80.00- 120.00	100.00
2.234	2.245 (0.422)	66	6142			4.72- 64.72	34.41
32 Isopentane					CAS #: 78-78-4		
2.248	2.243 (0.424)	43	47044	246.207	246.21	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
32 Isopentane (continued)							
2.248	2.243 (0.424)	57	38652			53.88- 113.88	82.16
2.248	2.243 (0.424)	72	4831			0.00- 40.86	10.27
34 Freon 11					CAS #: 75-69-4		
2.458	2.460 (0.464)	101	134615	216.139	216.14	80.00- 120.00	100.00
2.458	2.460 (0.464)	103	87939			34.80- 94.80	65.33
42 Ethanol					CAS #: 64-17-5		
2.752	2.745 (0.519)	45	16920	225.795	225.79	80.00- 120.00	100.00
2.752	2.745 (0.519)	46	6283			7.83- 67.83	37.13
49 Freon 113					CAS #: 76-13-1		
3.018	3.005 (0.570)	151	96433	206.067	206.07	80.00- 120.00	100.00
3.004	3.005 (0.567)	153	60972			35.43- 95.43	63.23
3.004	3.005 (0.567)	101	113753			91.24- 151.24	117.96
51 1,1-Dichloroethene					CAS #: 75-35-4		
3.046	3.035 (0.575)	61	87405	216.220	216.22	80.00- 120.00	100.00
3.046	3.035 (0.575)	96	52767			32.67- 92.67	60.37
3.046	3.035 (0.575)	98	32692			10.54- 70.54	37.40
53 Acetone					CAS #: 67-64-1		
3.171	3.170 (0.599)	58	26117	231.575	231.57	80.00- 120.00	100.00
3.171	3.170 (0.599)	43	76350			259.09- 319.09	292.34
55 Carbon Disulfide					CAS #: 75-15-0		
3.255	3.250 (0.614)	76	147227	198.832	198.83	80.00- 120.00	100.00
56 2-Propanol					CAS #: 67-63-0		
3.311	3.313 (0.625)	45	72873	207.778	207.78	80.00- 120.00	100.00
3.311	3.313 (0.625)	43	16637			0.00- 51.35	22.83
3.325	3.313 (0.628)	59	2653			0.00- 34.59	3.64
59 3-Chloropropene					CAS #: 107-05-1		
3.465	3.465 (0.654)	76	14768	158.410	158.41	80.00- 120.00	100.00
3.465	3.465 (0.654)	41	32675			162.76- 222.76	221.26
66 Methylene Chloride					CAS #: 75-09-2		
3.647	3.637 (0.688)	49	53163	211.204	211.20	80.00- 120.00	100.00
3.647	3.637 (0.688)	84	44953			63.99- 123.99	84.56
3.647	3.637 (0.688)	51	16889			0.02- 60.02	31.77
69 Methyl tert-butyl ether					CAS #: 1634-04-4		
3.843	3.843 (0.725)	73	132887	188.206	188.20	80.00- 120.00	100.00
3.843	3.843 (0.725)	57	30249			0.00- 53.23	22.76

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
69 Methyl tert-butyl ether (continued)							
3.843	3.843 (0.725)	41	26275			0.00- 48.43	19.77
73 trans-1,2-Dichloroethene					CAS #: 156-60-5		
3.871	3.871 (0.731)	96	56486	218.138	218.14	80.00- 120.00	100.00
3.871	3.871 (0.731)	61	77885			107.35- 167.35	137.88
3.871	3.871 (0.731)	98	35746			33.11- 93.11	63.28
77 Hexane					CAS #: 110-54-3		
4.081	4.081 (0.770)	57	83782	208.121	208.12	80.00- 120.00	100.00
4.081	4.081 (0.770)	43	44385			23.47- 83.47	52.98
4.081	4.081 (0.770)	86	15266			0.00- 49.00	18.22
83 1,1-Dichloroethane					CAS #: 75-34-3		
4.375	4.376 (0.826)	63	93220	199.943	199.94	80.00- 120.00	100.00
4.389	4.376 (0.828)	65	29166			2.01- 62.01	31.29
84 Vinyl Acetate					CAS #: 108-05-4		
4.431	4.431 (0.836)	86	14503	194.237	194.24	80.00- 120.00	100.00
4.431	4.431 (0.836)	43	113854			834.16- 894.16	785.04
4.431	4.431 (0.836)	42	13094			70.06- 130.06	90.28
91 cis-1,2-Dichloroethene					CAS #: 156-59-2		
5.018	5.019 (0.947)	61	74881	198.126	198.12	80.00- 120.00	100.00
5.032	5.019 (0.950)	96	58156			48.23- 108.23	77.66
5.032	5.019 (0.950)	98	36587			21.56- 81.56	48.86
92 2-Butanone					CAS #: 78-93-3		
5.060	5.063 (0.955)	72	27809	199.720	199.72	80.00- 120.00	100.00
5.060	5.063 (0.955)	43	93315			263.34- 323.34	335.56
5.060	5.063 (0.955)	57	8786			0.72- 60.72	31.59
96 Tetrahydrofuran					CAS #: 109-99-9		
5.284	5.284 (0.997)	42	50794	191.297	191.30	80.00- 120.00	100.00
5.284	5.284 (0.997)	71	24453			23.22- 83.22	48.14
5.284	5.284 (0.997)	72	26618			25.49- 85.49	52.40
100 Chloroform					CAS #: 67-66-3		
5.368	5.368 (1.013)	83	112742	204.647	204.65	80.00- 120.00	100.00
5.368	5.368 (1.013)	85	73788			36.07- 96.07	65.45
103 Cyclohexane					CAS #: 110-82-7		
5.480	5.480 (1.034)	84	77715	205.712	205.71	80.00- 120.00	100.00
5.480	5.480 (1.034)	56	87664			77.00- 137.00	112.80
5.480	5.480 (1.034)	41	46538			24.48- 84.48	59.88

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
104 1,1,1-Trichloroethane					CAS #: 71-55-6		
5.508	5.514 (1.040)	97	116722	205.584	205.58	80.00- 120.00	100.00
5.522	5.514 (1.042)	99	74133			34.24- 94.24	63.51
108 Carbon Tetrachloride					CAS #: 56-23-5		
5.648	5.648 (1.066)	119	123877	212.041	212.04	80.00- 120.00	100.00
5.648	5.648 (1.066)	117	128185			73.64- 133.64	103.48
117 2,2,4-Trimethylpentane					CAS #: 540-84-1		
5.900	5.902 (1.114)	57	270144	209.018	209.02	80.00- 120.00	100.00
5.900	5.902 (1.114)	56	86629			2.41- 62.41	32.07
5.900	5.902 (1.114)	41	71677			0.00- 53.81	26.53
118 Benzene					CAS #: 71-43-2		
5.928	5.928 (0.922)	78	166341	198.906	198.91	80.00- 120.00	100.00
5.928	5.928 (0.922)	77	41265			0.00- 54.09	24.81
121 1,2-Dichloroethane					CAS #: 107-06-2		
6.054	6.042 (0.941)	62	77977	202.565	202.56	80.00- 120.00	100.00
6.054	6.042 (0.941)	64	24821			3.21- 63.21	31.83
124 Heptane					CAS #: 142-82-5		
6.138	6.136 (0.954)	71	61004	195.660	195.66	80.00- 120.00	100.00
6.138	6.136 (0.954)	43	77856			90.25- 150.25	127.62
6.138	6.136 (0.954)	100	18623			0.00- 58.91	30.53
129 Trichloroethene					CAS #: 79-01-6		
6.669	6.671 (1.037)	95	76470	199.423	199.42	80.00- 120.00	100.00
6.669	6.671 (1.037)	130	80658			78.88- 138.88	105.48
6.669	6.671 (1.037)	97	49811			35.90- 95.90	65.14
133 Methylcyclohexane					CAS #: 108-87-2		
6.809	6.804 (1.059)	83	106407	201.564	201.56	80.00- 120.00	100.00
6.809	6.804 (1.059)	98	51986			16.99- 76.99	48.86
6.809	6.804 (1.059)	55	82152			43.70- 103.70	77.21
138 1,2-Dichloropropane					CAS #: 78-87-5		
7.019	7.019 (1.091)	63	65342	205.410	205.41	80.00- 120.00	100.00
7.019	7.019 (1.091)	62	44155			40.28- 100.28	67.58
7.019	7.019 (1.091)	41	35383			21.25- 81.25	54.15
139 1,4-Dioxane					CAS #: 123-91-1		
7.173	7.168 (1.115)	88	40992	201.186	201.18	80.00- 120.00	100.00
7.159	7.168 (1.113)	58	26560			38.82- 98.82	64.79
7.159	7.168 (1.113)	57	9549			0.00- 54.14	23.29

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
144 Bromodichloromethane					CAS #: 75-27-4		
7.397	7.395 (1.150)	83	123832	207.812	207.81	80.00- 120.00	100.00
7.397	7.395 (1.150)	85	80721			35.00- 95.00	65.19
151 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
8.097	8.097 (1.259)	75	104809	202.461	202.46	80.00- 120.00	100.00
8.097	8.097 (1.259)	77	33999			2.65- 62.65	32.44
8.097	8.097 (1.259)	39	53170			18.79- 78.79	50.73
154 4-Methyl-2-pentanone					CAS #: 108-10-1		
8.376	8.374 (1.302)	85	22502	177.802	177.80	80.00- 120.00	100.00
8.376	8.374 (1.302)	43	117884			460.46- 520.46	523.88
8.376	8.374 (1.302)	58	53157			186.56- 246.56	236.23
156 Toluene					CAS #: 108-88-3		
8.572	8.580 (1.333)	91	212960	194.295	194.30	80.00- 120.00	100.00
8.572	8.580 (1.333)	92	123628			26.83- 86.83	58.05
160 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
9.076	9.076 (0.879)	75	91675	190.679	190.68	80.00- 120.00	100.00
9.076	9.076 (0.879)	77	30041			2.27- 62.27	32.77
9.076	9.076 (0.879)	39	45537			17.57- 77.57	49.67
162 1,1,2-Trichloroethane					CAS #: 79-00-5		
9.314	9.314 (0.902)	97	74258	200.218	200.22	80.00- 120.00	100.00
9.314	9.314 (0.902)	99	45367			31.36- 91.36	61.09
9.314	9.314 (0.902)	83	63298			57.18- 117.18	85.24
163 Tetrachloroethene					CAS #: 127-18-4		
9.328	9.330 (0.904)	166	101465	191.647	191.65	80.00- 120.00	100.00
9.328	9.330 (0.904)	129	79976			46.86- 106.86	78.82
9.328	9.330 (0.904)	131	76182			46.25- 106.25	75.08
166 2-Hexanone					CAS #: 591-78-6		
9.608	9.608 (0.931)	58	62682	185.125	185.12	80.00- 120.00	100.00
9.608	9.608 (0.931)	43	103672			132.92- 192.92	165.39
9.608	9.608 (0.931)	100	13815			0.00- 52.05	22.04
169 Dibromochloromethane					CAS #: 124-48-1		
9.748	9.748 (0.944)	129	137892	192.141	192.14	80.00- 120.00	100.00
9.748	9.748 (0.944)	127	107927			47.27- 107.27	78.27
176 1,2-Dibromoethane (EDB)					CAS #: 106-93-4		
9.874	9.874 (0.957)	107	117508	195.413	195.41	80.00- 120.00	100.00
9.874	9.874 (0.957)	109	110305			62.36- 122.36	93.87

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
180 Chlorobenzene					CAS #: 108-90-7		
10.349	10.349 (1.003)	112	174067	190.657	190.66	80.00- 120.00	100.00
10.349	10.349 (1.003)	114	53875			1.61- 61.61	30.95
10.349	10.349 (1.003)	77	99075			26.63- 86.63	56.92
181 Ethyl Benzene					CAS #: 100-41-4		
10.433	10.433 (1.011)	106	89443	195.683	195.68	80.00- 120.00	100.00
10.433	10.433 (1.011)	91	275992			276.73- 336.73	308.57
184 m,p-Xylene					CAS #: 108-38-3		
10.545	10.545 (1.022)	106	109309	194.443	194.44	80.00- 120.00	100.00
10.545	10.545 (1.022)	91	215819			166.48- 226.48	197.44
189 o-Xylene					CAS #: 95-47-6		
10.895	10.895 (1.056)	106	103252	198.397	198.40	80.00- 120.00	100.00
10.895	10.895 (1.056)	91	216587			183.14- 243.14	209.77
190 Styrene					CAS #: 100-42-5		
10.923	10.923 (1.058)	104	164145	200.587	200.59	80.00- 120.00	100.00
10.923	10.923 (1.058)	78	82063			17.49- 77.49	49.99
194 Bromoform					CAS #: 75-25-2		
11.091	11.091 (1.075)	173	128046	197.176	197.18	80.00- 120.00	100.00
11.091	11.091 (1.075)	171	65546			21.78- 81.78	51.19
196 Cumene					CAS #: 98-82-8		
11.175	11.175 (1.083)	105	320323	194.682	194.68	80.00- 120.00	100.00
11.175	11.175 (1.083)	120	86076			0.00- 57.49	26.87
11.175	11.175 (1.083)	51	31073			0.00- 38.96	9.70
200 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
11.469	11.469 (1.111)	83	163079	196.690	196.69	80.00- 120.00	100.00
11.469	11.469 (1.111)	85	106006			35.12- 95.12	65.00
201 Propylbenzene					CAS #: 103-65-1		
11.483	11.483 (1.113)	91	349808	194.694	194.69	80.00- 120.00	100.00
11.483	11.483 (1.113)	120	82739			0.00- 54.39	23.65
11.483	11.483 (1.113)	105	13553			0.00- 33.66	3.87
206 4-Ethyltoluene					CAS #: 622-96-8		
11.567	11.562 (1.121)	105	283686	200.490	200.49	80.00- 120.00	100.00
11.567	11.562 (1.121)	120	85563			0.69- 60.69	30.16
207 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
11.609	11.609 (1.125)	105	272801	212.712	212.71	80.00- 120.00	100.00
11.609	11.609 (1.125)	120	128292			16.81- 76.81	47.03

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
212 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
11.846	11.847 (1.148)	105	196743	190.215	190.22	80.00- 120.00	100.00
11.846	11.847 (1.148)	120	89490			16.57- 76.57	45.49
219 1,3-Dichlorobenzene					CAS #: 541-73-1		
12.042	12.042 (1.167)	146	175017	196.088	196.09	80.00- 120.00	100.00
12.042	12.042 (1.167)	148	113015			32.90- 92.90	64.57
12.042	12.042 (1.167)	111	71346			9.17- 69.17	40.77
221 1,4-Dichlorobenzene					CAS #: 106-46-7		
12.098	12.098 (1.172)	146	175289	203.009	203.01	80.00- 120.00	100.00
12.098	12.098 (1.172)	148	111393			35.22- 95.22	63.55
12.098	12.098 (1.172)	111	66736			7.96- 67.96	38.07
223 alpha-Chlorotoluene					CAS #: 100-44-7		
12.182	12.182 (1.180)	91	214988	197.080	197.08	80.00- 120.00	100.00
12.182	12.182 (1.180)	126	46978			0.00- 51.56	21.85
227 1,2-Dichlorobenzene					CAS #: 95-50-1		
12.322	12.322 (1.194)	146	161172	199.291	199.29	80.00- 120.00	100.00
12.322	12.322 (1.194)	148	101581			33.30- 93.30	63.03
12.322	12.322 (1.194)	111	65219			10.19- 70.19	40.47
233 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
13.162	13.162 (1.275)	180	62120	177.763	177.76	80.00- 120.00	100.00
13.162	13.162 (1.275)	182	59498			67.17- 127.17	95.78
234 Hexachlorobutadiene					CAS #: 87-68-3		
13.204	13.204 (1.279)	225	50011	196.700	196.70	80.00- 120.00	100.00
13.204	13.204 (1.279)	223	30048			31.62- 91.62	60.08
235 Naphthalene					CAS #: 91-20-3		
13.302	13.295 (1.289)	128	11582	17.3635	17.364	80.00- 120.00	100.00(a)
13.302	13.295 (1.289)	127	1851			0.00- 45.62	15.98

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32APPTV002

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd14.i
Lab File ID: 14082904a.d
Lab Smp Id: LCSD
Analysis Type: VOA
Quant Type: ISTD
Operator: AK
Method File: /chem1/msd14.i/29AUG19.b/14950821a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 29-AUG-2019
Calibration Time: 08:30
Client Smp ID: LCSD
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	76060	45636	106484	73366	-3.54
127 1,4-Difluorobenze	286922	172153	401691	281661	-1.83
179 Chlorobenzene-d5	262234	157340	367128	260827	-0.54

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
97 Bromochloromethan	5.30	4.97	5.63	5.30	-0.00
127 1,4-Difluorobenze	6.43	6.10	6.76	6.43	-0.00
179 Chlorobenzene-d5	10.32	9.99	10.65	10.32	-0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem1/msd14.i/29AUG19.b/14082904a.d

