National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
White Sands Test Facility
P.O. Box 20
Las Cruces, NM 88004-0020

April 29, 2022

Reply to Attn of: RE-22-056

Mr. Rick Shean, Bureau Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Subject: NASA White Sands Test Facility (WSTF) 700 Area Landfill Closure (SWMU 49) Phase I Investigation Report

Enclosed is the 700 Area Landfill Closure (SWMU 49) Phase I Investigation Report (IR). In accordance with the New Mexico Environment Department's (NMED's) Approval with Modifications SWMU 49 (700 Area Landfill) Phase I IWP and HIS dated June 6, 2019, the enclosed report provides a summary of Phase I of the completed closure and investigation activities at the 700 Area Landfill.

NASA performed investigation field activities between September 2019 and March 2022. The completed a suite of field surveys were designed to identify volatile organic compounds and total petroleum hydrocarbons through a shallow soil vapor survey and provide additional information on landfill trenches, location of metallic objects, and alluvial bedrock interface in the subsurface to support conclusions and other recommendations.

Enclosure 1 provides an Executive Summary for the 700 Area Landfill Phase I IR. Enclosure 2 provides a printed copy of the IR (up to Appendix A). Enclosure 3 provides an electronic version of the IR on a CD-ROM.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

If you have any questions or comments concerning this submittal, please contact Antonette Doherty of my staff at 575–202–5406.

TIMOTHY DAVIS

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Timothy J. Davis
Chief, Environmental Office

3 Enclosures

cc:
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2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Executive Summary

This investigation report (IR) presents the results of a Phase I field investigation performed at the National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF) 700 Area landfill, listed as Solid Waste Management Unit (SWMU) 49 in the New Mexico Environment Department (NMED) Hazardous Waste Permit (Permit; NMED, 2009). The Permit (NMED, 2009) requires the investigation and remediation of all releases of hazardous waste or hazardous constituents to air, soil, or groundwater. The 700 Area landfill was operational at WSTF between 1965 and 1997. A Notice of Intent to close the 700 Area landfill was placed in the Operating Record on February 3, 1998 (NASA, 1998a), and NASA submitted the final closure certification to NMED on August 5, 1998 (NASA, 1998c). A Post-Closure care (PCC) Plan for the 700 Area landfill was implemented on July 31, 1998 and is in effect for 30 years. The plan includes requirements for groundwater monitoring, soil vapor monitoring, landfill cover integrity, adequate drainage, fencing for the landfill boundary, vegetative cover, and inspections and maintenance (NASA, 1999). NASA is currently reviewing potential options for an effective long-term solution for final closure of the 700 Area landfill. To that end and in compliance with the Permit (NMED, 2009), NASA developed and submitted an investigation work plan (IWP) in conjunction with a historical information summary (HIS; NASA, 2017; 2019b) for the 700 Area landfill, with final NMED approval received February 11, 2022 (NMED, 2022).

The investigation was conducted between September 2019 and March 2022 and utilized shallow soil vapor survey and non-invasive geophysical survey techniques to provide a more detailed insight into the area surrounding the 700 Area landfill and the component trenches. The field surveys provided an improved conceptualization of the 700 Area landfill by providing: an insight to the distribution of volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH) in shallow soil vapor; the location and dimensions of waste disposal trenches; the location of metallic waste within the trenches; and, supplemental subsurface geology, particularly the alluvial-bedrock interface. The investigation was designed to provide supplementary information to support determination of the most effective strategy to protect human and environmental receptors related to the landfill.

The investigation area included the footprint of the individual 700 Area landfill trenches, closure cap, and immediately adjacent areas. The target area was traversed by a standardized preliminary field survey grid constructed using 90-foot (ft) x 90-ft grid cells that were utilized as the base grid for the shallow soil vapor survey and a suite of four geophysical evaluations: electromagnetic induction (EMI), vertical magnetic gradiometry (VMG), active multichannel analyses of surface waves (AMASW) that replaced ground penetrating radar (GPR), and an enhanced passive seismic survey (PSS). Individual survey line spacings were dependent on the type of survey performed, and the final traverse lines for each survey were developed in consultation with the geophysical subcontractor.

Phase I focused primarily on the shallow upper portion of the vadose zone that incorporated 26 individual landfill trenches identified in the HIS (NASA, 2017). The EMI, VMG, and AMASW geophysical surveys confirmed the presence of all but two of the trenches. The two not confirmed are located on the southeast landfill portion near the entry. Confirmed landfill trenches were labeled A through Y (with three additional depressions identified as Z, AA, and AB).

Anomaly V was identified by geophysics as a trench but not previously identified in the HIS (NASA, 2017). Trenches were typically located subparallel to each other in a northeast-southwest direction and had typical dimensions of approximately 20 ft x 20 ft x 300 to 600 ft. Two trenches are oriented northwest-southeast (X and Y), and one anomaly is significantly smaller in length (V at approximately 100 ft). In addition to the shallow vadose zone investigation, the deeper vadose zone in the vicinity of the alluvial-bedrock interface between 110 ft and 180 ft below ground surface (bgs) was evaluated using the enhanced PSS.

The Phase IA Soil Vapor Survey (SVS) purpose was to map the distribution of soil vapor VOCs and TPH in the shallow subsurface within the footprint of the 700 Area landfill. Phase IA passive sampling modules were installed at the nodes of the 90-ft x 90-ft grid cells and were suspended for 15 days at depths of 25-inches (in.) to 30-in. below the depth of the geosynthetic clay liner (GCL, a low hydraulic conductivity barrier). For comparative purposes, modules were also suspended inside the casing of 10 screened methane monitoring wells and three groundwater monitoring wells. The passive sample modules provided concentrations in the low nanogram (ng; one billionth of a gram) range. The overall low concentrations and sparse distribution of VOCs above the limit of quantitation for the majority the Environmental Protection Agency (EPA) 8260C compounds limited the ability to meet the original objectives of the survey.

In conjunction with the Phase IA survey, three geophysical surveys specifically addressed the shallow subsurface: an EMI survey was performed to establish spatial distribution of soil conditions within the landfill; an AMASW survey was performed to delineate the dimensions of landfill trenches; and a VMG survey was performed to locate and map the distribution of metallic objects. These surveys utilized the baseline grid developed for the Phase IA SVS, with modifications made relative to line length and spacing (density). The individual survey grids were developed by the geophysical subcontractor during the planning phase for each field survey. The fourth geophysical survey comprised a PSS that was used to evaluate and improve conceptualization of the deeper vadose zone including the bedrock surface below the landfill. Following performance of the Phase IA SVS and the four geophysical surveys, the decision was made not to include a supplemental Phase IB SVS survey. Because no elevated concentration nuclei of VOCs or TPHs were identified, an additional Phase IB survey was not required to provide additional delineation of these types of features.

The investigation was performed coincidentally with continuation of the ongoing PCC monitoring programs. The optimum strategy for 700 Area landfill closure will be supported by the results of the Phase I investigative activities presented within this IR. The scope of a supplemental Phase II investigation will be determined following NMED's review and approval of this IR. The schedule for additional Phase II field investigation of the 700 Area landfill fieldwork is dependent on NMED approval of 700 Area landfill Phase I IR. The proposed schedule requires that NASA submit the Phase II 700 Area landfill IWP to NMED within 360 days following approval of the 700 Area landfill Phase I IR.

The qualitative Phase IA distributions for contaminants of potential concern (COPCs) do not identify a significant number of elevated VOC concentrations across the footprint of the landfill trenches. The highest VOC concentrations were frequently identified within the SVS modules suspended within monitoring wells that were directly exposed to vapor above the contaminated groundwater. 1,1,2-Trichlorotrifluoroethane (Freon 113) and trichloroethene (TCE)

concentrations in soil vapor are inferred to be related to a groundwater volatilization origin. Conversely, the low frequency of detections and concentrations observed in the soil vapor data may potentially indicate that the trenches retain relatively small quantities of VOC. This is corroborated by the higher concentrations detected above groundwater as opposed to the low-level detections in the shallow SVS boring data.

Lateral extents and surface areas of the landfill cells distribution and the distribution of magnetic anomalies were well-defined using the EMI and VMG. Trench depths using these methods were relative qualitative depths due to the high electrical conductivity of the buried trench materials.

The quality of both the EMI and VMG data acquired during the surveys was described by the geophysical subcontractor as very good. Background noise levels were low, and there was limited cultural interference, just the fence surrounding the 700 landfill Area. Correlation with geophraphic information system map data of the landfill trenches, provided in the original HIS (NASA, 2017), was very good, which yielded a high degree of confidence in the results obtained.

A GPR suitability test was performed for the 700 Area landfill. Neither a 100 MHz nor 400 MHz signal provided penetration to depths of more than a few feet. For the project objectives of mapping buried landfill waste depth, the test proved that GPR was not a well-suited method for this objective, and as a result AMASW was selected to evaluate the trench depths.

The AMASW survey line profile provided an interpreted base for each of the trenches at the landfill. Velocity profiles generally showed a low velocity zone interpreted to be the landfill trench materials and indicated the vertical extent of the trenches and the waste contained within. Anomalies Z, AA, and AB did not show any evidence of a trench in the AMASW results. It is likely that the magnetic anomalies at these locations are caused by some metal object located nearby. The quality of the AMASW data acquired during this investigation was described by the geophysical subcontractor as very good for using a sledgehammer for fundamental surface wave energy from approximately 15 Hz to over 100 Hz. AMASW production data were collected over all of the magnetic anomalies associated with trenches. Updated lateral trench extent was determined from AMASW combined with magnetic data from the EMI/VMG surveys for more comprehensive presentation of the data.

PSS results are presented as velocity profiles with the interpreted top of bedrock. The depth to bedrock varies between approximately 130 ft and 230 ft bgs, which correlates well with known depths from monitoring well boreholes. The strike of previously inferred faults within the landfill footprint based on borehole data generally aligns with the change in depth to bedrock observed in the interpreted PSS results.

Additional investigation activities are recommended in order to collect quantitative analytical data to further evaluate potential trench constituents in nearby soil and vapor. A separate IWP for proposed Phase II investigation activities at the 700 Area landfill will be submitted in accordance with the approved NMED schedule. Potential investigation strategies include soil sampling beneath or adjacent to trenches and supplemental active soil vapor sampling at trenches. Specific targeted locations should be strategically weighted toward locations containing geophysical anomalies based on the suite of geophysical surveys, and locations otherwise identified as locations of interest.

National Aeronautics and Space Administration

700 Area Closure (SWMU 49) Phase I Investigation Report

April 2022

NM8800019434

NASA White Sands Test Facility

700 Area Closure (SWMU 49) Phase I Investigation Report

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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

TIMOTHY DAVIS Digitally signed by TIMOTHY DAVIS Date: 2022.04.29 13:37:15 -06'00'

See Electronic Signature

Timothy J. Davis
Chief, Environmental Office

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Executive Summary

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µg/L	Micrograms per liter
A-50	Aerozine 50
AMASW	Active multichannel analyses of surface waves
AML	Assessment monitoring level
amsl	Above Mean Sea Level
ASTM	American Society for Testing and Materials
AWD	Accelerated weight drop
BEHP	Bis(2-ethylhexyl)phthalate
BES	Beacon Environmental Services, Inc.
bgs	Below Ground Surface
CFR	Code of Federal Regulations
CoC	Chain-of-custody
COPC	Contaminant of Potential Concern
DQO	Data Quality Objectives
EMI	Electromagnetic induction
EPA	Environmental Protection Agency
FDEM	Frequency-domain electromagnetic induction
Freon 11	Trichlorofluoromethane
Freon 113	1,1,2-Trichloro-1,2,2-trifluoroethane
ft	Feet (foot)
ft^2	Square feet
GC	Gas chromatography
GCL	Geosynthetic clay liner
GMP	Groundwater monitoring plan
GPR	Ground penetrating radar
GPS	Global Positioning System
GSA	Gardner Spring Arroyo
HAZWOPER	Hazardous Waste Operation and Emergency Response
HHF	Hardscrabble Hill Fault
HIS	Historical information summary
HWB	Hazardous Waste Bureau
Hz	Hertz
IDW	Investigation-Derived Waste
in.	Inch(es)
IPA	Isopropyl alcohol
IR	Investigation report
IWP	Investigation work plan
JDMB	Jornada del Muerto Basin
LEL	Lower Explosion Limit
LOQ	Limit of Quantitation
MEK	Methyl ethyl ketone
MHz	Megahertz
mi	Mile(s)
mm	Millimeter
MMH	Monomethylhydrazine
NASA	National Aeronautics and Space Administration
ND	Not Detected
NDMA	N-nitrosodimethylamine
ng	nanogram

ng/L	Nanograms per liter
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
nT	Nonoteslas
ODU	Open Detonation Unit
OSHA	Occupational Safety and Health Administration
PCB	Polychlorianted Biphenyl
PCC	Post Closure Care
PCE	Tetrachloroethene
ppb	Parts per Billion
PPE	Personal Protective Equipment
ppm	Parts per Million
PSS	Passive seismic survey
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RA Guidance	Risk Assessment Guidance
RBC	Risk-based Concentration
RCRA	Resource Conservation and Recovery Act
RTV	Rough Terrain Vehicle
SAM	San Andres Mountains
SCEM	Site Conceptual Exposure Model
SHP	Safety and Health Plan
SSL	Soil Screening Level
SVOC	Semi-volatile Organic Compound
SVS	Soil vapor survey
SWB	Solid Waste Bureau
SWMU	Solid Waste Management Unit
TCE	Trichloroethene
TDS	Total Dissolved Solids
TFI	Total Field Intensity
TPH	Total petroleum hydrocarbon
USDA	United States Department of Agriculture
VG	Vertical gradient
VISL	Vapor Intrusion Screening Level
VMG	Vertical magnetic gradiometry
VOC	Volatile Organic Compounds
Vs	Shear wave velocity
WSMR	White Sands Missile Range
WSTF	White Sands Test Facility
yd^3	Cubic yard(s)

1.0 Introduction

This investigation report (IR) presents the results of the Phase I investigation of the 700 Area landfill at the National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF). The IR has been prepared in response to the New Mexico Environment Department (NMED) *Disapproval SWMU 49, 700 Area Landfill Phase I Investigation Work Plan* [IWP] *and Historical Information Summary* [HIS] received November 29, 2018 in which NMED provided eight comments related to NASA's December 28, 2017 SWMU 49, 700 Area Landfill Phase I IWP and HIS. NASA provided the *Response to NMED Disapproval SWMU 49 (700 Area Landfill) Phase I Investigation Work Plan and Historical Information Summary* on March 28, 2019. The NMED Hazardous Waste Bureau (HWB) responded with the *Approval with Modifications SWMU 49, 700 Area Landfill Phase I Investigation Work Plan and Historical Information Summary* on June 6, 2019. NASA provided the *Response to NMED Approval with Modifications SWMU 49 (700 Area Landfill) Phase I Investigation Work Plan and Historical Information Summary* on August 8, 2019. The 700 Area landfill is identified as Solid Waste Management Unit (SWMU) 49 in the NMED Hazardous Waste Permit (Permit; Attachment 22, NMED, 2009, p22-2).

1.1 Facility Location and Description

WSTF is located approximately 16 miles (mi) northeast of Las Cruces in southern New Mexico (Figure 1.1). The WSTF 700 Area is located within the remote northeast part of WSTF (Figure 1.2). The 700 Area landfill has been described as a "modified landfill" (NASA, 1978, p1), a sanitary landfill, and a "Class B landfill," which was "a sanitary landfill serving a population of less than 3,000" (NASA, 1991, p1). The landfill was established to dispose of industrial and commercial non-hazardous waste.

1.2 700 Area Closure Location and Regulatory History

The 700 Area landfill is located in Section 26, Township 20 South, Range 3 East and is a 24-acre trapezoid-shaped piece of land, with the long axis-oriented northwest-southeast that was designed to contain solid waste for disposal within excavated cells or trenches. Access to the 700 Area is provided by gravel roads (Road P and Cereus Drive) from Apollo Boulevard, the main paved access road through WSTF (Figure 1.2; Figure 1.3). The 700 Area landfill was operational at WSTF between 1965 and 1997. Design and operational details for the landfill are provided in the HIS (NASA, 2017 Sections 6 and 7, pp 10-48).

As part of the closure process in April 1996, all the historical 700 Area landfill covered cells were located (HIS p27; NASA, 1996b, p11), and 10 soil samples were collected in the landfill to evaluate natural WSTF clay as a suitable cap material. However, in May 1996, NASA decided to use a geosynthetic clay liner (GCL) to ensure the proper low hydraulic conductivity barrier required instead of local WSTF clay.

NASA submitted the Landfill Closure and Post-closure Care (PCC) plan to NMED on July 3, 1996 (NASA, 1996e). The closure plan provided landfill survey details: "The 26 cells were located and surveyed utilizing the following methods: survey data resurrection; trenching using a backhoe and ripper; site investigations of observed settling; aerial photographs; and interviewing WSTF employees familiar with early landfill operations." Figure 1.4 shows the 26 identified cells within the landfill and is based on the survey data used to develop the PCC plan. To cover the cells, 173,046 square feet (ft^2; 3.97 acres) of material was used (NASA, 1996b, p11). NMED Solid Waste Bureau (SWB) personnel provided NASA with Environmental Protection Agency (EPA) computer software that was used to demonstrate the performance of the landfill cover and liner that were included in the 700 Area landfill Closure Plan. The final cover consisted of the GCL positioned between two 2-inch (in.) layers of select fill screened to ¼-in. and less in diameter to prevent any large rocks from damaging the GCL integrity. The select fill and

approximately 10 in. of uncompacted screened local material (topsoil) was used to complete the cover (NASA, 1996, p11; Figure 1.5).

The Landfill Closure and PCC plan was approved by NMED SWB on August 22, 1997 (NMED, 1997a). By November 1997, NMED personnel stated in a landfill inspection that the landfill was no longer receiving any solid waste, that NASA was in the process of bidding for a closure subcontractor, and that waste was being transported and disposed of by Silva Sanitation (NMED, 1997b). A Notice of Intent to close the 700 Area landfill was placed in the Operating Record on February 3, 1998. Closure activities were conducted by a subcontractor and included:

- shaping, grading, and compacting the landfill cells and area;
- constructing berms and a drainage channel;
- installing the GCL (and two 2-in. fill layers either side; Figure 1.5) over each cell area on Figure 1.4;
- installing 10 in. of topsoil;
- completing final grading;
- fencing the landfill; and
- reseeding the landfill area.

1.3 Regulatory Requirements for Investigation

The WSTF Resource Conservation and Recovery Act (RCRA) Hazardous Waste Permit (Attachment 16, NMED, 2009, p32) required the development and submission of an IWP to address upcoming work to be performed at this location. Initially, the due date for submittal of the IWP for SMWU 49 was December 30, 2015 (Attachment 16, NMED, 2009, p29). On November 17, 2015, NASA submitted a *Class 1 Permit Modification Request* (Attachment 16, NASA, 2015b, p2) to the NMED HWB requesting a new due date for submittal of the IWP and HIS of December 29, 2017. NMED approved the Permit Modification Request on December 16, 2015 (NMED, 2015, Enclosures 1 and 2, p29).

NASA initially submitted the *NASA White Sands Test Facility (WSTF) SWMU 49 (700 Area Landfill) Phase I Investigation Work Plan (IWP) and Historical Information Summary (HIS)* on December 28, 2017. NMED responded with a disapproval of the SWMU 49, 700 Area Landfill Phase I IWP and HIS on November 29, 2018, in which eight comments were included for NASA's response. NASA submitted the *Response to NMED Disapproval SWMU 49 (700 Area Landfill) Phase I IWP and HIS* on March 28, 2019 and received NMED's *Approval with Modifications SWMU 49 (700 Area Landfill) Phase I IWP and HIS* on June 6, 2019, in which NMED provided four comments. NASA responded to the Approval with Modifications on August 8, 2019.

On October 19, 2021, NASA submitted a *Discussion Relative to the Phase IA and Phase IB Soil Vapor Survey (SVS) Component of the Ongoing 700 Area Landfill Phase I Investigation*. NMED responded with the *Disapproval 700 Area Landfill (SWMU 49) Phase I Investigation Soil Vapor Survey* on November 12, 2021. NASA subsequently submitted the *Revised Discussion Relative to the Phase IA and Phase IB Soil Vapor Survey (SVS) Component of the Ongoing 700 Area Landfill Phase I Investigation* on December 21, 2021. NMED provided the *Approval Revised Discussion Phase IA and Phase IB Soil Vapor Survey (SVS) 700 Area Landfill Phase I Investigation* on February 11, 2022.

1.4 Purpose and Method of Investigation

The Phase I investigation was developed with the primary objective of improving conceptualization of the 700 Area landfill through the performance of a suite of field surveys designed to:

- identify the distribution of volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPHs) through a shallow SVS; and
- provide the location and dimensions of landfill trenches, distribution of metallic objects, and additional information relative to the nature of the alluvial-bedrock interface in the subsurface through non-invasive geophysical surveys.

The investigation field activities were performed between September 2019 and March 2022. Appendix A provides a chronology of investigation activities. The investigation was designed to provide supplemental information required to effectively address the overall primary objective of protecting human and environmental receptors related to the landfill. The primary requirements for protecting receptors are to minimize exposure to site workers, the public, and wildlife and limit migration of contaminants to groundwater such that regulatory limits are not exceeded.

Additional investigation relative to the final disposition of the landfill will be determined following evaluation of the results of the Phase I field investigation and will be described in a Phase II IWP. In the interim, NASA will continue with ongoing PCC activities until a decision is made regarding additional investigation activities.

1.4.1 Shallow Soil Vapor Survey

The use of modules for soil vapor sampling and screening surveys was the subject of an EPA environmental technology verification report (Billets, 1998). The EPA indicated that the technology provides useful, cost effective data for environmental problem solving. Sample modules are passive soil vapor samplers that collect a broad range of VOCs that include a suite of chlorinated solvents and chlorofluorocarbons that may be present within the 700 Area landfill. Each sample module contains two passive collection units called sorbers. Each sorber contains an equal amount of sorbent materials (polymeric and carbonaceous resins). The granular adsorbent materials are used because of their affinity for a broad range of VOCs and semi-volatile organic compounds (SVOCs). The sorbers are constructed of inert, hydrophobic, microporous expanded polytetrafluoroethane that allows vapors to move freely across the membrane and onto the sorbent material. The microporous structure also protects the granular adsorbents from physical contact with water and soil particulates.

SVS sampling was performed using soil vapor sample modules installed in shallow soil borings that corresponded to node locations centered on individual survey grid cells. In the IWP (NASA, 2019a), two soil vapor surveys were proposed: Phase IA which was completed in December 2019 and the results presented in this report; and Phase IB which was not completed. It was originally expected that evaluation of the results of the Phase IA survey would support the development of specific Phase IB target areas for potential VOC anomalies within individual trench locations (refined through the electromagnetic induction [EMI], ground penetrating radar [GPR], and magnetic gradient surveys). Omission of the Phase IB survey is discussed in Sections 5.1.1.4 and 7.1 of this report.

The Phase IA SVS screened for VOCs and TPHs that may indicate the presence of residual contaminant mass in the landfill. The Phase IA SVS utilized a standard grid configuration with 90 ft x 90 ft cells with overall dimensions of approximately 700 ft along the short axis (northeast-southwest) by 1,550 ft along the long axis (northwest-southeast; Figure 1.6), traversing the entire landfill footprint and incorporating all 26 trenches previously identified in the HIS (NASA, 2017). The principal (long) axis of the SVS grid was oriented northwest-southeast, parallel to the principal axis of the landfill. SVS grid traverses were oriented perpendicular to the principal axis in a northeast-southwest direction. Global positioning system

(GPS) coordinates were initially recorded for the nodes at the center of grid cells (SVS sampling locations; Figure 1.6) and at the intercepts along each grid line between September 20, 2019 and January 3, 2020 using Trimble®[1] satellite tracking system equipment to an accuracy of approximately 8 millimeters (mm; 0.3 in.) horizontally and 15 mm (0.59 in.) vertically. Each grid point was staked and flagged in the field prior to shallow boring installation, which commenced on October 15, 2019. The survey grid was used as the baseline grid for the shallow SVS and the geophysical surveys, with modifications as necessary to accommodate the technical and data quality requirements of each survey.

The soil sampling modules selected for this survey were Beacon BeSure Passive Soil Gas Technology™ provided by Beacon Environmental Services, Inc. (BES) out of Forest Hill, MD (Appendix B, Image B1). Following deployment, exposure, and retrieval of the passive sample modules, the samples were shipped to the BES laboratory for analysis following established EPA Method protocols (EPA Method 8260C). The sample modules were installed to depths between 25 and 30-in. below ground surface (bgs). Samplers were manually inserted into each boring using a stainless-steel push rod. The samplers were retrieved by hand using an attached string or cord, and soil vapor analyzed using EPA Method 8260C by the BES sample module analytical laboratory. The passive soil vapor collection technique employed an extended exposure time of 14 days following a recommendation by the BES analytical laboratory.

The passive soil vapor collection technique can be more effective in identifying lower soil vapor contaminant concentrations due to the increased exposure time as compared to a one-time sampling strategy where a discrete volume of soil vapor is collected. Native soils in the 700 Area consist of silty to sandy alluvial gravels with porosities typically between 30 to 40 percent. Individual landfill cells and fill materials also have significant porosities, but since the SVS sample modules were installed to depths below the GCL liner, results were not impacted by the porosities of the topsoil or the GCL low porosity barrier.

1.4.2 Electromagnetic Induction Survey

The EMI survey was completed using a frequency-domain electromagnetic induction (FDEM) instrument. A FDEM consists of at least one pair of transmitting and receiving coils. A primary magnetic field of a constant frequency is generated using an alternating current in the transmitter coil, and a secondary magnetic field is detected in the receiving coil as a result of the interaction of the primary field with the subsurface. The FDEM instrument allows for simultaneous measurements of both the in-phase and quadrature (orthogonal phase) components of the secondary magnetic field. The in-phase response is primarily sensitive to magnetic susceptibility, generally due to the presence of metallic or ferromagnetic material in the subsurface. The quadrature component (90-degrees out of phase with the primary signal) is primarily sensitive to electrical conductivity, due to changes in lithology, moisture, and/or fines (clay) content. Note that these are the primary sensitivities, but that both components can be affected by buried metal or geologic features.

The EMI field survey equipment was connected to a data logger that simultaneously measured and recorded the terrain conductivity of the subsurface. The EMI device was able to detect metallic and non-metallic objects or features with conductivity varying from their surroundings and was utilized to simultaneously examine soil conditions and locate utilities, drums, and other buried metal waste. In addition, non-metallic burial features such as trenches were identified from the contrast of conductivity between the disturbed earth and the undisturbed earth (similar to the active multichannel analysis of surface waves [AMASW] method discussed in Section 5.4).

[1] Trimble is a registered trademark of Trimble, Inc. Corporation.

Data were acquired continuously in northwest-southeast transects (Appendix B, Image B2, aligned to the long axis of the 90 ft by 90 ft previously established SVS grid (Figure 1.6). A nominal line spacing of approximately 10 ft was maintained. The tighter spacing in this survey was used to facilitate the identification of individual targets, such as drums or other metallic waste.

The effective depth of sensitivity of the FDEM method is a function of the antenna spacing between the transmitter and receiver, the antenna orientation, the frequency of the primary field, and the bulk electromagnetic properties of the subsurface. Data were acquired at the site using a vertical magnetic dipole orientation, which results in the greatest depth of investigation. Data were acquired using a CMD-Explorer, by GF Instruments. The CMD-Explorer consists of a boom with three sets of FDEM coil pairs, at three separations, 4.86 ft, 9.25 ft, and 14.73 ft. The separations are referred to as Coils 1, 2, and 3, respectively. The depth sensitivity range of Coils 1, 2, and 3, correspond to depths up to 7.2 ft, 13.8 ft, and 22.0 ft, respectively. Actual depths of investigation vary significantly with subsurface electromagnetic properties; therefore, the relative depth of range of each coil pair may only be used qualitatively.

FDEM data were collected at a sample rate of 5 hertz (Hz), using a primary field frequency of 10 kilohertz (kHz) at all three antenna separations simultaneously. GPS positions were inserted in the data stream at a rate of 1 Hz using a Trimble Geo7x handheld GPS unit, capable of sub-foot precisions, for accurate positioning of the data. Data were acquired continuously in northwest-southeast transects, aligned to the long axis of the 90 ft by 90-ft SVS grid.

1.4.3 Magnetic Gradient Survey

A magnetometer measures both the orientation and strength of a magnetic field. Magnetic gradient surveys measure small, local variations in the Earth's magnetic field by using instruments that temporarily polarize protons in a container holding proton-rich fluids by applying an electrical current. When the current is removed, the protons realign corresponding to the magnetic field of the earth at that location and a reading is taken. These localized variations in the magnetic field can be measured with accuracies to 0.002 percent (Mariita, 2007).

Gradiometers utilize two magnetometers stacked one above the other to measure the magnetic field gradient rather than the total field strength. This relative measurement allows for the removal of background noise. Gradiometers accentuate the signal from shallow ferromagnetic objects while ignoring deeper features. They have been successfully used to locate buried ferrous objects such as drums, tanks, unexploded ordnance, and utilities. The depth of detection depends on the magnetic signature of the target object, so a ton block of iron may be located at a depth of 30 ft, while smaller ferrous waste (drum) might be located at a depth of 10 ft or shallower. Magnetic measurements are highly sensitive to ferrous metals, a common component of the waste buried in landfill trenches.

Magnetometry data were acquired using a Geometrics G-858 magnetometry system (Appendix B, Image B3). The magnetometer was configured with two sensors, one above the other using a 109 cm separation, on a frame backpack configuration. Each magnetometer measures the strength of Earth's magnetic field in nanoteslas (nT), called the Total Field Intensity (TFI), simultaneously. The presence of ferrous materials causes distortions in the magnetic field that are detected by the sensors. The vertical gradient (VG) of the magnetic field is the difference of the magnetic field values measured by the two independent sensors over the distance between them.

Data were collected at a sample frequency of 10 Hz. Data were acquired similarly to the EMI data along northwest-southeast transects parallel to the long axis of the soil-vapor sampling grid. Transect line spacing was nominally maintained at approximately 8 ft.

1.4.4 GPR Survey/AMASW Survey

The originally proposed GPR method is a non-destructive, non-intrusive geophysical strategy that produces a continuous cross-sectional profile or record of subsurface metallic and non-metallic objects. Radar profiles generated by GPR methods are used for evaluating the location and depth of buried objects and to investigate the presence and continuity of natural subsurface conditions and features. The GPR survey at the landfill was intended to provide information regarding the locations and depths of landfill trenches, identification of changes in subsurface lithology, subsurface objects in landfill trenches, and to identify voids.

The GPR uses high-frequency-pulsed electromagnetic waves (from 10 to 3000 megahertz [MHz]) to acquire subsurface information (Appendix B, Image B4). Energy is propagated downward into the ground from a transmitting antenna and is reflected back to a receiving antenna from subsurface boundaries between media possessing different electromagnetic properties. The depth of penetration is determined primarily by the attenuation of the radar signal due to the conversion of electromagnetic energy to thermal energy through electrical conduction, dielectric relaxation, or magnetic relaxation losses. Conductivity is primarily governed by the water content of the material and the concentration of free ions in solution (salinity). Environments not conducive to using the radar method include high conductivity soils, sediments saturated with salt water or highly conductive fluids, and metal. The geophysical subcontractor completed a preliminary suitability survey to determine effectiveness of the GPR method with the presence of the GCL covering the trenches. In general, clay rich materials are more attenuating to the GPR signal and can act as a barrier, keeping the signal from penetrating beyond the layer.

The GPR data were collected with both 100 MHz and 400 MHz antennas and a Geophysical Survery Systems, Inc. SIR 4000 console. Data positioning was accomplished using a Trimble Geo7x differential grade GPS receiver. The Geo7x streams an American Standard Code for Information Interchange (ASCII) National Marine Electronics Association string directly into a serial port input on the SIR 4000 and is recorded simultaneously with the GPR data. GPR transects were proposed to extend the length of each previously outlined trench, down the center axis.

The geophysical subcontractor recommended an alternative method to be tested for effectiveness, should the GPR pilot test prove the method would be ineffective. The alternate method proposed was active multi-channel analysis of surface waves (AMASW). AMASW is a nondestructive / non-intrusive seismic method to evaluate the shear-wave velocity distribution. AMASW analyzes dispersion properties of seismic surface waves (e.g., fundamental-mode Rayleigh waves) propagating horizontally along the surface of measurement directly from impact points to receivers (hammer shot points to geophones, respectively). For application at a landfill, the AMASW method provides a profile of the shear wave velocity (Vs) values beneath the line where the data are acquired. The velocity changes can be the result of stiffness changes in the overburden soils, relief on the bedrock surface, or a combination of both. It is an effective method for landfills because there is typically a large contrast in shear velocity between the sides and bottoms of trenches and the adjacent soils, and the velocities within the trenches are typically much more variable than are those in the undisturbed host soil deposits, which tend to have more uniform and predictable velocity.

AMASW uses mounted geophones located on a seismic “landstreamer,” a device which holds a line of equally spaced geophones at the ground surface without having spikes on the individual sensors. This is different from common seismic surveys, where conventional spiked geophones are inserted in the ground. The use of a landstreamer makes data acquisition much more efficient, as the landstreamer can be pulled ahead for each shot in rapid succession. A sledgehammer striking a metal plate serves as the seismic energy source. Data acquisition proceeds with the linear array of geophones incrementally moving forward at an interval equal to the receiver spacing and repeating the hammer impacts and recordings.

Shot and receiver geometry (i.e., spacing) remain the same, of course; however, the array is moved linearly along the same line as the initial setup (Appendix B, Image B5).

For this survey, AMASW data were collected using a landstreamer. The landstreamer consisted of 24 gimbaled geophones (i.e., in a housing of oil-based fluid) which allows for the 14 Hz geophones to remain vertical while being towed along the ground. The landstreamer consisted of a 75 ft cable (receiver length) with the gimbaled geophones attached at regular intervals (geophone spacing). Shot points (i.e., hammer blows) were positioned every 10 ft along the line as the landstreamer was towed along.

1.4.5 Passive Seismic Survey

A passive seismic survey (PSS) involves the detection of natural low frequency earth movements and was performed with the purpose of discerning geological lithology and structure in the subsurface of the 700 Area. Passive seismic (also known as ambient noise surface wave tomography) utilizes background noise to generate vertical profiles through the ground. Variations in impedance contrast are mapped to show lithological and structural features. The technique can be applied to any scenario where softer layers overlie harder substrates, which is the case at the 700 Area landfill where alluvium overlies bedrock. Depending on the nature of the ambient noise and the physical properties of the subsurface lithologies, passive seismic can be used to support subsurface interpretations from near surface down to a few thousand feet in depth.

The spacing of seismic sensor nodes influences subsurface resolution and was based upon the anticipated depth to the primary reflector (bedrock) between 110 ft and 180 ft bgs. The vertical resolution for the PSS data set is typically about half the distance of the horizontal node spacing. The typical spacing for individual geophones is typically in the order of several tens of feet to a few hundred feet in order to provide best resolution for the anticipated depth of bedrock. Nearby wells 700-A-253, 700-D-186, 700-H, and 700-J-200 were used as independent bedrock depth controls. The passive seismic survey grid utilized the systematic Phase IA shallow SVS as a starting point for field survey grid development. The spacing of grid lines was less dense, considerably wider-spaced, and extended further beyond the footprint of the 700 Area landfill than the other survey lines due to the greater target depth for this survey.

The PSS data were acquired by RTC 4.5 Hz single vertical element geophones and a Geometrics Inc. 72-channel Geode Seismograph. Geophone spacing was 20 ft. The primary energy sources were passive in origin, with an active source used to enhance data. The active energy source was supplied by a backhoe with an accelerated weight drop (AWD), as well as an additional, smaller AWD mounted on a rough terrain vehicle (RTV) (Appendix B, Image B6 and Image B7). The backhoe AWD provided an energy source location at both ends of every transect, where possible. The RTV AWD provided an energy source location between geophones along the length of the transect.

1.5 Type of Results Presented in the Report

This investigation generated qualitative analytical data for shallow SVS concentrations performed on a baseline grid and the processed subsurface results from four independent geophysical surveys. A summary of the results for the five components of the investigation are provided in Section 5.0 of this report.

2.0 Background

WSTF operates as a remote field test installation for NASA Johnson Space Center in Houston, Texas. The facility occupies over 60,000 acres of Chihuahuan Desert environment in the western foothills of the San Andres Mountains (SAM), bordering the eastern edge of the southern Jornada del Muerto Basin (JDMB). A 6-mi paved road provides access to WSTF from U.S. Highway 70.

From the early 1800s to approximately 1935, the Organ Mountains and the SAM were mined for gold, silver, zinc, copper, and lead. There were several established mines located in the SAM and numerous prospect mines (Seager, 1981). The nearest established mine to WSTF was the Smith Mine located approximately 1 mi southeast of WSTF within the Loman Canyon area. The Smith mine produced approximately $30,000 of silver ore during its operation. Deposits of galena (lead sulfide) and BaSO4 (barite) were also mined just north of the eastern mouth of Bear Canyon.

The ruins of a historic ranch house (Gardner Ranch) are located just east of the current 200 Area laboratory facilities, and Love Ranch is located approximately 1.6 mi east of the 700 Area. These properties were acquired by the federal government and became part of White Sands Missile Range (WSMR) in 1952. NASA Headquarters announced selection of a testing site in south-central New Mexico on July 6, 1962. The site was chosen for the isolated location and topography, which minimized the inherent hazards of aerospace propulsion testing to the general population. From the date of the official announcement until January 1965, the site was known as the Propulsion Systems Development facility. From January to June 1965, the official designation was White Sands Operations. Then on June 16, 1965, the official name of the installation was changed to White Sands Test Facility (NASA, 1986).

WSTF is a U.S. Government restricted access site, and all activities are industrial in nature. The test facility was established in 1964 to support the NASA Apollo Space Program. Although the primary purpose of the facility is to provide test services and support to NASA for the U.S. Space Program, services are also provided for the Department of Defense, Department of Energy, private industry, and foreign government agencies.

2.1 Facility Environmental Setting

The environmental setting at WSTF is typical of mountain front foothills within southwest desert environments. Descriptions of the general and site-specific environmental conditions are provided in the following sections.

2.1.1 Facility Geography, Climate, and Ecology

The local topography at WSTF is typical of the Basin and Range physiographic province of the southwestern United States, formed as a result of late Tertiary extensional tectonism. The adjacent SAM represent an uplifted northwest-trending mountain block adjacent to and east of WSTF. The SAM are separated from surrounding mountain ranges by broad intermountain basins. The southern JDMB is located on the west side of the SAM and the adjacent alluvial-covered bedrock pediment slope on which WSTF is located.

The climate at WSTF is characterized by abundant sunshine, wide diurnal variation in temperature, low relative humidity, and variable precipitation. WSTF typically receives an average of 10 in. of precipitation per year with the majority of rainfall occurring in intense brief localized thunderstorms during the late summer.

Biotic resources at WSTF are typical of those found in the arid southwest desert area. The average rainfall of 10 in. per year makes it difficult to support agriculture. As is typical with all deserts and semi-arid areas, the overall species diversity is low.

Major vegetation within WSTF includes a combination of woody shrubs and grasses characteristic of the Chihuahuan Desert Shrub Biotic Community. These shrubs include Louisiana White Sage, Creosote bush, Honey Mesquite, Tarbush, Broom Snakeweed, and Lotebush. Common grasses include Alkali Sacaton, Side-Oats Grama, Fluff Grass, Tobosa Grass, and Purple Three Awn. In addition to Gardner Spring Arroyo (GSA), numerous other well-developed arroyos are present but hidden from sight within the low-profile topography and vegetation. Plant species diversity is low, relative to that in better-drained upland slopes. Shrubs provide a microhabitat for warm season grasses and forbs as well as herptiles and small mammals.

WSTF is considered a low affectability area. The facility receives little use by wildlife species because it has been physically altered by human disturbance or overgrazing. The area provides reduced topographic relief and vegetation diversity associated with developed areas.

2.1.2 WSTF Surficial Geologic Setting

The Tencee-Nickel, Gently Sloping unit is approximately 65 percent Tencee Very Gravelly Loam and 20 percent Nickel Fine Sandy Loam. The soil is nearly level to gently sloping and occurs on old alluvial fans. Included within these soils are arroyo bottoms and areas of soils similar to Tencee and Nickel soils except that they contain less than 35 percent coarse fragments. The Tencee-Nickel, Steep unit is approximately 45 percent Tencee Very Gravelly Loam and 40 percent Nickel Fine Sandy Loam. The Tencee soil is typically found on surface features such as ridges and saddles, and the Nickel soil is a rolling steep soil found on broken areas of the landscape such as badlands, stony rock land, and arroyos (USDA, 1999).

2.1.3 WSTF Aquifer Conditions

Groundwater in the WSTF aquifer adjacent to the SAM, within the source test areas, and west to the Western Boundary Fault Zone located approximately 2 mi west is hosted within a fractured bedrock aquifer. Within the Western Boundary Fault Zone and further west into the southern JDMB where the bedrock pediment is displaced to depth along a series of northwest-trending half-graben faults, groundwater is hosted within an alluvial aquifer. Static groundwater beneath the 700 Area landfill generally occurs at depths between approximately120 to 170 ft bgs, which is approximately 10 to 20 ft below the bedrock surface based on observations from several groundwater monitoring wells surrounding the closure. Groundwater flows from east to west below the landfill at a gradient of approximately 0.05 (1 ft vertically for every 20 ft horizontally) through discrete irregular fractures in Paleozoic limestone and Tertiary andesite bedrock. Well productivity in the vicinity of the 700 Area landfill is typically less than 1 gallon per minute, and hydraulic conductivities have been generally measured in the10^{-5} to 10^{-7} ft per second range.

2.2 Facility Development Historical Use

WSTF site planning activities began in August 1962. Exploratory drilling to locate a water supply source began in December 1962, and drilling of water supply wells was completed in May 1963. Development of the site location began in May 1963. Locations for the specific areas of WSTF were chosen to minimize the potential impact and hazards in one area from affecting any other areas. Hazardous test and storage areas were located downwind from administration areas, the 300 and 400 propulsion areas were positioned so that they were not in line with respect to the prevailing wind direction, and the 200 Area was located far enough from the 300 and 400 propulsion areas for sufficient acoustic attenuation, blast

pressure decay, and adequate reduction of fragment impingement hazards, but close enough for easy transport of test articles to and from the test areas (NASA, 1980). The land use buffer zone surrounding WSTF was designed to ensure a safe distance for diffusion of vapors or other hazards to avoid impacts to off-site inhabitants, livestock, and agriculture.

2.3 700 Area Operational History

The WSTF 700 Area landfill began operation between 1963 and 1965 primarily to receive waste from the test areas on-site; the last waste was received on October 27, 1997 (HIS; NASA 2017c). NASA registered the 700 Area landfill with the New Mexico Environmental Improvement Division on October 19, 1978. The specific wastes and their quantities disposed in the landfill are not well documented, although evidence of the nature of the waste is available in spill reports and employee interviews for the disposition of hazardous substances.

Prior to the 1985 establishment of a full-time Environmental Department at WSTF, the only wastes shipped off site for disposal were vehicle batteries (1963 to present) and polychlorinated biphenyls (PCBs; 1980 to present). Any wastes generated at WSTF prior to 1985, including hazardous wastes, were disposed of on site. In general, liquid wastes were managed in surface impoundments and solid wastes were disposed of in the 700 Area landfill. Older cells installed prior to 1985 on the southeastern half of the 700 Area landfill are more likely to have been associated with the disposal of hazardous wastes (HIS; NASA 2017c).

The operations performed at the 700 Area landfill between 1963 and 1997 can be summarized as follows:

- For the years 1963 through 1985, there were no requirements for landfill waste management documentation; therefore, uncertainty exists regarding the type and amount of "hazardous" waste disposed.
- For the years 1985 thorough 1997, landfill waste management documentation was required, and "hazardous" waste disposal was mitigated.
- The exact total volume of waste at the landfill is unknown. The total volume of waste within the landfill has been estimated as 78,000 cubic yards (yd^3) within the HIS (NASA, 2017), based on an estimate of 3,000 yd^3 per cell and 26 total cells that were surveyed. This volume is approximated as the cells are not all uniform in size, and the survey may not have identified all cells.
- Office and construction waste comprised the majority of the waste.

There was not a strict procedure for new trench placement at the 700 Area landfill. In general, older trenches were excavated at the southeast side of the landfill close to the entrance on the southeast side and moved progressively northwest. Trenches were generally oriented in line with the short axis of the landfill; however, there are two trenches that were excavated in line with the long axis of the landfill and perpendicular to all other trenches (Figure 1.4). As space at the landfill became limited in the 1990s, the available areas between older trenches were used for new trenches. Historical information including aerial photography (NASA, 2019a) demonstrates that open / new cells were not installed by systematically moving to the northwest but were on occasion, especially as space became limited, located in the approximate middle of the 700 Area landfill between older, previously filled and covered cells.

2.4 Potential Landfill Wastes

Based upon information gathered for the HIS (NASA, 2017, Section 7, pp30-48), the following non-hazardous wastes are, or potentially could be, present at the landfill:

- non-hazardous laboratory waste.
- office waste.
- scrap wood.
- yard waste.
- cafeteria waste.
- animal carcasses.
- drilling mud, additives, and cuttings

Based upon information gathered for the HIS (NASA, 2017, Section 7, pp30-48), the following hazardous wastes or hazardous constituents are, or potentially could be, present at the landfill (likely disposed of prior to 1985)

- ash (in situ from trash burned in cells).
- explosives residue.
- infectious waste (sharps, blood, etc.).
- chemical or petroleum contaminated soils (lead, benzene, arsenic, cadmium, chromium, solvents).
- contaminated waste (such as soft goods, hardware, and clean-up materials) contaminated with fuels (unsymmetrical dimethylhydrazine, Aerozine-50 [A-50], monomethylhydrazine [MMH], and hydrazine), and oxidizer (nitrogen tetroxide), also unused or off-spec containers of the above.
- all 200 Area laboratory chemicals (e.g., Trichlorofluoromethane [Freon®[2] 11], 1,1,2-Trichloro-1,2,2-trifluoroethane [Freon 113], trichloroethene [TCE], tetrachloroethene [PCE], other solvents, isopropyl alcohol [IPA], other alcohols, acetone, methyl ethyl ketone [MEK], phosphorus, etc.).
- hydrocarbons (e.g., diesel, gasoline, hydraulic fluid, lubricating oils, motor oils, etc.).
- teflon grease.
- mercury (from lamps and soft goods from spill cleanup).
- small amounts of metals (stainless steel, carbon steel, titanium, aluminum, iron, mercury, copper, tin, gold, silver, chromium).
- fluorescent lights (lead, cadmium, mercury) and ballasts (containing PCBs).
- asbestos containing construction waste and insulation.
- paints and primers (chromium, lead, barium, benzene, MEK, ignitable wastes).
- epoxies, resins, oils, adhesives, plastics, caulking, floor finish (solvents; possibly containing PCBs).
- batteries (corrosive, lead, cadmium).
- photographic papers/negatives (silver [silver bromide]), etching plates (copper, metals).
- automotive wastes (tires, brake parts, filters, antifreeze, and used oil).

[2] Freon is a registered trademark of The Chemours Company FC, LLC.

- aerosol cans (barium, benzene, MEK, TCE, PCE, ignitable, corrosive, reactive wastes).
- broken or inoperable equipment/meters (metals, possibly asbestos and PCBs).
- pipes/plumbing (metals).

2.5 Landfill Closure Cap

In May 1996, NASA chose to use a GCL instead of local WSTF clay to ensure the cap was the proper low hydraulic conductivity barrier required (NASA, 1996d). As part of the closure process, NASA attempted to locate all the historical covered cells at the 700 Area landfill by trenching in April 1996 (NASA, 1996a, 1996c). Soil samples were obtained in the landfill in 1996 to evaluate natural WSTF clay in preparation for closure. The 700 Area solid waste landfill was closed in August 1997.

The planned closure activities comprised the following (NASA, 2017; HIS Section 6.8; Figure 1.5):

> "No erosion control measures have been taken at the site. Natural grade facilitates drainage. In addition, natural seeding has resulted in considerable revegetation on approximately 60 percent of the active area. Since the entire area will be cleared and redistributed to a uniform grade the material will be stock piled and used for revegetation…The final cover shall consist of a geosynthetic clay liner (GCL) sandwiched between two inches of select fill (screened to one quarter inch and less in diameter) above and below to prevent any large rocks from damaging its integrity. Each cell or area requiring the GCL will be excavated to 90% of modified proctor. Two inches of select fill will be deposited and compacted over the local fill. The GCL will be lain next, with edges in a trench 20-inches deep and 24-inches wide. The trench will be cut around the edges of the cells. Another two inches of select fill will be deposited over the GCL. This select fill and 10 inches of uncompacted screened local material (topsoil) will complete the cover. Three-foot high diversion berms will be constructed three feet outside the perimeter fence on the northeastern and southwestern sides of the landfill to prevent run-on following rainfall events. The berms will divert water into the two arroyos…In addition to the landfill slope and run-on berms…a downgradient run-off ditch will be constructed inside the southwestern perimeter fence and beyond the covered cell ends. The ditch will be three feet deep, nine feet wide at the cover surface and approximately 900 feet long. The outlet fan will be lined with rip-rap acquired from material screened out of the final cover fill. No leachate collection (or removal) or vadose monitoring systems were proposed (NASA, 1996b).

2.6 Previous Investigations and Post-Closure Monitoring

A summary of previous groundwater and methane monitoring data for the 700 Area landfill is provided in the HIS (NASA, 2017, Section 6.7, pp24-26).

2.6.1 Methane Vapor Wells

NMED personnel determined that NASA should begin methane monitoring during a 700 Area landfill closure consultation in February 1995. In preparation for landfill closure, 10 methane monitoring wells were installed around the landfill perimeter (Figure 1.4). Each monitoring well consists of a 7-ft long, 1.25-in. diameter well point with 30 in. of #60 mesh screen set into a 6-ft deep, 4-in. diameter augured hole with a sand pack and bentonite seal. Each well has approximately 1-ft stickup and is topped with an air-tight cap at the top of the casing.

Methane monitoring of the permanent landfill methane gas wells (MW-1 through MW-10) was conducted quarterly from 1996 to 1999. All results from these methane gas sampling events were non-detect (<5.0

parts per million [ppm] methane). On January 21, 1998, there was one detection of methane gas in well MW-5 of 7.6 ppm (NASA, 1998b). In April 1998, all wells were measured at 0 percent lower explosive limit except MW-5, which could not be located following placement of the closure cap. Well MW-5 was reportedly destroyed during cover and closure activities. WSTF facilities personnel repaired the well by removing the dirt from the pipe, installing an additional joint of pipe for well stick-up, filling the annulus to surface with bentonite. The concentration of methane was then measured at 0 percent. NMED also approved changing the methane monitoring frequency from quarterly to annually. Between October 1999 and December 2022, methane has not been detected at the 10 landfill methane monitoring wells. Methane monitoring results were most recently provided to the NMED SWB in the 2021 Solid Waste Management Annual Report for the 700 Area Post-Closure Solid Waste Landfill (NASA, 2022a).

2.6.2 Groundwater Monitoring Wells

Groundwater monitoring wells 700-A-253 and 700-D-186 (Figure 1.4) were installed in 1989. Freon 113 was detected in both wells. Therefore, wells 700-E-458 and 700-F-455 (Figure 1.3) were installed to bound the Freon 113 contaminant plume. In October 1994, NASA submitted a landfill groundwater monitoring system plan as required by the New Mexico Solid Waste Management Regulations-4. This plan outlined monitoring frequencies, assessment monitoring levels (AMLs), plans for AML exceedances, descriptions of well sampling equipment, descriptions of well sampling procedures, and required documentation (NASA, 1994). NMED SWB approved the plan on November 3, 1995 (NMED, 1995).

During landfill compliance groundwater monitoring in 1996 and early 1997, di(2-ethylhexyl)phthalate (also known as bis(2-ethylhexyl)phthalate or BEHP) was detected for the first time. Detections were above the established AML of 3 micrograms per liter (µg/L). Therefore, NMED required NASA to initiate an assessment monitoring program including installation of new wells (700-H and 700-J-200). NASA submitted a 700 Area Solid Waste Landfill Monitoring Well Installation and Groundwater Characterization Work Plan on January 19, 1999 (NASA, 1999). The groundwater sampling plan included the WSTF sampling wells shown on Figure 1.3: 700-A-253 (completed 11/9/1989); 700-D-186 (12/21/1989); 700-B-510 (8/14/1990); 700-E-458 (3/12/1990); 700-F-455 (1/31/1991); BW-6-355 (1/31/1992); 700-H (8/18/1999); and 700-J-200 (8/10/1999). All wells provided groundwater monitoring from the regional aquifer hosted within fractured bedrock and are part of the groundwater monitoring plan (GMP) well network (NASA, 2021a). Monitoring wells 700-A-253, 700-D-186, 700-B-510, 700-H, and 700-J-200 are included in more detail as part of the hydrology discussion in Section 4.4.4.

NASA concurrently conducted a BEHP investigation of other groundwater monitoring wells at WSTF and of fluids used in drilling groundwater wells to determine the source of the BEHP detections. Evaluations of monitoring well data indicated that the BEHP detections had poor correlation to other contaminant plume profiles observed at WSTF and a strong correlation between BEHP detections and non-dedicated purging equipment (consisting of a pump and tubing bundle attached together by plastic adhesive tape). NASA tested sampling components and determined that the adhesive tape contained sufficient quantities of phthalate-based compounds to adversely affect the quality of groundwater samples. Phthalates were volatilized by steam cleaning equipment during decontamination and deposited on the pump and tubing, then subsequently transferred to the groundwater during well purging operations. To mitigate, NASA installed dedicated sampling equipment in the 700 Area groundwater monitoring wells at WSTF, and BEHP concentrations declined (NASA, 2017, Section 6.6, pp22-24).

In March 2000, NASA requested to return to detection monitoring at the 700 Area landfill from assessment monitoring (NASA, 2000), which was approved by NMED (NMED, 2000). Freon 113 continues to be detected at low levels within groundwater monitoring well 700-A-253 and at higher levels in 700-D-186; however, this constituent does not require assessment monitoring since Freon 113 is not

listed as a hazardous constituent in the New Mexico Administrative Code (NMAC) regulations (NASA, 2017, Section 6.6, p24).

In February 2011, cadmium was detected at 0.0031 milligrams per liter (mg/L) and confirmed at 0.003 mg/L in May 2011 above the AML of 0.0025 mg/L. At NMED's request, NASA provided a cadmium time-concentration graph to determine if cadmium concentrations were increasing over time. Cadmium concentrations have fluctuated from not detected to above the AML since 2011. Other constituents such as sulfate and TDS are detected above AMLs in 700 Area groundwater monitoring wells. NASA has provided information to the SWB that allowed for the determination that these constituents are from a source other than the landfill (NASA, 2017, Section 6.6, p24).

2.6.3 Post-Closure Monitoring

The PCC Plan for the 700 Area landfill was implemented on July 31, 1998 and is in effect for 30 years. NMED officially approved the implementation of the PCC plan on August 14, 1998 (NMED, 1998) at which time NMED personnel conducted a landfill closure inspection and observed no violations (NMED, 1998). The plan includes requirements for groundwater monitoring, soil vapor monitoring, adequate drainage, fencing for the landfill boundary, vegetative cover, and PCC quarterly inspections and maintenance for landfill cover integrity.

Since landfill closure, WSTF has performed quarterly inspections, semi-annual groundwater monitoring, and annual methane gas monitoring as part of the regularly scheduled PCC for the 700 Area landfill. Landfill inspections have identified occasional issues with the closure cap, resulting in the need to perform closure cap maintenance such as vegetation removal or repair of the closure cap. NASA provides the details of landfill closure cap repairs to the NMED SWB following each cap repair. The most recent report was submitted on May 29, 2019 (NASA, 2019a) and deemed in compliance by the SWB on June 24, 2019 (NMED, 2019b). On April 5, 2022, NASA submitted a cap repair report to the NMED SWB describing the completed repairs to the GCL cap associated with this SVS Phase I landfill investigation (NASA, 2022b).

The results of annual methane monitoring are provided to the SWB in each Solid Waste Management Annual Report. NASA submitted the most recent annual report, for calendar year 2021, to the SWB on February 7, 2022, and all methane gas monitoring results at the 10 landfill methane monitoring wells were 0.0 percent methane (NASA, 2022a).

NASA routinely collects groundwater samples from a comprehensive network of monitoring wells at WSTF, including those near the landfill, in accordance with the NMED-approved GMP (NASA, 2021a). Groundwater samples are collected for the analysis of VOCs, N-nitrosodimethylamine (NDMA), bromacil, and metals. Groundwater samples collected from monitoring wells near the landfill (wells 700-A-153, 700-D-186, 700-H, and 700-J-200) are also analyzed for the constituents in Subpart A of 20.9.9.20 NMAC in accordance with the landfill PCC Plan (NASA, 1997). The results of groundwater detection monitoring are provided in semi-annual reports to the SWB, most recently on December 21, 2021 (NASA, 2021d).

2.7 Nature and Extent of Landfill Contamination

2.7.1 Trenches and Soil

Landfill waste disposal was confined to the individual trenches installed at the landfill. The location of a total of 26 historically identified cells/trenches were identified with management practices and wastes documented in the IWP and HIS (NASA, 2019a; Figure 1.4) and within Section 2.4 of this report. Soil

contamination, if present, is most likely to have occurred adjacent to the trenches and below the trenches as a result of contaminant infiltration to the adjacent relatively porous alluvial soils. The alluvial soils are reported to have an effective porosity of between 20 and 45 percent based on the geotechnical evaluation of nearby soils in the 200, 300, and 400 Areas (NASA, 1996b). The location, dimensions, and distribution of the 26 trenches were evaluated in greater detail as part of the geophysical components of this Phase I investigation. The results of the evaluation are presented in Sections 5.2 through 5.5.

2.7.2 Soil Vapor

The concentration and distribution of contaminants of potential concern (COPCs) in soil vapor at the landfill is limited to the results provided by 10 methane monitoring wells located outside the trenches near the peripheral footprint of the landfill (Section 2.6.1). Additional data is provided as part of this Phase I investigation. The results of the soil vapor evaluation are presented in Section 5.1.

2.7.3 Groundwater

The concentration and distribution of COPCs in groundwater at the landfill are provided as part of the groundwater monitoring program performed in the adjacent 700 Area well network (Section 2.6.2). Groundwater sampling was performed at downgradient monitoring wells 700-A-253, 700-D-186, 700-H (-350, -535, and -670), and upgradient monitoring well 700-J-200 during the most recent semi-annual groundwater monitoring event (NASA, 2021c). The sampling was performed for the constituents listed in 20.9.9.20.A NMAC and site-specific contaminants of concern Freon 113 and BEHP. Five constituents were detected at concentrations greater than the AMLs:

- chromium at well 700-J-200 (upgradient): maximum result = 0.18 mg/L, AML = 0.025 mg/L).
- fluoride at wells 700-J-200 (upgradient, resample), 700-A-253, and 700-D-186. Maximum result in 700-J-200 (upgradient, resample) = 1.3 mg/L, AML = 0.80 mg/L).
- iron at well 700-J-200 (upgradient): maximum result = 1.20 mg/L, AML = 0.75 mg/L).
- nickel at well 700-J-200 (upgradient): maximum result = 0.41 mg/L, AML = 0.15 mg/L).
- total Dissolved Solids at well 700-J-200 (upgradient, resample), 700-A-253, 700-D-186, and 700-D-186 (duplicate). Maximum result in 700-D-186 = 977 mg/L, AML = 750 mg/L).

2.8 Contaminants of Concern

A comprehensive list of preliminary COPC that may have been disposed of in the 700 Area landfill based on the operations and potential wastes is identified in Section 2.4. This represents the list of contaminants that may be contained within the 700 Area landfill closure cells; however, the list of constituents under investigation for the Phase I IWP (NASA, 2019a) were limited to VOCs and TPH for the shallow soil vapor survey (Section 5.1).

3.0 Scope of Activities

The scope of the investigation activities performed at the 700 Area landfill adheres to the NMED-approved IWP (NASA, 2019a; NMED, 2019a).

3.1 Data Quality Objectives

NASA develops and maintains project-specific internal Quality Assurance Project Plans (QAPP) that describe the application of quality assurance/quality control (QA/QC) activities associated with specific projects or investigations at WSTF. A QAPP was completed and is maintained in the WSTF Operating

Record for the 700 Area Phase I landfill investigation. Data was collected, reviewed, and maintained according to the QAPP.

This section addresses the activities related to the acquisition and evaluation of field data for the 700 Area landfill investigation project. Data quality objectives (DQOs) are first established for the field data as these have a strong influence on the design of field methodologies. Shallow SVS boring installation methodologies, the field deployment and collection of SVS sampling modules, and the collection of the EMI, vertical magnetic gradiometry (VMG), AMASW, and passive seismic geophysical surveys pertinent to the performance of this work are described. The analytical method for the SVS samples along with an explanation of associated QA/QC procedures are addressed to demonstrate the integrity of the analytical results that are used in the IR.

Application of the DQOs process described in "Systematic Planning Using the DQOs Process" (EPA, 2006) to the 700 Area landfill investigation is described in the following sections.

3.1.1 Problems and Objectives

The problem identified for resolution by the Phase I investigation is to improve conceptualization of the 700 Area landfill through the performance of a series of field surveys designed to identify the distribution of VOCs and TPH, location and dimensions of landfill trenches, distribution of metallic objects, and additional information relative to the nature of the alluvial-bedrock interface in the subsurface. Following NMED review of the Phase I investigation activities, any additional activities will fall under a supplemental Phase II investigation.

The primary decision related to the investigation is how to approach future management of the WSTF 700 Area landfill. It remains to be determined: if corrective actions are warranted due to the presence of residual COPCs; whether improvements or a replacement of the cap with an extended monitoring program is required; or, whether excavation and qualification for clean closure is an option.

3.1.2 Information Inputs

The primary input to determining whether VOC or TPH contamination is present as a result of 700 Area landfill operations are the concentrations in soil vapor detected across the shallow SVS that covers the footprint of the landfill and the trenches within. Soil vapor concentrations for the Phase I investigation are determined through the use of passive sampling devices.

VOC and TPH concentrations collected from the passive SVS are qualitative and provided in nanograms (ng). Isoconcentration maps are used to compare the relative concentrations between different locations and are not compared to established cleanup levels using NMED Vapor Intrusion Screening Levels (VISLs; NMED, 2021a) or WSTF 2020 soil vapor Risk-Based Concentrations (RBCs; NASA, 2020a). The comparison of relative concentrations is used to determine if VOC and TPH is present within the landfill footprint (most specifically within trenches), and whether additional soil vapor evaluations are required (if feasible). Supplemental analytical methods may be capable of quantifying the concentration of soil vapor and would require the ability to collect soil vapor grab samples from NMED-approved sampling wells as opposed to passive samplers suspended in shallow borings. Should the site require further action based on a Phase II investigation, the information input presented within this report will also provide data for a corrective measures evaluation or further analysis of site-specific risk.

3.1.3 Spatial Extent of Investigation

This investigation addresses and is limited to the vadose zone above bedrock within, beneath, and adjacent to the 700 Area landfill. Information acquired during this investigation will be evaluated and used to provide enhanced conceptualization of this area with specific reference to landfill trench dimensions, trench contents, and the underlying bedrock-alluvial interface.

3.1.4 Performance or Acceptance Criteria

The qualitative analytical approach for the SVS was designed to minimize the occurrence of false positive results through the use of field equipment rinsate blanks (for the steel conduit used to prop open the top of SVS borings) and method blanks (for the sampling modules). The procedure required that in the event of contaminant detection, the laboratory evaluated the method blank to determine the nature of the interference and the effect on the analysis of each sample within the batch. If contamination was present in any blank sample, the affected samples were appropriately qualified and equipment decontamination procedures were reviewed. This analytical approach increased the accuracy of the analytical data by reducing the potential for false positive detections.

3.2 Site Conceptual Exposure Model

A preliminary site conceptual exposure model (SCEM) was developed to provide an understanding of the potential for exposure to hazardous contaminants at the 700 Area landfill site based on the source of contamination, the release mechanism, and the exposure pathway(s) as these relate to residential, industrial and construction exposure scenarios. Figure 3.1 summarizes and presents the SCEM in diagram form. Incomplete exposure pathways are denoted by dashed lines to potential receptors, and complete exposure pathways are denoted by solid lines.

3.2.1 Contamination Sources

The potential contamination sources are hazardous materials that may have been disposed of in the 700 Area landfill (Section 2.4). These may have been disposed of in the 700 Area landfill based on the operations and potential wastes identified in Sections 2.3 and 2.4. COPCs potentially directed to the 700 Area landfill were generated for the other test areas at WSTF (primarily the 200, 300, and 400 Areas). The list of constituents under investigation for the Phase I IWP were limited to VOCs and TPH for the shallow soil vapor survey (Sections 1.4.1 and 5.1).

3.2.2 Release Mechanisms

Contamination can potentially be released from the landfill through the individual trenches that were used as a shallow repository for the waste materials. Waste materials may have been transported deeper into the vadose zone, and possibly groundwater, through leaching promoted by precipitation and infiltration.

3.2.3 Exposure Pathways

There are four potential landfill exposure pathways: 1) ingestion of groundwater; 2) incidental ingestion of soil or waste materials; 3) inhalation of volatile contaminants or particulate emissions (dust); and 4) dermal contact with soil or waste materials. There are no current or future residential land use scenarios anticipated in the vicinity of the 700 Area landfill. WSTF is a controlled test site located on the U.S. Army WSMR and there are no encroaching residential areas. Therefore, there are no complete exposure pathways identified for the residential exposure scenario in this SCEM (Pathways 1, 2, 3, and 4).

The groundwater underlying much of WSTF is known to be contaminated and its future use and potential risk to receptors are part of ongoing site-wide evaluation and corrective actions. The only water supply wells for the site are located several miles to the west and down hydraulic gradient from the 700 Area landfill. The supply wells are not impacted by WSTF contaminated groundwater and are monitored regularly for the presence of any site-source contaminants. A risk assessment of the groundwater itself was not conducted as part of the Phase I investigation. Ingestion of groundwater (Pathway 1) is not considered a completed exposure pathway for the residential, industrial, or construction worker exposure scenarios.

The landfill materials remain intact in the shallow subsurface in the 700 Area. Since there are no buildings/work sites at the landfill and the materials exist underground covered with a Closure cap deeper than 1 ft bgs, the exposure pathways of potentially contaminated soil or waste materials (ingestion, inhalation, dermal) for the industrial exposure scenario are not considered complete (Pathways 2, 3, and 4).

Environmental Department field technicians (construction workers) performed the passive SVS during this investigation, which included the installation of shallow soil vapor probes to depths of 25 to 30-in. bgs. A potential exposure pathway existed to ingest, inhale, or come into dermal contact with potentially contaminated soil (Pathways 2, 3, and 4). Potential exposure was mitigated through the use of personal protective equipment (PPE) during the shallow soil boring and sampling activities.

3.2.4 Potential Receptors

The Phase I investigative activities included the limited shallow SVS investigation that provided complete release and exposure mechanisms to field scientists and technicians (construction workers). NASA utilized standard health and safety procedures to mitigate construction worker exposure. Throughout the project, subcontractors complied with Occupational Safety and Health Administration (OSHA) and EPA standards applicable to the 700 Area landfill IWP and the 700 Area landfill Safety and Health Plan (SHP).

3.2.5 Fate and Transport

There are three general categories of processes affecting contaminant fate and transport: hydrodynamic, abiotic, and biotic processes. Hydrodynamic processes include advection, dispersion, and preferential flow. Abiotic processes include adsorption, volatilization, ion exchange, hydrolysis, precipitation or dissolution, cosolvation, redox processes, and colloid transport. Biotic processes include metabolism and/or cometabolism by microorganisms.

For the contaminants in any of the trenches at the 700 Area landfill, a potential mechanism for transport of potential wastes into the vadose zone beneath the trenches would be hydrodynamic processes as a result of infiltration. This mechanism is significantly limited by the presence of the overlying Closure cap (Section 2.5).

3.2.6 Data Gaps

Historical records and groundwater and methane well analytical data for landfill contaminants are insufficient to determine whether or not hazardous constituents are present in the trenches and if the soil directly beneath the trenches exceeds regulatory guidelines.

3.3 Summary of Pre-Investigation Activities

Pre-investigation activities were conducted at the landfill to provide site characterization data that facilitated preliminary planning activities, site investigation, and site restoration requirements (Appendix A). These activities included a comprehensive survey with flagging of the baseline grid individual SVS sampling nodes (9/20/2019 through 1/3/2020), installation of the SVS borings (10/15 and 10/16/2019) and mowing along the gridlines to approximately 6-in. above surface for geophysical subcontractor access (12/19 and 12/20/2019).

3.4 Summary of Investigation Activities

700 Area landfill investigation activities were conducted and documented across the footprint of the landfill in accordance with the IWP to ensure that all applicable regulations and guidance were followed. Pre-investigation activities helped to establish the baseline grid in the field and grid access to ensure that all SVS and geophysical survey activities could be performed. A summary of each of the survey designs are provided in Section 1.4. The following sections summarize the activities associated with performance of the field surveys.

3.4.1 Background Information Research

A historical records review was conducted as a part of the HIS (NASA, 2019a). This process was conducted before evaluating any information about the operational history of the landfill. These records include sources from the following resources:

- NASA Environmental Records
- NASA Drafting Records
- NASA Photograph Archives
- WSMR Geographic Information Systems Laboratory
- New Mexico Bureau of Mines and Mineral Resources
- United States Geological Survey

A summary of the 700 Area landfill operational history, potential wastes, and closure are provided in Sections 2.3 through 2.5.

3.4.2 Implemented Health and Safety Measures

Field activities were conducted in accordance with requirements of OSHA Standards for Hazardous Waste Operations and Emergency Response (HAZWOPER; 29 Code of Federal Regulations [CFR] 1910.120[a]-[o]), EPA Standards, the WSTF environmental contractor's SHP, a Site-specific Addendum for WSTF Environmental Restoration Activities (Navarro, 2018), and site-specific Job Hazard Analyses to address potential hazards foreseeable for the project. All personnel operating as part of the 700 Area landfill investigation were required to have 40-hour HAZWOPER training. The SHP addressed safety and health issues pertaining to work activities, including known and reasonably anticipated hazards associated with project scope of work, as well as contingencies for unexpected conditions. Requirements of the SHP, for personnel PPE and monitoring, applied to contractors as well as personnel requesting access to controlled areas of the investigation site. Prior to the start of each day's field activities, a Safety Tailgate Meeting was conducted to review the planned activities of the day, potential hazards, and PPE required. Daily field activities involved a minimum of two personnel working together.

3.4.3 Field Data Collection

Contractor Environmental Department personnel including geologists, compliance personnel, and sampling technicians recorded day-to-day accounts of field activities in field logbooks. Investigation data collected were recorded either in logbooks or on project-required forms. Investigation documentation included, but was not limited to:

- Geologist logbook documenting daily management of field activities.
- Sampling technician field logbook.
- WSTF project planning forms,
- Safety and Health forms.
- Investigation site visitor's log.
- Internal and external chain of custody (CoC) forms.
- Sample shipment forms.

4.0 Site Conditions

4.1 700 Area Landfill Closure Structures and Overview

There are no buildings located within the 700 Area landfill, but structures include both conventional and multiport groundwater monitoring wells surrounding the landfill and methane gas monitoring wells within the boundaries of the 700 Area landfill (Figure 1.4).

The 700 Area landfill is an approximately 24-acre (reported as 24.32 acres in the Closure Plan [NASA, 1996e]) trapezoid-shaped piece of land, with the long axis-oriented northwest-southeast, designed to contain solid waste for disposal within excavated cells or trenches, and has a trench depth between 14 ft and 20 ft (Figure 1.4). The design capacity of the landfill is estimated at between 55,044 yd^3 to 72,000 yd^3 with a ratio of waste to cover material of 8.5 to 1. The total volume of the 700 Area landfill has been estimated as 78,000 yd^3, based on an average estimate of 3,000 yd^3 per cell and 26 total cells that were surveyed and covered during closure (HIS; NASA 2017c). The average waste volume estimate considers the variability in trench dimensions and estimates from the landfill operators that 20 percent of the cell volume consists of natural soil, at least 2 ft of which is final cover.

4.2 Other Structures

There are two other structures with boundaries within the landfill: the Open Detonation Unit and the dead animal pit. These areas are summarized below.

4.2.1 Open Detonation Unit

The Open Detonation Unit (ODU) was an unlined, ramped, open trench surrounded by 3 ft high soil berms used for waste explosives treatment and disposal operations, and was a separate unit from the landfill. The ODU was located adjacent to the northeast side of the 700 Area landfill closure (Figure 1.4). The dimensions of the unit were 46 ft by 9 ft by up to 6 ft deep. The unit began operation in 1987 and was under interim status until the unit was permitted in 1993. The most recent waste disposal activity at the RCRA-permitted ODU was performed on March 23, 1999. In late 1999, NASA decided to permanently close the unit. Closure activities originally began on August 20, 2002. NMED approved the clean closure of this unit on August 12, 2005 (NMED, 2005). Disposal of excavated soil from the original ODU closure

occurred on January 19, 2006. Final ODU backfill activities began on March 2, 2006 and were completed on March 3, 2006. NMED regulatory personnel inspected the closure on March 7, 2006 (NASA, 2006).

4.2.2 Dead Animal Pit

The dead animal pit was a small active cell within the 700 Area landfill with approximate dimensions of 20 ft by 14 ft by up to 10 ft deep and located directly inside the landfill entrance by the fence (Figure 1.4). This pit was used for disposal of any animal carcasses found at WSTF and was used from the early 1960s to October 1997. Although records for this pit were not generated, employees stated that an average of one animal per year was disposed and included oryx, cows, birds of prey, other birds, cats, dogs, coyotes, and snakes. Following landfill closure, dead animals at WSTF were disposed by Doña Ana Animal Control or NM Department of Game and Fish.

4.3 Topography

The 700 Area landfill is located on a relatively flat expanse of soil composed of coalescent alluvial fans that are locally dissected by arroyos. The major alluvial fan systems that create the low dissected topography originate on the western pediment of the SAM at WSTF are typically 4,800 to 5,000 ft above mean sea level (amsl). SAM foothills are moderately sloping (15 to 25 percent) and consist of thin layers of alluvium covering fractured limestone and volcanic bedrock. The numerous relatively shallow dissecting arroyos up to a few feet in depth only flow during periods of heavy rainfall. Figure 1.2 provides a satellite map of WSTF and surrounding areas.

4.4 Surface Geology

The surface geology at the 700 Area landfill consists of Quaternary piedmont slope facies of the Camp Rice Formation. The Camp Rice represents part of the widespread upper Santa Fe Group alluvium (Seager, 1981) derived from the adjacent SAM to the east. The piedmont slope deposits comprise coalescent alluvial fans that originated from Bear Canyon, a major east-west-trending transverse canyon in the southern SAM located 1 mi east southeast of the 700 Area landfill.

Santa Fe Group alluvial deposits comprise variably sized gravel clasts within a sand, silt, and clay sized matrix. The alluvium is consolidated to unconsolidated, poorly sorted and locally contains discontinuous cemented caliche horizons a few inches in thickness. The most proximal outcropping lithologic units are located approximately 1 mi to the east southeast in the Bear Canyon area and comprise Pennsylvanian to Permian age limestone, sandstone, siltstone, and shale.

4.5 Subsurface Geology

4.5.1 Stratigraphy

Unconformably overlying older Santa Fe Group alluvium in the vadose zone is the Quaternary alluvium of the Camp Rice Formation and younger piedmont slope alluvium. These younger alluvial units are syntectonic with a period of younger Basin and Range faulting. Several subsurface faults in the vicinity of the landfill have been inferred from seismic and well log data (Reynolds, 1988; Maciejewski, 1996; NASA, 1996b).

Bedrock lithology in the vicinity of the 700 Area landfill comprise lower units of Permian Hueco Limestone and Tertiary (Eocene or Oligocene) Orejon Andesite (Seager, 1981) that consists of purple or green ash-flow tuffs and lava flows. The Permian Hueco Limestone and Tertiary Orejon Andesite bedrock are juxtaposed across inferred fault contacts. The bedrock surface below the 700 Area landfill

forms an eroded and relatively flat bedrock pediment surface, based on existing monitoring well borehole lithological and geophysical data. The bedrock surface decreases in elevation and increases in depth bgs from east to west across the landfill from 110 ft (well 700-J-200) to 180 ft (well 700-D-186).

4.5.2 Structure

Two styles of geologic deformation are present in the vicinity of the 700 Area landfill. The oldest and less prevalent deformation consists of west to northwest-trending folding and faulting associated with the Late Cretaceous to Early Tertiary Laramide Orogeny. This compressional deformation style is present east of the 700 Area landfill, exposed along Bear Canyon, and defined by Seager (1981) as the Bear Peak Fold and Thrust Zone. Thrust faults of the Bear Peak Fold and Thrust zone are interpreted to extend northwestward along strike in the subsurface and pass north of the northern boundary of the landfill. The second and more recent deformational style consists of extensional northwest-trending Late Tertiary Basin and Range normal faulting. The local expression of this structural style is the Rio Grande Rift. Basin and Range normal faulting began in the Rio Grande Rift between 26 and 32 million years ago (Seager, 1981).

Two inferred normal faults that strike northwest are located in the vicinity of the landfill with displacements of approximately 50 ft that downfault a small block of Tertiary Orejon andesite bedrock into Paleozoic limestone bedrock (Hueco Formation) at depth below the 700 Area landfill. Paleozoic limestones are located on the northeast and southwest sides of the fault block (intercepted by wells 700-J-200 and 700-D-186, respectively). Adjacent and to the west of the landfill, a third normal fault (potentially the extension of the Hardscrabble Hill Fault [HHF]) significantly drops the Paleozoic limestone to depth below the base of well 700-H installed in andesite by at least 530 ft as indicated by the thickness of andesite intercepted. The lack of surface expressions of normal faulting in the vicinity of the landfill suggests that the inferred subsurface normal faults near the landfill are related to an early period of extensional basin-range faulting, with beveling of the surface before deposition of the alluvium.

4.5.3 Geological Interpretation

Line of cross-section A-A' is presented in plan view in Figure 4.1 and extends southeast to northwest between WSTF upgradient well 300-D-153 (located 6,000 ft southeast of the landfill) and well 700-B-510 (located 3,500 ft west of the 700 Area landfill). Figure 4.2 presents the geological cross-section along line A-A'. Individual borehole and well completion characteristics of the wells in the vicinity of the 700 Area landfill are provided in Table 4.1. The surface elevation for the wells listed in Table 4.1 decreases from east to west moving down topographic gradient from the SAM into the southern JDMB. The elevation of bedrock also decreases from east to west in the direction of dip of the pediment slope. The bedrock surface appears to be relatively smooth and beveled through erosion, evidenced by existing boreholes installed in the area that do not suggest significant offset of the bedrock surface.

Between wells 300-D-153 in the 300 Area and 700-J-200 east of the 700 Area landfill, bedrock comprises micritic limestones of the lower member of the Permian Hueco Formation that predominantly strike N5°E to N45°E and dip 28 degrees to 42 degrees to the northwest based on surface outcrops in the 300 Area. These bedding plane attitudes may continue below the landfill unless the area is affected by the Laramide faulting documented in the Bear Canyon area by Seager (1981). Well 700-J-200, located approximately 500 ft east of the landfill, intercepts strongly hornfelsed (metamorphosed) limestone bedrock within the upper 60 ft, which becomes argillaceous and unaltered at depth.

Well 700-A-253, located adjacent to the landfill on the south side, intercepts 60 ft of Tertiary Orejon Andesite bedrock that overlies micritic limestone of the Hueco Formation. The microcrystalline texture of this andesite suggests a chilled margin to a volcanic flow or intrusive body, and this unit is inferred to be

responsible for the metamorphism of hornfelsed limestone at well 700-J-200. Further northwest of the landfill along A-A', micritic limestone bedrock of the Hueco Formation is again intercepted at well 700-D-186 located adjacent and west of the landfill. The reoccurrence of limestone bedrock is inferred to be related to a faulted and uplifted horst block. The 700-D-186 limestone is reported to be well fractured from lithologic descriptions.

Westbay®[3] multiport well 700-H, located approximately 1,000 ft downgradient (west) of the landfill, was installed within a borehole drilled to 730 ft bgs. Andesite bedrock was intercepted at 200 ft bgs and continued to the total depth of drilling, a thickness of 530 ft. A significant fault contact is therefore inferred between wells 700-D-186 and 700-H west of the landfill that juxtaposes the Hueco Limestone and the Orejon Andesite. As a result of the significant displacement evidenced by the absence of limestone bedrock at well 700-H, the fault may represent a northern continuation or splay of the HHF, a north to northwest-trending regional fault with up to a few thousand feet of inferred displacement. The HHF is exposed at surface on Hardscrabble Hill approximately 4 mi south of the landfill. The structure is not observed on shallow seismic cross-sections due to the erosion and beveling of the bedrock pediment surface subsequent to faulting.

4.5.4 Hydrology

The aquifer in the vicinity of the 700 Area landfill is hosted within the Paleozoic limestone and Tertiary andesite bedrock, typically at depths up to 30 ft below the bedrock surface. There is little to no primary porosity in the bedrock; therefore, any porosity and groundwater flow is within secondary bedding solution channels and fractures within the limestone, and secondary fractures within the andesite induced through structural episodes. Monitoring wells in the vicinity of the 700 Area landfill (700-J-200, 700-A-253, 700-D-186, 700-H, and 700-B-510; Table 4.1) are screened below the static potentiometric surface in order to maximize groundwater flow from fractured zones. The groundwater monitoring system near the landfill consists of one upgradient well (700-J-200), two landfill PCC point-of-compliance wells located at the landfill boundary (700-A-253 and 700-D-186), and two downgradient wells (700-H and 700-B-510). The wells are conventional single screen wells and are located in the uppermost aquifer with the exception of 700-H, which consists of three Westbay sampling ports designed for vertical characterization along a deeper aquifer profile. The details of these well construction designs are discussed in the site-wide GMP (NASA, 2021a).

The screened intervals within the 700 Area groundwater monitoring wells were placed at the uppermost intervals where lithologic and geophysical log information identified the presence of secondary porosity fracture zones capable of generating sufficient water for collection of groundwater samples. Monitoring wells screened at the potentiometric surface do not always yield sufficient amounts of groundwater for samples and may become dry during low recharge periods. The position of these zones with respect to the static potentiometric surface in the vicinity of the landfill is variable (Table 4.1).

Groundwater flow in the vicinity of the 700 Area landfill is from east to west based on the latest (June 2020; NASA, 2020b) groundwater depth measurements (Figure 4.3). The relatively steep groundwater gradient in the area is approximately 0.1 ft/ft, promoted by the significant decline in surface topography and the bedrock pediment along the western SAM pediment slope (NASA, 2021a). Groundwater flow in this area is calculated to have a velocity of 0.3 to 1.6 ft per day. The volume is however restricted based on low hydraulic conductivities within the aquifer determined from slug testing at monitoring wells 700-H and 700-B-510, and observations from the dry borehole installed at the 700-G location (Figure 1.3).

[3] Westbay is a registered trademark of Nova Metrix Ground Monitoring (Canada) Ltd.

5.0 Field Investigation Results

The fieldwork chronology for the Phase I 700 Area landfill investigation is provided in Appendix A. Photographic documentation of the field activities is provided in Appendix B.

5.1 Shallow Soil Vapor Survey Description

5.1.1 SVS Boring Installation

The shallow SVS borings were installed on October 15 and 16, 2019 and were predominantly within the 700 Area landfill closure footprint. Due to the remote location (no underground utilities) and accessible nature of the 700 Area landfill, no adjustments of the SVS grid sample points were required. Sample node location access was achievable on foot, and shallow SVS soil borings were installed using a battery-powered hand-held rotary hammer drill in two stages.

- Stage 1: Soils near the ground surface at many sample locations were characterized by loose and unconsolidated material and were prone to collapse. This required that a modified ¾-in. diameter (approximate) by 16-in. carbide hammer bit fitted with a drive collar be used to advance a ¾-in. inside-diameter by 15-in. length section of new and steam-cleaned stainless steel conduit pipe into the ground with approximately 4 in. of conduit stickup. Following cutting into individual sections, each length of conduit pipe was decontaminated using detergent wash and potable rinse water. Equipment blank samples were collected from 10 percent of the Phase IA and IB SVS conduit pipes as directed by NMED (NMED, 2019a). Appendix C contains the rinsate sample results for VOCs by gas chromatography (GC)/mass spectrometry using EPA 8260C and SVOCs (including gasoline, diesel, and oil-range organics) by GC using EPA 8015C and prepared using EPA 3015C. All rinsate sample analytical results were either below method detection limits or at trace levels and were flagged with the following data qualifiers.
    - U - Analyte was analyzed for but not detected. The sample quantitation limit was corrected for dilution and for percent moisture, unless otherwise noted.
    - J - Estimated value due to either being a Tentatively Identified Compound or that the concentration is between the method reporting limit and the method detection limit. Concentrations are not verified within the linear range of the calibration.
    - B - Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- Stage 2: Each of the borings were subsequently drilled to a total depth of between 25 to 30 in. using a 5/8-in. diameter by 36-in. carbide hammer bit. The depth of 30 in. was the depth of refusal for the majority of the borings. The boring depths were confirmed using a measuring rod, and the soil borings were temporarily protected at surface by covering the conduit pipe with a plastic bag secured in place with electrical tape pending SVS module deployment. Solid soil material was removed from the rotary hammer bit and measuring rod, and they were rinsed with de-ionized water between each boring installation.

5.1.2 SVS Module Deployment

Each sampling location depth was measured prior to soil vapor module installation, and any collapse incurred within the boring was recorded during the module emplacement. However, all borings remained open to a minimum depth of 25 in. bgs as indicated in sample CoC (Appendix D). SVS sample modules were shipped to WSTF in a single batch by the BES module laboratory and deployed on October 25 and 26, 2019. Individual sample modules were contained separately within 40 milliliter glass vials. Dedicated

chemical resistant gloves (latex or nitrile) were worn by field personnel while installing and retrieving the modules. Each module was taken from a correspondingly numbered glass vial and inserted into the base of the boring using a ¼-in. diameter stainless-steel rod. Phase IA SVS grid node locations were recorded with the individual module serial number, corresponding field identificaiton, sample type, date and time, observations, sample environment, soil type, etc. in the field logbook as each module was installed.

5.1.3 SVS Phase IA Survey

The Phase IA SVS utilized a standard grid configuration incorporating the entire landfill footprint and the 26 total individual cells/trenches previously identified in the HIS (NASA, 2017). It was noted within the HIS that the trench number estimates and variations in cell sizes were best estimates based on the available data. The SVS utilized trench nomenclature defined by the geophysical surveys performed as part of the investigation (Section 5.2.2), which were labeled as labeled A through Z (with two additional depressions were identified as AA and AB).

Individual shallow SVS sampling nodes/boring locations were centered within each of the grid cells. The grid generally comprises eight cells in width (short axis) by 17 cells (long axis) in length, which were designated sampling points 1 through 138 (Figure 5.1). These 138 sampling locations comprised the Phase IA systematic grid.

Additional sampling points 139 through 159 comprised SVS modules installed in locations not within the Phase IA systematic grid. Sampling points 139 – 148 were suspended in the casing of 10 existing methane monitoring wells; sampling points 149 – 151 were SVS modules suspended in the casing of three existing groundwater monitoring wells; and sampling points 152 – 159 were SVS modules suspended within shallow soil borings located on the periphery or outside the landfill footprint (Figure 5.1).

Conventional monitoring wells 700-A-253, 700-D-186, and 700-J-200 (SVS 149 – 151) screened across the uppermost contaminated groundwater table were equipped with SVS modules to compare shallow SVS results to an environment where known groundwater contaminant concentrations contribute to soil vapor through off-gassing (Figure 5.1; Table 4.1). The ten shallow methane monitoring wells MW-1 through MW-10 (SVS 139 – 148) were also equipped with SVS modules to provide another means of comparison to the SVS boring locations. Sample modules were suspended inside the upper 2 ft of monitoring well casing and the well subsequently sealed with the well cap. Contamination in these wells is verified through periodic sampling as part of the WSTF landfill and groundwater monitoring programs. Analytical results for the sample modules installed within monitoring wells were included within the shallow soil vapor survey datasets prepared for passive soil vapor isoconcentration maps to represent the effect of the monitoring wells and allow a comparison of these datapoint concentrations to other concentrations reported for the survey.

Field quality control samples were collected as part of the Phase IA survey. Duplicate samples were analyzed at a rate of 10 percent for samples collected in the field. For field duplicates, a second set of adsorbents housed in the soil vapor module were analyzed. Trip blanks were collected at a rate of 5 percent to document potential exposures that are not part of the signal of interest (e.g., impact during sampler shipment, installation or retrieval, and storage). Trip blanks are identical to the modules installed in the field and remained unopened during all phases of the project.

5.1.4 SVS Phase IB Survey

The Phase IB survey was originally planned to bias sampling points based on the results of the Phase IA SVS. The anticipated target areas for additional evaluation were potential VOC anomalies (identified by

the Phase IA). The strategy for the 700 Area landfill SVS was designed based on a similar two-phase survey performed in the WSTF 200 Area (NASA, 2015a). The premise was that where significant anomalies were identified on the preliminary Phase IA grid, additional delineation would be performed by adding a second phase of tighter spaced nodes.

Following the Phase IA SVS, NASA performed an EMI/VMG survey in March 2020 and GPR/ AMASW survey in August 2021. While the results of the geophysical surveys provided results that included improved resolution of the individual trench dimensions and the location of magnetic anomalies, they did not provide information that can be related to the previously planned design strategy for a Phase IB SVS.

The 700 Area landfill IWP stated that "significant deviations from the number and locations of shallow SVS samples indicated in the IWP will be discussed with NMED for concurrence." In a written communication to NMED (NASA, 2021d), NASA recommended that the Phase IB survey not be performed. In lieu of the Phase IB survey, it was recommended additional strategies for data acquisition to further characterize the potential contents of the landfill trenches would be presented in a Phase II IWP. The Phase II Work Plan will address future management of the 700 Area landfill closure and the strategy for the collection of quantitative subsurface contamination data. NMED concurred with this approach (NMED, 2022). This deviation is documented in accordance with the IWP in Section 7.1 of this report.

5.1.5 SVS Module Sampling and Recovery

Each soil vapor module was suspended on a length of string inside the boring to facilitate retrieval. Each boring opening was then sealed at the surface with a cork that fits snugly into the conduit pipe at the sample location. The soil vapor modules were installed within the borings/wells for 15 days. After this residence time, the sampling modules were retrieved on December 9 and 10, 2019 and placed into the corresponding glass vial in which they were shipped from the laboratory. The time and date of soil vapor module retrieval was recorded at each sample location. In order to keep the residence time constant, the soil vapor modules were removed in the same order and at a similar rate as they were emplaced. Custody seals were placed on each glass vial after they were sealed, and the containers were managed in accordance with established WSTF sample management procedures. The modules were then shipped to the laboratory for chemical analysis.

Sample management techniques specific to the BES soil vapor module laboratory were utilized. All data met requirements as specified in the BES QAPP, and the results relate only to the samples reported. The work performed was in accordance with international organization for standardization/international electrotechnical commission 17025:2005 requirements, TPH is not included in BES's scope of accreditation, and 1,2-Dichlorotrifluoroethane, 2,2-Dichloro-1,1,1-trifluoroethane, 2-Butanone, 2-hexanone, acetone, dichlorofluoromethane, and isopropanol were targeted with a one-point calibration.

Procedures presented in WSTF internal instructions for environmental sample management were followed during all sample management operations. The sample modules were stored and transported at all times in accordance with specific requirements of the BES analytical laboratory. A total of five trip blanks were retained with the other modules during storage and travel to and from the field. During the period of field exposure between installation (11/25/2019) and collection (12/09/2019) of 15 days, trip blank modules were stored in a secure container at the 700 Area landfill. Each sample module and glass vial container were labeled with a unique serial number and sealed with a custody seal. Following collection, sample module shipments were returned by overnight carrier to BES for laboratory analysis. Samples were managed using an internal WSTF CoC form and an external CoC form for passive soil-vapor samples provided by BES (Appendix D).

5.2 Shallow Soil Vapor Survey Results

The analytical results for the passive soil vapor survey are presented in BES standard units of mass (nanograms of each individual compound) for comparison between sample locations. The BES sampling modules have verified low and controlled uptake rates when sampling in air to limit bias for chlorinated and benzene, toluene, ethylbenzene and xylene compounds. Measurements are based on a five-point initial calibration with the lowest point on the calibration curve at or below the practical quantitation limit of each compound. Internal standards and surrogates are included with each analysis – per EPA Method 8260C – to provide proof of performance that the system was operating properly for each sample and to provide consistent reference points for each analysis. This enables an accurate comparison of measured quantities. Trip blanks were analyzed with each batch of samples and because two sets of adsorbent cartridges are provided in each sampling module, duplicate or confirmatory analyses could be performed for any of the sample locations.

The analytical results received for analysis by EPA Method 8260 indicated trace level vapor concentrations for the suite of COPCs. Laboratory results from the passive sample modules provided concentrations in the low nanogram (ng; one billionth of a gram) range. The low frequency of detections and concentrations observed in the soil vapor data may potentially indicate that the trenches retain relatively small quantities of VOC. This is corroborated by the higher concentrations detected above groundwater (modules 149-151) than the concentrations detected in the shallow SVS borings (modules 1-138).

The shallow soil vapor sample grid locations are shown in Figure 5.1 and the BES analytical report provided in Appendix D. The soil vapor analytes included (by EPA Method 8260C); the limit of quantitation (in ng); the frequency of detections from the survey relative to trip blanks, shallow soil vapor borings, methane monitoring wells, and groundwater monitoring wells; the total number of detections; the maximum concentration detected (in ng); and the location of the maximum detection are provided in Table 5.1.

Of the 50 soil vapor analytes evaluated using EPA Method 8260C, concentrations above the limit of quantitation (LOQ) were identified at one or more locations for 20 analytes (or 40 percent). The analytes with detected concentrations above the LOQ are provided in Table 5.1 and listed below.

- 1,1,1-Trichloroethane
- 1,1,2-Trichlorotrifluoroethane (Freon 113)
- 1,1-Dichloroethene
- 1,2,3-Trichloropropane
- 1,2,4-Trimethylbenzene
- 1,2-Dichlorotrifluoroethane
- 1,3,5-Trimethylbenzene
- 2-Butanone
- Acetone
- Benzene
- Carbon Tetrachloride
- Chloroform
- Chloromethane
- Dichlorofluoromethane
- Isopropanol

- Naphthalene
- Tetrachloroethene
- Toluene
- TPH C10-C15
- Trichloroethene

Of the five trip blanks, only Trip 1 contained any COPCs, and acetone (at 26 ng) was the only analyte detected. Summaries of the COPC SVS results are presented as isoconcentration maps to show the distribution of soil vapor concentrations (Figure 5.2, Figure 5.3, Figure 5.4, Figure 5.5, Figure 5.6, and Figure 5.7). Isoconcentration maps were prepared using the log transformation and kriging interpolation methods. The six analytes represented were chosen based on either frequency of detection and/or significance relative to the known list of COPCs known to be present at the 700 Area landfill (NASA, 2019a). Although acetone was the most frequently detected analyte (152 of 159 [96 percent of locations reported in Table 5.1]), it was not chosen for isoconcentration mapping due to its widespread occurrence as a common laboratory contaminant and because it was detected in a Trip Blank sample. Acetone concentrations can be viewed in the analytical reports in Appendix D.

Historical operations and potential wastes information indicated petroleum hydrocarbon waste was disposed at the 700 Area landfill and included diesel, gasoline, hydraulic fluid, lubricating oils, and motor oils. The sampling plan included the screening analysis and reporting for TPH as was previously provided during the 200 Area Phase I investigation (NASA, 2015a). The results for TPH in the C10-C15 range indicate that only one sample location (700-SVS-001 with concentration 5,340 ng; Figure 5.1) exceeded the LOQ of 5,000 ng. This sample location represents the first location on the grid adjacent to the road and entry gate to the 700 Area landfill. None of the results for TPH in the C4-C9 range exceeded the LOQ of 5,000 ng.

5.2.1 1,1,2-Trichlorotrifluoroethane (Freon 113)

1,1,2-Trichlorotrifluoroethane (Freon 113) was commonly detected within soil vapor borings, methane monitoring wells, and groundwater monitoring wells at a total of 123 out of 159 locations (77 percent). Freon 113 is also a common WSTF contaminant and was widely used historically in the laborarories and testing areas at WSTF and has been consistently detected in the local groundwater at adjacent wells 700-A-253 and 700-D-186- since the inception of sampling after well installation at the low parts per billion (ppb) level. The most recent groundwater concentrations were: 700-A-253 (coincident with vapor module 700-SVS-149) 0.72 ppb on 9/29/2021; 700-D-186 (coincident with 700-SVS-150) 23 ppb on 9/28/2021; and 700-J-200 (coincident with 700-SVS-151) 0.75 ppb on 9/28/2021. For this investigation, the highest reported vapor detection was 3,840 ng reported from the module suspended inside the top of the 700-J-200 well casing (700-SVS-151). Figure 5.2 provides the isoconcentration map for Freon 113, which shows the highest concentrations on the east side of the landfill, declining steadily west. This pattern for soil vapor is inferred to be directly related to volatalization of the Freon 113 in groundwater. Freon 113 vapors infiltrate the porous alluvial soils in the area and are detected most strongly where the water table is most shallow on the east side of the landfill (elevation 4,825 ft; Table 4.1) and deepens toward the west side of the landfill (elevation 4,690 ft; NASA, 2019a, Figure 4.3).

5.2.2 1,2,4-Trimethylbenzene

1,2,4-Trimethylbenzene was detected within soil vapor borings a total of 88 out of 159 locations (55 percent). 1,2,4-Trimethylbenzene has been previously identified within the list of COPCs at WSTF (NASA, 2019a). The highest reported detection was 176 ng reported from the module located in soil boring 700-SVS-054, which is located in the central part of the landfill northeast of groundwater

monitoring well 700-A-253 adjacent to Trench P. Figure 5.3 provides the isoconcentration map for 1,2,4-Trimethylbenzene, which shows the highest concentrations generally within the central and western areas of the landfill. This pattern for soil vapor may be related to occurrence of 1,2,4-Trimethylbenzene within the older trenches.

5.2.3 1,3,5-Trimethylbenzene

1,3,5-Trimethylbenzene was detected within soil vapor borings a total of 53 out of 159 locations (33 percent). 1,3,5-Trimethylbenzene has been previously identified within the list of COPCs at WSTF (NASA, 2019a). The highest reported detection was 138 ng also reported from the module located in soil boring 700-SVS-054 northeast of 700-A-253 adjacent to Trench P (Collier map designation). Figure 5.4 provides the isoconcentration map for 1,3,5-Trimethylbenzene, which shows a lower concentration but similar footprint to 1,2,4-Trimethylbenzene (Figure 5.3) generally within the central and western areas of the landfill. The common coexistence of the aromatic hydrocarbons 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene likely account for the similar patterns in soil vapor distribution.

5.2.4 Chloromethane

Chloromethane was detected within soil vapor borings a total of 37 out of 159 locations (23 percent). Chloromethane is a known contaminant that has been previously identified within the list of COPCs at WSTF (NASA, 2019a). The highest reported detection was 2,830 ng reported from the module located in soil boring 700-SVS-117, which is located on the northwest end of the landfill (Figure 5.1) adjacent to Trench C. Figure 5.5 provides the isoconcentration map for chloromethane, which shows the highest concentrations generally in the vicinity of Trench C and at two outliers at the periphery of the landfill footprint near soil borings 700-SVS-131 and 157 on the northwest side and 700-SVS-58, -66, and -154 on the northeast side.

5.2.5 Tetrachloroethene

Tetrachloroethene was detected within soil vapor borings and methane monitoring wells a total of 16 out of 159 locations (10 percent). Although infrequent in occurrence, tetrachloroethene is a known contaminant that has been previously identified within the list of COPCs at WSTF (NASA, 2019a). The highest reported detection was 64 ng reported from the module located in soil boring 700-SVS-086, which is located in the central part of the landfill north of methane monitoring well MW-9. Figure 5.6 provides the isoconcentration map for tetrachloroethene, which shows the highest concentrations at two locations 700-SVS-086 (adjacent to Trench K) and 700-SVS-047 (adjacent to Trench R) and along the periphery of the landfill footprint in methane wells (moving clockwise around the landfill: MW-4 to the north, MW-2 and MW-1 to the southest, and MW-10 and MW-9 to the south).

5.2.6 Trichloroethene

Trichloroethene (TCE) was detected at low frequency within soil vapor borings, methane monitoring wells, and groundwater monitoring wells a total of 7 out of 159 locations (4 percent). Although infrequent in occurrence for this SVS survey, TCE is one of the most common contaminants at WSTF (NASA, 2019a). The highest reported detection was 117 ng within module 700-SVS-058, which is located to the north on the periphery of the landfill footprint northwest of methane well MW-3 and adjacent to trench Y. Figure 5.7 provides the isoconcentration map for TCE. Of the seven detections, five were reported from methane monitoring wells (moving clockwise around the landfill: MW-4 to the north, MW-2 and MW-1 to the southest, and MW-10 to the south, similar to TCE results) and one was reported from monitoring well 700-J-200 (700-SVS-151). The most recent groundwater concentration at well 700-J-200 (700-SVS-151) was not detected at 0.20 ppb on 9/28/2021. The occurrence of TCE in soil vapor is inferred to be

directly related to volatilization from TCE in groundwater that infiltrates the porous alluvial soils where the water table is most shallow on the east side of the landfill (elevation 4,825 ft, NASA, 2019a, Figure 4.3).

The set of Phase IB SVS borings and modules originally proposed in the IWP were designed for tighter spacing between the existing grid nodes to provide detail where the initial Phase IA SVS and geophysical survey results indicated anomalous or higher concentrations within a more refined trench scenario. Because the qualitative Phase IA SVS results did not indicate that discrete or significant concentration anomalies were present or that the results can be correlated to landfill trench locations, NASA did not see a benefit to performing additional Phase IB delineation as tighter spacing would not yield significant additional information. Following completion of the Phase IA shallow SVS sampling and confirmation that Phase IB sampling would not be performed from NMED (NMED, 2022), the ¾-in. steel conduits were removed from the borings. Soil vapor borings installed directly in soil were backfilled with a small volume of native landfill materials following retrieval of the sampling modules.

5.3 Electromagnetic Induction Survey Description

Collier Geophysics, LLC (Collier) conducted the EMI survey on February 25 and 26, 2020. The objectives of the investigation were to: detect and map locations and dimensions of landfill trenches; map distribution and type of buried metallic objects; and map changes in soil properties across the defined project site.

Data were acquired continuously in northwest-southeast transects, aligned to the long axis of the SVS grid (Figure 1.6). Transects were completed on foot by geophysicists. Data were downloaded in the field for real-time quality checks. If the proposed 10-ft line spacing exceeded 16 ft between adjacent transects the data were re-acquired.

Raw EMI data were exported in tabular format. Positions for each measurement were interpolated for each record from GPS positions using the data transfer software. The data were then processed using Aarhus Workbench by Aarhus Geosoftware. Line path data were imported and filtered, storing an average value every 0.5 meters to reduce any high-frequency noise due to RF interference, instrument spikes, or interference from small metallic waste on the surface. Any GPS or instrument drop-outs were removed. The processed data were exported in tabular format and gridded using version 9.3 of Oasis Montaj, which is a processing and data visualization software suite used for analysis of geophysical data sets. Data were adjusted for latency to align the instrument response with the GPS positions. The CMD-Explorer records two orthogonal phase outputs for each coil separation, resulting in six datasets. After processing and filtering, each dataset was gridded using a minimum curvature method.

5.4 Electromagnetic Induction Field Survey Results

The quality of the EMI and VMG data acquired during this investigation was reported to be very good by the geophysical subcontractor based on low background noise levels and limited cultural interference. The only cultural interference identified was the fence surrounding the 700 Landfill Area. Trenches identified by geophysics compared to the trench locations previously mapped with geographic information system correlated well. The quality of the data and good correlation yields a high degree of confidence in the results obtained, interpreted, and presented.

The results of the EMI and VMG geophysical investigations are included in Appendix E as part of the consultant report. All 26 individual landfill trenches originally identified at the landfill were confirmed by the results of the EMI survey and labeled A through Z (with two additional depressions were identified as AA and AB). The first six plates included in the consultant report present the results of the EMI survey.

Plates 1, 2, and 3 correspond to the conductivity response of Coils 1, 2, and 3, respectively. Plates 4, 5, and 6 correspond to the in-phase response of Coils 1, 2, and 3, respectively. The results are displayed as color heat maps of electrical conductivity in millisiemens per meter (mS/m) or in-phase amplitude in parts per thousand (ppt). The results are displayed with hot colors (reds, pinks, yellows) representing high values and cool colors (blues) representing low (or negative) values. The color scales were chosen to represent the range of responses at the site and are the same from plate to plate.

Along the edge of the landfill, the above-ground metallic fence was evident in the resulting data as an elevated value (over background conductivity). This elevated signal can be observed as a pink border around the perimeter of the landfill in Figure 5.8. Landfill trenches are expected to exhibit elevated values of electrical conductivity, as well, due to buried landfill contents, excavated or disturbed subsurface material, and the presence of the GCL. Elevated values of in-phase amplitude are due to the presence of buried metallic and ferromagnetic material. Resulting EMI anomalies were assigned an alphabetic denominator in an arbitrary order. The anomalies are classified according to the magnitude of response of each instrument, in order to differentiate the properties and potential material content of each trench. Each instrument response (Conductivity and In-Phase) was assigned a classification value according to the following scheme:

1. Low instrument response (amplitude) from background levels, with localized peaks.
2. Moderate instrument response (amplitude) from background levels, with high amplitude peaks.
3. High instrument response (amplitude) above background, with high amplitude peaks covering most of the area.

These values are considered the “Interpreted Instrument Response Factor” and are reported with the anomalies listed in Table 5.2. In addition, a column reporting the area of each polygon, and a column reporting the nearest coincident landfill trench designation are also included in the table. These factors are interpreted subjectively based on the character of each instrument response over the whole anomaly area. They are intended to assist in the classification and characterization of the subsurface properties of each area with respect to the individual instrument responses, and not to identify individual objects or specific contents or components of the landfill material.

In general, the identified anomalies, from different geophysical instrument responses, coincide well with reported landfill cells. Exceptions include anomalies J, K, T, U, X, and Y which exceed the areas previously defined as landfill cells. Anomaly W includes both the area defined as Cell 25, and a landfill cell defined as the “Dead Animal Pit.” Anomalies V, Z, AA, and AB are not associated with any previously defined landfill cells. Cells 24 and 26 did not exhibit anomalous geophysical responses and are not associated with geophysical anomalies as identified in this investigation.

Lateral extents and surface areas of the landfill cells distribution were well-defined using the EMI. Vertical distribution of the landfill trenches and materials was also an objective of the investigation; however, it is not possible to define the depth response of multi-separation EMI measurements objectively. Inversion modeling may be used to fit a subsurface resistivity model to the EMI data by considering each measurement of three coil separations as a depth sounding and importing into software which calculates the inversion routine. A test volume of data was processed and inverted, which was expected to show a conductive layer over a resistive layer at the base of each trench. Unfortunately, due to the high electrical conductivity of the buried trench materials, the depth of investigation below the trenches was limited and the inversion modelling technique failed to resolve a quantitative base-depth measurement for the landfill trenches.

However, a subjective interpretation of the *relative* depth of results was possible, based on the variations in the responses from the three FDEM instrument coil separations. As defined above, the depth sensitivity to map bulk conductivity, of each successively wider coil pair (i.e., transmitter-receiver), increases proportional with the coil separation. Therefore, using the anomalous areas defined from the FDEM results, one can compare the relative amplitude of the conductivity and in-phase response from the three coil separations. Based on this relative depth concept: Coil 1 corresponds to the least depth of investigation; Coil 2 to the intermediate depth of investigation; and Coil 3 corresponds to the greatest depth of investigation. For example, Anomalies A and B exhibit high conductivity values on all three coil separations, whereas Anomaly E exhibits moderately high conductivity values with local peaks at the Coil 1 separation. This would lead to a qualitative interpretation that the material generating the anomaly at areas A and B are buried to greater depths than the materials at Anomaly E, for example. While the absolute depth of burial is unknown, the relative depths of other identified anomalies may be interpreted in this way. The EMI Conductivity provided approximate depths for the 700 Area landfill trenches that corroborated NASA records. The maximum depths were observed in Trenches A, B and F, G and H as seen in Figure 5.8. Individual trench depths were better characterized during the AMASW survey (see Section 5.8 and Appendix F).

5.5 Vertical Magnetic Gradient Survey Description

The VMG survey was performed on from February 27 and 28, 2020, by Collier Geophysics personnel. Data were acquired continuously in northwest-southeast transects, aligned to the long axis SVS grid. Transects were completed on foot by geophysicists. Transect line spacing was nominally maintained at approximately 8 ft intervals. Data were checked in the field for transect gaps of over 16 ft, which were then re-acquired.

The VGM raw data were converted to tabular data files using MAGMAP 2000 (version 5.04), by Geometrics Inc. All further data processing and gridding of the MAG data was performed using Geosoft. There are three primary steps required for MAG data processing. The first step is to remove data dropouts that may have occurred during data acquisition. These data dropouts can occur when the magnetometers are aligned at a particular angle with respect to the Earth's magnetic field or are very close to a large metal object. These occurrences are typically less than one second in duration and can be easily removed from the data with no detrimental effects on the final results. After removal of data dropouts, data were corrected for instrument latency by applying a small time-lag to the sensor data to align the timing of the GPS information. After corrections, a low-pass filter was applied, to remove noise due to the operator's walking pace and higher frequency noise due to RF interference and surface clutter. Following these corrections, Geosoft was used to grid the data using the minimum curvature method. VGM data were gridded using the TFI for the top and bottom sensors, as well as the vertical magnetic gradient between the sensors. In addition, an analytic signal (AS) filter is applied to the TFI grids, producing an output which preserves the absolute magnitude of the magnetic signal, which assists in locating and identifying buried ferromagnetic objects which produce both positive and negative magnetic field responses making them difficult to identify from raw TFI data alone.

5.6 Vertical Magnetic Gradient Field Survey Results

Similar to the EMI data, the quality of the VMG data acquired during this investigation was very good. Background noise levels were low, with limited cultural interference, and correlation with previously indicated trench outlines was very good.

The results of the geophysical investigation are included in Appendix E as part of the consultant report. Plates 7, 8, and 9 present the results of the magnetometry survey. Plate 7 presents the magnetic total field intensity (TFI) from the top sensor, Plate 8 presents the analytic signal (AS) filter of the top sensor field

intensity, and Plate 9 presents the vertical magnetic gradient. Magnetic anomalies are summarized as arbitrarily named polygons in Table 5.2 in the same manner as the EMI data.

The vertical magnetic gradient best imaged the distribution (orientation and length) of trenches which are outlined on Plate 7 (Figure 5.9); as such, the geophysical anomalies identified by the magnetic survey results are outlined on the TFI and AS figures (Plates 7 & 8) where they are best identified and most easily marked. The results of the survey indicate concentrations of metallic waste in the westernmost trenches, which could be anticipated as these are older trenches that were filled at a time when there were few restrictions on the materials deposited. The magnetic survey results also show a significant indication of metallic waste in several trenches in the Northeast corner of the landfill as seen in Figure 5.9.

The signal data were used to define the location of masses of buried ferromagnetic material or objects in the subsurface. High analytic signal amplitudes are associated with the total mass of ferromagnetic material in the subsurface, with the amplitude and extent of each maxima proportional to the buried ferromagnetic mass; commonly referred to as metallic-mass. Due to the high concentration of high amplitude anomalies in the results, it is not possible to differentiate whether a high amplitude anomaly represents many individual objects or one large metallic mass. Therefore, a subjective threshold value of 70 nT/m of the top sensor analytic signal was used to define and differentiate the magnetic anomalies. Anomalies were interpreted from both the top and bottom sensors, but the top sensor was used to perform the threshold method of anomaly identification to remove the influence of small magnetic waste on and near the surface. The threshold value was interpreted from the characteristics of the site to differentiate an anomaly from background. Note that this threshold method of anomaly identification and classification may also exclude small amplitude anomalies which may still be of interest to the survey.

5.7 GPR/AMASW Survey Description

Suitability testing for the GPR and AMASW was performed on May 28 and May 29, 2021. The GPR suitability test was conducted along the long axis of seven landfill trenches. The data was processed the day it was recorded to determine effectiveness. The AMASW suitability test was conducted over one initial trench to determine effectiveness.

AMASW was determined to be more effective in the landfill environment, thus NASA, in consultation with the geophysical subcontractor, decided to proceed with the proposed AMASW survey. AMASW data were collected over the first 16 of the 27 geophysical anomalies that were highlighted in the EMI/VGS surveys on May 28 through June 1, 2021. The initial 16 transects were selected based on ease of access with equipment. On June 2, 2021, the endpoints of the remaining 11 geophysical anomalies, as determined in the EMI/VGS survey were flagged and labeled in the field using a GPS stakeout survey to mark the line paths for brush clearing. These line paths required ground surface pre-treatment by mowing prior to seismic data collection to provide adequate ground surface access for coupling of the land streamer receivers to the surface. Following completion of mowing operations, the AMASW survey continued at the remaining 11 geophysical anomalies/trench locations. The remaining AMASW lines were acquired June 8 and June 9, 2021.

5.8 GPR/AMASW Survey Survey Results

The GPR data were processed using GPR Mapper, which includes a set of internally developed processing routines with bandpass filtering, window-limited time-squared gain functions, moving average subtraction (DC and low frequency offset removal), time-zero clipping, and average-trace background subtraction.

The GPR suitability test results are presented in the consultant report (Appendix F; Figures A1 and A2). GPR results did not penetrate adequate depth due to signal attenuation. The 400 MHz suitability line provided a signal penetration depth of no deeper than about 1 ft bgs. The 100-MHz system had a deeper penetration of a few feet but did not penetrate deep enough or consistent enough to meet project objectives of mapping buried landfill waste thickness. Therefore, GPR was determined to be an ineffective method for this investigation.

The MASW analysis consists of generating a frequency-velocity transform from the surface waves, picking the transformed data to derive a dispersion curve, and inverting this dispersion curve to create a layered shear-wave velocity (Vs) model. These steps result in one-dimensional (1D) Vs sounding models centered at each group of active geophones. The 1D Vs soundings are combined to generate a 2D Vs profile of the line. The program ParkSeis, version 3.0, by Park Seismic, was used to accomplish these steps, for both AMASW and PSS.

The results of the AMASW survey are appended to this report as a series of five figures in the consultant report attached in Appendix F. The results from the AMASW survey are shown in two ways. First, Appendix F, Figures A3-A6 show the 2D depth profiles for each AMASW line, with the interpreted trench bottom shown. The velocity profiles generally show a low velocity zone (generally less than 300 m/s) that appears to be related to the landfill trench materials. A background line that was collected in an area without any known trenches does not show a low velocity zone like those seen when collected over trenches identified with the electromagnetics and magnetics surveys. This reinforces the conclusion that the low velocity zones indicate the vertical extent of the trenches and the materials contained within them. It should be noted that it is possible that the actual shape of the trenches varies somewhat from the AMASW interpretations, due to both resolution limitations of the method and the possibility that the trenches could contain objects that could have high velocity values which would skew the seismic results and thus the interpretation(s).

Figure 5.10 shows a plan view map of the interpreted depth to trench bottoms, as defined by the interpretations shown on each AMASW profile. It should be noted that the location designated as Anomaly Z does not show any evidence of a trench in the AMASW results. It is likely that the magnetic anomalies at this location are caused by some magnetic object not located within a trench. In addition to the estimated trench depth as determined from AMASW, Figure 5.10 also shows updated trench outlines that are based on interpretations of the FDEM data (for the EMI survey) and MAG data (for the VMG survey) that were collected in February of 2020 and presented in Section 5.2 and Section 5.3, along with the AMASW results. Trench outlines are based on areas where the AMASW results showed a low velocity zone, or where either the FDEM and/or the MAG results indicated elevated response(s). Additionally, the MAG results are shown in grayscale beneath the trench depth estimates from AMASW.

As stated by the geophysical subcontractor, the quality of the AMASW data acquired during this investigation was very good. For the AMASW data, the sledgehammer provided good fundamental mode surface wave energy from about 15 to over 100 Hz. Therefore, the quality of the data and good correlation yields a high degree of confidence in the seismic data results acquired, with the interpretations presented in this report.

5.9 Passive Seismic Survey Description

A PSS survey was conducted along eight profile lines oriented in an orthogonal grid pattern (Figure 5.11). Collier Geophysics personnel completed the first four test lines for the enhanced PSS on May 25 and 26, 2021. These initial test lines were completed to ensure the planned survey would meet project objectives and the data quality was acceptable. The remaining four lines were completed on May 27, 2021. Line locations are presented in Appendix F, Figure A4. Locations were chosen based on target depth and

coverage of the landfill. Five seismic lines were oriented parallel to the short axis and three lines were parallel to the long axis of the landfill.

The data were recorded for 10 to 20 minutes (30 second consecutive seismic records) with the backhoe operator hitting the ground with the back side of the bucket in-line with the geophone array. In instances where the backhoe was unable to access the end of the geophone array, such as at the Northeast side of the landfill where the perimeter road does not connect and the geophone array was extended beyond the extent of the landfill, the energy source was positioned in-line where accessible. During PSS data recording the RTV was driven up and down the active array and the AWD impacted the ground at random locations.

5.10 Passive Seismic Survey Results

Based on the results, using the RTV/AWD in this fashion added additional surface wave frequency content that improved the higher frequency fundamental mode dispersion curve amplitude, thus supplying better quality data. For the PSS survey, the backhoe provided high amplitude useable surface wave energy down to 5 Hz. Data are presented in the consultant report included in Appendix F, Figure A8 and Figure A9.

For the PSS survey, each static spread, consisting of 64 or 72 channels, was cut up into records using 20-24 channels at a time, with the active channels moved by 120 ft down each line. In this way, a moving landstreamer array similar to that used in the AMASW collected data. This record 'cutting' approach is completed for each file collected, so that the overtone records from multiple files are stacked together before picking the dispersion curve. This greatly improves the signal to noise and allows for more robust dispersion curve picks. Each dispersion curve was then inverted to generate 1D Vs models every 120 ft down the seismic line. These soundings were then used to generate 2D profiles for each PSS line, which in turn were used to estimate depth to bedrock.

PSS results indicate depth to bedrock varies between about 131 ft and 230 ft bgs. Figure 5.11 shows the plan view map of the interpreted depth to bedrock under the landfill area based on the eight PSS sections. The map shows that bedrock is significantly deeper to the northwest. There are previously inferred faults within the area, shown as purple dashed lines on Figure 5.11. The strike of these faults generally line up with the change in depth to bedrock observed in the interpreted PSS results. The PSS method is not capable of detecting the fault itself due to the broad spacings of the 1D sounding approach of the method, but the results are consistent with the general position of the northern fault traversing the 700 Area landfill. The quality of the PSS data acquired during this investigation was very good as stated by the geophysical subcontractor.

5.11 Maintenance of 700 Area Landfill Closure Cap

The boundaries of the 700 Area landfill are fenced and the surface is sparsely to moderately vegetated with desert shrubs and grasses, some of which impeded easy progression of equipment along survey lines. In order to establish the survey lines and ensure adequate access for survey equipment, some vegetation was mowed or mechanically removed. Locations identified for the surveys were assessed to determine the appropriate surface preparation to allow for successful operation of the associated equipment while ensuring the landfill cap is protected.

In addition, the GCL covering the landfill cells was protected from equipment heavier than an all-terrain vehicle to avoid GCL damage. This was accomplished by hand-carrying or towing equipment with an ATV for the shallow SVS and geophysical surveys.

5.12 Safety and Health Procedures

Field activities were conducted in accordance with requirements of 29 CFR 1910, OSHA Standards for HAZWOPER. The Contractor's Corporate-wide SHP was augmented with site-specific Job Hazard Analyses to address potential hazards foreseeable for the project. The augmented SHP was followed in accordance with applicable requirements of the standards and addressed safety and health issues pertaining to work activities, including known and reasonably anticipated hazards associated with project scope of work as well as contingencies for unexpected conditions. The requirements of the SHP applied to prime and sub-contractors as well as personnel requesting access to controlled areas of the investigation site.

Project field personnel were required to be current in HAZWOPER training. As required by 29 CFR 1910, Hazardous Waste Operations and Emergency Response, the SHP and project-specific addenda addressed:

- A safety and health risk or hazard analysis for each site task and operation.
- Employee training assignments.
- PPE to be used by employees for each of the site tasks and operations being conducted.
- Medical surveillance and fitness for duty requirements (based on nature of the project scope and COPCs).
- Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.
- Site control measures in accordance with the site control program.
- Decontamination procedures.
- An emergency response plan for safe and effective responses to emergencies, including the necessary PPE and other equipment.
- Pre-entry briefing was held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of the SHP and that this plan is being followed.
- Inspections were conducted by responsible contractor personnel who are knowledgeable in occupational safety and health.

During the project, subcontractors complied with OSHA and EPA standards applicable to the IWP and the SHP. Project subcontractor field personnel were current in HAZWOPER training required 29 CFR 1910. Prior to the start of each day's field activities, a Safety Tailgate Meeting was conducted to review the planned activities of the day, potential hazards, and PPE required. Daily field activities required a minimum of two personnel working together.

5.13 Equipment Decontamination and Disposal

The steel conduit that penetrated the landfill cap to stabilize the upper boring and the rotary hammer drill bit were decontaminated before and after each use. General decontamination guidance available in Americal Society for Testing and Materials (ASTM) International D 5088-20 (ASTM, 2020) was followed for this project. Decontamination procedures were performed by 40-hour HAZWOPER trained personnel wearing appropriate PPE under the supervision of the site supervisor or their designee. Decontamination was performed on each length of SVS steel conduit pipe prior to installation and on the rotary hammer bit prior to installation and between borings to minimize the potential for cross-contamination. Decontamination involved hand washing the item with non-phosphate detergent, rinsing

with WSTF potable water, and finally by rinsing with purified water. Rinsate samples were collected at a rate of 10 percent from the decontaminated steel pipe (Appendix C).

Minimal solid waste was generated during this investigation due to the shallow penetration of the SVS and non-invasive geophysical survey techniques. Any residual soil on the rotary hammer drill bit following boring installation was removed using a wire brush adjacent to each location prior to final decontamination of the drill bit. In addition to decontamination facilities in the WSTF 600 Area, a temporary satellite decontamination station was constructed adjacent to the 700 Area landfill to support decontamination of the shallow SVS drill bit between borings. Decontamination activities were performed using plastic containers that retained waste generated during the decontamination process.

Following the retrieval and decontamination of the steel conduit pipe at the completion of SVS activities, the Environmental department Compliance Section completed a WSTF Form 408 for recycling the pieces of scrap steel conduit and delivered them to the WSTF 150 Yard on March 9, 2022.

5.14 Investigation-Derived Waste

Permit Attachment 20 (Section 20.2.13) requires that a description of investigation-derived waste (IDW) management be provided in an appendix to each work plan (NMED, 2009). Because a limited amount of solid waste was generated during the Phase I investigation fieldwork, waste management procedures are presented in this section in lieu of a separate appendix.

All IDW generated as part of the investigation was characterized and managed as non-hazardous solid waste. This comprised a negligible volume of soil dust that adhered to shallow SVS steel conduit pipe and the rotary hammer drill bits. The material consisted of soil that was used to construct the clean landfill closure cap. The soil was characterized as non-hazardous and left adjacent to each boring in the project area. Additional IDW included used disposable PPE (gloves) and rags, which were characterized as non-hazardous and were disposed of as solid waste at a Subtitle D landfill. Wastewater and soap solutions used for equipment decontamination were also characterized as non-hazardous and were disposed of in the WSTF sanitary sewer system. The shallow SVS soil vapor module samplers were returned to the laboratory for chemical analysis.

5.15 Site Restoration and Grading

Following the retrieval of SVS modules on 12/9/2019 and 12/10/2019, the SVS borings were subsequently sealed at surface and retained within the ground pending discussions between NASA and NMED relative to the need for performing a Phase IB investigation. Following confirmation of the decision not to perform this Phase IB by NMED on February 11, 2022, shallow soil borings were backfilled between February 15, 2022 and March 8, 2022. With respect to the shallow soil borings installed to depths of between 25 to 30-in. for the SVS module sampling, any disturbance or damage to the GCL incurred during the Phase IA shallow SVS field activities was repaired during backfill of each boring.

In conjunction with retrieval of the stainless-steel conduit from each location, the borings were backfilled with powdered sodium bentonite and hydrated. With the ¾-in. stainless steel conduit still in the ground and the boring open to the maximum depth, the base of the soil boring was first partially backfilled with powdered sodium bentonite through the center of the conduit. The 15-in. conduits were then carefully removed to incur minimal disturbance of the upper boring and the remaining section of soil borings filled with powdered sodium bentonite to surface. At this time, the bentonite was hydrated with unchlorinated water. This is a commonly accepted practice for the repair of landfill GCL liners and has been performed previously at the WSTF 600 Area Closure (NASA, 2011). Minor site grading was completed using hand

tools to prevent any ponding of water at the site location. Using this technique, minimal damage to the GCL at a depth of approximately 12 to 14-in. was incurred.

No significant final restoration and grading activities at the 700 Area landfill were required following the completion of the backfill of shallow SVS borings and geophysical survey components of the fieldwork. Following completion of the Phase I field investigation, modifications and repairs to the landfill closure cap were documented and reported to the NMED SWB (NASA, 2022). Any final restoration and grading activities at the 700 Area landfill will be performed as directed by NMED following repair review. Additional modifications or repair may follow the completion of any additional Phase II fieldwork performed. This includes fieldwork, the receipt of the final analytical results, submittal of the Phase II investigation report to NMED, and receipt of concurrence from NMED.

6.0 Regulatory Criteria

The 700 Area landfill site investigation activities, and post-closure activities are regulated by both the NMED Ground Water Quality Bureau and the NMED HWB. The following sections provide a summary of the applicable regulatory requirements.

6.1 Soil

Soil analytical data was not collected for the Phase I investigation; however, this may be a component of the subsequent Phase II investigation based on the recommendations presented in this report. Soil analytical data will be evaluated to determine if further investigation is warranted, or if the soil data should be used to determine risk in accordance with the NMED *Risk Assessment Guidance for Site Investigations and Remediation, Volumes 1 and 2* (RA Gudiance; NMED, 2017; 2021a). Table A-1, Appendix A to Volume I of the RA Guidance provides default values of soil screening levels (SSLs) for both carcinogenic and non-carcinogenic COPCs that will be used to evaluate soil and analytical results to identify any soil contamination and, if warranted, to evaluate human health risk to receptors at the 700 Area landfill.

As part of soil data evaluation, NASA may review modification of the default SSLs based on historical site-specific values including aquifer hydraulic conductivity and gradient, infiltration rates, and soil properties. Should NASA propose site-specific SSLs for the 700 Area landfill, the modified SSLs will be submitted to the NMED for review and approval prior to use in WSTF risk assessments. Any evaluation of the default SSLs will be performed in accordance with the NMED recommended procedures defined in Volume 1, Section 4.7 of the RA Guidance (NMED, 2021).

6.2 Water

Groundwater analytical data was not collected specifically for the Phase I investigation, however; COPC concentrations in groundwater samples are routinely collected from 700 Area monitoring wells and compared with the most current cleanup levels developed in accordance with Permit Attachment 15 (NMED, 2009) and provided in the NMED-approved GMP (NASA, 2021a; NMED, 2021c). Cleanup levels applicable to any COPCs detected during groundwater sampling are reported within quarterly Periodic Monitoring Report (PMR) submittals to the NMED and annual landfill reports.

6.3 Soil Vapor

As stated in NMED (2021b; Comment b.), SVS analytical data collected using passive sampling methods can only be used for the qualitative evaluation of COPCs at a site as specified in Risk Assessment Guidance, Section 2.5.2 (NMED, 2021a). As a result, COPC concentrations in passive soil vapor samples

collected for the Phase IA SVS were not compared to the appropriate NMED VISL (NMED, 2021a; Table A-3) or to the latest WSTF 2020 Soil Vapor RBCs (NASA, 2020a).

Risk evaluation using NMED VISLs or WSTF RBCs will require the collection of soil vapor data using active soil vapor sampling methods and/or groundwater sampling. Active soil vapor sampling may be a component of subsequent investigation at the 700 Area landfill based on the recommendations presented in this report.

7.0 Deviations from Investigation Work Plan

7.1 Phase IB Shallow Soil Vapor Survey

NASA initially conducted the Phase IA soil vapor sampling in shallow, less than 25 to 30-in. deep borings across the survey grid covering the footprint of the 700 Area landfill in January 2020. The borings were of sufficient depth to provide qualitative assessment of the soil vapor below the GCL. Results received for analysis by EPA Method 8260 C indicated only trace level vapor concentrations for the suite of COPCs. Preliminary Phase IA isoconcentration maps developed for the six contaminants with the highest concentrations and frequency of detection in nanograms (TCE, PCE, Freon 113, chloromethane, 1,3,5-Trimethylbenzene, and 1,2,4-Trimethylbenzene) were used to present the trace concentrations from the passive soil vapor samplers (Appendix D).

The qualitative Phase IA SVS results did not indicate that discrete or significant anomalies could be correlated to landfill trench locations. As a result, there was no benefit to performing additional Phase IB delineation as tighter spacing would not yield significant additional information. Subsequent geophysical surveys provided improved resolution of the individual trench dimensions and the location of magnetic anomalies but did not provide information that could be applied to the design strategy for a Phase IB SVS.

On December 15, 2021, NASA proposed that the Phase IB SVS not be performed in the *Revised Discussion Relative to the Phase IA and Phase IB Soil Vapor Survey (SVS) Component of the Ongoing 700 Area Phase I Landfill Investigation*. NMED approved this request on February 11, 2022. In lieu of the Phase IB SVS, strategies for supplemental data acquisition to conceptualize the landfill trenches are provided in this IR.

7.2 Ground Penetrating Radar Survey/AMASW Survey

The results of the GPR pilot tests performed by Collier Geophysics using 400 MHz and 100 MHz antennae showed limited depths of penetration. As a result, imaging was not deep enough to profile the landfill trench bottoms. Because the pilot tests showed GPR would not be an effective tool to meet project objectives, an AMASW survey was performed as an alternative. Documentation of this approach is provided in the Collier Geophysics Report provided in Appendix E. As a result, an additional survey technique (AMASW) was selected to evaluate the trench depths.

8.0 Conclusions

The results of the 700 Area landfill Phase I IR are provided below. A separate IWP for proposed Phase II investigation activities at the 700 Area landfill will be submitted in accordance with the approved NMED schedule.

8.1.1 Overall Investigation Conclusions

The Phase I investigation provided additional conceptualization of the 700 Area landfill through the performance of the Phase IA shallow SVS and four independent geophysical surveys. An insight was provided relative to the distribution of VOCs and TPH through the qualitative shallow Phase IA SVS. Improved resolution in the form of the location and dimensions of landfill trenches, distribution of metallic objects within the trenches, and supporting information relative to the location of subsurface bedrock was provided by four independent geophysical surveys: EMI; VMG; AMASW; and passive seismic.

8.1.2 Soil Vapor Survey

The passive sample modules provided concentrations in the low nanogram (ng; one billionth of a gram) range. The low concentrations and sparse distribution of anomalies above the LOQ for the EPA 8260C compounds limited the ability to meet the original objectives of the survey. The intended strategy for the two-phase 700 Area landfill SVS was designed based on a similar two-phase survey performed in the WSTF 200 Area (NASA, 2015). The premise was that where significant anomalies were identified on the preliminary Phase IA grid, additional delineation would be performed by adding a second phase of tighter spaced nodes. This was not feasible for the landfill due to the absence of any significant anomalies.

- The qualitative COPC results are within the low ng concentration range and distributions do not identify a significant number of anomalies related to the trenches.
- Isolated anomalies of relatively higher COPC concentrations were most frequently identified near the periphery or just outside the landfill footprint within shallow SVS sampling devices that were suspended within the open casing of deeper methane or groundwater monitoring wells for comparative purposes. The sampling devices in groundwater monitoring wells were directly exposed to vapor above the contaminated groundwater at depth.
- The pattern for Freon 113 in soil vapor is inferred to be related to volatilization from groundwater where Freon 113 vapors infiltrate the porous alluvial soils in the area and are detected most strongly above the shallow water table on the east side of the landfill.
- 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene showed similar confined distribution and were primarily detected adjacent to Trench P (Collier map designation) with the highest concentrations generally within the central and western areas of the landfill. This pattern may indicate that these aromatic hydrocarbons were present within the older trenches present in the central and western portion of the landfill.
- Chloromethane is limited in distribution and shows relatively higher concentrations in the vicinity of Trench C and at two outliers at the periphery of the landfill footprint on the northwest side and northeast side.
- A limited occurrence of tetrachloroethene was identified in the central part of the landfill adjacent to Trench K (Collier map designation) and an outlier at the periphery of the landfill footprint on the southwest side.
- Isolated detections of trichloroethene were reported from methane monitoring wells and from monitoring well 700-J-200. The occurrence of TCE in soil vapor is inferred to be related to volatalization from TCE in groundwater that infiltrates the porous alluvial soils where the water table is most shallow on the east side of the landfill.
- The low frequency of detections and concentrations observed in the soil vapor data may potentially indicate that the trenches retain relatively small quantities of VOC. This is corroborated by the higher concentrations detected above groundwater as opposed to the low-level detections in the shallow SVS boring data.

8.1.3 Geophysical Surveys

The quality of data collected in all four of the geophysical surveys were good. The objective of the geophysical surveys was to establish the location and dimensions of landfill trenches, distribution of metallic objects, and provide additional information relative to the nature of the alluvial-bedrock interface in the subsurface. The data collected were abundant and high quality. Due to geophysical methods' non-unique nature and resolution limitations, some methods provided more quantitative results per objective than others. The EMI and VMG surveys provided quantitative trench lateral extents. Even though the AMASW survey provided trench lateral extents, the actual trench shapes may be different due to method resolution limitations and the likelihood of trench waste having high velocity values that would skew seismic results/interpretations. However, the AMASW survey provided quantitative trench depths; whereas the EMI survey was only able to provide qualitative trench depths.

The lateral extent of landfill trenches was imaged in both the EMI (Figure 5.8) and the VMG data (Figure 5.9). The extents determined by the geophysical surveys have a good correlation with the previously determined trench boundaries (Figure 1.4). Several interpreted trenches exceed the previously determined trench boundaries (J, K, T, U, X, and Y; Figure 5.8). In addition, four anomalies were identified (V, Z, AA, and AB) that are not present on Figure 1.4. These anomalies (labelled Anomaly V, Z, AA, and AB) may or may not be unidentified smaller trenches. Conversely, two areas identified as small trenches (cells 24 and 26; Figure 1.4) were not identified as anomalies with the EMI and VMG survey data (Figure 5.8, Figure 5.9) and are likely not trenches.

A quantitative trench base depth determination was attempted for EMI data using Aarhus Workbench, version 6.1.0 software that was expected to show a conductive layer over a resistive layer at the base of each trench. Due to the high electrical conductivity of buried trench waste, this technique did not produce a quantitative trench depth. However, relative (qualitative) depths of anomaly sources (metallic material) were determined based on comparing depths of anomalies over the three coil lines.

The AMASW survey provided quantitative trench depth estimates (Figure 5.10) for all trenches based on a low velocity zone related to trench waste. Anomalies Z, AA, and AB (Figure 5.10) did not produce an AMASW response as expected, if a trench was present. It is possible that the instrument responses at these locations for the EMI and VMG survey were a result of interference from other metallic material nearby, indicating that the locations identified as Anomaly Z, Anomaly AA, and Anomaly AB (in EMI survey; Figure 5.8) are not landfill trenches. This corresponds well to previously identified trenches (Figure 1.4). However, Anomaly V did show a AMASW response and indicates there is a previously unidentified trench there, as well as no trench located in two spots at the southeast of the landfill (trenches previously identified in white where no black new trench outline exists). This can be seen on Figure 5.8.

The maximum trench depths interpreted in the AMASW survey appear to range from approximately 10 to less than 23 ft, depending on the trench. As stated by the Geophysics subcontractor, the actual shape of landfill trenches (laterally) may be different than the AMASW interpretations. However, using interpretations of the EMI and VMG data with this data, updated trench outlines are presented on Figure 5.10, where depth colors are present within black possible trench outlines.