Date : 29-AUG-2019 09:22

Client ID: LCSD

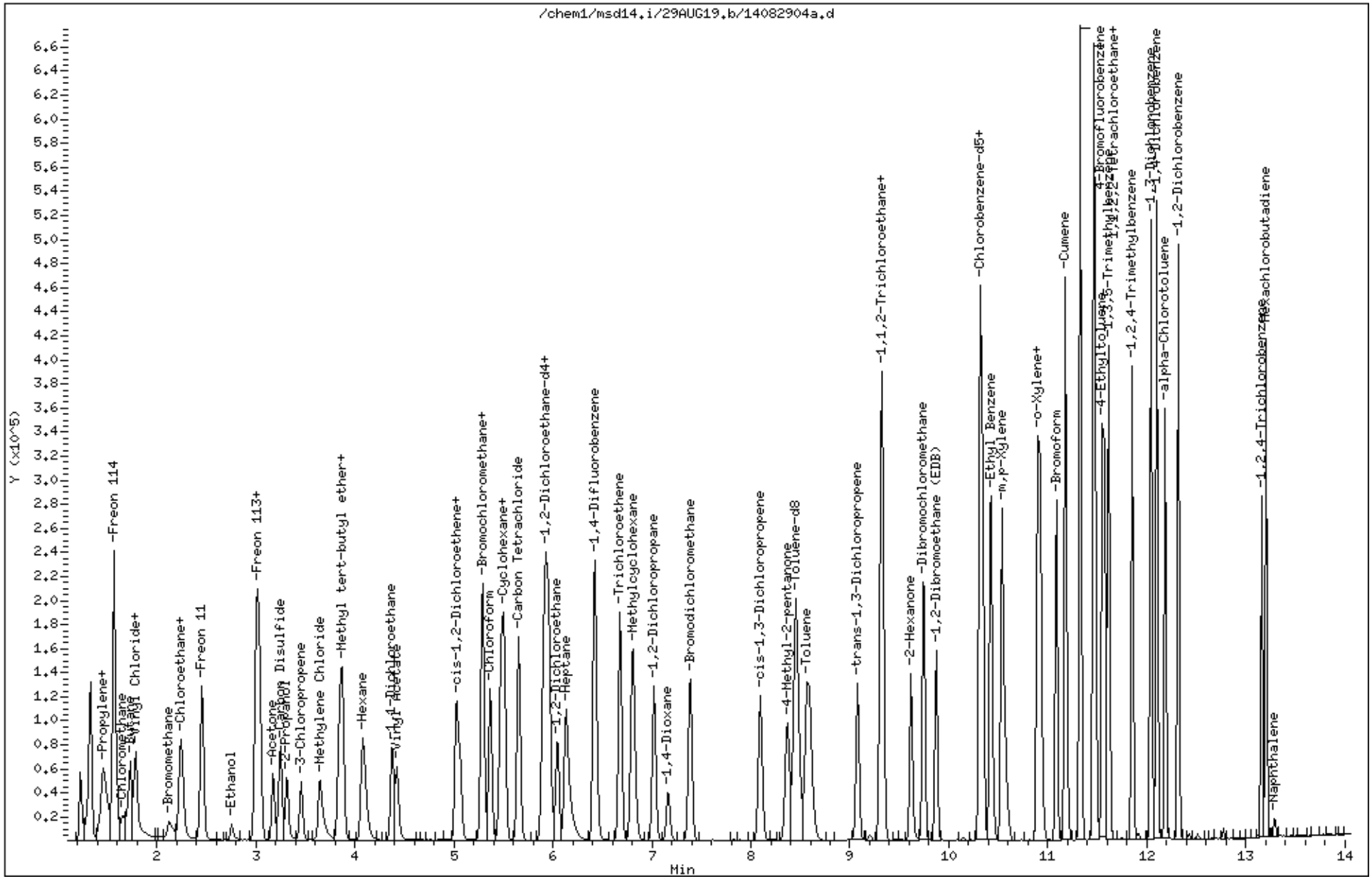
Sample Info: 50mL #3018-871

Column phase: RTX-624

Instrument: msd14.i

Operator: AK

Column diameter: 0.18



Eurofins Air Toxics | **MSD-14** | **Logbook #3105**

BFB Verification of 176/174 m/z Ratio: (153216/161216) x100 = 95.04 %
Method Name: 149508211

IS/S Std. #: 3084-181	Exp. Date: 10/3/19
BCM	76060
1,4-DFB	236,922
CB-d5	262,234

Verified CCV IS vs ICAL mid-point (-40%D): AK/MB

SOP# (Circle one): 6 / 83 / 38 / (91) / 109 / 132 Method (Circle one): (TO-14A/TO-15) TO-17

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date/Syringe ID
1	✓	1408901	BFB Tune Check	2810-1230	50ng	2.0mL	1.00	AK	8/29/19	0813	AK/MB	Apex-1 Scan 305
2	✓	02	CCV (200 ppbv)	3018-909	200 ppbv	50mL		AK		0830	AK/MB	exp 11/21/19 2 out ↓
3	✓	03	LCS (200 ppbv)	3018-871				AK		0858	AK/MB	exp 10/26/19 0 out
4	✓	04	LCSD (200 ppbv)					AK		0922	AK/MB	0 out RPD 0 out
5	✓	05 06	Lab blank	33665	Humid			AK		0949	AK/MB	
6	✓	06 07	1908555-01A	L3885	6.9"Hg-15psi	50mL	2.62	AK		1049	AK/MB	
7	✓	07 08	-01AA				1	AK		1113	AK/MB	
8	✓	08 09	-02A	L2376	5.9"Hg-15psi		2.52	AK		1136	AK/MB	
9	✓	09 10	-03A	L2403	6.5"Hg-15psi		2.58	AK		1200	AK/MB	
10	✓	10 11	-04A	L1549	6.3"Hg-15psi		2.55	AK		1228	AK/KK	
11	/	11 12	-05A	L2953	4.9"Hg-15psi		2.41	AK		1339	AK/KK	
12	/	12 13	1908594-01A	Lab	5P-100	50mL	1.00	AK		1402	KK	method dil
13	/	13 14	1908555-06A	L2279	4.3"Hg→14.8psi	50ml	2.34	KK		1425	KK	
14	/	14 15	-07A	1368	7.3"Hg→15psi	50ml	2.68	KK		1446	KK	
15	/	15 16	-08A	L2344	6.5"Hg→14.7psi	50ml	2.56	KK		1508	KK	
16	/	16 17	-09A	L1518	6.3"Hg→14.9psi	50ml	2.55	KK		~~1519~~ 1529	KK	
17	/	17 18 MB 8/30/19	-10A	L3081	6.7"Hg→14.9psi	50ml	2.60	KK	↓	1549	KK	

Reviewed* 8/29/19 Date

*Must be an independent reviewer

	Use	File	Lab ID#	Can#/ Standard ID#	Pressure	Amt. Loaded	DF	Loaded By Initials	Date Analyzed	Time Analyzed	Reviewed By Initials	Comments/Standard Expiration Date/Syringe ID
18	/	18 14082919	1908555-11A	1L1685	5.9"Hg→14.9psi	50ml	2.51	KK	8/29/19	1610	KK	
19	/	19 20	-12A	1L2679	5.5"Hg→15psi	50ml	2.48	KK		1630	KK	
20	/	20 21	-13A	1L2444	6.1"Hg→14.9psi	50ml	2.53	KK		1651	KK	
21	/	21 22	-14A	1L3132	6.3"Hg→14.8psi	50ml	2.54	KK		1711	KK	
22	/	22 23	-15A	34002438	4.9"Hg→14.8psi	50ml	2.40	KK		1732	KK	
23	/	23 24	-16A	1L2828	5.1"Hg→15psi	50ml	2.43	KK		1753	KK	
24	/	24 25	-17A	6599	6.7"Hg→15.1psi	50ml	2.61	KK		1813	KK	
25	/	25 26	-18A	1L2342	5.3"Hg→14.7psi	50ml	2.43	KK		1834	KK	
26	/	26 27	1908607-01A	1L2301	6.0"Hg→15psi	50ml	2.52	KK		1855	KK	
27	/	27 28	08/30/19 CCV (200ppbv)	3018-909	200ppbv	50ml	1.00	KK	↓	1916	KK	exp. 11/21/19, End Check
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												

KK 8/29/19

MS
Reviewed*

8/29/19
Date

*Must be an independent reviewer

US32APPTV002

Data file : /chem/msd14.i/21AUG19.b/14082111.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 21-AUG-2019 17:03
Operator : DF Inst ID: msd14.i
Smp Info : 2.0 uL 2810-1230 BFB; BFB
Misc Info : 50ng
Comment :
Method : /chem/msd14.i/21AUG19.b/bfb20.m
Meth Date : 06-Aug-2018 09:26 uexa Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER
Processing Host: us32apptv003

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
2.726	2.483	0.243	95	289152			100.00- 100.00	100.00
2.726	2.483	0.243	50	69266			8.00- 40.00	23.95
2.726	2.483	0.243	75	148138			30.00- 66.00	51.23
2.726	2.483	0.243	96	20480			5.00- 9.00	7.08
2.726	2.483	0.243	173	2342			0.00- 1.99	1.16
2.726	2.483	0.243	174	201216			50.01- 120.00	69.59
2.726	2.483	0.243	175	14036			4.00- 9.00	6.98
2.726	2.483	0.243	176	195477			93.00- 101.00	97.15
2.726	2.483	0.243	177	12319			5.00- 9.00	6.30

Data File: /chem/msd14.i/21AUG19.b/14082111.d

Date : 21-AUG-2019 17:03

Client ID: BFB

Instrument: msd14.i

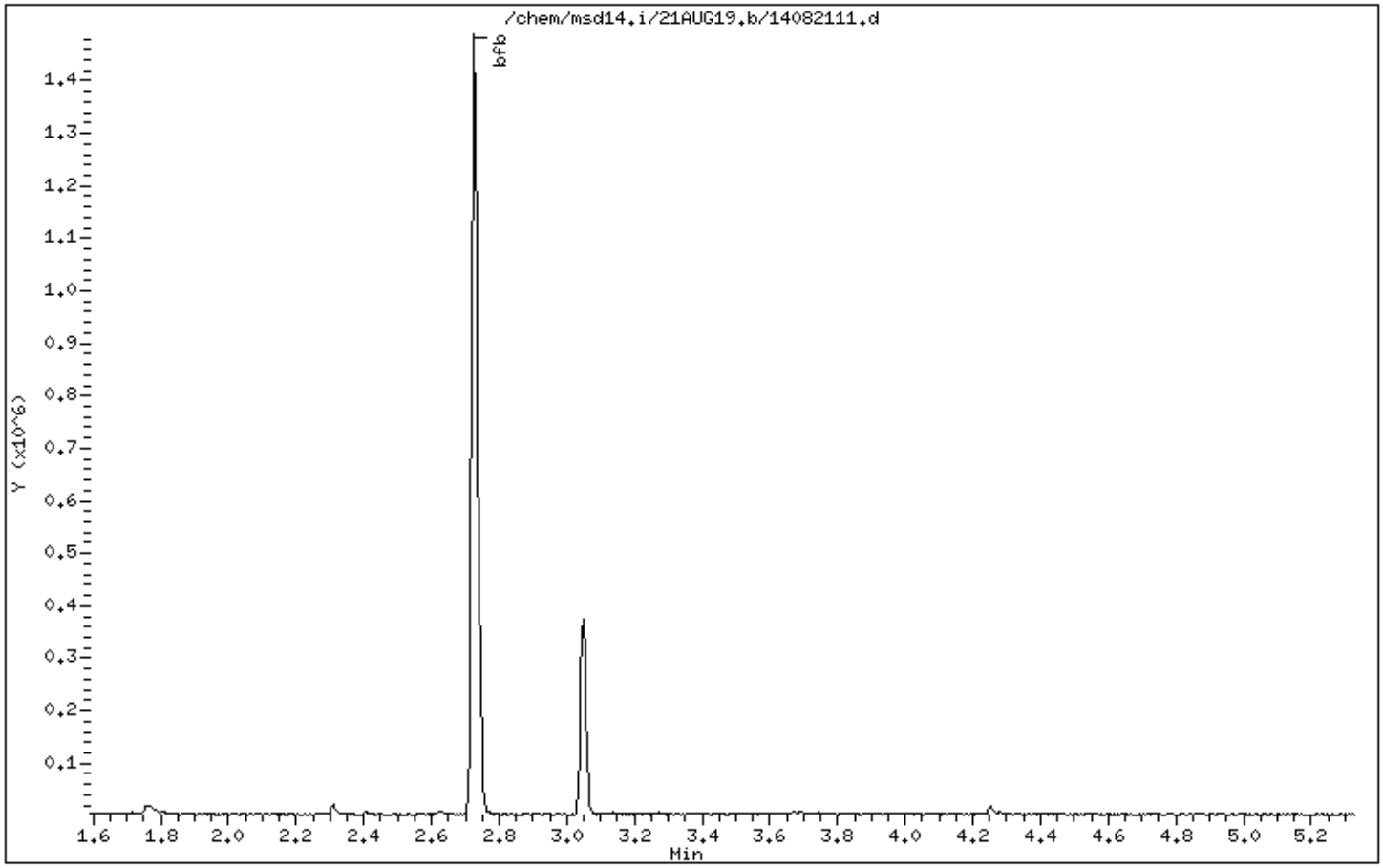
Sample Info: 2.0 uL 2810-1230 BFB; BFB

Volume Injected (uL): 1.0

Operator: DF

Column phase:

Column diameter: 2.00



Data File: /chem/msd14.i/21AUG19.b/14082111.d

Date : 21-AUG-2019 17:03

Client ID: BFB

Instrument: msd14.i

Sample Info: 2.0 uL 2810-1230 BFB; BFB

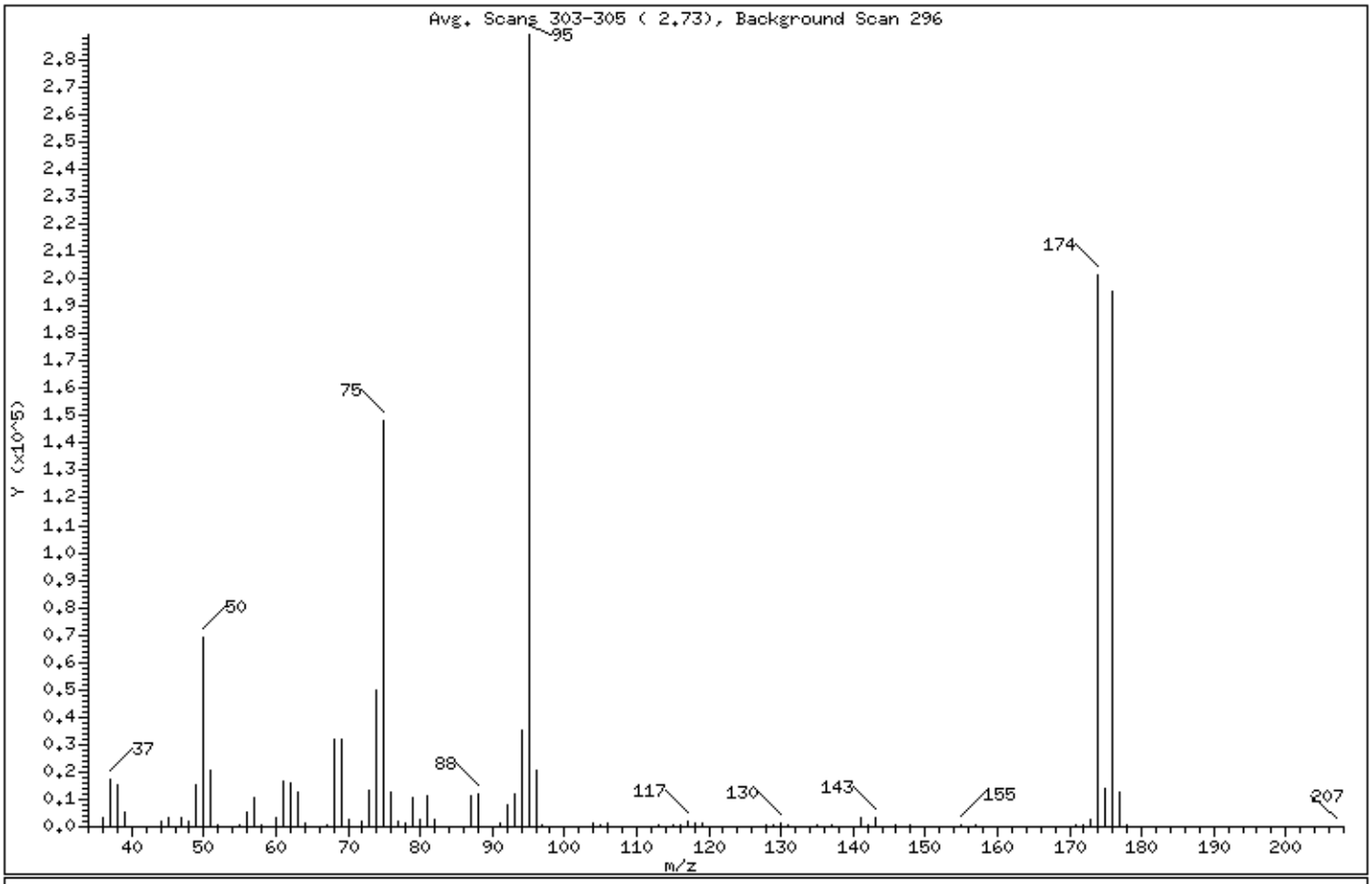
Volume Injected (uL): 1.0

Operator: DF

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	23.95
75	30.00 - 66.00% of mass 95	51.23
96	5.00 - 9.00% of mass 95	7.08
173	Less than 1.99% of mass 174	0.81 (1.16)
174	50.01 - 120.00% of mass 95	69.59
175	4.00 - 9.00% of mass 174	4.85 (6.98)
176	93.00 - 101.00% of mass 174	67.60 (97.15)
177	5.00 - 9.00% of mass 176	4.26 (6.30)

Date : 21-AUG-2019 17:03

Client ID: BFB Instrument: msd14.i

Sample Info: 2.0 uL 2810-1230 BFB; BFB

Volume Injected (uL): 1.0 Operator: DF

Column phase: Column diameter: 2.00

Data File: 14082111.d
Spectrum: Avg. Scans 303-305 (2.73), Background Scan 296
Location of Maximum: 95.00
Number of points: 111

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	67	66.00	77	103.00	193	141.00	3051
36.00	3316	67.00	869	104.00	1432	142.00	415
37.00	17200	68.00	31984	105.00	372	143.00	3112
38.00	15191	69.00	32008	106.00	1435	144.00	156
39.00	5230	70.00	2340	107.00	317	145.00	231
40.00	303	71.00	115	110.00	141	146.00	424
42.00	61	72.00	1666	111.00	330	147.00	110
43.00	97	73.00	13405	112.00	262	148.00	766
44.00	1885	74.00	50096	113.00	391	149.00	251
45.00	3453	75.00	148096	115.00	346	150.00	120
46.00	197	76.00	12792	116.00	872	152.00	216
47.00	3510	77.00	1911	117.00	2024	153.00	250
48.00	2114	78.00	1305	118.00	1359	154.00	220
49.00	15178	79.00	10480	119.00	1317	155.00	795
50.00	69264	80.00	2854	120.00	54	157.00	398
51.00	20688	81.00	11003	123.00	53	159.00	305
52.00	819	82.00	2400	124.00	276	161.00	214
55.00	864	83.00	220	125.00	126	170.00	66
56.00	5581	86.00	287	126.00	75	171.00	484
57.00	10764	87.00	11401	127.00	114	172.00	419
58.00	498	88.00	11633	128.00	973	173.00	2342
59.00	57	91.00	1171	129.00	659	174.00	201216
60.00	3329	92.00	7907	130.00	1078	175.00	14036
61.00	16432	93.00	12188	131.00	383	176.00	195456
62.00	15957	94.00	34992	135.00	560	177.00	12319
63.00	12371	95.00	289152	137.00	668	178.00	424
64.00	1026	96.00	20480	138.00	85	207.00	51
65.00	109	97.00	584	140.00	230		

US32APPTV002

Data file : /chem1/msd14.i/29AUG19.b/14082901.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 29-AUG-2019 08:13
Operator : AK Inst ID: msd14.i
Smp Info : 2.0 uL 2810-1230 BFB; BFB
Misc Info : 50ng
Comment :
Method : /chem/msd14.i/29AUG19.b/bfb20.m
Meth Date : 06-Aug-2018 09:26 uexa Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
2.734	2.483	0.251	95	244672			100.00- 100.00	100.00
2.734	2.483	0.251	50	58200			8.00- 40.00	23.79
2.734	2.483	0.251	75	131056			30.00- 66.00	53.56
2.734	2.483	0.251	96	16832			5.00- 9.00	6.88
2.734	2.483	0.251	173	1850			0.00- 1.99	1.15
2.734	2.483	0.251	174	161216			50.01- 120.00	65.89
2.734	2.483	0.251	175	12728			4.00- 9.00	7.89
2.734	2.483	0.251	176	153216			93.00- 101.00	95.04
2.734	2.483	0.251	177	10506			5.00- 9.00	6.86

Data File: /chem1/msd14.i/29AUG19.b/14082901.d

Date : 29-AUG-2019 08:13

Client ID: BFB

Instrument: msd14.i

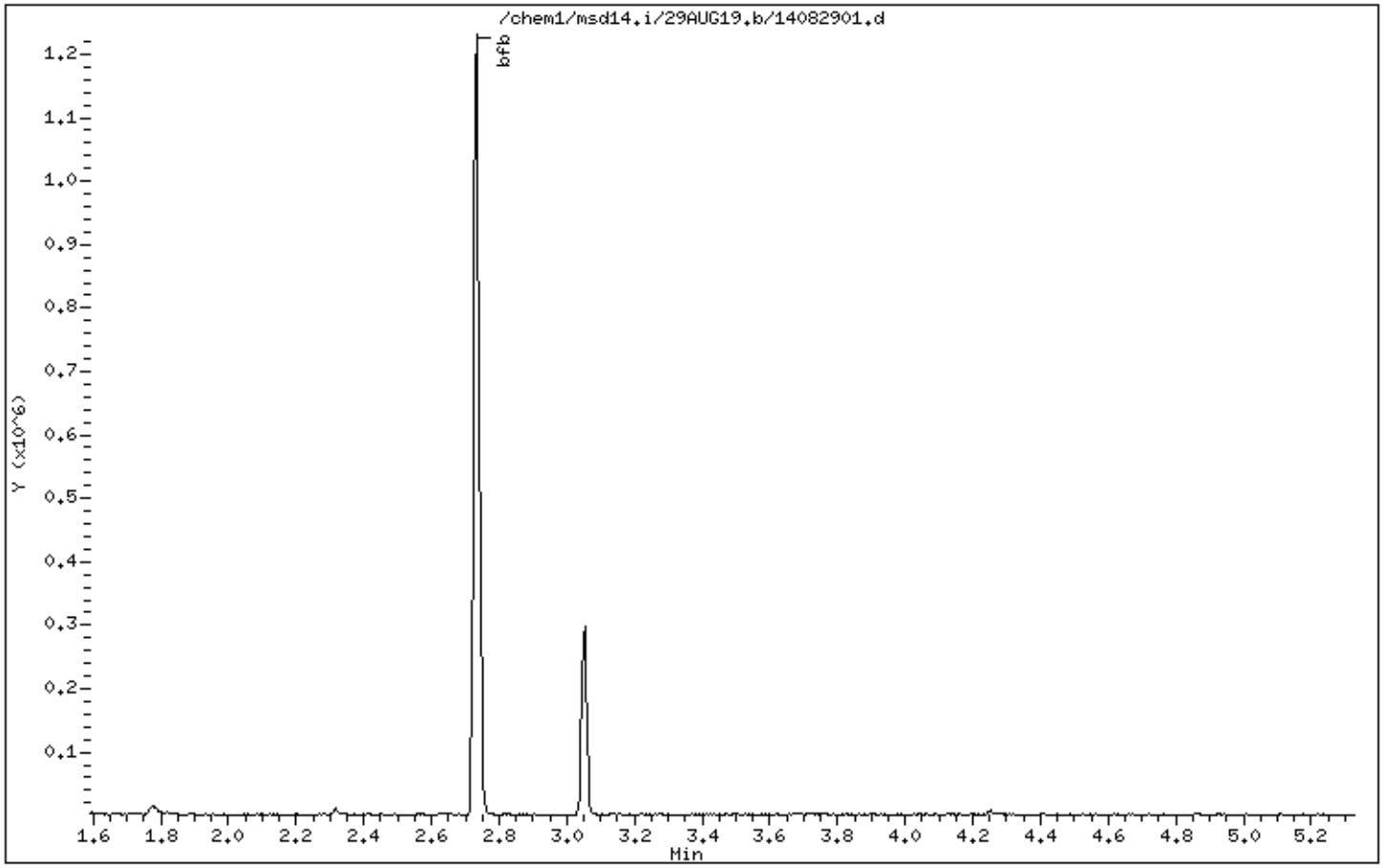
Sample Info: 2.0 uL 2810-1230 BFB; BFB

Volume Injected (uL): 1.0

Operator: AK

Column phase:

Column diameter: 2.00



Data File: /chem1/msd14.i/29AUG19.b/14082901.d

Date : 29-AUG-2019 08:13

Client ID: BFB

Instrument: msd14.i

Sample Info: 2.0 uL 2810-1230 BFB; BFB

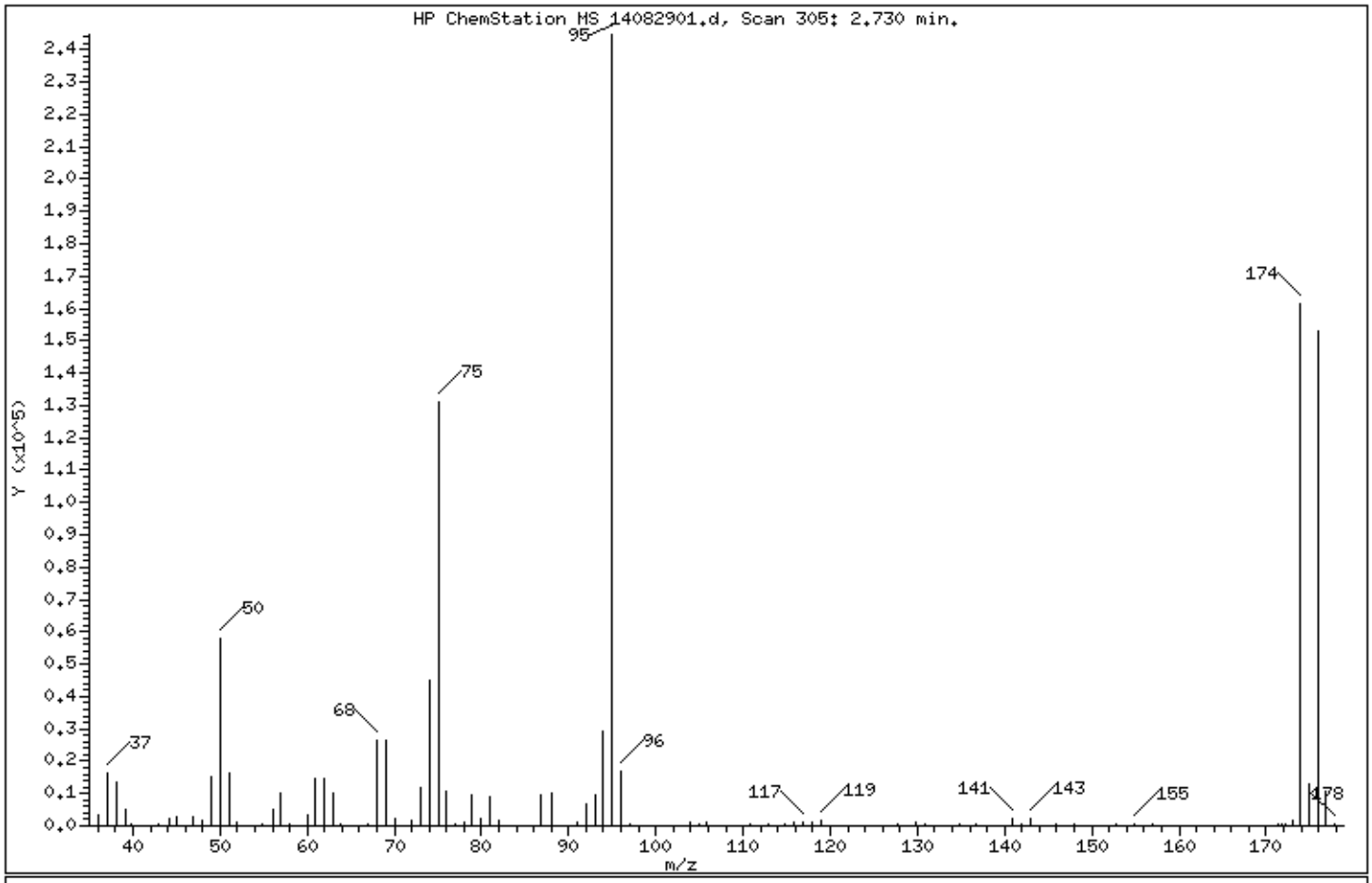
Volume Injected (uL): 1.0

Operator: AK

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	23.79
75	30.00 - 66.00% of mass 95	53.56
96	5.00 - 9.00% of mass 95	6.88
173	Less than 1.99% of mass 174	0.76 (1.15)
174	50.01 - 120.00% of mass 95	65.89
175	4.00 - 9.00% of mass 174	5.20 (7.89)
176	93.00 - 101.00% of mass 174	62.62 (95.04)
177	5.00 - 9.00% of mass 176	4.29 (6.86)

Date : 29-AUG-2019 08:13

Client ID: BFB Instrument: msd14.i

Sample Info: 2.0 uL 2810-1230 BFB; BFB

Volume Injected (uL): 1.0 Operator: AK

Column phase: Column diameter: 2.00

Data File: 14082901.d
Spectrum: HP ChemStation MS 14082901.d, Scan 305: 2.730 min.
Location of Maximum: 95.00
Number of points: 96

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3243	68.00	26544	103.90	1314	144.70	173
37.10	16284	69.00	26536	104.90	551	145.80	506
38.10	13545	70.00	2026	105.90	1202	146.80	243
39.10	5313	72.00	1686	106.70	162	147.90	378
39.90	466	73.00	11830	110.00	150	148.80	164
42.90	314	74.00	44752	110.90	644	149.90	202
44.10	2174	75.00	131056	112.90	379	152.80	416
45.00	2873	76.00	10868	114.80	358	153.80	164
47.00	2974	76.90	676	115.90	1051	154.90	561
48.00	1726	78.00	1219	116.80	1349	156.90	420
49.00	15059	78.90	9577	117.90	883	158.80	237
50.00	58200	79.90	2344	118.90	1696	170.80	224
51.10	16094	81.00	8784	123.80	165	171.40	345
52.00	1087	82.00	1884	127.70	841	171.80	330
54.90	801	82.70	248	128.90	201	172.20	358
56.00	4876	86.90	9690	129.90	1016	173.10	1850
57.00	10008	88.00	9875	130.80	329	173.90	161216
57.90	426	90.90	949	134.90	639	174.90	12728
60.00	3190	92.00	6656	136.80	403	175.90	153216
61.00	14562	93.00	9388	138.90	154	176.90	10506
62.00	14860	94.00	29040	140.20	277	177.90	326
63.00	10069	95.00	244672	140.90	2439		
63.90	716	96.00	16832	141.90	395		
65.00	237	97.00	408	142.90	2239		
66.90	600	102.90	199	144.00	216		

Shipping/ Receiving Documents

eurofins | Air Toxics

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics, Inc. (EATL). We have received your samples and have listed any Sample Receipt Descrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Air Toxics, Ltd. at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

Please note : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020
Hours 6:30 A.M to 5:30 P.M. PST

1908555

Ahtna

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

SOIL GAS / AIR

Chain of Custody #: 1707

Carbon Copies: White - Laboratory Yellow - Ahtna

0507 of 0526

Project Information:

Project Location: FFO, Marina, CA
Sampler/s: A. Mandic
Project Name: Site 12 Soil Gas Sampling
Report To: Derek Liebermen
Project Number: 2106.000.01.0000
E-Mail: dliebermen@ahtna.net
Sampling Event: 3Q2019
Laboratory: EUROFINS

Lab Sample Receipt

Laboratory Sample Delivery
Group #:
Custody Seal:

Lab Number	Sample Number/Description	Sample Collection Date	Sample Collection Time	Matrix: Soil Gas	Matrix: Ambient Air	Matrix: Other	SUMMA Canister Collection: Canister ID	SUMMA Canister Collection: Regulator ID	SUMMA Canister Collection: Final Vacuum ("Hg)	Analysis Requested: TO-15	Notes
01A	1934A212023F	8/19/19	1331	X			1L3885	22546	-6.5	X	
02A	1934A212024F	8/19/19	1518	X			1L2376	22527	-7.0	X	
03A	1934A212025F	8/19/19	1619	X			1L2403	30727	-8.0	X	
04A	1934A212026D	8/19/19	1625	X			1L1549	30727	-7.0	X	
05A	1934A212027F	8/20/19	0918	X			1L2953	100498	-6.5	X	
06A	1934A212028F	8/20/19	0921	X			1L2779	22524	-6.0	X	
07A	1934A212029F	8/20/19	1112	X			1368	22415	-8.0	X	
08A	1934A212030F	8/20/19	1115	X			1L2344	22438	-7.5	X	
09A	1934A212031F	8/20/19	1456	X			1L1518	22392	-7.0	X	
10A	1934A212032D	8/20/19	1504	X			1L3081	22392	-7.5	X	
11A	1934A212033F	8/20/19	1644	X			1L1680	22359	-7.0	X	
12A	1934A212034F	8/20/19	1647	X			1L2679	20332	-6.5	X	
13A	1934A212035F	8/20/19	1830	X			1L2444	22538	-8.0	X	

FedEx

Custody Seal Intact?

Y N None Temp NA

Turnaround Time: ____ : Standard ____ : 3-5 Day Rush ____ : 48 Hour Rush ____ : 24 Hour Rush

Shipment: Method: Fed Ex Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By/Sampler:	Date/Time:	Received By:	Date/Time:
	8/22/19 0830	ATL	8/23/19 1000
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By Laboratory:	Date/Time:

1908555

Ahtna
296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

SOIL GAS / AIR

Chain of Custody #: 1709
Carbon Copies: White - Laboratory Yellow - Ahtna

0508 of 0526

Project Information:

Project Location: FFO Marina, CA
Sampler/s: A. Marack
Project Name: Site 12 Soil Gas Samples
Report To: Derek Lieberman
Project Number: 21065.000.01.0000
E-Mail: dlieberman@ahtna.net
Sampling Event: 3Q2019
Laboratory: Eurofins

Lab Sample Receipt

Laboratory Sample Delivery
Group #:
Custody Seal:

Lab Number	Sample Number/Description	Sample Collection Date	Sample Collection Time	Matrix: Soil Gas	Matrix: Ambient Air	Matrix: Other	SUMMA Canister Collection: Canister ID	SUMMA Canister Collection: Regulator ID	SUMMA Canister Collection: Final Vacuum ("Hg)	Analysis Requested: TO-15	Notes
14A	1934A212036F	8/21/19	0920	X			163132	22535	-7.0	X	
15A	1934A212037F	8/21/19	1020	X			3400243	22613	-5.0	X	
16A	1934A212038F	8/21/19	1205	X			162828	22401	-6.0	X	
17A	1934A212039F	8/21/19	1405	X			6599	100582	-7.0	X	
18A	1934A212040F	8/21/19	1500	X			162342	30602	-6.0	X	

FedEx
Custody Seal Intact?
Y N None Temp

Turnaround Time: X : Standard ____ : 3-5 Day Rush ____ : 48 Hour Rush ____ : 24 Hour Rush

Shipment: Method: FEDEX Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By Sampler:	Date/Time: 8/22/19 0930	Received By: CATL	Date/Time: 8/23/19 1000
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By Laboratory:	Date/Time:

Air Toxics Ltd.

TO-14A/TO-15 5&20 SURR Control Limits (msd14, msdj)

Effective Dates 07/01/19 - 01/01/20

Data Point Analysis Dates 12/30/18 - 06/30/19

Compound Name	Upper Control Limit (%)	Lower Control Limit (%)	Upper ME Limit (%)	Lower ME Limit (%)	Upper Warning Limit (%)	Lower Warning Limit (%)
1,2-Dichloroethane-d4	133	64	144	53	121	76
4-Bromofluorobenzene	110	83	115	79	106	88
Toluene-d8	115	86	120	81	110	90

Table 42. Method RSK-175 Water Matrix

CAS ID	Analyte	N Records	Mean	Standard Deviation	Lower Control Limit	Upper Control Limit
74-86-2	Acetylene	719	99.6	9.8	70	129
106-97-8	Butane	262	97.3	7.3	75	119
124-38-9	Carbon dioxide	441	100.8	6.9	80	122
74-84-0	Ethane	2240	102.6	9.6	74	131
74-85-1	Ethylene	2284	102.5	10.2	72	133
75-28-5	Isobutane	267	97.6	6.6	78	117
74-82-8	Methane	2459	99.2	8.7	73	125
74-98-6	Propane	900	98.1	8.2	74	123

Table 43. Method TO-15 Gas Matrix

CAS ID	Analyte	N Records	Mean	Standard Deviation	Lower Control Limit	Upper Control Limit
630-20-6	1,1,1,2-Tetrachloroethane	1344	97.9	10.5	67	129
71-55-6	1,1,1-Trichloroethane	5436	96.7	9.5	68	125
79-34-5	1,1,2,2-Tetrachloroethane	5273	95.9	10.4	65	127
79-00-5	1,1,2-Trichloroethane	5332	95.9	7.7	73	119
76-13-1	1,1,2-Trifluoro-1,2,2-trichloroethane [Freon-113]	5351	96.1	10	66	126
75-34-3	1,1-Dichloroethane	5422	97	9.7	68	126
75-35-4	1,1-Dichloroethene	3503	97.3	11.9	61	133
96-18-4	1,2,3-Trichloropropane	465	99.6	8	76	124
120-82-1	1,2,4-Trichlorobenzene	4545	98.5	14.5	55	142
95-63-6	1,2,4-Trimethylbenzene	4699	99.2	11.1	66	132