The EMI and VMG survey indicated trenches in the northwest have higher anomalies associated with metallic materials. Due to the high concentration of high amplitude anomalies in the results, it is not possible to differentiate whether a high amplitude anomaly represents many individual objects or one large metallic mass. This likely coincides with older trenches, as previously anticipated.

Based on the PSS survey, depth to bedrock varied between 131 to 230 ft. Bedrock deepens to the northwest, which corresponds well to the previously inferred faults and fault strike (Figure 5.11).

The geophysical surveys were successful in meeting project objectives: establishing lateral and vertical extents of each predetermined trench, identifying a potential previously undefined trench (Anomaly V; Figure 5.8; Figure 5.10; Appendix F, Figure A6), identifying two locations previously believed to be trenches that are likely not trenches, establishing depth to bedrock, and identifying areas with high magnetic anomalies associated with ferromagnetic or metallic materials.

9.0 Recommendations

Additional investigation activities are recommended in order to collect quantitative analytical data to further evaluate potential trench constituents in nearby soil and vapor. Potential investigation strategies include soil sampling beneath or adjacent to trenches and supplemental active soil vapor sampling at trenches. Results of the investigation will be evaluated when determining the final 700 Area landfill disposition and preferred long-term management or closure strategy.

- Perform specific targeted soil sampling and soil vapor sampling that employs an active collection technique with the objective of generating quantitative analytical data that will support landfill characterization. NASA will evaluate directional/horizontal drilling techniques to determine if drilling and sampling soil beneath trenches is feasible. If determined to be infeasible, NASA will drill adjacent to trenches and sample soil at depths approximately mid-trench, at the anticipated trench total depth, and below the trench depth at each location. Soil samples will be screened in the field for VOCs and submitted for laboratory analysis for the suite of contaminants that commonly accompany potential landfill wastes.
- Active soil vapor sampling for anticipated VOCs and TPH will be performed by breeching the GCL liner, installing a soil vapor implant beneath the GCL, and collecting active soil vapor samples. Required GCL cap repair will be performed by backfilling with hydrated sodium bentonite.
- Specific targeted soil borings will be located beneath or adjacent to the footprint of the trenches and will not penetrate or disturb the actual trench or entrenched material.
- Specific targeted locations shall be strategically weighted toward older trenches in the northwestern portion of the landfill, trenches identified to have potential VOC anomalies as a result of the Phase IA shallow SVS, anomalies based on geophysical surveys.

10.0 References

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Figures

Figure 1.1 **WSTF Location Map**

(SEE NEXT PAGE)

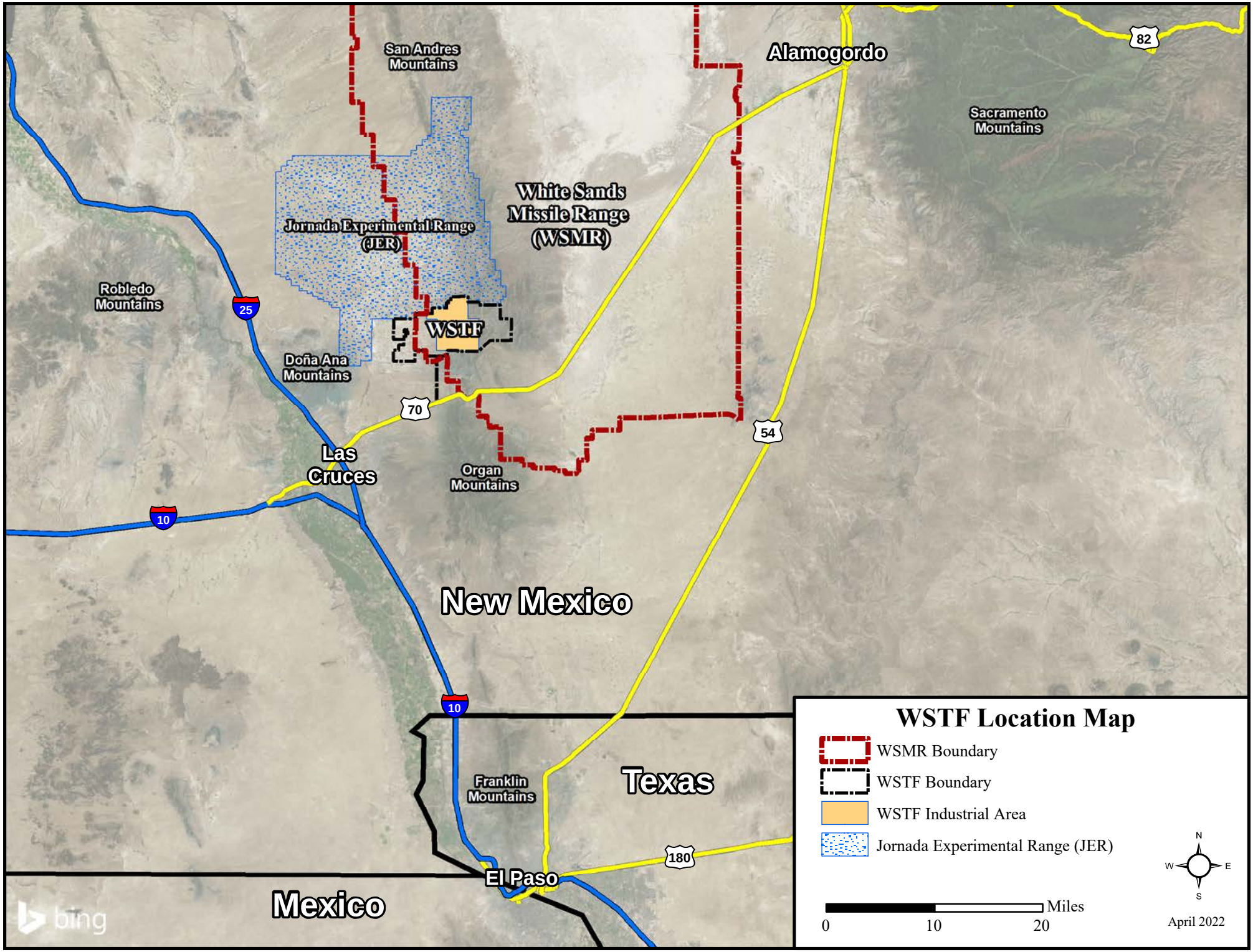

San Andres Mountains
Alamogordo
82
Sacramento Mountains
White Sands Missile Range (WSMR)
Jornada Experimental Range (JER)
Robledo Mountains
25
WSTF
Doña Ana Mountains
70
54
Las Cruces
Organ Mountains
10
New Mexico
10
Franklin Mountains
Texas
180
El Paso
Mexico
bing
WSTF Location Map
WSMR Boundary
WSTF Boundary
WSTF Industrial Area
Jornada Experimental Range (JER)
N
W
E
S
Miles
0
10
20
April 2022

Figure 1.2 WSTF Industrial Areas Map

(SEE NEXT PAGE)

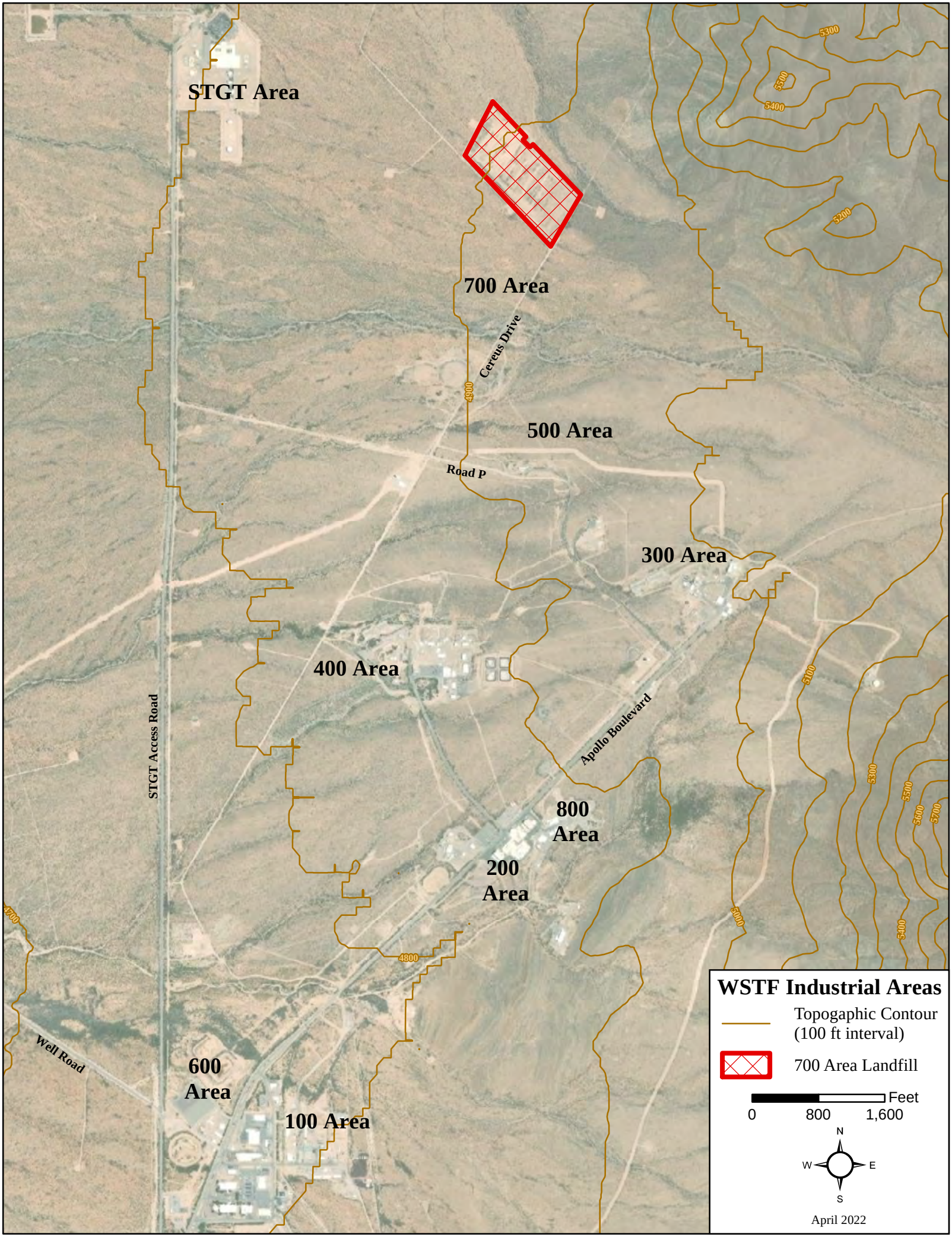

STGT Area
700 Area
Cereus Drive
500 Area
Road P
300 Area
400 Area
STGT Access Road
Apollo Boulevard
800 Area
200 Area
600 Area
100 Area
Well Road
5300
5400
5200
4900
5100
5300
5500
5600
5700
5000
5400
4700
4800
WSTF Industrial Areas
Topogaphic Contour (100 ft interval)
700 Area Landfill
Feet
0
800
1,600
N
W
E
S
April 2022

Figure 1.3 700 Area Landfill Location Map

(SEE NEXT PAGE)

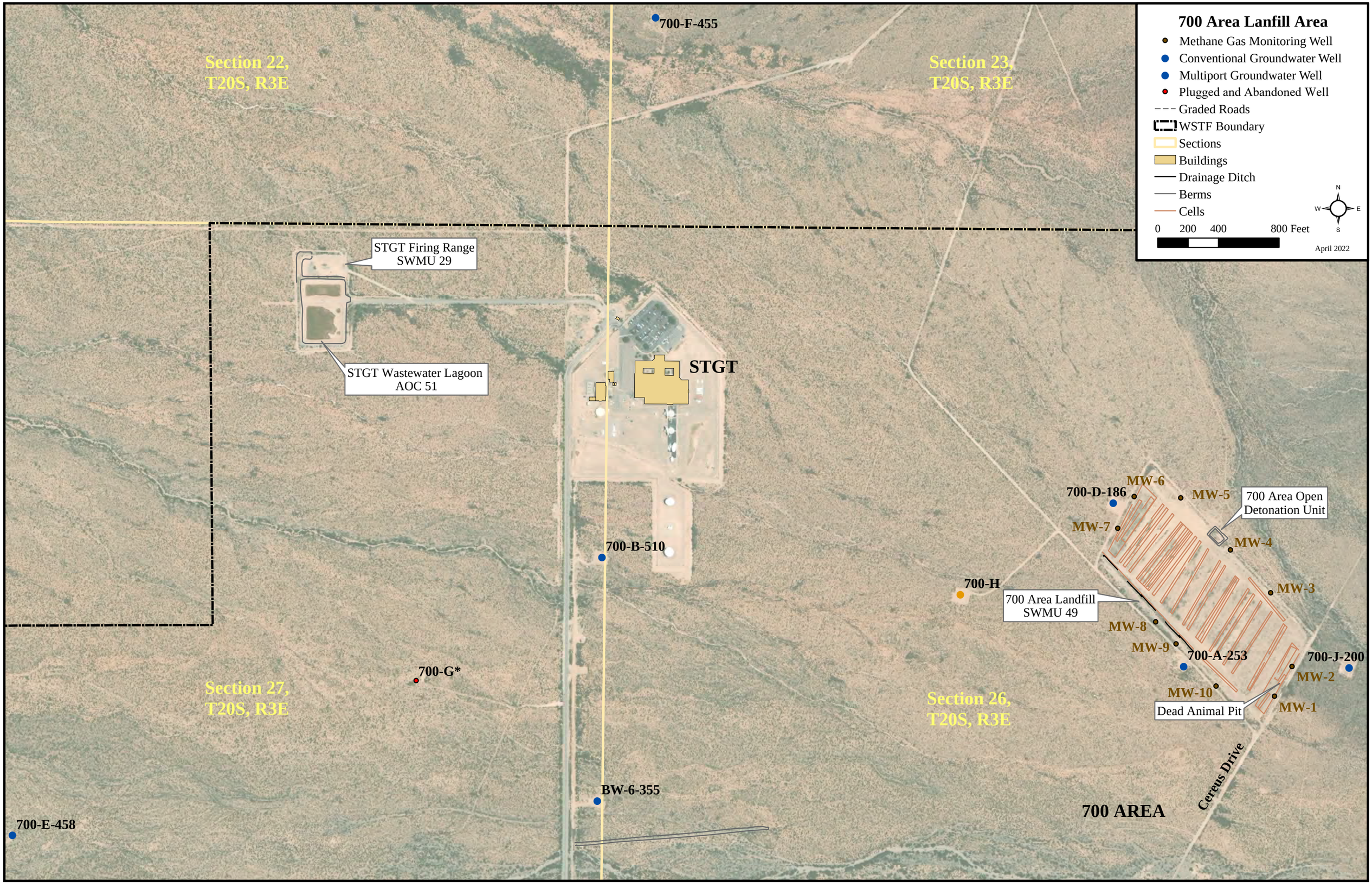

700 Area Lanfill Area
Methane Gas Monitoring Well
Conventional Groundwater Well
Multiport Groundwater Well
Plugged and Abandoned Well
Graded Roads
WSTF Boundary
Sections
Buildings
Drainage Ditch
Berms
Cells
N
W
E
S
0 200 400 800 Feet
April 2022
700-F-455
Section 22, T20S, R3E
Section 23, T20S, R3E
STGT Firing Range SWMU 29
STGT Wastewater Lagoon AOC 51
STGT
700-B-510
700-G*
Section 27, T20S, R3E
BW-6-355
700-E-458
MW-6
700-D-186
MW-5
700 Area Open Detonation Unit
MW-7
MW-4
700-H
MW-3
700 Area Landfill SWMU 49
MW-8
MW-9
700-A-253
700-J-200
MW-2
MW-10
Dead Animal Pit
MW-1
Section 26, T20S, R3E
Cereus Drive
700 AREA

Figure 1.4 **700 Area Landfill Detail**

(SEE NEXT PAGE)

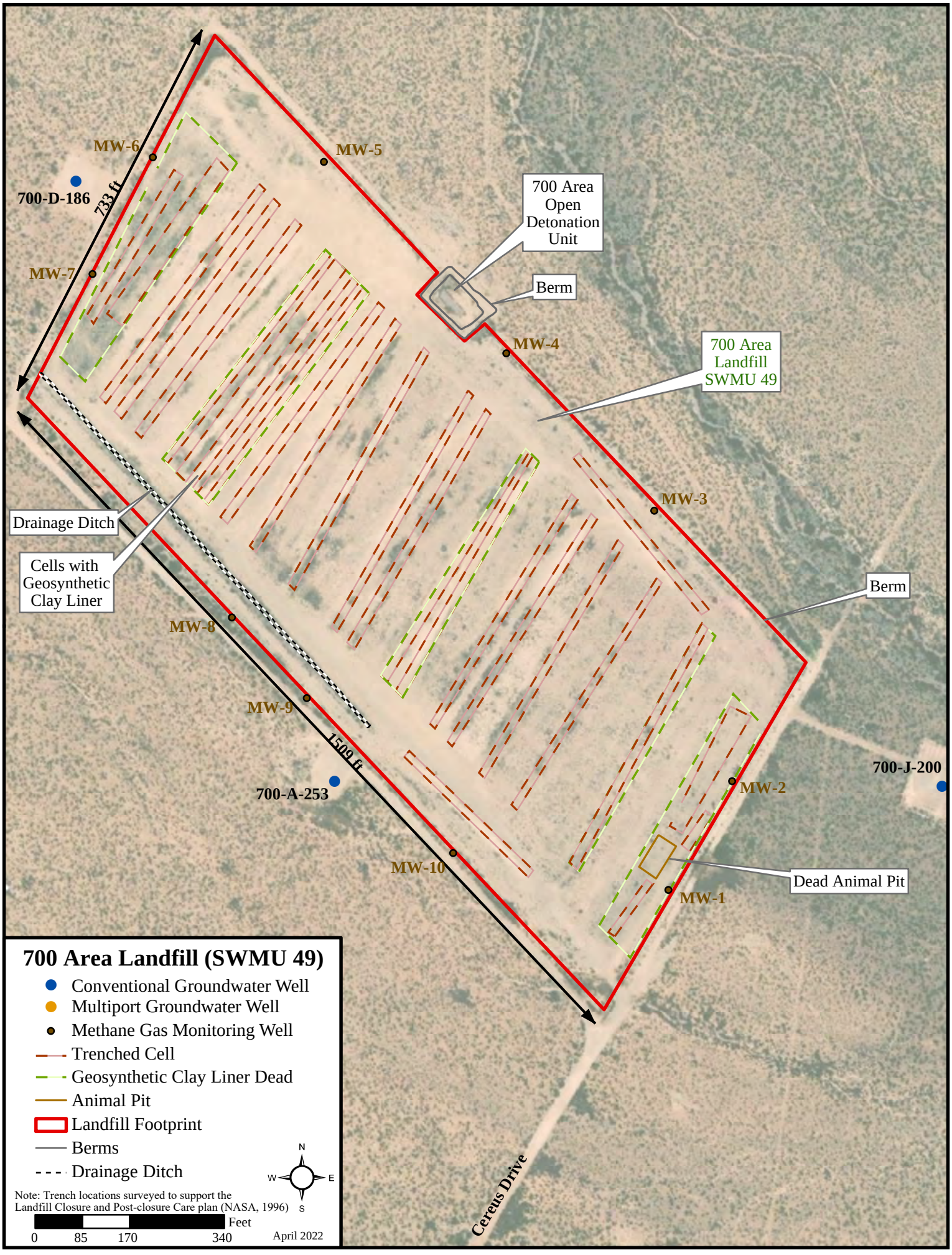
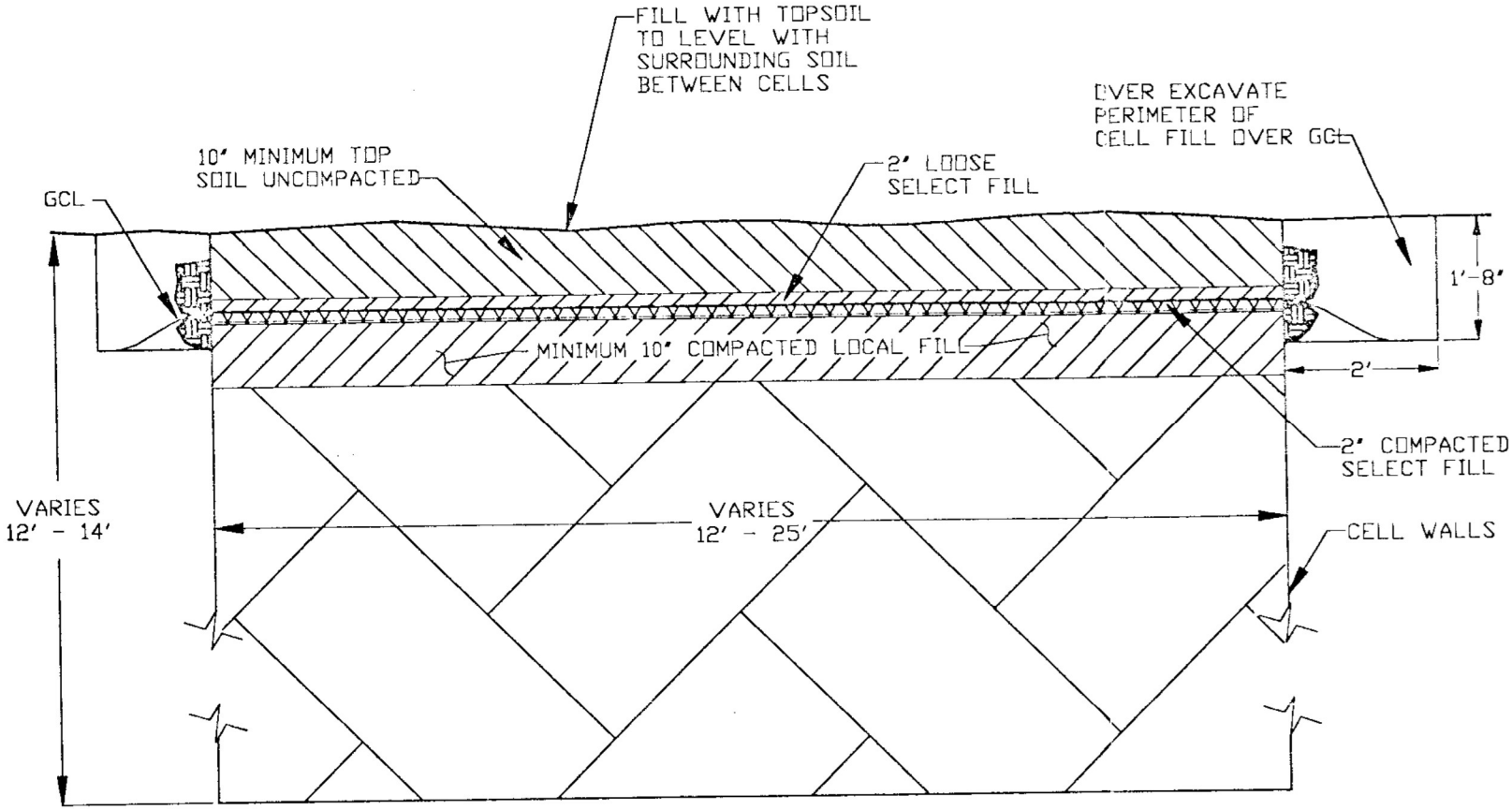

MW-6
MW-5
700-D-186
733 ft
700 Area Open Detonation Unit
MW-7
Berm
MW-4
700 Area Landfill SWMU 49
MW-3
Drainage Ditch
Cells with Geosynthetic Clay Liner
Berm
MW-8
MW-9
1509 ft
700-A-253
700-J-200
MW-2
MW-10
Dead Animal Pit
MW-1
Cereus Drive
700 Area Landfill (SWMU 49)
Conventional Groundwater Well
Multiport Groundwater Well
Methane Gas Monitoring Well
Trenched Cell
Geosynthetic Clay Liner Dead
Animal Pit
Landfill Footprint
Berms
Drainage Ditch
N
W
E
S
Note: Trench locations surveyed to support the Landfill Closure and Post-closure Care plan (NASA, 1996)
Feet
0
85
170
340
April 2022

Figure 1.5 700 Area Landfill Typical Cell Closure with GCL Cap

(SEE NEXT PAGE)



NOTE:

EXCAVATE EACH CELL TO A DEPTH OF 14" BELOW SURROUNDING GROUND COMPACT SUBGRADE TO 90% MODIFIED PROCTOR AND TOP WITH 2" MINIMUM OF SELECT BEDDING MATERIAL - LAY IN GCL AND TOP WITH 2" MINIMUM LOOSE SELECT MATERIAL

1' 0 1'

TYPICAL CELL CLOSURE WITH GCL CAP

Figure 1.6 700 Area Landfill Base Survey Grid

(SEE NEXT PAGE)

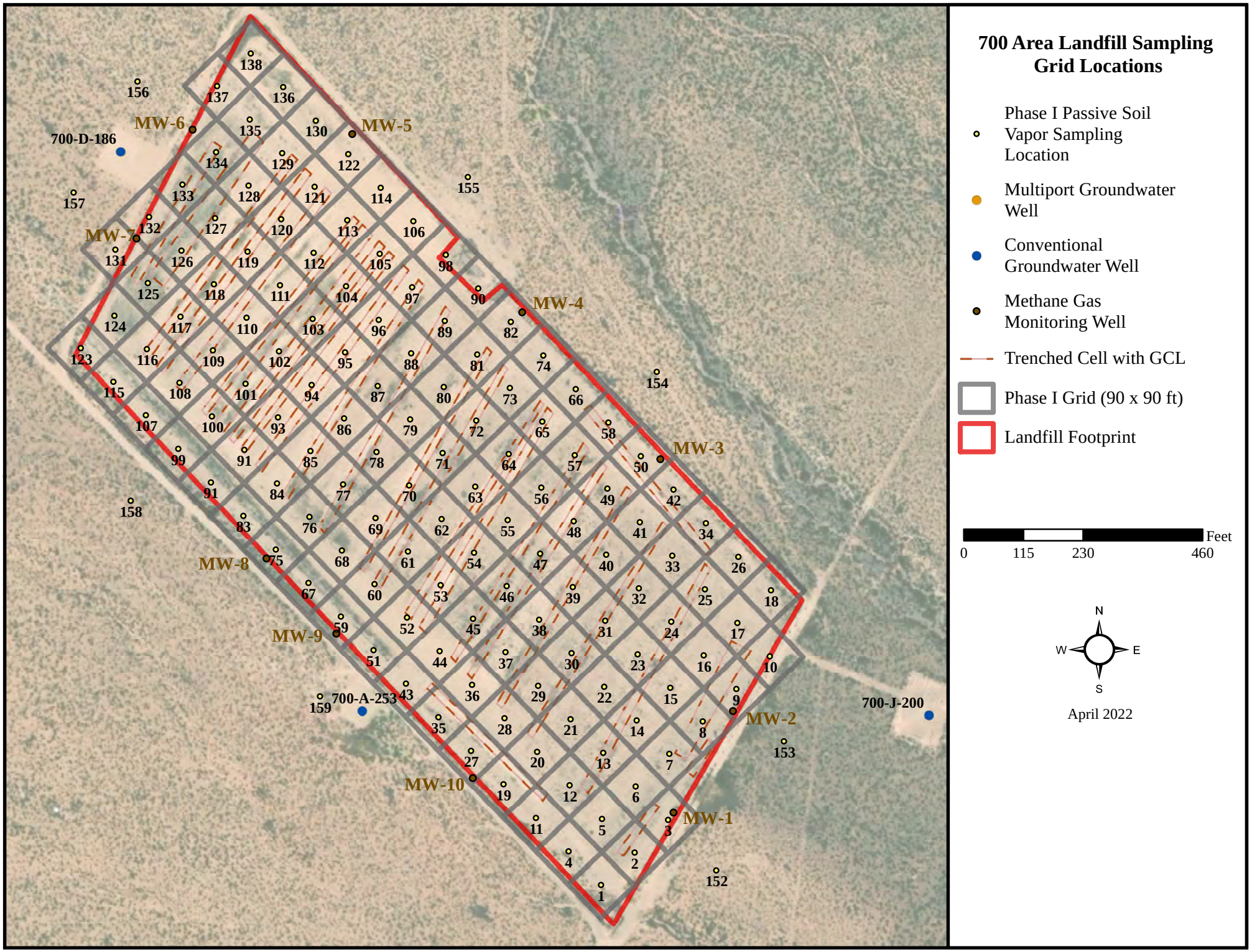

700 Area Landfill Sampling Grid Locations
Phase I Passive Soil Vapor Sampling Location
Multiport Groundwater Well
Conventional Groundwater Well
Methane Gas Monitoring Well
Trenched Cell with GCL
Phase I Grid (90 x 90 ft)
Landfill Footprint
Feet
0
115
230
460
N
W
E
S
April 2022
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
700-D-186
700-A-253
700-J-200

Figure 3.1 **Site Conceptual Exposure Model**

(SEE NEXT PAGE)

Site Conceptual Exposure Model

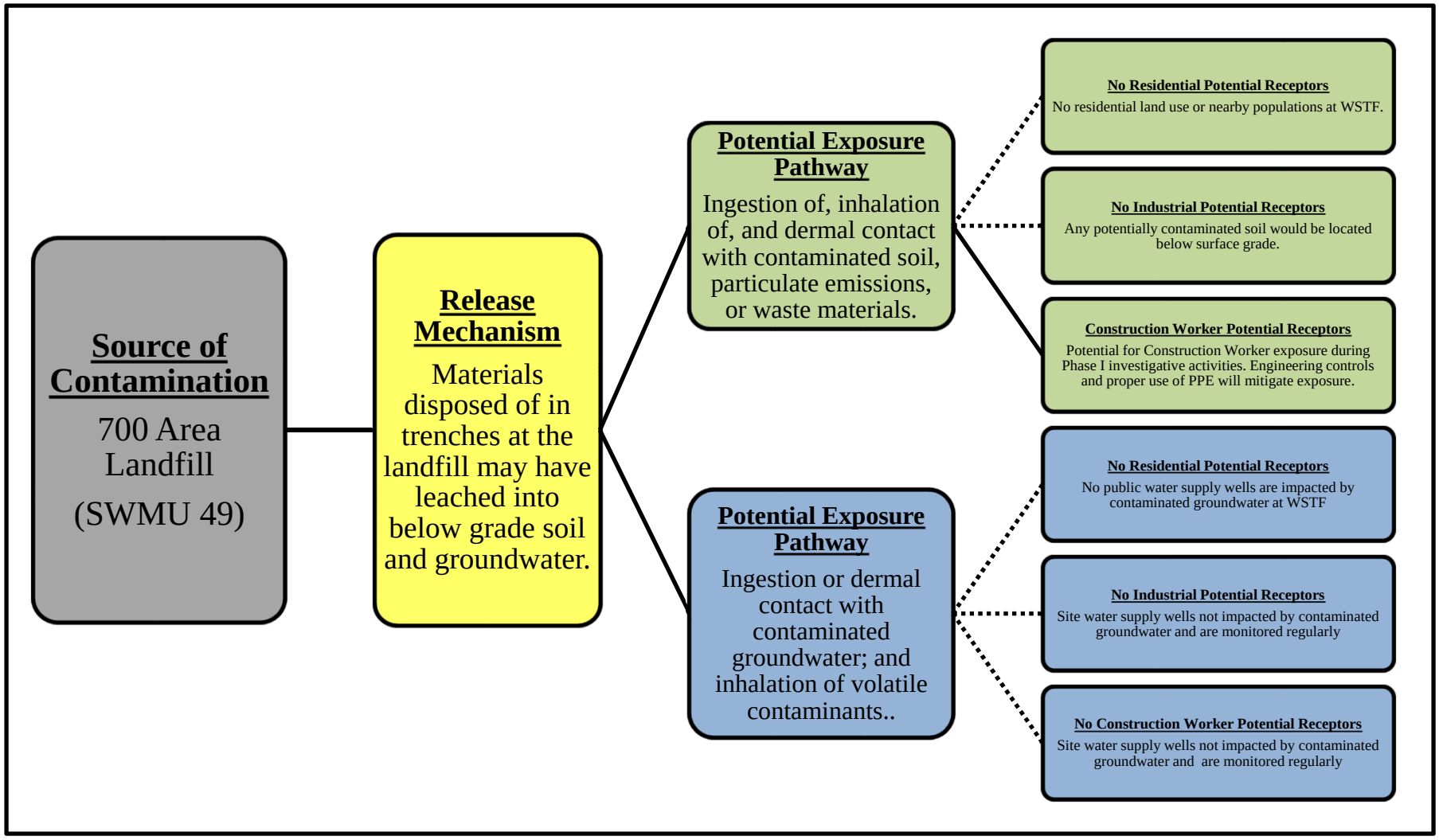


Figure 4.1 700 Area Landfill Cross-Section Location Map

(SEE NEXT PAGE)

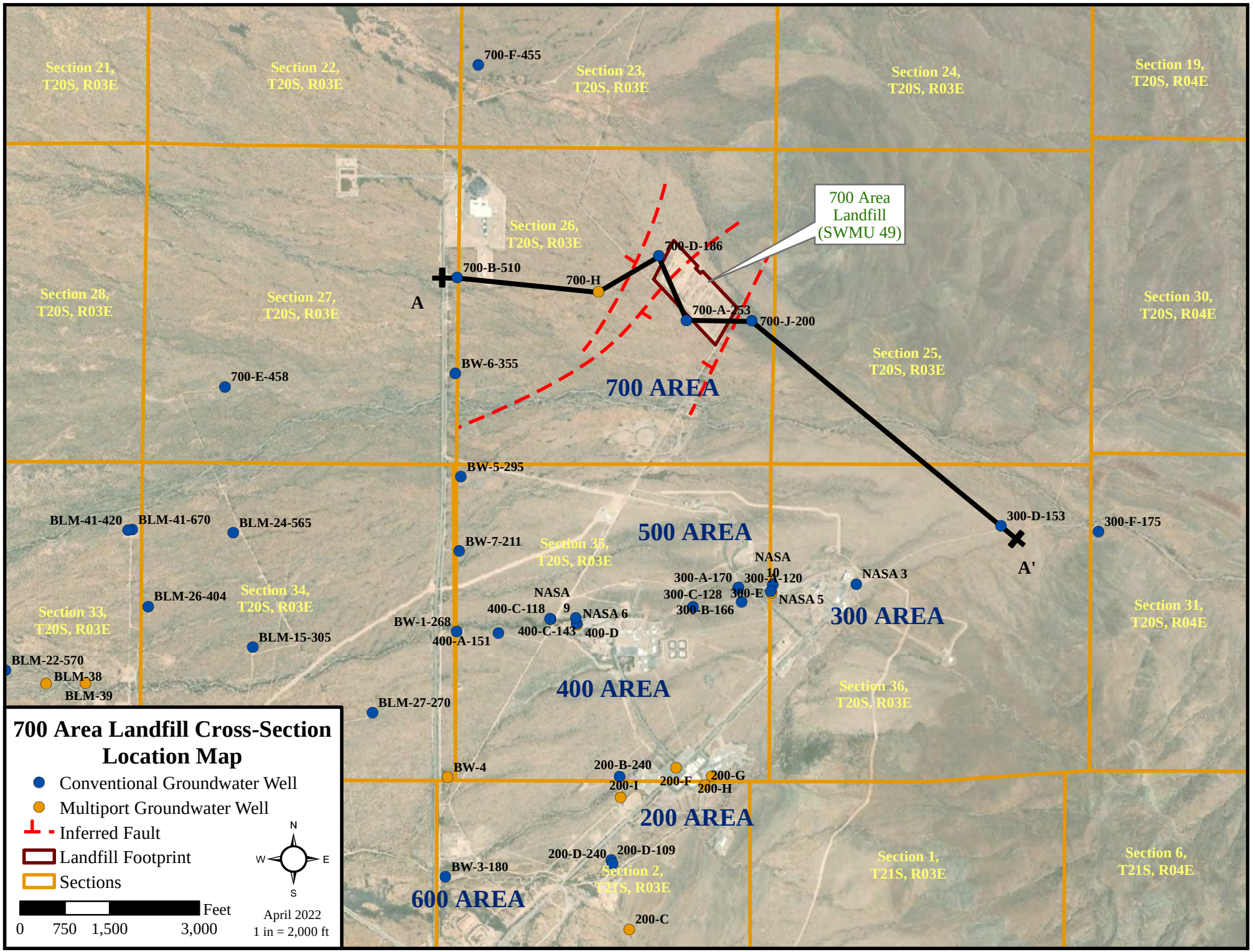
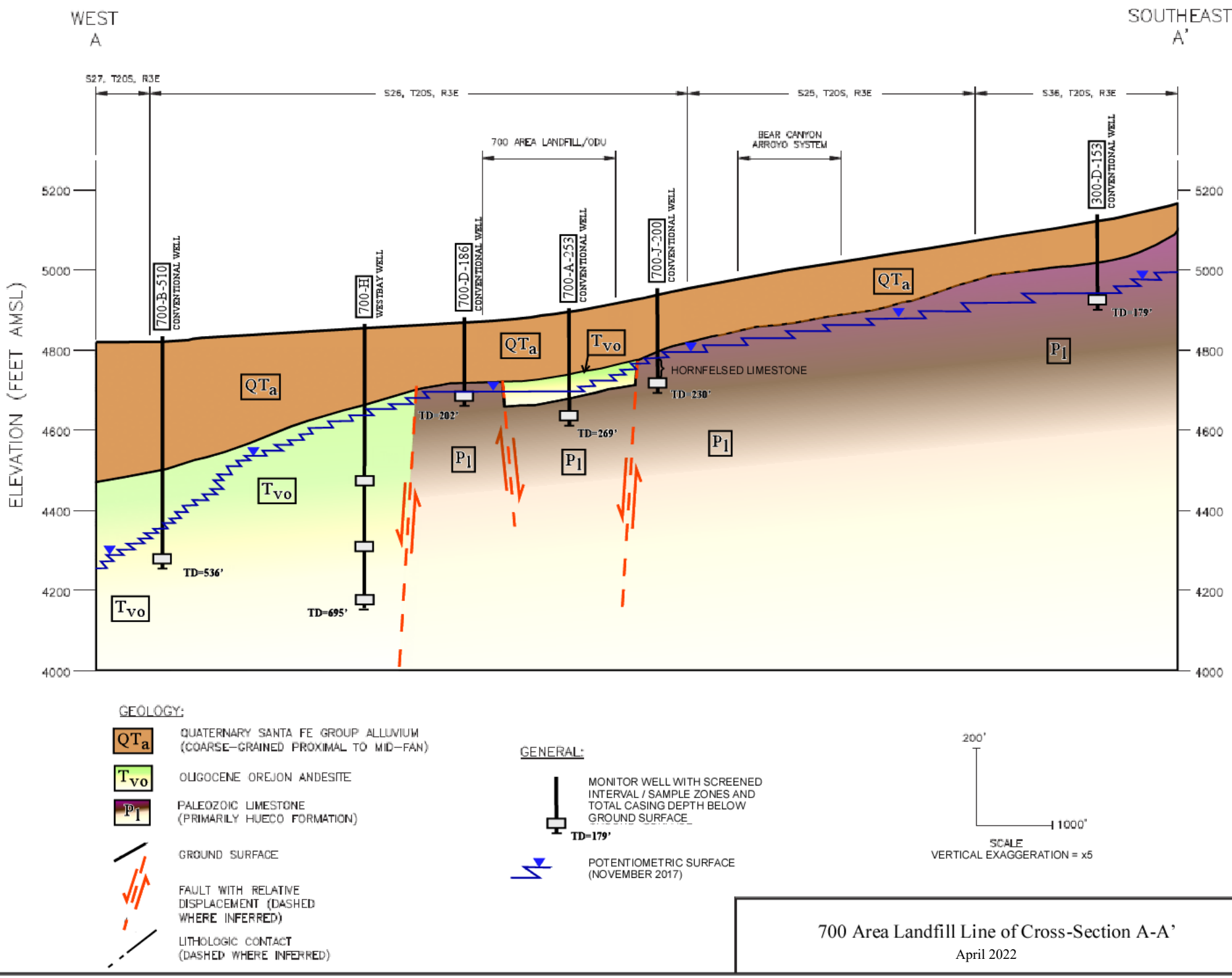

Section 21, T20S, R03E
Section 22, T20S, R03E
Section 23, T20S, R03E
Section 24, T20S, R03E
Section 19, T20S, R04E
Section 26, T20S, R03E
Section 28, T20S, R03E
Section 27, T20S, R03E
Section 30, T20S, R04E
Section 25, T20S, R03E
Section 35, T20S, R03E
Section 34, T20S, R03E
Section 33, T20S, R03E
Section 31, T20S, R04E
Section 36, T20S, R03E
Section 1, T21S, R03E
Section 6, T21S, R04E
Section 2, T21S, R03E
700-F-455
700-D-186
700-B-510
700-H
700-A-253
700-J-200
700 Area Landfill (SWMU 49)
A
A'
BW-6-355
700-E-458
700 AREA
BW-5-295
BW-7-211
500 AREA
300-D-153
300-F-175
BLM-41-420
BLM-41-670
BLM-24-565
BLM-26-404
BLM-15-305
BLM-22-570
BLM-38
BLM-39
BLM-27-270
NASA 10
NASA 3
300-A-170
300-A-120
300-C-128
300-E
NASA 5
300-B-166
300 AREA
NASA 9
400-C-118
NASA 6
BW-1-268
400-A-151
400-C-143
400-D
400 AREA
BW-4
200-B-240
200-I
200-F
200-G
200-H
200 AREA
200-D-240
200-D-109
BW-3-180
600 AREA
200-C
700 Area Landfill Cross-Section Location Map
Conventional Groundwater Well
Multiport Groundwater Well
Inferred Fault
Landfill Footprint
Sections
N
W
E
S
Feet
0
750
1,500
3,000
April 2022
1 in = 2,000 ft

Figure 4.2 700 Area Landfill Cross-Section A-A'

(SEE NEXT PAGE)



700 Area Landfill Line of Cross-Section A-A'

April 2022

Figure 4.3 700 Area Landfill Potentiometric Contour Map

(SEE NEXT PAGE)

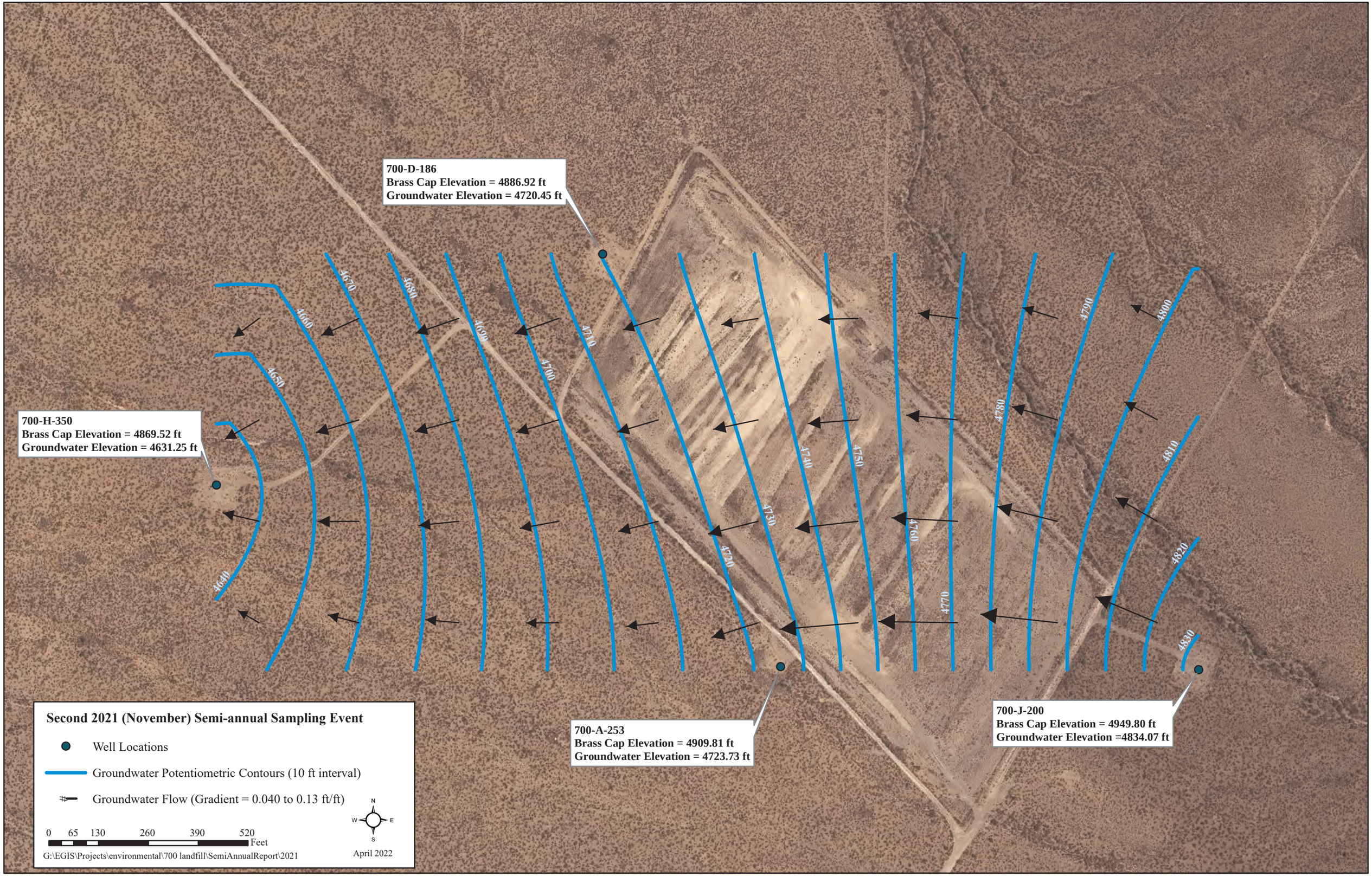

700-D-186
Brass Cap Elevation = 4886.92 ft
Groundwater Elevation = 4720.45 ft
700-H-350
Brass Cap Elevation = 4869.52 ft
Groundwater Elevation = 4631.25 ft
700-A-253
Brass Cap Elevation = 4909.81 ft
Groundwater Elevation = 4723.73 ft
700-J-200
Brass Cap Elevation = 4949.80 ft
Groundwater Elevation =4834.07 ft
4640
4650
4660
4670
4680
4690
4700
4710
4720
4730
4740
4750
4760
4770
4780
4790
4800
4810
4820
4830
Second 2021 (November) Semi-annual Sampling Event
Well Locations
Groundwater Potentiometric Contours (10 ft interval)
Groundwater Flow (Gradient = 0.040 to 0.13 ft/ft)
N
W
E
S
0 65 130 260 390 520
Feet
G:\EGIS\Projects\environmental\700 landfill\SemiAnnualReport\2021
April 2022

Figure 5.1 Soil Vapor Survey Sample Locations

(SEE NEXT PAGE)

700 Area Landfill (SWMU 49): Passive Soil-Gas Survey Sample Locations

- Passive Soil-Gas Sample Location
- Conventional Groundwater Well
- Methane Gas Monitoring Well
- Trench or Anomaly (derived from subcontractor geophysical survey)
- Drainage Ditch
- Berms
- Landfill Footprint

Note:
Landfill conventional groundwater monitoring wells and methane gas monitoring wells are included as additional passive soil-gas sample locations.

0 90 180 360 Feet

N
W E
S

April 2022

Figure 5.2 Freon 113 Soil Vapor Isoconcentration Map

(SEE NEXT PAGE)

700 Area Landfill (SWMU 49): Passive Soil-Gas Survey 1,1,2,-Trichlorotrifluoroethane (Freon 113)

- Passive Soil-Gas Sample Location
- Conventional Groundwater Well
- Methane Gas Monitoring Well
- Trench or Anomaly (derived from subcontractor geophysical survey)
- Drainage Ditch
- Berms
- Landfill Footprint

4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0

Color Scale (nanograms)

Note:
Landfill conventional groundwater monitoring wells and methane gas monitoring wells are included as additional passive soil-gas sample locations.
500 - Passive soil-gas sample result above the detection limit (10 ng)

0 90 180 360 Feet

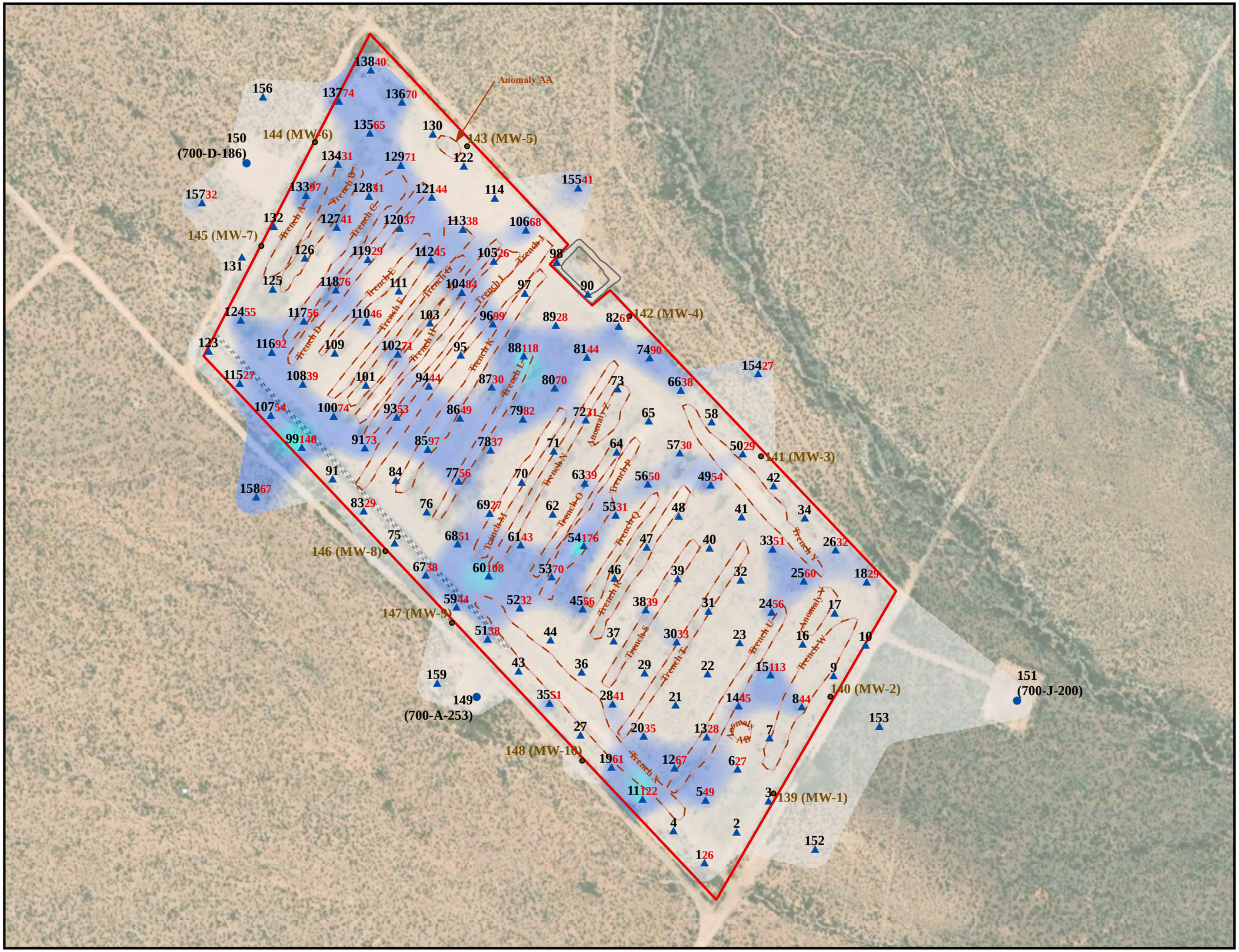
N
W E
S

April 2022

Figure 5.3 1,2,4-Trimethylbenzene Soil Vapor Isoconcentration

(SEE NEXT PAGE)

700 Area Landfill (SWMU 49): Passive Soil-Gas Survey 1,2,4-Trimethylbenzene



- Passive Soil-Gas Sample Location
- Conventional Groundwater Well
- Methane Gas Monitoring Well
- Trench or Anomaly (derived from subcontractor geophysical survey)
- Drainage Ditch
- Berms
- Landfill Footprint

200
175
150
125
100
75
50
25
0
Color Scale (nanograms)

Note:
Landfill conventional groundwater monitoring wells and methane gas monitoring wells are included as additional passive soil-gas sample locations.
50 - Passive soil-gas sample result above the detection limit (25 ng)

0 90 180 360 Feet

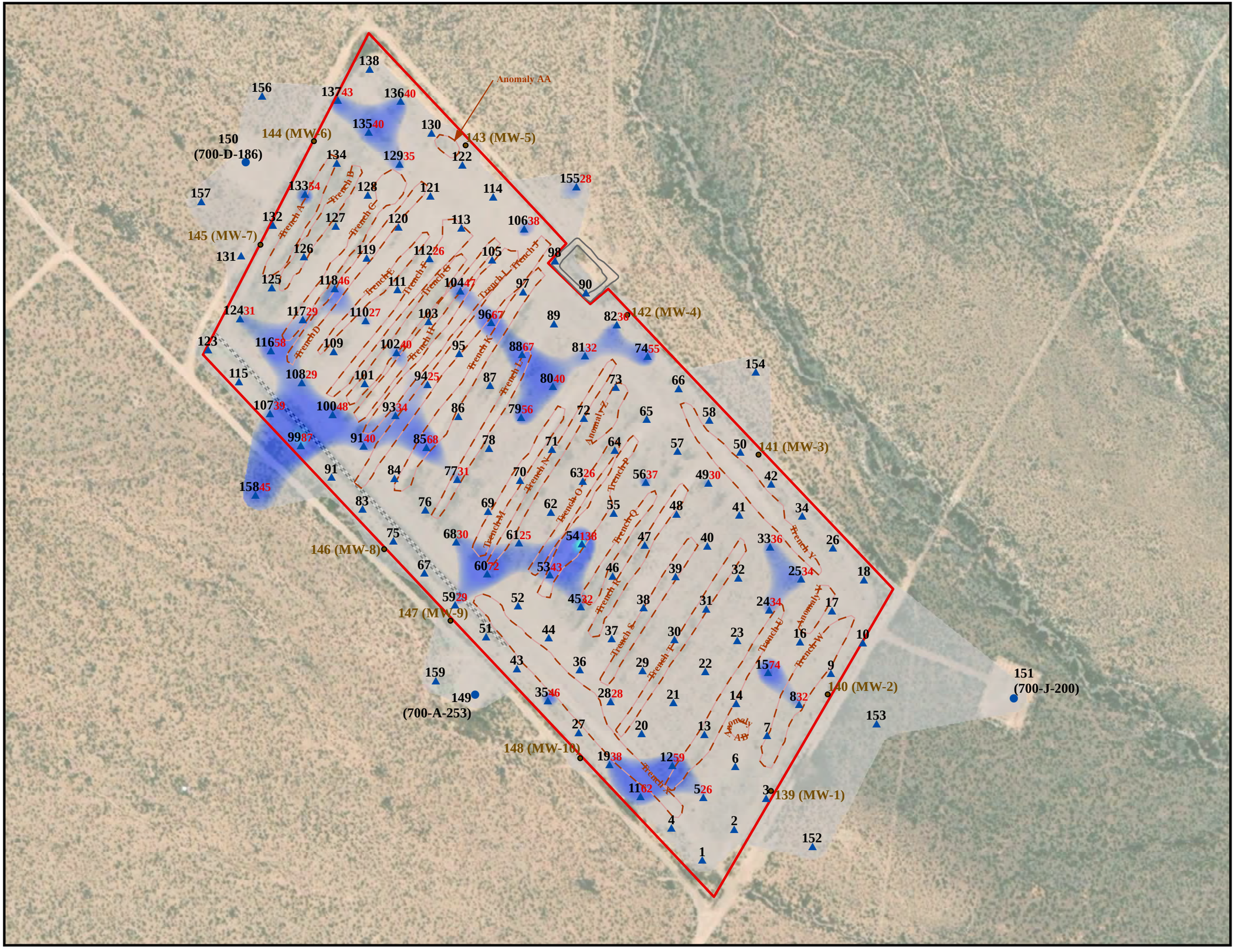
N
W E
S

April 2022

Figure 5.4 1,3,5-Trimethylbenzene Soil Vapor Isoconcentration

(SEE NEXT PAGE)

700 Area Landfill (SWMU 49): Passive Soil-Gas Survey 1,3,5-Trimethylbenzene



- Passive Soil-Gas Sample Location
- Conventional Groundwater Well
- Methane Gas Monitoring Well
- Trench or Anomaly (derived from subcontractor geophysical survey)
- Drainage Ditch
- Berms
- Landfill Footprint

Color Scale (nanograms): 150, 125, 100, 75, 50, 25, 0

Note:
Landfill conventional groundwater monitoring wells and methane gas monitoring wells are included as additional passive soil-gas sample locations.
50 - Passive soil-gas sample result above the detection limit (25 ng)

0 90 180 360 Feet

N W E S

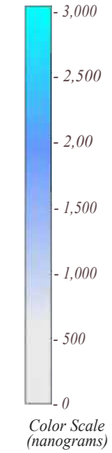
April 2022

Figure 5.5 Chloromethane Soil Vapor Isoconcentration

(SEE NEXT PAGE)

700 Area Landfill (SWMU 49): Passive Soil-Gas Survey Chloromethane

- Passive Soil-Gas Sample Location
- Conventional Groundwater Well
- Methane Gas Monitoring Well
- Trench of Anomaly (derived from subcontractor geophysical survey)
- Drainage Ditch
- Berms
- Landfill Footprint



Note:
Landfill conventional groundwater monitoring wells andmethane gas monitoring wells are included as additional passive soil-gas sample locations.
200 - Passive soil-gas sample result above the limit of quantitation (1000 ng).

Feet
0 90 180 360

N
W E
S

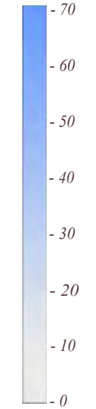
April 2022

Figure 5.6 Tetrachloroethene Soil Vapor Isoconcentration

(SEE NEXT PAGE)

700 Area Landfill (SWMU 49): Passive Soil-Gas Survey Tetrachloroethene (PCE)

- Passive Soil-Gas Sample Location
- Conventional Groundwater Well
- Methane Gas Monitoring Well
- Trench or Anomaly (derived from subcontractor geophysical survey)
- Drainage Ditch
- Berms
- Landfill Footprint



Color Scale (nanograms)

Note:
Landfill conventional groundwater monitoring wells and methane gas monitoring wells are included as additional passive soil-gas sample locations.
500 - Passive soil-gas sample result above the detection limit (10 ng)

Feet
0 90 180 360

N
W E
S

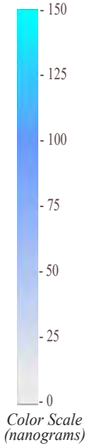
April 2022

Figure 5.7 Trichloroethene Soil Vapor Isoconcentration

(SEE NEXT PAGE)

700 Area Landfill (SWMU 49): Passive Soil-Gas Survey Trichloroethene (TCE)

- Passive Soil-Gas Sample Location
- Conventional Groundwater Well
- Methane Gas Monitoring Well
- Trench or Anomaly (derived from subcontractor geophysical survey)
- Drainage Ditch
- Berms
- Landfill Footprint



Color Scale (nanograms)

Note:
Landfill conventional groundwater monitoring wells and methane gas monitoring wells are included as additional passive soil-gas sample locations.
500 - Passive soil-gas sample result above the detection limit (10 ng)

Feet
0 90 180 360

N
W E
S

April 2022

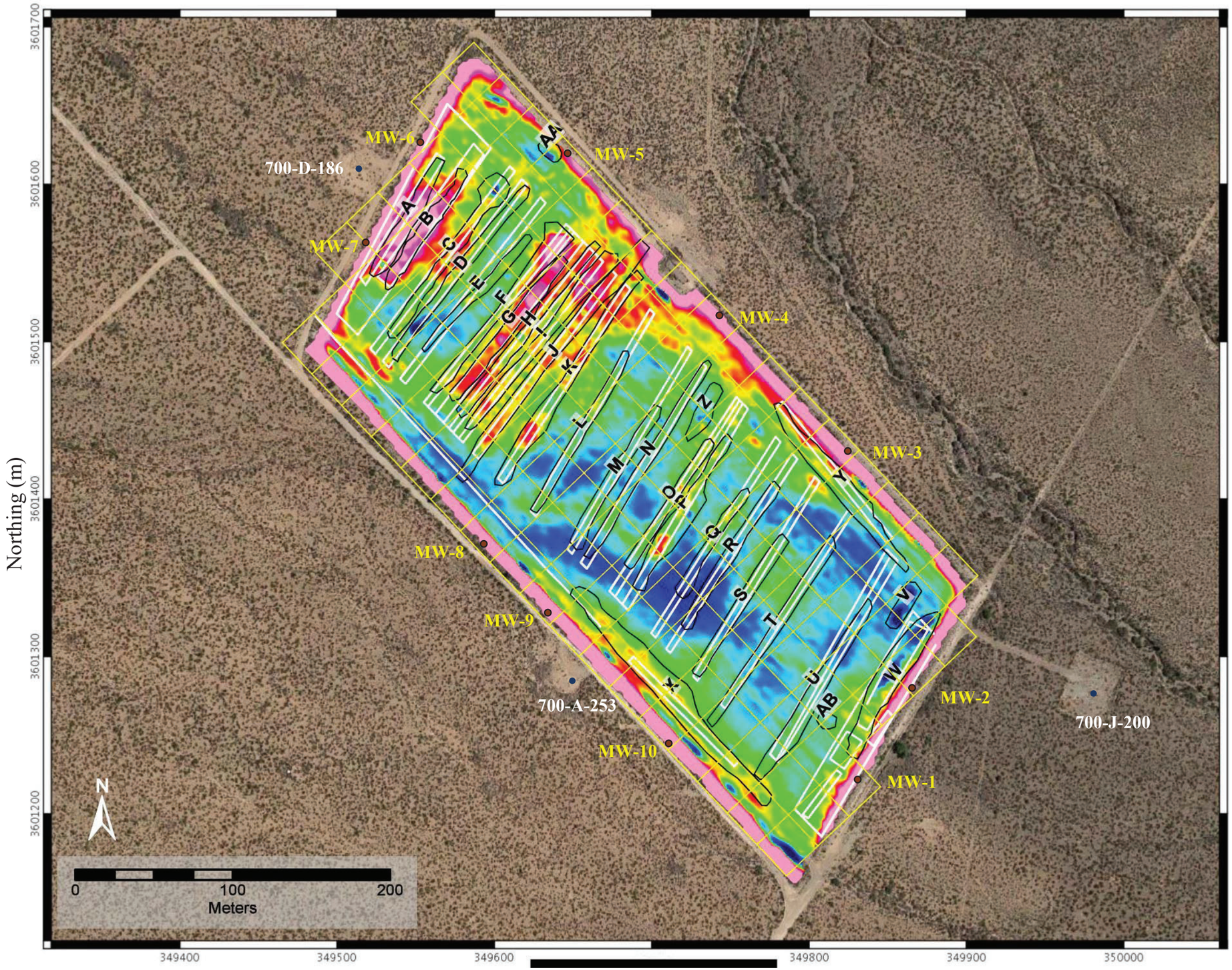
Figure 5.8 Electromagnetic Induction Survey

(SEE NEXT PAGE)

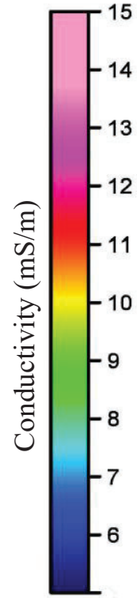
EMI Conductivity - Most Depth
700 Area Landfill
WSTF

COLLIER GEOPHYSICS	Navarro Research & Engineering, Inc.	
	Project#: 20-020	**PLATE 3**

Drafted by: T. Ensele | Checked by: N. Pendrigh | **March 2020**



- Geophysical Anomaly (interpreted)
- SVS Grid
- Trench Locations (provided to Collier by Navarro)
- Conventional Groundwater Well
- Methane Gas Monitoring Well



Coil 3 – Antenna Separation 4.49 m (14.73 ft)

Easting (m)
WGS 84 UTM Zone 13N

April 2022

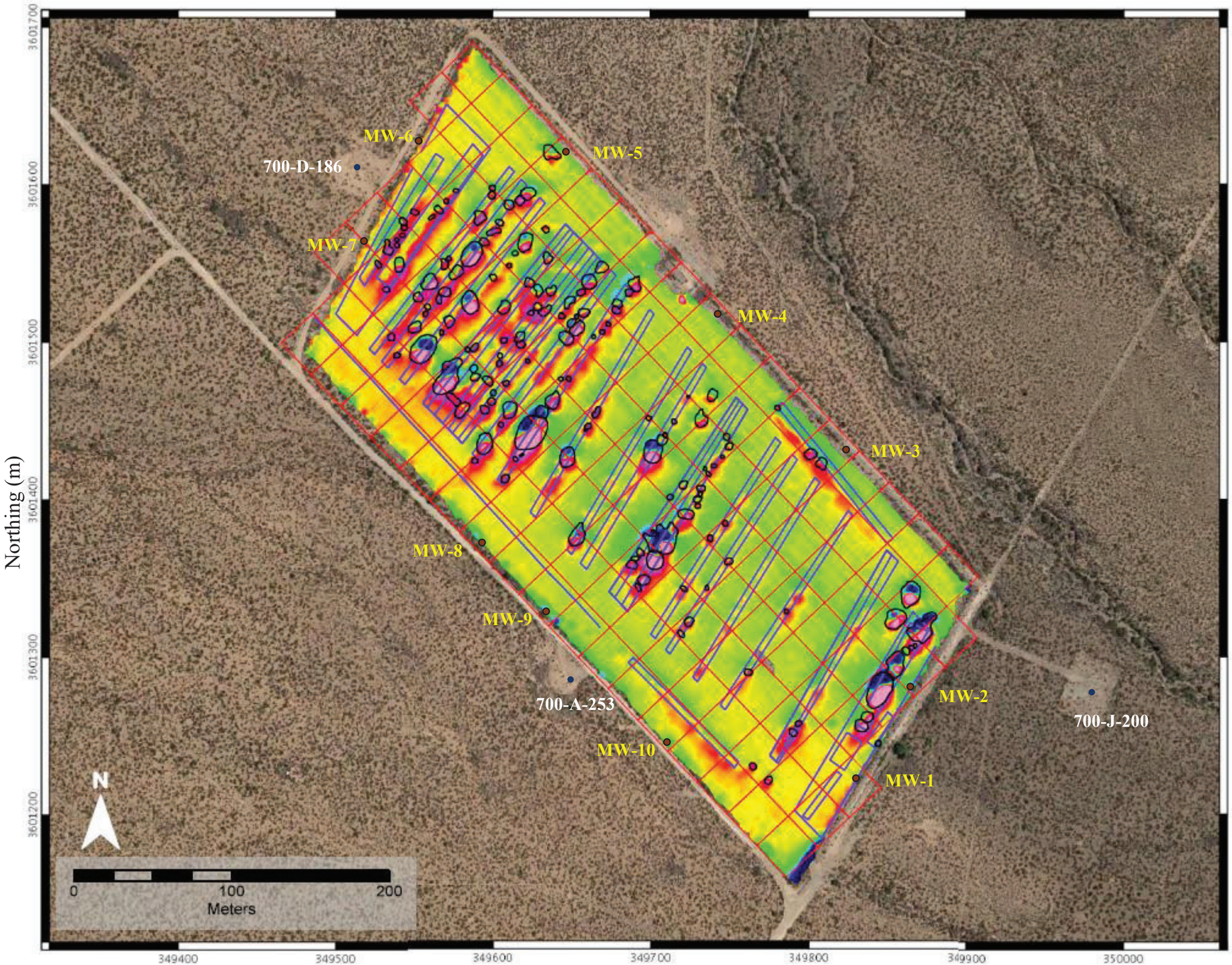
Figure 5.9 Vertical Magnetic Gradiometry Survey

(SEE NEXT PAGE)

Magnetic Total Field Intensity
700 Area Landfill
WSTF

COLLIER GEOPHYSICS	Navarro Research & Engineering, Inc.	
	Project#: 20-020	**PLATE 7**

Drafted by: N. Pendrigh Checked by: T. Ensele **March 2020**



Magnetic Anomaly (interpreted)

SVS Grid

Trench Locations
(provided to Collier by Navarro)

Conventional Groundwater Well

Methane Gas Monitoring Well

Total Field Intensity (nT)
47600
47550
47500
47450
47400
47350
47300
47250
47200
47150
47100
47050
47000
46950
46900
46850
46800
46750

Top Sensor

Easting (m)
WGS 84 UTM Zone 13N

April 2022

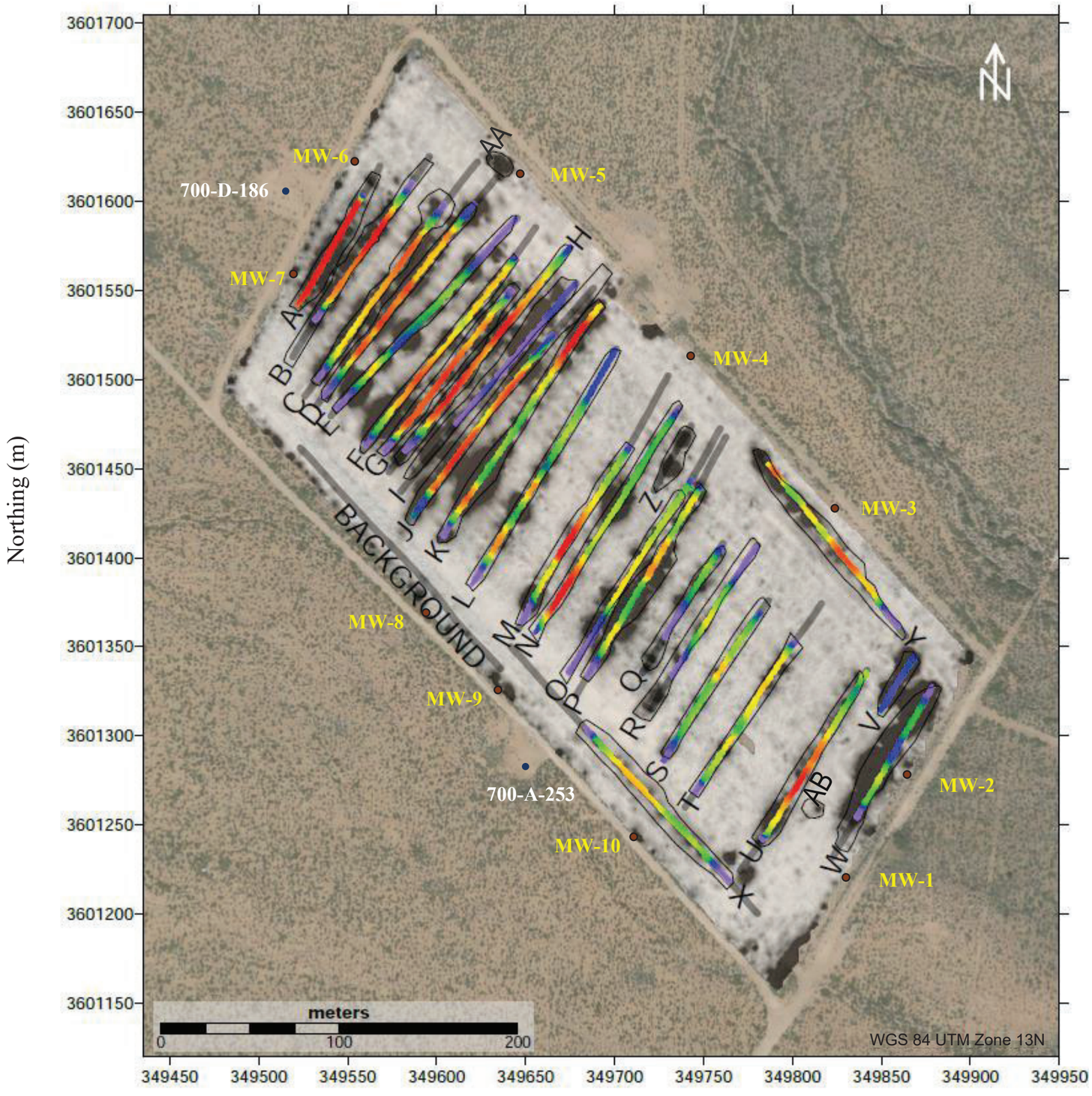
Figure 5.10 Active Multichannel Analyses of Surface Waves Survey

(SEE NEXT PAGE)

Seismic AMASW Results
700 Area Landfill
WSTF

COLLIER GEOPHYSICS	Navarro Research & Engineering, Inc.	
	Project #: 20-167	**FIGURE A7**

Drafted by: J. Pfeiffer Checked by: J. Sheehan **August 2021**



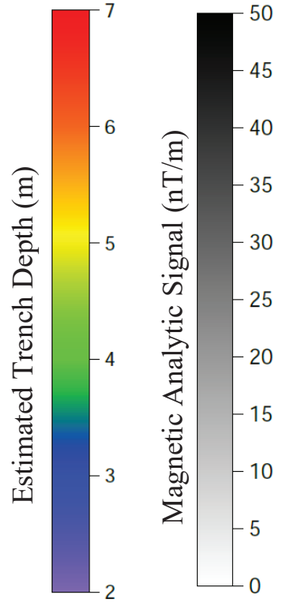
AMASW Line

A — Estimated Trench Outline - based on AMASW, FDEM, and Magnetics

Conventional Groundwater Well

Methane Gas Monitoring Well

Interpreted Trench Depth



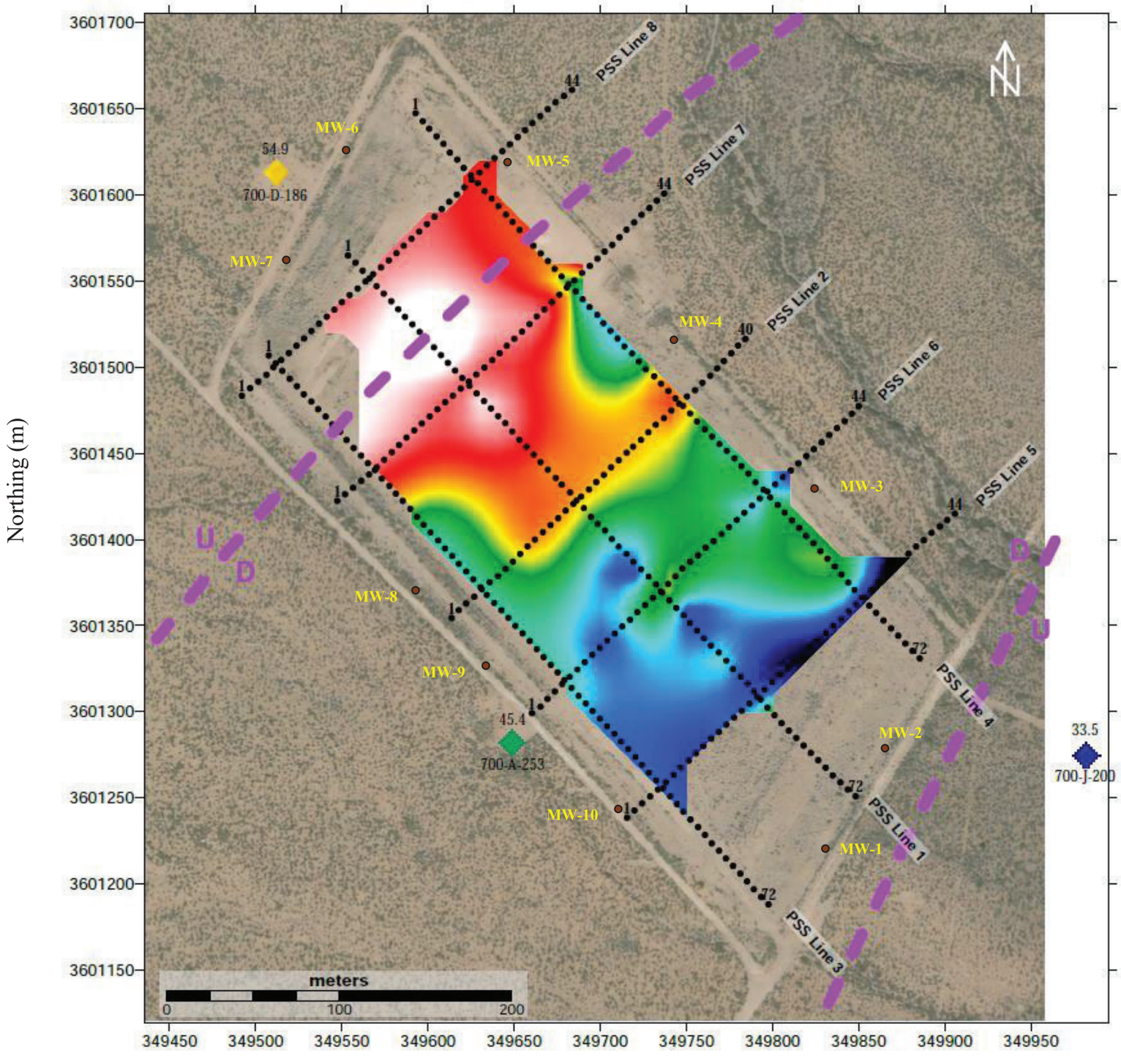
April 2022

Figure 5.11 **Passive Seismic Survey**

(SEE NEXT PAGE)

Seismic PSS Results
700 Area Landfill
WSTF

COLLIER GEOPHYSICS	Navarro Research & Engineering, Inc.	
	Project#: 20-167	**Figure A9**
Drafted by: J. Pfeiffer	Checked by: J. Sheehan	June 2021



Previously Inferred Fault Locations

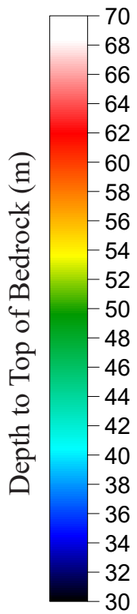
33.5 Bedrock Depth (m)
Color Coded Depth

700-J-200 Groundwater Well ID

Geophone Location Methane

Gas Monitoring Well

Interpreted Depth to Bedrock



April 2022

Tables

Table 4.1 Monitoring Well Completion Data

Well ID and Type	Phase IA SVS Module Location ID	Casing Elevation (ft amsl)	Bedrock Type and Depth (ft bgs)	Nov-21 Depth to Groundwater (ft)	Groundwater Elevation (ft amsl)	Screen Length and Interval (ft)	Borehole Total Depth (ft)
MW-1 Methane	139	4,929.04	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-2 Methane	140	4,929.06	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-3 Methane	141	4,919.23	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-4 Methane	142	4,906.89	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-5 Methane	143	4,893.95	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-6 Methane	144	4,886.64	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-7 Methane	145	4,887.33	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-8 Methane	146	4,899.27	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-9 Methane	147	4,904.90	NA	NA	NA	2.5 @4.5 – 6.0	6
MW-10 Methane	148	4,916.21	NA	NA	NA	2.5 @4.5 – 6.0	6
700-A-253 Groundwater	149	4,912.38	Andesite 149	188.65	4723.73	10.1 253.00 – 263.40	287
700-D-186 Groundwater	150	4,889.20	Limestone 180	168.75	4720.45	10.3 186.00 – 196.30	205
700-J-200 Groundwater	151	4,950.47	Hornfelsed Limestone 110	116.40	4834.07	10.1 199.64 – 219.68	240

Table 5.1 Soil Vapor Survey Summary

Soil Vapor Analyte (EPA 8260C)	Limit of Quantitation (ng)	#Detections Trip Blanks (5 Total)	#Detections Shallow Soil Vapor Borings* (146 Total)	#Detections Methane Monitoring Wells* (10 Total)	#Detections Groundwater Monitoring Wells* (3 Total)	Total #Detections in SVS Modules* (159 Total)	Maximum Value (ng)	Location of Maximum Value
1,1,1,2-Tetrachloroethane	10	0	0	0	0	0	<10	NA
1,1,1-Trichloroethane	10	0	40	2	0	42	877	700-SVS-070
1,1,2,2-Tetrachloroethane	10	0	0	0	0	0	<10	NA
1,1,2-Trichloroethane	10	0	0	0	0	0	<10	NA
1,1,2-Trichlorotrifluoroethane - F113 (Figure 5.2)	**10**	**0**	**112**	**10**	**1**	**123**	**3,840**	**700-SVS-151 (GW 700-J-200)**
1,1-Dichloroethane	10	0	0	0	0	0	<10	NA
1,1-Dichloroethene	10	0	22	1	1	24	167	700-SVS-071
1,2,3-Trichlorobenzene	10	0	0	0	0	0	<10	NA
1,2,3-Trichloropropane	10	0	2	0	0	2	12	700-SVS-096
1,2,4-Trichlorobenzene	10	0	0	0	0	0	<10	NA
1,2,4-Trimethylbenzene (Figure 5.3)	**25**	**0**	**88**	**0**	**0**	**88**	**176**	**700-SVS-054**
1,2-Dibromoethane (EDB)	25	0	0	0	0	0	<25	NA
1,2-Dichlorobenzene	10	0	0	0	0	0	<10	NA
1,2-Dichloroethane	10	0	0	0	0	0	<10	NA
1,2-Dichlorotrifluoroethane	50	0	2	2	1	5	118	700-SVS-031
1,3,5-Trimethylbenzene (Figure 5.4)	**25**	**0**	**53**	**0**	**0**	**53**	**138**	**700-SVS-054**
1,3-Dichlorobenzene	10	0	0	0	0	0	<10	NA
1,4-Dichlorobenzene	10	0	0	0	0	0	<10	NA
1,4-Dioxane	25	0	0	0	0	0	<25	NA
2,2-Dichloro-1,1,1-trifluoroethane	50	0	0	0	0	0	<50	NA
2-Butanone	50	0	49	0	0	49	322	700-SVS-112
2-Hexanone	50	0	0	0	0	0	<50	NA
2-Methylnaphthalene	25	0	0	0	0	0	<25	NA

Soil Vapor Analyte (EPA 8260C)	Limit of Quantitation (ng)	#Detections Trip Blanks (5 Total)	#Detections Shallow Soil Vapor Borings* (146 Total)	#Detections Methane Monitoring Wells* (10 Total)	#Detections Groundwater Monitoring Wells* (3 Total)	Total #Detections in SVS Modules* (159 Total)	Maximum Value (ng)	Location of Maximum Value
Acetone	25	1	140	9	3	152	4,810	700-SVS-112
Benzene	25	0	16	0	0	16	53	700-SVS-154
Bromochloromethane	25	0	0	0	0	0	<25	NA
Bromodichloromethane	10	0	0	0	0	0	<10	NA
Bromoform	25	0	0	0	0	0	<25	NA
Carbon Tetrachloride	10	0	1	0	0	1	10	700-SVS-058
Chlorobenzene	10	0	0	0	0	0	<10	NA
Chloroform	10	0	4	1	0	5	21	700-SVS-144 (Methane MW-6)
Chloromethane (Figure 5.5)	**1,000**	**0**	**37**	**0**	**0**	**37**	**2,830**	**700-SVS-117**
cis-1,2-Dichloroethene	10	0	0	0	0	0	<10	NA
Dibromochloromethane	10	0	0	0	0	0	<10	NA
Dichlorofluoromethane	50	0	2	0	0	2	118	700-SVS-097
Ethylbenzene	25	0	0	0	0	0	<25	NA
Isopropanol	50	0	3	0	0	3	63	700-SVS-040
Isopropylbenzene	25	0	0	0	0	0	<25	NA
Methylene Chloride	10	0	0	0	0	0	<10	NA
Methyl-t-butyl ether	25	0	0	0	0	0	<25	NA
Naphthalene	25	0	1	0	0	1	29	700-SVS-112
o-Xylene	25	0	0	0	0	0	<25	NA
p & m-Xylene	25	0	0	0	0	0	<25	NA
Tetrachloroethene (Figure 5.6)	**10**	**0**	**11**	**5**	**0**	**16**	**64**	**700-SVS-086**
Toluene	25	0	5	1	0	6	44	700-SVS-154
TPH C10-C15	5,000	0	1	0	0	1	5,340	700-SVS-001
TPH C4-C9	5,000	0	0	0	0	0	<5,000	NA
trans-1,2-Dichloroethene	10	0	0	0	0	0	<10	NA

Soil Vapor Analyte (EPA 8260C)	Limit of Quantitation (ng)	#Detections Trip Blanks (5 Total)	#Detections Shallow Soil Vapor Borings* (146 Total)	#Detections Methane Monitoring Wells* (10 Total)	#Detections Groundwater Monitoring Wells* (3 Total)	Total #Detections in SVS Modules* (159 Total)	Maximum Value (ng)	Location of Maximum Value
Trichloroethene (Figure 5.7)	**10**	**0**	**1**	**5**	**1**	**7**	**117**	**700-SVS-058**
Vinyl Chloride	10	0	0	0	0	0	<10	NA

Notes:
* = Number of detections excludes duplicate samples.
Shaded rows represent soil vapor analytes detected in at least one sample.
NA = Not Applicable.

Table 5.2 Geophysical Anomaly Table

Anomaly areas are interpreted from conductivity, in-phase, and vertical magnetic gradient results. Each anomaly is assigned an instrument response factor based on the following classification scheme:

1: Low instrument response from background levels, with localized peaks.
2: Moderate instrument response from background levels, with high amplitude peaks
3: High instrument response above background, with high amplitude peaks covering most of the area

	Interpreted Instrument Response Factor					
Anomaly Name	Conductivity Factor	In-Phase (Metallic Response) Factor	Magnetic Factor	Area (sq ft)	Cell	Notes
A	3	3	2	8345	5	
B	3	3	2	7017	4	
C	2	3	2	10565	3	
D	2	3	3	9337	2	
E	2	3	2	5748	1	Very high amplitude Mag anomaly at southwestern extent of anomaly.
F	2	3	2	11450	6	Very high amplitude Mag anomaly at southwestern extent of anomaly.
G	2	3	1	9742	7	
H	2	3	2	9164	8	
I	2	3	2	12440	8A	
J	2	3	2	17039	9	area exceeds provided extent of cell 9
K	2	3	2	13820	10	Large high amplitude Mag anomaly towards southwest, area exceeds cell 10
L	1	2	1	7400	11	
M	1	2	1	8161	13	Localized high amplitude mag anomaly at southwest
N	1	1	1	9359	14	Localized high amplitude mag anomaly northeast of center of anomaly
O	2	1	1	6248	15	
P	2	2	2	11329	16	Large high amplitude mag anomalies toward middle and southwest extents.
Q	1	2	1	5630	17	
R	1	1	1	8199	18	conductivity anomaly barely perceptible except for localized peaks
S	1	1	1	8101	19	
T	1	1	1	9624	20	barely perceptible in-phase, except for two localized peaks, exceeds cell 20
U	1	0	2	12662	21	exceeds cell 21
V	3	2	3	3183	0	no associated landfill cell
W	1	2	3	15000	25, "Dead Animal Pit"	area includes cell 25 and part of "dead animal pit"
X	2	1	1	25277	23	greatly exceeds cell 23
Y	1	2	2	14264	22	exceeds cell 22
Z	1	1	2	3868		no associated landfill cell
AA	1	2	3	1505		no associated landfill cell
AB	2	2	2	1104		no associated landfill cell

Appendix A
Chronology of Investigation Fieldwork

Appendix A 700 Area Landfill Fieldwork Chronology for Phase I Investigation

Date(s)	Fieldwork Activity
9/20/2019 through 9/28/2019	Jacobs personnel (NASA Contractor) complete survey of the nodes at the centers of the grid cells (shallow SVS sample points).
10/15/2019 and 10/16/2019	Environmental Department personnel installed the shallow SVS boreholes to between 25" – 30" depth.
11/12/2019	Surveyed methane well coordinates for MW-1 through MW-10 in preparation for the shallow SVS survey.
12/19/2019 and 12/20/2019	Jacobs personnel (NASA Contractor) perform mowing along projected gridlines to improve ease of flagging/staking of baseline grid.
12/20/2019 through 1/3/2020	Jacobs personnel (NASA Contractor) complete survey of the intersections of all the baseline grid lines (geophysical survey lines).
11/25/2019 and 11/26/2019	Environmental Department personnel deployed the Beacon Environmental Services, Inc. SVS modules.
12/9/2019 and 12/10/2019	Environmental Department personnel retrieved the Beacon Environmental Services, Inc. SVS modules.
2/25/2020 and 2/26/2020	Collier Geophysics performed the EMI survey.
2/27/2020 and 2/28/2020	Collier Geophysics performed the VMG survey.
5/25/2021 and 5/26/2021	Collier Geophysics performed the first four test lines for the enhanced PSS.
5/27/2021	Collier Geophysics completed the second four lines for the enhanced PSS for a total of eight lines across the 700 Area landfill footprint.
5/28/2021 and 5/29/2021	Collier Geophysics performed the GPR and AMASW method tests.
5/28/2021 through 6/1/2021	Collier Geophysics acquire AMASW data over geophysical anomalies/trench locations 1 through 16.
6/8/2021 and 6/9/2021	Collier Geophysics acquire AMASW data over the 11 remaining geophysical anomalies/trench locations 11 through 27. This covered the 26 original trenches and a line over a background area.
2/15/2022 and 3/7/2022	Environmental Department personnel removed the 15" stainless steel conduit pipe from the 700 Area Landfill baseline grid and plugged/abandoned all boreholes to surface.

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Appendix B
Field Photographs

Figure B-1 **Passive Soil Vapor Field Survey (11252019 - 12102019)**

Shallow SVS sample module deployment and data recording at a staked sampling node on the 700 Area Landfill cap (view to the south [November 25-December 1, 2019]).

Figure B-2 **EMI Field Survey (02252020 - 02262020)**

EMI field survey across 700 area Landfill cap (view to the north [February 25-26, 2020]).

Preparation of equipment for VMG survey on southeast side of 700 Area landfill cap (view to the northeast [February 27-28, 2020]).

Figure B-4 **GPR Field Survey (05282021 - 05292021)**

GPR suitability test and data recording on the 700 Area Landfill cap (view to the west [May 28-29, 2021]).

Figure B-5 **AMASW Field Survey (05282021 - 06092021)**

AMASW survey line, energy source, and data recording on the 700 Area Landfill cap (view to the northwest [May 28-June 9, 2021]).

Figure B-6 **Enhanced Passive Seismic Field Survey 1 (05252021 - 05272021)**

Enhanced passive seismic survey line with geophones and field support vehicle on 700 Area Landfill cap (view to the northwest [May 25-27, 2021]).

Figure B-7 **Enhanced Passive Seismic Field Survey 2 (05252021 - 05272021)**

Northeast end of enhanced passive seismic survey line adjacent to 700 Area Landfill cap fence with backhoe energy source (view to the northeast [May 25-27, 2021]).

Appendix C
Steel Conduit Rinsate Sample Analytical Results

November 05, 2019 Service Request No:R1910325

Ms. Carlyn Tufts
NASA/WSTF/Navarro
NASA JSC WHITE SANDS TEST
FACILITY
12600 NASA ROAD; BLDG. 120
Las Cruces, NM 88004

Laboratory Results for: White Sands Test Facility

Dear Ms.Tufts,

Enclosed are the results of the sample(s) submitted to our laboratory October 22, 2019
For your reference, these analyses have been assigned our service request number **R1910325.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
For
Janice Jaeger
Project Manager

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Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility
Sample Matrix: Water

Service Request: R1910325
Date Received: 10/22/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Eighteen water samples were received for analysis at ALS Environmental on 10/22/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

No significant anomalies were noted with this analysis.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Volatiles by GC/MS:

Method 8260C, 10/24/2019: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8260C, 10/24/2019: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8260C, 10/23/2019: The Method Blank contained a low level of the following analytes above the Reporting Limit: Acetone, 2-propanol. All associated sample results less than ten times the level found in the Method Blank are flagged. The samples were not reprepared/reanalyzed because the contamination is in the vial preservative; we are working with vendors to correct the issue.

Method 8260C, 10/23/2019: The control limit was exceeded for one or more analytes in the Laboratory Control Sample (LCS). The discrepancy indicates a potential bias for results reported from this analytical batch. Reanalysis was not performed because the high recoveries are due to the contamination in the vial preservative. The analytes affected are flagged in the LCS Summary Report.

Approved by _____ Date 11/05/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: 1910160915 700-SVS-043			Lab ID: R1910325-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	19	BJ	3.4	50	ug/L	8260C
Acetone	2.4	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910160945 700-SVS-044			Lab ID: R1910325-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	25	BJ	3.4	50	ug/L	8260C
Acetone	3.2	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910161320 700-SVS-051			Lab ID: R1910325-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	84	B	3.4	50	ug/L	8260C
Acetone	7.6	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910161330 700-SVS-052			Lab ID: R1910325-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	22	BJ	3.4	50	ug/L	8260C
Acetone	3.2	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910170930 700-SVS-059			Lab ID: R1910325-013			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	25	BJ	3.4	50	ug/L	8260C
Acetone	2.8	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910171000 700-SVS-060			Lab ID: R1910325-016			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	90	B	3.4	50	ug/L	8260C
Acetone	7.9	BJ	2.1	10	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro **Service Request:**R1910325
Project: White Sands Test Facility/18EC006B

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1910325-001	1910160917 700-SVS-043	10/16/2019	
R1910325-002	1910160915 700-SVS-043	10/16/2019	
R1910325-004	1910160945 700-SVS-044	10/16/2019	
R1910325-006	1910160947 700-SVS-044	10/16/2019	
R1910325-007	1910161320 700-SVS-051	10/16/2019	
R1910325-009	1910161322 700-SVS-051	10/16/2019	
R1910325-010	1910161330 700-SVS-052	10/16/2019	
R1910325-012	1910161332 700-SVS-052	10/16/2019	
R1910325-013	1910170930 700-SVS-059	10/17/2019	
R1910325-015	1910170932 700-SVS-059	10/17/2019	
R1910325-016	1910171000 700-SVS-060	10/17/2019	
R1910325-018	1910171002 700-SVS-060	10/17/2019	

Date 10-21-19

WSTF CHAIN OF CUSTODY RECORD

Laboratory: ALS PO# 18EC006B

Address shipping questions to:
- [x] Lori Minnick, 575-524-5119
- [ ] Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- [x] Carlyn Tufts, carlyn.a.tufts@nasa.gov
- [x] Betty Nietubyc, elizabeth.m.nietubyc@nasa.gov
- [ ] Other

Analytical Requirements

Sample Number	Sample Location	# of Containers	Sample Matrix*	Method / Analyte 8260 VOA	8015D GRO	8015D DRO				Charge Number (WSTF Use Only)	Comments
1910160917	700-SVS-043	1	A			X				CAS1	
1910160915	"	3	A	X						"	
1910160916	"	3	A		X					"	
1910160945	700-SVS-044	3	A	X						"	
1910160946	"	3	A		X					"	
1910160947	"	1	A			X				"	
1910161320	700-SVS-051	3	A	X						"	
1910161321	"	3	A		X					"	Bubbles: All 3 vials
1910161322	"	1	A			X				"	
1910161330	700-SVS-052	3	A	X						"	
1910161331	"	3	A		X					"	Bubbles; 1 of 3
1910161332	"	1	A			X				"	

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Lori Minnick	10-21-19 / 1100 HRS.		10-22-19 0735

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

R1910325 5
NASA/WSTF/Navarro
White Sands Test Facility

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Date 10-21-19

WSTF CHAIN OF CUSTODY RECORD

Laboratory: ALS PO# 19EC0016B

Address shipping questions to:
☑ Lori Minnick, 575-524-5119
☐ Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
☒ Carlyn Tufts, carlyn.a.tufts@nasa.gov
☒ Betty Nietubyc, elizabeth.m.nietubyc@nasa.gov
☐ Other

Special Instructions
Return coolers and reusable packaging materials within 14 days as required in statement of work to:
Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	Analytical Requirements: Method / Analyte						Charge Number (WSTF Use Only)	Comments
				8260 VOA	8015D GRO	8015D DRO					
1910170930	700-SVS-059	3	A	X						CAS1	
1910170931	"	3	A		X					"	
1910170932	"	1	A			X				"	
1910171000	700-SVS-060	3	A	X						"	
1910171001	"	3	A		X					"	
1910171002	"	1	A			X				"	

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	10-21-19 1100 Hrs	[signature]	10-22-19 07:35

R1910325 5
NASA/WSTF/Navarro
White Sands Test Facility

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

R1910325 5
NASA/WSTF/Navarro
White Sands Test Facility

Cooler Receipt and Preservation Check Form

Project/Client NASA Folder Number

Cooler received on 10-22-19 by: KE

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y) N
2	**Custody papers** properly completed (ink, signed)?	(Y) N
3	Did all bottles arrive in good **condition** (unbroken)?	Y N
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y) N

5a	**Perchlorate** samples have required headspace?	Y N NA
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA *
6	Where did the bottles originate?	(ALS/ROC) CLIENT
7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 10-22-19 Time: 07:42 ID: IR#7 (IR#10) From: Temp Blank (Sample Bottle)

Observed Temp (°C)	4.1						
Correction Factor (°C)	0						
Corrected Temp (°C)	4.1						
Temp from:Type of bottle	—						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R002 by KE on 10-22-19 at _____
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 10-22-19 Time: 11:55 by: KE

9.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
10.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
11.	Were correct containers used for the tests indicated?	(YES)	NO
12.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO
13.	Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized	Tedlar® Bags Inflated	(N/A) (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**	411810					

**VOAs and 1664 Not to be tested before analysis.
Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 9-093-001

Explain all Discrepancies/ Other Comments:

* Noted on COC.

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: KE
PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1910325-001.01					
	8015C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1211	R-002 / GESMERIAN	
		10/23/2019	0740	In Lab / VSTAUFFER	
R1910325-002.01					
	8260C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
		10/23/2019	1552	In Lab / KRUEST	
		10/23/2019	1608	R-001-S12 / KRUEST	
R1910325-002.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-002.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-003.01					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-003.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-003.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-004.01					
	8260C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
		10/23/2019	1552	In Lab / KRUEST	
		10/23/2019	1608	R-001-S12 / KRUEST	
R1910325-004.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1910325-004.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-005.01					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-005.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-005.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-006.01					
	8015C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1211	R-002 / GESMERIAN	
		10/23/2019	0741	In Lab / VSTAUFFER	
R1910325-007.01					
	8260C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
		10/23/2019	1552	In Lab / KRUEST	
		10/23/2019	1608	R-001-S12 / KRUEST	
R1910325-007.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-007.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-008.01					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-008.02					

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-008.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-009.01					
	8015C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1211	R-002 / GESMERIAN	
		10/23/2019	0741	In Lab / VSTAUFFER	
R1910325-010.01					
	8260C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
		10/23/2019	1552	In Lab / KRUEST	
		10/23/2019	1608	R-001-S12 / KRUEST	
R1910325-010.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-010.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-011.01					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-011.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-011.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-012.01					

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8015C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1211	R-002 / GESMERIAN	
		10/23/2019	0742	In Lab / VSTAUFFER	
R1910325-013.01					
	8260C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
		10/23/2019	1552	In Lab / KRUEST	
		10/23/2019	1608	R-001-S12 / KRUEST	
R1910325-013.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-013.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-014.01					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-014.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-014.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-015.01					
	8015C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1211	R-002 / GESMERIAN	
		10/23/2019	0741	In Lab / VSTAUFFER	
R1910325-016.01					
	8260C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
		10/23/2019	1552	In Lab / KRUEST	
		10/23/2019	1608	R-001-S12 / KRUEST	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1910325-016.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-016.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	R-001 / GESMERIAN	
R1910325-017.01					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-017.02					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-017.03					
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1210	SUBBED / GESMERIAN	
R1910325-018.01					
	8015C				
		10/22/2019	1207	SMO / GESMERIAN	
		10/22/2019	1211	R-002 / GESMERIAN	
		10/23/2019	0742	In Lab / VSTAUFFER	

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B		

Sample Name:	1910160917 700-SVS-043	**Date Collected:**	10/16/19
Lab Code:	R1910325-001	**Date Received:**	10/22/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910160915 700-SVS-043	**Date Collected:**	10/16/19
Lab Code:	R1910325-002	**Date Received:**	10/22/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910160945 700-SVS-044	**Date Collected:**	10/16/19
Lab Code:	R1910325-004	**Date Received:**	10/22/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910160947 700-SVS-044	**Date Collected:**	10/16/19
Lab Code:	R1910325-006	**Date Received:**	10/22/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910161320 700-SVS-051	**Date Collected:**	10/16/19
Lab Code:	R1910325-007	**Date Received:**	10/22/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B

Sample Name: 1910161322 700-SVS-051 **Date Collected:** 10/16/19
Lab Code: R1910325-009 **Date Received:** 10/22/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name: 1910161330 700-SVS-052 **Date Collected:** 10/16/19
Lab Code: R1910325-010 **Date Received:** 10/22/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 1910161332 700-SVS-052 **Date Collected:** 10/16/19
Lab Code: R1910325-012 **Date Received:** 10/22/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name: 1910170930 700-SVS-059 **Date Collected:** 10/17/19
Lab Code: R1910325-013 **Date Received:** 10/22/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 1910170932 700-SVS-059 **Date Collected:** 10/17/19
Lab Code: R1910325-015 **Date Received:** 10/22/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B		

Sample Name:	1910171000 700-SVS-060	**Date Collected:**	10/17/19
Lab Code:	R1910325-016	**Date Received:**	10/22/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910171002 700-SVS-060	**Date Collected:**	10/17/19
Lab Code:	R1910325-018	**Date Received:**	10/22/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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www.alsglobal.com

Volatile Organic Compounds by GC/MS

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1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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www.alsglobal.com

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160915 700-SVS-043	**Units:**	ug/L
Lab Code:	R1910325-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 01:12	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 01:12	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 01:12	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 01:12	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,4-Dioxane	ND	U	100	13	1	10/24/19 01:12	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 01:12	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 01:12	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 01:12	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 01:12	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 01:12	
2-Propanol	**19**	**BJ**	50	3.4	1	10/24/19 01:12	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 01:12	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 01:12	
Acetone	**2.4**	**BJ**	10	2.1	1	10/24/19 01:12	
Acetonitrile	ND	U	25	5.2	1	10/24/19 01:12	
Acrolein	ND	U	10	0.90	1	10/24/19 01:12	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 01:12	
Benzene	ND	U	1.0	0.20	1	10/24/19 01:12	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 01:12	
Bromoform	ND	U	1.0	0.25	1	10/24/19 01:12	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 01:12	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 01:12	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 01:12	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 01:12	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 01:12	
Chloroform	ND	U	1.0	0.24	1	10/24/19 01:12	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 01:12	
Cyclohexane	ND	U	10	0.26	1	10/24/19 01:12	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 01:12	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 01:12	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 01:12	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 01:12	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 01:12	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 01:12	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 01:12	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160915 700-SVS-043	**Units:**	ug/L
Lab Code:	R1910325-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/24/19 01:12	
Methacrylonitrile	ND U	5.0	0.52	1	10/24/19 01:12	
Methyl Methacrylate	ND U	2.0	0.24	1	10/24/19 01:12	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/24/19 01:12	
Methylcyclohexane	ND U	10	0.20	1	10/24/19 01:12	
Propionitrile	ND U	5.0	1.2	1	10/24/19 01:12	
Styrene	ND U	1.0	0.20	1	10/24/19 01:12	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/24/19 01:12	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/24/19 01:12	
Toluene	ND U	1.0	0.20	1	10/24/19 01:12	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/24/19 01:12	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/24/19 01:12	
Vinyl Acetate	ND U	5.0	1.1	1	10/24/19 01:12	
Vinyl Chloride	ND U	1.0	0.20	1	10/24/19 01:12	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/24/19 01:12	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/24/19 01:12	
m,p-Xylenes	ND U	2.0	0.20	1	10/24/19 01:12	
o-Xylene	ND U	1.0	0.20	1	10/24/19 01:12	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/24/19 01:12	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/24/19 01:12	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/24/19 01:12	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/24/19 01:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	10/24/19 01:12	
Dibromofluoromethane	96	89 - 119	10/24/19 01:12	
Toluene-d8	100	87 - 121	10/24/19 01:12	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160945 700-SVS-044	**Units:**	ug/L
Lab Code:	R1910325-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 01:33	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 01:33	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 01:33	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 01:33	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,4-Dioxane	ND	U	100	13	1	10/24/19 01:33	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 01:33	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 01:33	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 01:33	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 01:33	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 01:33	
2-Propanol	**25**	**BJ**	50	3.4	1	10/24/19 01:33	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 01:33	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 01:33	
Acetone	**3.2**	**BJ**	10	2.1	1	10/24/19 01:33	
Acetonitrile	ND	U	25	5.2	1	10/24/19 01:33	
Acrolein	ND	U	10	0.90	1	10/24/19 01:33	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 01:33	
Benzene	ND	U	1.0	0.20	1	10/24/19 01:33	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 01:33	
Bromoform	ND	U	1.0	0.25	1	10/24/19 01:33	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 01:33	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 01:33	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 01:33	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 01:33	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 01:33	
Chloroform	ND	U	1.0	0.24	1	10/24/19 01:33	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 01:33	
Cyclohexane	ND	U	10	0.26	1	10/24/19 01:33	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 01:33	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 01:33	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 01:33	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 01:33	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 01:33	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 01:33	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 01:33	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160945 700-SVS-044	**Units:**	ug/L
Lab Code:	R1910325-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/24/19 01:33	
Methacrylonitrile	ND	U	5.0	0.52	1	10/24/19 01:33	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/24/19 01:33	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/24/19 01:33	
Methylcyclohexane	ND	U	10	0.20	1	10/24/19 01:33	
Propionitrile	ND	U	5.0	1.2	1	10/24/19 01:33	
Styrene	ND	U	1.0	0.20	1	10/24/19 01:33	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/24/19 01:33	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/24/19 01:33	
Toluene	ND	U	1.0	0.20	1	10/24/19 01:33	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/24/19 01:33	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/24/19 01:33	
Vinyl Acetate	ND	U	5.0	1.1	1	10/24/19 01:33	
Vinyl Chloride	ND	U	1.0	0.20	1	10/24/19 01:33	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/24/19 01:33	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/24/19 01:33	
m,p-Xylenes	ND	U	2.0	0.20	1	10/24/19 01:33	
o-Xylene	ND	U	1.0	0.20	1	10/24/19 01:33	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/24/19 01:33	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/24/19 01:33	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/24/19 01:33	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/24/19 01:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/24/19 01:33	
Dibromofluoromethane	93	89 - 119	10/24/19 01:33	
Toluene-d8	101	87 - 121	10/24/19 01:33	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161320 700-SVS-051	**Units:**	ug/L
Lab Code:	R1910325-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 01:55	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 01:55	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 01:55	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 01:55	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,4-Dioxane	ND	U	100	13	1	10/24/19 01:55	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 01:55	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 01:55	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 01:55	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 01:55	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 01:55	
2-Propanol	**84**	**B**	50	3.4	1	10/24/19 01:55	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 01:55	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 01:55	
Acetone	**7.6**	**BJ**	10	2.1	1	10/24/19 01:55	
Acetonitrile	ND	U	25	5.2	1	10/24/19 01:55	
Acrolein	ND	U	10	0.90	1	10/24/19 01:55	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 01:55	
Benzene	ND	U	1.0	0.20	1	10/24/19 01:55	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 01:55	
Bromoform	ND	U	1.0	0.25	1	10/24/19 01:55	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 01:55	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 01:55	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 01:55	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 01:55	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 01:55	
Chloroform	ND	U	1.0	0.24	1	10/24/19 01:55	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 01:55	
Cyclohexane	ND	U	10	0.26	1	10/24/19 01:55	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 01:55	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 01:55	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 01:55	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 01:55	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 01:55	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 01:55	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 01:55	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161320 700-SVS-051	**Units:**	ug/L
Lab Code:	R1910325-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/24/19 01:55	
Methacrylonitrile	ND	U	5.0	0.52	1	10/24/19 01:55	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/24/19 01:55	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/24/19 01:55	
Methylcyclohexane	ND	U	10	0.20	1	10/24/19 01:55	
Propionitrile	ND	U	5.0	1.2	1	10/24/19 01:55	
Styrene	ND	U	1.0	0.20	1	10/24/19 01:55	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/24/19 01:55	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/24/19 01:55	
Toluene	ND	U	1.0	0.20	1	10/24/19 01:55	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/24/19 01:55	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/24/19 01:55	
Vinyl Acetate	ND	U	5.0	1.1	1	10/24/19 01:55	
Vinyl Chloride	ND	U	1.0	0.20	1	10/24/19 01:55	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/24/19 01:55	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/24/19 01:55	
m,p-Xylenes	ND	U	2.0	0.20	1	10/24/19 01:55	
o-Xylene	ND	U	1.0	0.20	1	10/24/19 01:55	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/24/19 01:55	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/24/19 01:55	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/24/19 01:55	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/24/19 01:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	10/24/19 01:55	
Dibromofluoromethane	98	89 - 119	10/24/19 01:55	
Toluene-d8	101	87 - 121	10/24/19 01:55	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161330 700-SVS-052	**Units:**	ug/L
Lab Code:	R1910325-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 02:17	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 02:17	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 02:17	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 02:17	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,4-Dioxane	ND	U	100	13	1	10/24/19 02:17	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 02:17	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 02:17	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 02:17	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 02:17	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 02:17	
2-Propanol	**22**	**BJ**	50	3.4	1	10/24/19 02:17	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 02:17	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 02:17	
Acetone	**3.2**	**BJ**	10	2.1	1	10/24/19 02:17	
Acetonitrile	ND	U	25	5.2	1	10/24/19 02:17	
Acrolein	ND	U	10	0.90	1	10/24/19 02:17	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 02:17	
Benzene	ND	U	1.0	0.20	1	10/24/19 02:17	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 02:17	
Bromoform	ND	U	1.0	0.25	1	10/24/19 02:17	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 02:17	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 02:17	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 02:17	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 02:17	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 02:17	
Chloroform	ND	U	1.0	0.24	1	10/24/19 02:17	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 02:17	
Cyclohexane	ND	U	10	0.26	1	10/24/19 02:17	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 02:17	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 02:17	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 02:17	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 02:17	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 02:17	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 02:17	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 02:17	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161330 700-SVS-052	**Units:**	ug/L
Lab Code:	R1910325-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/24/19 02:17	
Methacrylonitrile	ND	U	5.0	0.52	1	10/24/19 02:17	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/24/19 02:17	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/24/19 02:17	
Methylcyclohexane	ND	U	10	0.20	1	10/24/19 02:17	
Propionitrile	ND	U	5.0	1.2	1	10/24/19 02:17	
Styrene	ND	U	1.0	0.20	1	10/24/19 02:17	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/24/19 02:17	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/24/19 02:17	
Toluene	ND	U	1.0	0.20	1	10/24/19 02:17	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/24/19 02:17	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/24/19 02:17	
Vinyl Acetate	ND	U	5.0	1.1	1	10/24/19 02:17	
Vinyl Chloride	ND	U	1.0	0.20	1	10/24/19 02:17	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/24/19 02:17	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/24/19 02:17	
m,p-Xylenes	ND	U	2.0	0.20	1	10/24/19 02:17	
o-Xylene	ND	U	1.0	0.20	1	10/24/19 02:17	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/24/19 02:17	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/24/19 02:17	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/24/19 02:17	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/24/19 02:17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	10/24/19 02:17	
Dibromofluoromethane	95	89 - 119	10/24/19 02:17	
Toluene-d8	101	87 - 121	10/24/19 02:17	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910170930 700-SVS-059	**Units:**	ug/L
Lab Code:	R1910325-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 02:39	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 02:39	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 02:39	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 02:39	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,4-Dioxane	ND	U	100	13	1	10/24/19 02:39	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 02:39	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 02:39	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 02:39	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 02:39	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 02:39	
2-Propanol	**25**	**BJ**	50	3.4	1	10/24/19 02:39	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 02:39	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 02:39	
Acetone	**2.8**	**BJ**	10	2.1	1	10/24/19 02:39	
Acetonitrile	ND	U	25	5.2	1	10/24/19 02:39	
Acrolein	ND	U	10	0.90	1	10/24/19 02:39	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 02:39	
Benzene	ND	U	1.0	0.20	1	10/24/19 02:39	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 02:39	
Bromoform	ND	U	1.0	0.25	1	10/24/19 02:39	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 02:39	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 02:39	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 02:39	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 02:39	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 02:39	
Chloroform	ND	U	1.0	0.24	1	10/24/19 02:39	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 02:39	
Cyclohexane	ND	U	10	0.26	1	10/24/19 02:39	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 02:39	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 02:39	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 02:39	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 02:39	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 02:39	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 02:39	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 02:39	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910170930 700-SVS-059	**Units:**	ug/L
Lab Code:	R1910325-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/24/19 02:39	
Methacrylonitrile	ND	U	5.0	0.52	1	10/24/19 02:39	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/24/19 02:39	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/24/19 02:39	
Methylcyclohexane	ND	U	10	0.20	1	10/24/19 02:39	
Propionitrile	ND	U	5.0	1.2	1	10/24/19 02:39	
Styrene	ND	U	1.0	0.20	1	10/24/19 02:39	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/24/19 02:39	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/24/19 02:39	
Toluene	ND	U	1.0	0.20	1	10/24/19 02:39	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/24/19 02:39	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/24/19 02:39	
Vinyl Acetate	ND	U	5.0	1.1	1	10/24/19 02:39	
Vinyl Chloride	ND	U	1.0	0.20	1	10/24/19 02:39	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/24/19 02:39	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/24/19 02:39	
m,p-Xylenes	ND	U	2.0	0.20	1	10/24/19 02:39	
o-Xylene	ND	U	1.0	0.20	1	10/24/19 02:39	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/24/19 02:39	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/24/19 02:39	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/24/19 02:39	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/24/19 02:39	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/24/19 02:39	
Dibromofluoromethane	95	89 - 119	10/24/19 02:39	
Toluene-d8	102	87 - 121	10/24/19 02:39	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910171000 700-SVS-060	**Units:**	ug/L
Lab Code:	R1910325-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 03:00	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 03:00	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 03:00	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 03:00	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,4-Dioxane	ND	U	100	13	1	10/24/19 03:00	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 03:00	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 03:00	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 03:00	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 03:00	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 03:00	
2-Propanol	**90**	**B**	50	3.4	1	10/24/19 03:00	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 03:00	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 03:00	
Acetone	**7.9**	**BJ**	10	2.1	1	10/24/19 03:00	
Acetonitrile	ND	U	25	5.2	1	10/24/19 03:00	
Acrolein	ND	U	10	0.90	1	10/24/19 03:00	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 03:00	
Benzene	ND	U	1.0	0.20	1	10/24/19 03:00	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 03:00	
Bromoform	ND	U	1.0	0.25	1	10/24/19 03:00	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 03:00	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 03:00	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 03:00	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 03:00	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 03:00	
Chloroform	ND	U	1.0	0.24	1	10/24/19 03:00	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 03:00	
Cyclohexane	ND	U	10	0.26	1	10/24/19 03:00	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 03:00	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 03:00	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 03:00	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 03:00	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 03:00	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 03:00	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 03:00	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910171000 700-SVS-060	**Units:**	ug/L
Lab Code:	R1910325-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/24/19 03:00	
Methacrylonitrile	ND U	5.0	0.52	1	10/24/19 03:00	
Methyl Methacrylate	ND U	2.0	0.24	1	10/24/19 03:00	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/24/19 03:00	
Methylcyclohexane	ND U	10	0.20	1	10/24/19 03:00	
Propionitrile	ND U	5.0	1.2	1	10/24/19 03:00	
Styrene	ND U	1.0	0.20	1	10/24/19 03:00	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/24/19 03:00	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/24/19 03:00	
Toluene	ND U	1.0	0.20	1	10/24/19 03:00	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/24/19 03:00	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/24/19 03:00	
Vinyl Acetate	ND U	5.0	1.1	1	10/24/19 03:00	
Vinyl Chloride	ND U	1.0	0.20	1	10/24/19 03:00	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/24/19 03:00	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/24/19 03:00	
m,p-Xylenes	ND U	2.0	0.20	1	10/24/19 03:00	
o-Xylene	ND U	1.0	0.20	1	10/24/19 03:00	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/24/19 03:00	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/24/19 03:00	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/24/19 03:00	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/24/19 03:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/24/19 03:00	
Dibromofluoromethane	95	89 - 119	10/24/19 03:00	
Toluene-d8	98	87 - 121	10/24/19 03:00	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160917 700-SVS-043	**Units:**	ug/L
Lab Code:	R1910325-001	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 17:37	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 17:37	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	84	30 - 132	10/25/19 17:37	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160947 700-SVS-044	**Units:**	ug/L
Lab Code:	R1910325-006	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 17:59	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 17:59	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	70	30 - 132	10/25/19 17:59	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161322 700-SVS-051	**Units:**	ug/L
Lab Code:	R1910325-009	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 18:21	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 18:21	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	66	30 - 132	10/25/19 18:21	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161332 700-SVS-052	**Units:**	ug/L
Lab Code:	R1910325-012	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 18:44	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 18:44	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	66	30 - 132	10/25/19 18:44	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910170932 700-SVS-059	**Units:**	ug/L
Lab Code:	R1910325-015	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 19:06	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 19:06	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	72	30 - 132	10/25/19 19:06	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910171002 700-SVS-060	**Units:**	ug/L
Lab Code:	R1910325-018	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 19:29	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 19:29	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	95	30 - 132	10/25/19 19:29	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Dibromofluoromethane 89-119	Toluene-d8 87-121
1910160915 700-SVS-043	R1910325-002	95	96	100
1910160945 700-SVS-044	R1910325-004	96	93	101
1910161320 700-SVS-051	R1910325-007	98	98	101
1910161330 700-SVS-052	R1910325-010	99	95	101
1910170930 700-SVS-059	R1910325-013	96	95	102
1910171000 700-SVS-060	R1910325-016	96	95	98
Method Blank	RQ1912264-04	99	99	101
Lab Control Sample	RQ1912264-03	100	99	100

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910325
Date Analyzed: 10/23/19 21:35

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1912264-04

Instrument ID:R-MS-12
File ID:I:\ACQUDATA\msvoa12\Data\102319\P31208.D\

Analysis Method: 8260C
Analysis Lot:656768

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1912264-03	I:\ACQUDATA\msvoa12\Data\102319\P31205.D\	10/23/19 20:30
1910160915 700-SVS-043	R1910325-002	I:\ACQUDATA\msvoa12\Data\102319\P31218.D\	10/24/19 01:12
1910160945 700-SVS-044	R1910325-004	I:\ACQUDATA\msvoa12\Data\102319\P31219.D\	10/24/19 01:33
1910161320 700-SVS-051	R1910325-007	I:\ACQUDATA\msvoa12\Data\102319\P31220.D\	10/24/19 01:55
1910161330 700-SVS-052	R1910325-010	I:\ACQUDATA\msvoa12\Data\102319\P31221.D\	10/24/19 02:17
1910170930 700-SVS-059	R1910325-013	I:\ACQUDATA\msvoa12\Data\102319\P31222.D\	10/24/19 02:39
1910171000 700-SVS-060	R1910325-016	I:\ACQUDATA\msvoa12\Data\102319\P31223.D\	10/24/19 03:00

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912264-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/23/19 21:35	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/23/19 21:35	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/23/19 21:35	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/23/19 21:35	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/23/19 21:35	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/23/19 21:35	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/23/19 21:35	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/23/19 21:35	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/23/19 21:35	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/23/19 21:35	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/23/19 21:35	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/23/19 21:35	
1,4-Dioxane	ND	U	100	13	1	10/23/19 21:35	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/23/19 21:35	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/23/19 21:35	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/23/19 21:35	
2-Hexanone	ND	U	5.0	0.20	1	10/23/19 21:35	
Isobutyl Alcohol	ND	U	100	17	1	10/23/19 21:35	
2-Propanol	**360**		50	3.4	1	10/23/19 21:35	
Allyl Chloride	ND	U	2.0	0.36	1	10/23/19 21:35	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/23/19 21:35	
Acetone	**17**		10	2.1	1	10/23/19 21:35	
Acetonitrile	ND	U	25	5.2	1	10/23/19 21:35	
Acrolein	ND	U	10	0.90	1	10/23/19 21:35	
Acrylonitrile	ND	U	5.0	0.90	1	10/23/19 21:35	
Benzene	ND	U	1.0	0.20	1	10/23/19 21:35	
Bromodichloromethane	ND	U	1.0	0.22	1	10/23/19 21:35	
Bromoform	ND	U	1.0	0.25	1	10/23/19 21:35	
Bromomethane	ND	U	2.0	0.70	1	10/23/19 21:35	
Carbon Disulfide	ND	U	1.0	0.25	1	10/23/19 21:35	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/23/19 21:35	
Chlorobenzene	ND	U	1.0	0.20	1	10/23/19 21:35	
Chloroethane	ND	U	2.0	0.23	1	10/23/19 21:35	
Chloroform	ND	U	1.0	0.24	1	10/23/19 21:35	
Chloromethane	**0.51**	**J**	2.0	0.28	1	10/23/19 21:35	
Cyclohexane	ND	U	10	0.26	1	10/23/19 21:35	
Dibromochloromethane	ND	U	1.0	0.20	1	10/23/19 21:35	
Dibromomethane	ND	U	1.0	0.20	1	10/23/19 21:35	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/23/19 21:35	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/23/19 21:35	
Dichloromethane	ND	U	1.0	0.36	1	10/23/19 21:35	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/23/19 21:35	
Ethylbenzene	ND	U	1.0	0.20	1	10/23/19 21:35	

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912264-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	**1.4**	**J**	5.0	1.2	1	10/23/19 21:35	
Methacrylonitrile	ND	U	5.0	0.52	1	10/23/19 21:35	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/23/19 21:35	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/23/19 21:35	
Methylcyclohexane	ND	U	10	0.20	1	10/23/19 21:35	
Propionitrile	ND	U	5.0	1.2	1	10/23/19 21:35	
Styrene	ND	U	1.0	0.20	1	10/23/19 21:35	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/23/19 21:35	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/23/19 21:35	
Toluene	ND	U	1.0	0.20	1	10/23/19 21:35	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/23/19 21:35	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/23/19 21:35	
Vinyl Acetate	ND	U	5.0	1.1	1	10/23/19 21:35	
Vinyl Chloride	ND	U	1.0	0.20	1	10/23/19 21:35	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/23/19 21:35	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/23/19 21:35	
m,p-Xylenes	ND	U	2.0	0.20	1	10/23/19 21:35	
o-Xylene	ND	U	1.0	0.20	1	10/23/19 21:35	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/23/19 21:35	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/23/19 21:35	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/23/19 21:35	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/23/19 21:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	10/23/19 21:35	
Dibromofluoromethane	99	89 - 119	10/23/19 21:35	
Toluene-d8	101	87 - 121	10/23/19 21:35	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
007446-09-5	Sulfur dioxide	1.26	8.8	JN
	unknown	1.60	7.2	J

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910325
Date Analyzed: 10/23/19 20:30

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name: Lab Control Sample
Lab Code: RQ1912264-03

Instrument ID:R-MS-12
File ID:I:\ACQUDATA\msvoa12\Data\102319\P31205.D\

Analysis Method: 8260C
Analysis Lot:656768

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1912264-04	I:\ACQUDATA\msvoa12\Data\102319\P31208.D\	10/23/19 21:35
1910160915 700-SVS-043	R1910325-002	I:\ACQUDATA\msvoa12\Data\102319\P31218.D\	10/24/19 01:12
1910160945 700-SVS-044	R1910325-004	I:\ACQUDATA\msvoa12\Data\102319\P31219.D\	10/24/19 01:33
1910161320 700-SVS-051	R1910325-007	I:\ACQUDATA\msvoa12\Data\102319\P31220.D\	10/24/19 01:55
1910161330 700-SVS-052	R1910325-010	I:\ACQUDATA\msvoa12\Data\102319\P31221.D\	10/24/19 02:17
1910170930 700-SVS-059	R1910325-013	I:\ACQUDATA\msvoa12\Data\102319\P31222.D\	10/24/19 02:39
1910171000 700-SVS-060	R1910325-016	I:\ACQUDATA\msvoa12\Data\102319\P31223.D\	10/24/19 03:00

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910325
Date Analyzed: 10/23/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1912264-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.3	20.0	102	76-129
1,1,1-Trichloroethane (TCA)	8260C	18.0	20.0	90	70-130
1,1,2,2-Tetrachloroethane	8260C	19.9	20.0	99	78-126
1,1,2-Trichloroethane	8260C	19.2	20.0	96	82-121
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	18.0	20.0	90	70-130
1,1-Dichloroethane (1,1-DCA)	8260C	18.3	20.0	92	80-124
1,1-Dichloroethene (1,1-DCE)	8260C	18.0	20.0	90	70-130
1,2,3-Trichloropropane	8260C	17.6	20.0	88	75-118
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.3	20.0	87	55-136
1,2-Dibromoethane	8260C	17.7	20.0	89	82-127
1,2-Dichloroethane	8260C	17.9	20.0	90	71-127
1,2-Dichloropropane	8260C	18.5	20.0	92	80-119
1,4-Dioxane	8260C	330	400	83	44-154
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	8260C	19.1	20.0	95	70-130
2-Butanone (MEK)	8260C	18.1	20.0	91	61-137
2-Chloro-1,3-butadiene	8260C	17.8	20.0	89	68-139
2-Hexanone	8260C	17.3	20.0	87	63-124
Isobutyl Alcohol	8260C	339	400	85	51-143
2-Propanol	8260C	765	400	191 *	52-136
Allyl Chloride	8260C	21.1	20.0	105	61-143
4-Methyl-2-pentanone	8260C	18.9	20.0	95	66-124
Acetone	8260C	43.3	20.0	217 *	40-161
Acetonitrile	8260C	86.2	100	86	46-154
Acrolein	8260C	32.2	40.0	80	13-165
Acrylonitrile	8260C	89.4	100	89	71-130
Benzene	8260C	18.7	20.0	93	79-119
Bromodichloromethane	8260C	19.4	20.0	97	81-123
Bromoform	8260C	19.7	20.0	99	65-146
Bromomethane	8260C	19.2	20.0	96	42-166
Carbon Disulfide	8260C	19.1	20.0	95	66-128
Carbon Tetrachloride	8260C	19.6	20.0	98	70-127
Chlorobenzene	8260C	18.7	20.0	94	81-120
Chloroethane	8260C	26.3	20.0	132 *	62-131

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910325
Date Analyzed: 10/23/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1912264-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloroform	8260C	18.2	20.0	91	70-130
Chloromethane	8260C	14.4	20.0	72	65-135
Cyclohexane	8260C	18.4	20.0	92	69-120
Dibromochloromethane	8260C	19.5	20.0	97	72-128
Dibromomethane	8260C	19.8	20.0	99	80-118
Dichlorodifluoromethane (CFC 12)	8260C	22.3	20.0	111	59-155
Dichlorofluoromethane (CFC 21)	8260C	17.8	20.0	89	70-130
Dichloromethane	8260C	17.5	20.0	87	73-122
Ethyl Methacrylate	8260C	17.6	20.0	88	68-132
Ethylbenzene	8260C	18.4	20.0	92	76-120
Iodomethane	8260C	7.82	20.0	39	18-160
Methacrylonitrile	8260C	16.8	20.0	84	68-123
Methyl Methacrylate	8260C	18.3	20.0	91	68-129
Methyl tert-Butyl Ether	8260C	17.9	20.0	90	75-118
Methylcyclohexane	8260C	18.6	20.0	93	51-129
Propionitrile	8260C	88.1	100	88	69-126
Styrene	8260C	18.0	20.0	90	80-124
Tetrachloroethene (PCE)	8260C	18.3	20.0	92	70-130
Tetrahydrofuran (THF)	8260C	15.5	20.0	77	65-128
Toluene	8260C	19.2	20.0	96	79-119
Trichloroethene (TCE)	8260C	18.3	20.0	92	70-130
Trichlorofluoromethane (CFC 11)	8260C	19.6	20.0	98	70-130
Vinyl Acetate	8260C	20.3	20.0	102	52-174
Vinyl Chloride	8260C	17.7	20.0	88	74-159
cis-1,2-Dichloroethene	8260C	18.1	20.0	90	80-121
cis-1,3-Dichloropropene	8260C	18.1	20.0	91	77-122
m,p-Xylenes	8260C	38.4	40.0	96	80-126
o-Xylene	8260C	18.4	20.0	92	79-123
trans-1,2-Dichloroethene	8260C	17.9	20.0	90	73-118
trans-1,3-Dichloropropene	8260C	17.7	20.0	89	71-133
trans-1,4-Dichloro-2-butene	8260C	12.9	20.0	65	39-137
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	8260C	17.4	20.0	87	70-130

Client: NASA/WSTF/Navarro **Service Request:**R1910325
Project: White Sands Test Facility/18EC006B **Date Analyzed:**10/23/19 19:46

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\102319\P31203.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-12 **Analysis Lot:** 656768

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	19.25	29600	Pass
75	95	30	60	49.98	76858	Pass
95	95	100	100	100.00	153771	Pass
96	95	5	9	6.39	9831	Pass
173	174	0	2	0.34	398	Pass
174	95	50	120	75.78	116528	Pass
175	174	5	9	7.46	8697	Pass
176	174	95	101	96.49	112443	Pass
177	176	5	9	6.67	7504	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1912264-02	I:\ACQUDATA\msvoa12\Data\102319\P31204.D\	10/23/19 20:08	
Lab Control Sample	RQ1912264-03	I:\ACQUDATA\msvoa12\Data\102319\P31205.D\	10/23/19 20:30	
Method Blank	RQ1912264-04	I:\ACQUDATA\msvoa12\Data\102319\P31208.D\	10/23/19 21:35	
1910160915 700-SVS-043	R1910325-002	I:\ACQUDATA\msvoa12\Data\102319\P31218.D\	10/24/19 01:12	
1910160945 700-SVS-044	R1910325-004	I:\ACQUDATA\msvoa12\Data\102319\P31219.D\	10/24/19 01:33	
1910161320 700-SVS-051	R1910325-007	I:\ACQUDATA\msvoa12\Data\102319\P31220.D\	10/24/19 01:55	
1910161330 700-SVS-052	R1910325-010	I:\ACQUDATA\msvoa12\Data\102319\P31221.D\	10/24/19 02:17	
1910170930 700-SVS-059	R1910325-013	I:\ACQUDATA\msvoa12\Data\102319\P31222.D\	10/24/19 02:39	
1910171000 700-SVS-060	R1910325-016	I:\ACQUDATA\msvoa12\Data\102319\P31223.D\	10/24/19 03:00	

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B **Date Analyzed:** 10/23/19 20:08

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\102319\P31204.D\ **Lab Code:** RQ1912264-02
Instrument ID: R-MS-12 **Analysis Lot:** 656768
Analysis Method: 8260C **Signal ID:** 1

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	239,747	11.84	500,490	6.52	440,198	9.80
	Upper Limit ==>	479,494	12.34	1,000,980	7.02	880,396	10.30
	Lower Limit ==>	119,874	11.34	250,245	6.02	220,099	9.30
Associated Analyses							
Lab Control Sample	RQ1912264-03	227788	11.84	485183	6.53	433185	9.80
Method Blank	RQ1912264-04	235148	11.84	494996	6.52	442037	9.80
1910160915 700-SVS-043	R1910325-002	227162	11.84	490538	6.52	434056	9.80
1910160945 700-SVS-044	R1910325-004	214000	11.84	476310	6.53	413005	9.80
1910161320 700-SVS-051	R1910325-007	218532	11.84	473233	6.52	419039	9.80
1910161330 700-SVS-052	R1910325-010	219626	11.84	466527	6.53	420646	9.80
1910170930 700-SVS-059	R1910325-013	220405	11.84	481147	6.52	415239	9.80
1910171000 700-SVS-060	R1910325-016	229167	11.84	492259	6.52	440150	9.80

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B **Date Analyzed:** 10/23/19 20:08

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\102319\P31204.D\ **Lab Code:** RQ1912264-02
Instrument ID: R-MS-12 **Analysis Lot:** 656768
Analysis Method: 8260C **Signal ID:** 1

		Pentafluorobenzene	
		Area	**RT**
	Result ==>	309,382	5.44
	Upper Limit ==>	618,764	5.94
	Lower Limit ==>	154,691	4.94
Associated Analyses			
Lab Control Sample	RQ1912264-03	301715	5.46
Method Blank	RQ1912264-04	315800	5.44
1910160915 700-SVS-043	R1910325-002	308761	5.44
1910160945 700-SVS-044	R1910325-004	294295	5.45
1910161320 700-SVS-051	R1910325-007	296724	5.45
1910161330 700-SVS-052	R1910325-010	300231	5.45
1910170930 700-SVS-059	R1910325-013	300431	5.45
1910171000 700-SVS-060	R1910325-016	316391	5.44

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Extraction Method: EPA 3510C

Sample Name	Lab Code	o-Terphenyl 30-132
1910160917 700-SVS-043	R1910325-001	84
1910160947 700-SVS-044	R1910325-006	70
1910161322 700-SVS-051	R1910325-009	66
1910161332 700-SVS-052	R1910325-012	66
1910170932 700-SVS-059	R1910325-015	72
1910171002 700-SVS-060	R1910325-018	95
Method Blank	RQ1912217-01	89
Lab Control Sample	RQ1912217-02	97
Duplicate Lab Control Sample	RQ1912217-03	69

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/25/19 16:29
Sample Matrix:	Water	**Date Extracted:**	10/23/19

Method Blank Summary
Diesel and Residual Range Organics by GC

Sample Name:	Method Blank	**Instrument ID:**	R-GC-59
Lab Code:	RQ1912217-01	**File ID:**	I:\ACQUDATA\6890I\DATA\102519\BL677.D\
Analysis Method:	8015C	**Analysis Lot:**	657295
Prep Method:	EPA 3510C	**Extraction Lot:**	347123

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1912217-02	I:\ACQUDATA\6890I\DATA\102519\BL678.D\	10/25/19 16:52
Duplicate Lab Control Sample	RQ1912217-03	I:\ACQUDATA\6890I\DATA\102519\BL679.D\	10/25/19 17:14
1910160917 700-SVS-043	R1910325-001	I:\ACQUDATA\6890I\DATA\102519\BL680.D\	10/25/19 17:37
1910160947 700-SVS-044	R1910325-006	I:\ACQUDATA\6890I\DATA\102519\BL681.D\	10/25/19 17:59
1910161322 700-SVS-051	R1910325-009	I:\ACQUDATA\6890I\DATA\102519\BL682.D\	10/25/19 18:21
1910161332 700-SVS-052	R1910325-012	I:\ACQUDATA\6890I\DATA\102519\BL683.D\	10/25/19 18:44
1910170932 700-SVS-059	R1910325-015	I:\ACQUDATA\6890I\DATA\102519\BL684.D\	10/25/19 19:06
1910171002 700-SVS-060	R1910325-018	I:\ACQUDATA\6890I\DATA\102519\BL685.D\	10/25/19 19:29

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912217-01	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 16:29	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 16:29	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	89	30 - 132	10/25/19 16:29	

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/25/19 16:52
Sample Matrix:	Water	**Date Extracted:**	10/23/19

Lab Control Sample Summary
Diesel and Residual Range Organics by GC

Sample Name:	Lab Control Sample	**Instrument ID:**	R-GC-59
Lab Code:	RQ1912217-02	**File ID:**	I:\ACQUDATA\6890I\DATA\102519\BL678.D\
Analysis Method:	8015C	**Analysis Lot:**	657295
Prep Method:	EPA 3510C	**Extraction Lot:**	347123

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1912217-01	I:\ACQUDATA\6890I\DATA\102519\BL677.D\	10/25/19 16:29
Duplicate Lab Control Sample	RQ1912217-03	I:\ACQUDATA\6890I\DATA\102519\BL679.D\	10/25/19 17:14
1910160917 700-SVS-043	R1910325-001	I:\ACQUDATA\6890I\DATA\102519\BL680.D\	10/25/19 17:37
1910160947 700-SVS-044	R1910325-006	I:\ACQUDATA\6890I\DATA\102519\BL681.D\	10/25/19 17:59
1910161322 700-SVS-051	R1910325-009	I:\ACQUDATA\6890I\DATA\102519\BL682.D\	10/25/19 18:21
1910161332 700-SVS-052	R1910325-012	I:\ACQUDATA\6890I\DATA\102519\BL683.D\	10/25/19 18:44
1910170932 700-SVS-059	R1910325-015	I:\ACQUDATA\6890I\DATA\102519\BL684.D\	10/25/19 19:06
1910171002 700-SVS-060	R1910325-018	I:\ACQUDATA\6890I\DATA\102519\BL685.D\	10/25/19 19:29

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910325
Date Analyzed: 10/25/19

Duplicate Lab Control Sample Summary
Diesel and Residual Range Organics by GC

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1912217-02			RQ1912217-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Diesel Range Organics (DRO) as C10-C28 Alkanes	8015C	264	500	53	240	500	48	20-126	9	30

Raw Data

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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www.alsglobal.com

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160915 700-SVS-043	**Units:**	ug/L
Lab Code:	R1910325-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 01:12	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 01:12	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 01:12	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 01:12	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 01:12	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 01:12	
1,4-Dioxane	ND	U	100	13	1	10/24/19 01:12	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 01:12	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 01:12	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 01:12	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 01:12	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 01:12	
2-Propanol	**19**	**BJ**	50	3.4	1	10/24/19 01:12	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 01:12	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 01:12	
Acetone	**2.4**	**BJ**	10	2.1	1	10/24/19 01:12	
Acetonitrile	ND	U	25	5.2	1	10/24/19 01:12	
Acrolein	ND	U	10	0.90	1	10/24/19 01:12	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 01:12	
Benzene	ND	U	1.0	0.20	1	10/24/19 01:12	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 01:12	
Bromoform	ND	U	1.0	0.25	1	10/24/19 01:12	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 01:12	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 01:12	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 01:12	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 01:12	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 01:12	
Chloroform	ND	U	1.0	0.24	1	10/24/19 01:12	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 01:12	
Cyclohexane	ND	U	10	0.26	1	10/24/19 01:12	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 01:12	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 01:12	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 01:12	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 01:12	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 01:12	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 01:12	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 01:12	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160915 700-SVS-043	**Units:**	ug/L
Lab Code:	R1910325-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/24/19 01:12	
Methacrylonitrile	ND U	5.0	0.52	1	10/24/19 01:12	
Methyl Methacrylate	ND U	2.0	0.24	1	10/24/19 01:12	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/24/19 01:12	
Methylcyclohexane	ND U	10	0.20	1	10/24/19 01:12	
Propionitrile	ND U	5.0	1.2	1	10/24/19 01:12	
Styrene	ND U	1.0	0.20	1	10/24/19 01:12	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/24/19 01:12	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/24/19 01:12	
Toluene	ND U	1.0	0.20	1	10/24/19 01:12	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/24/19 01:12	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/24/19 01:12	
Vinyl Acetate	ND U	5.0	1.1	1	10/24/19 01:12	
Vinyl Chloride	ND U	1.0	0.20	1	10/24/19 01:12	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/24/19 01:12	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/24/19 01:12	
m,p-Xylenes	ND U	2.0	0.20	1	10/24/19 01:12	
o-Xylene	ND U	1.0	0.20	1	10/24/19 01:12	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/24/19 01:12	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/24/19 01:12	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/24/19 01:12	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/24/19 01:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	10/24/19 01:12	
Dibromofluoromethane	96	89 - 119	10/24/19 01:12	
Toluene-d8	100	87 - 121	10/24/19 01:12	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160945 700-SVS-044	**Units:**	ug/L
Lab Code:	R1910325-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 01:33	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 01:33	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 01:33	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 01:33	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 01:33	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 01:33	
1,4-Dioxane	ND	U	100	13	1	10/24/19 01:33	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 01:33	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 01:33	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 01:33	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 01:33	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 01:33	
2-Propanol	**25**	**BJ**	50	3.4	1	10/24/19 01:33	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 01:33	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 01:33	
Acetone	**3.2**	**BJ**	10	2.1	1	10/24/19 01:33	
Acetonitrile	ND	U	25	5.2	1	10/24/19 01:33	
Acrolein	ND	U	10	0.90	1	10/24/19 01:33	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 01:33	
Benzene	ND	U	1.0	0.20	1	10/24/19 01:33	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 01:33	
Bromoform	ND	U	1.0	0.25	1	10/24/19 01:33	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 01:33	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 01:33	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 01:33	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 01:33	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 01:33	
Chloroform	ND	U	1.0	0.24	1	10/24/19 01:33	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 01:33	
Cyclohexane	ND	U	10	0.26	1	10/24/19 01:33	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 01:33	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 01:33	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 01:33	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 01:33	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 01:33	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 01:33	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 01:33	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160945 700-SVS-044	**Units:**	ug/L
Lab Code:	R1910325-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/24/19 01:33	
Methacrylonitrile	ND	U	5.0	0.52	1	10/24/19 01:33	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/24/19 01:33	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/24/19 01:33	
Methylcyclohexane	ND	U	10	0.20	1	10/24/19 01:33	
Propionitrile	ND	U	5.0	1.2	1	10/24/19 01:33	
Styrene	ND	U	1.0	0.20	1	10/24/19 01:33	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/24/19 01:33	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/24/19 01:33	
Toluene	ND	U	1.0	0.20	1	10/24/19 01:33	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/24/19 01:33	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/24/19 01:33	
Vinyl Acetate	ND	U	5.0	1.1	1	10/24/19 01:33	
Vinyl Chloride	ND	U	1.0	0.20	1	10/24/19 01:33	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/24/19 01:33	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/24/19 01:33	
m,p-Xylenes	ND	U	2.0	0.20	1	10/24/19 01:33	
o-Xylene	ND	U	1.0	0.20	1	10/24/19 01:33	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/24/19 01:33	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/24/19 01:33	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/24/19 01:33	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/24/19 01:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/24/19 01:33	
Dibromofluoromethane	93	89 - 119	10/24/19 01:33	
Toluene-d8	101	87 - 121	10/24/19 01:33	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161320 700-SVS-051	**Units:**	ug/L
Lab Code:	R1910325-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 01:55	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 01:55	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 01:55	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 01:55	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 01:55	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 01:55	
1,4-Dioxane	ND	U	100	13	1	10/24/19 01:55	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 01:55	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 01:55	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 01:55	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 01:55	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 01:55	
2-Propanol	**84**	**B**	50	3.4	1	10/24/19 01:55	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 01:55	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 01:55	
Acetone	**7.6**	**BJ**	10	2.1	1	10/24/19 01:55	
Acetonitrile	ND	U	25	5.2	1	10/24/19 01:55	
Acrolein	ND	U	10	0.90	1	10/24/19 01:55	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 01:55	
Benzene	ND	U	1.0	0.20	1	10/24/19 01:55	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 01:55	
Bromoform	ND	U	1.0	0.25	1	10/24/19 01:55	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 01:55	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 01:55	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 01:55	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 01:55	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 01:55	
Chloroform	ND	U	1.0	0.24	1	10/24/19 01:55	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 01:55	
Cyclohexane	ND	U	10	0.26	1	10/24/19 01:55	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 01:55	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 01:55	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 01:55	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 01:55	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 01:55	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 01:55	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 01:55	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161320 700-SVS-051	**Units:**	ug/L
Lab Code:	R1910325-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/24/19 01:55	
Methacrylonitrile	ND	U	5.0	0.52	1	10/24/19 01:55	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/24/19 01:55	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/24/19 01:55	
Methylcyclohexane	ND	U	10	0.20	1	10/24/19 01:55	
Propionitrile	ND	U	5.0	1.2	1	10/24/19 01:55	
Styrene	ND	U	1.0	0.20	1	10/24/19 01:55	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/24/19 01:55	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/24/19 01:55	
Toluene	ND	U	1.0	0.20	1	10/24/19 01:55	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/24/19 01:55	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/24/19 01:55	
Vinyl Acetate	ND	U	5.0	1.1	1	10/24/19 01:55	
Vinyl Chloride	ND	U	1.0	0.20	1	10/24/19 01:55	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/24/19 01:55	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/24/19 01:55	
m,p-Xylenes	ND	U	2.0	0.20	1	10/24/19 01:55	
o-Xylene	ND	U	1.0	0.20	1	10/24/19 01:55	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/24/19 01:55	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/24/19 01:55	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/24/19 01:55	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/24/19 01:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	10/24/19 01:55	
Dibromofluoromethane	98	89 - 119	10/24/19 01:55	
Toluene-d8	101	87 - 121	10/24/19 01:55	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161330 700-SVS-052	**Units:**	ug/L
Lab Code:	R1910325-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 02:17	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 02:17	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 02:17	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 02:17	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 02:17	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 02:17	
1,4-Dioxane	ND	U	100	13	1	10/24/19 02:17	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 02:17	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 02:17	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 02:17	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 02:17	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 02:17	
2-Propanol	**22**	**BJ**	50	3.4	1	10/24/19 02:17	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 02:17	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 02:17	
Acetone	**3.2**	**BJ**	10	2.1	1	10/24/19 02:17	
Acetonitrile	ND	U	25	5.2	1	10/24/19 02:17	
Acrolein	ND	U	10	0.90	1	10/24/19 02:17	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 02:17	
Benzene	ND	U	1.0	0.20	1	10/24/19 02:17	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 02:17	
Bromoform	ND	U	1.0	0.25	1	10/24/19 02:17	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 02:17	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 02:17	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 02:17	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 02:17	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 02:17	
Chloroform	ND	U	1.0	0.24	1	10/24/19 02:17	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 02:17	
Cyclohexane	ND	U	10	0.26	1	10/24/19 02:17	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 02:17	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 02:17	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 02:17	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 02:17	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 02:17	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 02:17	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 02:17	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161330 700-SVS-052	**Units:**	ug/L
Lab Code:	R1910325-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/24/19 02:17	
Methacrylonitrile	ND	U	5.0	0.52	1	10/24/19 02:17	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/24/19 02:17	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/24/19 02:17	
Methylcyclohexane	ND	U	10	0.20	1	10/24/19 02:17	
Propionitrile	ND	U	5.0	1.2	1	10/24/19 02:17	
Styrene	ND	U	1.0	0.20	1	10/24/19 02:17	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/24/19 02:17	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/24/19 02:17	
Toluene	ND	U	1.0	0.20	1	10/24/19 02:17	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/24/19 02:17	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/24/19 02:17	
Vinyl Acetate	ND	U	5.0	1.1	1	10/24/19 02:17	
Vinyl Chloride	ND	U	1.0	0.20	1	10/24/19 02:17	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/24/19 02:17	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/24/19 02:17	
m,p-Xylenes	ND	U	2.0	0.20	1	10/24/19 02:17	
o-Xylene	ND	U	1.0	0.20	1	10/24/19 02:17	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/24/19 02:17	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/24/19 02:17	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/24/19 02:17	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/24/19 02:17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	10/24/19 02:17	
Dibromofluoromethane	95	89 - 119	10/24/19 02:17	
Toluene-d8	101	87 - 121	10/24/19 02:17	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910170930 700-SVS-059	**Units:**	ug/L
Lab Code:	R1910325-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 02:39	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 02:39	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 02:39	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 02:39	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 02:39	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 02:39	
1,4-Dioxane	ND	U	100	13	1	10/24/19 02:39	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 02:39	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 02:39	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 02:39	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 02:39	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 02:39	
2-Propanol	**25**	**BJ**	50	3.4	1	10/24/19 02:39	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 02:39	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 02:39	
Acetone	**2.8**	**BJ**	10	2.1	1	10/24/19 02:39	
Acetonitrile	ND	U	25	5.2	1	10/24/19 02:39	
Acrolein	ND	U	10	0.90	1	10/24/19 02:39	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 02:39	
Benzene	ND	U	1.0	0.20	1	10/24/19 02:39	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 02:39	
Bromoform	ND	U	1.0	0.25	1	10/24/19 02:39	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 02:39	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 02:39	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 02:39	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 02:39	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 02:39	
Chloroform	ND	U	1.0	0.24	1	10/24/19 02:39	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 02:39	
Cyclohexane	ND	U	10	0.26	1	10/24/19 02:39	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 02:39	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 02:39	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 02:39	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 02:39	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 02:39	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 02:39	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 02:39	

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910170930 700-SVS-059	**Units:**	ug/L
Lab Code:	R1910325-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/24/19 02:39	
Methacrylonitrile	ND U	5.0	0.52	1	10/24/19 02:39	
Methyl Methacrylate	ND U	2.0	0.24	1	10/24/19 02:39	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/24/19 02:39	
Methylcyclohexane	ND U	10	0.20	1	10/24/19 02:39	
Propionitrile	ND U	5.0	1.2	1	10/24/19 02:39	
Styrene	ND U	1.0	0.20	1	10/24/19 02:39	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/24/19 02:39	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/24/19 02:39	
Toluene	ND U	1.0	0.20	1	10/24/19 02:39	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/24/19 02:39	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/24/19 02:39	
Vinyl Acetate	ND U	5.0	1.1	1	10/24/19 02:39	
Vinyl Chloride	ND U	1.0	0.20	1	10/24/19 02:39	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/24/19 02:39	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/24/19 02:39	
m,p-Xylenes	ND U	2.0	0.20	1	10/24/19 02:39	
o-Xylene	ND U	1.0	0.20	1	10/24/19 02:39	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/24/19 02:39	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/24/19 02:39	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/24/19 02:39	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/24/19 02:39	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/24/19 02:39	
Dibromofluoromethane	95	89 - 119	10/24/19 02:39	
Toluene-d8	102	87 - 121	10/24/19 02:39	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910171000 700-SVS-060	**Units:**	ug/L
Lab Code:	R1910325-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/24/19 03:00	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/24/19 03:00	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/24/19 03:00	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/24/19 03:00	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/24/19 03:00	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/24/19 03:00	
1,4-Dioxane	ND	U	100	13	1	10/24/19 03:00	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/24/19 03:00	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/24/19 03:00	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/24/19 03:00	
2-Hexanone	ND	U	5.0	0.20	1	10/24/19 03:00	
Isobutyl Alcohol	ND	U	100	17	1	10/24/19 03:00	
2-Propanol	**90**	**B**	50	3.4	1	10/24/19 03:00	
Allyl Chloride	ND	U	2.0	0.36	1	10/24/19 03:00	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/24/19 03:00	
Acetone	**7.9**	**BJ**	10	2.1	1	10/24/19 03:00	
Acetonitrile	ND	U	25	5.2	1	10/24/19 03:00	
Acrolein	ND	U	10	0.90	1	10/24/19 03:00	
Acrylonitrile	ND	U	5.0	0.90	1	10/24/19 03:00	
Benzene	ND	U	1.0	0.20	1	10/24/19 03:00	
Bromodichloromethane	ND	U	1.0	0.22	1	10/24/19 03:00	
Bromoform	ND	U	1.0	0.25	1	10/24/19 03:00	
Bromomethane	ND	U	2.0	0.70	1	10/24/19 03:00	
Carbon Disulfide	ND	U	1.0	0.25	1	10/24/19 03:00	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/24/19 03:00	
Chlorobenzene	ND	U	1.0	0.20	1	10/24/19 03:00	
Chloroethane	ND	U	2.0	0.23	1	10/24/19 03:00	
Chloroform	ND	U	1.0	0.24	1	10/24/19 03:00	
Chloromethane	ND	U	2.0	0.28	1	10/24/19 03:00	
Cyclohexane	ND	U	10	0.26	1	10/24/19 03:00	
Dibromochloromethane	ND	U	1.0	0.20	1	10/24/19 03:00	
Dibromomethane	ND	U	1.0	0.20	1	10/24/19 03:00	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/24/19 03:00	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/24/19 03:00	
Dichloromethane	ND	U	1.0	0.36	1	10/24/19 03:00	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/24/19 03:00	
Ethylbenzene	ND	U	1.0	0.20	1	10/24/19 03:00	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910171000 700-SVS-060	**Units:**	ug/L
Lab Code:	R1910325-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/24/19 03:00	
Methacrylonitrile	ND U	5.0	0.52	1	10/24/19 03:00	
Methyl Methacrylate	ND U	2.0	0.24	1	10/24/19 03:00	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/24/19 03:00	
Methylcyclohexane	ND U	10	0.20	1	10/24/19 03:00	
Propionitrile	ND U	5.0	1.2	1	10/24/19 03:00	
Styrene	ND U	1.0	0.20	1	10/24/19 03:00	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/24/19 03:00	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/24/19 03:00	
Toluene	ND U	1.0	0.20	1	10/24/19 03:00	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/24/19 03:00	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/24/19 03:00	
Vinyl Acetate	ND U	5.0	1.1	1	10/24/19 03:00	
Vinyl Chloride	ND U	1.0	0.20	1	10/24/19 03:00	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/24/19 03:00	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/24/19 03:00	
m,p-Xylenes	ND U	2.0	0.20	1	10/24/19 03:00	
o-Xylene	ND U	1.0	0.20	1	10/24/19 03:00	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/24/19 03:00	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/24/19 03:00	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/24/19 03:00	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/24/19 03:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/24/19 03:00	
Dibromofluoromethane	95	89 - 119	10/24/19 03:00	
Toluene-d8	98	87 - 121	10/24/19 03:00	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31218.D
Acq On : 24 Oct 2019 1:12 am
Operator : K.Ruest
Sample : R1910325-002|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Oct 24 14:47:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

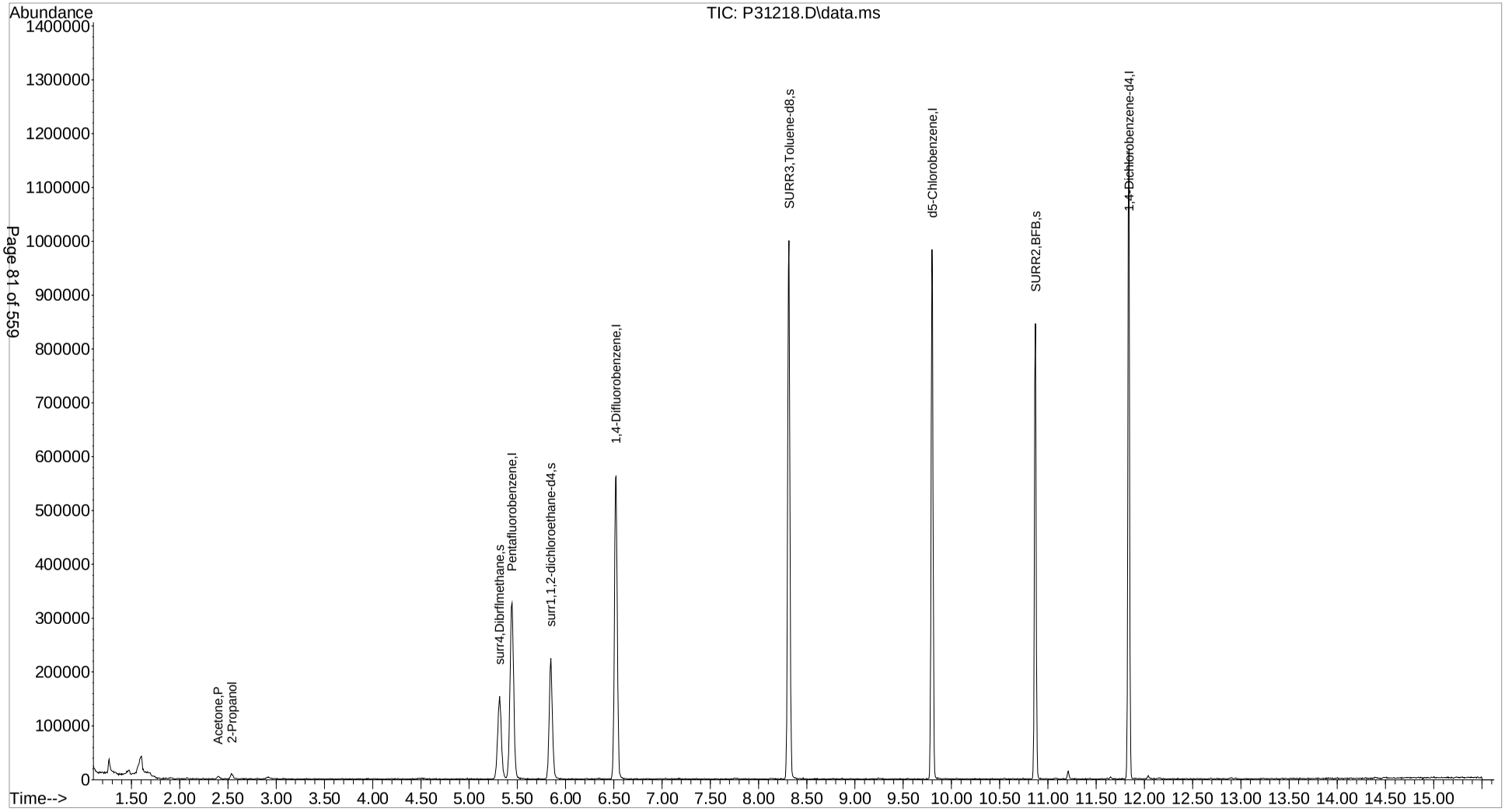
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.444	168	308761	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	490538	50.00	ppb	0.00
71) d5-Chlorobenzene	9.797	117	434056	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	227162	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.316	113	125345	48.21	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 96.42%			
48) surr1,1,2-dichloroetha...	5.847	65	180106	50.07	ppb	-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.14%			
65) SURR3,Toluene-d8	8.316	98	612193	50.02	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.04%			
70) SURR2,BFB	10.870	95	226965	47.66	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 95.32%			
Target Compounds						Qvalue
15) Acetone	2.396	43	6101	2.43	ppb	91
16) 2-Propanol	2.542	45	10599	18.55	ppb	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

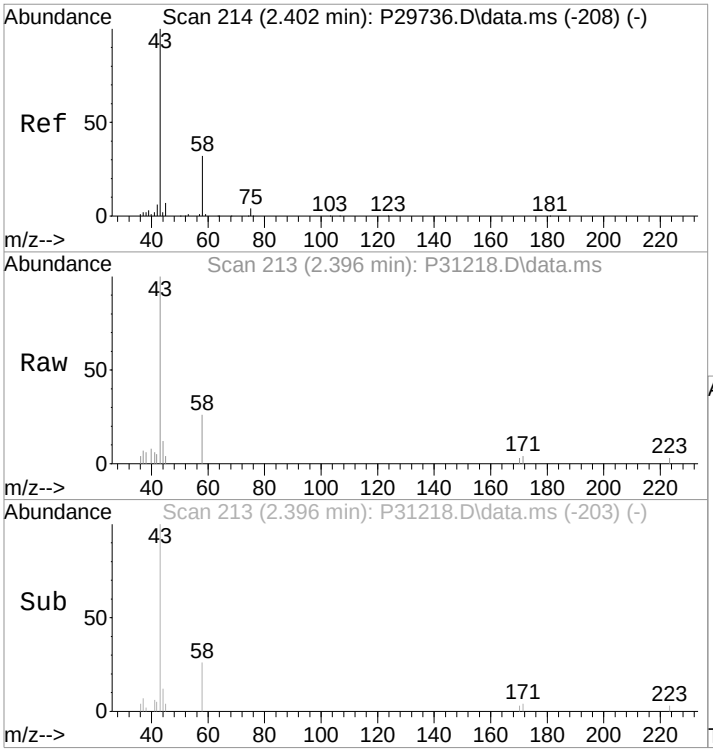
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31218.D
Acq On : 24 Oct 2019 1:12 am
Operator : K.Ruest
Sample : R1910325-002|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Oct 24 14:47:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



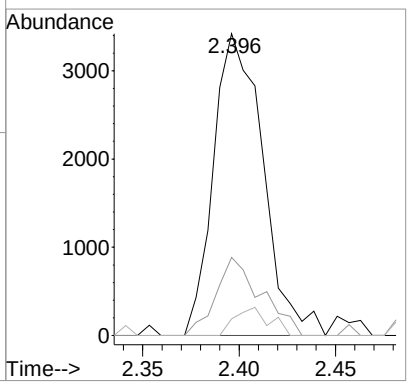
1st 10/24/19
2nd 10/24/19

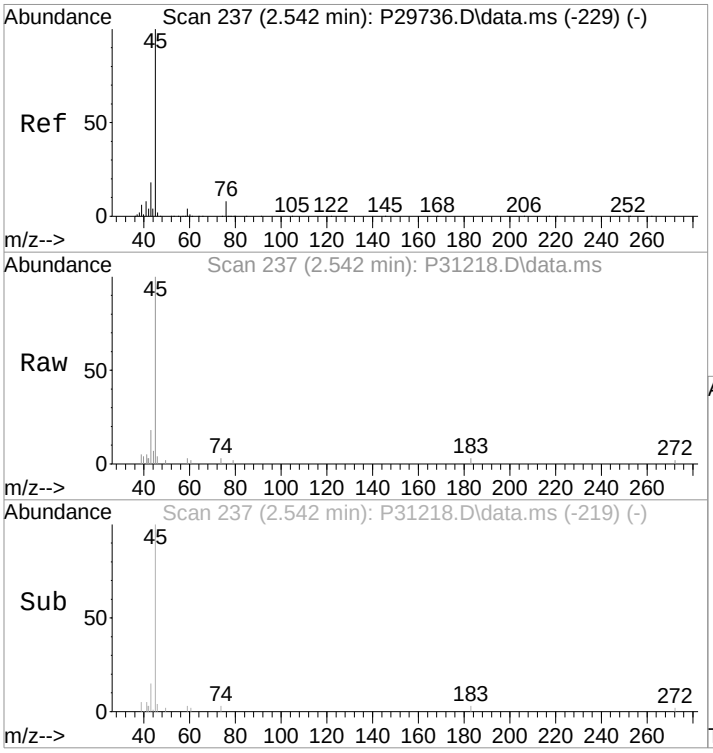


#15
Acetone
Concen: 2.43 ppb
RT: 2.396 min Scan# 213
Delta R.T. -0.012 min
Lab File: P31218.D
Acq: 24 Oct 2019 1:12 am

Tgt Ion: 43 Resp: 6101

Ion	Ratio	Lower	Upper
43	100		
58	25.8	11.7	51.7
42	5.5	0.0	26.5

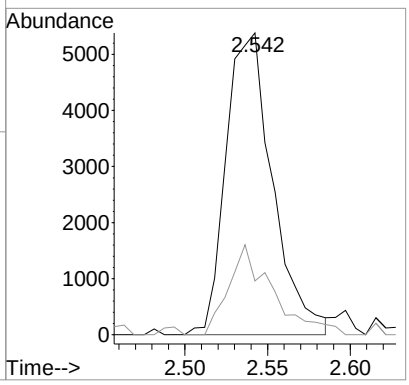




#16
2-Propanol
Concen: 18.55 ppb
RT: 2.542 min Scan# 237
Delta R.T. 0.000 min
Lab File: P31218.D
Acq: 24 Oct 2019 1:12 am

Tgt Ion: 45 Resp: 10599

Ion	Ratio	Lower	Upper
45	100		
43	17.8	0.0	37.7



LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31218.D
Acq On : 24 Oct 2019 1:12 am
Operator : K.Ruest
Sample : R1910325-002|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 34 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31218.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.268	25	28	34	rBV	25148	33533	2.06%	0.390%
2	1.604	74	83	89	rBV2	30985	79792	4.89%	0.927%
3	2.536	232	236	242	rBV2	9434	17003	1.04%	0.198%
4	5.316	682	692	703	rBV	153013	405194	24.85%	4.709%
5	5.444	703	713	727	rVB	326556	871116	53.42%	10.124%
6	5.847	770	779	794	rVB	224216	514681	31.56%	5.981%
7	6.523	881	890	903	rBV	564271	1163924	71.38%	13.526%
8	8.316	1176	1184	1194	rBV	1000252	1630651	100.00%	18.950%
9	9.797	1421	1427	1436	rBV	982977	1363783	83.63%	15.849%
10	10.870	1597	1603	1609	rBV	845652	1072082	65.75%	12.459%
11	11.211	1655	1659	1665	rBV2	14726	19466	1.19%	0.226%
12	11.839	1755	1762	1768	rBV	1171196	1433643	87.92%	16.661%

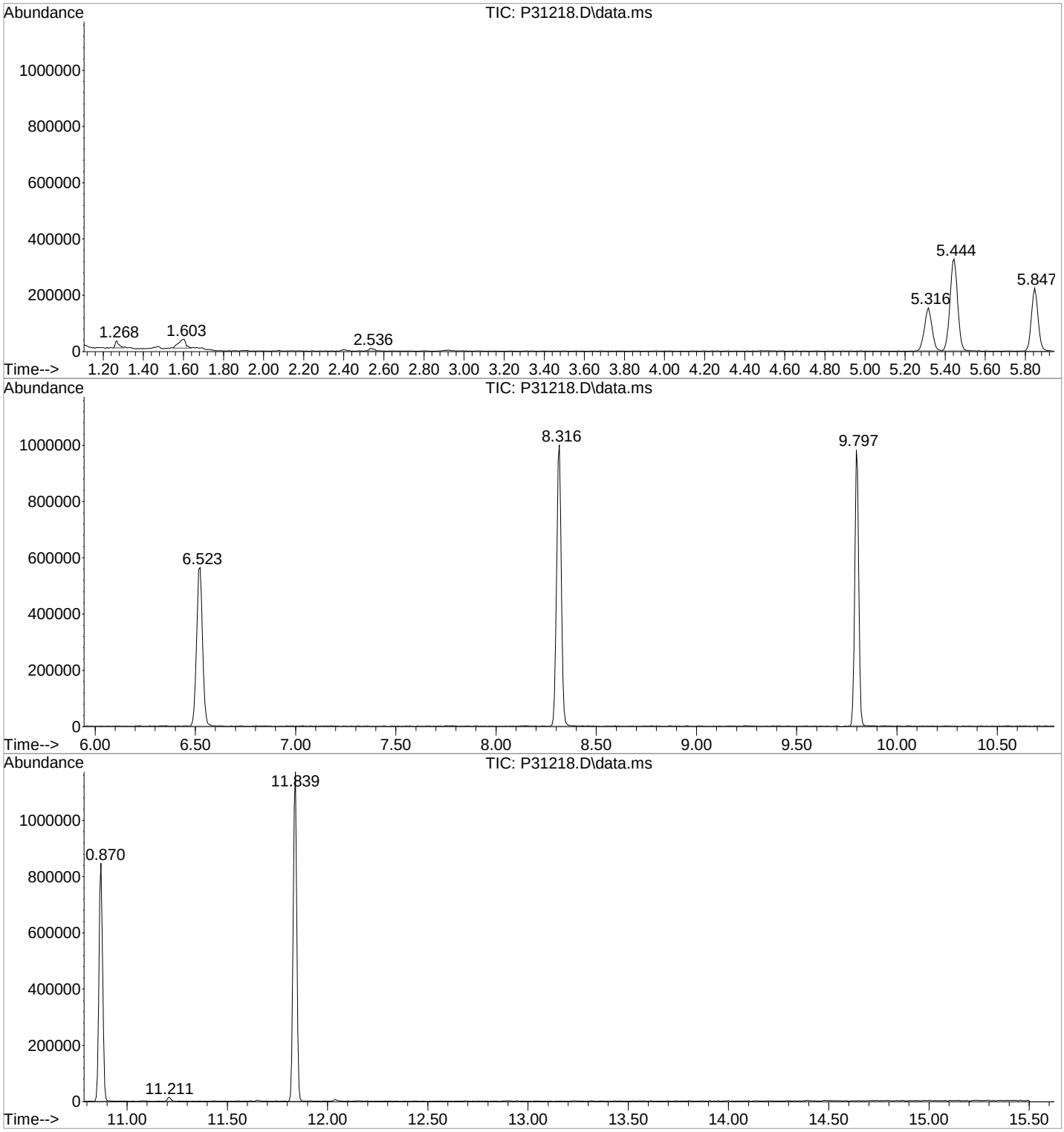
Sum of corrected areas: 8604868

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31218.D
Acq On : 24 Oct 2019 1:12 am
Operator : K.Ruest
Sample : R1910325-002|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 34 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/24/19
2nd 10/24/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102319\\
Data File : P31218.D
Acq On : 24 Oct 2019 1:12 amm
Operator : K.Ruestt
Sample : R1910325-002|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 34 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31219.D
Acq On : 24 Oct 2019 1:33 am
Operator : K.Ruest
Sample : R1910325-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Oct 24 15:15:43 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

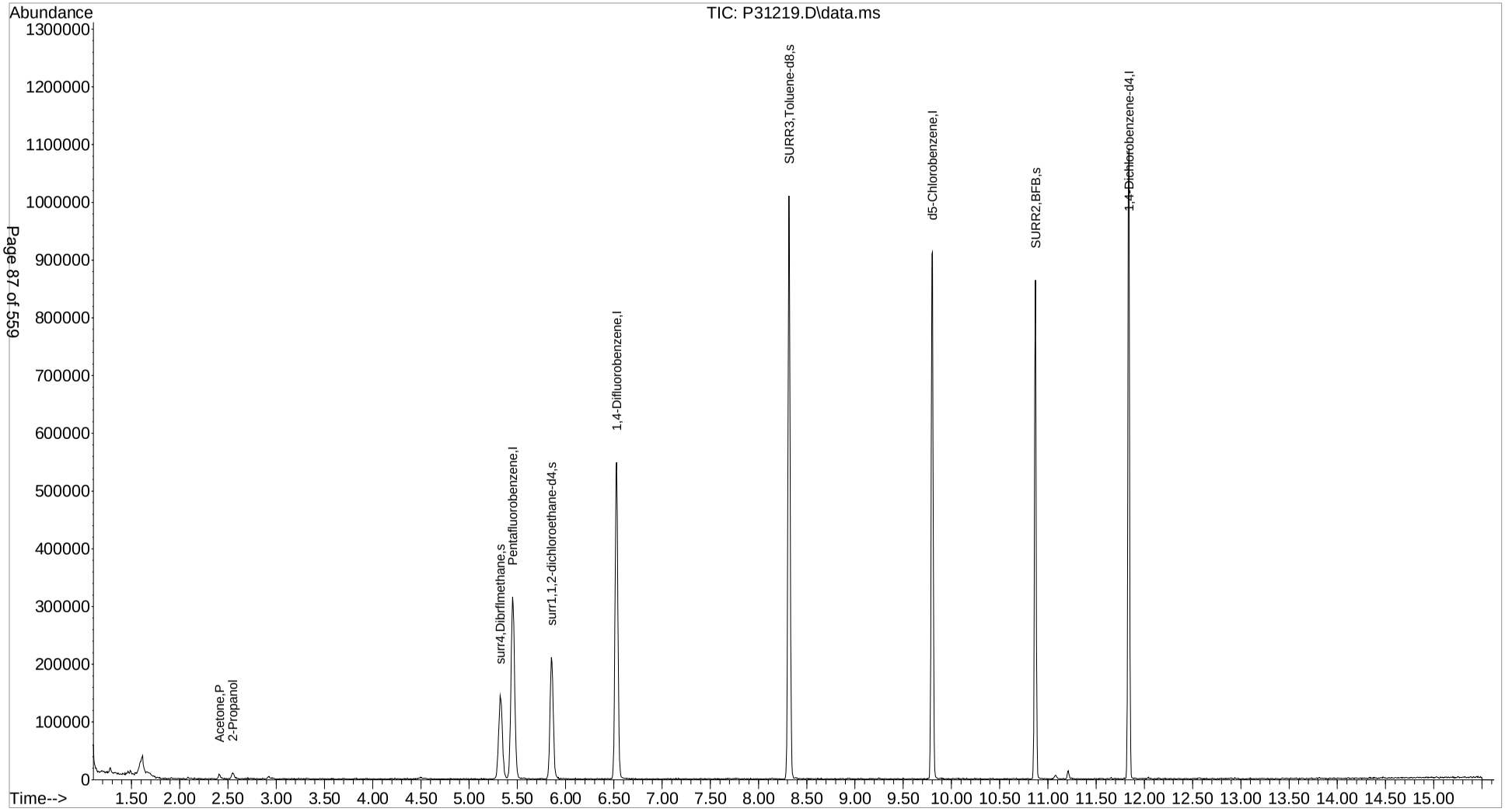
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	294295	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	476310	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	413005	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	214000	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	117606	46.59	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 93.18%			
48) surr1,1,2-dichloroetha...	5.853	65	173630	49.71	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 99.42%			
65) SURR3,Toluene-d8	8.316	98	598848	50.39	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.78%			
70) SURR2,BFB	10.870	95	222225	48.06	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.12%			
Target Compounds						Qvalue
15) Acetone	2.408	43	7656	3.20	ppb	94
16) 2-Propanol	2.548	45	13519	24.82	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

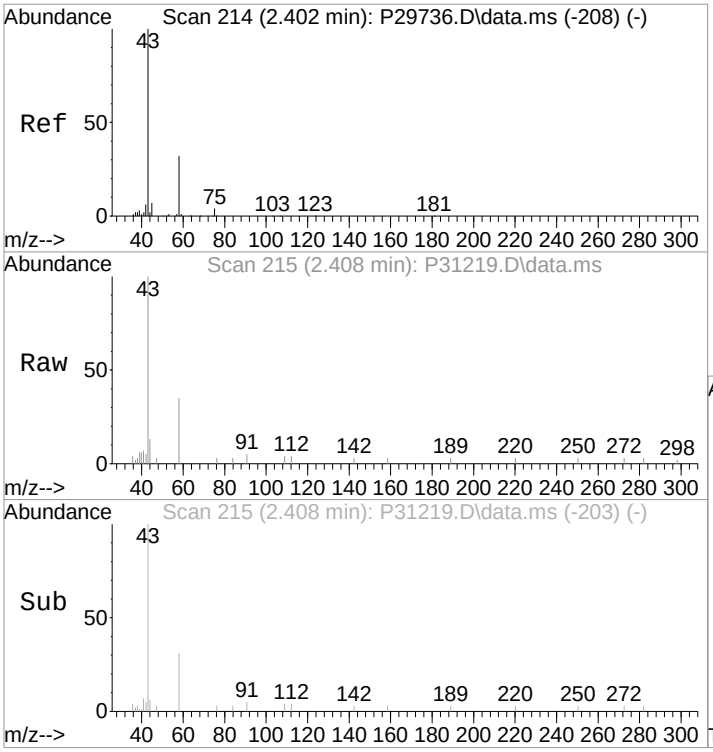
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31219.D
Acq On : 24 Oct 2019 1:33 am
Operator : K.Ruest
Sample : R1910325-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Oct 24 15:15:43 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



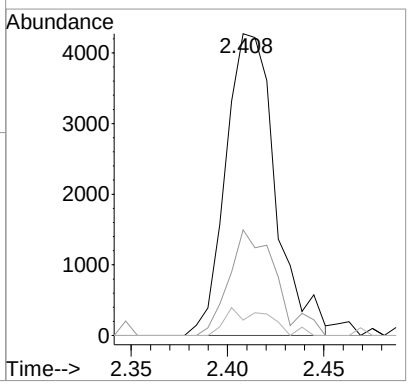
1st 10/24/19
2nd 10/24/19

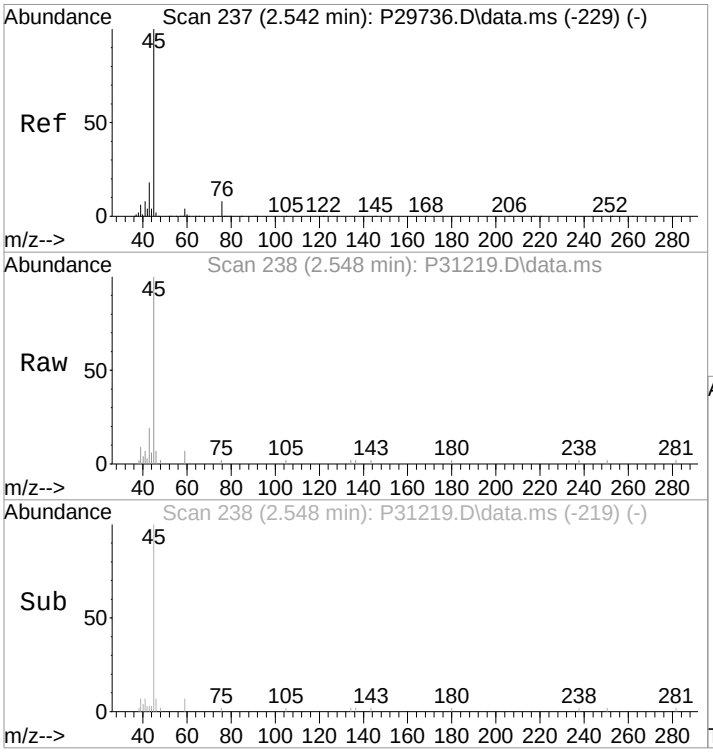


#15
Acetone
Concen: 3.20 ppb
RT: 2.408 min Scan# 215
Delta R.T. -0.000 min
Lab File: P31219.D
Acq: 24 Oct 2019 1:33 am

Tgt Ion: 43 Resp: 7656

Ion	Ratio	Lower	Upper
43	100		
58	35.0	11.7	51.7
42	5.1	0.0	26.5

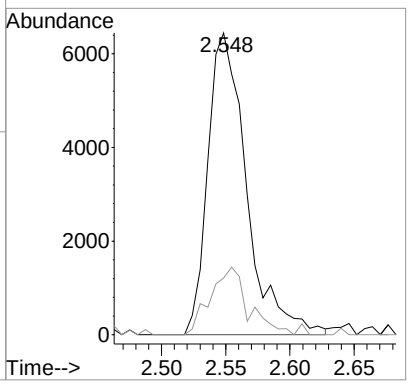




#16
2-Propanol
Concen: 24.82 ppb
RT: 2.548 min Scan# 238
Delta R.T. 0.006 min
Lab File: P31219.D
Acq: 24 Oct 2019 1:33 am

Tgt Ion: 45 Resp: 13519

Ion	Ratio	Lower	Upper
45	100		
43	18.8	0.0	37.7



LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31219.D
Acq On : 24 Oct 2019 1:33 am
Operator : K.Ruest
Sample : R1910325-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 35 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31219.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.616	75	85	90	rBV2	31094	78139	4.93%	0.947%
2	2.548	233	238	243	rBV2	10148	19423	1.23%	0.235%
3	5.322	682	693	704	rBV	143788	389262	24.55%	4.717%
4	5.450	704	714	728	rVB	314157	834033	52.61%	10.106%
5	5.853	772	780	791	rBV	210415	495028	31.23%	5.998%
6	6.529	882	891	905	rBV	548006	1111124	70.09%	13.464%
7	8.316	1176	1184	1193	rBV	1010374	1585284	100.00%	19.209%
8	9.803	1422	1428	1438	rVB	912548	1310642	82.68%	15.881%
9	10.870	1597	1603	1609	rBV	863281	1054546	66.52%	12.778%
10	11.211	1653	1659	1663	rBV2	14487	20367	1.28%	0.247%
11	11.839	1756	1762	1767	rBV	1091012	1354965	85.47%	16.418%

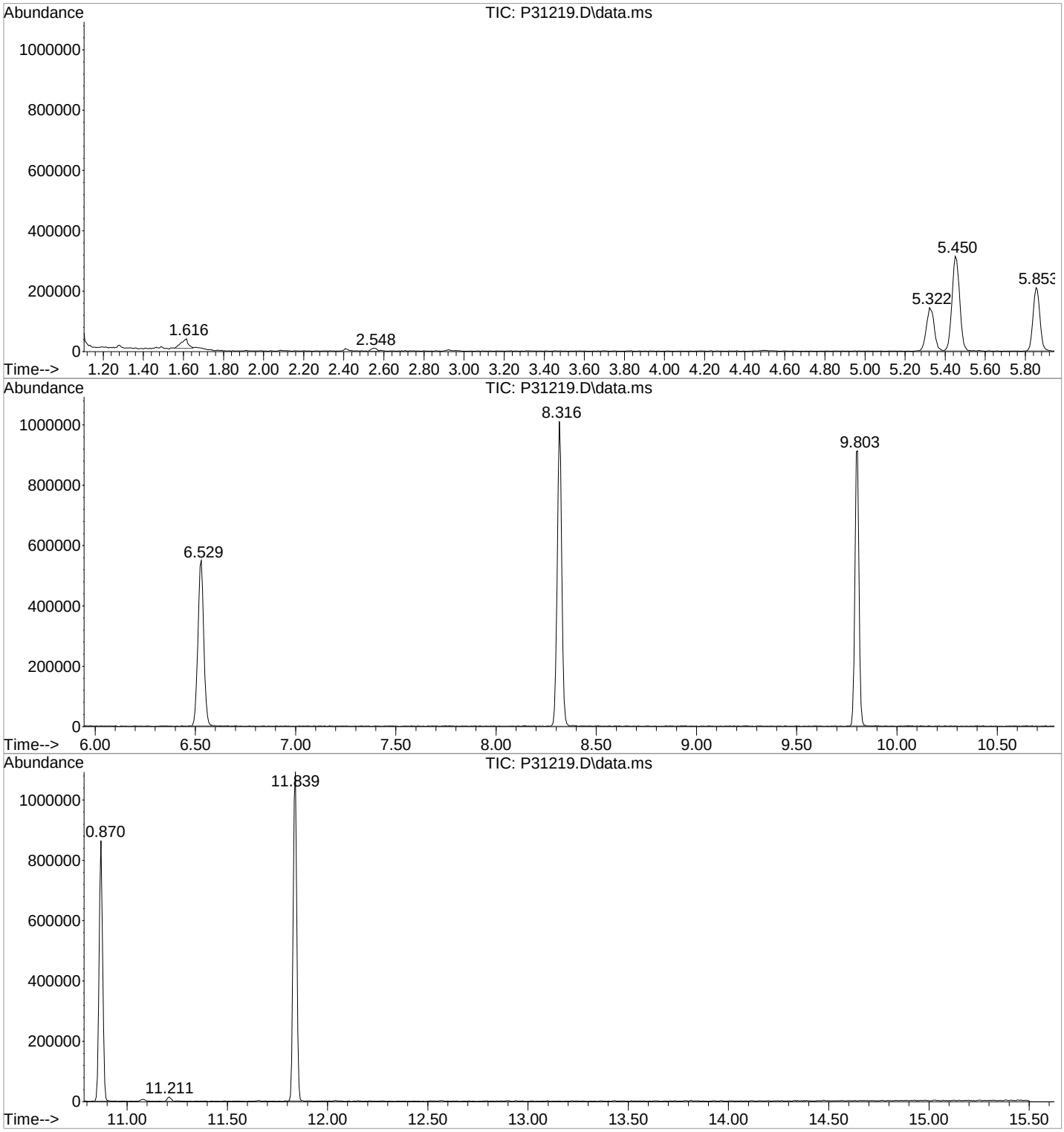
Sum of corrected areas: 8252813

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31219.D
Acq On : 24 Oct 2019 1:33 am
Operator : K.Ruest
Sample : R1910325-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 35 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/24/19
2nd 10/24/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102319\\
Data File : P31219.D
Acq On : 24 Oct 2019 1:33 amm
Operator : K.Ruestt
Sample : R1910325-004|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 35 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31220.D
Acq On : 24 Oct 2019 1:55 am
Operator : K.Ruest
Sample : R1910325-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Oct 24 15:18:59 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

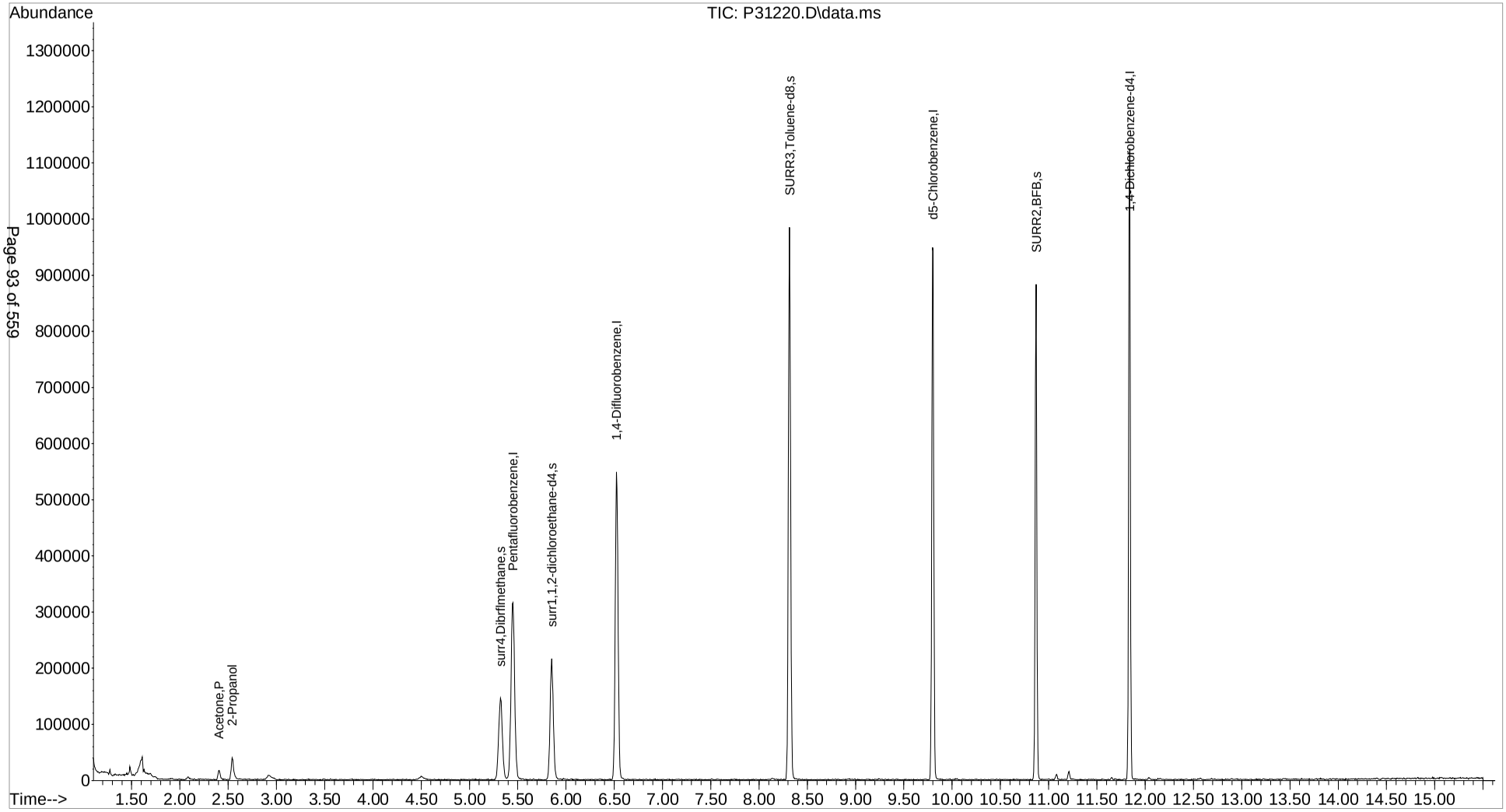
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	296724	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	473233	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	419039	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	218532	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	122690	48.92	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 97.84%			
48) surr1,1,2-dichloroetha...	5.853	65	174686	50.34	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.68%			
65) SURR3,Toluene-d8	8.315	98	595512	50.44	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.88%			
70) SURR2,BFB	10.870	95	224938	48.96	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 97.92%			
Target Compounds						Qvalue
15) Acetone	2.402	43	18399	7.62	ppb	81
16) 2-Propanol	2.542	45	45866	83.53	ppb	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

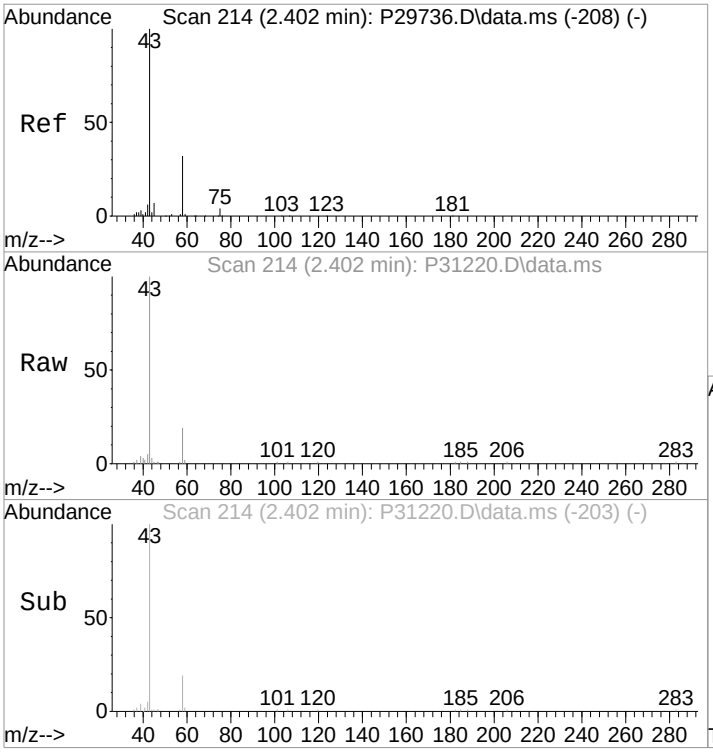
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31220.D
Acq On : 24 Oct 2019 1:55 am
Operator : K.Ruest
Sample : R1910325-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Oct 24 15:18:59 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



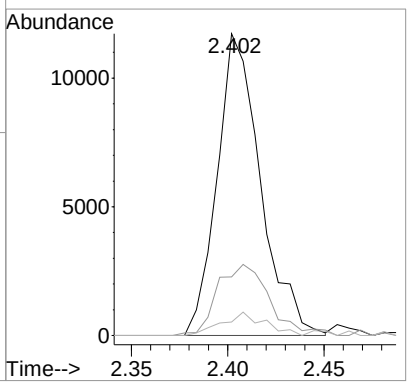
1st 10/24/19
2nd 10/24/19

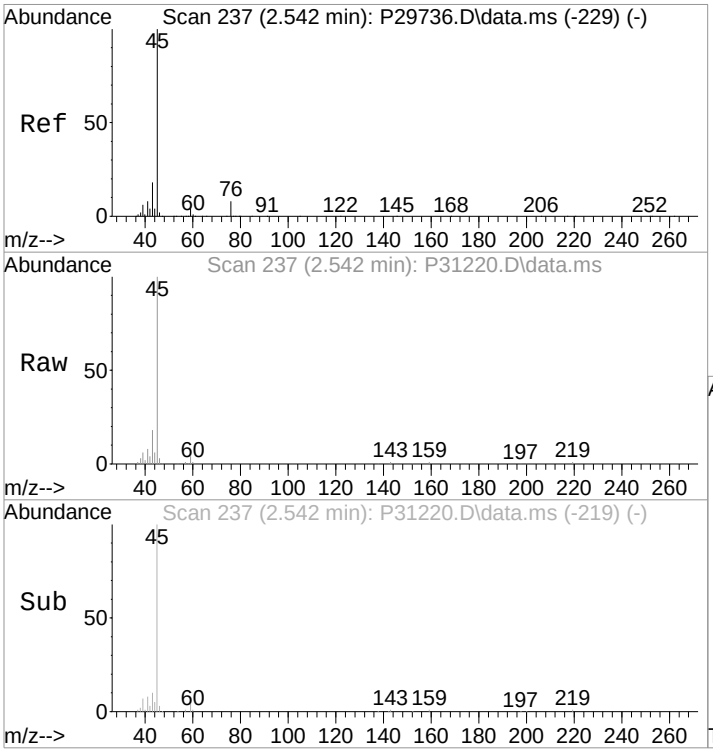


#15
Acetone
Concen: 7.62 ppb
RT: 2.402 min Scan# 214
Delta R.T. -0.006 min
Lab File: P31220.D
Acq: 24 Oct 2019 1:55 am

Tgt Ion: 43 Resp: 18399

Ion	Ratio	Lower	Upper
43	100		
58	19.4	11.7	51.7
42	4.5	0.0	26.5

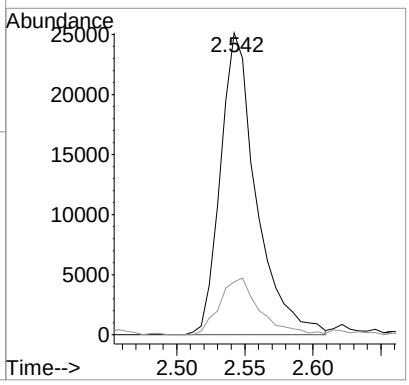




#16
2-Propanol
Concen: 83.53 ppb
RT: 2.542 min Scan# 237
Delta R.T. -0.000 min
Lab File: P31220.D
Acq: 24 Oct 2019 1:55 am

Tgt Ion: 45 Resp: 45866

Ion	Ratio	Lower	Upper
45	100		
43	17.5	0.0	37.7



LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31220.D
Acq On : 24 Oct 2019 1:55 am
Operator : K.Ruest
Sample : R1910325-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 36 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31220.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.481	59	63	67	rVB2	15452	16512	1.04%	0.197%
2	1.609	82	84	86	rVB	25639	21765	1.37%	0.260%
3	2.408	210	215	221	rBV2	17071	29577	1.87%	0.353%
4	2.542	232	237	248	rBV	38951	73510	4.64%	0.876%
5	2.914	293	298	307	rBV2	7263	22583	1.43%	0.269%
6	5.322	683	693	703	rBV	145565	397399	25.09%	4.738%
7	5.450	703	714	725	rVB2	313521	828513	52.31%	9.879%
8	5.853	770	780	792	rBV	215391	498358	31.47%	5.942%
9	6.523	882	890	900	rBV	547874	1108913	70.02%	13.222%
10	8.315	1177	1184	1193	rBV	984099	1583796	100.00%	18.884%
11	9.797	1421	1427	1440	rVB	947612	1339509	84.58%	15.971%
12	10.870	1597	1603	1611	rBV	882788	1067099	67.38%	12.723%
13	11.211	1654	1659	1664	rBV2	14961	20736	1.31%	0.247%
14	11.839	1756	1762	1770	rBV	1124011	1378663	87.05%	16.438%

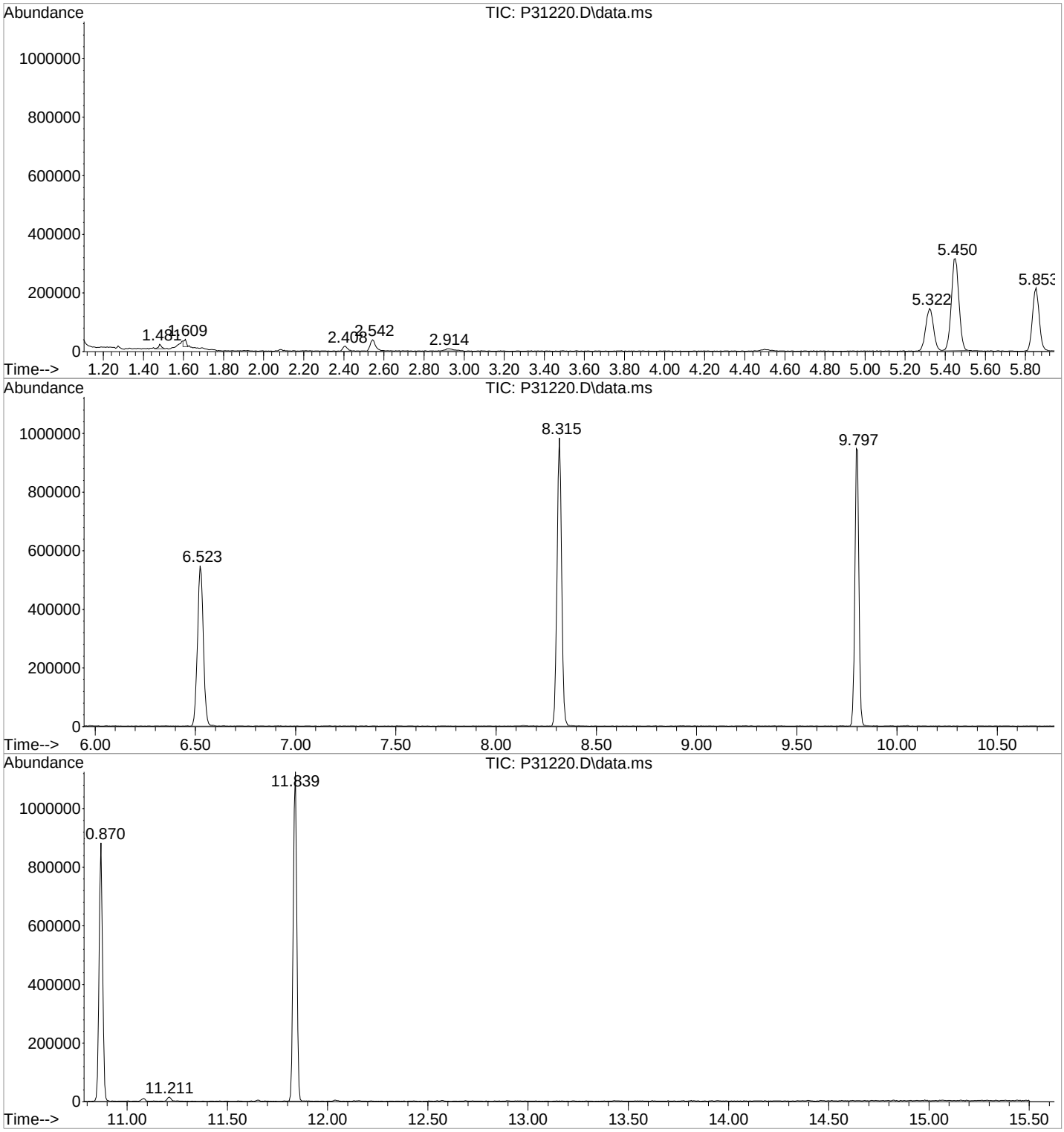
Sum of corrected areas: 8386933

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31220.D
Acq On : 24 Oct 2019 1:55 am
Operator : K.Ruest
Sample : R1910325-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 36 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102319\\
Data File : P31220.D
Acq On : 24 Oct 2019 1:55 amm
Operator : K.Ruestt
Sample : R1910325-007|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 36 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31221.D
Acq On : 24 Oct 2019 2:17 am
Operator : K.Ruest
Sample : R1910325-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Oct 24 15:21:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

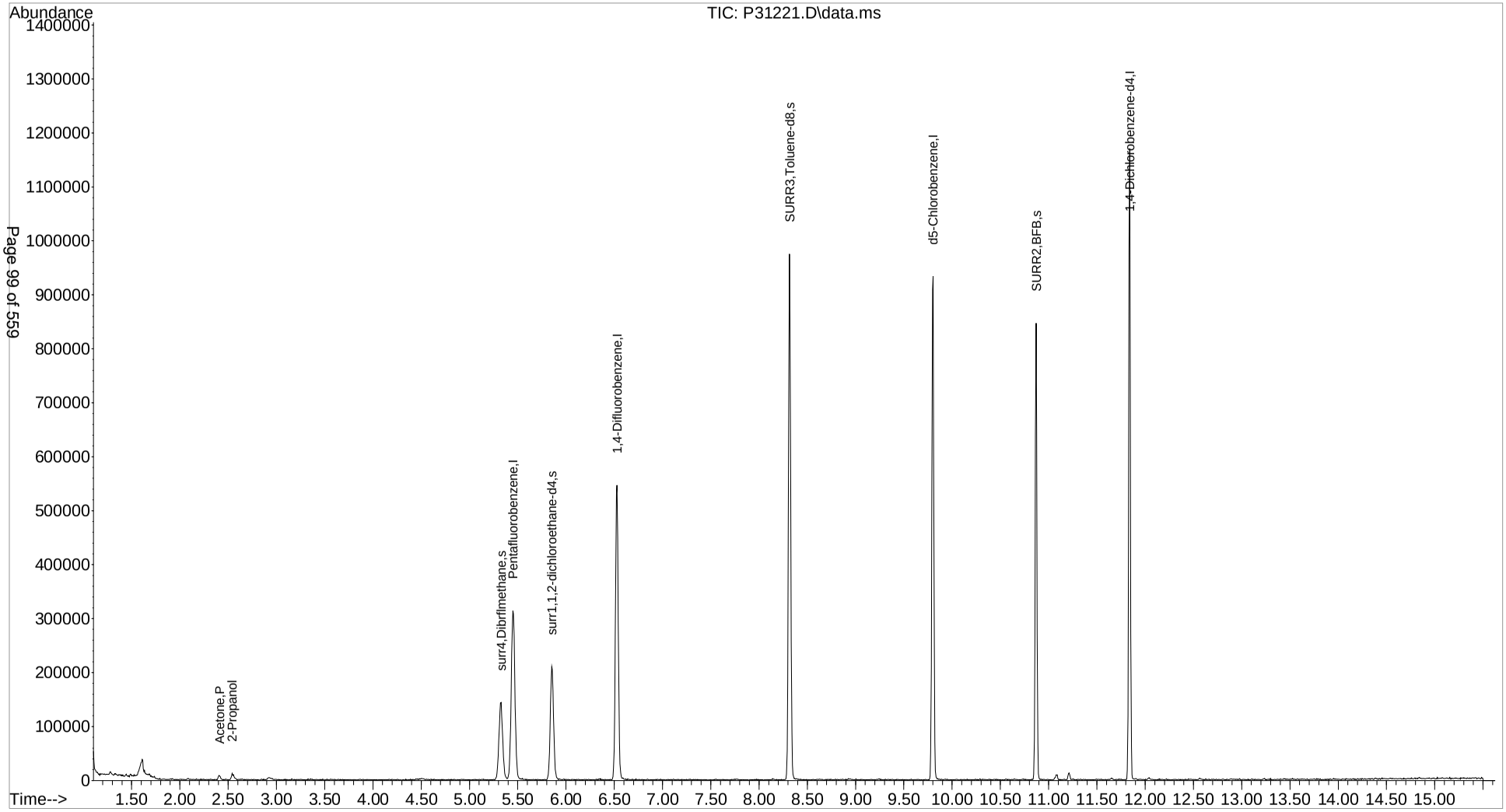
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	300231	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	466527	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	420646	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	219626	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.328	113	116972	47.31	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 94.62%			
48) surr1,1,2-dichloroetha...	5.852	65	176050	51.46	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 102.92%			
65) SURR3,Toluene-d8	8.315	98	590498	50.73	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.46%			
70) SURR2,BFB	10.870	95	224614	49.60	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.20%			
Target Compounds						Qvalue
15) Acetone	2.408	43	7867	3.22	ppb	81
16) 2-Propanol	2.542	45	12197	21.95	ppb	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

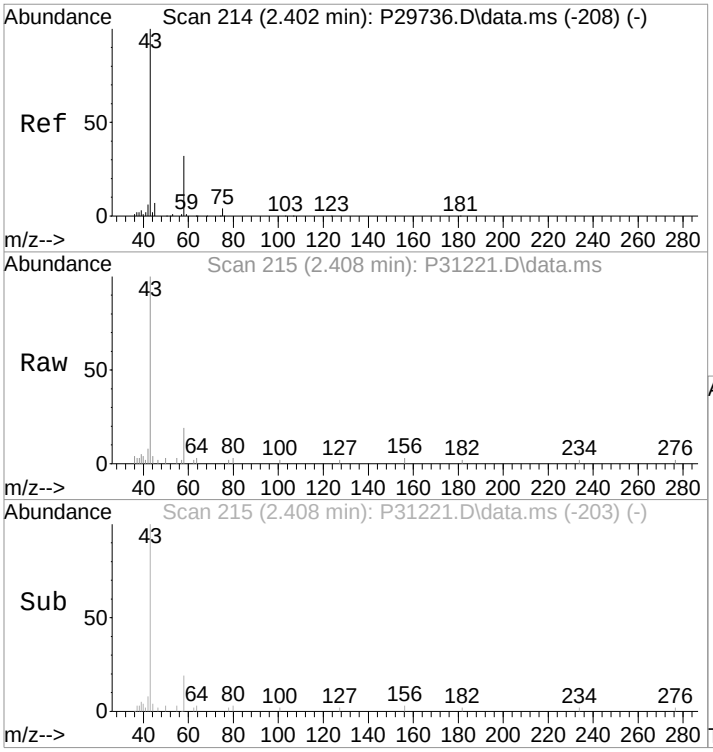
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31221.D
Acq On : 24 Oct 2019 2:17 am
Operator : K.Ruest
Sample : R1910325-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Oct 24 15:21:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



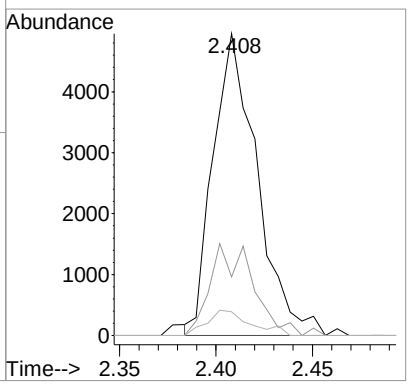
1st 10/24/19
2nd 10/24/19

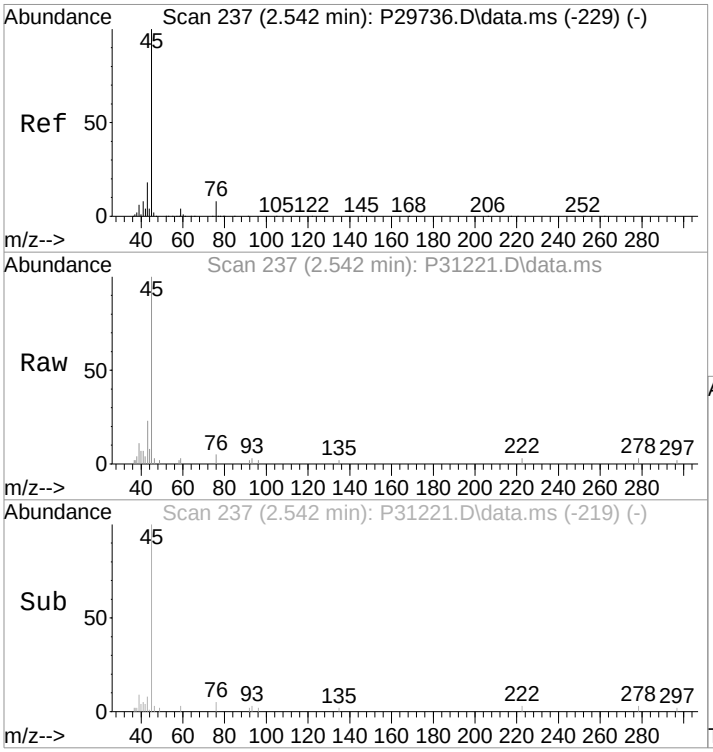


#15
Acetone
Concen: 3.22 ppb
RT: 2.408 min Scan# 215
Delta R.T. -0.000 min
Lab File: P31221.D
Acq: 24 Oct 2019 2:17 am

Tgt Ion: 43 Resp: 7867

Ion	Ratio	Lower	Upper
43	100		
58	19.5	11.7	51.7
42	7.8	0.0	26.5

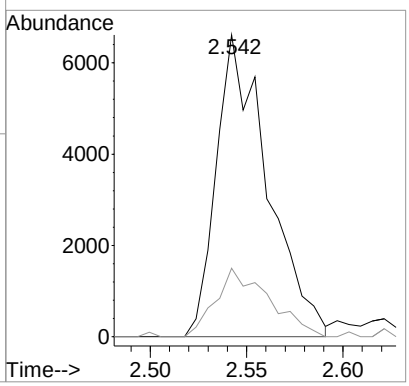




#16
2-Propanol
Concen: 21.95 ppb
RT: 2.542 min Scan# 237
Delta R.T. -0.000 min
Lab File: P31221.D
Acq: 24 Oct 2019 2:17 am

Tgt Ion: 45 Resp: 12197

Ion	Ratio	Lower	Upper
45	100		
43	22.7	0.0	37.7



LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31221.D
Acq On : 24 Oct 2019 2:17 am
Operator : K.Ruest
Sample : R1910325-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 37 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31221.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.609	75	84	95	rBV3	29444	76419	4.89%	0.924%
2	2.542	232	237	245	rVB	11831	22416	1.43%	0.271%
3	5.328	683	694	704	rBV	143083	386181	24.71%	4.669%
4	5.450	704	714	726	rVB	312226	830900	53.17%	10.045%
5	5.852	771	780	791	rBV	209861	498107	31.87%	6.022%
6	6.529	882	891	900	rBV	546071	1100047	70.39%	13.299%
7	8.315	1176	1184	1194	rBV	973989	1562733	100.00%	18.892%
8	9.803	1421	1428	1437	rBV	933379	1325050	84.79%	16.019%
9	10.870	1597	1603	1610	rBV	845922	1035185	66.24%	12.515%
10	11.089	1631	1639	1643	rBV4	9316	16127	1.03%	0.195%
11	11.211	1655	1659	1662	rBV3	12414	16293	1.04%	0.197%
12	11.839	1756	1762	1770	rBV	1169262	1402339	89.74%	16.953%

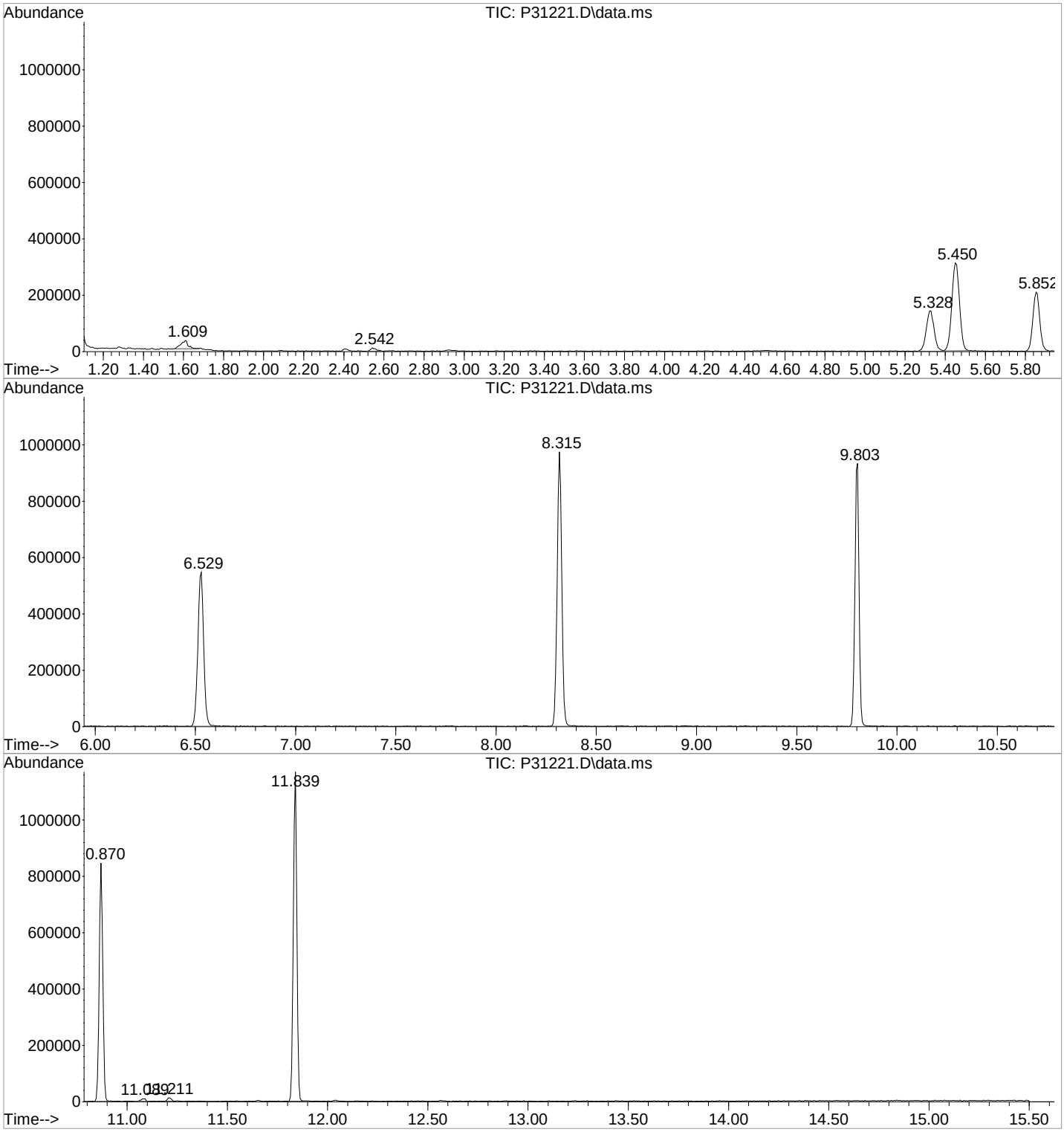
Sum of corrected areas: 8271797

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31221.D
Acq On : 24 Oct 2019 2:17 am
Operator : K.Ruest
Sample : R1910325-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 37 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102319\\
Data File : P31221.D
Acq On : 24 Oct 2019 2:17 amm
Operator : K.Ruestt
Sample : R1910325-010|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 37 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31222.D
Acq On : 24 Oct 2019 2:39 am
Operator : K.Ruest
Sample : R1910325-013|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Oct 24 15:23:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

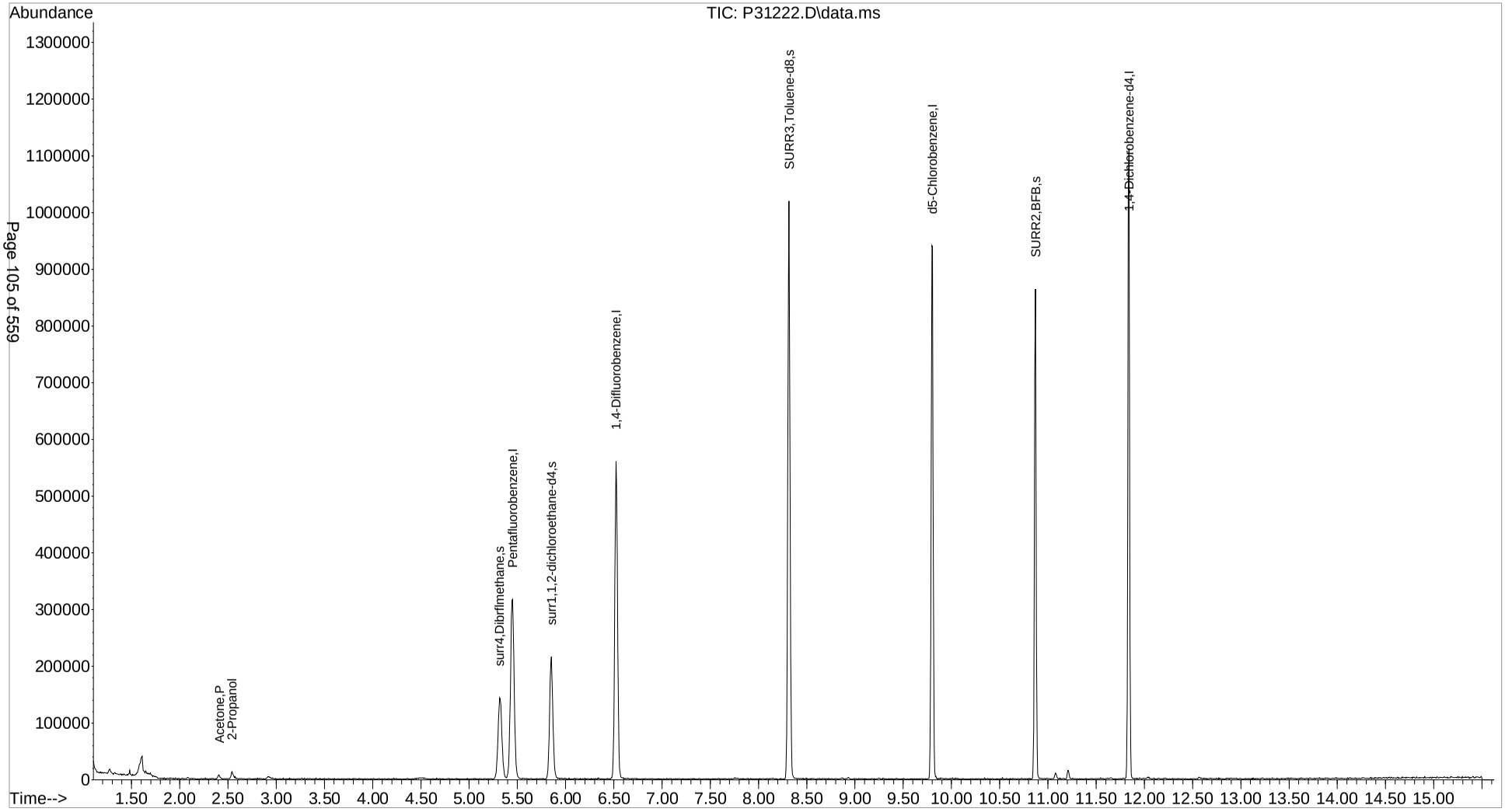
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	300431	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	481147	50.00	ppb	0.00
71) d5-Chlorobenzene	9.797	117	415239	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	220405	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.316	113	120760	47.36	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 94.72%			
48) surr1,1,2-dichloroetha...	5.853	65	177607	50.33	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.66%			
65) SURR3,Toluene-d8	8.316	98	610612	50.86	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.72%			
70) SURR2,BFB	10.870	95	224979	48.17	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.34%			
Target Compounds						Qvalue
15) Acetone	2.408	43	6964	2.85	ppb	90
16) 2-Propanol	2.542	45	13657	24.56	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

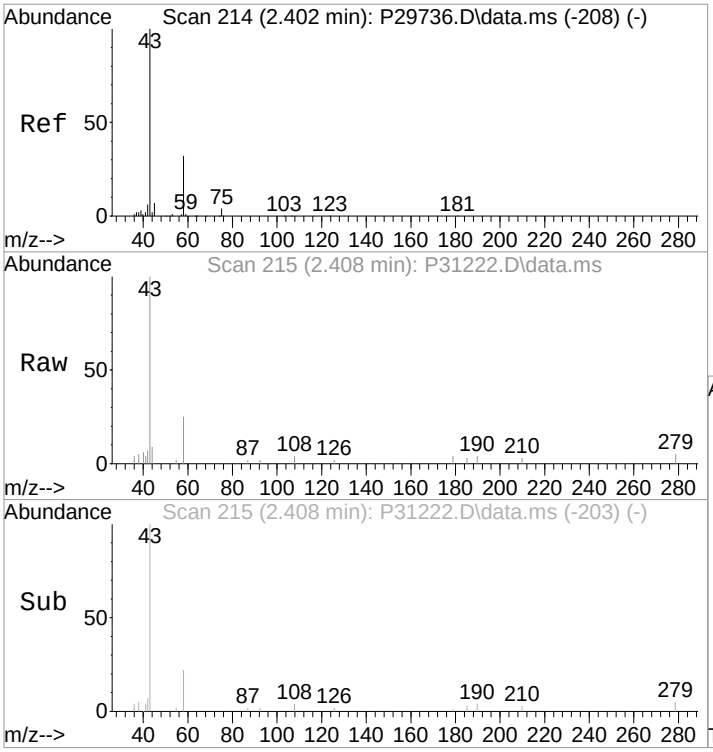
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31222.D
Acq On : 24 Oct 2019 2:39 am
Operator : K.Ruest
Sample : R1910325-013|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Oct 24 15:23:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



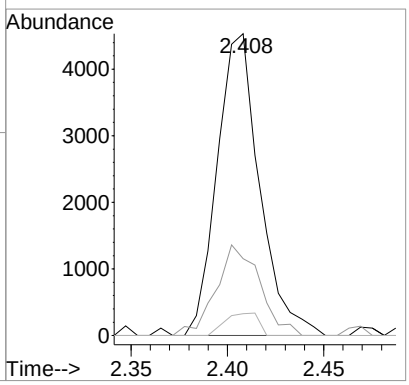
1st 10/24/19
2nd 10/24/19

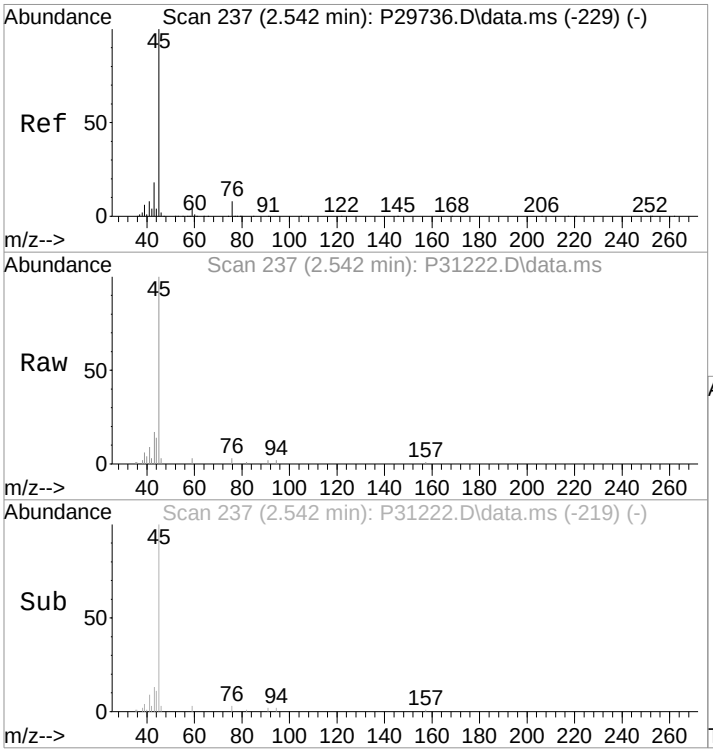


#15
Acetone
Concen: 2.85 ppb
RT: 2.408 min Scan# 215
Delta R.T. -0.000 min
Lab File: P31222.D
Acq: 24 Oct 2019 2:39 am

Tgt Ion: 43 Resp: 6964

Ion	Ratio	Lower	Upper
43	100		
58	25.4	11.7	51.7
42	7.3	0.0	26.5

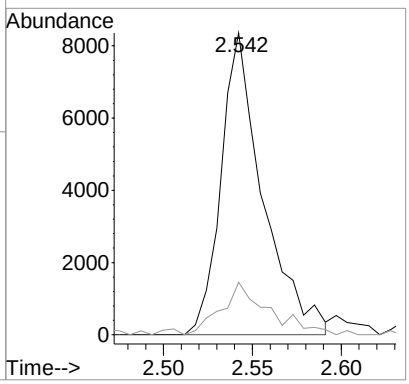




#16
2-Propanol
Concen: 24.56 ppb
RT: 2.542 min Scan# 237
Delta R.T. -0.000 min
Lab File: P31222.D
Acq: 24 Oct 2019 2:39 am

Tgt Ion: 45 Resp: 13657

Ion	Ratio	Lower	Upper
45	100		
43	17.4	0.0	37.7



LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31222.D
Acq On : 24 Oct 2019 2:39 am
Operator : K.Ruest
Sample : R1910325-013|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 38 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31222.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.610	74	84	89	rBV	31652	74700	4.62%	0.891%
2	2.542	233	237	243	rBV	12514	19912	1.23%	0.238%
3	5.316	682	692	704	rBV3	142710	398444	24.66%	4.753%
4	5.450	704	714	728	rVB2	316170	840900	52.04%	10.031%
5	5.853	770	780	791	rBV	215852	506825	31.37%	6.046%
6	6.523	880	890	901	rBV	560126	1120257	69.33%	13.363%
7	8.316	1173	1184	1193	rBV	1019297	1615780	100.00%	19.274%
8	9.797	1421	1427	1437	rVB	940804	1334028	82.56%	15.913%
9	10.870	1597	1603	1610	rBV	863616	1064405	65.88%	12.697%
10	11.205	1654	1658	1665	rBV2	15214	21046	1.30%	0.251%
11	11.839	1755	1762	1768	rBV	1111849	1386949	85.84%	16.544%

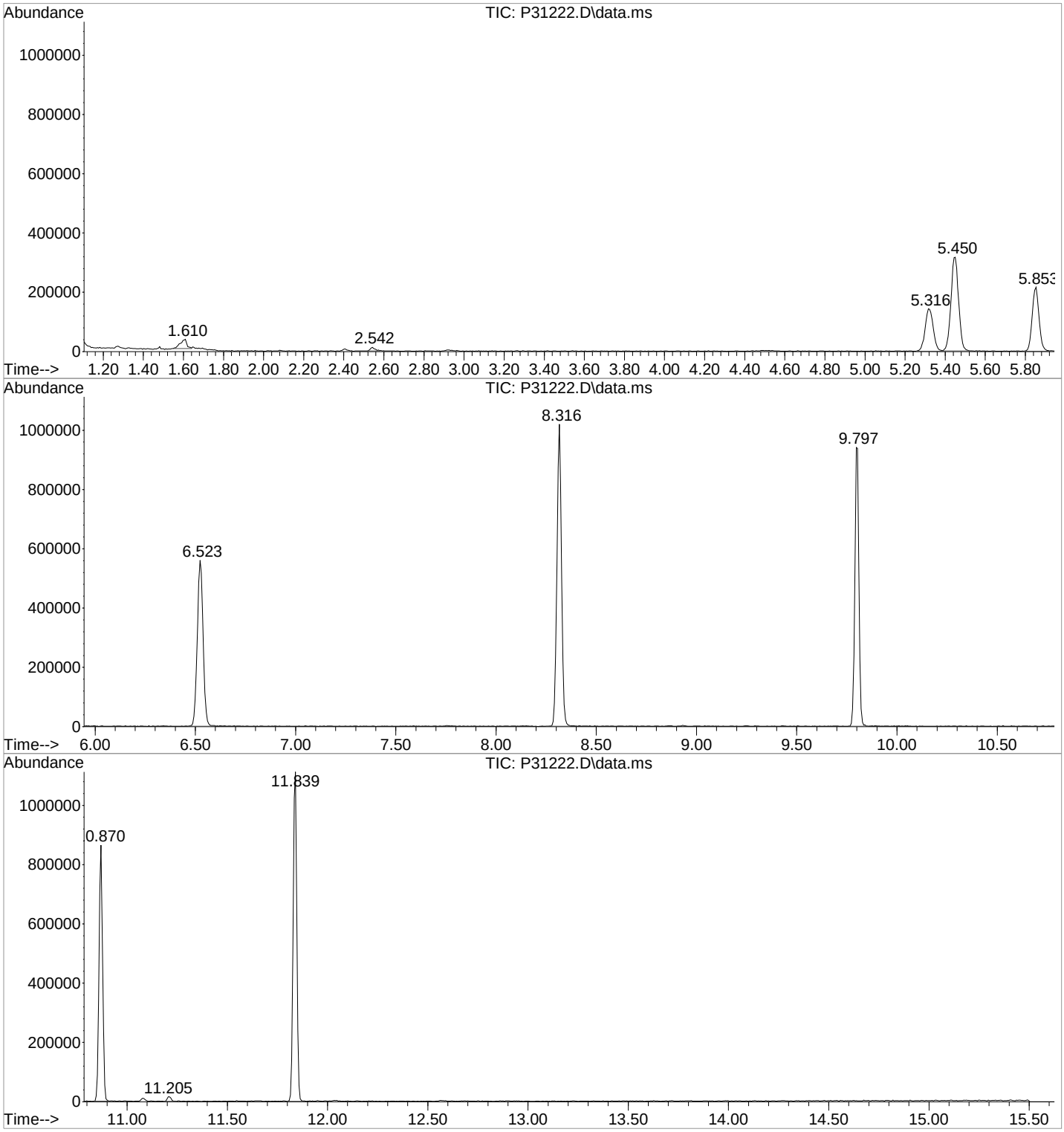
Sum of corrected areas: 8383246

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31222.D
Acq On : 24 Oct 2019 2:39 am
Operator : K.Ruest
Sample : R1910325-013|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 38 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102319\\
Data File : P31222.D
Acq On : 24 Oct 2019 2:39 amm
Operator : K.Ruestt
Sample : R1910325-013|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 38 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31223.D
Acq On : 24 Oct 2019 3:00 am
Operator : K.Ruest
Sample : R1910325-016|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Oct 24 15:25:02 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

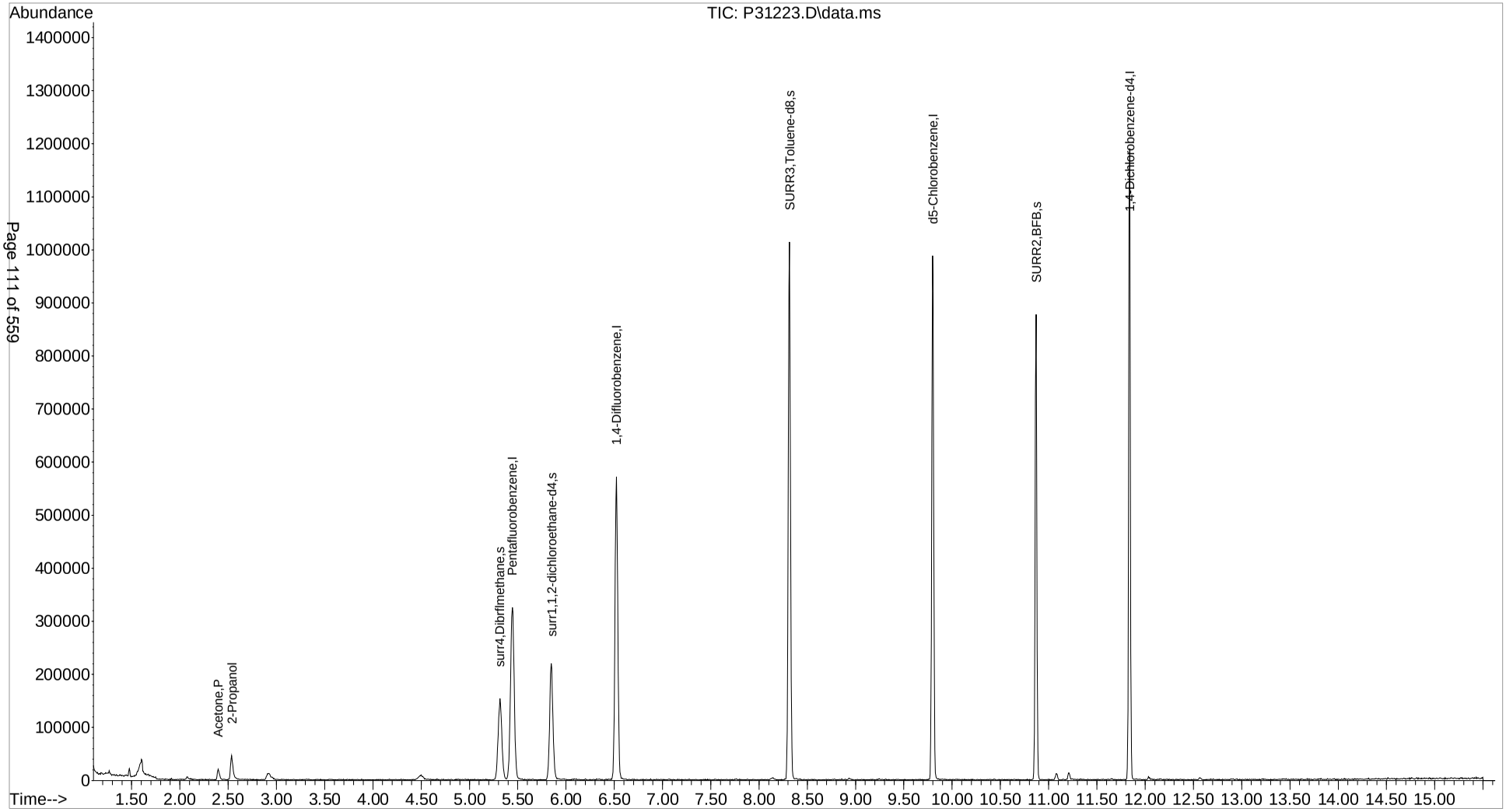
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.444	168	316391	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	492259	50.00	ppb	0.00
71) d5-Chlorobenzene	9.797	117	440150	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	229167	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.316	113	124309	47.65	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 95.30%			
48) surr1,1,2-dichloroetha...	5.853	65	181306	50.22	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.44%			
65) SURR3,Toluene-d8	8.315	98	603535	49.14	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 98.28%			
70) SURR2,BFB	10.870	95	229494	48.03	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.06%			
Target Compounds						Qvalue
15) Acetone	2.396	43	20215	7.85	ppb	99
16) 2-Propanol	2.536	45	52780	90.14	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

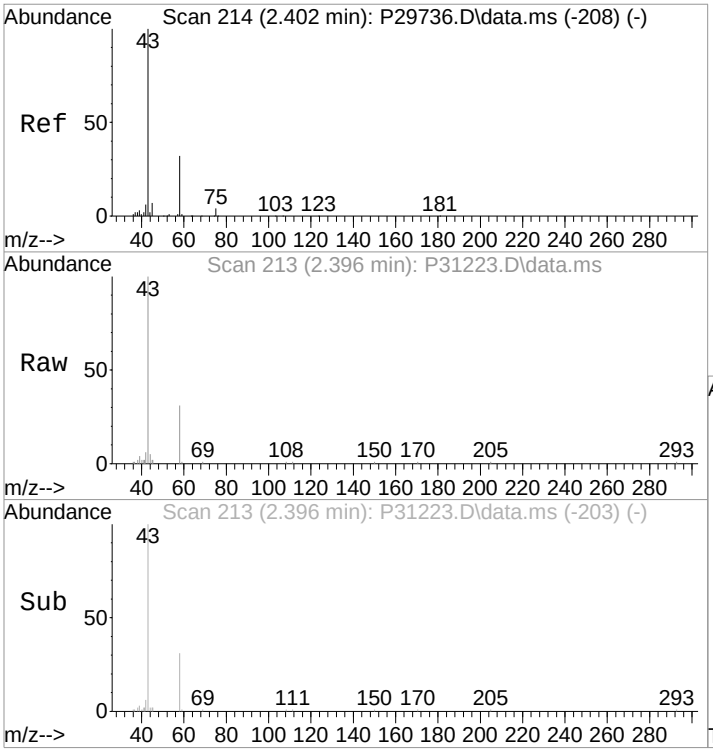
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31223.D
Acq On : 24 Oct 2019 3:00 am
Operator : K.Ruest
Sample : R1910325-016|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Oct 24 15:25:02 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



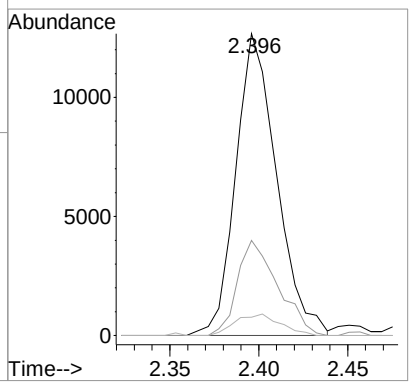
1st 10/24/19
2nd 10/24/19

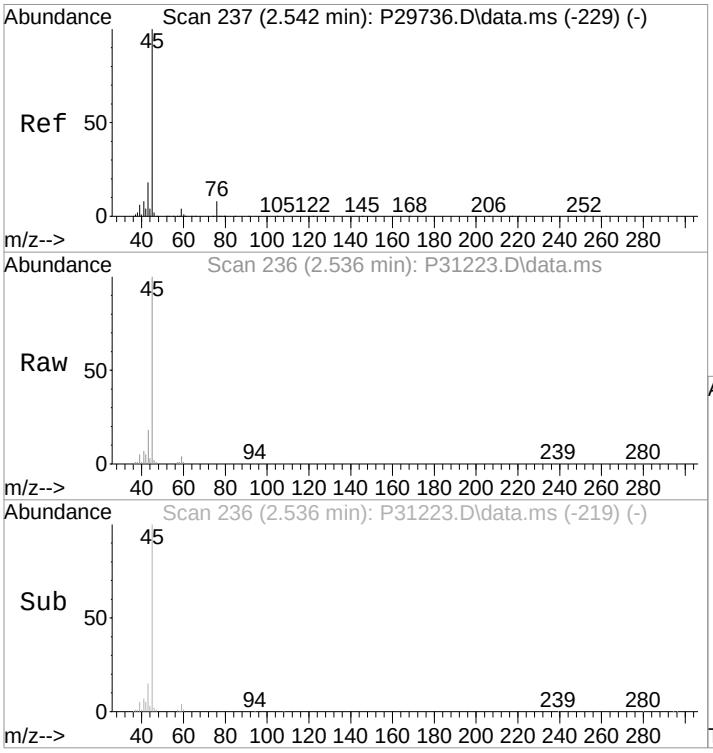


#15
Acetone
Concen: 7.85 ppb
RT: 2.396 min Scan# 213
Delta R.T. -0.012 min
Lab File: P31223.D
Acq: 24 Oct 2019 3:00 am

Tgt Ion: 43 Resp: 20215

Ion	Ratio	Lower	Upper
43	100		
58	31.4	11.7	51.7
42	6.0	0.0	26.5

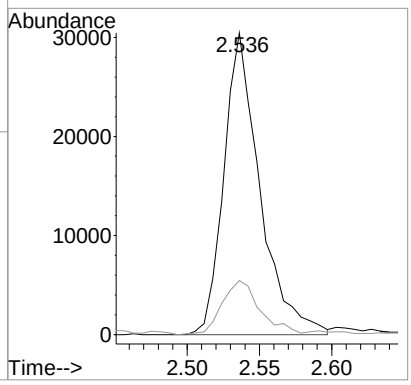




#16
2-Propanol
Concen: 90.14 ppb
RT: 2.536 min Scan# 236
Delta R.T. -0.006 min
Lab File: P31223.D
Acq: 24 Oct 2019 3:00 am

Tgt Ion: 45 Resp: 52780

Ion	Ratio	Lower	Upper
45	100		
43	18.0	0.0	37.7



LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31223.D
Acq On : 24 Oct 2019 3:00 am
Operator : K.Ruest
Sample : R1910325-016|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 39 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31223.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.603	74	83	91	rBV	29451	71532	4.44%	0.825%
2	2.396	209	213	220	rBV	20292	32200	2.00%	0.371%
3	2.536	229	236	247	rBV	45493	87453	5.43%	1.009%
4	4.499	547	558	560	rBV	9516	23018	1.43%	0.265%
5	5.316	680	692	702	rBV	153185	408850	25.39%	4.715%
6	5.444	703	713	724	rVV	323298	867019	53.85%	9.999%
7	5.846	770	779	789	rBV	219444	513999	31.92%	5.928%
8	6.523	882	890	898	rBV	570293	1148140	71.30%	13.241%
9	8.315	1177	1184	1193	rBV	1012307	1610210	100.00%	18.569%
10	9.797	1421	1427	1436	rBV	987108	1372161	85.22%	15.824%
11	10.870	1597	1603	1611	rVB	876718	1082888	67.25%	12.488%
12	11.083	1633	1638	1642	rVB2	11836	18159	1.13%	0.209%
13	11.839	1756	1762	1769	rBV	1189552	1435768	89.17%	16.558%

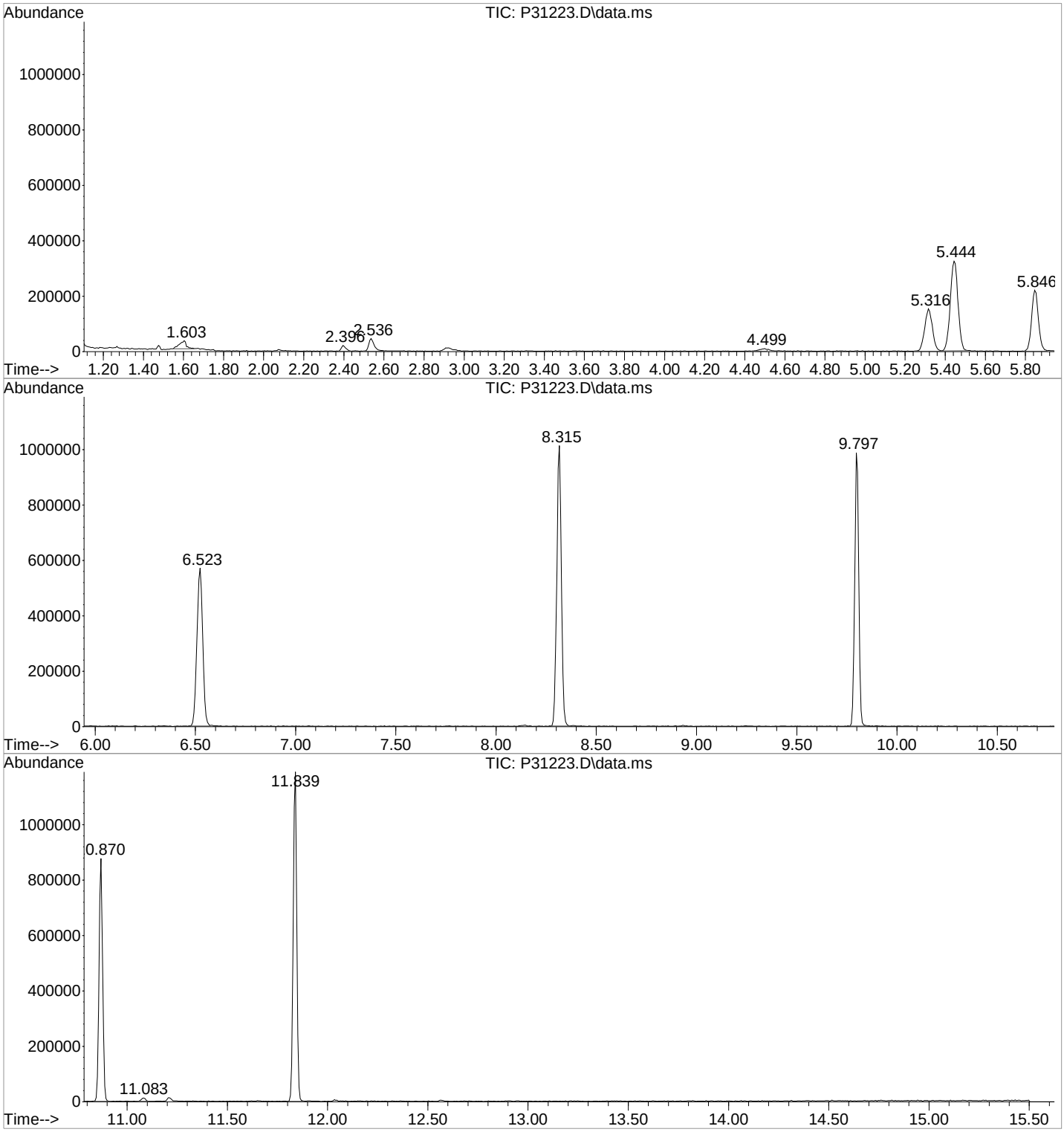
Sum of corrected areas: 8671397

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31223.D
Acq On : 24 Oct 2019 3:00 am
Operator : K.Ruest
Sample : R1910325-016|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 39 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/24/19
2nd 10/24/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102319\\
Data File : P31223.D
Acq On : 24 Oct 2019 3:00 amm
Operator : K.Ruestt
Sample : R1910325-016|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 39 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31208.D
Acq On : 23 Oct 2019 9:35 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Oct 24 09:36:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

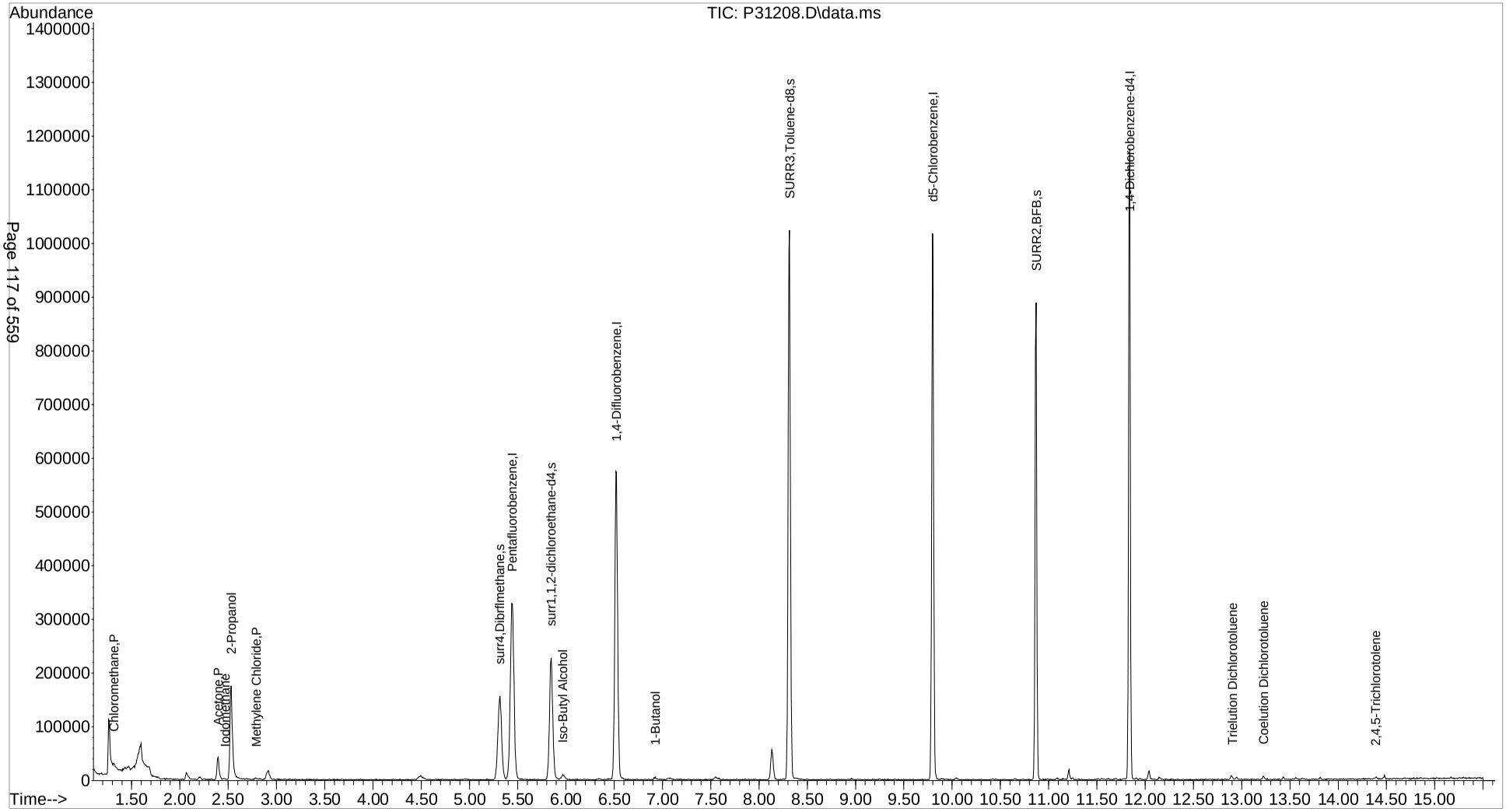
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.438	168	315800	50.00	ppb		-0.01
43) 1,4-Difluorobenzene	6.523	114	494996	50.00	ppb		0.00
71) d5-Chlorobenzene	9.797	117	442037	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	235148	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	129323	49.30	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 98.60%				
48) surr1,1,2-dichloroetha...	5.846	65	187524	51.66	ppb		-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 103.32%				
65) SURR3,Toluene-d8	8.315	98	624621	50.58	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.16%				
70) SURR2,BFB	10.870	95	237729	49.47	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 98.94%				
Target Compounds							Qvalue
3) Chloromethane	1.317	50	3072	0.51	ppb		86
15) Acetone	2.396	43	42886	16.69	ppb		96
16) 2-Propanol	2.530	45	210320	359.88	ppb		98
17) Iodomethane	2.463	142	899	1.35	ppb		89
22) Methylene Chloride	2.792	84	900	0.22	ppb	#	83
51) Iso-Butyl Alcohol	5.968	43	6995	16.51	ppb		98
53) 1-Butanol	6.925	56	2777	11.43	ppb		99
112) Trielution Dichlorotol...	12.900	125	2545	0.36	ppb		93
114) Coelution Dichlorotoluene	13.223	125	1618	0.20	ppb	#	82
119) 2,4,5-Trichlorotolene	14.387	159	1133	0.25	ppb	#	44

(#) = qualifier out of range (m) = manual integration (+) = signals summed

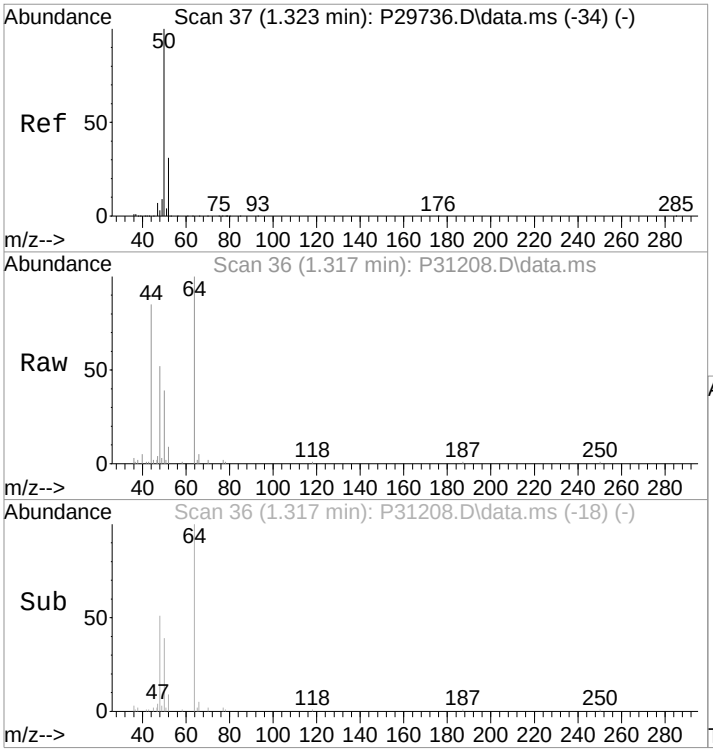
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31208.D
Acq On : 23 Oct 2019 9:35 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Oct 24 09:36:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



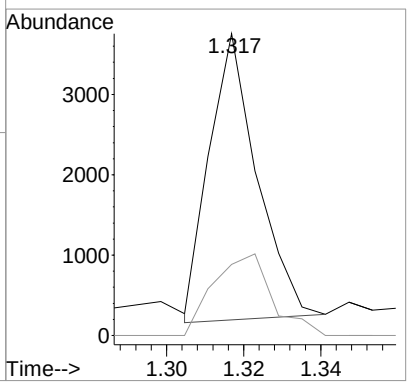
1st 10/24/19
2nd 10/24/19

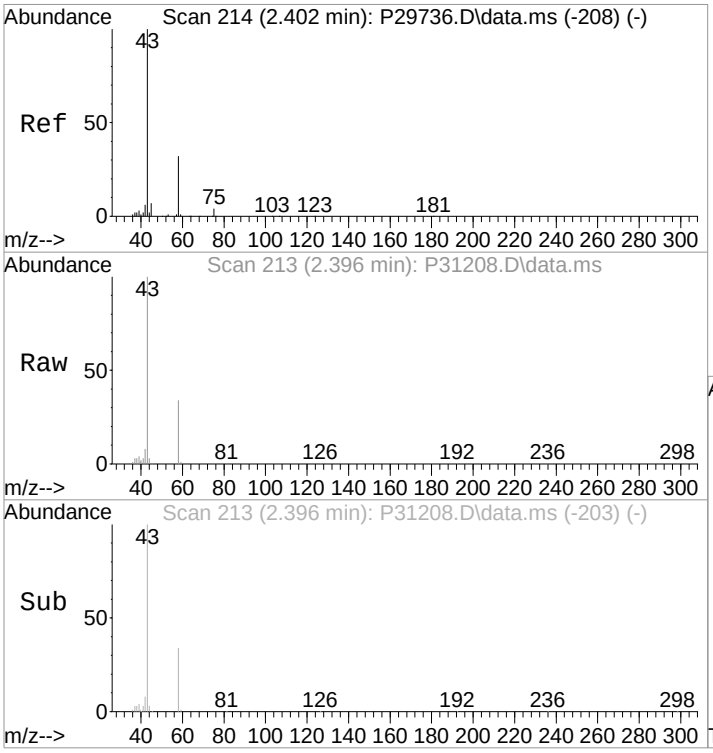


#3
Chloromethane
Concen: 0.51 ppb
RT: 1.317 min Scan# 36
Delta R.T. -0.006 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion: 50 Resp: 3072

Ion	Ratio	Lower	Upper
50	100		
52	23.6	11.2	51.2

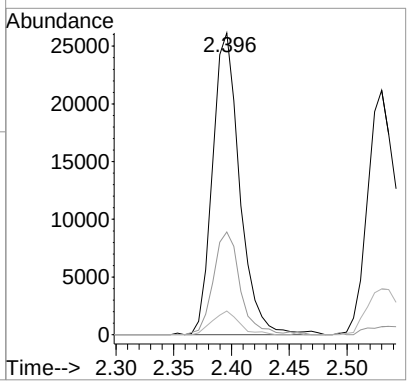


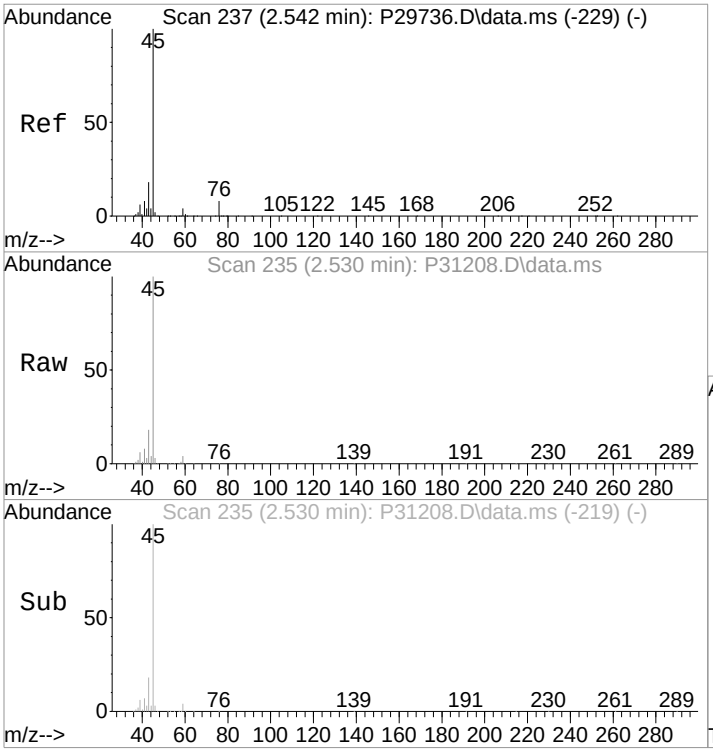


#15
Acetone
Concen: 16.69 ppb
RT: 2.396 min Scan# 213
Delta R.T. -0.012 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion: 43 Resp: 42886

Ion	Ratio	Lower	Upper
43	100		
58	34.0	11.7	51.7
42	7.9	0.0	26.5

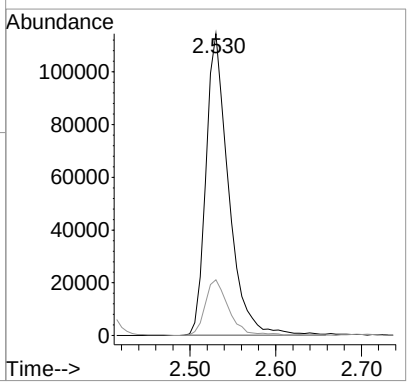


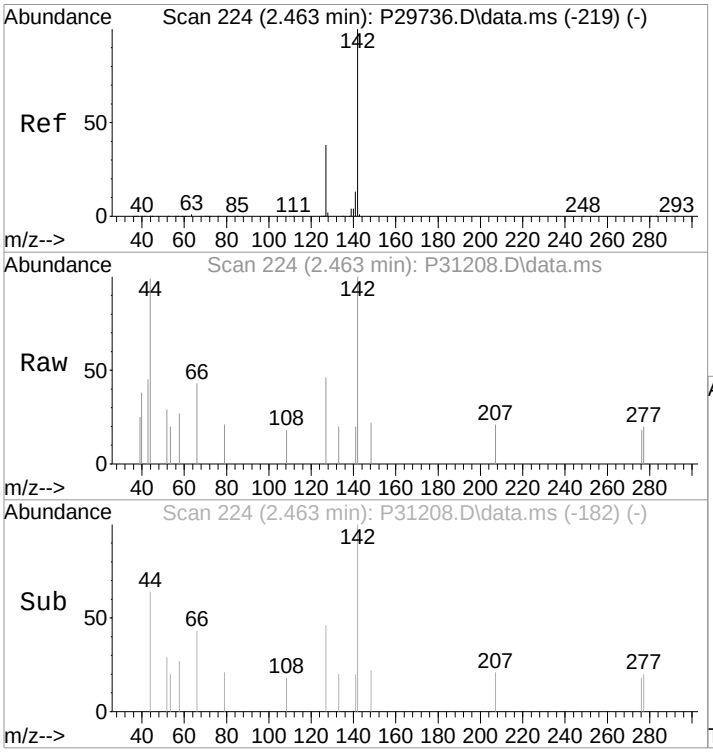


#16
2-Propanol
Concen: 359.88 ppb
RT: 2.530 min Scan# 235
Delta R.T. -0.012 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion: 45 Resp: 210320

Ion	Ratio	Lower	Upper
45	100		
43	18.5	0.0	37.7

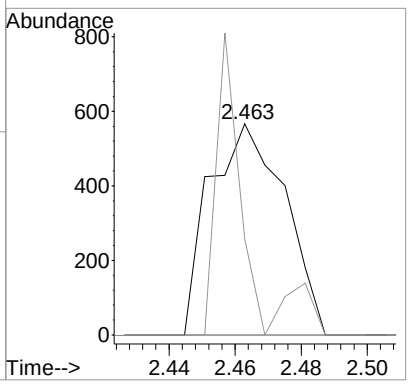


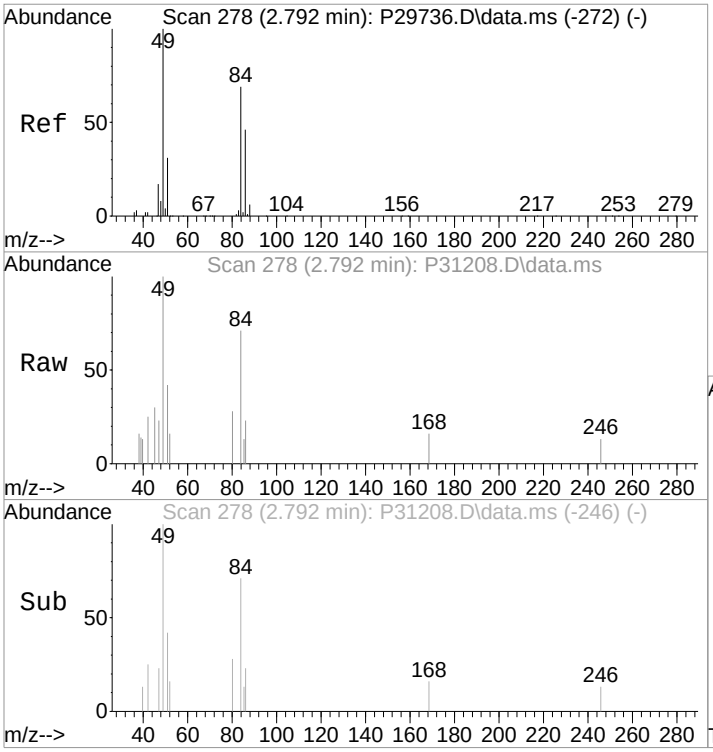


#17
Iodomethane
Concen: 1.35 ppb
RT: 2.463 min Scan# 224
Delta R.T. -0.006 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion:142 Resp: 899

Ion	Ratio	Lower	Upper
142	100		
127	45.5	18.6	58.6

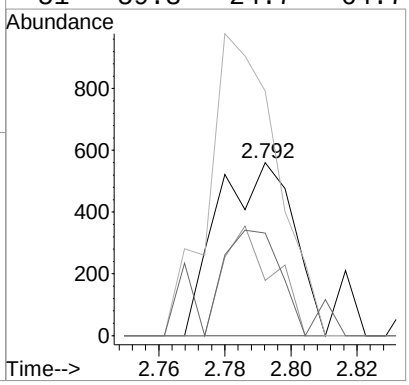


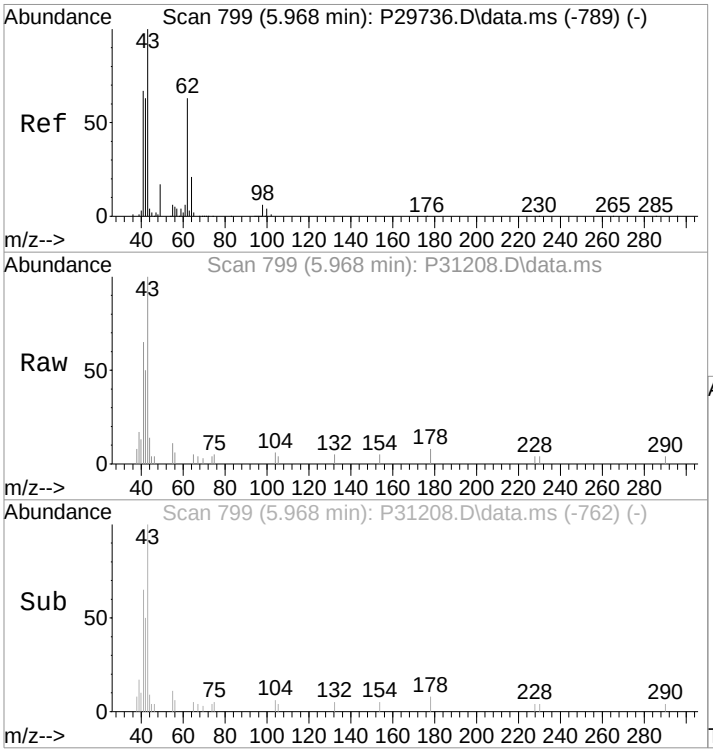


#22
Methylene Chloride
Concen: 0.22 ppb
RT: 2.792 min Scan# 278
Delta R.T. -0.006 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion: 84 Resp: 900

Ion	Ratio	Lower	Upper
84	100		
86	32.0	46.1	86.1#
49	141.4	124.9	164.9
51	59.3	24.7	64.7

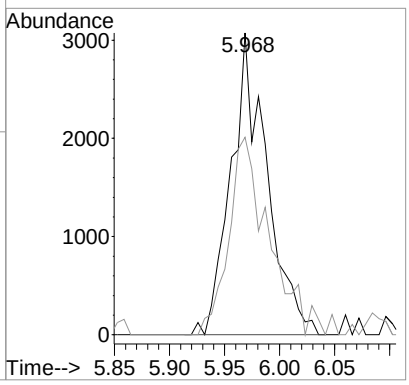


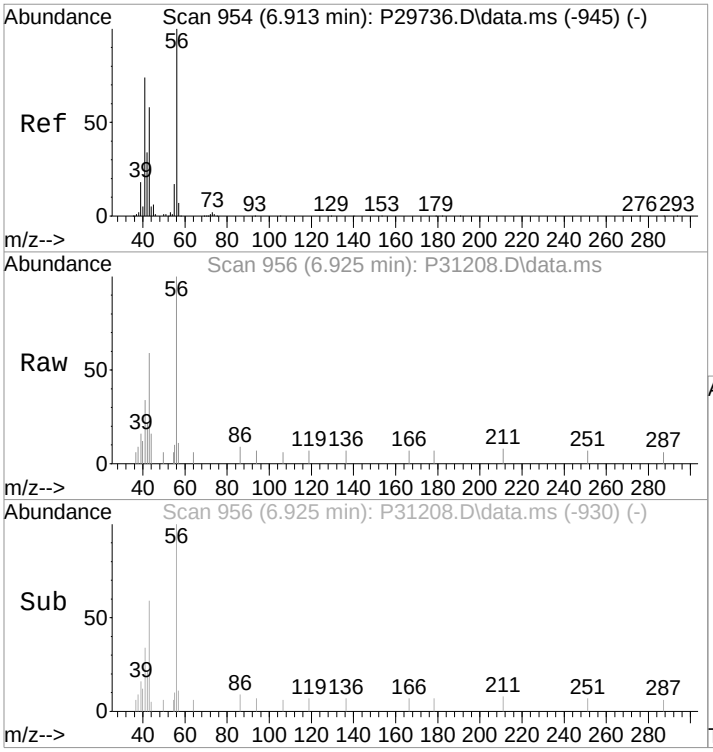


#51
Iso-Butyl Alcohol
Concen: 16.51 ppb
RT: 5.968 min Scan# 799
Delta R.T. -0.012 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion: 43 Resp: 6995

Ion	Ratio	Lower	Upper
43	100		
41	65.4	47.1	87.1

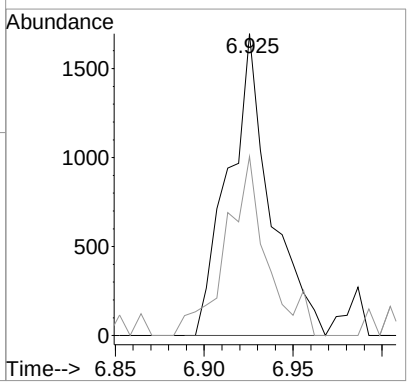


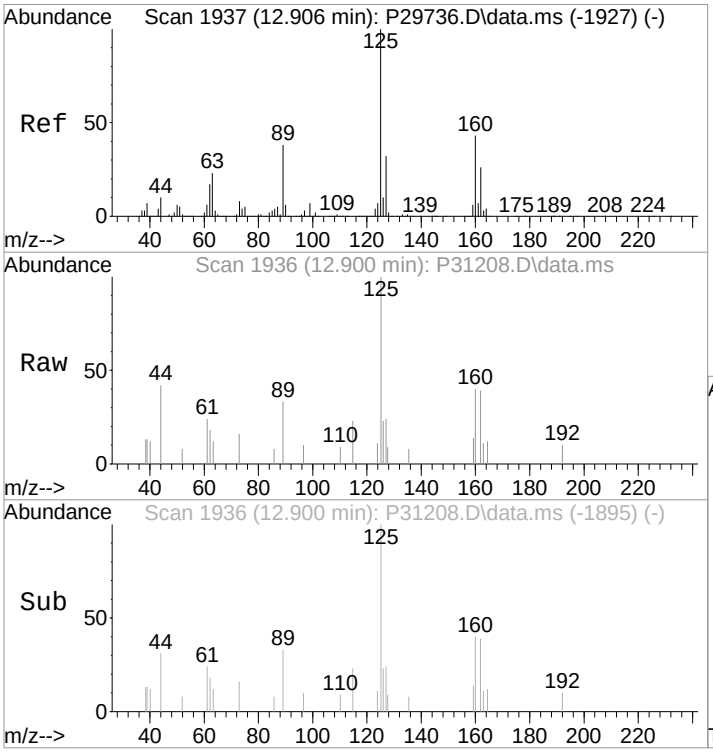


#53
1-Butanol
Concen: 11.43 ppb
RT: 6.925 min Scan# 956
Delta R.T. 0.006 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion: 56 Resp: 2777

Ion	Ratio	Lower	Upper
56	100		
43	57.6	38.6	78.6

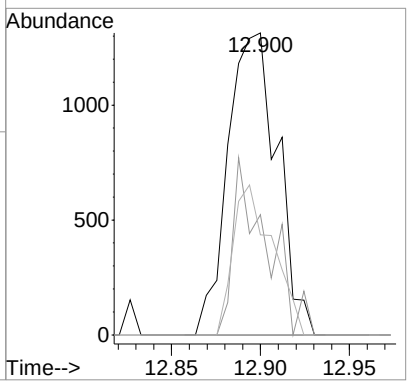


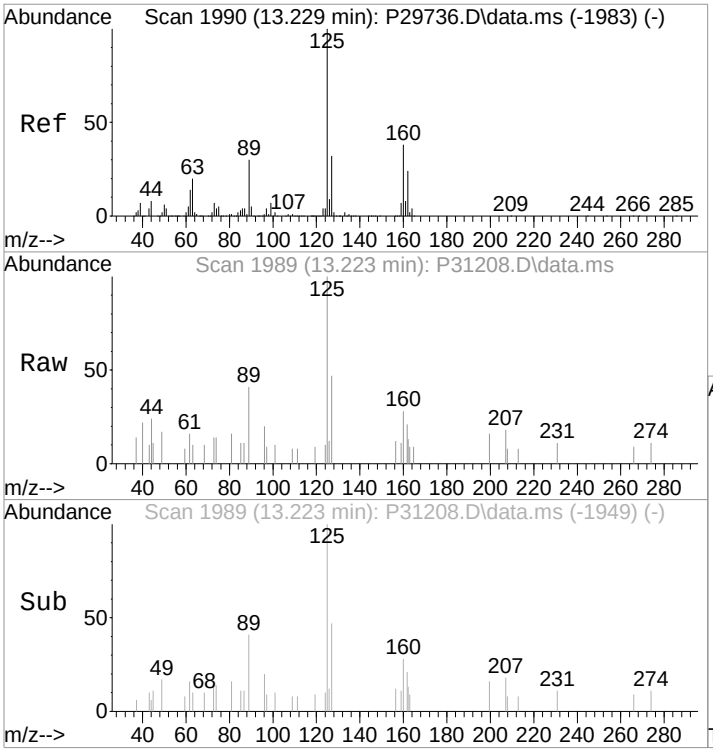


#112
Trielution Dichlorotoluene
Concen: 0.36 ppb
RT: 12.900 min Scan# 1936
Delta R.T. -0.000 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion:125 Resp: 2545

Ion	Ratio	Lower	Upper
125	100		
160	39.8	34.3	51.5
89	33.2	30.8	46.2

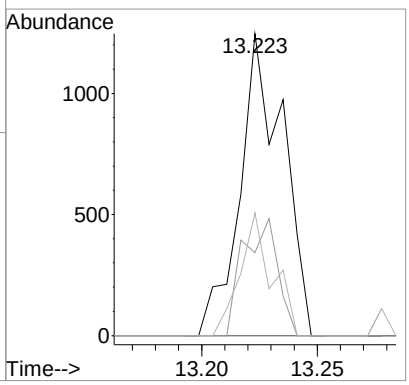


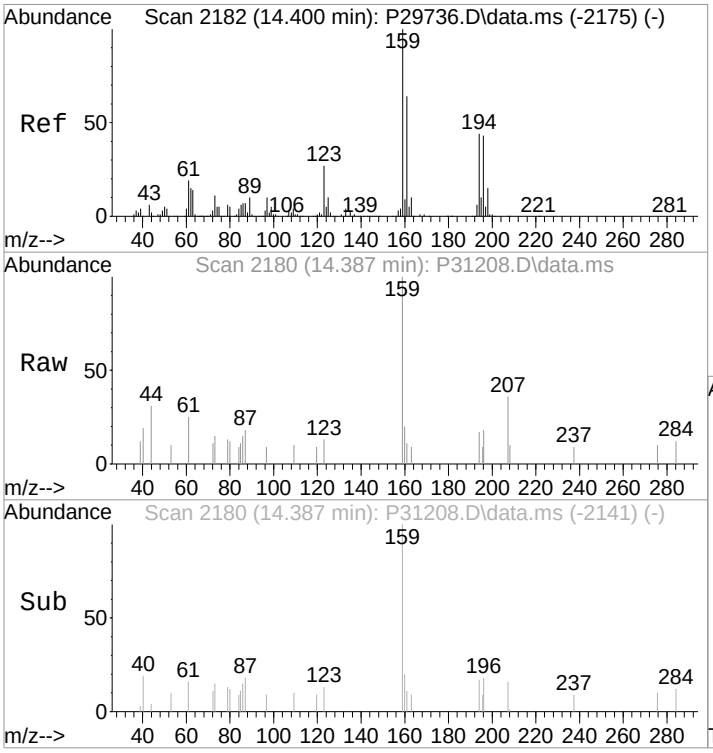


#114
Coelution Dichlorotoluene
Concen: 0.20 ppb
RT: 13.223 min Scan# 1989
Delta R.T. -0.006 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion:125 Resp: 1618

Ion	Ratio	Lower	Upper
125	100		
160	27.5	30.1	45.1#
89	40.6	23.6	35.4#

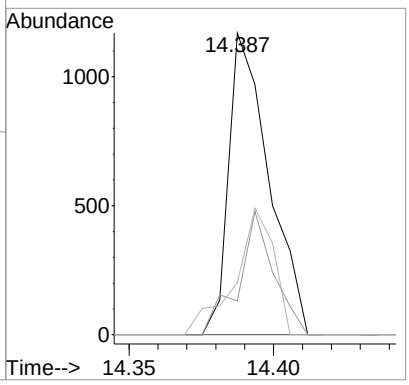




#119
2,4,5-Trichlorotolene
Concen: 0.25 ppb
RT: 14.387 min Scan# 2180
Delta R.T. -0.012 min
Lab File: P31208.D
Acq: 23 Oct 2019 9:35 pm