Table 43. Method TO-15 Gas Matrix

CAS ID	Analyte	N Records	Mean	Standard Deviation	Lower Control Limit	Upper Control Limit
106-93-4	1,2-Dibromoethane	4655	98.2	7.9	74	122
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	4572	92.4	9.7	63	121
95-50-1	1,2-Dichlorobenzene	4739	95.7	11	63	129
107-06-2	1,2-Dichloroethane	5467	96.8	10.5	65	128
78-87-5	1,2-Dichloropropane	4729	95.7	8.9	69	123
108-67-8	1,3,5-Trimethylbenzene	4679	98.3	10.4	67	130
106-99-0	1,3-Butadiene	3167	99.8	11.4	66	134
541-73-1	1,3-Dichlorobenzene	4737	97.1	10.9	65	130
142-28-9	1,3-Dichloropropane	165	105.2	14.4	62	148
542-75-6	1,3-Dichloropropene	560	100.7	8.1	77	125
106-46-7	1,4-Dichlorobenzene	4719	95.8	11.8	60	131
123-91-1	1,4-Dioxane	2656	96.5	8.6	71	122
540-84-1	2,2,4-Trimethylpentane [Isooctane]	3008	94.3	8.8	68	121
78-93-3	2-Butanone [MEK]	4635	98.4	10.4	67	130
95-49-8	2-Chlorotoluene	1092	101.9	9.2	74	130
591-78-6	2-Hexanone	4600	95.4	11	62	128
67-63-0	2-Propanol [Isopropyl alcohol]	3069	88.4	12.3	52	125
622-96-8	4-Ethyltoluene	4673	97.9	10.3	67	129
108-10-1	4-Methyl-2-pentanone [MIBK]	4646	98.5	10.5	67	130
67-64-1	Acetone	4600	92.7	11.6	58	128
75-05-8	Acetonitrile	1999	97.3	11.6	63	132
107-02-8	Acrolein [Propenal]	2469	93.8	10.6	62	126
107-13-1	Acrylonitrile	2105	103.7	10.9	71	137
107-05-1	Allyl chloride	2980	101.1	10.1	71	131

Table 43. Method TO-15 Gas Matrix

CAS ID	Analyte	N Records	Mean	Standard Deviation	Lower Control Limit	Upper Control Limit
98-83-9	alpha-Methylstyrene	1976	97.3	10.2	67	128
71-43-2	Benzene	5436	93.8	8.4	69	119
100-44-7	Benzyl chloride	4419	98.7	16.2	50	147
75-27-4	Bromodichloromethane	4682	99.9	9.3	72	128
75-25-2	Bromoform	4638	102.3	12.1	66	139
74-83-9	Bromomethane	2657	98.6	11.8	63	134
106-97-8	Butane	587	96.2	10.9	64	129
75-15-0	Carbon disulfide	4756	95.6	12.7	57	134
56-23-5	Carbon tetrachloride	4202	99.6	10.7	68	132
108-90-7	Chlorobenzene	4652	94.5	8	70	119
124-48-1	Chlorodibromomethane	4628	99.9	10	70	130
75-45-6	Chlorodifluoromethane	559	102.1	14.3	59	145
75-00-3	Chloroethane	5370	94.7	10.6	63	127
67-66-3	Chloroform	5481	95.3	9.3	68	123
74-87-3	Chloromethane	4540	95.2	12.2	59	132
156-59-2	cis-1,2-Dichloroethene	5320	95.6	8.4	70	121
10061-01-5	cis-1,3-Dichloropropene	4691	98.8	9.7	70	128
110-82-7	Cyclohexane	3178	93.5	7.7	70	117
124-18-5	Decane	1982	93.8	7.9	70	118
75-71-8	Dichlorodifluoromethane [Freon-12]	5307	93.6	11.5	59	128
108-20-3	Diisopropyl ether	2309	93.5	8	70	117
64-17-5	Ethanol	2981	91.8	11.1	59	125
141-78-6	Ethyl acetate	2835	96.4	10.5	65	128
100-41-4	Ethylbenzene	5420	96.8	9	70	124
142-82-5	Heptane	3163	95.7	8.9	69	123

Table 43. Method TO-15 Gas Matrix

CAS ID	Analyte	N Records	Mean	Standard Deviation	Lower Control Limit	Upper Control Limit
87-68-3	Hexachlorobutadiene	4551	96.7	13.7	56	138
110-54-3	Hexane	3150	91.6	9.5	63	120
98-82-8	Isopropylbenzene	3022	95.6	9.3	68	124
179601-23-1	m/p-Xylene [3/4-Xylene]	5019	97.3	12.3	61	134
80-62-6	Methyl methacrylate	3037	98.9	9.7	70	128
1634-04-4	Methyl tert-butyl ether [MTBE]	4681	95.5	10	66	126
75-09-2	Methylene chloride	5314	88.8	8.9	62	115
71-36-3	n-Butyl alcohol	1981	97.5	11.7	62	133
104-51-8	n-Butylbenzene	2656	97.7	10.6	66	130
112-40-3	n-DoDecane	1932	104.4	14.1	62	147
103-65-1	n-Propylbenzene	2570	95.7	9	69	123
91-20-3	Naphthalene	2439	97.5	13.4	57	138
111-84-2	Nonane	2617	95.4	10.8	63	128
95-47-6	o-Xylene	5334	96.3	9.7	67	125
111-65-9	Octane	2514	95	8.7	69	121
99-87-6	p-Isopropyltoluene [p-Cymene]	2694	98.1	10.5	67	130
109-66-0	Pentane	712	96.7	11.3	63	131
115-07-1	Propene	3193	96.6	13.3	57	136
135-98-8	sec-Butylbenzene	2665	96.4	9.6	68	125
100-42-5	Styrene	4735	100.1	9	73	127
75-65-0	tert-Butyl alcohol	2997	86.8	20.9	24	150
98-06-6	tert-Butylbenzene	2710	94.3	9.8	65	124
127-18-4	Tetrachloroethene	5432	95.2	9.7	66	124
109-99-9	Tetrahydrofuran	3192	93.7	9.8	64	123
108-88-3	Toluene	5406	92.7	8.8	66	119
156-60-5	trans-1,2-Dichloroethene	5411	95.5	9.5	67	124

Table 43. Method TO-15 Gas Matrix						
CAS ID	Analyte	N Records	Mean	Standard Deviation	Lower Control Limit	Upper Control Limit
10061-02-6	trans-1,3-Dichloropropene	4621	104	9.6	75	133
79-01-6	Trichloroethene	5478	96.7	8.7	71	123
75-69-4	Trichlorofluoromethane [Freon-11]	5376	93.7	10.6	62	126
1120-21-4	Undecane	1976	96.1	9	69	123
108-05-4	Vinyl acetate	4599	97.4	13.7	56	139
593-60-2	Vinyl bromide	1054	98.4	9.2	71	126
75-01-4	Vinyl chloride	5445	95.1	10.4	64	127

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SAMPLE RECEIPT SUMMARY

WORKORDER 1908555

Client

Ms. Holly Dillon
AHTNA
296 12th Street
Marina, CA 93933

Phone

831-384-3735

Fax

Sales Rep: DV

Date Promised: 09/04/19 5:00 pm
Date Completed: 9/4/19
Date Received: 8/23/19
PO#: PO0500288
Project#: 21065.000.01.0000 Site 12 Soil Gas Sampling
Total $: $ 2,172.00
Logged By: JT

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	1934A212023F	Modified TO-15 (5&20 ppbv)	8/19/2019	6.9 "Hg	$75.00
01AA	1934A212023F Lab Duplicate	Modified TO-15 (5&20 ppbv)	8/19/2019	6.9 "Hg	$0.00
02A	1934A212024F	Modified TO-15 (5&20 ppbv)	8/19/2019	5.9 "Hg	$75.00
03A	1934A212025F	Modified TO-15 (5&20 ppbv)	8/19/2019	6.5 "Hg	$75.00
04A	1934A212026D	Modified TO-15 (5&20 ppbv)	8/19/2019	6.3 "Hg	$75.00
05A	1934A212027F	Modified TO-15 (5&20 ppbv)	8/20/2019	4.9 "Hg	$75.00
06A	1934A212028F	Modified TO-15 (5&20 ppbv)	8/20/2019	4.3 "Hg	$75.00
07A	1934A212029F	Modified TO-15 (5&20 ppbv)	8/20/2019	7.3 "Hg	$75.00
08A	1934A212030F	Modified TO-15 (5&20 ppbv)	8/20/2019	6.5 "Hg	$75.00
09A	1934A212031F	Modified TO-15 (5&20 ppbv)	8/20/2019	6.3 "Hg	$75.00
10A	1934A212032D	Modified TO-15 (5&20 ppbv)	8/20/2019	6.7 "Hg	$75.00
11A	1934A212033F	Modified TO-15 (5&20 ppbv)	8/20/2019	5.9 "Hg	$75.00
12A	1934A212034F	Modified TO-15 (5&20 ppbv)	8/20/2019	5.5 "Hg	$75.00
13A	1934A212035F	Modified TO-15 (5&20 ppbv)	8/20/2019	6.1 "Hg	$75.00
14A	1934A212036F	Modified TO-15 (5&20 ppbv)	8/21/2019	6.3 "Hg	$75.00
15A	1934A212037F	Modified TO-15 (5&20 ppbv)	8/21/2019	4.9 "Hg	$75.00
16A	1934A212038F	Modified TO-15 (5&20 ppbv)	8/21/2019	5.1 "Hg	$75.00
17A	1934A212039F	Modified TO-15 (5&20 ppbv)	8/21/2019	6.7 "Hg	$75.00
18A	1934A212040F	Modified TO-15 (5&20 ppbv)	8/21/2019	5.3 "Hg	$75.00
19A	Lab Blank	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Fort Ord Task #1/20154

BILL TO: Accounts Payable
AHTNA
110 West 38th Avenue
Suite 200A
Anchorage, AK 99503

Analysis Code: TO-15 (5&20)

TERMS:

Reporting Method: TO-15 (5&20 ppbv) (Sh)-PCE and TCE

eurofins | Air Toxics

SAMPLE RECEIPT SUMMARY Continued

Client

Ms. Holly Dillon
AHTNA
296 12th Street
Marina, CA 93933

Phone

831-384-3735

Fax

Sales Rep: DV

Date Promised: 09/04/19 5:00 pm
Date Completed: 9/4/19
Date Received: 8/23/19
PO#: PO0500288
Project#: 21065.000.01.0000 Site 12 Soil Gas Sampling
Total $: $ 2,172.00
Logged By: JT

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
20A	CCV	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
20B	CCV	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
21A	LCS	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00
21AA	LCSD	Modified TO-15 (5&20 ppbv)	NA	NA	$0.00

Misc. Charges	1 Liter Summa Canister (18) @ $15.00 each., Shipment 126677	$270.00
	Helium Det Flow Through (1) @ $150.00 each., Shipment 126677	$150.00
	Helium Det Monitor (1) @ $150.00 each., Shipment 126677	$150.00
	Soil Gas Manifold (18) @ $10.00 each., Shipment 126677	$180.00
	Fitting w/ Pink Ferrule (18) @ $4.00 each.	$72.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Fort Ord Task #1/20154

BILL TO: Accounts Payable
AHTNA
110 West 38th Avenue
Suite 200A
Anchorage, AK 99503

Analysis Code: TO-15 (5&20)

TERMS:

Reporting Method: TO-15 (5&20 ppbv) (Sh)-PCE and TCE

RIGIN ID:MHRA (831) 384-3735
OLLY DILLON
HTNA
96 12TH STREET

ARINA, CA 93933
NITED STATES US

SHIP DATE: 16AUG19
ACTWGT: 8.00 LB
CAD: 0488499/CAFE3211
DIMS: 15x8x8 IN

SHIPPING
EUROFINS AIR TOXICS INC
180 BLUE RAVINE RD STE B

FOLSOM CA 95630
(916) 605-3336
REF: 126677

MA:

FedEx
Expres

E

RETURNS MON - F

FedEx.
TRK#
0221 1100 7877 8534

FRI - 23 AUG AA
STANDARD OVERNIGHT

WD MHRA

9563
CA-U
SM

1908555
TO-15 (5&20 ppbv) (Sh)-PCE and
TCE
AHTNA

Other Records

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{14.7 \text{ psi} + \text{Final Pressure (psi)}}{14.7 \text{ psi} - [(\text{Initial Pressure ("Hg)}) (14.7 \text{ psi} / 30 \text{ "Hg})]}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7 \text{ psi} + \text{Final Pressure (psi)}}{14.7 \text{ psi} + \text{Initial Pressure (psi)}}$$

Initial Vacuum ("Hg)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.5	1.36	1.71	2.05
1.0	1.39	1.74	2.09
1.5	1.41	1.77	2.13
2.0	1.44	1.80	2.16
2.5	1.46	1.83	2.20
3.0	1.49	1.87	2.24
3.5	1.52	1.90	2.29
4.0	1.55	1.94	2.33
4.5	1.58	1.98	2.38
5.0	1.61	2.02	2.42
5.5	1.64	2.06	2.47
6.0	1.68	2.10	2.53
6.5	1.71	2.15	2.58
7.0	1.75	2.19	2.64
7.5	1.79	2.24	2.69
8.0	1.83	2.29	2.76
8.5	1.87	2.34	2.82
9.0	1.91	2.40	2.89
9.5	1.96	2.46	2.96
10.0	2.01	2.52	3.03
10.5	2.06	2.59	3.11
11.0	2.12	2.65	3.19
11.5	2.17	2.72	3.28
12.0	2.23	2.80	3.37
12.5	2.30	2.88	3.46
13.0	2.36	2.97	3.57
13.5	2.44	3.06	3.67
14.0	2.51	3.15	3.79
14.5	2.59	3.25	3.91
15.0	2.68	3.36	4.04
15.5	2.77	3.48	4.18
16.0	2.87	3.60	4.33
16.5	2.98	3.73	4.49
17.0	3.09	3.88	4.66
17.5	3.22	4.03	4.85
18.0	3.35	4.20	5.05
18.5	3.50	4.38	5.27
19.0	3.65	4.58	5.51
19.5	3.83	4.80	5.77
20.0	4.02	5.04	6.06
20.5	4.23	5.31	6.38

Initial Vacuum ("Hg)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
21.0	4.47	5.60	6.73
21.5	4.73	5.93	7.13
22.0	5.03	6.30	7.58
22.5	5.36	6.72	8.08
23.0	5.74	7.20	8.66
23.5	6.19	7.76	9.32
24.0	6.70	8.40	10.10
24.5	7.31	9.17	11.02
25.0	8.04	10.08	12.12
25.5	8.93	11.20	13.47
26.0	10.05	12.60	15.15
26.5	11.49	14.40	17.32
27.0	13.40	16.80	20.20
27.5	16.08	20.16	24.24
28.0	20.10	25.20	30.31
28.5	26.80	33.61	40.41
29.0	40.20	50.41	60.61

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{\text{14.7 psi + Final Pressure (psi)}}{\text{14.7 psi + Initial Pressure (psi)}}$$

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59
4.2	1.04	1.31	1.57
4.4	1.03	1.29	1.55
4.6	1.02	1.28	1.54
4.8	1.01	1.27	1.52
5.0	1.00	1.25	1.51
5.2	NA	1.24	1.49
5.4	NA	1.23	1.48
5.6	NA	1.22	1.46
5.8	NA	1.20	1.45
6.0	NA	1.19	1.43
6.2	NA	1.18	1.42
6.4	NA	1.17	1.41
6.6	NA	1.16	1.39
6.8	NA	1.15	1.38
7.0	NA	1.14	1.37
7.2	NA	1.13	1.36
7.4	NA	1.12	1.34
7.6	NA	1.11	1.33
7.8	NA	1.10	1.32
8.0	NA	1.09	1.31
8.2	NA	1.08	1.30
8.4	NA	1.07	1.29
8.6	NA	1.06	1.27
8.8	NA	1.05	1.26
9.0	NA	1.04	1.25
9.2	NA	1.03	1.24
9.4	NA	1.02	1.23
9.6	NA	1.02	1.22
9.8	NA	1.01	1.21
10.0	NA	1.00	1.20
10.2	NA	NA	1.19
10.4	NA	NA	1.18
10.6	NA	NA	1.17
10.8	NA	NA	1.16
11.0	NA	NA	1.16
11.2	NA	NA	1.15
11.4	NA	NA	1.14
11.6	NA	NA	1.13
11.8	NA	NA	1.12
12.0	NA	NA	1.11
12.2	NA	NA	1.10
12.4	NA	NA	1.10
12.6	NA	NA	1.09
12.8	NA	NA	1.08
13.0	NA	NA	1.07
13.2	NA	NA	1.06
13.4	NA	NA	1.06
13.6	NA	NA	1.05
13.8	NA	NA	1.04
14.0	NA	NA	1.03
14.2	NA	NA	1.03
14.4	NA	NA	1.02
14.6	NA	NA	1.01
14.8	NA	NA	1.01

Compound Listing

TO-15 (5&20 ppbv) (Sh)-PCE and TCE

CAS Number	Compound	Detection Limit ppbv	Type
79-01-6	Trichloroethene	5.0	
127-18-4	Tetrachloroethene	5.0	
17060-07-0	1,2-Dichloroethane-d4		
2037-26-5	Toluene-d8		
460-00-4	4-Bromofluorobenzene		

Kara McKiernan

From: Holly Dillon [hdillon@ahtna.net]
Sent: Tuesday, March 10, 2015 2:35 PM
To: Kyle Vagadori
Subject: RE: EATL Variance

Thanks I have no objections.

Holly Dillon | Environmental Scientist
Phone 831-384-3735 | Fax 831-384-3930 | Cell 831-324-3299 | hdillon@ahtna.net

Ahtna Engineering Services, LLC

Ahtna Engineering Services, LLC
296 12th street | Marina, CA 93933 |**www.ahtnaes.com**

From: Kyle Vagadori [mailto:KyleVagadori@eurofinsUS.com]
Sent: Tuesday, March 10, 2015 2:25 PM
To: Holly Dillon
Subject: EATL Variance

Hi Holly,
Thanks for speaking to me about the start of the project. Can you please confirm that Ahtna has no objections to the included variances?

Kyle Vagadori
Project Manager

Ask me about our new **Helium Shroud**!
https://www.youtube.com/watch?v=qSc0iM6hY98

PLEASE NOTE MY CURRENT WEEKLY SCHEDULE:
I will be out of the office on Thursdays. During that time my emails will be monitored.
Please contact one of our other Project Managers if you need immediate assistance:
Kelly Buettner (x3378, kellybuettner@eurofinsus.com)
Ausha Scott (x3344, aushascott@eurofinsus.com)
Brian Whittaker (x3355, brianwhittaker@eurofinsus.com)

eurofins Air Toxics

Eurofins Air Toxics, Inc.
180 Blue Ravine Road, Suite B
Folsom, CA 95630
Direct |916-605-3339
Tel | 1-800-985-5955 x3339

Please note my new email address: kylevagadori@eurofinsus.com

Eurofins Air Toxics	Data Review Checklist			Release Date: 10/12/18
Workorder # 1909555	Form F1.27	Revision #16	Revision Date: 10/12/18	Page 1 of 2

S1	S2	S3	S4	D	**Section 1 – Spec Out**				
					Initials/Instrument/Date	**S1:** AK 9/12/19 INSD-14	**S2:**	**S3:**	**S4:**
✓					Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria				
✓					Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder				
NA					Manual Integrations included and approved				
✓				✓	Chain of Custody verified for special comments/notes and analyses requested (add comments below)				
✓					Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)				
✓					Verified standard expiration dates				

Profile, analyses, reporting, special notes and unusual circumstances: DOD 5.1 Flag to LOD S1: Ø at In. QC LBiSd

A1	A2	A3	A4	D	**Section 2 – Sample Analysis**				
					Initials/Date	**A1:** AK 9/29/19	**A2:** KH 9/29/19	**A3:**	**A4:**
✓	✓			✓	IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, Canister #s Verified and dilution ranges are met per SOP (ex. Over-ranged/overdiluted)				
NA	NA			NA	**a)** Tedlar Bag IDs verified against COC **b)** Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument				
NA	NA			NA	Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)				
✓	✓				12/24 Hr clock time & Hold Time met for all samples				
✓	NA			✓	Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on CIAAs have been verified (system blks, confirmation runs).				
✓	✓			✓	All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)				

Analytical and special notes: A1: 01A-05A full loads, 01A/01AA dup ✓
A2: 06A-18A full loads. 10A, 10AA possible FD's. End check ok.