Tgt Ion:159 Resp: 1133

Ion	Ratio	Lower	Upper
159	100		
161	11.3	50.8	76.2#
194	17.4	35.3	52.9#



LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31208.D
Acq On : 23 Oct 2019 9:35 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 24 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31208.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.262	24	27	34	rBV	101406	155015	9.34%	1.618%
2	1.597	71	82	89	rBV2	43847	126622	7.63%	1.322%
3	2.067	155	159	168	rBV	13148	25701	1.55%	0.268%
4	2.396	206	213	220	rBV	41910	69903	4.21%	0.730%
5	2.530	229	235	252	rBV	174524	326780	19.68%	3.411%
6	2.914	291	298	305	rVB2	16317	36816	2.22%	0.384%
7	4.493	550	557	560	rBV2	7529	17148	1.03%	0.179%
8	5.316	681	692	702	rBV	155783	422112	25.42%	4.406%
9	5.438	702	712	727	rVB	327859	881166	53.07%	9.198%
10	5.846	768	779	792	rBV	226744	534559	32.20%	5.580%
11	5.968	792	799	807	rVB2	8880	21445	1.29%	0.224%
12	6.517	882	889	900	rBV	573207	1159564	69.84%	12.104%
13	8.133	1147	1154	1160	rBV2	56082	100990	6.08%	1.054%
14	8.315	1176	1184	1192	rBV	1022564	1660351	100.00%	17.331%
15	9.797	1420	1427	1437	rBV	1017496	1404974	84.62%	14.666%
16	10.870	1596	1603	1609	rBV	888462	1124785	67.74%	11.741%
17	11.211	1654	1659	1663	rBV2	18080	21626	1.30%	0.226%
18	11.839	1756	1762	1770	rVB	1174776	1468957	88.47%	15.333%
19	12.040	1790	1795	1798	rBV	16531	21598	1.30%	0.225%

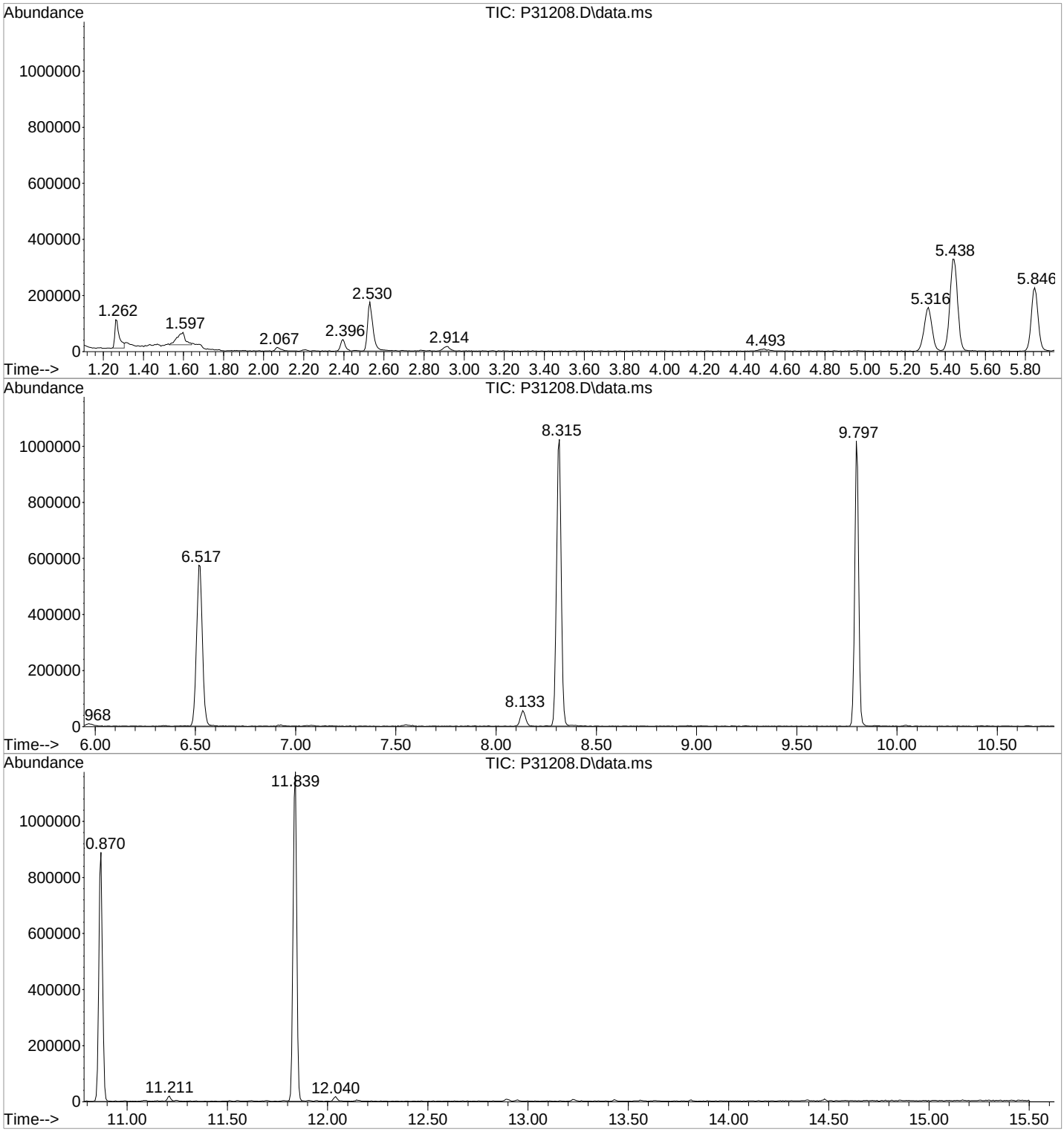
Sum of corrected areas: 9580112

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31208.D
Acq On : 23 Oct 2019 9:35 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31208.D
Acq On : 23 Oct 2019 9:35 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

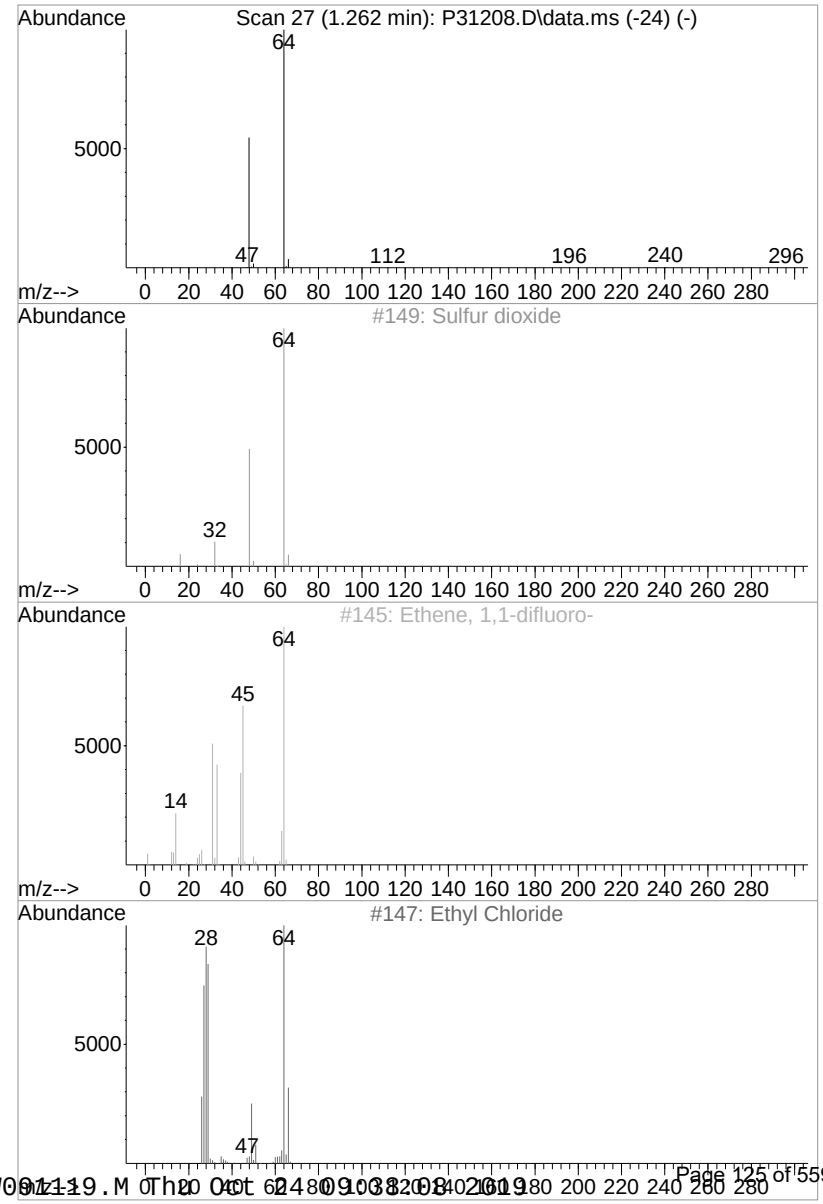
TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P

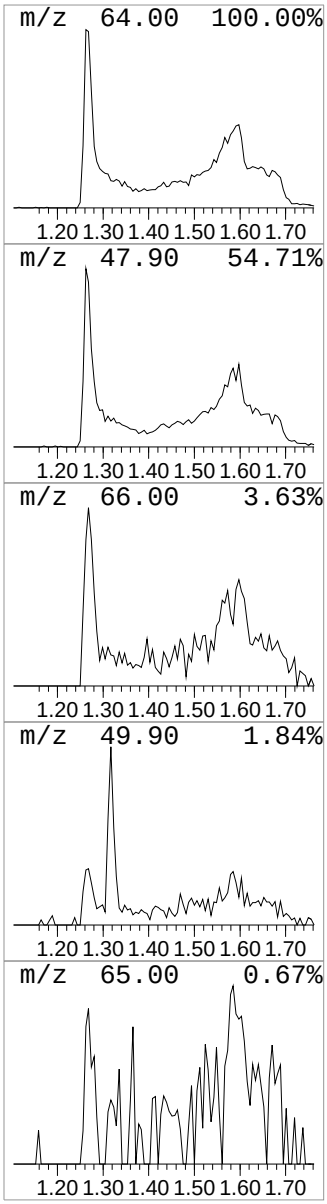
****

Peak Number 1 Sulfur dioxide Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.262	8.80 ppb	155015	Pentafluorobenzene	5.438

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Sulfur dioxide	64	O2S	007446-09-5	83
2	Ethene, 1,1-difluoro-	64	C2H2F2	000075-38-7	3
3	Ethyl Chloride	64	C2H5Cl	000075-00-3	3
4	Ethene, 1,2-difluoro-	64	C2H2F2	001691-13-0	3
5	Ethene, 1,1-difluoro-	64	C2H2F2	000075-38-7	3





Library Search Compound Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31208.D
Acq On : 23 Oct 2019 9:35 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

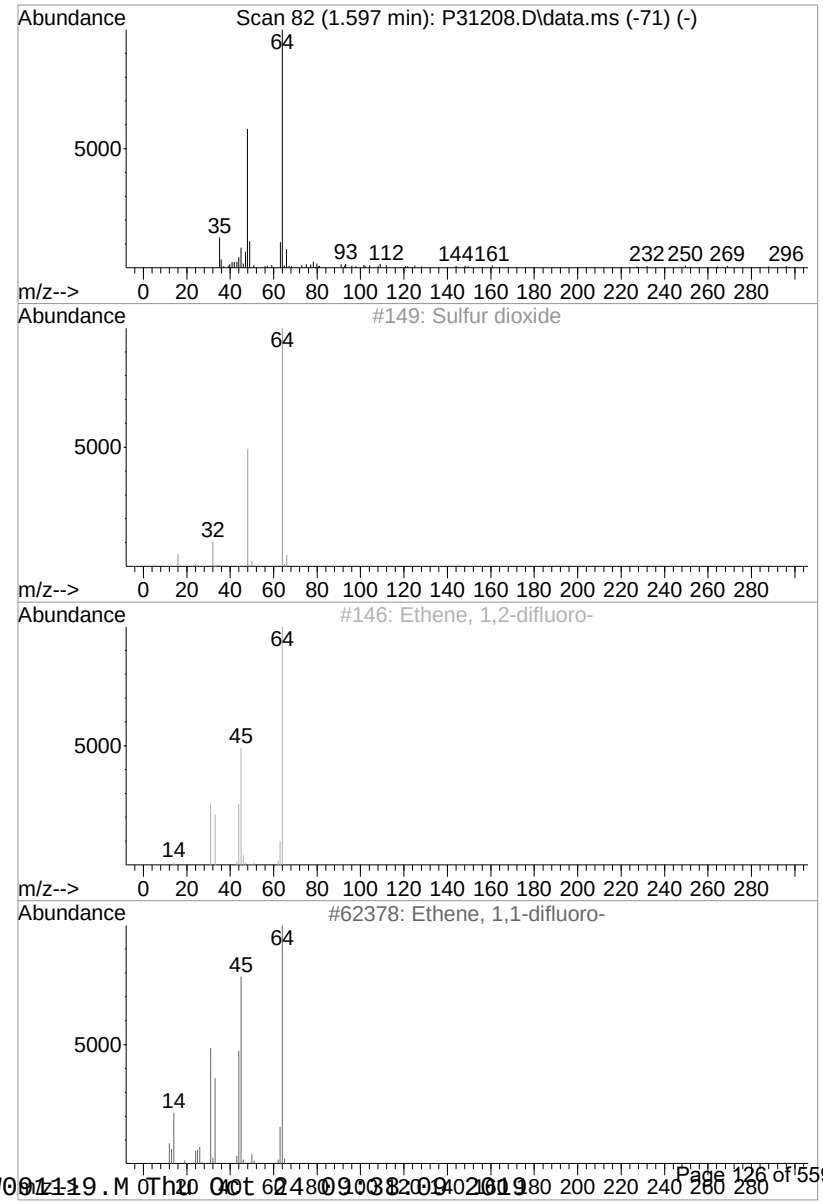
TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P

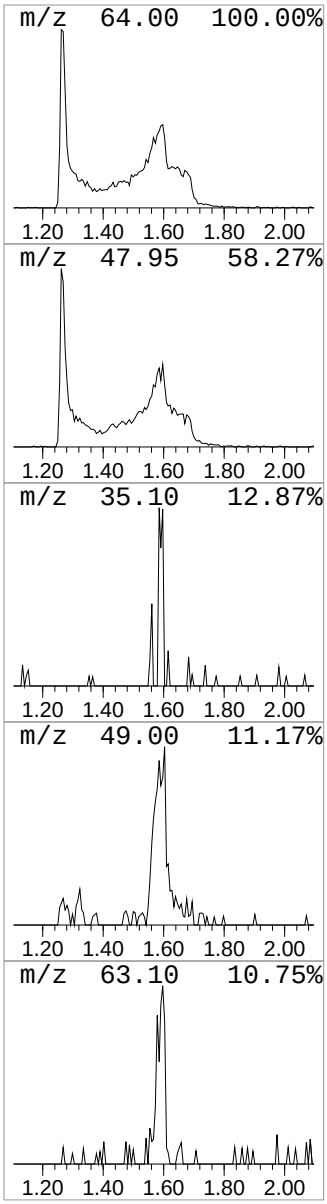
****

Peak Number 2 unknown Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.597	7.18 ppb	126622	Pentafluorobenzene	5.438

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Sulfur dioxide	64	O2S	007446-09-5	64
2	Ethene, 1,2-difluoro-	64	C2H2F2	001691-13-0	9
3	Ethene, 1,1-difluoro-	64	C2H2F2	000075-38-7	9
4	Ethene, 1,1-difluoro-	64	C2H2F2	000075-38-7	9
5	Ethyl Chloride	64	C2H5Cl	000075-00-3	4





Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31208.D
Acq On : 23 Oct 2019 9:35 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

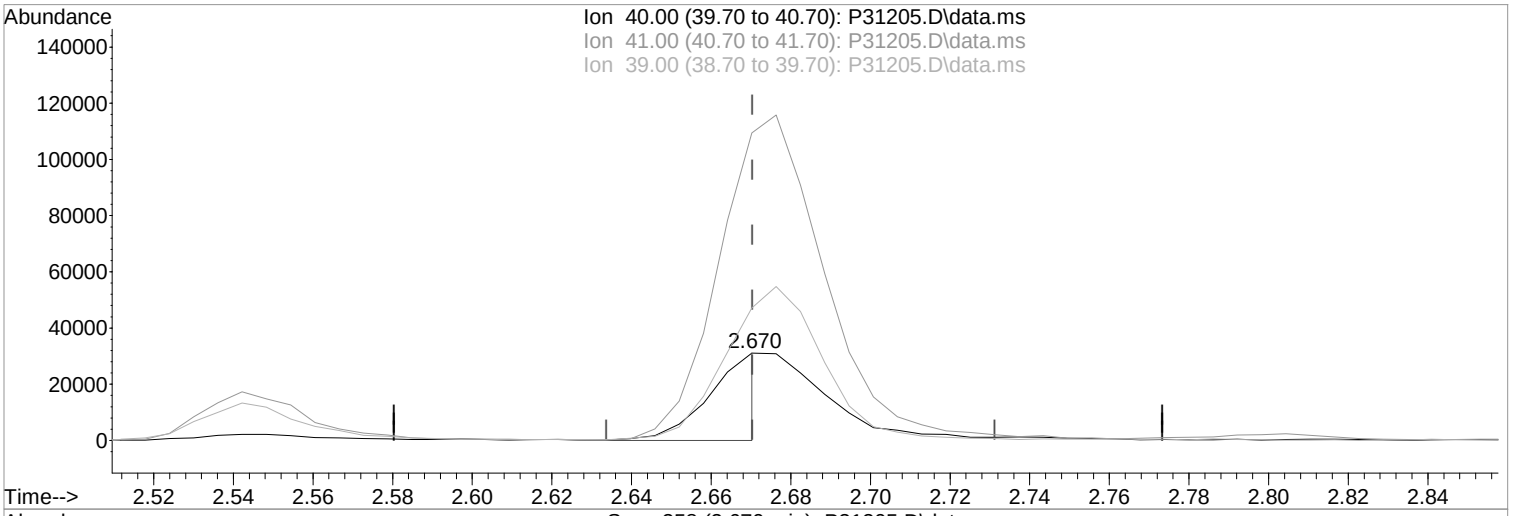
TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P

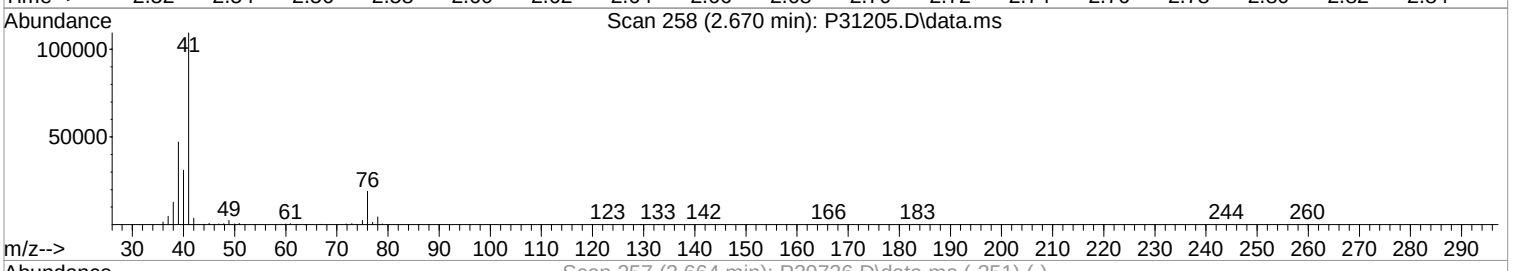
					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Sulfur dioxide	1.262	8.8	ppb	155015	1	5.438	881166	50.0
unknown	1.597	7.2	ppb	126622	1	5.438	881166	50.0

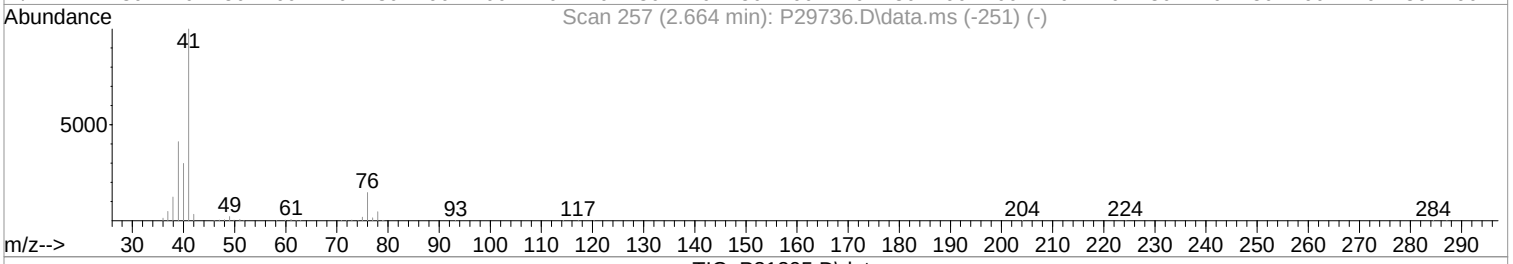
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31205.D
Acq On : 23 Oct 2019 8:30 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 24 09:32:50 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31205.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 86.16 ppb m

response 28078

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	352.19
39.00	137.60	151.54
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

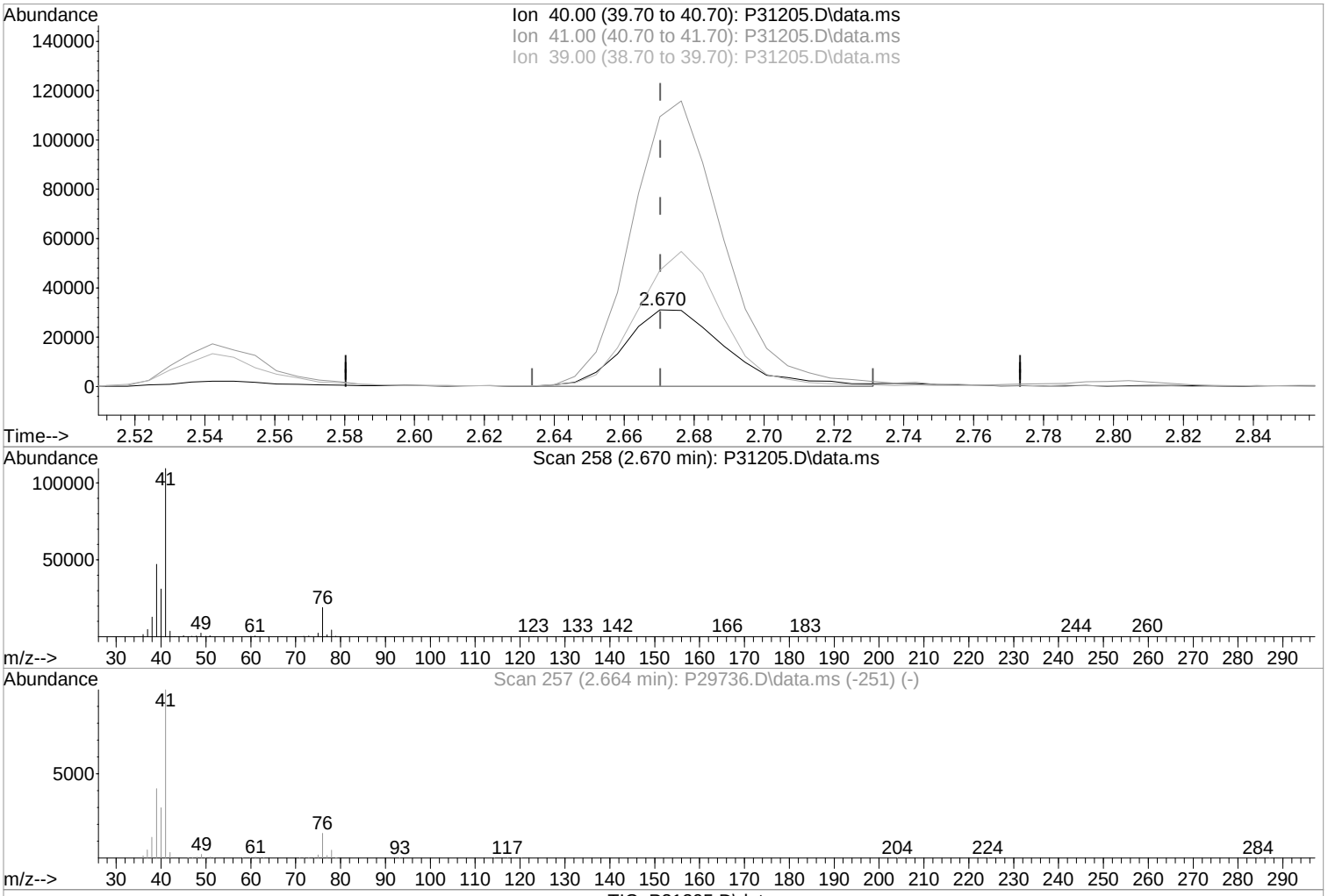
10/24/19

1st 10/24/19
2nd 10/24/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31205.D
Acq On : 23 Oct 2019 8:30 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 24 09:32:50 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31205.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 191.27 ppb

response 62336

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	352.19
39.00	137.60	151.54
0.00	0.00	0.00

Manual Integration:

Before

10/24/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31205.D
Acq On : 23 Oct 2019 8:30 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 24 09:34:13 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	301715	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	485183	50.00	ppb		0.00
71) d5-Chlorobenzene	9.797	117	433185	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	227788	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	127768	49.69	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 99.38%				
48) surr1,1,2-dichloroetha...	5.853	65	178388	50.14	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.28%				
65) SURR3,Toluene-d8	8.315	98	604736	49.96	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.92%				
70) SURR2,BFB	10.870	95	234319	49.75	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	83059	22.27	ppb		98
3) Chloromethane	1.329	50	82953	14.44	ppb		99
4) Vinyl Chloride	1.408	62	94749	17.67	ppb		83
5) Bromomethane	1.634	94	48573	19.20	ppb		96
6) Chloroethane	1.713	64	84998	26.32	ppb		97
7) Freon 21	1.865	67	106456	17.81	ppb		99
8) Trichlorofluoromethane	1.908	101	85019	19.55	ppb		89
9) Diethyl Ether	2.146	59	71369	18.62	ppb		97
10) Freon 123a	2.158	67	72590	17.37	ppb		100
11) Freon 123	2.213	83	87816	19.05	ppb		98
12) Acrolein	2.268	56	34331	32.15	ppb		100
13) 1,1-Diclethene	2.341	96	53188	18.02	ppb	#	85
14) Freon 113	2.335	101	51774	18.04	ppb		95
15) Acetone	2.408	43	106359	43.32	ppb		97
16) 2-Propanol	2.542	45	427278	765.25	ppb		98
17) Iodomethane	2.475	142	24369	7.82	ppb		96
18) Carbon Disulfide	2.530	76	168881	19.10	ppb		98
19) Acetonitrile	2.670	40	28078m	86.16	ppb		
20) Allyl Chloride	2.676	76	35701	21.10	ppb	#	92
21) Methyl Acetate	2.713	43	82646	16.98	ppb		94
22) Methylene Chloride	2.798	84	67105	17.46	ppb		95
23) TBA	2.957	59	274281	331.84	ppb		100
24) Acrylonitrile	3.085	53	225282	89.45	ppb		98
25) Methyl-t-Butyl Ether	3.097	73	222687	17.93	ppb		99
26) trans-1,2-Dichloroethene	3.085	96	57423	17.92	ppb		98
28) 1,1-Diclethane	3.603	63	121619	18.34	ppb		95
29) Vinyl Acetate	3.694	86	16733	20.34	ppb	#	74
30) DIPE	3.707	45	253807	17.58	ppb		95
31) 2-Chloro-1,3-Butadiene	3.707	53	95309	17.76	ppb		91
32) ETBE	4.237	59	212763	16.37	ppb		94
33) 2,2-Dichloropropane	4.432	77	84922	17.47	ppb		86
34) cis-1,2-Dichloroethene	4.450	96	66445	18.06	ppb		93
35) 2-Butanone	4.530	43	62152	18.12	ppb		95
36) Propionitrile	4.645	54	93765	88.13	ppb		94
37) Bromochloromethane	4.853	130	36956	16.98	ppb		87
38) Methacrylonitrile	4.895	67	42257	16.79	ppb		85
39) Tetrahydrofuran	4.969	42	39288	15.49	ppb		93
40) Chloroform	5.042	83	106320	18.20	ppb		96
41) 1,1,1-Trichloroethane	5.304	97	84058	18.04	ppb		98

1st 10/24/19
2nd 10/24/19

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31205.D
Acq On : 23 Oct 2019 8:30 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 24 09:34:13 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	194656	16.25	ppb		93
44) Cyclohexane	5.365	41	71174	18.37	ppb		87
46) Carbontetrachloride	5.566	117	64778	19.60	ppb		89
47) 1,1-Dichloropropene	5.590	75	84829	18.07	ppb		95
49) Benzene	5.907	78	272346	18.67	ppb		98
50) 1,2-Dichloroethane	5.968	62	88893	17.93	ppb		97
51) Iso-Butyl Alcohol	5.968	43	140724	338.84	ppb		99
52) n-Heptane	6.359	43	94861	17.38	ppb		96
53) 1-Butanol	6.913	56	201432	845.95	ppb		99
54) Trichloroethene	6.840	130	59464	18.34	ppb		96
55) Methylcyclohexane	7.054	55	97442	18.64	ppb		96
56) 1,2-Diclpropane	7.133	63	74282	18.45	ppb		97
57) Dibromomethane	7.279	93	39464	19.77	ppb		91
58) 1,4-Dioxane	7.346	88	30749	330.33	ppb		86
59) Methyl Methacrylate	7.352	69	68463	18.27	ppb		94
60) Bromodichloromethane	7.499	83	75312	19.44	ppb		97
61) 2-Nitropropane	7.803	41	30688	50.14	ppb		95
63) cis-1,3-Dichloropropene	8.035	75	104297	18.13	ppb		97
64) 4-Methyl-2-pentanone	8.248	43	117751	18.91	ppb		98
66) Toluene	8.389	91	283281	19.20	ppb		98
67) trans-1,3-Dichloropropene	8.669	75	93883	17.73	ppb		98
68) Ethyl Methacrylate	8.803	69	115213	17.58	ppb		96
69) 1,1,2-Trichloroethane	8.864	97	62867	19.19	ppb		94
72) Tetrachloroethene	8.968	164	47889	18.33	ppb		97
73) 2-Hexanone	9.151	43	83622	17.34	ppb		93
74) 1,3-Dichloropropane	9.029	76	116988	18.01	ppb		100
75) Dibromochloromethane	9.248	129	52282	19.48	ppb		97
76) N-Butyl Acetate	9.291	43	155911	16.97	ppb		100
77) 1,2-Dibromoethane	9.346	107	59928	17.71	ppb		94
78) Chlorobenzene	9.827	112	178871	18.72	ppb		97
79) 3-CBTF	9.840	180	94967	19.29	ppb		95
80) 4-CBTF	9.894	180	83952	18.91	ppb		93
81) 1,1,1,2-Tetrachloroethane	9.913	131	57821	20.30	ppb		92
82) Ethylbenzene	9.943	106	95430	18.39	ppb		97
83) (m+p)Xylene	10.053	106	241010	38.45	ppb		92
84) o-Xylene	10.407	106	117403	18.40	ppb		96
85) Styrene	10.425	104	190505	18.03	ppb		98
87) Bromoform	10.589	173	31504	19.73	ppb		99
88) 2-CBTF	10.656	180	90755	19.09	ppb		98
89) Isopropylbenzene	10.736	105	303350	19.52	ppb		98
90) Cyclohexanone	10.827	55	104156	156.78	ppb		91
91) trans-1,4-Dichloro-2-B...	11.065	53	22165	12.92	ppb		98
92) 1,1,2,2-Tetrachloroethane	11.016	83	102799	19.86	ppb		95
93) Bromobenzene	10.992	156	70930	18.52	ppb		92
94) 1,2,3-Trichloropropane	11.041	110	29962	17.58	ppb	#	85
95) n-Propylbenzene	11.089	91	364724	19.61	ppb		98
96) 2-Chlorotoluene	11.156	91	222469	18.96	ppb		98
97) 3-Chlorotoluene	11.211	91	225623	18.93	ppb		97
98) 4-Chlorotoluene	11.254	91	249204	19.67	ppb		94
99) 1,3,5-Trimethylbenzene	11.242	105	246782	19.06	ppb		97
100) tert-Butylbenzene	11.516	119	220820	19.38	ppb		98
101) 1,2,4-Trimethylbenzene	11.553	105	251225	19.55	ppb		97
102) 3,4-DCBTF	11.620	214	72480	18.49	ppb		96
103) sec-Butylbenzene	11.693	105	322088	19.54	ppb		96
104) p-Isopropyltoluene	11.815	119	262598	18.61	ppb		99
105) 1,3-Dclbenz	11.784	146	143351	18.79	ppb		98

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31205.D
Acq On : 23 Oct 2019 8:30 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 24 09:34:13 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

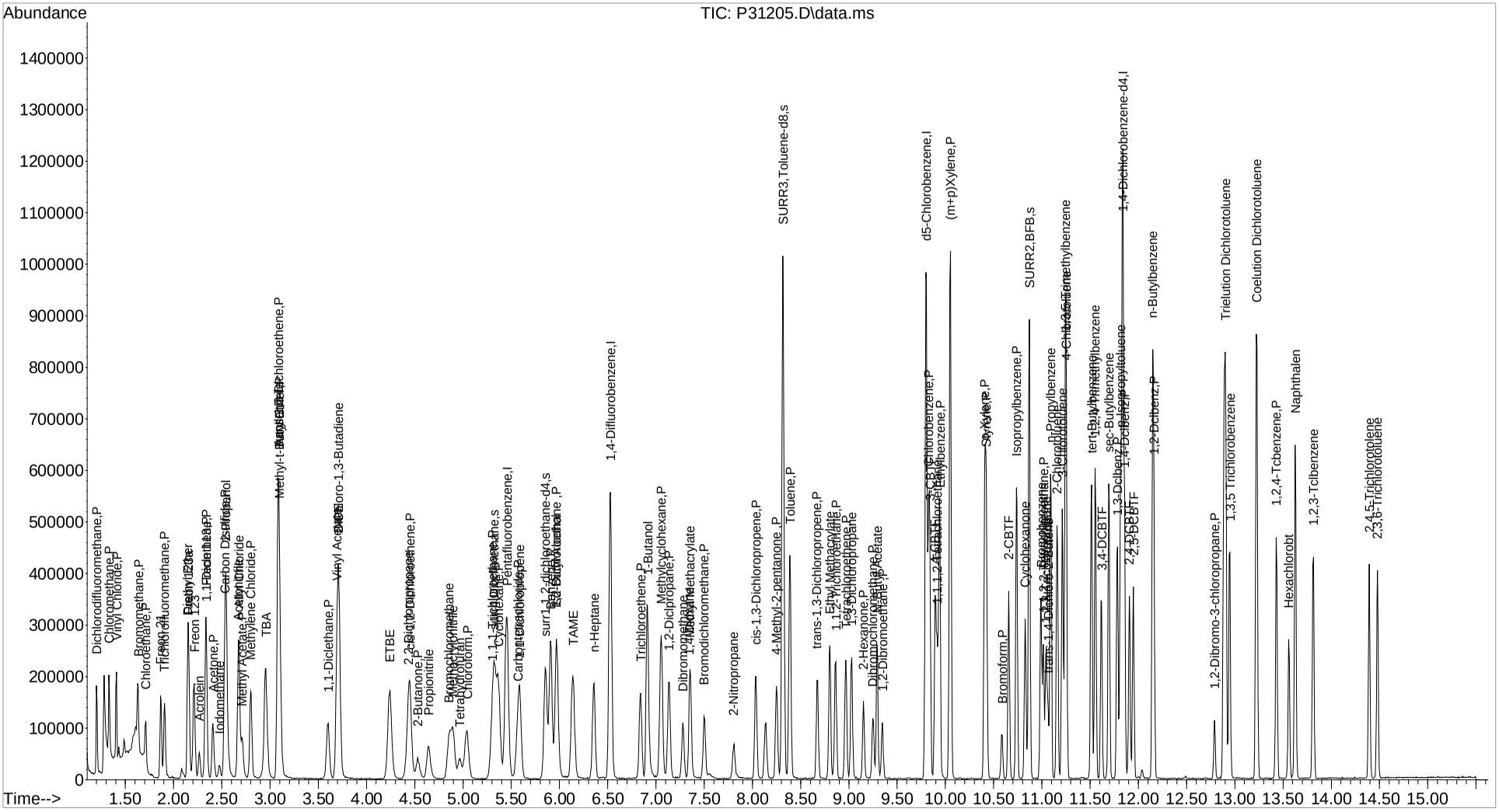
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
106) 1,4-Dclbenz	11.857	146	142541	18.25 ppb	98
107) 2,4-DCBTF	11.906	214	68029	19.01 ppb	98
108) 2,5-DCBTF	11.949	214	76428	19.21 ppb	99
109) n-Butylbenzene	12.150	91	254736	18.46 ppb	98
110) 1,2-Dclbenz	12.162	146	142551	18.89 ppb	95
111) 1,2-Dibromo-3-chloropr...	12.790	157	20746	17.35 ppb	92
112) Trielution Dichlorotol...	12.900	125	397970	57.66 ppb	99
113) 1,3,5 Trichlorobenzene	12.949	180	108482	19.19 ppb	98
114) Coelution Dichlorotoluene	13.223	125	292432	37.82 ppb	97
115) 1,2,4-Tcbenzene	13.430	180	110712	19.05 ppb	95
116) Hexachlorobt	13.558	225	40508	17.40 ppb	94
117) Naphthalen	13.625	128	359135	19.64 ppb	99
118) 1,2,3-Tclbenzene	13.814	180	108455	18.89 ppb	99
119) 2,4,5-Trichlorotolene	14.394	159	82186	18.78 ppb	96
120) 2,3,6-Trichlorotoluene	14.479	159	73812	16.31 ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31205.D
Acq On : 23 Oct 2019 8:30 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 21 Sample Multiplier: 1

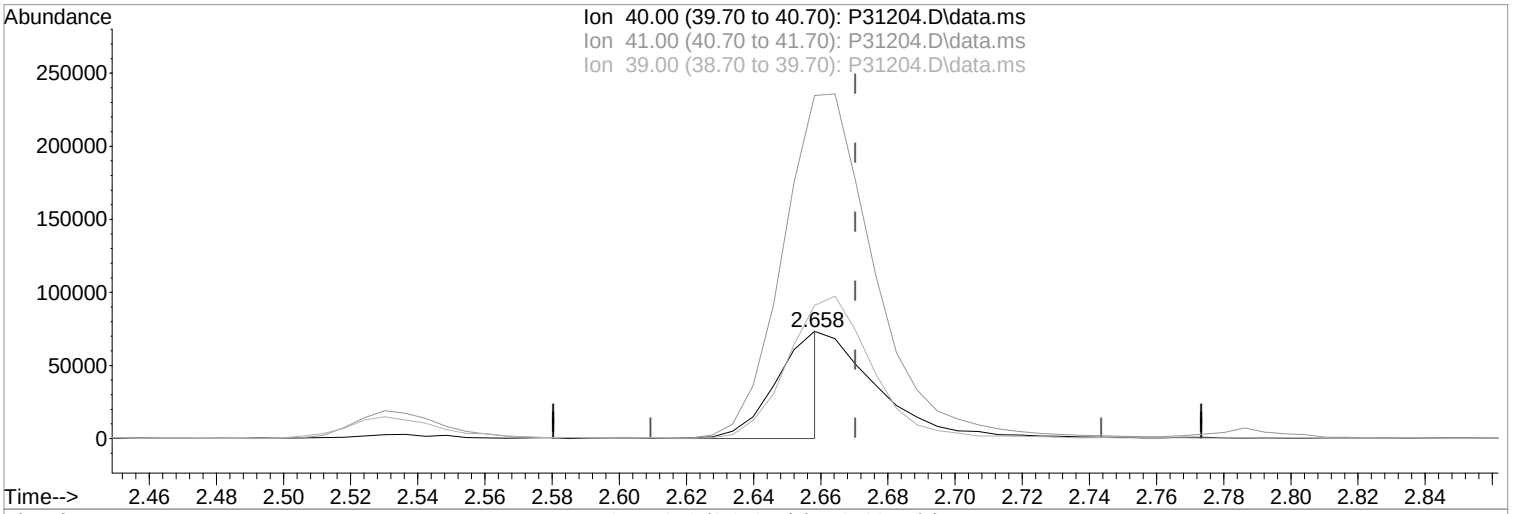
Quant Time: Oct 24 09:34:13 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

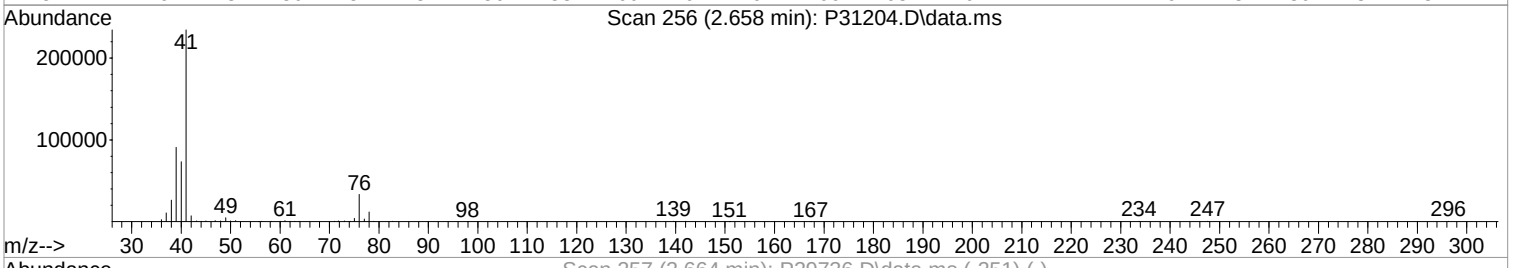


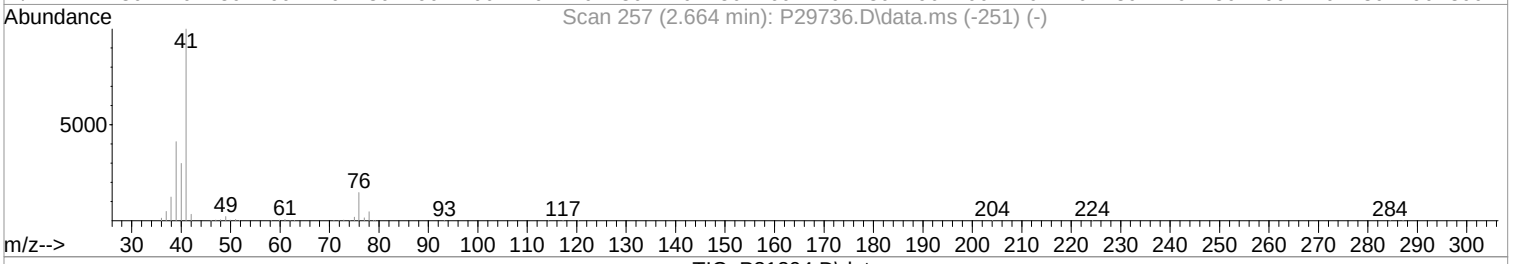
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:28:44 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31204.D\data.ms

(19) Acetonitrile

2.658min (-0.012) 209.86 ppb m

response 70131

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	320.16
39.00	137.60	124.05
0.00	0.00	0.00

Manual Integration:

After

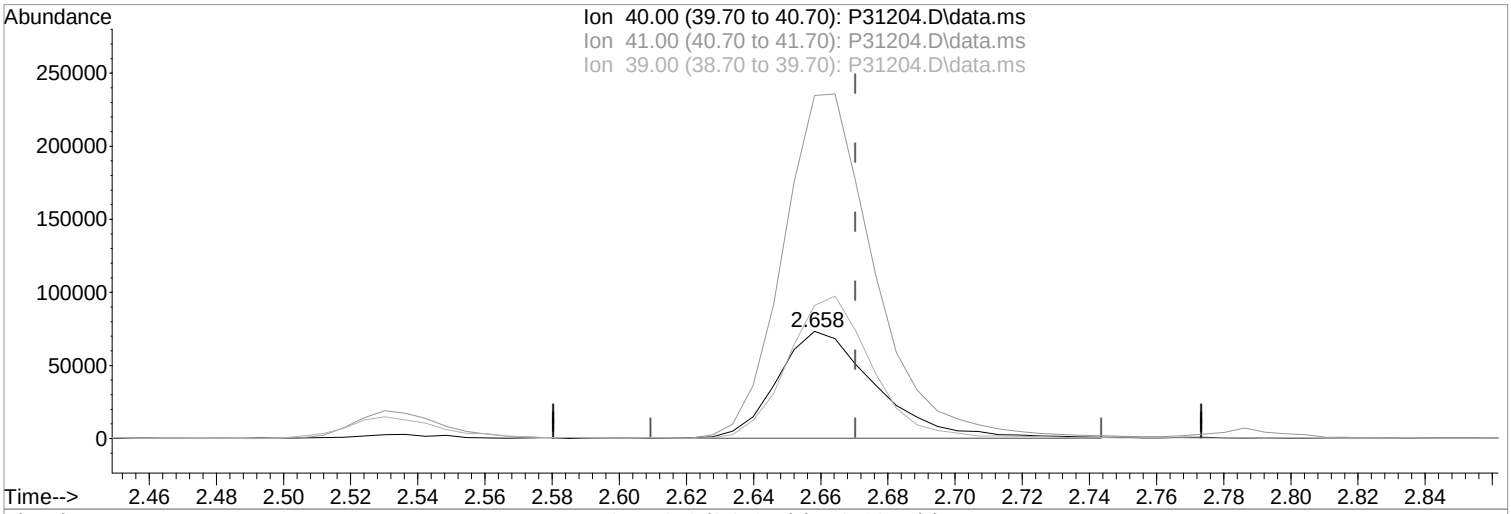
Poor integration.

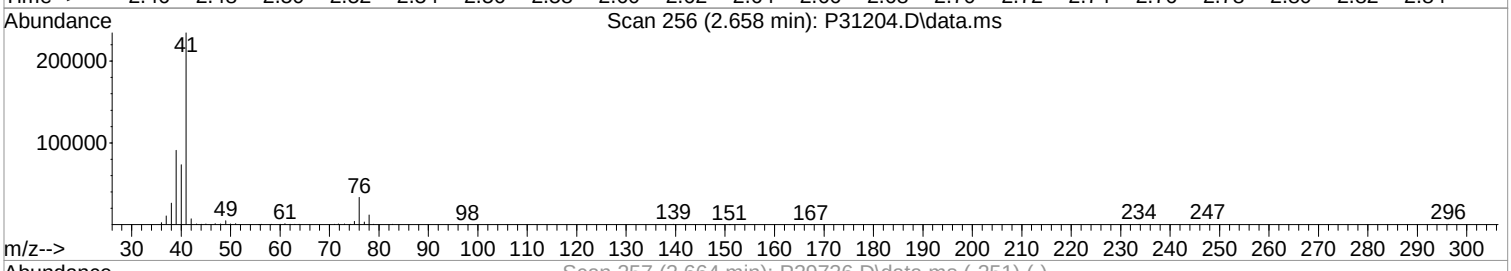
10/24/19

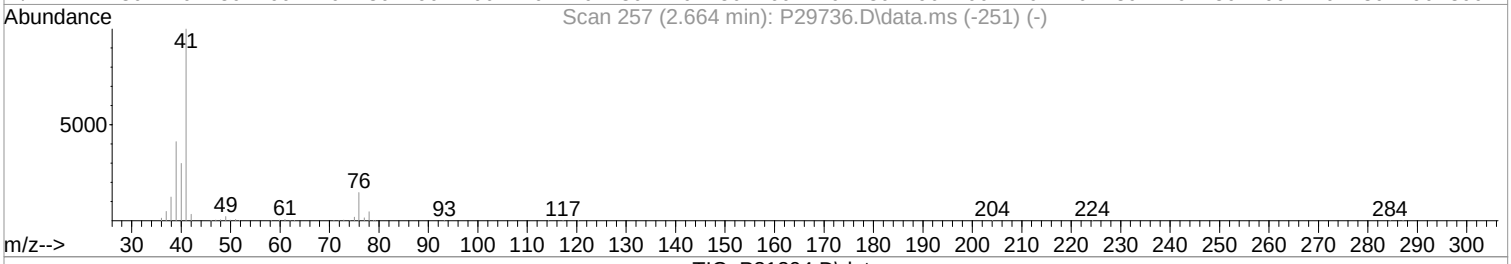
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:28:44 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31204.D\data.ms

(19) Acetonitrile

2.658min (-0.012) 448.87 ppb

response 150002

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	320.16
39.00	137.60	124.05
0.00	0.00	0.00

Manual Integration:

Before

10/24/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:30:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	50.0000	50.0000	0.0	95	-0.01
2	P	Dichlorodifluoromethane	50.0000	56.2653	-12.5	100	-0.01
3	P	Chloromethane	50.0000	38.0846	23.8#	74	0.00
4	P	Vinyl Chloride	50.0000	47.8074	4.4	90	0.00
5	P	Bromomethane	50.0000	43.8683	12.3	84	0.00
6	P	Chloroethane	50.0000	63.3441	-26.7#	122	0.00
7		Freon 21	50.0000	48.2706	3.5	96	-0.01
8	P	Trichlorofluoromethane	50.0000	49.2028	1.6	90	0.00
9		Diethyl Ether	50.0000	45.6053	8.8	86	-0.01
10		Freon 123a	50.0000	44.2691	11.5	91	0.00
11		Freon 123	50.0000	43.1367	13.7	88	0.00
12		Acrolein	250.0000	234.1636	6.3	90	0.00
13	P	1,1-Diclethene	50.0000	46.3213	7.4	89	0.00
14	P	Freon 113	50.0000	45.9602	8.1	89	-0.01
15	P	Acetone	50.0000	49.5390	0.9	98	-0.01
16		2-Propanol	1000.0000	833.5656	16.6	80	-0.01
17		Iodomethane	50.0000	28.3635	43.3#	49	0.00
18	P	Carbon Disulfide	50.0000	47.9058	4.2	90	-0.01
19		Acetonitrile	250.0000	209.8596	16.1	87	-0.01
20		Allyl Chloride	50.0000	35.0484	29.9#	71	-0.01
21	P	Methyl Acetate	50.0000	46.0858	7.8	90	-0.01
22	P	Methylene Chloride	50.0000	41.6221	16.8	89	-0.01
23		TBA	1000.0000	811.2811	18.9	77	-0.01
24		Acrylonitrile	250.0000	222.5412	11.0	82	0.00
25	P	Methyl-t-Butyl Ether	50.0000	44.7150	10.6	85	-0.02
26	P	trans-1,2-Dichloroethene	50.0000	46.6925	6.6	91	-0.01
27		Halothane	-1.0000	0.0000	0.0	0	-4.22#
28	P	1,1-Diclethane	50.0000	46.5581	6.9	88	0.00
29		Vinyl Acetate	50.0000	47.4805	5.0	99	-0.02
30		DIPE	50.0000	46.7689	6.5	89	-0.01
31		2-Chloro-1,3-Butadiene	50.0000	49.3279	1.3	91	0.00
32		ETBE	50.0000	45.2305	9.5	87	-0.01
33		2,2-Dichloropropane	50.0000	45.9896	8.0	86	-0.01
34	P	cis-1,2-Dichloroethene	50.0000	45.6071	8.8	87	0.00
35	P	2-Butanone	50.0000	48.3306	3.3	95	-0.02
36		Propionitrile	250.0000	222.1105	11.2	83	-0.01
37		Bromochloromethane	50.0000	43.9981	12.0	87	0.00
38		Methacrylonitrile	50.0000	41.7937	16.4	79	-0.02
39		Tetrahydrofuran	50.0000	42.3437	15.3	81	-0.02
40	P	Chloroform	50.0000	44.0378	11.9	86	-0.01
41	P	1,1,1-Trichloroethane	50.0000	46.6266	6.7	91	-0.01
42		TAME	50.0000	45.2357	9.5	85	0.00
43	I	1,4-Difluorobenzene	50.0000	50.0000	0.0	94	0.00
44	P	Cyclohexane	50.0000	48.3073	3.4	94	-0.01
45	s	surr4,Dibrflmethane	50.0000	48.6728	2.7	91	0.00
46	P	Carbontetrachloride	50.0000	50.6055	-1.2	94	0.00
47		1,1-Dichloropropene	50.0000	45.9851	8.0	85	-0.01
48	s	surr1,1,2-dichloroethane-d4	50.0000	49.2732	1.5	90	-0.01
49	P	Benzene	50.0000	47.8096	4.4	89	0.00
50	P	1,2-Dichloroethane	50.0000	45.4906	9.0	86	-0.01
51		Iso-Butyl Alcohol	1000.0000	833.8083	16.6	80	-0.02

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:30:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
52		n-Heptane	50.0000	46.0100	8.0	86	0.00
53		1-Butanol	2500.0000	2228.3823	10.9	79	-0.01
54	P	Trichloroethene	50.0000	49.0354	1.9	90	0.00
55	P	Methylcyclohexane	50.0000	46.2730	7.5	90	-0.01
56	P	1,2-Diclpropane	50.0000	46.1226	7.8	86	0.00
57		Dibromomethane	50.0000	49.3953	1.2	91	0.00
58		1,4-Dioxane	1000.0000	802.4120	19.8	79	-0.02
59		Methyl Methacrylate	50.0000	46.2635	7.5	80	0.00
60	P	Bromodichloromethane	50.0000	48.2069	3.6	89	0.00
61		2-Nitropropane	100.0000	129.3783	-29.4#	139	0.00
62		2-Chloroethylvinyl Ether	50.0000	35.3493	29.3#	62	0.00
63	P	cis-1,3-Dichloropropene	50.0000	47.9444	4.1	86	0.00
64	P	4-Methyl-2-pentanone	50.0000	48.7662	2.5	90	-0.01
65	s	SURR3,Toluene-d8	50.0000	49.8837	0.2	93	0.00
66	P	Toluene	50.0000	48.4660	3.1	88	0.00
67	P	trans-1,3-Dichloropropene	50.0000	47.5578	4.9	86	0.00
68		Ethyl Methacrylate	50.0000	45.7940	8.4	81	0.00
69	P	1,1,2-Trichloroethane	50.0000	47.1674	5.7	85	0.00
70	s	SURR2,BFB	50.0000	48.0760	3.8	91	0.00
71	I	d5-Chlorobenzene	50.0000	50.0000	0.0	92	0.00
72	P	Tetrachloroethene	50.0000	46.8022	6.4	91	0.00
73	P	2-Hexanone	50.0000	49.1321	1.7	90	0.00
74		1,3-Dichloropropane	50.0000	47.2811	5.4	87	0.00
75	P	Dibromochloromethane	50.0000	49.2275	1.5	91	0.00
76		N-Butyl Acetate	50.0000	49.1236	1.8	86	0.00
77	P	1,2-Dibromoethane	50.0000	45.3846	9.2	84	0.00
78	P	Chlorobenzene	50.0000	47.1802	5.6	88	0.00
79		3-CBTF	50.0000	48.4899	3.0	94	0.00
80		4-CBTF	50.0000	48.0581	3.9	93	0.00
81		1,1,1,2-Tetrachloroethane	50.0000	49.9221	0.2	90	0.00
82	P	Ethylbenzene	50.0000	47.1077	5.8	87	0.00
83	P	(m+p)Xylene	100.0000	97.1721	2.8	87	0.00
84	P	o-Xylene	50.0000	47.4224	5.2	88	0.00
85	P	Styrene	50.0000	48.6098	2.8	86	0.00
86	I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	95	0.00
87	P	Bromoform	50.0000	53.7909	-7.6	101	0.00
88		2-CBTF	50.0000	46.6458	6.7	91	0.00
89	P	Isopropylbenzene	50.0000	47.9414	4.1	87	0.00
90		Cyclohexanone	1000.0000	1463.0503	-46.3#	139	0.00
91		trans-1,4-Dichloro-2-Butene	50.0000	34.5908	30.8#	66	0.00
92	P	1,1,2,2-Tetrachloroethane	50.0000	45.3670	9.3	82	0.00
93		Bromobenzene	50.0000	46.4956	7.0	90	0.00
94		1,2,3-Trichloropropane	50.0000	42.7545	14.5	85	0.00
95		n-Propylbenzene	50.0000	47.9853	4.0	86	0.00
96		2-Chlorotoluene	50.0000	46.5181	7.0	87	0.00
97		3-Chlorotoluene	50.0000	45.8808	8.2	86	0.00
98		4-Chlorotoluene	50.0000	48.3995	3.2	88	0.00
99		1,3,5-Trimethylbenzene	50.0000	48.4339	3.1	88	0.00
100		tert-Butylbenzene	50.0000	47.9161	4.2	88	0.00
101		1,2,4-Trimethylbenzene	50.0000	49.2936	1.4	87	0.00

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:30:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
102		3,4-DCBTF	50.0000	46.1636	7.7	92	0.00
103		sec-Butylbenzene	50.0000	48.6645	2.7	88	0.00
104		p-Isopropyltoluene	50.0000	48.5069	3.0	87	0.00
105	P	1,3-Dclbenz	50.0000	46.4362	7.1	90	0.00
106	P	1,4-Dclbenz	50.0000	45.8868	8.2	89	0.00
107		2,4-DCBTF	50.0000	47.3356	5.3	94	0.00
108		2,5-DCBTF	50.0000	46.5820	6.8	92	0.00
109		n-Butylbenzene	50.0000	46.5082	7.0	85	0.00
110	P	1,2-Dclbenz	50.0000	46.9083	6.2	89	0.00
111	P	1,2-Dibromo-3-chloropropane	50.0000	43.8159	12.4	82	0.00
112		Trielution Dichlorotoluene	150.0000	141.2169	5.9	88	0.00
113		1,3,5 Trichlorobenzene	50.0000	47.4731	5.1	93	0.00
114		Coelution Dichlorotoluene	100.0000	94.1110	5.9	88	0.00
115	P	1,2,4-Tcbenzene	50.0000	46.2326	7.5	90	0.00
116		Hexachlorobt	50.0000	45.5508	8.9	88	0.00
117		Naphthalen	50.0000	48.5169	3.0	85	0.00
118		1,2,3-Tclbenzene	50.0000	46.4524	7.1	88	0.00
119		2,4,5-Trichlorotolene	50.0000	44.7792	10.4	86	0.00
120		2,3,6-Trichlorotoluene	50.0000	44.5658	10.9	85	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:30:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.438	168	309382	50.00	ppb		-0.01
43) 1,4-Difluorobenzene	6.523	114	500490	50.00	ppb		0.00
71) d5-Chlorobenzene	9.797	117	440198	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	239747	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	129105	48.67	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 97.34%				
48) surr1,1,2-dichloroetha...	5.847	65	180850	49.27	ppb		-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 98.54%				
65) SURR3,Toluene-d8	8.316	98	622916	49.88	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.76%				
70) SURR2,BFB	10.870	95	233575	48.08	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.16%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	215152	56.27	ppb		99
3) Chloromethane	1.317	50	224354	38.08	ppb		99
4) Vinyl Chloride	1.396	62	262888	47.81	ppb		94
5) Bromomethane	1.616	94	112808	43.87	ppb		95
6) Chloroethane	1.701	64	209732	63.34	ppb		91
7) Freon 21	1.853	67	295865	48.27	ppb		99
8) Trichlorofluoromethane	1.896	101	219377	49.20	ppb		94
9) Diethyl Ether	2.134	59	179260	45.61	ppb		98
10) Freon 123a	2.146	67	189671	44.27	ppb		98
11) Freon 123	2.201	83	203856	43.14	ppb		97
12) Acrolein	2.256	56	256368	234.16	ppb		98
13) 1,1-Diclethene	2.323	96	140197	46.32	ppb		94
14) Freon 113	2.323	101	135248	45.96	ppb		96
15) Acetone	2.396	43	124729	49.54	ppb		99
16) 2-Propanol	2.530	45	477252	833.57	ppb		99
17) Iodomethane	2.463	142	103389	28.36	ppb		97
18) Carbon Disulfide	2.512	76	434451	47.91	ppb		100
19) Acetonitrile	2.658	40	70131m	209.86	ppb		
20) Allyl Chloride	2.664	76	60821	35.05	ppb	#	72
21) Methyl Acetate	2.695	43	229963	46.09	ppb		98
22) Methylene Chloride	2.786	84	164071	41.62	ppb		96
23) TBA	2.945	59	687600	811.28	ppb		95
24) Acrylonitrile	3.073	53	574730	222.54	ppb		99
25) Methyl-t-Butyl Ether	3.085	73	569527	44.72	ppb		98
26) trans-1,2-Dichloroethene	3.073	96	153451	46.69	ppb		95
28) 1,1-Diclethane	3.591	63	316508	46.56	ppb		96
29) Vinyl Acetate	3.682	86	41721	47.48	ppb	#	95
30) DIPE	3.695	45	692327	46.77	ppb		98
31) 2-Chloro-1,3-Butadiene	3.701	53	271462	49.33	ppb		100
32) ETBE	4.225	59	602764	45.23	ppb		98
33) 2,2-Dichloropropane	4.420	77	229238	45.99	ppb		95
34) cis-1,2-Dichloroethene	4.438	96	172049	45.61	ppb		98
35) 2-Butanone	4.518	43	169968	48.33	ppb		95
36) Propionitrile	4.627	54	242324	222.11	ppb		96
37) Bromochloromethane	4.847	130	98182	44.00	ppb		97
38) Methacrylonitrile	4.877	67	107832	41.79	ppb		90
39) Tetrahydrofuran	4.950	42	104328	42.34	ppb		99
40) Chloroform	5.024	83	263855	44.04	ppb		97
41) 1,1,1-Trichloroethane	5.292	97	222742	46.63	ppb		99

1st 10/24/19
2nd 10/24/19

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:30:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.133	73	555541	45.24	ppb		95
44) Cyclohexane	5.353	41	193060	48.31	ppb		92
46) Carbontetrachloride	5.560	117	172487	50.61	ppb		96
47) 1,1-Dichloropropene	5.578	75	222659	45.99	ppb		98
49) Benzene	5.901	78	719324	47.81	ppb		99
50) 1,2-Dichloroethane	5.962	62	232638	45.49	ppb		99
51) Iso-Butyl Alcohol	5.962	43	357213	833.81	ppb		99
52) n-Heptane	6.346	43	259004	46.01	ppb		92
53) 1-Butanol	6.907	56	547345	2228.38	ppb		98
54) Trichloroethene	6.834	130	164048	49.04	ppb		94
55) Methylcyclohexane	7.048	55	249477	46.27	ppb		100
56) 1,2-Diclpropane	7.133	63	191524	46.12	ppb		91
57) Dibromomethane	7.273	93	101736	49.40	ppb		99
58) 1,4-Dioxane	7.340	88	77049	802.41	ppb		93
59) Methyl Methacrylate	7.352	69	178820	46.26	ppb		97
60) Bromodichloromethane	7.499	83	192619	48.21	ppb		95
61) 2-Nitropropane	7.803	41	81685	129.38	ppb		100
62) 2-Chloroethylvinyl Ether	7.901	63	98662	35.35	ppb		97
63) cis-1,3-Dichloropropene	8.035	75	284588	47.94	ppb		98
64) 4-Methyl-2-pentanone	8.242	43	313315	48.77	ppb		97
66) Toluene	8.389	91	737606	48.47	ppb		98
67) trans-1,3-Dichloropropene	8.669	75	259755	47.56	ppb		98
68) Ethyl Methacrylate	8.797	69	309521	45.79	ppb		98
69) 1,1,2-Trichloroethane	8.858	97	159367	47.17	ppb		98
72) Tetrachloroethene	8.968	164	124247	46.80	ppb		96
73) 2-Hexanone	9.151	43	240783	49.13	ppb		95
74) 1,3-Dichloropropane	9.023	76	312081	47.28	ppb		98
75) Dibromochloromethane	9.248	129	134228	49.23	ppb		98
76) N-Butyl Acetate	9.291	43	458743	49.12	ppb		99
77) 1,2-Dibromoethane	9.346	107	156088	45.38	ppb		99
78) Chlorobenzene	9.827	112	458199	47.18	ppb		99
79) 3-CBTF	9.840	180	242632	48.49	ppb		96
80) 4-CBTF	9.895	180	216779	48.06	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.913	131	144479	49.92	ppb		98
82) Ethylbenzene	9.937	106	248383	47.11	ppb		100
83) (m+p)Xylene	10.053	106	619001	97.17	ppb		99
84) o-Xylene	10.407	106	307399	47.42	ppb		95
85) Styrene	10.425	104	521826	48.61	ppb		98
87) Bromoform	10.583	173	90389	53.79	ppb		89
88) 2-CBTF	10.657	180	233392	46.65	ppb		98
89) Isopropylbenzene	10.736	105	784346	47.94	ppb		99
90) Cyclohexanone	10.827	55	1023030	1463.05	ppb		100
91) trans-1,4-Dichloro-2-B...	11.065	53	62437	34.59	ppb		97
92) 1,1,2,2-Tetrachloroethane	11.016	83	247213	45.37	ppb		99
93) Bromobenzene	10.992	156	187400	46.50	ppb		92
94) 1,2,3-Trichloropropane	11.047	110	76693	42.75	ppb	#	84
95) n-Propylbenzene	11.096	91	939307	47.99	ppb		98
96) 2-Chlorotoluene	11.156	91	574630	46.52	ppb		98
97) 3-Chlorotoluene	11.211	91	575614	45.88	ppb		99
98) 4-Chlorotoluene	11.254	91	645466	48.40	ppb		96
99) 1,3,5-Trimethylbenzene	11.242	105	659906	48.43	ppb		98
100) tert-Butylbenzene	11.516	119	574579	47.92	ppb		97
101) 1,2,4-Trimethylbenzene	11.553	105	666778	49.29	ppb		99
102) 3,4-DCBTF	11.620	214	190504	46.16	ppb		97
103) sec-Butylbenzene	11.693	105	844382	48.66	ppb		99
104) p-Isopropyltoluene	11.815	119	720546	48.51	ppb		99

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:30:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	372819	46.44	ppb	96
106) 1,4-Dclbenz	11.858	146	377147	45.89	ppb	98
107) 2,4-DCBTF	11.906	214	178251	47.34	ppb	95
108) 2,5-DCBTF	11.949	214	195107	46.58	ppb	96
109) n-Butylbenzene	12.150	91	675587	46.51	ppb	97
110) 1,2-Dclbenz	12.162	146	372623	46.91	ppb	97
111) 1,2-Dibromo-3-chloropr...	12.790	157	55154	43.82	ppb	94
112) Trielution Dichlorotol...	12.900	125	1025828	141.22	ppb	98
113) 1,3,5 Trichlorobenzene	12.949	180	282450	47.47	ppb	95
114) Coelution Dichlorotoluene	13.229	125	765828	94.11	ppb	96
115) 1,2,4-Tcbenzene	13.430	180	282831	46.23	ppb	98
116) Hexachlorobt	13.558	225	111627	45.55	ppb	95
117) Naphthalen	13.626	128	933898	48.52	ppb	98
118) 1,2,3-Tclbenzene	13.815	180	280698	46.45	ppb	97
119) 2,4,5-Trichlorotolene	14.394	159	206246	44.78	ppb	99
120) 2,3,6-Trichlorotoluene	14.479	159	212259	44.57	ppb	94

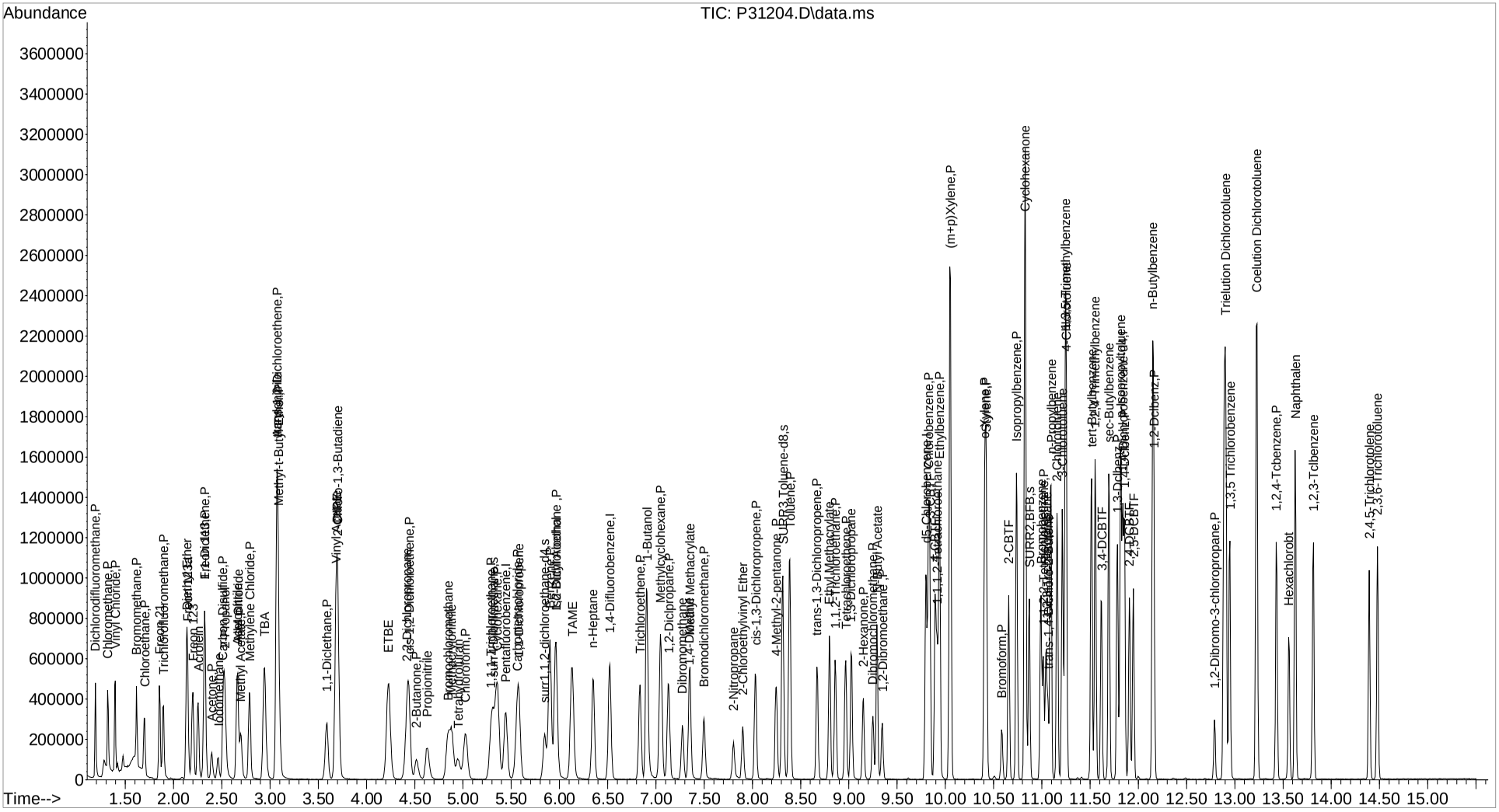
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31204.D
Acq On : 23 Oct 2019 8:08 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 24 09:30:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

10/24/19 1st 10/24/19 2nd

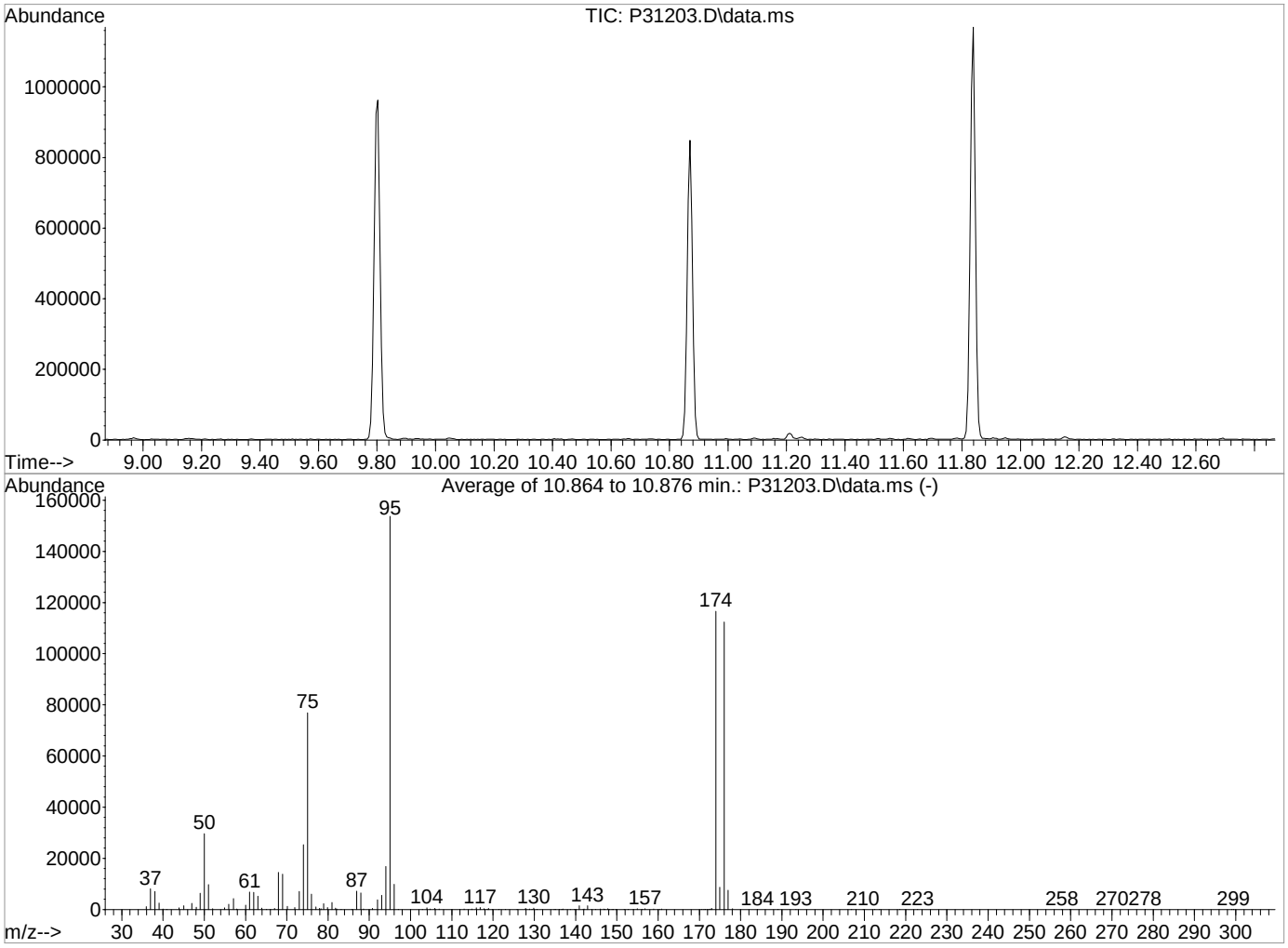


1st 10/24/19
2nd 10/24/19

Data Path : I:\ACQUDATA\msvoa12\Data\102319\
Data File : P31203.D
Acq On : 23 Oct 2019 7:46 pm
Operator : K.Ruest
Sample : TUNE Inst : MSVOA-12
Misc :
ALS Vial : 19 Sample Multiplier: 1

Integration File: INTP90.P

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge
Last Update : Thu Sep 12 10:44:40 2019



AutoFind: Scans 1602, 1603, 1604; Background Corrected with Scan 1595

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.2	29600	PASS
75	95	30	60	50.0	76858	PASS
95	95	100	100	100.0	153771	PASS
96	95	5	9	6.4	9831	PASS
173	174	0.00	2	0.3	398	PASS
174	95	50	120	75.8	116528	PASS
175	174	5	9	7.5	8697	PASS
176	174	95	101	96.5	112443	PASS
177	176	5	9	6.7	7504	PASS

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	329762	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	550163	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	492719	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.845	152	279593	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	144813	49.67	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 99.34%				
48) surr1,1,2-dichloroetha...	5.846	65	205796	51.01	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 102.02%				
65) SURR3,Toluene-d8	8.315	98	688761	50.18	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.36%				
70) SURR2,BFB	10.870	95	281699	52.75	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 105.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	835524	204.97	ppb		95
3) Chloromethane	1.317	50	1189927	189.51	ppb		94
4) Vinyl Chloride	1.390	62	1114747	190.21	ppb		96
5) Bromomethane	1.615	94	556200	174.82	ppb		91
6) Chloroethane	1.682	64	676108	191.57	ppb		100
7) Freon 21	1.847	67	1258200	192.59	ppb		99
8) Trichlorofluoromethane	1.884	101	963519	202.73	ppb		94
9) Diethyl Ether	2.134	59	826357	197.24	ppb		97
10) Freon 123a	2.140	67	859261	188.12	ppb		100
11) Freon 123	2.195	83	950098	188.62	ppb		98
12) Acrolein	2.249	56	1219763	1045.26	ppb		98
13) 1,1-Diclethene	2.316	96	647899	200.84	ppb		93
14) Freon 113	2.316	101	620892	197.95	ppb		99
15) Acetone	2.396	43	511030	190.42	ppb		99
16) 2-Propanol	2.542	45	2479426	4062.93	ppb		93
17) Iodomethane	2.457	142	881495	237.27	ppb		98
18) Carbon Disulfide	2.512	76	1819663	188.25	ppb		96
19) Acetonitrile	2.658	40	346022m	842.06	ppb		
20) Allyl Chloride	2.658	76	348240	189.07	ppb	#	89
21) Methyl Acetate	2.701	43	1086866	204.35	ppb		97
22) Methylene Chloride	2.786	84	752763	179.16	ppb		96
23) TBA	2.950	59	3559823	3940.56	ppb		93
24) Acrylonitrile	3.072	53	2641204	965.26	ppb		96
25) Methyl-t-Butyl Ether	3.085	73	2617151	192.78	ppb		96
26) trans-1,2-Dichloroethene	3.072	96	714986	202.57	ppb		92
28) 1,1-Diclethane	3.584	63	1453717	200.62	ppb		98
29) Vinyl Acetate	3.682	86	186512	235.90	ppb	#	58
30) DIPE	3.694	45	2965387	187.94	ppb		98
31) 2-Chloro-1,3-Butadiene	3.700	53	1182131	201.75	ppb		99
32) ETBE	4.231	59	2718798	191.41	ppb		99
33) 2,2-Dichloropropane	4.420	77	1090649	205.28	ppb		97
34) cis-1,2-Dichloroethene	4.438	96	794974	198.25	ppb		95
35) 2-Butanone	4.523	43	758998	202.48	ppb		95
36) Propionitrile	4.633	54	1234454	1061.55	ppb		100
37) Bromochloromethane	4.846	130	450622	189.46	ppb		92
38) Methacrylonitrile	4.883	67	565431	205.61	ppb		89
39) Tetrahydrofuran	4.944	42	553375	179.23	ppb		95
40) Chloroform	5.029	83	1237089	193.71	ppb		98
41) 1,1,1-Trichloroethane	5.298	97	1045451	205.32	ppb		97

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	TAME	6.133	73	2580844	197.16	ppb		94
44)	Cyclohexane	5.352	41	857910	195.28	ppb		98
46)	Carbontetrachloride	5.560	117	827968	217.53	ppb		96
47)	1,1-Dichloropropene	5.578	75	1060838	199.31	ppb		99
49)	Benzene	5.901	78	3075242	185.94	ppb		96
50)	1,2-Dichloroethane	5.968	62	1084162	192.86	ppb		98
51)	Iso-Butyl Alcohol	5.974	43	2076522	4409.40	ppb		98
52)	n-Heptane	6.352	43	1239989	200.42	ppb		97
53)	1-Butanol	6.919	56	3001113	11115.14	ppb		95
54)	Trichloroethene	6.840	130	745915	202.83	ppb		98
55)	Methylcyclohexane	7.053	55	1149121	193.90	ppb		100
56)	1,2-Diclpropane	7.133	63	895109	196.10	ppb		90
57)	Dibromomethane	7.279	93	471222	208.15	ppb		97
58)	1,4-Dioxane	7.346	88	441875	4199.75	ppb		95
59)	Methyl Methacrylate	7.358	69	921970	216.99	ppb		100
60)	Bromodichloromethane	7.498	83	928430	211.38	ppb		97
61)	2-Nitropropane	7.809	41	342453	493.43	ppb		98
62)	2-Chloroethylvinyl Ether	7.901	63	653425	211.11	ppb		98
63)	cis-1,3-Dichloropropene	8.035	75	1366795	209.47	ppb		97
64)	4-Methyl-2-pentanone	8.248	43	1436099	203.34	ppb		98
66)	Toluene	8.388	91	2878078	172.04	ppb		81
67)	trans-1,3-Dichloropropene	8.675	75	1279426	213.10	ppb		96
68)	Ethyl Methacrylate	8.803	69	1535017	206.61	ppb		99
69)	1,1,2-Trichloroethane	8.864	97	752692	202.66	ppb		98
72)	Tetrachloroethene	8.968	164	568330	191.26	ppb		99
73)	2-Hexanone	9.150	43	1126653	205.39	ppb		98
74)	1,3-Dichloropropane	9.029	76	1425990	193.01	ppb		97
75)	Dibromochloromethane	9.254	129	697339	228.48	ppb		96
76)	N-Butyl Acetate	9.297	43	2031760	194.38	ppb		88
77)	1,2-Dibromoethane	9.346	107	769267	199.83	ppb		99
78)	Chlorobenzene	9.827	112	1986576	182.75	ppb		91
79)	3-CBTF	9.845	180	1095758	195.64	ppb		97
80)	4-CBTF	9.900	180	994219	196.92	ppb		96
81)	1,1,1,2-Tetrachloroethane	9.919	131	723453	223.33	ppb		99
82)	Ethylbenzene	9.943	106	1168482	197.99	ppb	#	53
83)	(m+p)Xylene	10.053	106	2521151	353.59	ppb	#	65
84)	o-Xylene	10.412	106	1413400	194.80	ppb	#	67
85)	Styrene	10.431	104	2233412	185.87	ppb		91
87)	Bromoform	10.589	173	476596	243.20	ppb		95
88)	2-CBTF	10.662	180	1102486	188.94	ppb		99
89)	Isopropylbenzene	10.742	105	2953037	154.77	ppb		75
90)	Cyclohexanone	10.833	55	2538023	3112.39	ppb		90
91)	trans-1,4-Dichloro-2-B...	11.065	53	447623	212.65	ppb		99
92)	1,1,2,2-Tetrachloroethane	11.022	83	1261943	198.58	ppb		95
93)	Bromobenzene	10.992	156	888220	188.97	ppb		95
94)	1,2,3-Trichloropropane	11.046	110	397650	190.09	ppb	#	85
95)	n-Propylbenzene	11.095	91	3277692	143.58	ppb		69
96)	2-Chlorotoluene	11.162	91	2371650	164.41	ppb		85
97)	3-Chlorotoluene	11.217	91	2387024	163.14	ppb	#	84
98)	4-Chlorotoluene	11.254	91	2554003	164.22	ppb		80
99)	1,3,5-Trimethylbenzene	11.248	105	2613089	164.46	ppb		78
100)	tert-Butylbenzene	11.516	119	2385151	170.56	ppb		86
101)	1,2,4-Trimethylbenzene	11.559	105	2590181	164.20	ppb		76
102)	3,4-DCBTF	11.620	214	915617	190.26	ppb		98
103)	sec-Butylbenzene	11.699	105	3017730	149.14	ppb		75
104)	p-Isopropyltoluene	11.821	119	2727751	157.46	ppb		70

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	1668057	178.15	ppb		92
106) 1,4-Dclbenz	11.863	146	1698777	177.23	ppb		91
107) 2,4-DCBTF	11.912	214	836695	190.52	ppb		98
108) 2,5-DCBTF	11.955	214	943644	193.19	ppb		97
109) n-Butylbenzene	12.150	91	2661288	157.10	ppb		73
110) 1,2-Dclbenz	12.162	146	1685329	181.92	ppb		94
111) 1,2-Dibromo-3-chloropr...	12.796	157	327261	222.93	ppb		98
112) Trielution Dichlorotol...	12.906	125	4035898	476.41	ppb	#	76
113) 1,3,5 Trichlorobenzene	12.955	180	1289962	185.91	ppb		98
114) Coelution Dichlorotoluene	13.229	125	2860998	301.48	ppb	#	73
115) 1,2,4-Tcbenzene	13.436	180	1308617	183.43	ppb		97
116) Hexachlorobt	13.564	225	550130	192.49	ppb		98
117) Naphthalen	13.631	128	3213060	143.13	ppb		78
118) 1,2,3-Tclbenzene	13.820	180	1300833	184.59	ppb		96
119) 2,4,5-Trichlorotolene	14.399	159	966243	179.89	ppb		99
120) 2,3,6-Trichlorotoluene	14.485	159	1005986	181.12	ppb		93

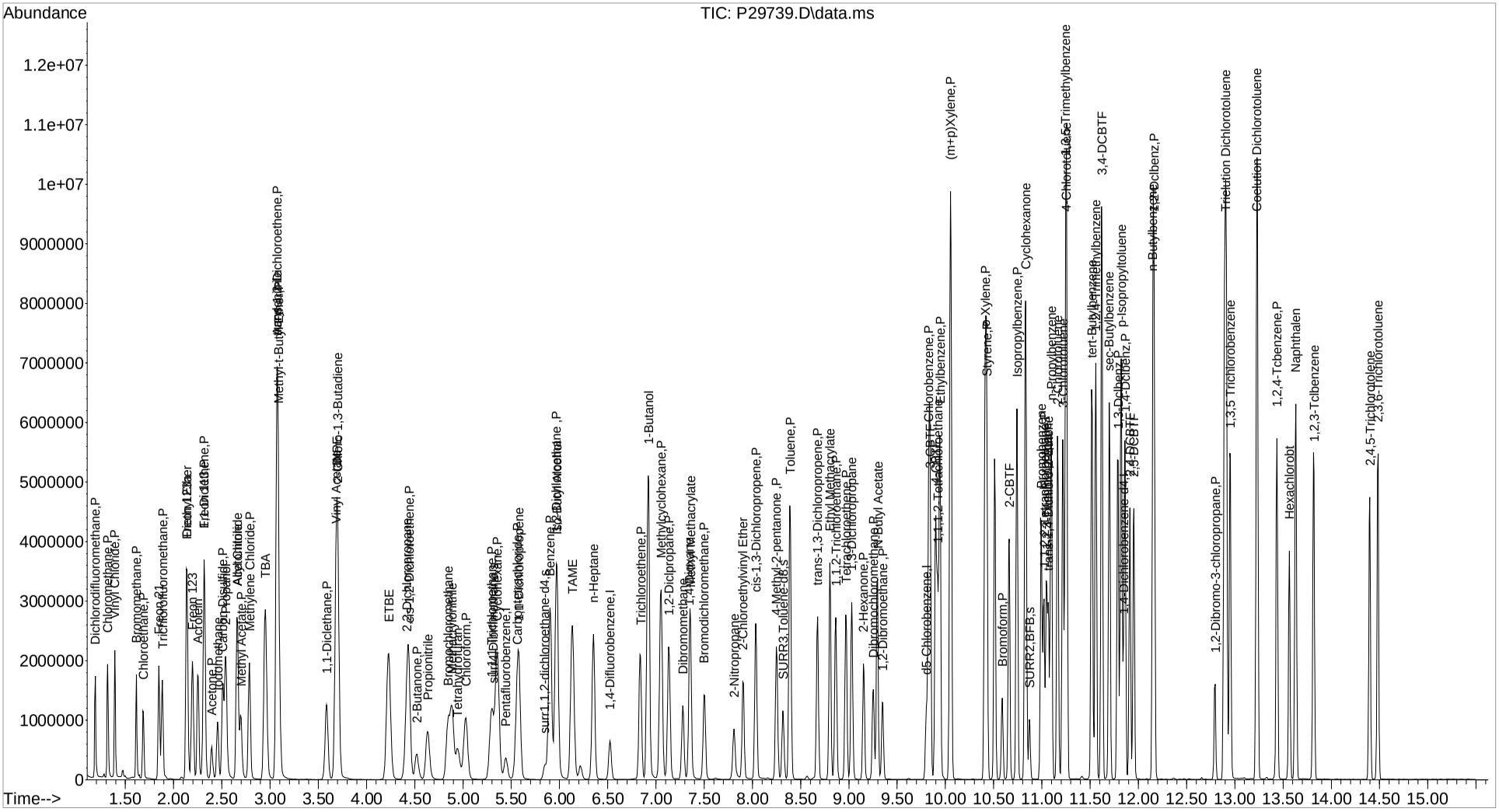
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

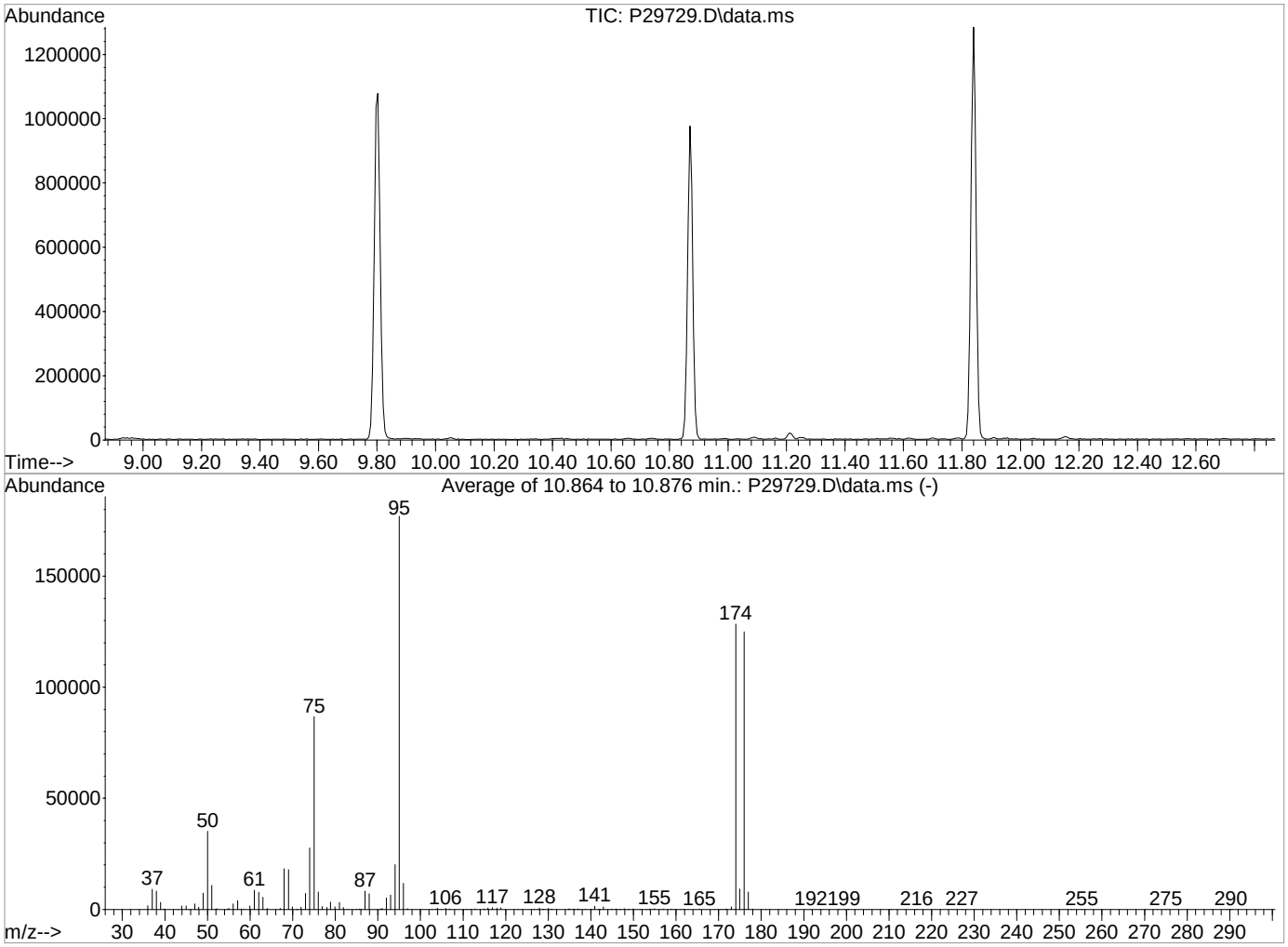


1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29729.D
Acq On : 11 Sep 2019 2:39 pm
Operator : K.Ruest
Sample : TUNE Inst : MSVOA-12
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: INTP90.P

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge
Last Update : Wed Sep 11 14:48:56 2019



AutoFind: Scans 1602, 1603, 1604; Background Corrected with Scan 1595

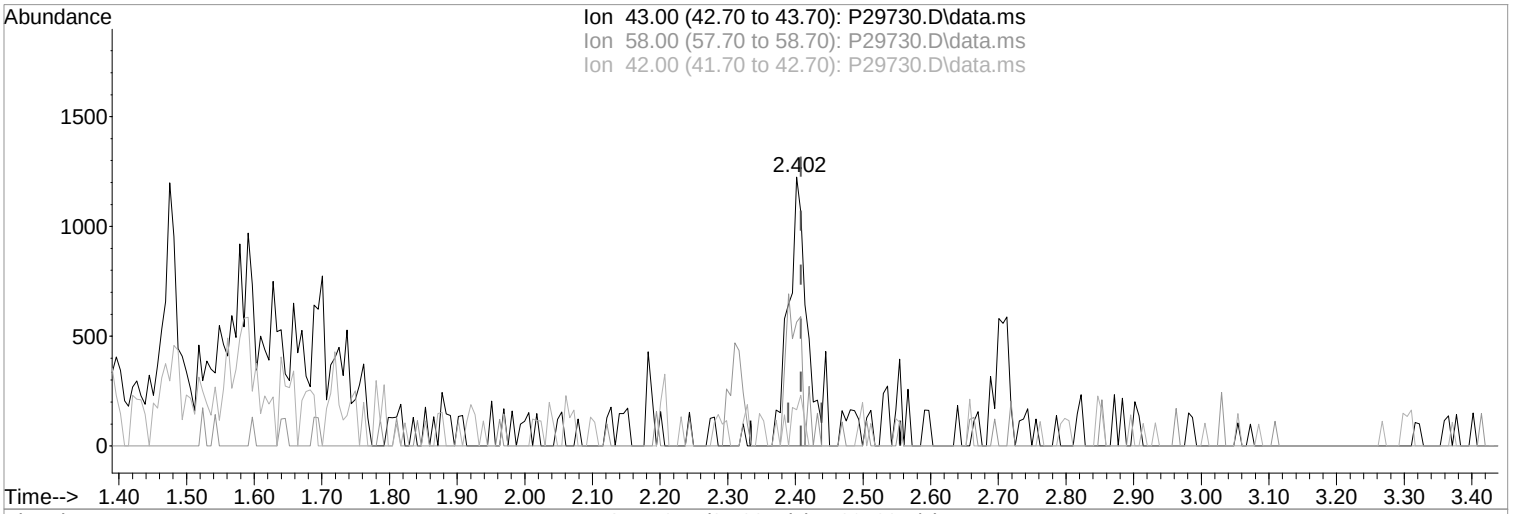
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.8	35115	PASS
75	95	30	60	49.0	86744	PASS
95	95	100	100	100.0	176981	PASS
96	95	5	9	6.6	11701	PASS
173	174	0.00	2	0.9	1122	PASS
174	95	50	120	72.5	128395	PASS
175	174	5	9	7.1	9139	PASS
176	174	95	101	97.3	124885	PASS
177	176	5	9	6.3	7852	PASS

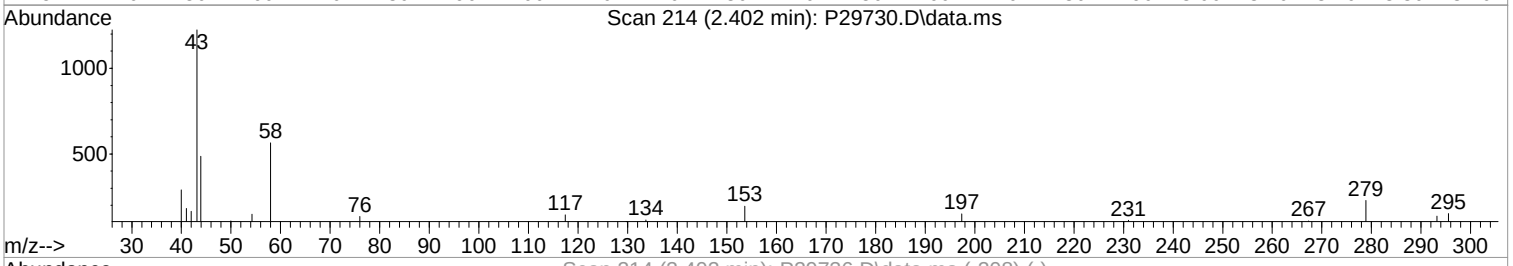
1st 09/12/19
2nd 09/12/19

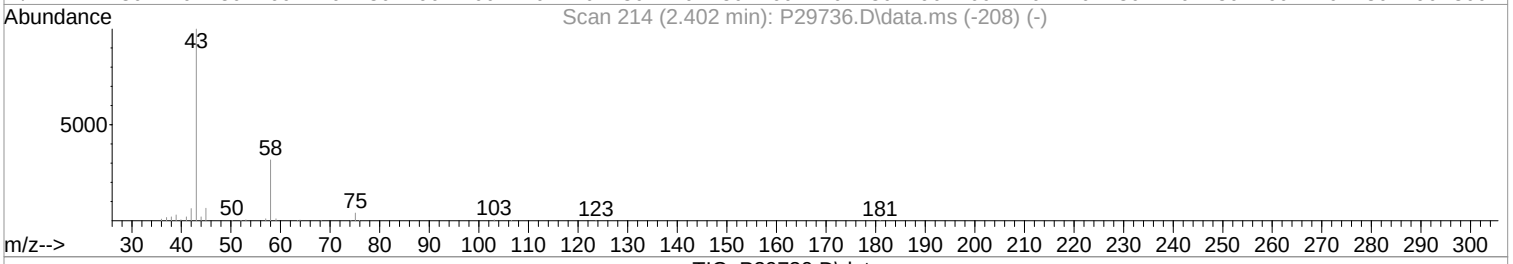
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:58:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29730.D\data.ms

(15) Acetone (P)

2.402min (-0.006) 0.83 ppb m

response 2259

Ion	Exp%	Act%
43.00	100	100
58.00	31.70	46.12
42.00	6.50	13.47
0.00	0.00	0.00

Manual Integration:

After

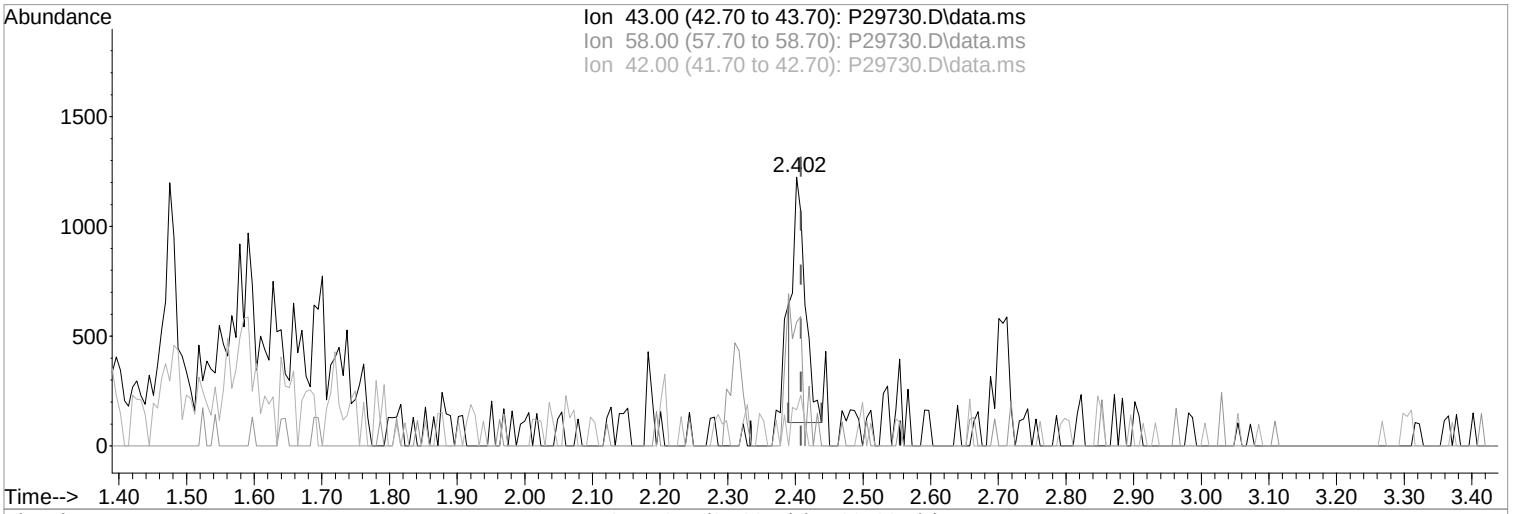
Poor integration.

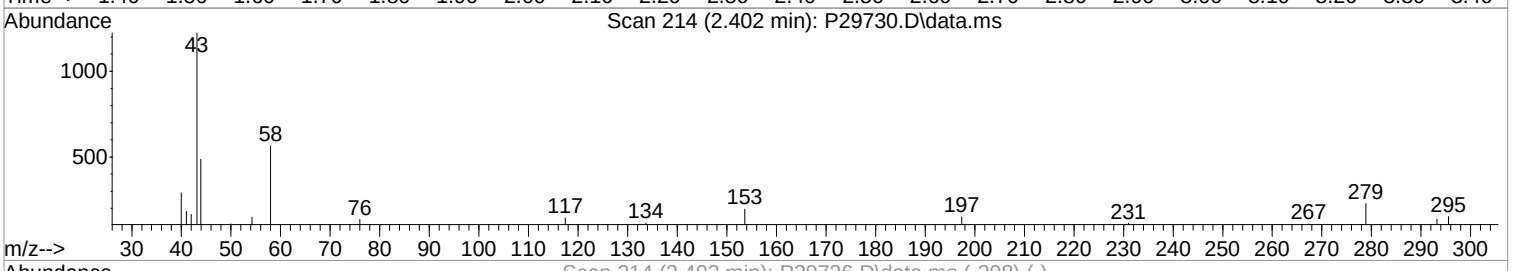
09/12/19

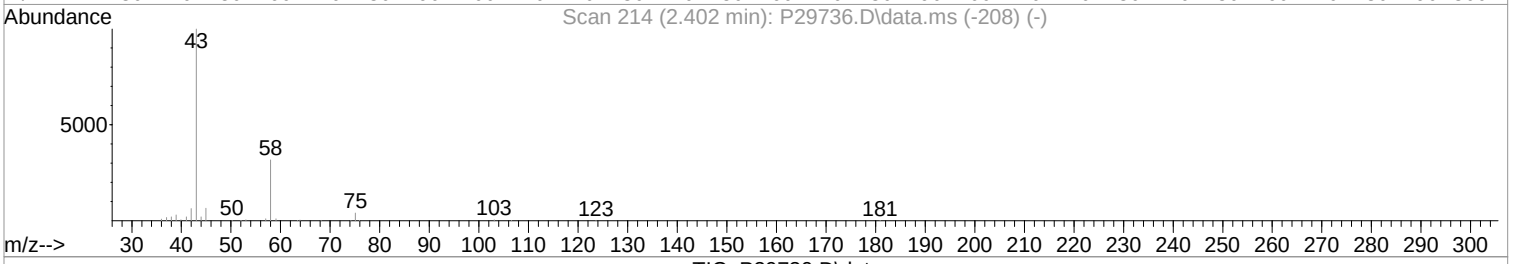
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:58:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29730.D\data.ms

(15) Acetone (P)

2.402min (-0.006) 0.51 ppb

response 1383

Ion	Exp%	Act%
43.00	100	100
58.00	31.70	46.12
42.00	6.50	13.47
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:59:52 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

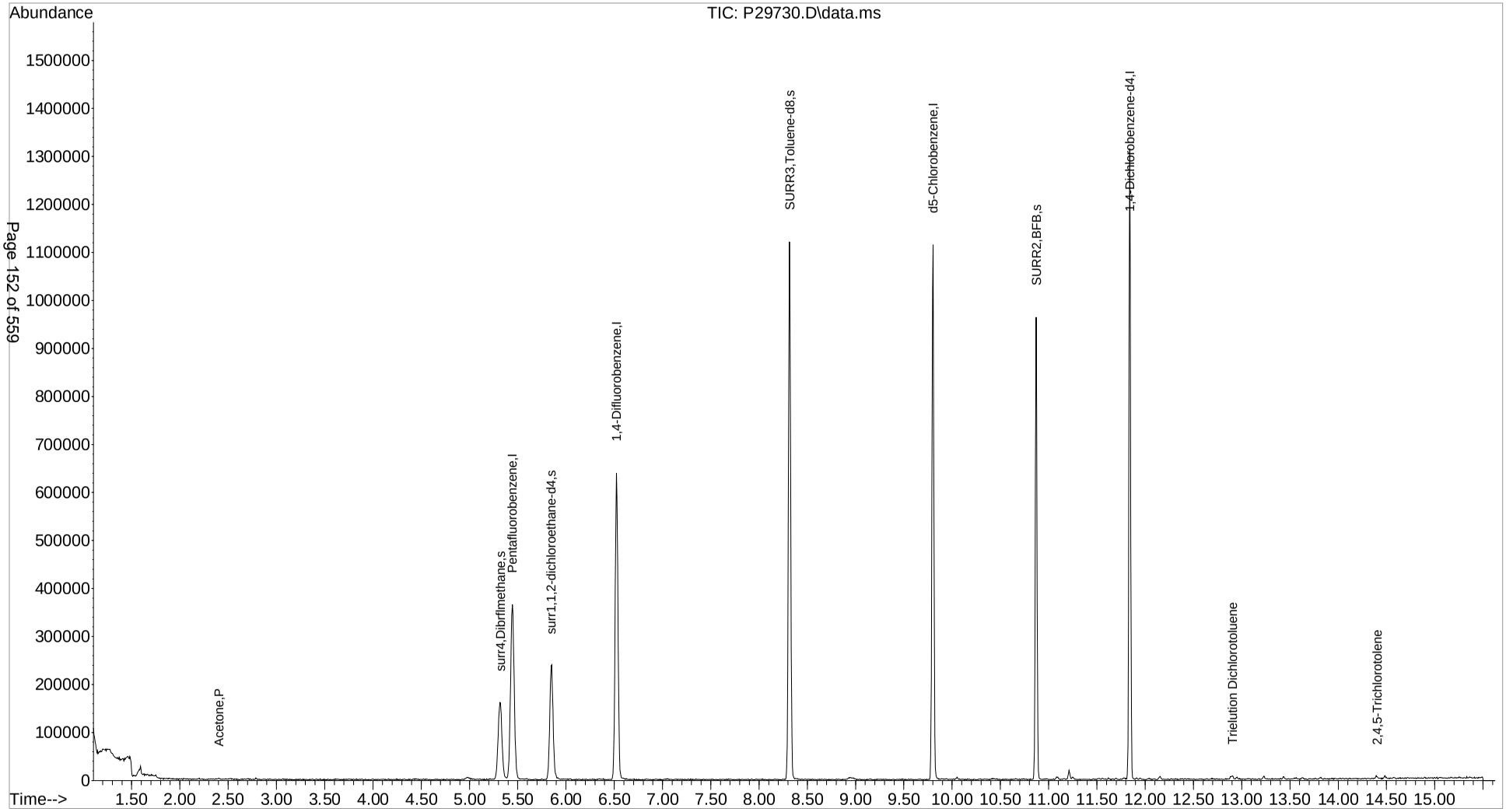
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	332985	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	546934	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	480739	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	251403	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	140192	48.36	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 96.72%				
48) surr1,1,2-dichloroetha...	5.846	65	202785	50.56	ppb		-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 101.12%				
65) SURR3,Toluene-d8	8.315	98	671599	49.22	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 98.44%				
70) SURR2,BFB	10.870	95	255359	48.10	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.20%				
Target Compounds							Qvalue
15) Acetone	2.402	43	2259m	0.83	ppb		
39) Tetrahydrofuran	4.981	42	4458	Below Cal			78
112) Trielution Dichlorotol...	12.900	125	2846	0.37	ppb	#	73
119) 2,4,5-Trichlorotolene	14.400	159	1006	0.21	ppb	#	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

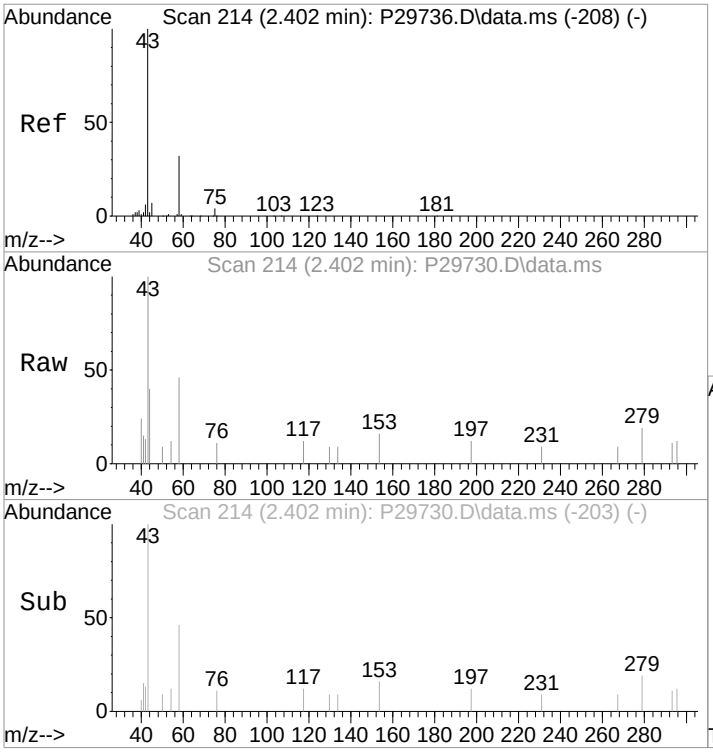
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:59:52 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



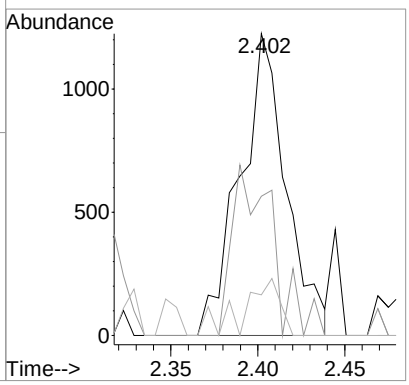
1st 09/12/19
2nd 09/12/19

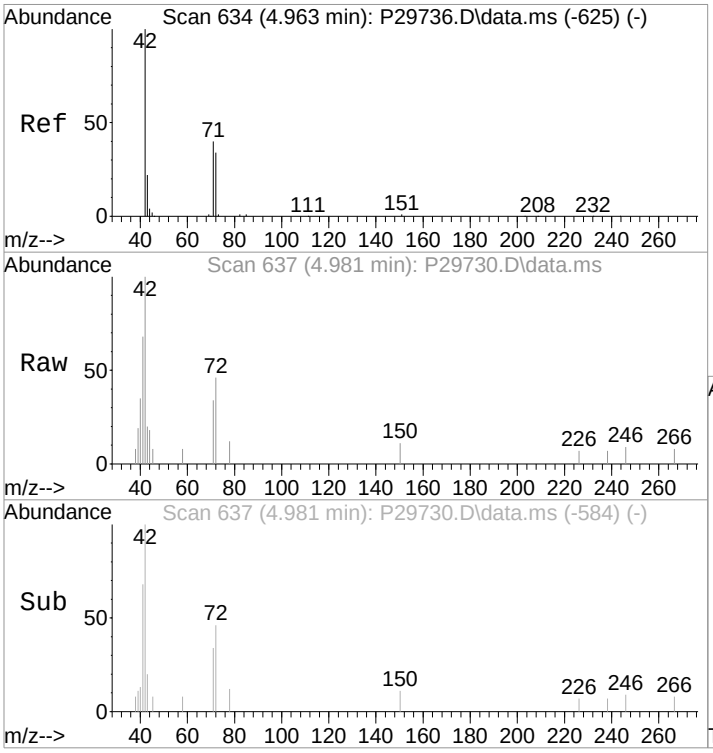


#15
Acetone
Concen: 0.83 ppb m
RT: 2.402 min Scan# 214
Delta R.T. -0.006 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion: 43 Resp: 2259

Ion	Ratio	Lower	Upper
43	100		
58	46.1	11.7	51.7
42	13.5	0.0	26.5

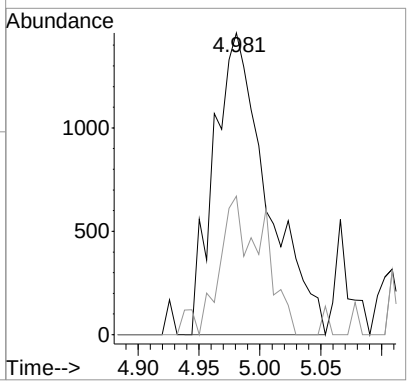


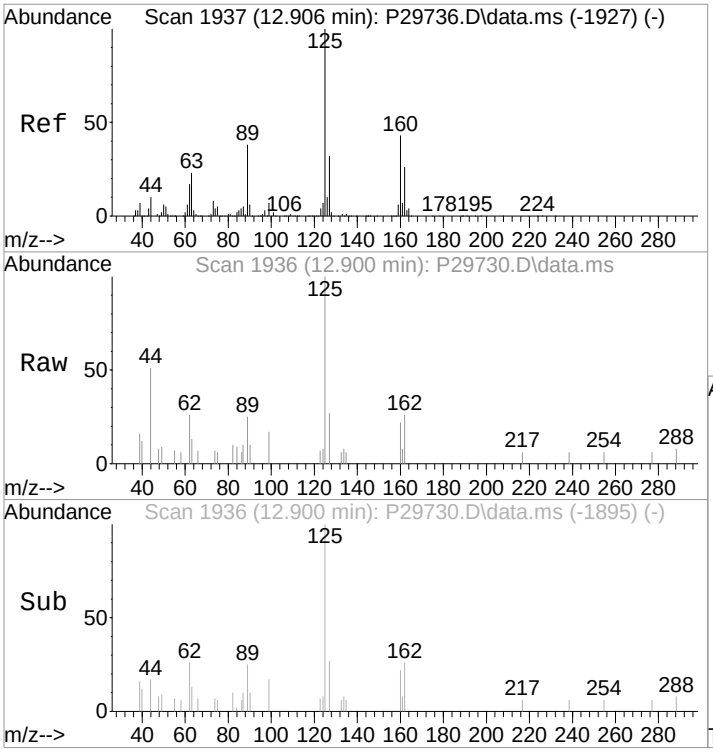


#39
Tetrahydrofuran
Concen: Below Cal
RT: 4.981 min Scan# 637
Delta R.T. 0.007 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion: 42 Resp: 4458

Ion	Ratio	Lower	Upper
42	100		
72	45.9	13.2	53.2

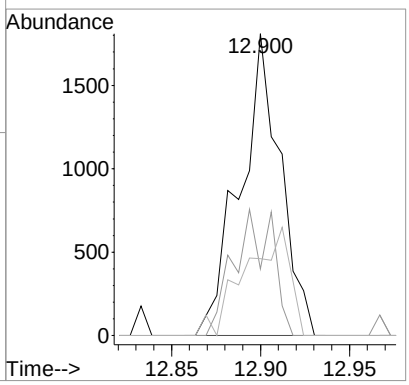


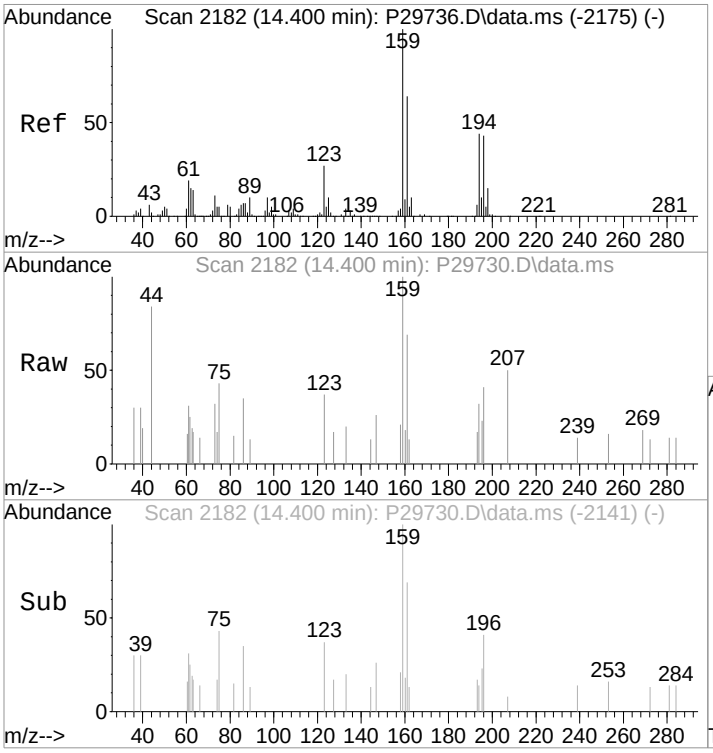


#112
Trielution Dichlorotoluene
Concen: 0.37 ppb
RT: 12.900 min Scan# 1936
Delta R.T. -0.000 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion:125 Resp: 2846

Ion	Ratio	Lower	Upper
125	100		
160	22.1	34.3	51.5#
89	25.5	30.8	46.2#

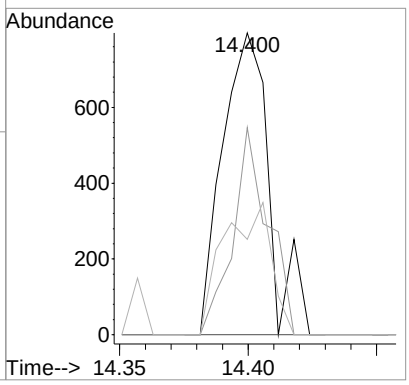




#119
2,4,5-Trichlorotolene
Concen: 0.21 ppb
RT: 14.400 min Scan# 2182
Delta R.T. -0.000 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion:159 Resp: 1006

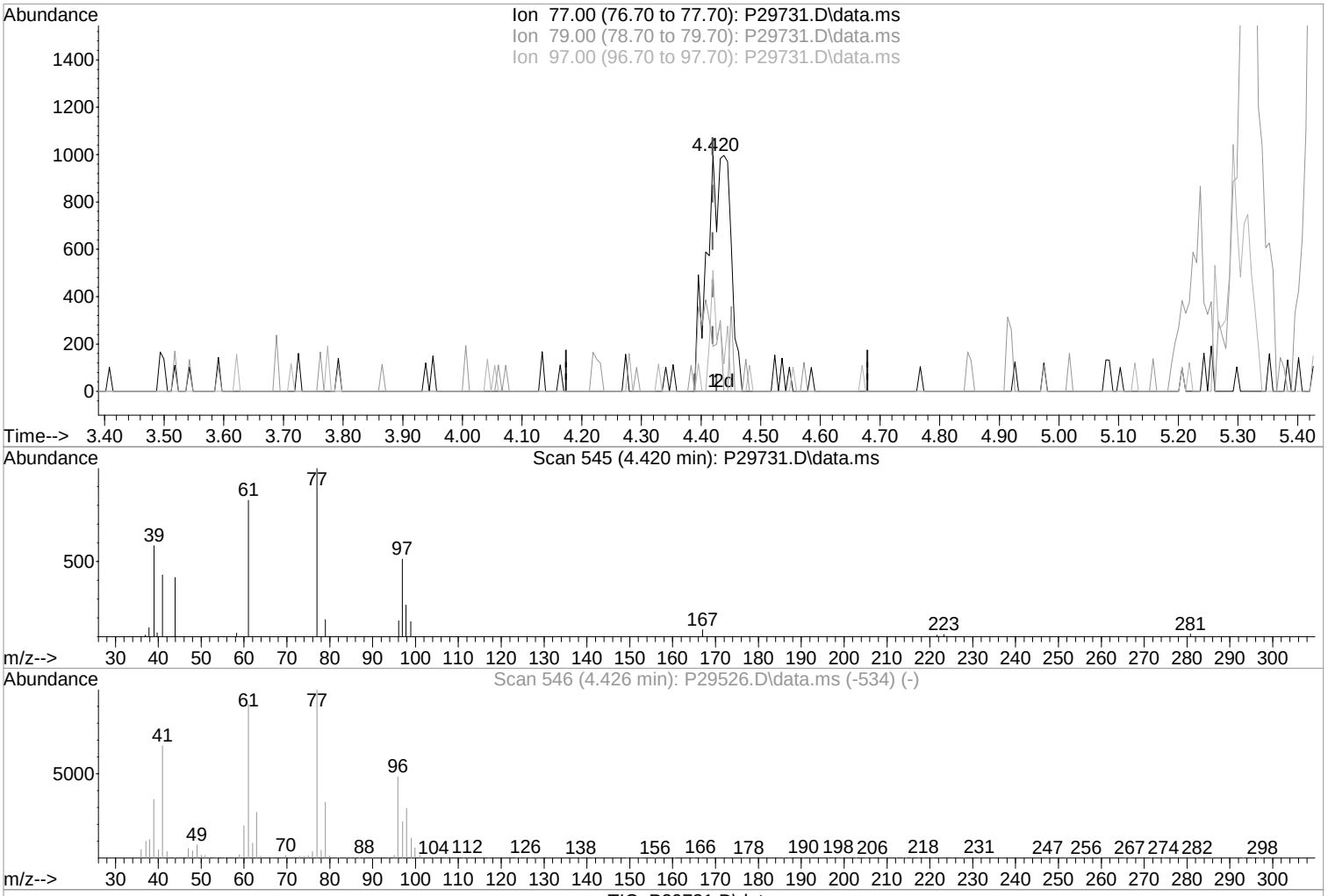
Ion	Ratio	Lower	Upper
159	100		
161	68.6	50.8	76.2
194	31.6	35.3	52.9#



Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(33) 2,2-Dichloropropane

4.420min (+0.000) 0.49 ppb m

response 2749

Ion	Exp%	Act%
77.00	100	100
79.00	34.40	19.06
97.00	19.80	51.35#
0.00	0.00	0.00

Manual Integration:

After

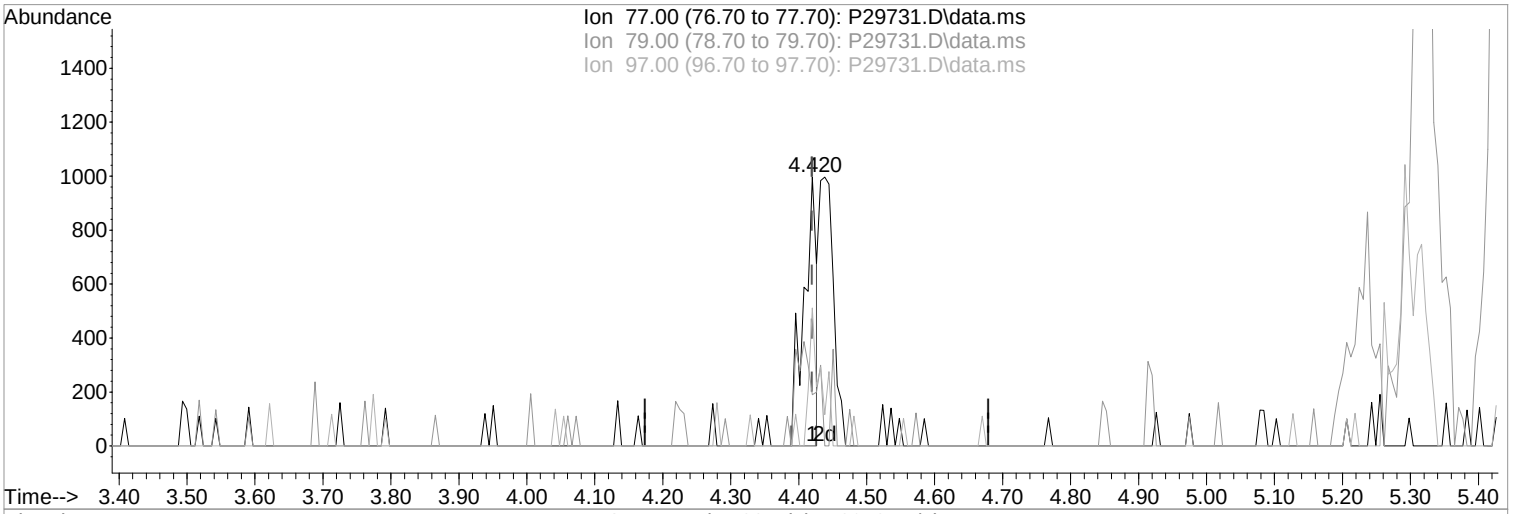
Split Peak

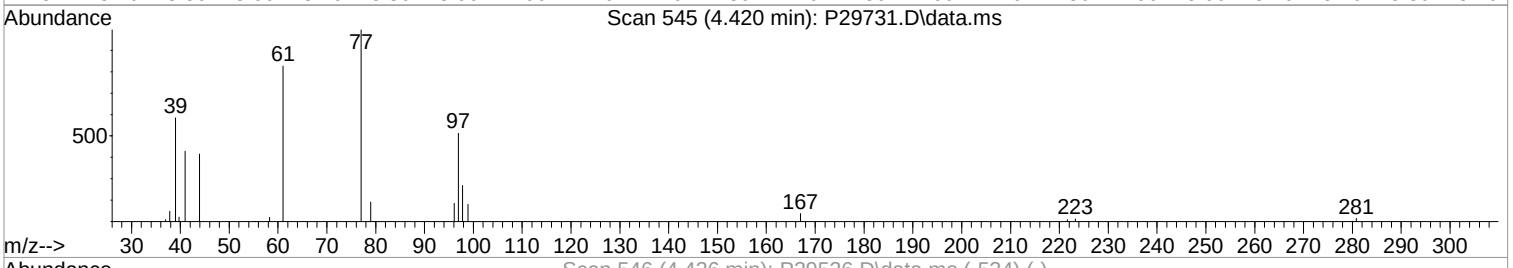
09/12/19

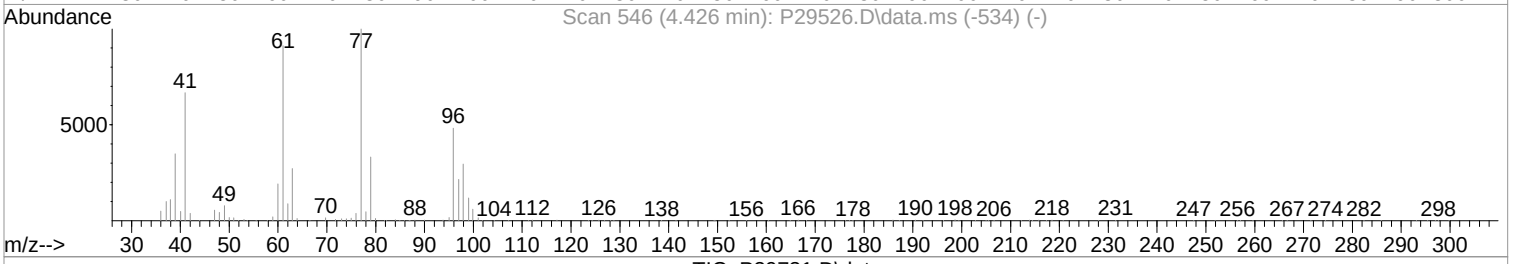
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(33) 2,2-Dichloropropane

4.420min (+0.000) 0.23 ppb

response 1298

Ion	Exp%	Act%
77.00	100	100
79.00	34.40	19.06
97.00	19.80	51.35#
0.00	0.00	0.00

Manual Integration:

Before

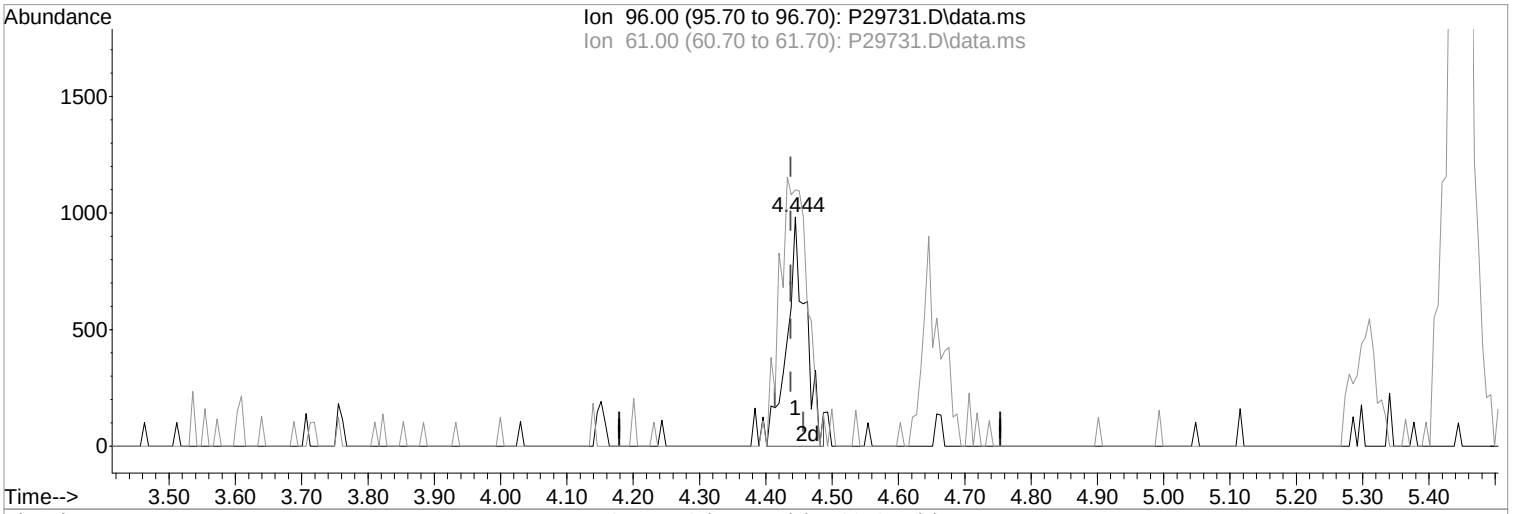
09/12/19

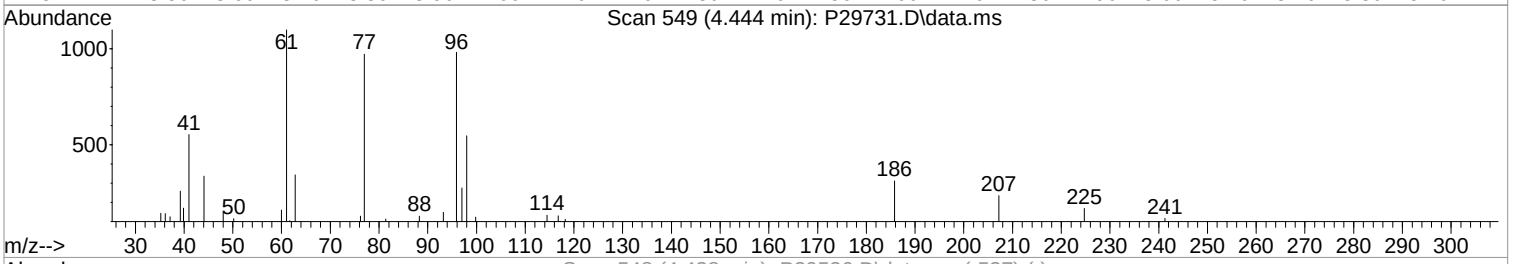
1st 09/12/19
2nd 09/12/19

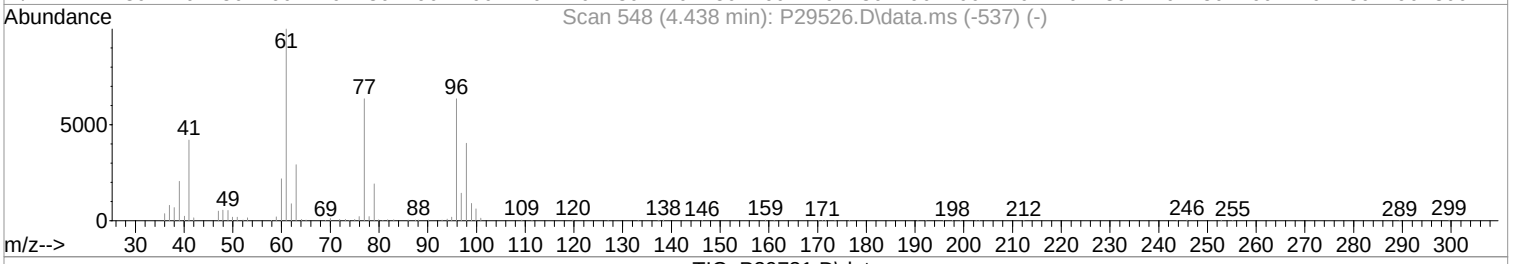
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.47 ppb m

response 1957

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	111.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

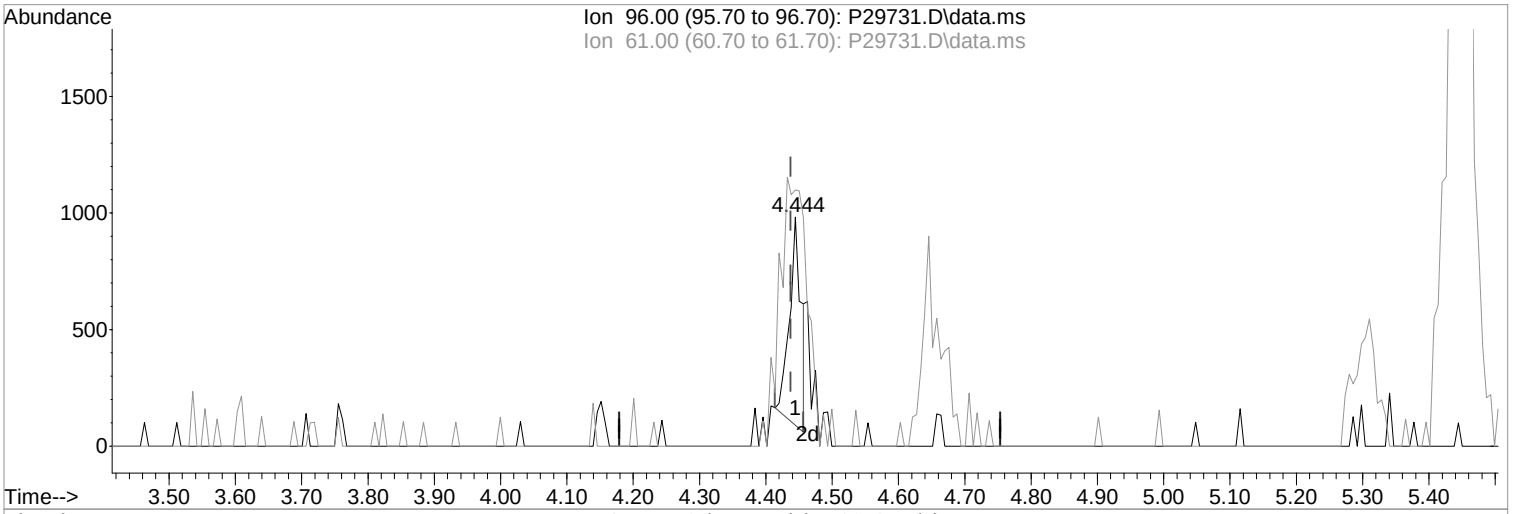
Split Peak

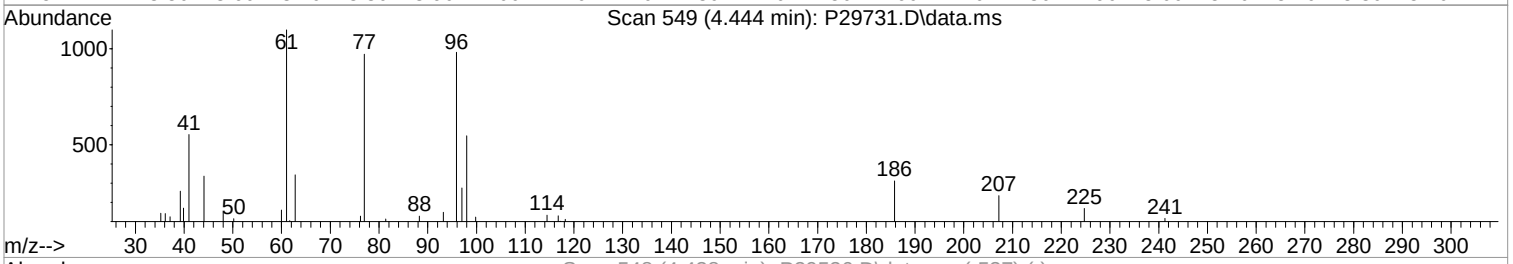
09/12/19

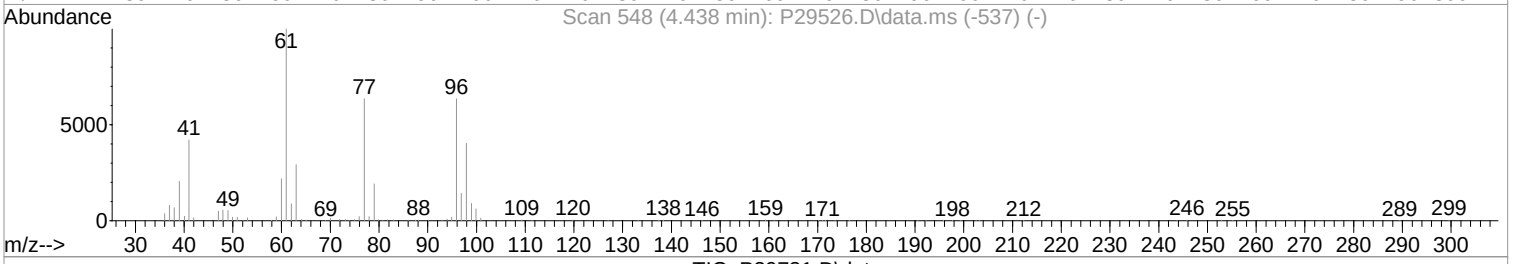
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.26 ppb

response 1089

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	122.61#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

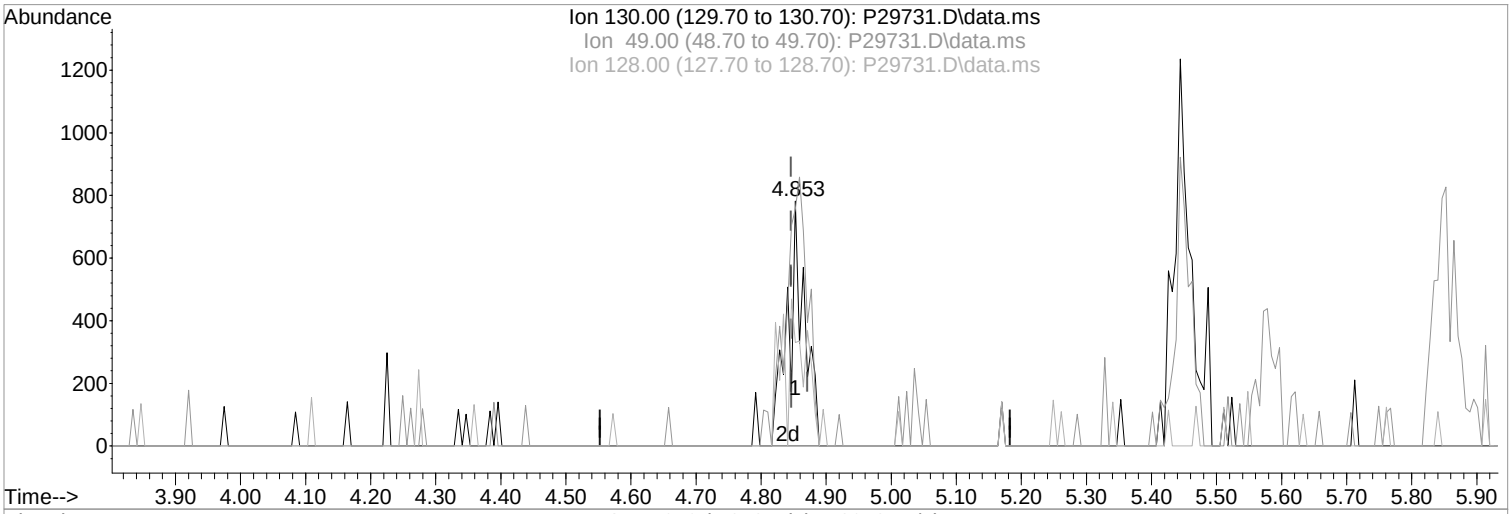
Before

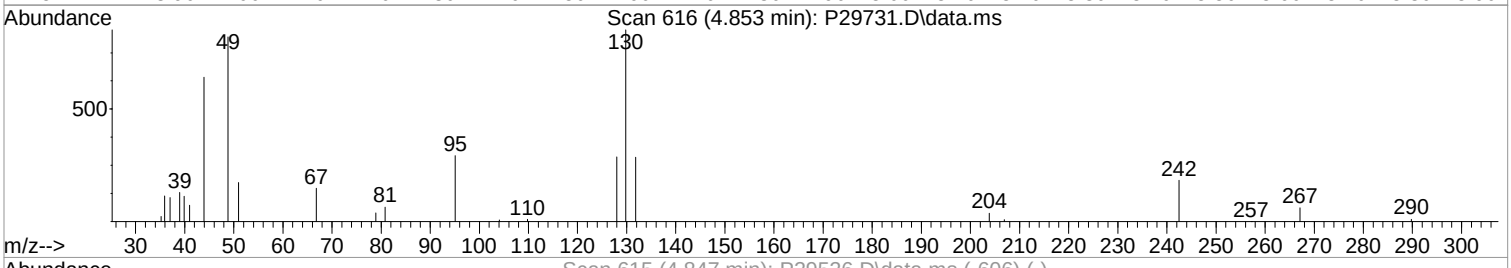
09/12/19

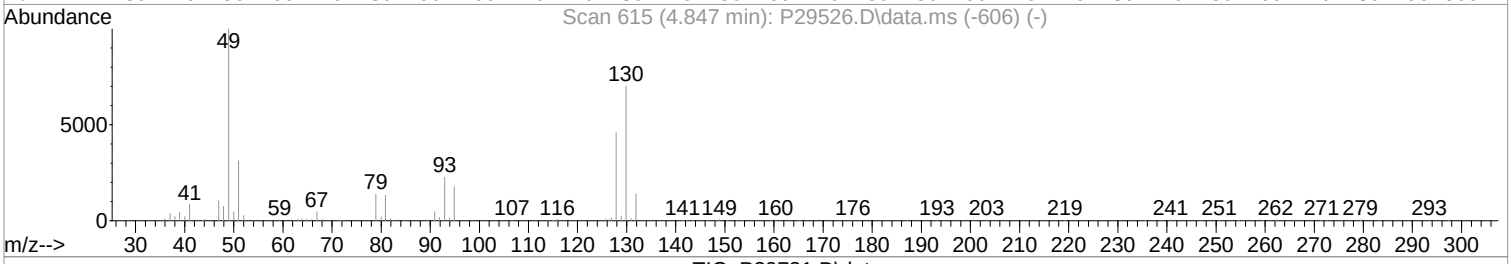
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.56 ppb m

response 1398

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	96.68#
128.00	71.40	42.20#
0.00	0.00	0.00

Manual Integration:

After

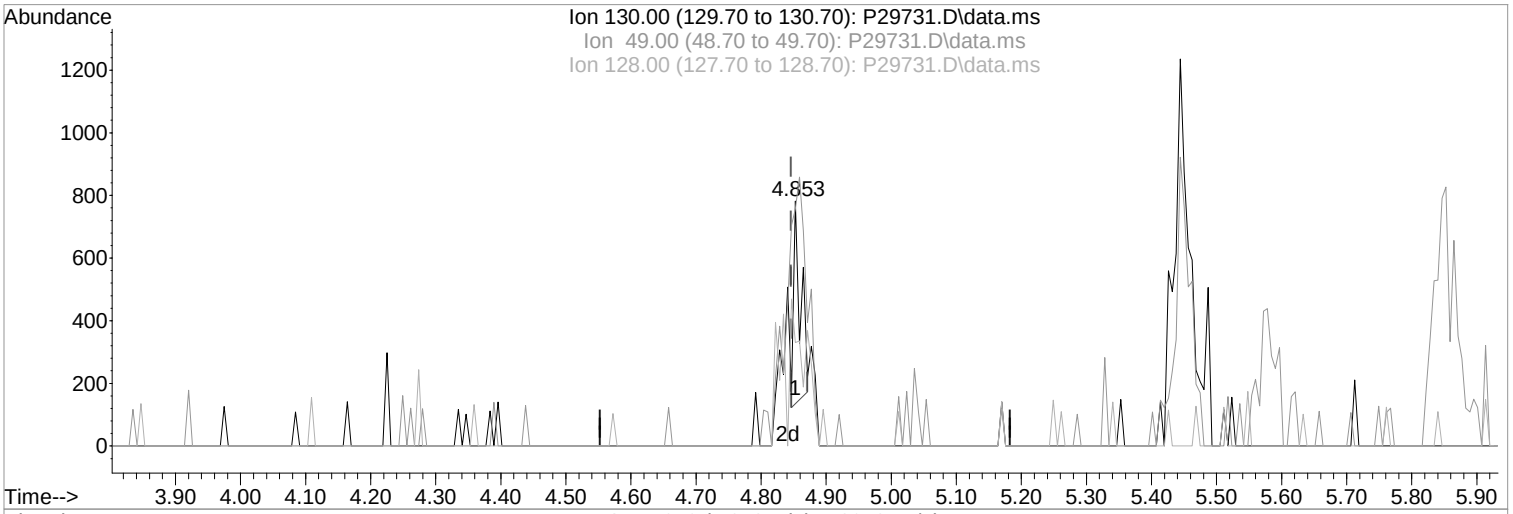
Split Peak

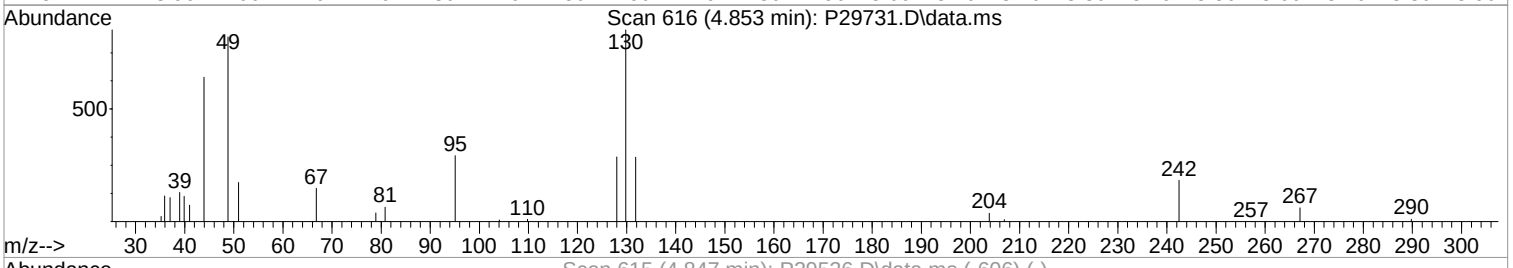
09/12/19

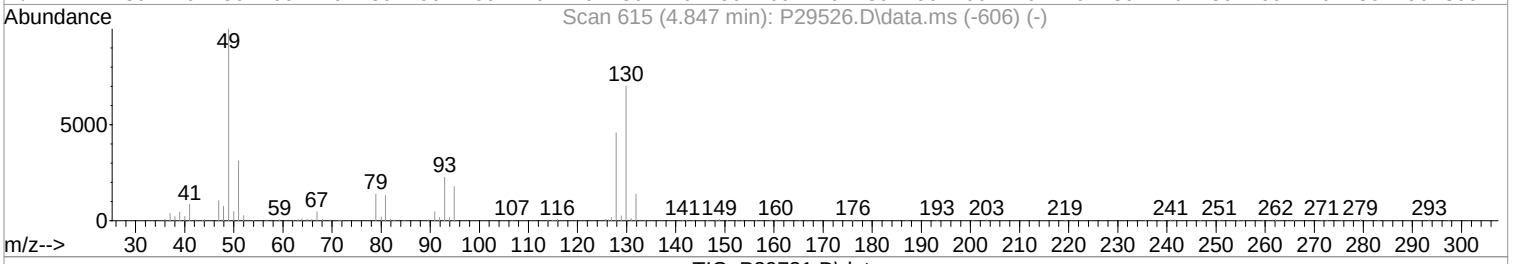
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.19 ppb

response 478

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	96.68#
128.00	71.40	42.20#
0.00	0.00	0.00

Manual Integration:

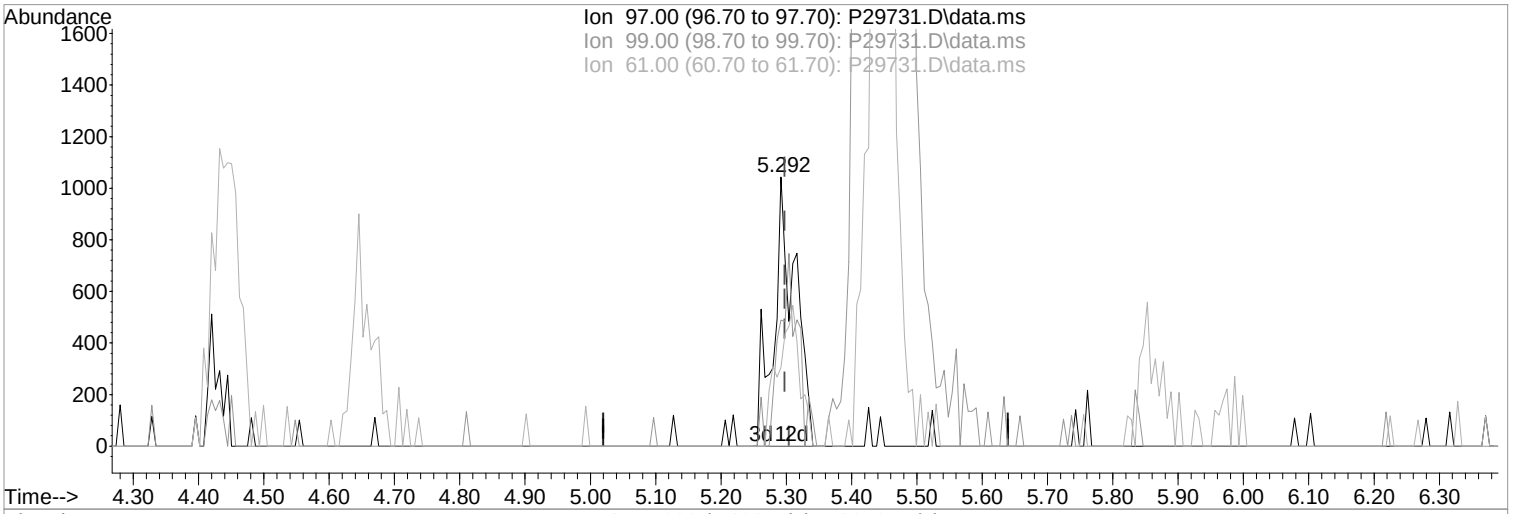
Before

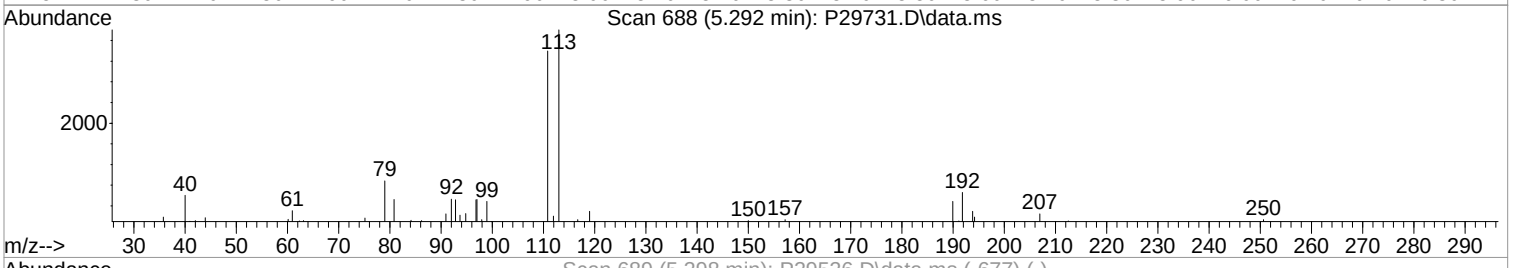
09/12/19

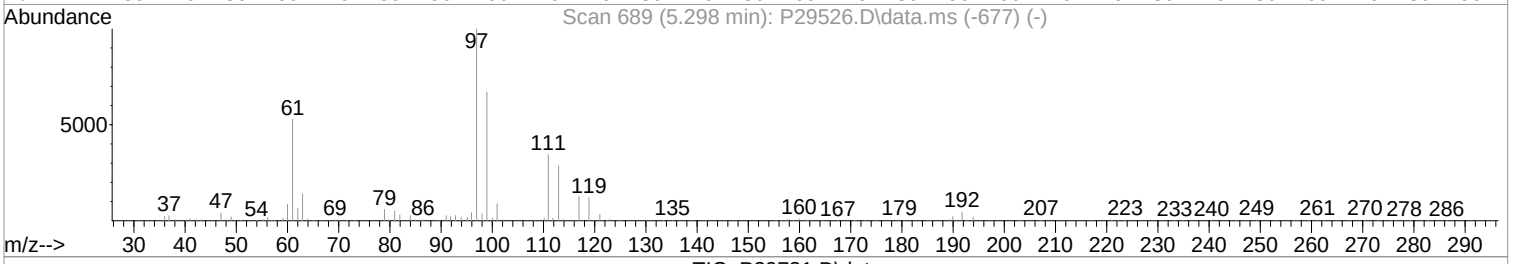
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.292min (-0.006) 0.45 ppb m

response 2421

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	92.60#
61.00	44.60	57.87
0.00	0.00	0.00

Manual Integration:

After

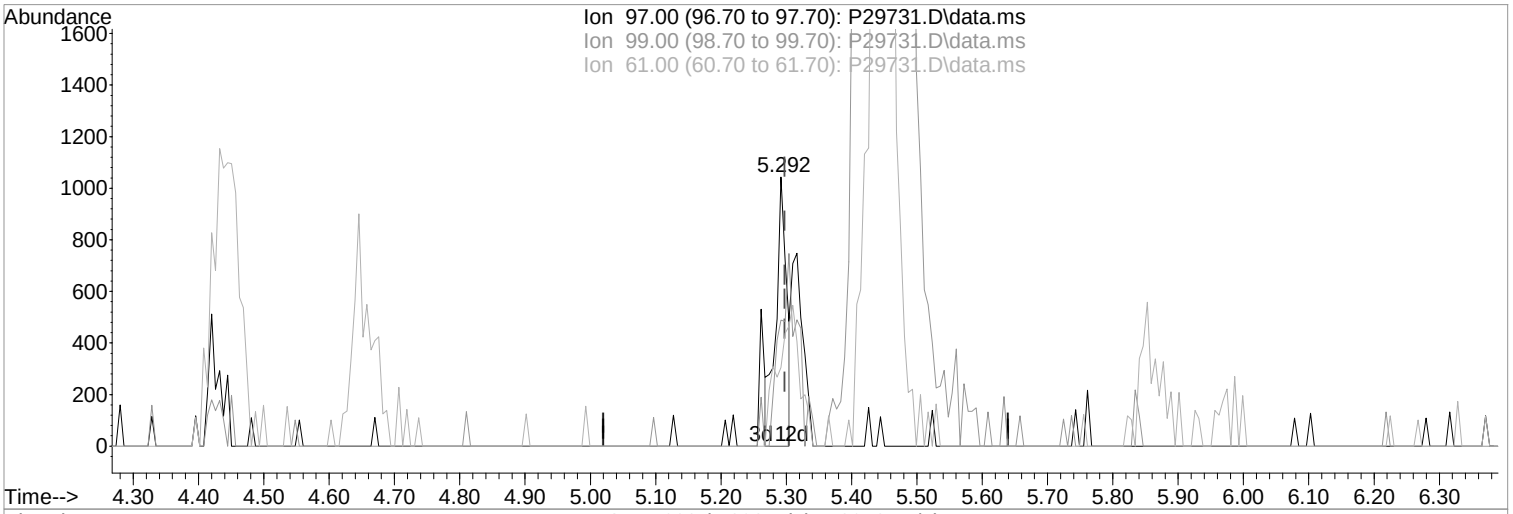
Split Peak

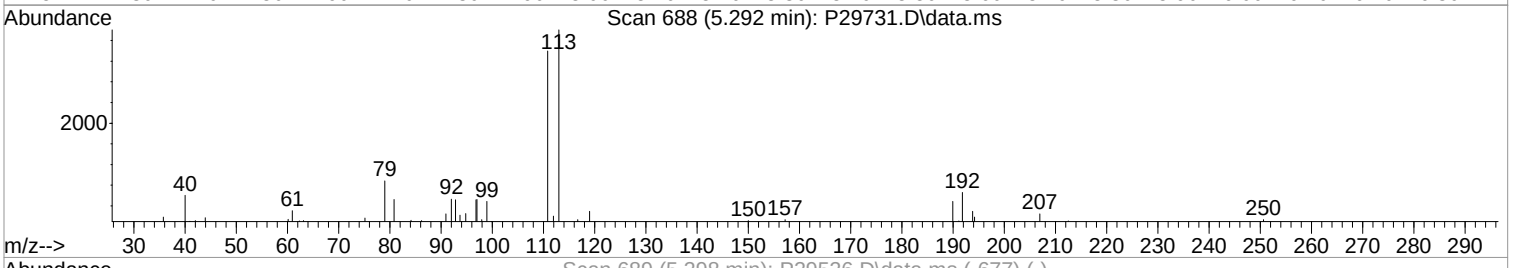
09/12/19

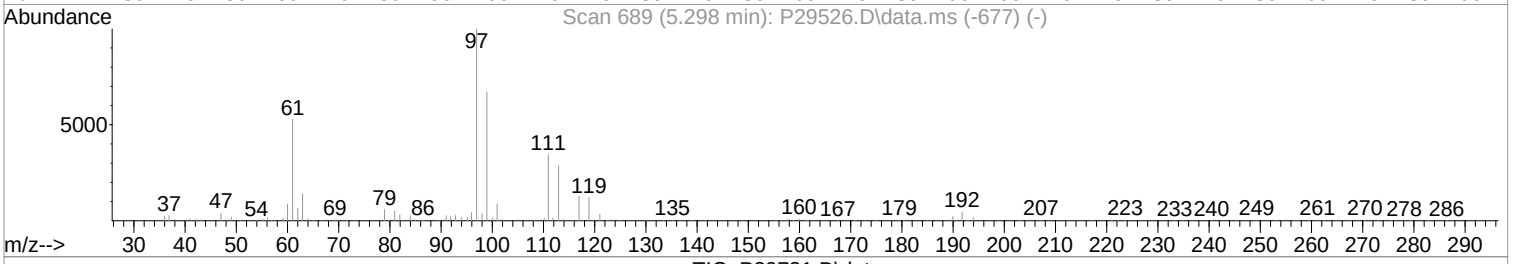
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.292min (-0.006) 0.23 ppb

response 1215

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	46.79
61.00	44.60	29.24
0.00	0.00	0.00

Manual Integration:

Before

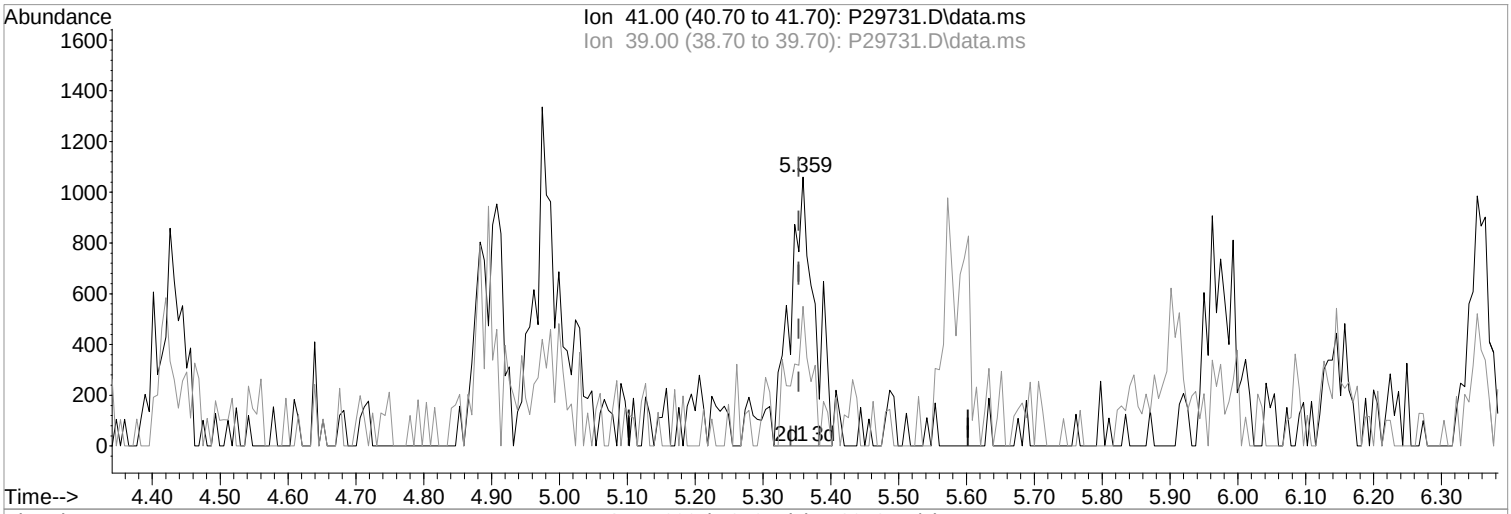
09/12/19

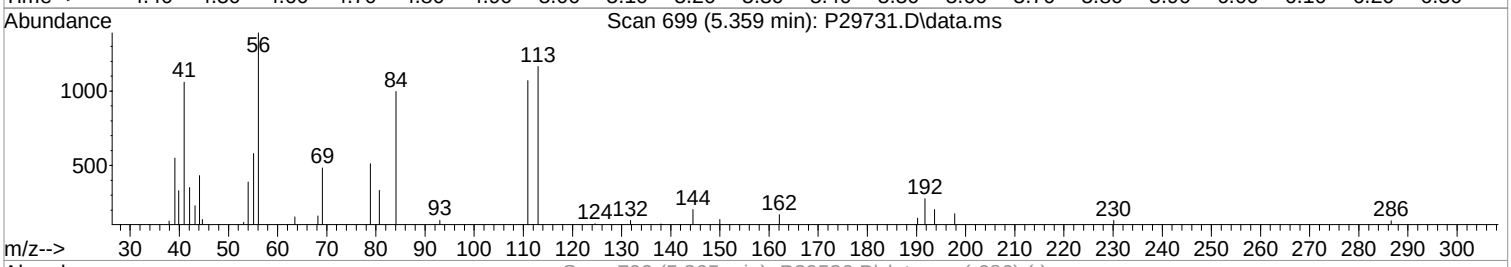
1st 09/12/19
2nd 09/12/19

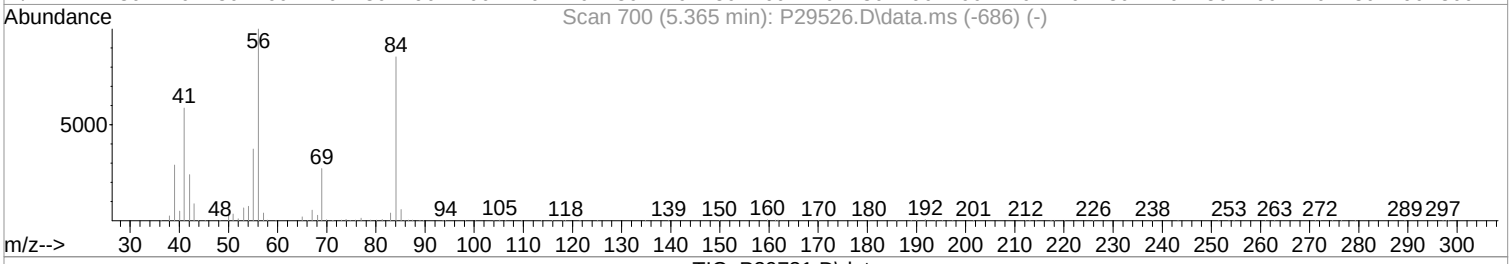
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(44) Cyclohexane (P)

5.359min (+0.006) 0.60 ppb m

response 2693

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	51.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

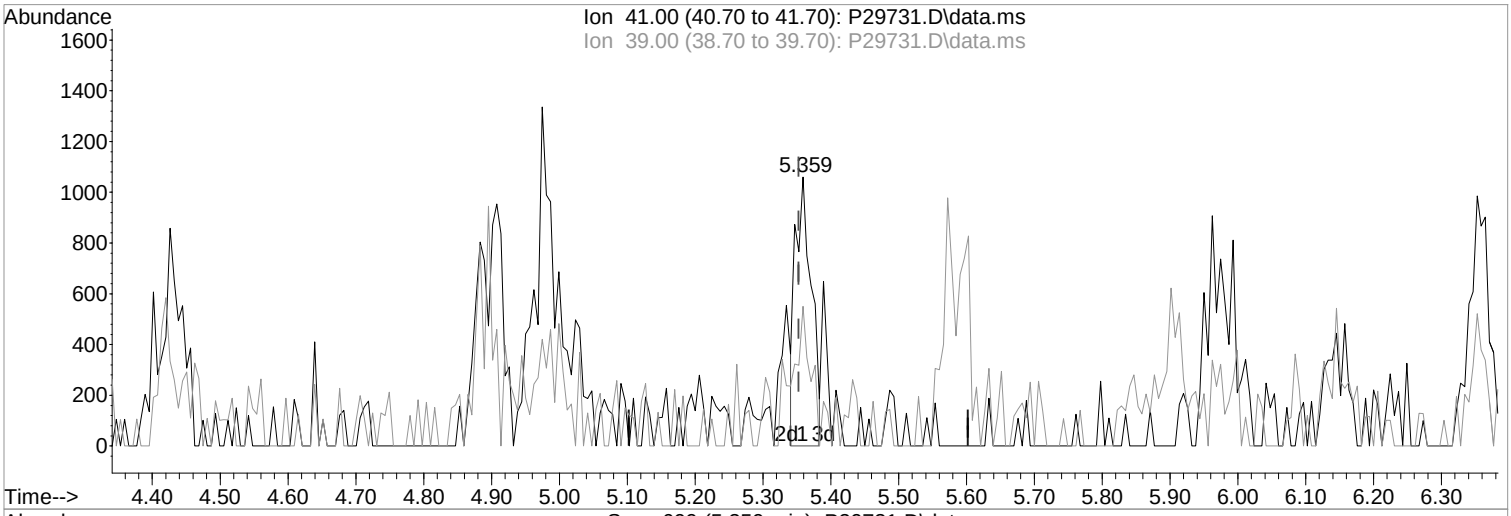
Split Peak

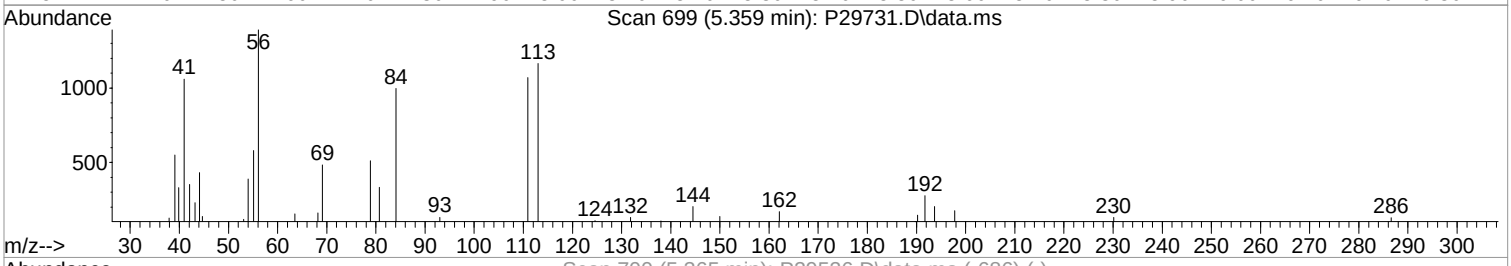
09/12/19

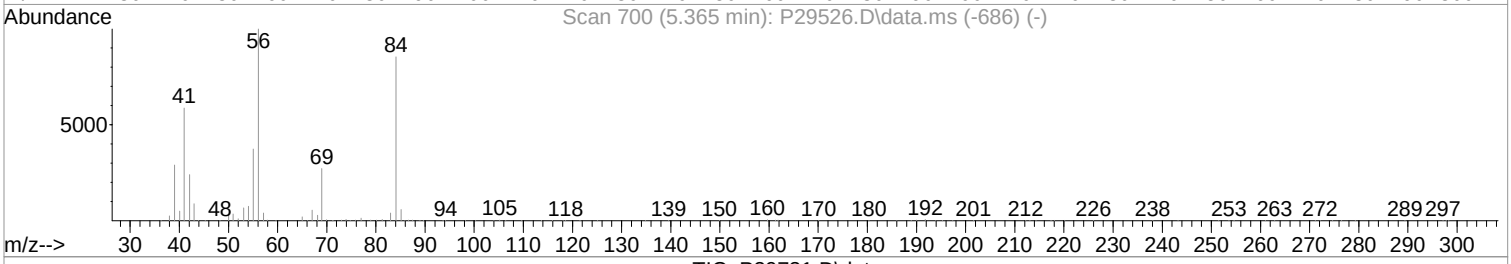
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(44) Cyclohexane (P)

5.359min (+0.006) 0.39 ppb

response 1765

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	51.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

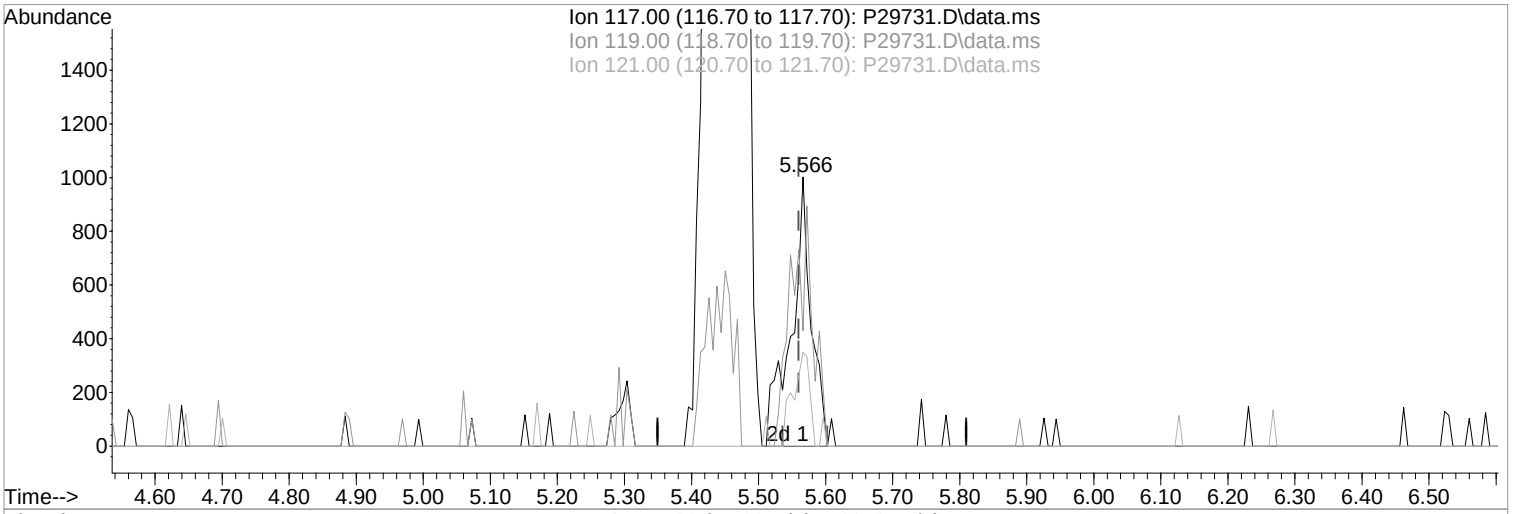
Before

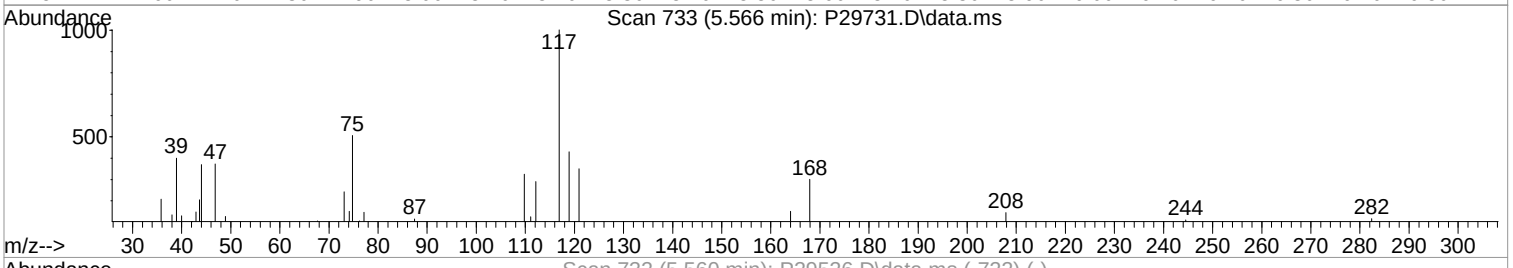
09/12/19

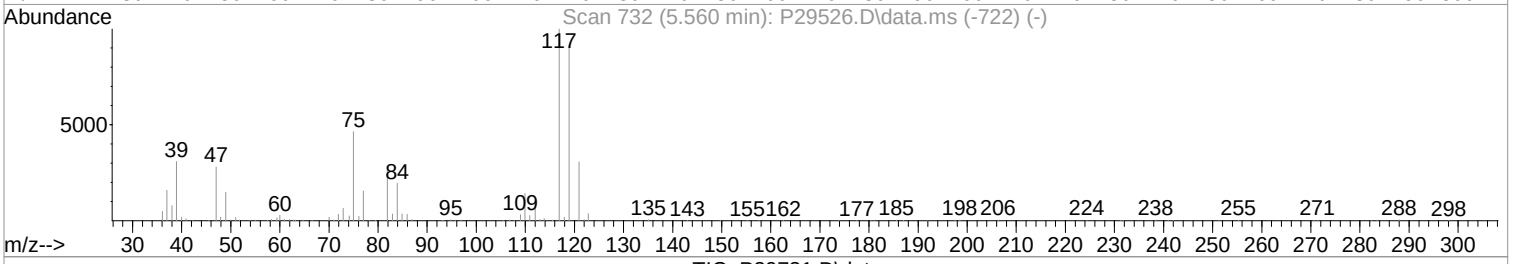
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(46) Carbontetrachloride (P)

5.566min (+0.006) 0.54 ppb m

response 2085

Ion	Exp%	Act%
117.00	100	100
119.00	99.20	42.91#
121.00	31.70	34.93
0.00	0.00	0.00

Manual Integration:

After

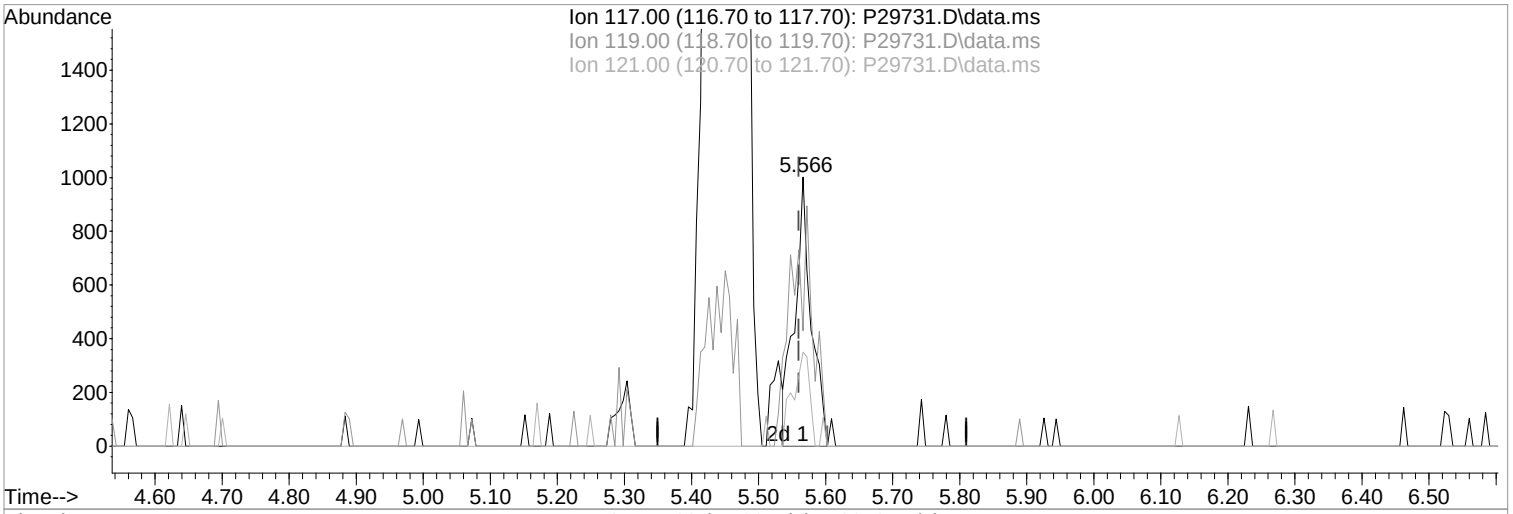
Split Peak

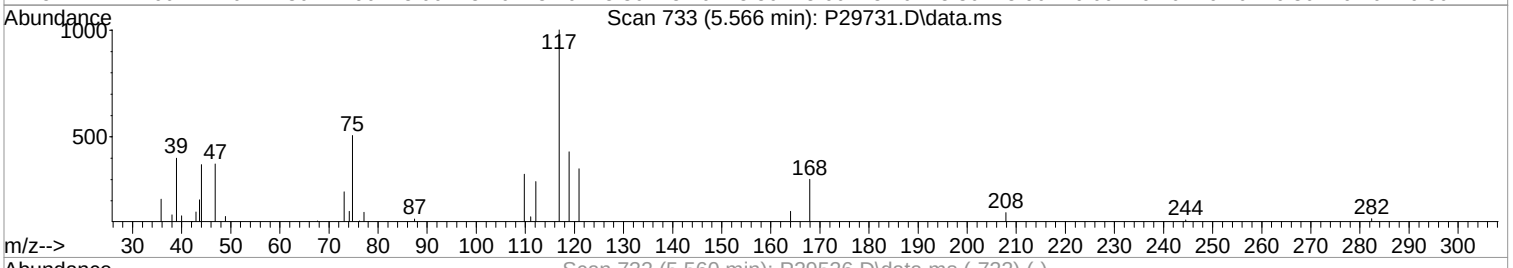
09/12/19

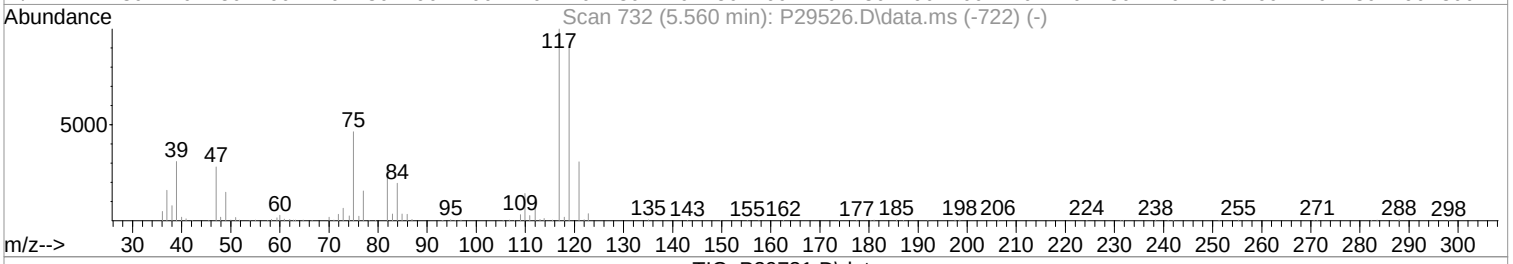
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(46) Carbontetrachloride (P)

5.566min (+0.006) 0.44 ppb

response 1720

Ion	Exp%	Act%
117.00	100	100
119.00	99.20	42.91#
121.00	31.70	34.93
0.00	0.00	0.00

Manual Integration:

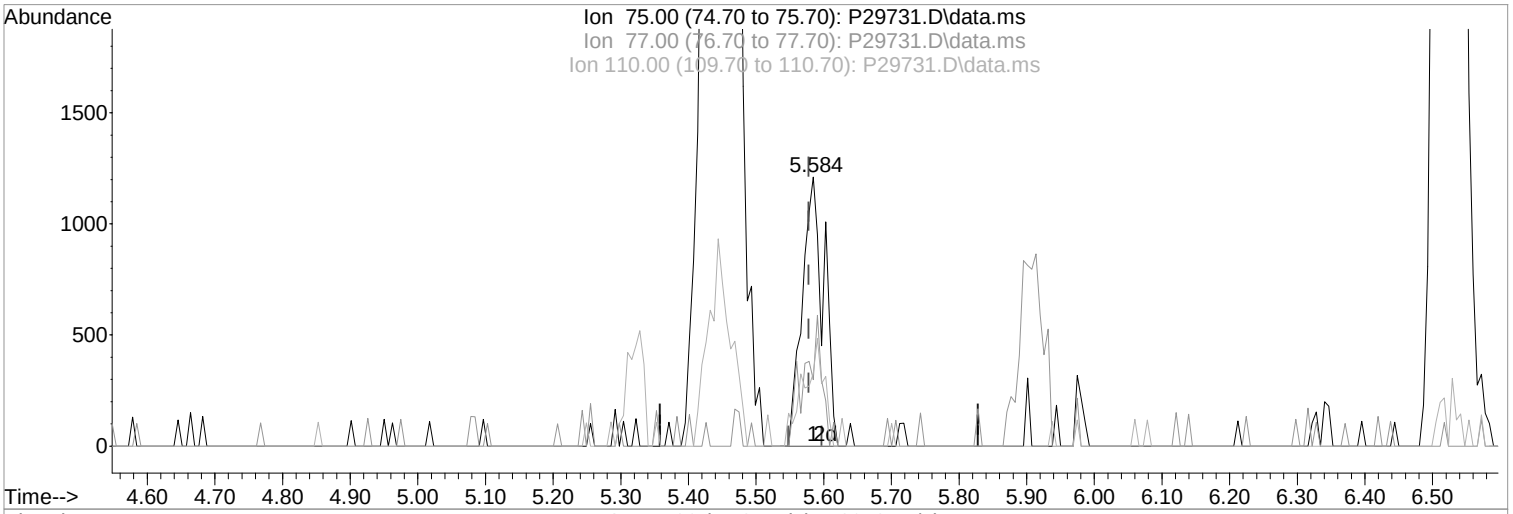
Before

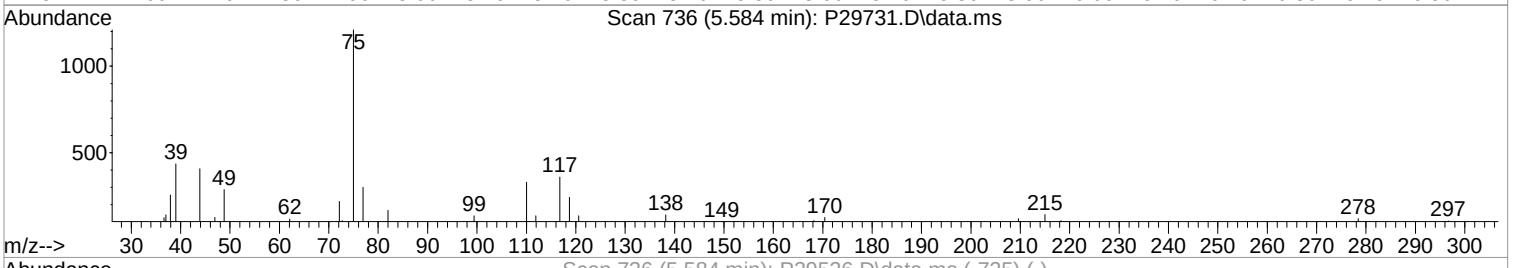
09/12/19

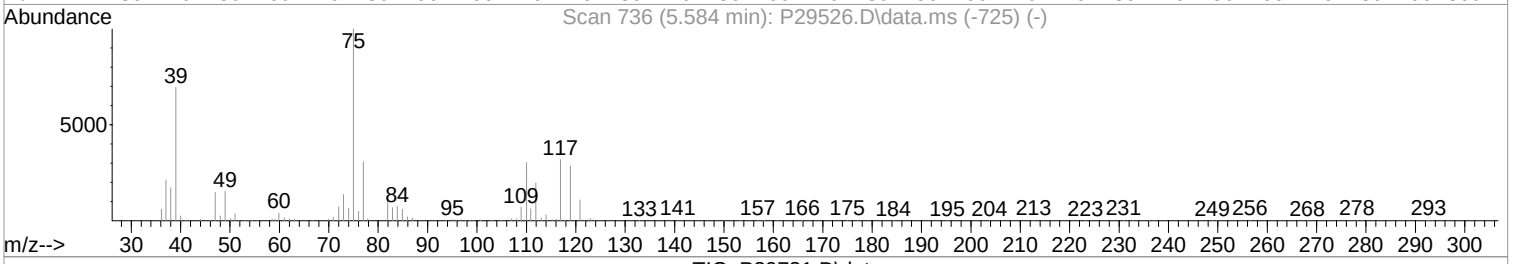
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(47) 1,1-Dichloropropene

5.584min (+0.006) 0.50 ppb m

response 2695

Ion	Exp%	Act%
75.00	100	100
77.00	30.80	24.69
110.00	30.50	27.09
0.00	0.00	0.00

Manual Integration:

After

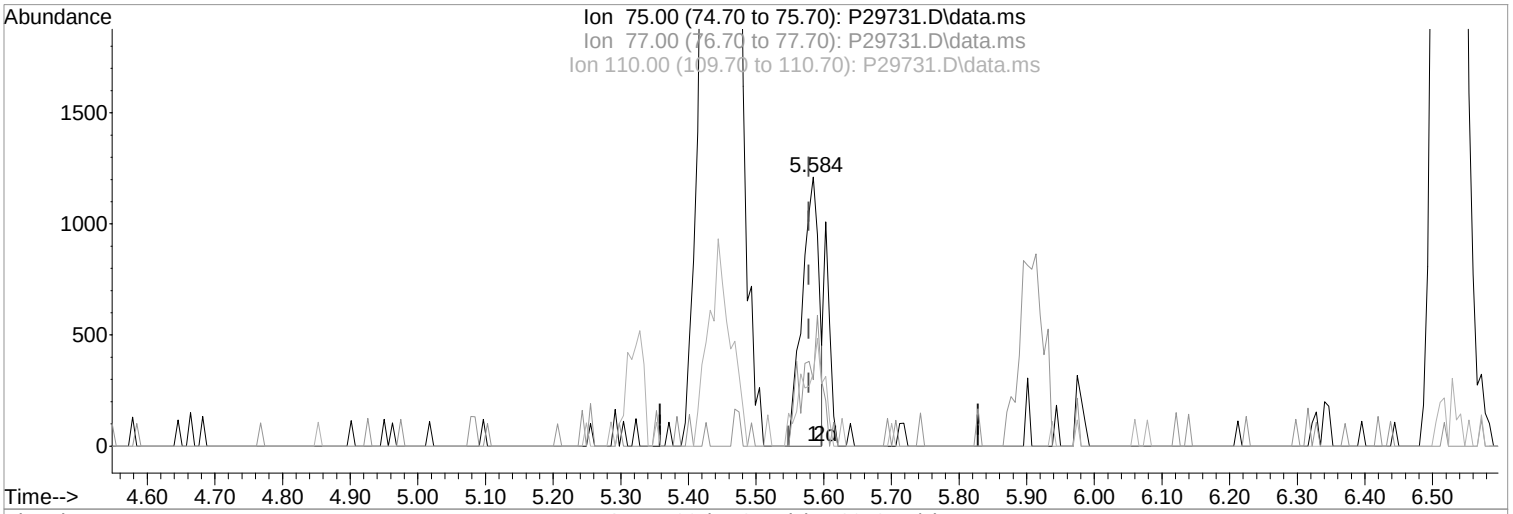
Split Peak

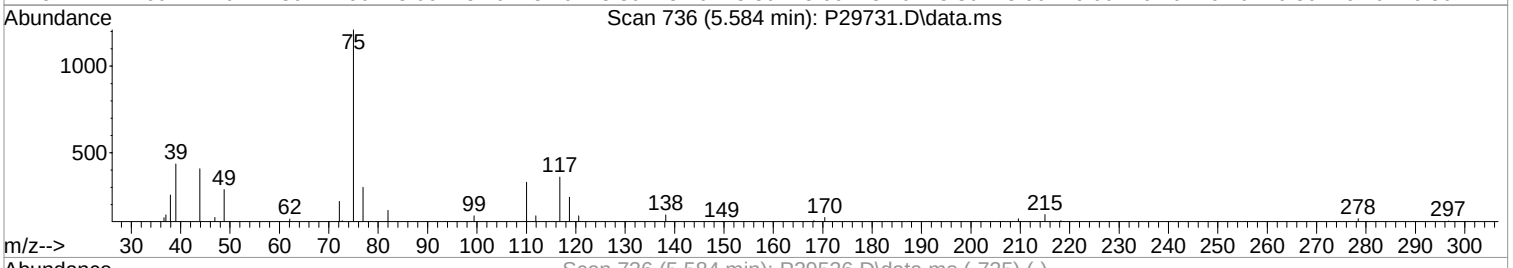
09/12/19

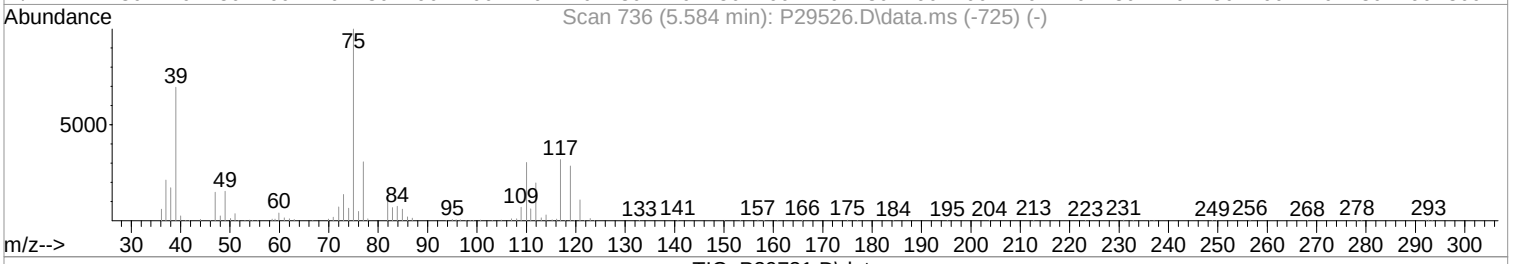
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(47) 1,1-Dichloropropene

5.584min (+0.006) 0.38 ppb

response 2075

Ion	Exp%	Act%
75.00	100	100
77.00	30.80	24.69
110.00	30.50	27.09
0.00	0.00	0.00

Manual Integration:

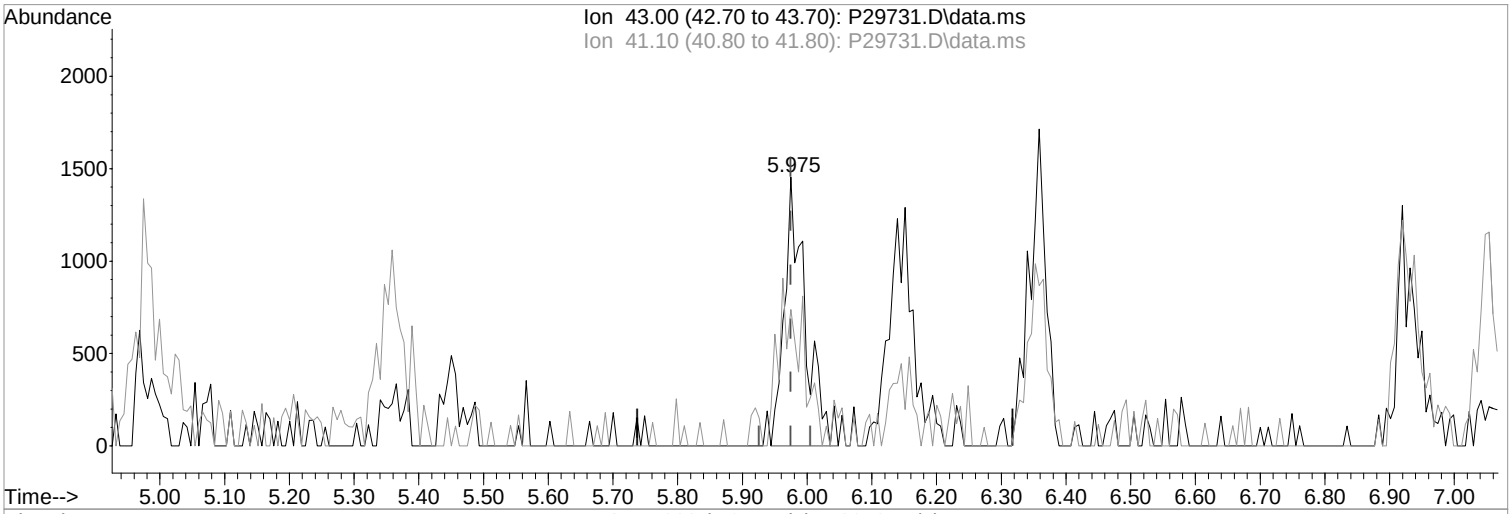
Before

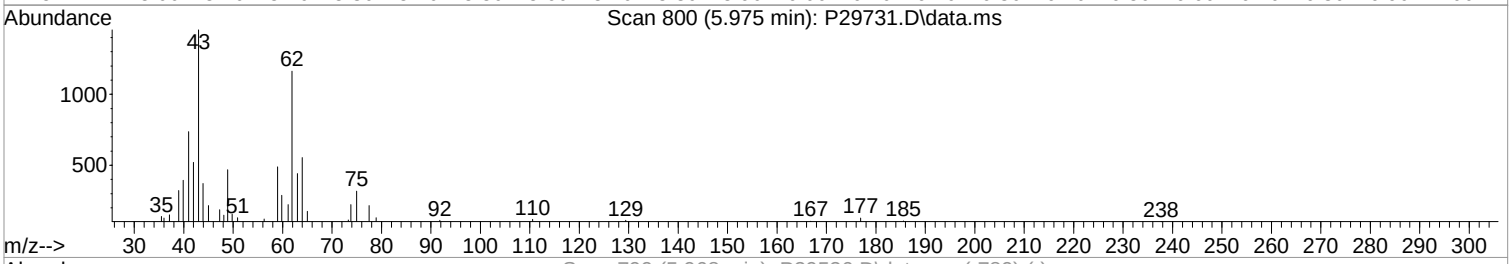
09/12/19

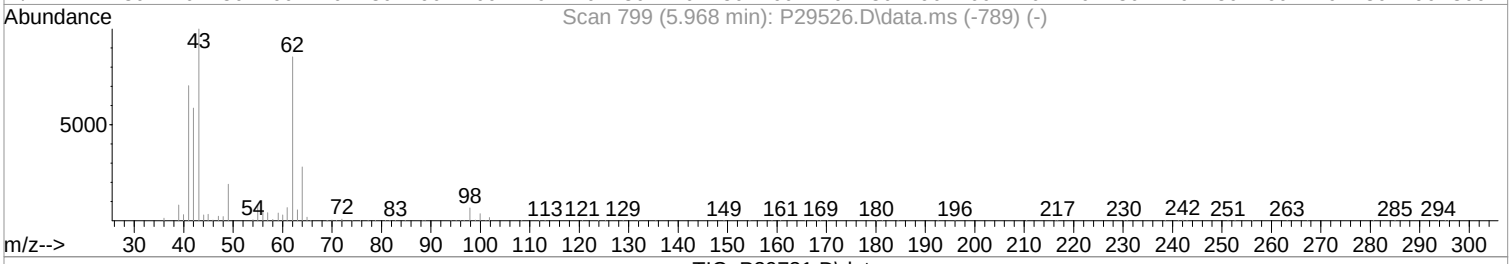
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(51) Iso-Butyl Alcohol

5.975min (+0.000) 6.80 ppb m

response 3274

Ion	Exp%	Act%
43.00	100	100
41.10	67.10	50.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

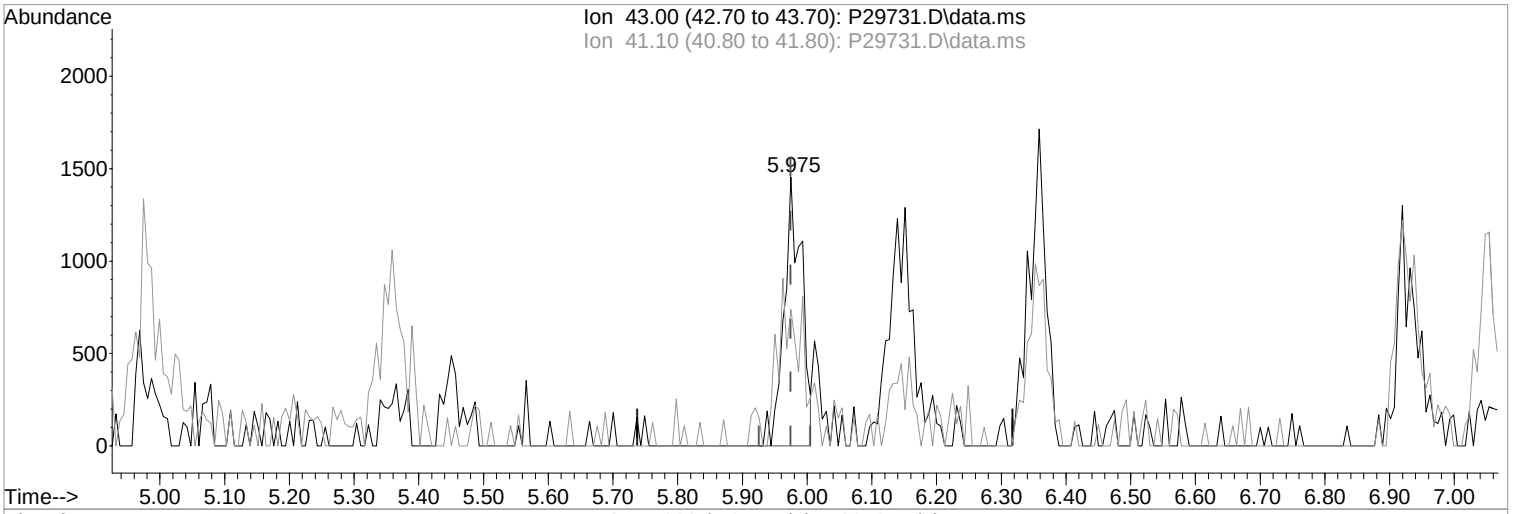
Poor integration.

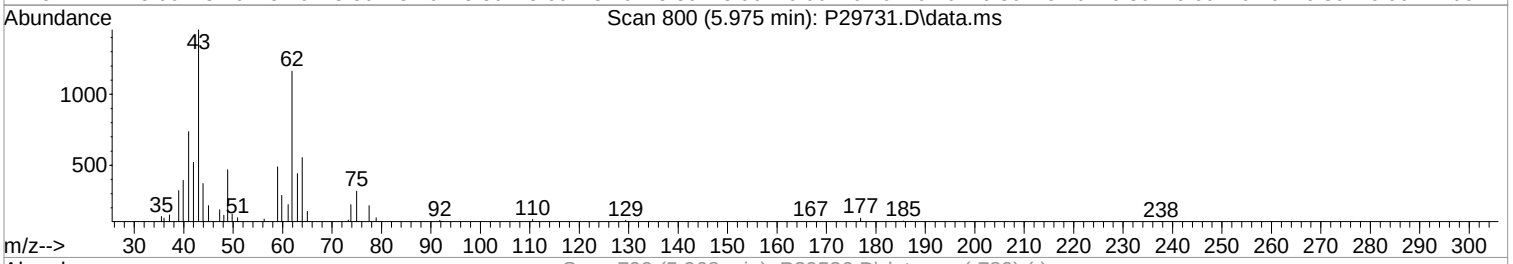
09/12/19

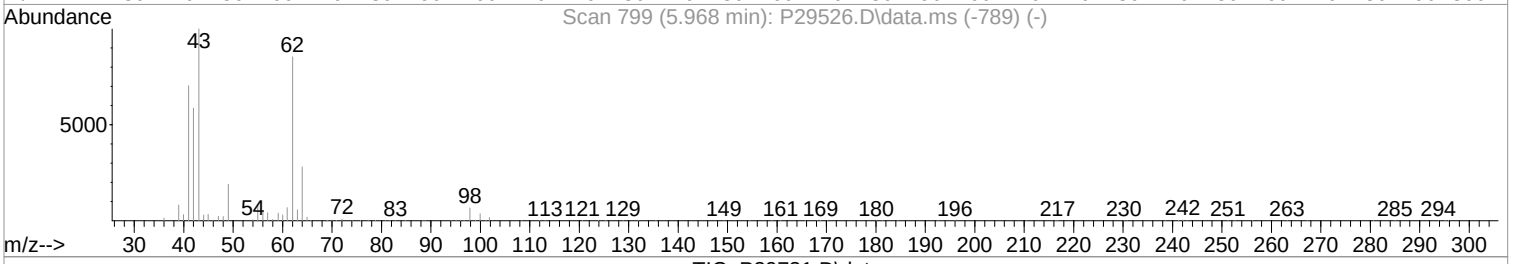
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(51) Iso-Butyl Alcohol

5.975min (+0.000) 5.77 ppb

response 2778

Ion	Exp%	Act%
43.00	100	100
41.10	67.10	50.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

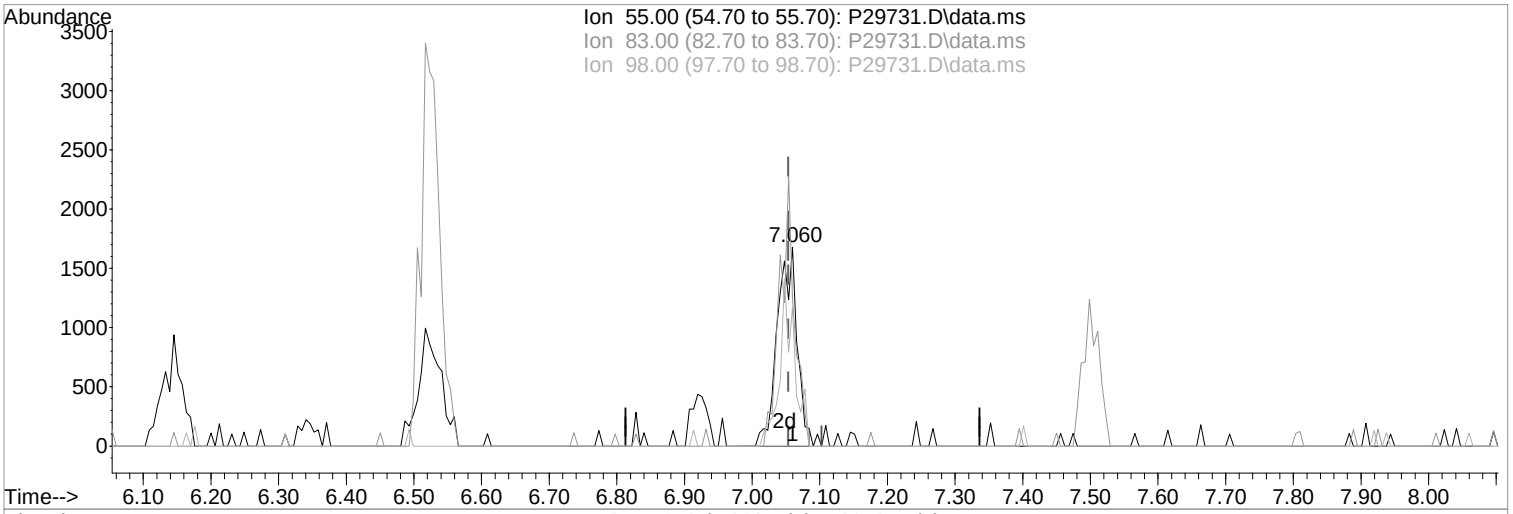
09/12/19

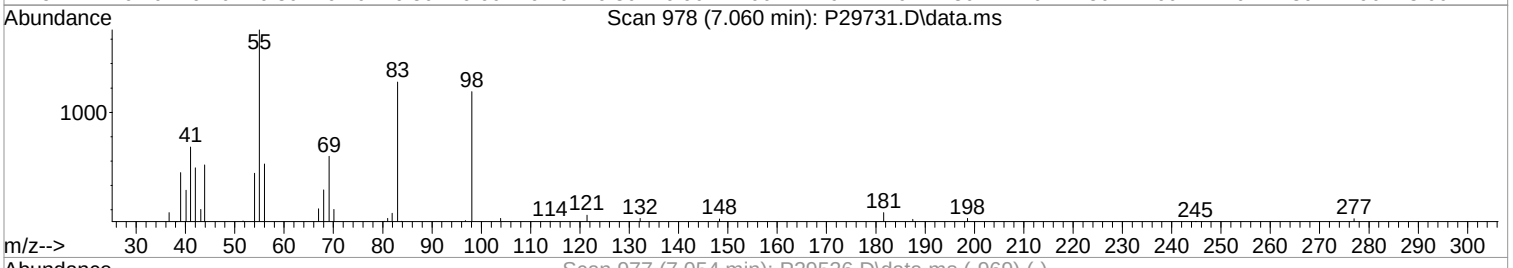
1st 09/12/19
2nd 09/12/19

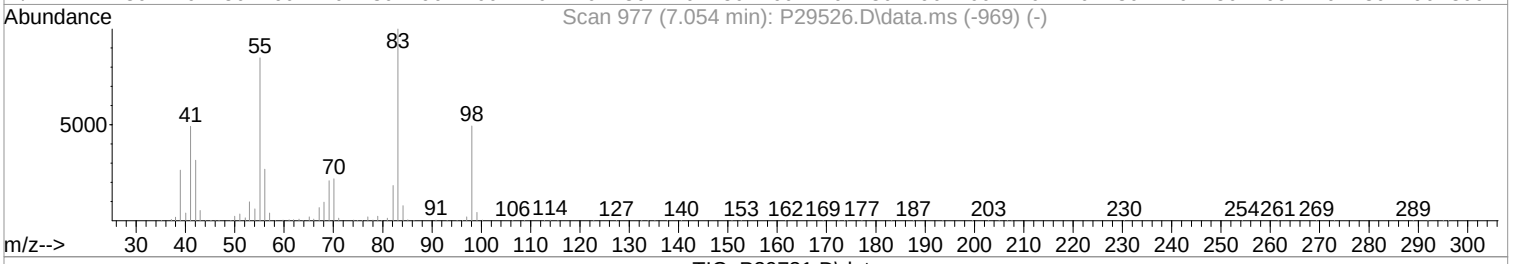
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(55) Methylcyclohexane (P)

7.060min (+0.006) 0.56 ppb m

response 3414

Ion	Exp%	Act%
55.00	100	100
83.00	121.60	74.49#
98.00	57.00	69.73
0.00	0.00	0.00

Manual Integration:

After

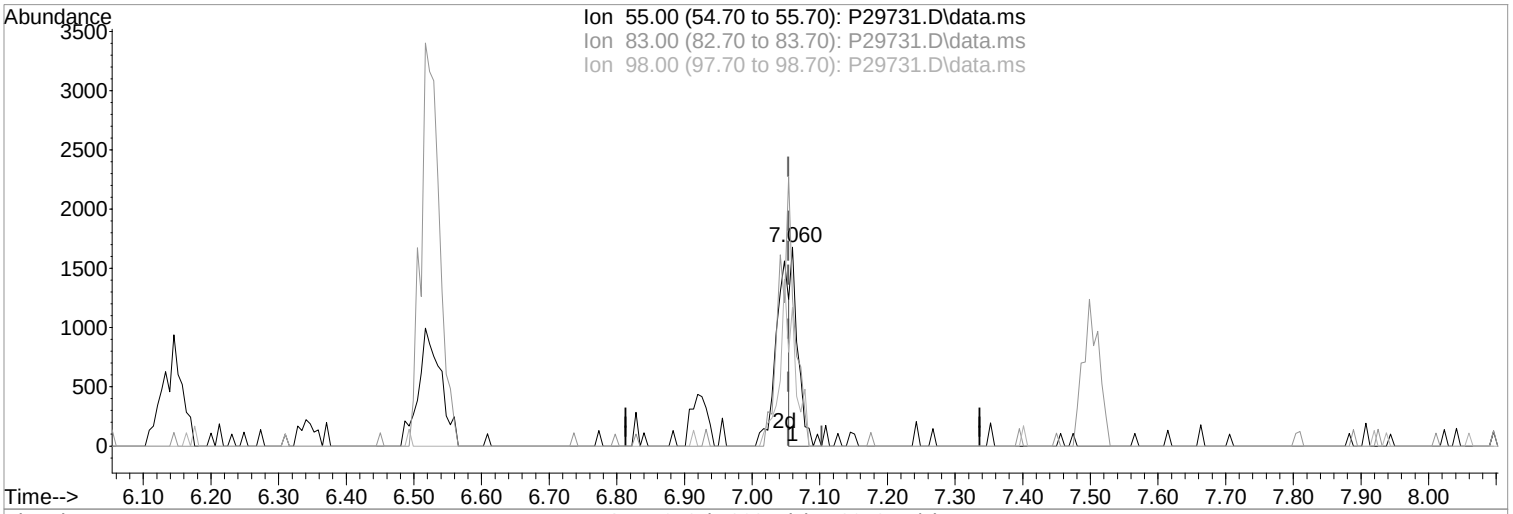
Split Peak

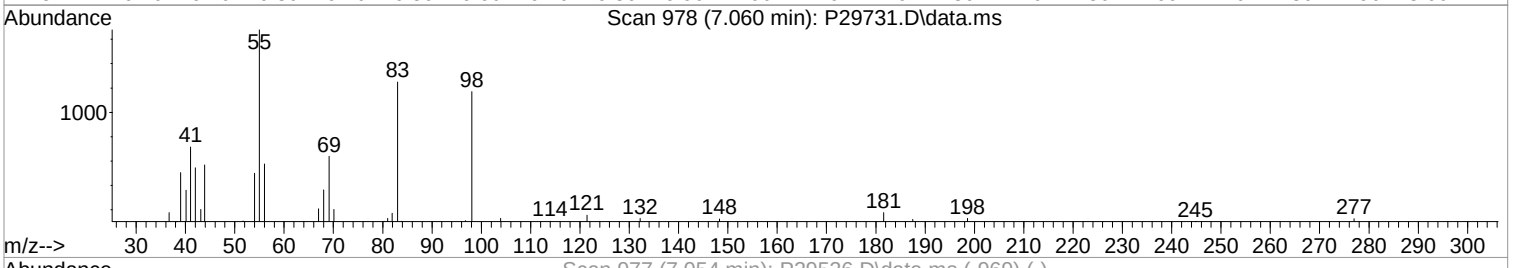
09/12/19

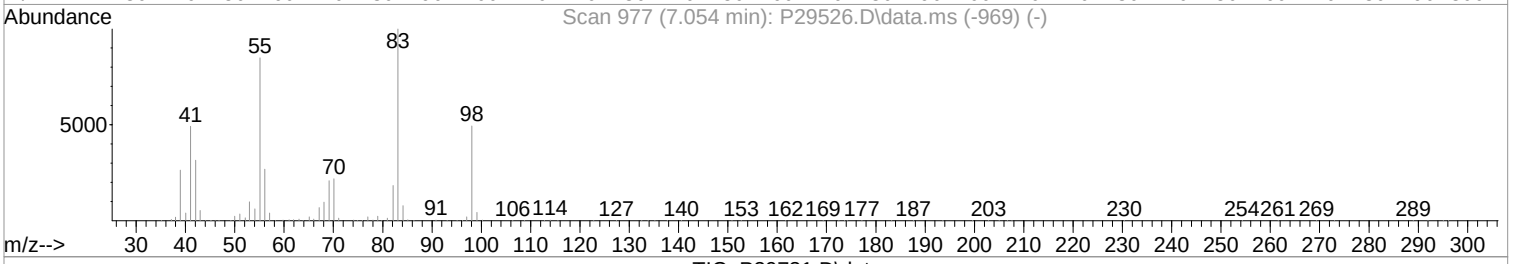
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(55) Methylcyclohexane (P)

7.060min (+0.006) 0.22 ppb

response 1303

Ion	Exp%	Act%
55.00	100	100
83.00	121.60	74.49#
98.00	57.00	69.73
0.00	0.00	0.00

Manual Integration:

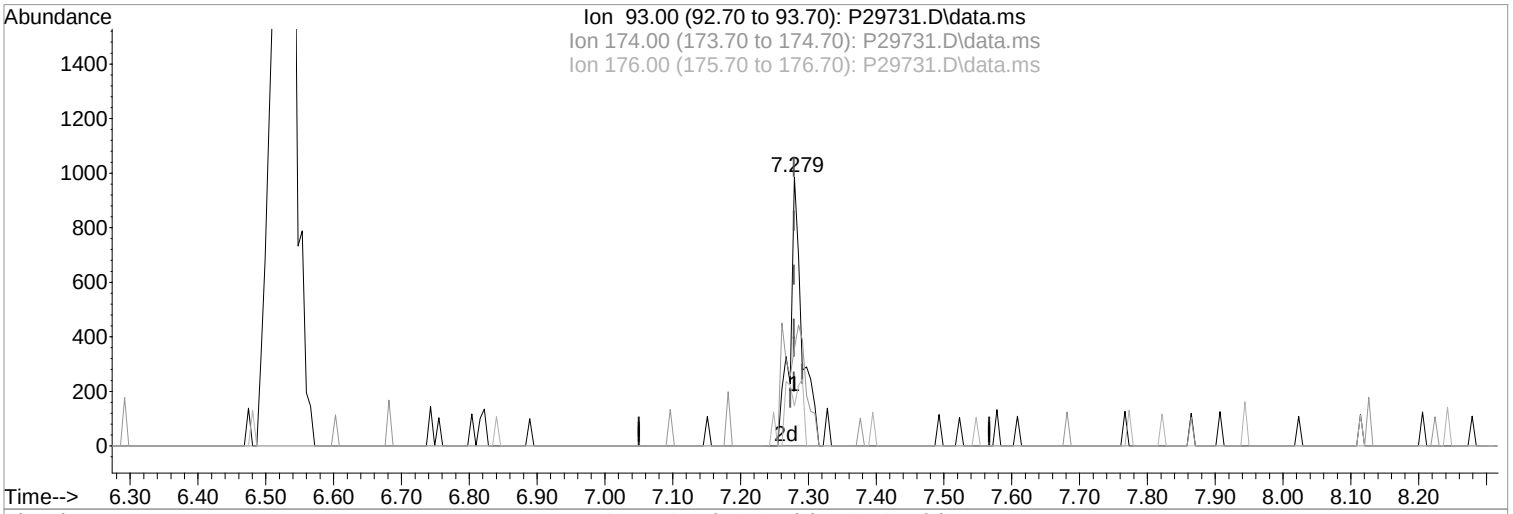
Before

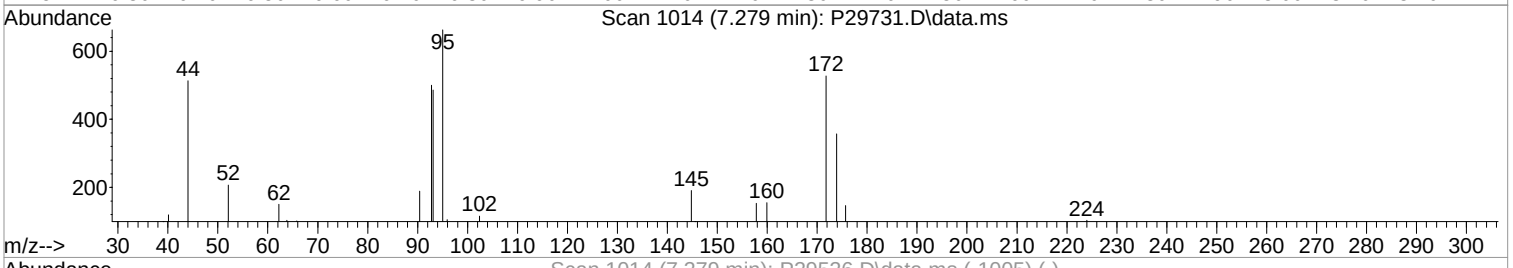
09/12/19

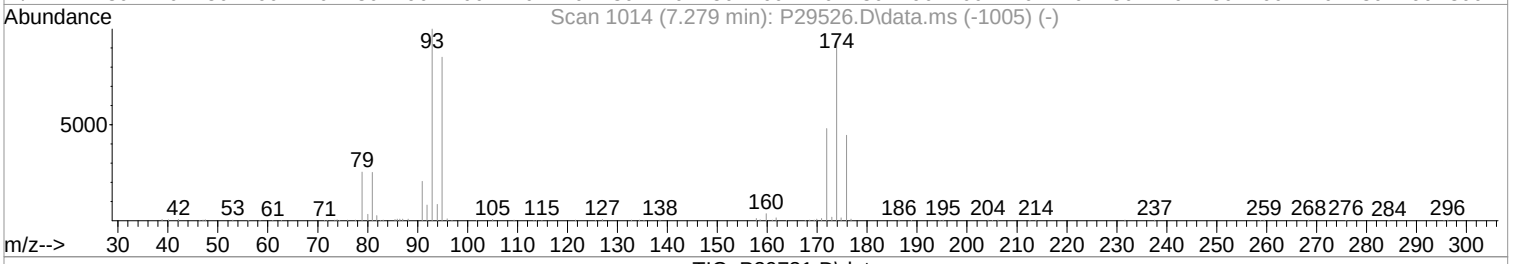
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(57) Dibromomethane

7.279min (+0.000) 0.54 ppb m

response 1246

Ion	Exp%	Act%
93.00	100	100
174.00	97.30	71.40#
176.00	43.60	29.40
0.00	0.00	0.00

Manual Integration:

After

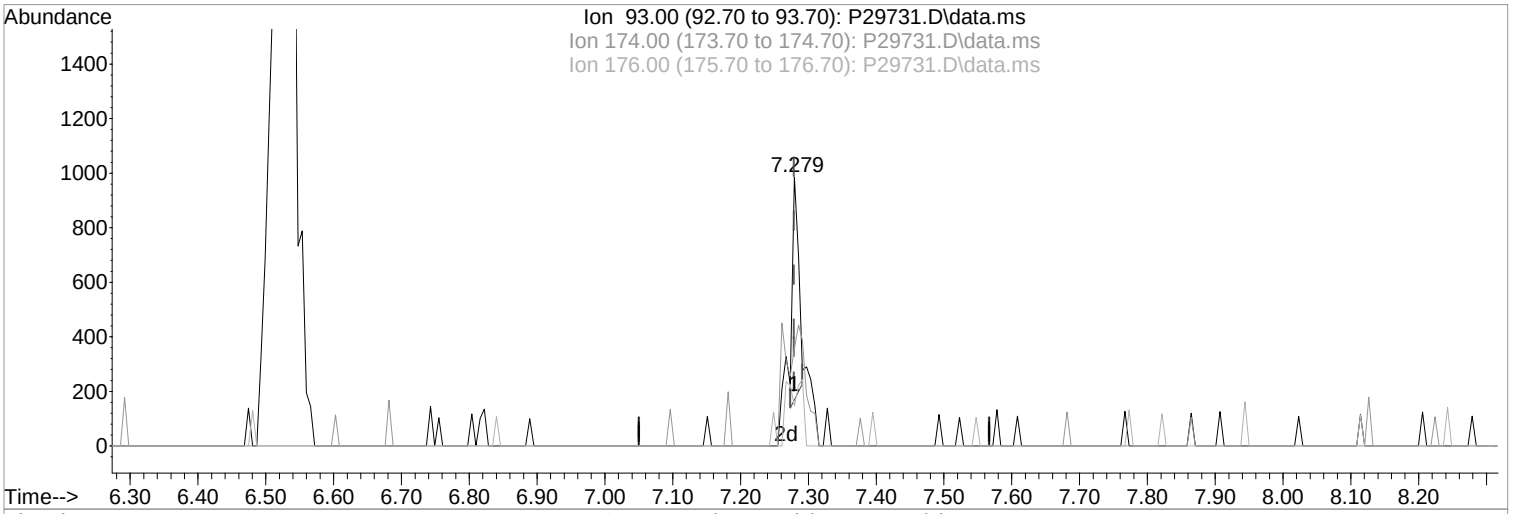
Split Peak

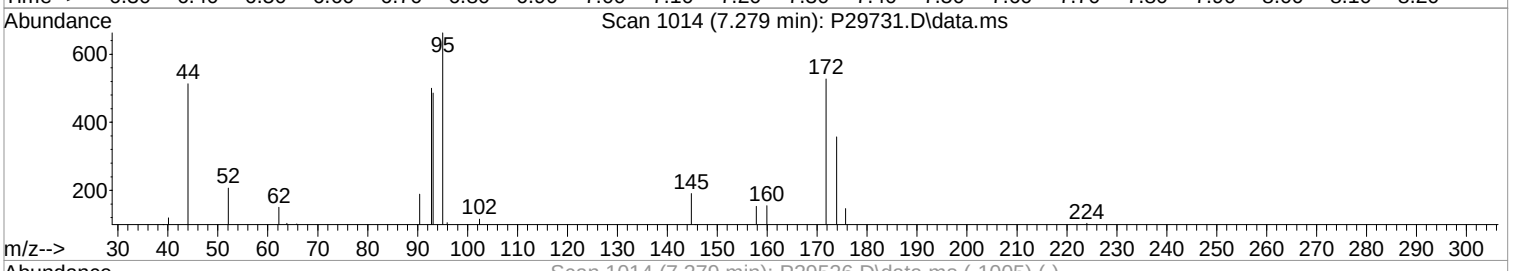
09/12/19

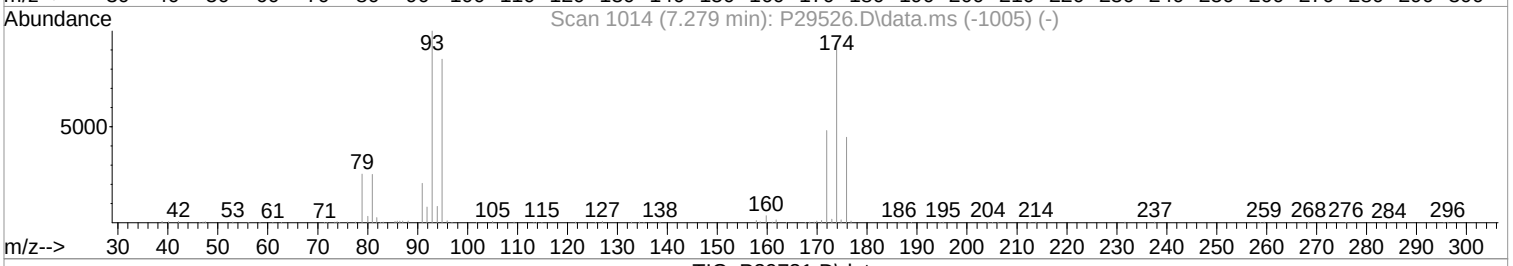
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(57) Dibromomethane

7.279min (+0.000) 0.22 ppb

response 515

Ion	Exp%	Act%
93.00	100	100
174.00	97.30	36.21#
176.00	43.60	14.91#
0.00	0.00	0.00

Manual Integration:

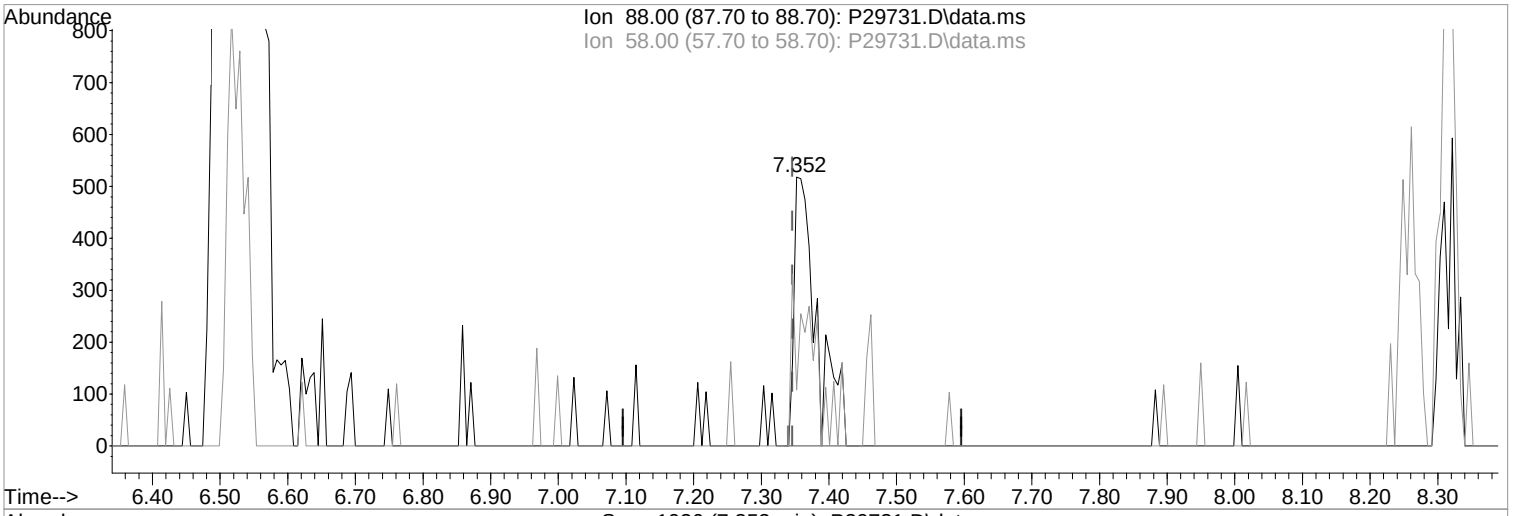
Before

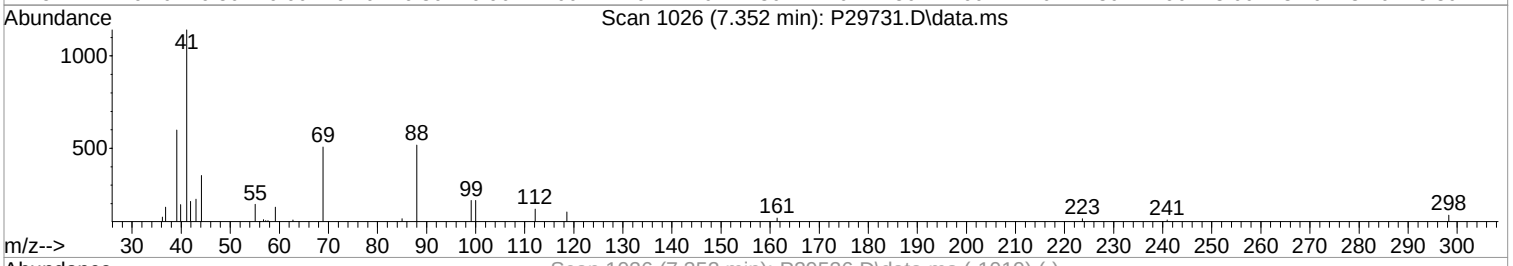
09/12/19

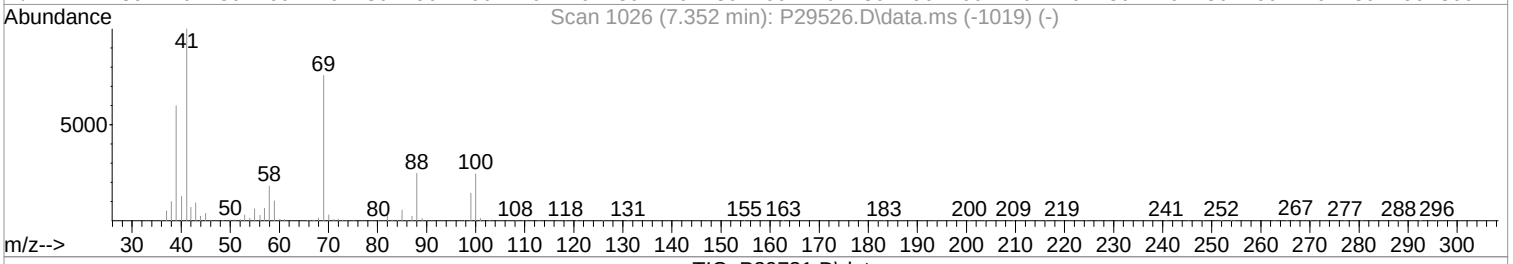
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(58) 1,4-Dioxane

7.352min (+0.006) 11.33 ppb m

response 1219

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	20.85#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

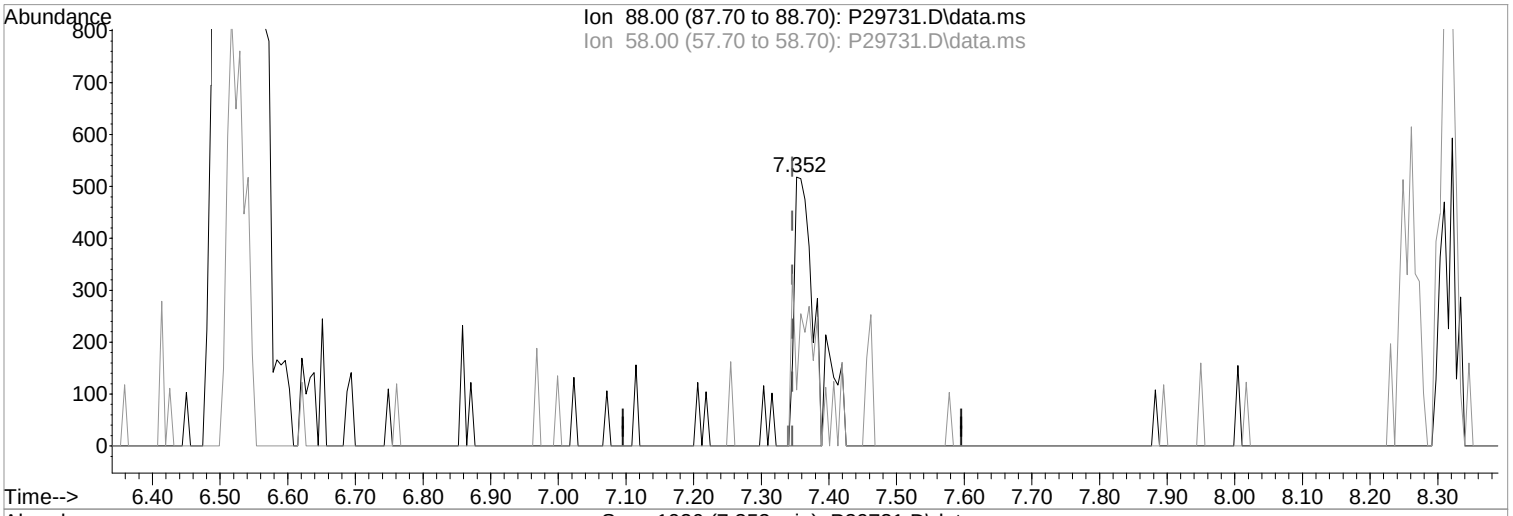
Split Peak

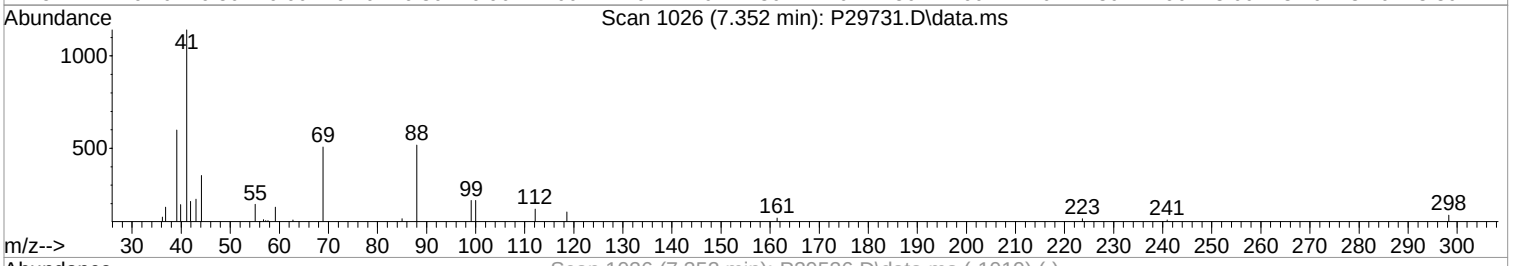
09/12/19

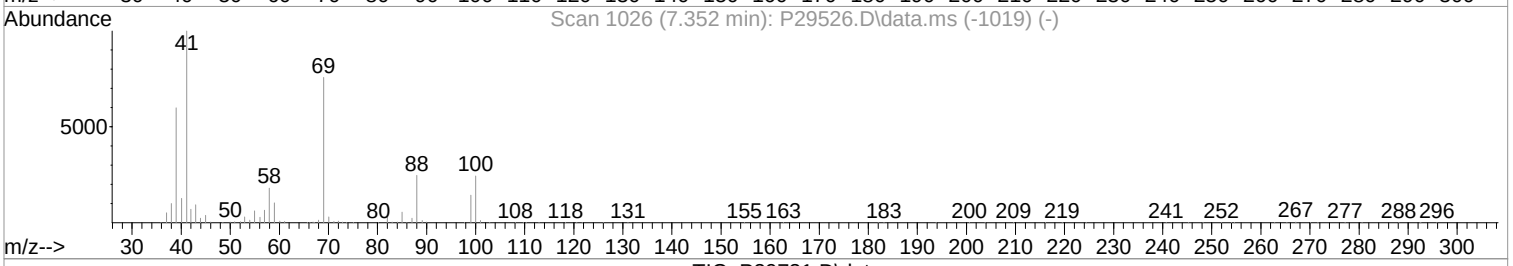
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(58) 1,4-Dioxane

7.352min (+0.006) 8.62 ppb

response 927

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	20.85#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

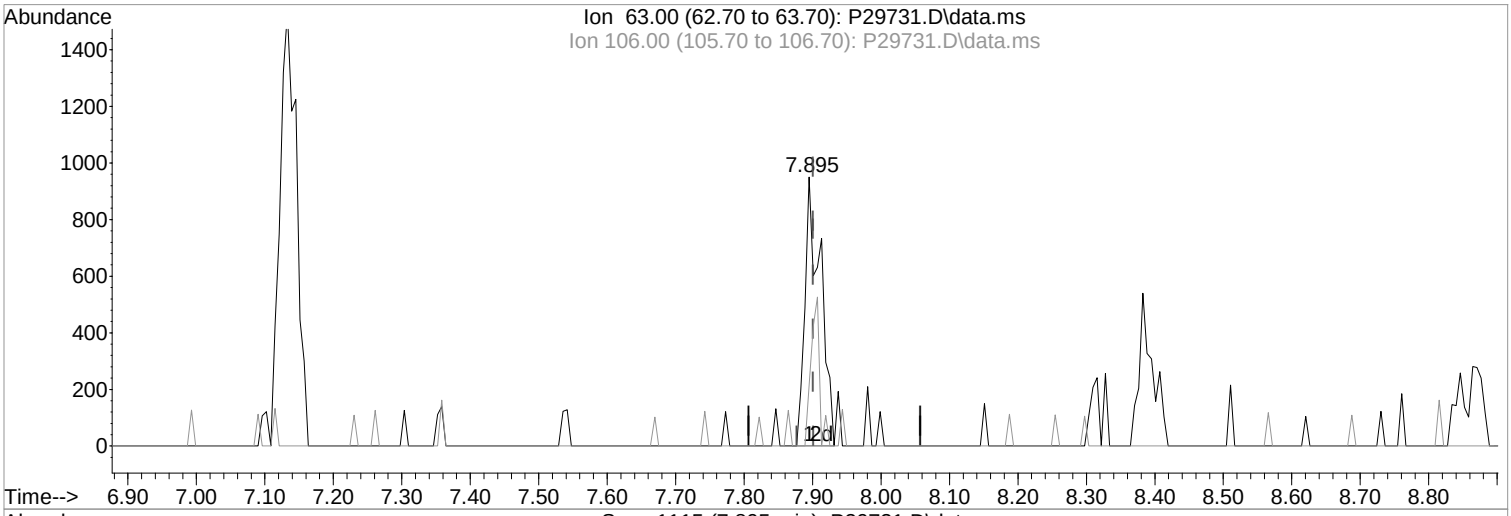
Before

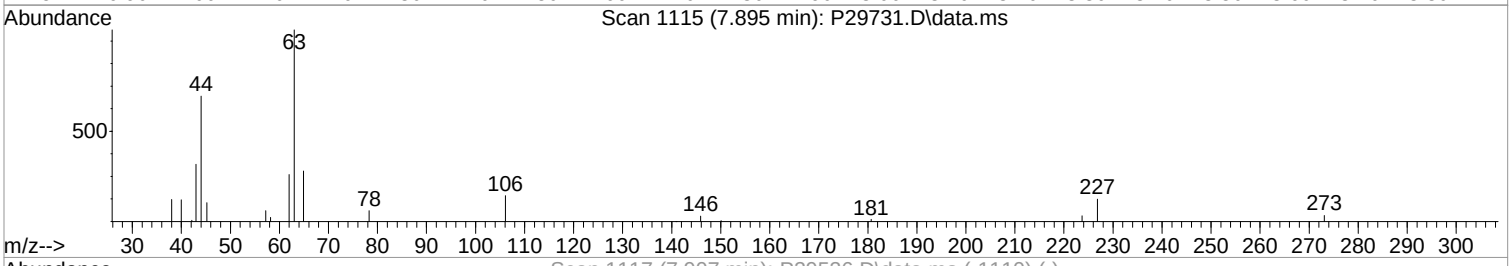
09/12/19

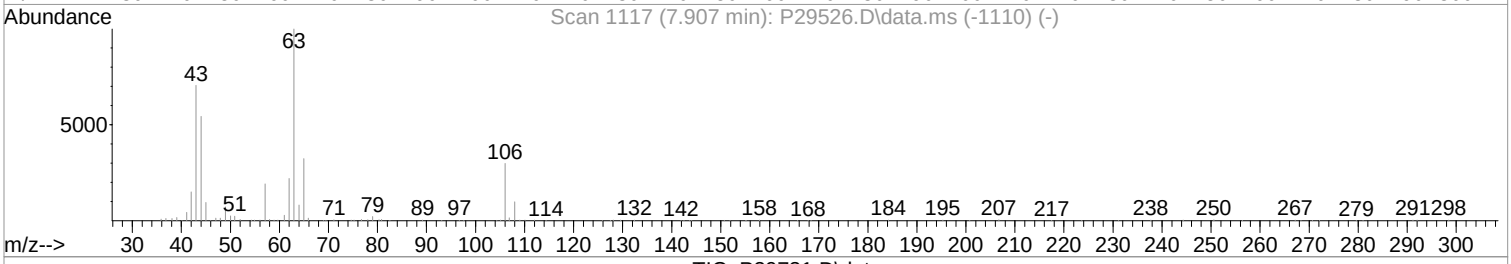
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(62) 2-Chloroethylvinyl Ether

7.895min (-0.006) 0.48 ppb m

response 1514

Ion	Exp%	Act%
63.00	100	100
106.00	25.50	22.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

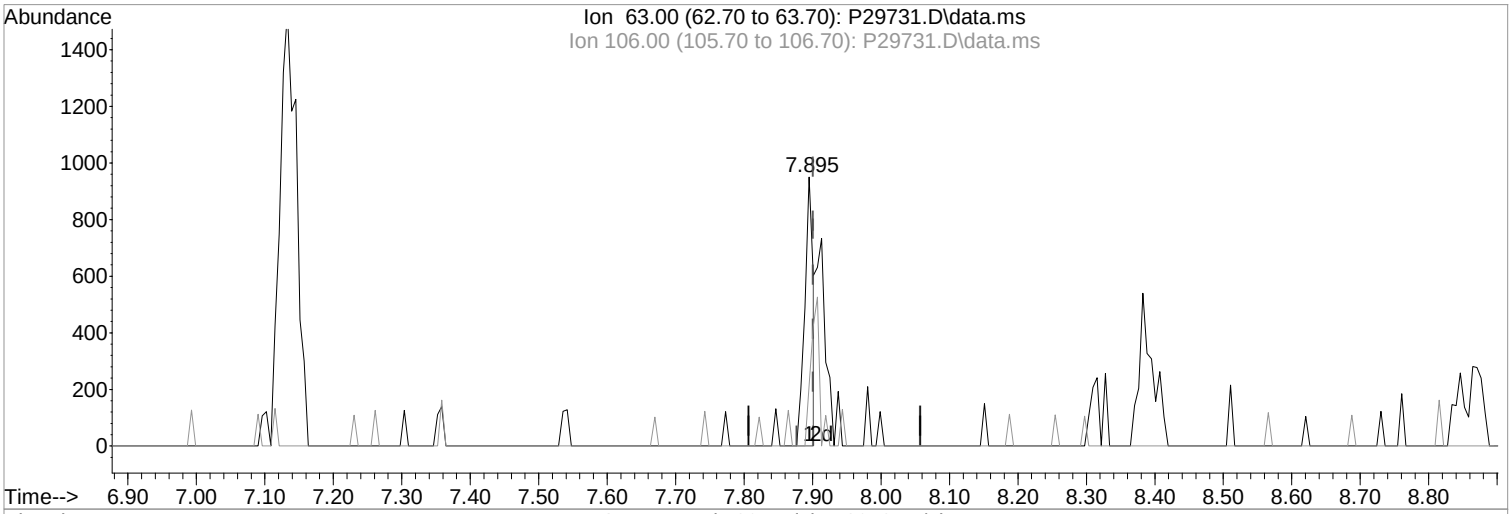
09/12/19

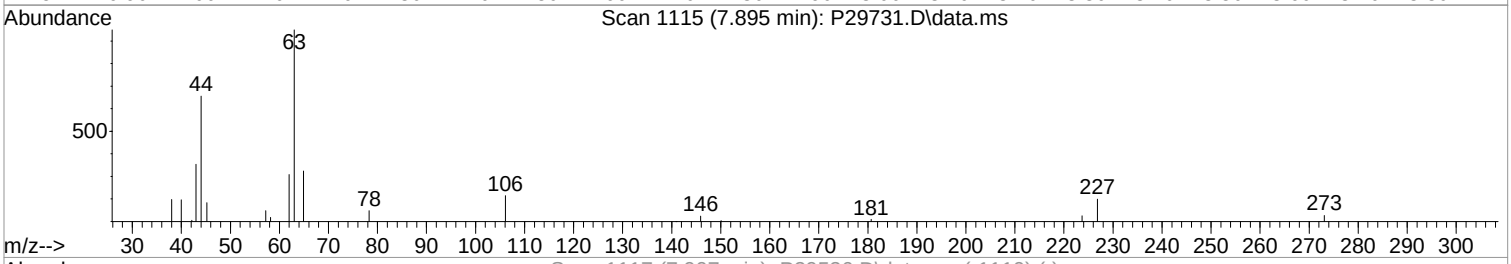
1st 09/12/19
2nd 09/12/19

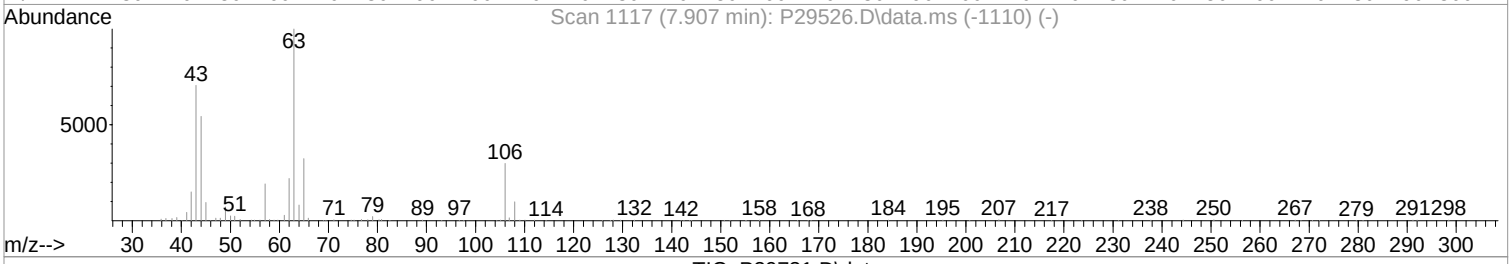
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(62) 2-Chloroethylvinyl Ether

7.895min (-0.006) 0.26 ppb

response 819

Ion	Exp%	Act%
63.00	100	100
106.00	25.50	22.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

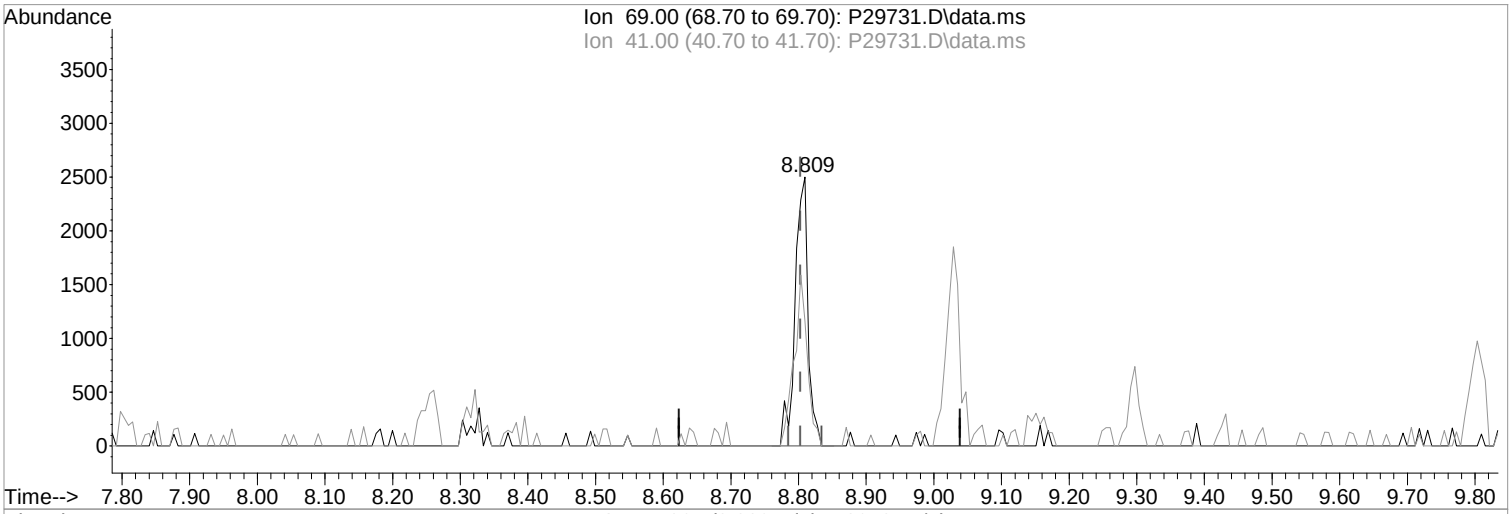
Before

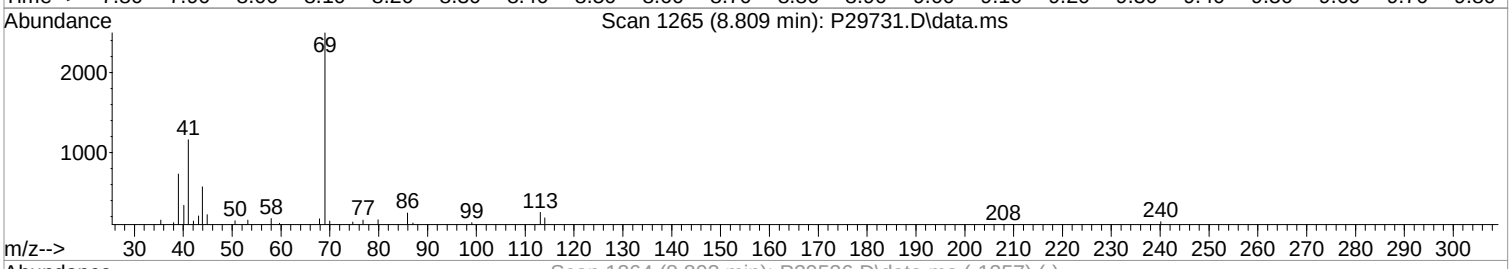
09/12/19

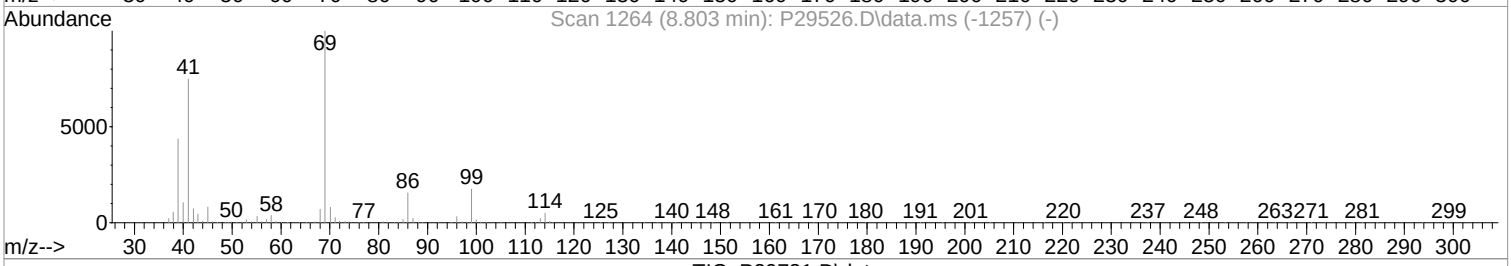
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(68) Ethyl Methacrylate

8.809min (+0.006) 0.44 ppb m

response 3315

Ion	Exp%	Act%
69.00	100	100
41.00	77.10	46.40#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

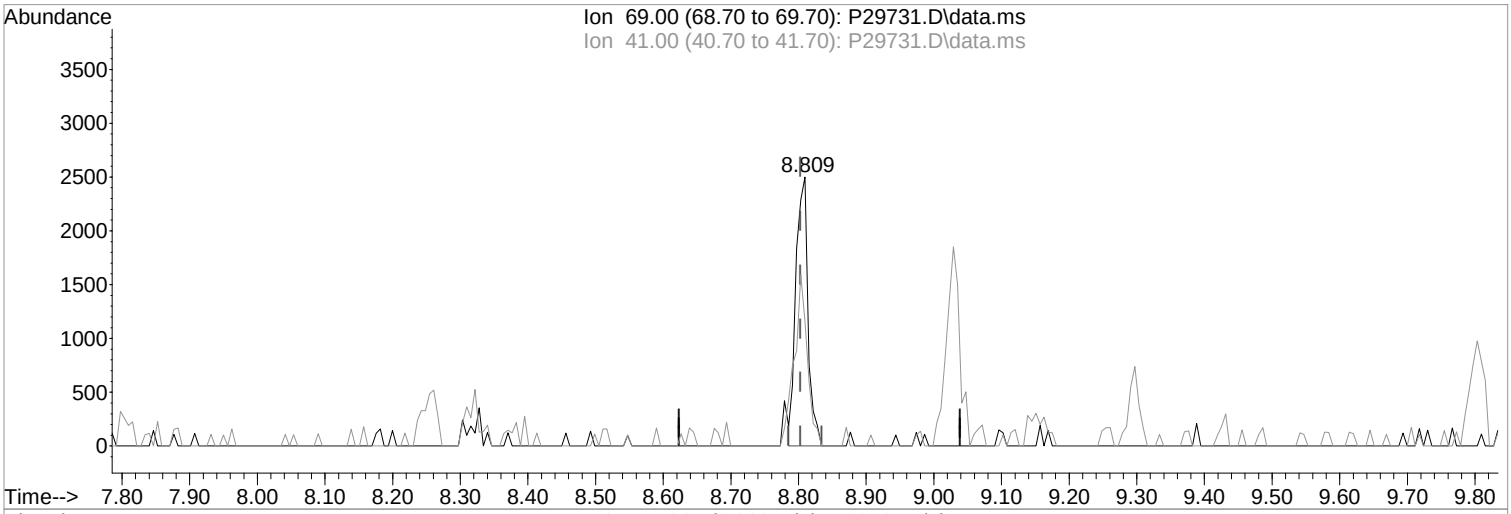
09/12/19

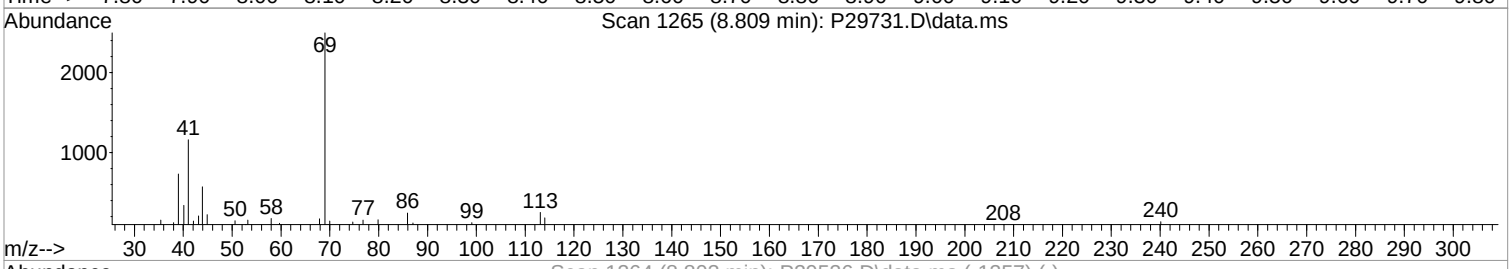
1st 09/12/19
2nd 09/12/19

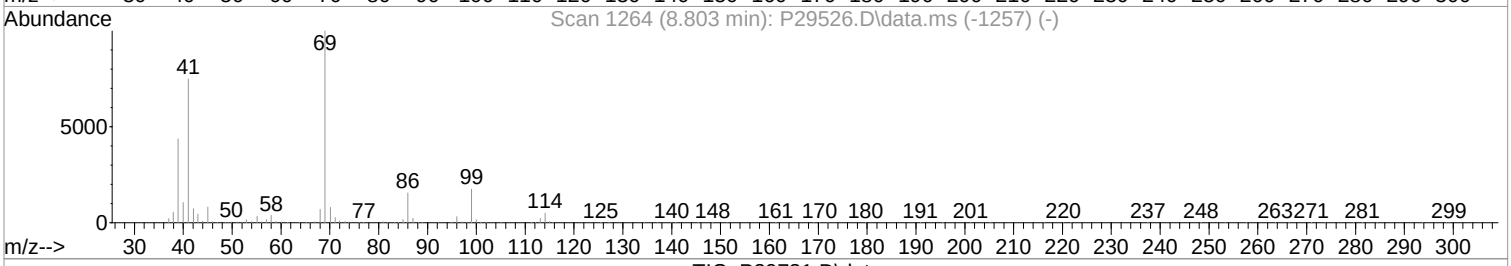
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(68) Ethyl Methacrylate

8.809min (+0.006) 0.41 ppb

response 3092

Ion	Exp%	Act%
69.00	100	100
41.00	77.10	46.40#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

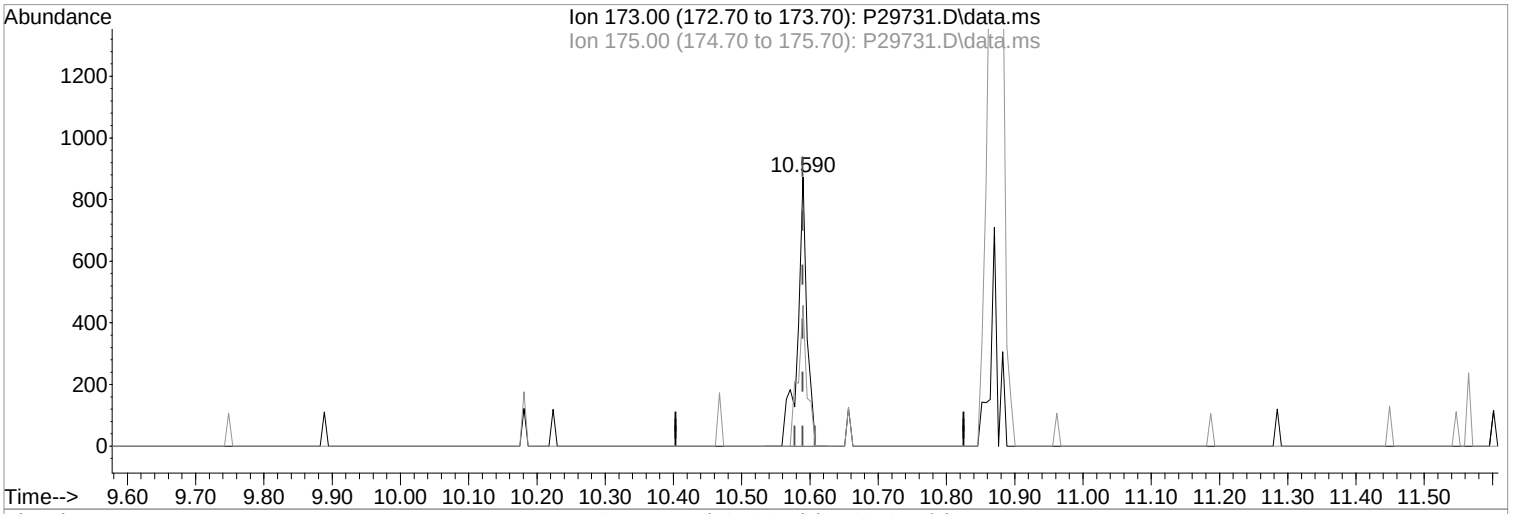
Before

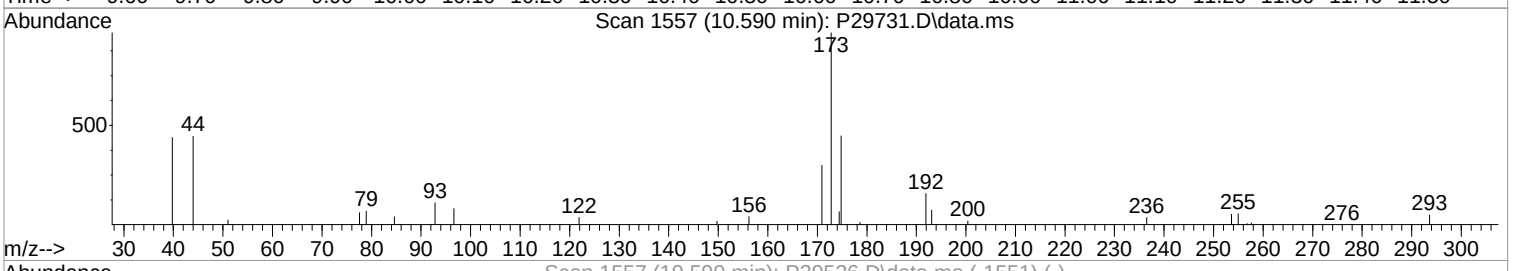
09/12/19

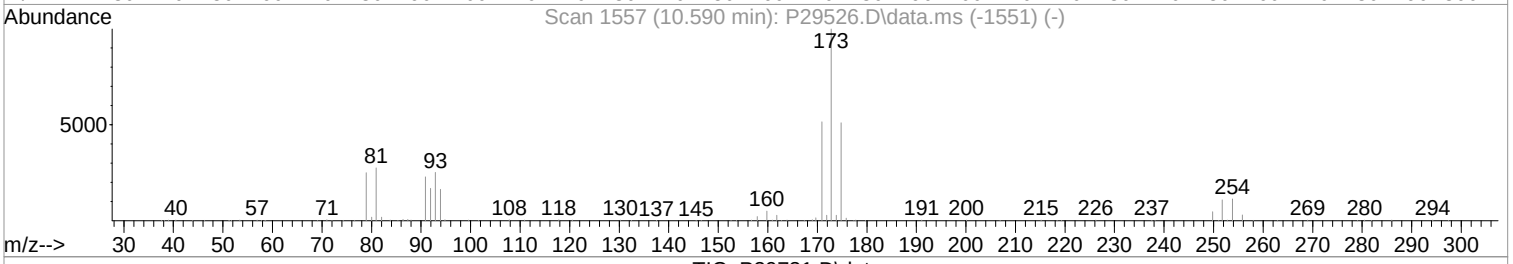
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(87) Bromoform (P)

10.590min (+0.000) 0.46 ppb m

response 829

Ion	Exp%	Act%
173.00	100	100
175.00	52.80	52.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

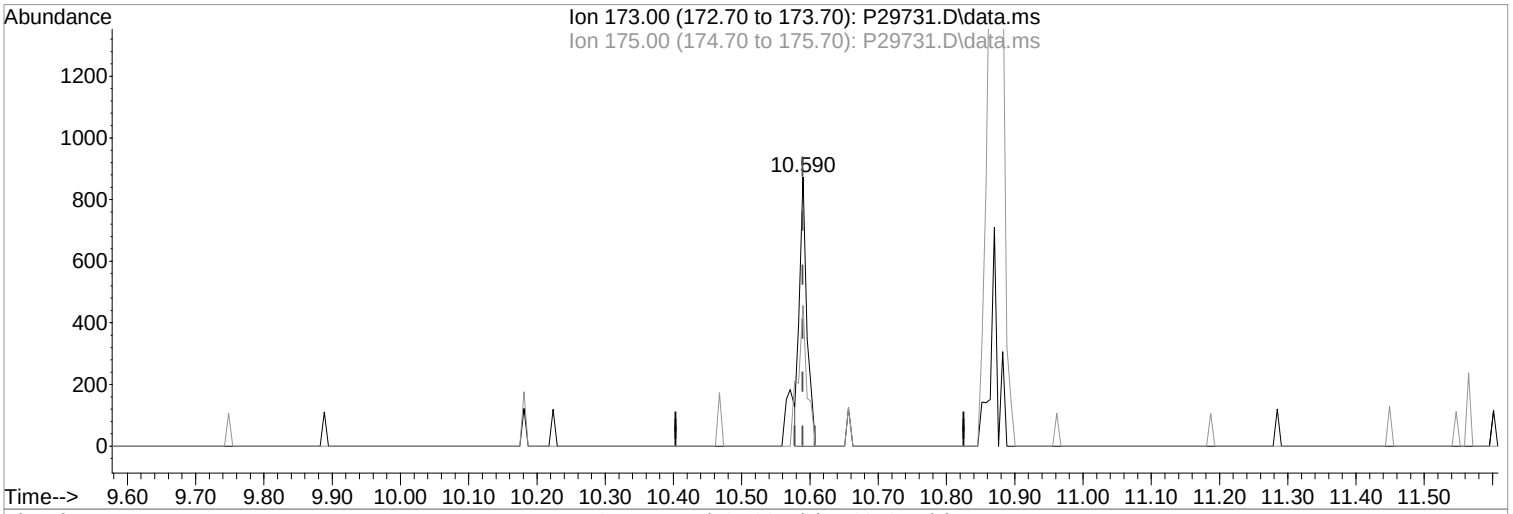
Poor integration.