D1	D2	D3	D4	T	3T	**Section 3 – Target Data Reduction**	**Technical Review Needed? Circle one: Yes/No**		**T:**	
						Initials/Instrument/Date	**D1:** MSD-14 MB 9/4/19	**D2:**	**D3:**	**D4:**
NA						CAR # *(if applicable)*				
✓						Spectra Verified *(documentation of spectral defense included if applicable)*				
✓						TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)*				
✓					✓	Lab Narrative is correct				
NA						TPH/NMOC calculations complete and included in folder				

Special notes:

A	3T	**Section 4- Atlas Data Entry**	**Lumen verified and included in folder**	**Circle one:** Yes/No
		Initials/Date: MB 9/4/19	**3rd Tier:** *(needed only for DOD or per client request)*	MB 9/4/19
NA	NA	Sample Discrepancy Report (SDR) complete and approved *(if applicable)*		
NA	NA	Manually entered results are checked		
✓	✓	At least one result per sample is verified against Target quant sheets		
✓	✓	Appropriate data qualifier flags are applied		
✓	✓	Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct		

Special Notes:

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Workorder # :				Reason for Reissue:
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director
Additional Comments:				

Write Up (Initials/Date)	**Tech Review** (Initials/Date)	***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date)	**QA Review** (Initials/Date)

Workorder # :				Reason for Reissue:
W	T	3T	Q	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director
Additional Comments:				

Write Up (Initials/Date)	**Tech Review** (Initials/Date)	***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date)	**QA Review** (Initials/Date)

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Not Applicable

APPENDIX F

Select Soil Vapor Extraction Wells and Soil Gas Probes COC Trends

Figures

Figure F1. VE-12-06

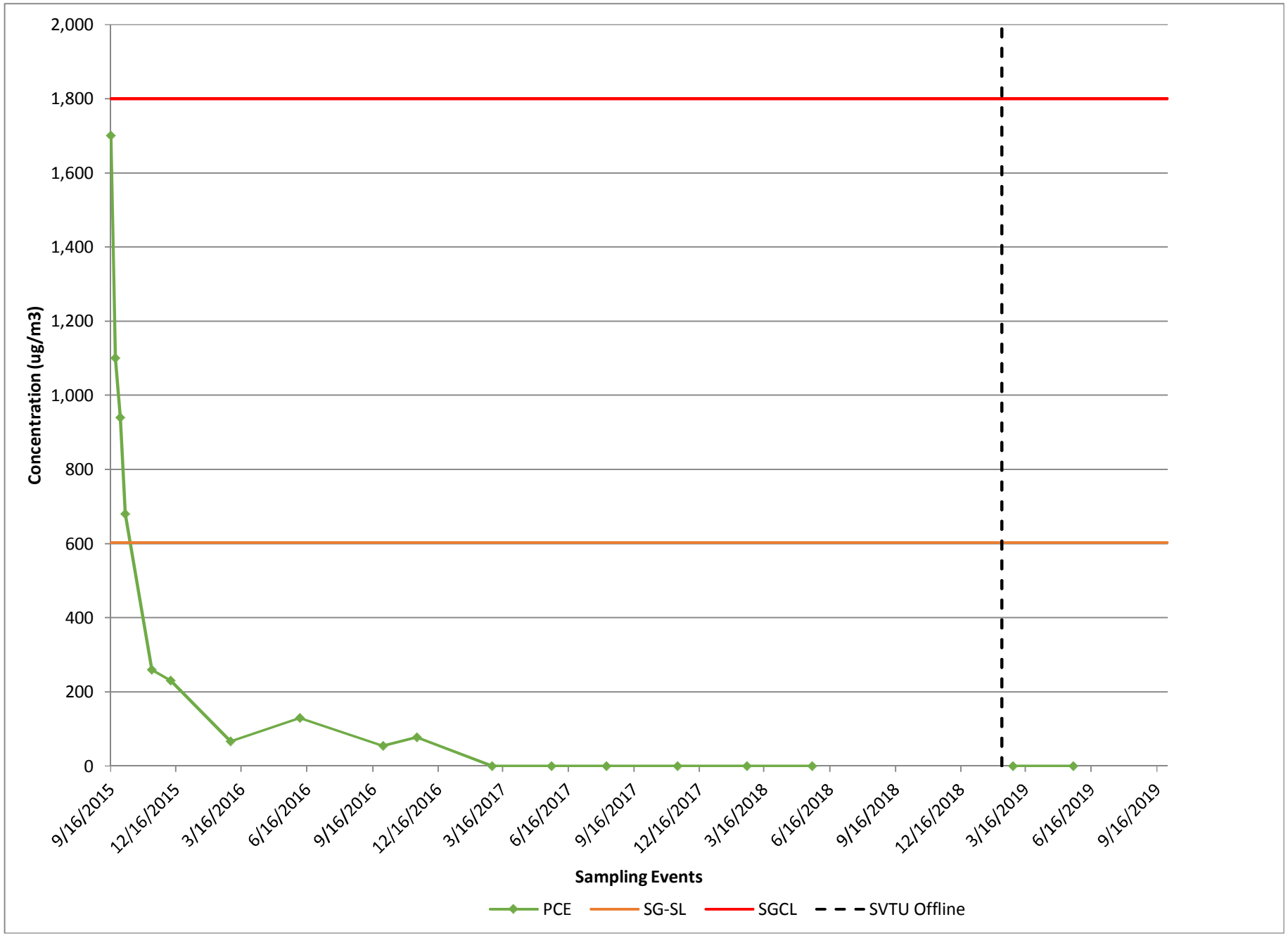


Figure F2. VE-12-09

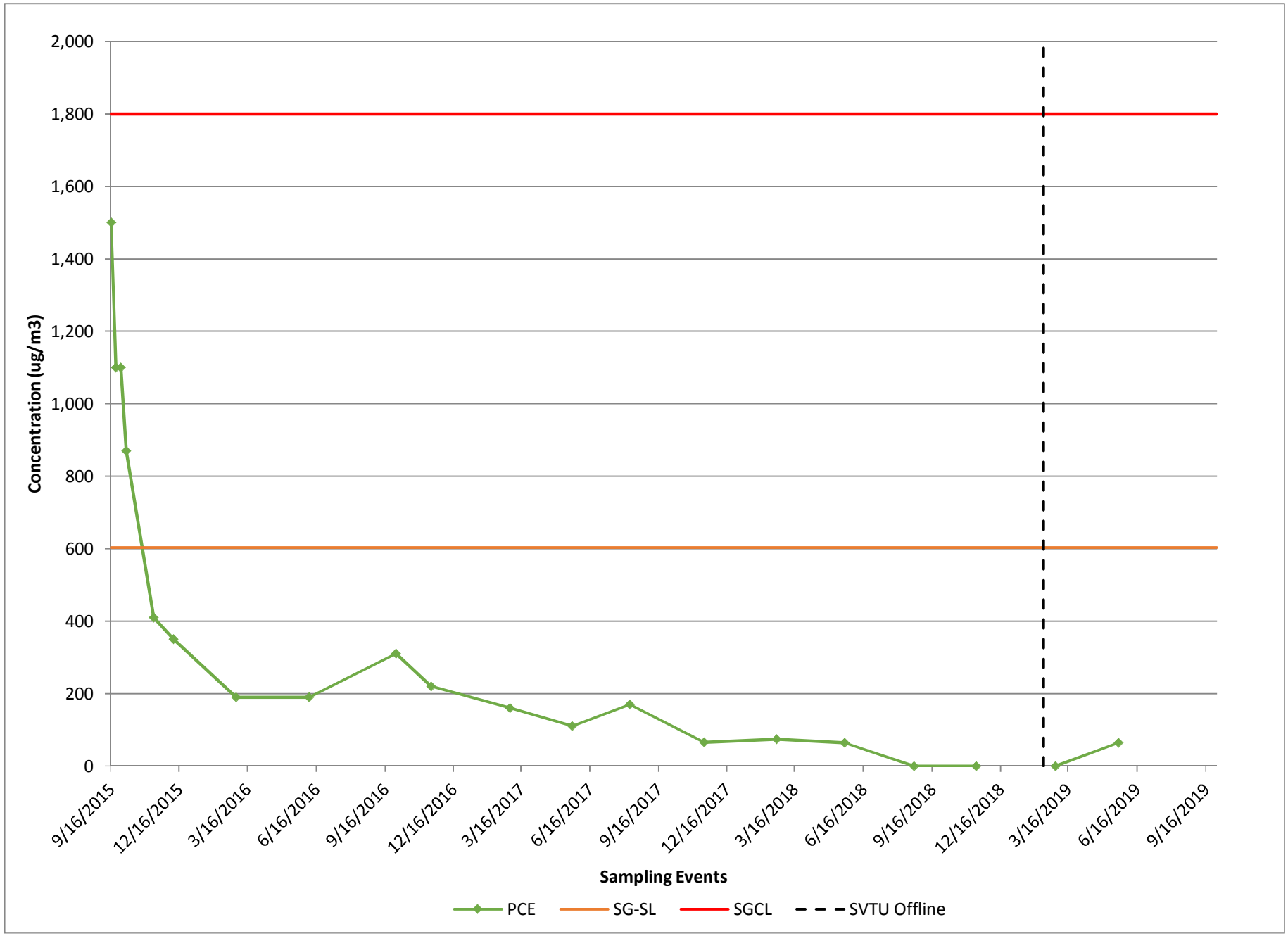


Figure F3. SG-12-01

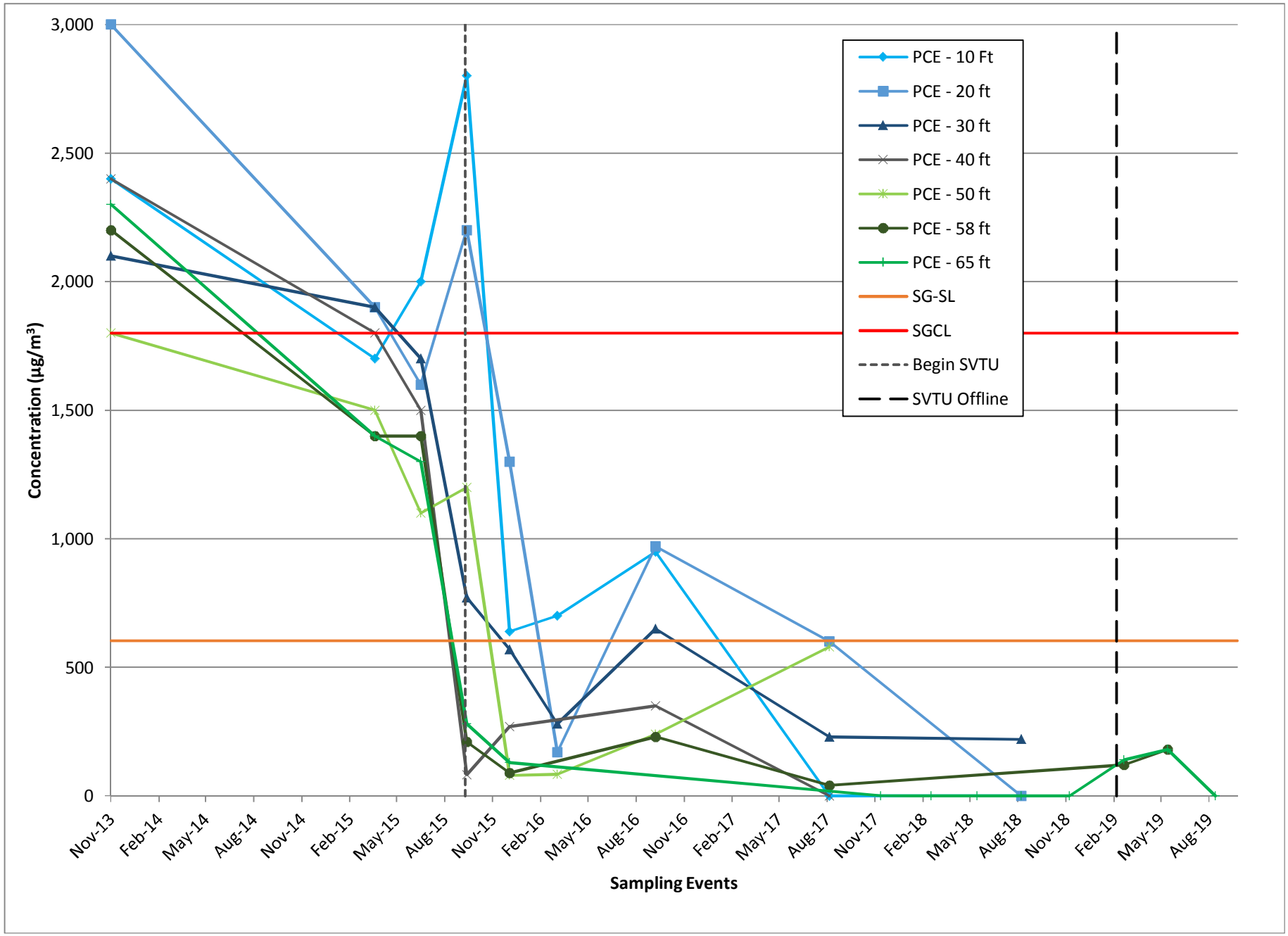


Figure F4. SG-12-02

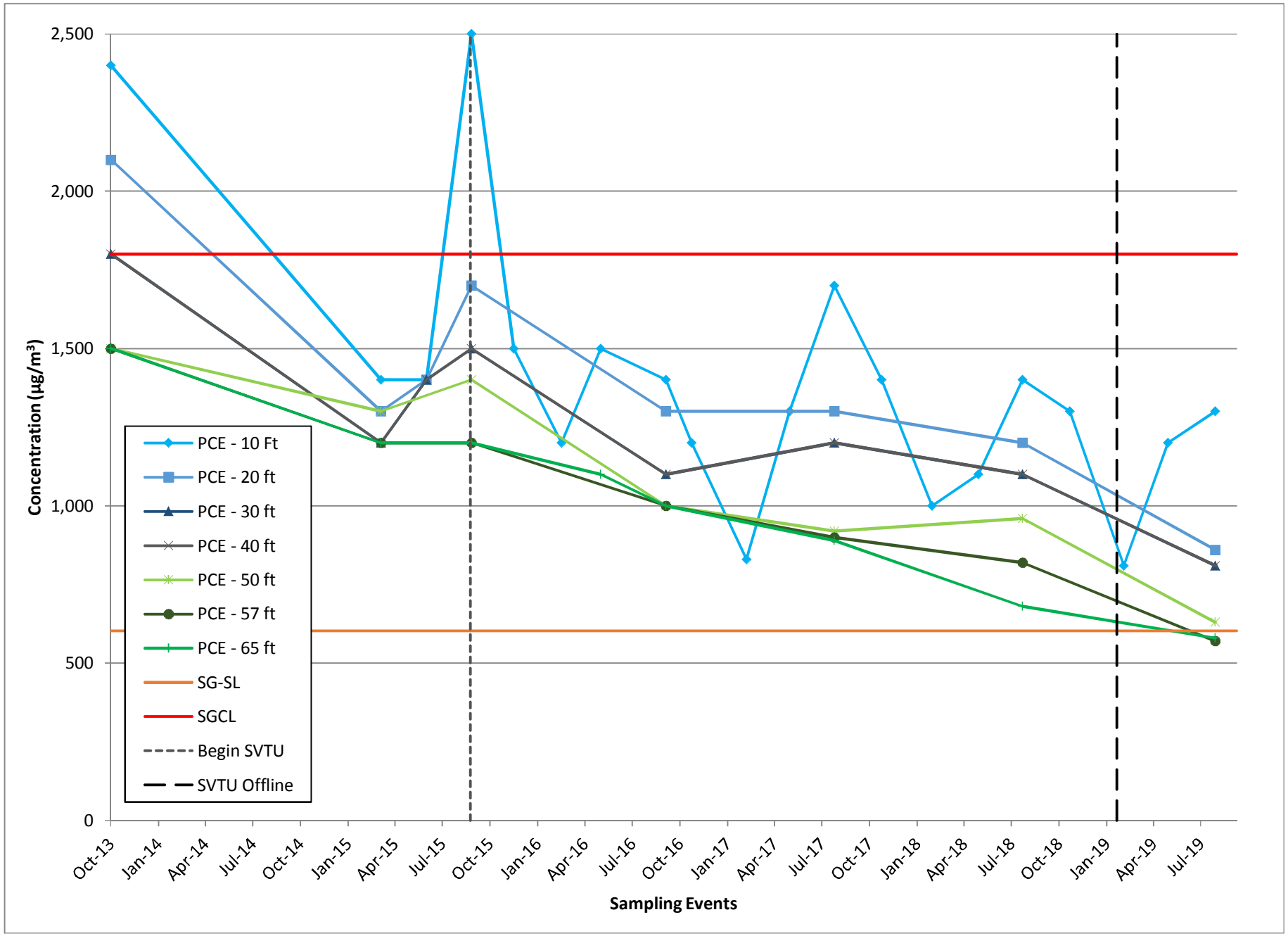


Figure F5A. SG-12-04 (PCE)