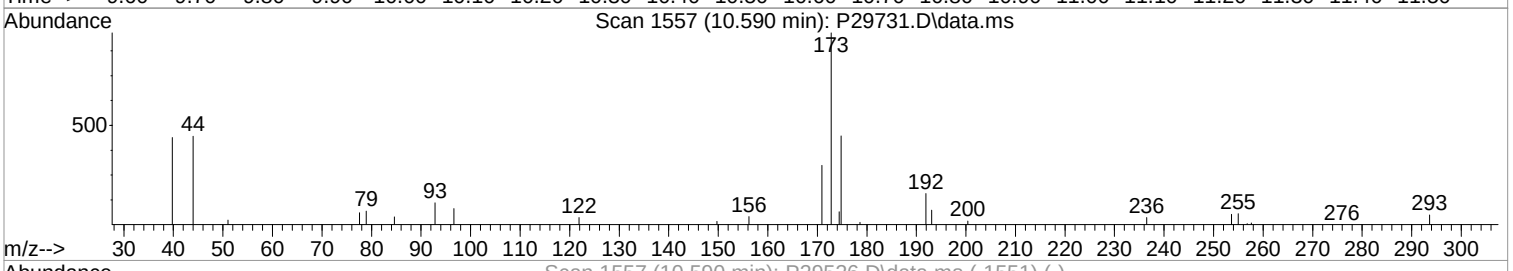
09/12/19

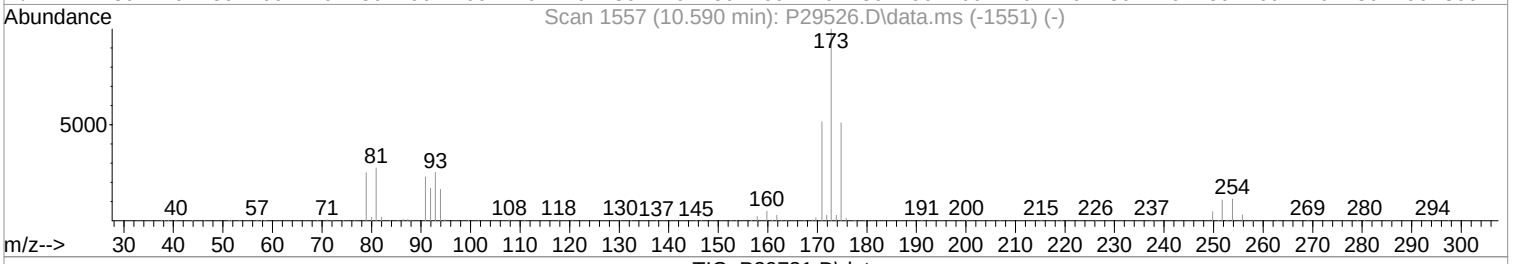
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(87) Bromoform (P)

10.590min (+0.000) 0.36 ppb

response 660

Ion	Exp%	Act%
173.00	100	100
175.00	52.80	52.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.450	168	344778	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	562397	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	503688	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	259929	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	32171	10.79	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 21.58%#				
48) surr1,1,2-dichloroetha...	5.853	65	47891	11.61	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 23.22%#				
65) SURR3,Toluene-d8	8.316	98	165601	11.80	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.60%#				
70) SURR2,BFB	10.870	95	64735	11.86	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 23.72%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.195	85	1916	0.45	ppb		79
3) Chloromethane	1.323	50	3982	0.61	ppb		94
4) Vinyl Chloride	1.402	62	3326	0.54	ppb		84
5) Bromomethane	1.634	94	2343	0.70	ppb		89
6) Chloroethane	1.713	64	1905	0.52	ppb		94
7) Freon 21	1.866	67	3493	0.51	ppb		89
8) Trichlorofluoromethane	1.908	101	2503	0.50	ppb		92
9) Diethyl Ether	2.146	59	2265	0.52	ppb		89
10) Freon 123a	2.152	67	2894	0.61	ppb		76
11) Freon 123	2.207	83	2883	0.55	ppb	#	69
12) Acrolein	2.256	56	3099	2.54	ppb	#	50
13) 1,1-Diclethene	2.329	96	1681	0.50	ppb		86
14) Freon 113	2.323	101	1794	0.55	ppb		82
15) Acetone	2.402	43	2673	0.95	ppb		86
16) 2-Propanol	2.542	45	4317	6.77	ppb		82
17) Iodomethane	2.469	142	1059	0.27	ppb		78
18) Carbon Disulfide	2.524	76	6220	0.62	ppb		86
20) Allyl Chloride	2.670	76	900	0.47	ppb	#	83
21) Methyl Acetate	2.707	43	3090	0.56	ppb		73
22) Methylene Chloride	2.798	84	2642	0.60	ppb	#	82
23) TBA	2.951	59	6593	6.98	ppb		96
24) Acrylonitrile	3.079	53	7019	2.45	ppb	#	65
25) Methyl-t-Butyl Ether	3.091	73	5878	0.41	ppb		93
26) trans-1,2-Dichloroethene	3.085	96	1732	0.47	ppb	#	79
28) 1,1-Diclethane	3.597	63	3433	0.45	ppb	#	78
30) DIPE	3.701	45	8467	0.51	ppb		86
31) 2-Chloro-1,3-Butadiene	3.707	53	2817	0.46	ppb		85
32) ETBE	4.237	59	7204	0.49	ppb	#	76
33) 2,2-Dichloropropane	4.420	77	2749m	0.49	ppb		
34) cis-1,2-Dichloroethene	4.444	96	1957m	0.47	ppb		
36) Propionitrile	4.646	54	2187	1.80	ppb		85
37) Bromochloromethane	4.853	130	1398m	0.56	ppb		
38) Methacrylonitrile	4.896	67	1354	0.47	ppb	#	49
39) Tetrahydrofuran	4.981	42	5574	1.73	ppb		91
40) Chloroform	5.030	83	3070	0.46	ppb	#	75
41) 1,1,1-Trichloroethane	5.292	97	2421m	0.45	ppb		
42) TAME	6.145	73	5695	0.42	ppb		95
44) Cyclohexane	5.359	41	2693m	0.60	ppb		
46) Carbontetrachloride	5.566	117	2085m	0.54	ppb		

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
47)	1,1-Dichloropropene	5.584	75	2695m	0.50	ppb		
49)	Benzene	5.901	78	8685	0.51	ppb		98
50)	1,2-Dichloroethane	5.969	62	3084	0.54	ppb		86
51)	Iso-Butyl Alcohol	5.975	43	3274m	6.80	ppb		
52)	n-Heptane	6.359	43	3061	0.48	ppb		85
53)	1-Butanol	6.926	56	3994	14.47	ppb		90
54)	Trichloroethene	6.834	130	2024	0.54	ppb	#	72
55)	Methylcyclohexane	7.060	55	3414m	0.56	ppb		
56)	1,2-Diclpropane	7.133	63	2630	0.56	ppb		81
57)	Dibromomethane	7.279	93	1246m	0.54	ppb		
58)	1,4-Dioxane	7.352	88	1219m	11.33	ppb		
59)	Methyl Methacrylate	7.358	69	1640	0.38	ppb	#	72
60)	Bromodichloromethane	7.499	83	2036	0.45	ppb		82
62)	2-Chloroethylvinyl Ether	7.895	63	1514m	0.48	ppb		
63)	cis-1,3-Dichloropropene	8.035	75	2987	0.45	ppb		94
64)	4-Methyl-2-pentanone	8.261	43	2727	0.38	ppb		96
66)	Toluene	8.389	91	9114	0.53	ppb		97
67)	trans-1,3-Dichloropropene	8.675	75	3298	0.54	ppb		81
68)	Ethyl Methacrylate	8.809	69	3315m	0.44	ppb		
69)	1,1,2-Trichloroethane	8.864	97	1371	0.36	ppb	#	76
72)	Tetrachloroethene	8.974	164	1576	0.52	ppb	#	76
73)	2-Hexanone	9.163	43	1848	0.33	ppb		88
74)	1,3-Dichloropropane	9.029	76	3644	0.48	ppb		83
75)	Dibromochloromethane	9.248	129	1346	0.43	ppb		75
76)	N-Butyl Acetate	9.291	43	4174	0.39	ppb		92
77)	1,2-Dibromoethane	9.346	107	1979	0.50	ppb		89
78)	Chlorobenzene	9.828	112	6227	0.56	ppb		84
79)	3-CBTF	9.846	180	2482	0.43	ppb	#	80
80)	4-CBTF	9.901	180	2571	0.50	ppb		95
81)	1,1,1,2-Tetrachloroethane	9.913	131	1411	0.43	ppb	#	62
82)	Ethylbenzene	9.937	106	3187	0.53	ppb		92
83)	(m+p)Xylene	10.047	106	7241	0.99	ppb		90
84)	o-Xylene	10.413	106	4016	0.54	ppb		92
85)	Styrene	10.431	104	5759	0.47	ppb		94
87)	Bromoform	10.590	173	829m	0.46	ppb		
88)	2-CBTF	10.663	180	2797	0.52	ppb	#	62
89)	Isopropylbenzene	10.742	105	9234	0.52	ppb		97
90)	Cyclohexanone	10.833	55	7032	9.28	ppb	#	74
91)	trans-1,4-Dichloro-2-B...	11.071	53	826	0.42	ppb	#	63
92)	1,1,2,2-Tetrachloroethane	11.016	83	2552	0.43	ppb		94
93)	Bromobenzene	10.992	156	2221	0.51	ppb	#	69
94)	1,2,3-Trichloropropane	11.059	110	905	0.47	ppb	#	50
95)	n-Propylbenzene	11.096	91	11705	0.55	ppb		92
96)	2-Chlorotoluene	11.163	91	7030	0.52	ppb		96
97)	3-Chlorotoluene	11.211	91	7352	0.54	ppb	#	88
98)	4-Chlorotoluene	11.254	91	7420	0.51	ppb		80
99)	1,3,5-Trimethylbenzene	11.248	105	7513	0.51	ppb		83
100)	tert-Butylbenzene	11.516	119	6481	0.50	ppb		87
101)	1,2,4-Trimethylbenzene	11.559	105	7074	0.48	ppb		85
102)	3,4-DCBTF	11.620	214	2762	0.62	ppb	#	69
103)	sec-Butylbenzene	11.699	105	10445	0.56	ppb		88
104)	p-Isopropyltoluene	11.821	119	8759	0.54	ppb		86
105)	1,3-Dclbenz	11.784	146	4743	0.54	ppb		87
106)	1,4-Dclbenz	11.864	146	4885	0.55	ppb	#	73
107)	2,4-DCBTF	11.919	214	2395	0.59	ppb	#	71
108)	2,5-DCBTF	11.949	214	2744	0.60	ppb	#	84

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
109) n-Butylbenzene	12.150	91	9043	0.57	ppb		85
110) 1,2-Dclbenz	12.162	146	4216	0.49	ppb		91
111) 1,2-Dibromo-3-chloropr...	12.796	157	569	0.42	ppb		94
112) Trielution Dichlorotol...	12.900	125	12599	1.60	ppb	#	91
113) 1,3,5 Trichlorobenzene	12.949	180	3551	0.55	ppb	#	81
114) Coelution Dichlorotoluene	13.229	125	10356	1.17	ppb	#	88
115) 1,2,4-Tcbenzene	13.437	180	3403	0.51	ppb		89
116) Hexachlorobt	13.565	225	1438	0.54	ppb	#	77
117) Naphthalen	13.632	128	10022	0.48	ppb		81
118) 1,2,3-Tclbenzene	13.815	180	3694	0.56	ppb		93
119) 2,4,5-Trichlorotolene	14.400	159	2594	0.52	ppb	#	82
120) 2,3,6-Trichlorotoluene	14.479	159	2795	0.54	ppb	#	79

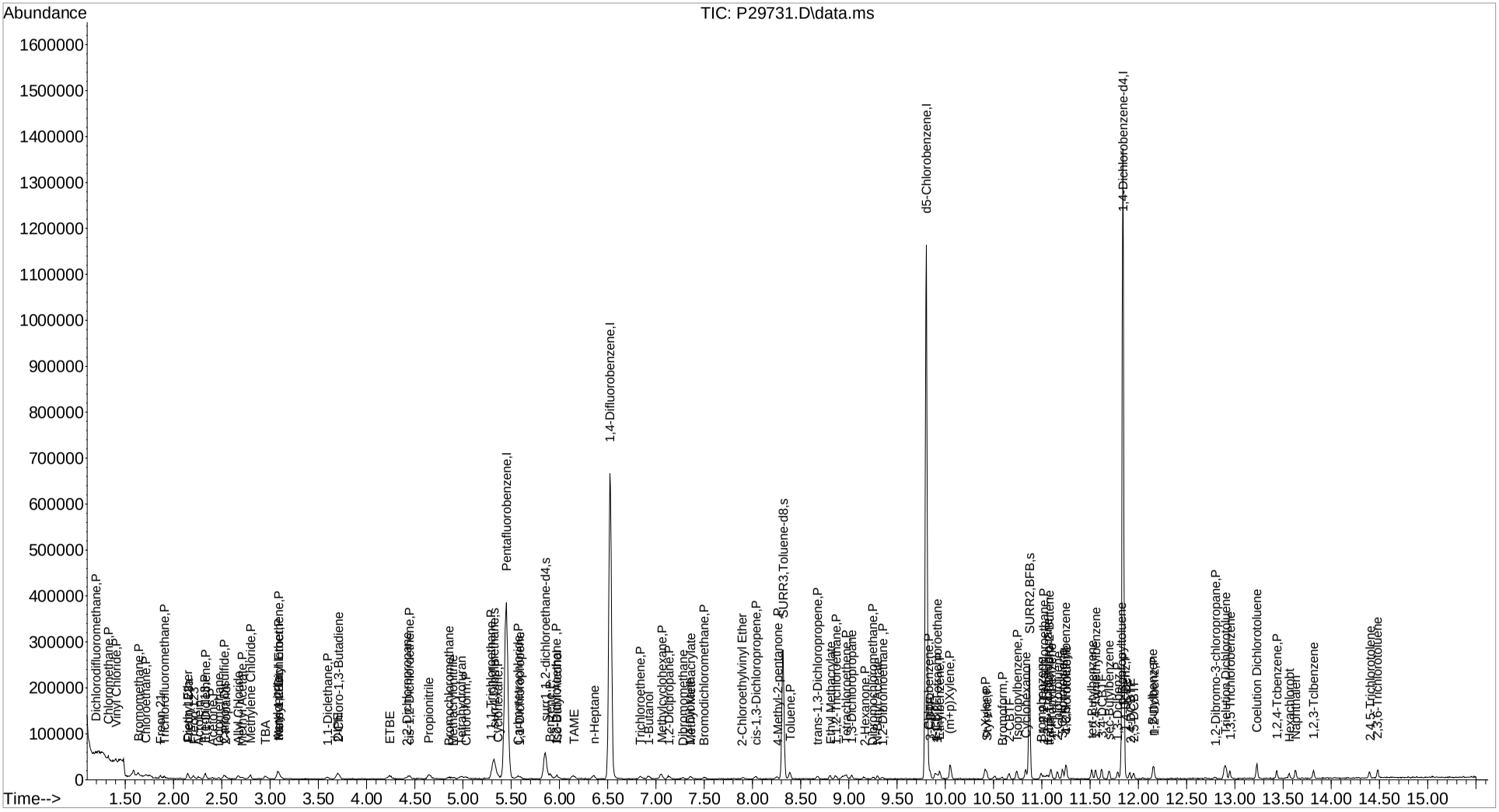
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



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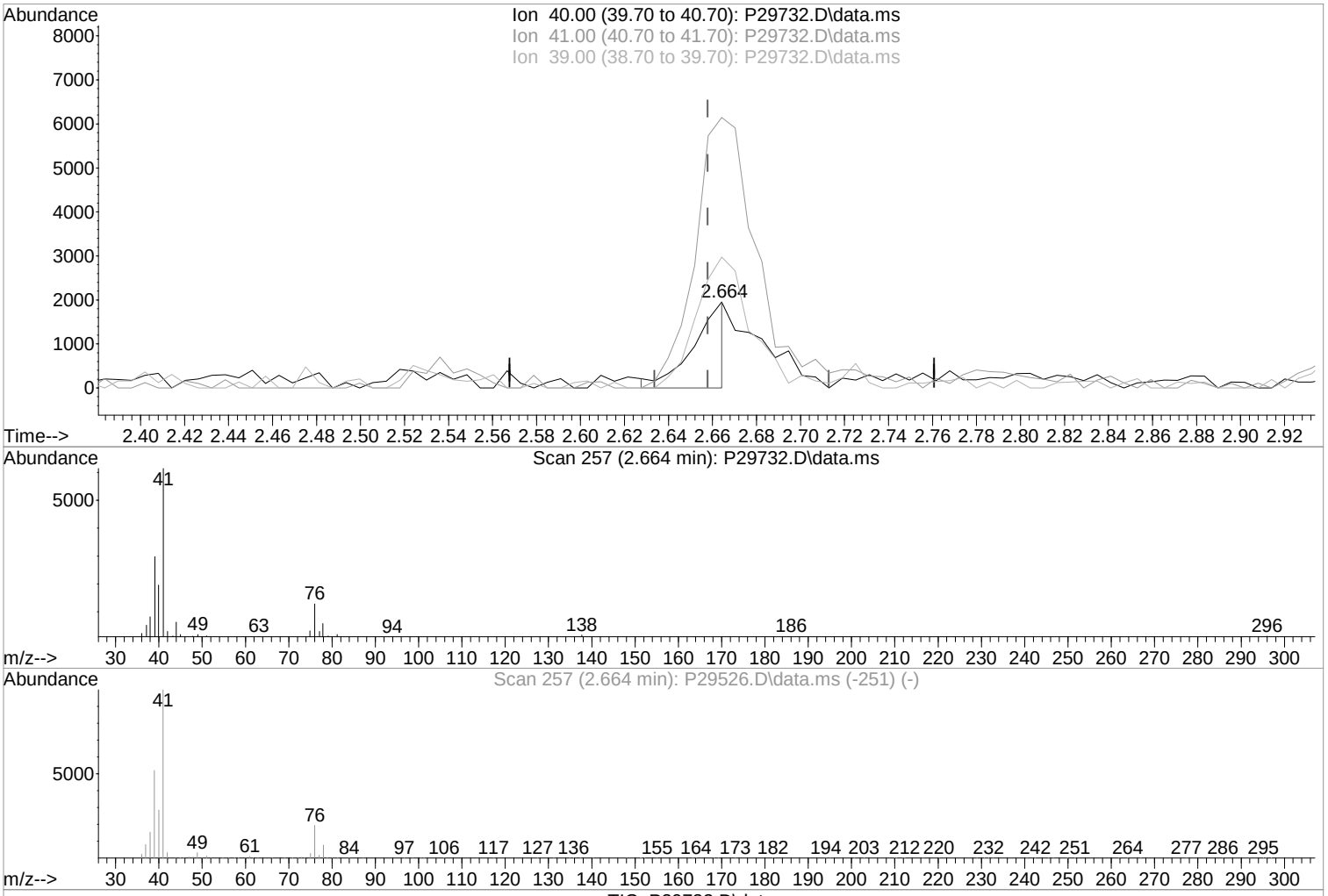
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 4.76 ppb m

response 2011

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	314.48
39.00	137.60	152.02
0.00	0.00	0.00

Manual Integration:

After

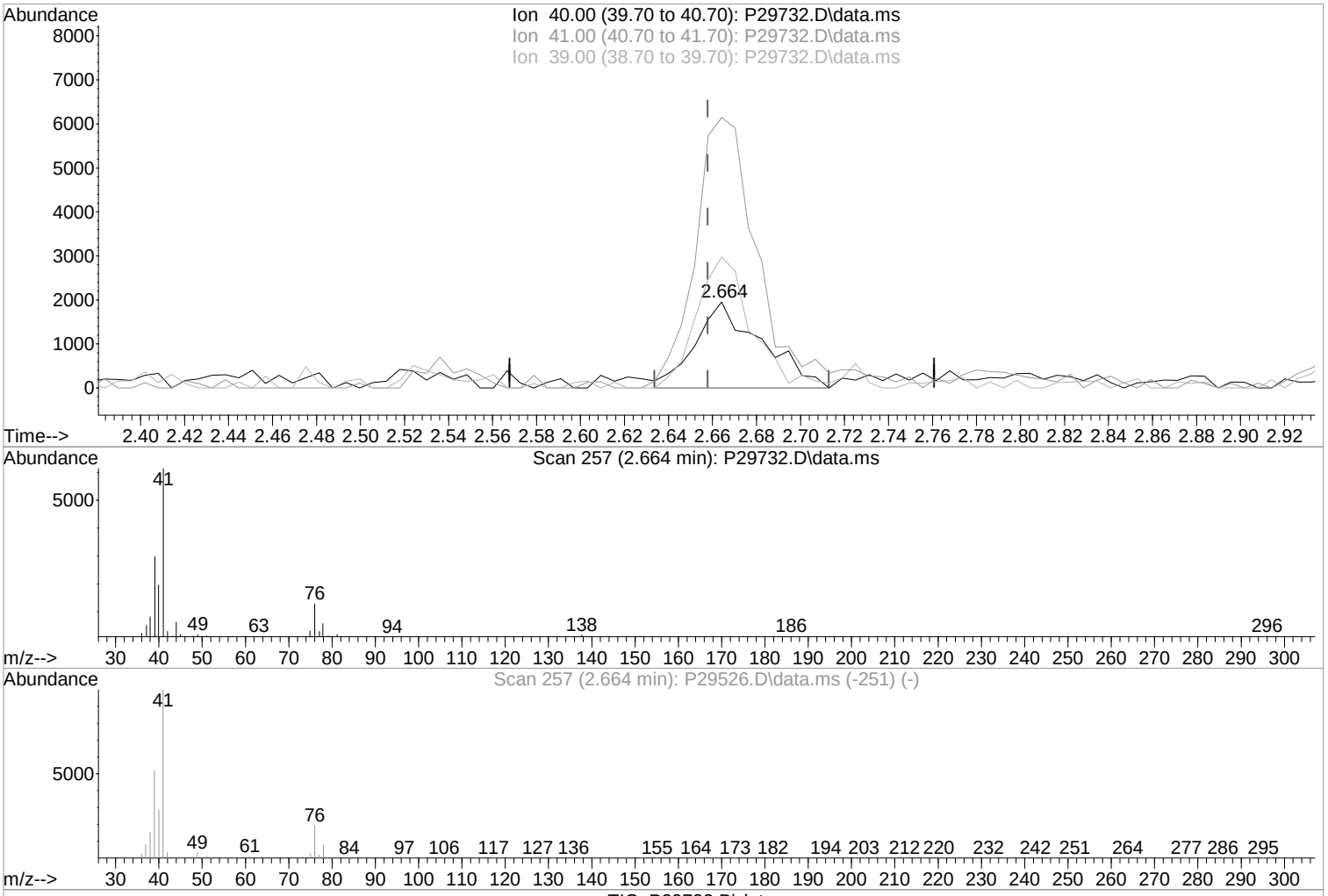
Poor integration.

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 9.60 ppb

response 4059

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	314.48
39.00	137.60	152.02
0.00	0.00	0.00

Manual Integration:

Before

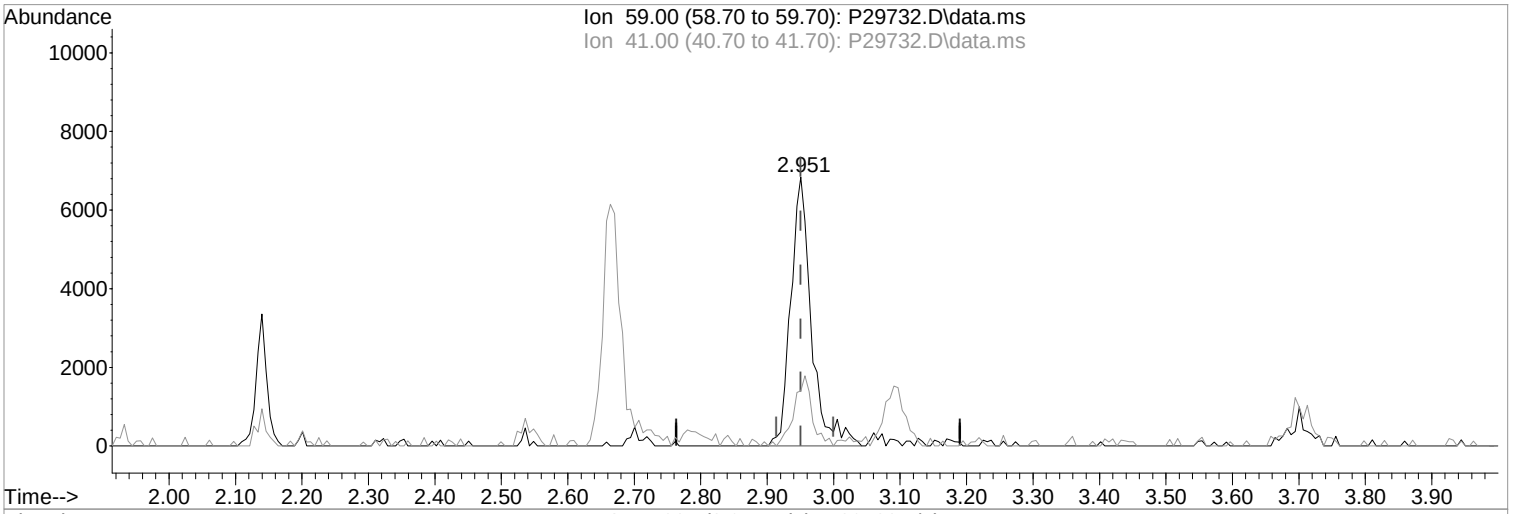
09/12/19

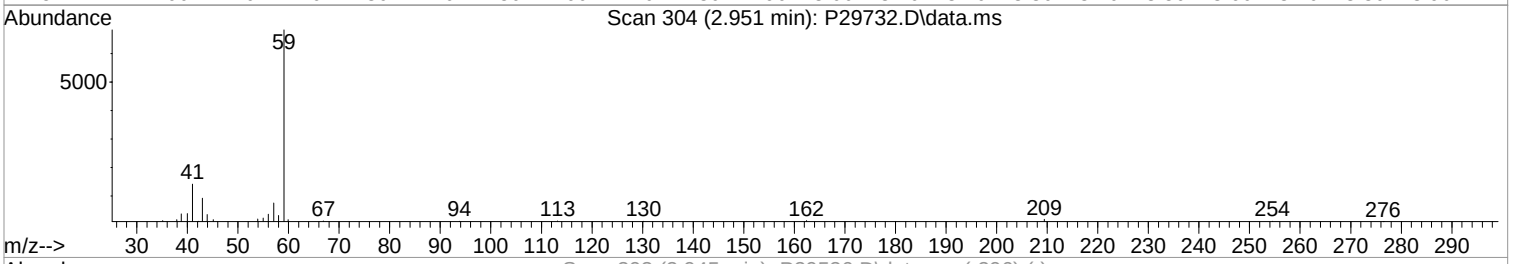
1st 09/12/19
2nd 09/12/19

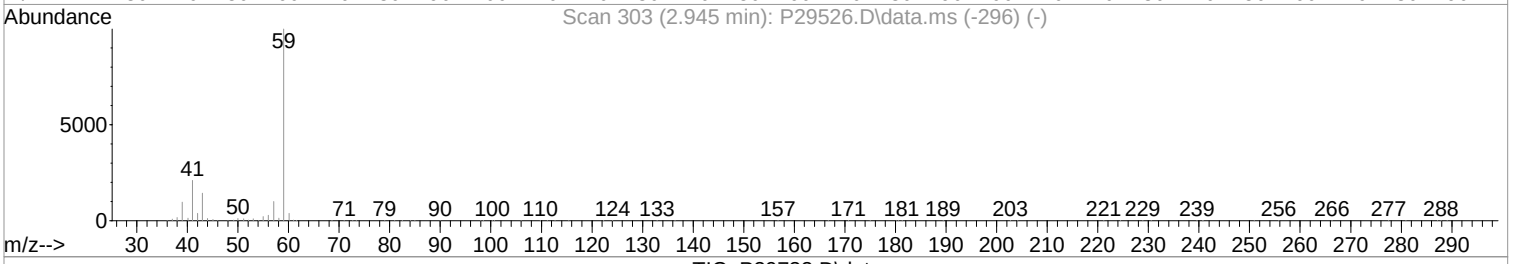
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(23) TBA

2.951min (+0.000) 15.91 ppb m

response 14787

Ion	Exp%	Act%
59.00	100	100
41.00	22.20	20.57
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

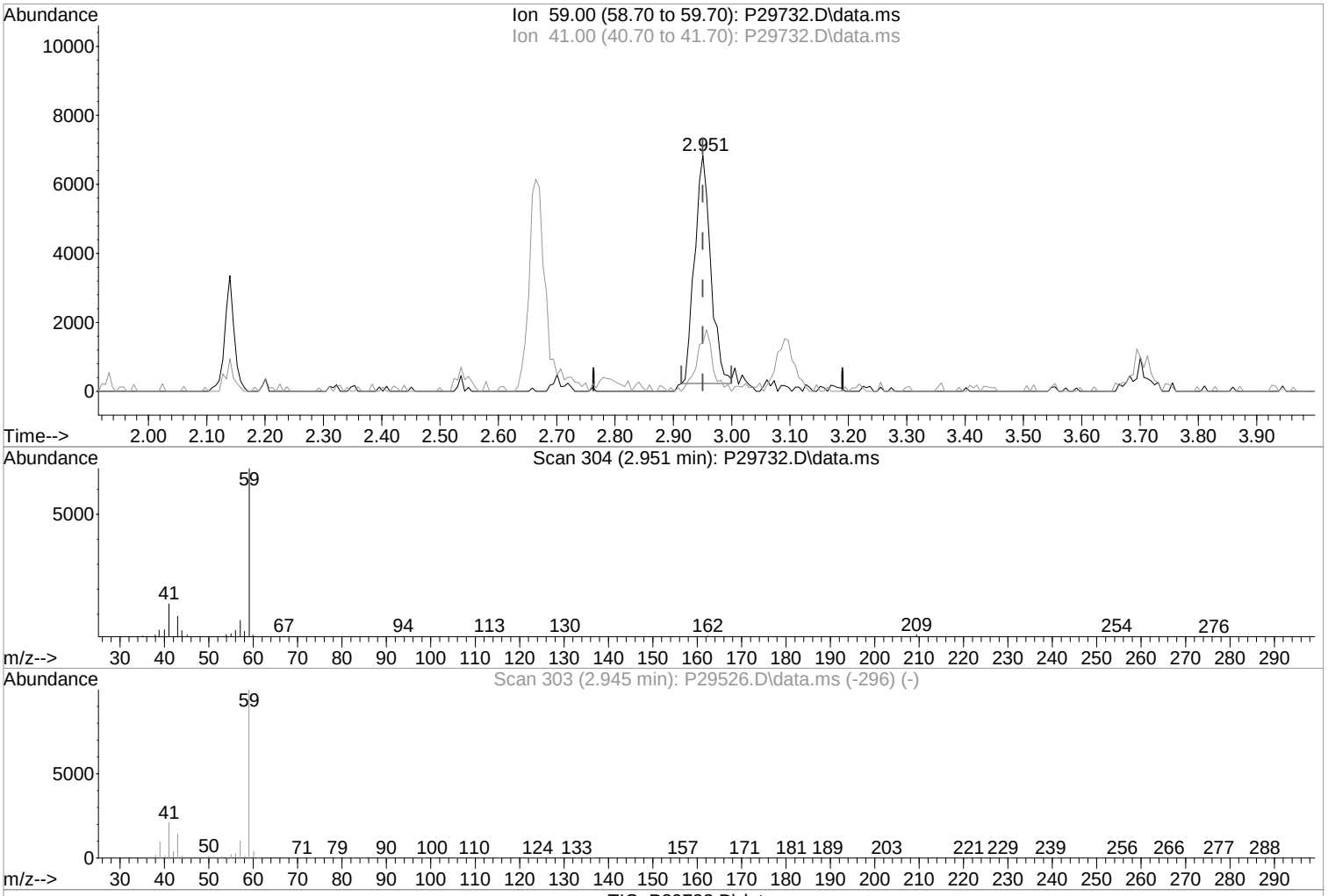
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(23) TBA

2.951min (+0.000) 13.69 ppb

response 12726

Ion	Exp%	Act%
59.00	100	100
41.00	22.20	20.57
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

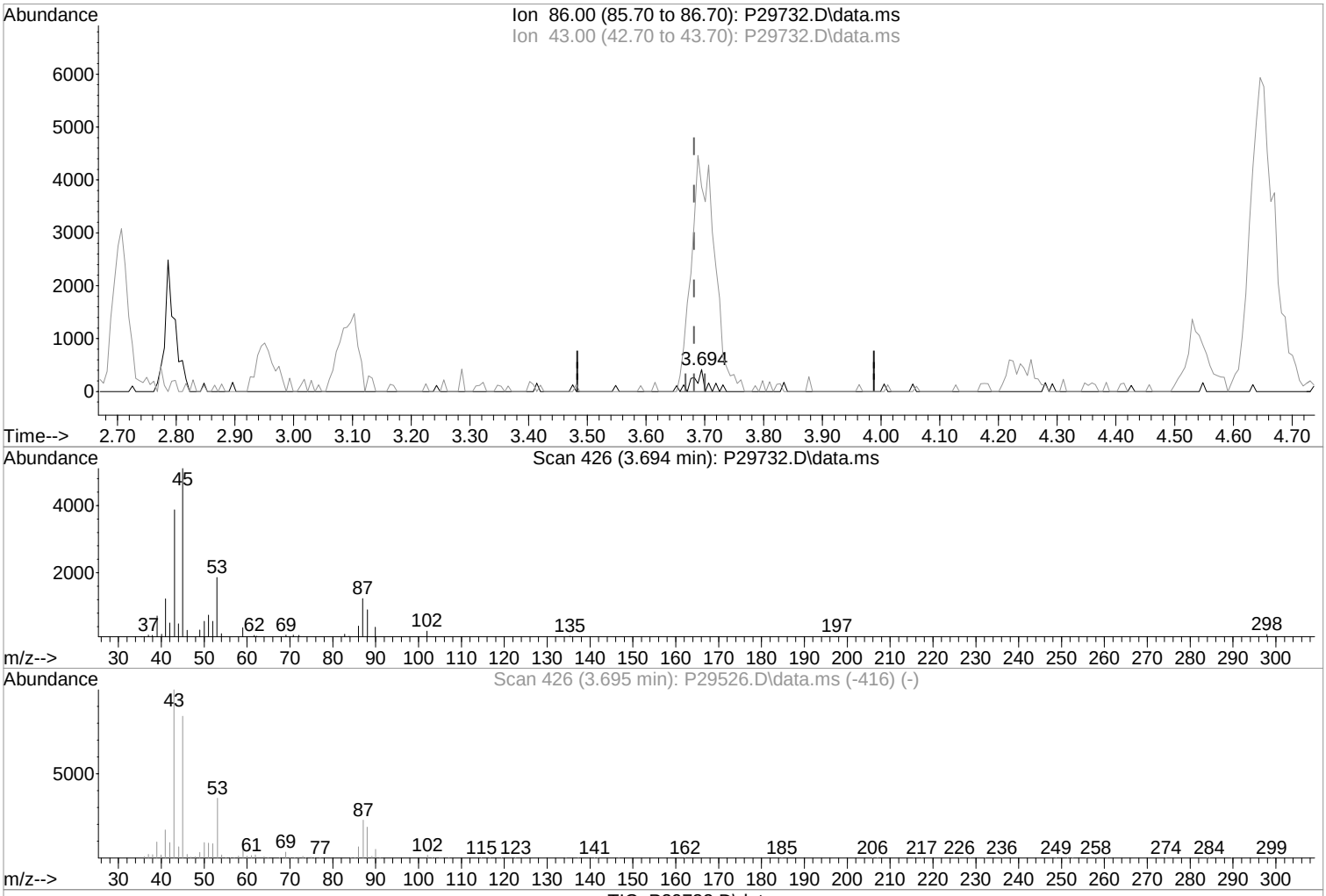
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(29) Vinyl Acetate

3.694min (+0.012) 0.74 ppb m

response 602

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	930.53#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

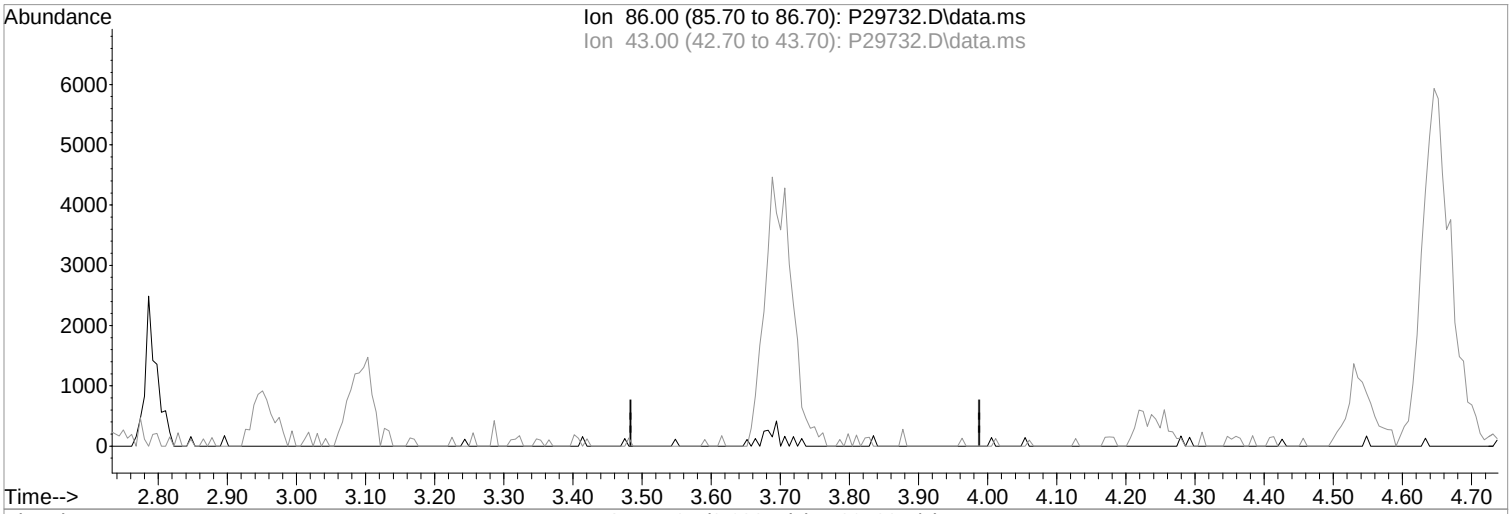
09/12/19

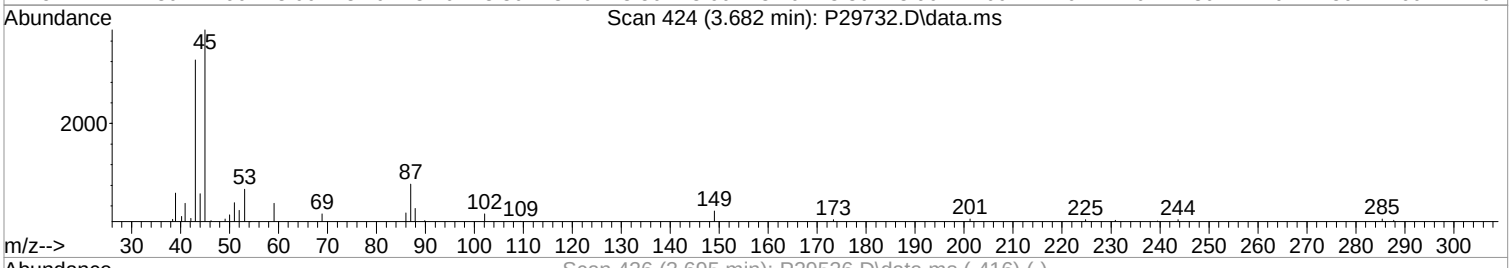
1st 09/12/19
2nd 09/12/19

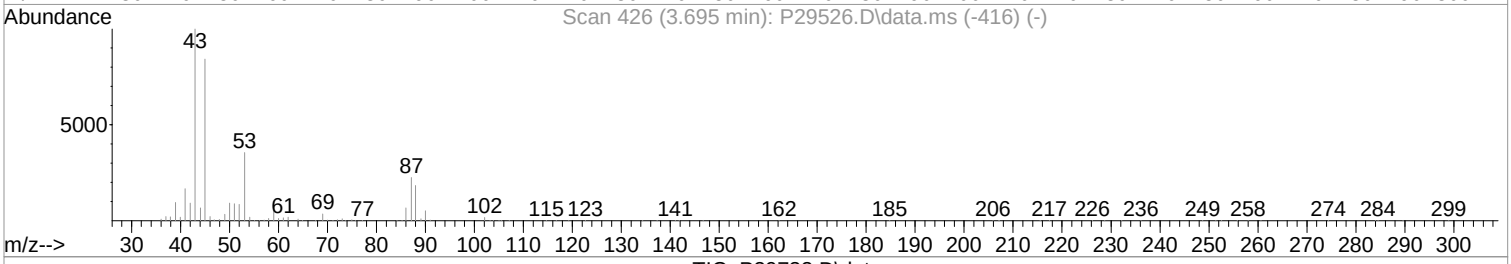
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(29) Vinyl Acetate

3.682min (-3.682) 0.00 ppb

response 0

Ion	Exp%	Act%
86.00	100	0.00
43.00	1567.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

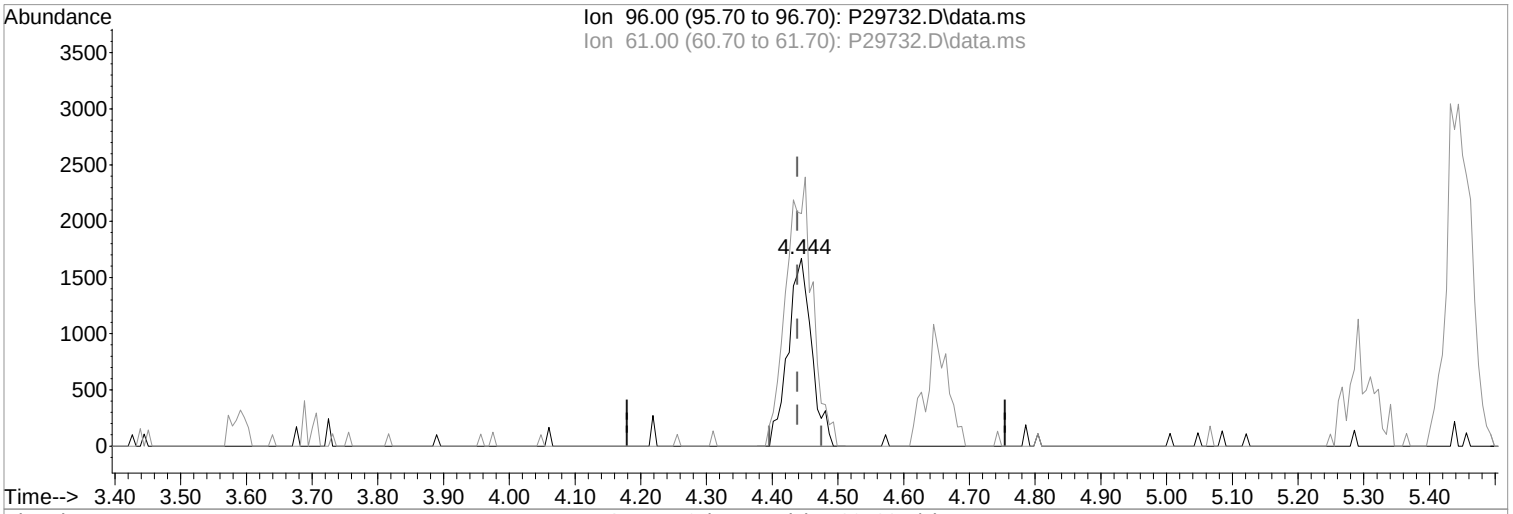
09/12/19

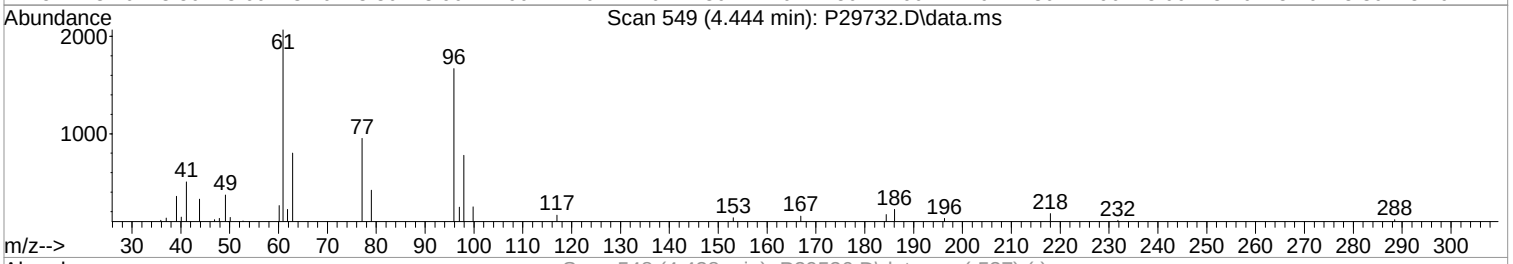
1st 09/12/19
2nd 09/12/19

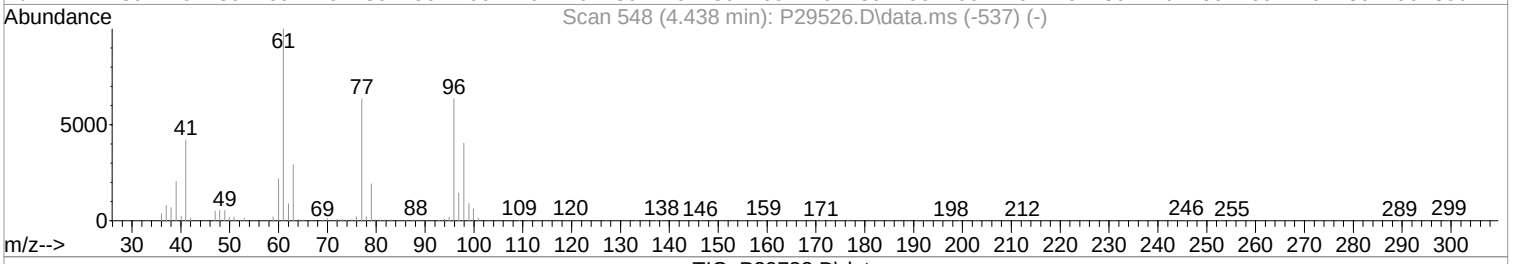
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 1.00 ppb m

response 4145

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	123.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

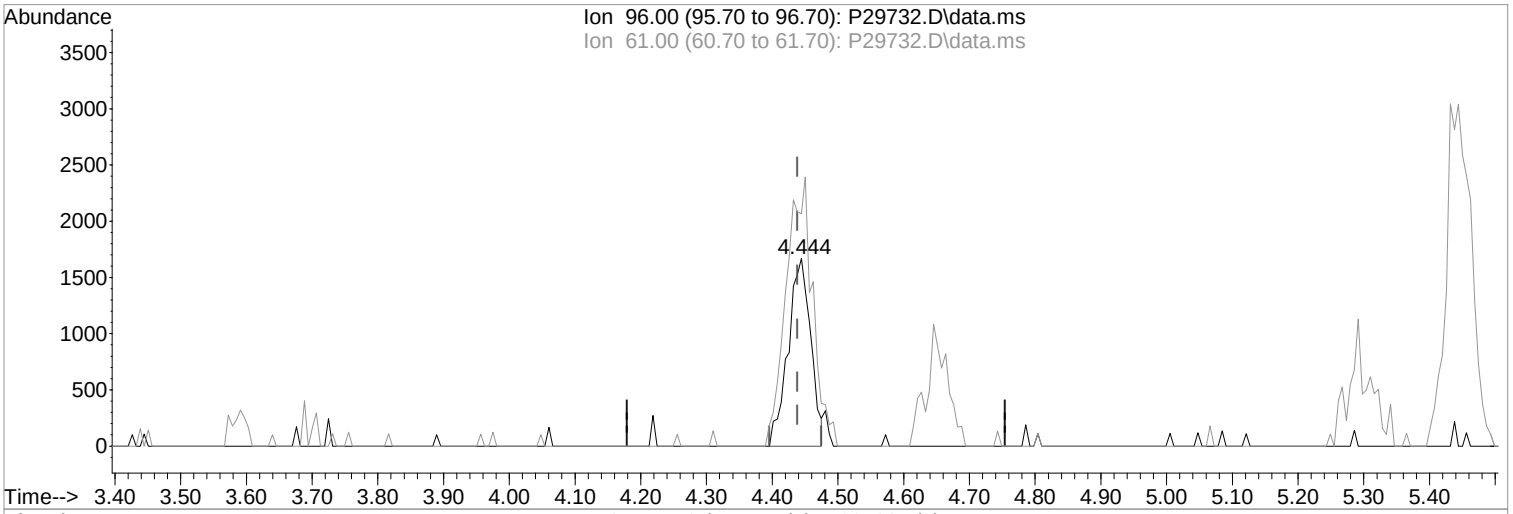
Poor integration.

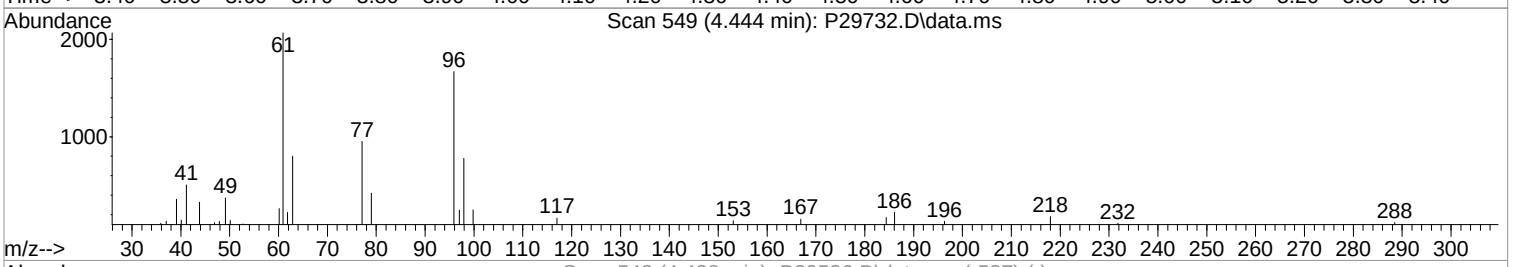
09/12/19

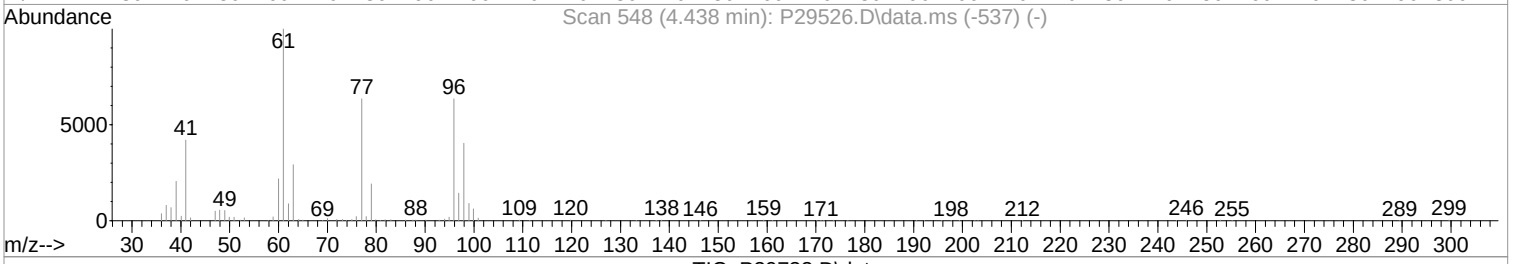
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.97 ppb

response 3989

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	123.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

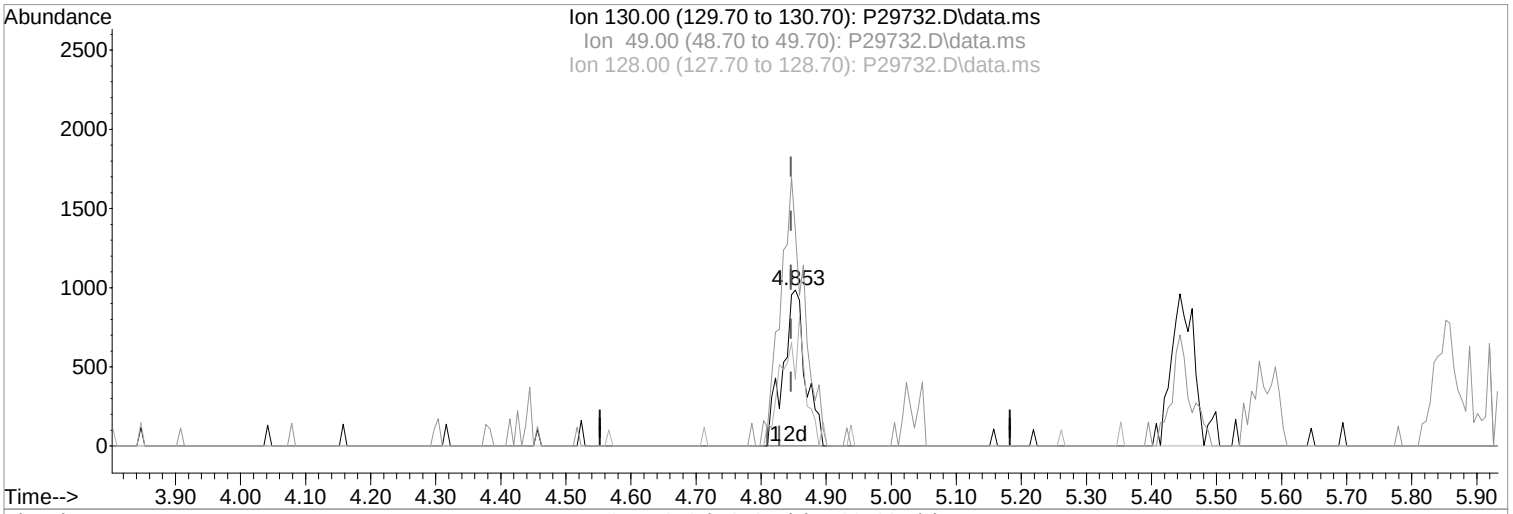
09/12/19

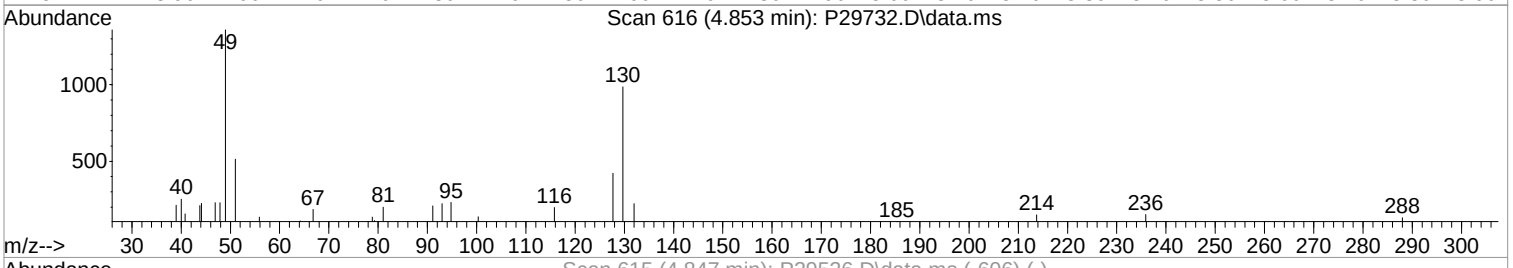
1st 09/12/19
2nd 09/12/19

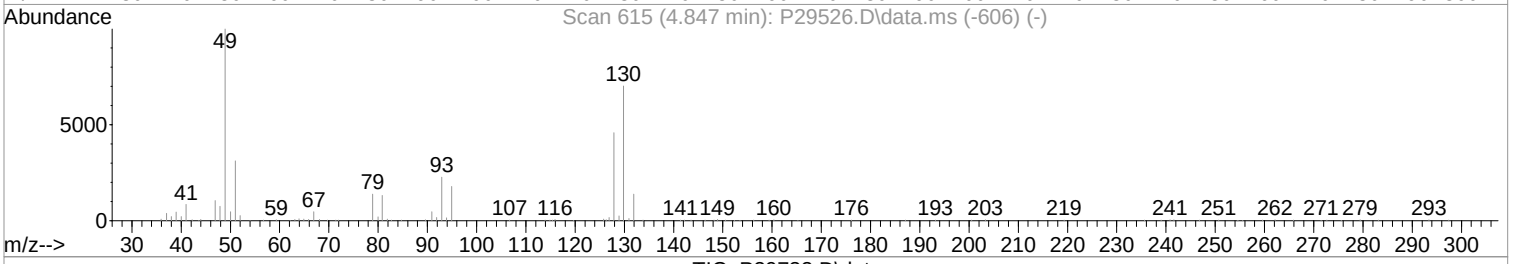
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.97 ppb m

response 2384

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	137.83#
128.00	71.40	42.70#
0.00	0.00	0.00

Manual Integration:

After

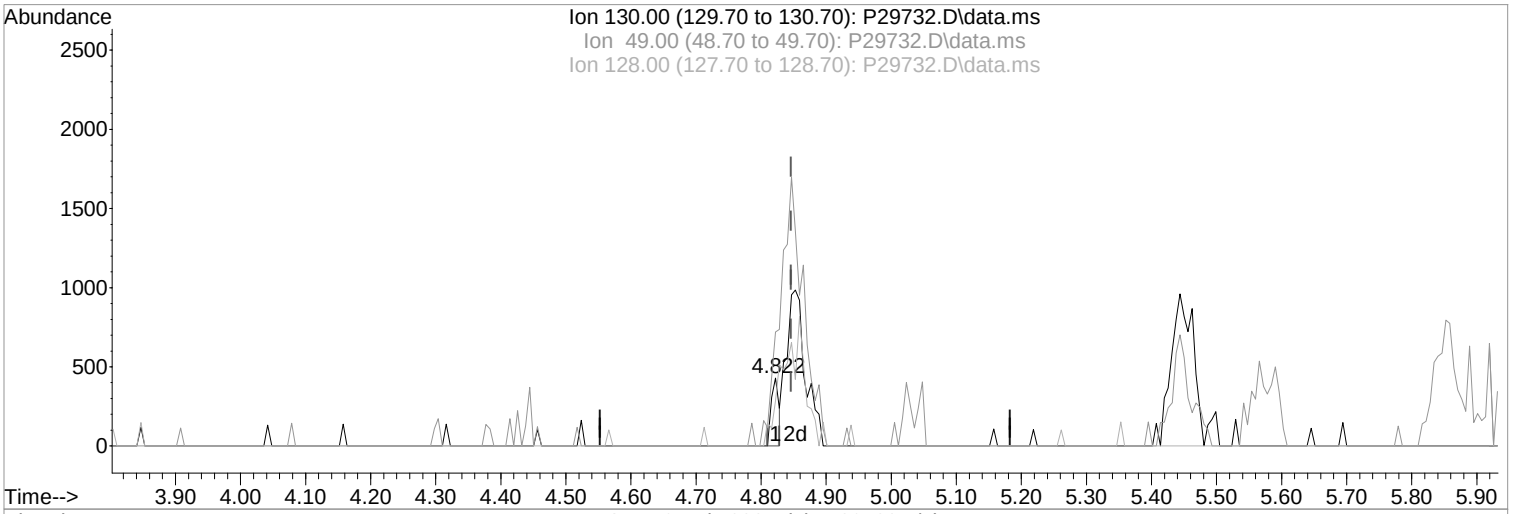
Poor integration.

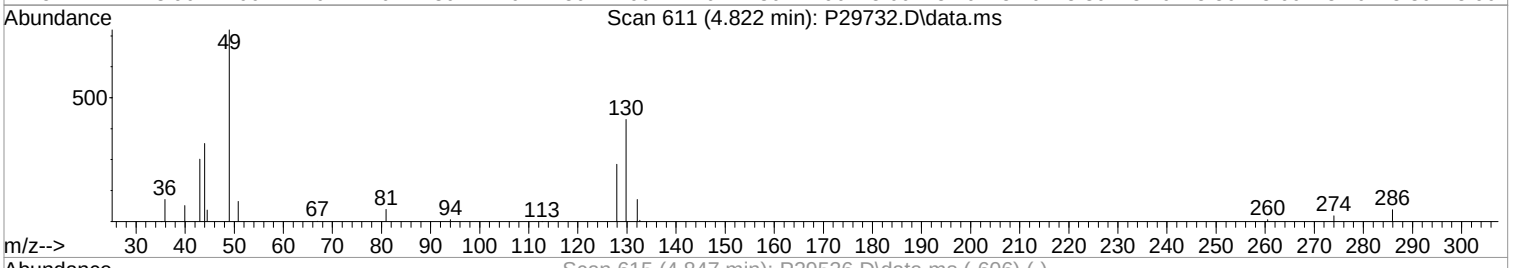
09/12/19

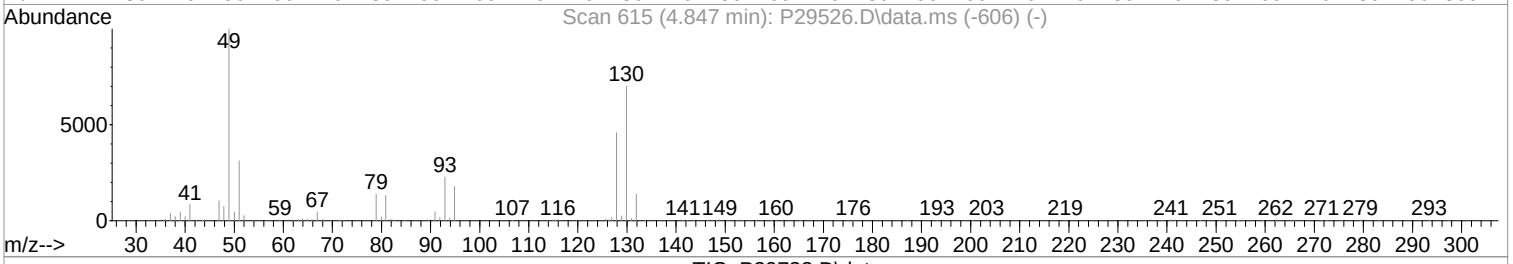
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(37) Bromochloromethane

4.822min (-0.024) 0.15 ppb

response 357

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	167.44
128.00	71.40	66.28
0.00	0.00	0.00

Manual Integration:

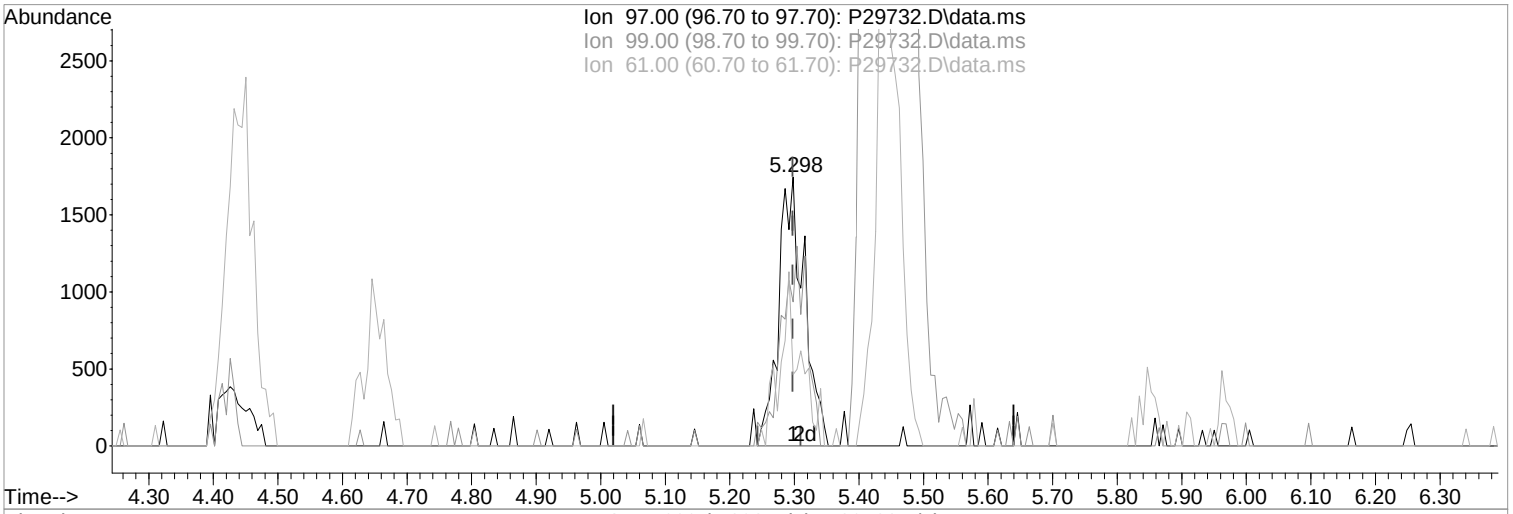
Before

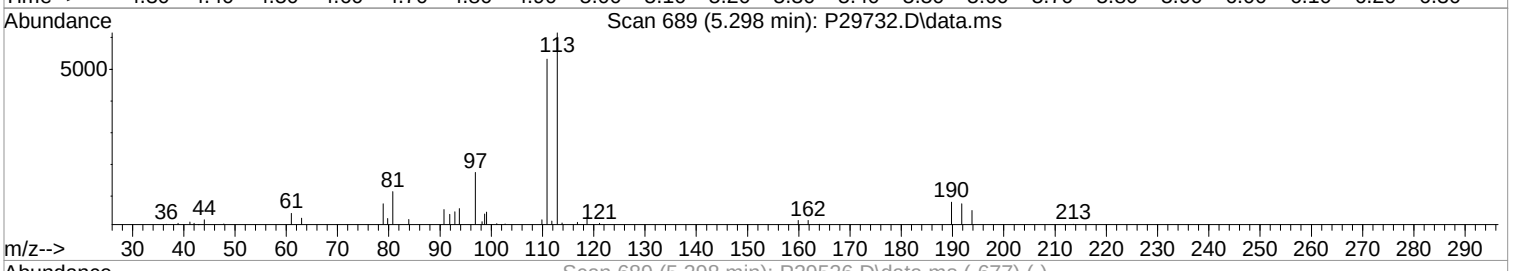
09/12/19

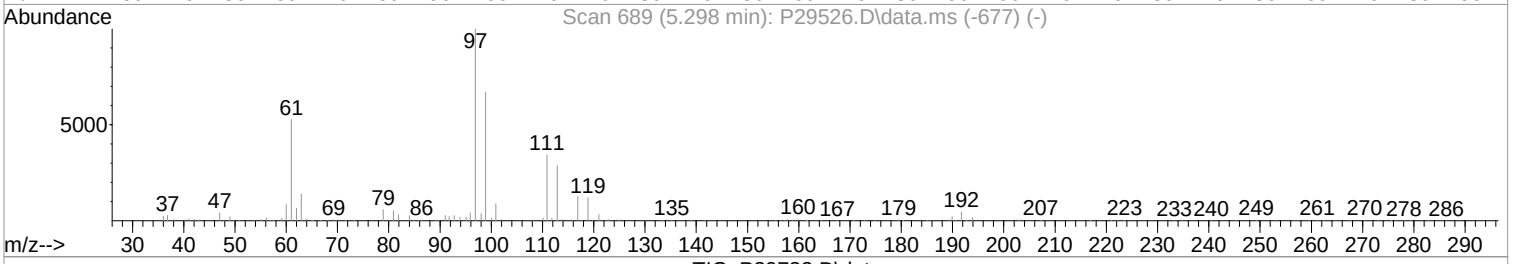
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.298min (+0.000) 0.92 ppb m

response 4828

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	28.47#
61.00	44.60	26.58
0.00	0.00	0.00

Manual Integration:

After

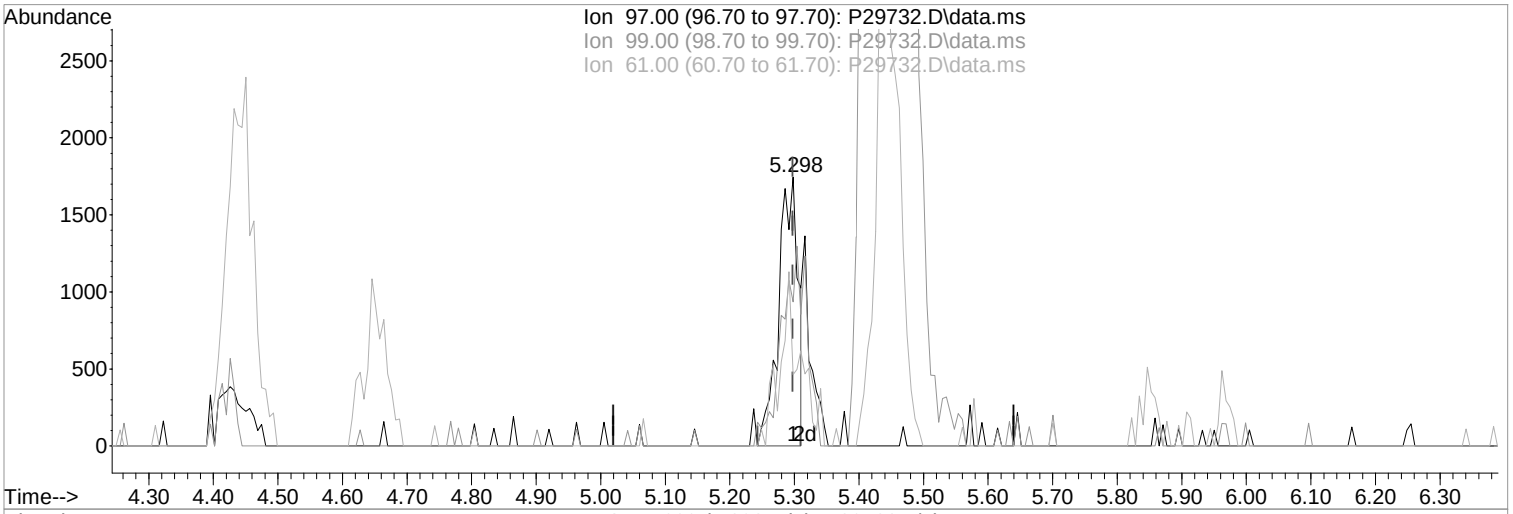
Split Peak

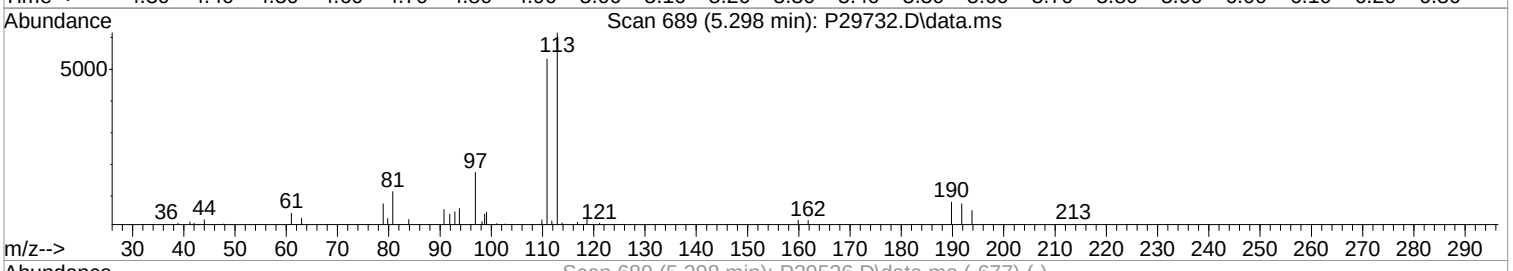
09/12/19

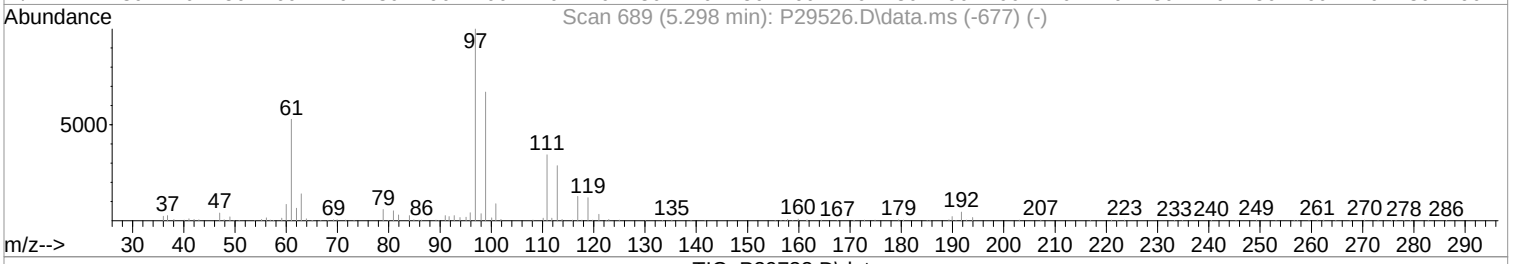
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.298min (+0.000) 0.70 ppb

response 3672

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	53.55
61.00	44.60	26.58
0.00	0.00	0.00

Manual Integration:

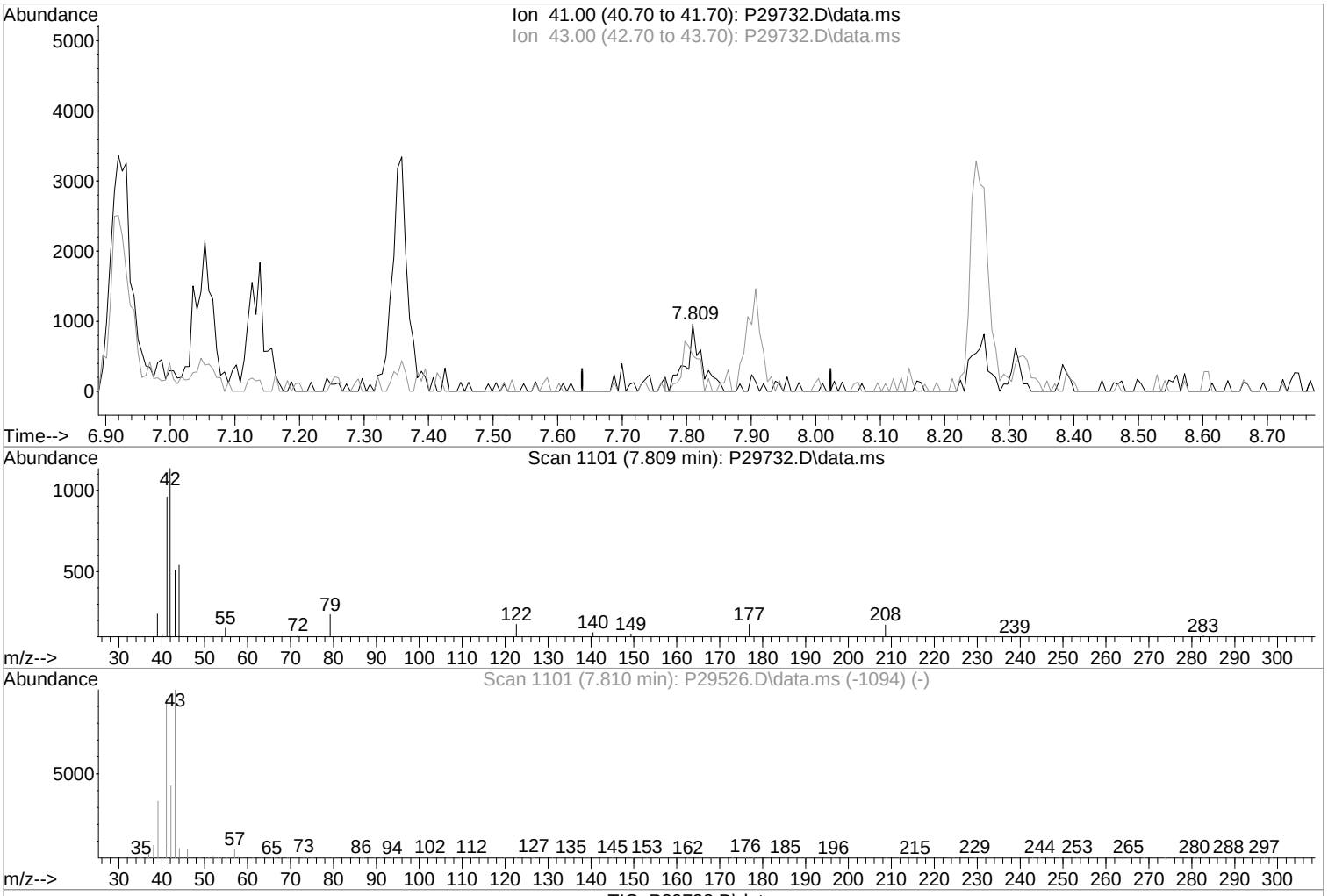
Before

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(61) 2-Nitropropane

7.809min (+0.000) 2.36 ppb m

response 1664

Ion	Exp%	Act%
41.00	100	100
43.00	105.70	52.97#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

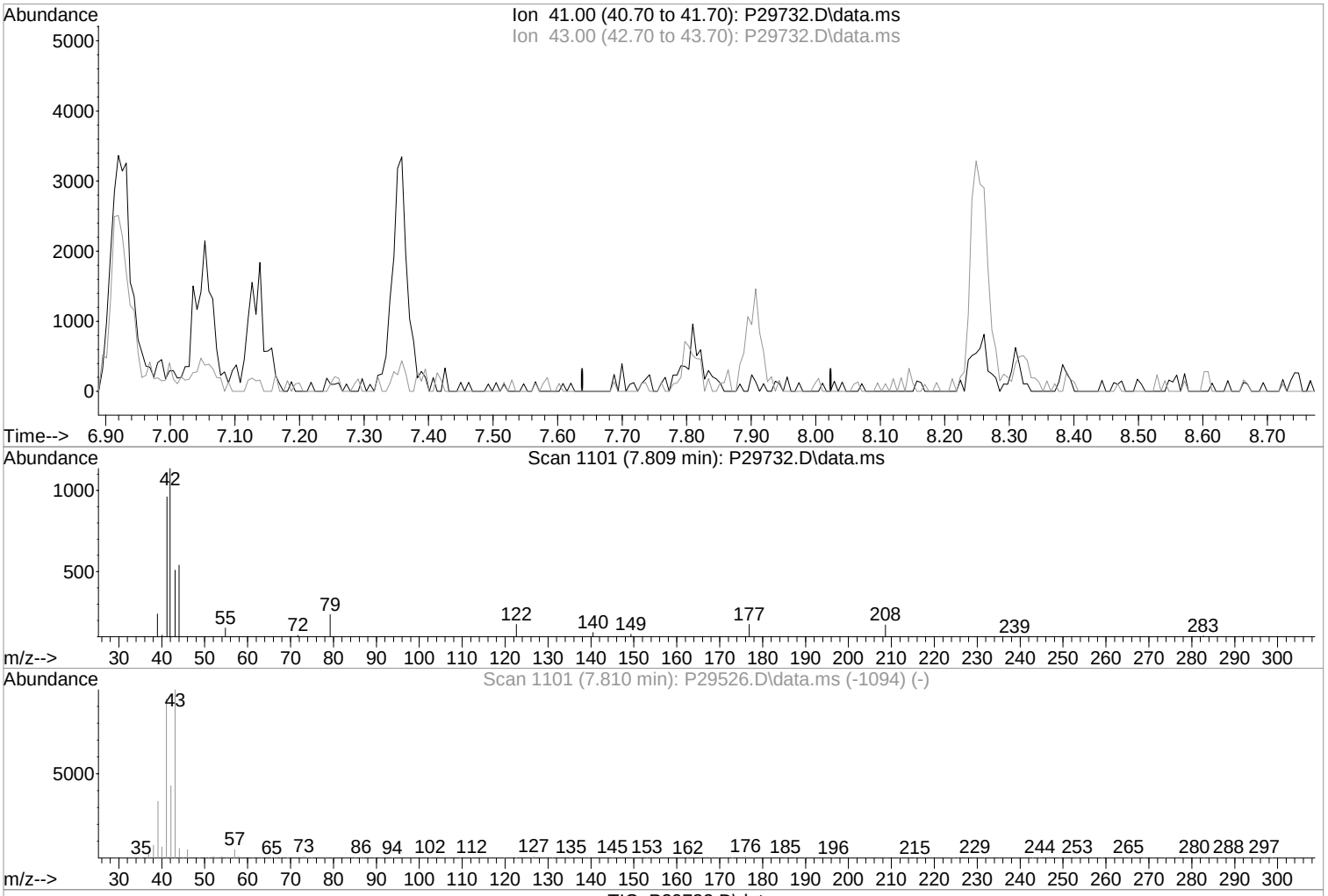
Peak not found.

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(61) 2-Nitropropane

7.809min (-7.809) 0.00 ppb

response 0

Ion	Exp%	Act%
41.00	100	0.00
43.00	105.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

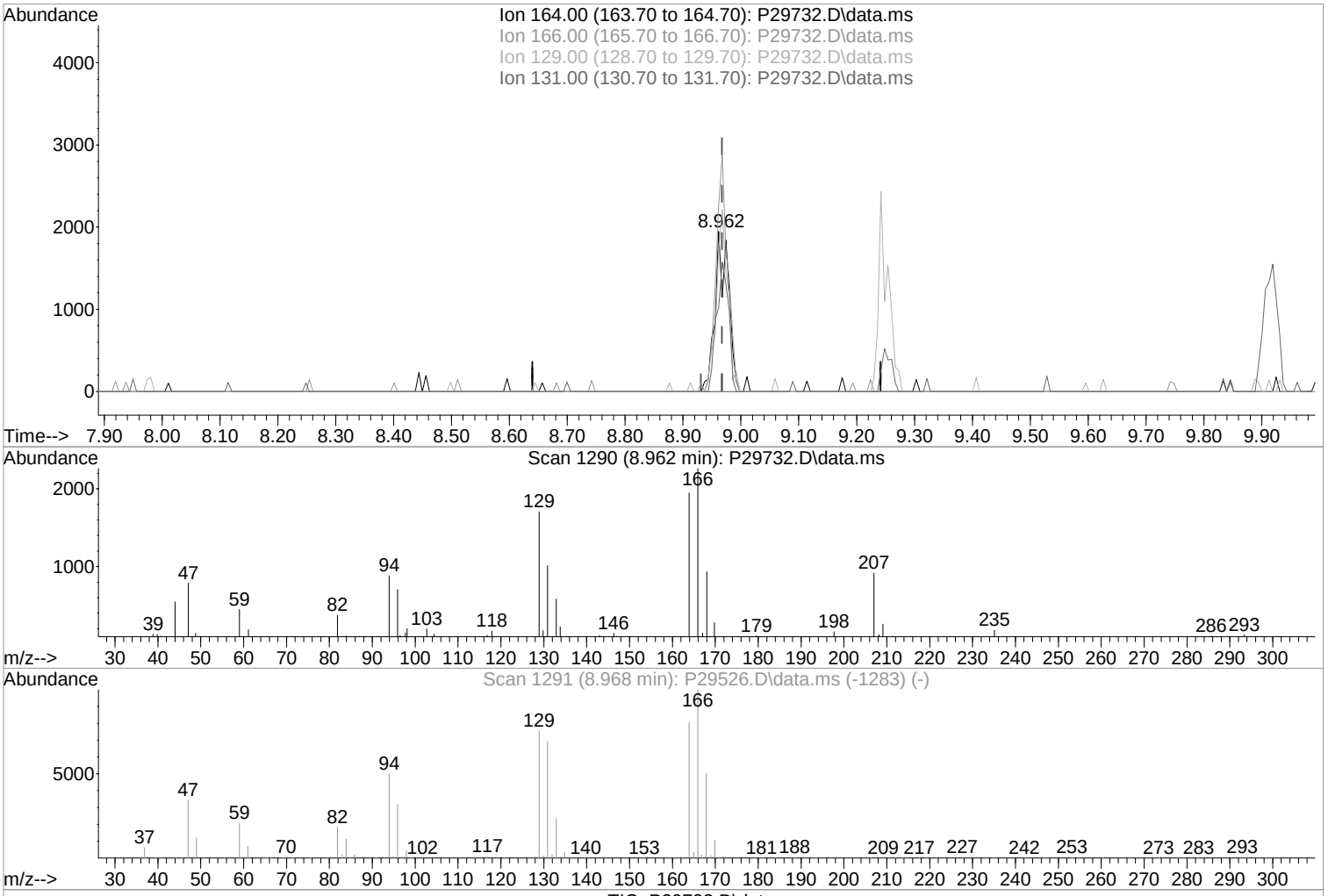
Before

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(72) Tetrachloroethene (P)

8.962min (-0.006) 1.08 ppb m

response 3113

Ion	Exp%	Act%
164.00	100	100
166.00	124.80	116.24
129.00	90.60	87.67
131.00	90.10	51.95#

Manual Integration:

After

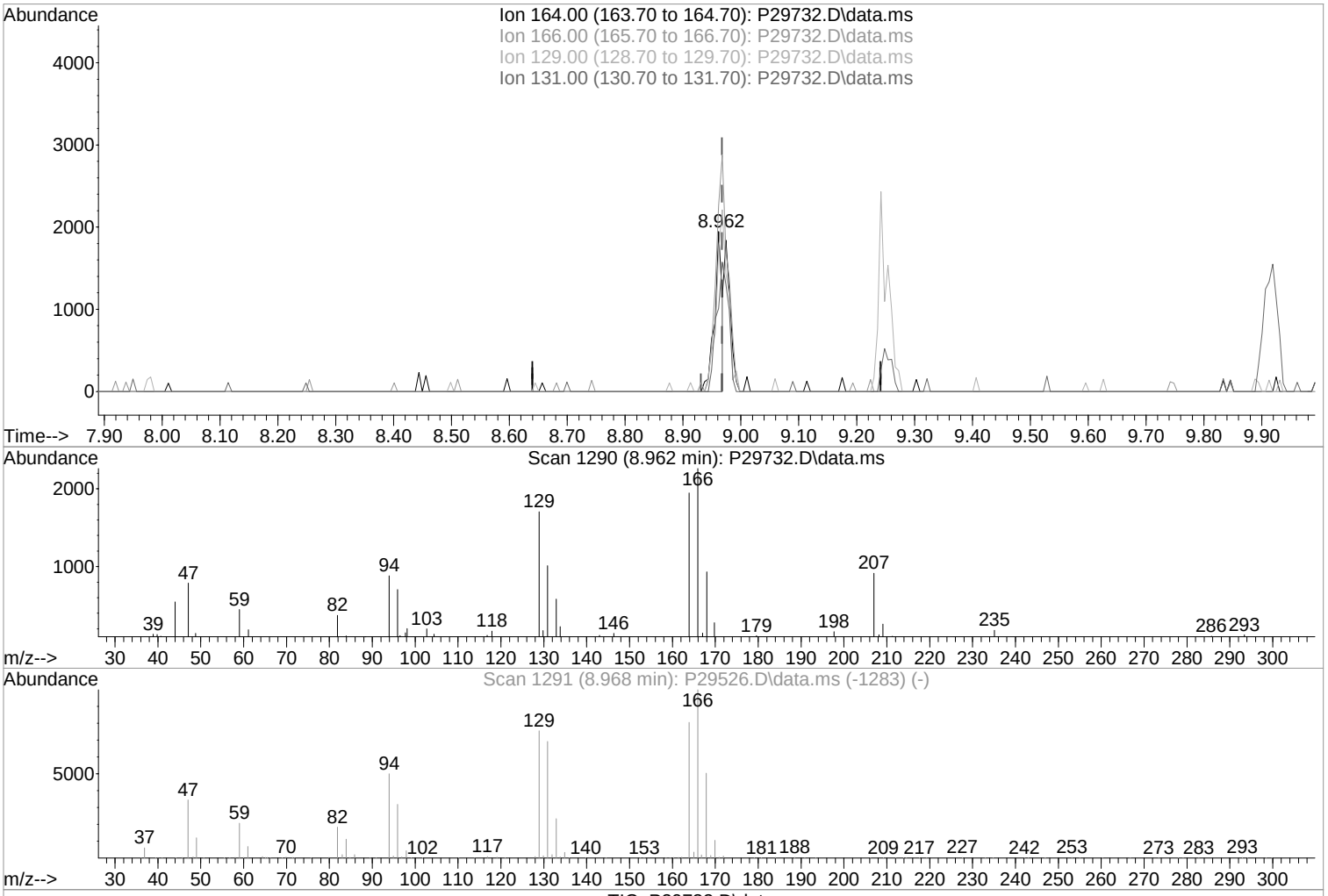
Split Peak

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(72) Tetrachloroethene (P)

8.962min (-0.006) 0.62 ppb

response 1772

Ion	Exp%	Act%
164.00	100	100
166.00	124.80	116.24
129.00	90.60	87.67
131.00	90.10	51.95#

Manual Integration:

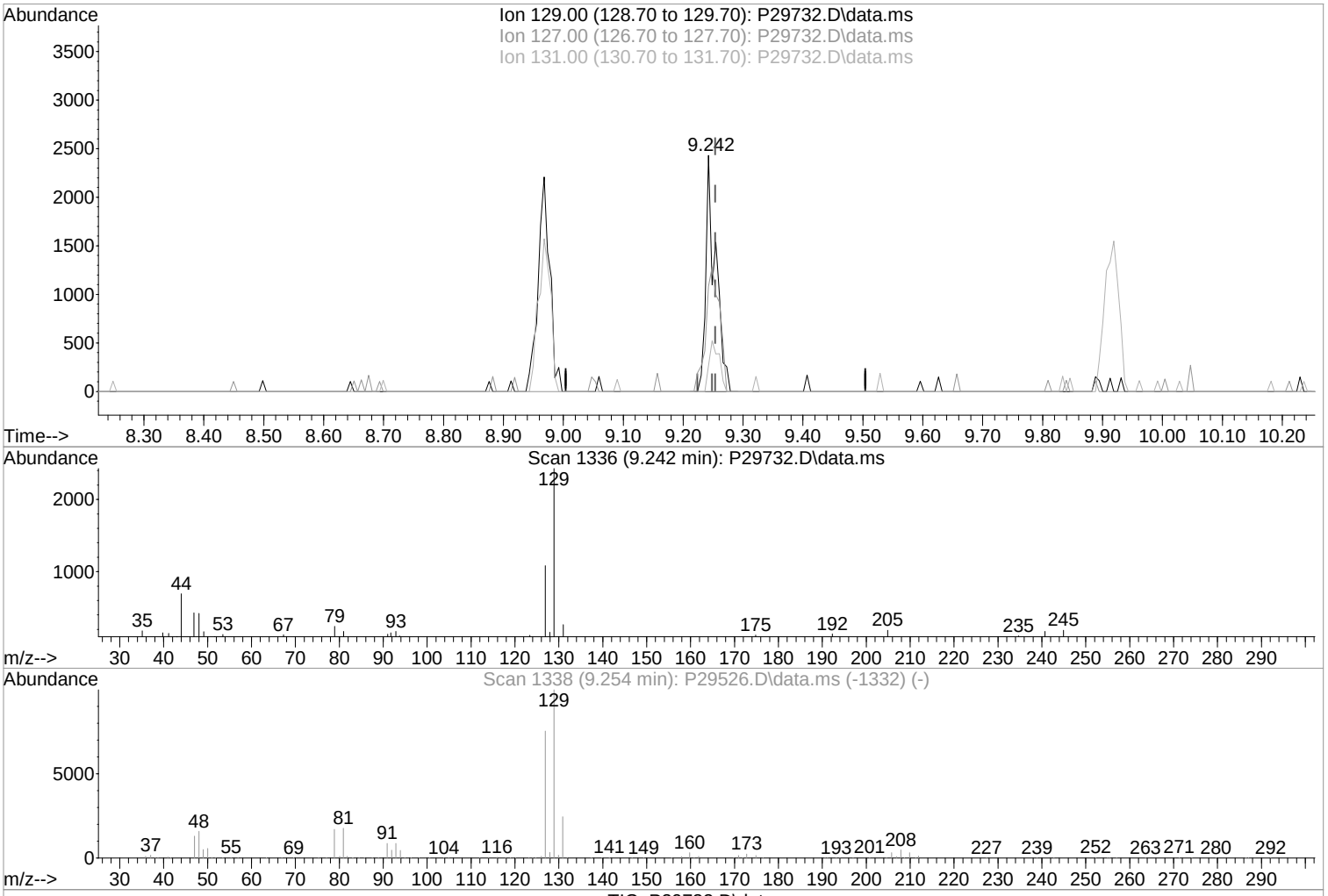
Before

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(75) Dibromochloromethane (P)

9.242min (-0.012) 0.93 ppb m

response 2756

Ion	Exp%	Act%
129.00	100	100
127.00	74.60	44.51#
131.00	23.20	10.90
0.00	0.00	0.00

Manual Integration:

After

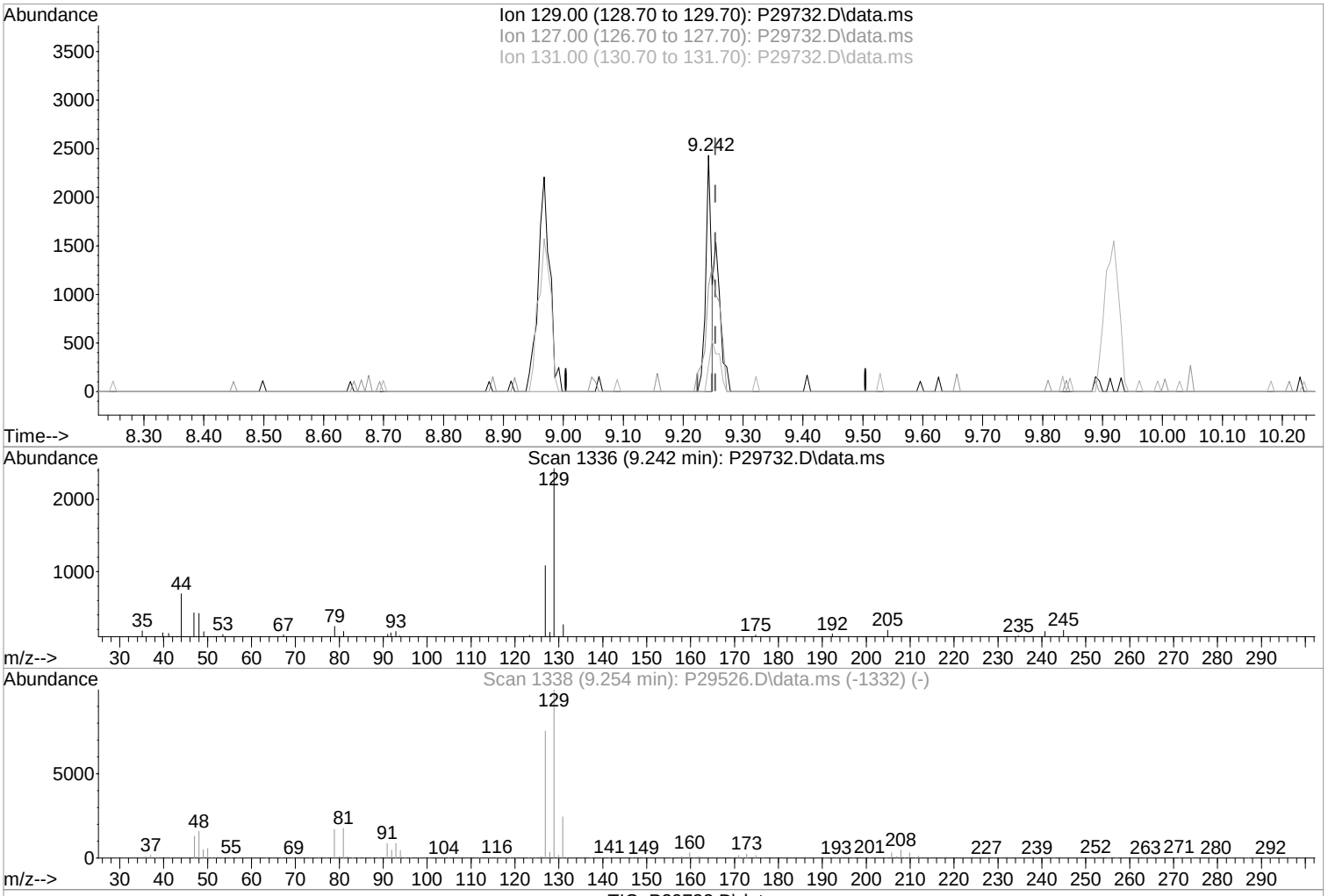
Split Peak

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(75) Dibromochloromethane (P)

9.242min (-0.012) 0.55 ppb

response 1629

Ion	Exp%	Act%
129.00	100	100
127.00	74.60	44.51#
131.00	23.20	10.90
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	339330	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	558674	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	476949	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	247909	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	31545	10.65	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 21.30%#				
48) surr1,1,2-dichloroetha...	5.853	65	46511	11.35	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 22.70%#				
65) SURR3,Toluene-d8	8.315	98	155659	11.17	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 22.34%#				
70) SURR2,BFB	10.870	95	60957	11.24	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 22.48%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	3941	0.94	ppb		79
3) Chloromethane	1.317	50	6129	0.95	ppb		100
4) Vinyl Chloride	1.396	62	5503	0.91	ppb		87
5) Bromomethane	1.628	94	3847	1.18	ppb		86
6) Chloroethane	1.707	64	3703	1.02	ppb		92
7) Freon 21	1.859	67	6568	0.98	ppb		78
8) Trichlorofluoromethane	1.902	101	4187	0.86	ppb	#	74
9) Diethyl Ether	2.140	59	3787	0.88	ppb		88
10) Freon 123a	2.140	67	4348	0.93	ppb		88
11) Freon 123	2.201	83	5245	1.01	ppb		92
12) Acrolein	2.256	56	5427	4.52	ppb		99
13) 1,1-Diclethene	2.323	96	3176	0.96	ppb	#	65
14) Freon 113	2.323	101	3203	0.99	ppb	#	70
15) Acetone	2.402	43	3689	1.34	ppb		85
16) 2-Propanol	2.542	45	8988	14.31	ppb		97
17) Iodomethane	2.463	142	1999	0.52	ppb		92
18) Carbon Disulfide	2.518	76	9133	0.92	ppb		99
19) Acetonitrile	2.664	40	2011m	4.76	ppb		
20) Allyl Chloride	2.664	76	2281	1.20	ppb	#	89
21) Methyl Acetate	2.707	43	4857	0.89	ppb		87
22) Methylene Chloride	2.792	84	4920	1.14	ppb	#	68
23) TBA	2.951	59	14787m	15.91	ppb		
24) Acrylonitrile	3.073	53	12468	4.43	ppb		92
25) Methyl-t-Butyl Ether	3.097	73	13745	0.98	ppb		86
26) trans-1,2-Dichloroethene	3.073	96	3405	0.94	ppb	#	57
28) 1,1-Diclethane	3.597	63	7200	0.97	ppb		88
29) Vinyl Acetate	3.694	86	602m	0.74	ppb		
30) DIPE	3.701	45	15199	0.94	ppb	#	66
31) 2-Chloro-1,3-Butadiene	3.701	53	5599	0.93	ppb		96
32) ETBE	4.231	59	14361	0.98	ppb		87
33) 2,2-Dichloropropane	4.426	77	5133	0.94	ppb		90
34) cis-1,2-Dichloroethene	4.444	96	4145m	1.00	ppb		
35) 2-Butanone	4.530	43	3173	0.82	ppb		88
36) Propionitrile	4.639	54	6195	5.18	ppb		75
37) Bromochloromethane	4.853	130	2384m	0.97	ppb		
38) Methacrylonitrile	4.889	67	2785	0.98	ppb		98
39) Tetrahydrofuran	4.981	42	6885	2.17	ppb		80
40) Chloroform	5.030	83	7021	1.07	ppb		99
41) 1,1,1-Trichloroethane	5.298	97	4828m	0.92	ppb		

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.133	73	13055	0.97	ppb		87
44) Cyclohexane	5.359	41	4224	0.95	ppb		92
46) Carbontetrachloride	5.560	117	2879	0.74	ppb	#	56
47) 1,1-Dichloropropene	5.578	75	5353	0.99	ppb		93
49) Benzene	5.901	78	17026	1.01	ppb		92
50) 1,2-Dichloroethane	5.968	62	5569	0.98	ppb		94
51) Iso-Butyl Alcohol	5.968	43	6723	14.06	ppb	#	70
52) n-Heptane	6.346	43	5981	0.95	ppb		91
53) 1-Butanol	6.913	56	10513	38.34	ppb		89
54) Trichloroethene	6.834	130	3142	0.84	ppb	#	85
55) Methylcyclohexane	7.054	55	6050	1.01	ppb		84
56) 1,2-Diclpropane	7.133	63	4315	0.93	ppb		90
57) Dibromomethane	7.273	93	1934	0.84	ppb	#	65
58) 1,4-Dioxane	7.352	88	1651	15.45	ppb	#	52
59) Methyl Methacrylate	7.358	69	3644	0.84	ppb	#	84
60) Bromodichloromethane	7.505	83	3954	0.89	ppb		90
61) 2-Nitropropane	7.809	41	1664m	2.36	ppb		
62) 2-Chloroethylvinyl Ether	7.907	63	2393	0.76	ppb		66
63) cis-1,3-Dichloropropene	8.035	75	6097	0.92	ppb		86
64) 4-Methyl-2-pentanone	8.248	43	6173	0.86	ppb		93
66) Toluene	8.389	91	17439	1.03	ppb		97
67) trans-1,3-Dichloropropene	8.675	75	4882	0.80	ppb		95
68) Ethyl Methacrylate	8.803	69	6974	0.92	ppb		97
69) 1,1,2-Trichloroethane	8.864	97	3960	1.05	ppb		98
72) Tetrachloroethene	8.962	164	3113m	1.08	ppb		
73) 2-Hexanone	9.157	43	4056	0.76	ppb		92
74) 1,3-Dichloropropane	9.029	76	7368	1.03	ppb		88
75) Dibromochloromethane	9.242	129	2756m	0.93	ppb		
76) N-Butyl Acetate	9.297	43	9887	0.98	ppb		97
77) 1,2-Dibromoethane	9.346	107	3573	0.96	ppb		93
78) Chlorobenzene	9.827	112	10733	1.02	ppb		90
79) 3-CBTF	9.840	180	5952	1.10	ppb		92
80) 4-CBTF	9.901	180	5289	1.08	ppb		93
81) 1,1,1,2-Tetrachloroethane	9.919	131	2590	0.83	ppb		88
82) Ethylbenzene	9.943	106	5328	0.93	ppb		92
83) (m+p)Xylene	10.053	106	13849	2.01	ppb	#	81
84) o-Xylene	10.413	106	7122	1.01	ppb	#	70
85) Styrene	10.425	104	11094	0.95	ppb		96
87) Bromoform	10.589	173	1421	0.82	ppb		94
88) 2-CBTF	10.656	180	5509	1.06	ppb		88
89) Isopropylbenzene	10.742	105	17014	1.01	ppb		97
90) Cyclohexanone	10.833	55	13171	18.22	ppb		94
91) trans-1,4-Dichloro-2-B...	11.065	53	1750	0.94	ppb	#	54
92) 1,1,2,2-Tetrachloroethane	11.022	83	5232	0.93	ppb		98
93) Bromobenzene	10.998	156	4405	1.06	ppb	#	78
94) 1,2,3-Trichloropropane	11.047	110	2104	1.13	ppb	#	48
95) n-Propylbenzene	11.095	91	22742	1.12	ppb		96
96) 2-Chlorotoluene	11.156	91	13609	1.06	ppb		97
97) 3-Chlorotoluene	11.217	91	12818	0.99	ppb		98
98) 4-Chlorotoluene	11.254	91	13956	1.01	ppb		93
99) 1,3,5-Trimethylbenzene	11.248	105	14026	1.00	ppb		86
100) tert-Butylbenzene	11.516	119	12171	0.98	ppb		95
101) 1,2,4-Trimethylbenzene	11.559	105	13735	0.98	ppb		92
102) 3,4-DCBTF	11.626	214	4459	1.04	ppb	#	90
103) sec-Butylbenzene	11.699	105	18561	1.03	ppb		93
104) p-Isopropyltoluene	11.821	119	15115	0.98	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

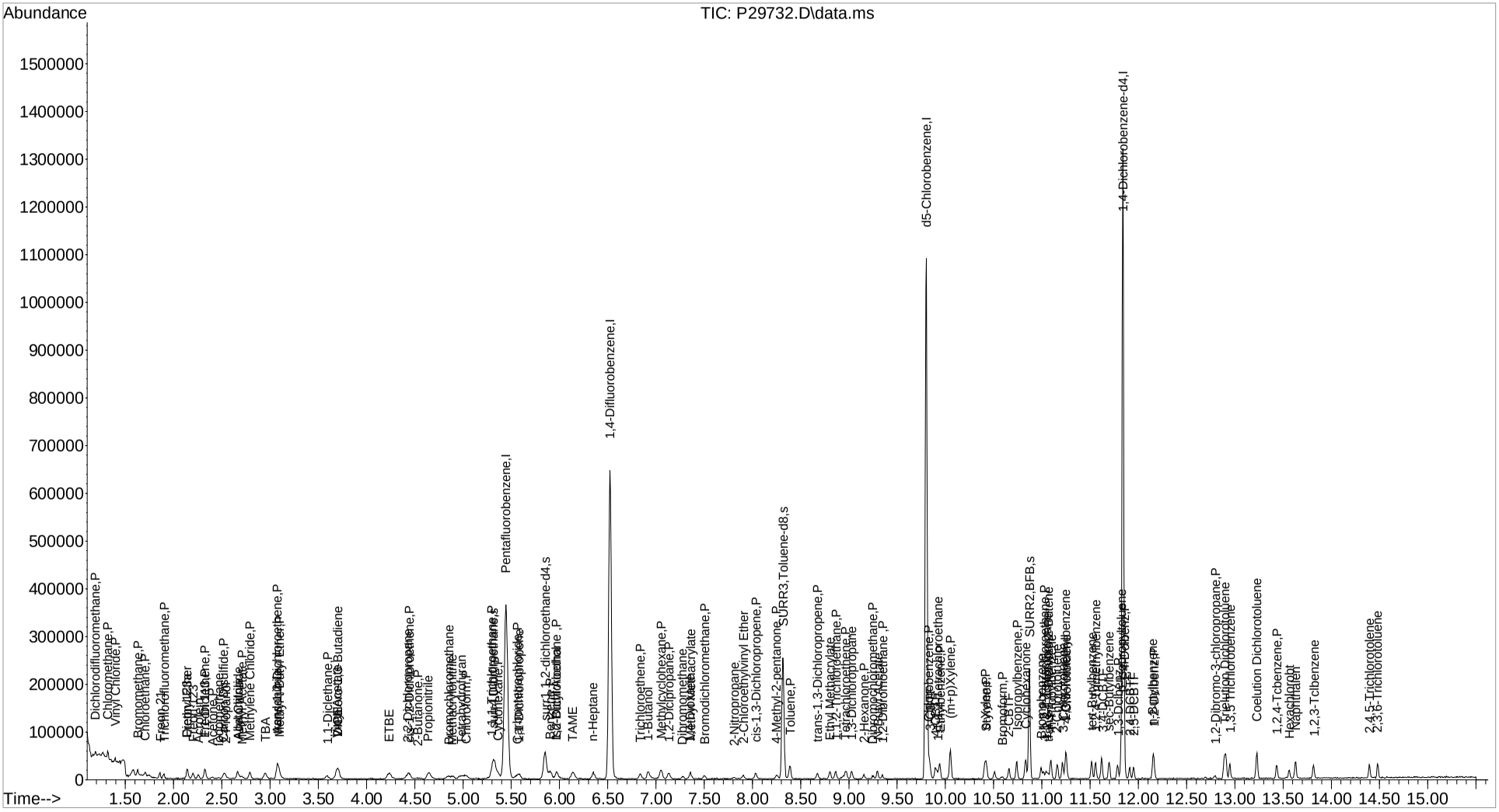
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	8367	1.01	ppb		96
106) 1,4-Dclbenz	11.857	146	8960	1.05	ppb		87
107) 2,4-DCBTF	11.912	214	4158	1.07	ppb	#	82
108) 2,5-DCBTF	11.949	214	4549	1.05	ppb		94
109) n-Butylbenzene	12.150	91	14570	0.97	ppb		97
110) 1,2-Dclbenz	12.162	146	8042	0.98	ppb		93
111) 1,2-Dibromo-3-chloropr...	12.796	157	1294	0.99	ppb	#	58
112) Trielution Dichlorotol...	12.894	125	24223	3.22	ppb	#	80
113) 1,3,5 Trichlorobenzene	12.949	180	6254	1.02	ppb		88
114) Coelution Dichlorotoluene	13.229	125	18268	2.17	ppb		95
115) 1,2,4-Tcbenzene	13.436	180	6635	1.05	ppb		89
116) Hexachlorobt	13.564	225	2933	1.16	ppb	#	66
117) Naphthalen	13.632	128	21752	1.09	ppb		90
118) 1,2,3-Tclbenzene	13.820	180	6441	1.03	ppb		92
119) 2,4,5-Trichlorotolene	14.394	159	5125	1.08	ppb	#	86
120) 2,3,6-Trichlorotoluene	14.479	159	5042	1.02	ppb		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

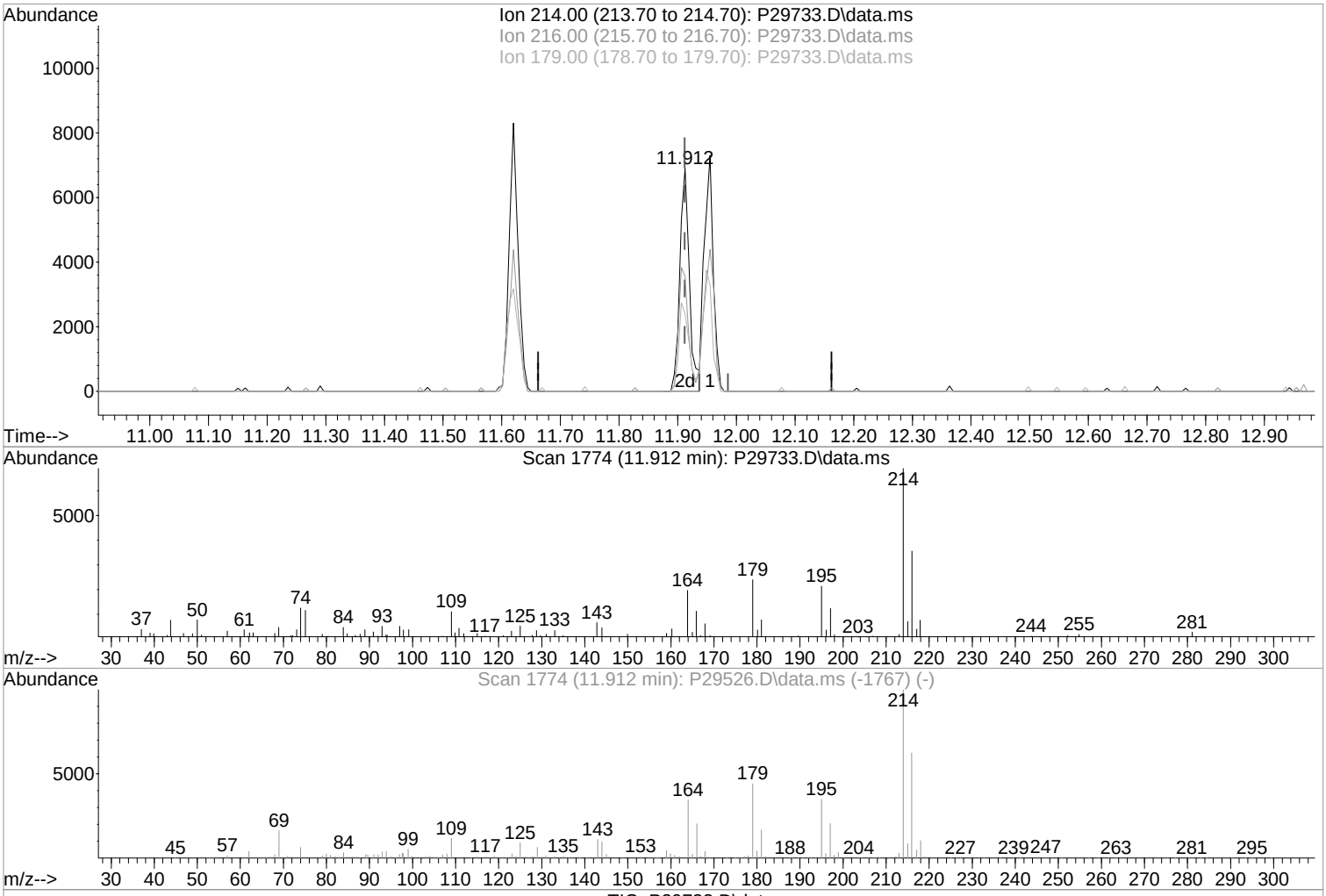
Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(107) 2,4-DCBTF

11.912min (+0.000) 2.16 ppb m

response 7816

Ion	Exp%	Act%
214.00	100	100
216.00	64.60	51.55#
179.00	44.00	34.80#
0.00	0.00	0.00

Manual Integration:

After

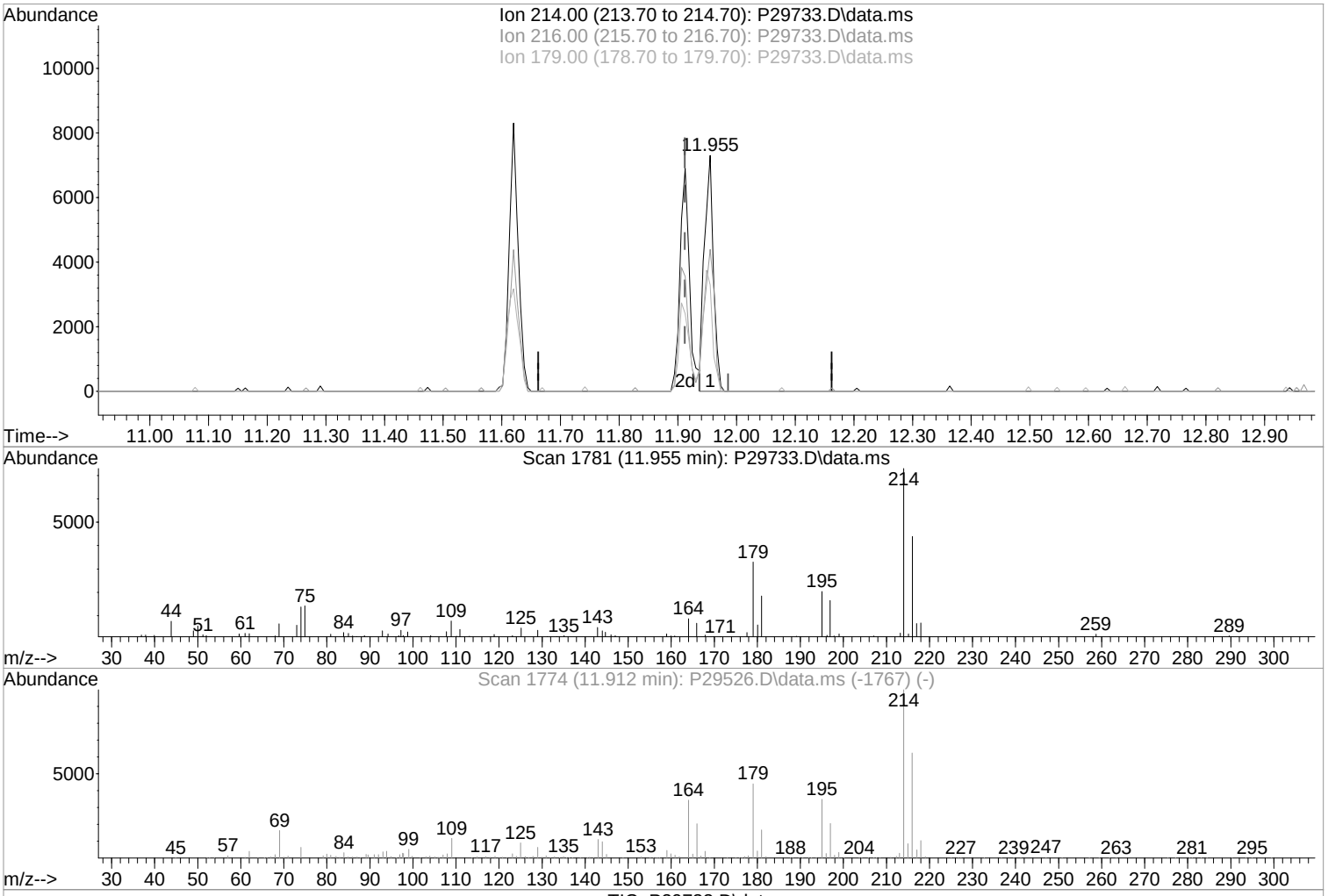
Wrong peak selected.

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(107) 2,4-DCBTF

11.955min (+0.043) 2.18 ppb

response 7910

Ion	Exp%	Act%
214.00	100	100
216.00	64.60	60.07
179.00	44.00	45.10
0.00	0.00	0.00

Manual Integration:

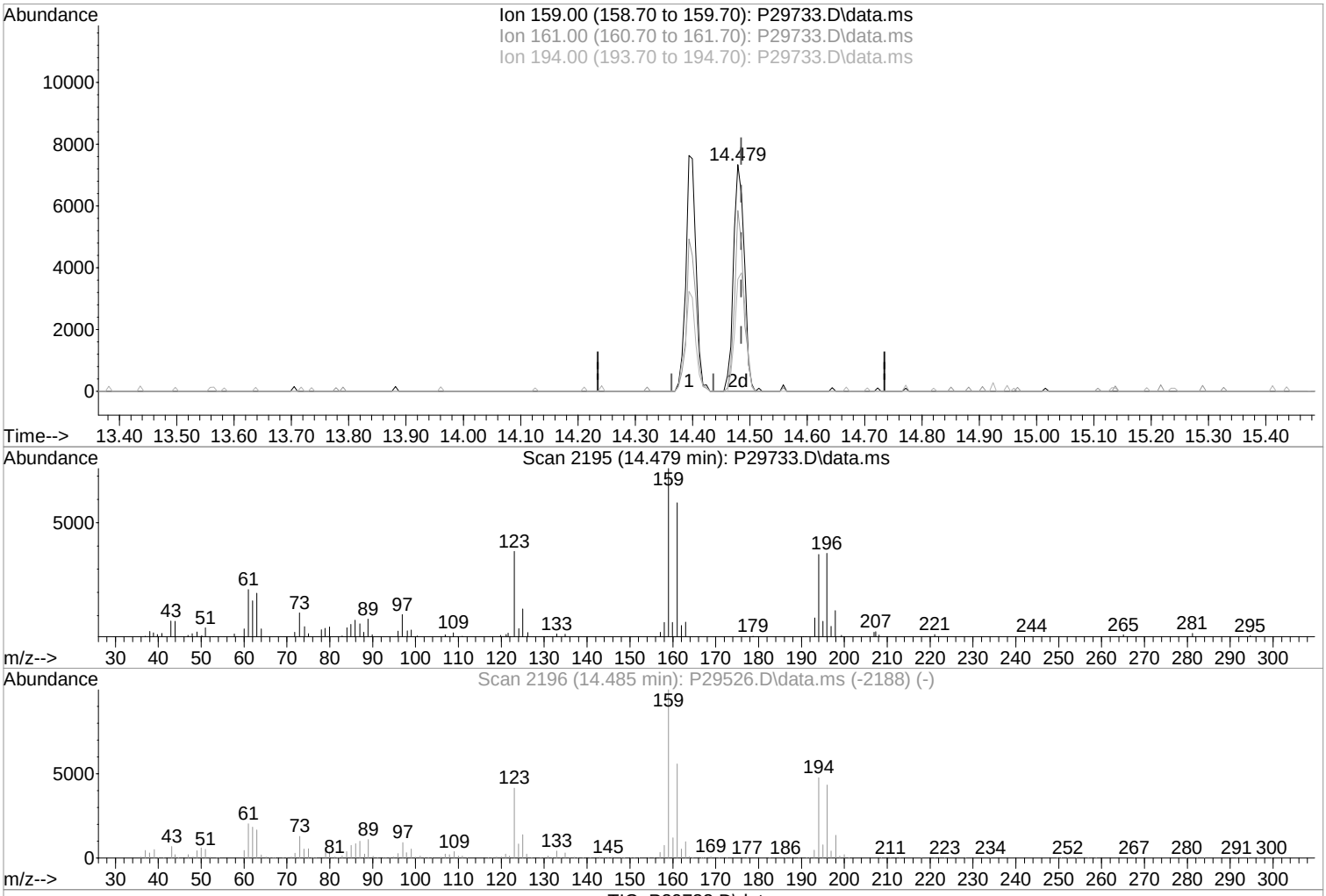
Before

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(120) 2,3,6-Trichlorotoluene

14.479min (-0.006) 2.09 ppb m

response 9583

Ion	Exp%	Act%
159.00	100	100
161.00	59.40	79.85#
194.00	46.10	49.48
0.00	0.00	0.00

Manual Integration:

After

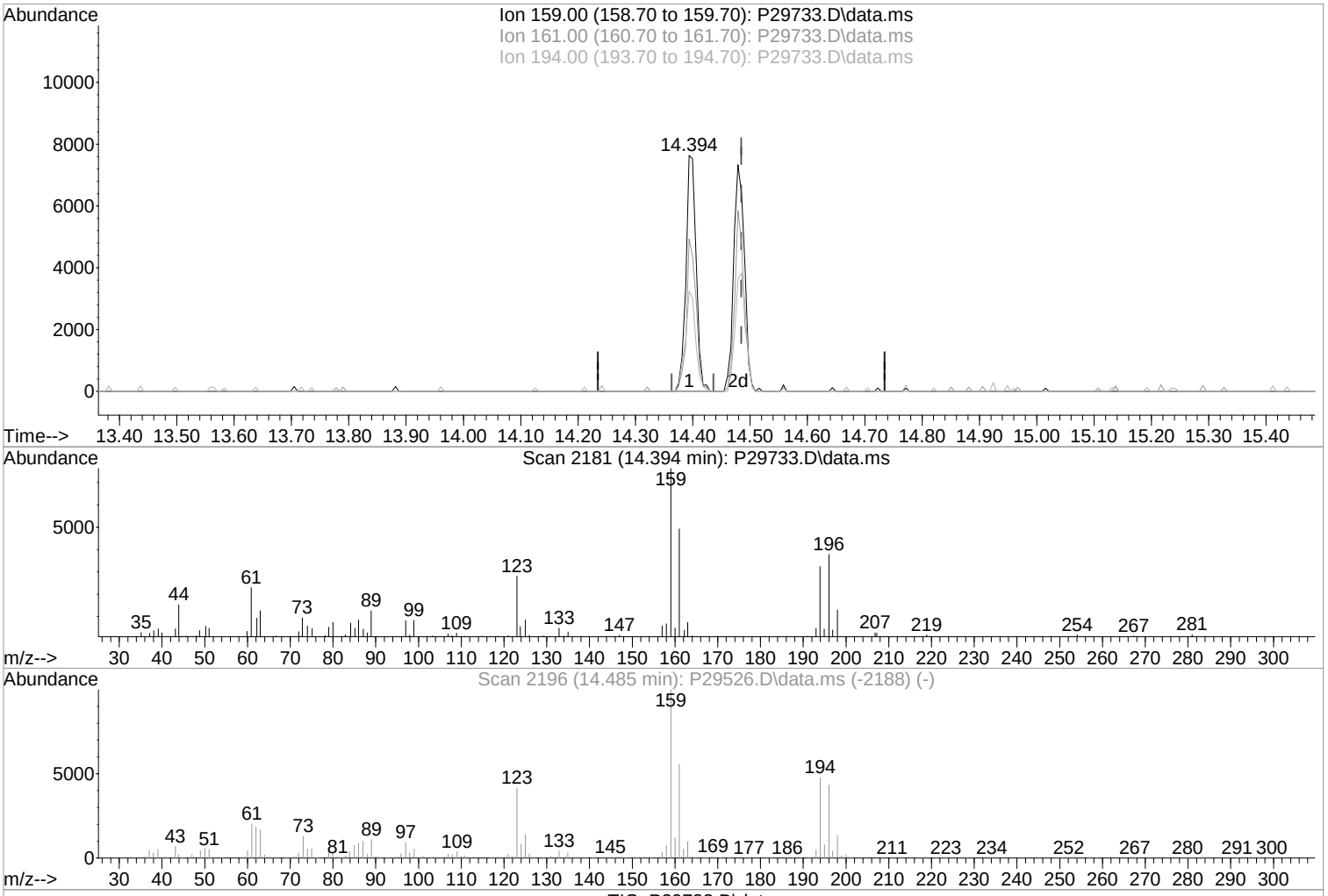
Wrong peak selected.

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(120) 2,3,6-Trichlorotoluene

14.394min (-0.091) 2.07 ppb

response 9498

Ion	Exp%	Act%
159.00	100	100
161.00	59.40	64.51
194.00	46.10	42.45
0.00	0.00	0.00

Manual Integration:

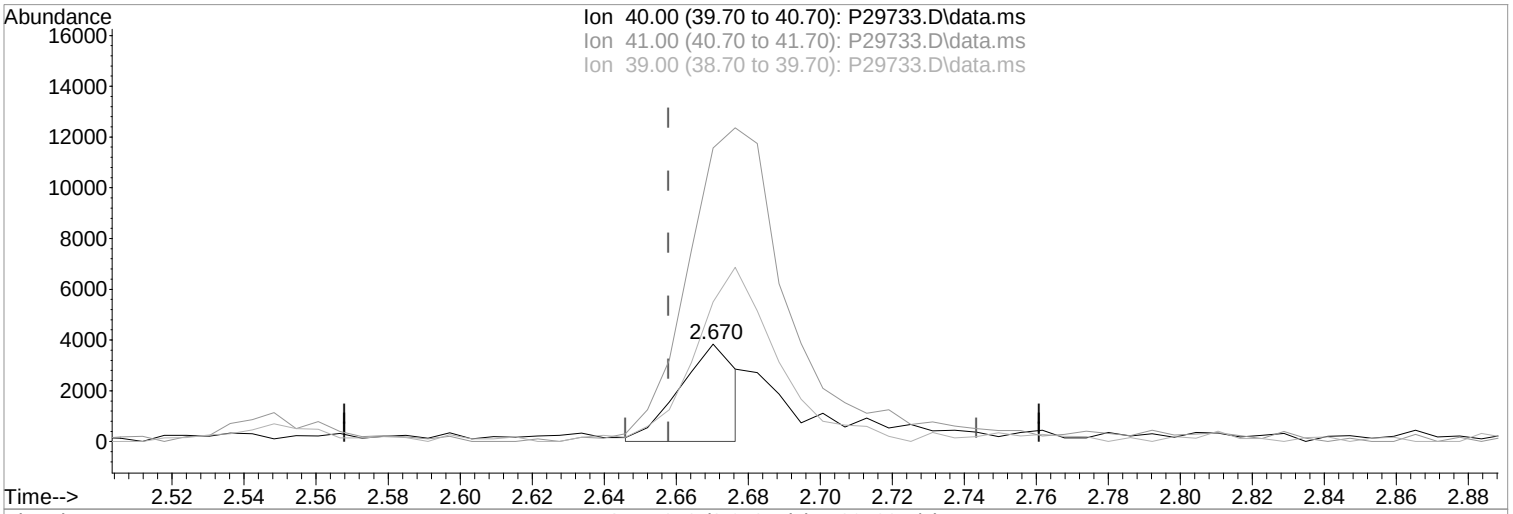
Before

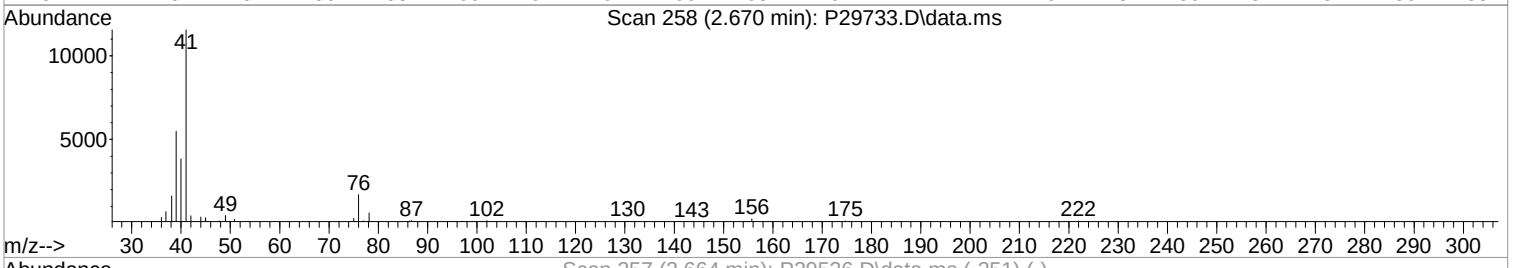
09/12/19

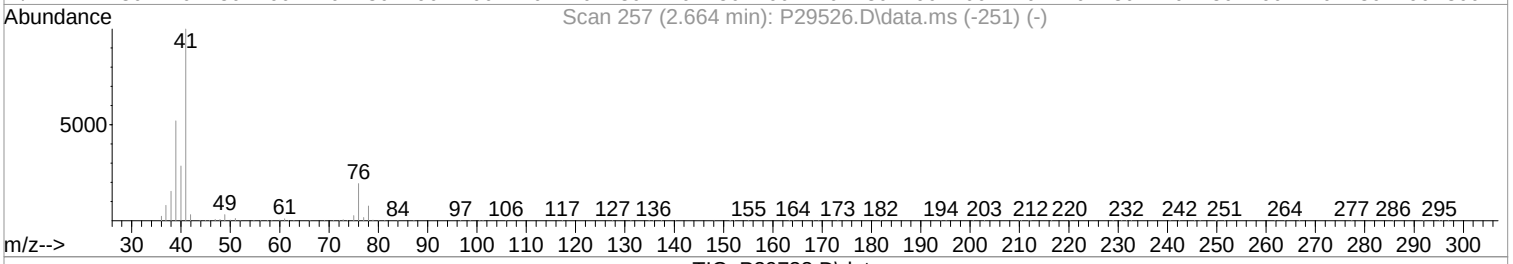
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 10.78 ppb m

response 4219

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	300.81#
39.00	137.60	143.00
0.00	0.00	0.00

Manual Integration:

After

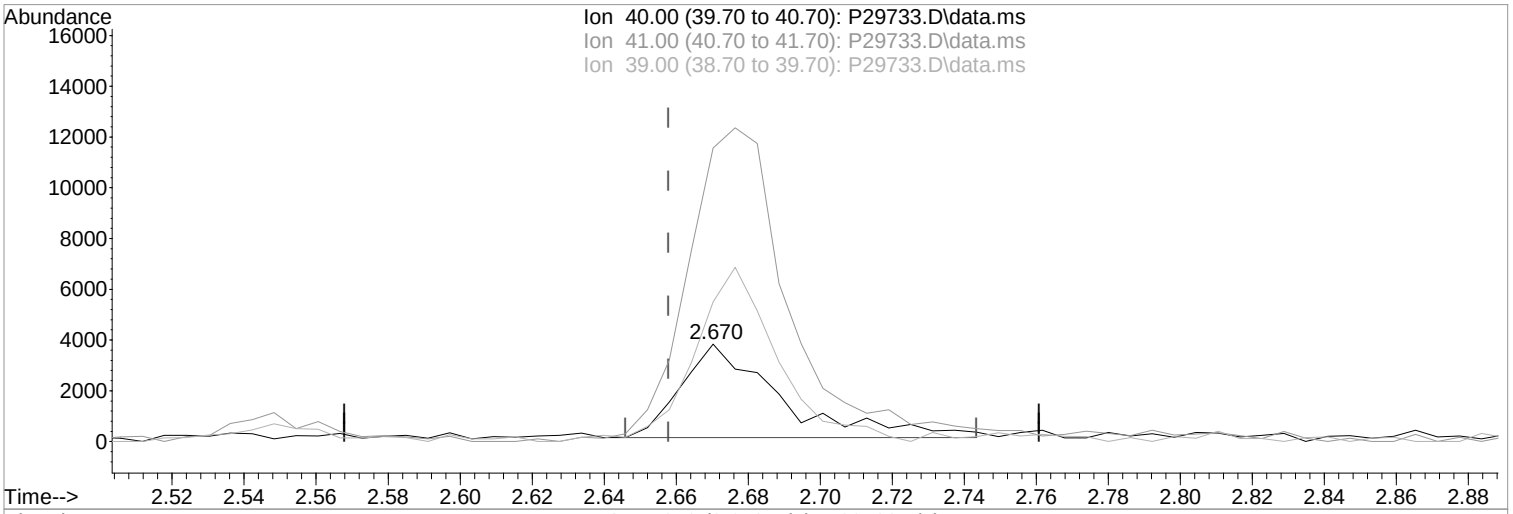
Poor integration.

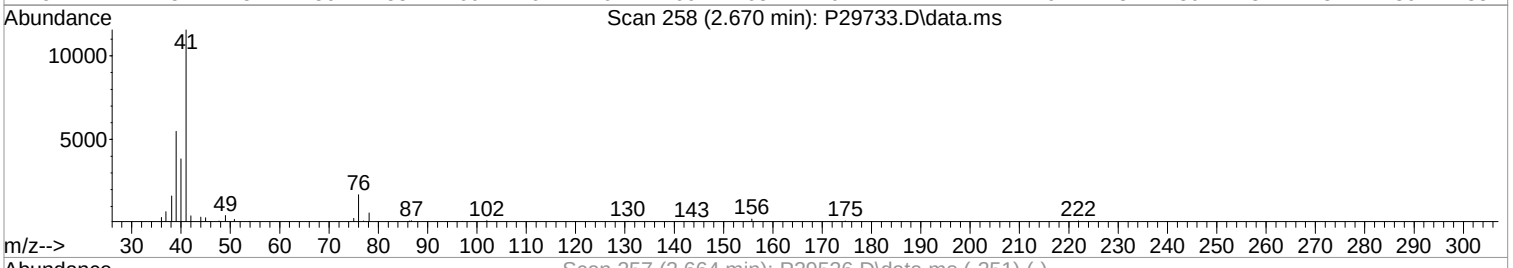
09/12/19

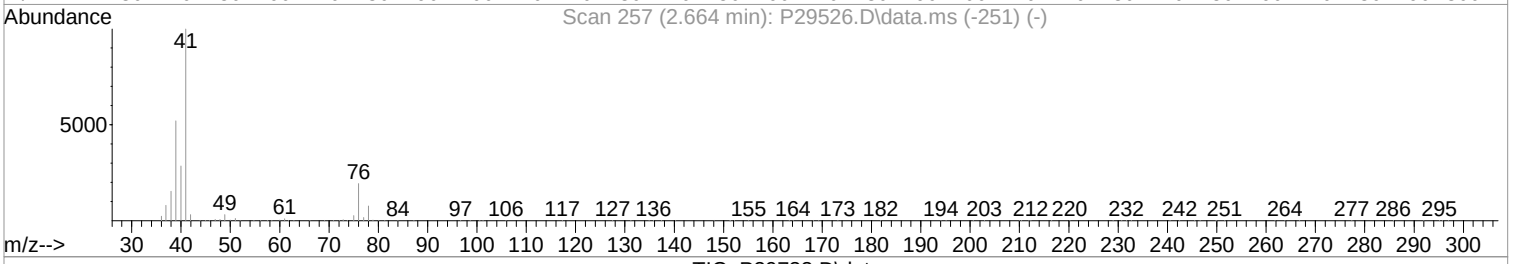
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 18.21 ppb

response 7128

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	300.81#
39.00	137.60	143.00
0.00	0.00	0.00

Manual Integration:

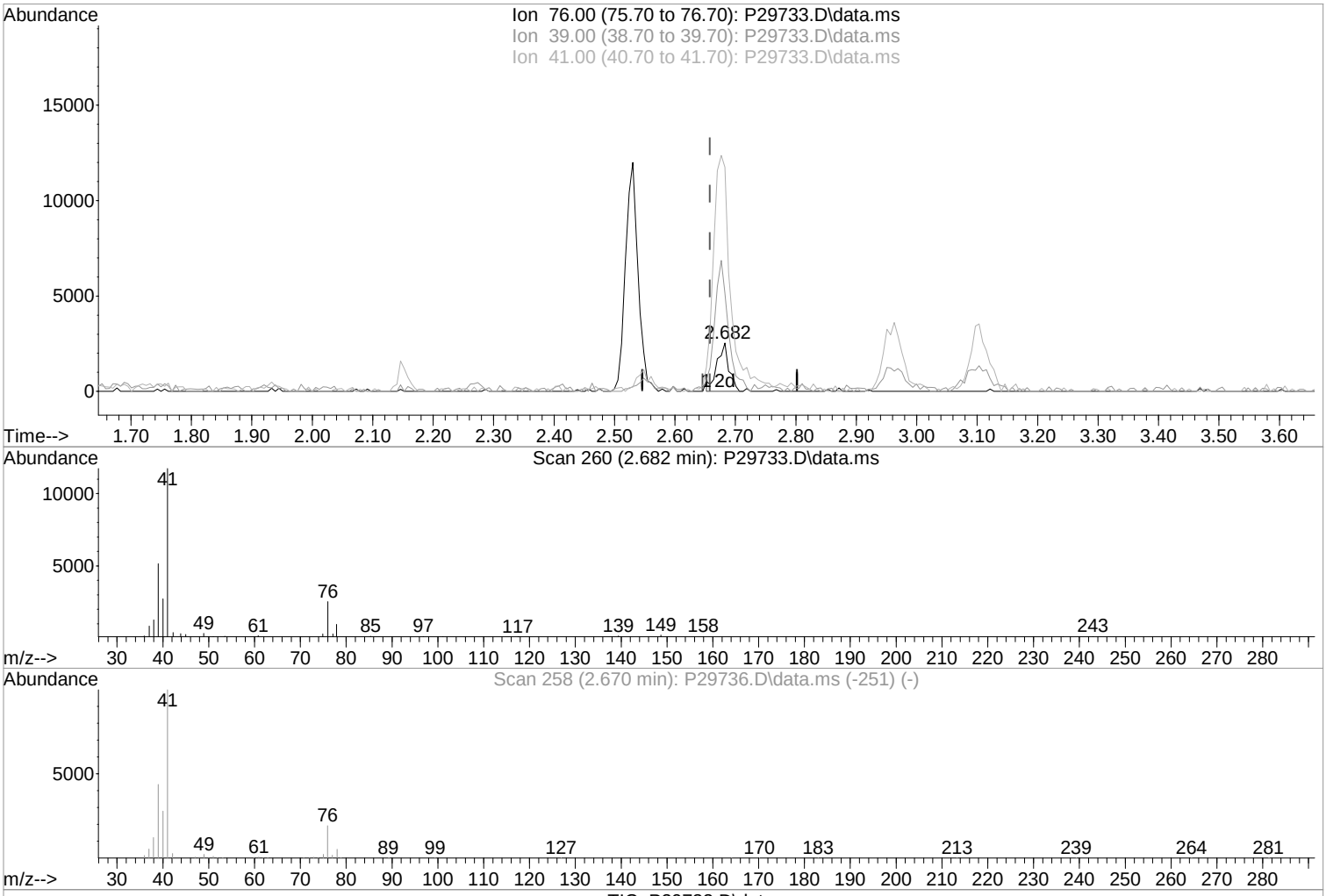
Before

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:35:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(20) Allyl Chloride

2.682min (+0.025) 1.94 ppb m

response 3403

Ion	Exp%	Act%
76.00	100	100
39.00	226.70	203.24#
41.00	519.30	464.12#
0.00	0.00	0.00

Manual Integration:

After

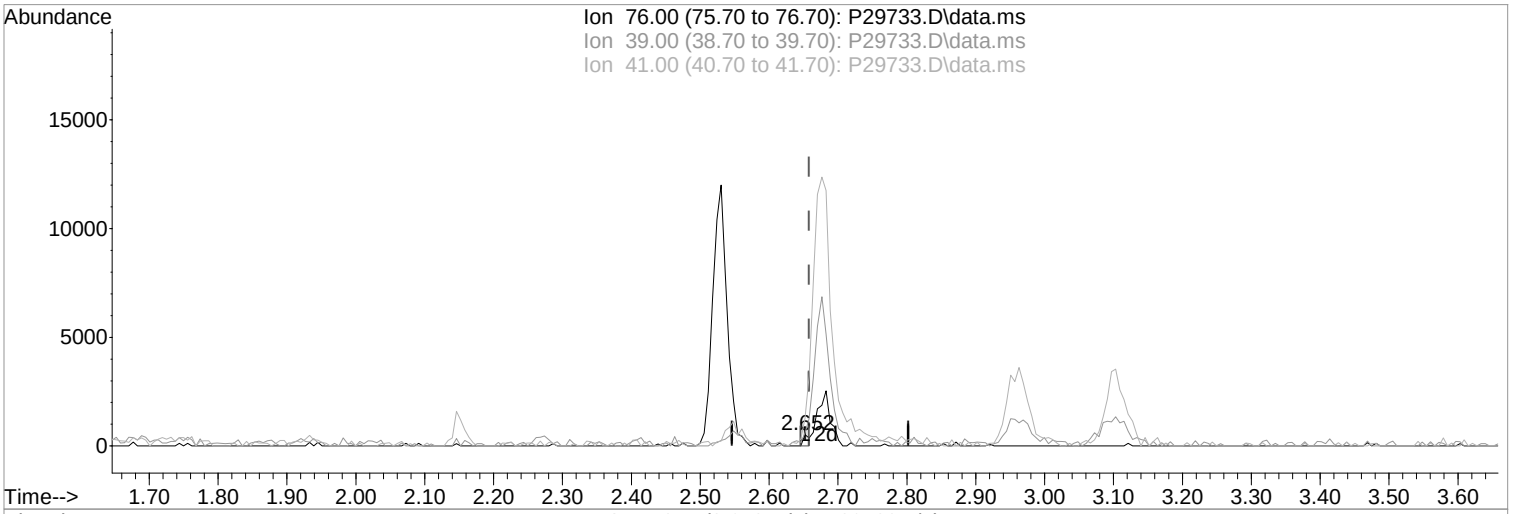
Peak not found.