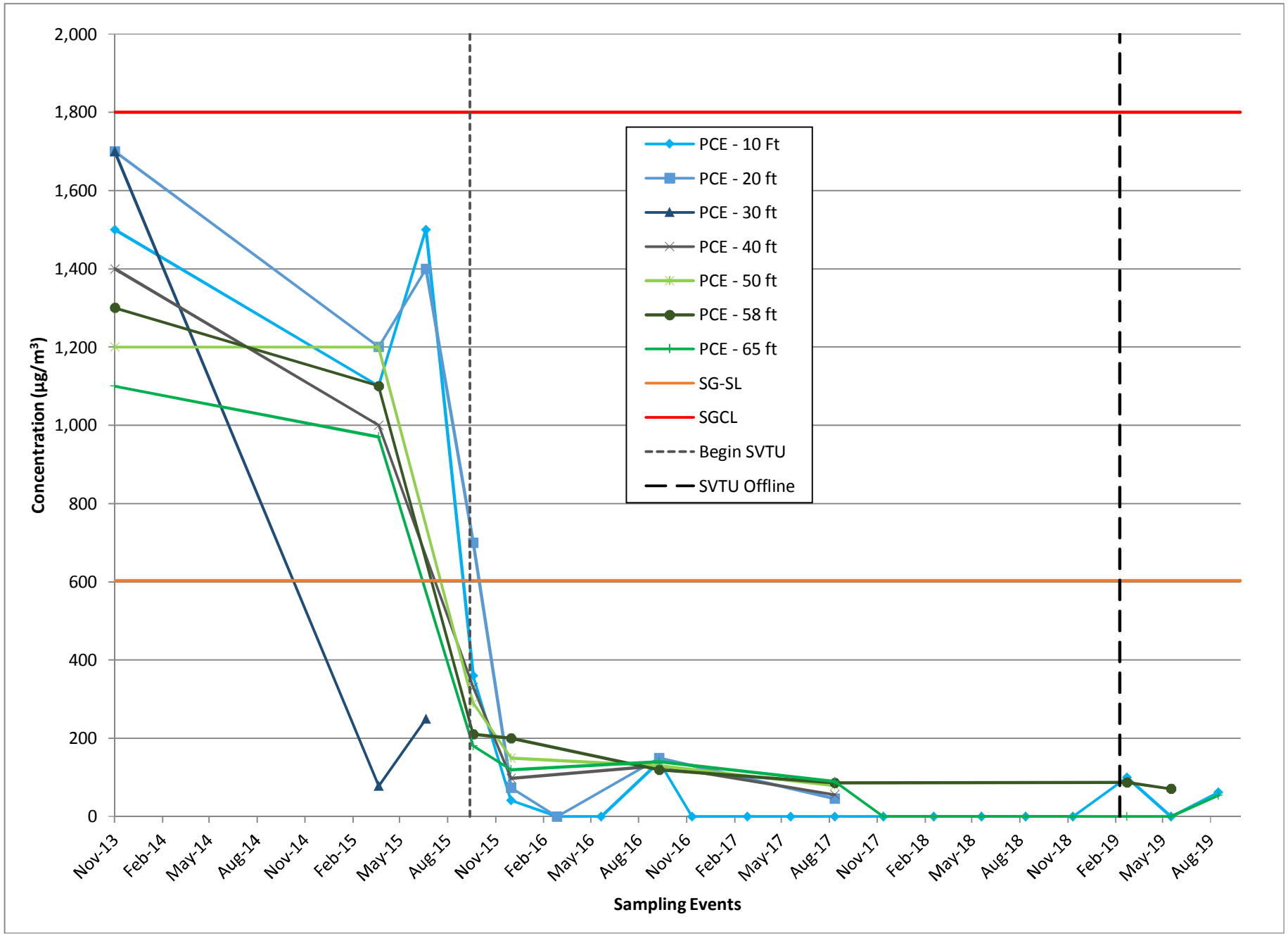


Figure F5B. SG-12-04 (TCE)

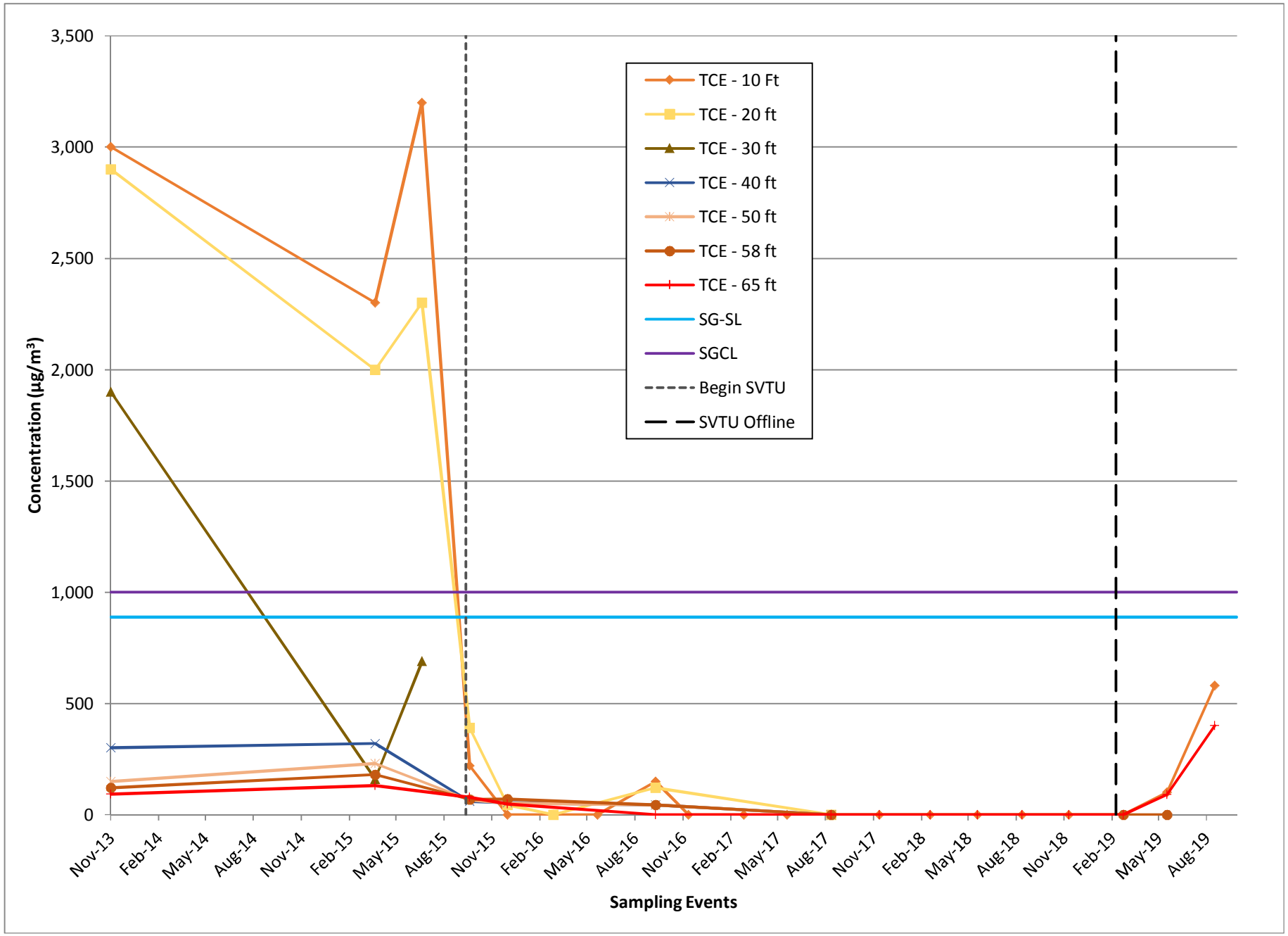


Figure F6. SG-12-06

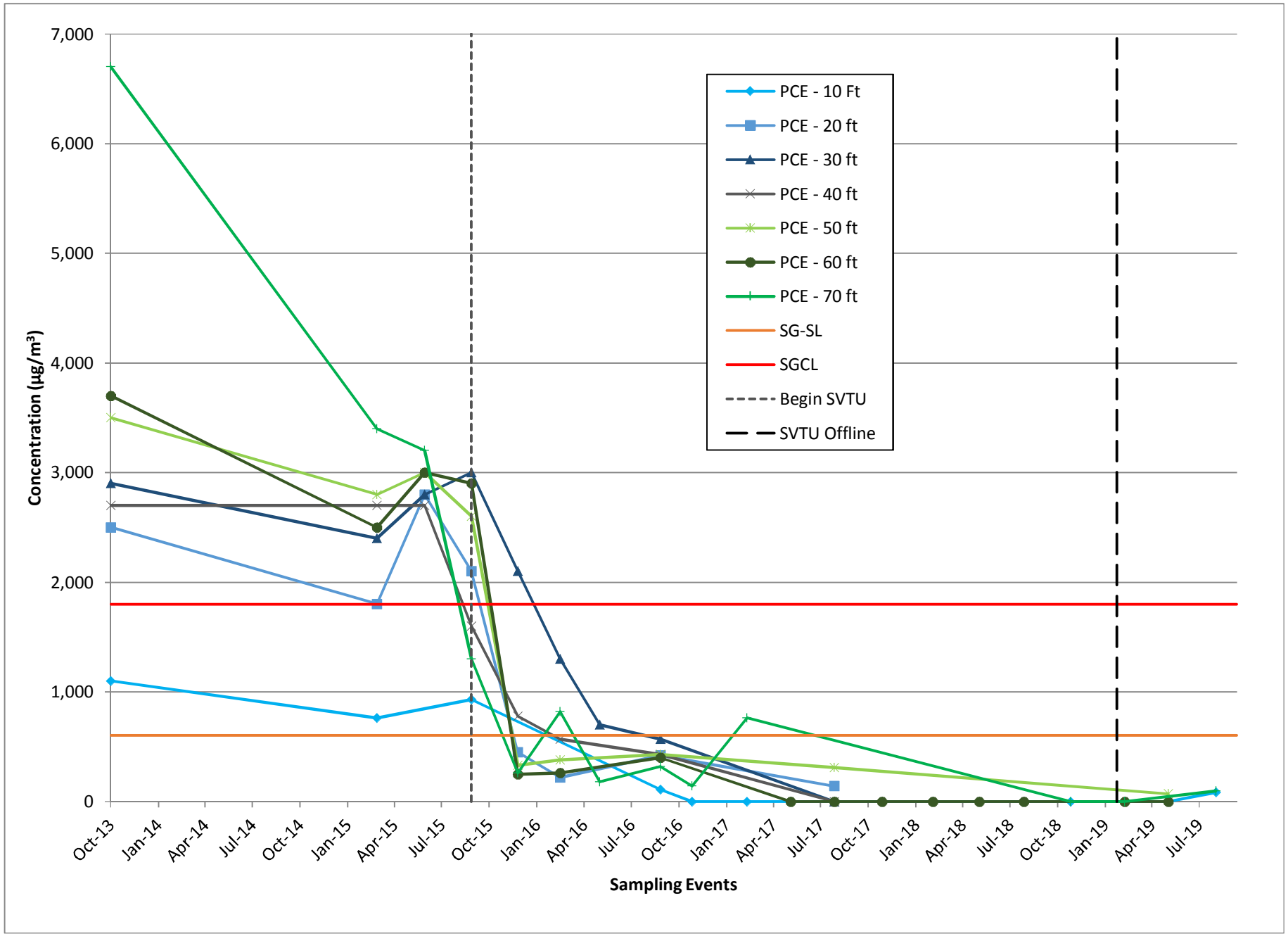


Figure F7. SG-12-16

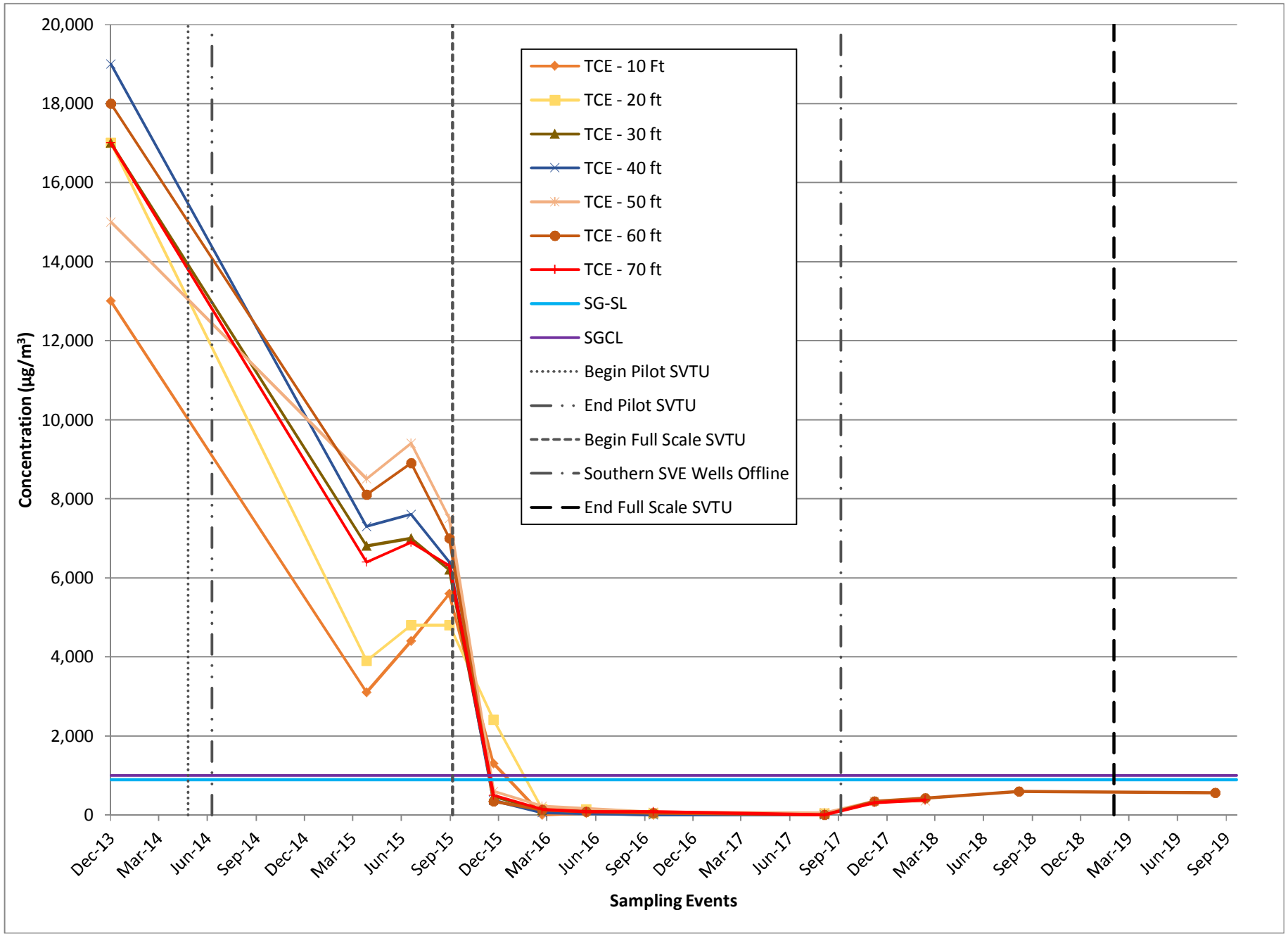


Figure F8. SG-12-17

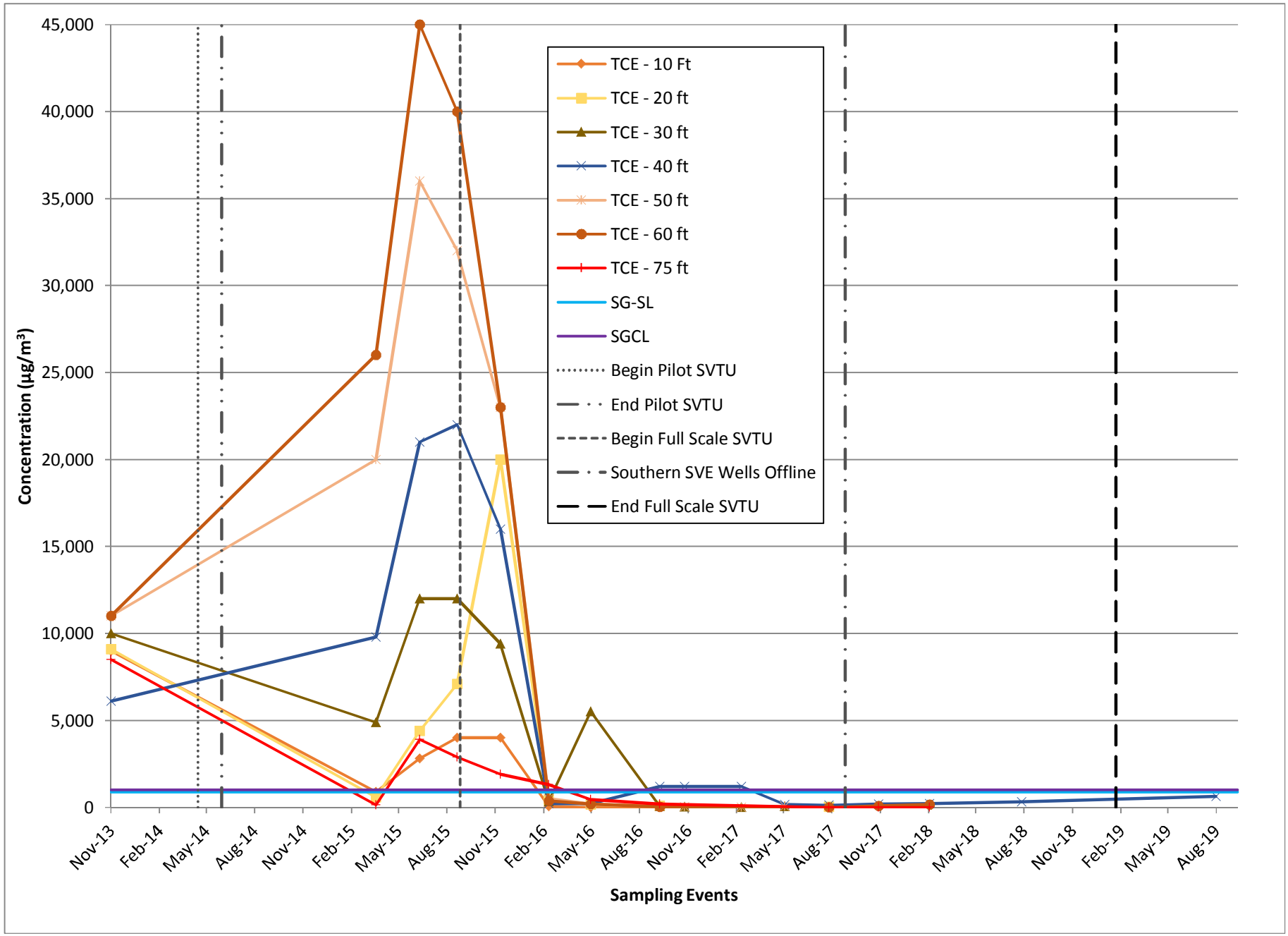
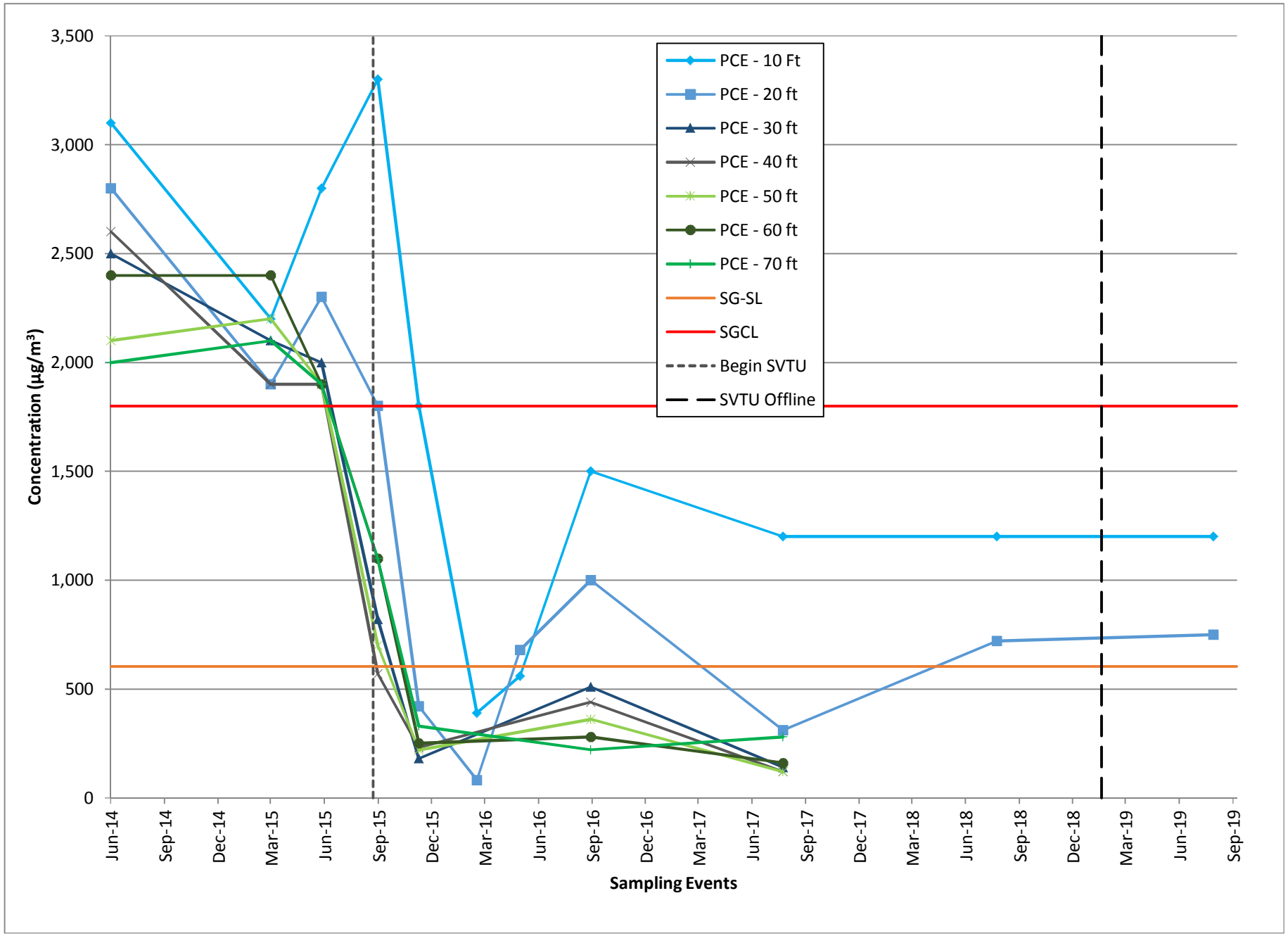