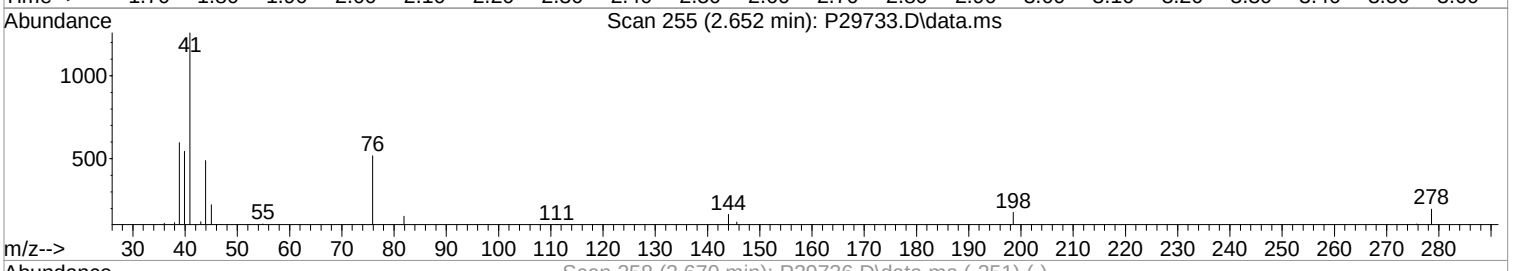
09/12/19

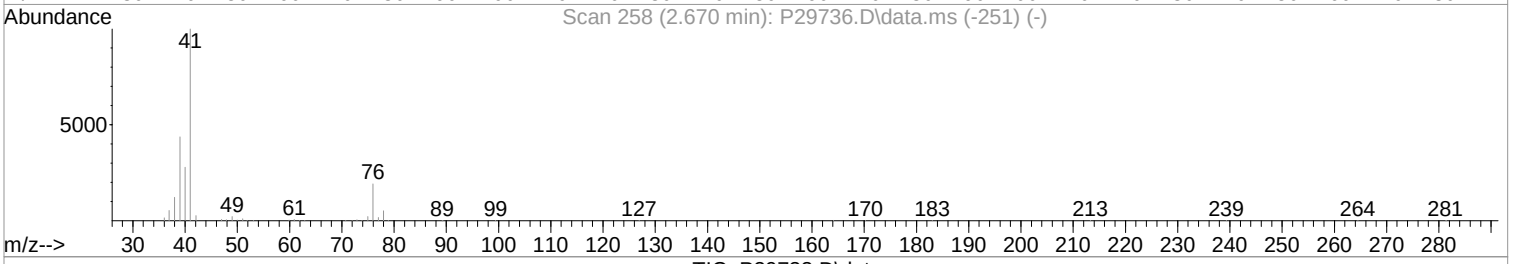
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:35:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(20) Allyl Chloride

2.652min (-0.006) 0.18 ppb

response 324

Ion	Exp%	Act%
76.00	100	100
39.00	226.70	115.25#
41.00	519.30	243.05#
0.00	0.00	0.00

Manual Integration:

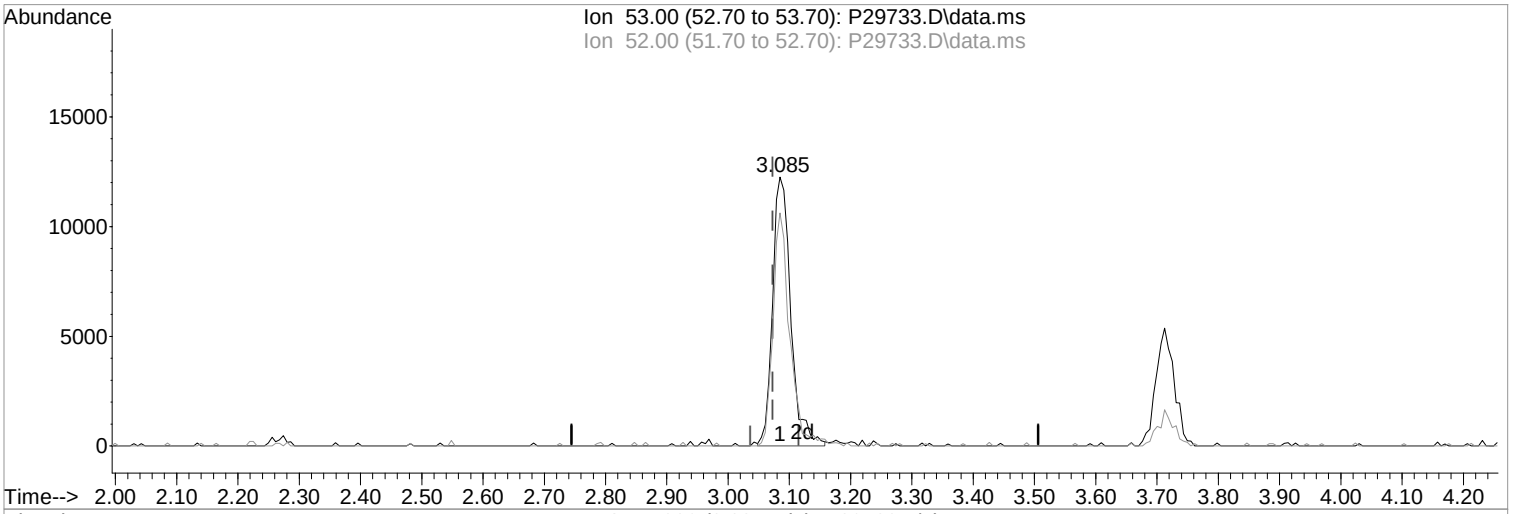
Before

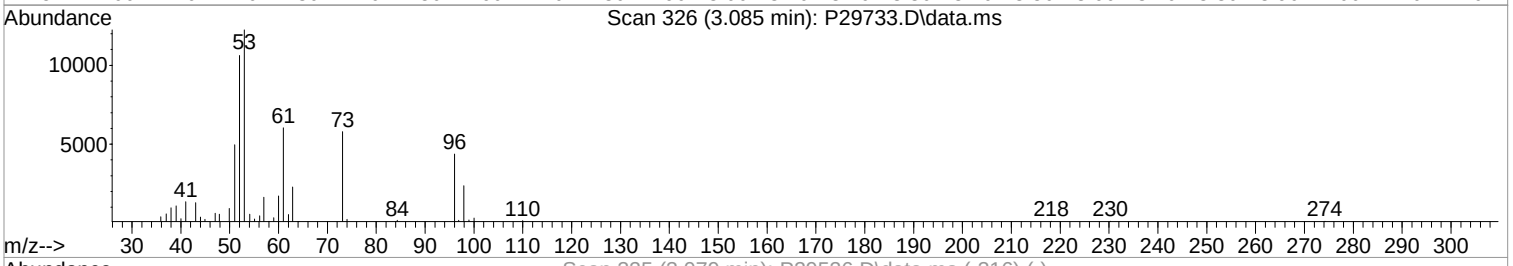
09/12/19

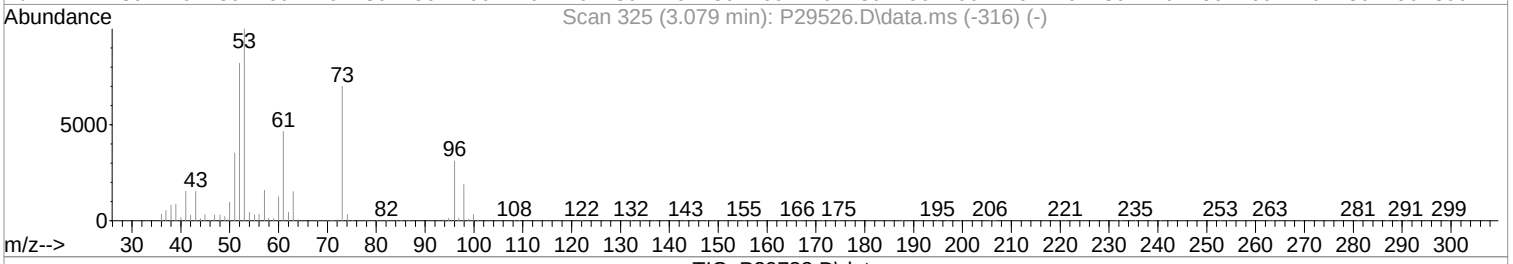
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(24) Acrylonitrile

3.085min (+0.012) 9.71 ppb m

response 25317

Ion	Exp%	Act%
53.00	100	100
52.00	81.80	86.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

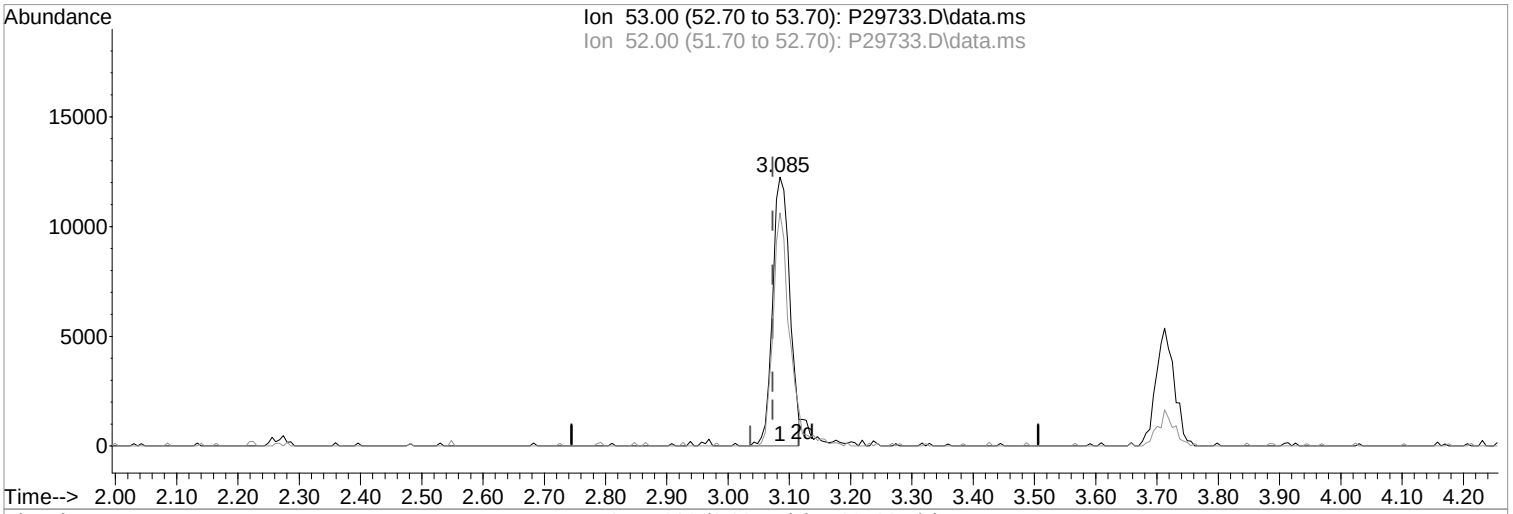
Poor integration.

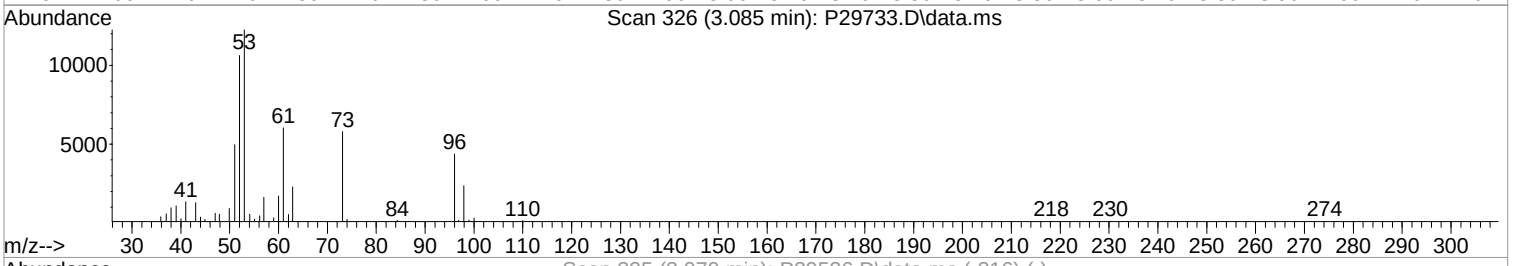
09/12/19

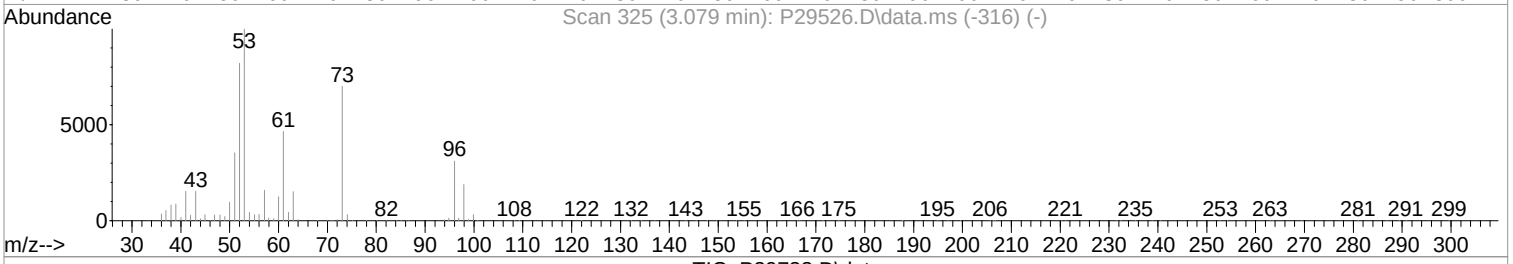
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(24) Acrylonitrile

3.085min (+0.012) 9.17 ppb

response 23909

Ion	Exp%	Act%
53.00	100	100
52.00	81.80	86.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

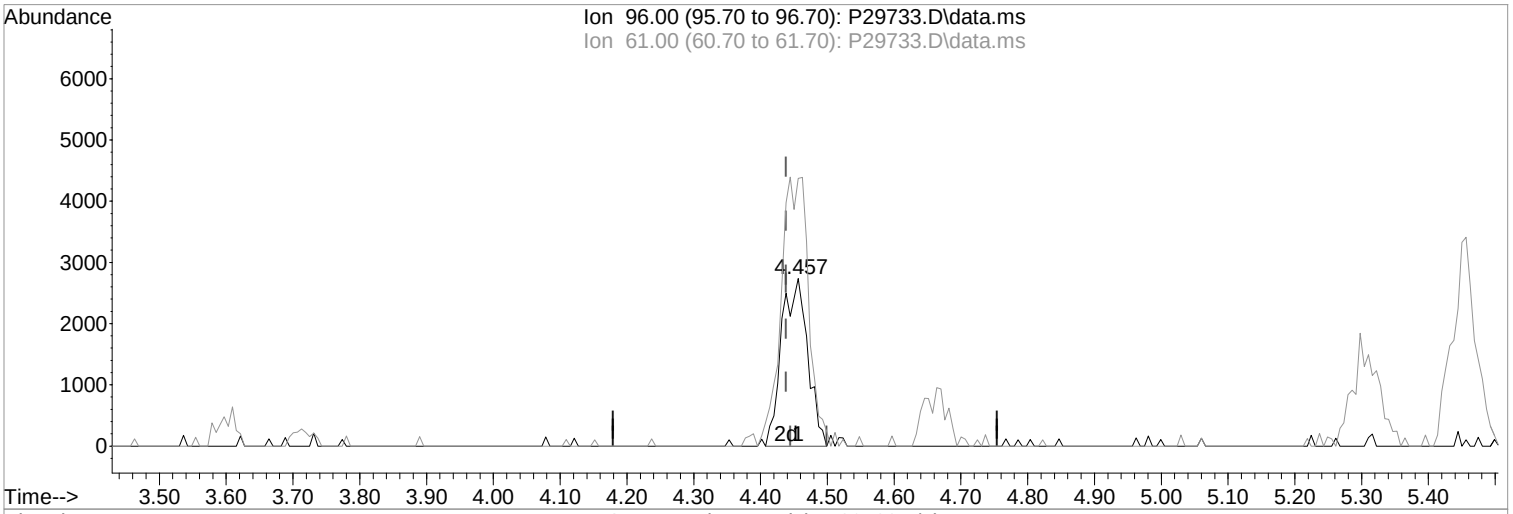
Before

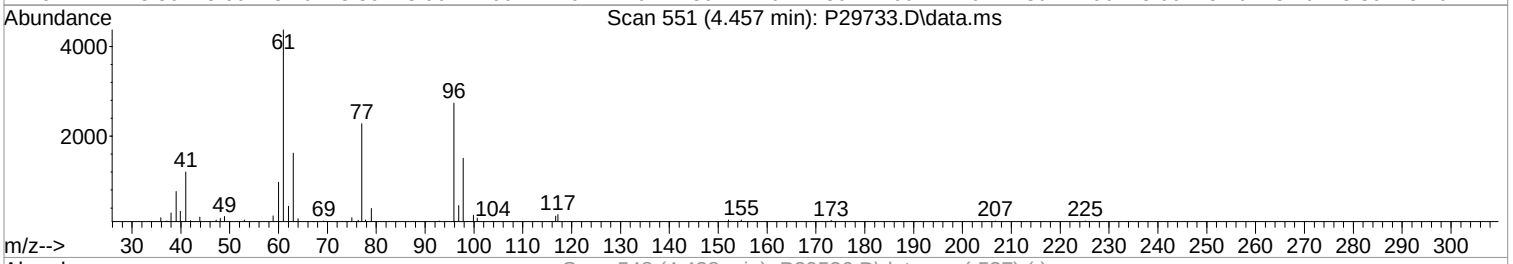
09/12/19

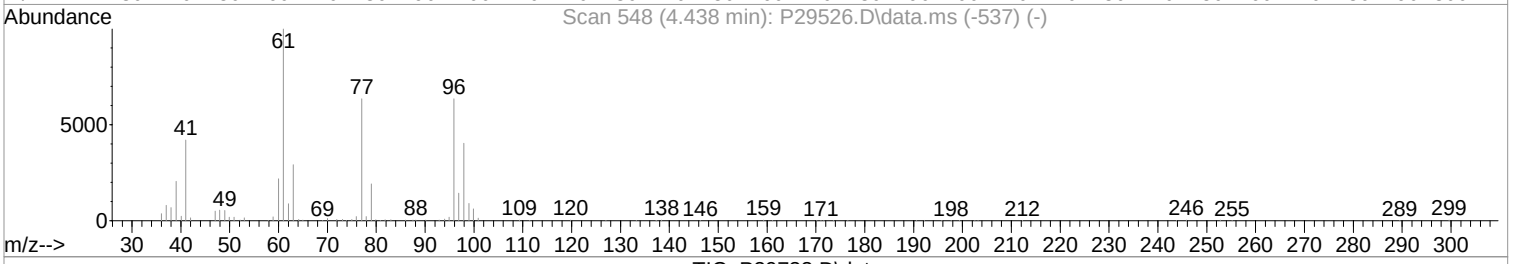
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.457min (+0.019) 1.94 ppb m

response 7392

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	159.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

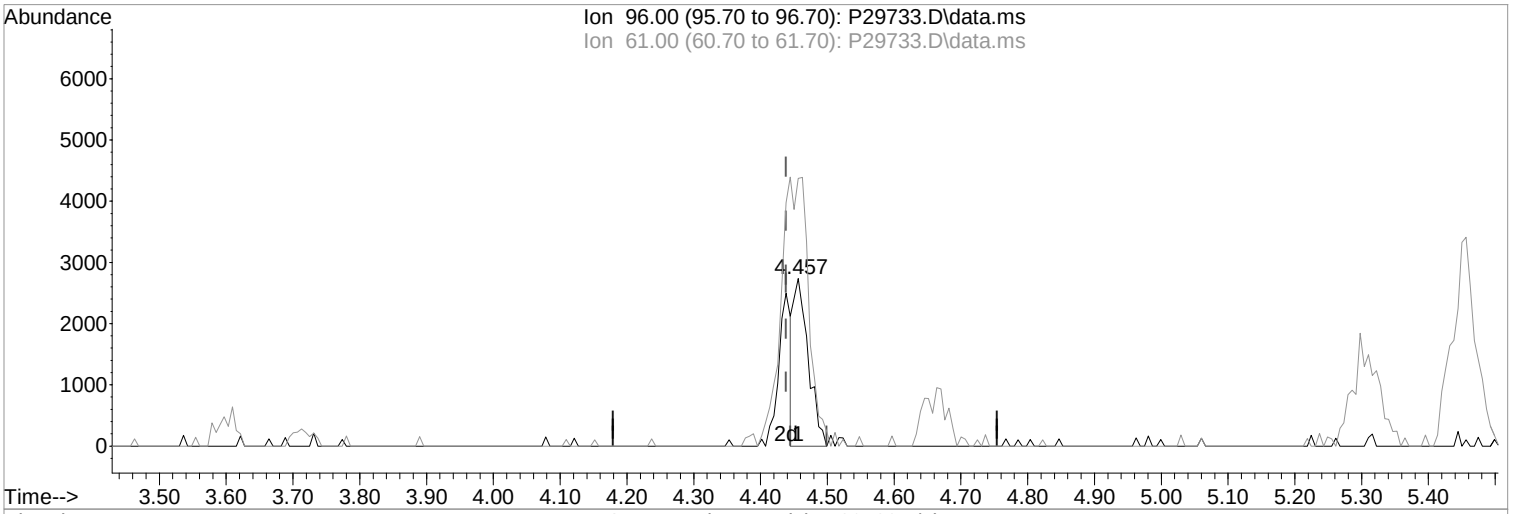
Split Peak

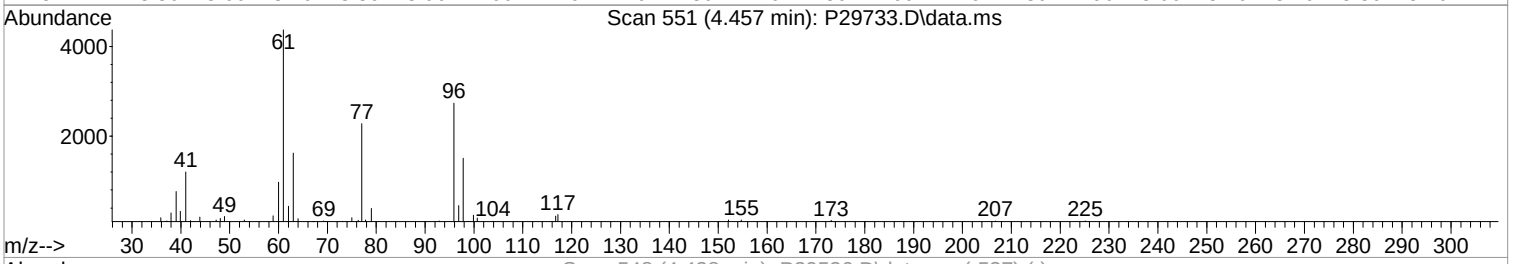
09/12/19

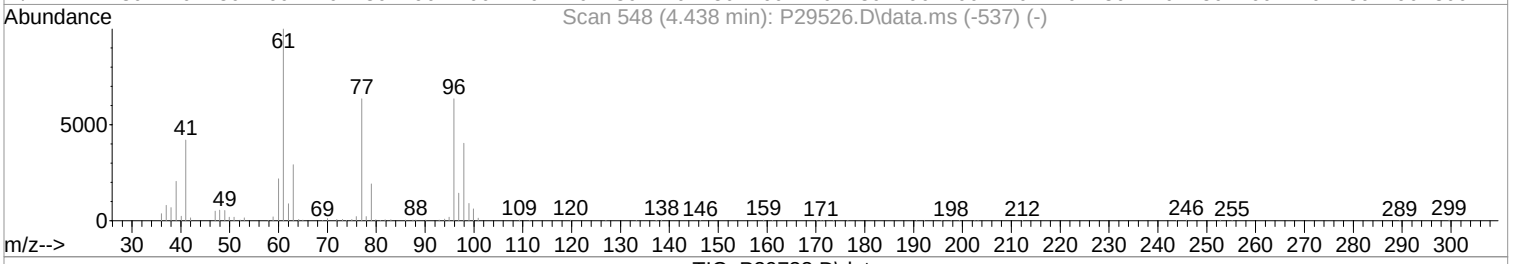
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.457min (+0.019) 1.12 ppb

response 4265

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	159.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

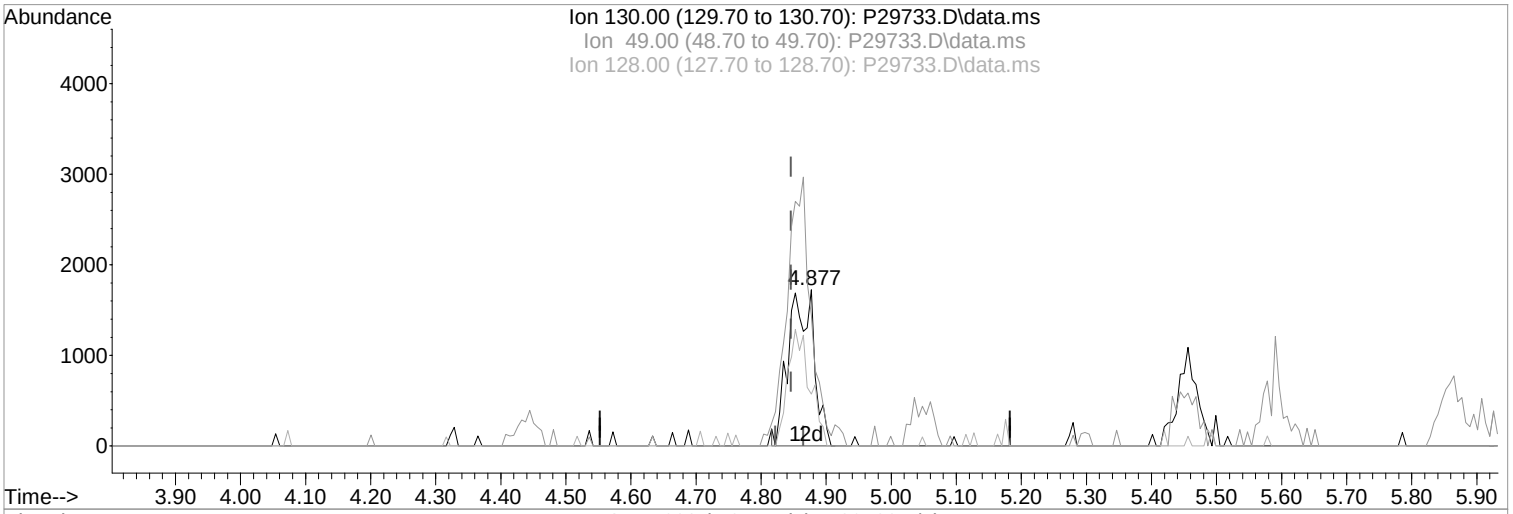
Before

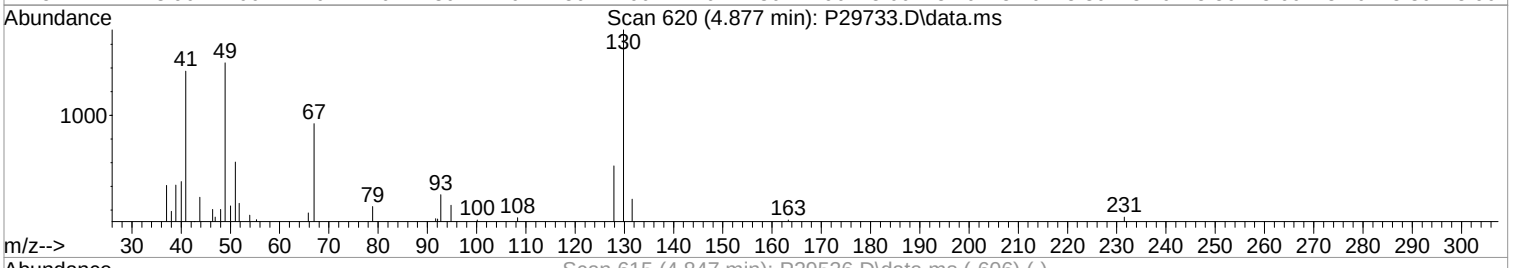
09/12/19

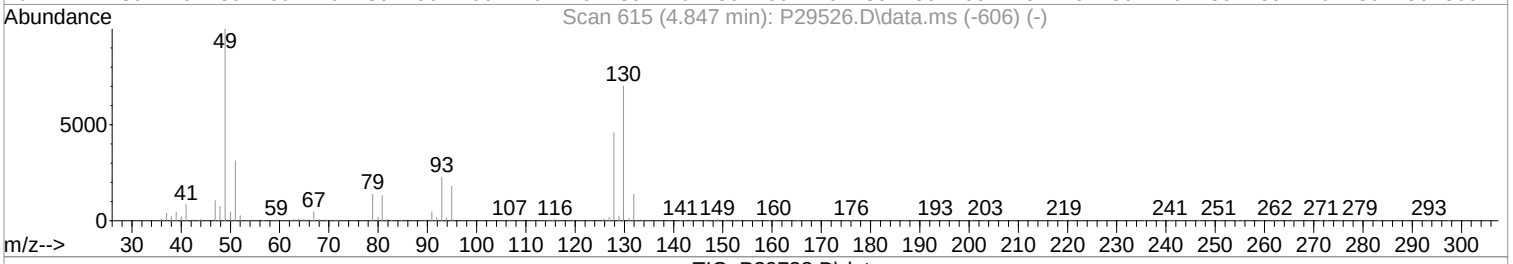
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(37) Bromochloromethane

4.877min (+0.031) 2.04 ppb m

response 4626

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	83.82#
128.00	71.40	33.24#
0.00	0.00	0.00

Manual Integration:

After

Split Peak

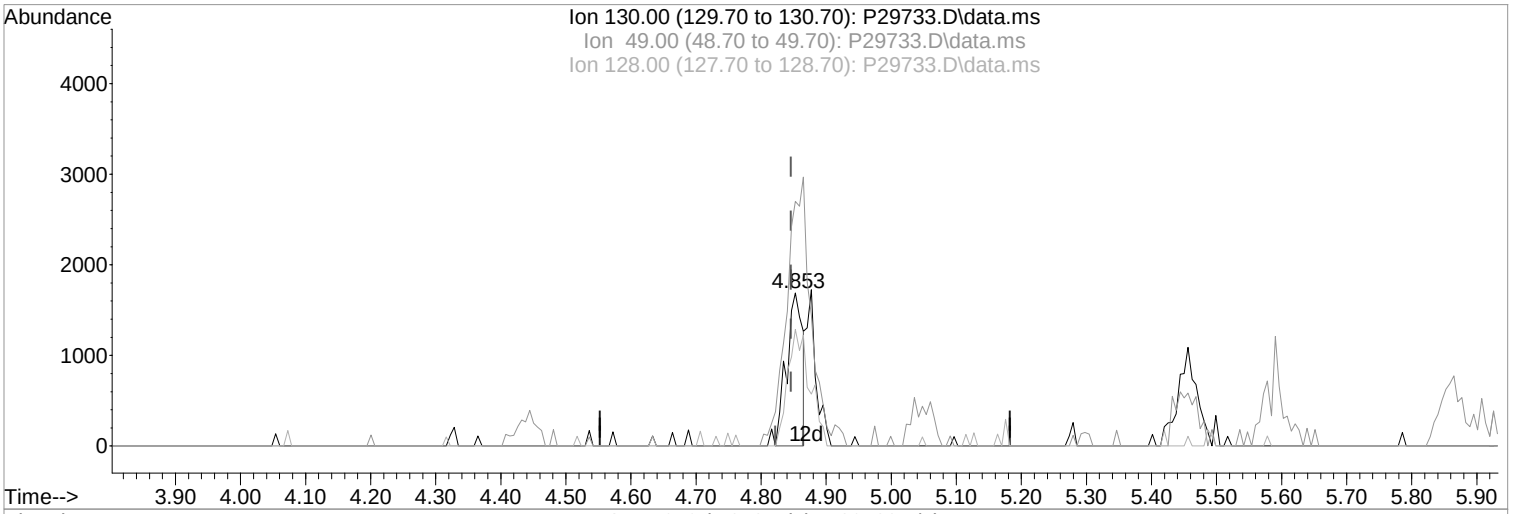
09/12/19

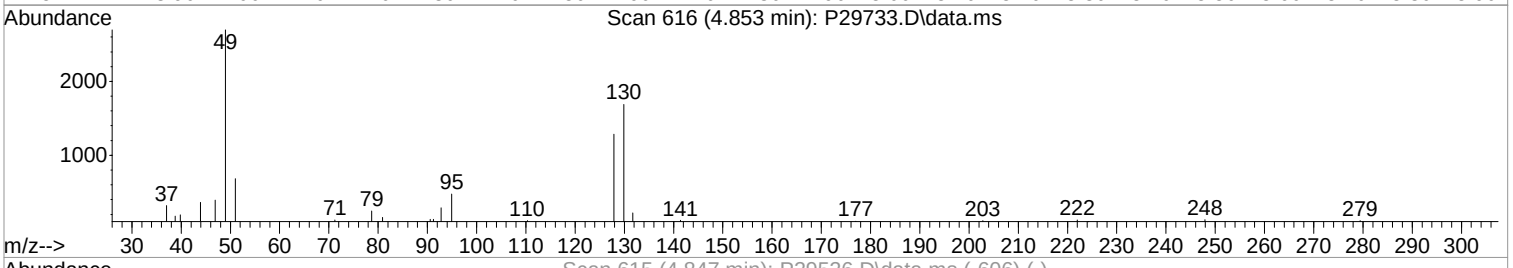
1st 09/12/19
2nd 09/12/19

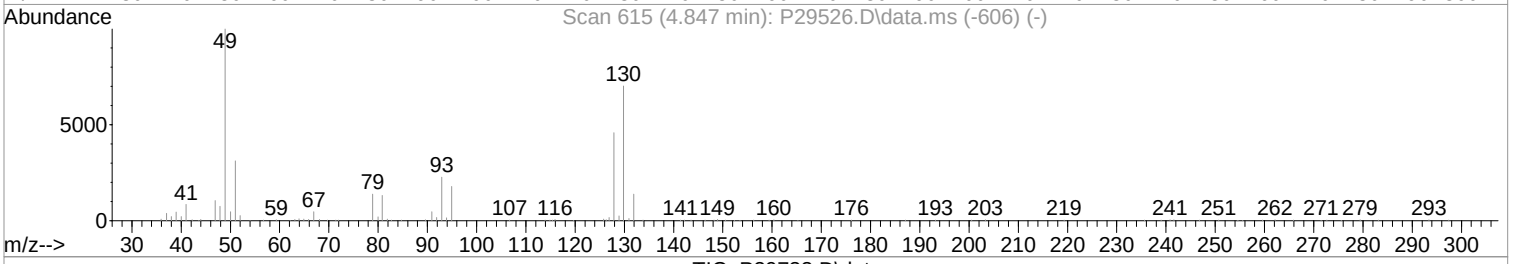
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 1.27 ppb

response 2883

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	159.70
128.00	71.40	76.15
0.00	0.00	0.00

Manual Integration:

Before

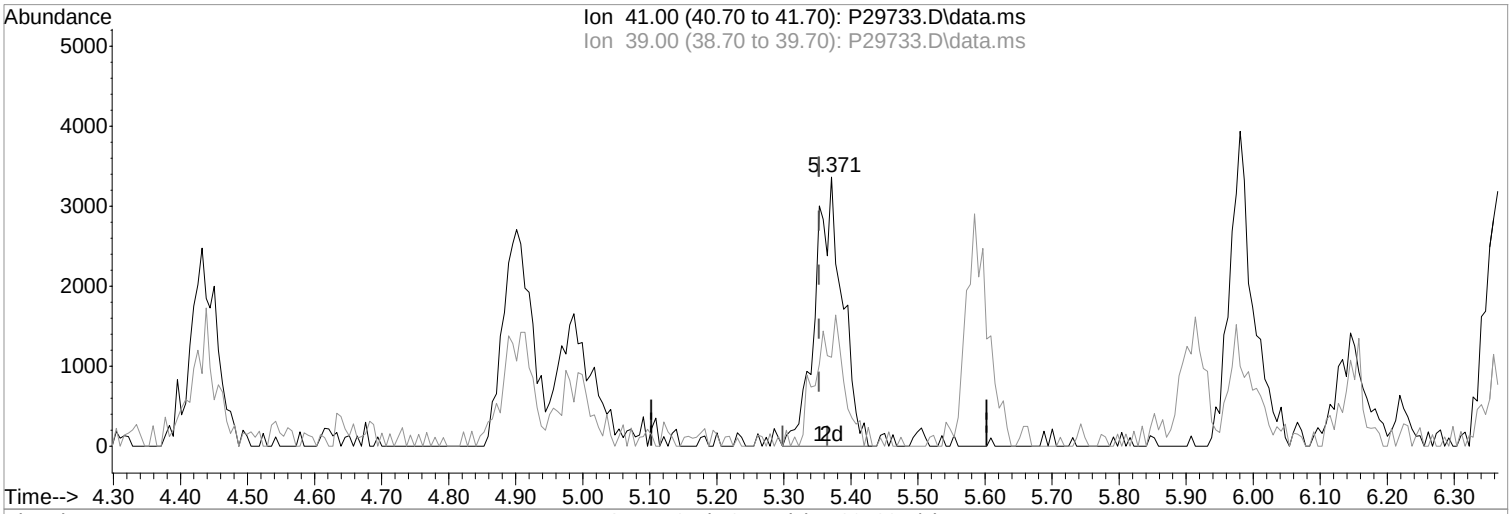
09/12/19

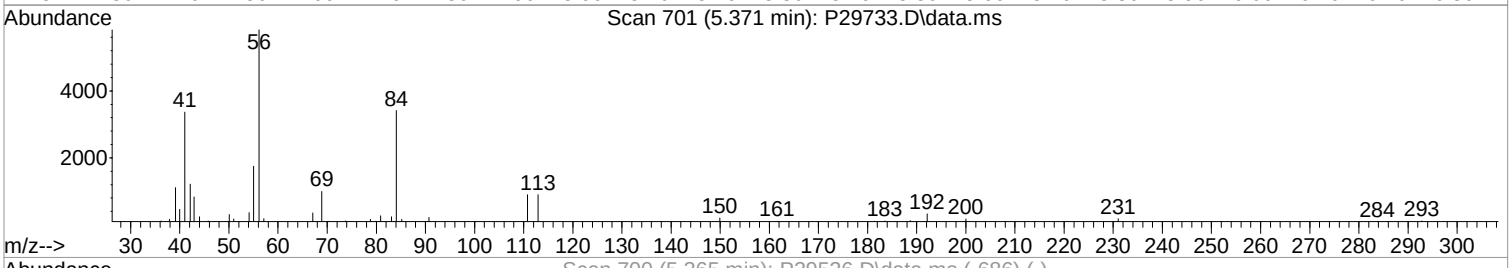
1st 09/12/19
2nd 09/12/19

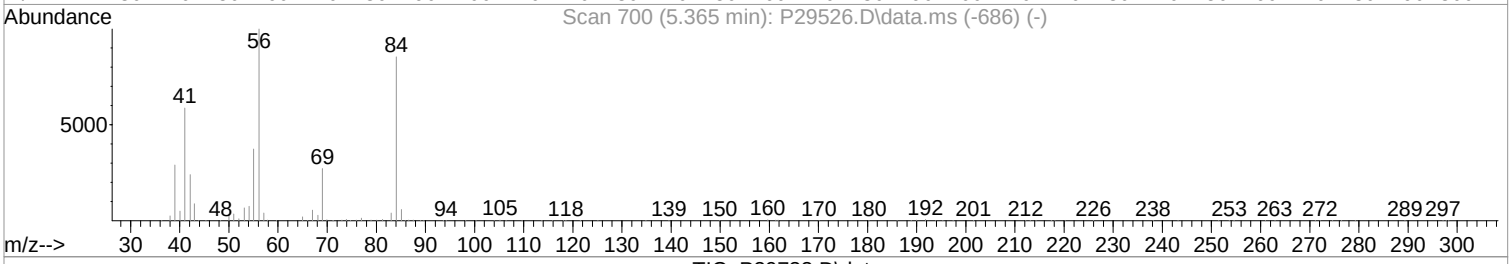
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(44) Cyclohexane (P)

5.371min (+0.019) 2.26 ppb m

response 9499

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	32.97
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

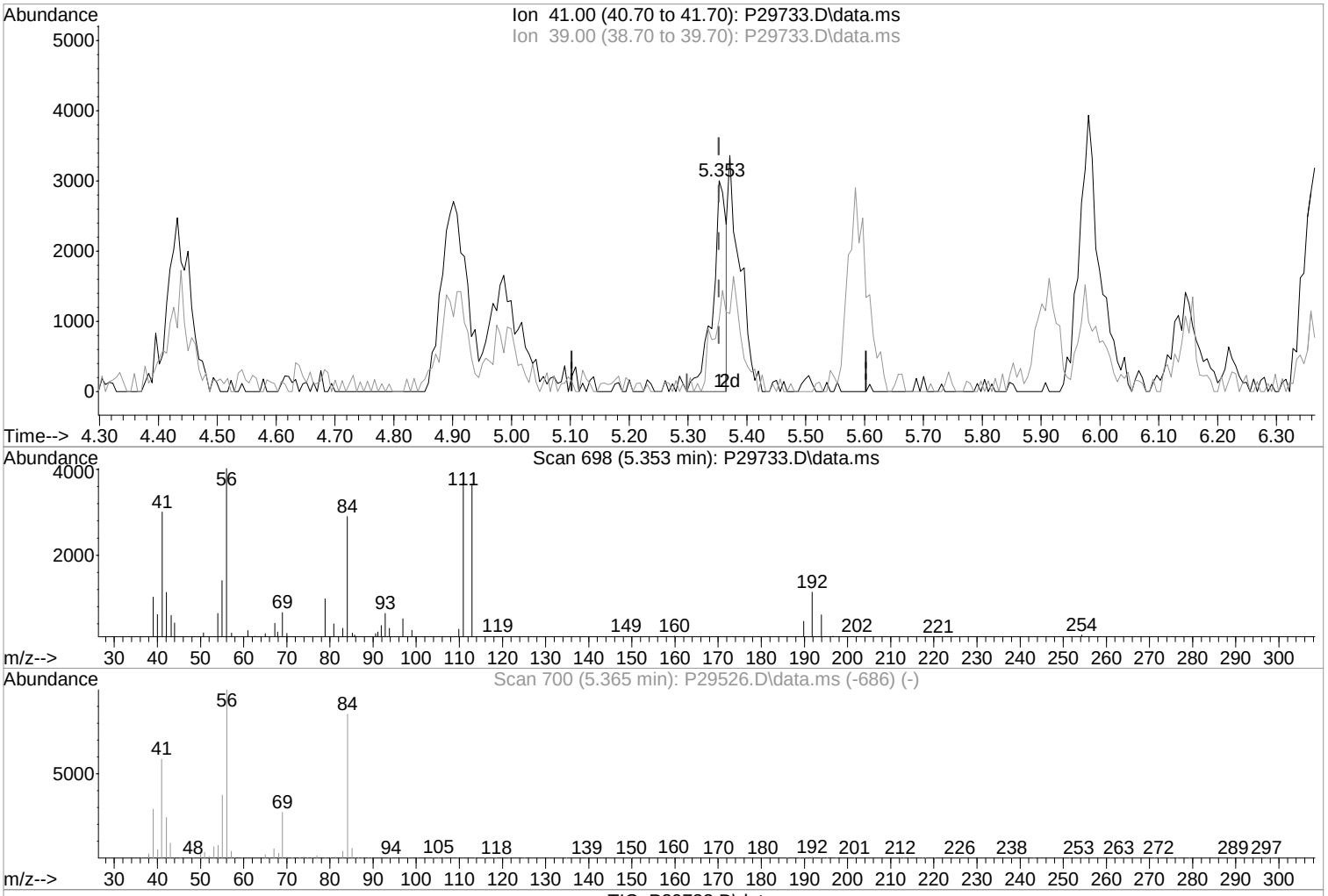
Split Peak

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(44) Cyclohexane (P)

5.353min (+0.000) 1.15 ppb

response 4820

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	34.09
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

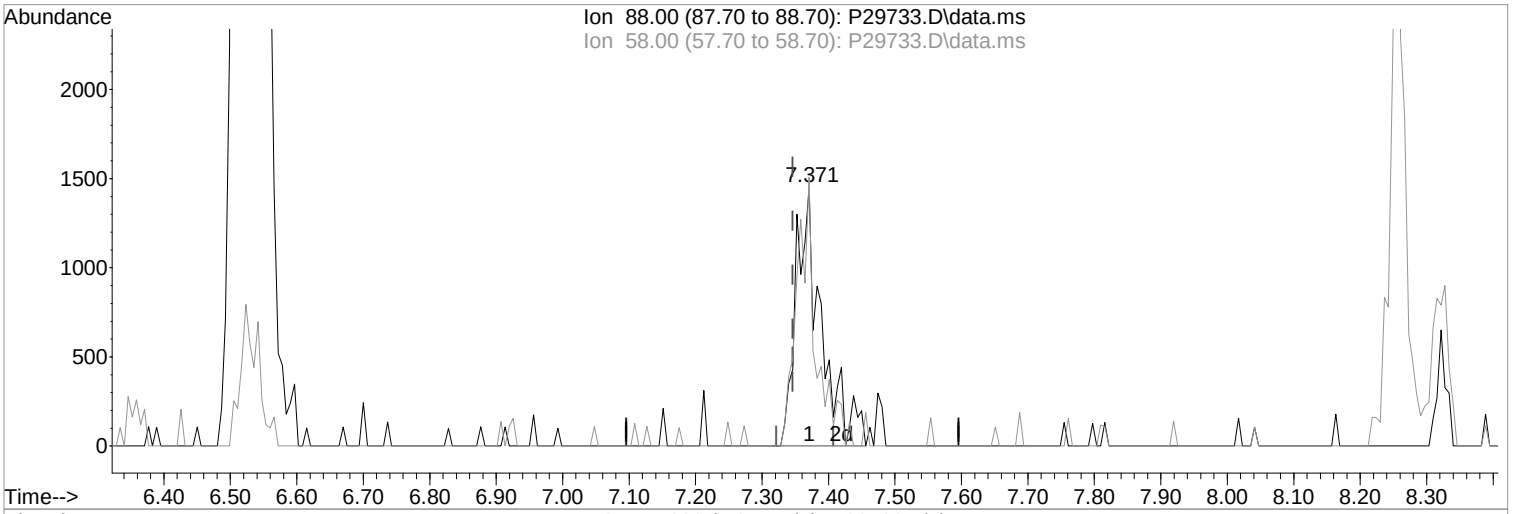
Before

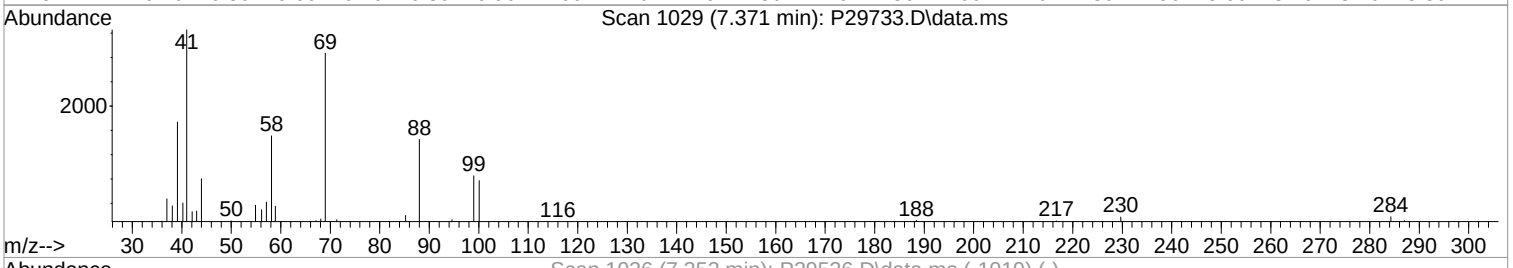
09/12/19

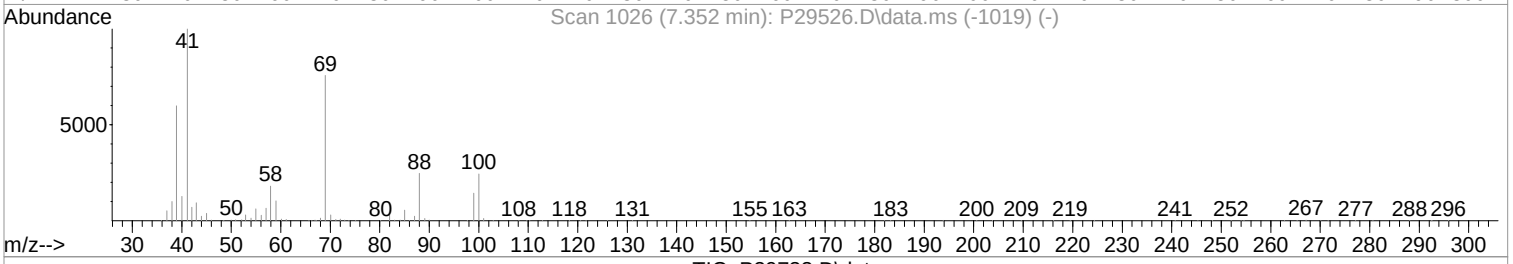
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(58) 1,4-Dioxane

7.371min (+0.025) 38.75 ppb m

response 3897

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	103.78#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

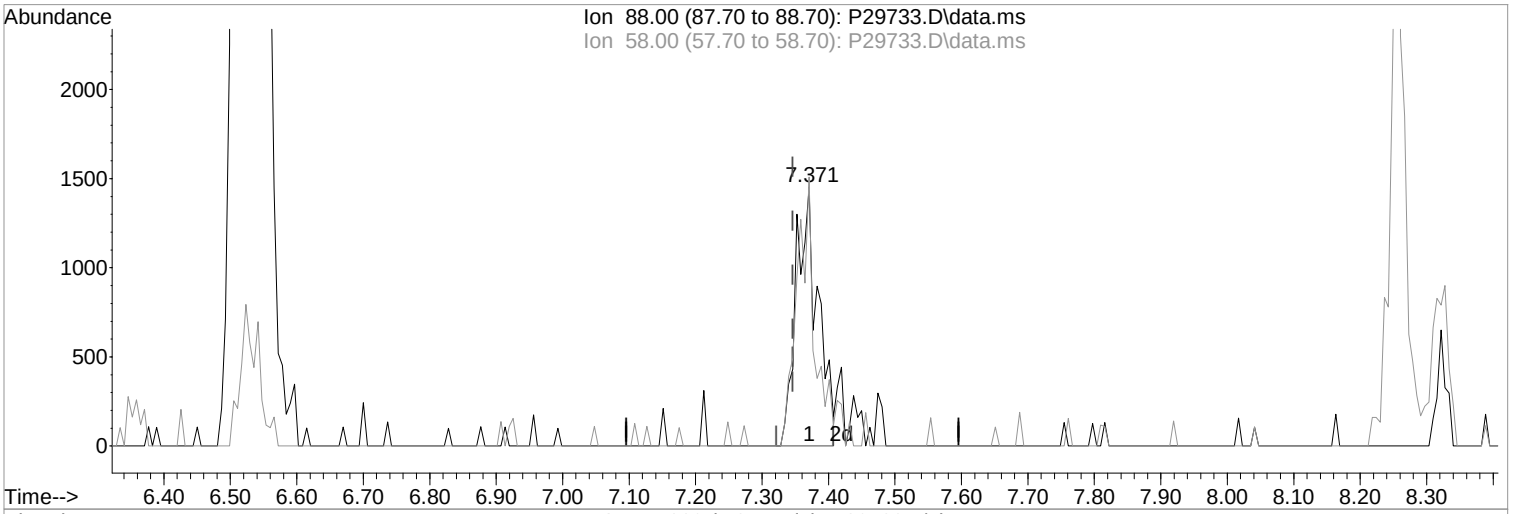
Poor integration.

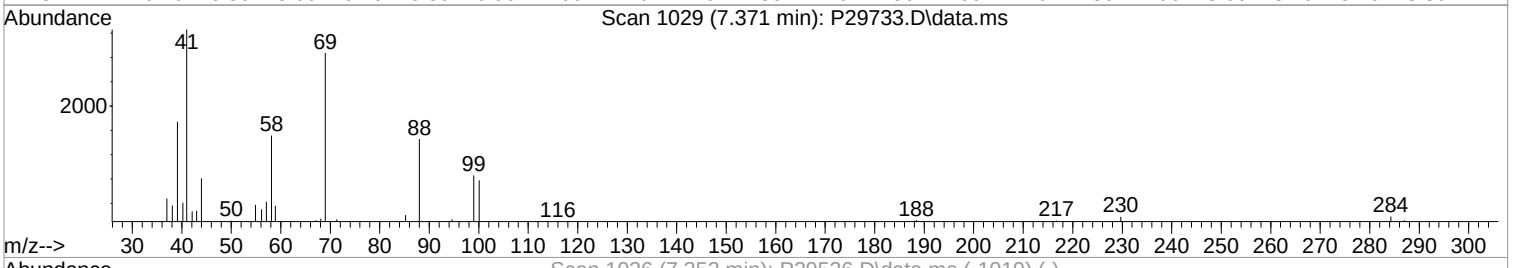
09/12/19

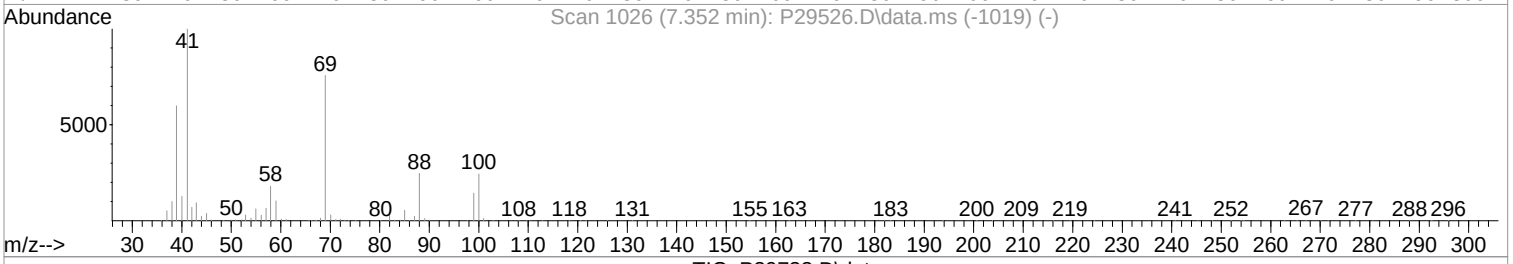
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(58) 1,4-Dioxane

7.371min (+0.025) 33.22 ppb

response 3341

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	103.78#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	314065	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	525904	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	453358	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	230837	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	27986	10.04	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 20.08%#				
48) surr1,1,2-dichloroetha...	5.859	65	43764	11.35	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 22.70%#				
65) SURR3,Toluene-d8	8.322	98	153879	11.73	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.46%#				
70) SURR2,BFB	10.870	95	58312	11.42	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 22.84%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	7053	1.82	ppb		94
3) Chloromethane	1.329	50	12112	2.03	ppb		89
4) Vinyl Chloride	1.408	62	10588	1.90	ppb		95
5) Bromomethane	1.634	94	6758	2.23	ppb		95
6) Chloroethane	1.713	64	7384	2.20	ppb		96
7) Freon 21	1.866	67	12954	2.08	ppb		88
8) Trichlorofluoromethane	1.908	101	8611	1.90	ppb		97
9) Diethyl Ether	2.152	59	8209	2.06	ppb	#	78
10) Freon 123a	2.158	67	9121	2.10	ppb		88
11) Freon 123	2.213	83	10101	2.11	ppb		95
12) Acrolein	2.268	56	10204	9.18	ppb		95
13) 1,1-Diclethene	2.335	96	6046	1.97	ppb		91
14) Freon 113	2.335	101	5624	1.88	ppb		95
15) Acetone	2.408	43	7392	2.89	ppb		92
16) 2-Propanol	2.548	45	20371	35.05	ppb		94
17) Iodomethane	2.475	142	3749	1.06	ppb		90
18) Carbon Disulfide	2.530	76	17455	1.90	ppb		98
19) Acetonitrile	2.670	40	4219m	10.78	ppb		
20) Allyl Chloride	2.682	76	3403m	1.94	ppb		
21) Methyl Acetate	2.713	43	9886	1.95	ppb		99
22) Methylene Chloride	2.804	84	8425	2.11	ppb		96
23) TBA	2.957	59	30839	35.84	ppb		97
24) Acrylonitrile	3.085	53	25317m	9.71	ppb		
25) Methyl-t-Butyl Ether	3.109	73	27102	2.10	ppb		94
26) trans-1,2-Dichloroethene	3.085	96	6440	1.92	ppb	#	81
28) 1,1-Diclethane	3.603	63	13825	2.00	ppb		82
29) Vinyl Acetate	3.694	86	1040	1.38	ppb	#	1
30) DIPE	3.713	45	30856	2.05	ppb	#	67
31) 2-Chloro-1,3-Butadiene	3.713	53	11211	2.01	ppb		93
32) ETBE	4.243	59	27551	2.04	ppb		91
33) 2,2-Dichloropropane	4.444	77	9871	1.95	ppb		98
34) cis-1,2-Dichloroethene	4.457	96	7392m	1.94	ppb		
35) 2-Butanone	4.554	43	6761	1.89	ppb		79
36) Propionitrile	4.646	54	10399	9.39	ppb		89
37) Bromochloromethane	4.877	130	4626m	2.04	ppb		
38) Methacrylonitrile	4.889	67	5066	1.93	ppb		97
39) Tetrahydrofuran	4.993	42	9111	3.10	ppb		84
40) Chloroform	5.036	83	13238	2.18	ppb		97
41) 1,1,1-Trichloroethane	5.310	97	10060	2.07	ppb		94

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.145	73	25269	2.03	ppb		92
44) Cyclohexane	5.371	41	9499m	2.26	ppb		
46) Carbontetrachloride	5.566	117	6578	1.81	ppb	#	78
47) 1,1-Dichloropropene	5.597	75	10262	2.02	ppb		90
49) Benzene	5.914	78	32447	2.05	ppb		98
50) 1,2-Dichloroethane	5.975	62	10578	1.97	ppb		96
51) Iso-Butyl Alcohol	5.981	43	13703	30.44	ppb		95
52) n-Heptane	6.359	43	12155	2.06	ppb		89
53) 1-Butanol	6.919	56	20367	78.91	ppb		92
54) Trichloroethene	6.846	130	7197	2.05	ppb		84
55) Methylcyclohexane	7.060	55	11777	2.08	ppb		98
56) 1,2-Diclpropane	7.145	63	8271	1.90	ppb		88
57) Dibromomethane	7.279	93	3989	1.84	ppb	#	73
58) 1,4-Dioxane	7.371	88	3897m	38.75	ppb		
59) Methyl Methacrylate	7.358	69	7981	1.97	ppb		87
60) Bromodichloromethane	7.499	83	8278	1.97	ppb		94
61) 2-Nitropropane	7.810	41	2627	3.96	ppb	#	41
62) 2-Chloroethylvinyl Ether	7.907	63	4985	1.68	ppb		93
63) cis-1,3-Dichloropropene	8.035	75	11826	1.90	ppb		96
64) 4-Methyl-2-pentanone	8.248	43	11806	1.75	ppb		87
66) Toluene	8.389	91	32857	2.05	ppb		89
67) trans-1,3-Dichloropropene	8.675	75	10527	1.83	ppb		88
68) Ethyl Methacrylate	8.803	69	13696	1.93	ppb		89
69) 1,1,2-Trichloroethane	8.858	97	7060	1.99	ppb		96
72) Tetrachloroethene	8.968	164	6105	2.23	ppb	#	92
73) 2-Hexanone	9.157	43	9152	1.81	ppb		91
74) 1,3-Dichloropropane	9.029	76	13358	1.97	ppb		93
75) Dibromochloromethane	9.248	129	5263	1.87	ppb	#	79
76) N-Butyl Acetate	9.297	43	18028	1.87	ppb		99
77) 1,2-Dibromoethane	9.352	107	7101	2.00	ppb		92
78) Chlorobenzene	9.827	112	19785	1.98	ppb		98
79) 3-CBTF	9.840	180	10091	1.96	ppb	#	77
80) 4-CBTF	9.901	180	9062	1.95	ppb		93
81) 1,1,1,2-Tetrachloroethane	9.919	131	5762	1.93	ppb		92
82) Ethylbenzene	9.943	106	10680	1.97	ppb		93
83) (m+p)Xylene	10.053	106	27396	4.18	ppb	#	82
84) o-Xylene	10.407	106	12214	1.83	ppb		98
85) Styrene	10.425	104	22252	2.01	ppb		89
87) Bromoform	10.589	173	3004	1.86	ppb		81
88) 2-CBTF	10.657	180	10778	2.24	ppb		95
89) Isopropylbenzene	10.742	105	34745	2.21	ppb		92
90) Cyclohexanone	10.833	55	31514	46.81	ppb		96
91) trans-1,4-Dichloro-2-B...	11.065	53	3193	1.84	ppb		92
92) 1,1,2,2-Tetrachloroethane	11.016	83	10154	1.94	ppb		96
93) Bromobenzene	10.992	156	8388	2.16	ppb	#	67
94) 1,2,3-Trichloropropane	11.047	110	3570	2.07	ppb	#	88
95) n-Propylbenzene	11.095	91	41871	2.22	ppb		98
96) 2-Chlorotoluene	11.156	91	25518	2.14	ppb		95
97) 3-Chlorotoluene	11.217	91	26900	2.23	ppb		93
98) 4-Chlorotoluene	11.254	91	27810	2.17	ppb		93
99) 1,3,5-Trimethylbenzene	11.248	105	28082	2.14	ppb		96
100) tert-Butylbenzene	11.516	119	25012	2.17	ppb		98
101) 1,2,4-Trimethylbenzene	11.559	105	28690	2.20	ppb		95
102) 3,4-DCBTF	11.620	214	8961	2.26	ppb		87
103) sec-Butylbenzene	11.699	105	36777	2.20	ppb		99
104) p-Isopropyltoluene	11.821	119	30649	2.14	ppb		98

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.784	146	16881	2.18	ppb		90
106) 1,4-Dclbenz	11.864	146	16730	2.11	ppb		91
107) 2,4-DCBTF	11.912	214	7816m	2.16	ppb		
108) 2,5-DCBTF	11.955	214	7910	1.96	ppb	#	89
109) n-Butylbenzene	12.150	91	29811	2.13	ppb		98
110) 1,2-Dclbenz	12.162	146	16819	2.20	ppb		89
111) 1,2-Dibromo-3-chloropr...	12.790	157	1981	1.63	ppb		94
112) Trielution Dichlorotol...	12.900	125	45692	6.53	ppb		97
113) 1,3,5 Trichlorobenzene	12.949	180	12615	2.20	ppb	#	92
114) Coelution Dichlorotoluene	13.229	125	32329	4.13	ppb		92
115) 1,2,4-Tcbenzene	13.436	180	13089	2.22	ppb		98
116) Hexachlorobt	13.565	225	4028	1.71	ppb	#	73
117) Naphthalen	13.632	128	41157	2.22	ppb		97
118) 1,2,3-Tclbenzene	13.814	180	12584	2.16	ppb		91
119) 2,4,5-Trichlorotolene	14.394	159	9498	2.14	ppb		98
120) 2,3,6-Trichlorotoluene	14.479	159	9583m	2.09	ppb		

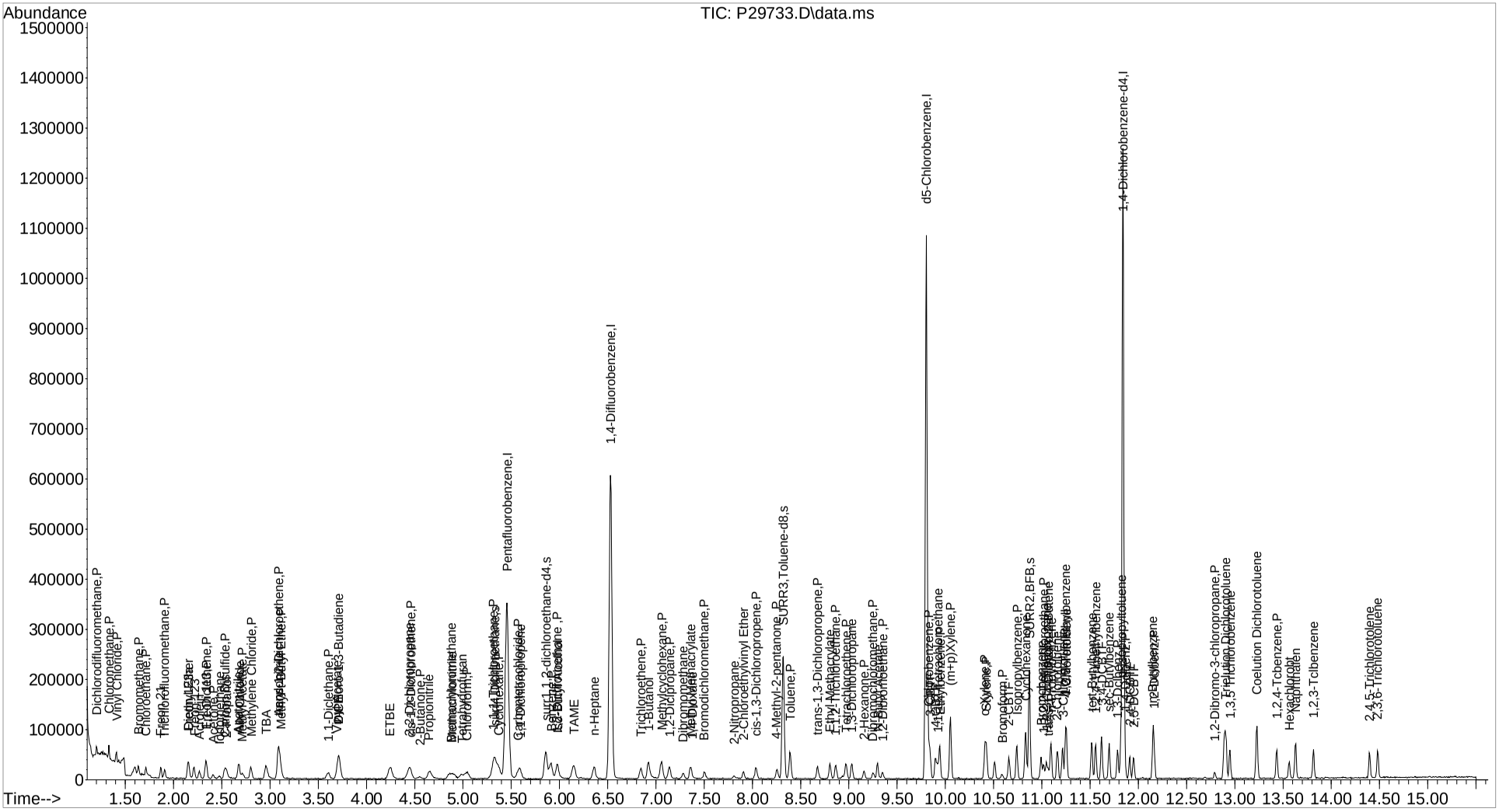
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

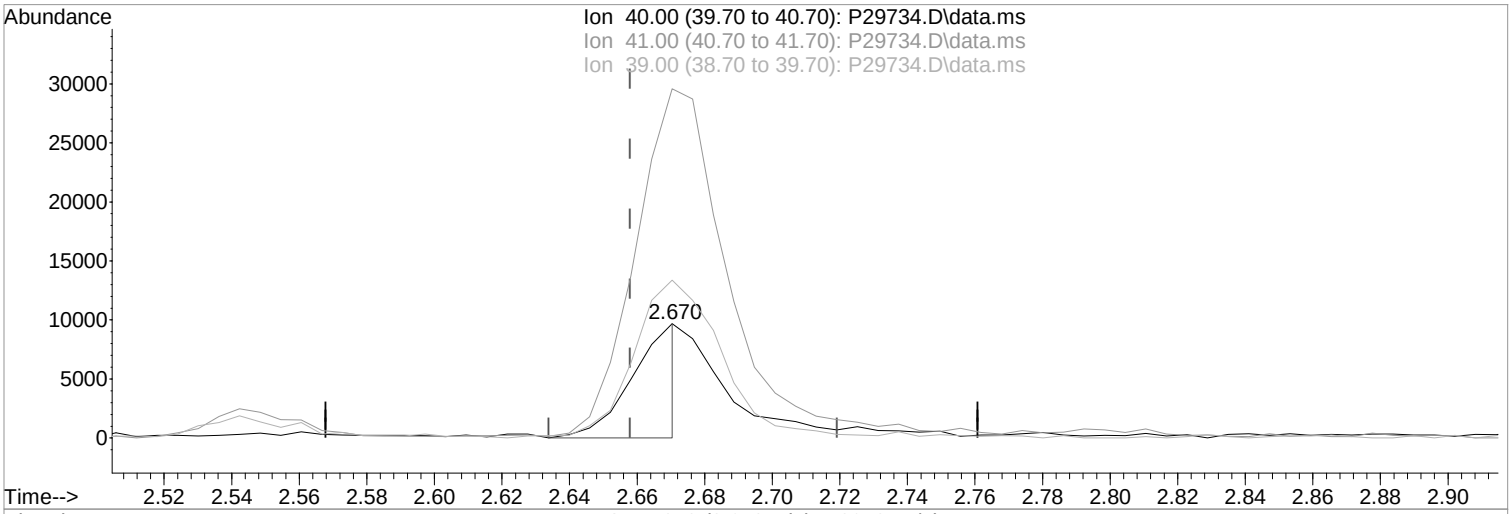
09/12/19 1st 09/12/19 2nd

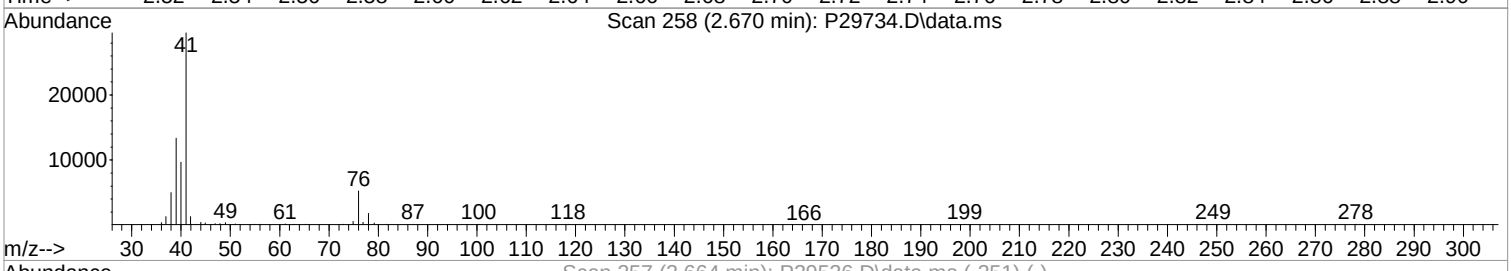


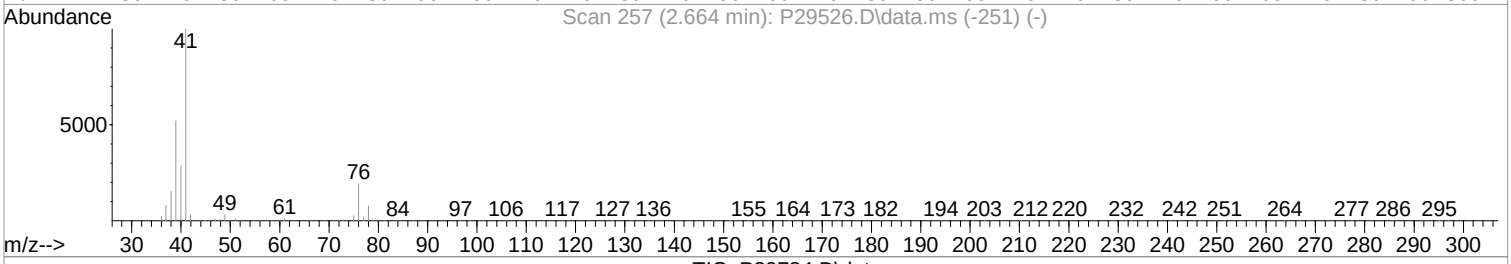
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:22:30 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29734.D\data.ms

(19) Acetonitrile

2.670min (+0.013) 23.94 ppb m

response 9489

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	305.03#
39.00	137.60	137.88
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

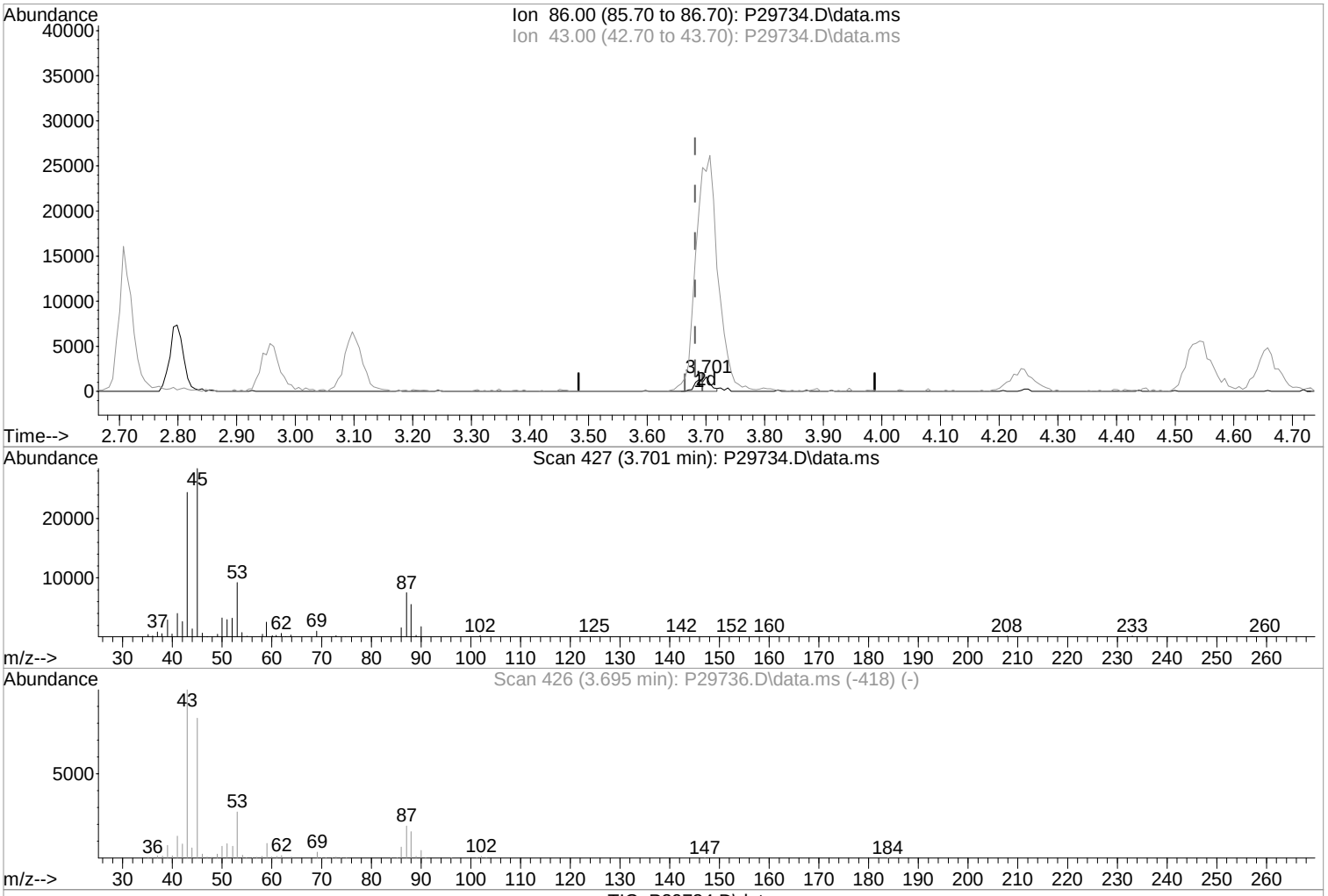
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:39:05 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29734.D\data.ms

(29) Vinyl Acetate

3.701min (+0.019) 3.32 ppb m

response 2535

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	1533.58#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

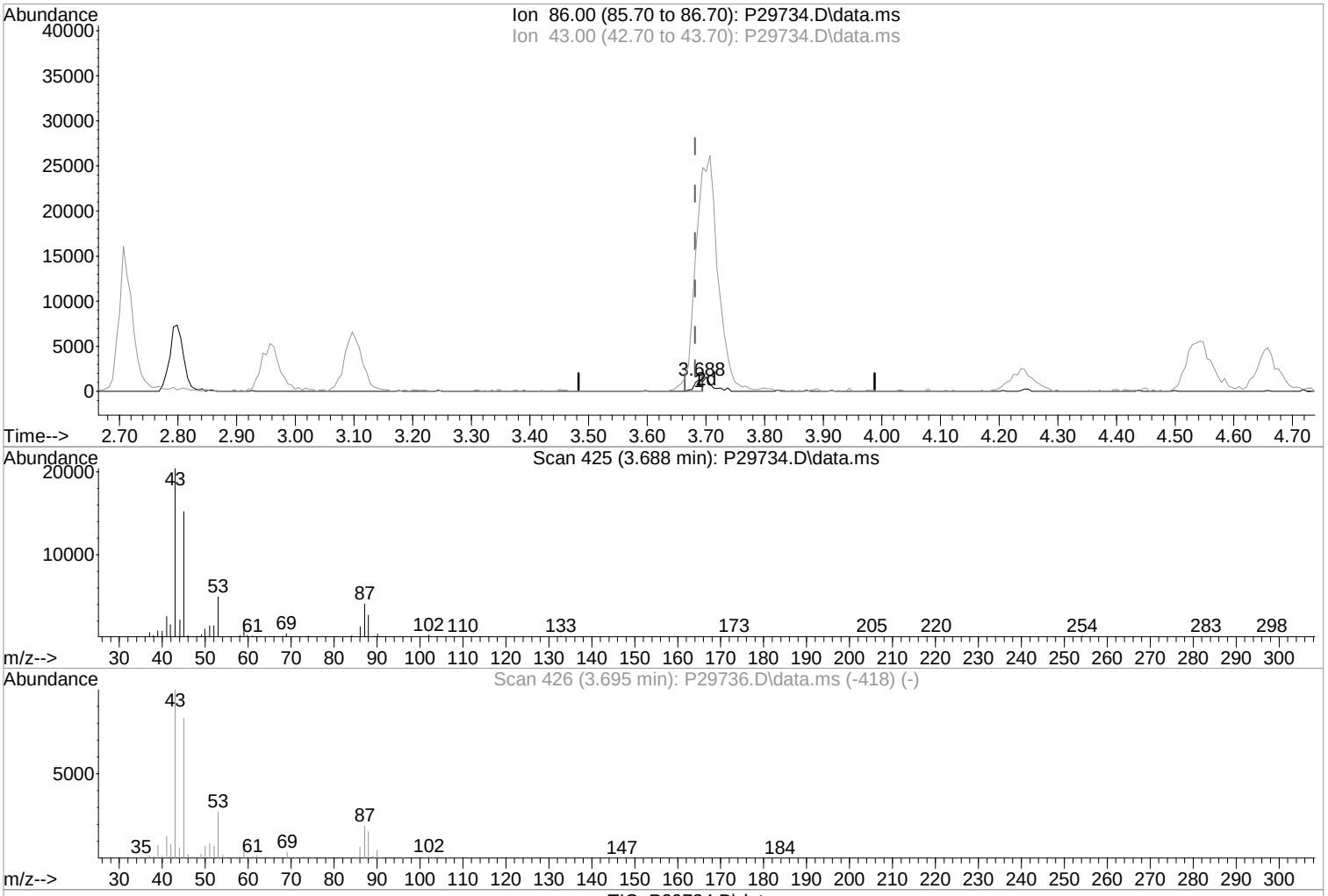
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:39:05 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29734.D\data.ms

(29) Vinyl Acetate

3.688min (+0.006) 1.80 ppb

response 1370

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	1554.91
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

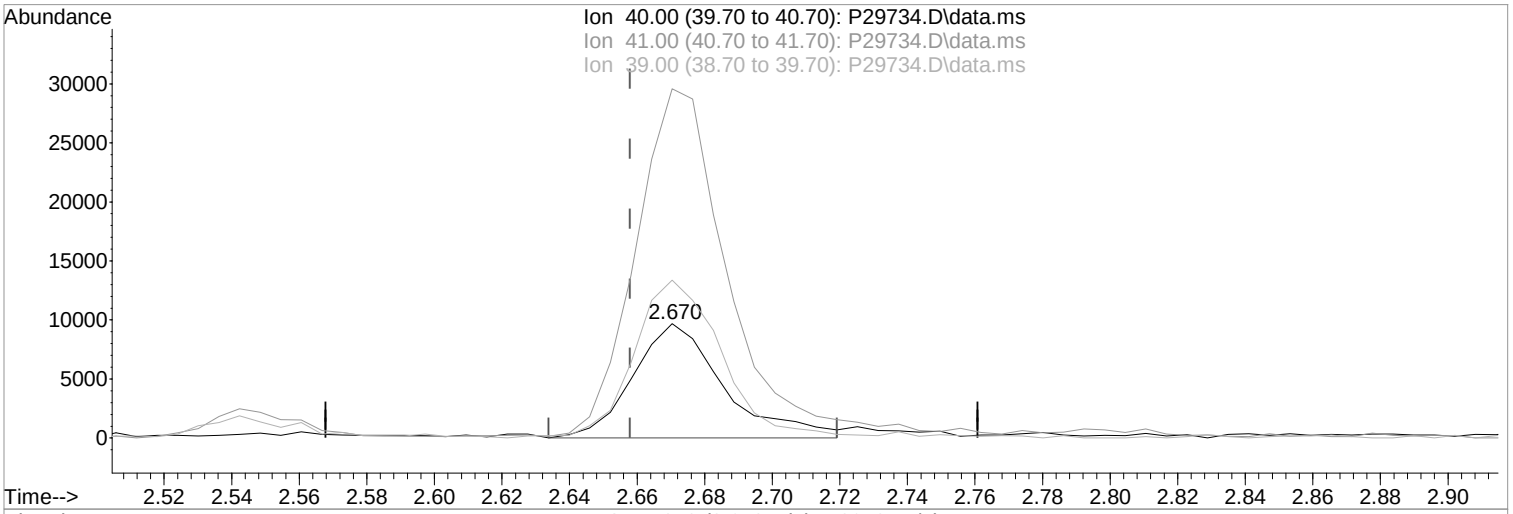
Before

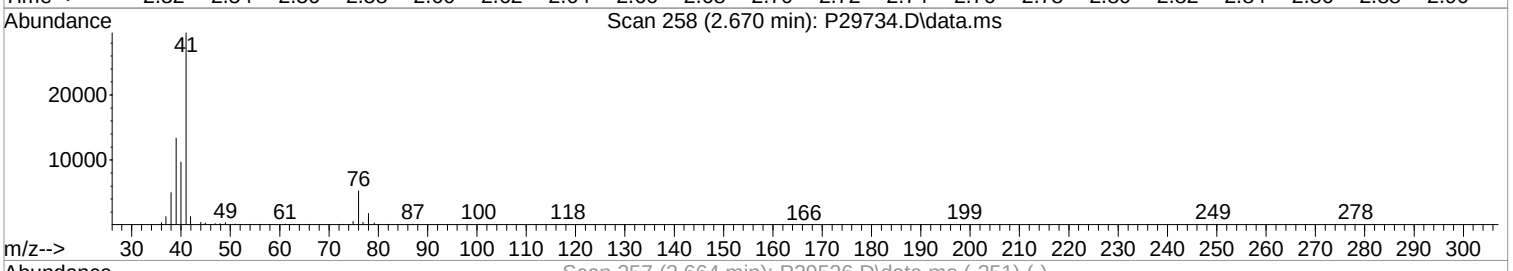
09/12/19

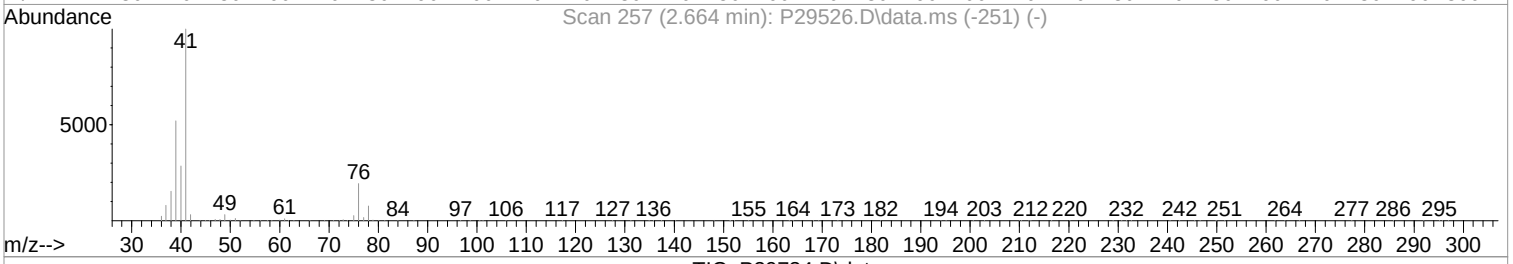
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:22:30 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29734.D\data.ms

(19) Acetonitrile

2.670min (+0.013) 45.71 ppb

response 18120

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	305.03#
39.00	137.60	137.88
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.450	168	318121	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	515646	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	461611	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	240152	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	30688	11.23	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 22.46%#				
48) surr1,1,2-dichloroetha...	5.859	65	41075	10.86	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 21.72%#				
65) SURR3,Toluene-d8	8.316	98	149291	11.60	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.20%#				
70) SURR2,BFB	10.870	95	54511	10.89	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 21.78%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	15356	3.91	ppb		98
3) Chloromethane	1.323	50	25770	4.25	ppb		96
4) Vinyl Chloride	1.402	62	25775	4.56	ppb		98
5) Bromomethane	1.622	94	15128	4.93	ppb		97
6) Chloroethane	1.707	64	14892	4.37	ppb		89
7) Freon 21	1.866	67	31323	4.97	ppb		98
8) Trichlorofluoromethane	1.902	101	20569	4.49	ppb		96
9) Diethyl Ether	2.146	59	20126	4.98	ppb		92
10) Freon 123a	2.152	67	21122	4.79	ppb		97
11) Freon 123	2.207	83	23326	4.80	ppb		96
12) Acrolein	2.262	56	26951	23.94	ppb		91
13) 1,1-Diclethene	2.329	96	14784	4.75	ppb	#	81
14) Freon 113	2.335	101	13494	4.46	ppb		85
15) Acetone	2.408	43	13756	5.31	ppb		100
16) 2-Propanol	2.542	45	55759	94.71	ppb		99
17) Iodomethane	2.469	142	12015	3.35	ppb		96
18) Carbon Disulfide	2.524	76	41122	4.41	ppb		98
19) Acetonitrile	2.670	40	9489m	23.94	ppb		
20) Allyl Chloride	2.676	76	8923	5.02	ppb	#	93
21) Methyl Acetate	2.707	43	25213	4.91	ppb		98
22) Methylene Chloride	2.798	84	19640	4.85	ppb		94
23) TBA	2.957	59	79737	91.50	ppb		99
24) Acrylonitrile	3.079	53	67984	25.75	ppb		97
25) Methyl-t-Butyl Ether	3.103	73	66938	5.11	ppb		97
26) trans-1,2-Dichloroethene	3.085	96	16397	4.82	ppb		89
28) 1,1-Diclethane	3.597	63	33558	4.80	ppb		93
29) Vinyl Acetate	3.701	86	2535m	3.32	ppb		
30) DIPE	3.707	45	73173	4.81	ppb		92
31) 2-Chloro-1,3-Butadiene	3.707	53	26452	4.68	ppb		98
32) ETBE	4.237	59	68875	5.03	ppb		95
33) 2,2-Dichloropropane	4.432	77	22052	4.30	ppb		92
34) cis-1,2-Dichloroethene	4.444	96	18741	4.84	ppb	#	81
35) 2-Butanone	4.542	43	17346	4.80	ppb		89
36) Propionitrile	4.639	54	27064	24.13	ppb		99
37) Bromochloromethane	4.853	130	11430	4.98	ppb	#	89
38) Methacrylonitrile	4.902	67	12154	4.58	ppb	#	78
39) Tetrahydrofuran	4.975	42	15732	5.28	ppb	#	55
40) Chloroform	5.036	83	29460	4.78	ppb		91
41) 1,1,1-Trichloroethane	5.304	97	23585	4.80	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	TAME	6.139	73	66026	5.23	ppb		95
44)	Cyclohexane	5.365	41	18586	4.51	ppb		94
46)	Carbontetrachloride	5.566	117	16680	4.68	ppb		92
47)	1,1-Dichloropropene	5.591	75	24371	4.89	ppb		93
49)	Benzene	5.908	78	74800	4.83	ppb		94
50)	1,2-Dichloroethane	5.975	62	27114	5.15	ppb		88
51)	Iso-Butyl Alcohol	5.981	43	41965	95.08	ppb		89
52)	n-Heptane	6.353	43	26345	4.54	ppb		82
53)	1-Butanol	6.920	56	59178	233.85	ppb		97
54)	Trichloroethene	6.840	130	16117	4.68	ppb		92
55)	Methylcyclohexane	7.060	55	27159	4.89	ppb		93
56)	1,2-Diclpropane	7.133	63	20327	4.75	ppb		83
57)	Dibromomethane	7.279	93	10317	4.86	ppb		99
58)	1,4-Dioxane	7.358	88	9266	93.96	ppb		83
59)	Methyl Methacrylate	7.358	69	19701	4.95	ppb		96
60)	Bromodichloromethane	7.505	83	20432	4.96	ppb		91
61)	2-Nitropropane	7.810	41	5234	8.05	ppb	#	74
62)	2-Chloroethylvinyl Ether	7.907	63	14186	4.89	ppb		97
63)	cis-1,3-Dichloropropene	8.035	75	30513	4.99	ppb		95
64)	4-Methyl-2-pentanone	8.255	43	30654	4.63	ppb		96
66)	Toluene	8.389	91	78273	4.99	ppb		97
67)	trans-1,3-Dichloropropene	8.675	75	27135	4.82	ppb		92
68)	Ethyl Methacrylate	8.803	69	32552	4.67	ppb		97
69)	1,1,2-Trichloroethane	8.864	97	18294	5.26	ppb		94
72)	Tetrachloroethene	8.968	164	12992	4.67	ppb	#	84
73)	2-Hexanone	9.157	43	24098	4.69	ppb		96
74)	1,3-Dichloropropane	9.029	76	35214	5.09	ppb		94
75)	Dibromochloromethane	9.248	129	13675	4.78	ppb		95
76)	N-Butyl Acetate	9.297	43	51146	5.22	ppb		98
77)	1,2-Dibromoethane	9.346	107	17839	4.95	ppb		99
78)	Chlorobenzene	9.827	112	49884	4.90	ppb		96
79)	3-CBTF	9.846	180	25983	4.95	ppb		89
80)	4-CBTF	9.901	180	22427	4.74	ppb		92
81)	1,1,1,2-Tetrachloroethane	9.919	131	14435	4.76	ppb		93
82)	Ethylbenzene	9.943	106	25867	4.68	ppb		98
83)	(m+p)Xylene	10.053	106	67991	10.18	ppb		94
84)	o-Xylene	10.413	106	32574	4.79	ppb		97
85)	Styrene	10.425	104	56257	5.00	ppb		98
87)	Bromoform	10.583	173	8059	4.79	ppb		89
88)	2-CBTF	10.663	180	23639	4.72	ppb		96
89)	Isopropylbenzene	10.742	105	87280	5.33	ppb		96
90)	Cyclohexanone	10.833	55	77728	110.97	ppb		93
91)	trans-1,4-Dichloro-2-B...	11.059	53	8817	4.88	ppb	#	74
92)	1,1,2,2-Tetrachloroethane	11.022	83	27544	5.05	ppb		90
93)	Bromobenzene	10.992	156	19537	4.84	ppb		91
94)	1,2,3-Trichloropropane	11.047	110	9684	5.39	ppb	#	79
95)	n-Propylbenzene	11.096	91	100647	5.13	ppb		98
96)	2-Chlorotoluene	11.156	91	64901	5.24	ppb		98
97)	3-Chlorotoluene	11.217	91	66036	5.25	ppb		98
98)	4-Chlorotoluene	11.254	91	69452	5.20	ppb		99
99)	1,3,5-Trimethylbenzene	11.248	105	69678	5.11	ppb		98
100)	tert-Butylbenzene	11.516	119	62672	5.22	ppb		93
101)	1,2,4-Trimethylbenzene	11.559	105	68078	5.02	ppb		99
102)	3,4-DCBTF	11.620	214	18845	4.56	ppb		97
103)	sec-Butylbenzene	11.699	105	87677	5.04	ppb		99
104)	p-Isopropyltoluene	11.821	119	74736	5.02	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.784	146	39864	4.96	ppb		95
106) 1,4-Dclbenz	11.858	146	40553	4.93	ppb		95
107) 2,4-DCBTF	11.912	214	18477	4.90	ppb		91
108) 2,5-DCBTF	11.955	214	20656	4.92	ppb		97
109) n-Butylbenzene	12.150	91	75622	5.20	ppb		96
110) 1,2-Dclbenz	12.162	146	40816	5.13	ppb		94
111) 1,2-Dibromo-3-chloropr...	12.796	157	5409	4.29	ppb		89
112) Trielution Dichlorotol...	12.900	125	111013	15.26	ppb		96
113) 1,3,5 Trichlorobenzene	12.949	180	29013	4.87	ppb	#	94
114) Coelution Dichlorotoluene	13.229	125	84438	10.36	ppb		97
115) 1,2,4-Tcbenzene	13.437	180	29801	4.86	ppb		95
116) Hexachlorobt	13.565	225	12514	5.10	ppb		85
117) Naphthalen	13.632	128	106004	5.50	ppb		98
118) 1,2,3-Tclbenzene	13.815	180	29631	4.90	ppb		96
119) 2,4,5-Trichlorotolene	14.400	159	23217	5.03	ppb		92
120) 2,3,6-Trichlorotoluene	14.479	159	25129	5.27	ppb		95

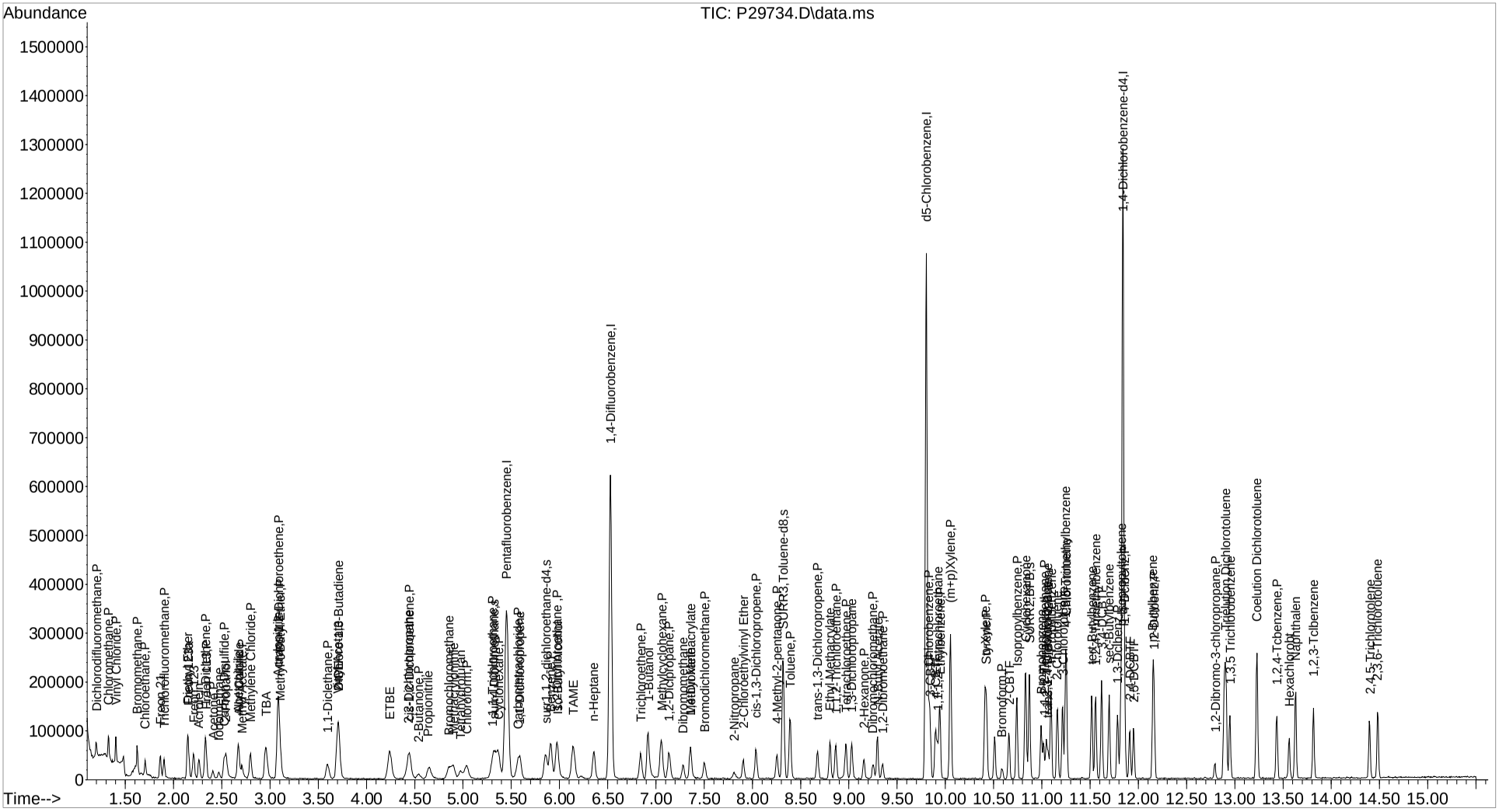
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/12/19 1st 09/12/19 2nd

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

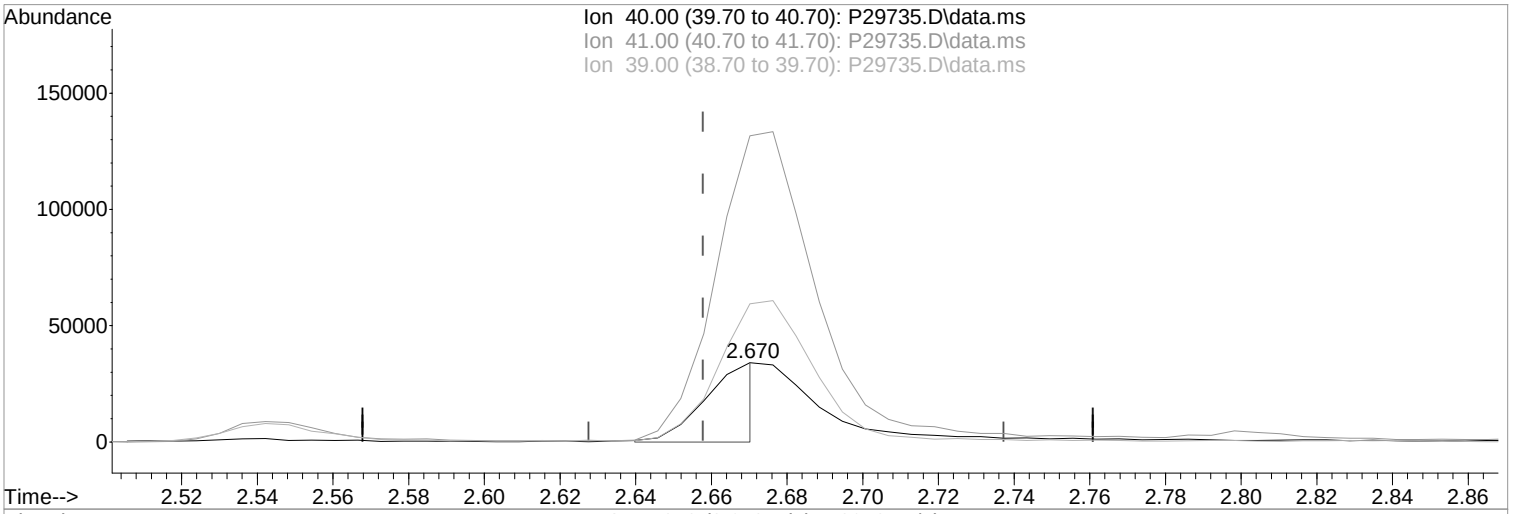
Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

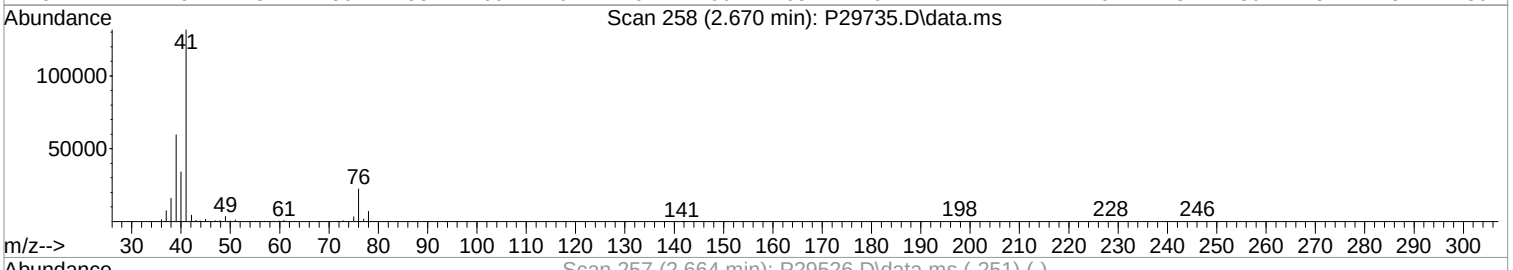


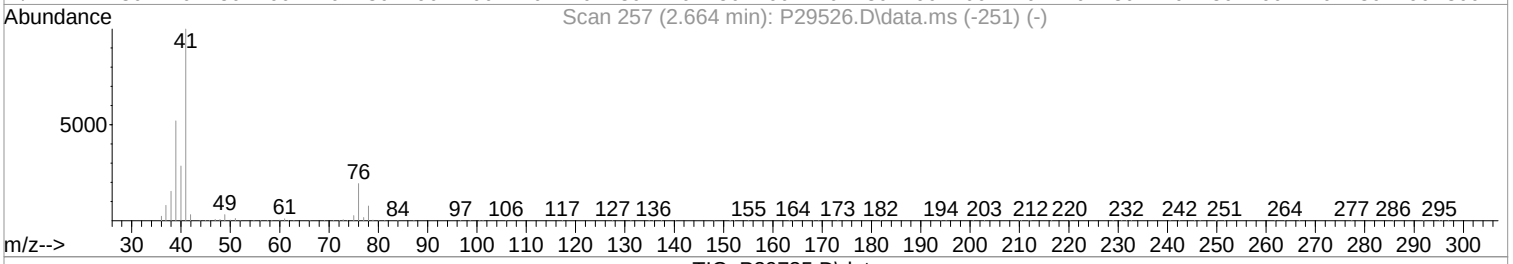
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:22:33 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 83.25 ppb m

response 32923

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	386.47#
39.00	137.60	174.50#
0.00	0.00	0.00

Manual Integration:

After

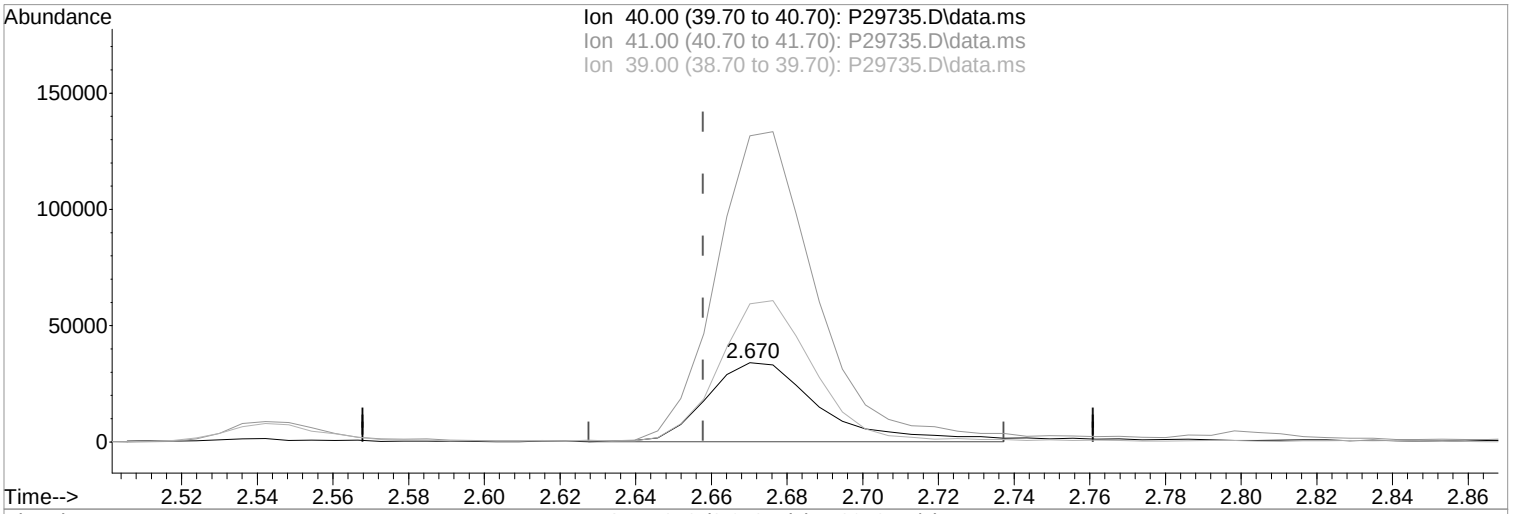
Poor integration.

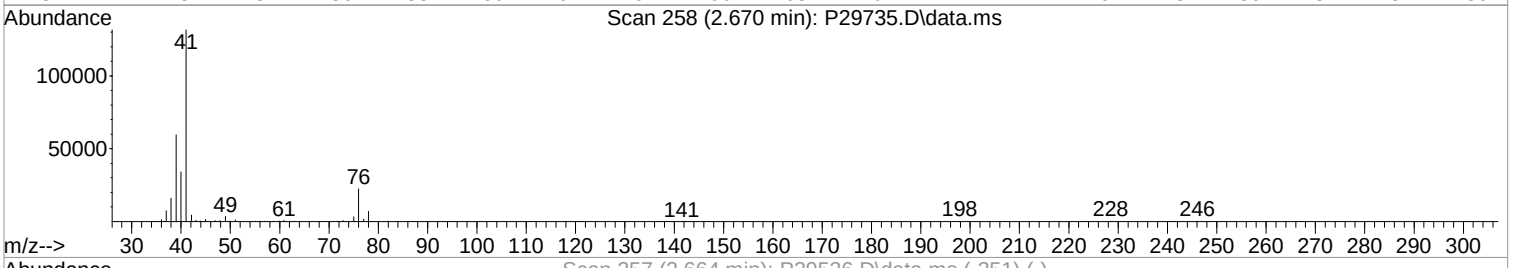
09/12/19

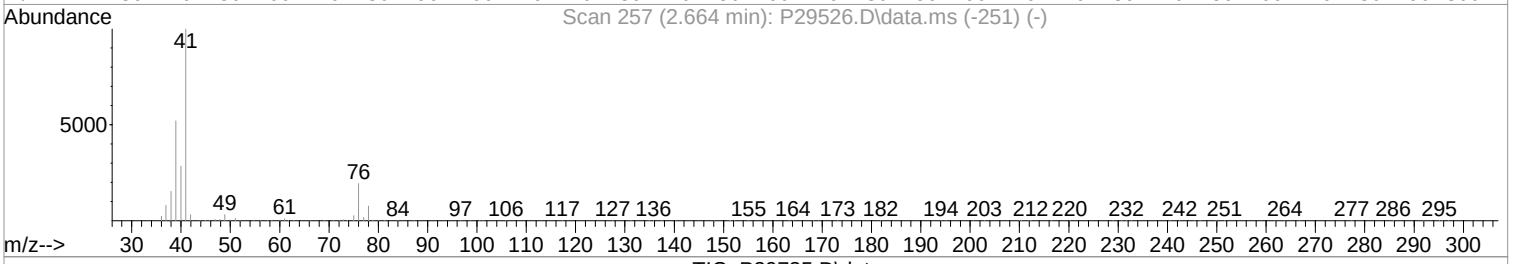
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:22:33 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 177.59 ppb

response 70228

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	386.47#
39.00	137.60	174.50#
0.00	0.00	0.00

Manual Integration:

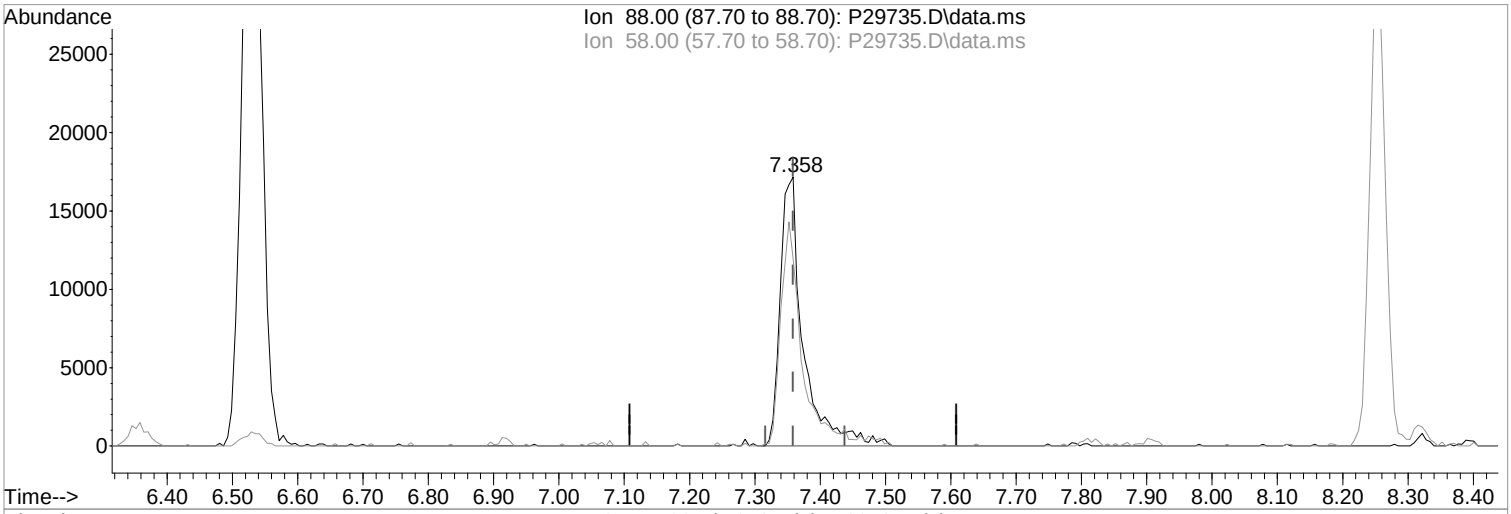
Before

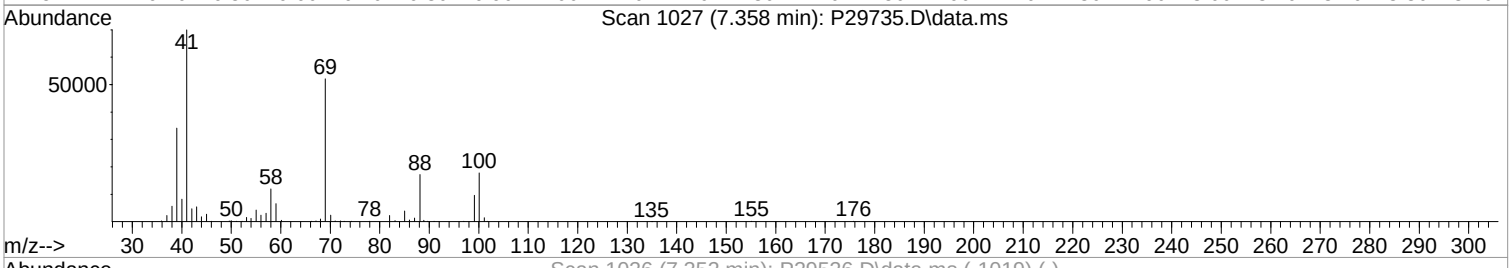
09/12/19

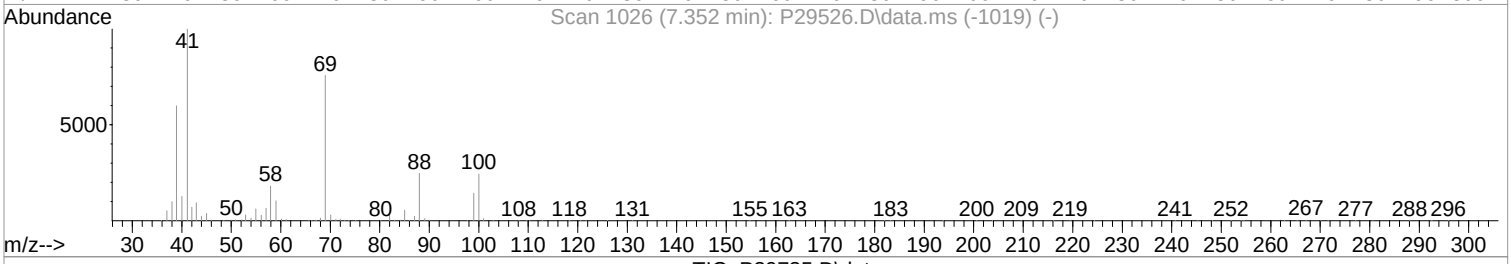
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 17:20:57 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Wed Sep 11 16:56:27 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(58) 1,4-Dioxane

7.358min (+0.000) 443.88 ppb m

response 41982

Ion	Exp%	Act%
88.00	100	100
58.00	72.10	69.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

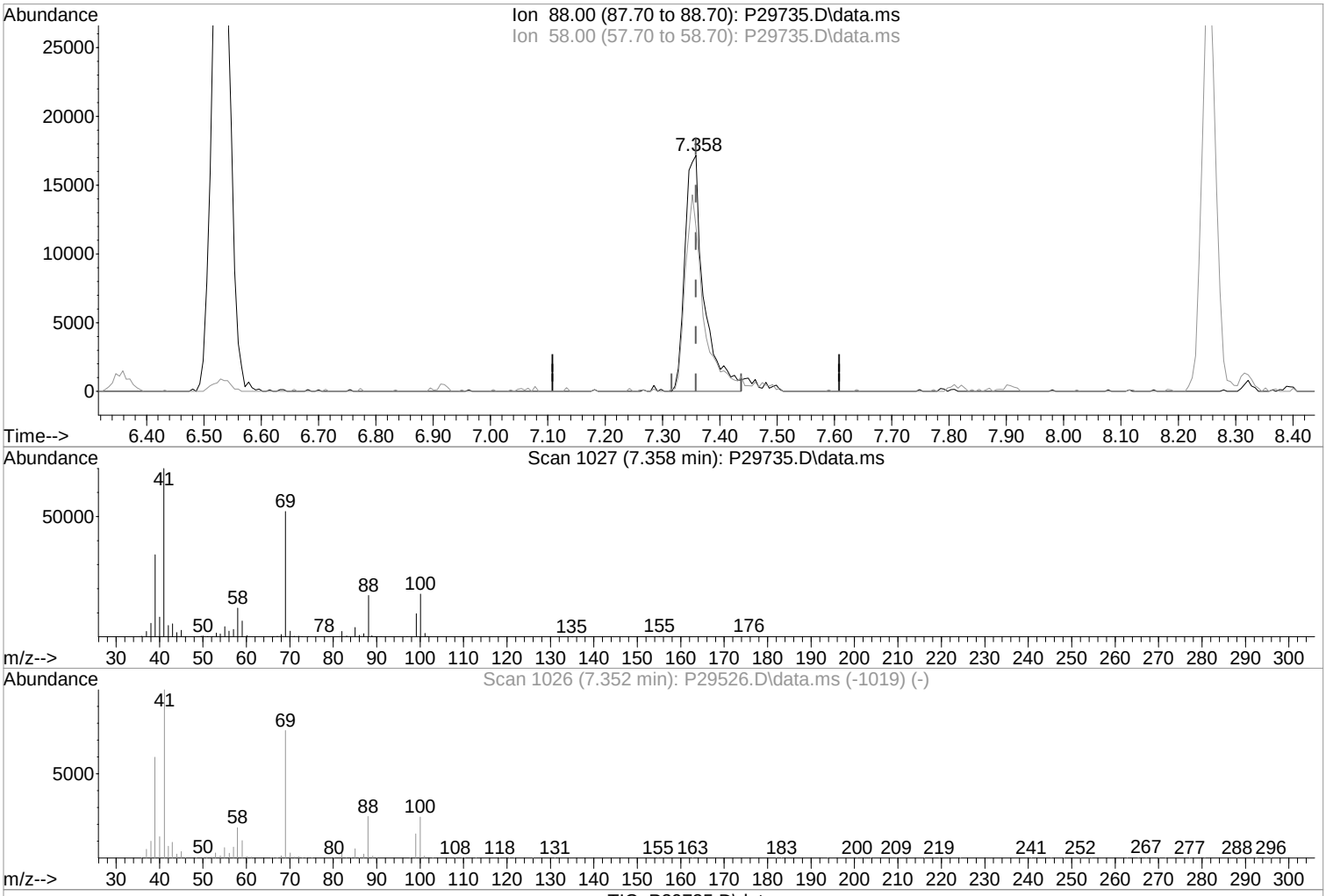
Poor integration.

09/11/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 17:20:57 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Wed Sep 11 16:56:27 2019
Response via : Initial Calibration



TIC: P29735.D\data.ms

(58) 1,4-Dioxane

7.358min (+0.000) 421.76 ppb

response 39890

Ion	Exp%	Act%
88.00	100	100
58.00	72.10	69.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/11/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	317354	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	537506	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	469086	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	248315	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	51567	18.10	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 36.20%#				
48) surr1,1,2-dichloroetha...	5.859	65	70941	18.00	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 36.00%#				
65) SURR3,Toluene-d8	8.322	98	255173	19.03	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 38.06%#				
70) SURR2,BFB	10.870	95	96353	18.47	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 36.94%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	89406	22.79	ppb		98
3) Chloromethane	1.329	50	122906	20.34	ppb		95
4) Vinyl Chloride	1.402	62	120753	21.41	ppb		98
5) Bromomethane	1.634	94	52501	17.15	ppb		100
6) Chloroethane	1.713	64	70559	20.77	ppb		98
7) Freon 21	1.865	67	131742	20.95	ppb		100
8) Trichlorofluoromethane	1.908	101	97211	21.25	ppb		95
9) Diethyl Ether	2.146	59	84878	21.05	ppb		96
10) Freon 123a	2.152	67	89375	20.33	ppb		100
11) Freon 123	2.207	83	98697	20.36	ppb		98
12) Acrolein	2.262	56	114158	101.65	ppb		96
13) 1,1-Diclethene	2.335	96	63876	20.57	ppb		95
14) Freon 113	2.335	101	62246	20.62	ppb		99
15) Acetone	2.408	43	53418	20.68	ppb		95
16) 2-Propanol	2.542	45	230110	391.81	ppb		96
17) Iodomethane	2.469	142	74189	20.75	ppb		100
18) Carbon Disulfide	2.524	76	192186	20.66	ppb		100
19) Acetonitrile	2.670	40	32923m	83.25	ppb		
20) Allyl Chloride	2.676	76	40803	23.02	ppb	#	90
21) Methyl Acetate	2.713	43	108490	21.20	ppb		96
22) Methylene Chloride	2.798	84	80354	19.87	ppb		92
23) TBA	2.957	59	354620	407.90	ppb		98
24) Acrylonitrile	3.085	53	281621	106.95	ppb		99
25) Methyl-t-Butyl Ether	3.097	73	282084	21.59	ppb		97
26) trans-1,2-Dichloroethene	3.085	96	70745	20.83	ppb		89
28) 1,1-Diclethane	3.597	63	149744	21.47	ppb		98
29) Vinyl Acetate	3.694	86	17336	22.78	ppb		97
30) DIPE	3.707	45	327561	21.57	ppb		94
31) 2-Chloro-1,3-Butadiene	3.713	53	119044	21.11	ppb		91
32) ETBE	4.243	59	285452	20.88	ppb		97
33) 2,2-Dichloropropane	4.432	77	105202	20.58	ppb		96
34) cis-1,2-Dichloroethene	4.444	96	81603	21.15	ppb		88
35) 2-Butanone	4.536	43	73905	20.49	ppb		94
36) Propionitrile	4.645	54	116379	103.99	ppb		100
37) Bromochloromethane	4.859	130	45334	19.81	ppb		94
38) Methacrylonitrile	4.901	67	52864	19.97	ppb		96
39) Tetrahydrofuran	4.969	42	54413	18.31	ppb		91
40) Chloroform	5.036	83	122909	20.00	ppb		99
41) 1,1,1-Trichloroethane	5.310	97	102067	20.83	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) TAME	6.139	73	267274	21.22	ppb	94
44) Cyclohexane	5.371	41	90924	21.18	ppb	84
46) Carbontetrachloride	5.572	117	72254	19.43	ppb	91
47) 1,1-Dichloropropene	5.590	75	103006	19.81	ppb	99
49) Benzene	5.913	78	331895	20.54	ppb	97
50) 1,2-Dichloroethane	5.974	62	109411	19.92	ppb	97
51) Iso-Butyl Alcohol	5.968	43	177489	385.76	ppb	96
52) n-Heptane	6.359	43	121430	20.09	ppb	93
53) 1-Butanol	6.913	56	263125	997.48	ppb	97
54) Trichloroethene	6.846	130	72390	20.15	ppb	93
55) Methylcyclohexane	7.060	55	118721	20.50	ppb	93
56) 1,2-Diclpropane	7.139	63	92042	20.64	ppb	93
57) Dibromomethane	7.279	93	44313	20.04	ppb	91
58) 1,4-Dioxane	7.358	88	41207	400.87	ppb	93
59) Methyl Methacrylate	7.358	69	87638	21.11	ppb	99
60) Bromodichloromethane	7.505	83	86910	20.25	ppb	97
61) 2-Nitropropane	7.809	41	21115	31.14	ppb	94
62) 2-Chloroethylvinyl Ether	7.907	63	62335	20.61	ppb	98
63) cis-1,3-Dichloropropene	8.035	75	126927	19.91	ppb	98
64) 4-Methyl-2-pentanone	8.254	43	142152	20.60	ppb	98
66) Toluene	8.389	91	339286	20.76	ppb	98
67) trans-1,3-Dichloropropene	8.675	75	121280	20.68	ppb	94
68) Ethyl Methacrylate	8.803	69	151408	20.86	ppb	94
69) 1,1,2-Trichloroethane	8.864	97	76523	21.09	ppb	95
72) Tetrachloroethene	8.968	164	56102	19.83	ppb	92
73) 2-Hexanone	9.151	43	106930	20.48	ppb	98
74) 1,3-Dichloropropane	9.029	76	144206	20.50	ppb	97
75) Dibromochloromethane	9.254	129	56899	19.58	ppb	95
76) N-Butyl Acetate	9.297	43	219936	22.10	ppb	95
77) 1,2-Dibromoethane	9.346	107	74904	20.44	ppb	93
78) Chlorobenzene	9.827	112	209465	20.24	ppb	96
79) 3-CBTF	9.846	180	107255	20.11	ppb	96
80) 4-CBTF	9.894	180	98961	20.59	ppb	95
81) 1,1,1,2-Tetrachloroethane	9.919	131	63627	20.63	ppb	95
82) Ethylbenzene	9.943	106	116671	20.76	ppb	99
83) (m+p)Xylene	10.053	106	283811	41.81	ppb	91
84) o-Xylene	10.413	106	142100	20.57	ppb	99
85) Styrene	10.425	104	242594	21.21	ppb	98
87) Bromoform	10.589	173	34707	19.94	ppb	87
88) 2-CBTF	10.663	180	104170	20.10	ppb	99
89) Isopropylbenzene	10.742	105	374127	22.08	ppb	98
90) Cyclohexanone	10.833	55	300785	415.31	ppb	97
91) trans-1,4-Dichloro-2-B...	11.065	53	40265	21.54	ppb	90
92) 1,1,2,2-Tetrachloroethane	11.016	83	120615	21.37	ppb	94
93) Bromobenzene	10.992	156	84753	20.30	ppb	97
94) 1,2,3-Trichloropropane	11.047	110	36008	19.38	ppb	95
95) n-Propylbenzene	11.095	91	441498	21.78	ppb	99
96) 2-Chlorotoluene	11.162	91	268492	20.96	ppb	98
97) 3-Chlorotoluene	11.217	91	279003	21.47	ppb	97
98) 4-Chlorotoluene	11.254	91	294671	21.33	ppb	98
99) 1,3,5-Trimethylbenzene	11.248	105	303461	21.50	ppb	95
100) tert-Butylbenzene	11.516	119	263964	21.25	ppb	98
101) 1,2,4-Trimethylbenzene	11.559	105	307794	21.97	ppb	97
102) 3,4-DCBTF	11.620	214	88090	20.61	ppb	100
103) sec-Butylbenzene	11.699	105	395554	22.01	ppb	100
104) p-Isopropyltoluene	11.821	119	334791	21.76	ppb	100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	168242	20.23	ppb	99
106) 1,4-Dclbenz	11.864	146	171462	20.14	ppb	98
107) 2,4-DCBTF	11.912	214	76685	19.66	ppb	98
108) 2,5-DCBTF	11.955	214	87438	20.16	ppb	98
109) n-Butylbenzene	12.150	91	321739	21.38	ppb	99
110) 1,2-Dclbenz	12.162	146	167399	20.35	ppb	98
111) 1,2-Dibromo-3-chloropr...	12.796	157	25610	19.64	ppb	94
112) Trielution Dichlorotol...	12.906	125	475017	63.14	ppb	99
113) 1,3,5 Trichlorobenzene	12.949	180	125844	20.42	ppb	96
114) Coelution Dichlorotoluene	13.229	125	365691	43.39	ppb	96
115) 1,2,4-Tcbenzene	13.436	180	125674	19.83	ppb	97
116) Hexachlorobt	13.564	225	48698	19.19	ppb	94
117) Naphthalen	13.631	128	454677	22.81	ppb	98
118) 1,2,3-Tclbenzene	13.814	180	125404	20.04	ppb	99
119) 2,4,5-Trichlorotolene	14.394	159	95140	19.94	ppb	97
120) 2,3,6-Trichlorotoluene	14.485	159	101485	20.57	ppb	97

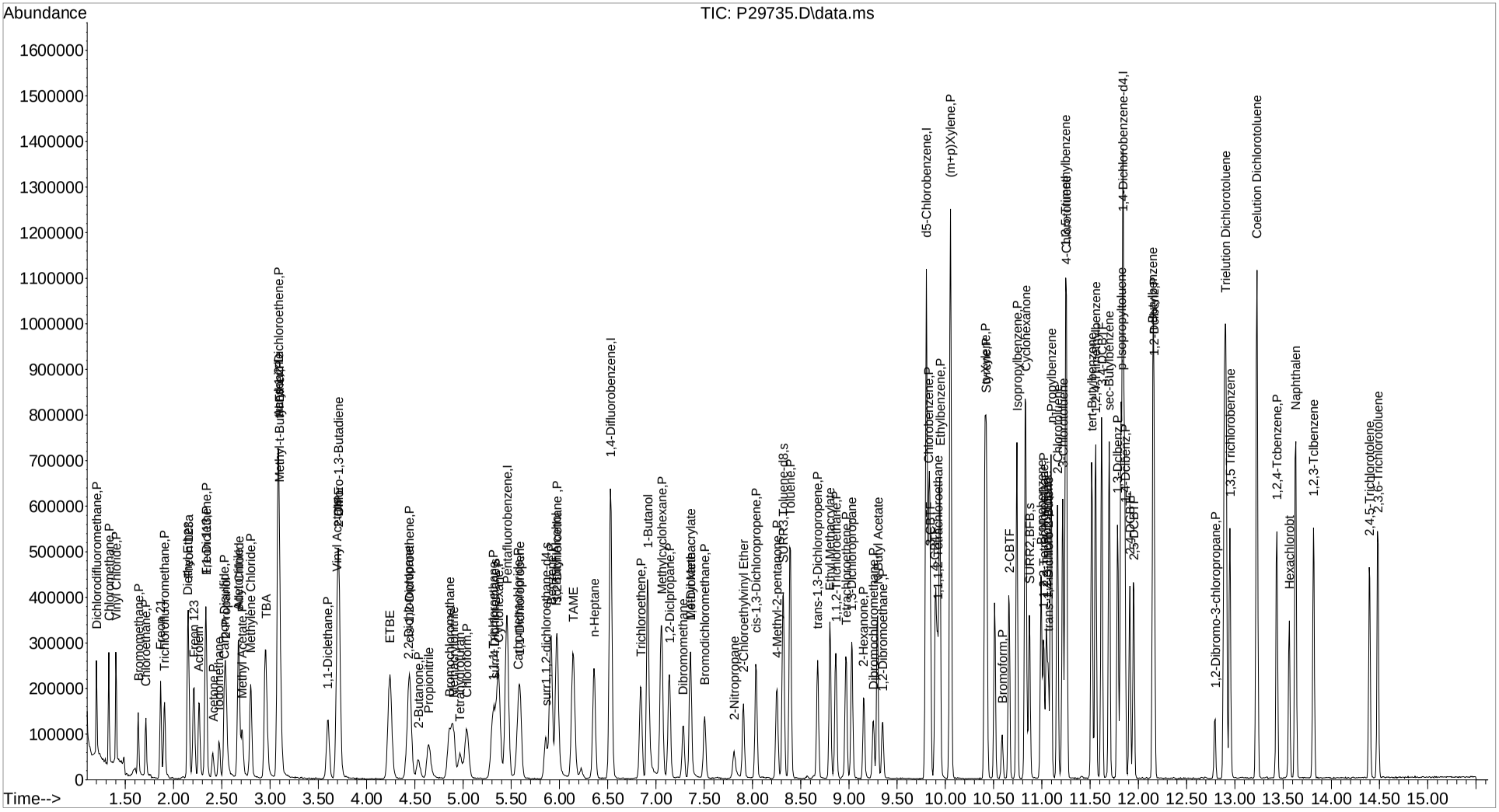
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

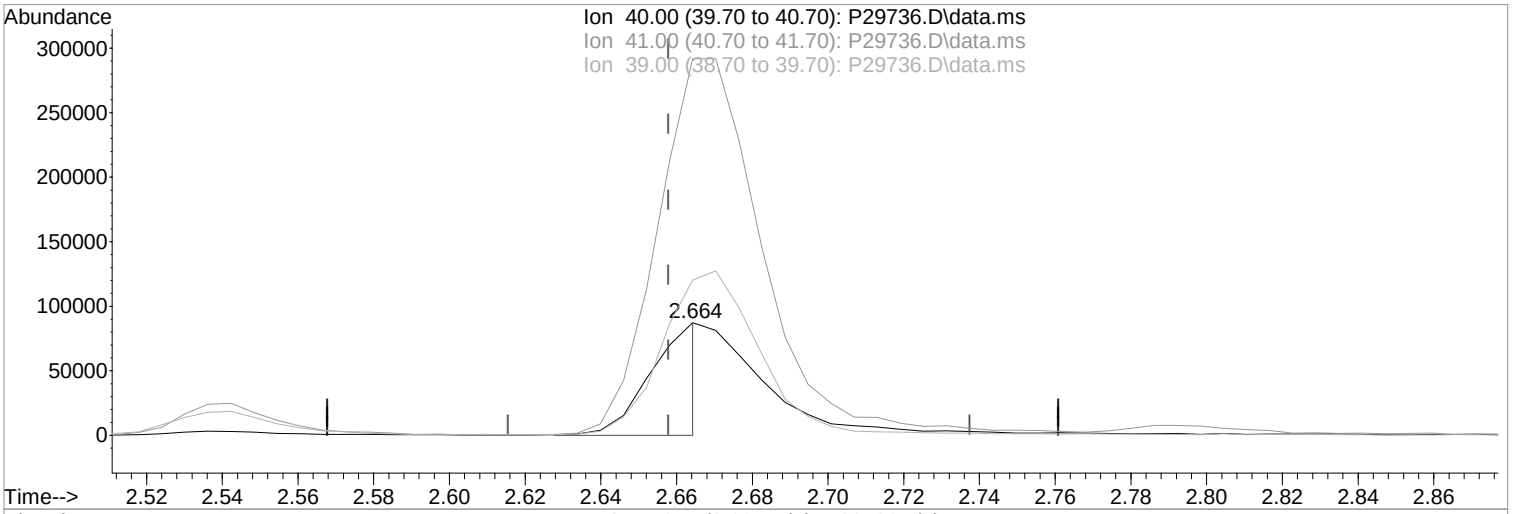
Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

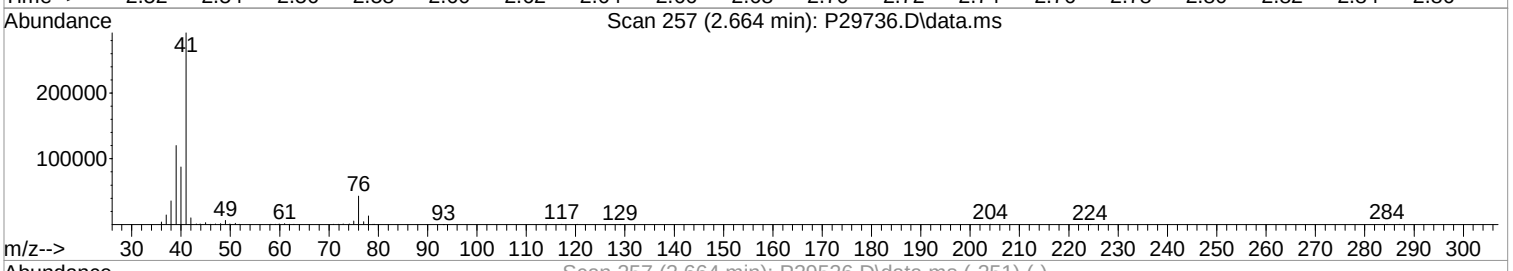


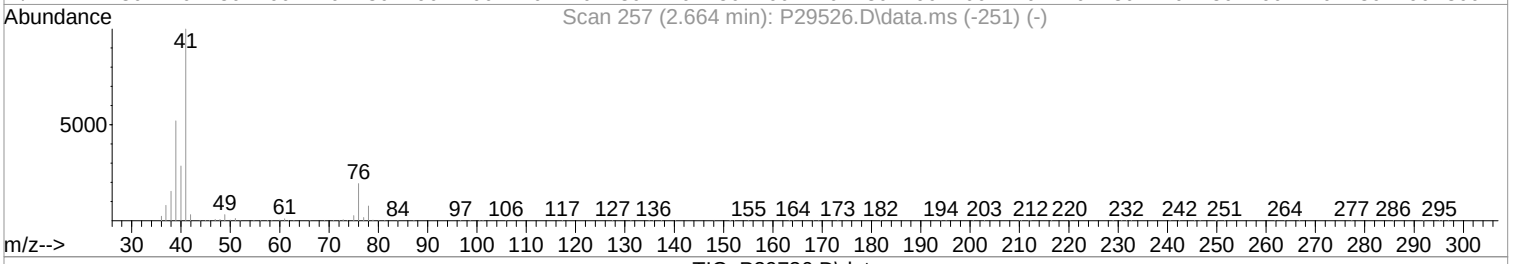
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 200.48 ppb m

response 81057

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

After

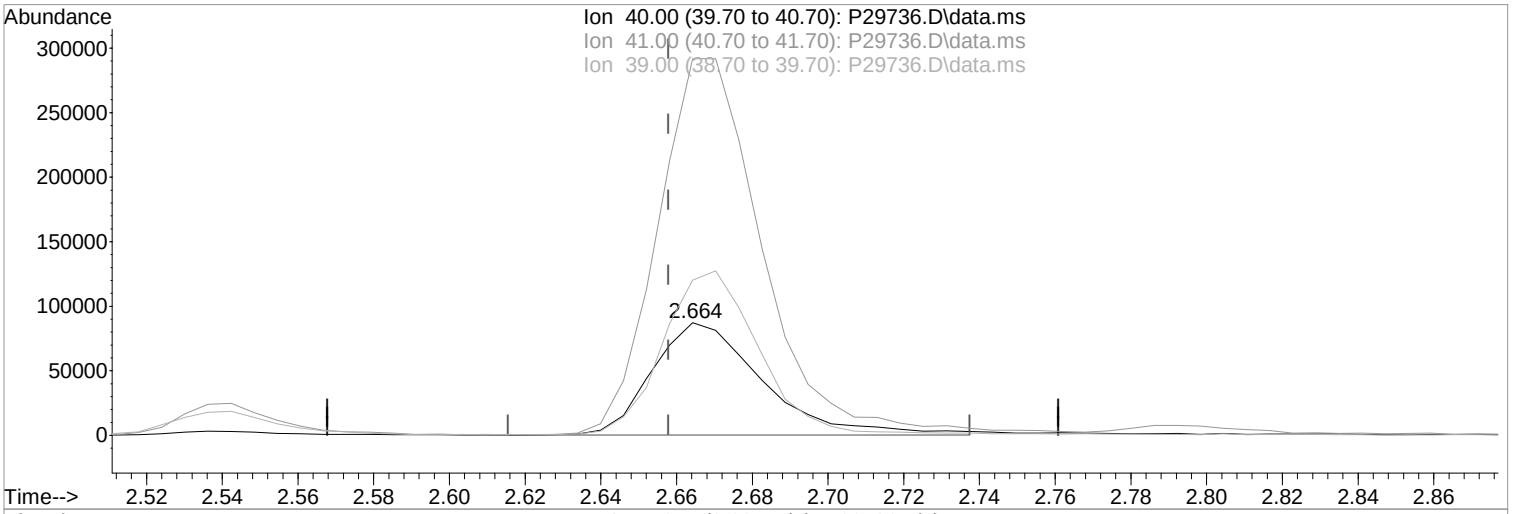
Poor integration.