Figure F9. SG-12-20



APPENDIX G

Groundwater QAPP Sampling Frequency Recommended Changes

Table G1. Groundwater QAPP Sampling Frequency Recommended Changes

Well ID	Current Schedule	Proposed Schedule	Trends Increasing?	Last time above ACL	Boundary Well for Plume	2019-3Q PCE Concentration (µg/L)	2019-3Q TCE Concentration (µg/L)	2019-3Q Chloride Concentration (mg/L)	Figure Number	Graph Number
MW-02-05-180	A[C,V]	R	No	1998	No	ND (0.25)	0.16 J	124	G1	G1A/B
MW-12-05-180	A[C]	R	No	2003	No	NS	NS	58.9	G1	G2
MW-12-18-180U	A[V]	R	No	Never	No	ND (0.25)	ND (0.25)	NS	G1	G3
MW-12-25-180U	A[V]	R	No	2017	No	0.39 J	ND (0.25)	NS	G1	G4

Notes:

[C] Chloride sample collected

[V] VOC sample collected

Results in gray are not detected concentrations (result reported as <limit of detection [LOD]).

Acronyms and Abbreviations:

µg/L: micrograms per liter

A: annual sample

ACL: aquifer cleanup level

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

mg/L: milligrams per liter

ND: not detected above the LOD

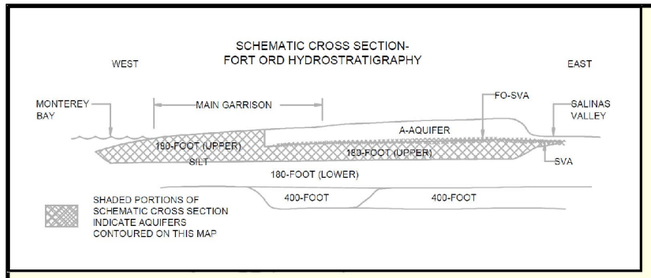
NS: not sampled

PCE: tetrachloroethene

R: remove from sampling, continue to collect depth to water

TCE: trichloroethene

VOC: volatile organic compound



MW-02-10-180

13TH ST

IMJIN PKWY

MW-12-18-180U

BEACH RANGE RD

MONTEREY BAY COASTAL RECREATION TRAIL

HWY-1 (N)

HWY-1 (S)

5

MW-12-25-180U

MW-02-05-180

MW-12-05-180

1ST AVE

2ND AVE

10TH ST

EXPLANATION

- Monitoring Well with PCE Detection.
- Monitoring Well with No PCE Detection.
- Monitoring Well Not sampled.
- Extraction Well with PCE Detection above or equal to ACL.
- Extraction Well with PCE Less than ACL.
- Groundwater Extraction Wells No PCE Detected.
- Extraction Well Not Sampled

MW-12-25-180U Meets QAPP decision rules to be removed from the sampling program. Depth to water will still be collected.

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L.

- 5 — Tetrachloroethene (PCE)
- General Groundwater Flow Direction
- Roads
- Facilities

NOTES:

(1) Samples were collected between August 26, 2019 and September 4, 2019.
(2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
(3) Contours based on highest value obtained from multiple bags where applicable.
(4) Other COC ACL Exceedances detected beyond the extent of the

N

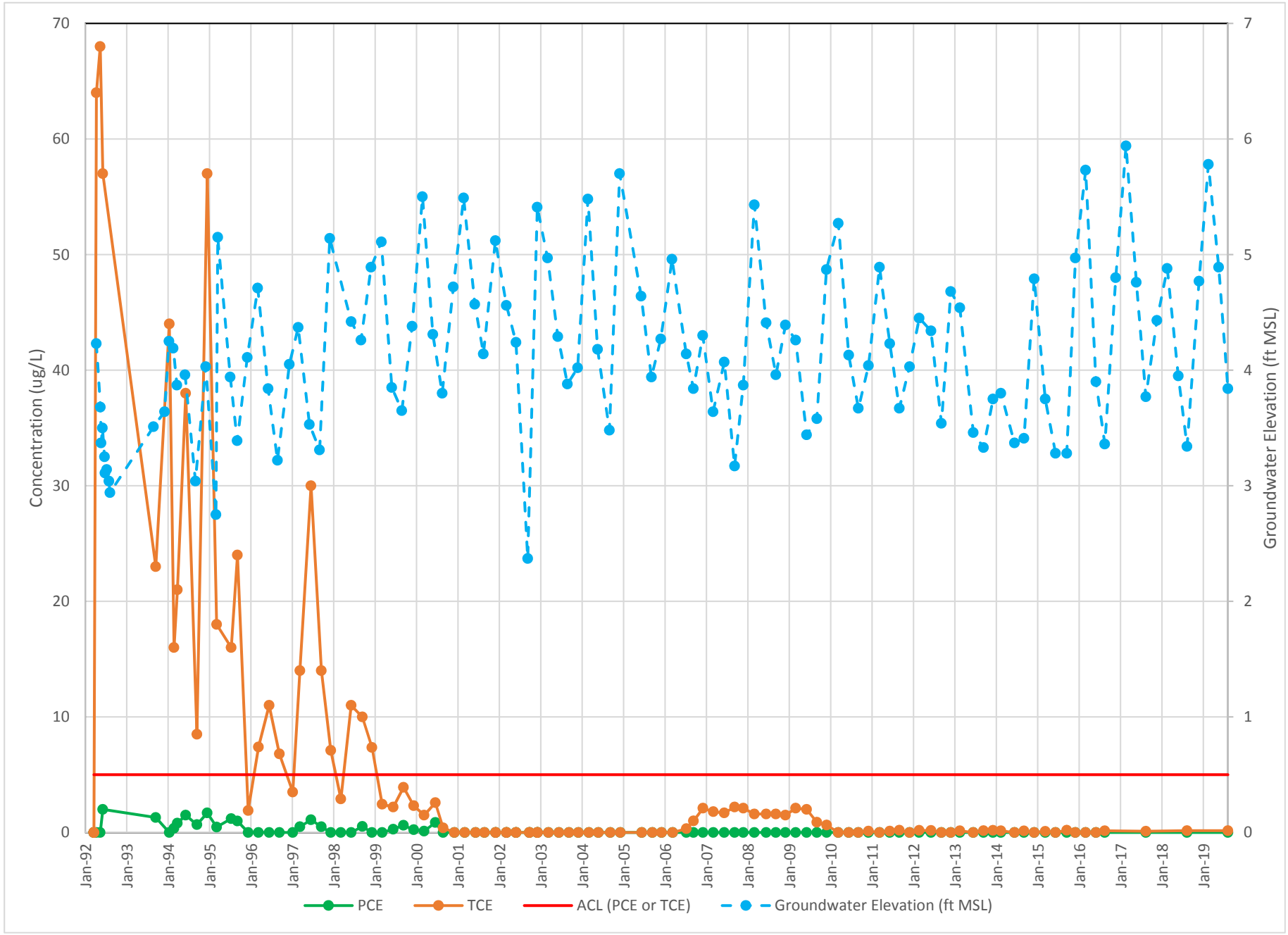
0 250 500 Feet

GROUNDWATER QAPP SAMPLING FREQUENCY
RECOMMENDED CHANGES

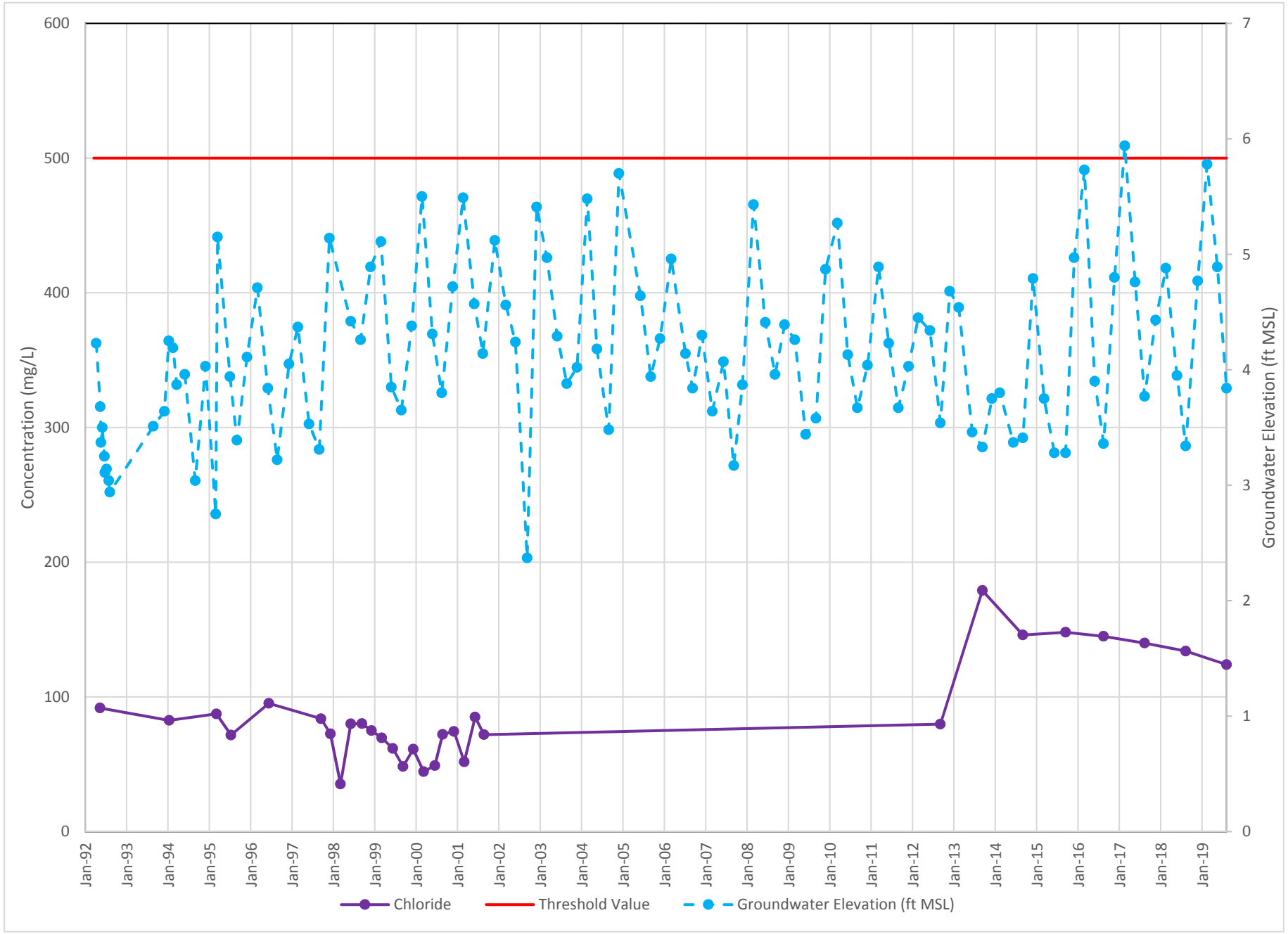
Sites 2 and 12, Fourth Quarter 2018 through Third Quarter 2019
Groundwater and Soil Gas Monitoring and Treatment
System Report, Former Fort Ord, California

Ahtna | Date: 11/15/2019 | Figure: G1

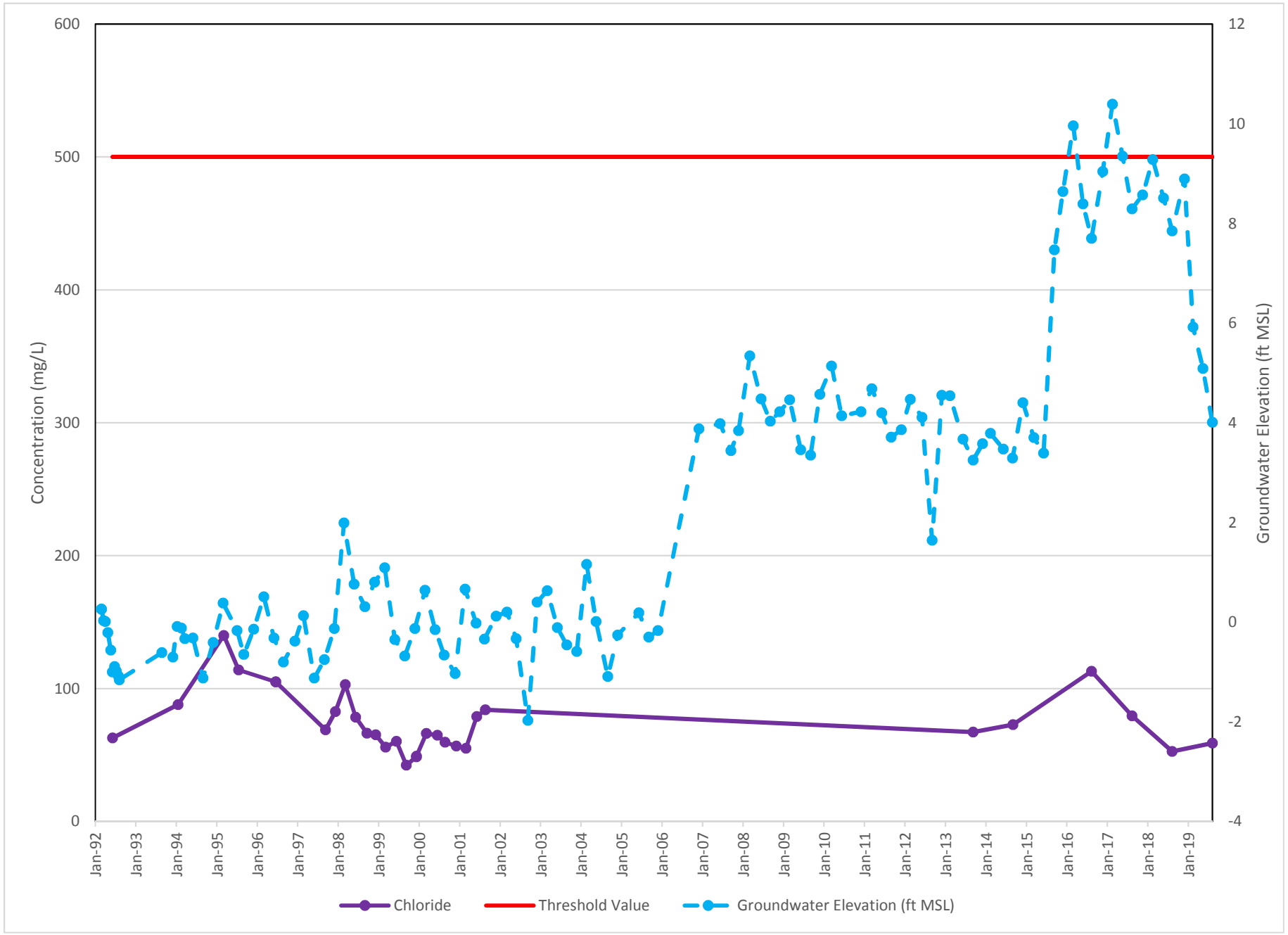
Graph G1A. MW-02-05-180 (VOCs)



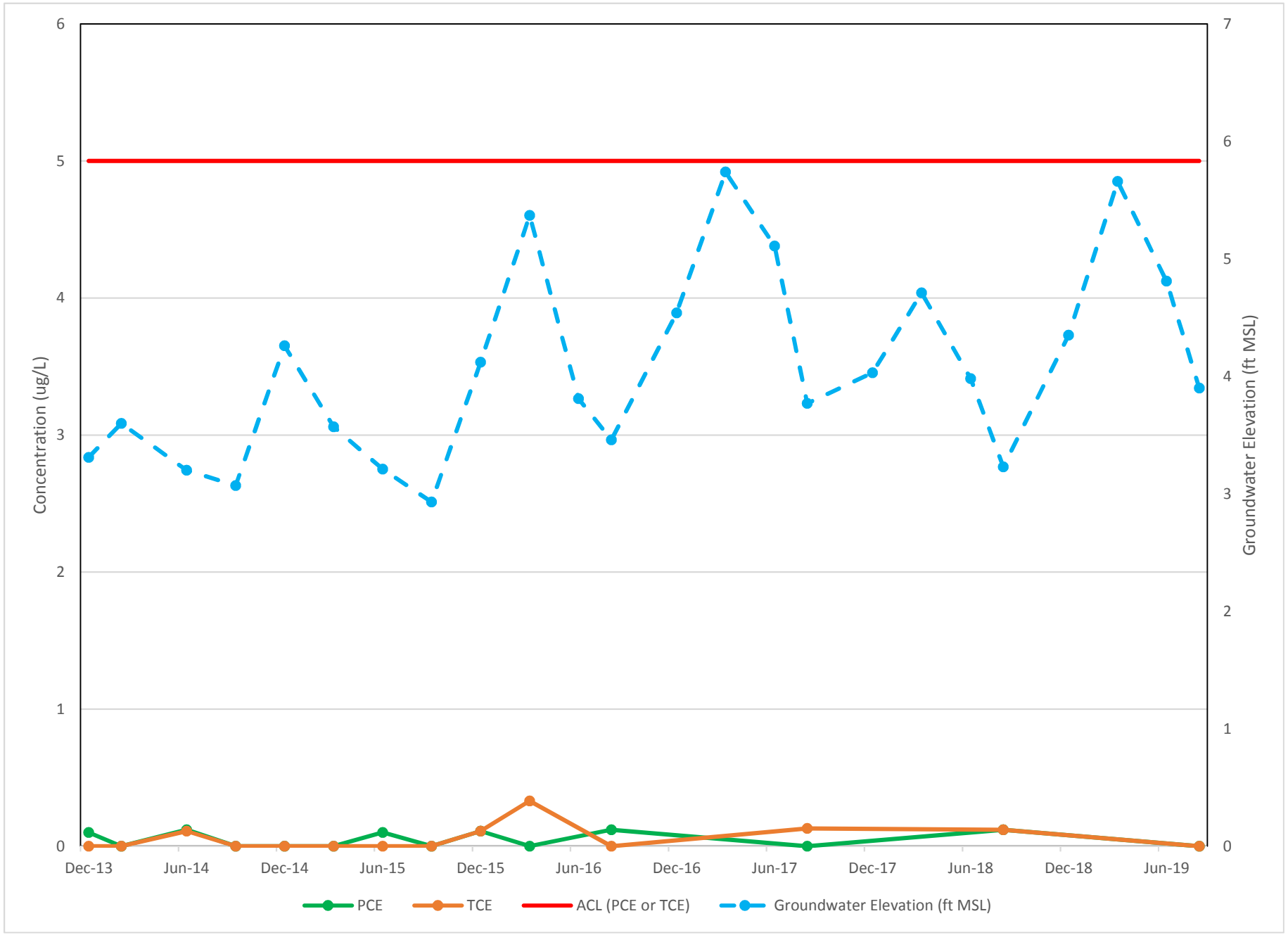
Graph G1B. MW-02-05-180 (Chloride)



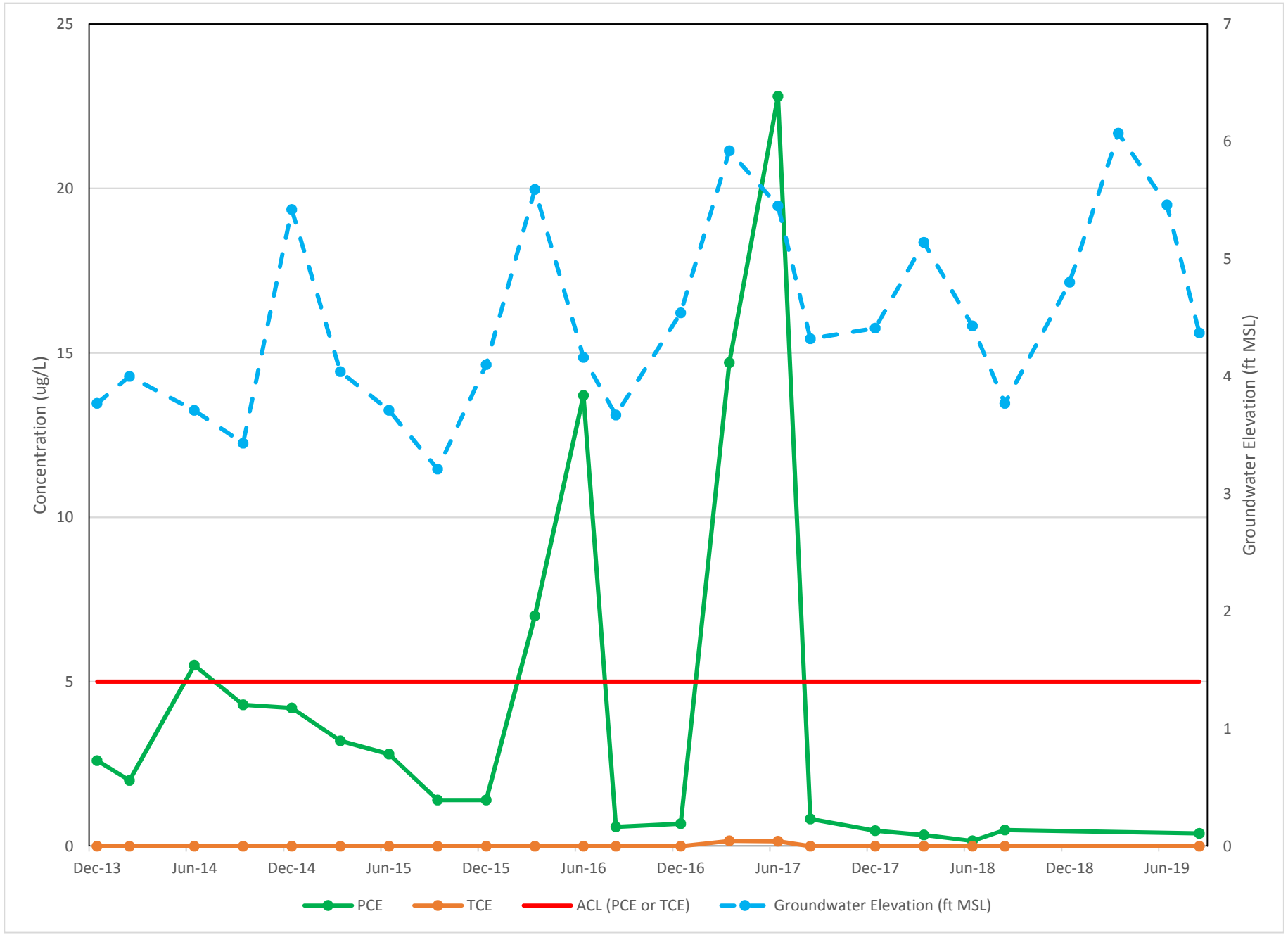
Graph G2. MW-12-05-180



Graph G3. MW-12-18-180U



Graph G4. MW-12-25-180U



APPENDIX H

Soil Gas QAPP Sampling Frequency Recommended Changes

Table H1. Soil Gas QAPP Sampling Frequency Recommended Changes

Well ID	Current Schedule	Proposed Schedule	Trends Increasing?	Last time above SGCL	Boundary Well for Plume	2019-3Q PCE Concentration (µg/m^3)	2019-3Q TCE Concentration (µg/m^3)	Figure Number	Graph Number
SG-12-06-70	A	R	No	2015	No	95	ND (41)	H1	H1
SG-12-16-60	A	R	No	2015	No	ND (41)	560	H1	H2

Notes:

Results in gray are not detected concentrations (result reported as <limit of detection [LOD]).

Acronyms and Abbreviations:

µg/m^3: micrograms per cubic meter

A: annual sample

ND: not detected above the limit of detection (LOD)

PCE: tetrachloroethene

R: remove from sampling

SGCL: soil gas cleanup level

TCE: trichloroethene

EXPLANATION

- Site 12 Soil Gas Probe Cluster
- Site 12 Soil Vapor Extraction Well
- SG-12-06-70 — Meets QAPP decision rules to be removed from the sampling program.
- Facilities
- Roads
- SVE Treatment Unit
- Site 12 Soil Gas Probe: PCE & TCE at or below SG-SLs
- Site 12 Soil Gas Probe: PCE above SG-SL and at or below SGCL

NOTES:

(1) Samples were collected between August 19, 2019 and August 21, 2019.

N

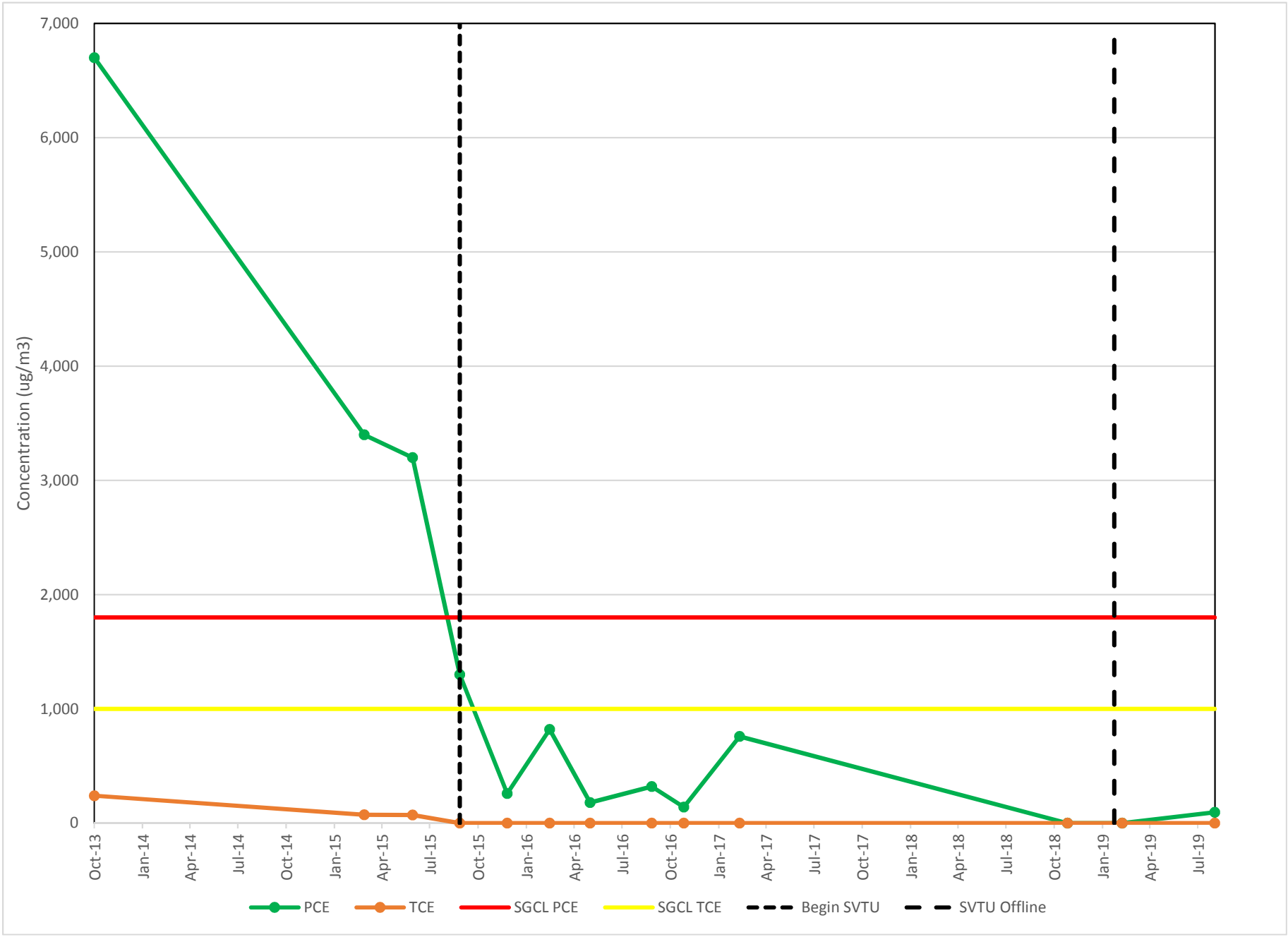
0 250 500 Feet

SOIL GAS QAPP SAMPLING FREQUENCY RECOMMENDED CHANGES

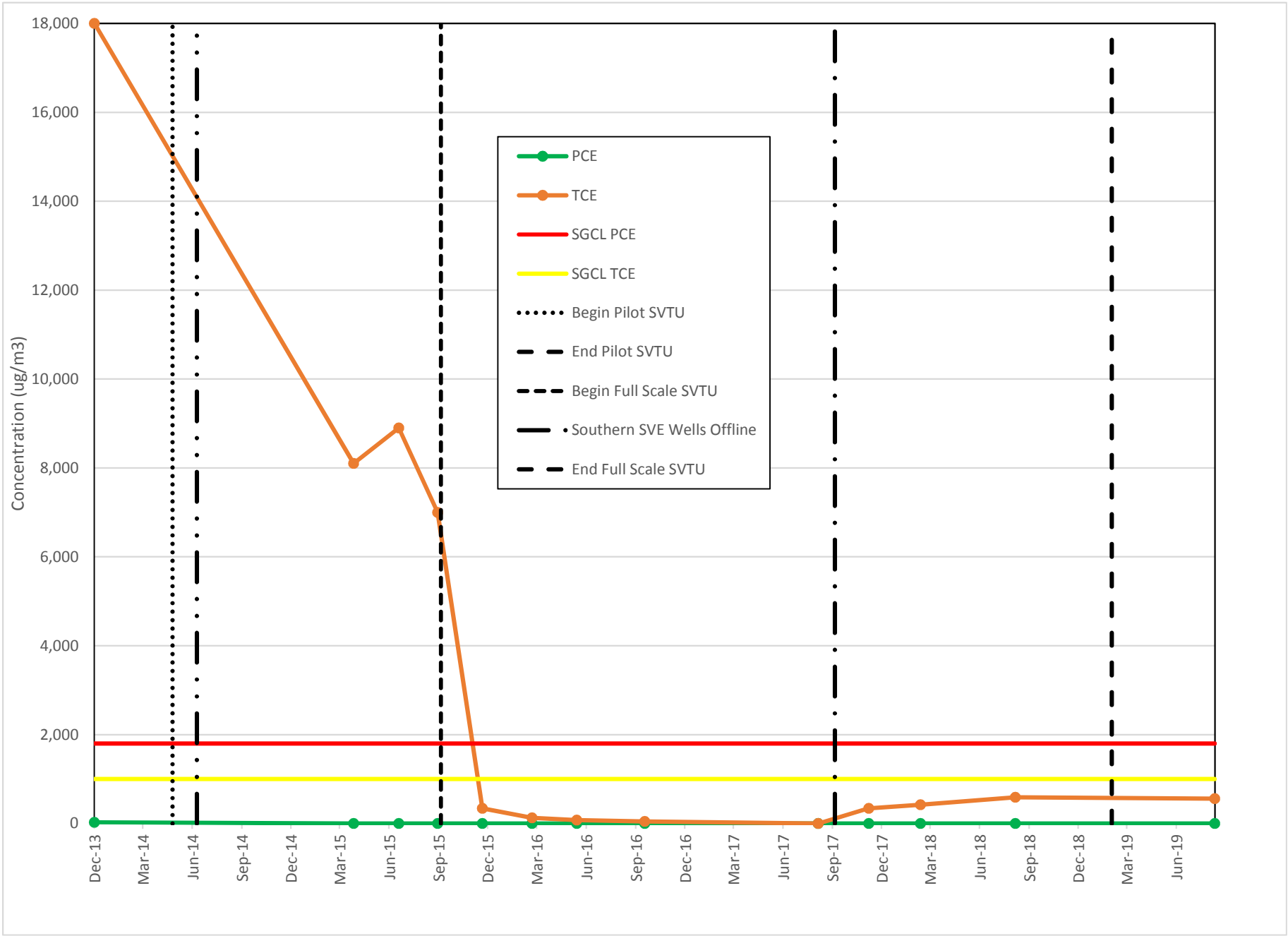
Sites 2 and 12, Fourth Quarter 2018 through Third Quarter 2019
Groundwater and Soil Gas Monitoring and Treatment
System Report, Former Fort Ord, California

Ahtna | Date: 11/18/2019 | Figure: H1

Graph H1. SG-12-06-70



Graph H2. SG-12-16-60



APPENDIX I

Pore Volume Calculations

Ahtna Engineering
4341 B Street Suite 404 Phone (907) 646-2969
Anchorage, Alaska 99503 Fax (907) 561-5475

Description: Pore Volume Calculations Sites 2/12 Groundwater and Soil Gas Monitoring and Treatment System Report
Prepared By: S. KOSOWSKI

Date 3/13/20

Assumptions: Effective Porosity (n_e) 30 to 35% = 0.30 to 0.35
Depth to Water Table in EW-12-08-180U on 8/28/19 = 66.17 feet; Well Depth: 120 feet
Saturated Thickness (H) = 120 - 66.17 = 53.83 feet
Area (A) Impacted by PCE Plume: 167 ft. x 167 feet = 27,889 ft^2

1 pore volume of contaminated Groundwater:
$V = A \times H \times n_e$ = 27,889 ft^2 x 53.83 feet x 0.35 =
= 525,443 ft^3 x 7.48 = 3,930,311 gallons
V_1 = 15 x 3,930,311 gallons = 58,954,665.0 gallons
Average Pumping Rate at EW-12-08-180U = 43.0 gpm
To reach the ACL for PCE at 5 µg/L it will take approximately 15 pore volumes that needs to be extracted and treated.

I. Time needed to extract and treat PCE contaminated plume at current EW-12-08-180U extraction rate:
T = 43 gpm (current extraction rate) x 60 x 24 =
= 61,920 gallons/day =>
$T_t = \frac{V_1}{T} = \frac{58,954,665.0}{61,920}$ = 952 days / 365 = 2.61 years

II. Time needed to extract and treat PCE contaminated plume at increased (90 gpm) EW-12-08-180U extraction rate:

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Prepared By: S. KOSAWSKI

Date 3/13/20

$T = 90\ gpm$ (increased extraction rate) $\times 60 \times 24 =$

$= 129,600$ gallons / day $\Rightarrow$

$T_r = \frac{V_1}{T} = \frac{58,954,665.0}{129,600} = 455$ days / 365 =

≈ 1.25 years, To allow for aquifer heterogenity, effective porosities, nature of contaminant, and limitations due to Sorption, tailing, hydraulic conductivity variations, the estimated cleanup time was increased to 2 years