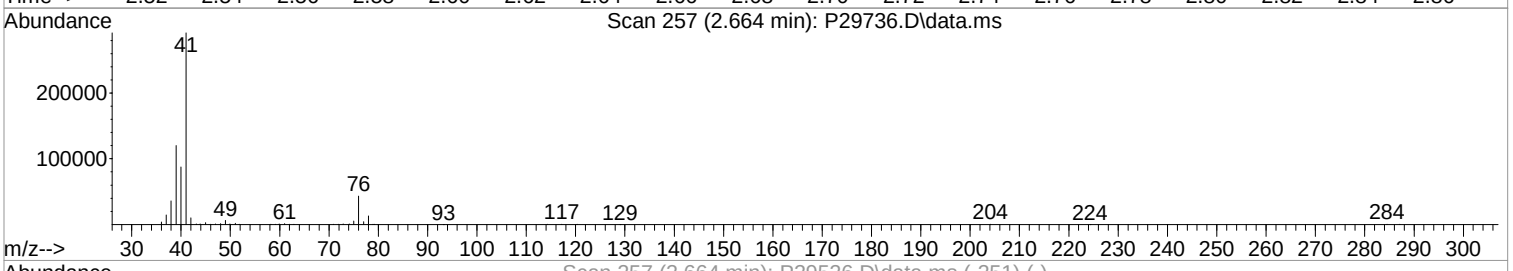
09/12/19

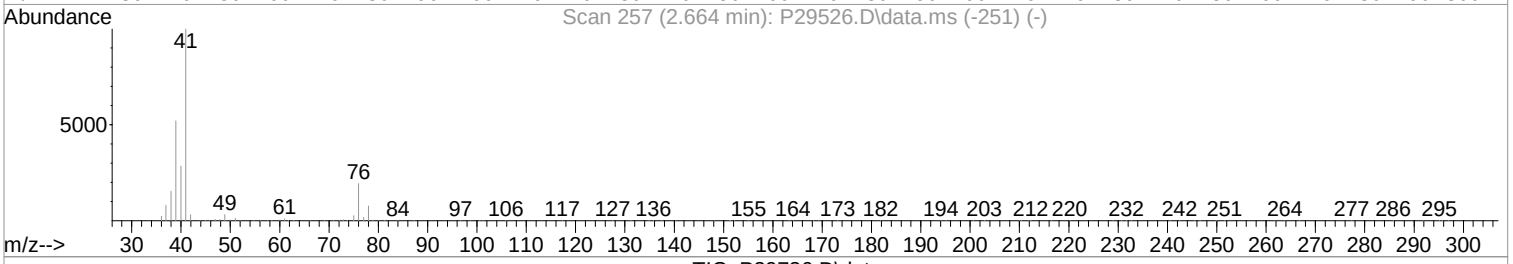
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 437.98 ppb

response 177083

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

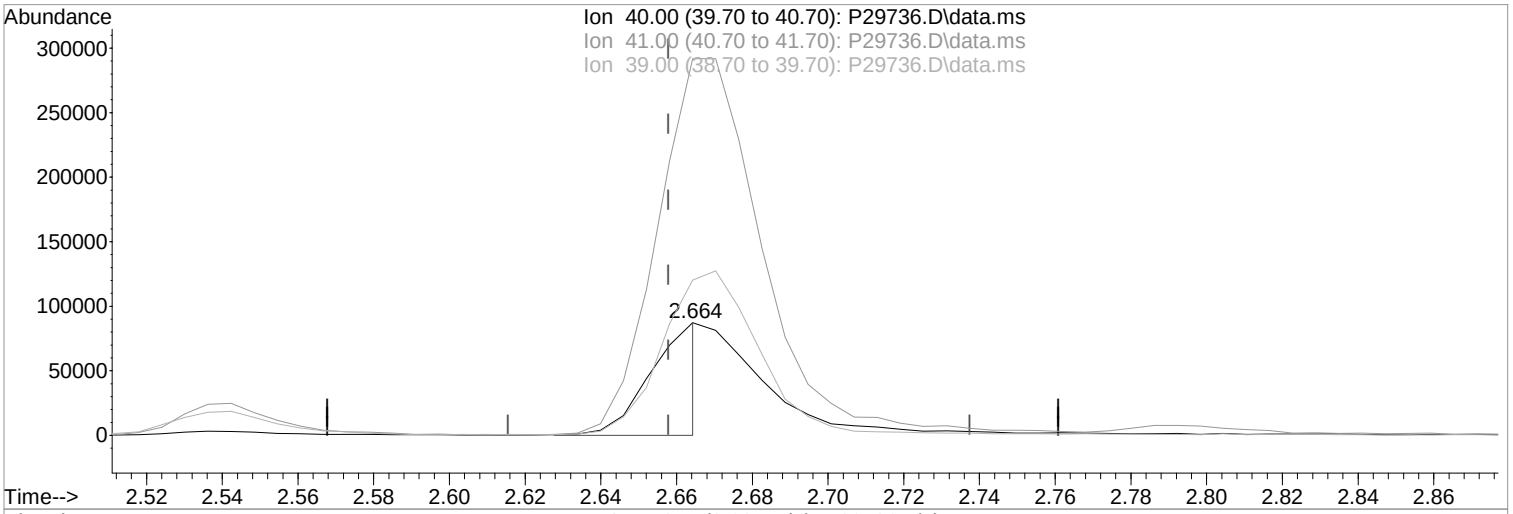
Before

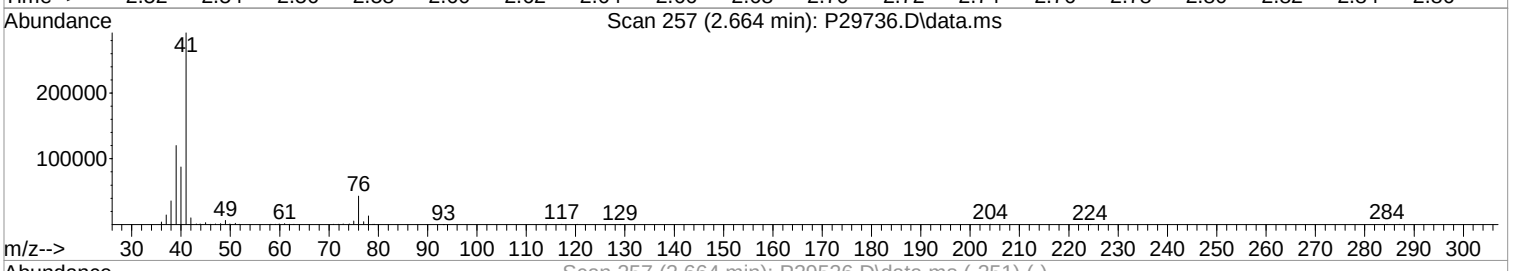
09/12/19

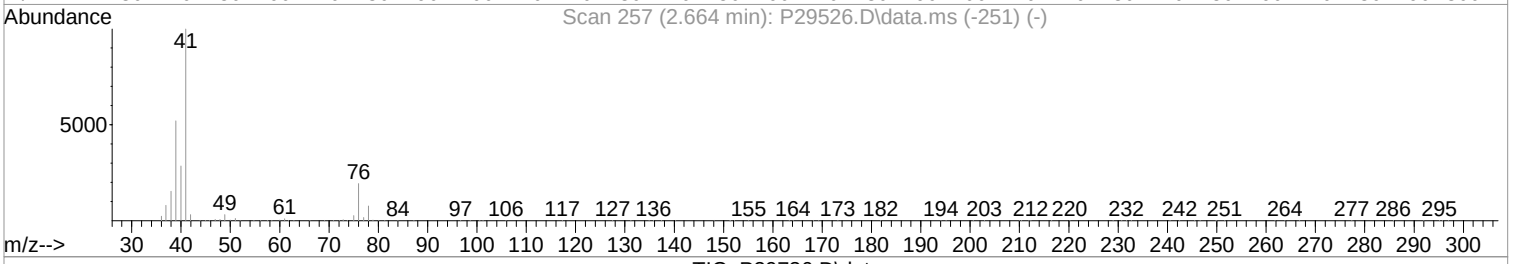
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 200.48 ppb m

response 81057

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	324461	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	532634	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	479166	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	251706	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	141350	50.07	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 100.14%			
48) surr1,1,2-dichloroetha...	5.853	65	199899	51.18	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 102.36%			
65) SURR3,Toluene-d8	8.316	98	672653	50.62	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.24%			
70) SURR2,BFB	10.870	95	256024	49.52	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.195	85	215531	53.74	ppb	100
3) Chloromethane	1.323	50	302885	49.03	ppb	100
4) Vinyl Chloride	1.396	62	293076	50.83	ppb	100
5) Bromomethane	1.622	94	133731	42.72	ppb	100
6) Chloroethane	1.701	64	171429	49.37	ppb	100
7) Freon 21	1.860	67	307916	47.90	ppb	100
8) Trichlorofluoromethane	1.902	101	244119	52.20	ppb	100
9) Diethyl Ether	2.140	59	207829	50.42	ppb	100
10) Freon 123a	2.152	67	208671	46.43	ppb	100
11) Freon 123	2.207	83	230973	46.60	ppb	100
12) Acrolein	2.262	56	285148	248.35	ppb	100
13) 1,1-Diclethene	2.329	96	158151	49.82	ppb	100
14) Freon 113	2.329	101	151216	49.00	ppb	100
15) Acetone	2.402	43	127403	48.25	ppb	100
16) 2-Propanol	2.542	45	594430	989.98	ppb	100
17) Iodomethane	2.463	142	209156	57.22	ppb	100
18) Carbon Disulfide	2.518	76	480659	50.54	ppb	100
19) Acetonitrile	2.664	40	81057m	200.48	ppb	
20) Allyl Chloride	2.670	76	85919	47.41	ppb	100
21) Methyl Acetate	2.707	43	255363	48.80	ppb	100
22) Methylene Chloride	2.792	84	184592	44.65	ppb	100
23) TBA	2.951	59	897097	1009.27	ppb	100
24) Acrylonitrile	3.079	53	699525	259.83	ppb	100
25) Methyl-t-Butyl Ether	3.091	73	671020	50.24	ppb	100
26) trans-1,2-Dichloroethene	3.079	96	169347	48.76	ppb	100
28) 1,1-Diclethane	3.591	63	358183	50.24	ppb	100
29) Vinyl Acetate	3.695	86	42082	54.09	ppb	100
30) DIPE	3.701	45	774996	49.92	ppb	100
31) 2-Chloro-1,3-Butadiene	3.707	53	297783	51.65	ppb	100
32) ETBE	4.237	59	693264	49.60	ppb	100
33) 2,2-Dichloropropane	4.426	77	266861	51.05	ppb	100
34) cis-1,2-Dichloroethene	4.444	96	197952	50.17	ppb	100
35) 2-Butanone	4.530	43	178893	48.50	ppb	100
36) Propionitrile	4.633	54	293172	256.23	ppb	100
37) Bromochloromethane	4.859	130	113316	48.42	ppb	100
38) Methacrylonitrile	4.889	67	136177	50.33	ppb	100
39) Tetrahydrofuran	4.963	42	128648	42.35	ppb	100
40) Chloroform	5.036	83	306331	48.75	ppb	100
41) 1,1,1-Trichloroethane	5.304	97	244936	48.89	ppb	100

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) TAME	6.139	73	651418	50.58	ppb	100
44) Cyclohexane	5.359	41	205615	48.34	ppb	100
46) Carbontetrachloride	5.566	117	183716	49.86	ppb	100
47) 1,1-Dichloropropene	5.584	75	262035	50.85	ppb	100
49) Benzene	5.908	78	808808	50.51	ppb	100
50) 1,2-Dichloroethane	5.968	62	271114	49.81	ppb	100
51) Iso-Butyl Alcohol	5.968	43	447807	982.19	ppb	100
52) n-Heptane	6.353	43	300090	50.10	ppb	100
53) 1-Butanol	6.913	56	693201	2651.88	ppb	100
54) Trichloroethene	6.840	130	182470	51.25	ppb	100
55) Methylcyclohexane	7.054	55	277166	48.31	ppb	100
56) 1,2-Diclpropane	7.139	63	222619	50.38	ppb	100
57) Dibromomethane	7.279	93	111821	51.02	ppb	100
58) 1,4-Dioxane	7.346	88	97730	959.43	ppb	100
59) Methyl Methacrylate	7.358	69	222587	54.11	ppb	100
60) Bromodichloromethane	7.505	83	217450	51.14	ppb	100
61) 2-Nitropropane	7.803	41	58774	87.47	ppb	100
62) 2-Chloroethylvinyl Ether	7.907	63	160242	53.48	ppb	100
63) cis-1,3-Dichloropropene	8.035	75	331394	52.46	ppb	100
64) 4-Methyl-2-pentanone	8.249	43	347144	50.77	ppb	100
66) Toluene	8.389	91	834948	51.55	ppb	100
67) trans-1,3-Dichloropropene	8.675	75	301624	51.89	ppb	100
68) Ethyl Methacrylate	8.803	69	380128	52.85	ppb	100
69) 1,1,2-Trichloroethane	8.864	97	187474	52.14	ppb	100
72) Tetrachloroethene	8.968	164	136413	47.21	ppb	100
73) 2-Hexanone	9.151	43	266356	49.93	ppb	100
74) 1,3-Dichloropropane	9.029	76	358926	49.96	ppb	100
75) Dibromochloromethane	9.254	129	147171	49.58	ppb	100
76) N-Butyl Acetate	9.291	43	535921	52.72	ppb	100
77) 1,2-Dibromoethane	9.352	107	185929	49.66	ppb	100
78) Chlorobenzene	9.827	112	522906	49.46	ppb	100
79) 3-CBTF	9.846	180	258339	47.43	ppb	100
80) 4-CBTF	9.901	180	232017	47.25	ppb	100
81) 1,1,1,2-Tetrachloroethane	9.919	131	160264	50.87	ppb	100
82) Ethylbenzene	9.943	106	284740	49.61	ppb	100
83) (m+p)Xylene	10.053	106	711205	102.57	ppb	100
84) o-Xylene	10.413	106	347592	49.26	ppb	100
85) Styrene	10.425	104	609331	52.15	ppb	100
87) Bromoform	10.590	173	89121	50.52	ppb	100
88) 2-CBTF	10.663	180	256639	48.85	ppb	100
89) Isopropylbenzene	10.742	105	903066	52.58	ppb	100
90) Cyclohexanone	10.827	55	736250	1002.90	ppb	100
91) trans-1,4-Dichloro-2-B...	11.065	53	94428	49.83	ppb	100
92) 1,1,2,2-Tetrachloroethane	11.016	83	302363	52.85	ppb	100
93) Bromobenzene	10.992	156	207883	49.13	ppb	100
94) 1,2,3-Trichloropropane	11.047	110	90282	47.94	ppb	100
95) n-Propylbenzene	11.096	91	1087035	52.89	ppb	100
96) 2-Chlorotoluene	11.163	91	659211	50.76	ppb	100
97) 3-Chlorotoluene	11.217	91	666507	50.60	ppb	100
98) 4-Chlorotoluene	11.254	91	733306	52.37	ppb	100
99) 1,3,5-Trimethylbenzene	11.248	105	753081	52.65	ppb	100
100) tert-Butylbenzene	11.516	119	651836	51.78	ppb	100
101) 1,2,4-Trimethylbenzene	11.559	105	763613	53.77	ppb	100
102) 3,4-DCBTF	11.620	214	206134	47.58	ppb	100
103) sec-Butylbenzene	11.699	105	959593	52.68	ppb	100
104) p-Isopropyltoluene	11.821	119	826547	53.00	ppb	100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	414182	49.14	ppb	100
106) 1,4-Dclbenz	11.864	146	425018	49.25	ppb	100
107) 2,4-DCBTF	11.912	214	189727	47.99	ppb	100
108) 2,5-DCBTF	11.955	214	213021	48.44	ppb	100
109) n-Butylbenzene	12.150	91	793099	52.00	ppb	100
110) 1,2-Dclbenz	12.162	146	417731	50.09	ppb	100
111) 1,2-Dibromo-3-chloropr...	12.796	157	67083	50.76	ppb	100
112) Trielution Dichlorotol...	12.906	125	1164285	152.66	ppb	100
113) 1,3,5 Trichlorobenzene	12.949	180	304519	48.75	ppb	100
114) Coelution Dichlorotoluene	13.229	125	867272	101.51	ppb	100
115) 1,2,4-Tcbenzene	13.437	180	314722	49.00	ppb	100
116) Hexachlorobt	13.565	225	126686	49.24	ppb	100
117) Naphthalen	13.632	128	1099005	54.38	ppb	100
118) 1,2,3-Tclbenzene	13.815	180	318665	50.23	ppb	100
119) 2,4,5-Trichlorotolene	14.400	159	240524	49.74	ppb	100
120) 2,3,6-Trichlorotoluene	14.479	159	249068	49.81	ppb	100

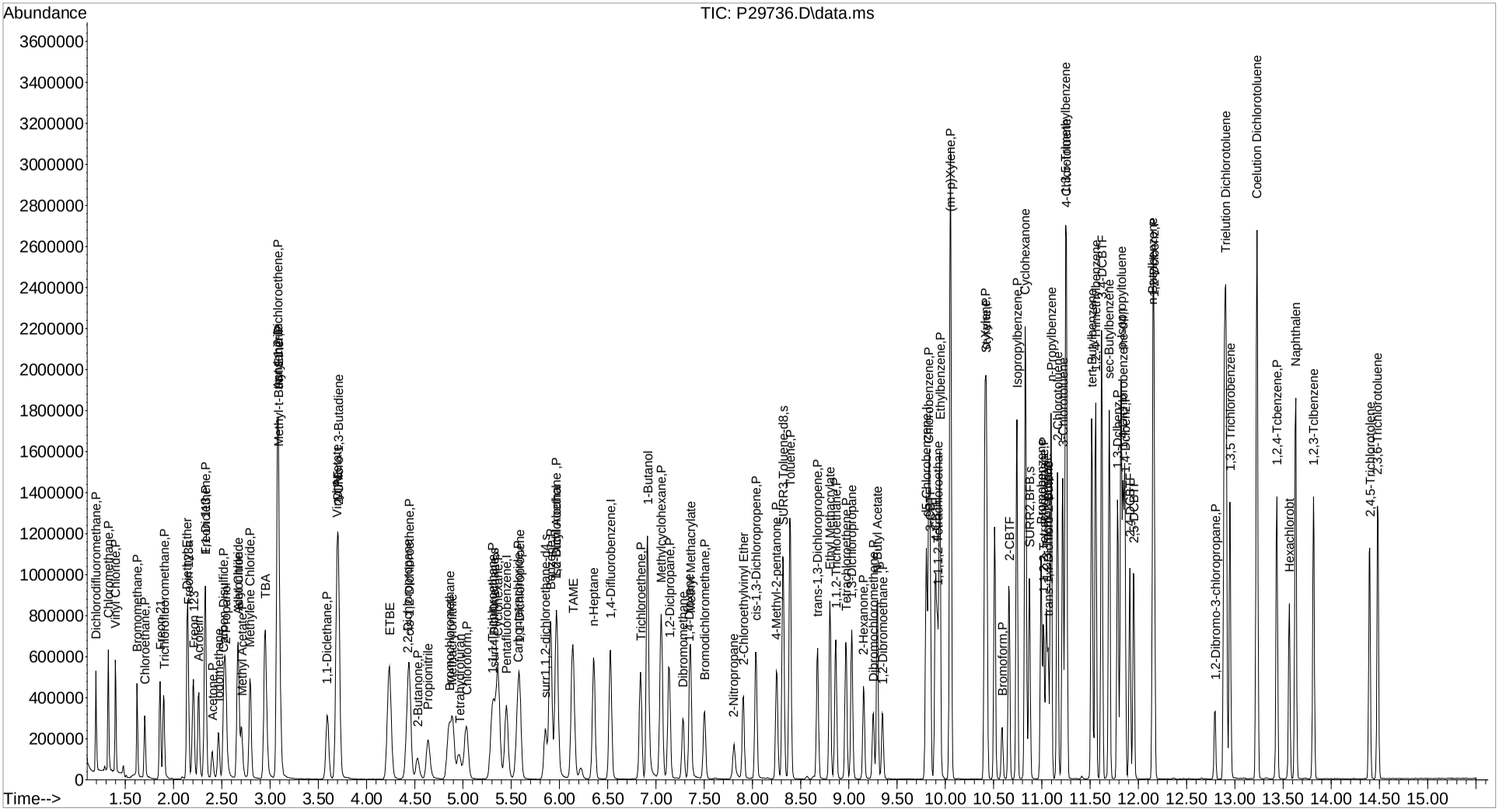
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

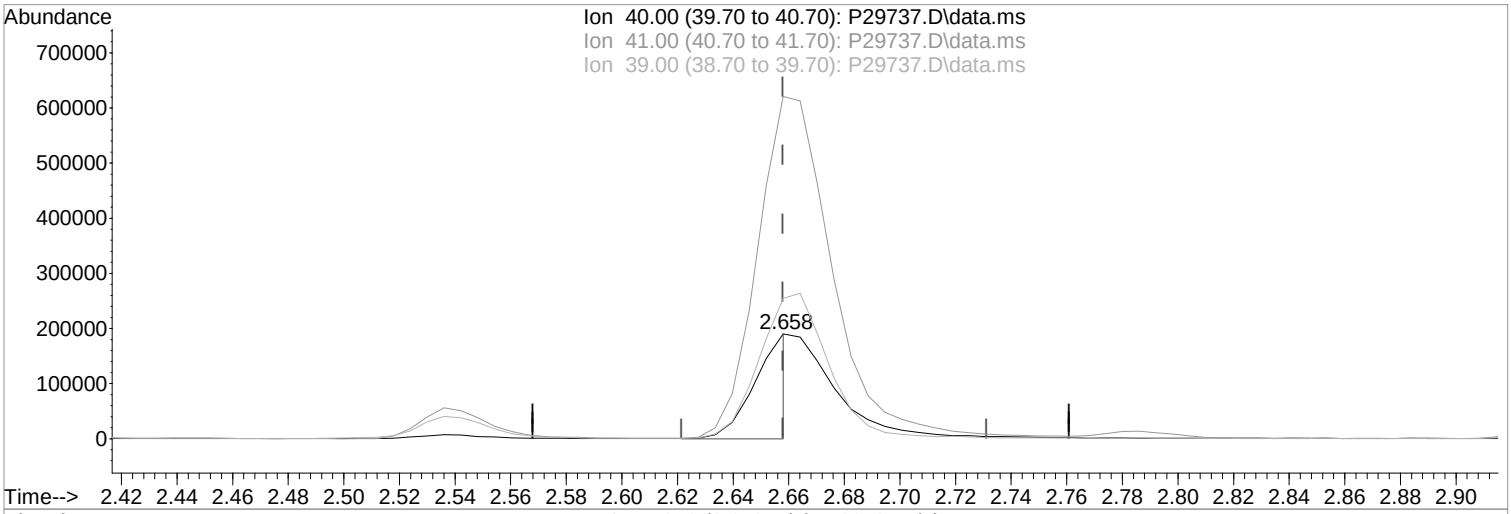
Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

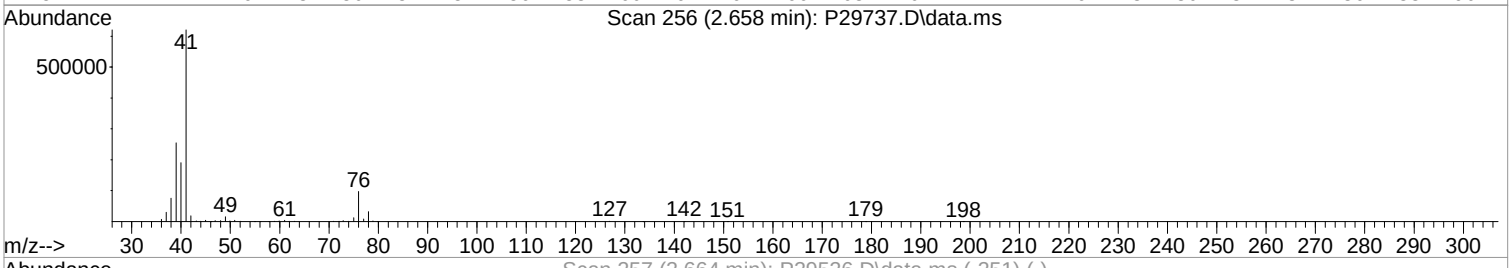


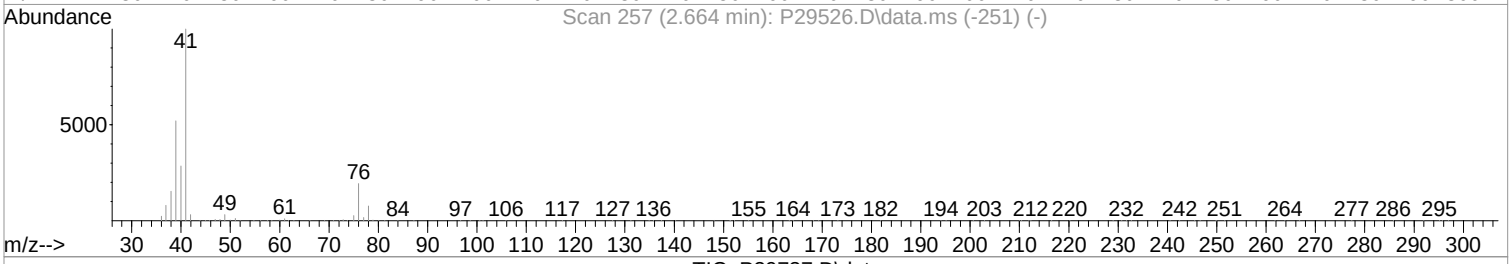
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:22:39 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29737.D\data.ms

(19) Acetonitrile

2.658min (+0.000) 405.52 ppb m

response 166334

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	326.51
39.00	137.60	133.88
0.00	0.00	0.00

Manual Integration:

After

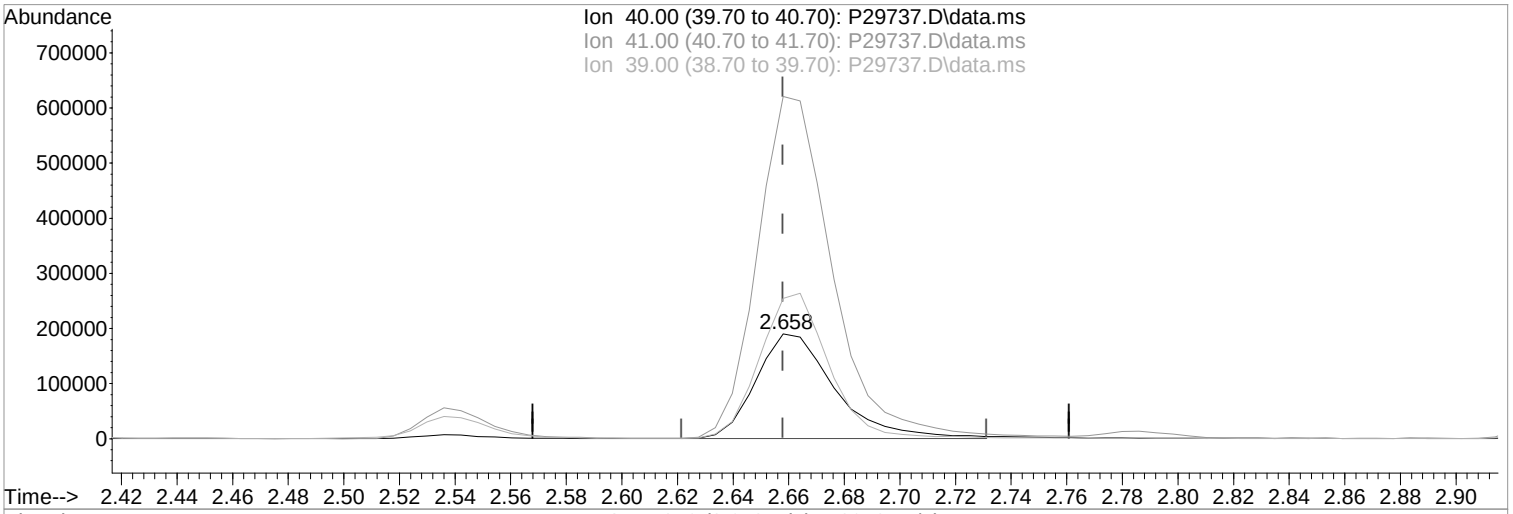
Poor integration.

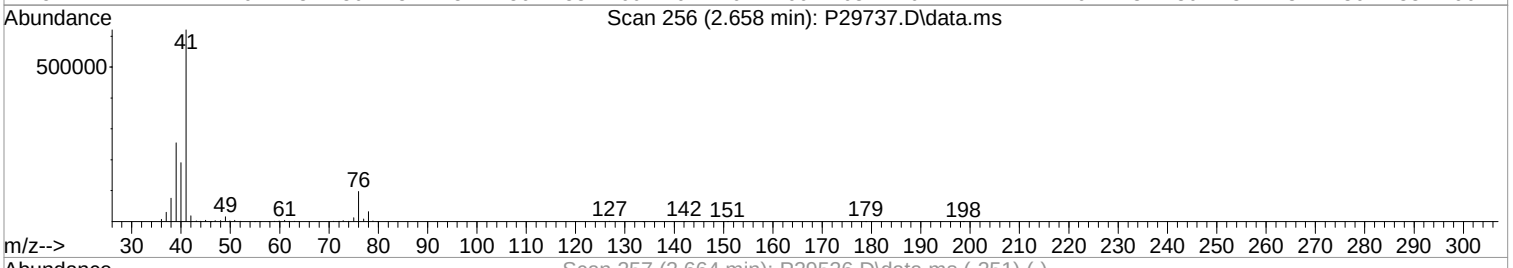
09/12/19

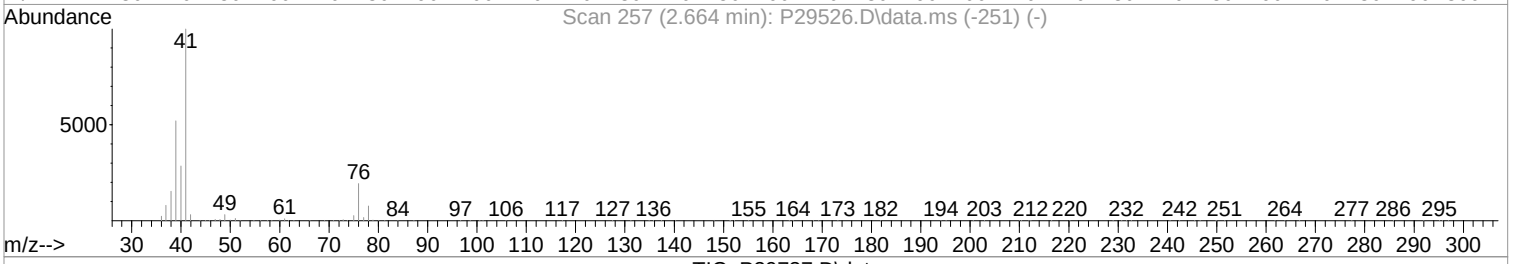
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:22:39 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29737.D\data.ms

(19) Acetonitrile

2.658min (+0.000) 914.14 ppb

response 374958

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	326.51
39.00	137.60	133.88
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	329161	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	545283	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	487330	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	266768	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	292427	101.19	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 202.38%#				
48) surr1,1,2-dichloroetha...	5.852	65	408205	102.08	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 204.16%#				
65) SURR3,Toluene-d8	8.315	98	1356520	99.71	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 199.42%#				
70) SURR2,BFB	10.870	95	533681	100.82	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 201.64%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	452520	111.22	ppb		99
3) Chloromethane	1.317	50	623073	99.41	ppb		97
4) Vinyl Chloride	1.390	62	612902	104.77	ppb		98
5) Bromomethane	1.615	94	275242	86.67	ppb		98
6) Chloroethane	1.689	64	346969	98.49	ppb		98
7) Freon 21	1.847	67	640094	98.16	ppb		96
8) Trichlorofluoromethane	1.884	101	514502	108.45	ppb		95
9) Diethyl Ether	2.134	59	420480	100.55	ppb		96
10) Freon 123a	2.140	67	443876	97.36	ppb		96
11) Freon 123	2.195	83	495186	98.49	ppb		99
12) Acrolein	2.256	56	613604	526.78	ppb		96
13) 1,1-Diclethene	2.323	96	331212	102.86	ppb		95
14) Freon 113	2.317	101	324971	103.80	ppb		93
15) Acetone	2.396	43	260170	97.12	ppb		96
16) 2-Propanol	2.536	45	1270476	2085.68	ppb		98
17) Iodomethane	2.457	142	446695	120.45	ppb		97
18) Carbon Disulfide	2.512	76	976250	101.18	ppb		99
19) Acetonitrile	2.658	40	166334m	405.52	ppb		
20) Allyl Chloride	2.664	76	171097	93.06	ppb	#	90
21) Methyl Acetate	2.701	43	536285	101.02	ppb		97
22) Methylene Chloride	2.786	84	383768	91.51	ppb		97
23) TBA	2.951	59	1881738	2086.80	ppb		100
24) Acrylonitrile	3.073	53	1428006	522.83	ppb		100
25) Methyl-t-Butyl Ether	3.085	73	1376869	101.61	ppb		97
26) trans-1,2-Dichloroethene	3.073	96	365353	103.70	ppb		94
28) 1,1-Diclethane	3.591	63	739785	102.28	ppb		99
29) Vinyl Acetate	3.688	86	97381	123.39	ppb		99
30) DIPE	3.694	45	1581816	100.44	ppb		97
31) 2-Chloro-1,3-Butadiene	3.700	53	613998	104.98	ppb		100
32) ETBE	4.231	59	1410465	99.48	ppb		97
33) 2,2-Dichloropropane	4.420	77	569458	107.38	ppb		97
34) cis-1,2-Dichloroethene	4.438	96	415421	103.79	ppb		95
35) 2-Butanone	4.517	43	376158	100.53	ppb		97
36) Propionitrile	4.633	54	621076	535.06	ppb		97
37) Bromochloromethane	4.847	130	230264	96.99	ppb		92
38) Methacrylonitrile	4.889	67	280839	102.31	ppb		90
39) Tetrahydrofuran	4.944	42	257313	83.49	ppb		96
40) Chloroform	5.029	83	636000	99.77	ppb		99
41) 1,1,1-Trichloroethane	5.298	97	529122	104.10	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.133	73	1332348	101.97	ppb		96
44) Cyclohexane	5.353	41	439195	100.87	ppb		93
46) Carbontetrachloride	5.560	117	398420	105.61	ppb		96
47) 1,1-Dichloropropene	5.584	75	534392	101.30	ppb		99
49) Benzene	5.901	78	1666039	101.64	ppb		100
50) 1,2-Dichloroethane	5.968	62	554369	99.50	ppb		98
51) Iso-Butyl Alcohol	5.968	43	989597	2120.17	ppb		97
52) n-Heptane	6.352	43	652745	106.45	ppb		99
53) 1-Butanol	6.913	56	1502287	5613.77	ppb		99
54) Trichloroethene	6.834	130	381748	104.73	ppb		97
55) Methylcyclohexane	7.053	55	597670	101.75	ppb		98
56) 1,2-Diclpropane	7.133	63	460968	101.89	ppb		93
57) Dibromomethane	7.279	93	238396	106.25	ppb		93
58) 1,4-Dioxane	7.346	88	208150	1996.04	ppb		97
59) Methyl Methacrylate	7.352	69	460048	109.24	ppb		95
60) Bromodichloromethane	7.498	83	460048	105.68	ppb		98
61) 2-Nitropropane	7.809	41	136717	198.75	ppb		99
62) 2-Chloroethylvinyl Ether	7.901	63	334971	109.19	ppb		100
63) cis-1,3-Dichloropropene	8.035	75	691322	106.90	ppb		99
64) 4-Methyl-2-pentanone	8.248	43	737543	105.37	ppb		98
66) Toluene	8.389	91	1664348	100.38	ppb		91
67) trans-1,3-Dichloropropene	8.675	75	636615	106.98	ppb		97
68) Ethyl Methacrylate	8.803	69	788023	107.01	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	376781	102.35	ppb		97
72) Tetrachloroethene	8.968	164	288794	98.26	ppb		97
73) 2-Hexanone	9.151	43	559599	103.14	ppb		95
74) 1,3-Dichloropropane	9.029	76	746319	102.13	ppb		99
75) Dibromochloromethane	9.254	129	325296	107.76	ppb		96
76) N-Butyl Acetate	9.291	43	1102688	106.66	ppb		96
77) 1,2-Dibromoethane	9.346	107	384836	101.07	ppb		100
78) Chlorobenzene	9.827	112	1082960	100.73	ppb		98
79) 3-CBTF	9.846	180	551969	99.64	ppb		97
80) 4-CBTF	9.900	180	507664	101.66	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	357875	111.70	ppb		96
82) Ethylbenzene	9.943	106	610146	104.53	ppb	#	83
83) (m+p)Xylene	10.053	106	1445477	204.97	ppb	#	83
84) o-Xylene	10.413	106	741828	103.37	ppb	#	85
85) Styrene	10.425	104	1259773	106.00	ppb		98
87) Bromoform	10.589	173	209434	112.01	ppb		95
88) 2-CBTF	10.663	180	550854	98.94	ppb		98
89) Isopropylbenzene	10.742	105	1813030	99.59	ppb		94
90) Cyclohexanone	10.827	55	1468858	1887.86	ppb		96
91) trans-1,4-Dichloro-2-B...	11.065	53	219688	109.38	ppb		97
92) 1,1,2,2-Tetrachloroethane	11.016	83	642070	105.89	ppb		99
93) Bromobenzene	10.992	156	441190	98.38	ppb		97
94) 1,2,3-Trichloropropane	11.047	110	195327	97.86	ppb	#	91
95) n-Propylbenzene	11.095	91	2083963	95.68	ppb		90
96) 2-Chlorotoluene	11.162	91	1354362	98.40	ppb		95
97) 3-Chlorotoluene	11.217	91	1369032	98.07	ppb		96
98) 4-Chlorotoluene	11.254	91	1494188	100.69	ppb		94
99) 1,3,5-Trimethylbenzene	11.248	105	1565641	103.27	ppb		96
100) tert-Butylbenzene	11.516	119	1363067	102.16	ppb		96
101) 1,2,4-Trimethylbenzene	11.559	105	1557637	103.49	ppb		94
102) 3,4-DCBTF	11.620	214	460289	100.24	ppb		98
103) sec-Butylbenzene	11.699	105	1926730	99.80	ppb		93
104) p-Isopropyltoluene	11.821	119	1699982	102.85	ppb		91

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	881082	98.63	ppb	98
106) 1,4-Dclbenz	11.864	146	901060	98.53	ppb	97
107) 2,4-DCBTF	11.912	214	416250	99.34	ppb	98
108) 2,5-DCBTF	11.955	214	479746	102.94	ppb	98
109) n-Butylbenzene	12.150	91	1617781	100.09	ppb	91
110) 1,2-Dclbenz	12.162	146	892513	100.98	ppb	99
111) 1,2-Dibromo-3-chloropr...	12.796	157	154090	110.01	ppb	96
112) Trielution Dichlorotol...	12.906	125	2385254	295.10	ppb	94
113) 1,3,5 Trichlorobenzene	12.949	180	665346	100.50	ppb	98
114) Coelution Dichlorotoluene	13.229	125	1741970	192.38	ppb	94
115) 1,2,4-Tcbenzene	13.436	180	673289	98.91	ppb	98
116) Hexachlorobt	13.564	225	272895	100.08	ppb	98
117) Naphthalen	13.631	128	2068743	96.59	ppb	94
118) 1,2,3-Tclbenzene	13.814	180	675311	100.44	ppb	96
119) 2,4,5-Trichlorotolene	14.400	159	507239	98.97	ppb	99
120) 2,3,6-Trichlorotoluene	14.485	159	525459	99.15	ppb	95

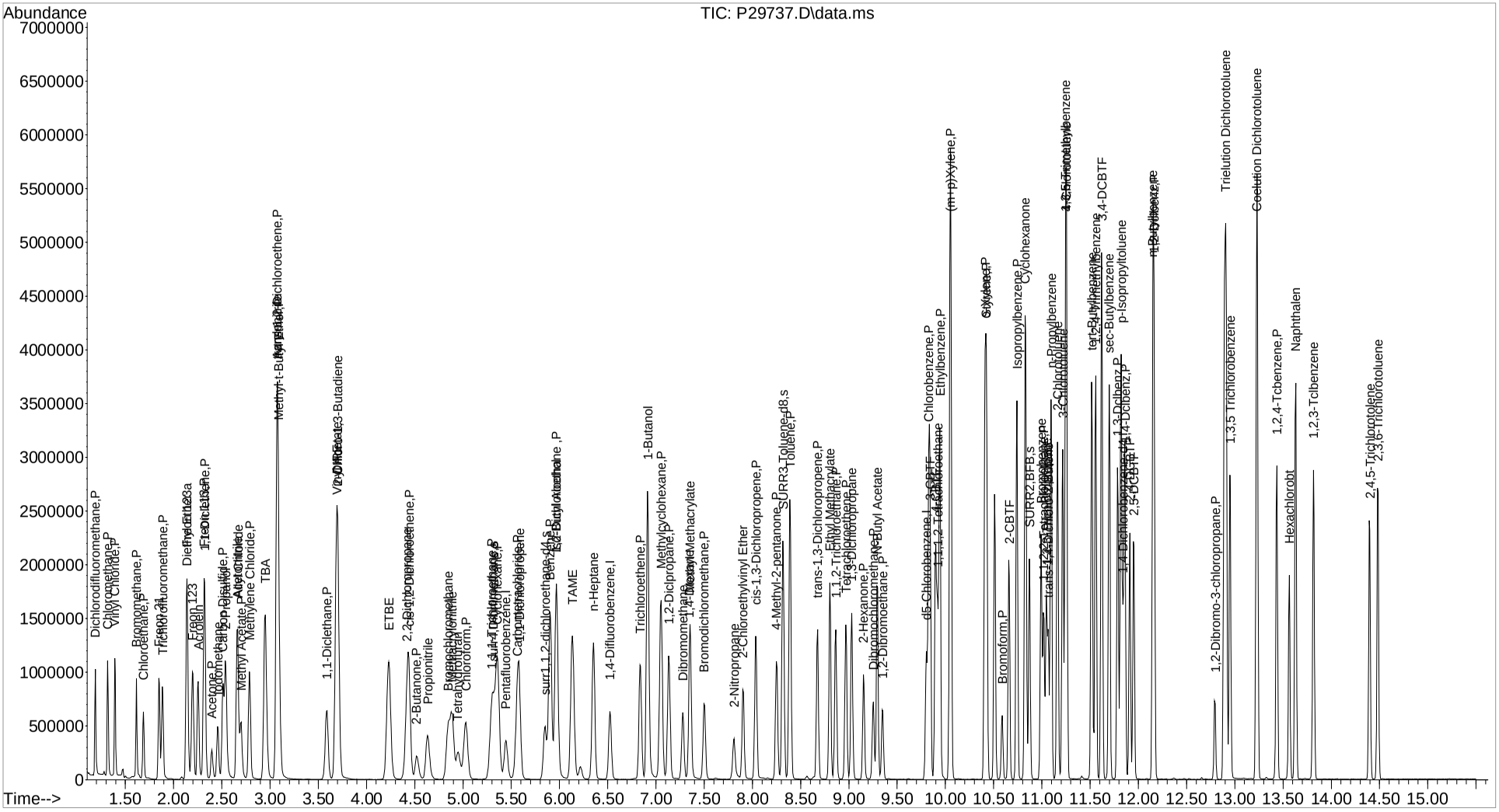
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

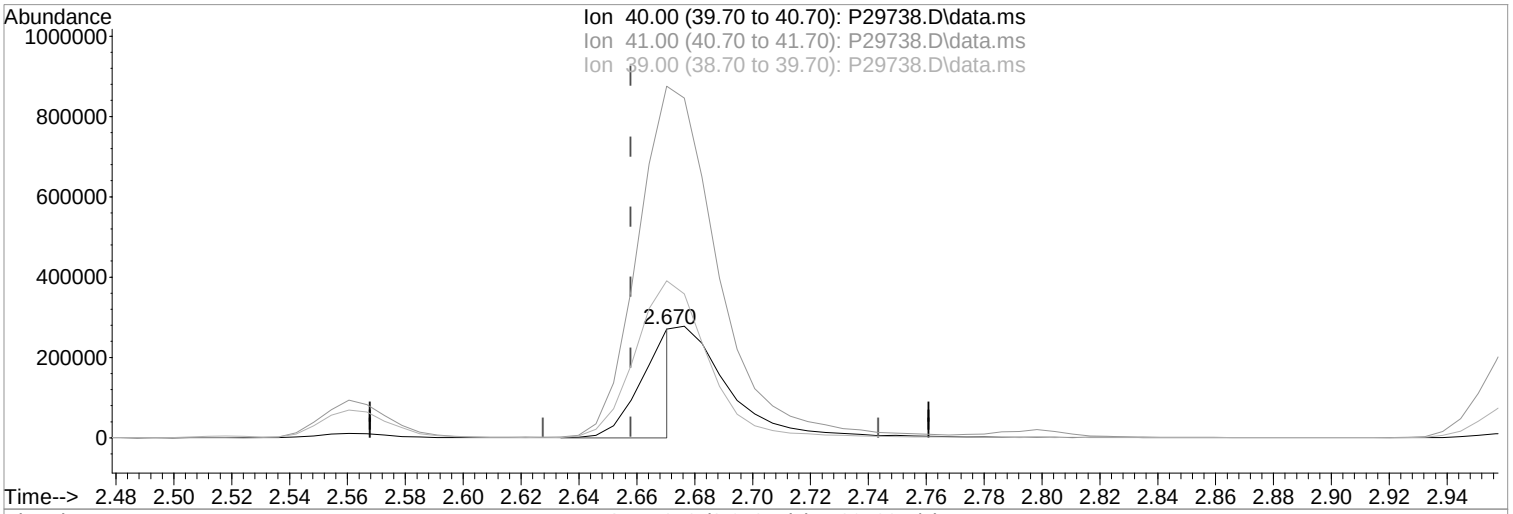
Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

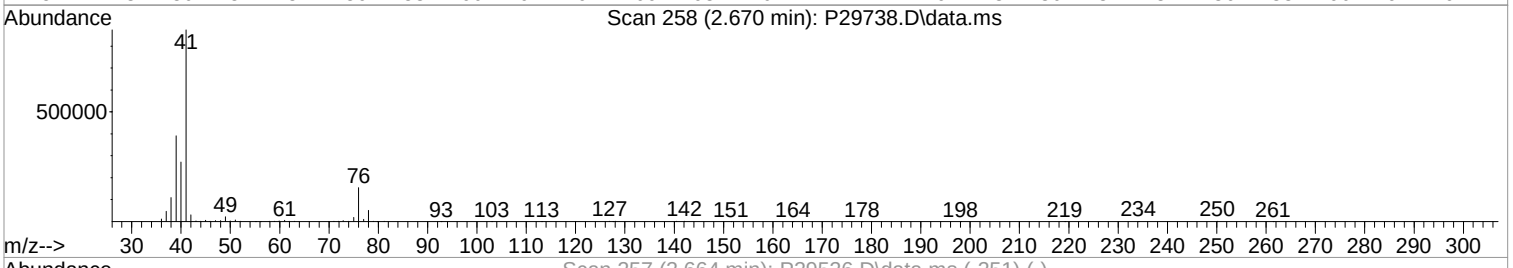


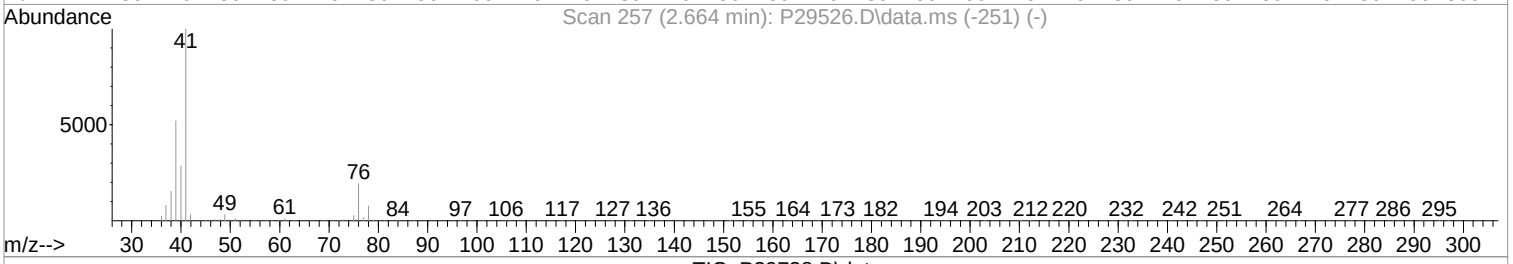
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:22:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29738.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 558.49 ppb m

response 213385

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	323.42
39.00	137.60	144.56
0.00	0.00	0.00

Manual Integration:

After

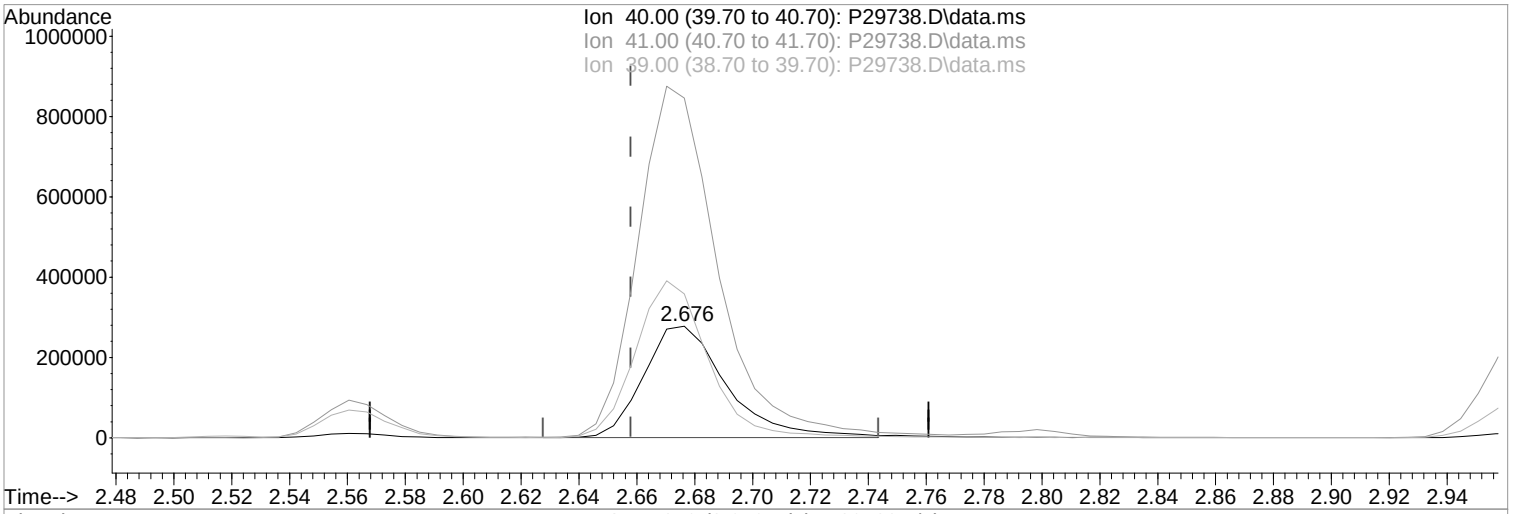
Poor integration.

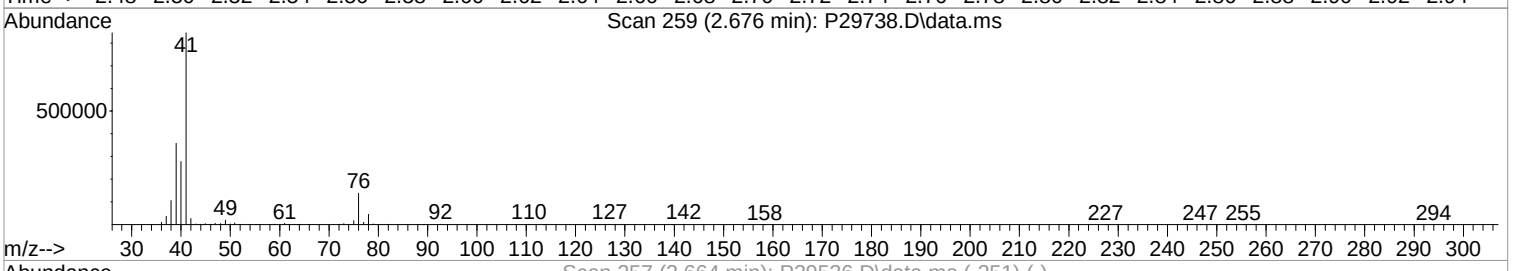
09/12/19

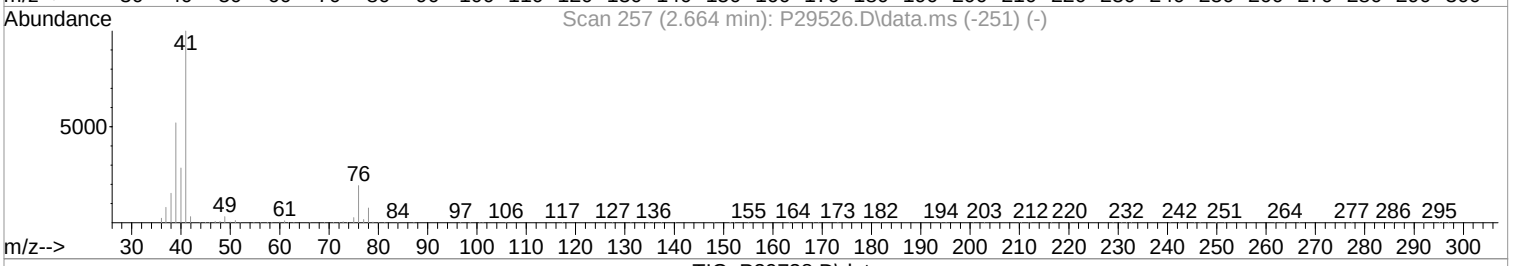
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:22:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29738.D\data.ms

(19) Acetonitrile

2.676min (+0.019) 1452.04 ppb

response 554783

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	304.77#
39.00	137.60	129.04
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	306609	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	529627	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	480064	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	276240	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	538146	191.72	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 383.44%#				
48) surr1,1,2-dichloroetha...	5.859	65	753193	193.92	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 387.84%#				
65) SURR3,Toluene-d8	8.322	98	2322663	175.77	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 351.54%#				
70) SURR2,BFB	10.870	95	1017080	197.83	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 395.66%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	636454	167.93	ppb		98
3) Chloromethane	1.329	50	906875	155.34	ppb		96
4) Vinyl Chloride	1.402	62	863704	158.51	ppb		97
5) Bromomethane	1.628	94	382930	129.44	ppb		97
6) Chloroethane	1.689	64	494874	150.81	ppb		99
7) Freon 21	1.859	67	924846	152.25	ppb		98
8) Trichlorofluoromethane	1.890	101	717467	162.36	ppb		92
9) Diethyl Ether	2.146	59	610303	156.67	ppb		99
10) Freon 123a	2.152	67	633690	149.21	ppb		96
11) Freon 123	2.207	83	704186	150.36	ppb		99
12) Acrolein	2.268	56	904603	833.73	ppb		99
13) 1,1-Diclethene	2.329	96	474447	158.18	ppb		95
14) Freon 113	2.329	101	455613	156.23	ppb		100
15) Acetone	2.414	43	379830	152.22	ppb		97
16) 2-Propanol	2.561	45	1955124	3445.71	ppb		94
17) Iodomethane	2.469	142	635822	184.06	ppb		96
18) Carbon Disulfide	2.518	76	1380685	153.62	ppb		98
19) Acetonitrile	2.670	40	213385m	558.49	ppb		
20) Allyl Chloride	2.670	76	244143	142.56	ppb	#	83
21) Methyl Acetate	2.713	43	805736	162.93	ppb		98
22) Methylene Chloride	2.798	84	550744	140.98	ppb		98
23) TBA	2.969	59	2850981	3394.22	ppb		97
24) Acrylonitrile	3.085	53	2033469	799.27	ppb		99
25) Methyl-t-Butyl Ether	3.097	73	1994444	158.01	ppb		99
26) trans-1,2-Dichloroethene	3.085	96	525894	160.25	ppb		92
28) 1,1-Diclethane	3.597	63	1073044	159.27	ppb		99
29) Vinyl Acetate	3.694	86	143645	195.40	ppb	#	73
30) DIPE	3.707	45	2262565	154.23	ppb		95
31) 2-Chloro-1,3-Butadiene	3.713	53	877587	161.08	ppb		99
32) ETBE	4.243	59	2051944	155.37	ppb		100
33) 2,2-Dichloropropane	4.432	77	804314	162.82	ppb		97
34) cis-1,2-Dichloroethene	4.450	96	592809	159.00	ppb		99
35) 2-Butanone	4.536	43	565407	162.23	ppb		96
36) Propionitrile	4.646	54	928192	858.46	ppb		99
37) Bromochloromethane	4.859	130	334532	151.27	ppb		89
38) Methacrylonitrile	4.902	67	412742	161.42	ppb		90
39) Tetrahydrofuran	4.963	42	387896	135.12	ppb		96
40) Chloroform	5.042	83	914020	153.93	ppb		98
41) 1,1,1-Trichloroethane	5.304	97	770240	162.69	ppb		96

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	1937998	159.23	ppb		95
44) Cyclohexane	5.365	41	639582	151.23	ppb		93
46) Carbontetrachloride	5.566	117	599776	163.69	ppb		96
47) 1,1-Dichloropropene	5.590	75	781189	152.46	ppb		99
49) Benzene	5.914	78	2350564	147.63	ppb		99
50) 1,2-Dichloroethane	5.975	62	800400	147.90	ppb		97
51) Iso-Butyl Alcohol	5.987	43	1603786	3537.62	ppb		97
52) n-Heptane	6.359	43	929220	156.02	ppb		96
53) 1-Butanol	6.926	56	2370737	9120.89	ppb		97
54) Trichloroethene	6.840	130	546510	154.37	ppb		98
55) Methylcyclohexane	7.054	55	855039	149.87	ppb		97
56) 1,2-Diclpropane	7.139	63	662389	150.74	ppb		92
57) Dibromomethane	7.285	93	347546	159.47	ppb		94
58) 1,4-Dioxane	7.352	88	335634	3313.69	ppb		96
59) Methyl Methacrylate	7.358	69	682916	166.96	ppb		97
60) Bromodichloromethane	7.505	83	684370	161.85	ppb		97
61) 2-Nitropropane	7.810	41	229365	343.30	ppb		94
62) 2-Chloroethylvinyl Ether	7.907	63	491849	165.07	ppb		100
63) cis-1,3-Dichloropropene	8.041	75	1014892	161.57	ppb		96
64) 4-Methyl-2-pentanone	8.255	43	1105061	162.54	ppb		100
66) Toluene	8.395	91	2292640	142.36	ppb		87
67) trans-1,3-Dichloropropene	8.675	75	955084	165.24	ppb		99
68) Ethyl Methacrylate	8.803	69	1180822	165.10	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	562315	157.27	ppb		98
72) Tetrachloroethene	8.974	164	414989	143.34	ppb		97
73) 2-Hexanone	9.157	43	861634	161.22	ppb		99
74) 1,3-Dichloropropane	9.029	76	1073401	149.12	ppb		98
75) Dibromochloromethane	9.254	129	499501	167.98	ppb		98
76) N-Butyl Acetate	9.297	43	1622150	159.28	ppb		92
77) 1,2-Dibromoethane	9.352	107	573090	152.80	ppb		96
78) Chlorobenzene	9.827	112	1538264	145.24	ppb		95
79) 3-CBTF	9.846	180	821586	150.56	ppb		98
80) 4-CBTF	9.901	180	751625	152.79	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	530877	168.20	ppb		99
82) Ethylbenzene	9.943	106	885089	153.92	ppb	#	70
83) (m+p)Xylene	10.053	106	2004516	288.54	ppb	#	72
84) o-Xylene	10.413	106	1069150	151.24	ppb	#	77
85) Styrene	10.431	104	1773726	151.51	ppb		98
87) Bromoform	10.589	173	339436	175.31	ppb		93
88) 2-CBTF	10.663	180	827587	143.55	ppb		97
89) Isopropylbenzene	10.742	105	2431415	128.98	ppb		85
90) Cyclohexanone	10.833	55	1992030	2472.48	ppb		95
91) trans-1,4-Dichloro-2-B...	11.065	53	341237	164.07	ppb		98
92) 1,1,2,2-Tetrachloroethane	11.022	83	991927	157.98	ppb		96
93) Bromobenzene	10.992	156	662965	142.76	ppb		99
94) 1,2,3-Trichloropropane	11.047	110	299712	145.01	ppb	#	88
95) n-Propylbenzene	11.095	91	2756105	122.20	ppb		81
96) 2-Chlorotoluene	11.163	91	1897210	133.12	ppb		91
97) 3-Chlorotoluene	11.217	91	1917916	132.67	ppb	#	90
98) 4-Chlorotoluene	11.254	91	2067046	134.52	ppb		88
99) 1,3,5-Trimethylbenzene	11.248	105	2149284	136.91	ppb		88
100) tert-Butylbenzene	11.516	119	1911170	138.32	ppb		92
101) 1,2,4-Trimethylbenzene	11.559	105	2144377	137.59	ppb		85
102) 3,4-DCBTF	11.620	214	698900	146.99	ppb		98
103) sec-Butylbenzene	11.699	105	2542096	127.15	ppb		84
104) p-Isopropyltoluene	11.821	119	2280865	133.26	ppb		81

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	1315084	142.16	ppb		96
106) 1,4-Dclbenz	11.864	146	1340377	141.54	ppb		93
107) 2,4-DCBTF	11.912	214	641554	147.86	ppb		98
108) 2,5-DCBTF	11.955	214	732845	151.85	ppb		99
109) n-Butylbenzene	12.150	91	2211322	132.12	ppb		82
110) 1,2-Dclbenz	12.162	146	1342751	146.70	ppb		98
111) 1,2-Dibromo-3-chloropr...	12.796	157	243323	167.77	ppb		98
112) Trielution Dichlorotol...	12.906	125	3408696	407.26	ppb	#	86
113) 1,3,5 Trichlorobenzene	12.955	180	1005778	146.71	ppb		99
114) Coelution Dichlorotoluene	13.229	125	2412820	257.34	ppb	#	83
115) 1,2,4-Tcbenzene	13.436	180	1018500	144.49	ppb		99
116) Hexachlorobt	13.565	225	414898	146.94	ppb		96
117) Naphthalen	13.632	128	2752498	124.10	ppb		85
118) 1,2,3-Tclbenzene	13.821	180	1018141	146.23	ppb		97
119) 2,4,5-Trichlorotolene	14.400	159	768495	144.81	ppb		99
120) 2,3,6-Trichlorotoluene	14.485	159	786988	143.41	ppb		93

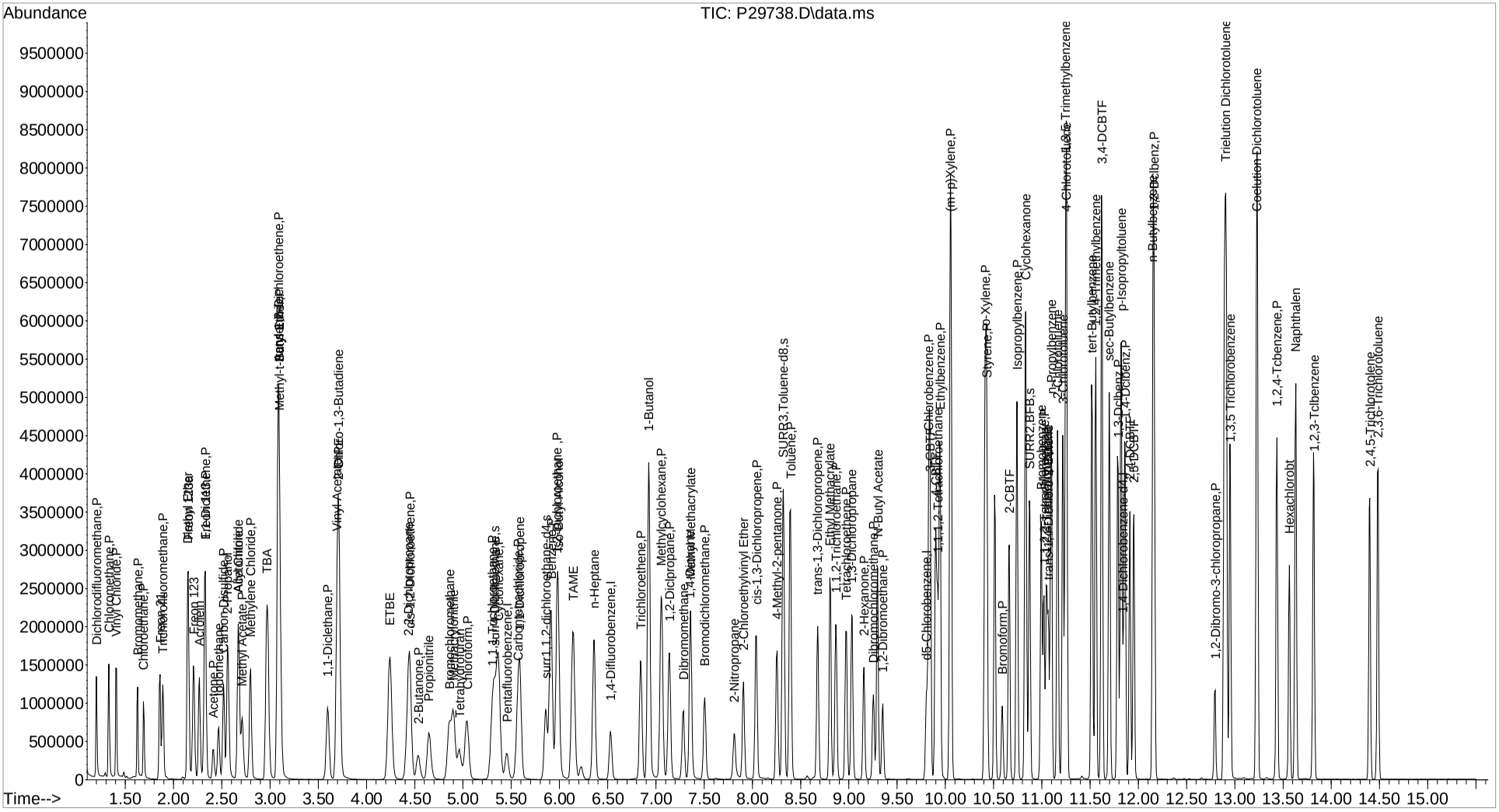
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/12/19 1st
09/12/19 2nd

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

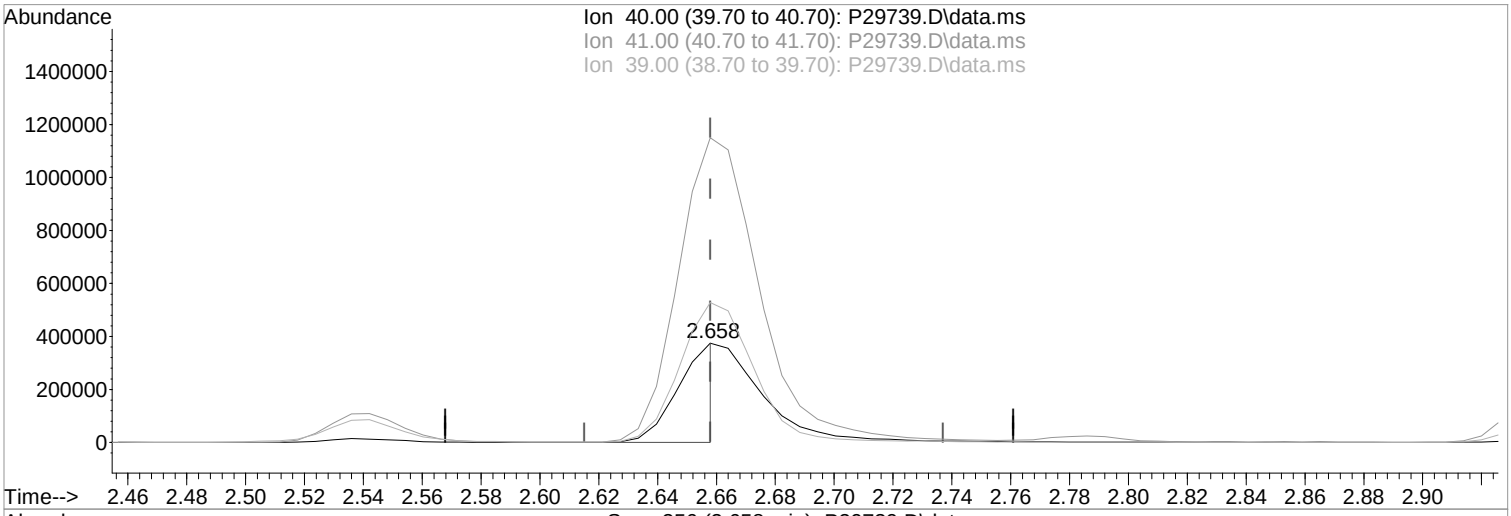
Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

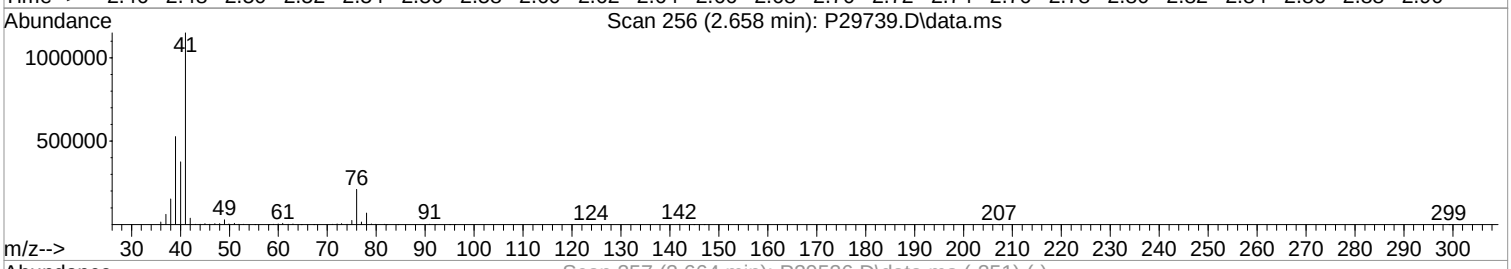


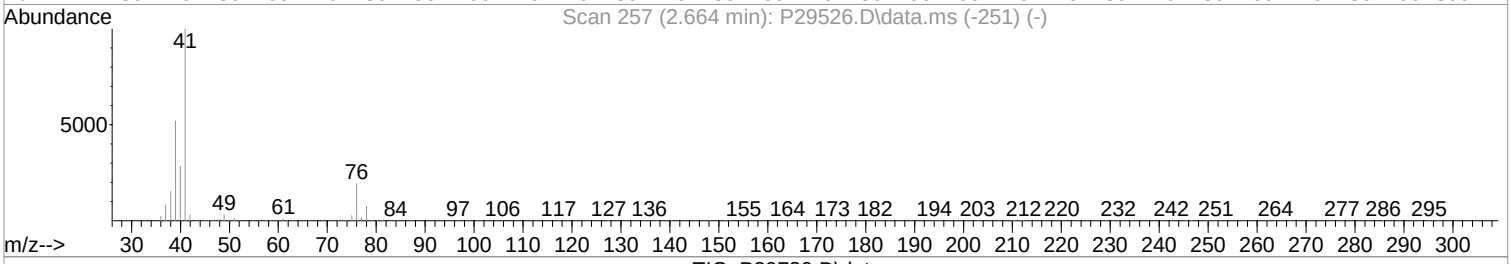
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:22:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29739.D\data.ms

(19) Acetonitrile

2.658min (0.000) 842.06 ppb m

response 346022

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	306.99#
39.00	137.60	140.82
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

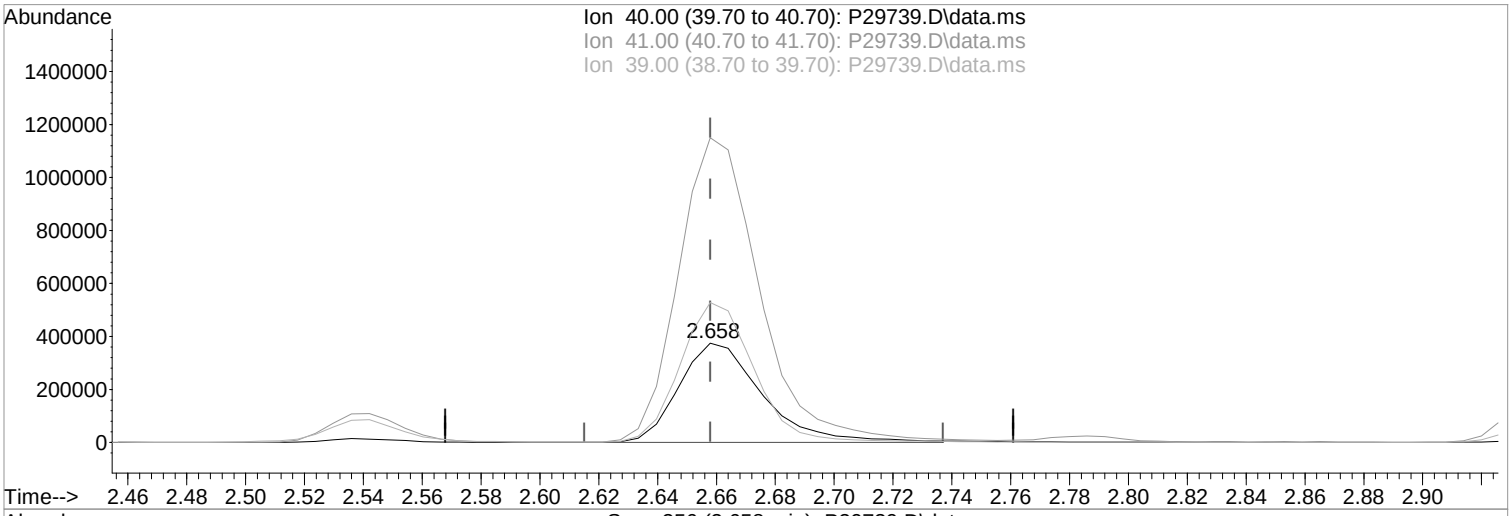
09/12/19

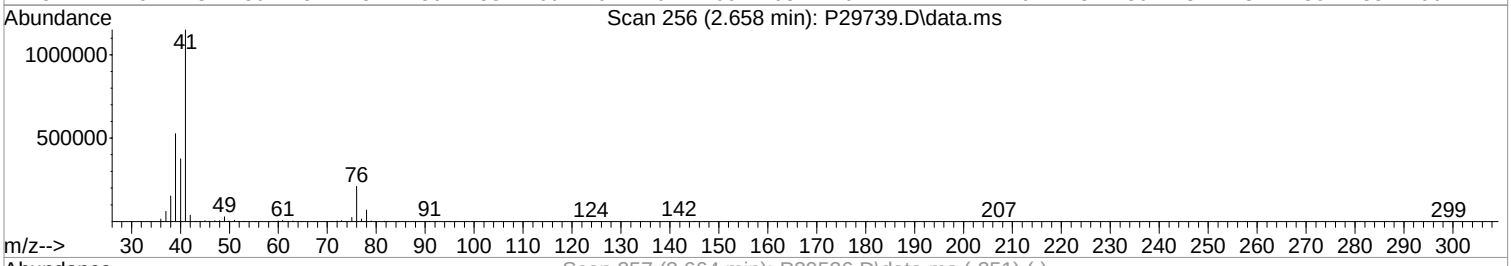
1st 09/12/19
2nd 09/12/19

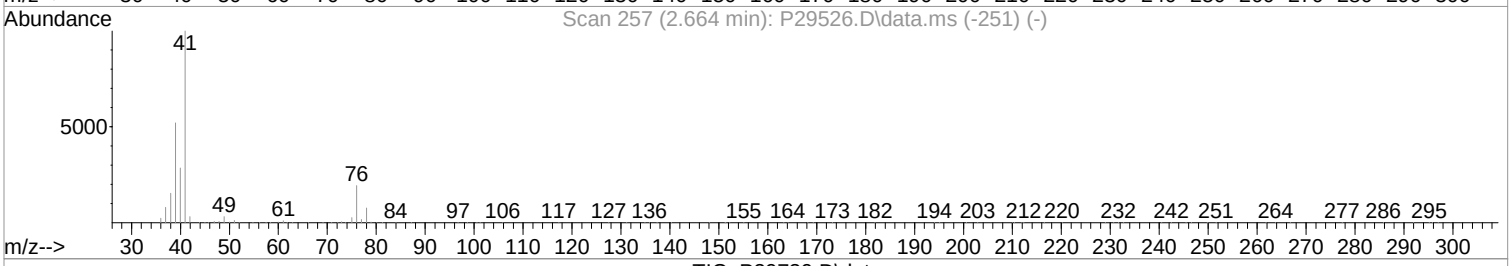
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:22:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29739.D\data.ms

(19) Acetonitrile

2.658min (0.000) 1795.51 ppb

response 737815

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	306.99#
39.00	137.60	140.82
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	334332	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	555220	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	488208	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	267427	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	143351	48.72	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 97.44%				
48) surr1,1,2-dichloroetha...	5.853	65	204265	50.17	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.34%				
65) SURR3,Toluene-d8	8.315	98	703409	50.78	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.56%				
70) SURR2,BFB	10.870	95	267579	49.65	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.30%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	163442	39.55	ppb		99
3) Chloromethane	1.329	50	242908	38.16	ppb		95
4) Vinyl Chloride	1.408	62	242131	40.75	ppb		97
5) Bromomethane	1.628	94	131262	47.25	ppb		95
6) Chloroethane	1.707	64	140521	39.27	ppb		98
7) Freon 21	1.865	67	288960	43.63	ppb		97
8) Trichlorofluoromethane	1.908	101	224641	46.62	ppb		96
9) Diethyl Ether	2.146	59	178759	42.08	ppb		98
10) Freon 123a	2.158	67	195295	42.18	ppb		96
11) Freon 123	2.207	83	232925	45.61	ppb		98
12) Acrolein	2.268	56	74378	62.87	ppb		98
13) 1,1-Diclethene	2.335	96	139973	42.80	ppb		95
14) Freon 113	2.335	101	139802	43.96	ppb		100
15) Acetone	2.402	43	109388	40.20	ppb		92
16) 2-Propanol	2.542	45	460965	745.04	ppb		99
17) Iodomethane	2.475	142	159206	39.56	ppb		99
18) Carbon Disulfide	2.524	76	460505	46.99	ppb		100
19) Acetonitrile	2.670	40	75280m	208.46	ppb		
20) Allyl Chloride	2.676	76	90407	48.21	ppb		94
21) Methyl Acetate	2.713	43	214922	39.86	ppb		96
22) Methylene Chloride	2.798	84	170831	40.10	ppb		98
23) TBA	2.951	59	675582	737.62	ppb		99
24) Acrylonitrile	3.085	53	573227	205.40	ppb		96
25) Methyl-t-Butyl Ether	3.097	73	596702	43.35	ppb		98
26) trans-1,2-Dichloroethene	3.085	96	157537	44.36	ppb		90
28) 1,1-Diclethane	3.597	63	326655	44.46	ppb		99
29) Vinyl Acetate	3.694	86	47805	50.25	ppb	#	85
30) DIPE	3.707	45	698823	43.68	ppb		96
31) 2-Chloro-1,3-Butadiene	3.713	53	280996	47.25	ppb		95
32) ETBE	4.243	59	564474	39.20	ppb		98
33) 2,2-Dichloropropane	4.432	77	255044	47.35	ppb		94
34) cis-1,2-Dichloroethene	4.444	96	178584	43.81	ppb		97
35) 2-Butanone	4.530	43	158206	41.63	ppb		97
36) Propionitrile	4.639	54	234253	198.69	ppb		99
37) Bromochloromethane	4.859	130	98326	40.77	ppb		97
38) Methacrylonitrile	4.901	67	107879	38.69	ppb		91
39) Tetrahydrofuran	4.962	42	103391	38.77	ppb		93
40) Chloroform	5.042	83	279487	43.17	ppb		99
41) 1,1,1-Trichloroethane	5.304	97	232385	45.01	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	564482	42.53	ppb		94
44) Cyclohexane	5.365	41	196747	44.38	ppb		96
46) Carbontetrachloride	5.566	117	176954	46.80	ppb		95
47) 1,1-Dichloropropene	5.590	75	241297	44.92	ppb		97
49) Benzene	5.913	78	730478	43.77	ppb		98
50) 1,2-Dichloroethane	5.968	62	230393	40.61	ppb		97
51) Iso-Butyl Alcohol	5.968	43	328146	690.46	ppb		94
52) n-Heptane	6.352	43	301079	48.21	ppb		97
53) 1-Butanol	6.907	56	494086	1813.27	ppb		99
54) Trichloroethene	6.840	130	157505	42.44	ppb		96
55) Methylcyclohexane	7.053	55	271895	45.46	ppb		99
56) 1,2-Diclpropane	7.133	63	196693	42.70	ppb		88
57) Dibromomethane	7.279	93	102506	44.86	ppb		96
58) 1,4-Dioxane	7.346	88	79750	748.67	ppb		98
59) Methyl Methacrylate	7.358	69	180919	42.19	ppb		96
60) Bromodichloromethane	7.505	83	201247	45.40	ppb		97
61) 2-Nitropropane	7.809	41	52535	75.01	ppb		96
62) 2-Chloroethylvinyl Ether	7.907	63	122162	39.45	ppb		100
63) cis-1,3-Dichloropropene	8.035	75	294696	44.75	ppb		99
64) 4-Methyl-2-pentanone	8.248	43	298594	41.89	ppb		99
66) Toluene	8.389	91	769502	45.58	ppb		98
67) trans-1,3-Dichloropropene	8.675	75	264681	43.68	ppb		99
68) Ethyl Methacrylate	8.803	69	320105	42.69	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	166210	44.34	ppb		97
72) Tetrachloroethene	8.968	164	126691	43.03	ppb		96
73) 2-Hexanone	9.151	43	230240	42.36	ppb		96
74) 1,3-Dichloropropane	9.029	76	315496	43.10	ppb		97
75) Dibromochloromethane	9.254	129	143607	47.49	ppb		95
76) N-Butyl Acetate	9.291	43	448990	43.35	ppb		99
77) 1,2-Dibromoethane	9.346	107	161491	42.34	ppb		100
78) Chlorobenzene	9.827	112	479595	44.53	ppb		98
79) 3-CBTF	9.840	180	244888	44.13	ppb		99
80) 4-CBTF	9.894	180	218979	43.77	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	154644	48.18	ppb		97
82) Ethylbenzene	9.943	106	271546	46.44	ppb		98
83) (m+p)Xylene	10.053	106	674429	95.46	ppb		98
84) o-Xylene	10.413	106	329833	45.88	ppb		96
85) Styrene	10.425	104	545204	45.79	ppb		97
87) Bromoform	10.589	173	84694	45.18	ppb		90
88) 2-CBTF	10.663	180	233642	41.86	ppb		99
89) Isopropylbenzene	10.742	105	859991	47.12	ppb		99
90) Cyclohexanone	10.827	55	727904	933.24	ppb		100
91) trans-1,4-Dichloro-2-B...	11.065	53	85181	42.31	ppb		95
92) 1,1,2,2-Tetrachloroethane	11.016	83	272520	44.83	ppb		98
93) Bromobenzene	10.992	156	188397	41.90	ppb		99
94) 1,2,3-Trichloropropane	11.047	110	76360	38.16	ppb	#	87
95) n-Propylbenzene	11.095	91	1069113	48.96	ppb		98
96) 2-Chlorotoluene	11.162	91	623457	45.25	ppb		98
97) 3-Chlorotoluene	11.217	91	603572	43.13	ppb		100
98) 4-Chlorotoluene	11.254	91	687926	46.24	ppb		97
99) 1,3,5-Trimethylbenzene	11.248	105	734098	48.30	ppb		99
100) tert-Butylbenzene	11.516	119	631458	47.21	ppb		100
101) 1,2,4-Trimethylbenzene	11.559	105	735637	48.76	ppb		99
102) 3,4-DCBTF	11.620	214	195770	42.53	ppb		99
103) sec-Butylbenzene	11.699	105	952544	49.22	ppb		98
104) p-Isopropyltoluene	11.821	119	803704	48.50	ppb		100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	397907	44.43	ppb	99
106) 1,4-Dclbenz	11.857	146	403596	44.02	ppb	99
107) 2,4-DCBTF	11.912	214	178086	42.40	ppb	99
108) 2,5-DCBTF	11.955	214	199902	42.79	ppb	99
109) n-Butylbenzene	12.150	91	781785	48.25	ppb	99
110) 1,2-Dclbenz	12.162	146	391170	44.15	ppb	99
111) 1,2-Dibromo-3-chloropr...	12.796	157	56444	40.20	ppb	97
112) Trielution Dichlorotol...	12.900	125	1078619	133.12	ppb	98
113) 1,3,5 Trichlorobenzene	12.949	180	286721	43.20	ppb	99
114) Coelution Dichlorotoluene	13.229	125	793743	87.45	ppb	99
115) 1,2,4-Tcbenzene	13.436	180	306597	44.93	ppb	98
116) Hexachlorobt	13.564	225	127818	46.76	ppb	99
117) Naphthalen	13.631	128	992049	46.20	ppb	99
118) 1,2,3-Tclbenzene	13.814	180	300094	44.52	ppb	99
119) 2,4,5-Trichlorotolene	14.400	159	225546	43.90	ppb	98
120) 2,3,6-Trichlorotoluene	14.479	159	201494	37.93	ppb	94

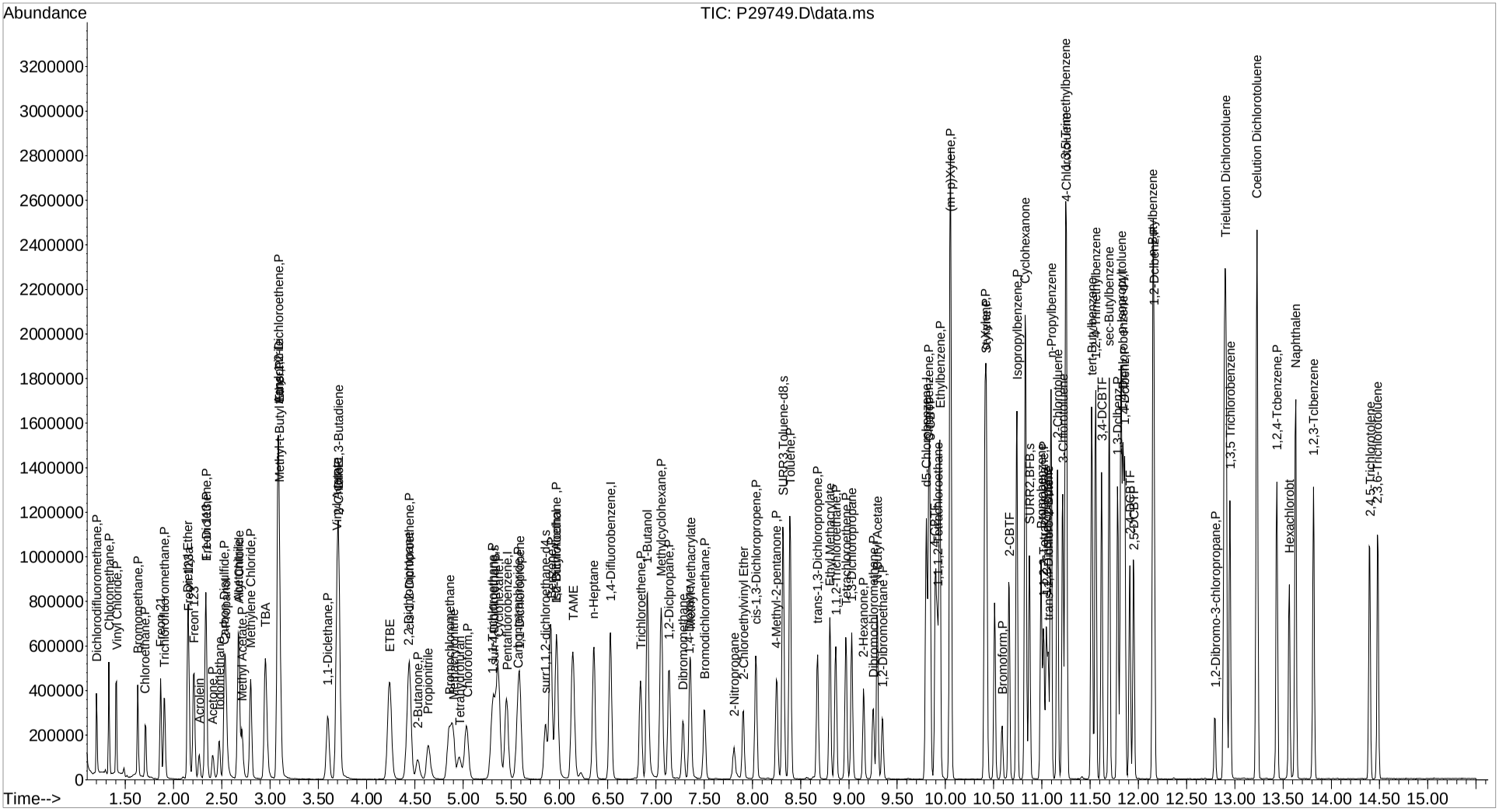
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

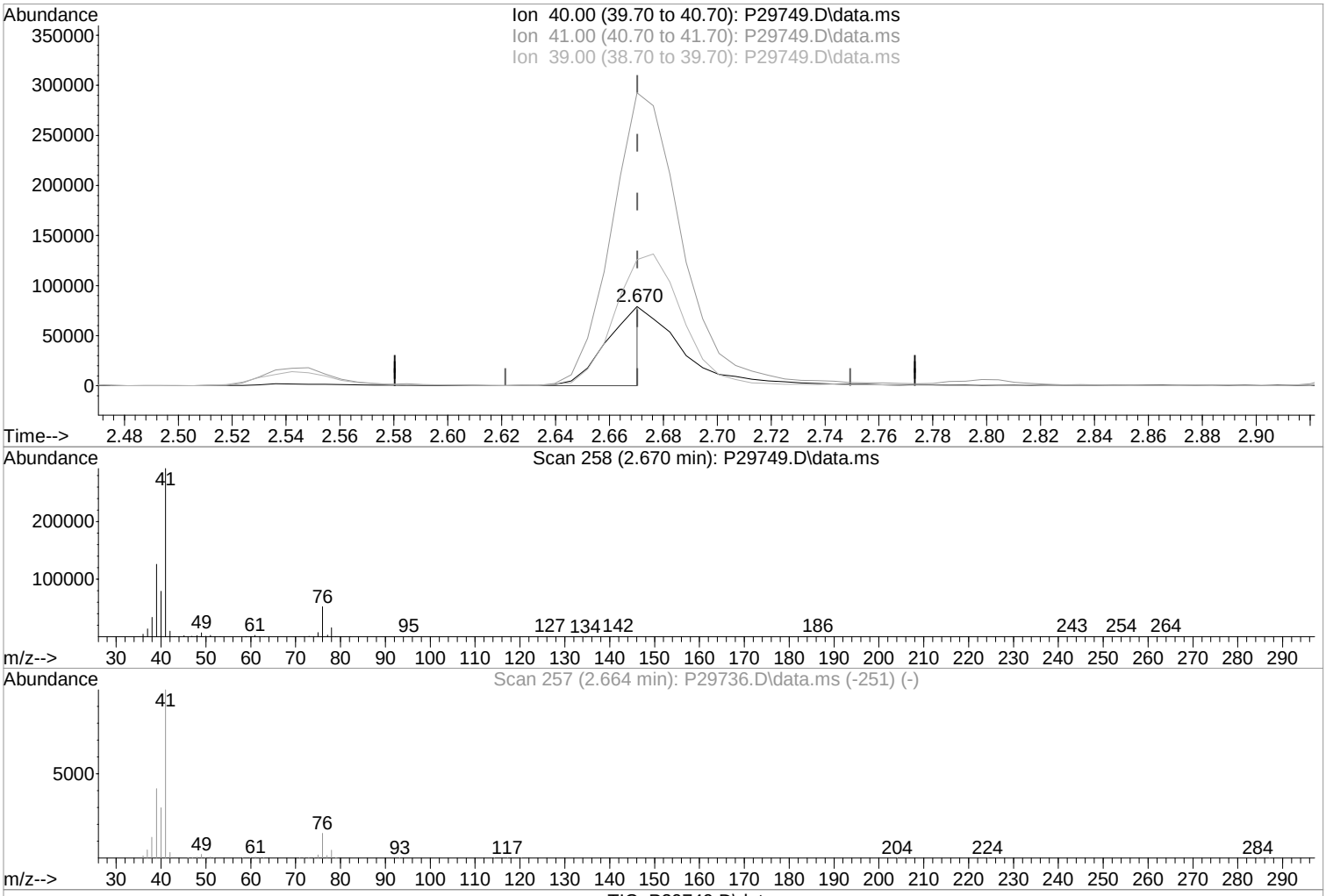
Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:44:56 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P29749.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 208.46 ppb m

response 75280

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	369.77#
39.00	137.60	159.29#
0.00	0.00	0.00

Manual Integration:

After

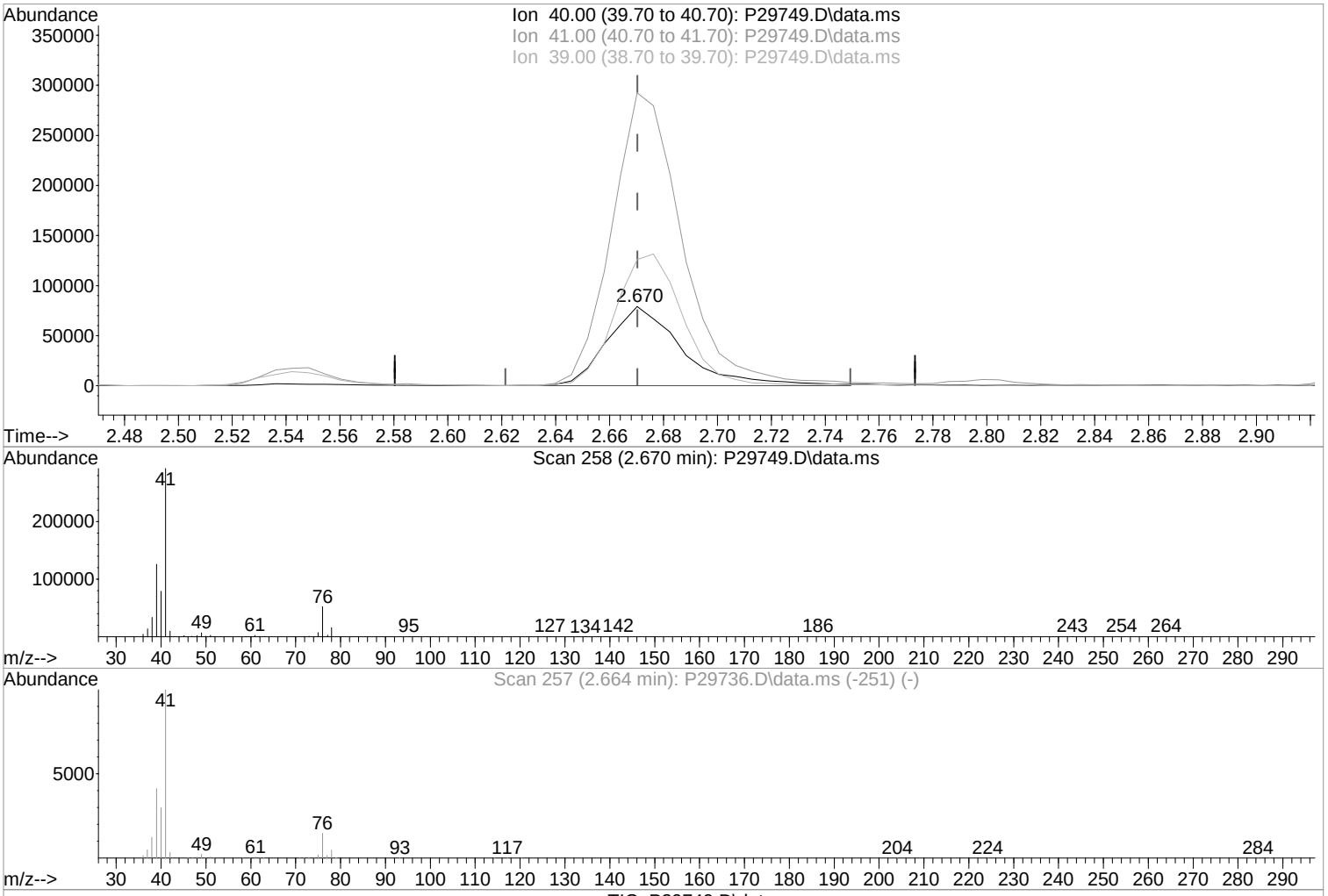
Poor integration.

09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:44:56 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P29749.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 424.41 ppb

response 153268

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	369.77#
39.00	137.60	159.29#
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

#	Lab Code	Sample Name	File Location	Acquisition Date
01	RC1900101-01	0.5ppb	I:\ACQUDATA\msvoa12\Data\091119\P29731.D	09/11/2019 15:34
02	RC1900101-02	1.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29732.D	09/11/2019 15:55
03	RC1900101-03	2.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29733.D	09/11/2019 16:17
04	RC1900101-04	5.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29734.D	09/11/2019 16:39
05	RC1900101-05	20ppb	I:\ACQUDATA\msvoa12\Data\091119\P29735.D	09/11/2019 17:00
06	RC1900101-06	50ppb	I:\ACQUDATA\msvoa12\Data\091119\P29736.D	09/11/2019 17:22
07	RC1900101-07	100ppb	I:\ACQUDATA\msvoa12\Data\091119\P29737.D	09/11/2019 17:44
08	RC1900101-08	150ppb	I:\ACQUDATA\msvoa12\Data\091119\P29738.D	09/11/2019 18:06
09	RC1900101-09	200ppb	I:\ACQUDATA\msvoa12\Data\091119\P29739.D	09/11/2019 18:28

Analyte

1,1,1,2-Tetrachloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2801	02	1.000	0.2715	03	2.000	0.3177	04	5.000	0.3127
05	20.000	0.3391	06	50.000	0.3345	07	100.000	0.3672	08	150.000	0.3686
09	200.000	0.3671									

1,1,1-Trichloroethane (TCA)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7022	02	1.000	0.7114	03	2.000	0.8008	04	5.000	0.7414
05	20.000	0.804	06	50.000	0.7549	07	100.000	0.8037	08	150.000	0.8374
09	200.000	0.7926									

1,1,2,2-Tetrachloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9818	02	1.000	1.055	03	2.000	1.1	04	5.000	1.147
05	20.000	1.214	06	50.000	1.201	07	100.000	1.203	08	150.000	1.197
09	200.000	1.128									

1,1,2-Trichloro-1,2,2-trifluoroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5203	02	1.000	0.472	03	2.000	0.4477	04	5.000	0.4242
05	20.000	0.4904	06	50.000	0.4661	07	100.000	0.4936	08	150.000	0.4953
09	200.000	0.4707									

1,1,2-Trichloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2438	02	1.000	0.3544	03	2.000	0.3356	04	5.000	0.3548
05	20.000	0.3559	06	50.000	0.352	07	100.000	0.3455	08	150.000	0.3539
09	200.000	0.342									

1,1-Dichloroethane (1,1-DCA)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9957	02	1.000	1.061	03	2.000	1.1	04	5.000	1.055
05	20.000	1.18	06	50.000	1.104	07	100.000	1.124	08	150.000	1.167
09	200.000	1.102									

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

1,1-Dichloroethene (1,1-DCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.4876	02	1.000	0.468	03	2.000	0.4813	04	5.000	0.4647
05	20.000	0.5032	06	50.000	0.4874	07	100.000	0.5031	08	150.000	0.5158
09	200.000	0.4912									

1,2,3-Trichloropropane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3482	02	1.000	0.4243	03	2.000	0.3866	04	5.000	0.4032
05	20.000	0.3625	06	50.000	0.3587	07	100.000	0.3661	08	150.000	0.3617
09	200.000	0.3556									

1,2-Dibromo-3-chloropropane (DBCP)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.261	03	2.000	0.2145	04	5.000	0.2252	05	20.000	0.2578
06	50.000	0.2665	07	100.000	0.2888	08	150.000	0.2936	09	200.000	0.2926

1,2-Dibromoethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3929	02	1.000	0.3746	03	2.000	0.3916	04	5.000	0.3865
05	20.000	0.3992	06	50.000	0.388	07	100.000	0.3948	08	150.000	0.3979
09	200.000	0.3903									

1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8394	02	1.000	0.6407	03	2.000	0.726	04	5.000	0.664
05	20.000	0.7041	06	50.000	0.6431	07	100.000	0.6743	08	150.000	0.6889
09	200.000	0.6514									

1,2-Dichloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5484	02	1.000	0.4984	03	2.000	0.5028	04	5.000	0.5258
05	20.000	0.5089	06	50.000	0.509	07	100.000	0.5083	08	150.000	0.5038
09	200.000	0.4927									

1,2-Dichloropropane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.4676	02	1.000	0.3862	03	2.000	0.3932	04	5.000	0.3942
05	20.000	0.4281	06	50.000	0.418	07	100.000	0.4227	08	150.000	0.4169
09	200.000	0.4067									

1,4-Dioxane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.009263	04	100.000	0.008985	05	400.000	0.009583	06	1000.000	0.009174
07	2000.000	0.009543	08	3000.000	0.01056	09	4000.000	0.01004			

2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8362	02	1.000	0.7728	03	2.000	0.8041	04	5.000	0.7332

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	20.000	0.7775	06	50.000	0.7119	07	100.000	0.7522	08	150.000	0.7656
09	200.000	0.7203									

2-Butanone (MEK)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5382	04	5.000	0.5453	05	20.000	0.5822	06	50.000	0.5514
07	100.000	0.5714	08	150.000	0.6147	09	200.000	0.5754			

2-Chloro-1,3-butadiene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.817	02	1.000	0.825	03	2.000	0.8924	04	5.000	0.8315
05	20.000	0.9378	06	50.000	0.9178	07	100.000	0.9327	08	150.000	0.9541
09	200.000	0.8962									

2-Hexanone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5047	04	5.000	0.522	05	20.000	0.5699	06	50.000	0.5559
07	100.000	0.5741	08	150.000	0.5983	09	200.000	0.5717			

2-Propanol

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.08108	04	100.000	0.08764	05	400.000	0.09064	06	1000.000	0.0916
07	2000.000	0.09649	08	3000.000	0.1063	09	4000.000	0.09399			

4-Bromofluorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	0.5286	05	20.000	0.4481	06	50.000	0.4807	07	100.000	0.4894
08	200.000	0.4801									

4-Methyl-2-pentanone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5612	04	5.000	0.5945	05	20.000	0.6612	06	50.000	0.6517
07	100.000	0.6763	08	150.000	0.6955	09	200.000	0.6526			

Acetone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	5.000	0.4324	05	20.000	0.4208	06	50.000	0.3927	07	100.000	0.3952
08	150.000	0.4129	09	200.000	0.3874						

Acetonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	10.000	0.06717	04	25.000	0.05966	05	100.000	0.05187	06	250.000	0.04996
07	500.000	0.05053	08	750.000	0.0464	09	1000.000	0.05247			

Acrolein

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	5.000	0.1599	03	10.000	0.1625	04	25.000	0.1694	05	100.000	0.1799

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Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

Acrolein

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
06	250.000	0.1758	07	500.000	0.1864	08	750.000	0.1967	09	1000.000	0.1849

Acrylonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.500	0.4072	02	5.000	0.3674	03	10.000	0.4031	04	25.000	0.4274
05	100.000	0.4437	06	250.000	0.4312	07	500.000	0.4338	08	750.000	0.4421
09	1000.000	0.4005									

Allyl Chloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.261	02	1.000	0.3361	03	2.000	0.2709	04	5.000	0.2805
05	20.000	0.3214	06	50.000	0.2648	07	100.000	0.2599	08	150.000	0.2654
09	200.000	0.264									

Benzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.544	02	1.000	1.524	03	2.000	1.542	04	5.000	1.451
05	20.000	1.544	06	50.000	1.519	07	100.000	1.528	08	150.000	1.479
09	200.000	1.397									

Bromodichloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.362	02	1.000	0.3539	03	2.000	0.3935	04	5.000	0.3962
05	20.000	0.4042	06	50.000	0.4083	07	100.000	0.4218	08	150.000	0.4307
09	200.000	0.4219									

Bromoform

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.2866	03	2.000	0.3253	04	5.000	0.3356	05	20.000	0.3494
06	50.000	0.3541	07	100.000	0.3925	08	150.000	0.4096			

Bromomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.6796	02	1.000	0.5669	03	2.000	0.5379	04	5.000	0.4755
05	20.000	0.4136	06	50.000	0.4122	07	100.000	0.4181	08	150.000	0.4163
09	200.000	0.4217									

Carbon Disulfide

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.804	02	1.000	1.346	03	2.000	1.389	04	5.000	1.293
05	20.000	1.514	06	50.000	1.481	07	100.000	1.483	08	150.000	1.501
09	200.000	1.38									

Carbon Tetrachloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3707	02	1.000	0.2577	03	2.000	0.3127	04	5.000	0.3235
05	20.000	0.3361	06	50.000	0.3449	07	100.000	0.3653	08	150.000	0.3775

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Analyte

Carbon Tetrachloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	200.000	0.3762									

Chlorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.236	02	1.000	1.125	03	2.000	1.091	04	5.000	1.081
05	20.000	1.116	06	50.000	1.091	07	100.000	1.111	08	150.000	1.068
09	200.000	1.008									

Chloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5525	02	1.000	0.5456	03	2.000	0.5878	04	5.000	0.4681
05	20.000	0.5558	06	50.000	0.5284	07	100.000	0.5271	08	150.000	0.538
09	200.000	0.5126									

Chloroform

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8904	02	1.000	1.035	03	2.000	1.054	04	5.000	0.9261
05	20.000	0.9682	06	50.000	0.9441	07	100.000	0.9661	08	150.000	0.9937
09	200.000	0.9379									

Chloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.155	02	1.000	0.9031	03	2.000	0.9641	04	5.000	0.8101
05	20.000	0.9682	06	50.000	0.9335	07	100.000	0.9465	08	150.000	0.9859
09	200.000	0.9021									

Cyclohexane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.378	03	2.000	0.4516	04	5.000	0.3604	05	20.000	0.4229
06	50.000	0.386	07	100.000	0.4027	08	150.000	0.4025	09	200.000	0.3898

Dibromochloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2672	02	1.000	0.2889	03	2.000	0.2902	04	5.000	0.2962
05	20.000	0.3032	06	50.000	0.3071	07	100.000	0.3338	08	150.000	0.3468
09	200.000	0.3538									

Dibromofluoromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	0.2976	05	20.000	0.2398	06	50.000	0.2654	07	100.000	0.2681
08	200.000	0.254									

Dibromomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2216	02	1.000	0.1731	03	2.000	0.1896	04	5.000	0.2001
05	20.000	0.2061	06	50.000	0.2099	07	100.000	0.2186	08	150.000	0.2187
09	200.000	0.2141									

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Analyte

Dichlorodifluoromethane (CFC 12)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5557	02	1.000	0.5807	03	2.000	0.5614	04	5.000	0.4827
05	20.000	0.7043	06	50.000	0.6643	07	100.000	0.6874	08	150.000	0.6919
09	200.000	0.6334									

Dichlorofluoromethane (CFC 21)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.013	02	1.000	0.9678	03	2.000	1.031	04	5.000	0.9846
05	20.000	1.038	06	50.000	0.949	07	100.000	0.9723	08	150.000	1.005
09	200.000	0.9539									

Dichloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7663	02	1.000	0.725	03	2.000	0.6706	04	5.000	0.6174
05	20.000	0.633	06	50.000	0.5689	07	100.000	0.5829	08	150.000	0.5987
09	200.000	0.5707									

Ethyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5894	02	1.000	0.6242	03	2.000	0.6511	04	5.000	0.6313
05	20.000	0.7042	06	50.000	0.7137	07	100.000	0.7226	08	150.000	0.7432
09	200.000	0.6975									

Ethylbenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.6327	02	1.000	0.5586	03	2.000	0.5889	04	5.000	0.5604
05	20.000	0.6218	06	50.000	0.5942	07	100.000	0.626	08	150.000	0.6146
09	200.000	0.5929									

Iodomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.2984	04	5.000	0.3777	05	20.000	0.5844	06	50.000	0.6446
07	100.000	0.6785	08	150.000	0.6912	09	200.000	0.6683			

Isobutyl Alcohol

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.03257	04	100.000	0.04069	05	400.000	0.04128	06	1000.000	0.04204
07	2000.000	0.04537	08	3000.000	0.05047	09	4000.000	0.04718			

Methacrylonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.4104	03	2.000	0.4033	04	5.000	0.3821	05	20.000	0.4164
06	50.000	0.4197	07	100.000	0.4266	08	150.000	0.4487	09	200.000	0.4287

Methyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2916	02	1.000	0.3261	03	2.000	0.3794	04	5.000	0.3821
05	20.000	0.4076	06	50.000	0.4179	07	100.000	0.4218	08	150.000	0.4298

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Analyte

Methyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	200.000	0.419									

Methyl tert-Butyl Ether

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.705	02	1.000	2.025	03	2.000	2.157	04	5.000	2.104
05	20.000	2.222	06	50.000	2.068	07	100.000	2.091	08	150.000	2.168
09	200.000	1.984									

Methylcyclohexane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.5415	03	2.000	0.5598	04	5.000	0.5267	05	20.000	0.5522
06	50.000	0.5204	07	100.000	0.548	08	150.000	0.5381	09	200.000	0.5222

Propionitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.500	0.1269	02	5.000	0.1826	03	10.000	0.1656	04	25.000	0.1701
05	100.000	0.1834	06	250.000	0.1807	07	500.000	0.1887	08	750.000	0.2018
09	1000.000	0.1872									

Styrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.143	02	1.000	1.163	03	2.000	1.227	04	5.000	1.219
05	20.000	1.293	06	50.000	1.272	07	100.000	1.293	08	150.000	1.232
09	200.000	1.133									

Tetrachloroethene (PCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3129	02	1.000	0.3263	03	2.000	0.3367	04	5.000	0.2814
05	20.000	0.299	06	50.000	0.2847	07	100.000	0.2963	08	150.000	0.2881
09	200.000	0.2884									

Tetrahydrofuran (THF)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.7252	04	5.000	0.4945	05	20.000	0.4286	06	50.000	0.3965
07	100.000	0.3909	08	150.000	0.4217	09	200.000	0.4195			

Toluene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.621	02	1.000	1.561	03	2.000	1.562	04	5.000	1.518
05	20.000	1.578	06	50.000	1.568	07	100.000	1.526	08	150.000	1.443
09	200.000	1.308									

Toluene-d8

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	1.448	05	20.000	1.187	06	50.000	1.263	07	100.000	1.244
08	200.000	1.096									

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Analyte

Trichloroethene (TCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3599	02	1.000	0.2812	03	2.000	0.3421	04	5.000	0.3126
05	20.000	0.3367	06	50.000	0.3426	07	100.000	0.35	08	150.000	0.344
09	200.000	0.339									

Trichlorofluoromethane (CFC 11)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.726	02	1.000	0.617	03	2.000	0.6854	04	5.000	0.6466
05	20.000	0.7658	06	50.000	0.7524	07	100.000	0.7815	08	150.000	0.78
09	200.000	0.7305									

Vinyl Acetate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.08279	04	5.000	0.07969	05	20.000	0.1366	06	50.000	0.1297
07	100.000	0.1479	08	150.000	0.1562	09	200.000	0.1414			

Vinyl Chloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9647	02	1.000	0.8109	03	2.000	0.8428	04	5.000	0.8102
05	20.000	0.9512	06	50.000	0.9033	07	100.000	0.931	08	150.000	0.939
09	200.000	0.8451									

cis-1,2-Dichloroethene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5676	02	1.000	0.6108	03	2.000	0.5884	04	5.000	0.5891
05	20.000	0.6428	06	50.000	0.6101	07	100.000	0.631	08	150.000	0.6445
09	200.000	0.6027									

cis-1,3-Dichloropropene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5311	02	1.000	0.5457	03	2.000	0.5622	04	5.000	0.5917
05	20.000	0.5904	06	50.000	0.6222	07	100.000	0.6339	08	150.000	0.6387
09	200.000	0.6211									

m,p-Xylenes

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	1.000	0.7188	02	2.000	0.7259	03	4.000	0.7554	04	10.000	0.7365
05	40.000	0.7563	06	100.000	0.7421	07	200.000	0.7415	08	300.000	0.6959
09	400.000	0.6396									

o-Xylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7973	02	1.000	0.7466	03	2.000	0.6735	04	5.000	0.7057
05	20.000	0.7573	06	50.000	0.7254	07	100.000	0.7611	08	150.000	0.7424
09	200.000	0.7171									

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Analyte

trans-1,2-Dichloroethene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5024	02	1.000	0.5017	03	2.000	0.5126	04	5.000	0.5154
05	20.000	0.5573	06	50.000	0.5219	07	100.000	0.555	08	150.000	0.5717
09	200.000	0.542									

trans-1,3-Dichloropropene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5864	02	1.000	0.4369	03	2.000	0.5004	04	5.000	0.5262
05	20.000	0.5641	06	50.000	0.5663	07	100.000	0.5837	08	150.000	0.6011

trans-1,4-Dichloro-2-butene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3178	02	1.000	0.353	03	2.000	0.3458	04	5.000	0.3671
05	20.000	0.4054	06	50.000	0.3752	07	100.000	0.4118	08	150.000	0.4118
09	200.000	0.4002									

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Calibration ID: RC1900101 **Signal ID:** 1
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		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
1,1,1,2-Tetrachloroethane	TRG	Average RF	% RSD	11.1	≤20	0.3287	
1,1,1-Trichloroethane (TCA)	TRG	Average RF	% RSD	6.0	≤20	0.772	0.100
1,1,2,2-Tetrachloroethane	TRG	Average RF	% RSD	7.0	≤20	1.136	0.300
1,1,2-Trichloro-1,2,2-trifluoroethane	TRG	Average RF	% RSD	6.0	≤20	0.4756	0.100
1,1,2-Trichloroethane	TRG	Average RF	% RSD	10.6	≤20	0.3375	0.100
1,1-Dichloroethane (1,1-DCA)	TRG	Average RF	% RSD	5.2	≤20	1.099	0.200
1,1-Dichloroethene (1,1-DCE)	TRG	Average RF	% RSD	3.4	≤20	0.4891	0.100
1,2,3-Trichloropropane	TRG	Average RF	% RSD	6.8	≤20	0.3741	
1,2-Dibromo-3-chloropropane (DBCP)	TRG	Average RF	% RSD	11.4	≤20	0.2625	0.050
1,2-Dibromoethane	TRG	Average RF	% RSD	1.9	≤20	0.3906	0.100
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	TRG	Average RF	% RSD	9.0	≤20	0.6924	
1,2-Dichloroethane	TRG	Average RF	% RSD	3.3	≤20	0.5109	0.100
1,2-Dichloropropane	TRG	Average RF	% RSD	5.9	≤20	0.4148	0.100
1,4-Dioxane	TRG	Average RF	% RSD	5.7	≤20	0.009593	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	TRG	Average RF	% RSD	5.2	≤20	0.7637	
2-Butanone (MEK)	TRG	Average RF	% RSD	4.6	≤20	0.5684	0.05
2-Chloro-1,3-butadiene	TRG	Average RF	% RSD	5.9	≤20	0.8894	
2-Hexanone	TRG	Average RF	% RSD	5.8	≤20	0.5567	0.05
2-Propanol	TRG	Average RF	% RSD	8.4	≤20	0.09253	
4-Bromofluorobenzene	SURR	Average RF	% RSD	5.9	≤20	0.4854	
4-Methyl-2-pentanone	TRG	Average RF	% RSD	7.4	≤20	0.6419	0.05
Acetone	TRG	Average RF	% RSD	4.4	≤20	0.4069	0.05
Acetonitrile	TRG	Average RF	% RSD	13.1	≤20	0.05401	
Acrolein	TRG	Average RF	% RSD	7.1	≤20	0.1769	
Acrylonitrile	TRG	Average RF	% RSD	6.0	≤20	0.4174	
Allyl Chloride	TRG	Average RF	% RSD	10.1	≤20	0.2805	
Benzene	TRG	Average RF	% RSD	3.4	≤20	1.503	0.500
Bromodichloromethane	TRG	Average RF	% RSD	6.6	≤20	0.3992	0.200
Bromoform	TRG	Average RF	% RSD	11.8	≤20	0.3504	0.100
Bromomethane	TRG	Quadratic	COD	1.0000	≥0.99	0.4824	0.100
Carbon Disulfide	TRG	Average RF	% RSD	10.1	≤20	1.466	0.100
Carbon Tetrachloride	TRG	Average RF	% RSD	11.4	≤20	0.3405	0.05
Chlorobenzene	TRG	Average RF	% RSD	5.5	≤20	1.103	0.500

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Chloroethane	TRG	Average RF	% RSD	6.2	≤20	0.5351	0.100
Chloroform	TRG	Average RF	% RSD	5.4	≤20	0.9683	0.200
Chloromethane	TRG	Average RF	% RSD	9.7	≤20	0.952	0.100
Cyclohexane	TRG	Average RF	% RSD	7.0	≤20	0.3993	0.100
Dibromochloromethane	TRG	Average RF	% RSD	9.4	≤20	0.3097	0.100
Dibromofluoromethane	SURR	Average RF	% RSD	8.1	≤20	0.265	
Dibromomethane	TRG	Average RF	% RSD	7.7	≤20	0.2058	
Dichlorodifluoromethane (CFC 12)	TRG	Average RF	% RSD	12.4	≤20	0.618	0.100
Dichlorofluoromethane (CFC 21)	TRG	Average RF	% RSD	3.3	≤20	0.9906	
Dichloromethane	TRG	Average RF	% RSD	11.0	≤20	0.6371	0.100
Ethyl Methacrylate	TRG	Average RF	% RSD	7.8	≤20	0.6752	
Ethylbenzene	TRG	Average RF	% RSD	4.5	≤20	0.5989	0.100
Iodomethane	TRG	Quadratic	COD	0.9949	≥0.99	0.5633	
Isobutyl Alcohol	TRG	Average RF	% RSD	13.4	≤20	0.0428	
Methacrylonitrile	TRG	Average RF	% RSD	4.7	≤20	0.417	
Methyl Methacrylate	TRG	Average RF	% RSD	12.4	≤20	0.3861	
Methyl tert-Butyl Ether	TRG	Average RF	% RSD	7.4	≤20	2.058	0.100
Methylcyclohexane	TRG	Average RF	% RSD	2.7	≤20	0.5386	0.100
Propionitrile	TRG	Average RF	% RSD	12.1	≤20	0.1763	
Styrene	TRG	Average RF	% RSD	5.0	≤20	1.219	0.300
Tetrachloroethene (PCE)	TRG	Average RF	% RSD	6.5	≤20	0.3015	0.200
Tetrahydrofuran (THF)	TRG	Quadratic	COD	0.9992	≥0.99	0.4681	
Toluene	TRG	Average RF	% RSD	6.2	≤20	1.52	0.400
Toluene-d8	SURR	Average RF	% RSD	10.4	≤20	1.248	
Trichloroethene (TCE)	TRG	Average RF	% RSD	7.1	≤20	0.3342	0.200
Trichlorofluoromethane (CFC 11)	TRG	Average RF	% RSD	8.2	≤20	0.7206	0.100
Vinyl Acetate	TRG	Quadratic	COD	0.9938	≥0.99	0.1249	
Vinyl Chloride	TRG	Average RF	% RSD	6.9	≤20	0.8887	0.100
cis-1,2-Dichloroethene	TRG	Average RF	% RSD	4.3	≤20	0.6097	0.100
cis-1,3-Dichloropropene	TRG	Average RF	% RSD	6.6	≤20	0.593	0.200
m,p-Xylenes	TRG	Average RF	% RSD	5.1	≤20	0.7236	0.100
o-Xylene	TRG	Average RF	% RSD	4.9	≤20	0.7363	0.300
trans-1,2-Dichloroethene	TRG	Average RF	% RSD	4.9	≤20	0.5311	0.100
trans-1,3-Dichloropropene	TRG	Average RF	% RSD	10.1	≤20	0.5457	0.100
trans-1,4-Dichloro-2-butene	TRG	Average RF	% RSD	8.9	≤20	0.3764	

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

#	Lab Code	Sample Name	File Location	Acquisition Date
10	RC1900101-10	ICV/LCS 50	I:\ACQUDATA\msvoa12\Data\091219\P29749.D	09/12/2019 10:23

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	48.2	3.287E-1	3.168E-1	-3.641	±30	Average RF
1,1,1-Trichloroethane (TCA)	50.0	45.0	7.72E-1	6.951E-1	-9.970	±30	Average RF
1,1,2,2-Tetrachloroethane	50.0	44.8	1.136E0	1.019E0	-10.330	±30	Average RF
1,1,2-Trichloroethane	50.0	44.3	3.375E-1	2.994E-1	-11.313	±30	Average RF
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	44.0	4.756E-1	4.182E-1	-12.075	±30	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	44.5	1.099E0	9.77E-1	-11.070	±30	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	42.8	4.891E-1	4.187E-1	-14.408	±30	Average RF
1,2,3-Trichloropropane	50.0	38.2	3.741E-1	2.855E-1	-23.674	±30	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	40.2	2.625E-1	2.111E-1	-19.601	±30	Average RF
1,2-Dibromoethane	50.0	42.3	3.906E-1	3.308E-1	-15.324	±30	Average RF
1,2-Dichloroethane	50.0	40.6	5.109E-1	4.15E-1	-18.779	±30	Average RF
1,2-Dichloropropane	50.0	42.7	4.148E-1	3.543E-1	-14.604	±30	Average RF
1,4-Dioxane	1000	749	9.593E-3	7.182E-3	-25.133	±30	Average RF
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	50.0	45.6	7.637E-1	6.967E-1	-8.781	±30	Average RF
2-Butanone (MEK)	50.0	41.6	5.684E-1	4.732E-1	-16.742	±30	Average RF
2-Chloro-1,3-butadiene	50.0	47.2	8.894E-1	8.405E-1	-5.500	±30	Average RF
2-Hexanone	50.0	42.4	5.567E-1	4.716E-1	-15.279	±30	Average RF
Isobutyl Alcohol	1000	690	4.28E-2	2.955E-2	-30.954*	±30	Average RF
2-Propanol	1000	745	9.253E-2	6.894E-2	-25.496	±30	Average RF
Allyl Chloride	50.0	48.2	2.805E-1	2.704E-1	-3.581	±30	Average RF
4-Methyl-2-pentanone	50.0	41.9	6.419E-1	5.378E-1	-16.213	±30	Average RF
Acetone	50.0	40.2	4.069E-1	3.272E-1	-19.593	±30	Average RF
Acetonitrile	250	208	5.401E-2	4.503E-2	-16.617	±30	Average RF
Acrolein	100	62.9	1.769E-1	1.112E-1	-37.134*	±30	Average RF
Acrylonitrile	250	205	4.174E-1	3.429E-1	-17.842	±30	Average RF
Benzene	50.0	43.8	1.503E0	1.316E0	-12.470	±30	Average RF
Bromodichloromethane	50.0	45.4	3.992E-1	3.625E-1	-9.197	±30	Average RF
Bromoform	50.0	45.2	3.504E-1	3.167E-1	-9.630	±30	Average RF
Bromomethane	50.0	47.2	4.824E-1	3.926E-1	-5.508	±30	Quadratic
Carbon Disulfide	50.0	47.0	1.466E0	1.377E0	-6.021	±30	Average RF
Carbon Tetrachloride	50.0	46.8	3.405E-1	3.187E-1	-6.403	±30	Average RF
Chlorobenzene	50.0	44.5	1.103E0	9.824E-1	-10.946	±30	Average RF
Chloroethane	50.0	39.3	5.351E-1	4.203E-1	-21.453	±30	Average RF

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Chloroform	50.0	43.2	9.683E-1	8.36E-1	-13.669	±30	Average RF
Chloromethane	50.0	38.2	9.52E-1	7.265E-1	-23.686	±30	Average RF
Cyclohexane	50.0	44.4	3.993E-1	3.544E-1	-11.246	±30	Average RF
Dibromochloromethane	50.0	47.5	3.097E-1	2.942E-1	-5.024	±30	Average RF
Dibromomethane	50.0	44.9	2.058E-1	1.846E-1	-10.274	±30	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	39.6	6.18E-1	4.889E-1	-20.895	±30	Average RF
Dichlorofluoromethane (CFC 21)	50.0	43.6	9.906E-1	8.643E-1	-12.748	±30	Average RF
Dichloromethane	50.0	40.1	6.371E-1	5.11E-1	-19.794	±30	Average RF
Ethyl Methacrylate	50.0	42.7	6.752E-1	5.765E-1	-14.617	±30	Average RF
Ethylbenzene	50.0	46.4	5.989E-1	5.562E-1	-7.128	±30	Average RF
Iodomethane	50.0	39.6	5.633E-1	4.762E-1	-20.888	±30	Quadratic
Methacrylonitrile	50.0	38.7	4.17E-1	3.227E-1	-22.617	±30	Average RF
Methyl Methacrylate	50.0	42.2	3.861E-1	3.259E-1	-15.615	±30	Average RF
Methyl tert-Butyl Ether	50.0	43.4	2.058E0	1.785E0	-13.295	±30	Average RF
Methylcyclohexane	50.0	45.5	5.386E-1	4.897E-1	-9.080	±30	Average RF
Propionitrile	250	199	1.763E-1	1.401E-1	-20.524	±30	Average RF
Styrene	50.0	45.8	1.219E0	1.117E0	-8.414	±30	Average RF
Tetrachloroethene (PCE)	50.0	43.0	3.015E-1	2.595E-1	-13.940	±30	Average RF
Tetrahydrofuran (THF)	50.0	38.8	4.681E-1	3.092E-1	-22.467	±30	Quadratic
Toluene	50.0	45.6	1.52E0	1.386E0	-8.845	±30	Average RF
Trichloroethene (TCE)	50.0	42.4	3.342E-1	2.837E-1	-15.122	±30	Average RF
Trichlorofluoromethane (CFC 11)	50.0	46.6	7.206E-1	6.719E-1	-6.753	±30	Average RF
Vinyl Acetate	50.0	50.3	1.249E-1	1.43E-1	0.507	±30	Quadratic
Vinyl Chloride	50.0	40.7	8.887E-1	7.242E-1	-18.507	±30	Average RF
cis-1,2-Dichloroethene	50.0	43.8	6.097E-1	5.342E-1	-12.387	±30	Average RF
cis-1,3-Dichloropropene	50.0	44.8	5.93E-1	5.308E-1	-10.493	±30	Average RF
m,p-Xylenes	100	95.5	7.236E-1	6.907E-1	-4.538	±30	Average RF
o-Xylene	50.0	45.9	7.363E-1	6.756E-1	-8.241	±30	Average RF
trans-1,2-Dichloroethene	50.0	44.4	5.311E-1	4.712E-1	-11.283	±30	Average RF
trans-1,3-Dichloropropene	50.0	43.7	5.457E-1	4.767E-1	-12.634	±30	Average RF
trans-1,4-Dichloro-2-butene	50.0	42.3	3.764E-1	3.185E-1	-15.387	±30	Average RF
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	50.0	42.2	6.924E-1	5.841E-1	-15.640	±30	Average RF

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
4-Bromofluorobenzene	50.0	49.6	4.854E-1	4.819E-1	-0.708	±30	Average RF
Dibromofluoromethane	50.0	48.7	2.65E-1	2.582E-1	-2.567	±30	Average RF
Toluene-d8	50.0	50.8	1.248E0	1.267E0	1.55	±30	Average RF

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B

Service Request: R1910325
Date Analyzed: 10/23/19 20:08

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
File ID: I:\ACQUDATA\msvoa12\Data\102319\P31204.D\
Signal ID: 1

Calibration Date: 9/11/2019
Calibration ID: RC1900101
Analysis Lot: 656768
Units: ppb

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	49.9	0.3287	0.3282	-0.2	NA	±20	Average RF
1,1,1-Trichloroethane (TCA)	50.0	46.6	0.772	0.72	-6.7	NA	±20	Average RF
1,1,2,2-Tetrachloroethane	50.0	45.4	1.1364	1.0311	-9.3	NA	±20	Average RF
1,1,2-Trichloroethane	50.0	47.2	0.3375	0.3184	-5.7	NA	±20	Average RF
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	46.0	0.4756	0.4372	-8.1	NA	±20	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	46.6	1.0987	1.023	-6.9	NA	±20	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	46.3	0.4891	0.4532	-7.4	NA	±20	Average RF
1,2,3-Trichloropropane	50.0	42.8	0.3741	0.3199	-14.5	NA	±20	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	43.8	0.2625	0.2301	-12.4	NA	±20	Average RF
1,2-Dibromoethane	50.0	45.4	0.3906	0.3546	-9.2	NA	±20	Average RF
1,2-Dichloroethane	50.0	45.5	0.5109	0.4648	-9.0	NA	±20	Average RF
1,2-Dichloropropane	50.0	46.1	0.4148	0.3827	-7.8	NA	±20	Average RF
1,4-Dioxane	1000	802	0.0096	0.0077	-19.8	NA	±20	Average RF
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	50.0	43.1	0.7637	0.6589	-13.7	NA	±20	Average RF
2-Butanone (MEK)	50.0	48.3	0.5684	0.5494	-3.3	NA	±20	Average RF
2-Chloro-1,3-butadiene	50.0	49.3	0.8894	0.8774	-1.3	NA	±20	Average RF
2-Hexanone	50.0	49.1	0.5567	0.547	-1.7	NA	±20	Average RF
Isobutyl Alcohol	1000	834	0.0428	0.0357	-16.6	NA	±20	Average RF
2-Propanol	1000	834	0.0925	0.0771	-16.6	NA	±20	Average RF
Allyl Chloride	50.0	35.0	0.2805	0.1966	-29.9*	NA	±20	Average RF
4-Methyl-2-pentanone	50.0	48.8	0.6419	0.626	-2.5	NA	±20	Average RF
Acetone	50.0	49.5	0.4069	0.4032	-0.9	NA	±20	Average RF
Acetonitrile	250	210	0.054	0.0453	-16.1	NA	±20	Average RF
Acrolein	250	234	0.1769	0.1657	-6.3	NA	±20	Average RF
Acrylonitrile	250	223	0.4174	0.3715	-11.0	NA	±20	Average RF
Benzene	50.0	47.8	1.5031	1.4372	-4.4	NA	±20	Average RF
Bromodichloromethane	50.0	48.2	0.3992	0.3849	-3.6	NA	±20	Average RF
Bromoform	50.0	53.8	0.3504	0.377	7.6	NA	±20	Average RF
Bromomethane	50.0	43.9	0.4824	0.3646	NA	-12.3	±20	Quadratic
Carbon Disulfide	50.0	47.9	1.4656	1.4043	-4.2	NA	±20	Average RF
Carbon Tetrachloride	50.0	50.6	0.3405	0.3446	1.2	NA	±20	Average RF
Chlorobenzene	50.0	47.2	1.1031	1.0409	-5.6	NA	±20	Average RF
Chloroethane	50.0	63.3	0.5351	0.6779	26.7*	NA	±20	Average RF
Chloroform	50.0	44.0	0.9683	0.8528	-11.9	NA	±20	Average RF
Chloromethane	50.0	38.1	0.952	0.7252	-23.8*	NA	±20	Average RF
Cyclohexane	50.0	48.3	0.3993	0.3857	-3.4	NA	±20	Average RF
Dibromochloromethane	50.0	49.2	0.3097	0.3049	-1.5	NA	±20	Average RF
Dibromomethane	50.0	49.4	0.2058	0.2033	-1.2	NA	±20	Average RF

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/23/19 20:08

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Calibration Date:**	9/11/2019
File ID:	I:\ACQUDATA\msvoa12\Data\102319\P31204.D\	**Calibration ID:**	RC1900101
Signal ID:	1	**Analysis Lot:**	656768
		Units:	ppb

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Dichlorodifluoromethane (CFC 12)	50.0	56.3	0.618	0.6954	12.5	NA	±20	Average RF
Dichlorofluoromethane (CFC 21)	50.0	48.3	0.9906	0.9563	-3.5	NA	±20	Average RF
Dichloromethane	50.0	41.6	0.6371	0.5303	-16.8	NA	±20	Average RF
Ethyl Methacrylate	50.0	45.8	0.6752	0.6184	-8.4	NA	±20	Average RF
Ethylbenzene	50.0	47.1	0.5989	0.5643	-5.8	NA	±20	Average RF
Iodomethane	50.0	28.4	0.5633	0.3342	NA	-43.3*	±20	Quadratic
Methacrylonitrile	50.0	41.8	0.417	0.3485	-16.4	NA	±20	Average RF
Methyl Methacrylate	50.0	46.3	0.3861	0.3573	-7.5	NA	±20	Average RF
Methyl tert-Butyl Ether	50.0	44.7	2.0584	1.8409	-10.6	NA	±20	Average RF
Methylcyclohexane	50.0	46.3	0.5386	0.4985	-7.5	NA	±20	Average RF
Propionitrile	250	222	0.1763	0.1567	-11.2	NA	±20	Average RF
Styrene	50.0	48.6	1.2193	1.1854	-2.8	NA	±20	Average RF
Tetrachloroethene (PCE)	50.0	46.8	0.3015	0.2823	-6.4	NA	±20	Average RF
Tetrahydrofuran (THF)	50.0	42.3	0.4681	0.3372	NA	-15.3	±20	Quadratic
Toluene	50.0	48.5	1.5204	1.4738	-3.1	NA	±20	Average RF
Trichloroethene (TCE)	50.0	49.0	0.3342	0.3278	-1.9	NA	±20	Average RF
Trichlorofluoromethane (CFC 11)	50.0	49.2	0.7206	0.7091	-1.6	NA	±20	Average RF
Vinyl Acetate	50.0	47.5	0.1249	0.1349	NA	-5.0	±20	Quadratic
Vinyl Chloride	50.0	47.8	0.8887	0.8497	-4.4	NA	±20	Average RF
cis-1,2-Dichloroethene	50.0	45.6	0.6097	0.5561	-8.8	NA	±20	Average RF
cis-1,3-Dichloropropene	50.0	47.9	0.593	0.5686	-4.1	NA	±20	Average RF
m,p-Xylenes	100	97.2	0.7236	0.7031	-2.8	NA	±20	Average RF
o-Xylene	50.0	47.4	0.7363	0.6983	-5.2	NA	±20	Average RF
trans-1,2-Dichloroethene	50.0	46.7	0.5311	0.496	-6.6	NA	±20	Average RF
trans-1,3-Dichloropropene	50.0	47.6	0.5457	0.519	-4.9	NA	±20	Average RF
trans-1,4-Dichloro-2-butene	50.0	34.6	0.3764	0.2604	-30.8*	NA	±20	Average RF
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	50.0	44.3	0.6924	0.6131	-11.5	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
4-Bromofluorobenzene	50.0	48.1	0.4854	0.4667	-3.8	NA	±20	Average RF
Dibromofluoromethane	50.0	48.7	0.265	0.258	-2.7	NA	±20	Average RF
Toluene-d8	50.0	49.9	1.2475	1.2446	-0.2	NA	±20	Average RF

Client: NASA/WSTF/Navarro **Service Request:**R1910325
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**656768
Instrument ID:R-MS-12

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\msvoa12\Data\102319\P31203.D\	ZZZZZZZ	ZZZZZZZ	10/23/2019	19:46:00	
I:\ACQUDATA\msvoa12\Data\102319\P31204.D\	Continuing Calibration Verification	RQ1912264-02	10/23/2019	20:08:00	
I:\ACQUDATA\msvoa12\Data\102319\P31205.D\	Lab Control Sample	RQ1912264-03	10/23/2019	20:30:00	
I:\ACQUDATA\msvoa12\Data\102319\P31208.D\	Method Blank	RQ1912264-04	10/23/2019	21:35:00	
I:\ACQUDATA\msvoa12\Data\102319\P31209.D\	ZZZZZZZ	ZZZZZZZ	10/23/2019	21:56:00	
I:\ACQUDATA\msvoa12\Data\102319\P31210.D\	ZZZZZZZ	ZZZZZZZ	10/23/2019	22:18:00	
I:\ACQUDATA\msvoa12\Data\102319\P31211.D\	ZZZZZZZ	ZZZZZZZ	10/23/2019	22:40:00	
I:\ACQUDATA\msvoa12\Data\102319\P31212.D\	ZZZZZZZ	ZZZZZZZ	10/23/2019	23:02:00	
I:\ACQUDATA\msvoa12\Data\102319\P31213.D\	ZZZZZZZ	ZZZZZZZ	10/23/2019	23:23:00	
I:\ACQUDATA\msvoa12\Data\102319\P31214.D\	ZZZZZZZ	ZZZZZZZ	10/23/2019	23:45:00	
I:\ACQUDATA\msvoa12\Data\102319\P31215.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	00:06:00	
I:\ACQUDATA\msvoa12\Data\102319\P31216.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	00:28:00	
I:\ACQUDATA\msvoa12\Data\102319\P31218.D\	1910160915 700-SVS-043	R1910325-002	10/24/2019	01:12:00	
I:\ACQUDATA\msvoa12\Data\102319\P31219.D\	1910160945 700-SVS-044	R1910325-004	10/24/2019	01:33:00	
I:\ACQUDATA\msvoa12\Data\102319\P31220.D\	1910161320 700-SVS-051	R1910325-007	10/24/2019	01:55:00	
I:\ACQUDATA\msvoa12\Data\102319\P31221.D\	1910161330 700-SVS-052	R1910325-010	10/24/2019	02:17:00	
I:\ACQUDATA\msvoa12\Data\102319\P31222.D\	1910170930 700-SVS-059	R1910325-013	10/24/2019	02:39:00	
I:\ACQUDATA\msvoa12\Data\102319\P31223.D\	1910171000 700-SVS-060	R1910325-016	10/24/2019	03:00:00	
I:\ACQUDATA\msvoa12\Data\102319\P31224.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	03:22:00	
I:\ACQUDATA\msvoa12\Data\102319\P31226.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	04:06:00	
I:\ACQUDATA\msvoa12\Data\102319\P31227.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	04:27:00	
I:\ACQUDATA\msvoa12\Data\102319\P31228.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	04:49:00	
I:\ACQUDATA\msvoa12\Data\102319\P31230.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	05:33:00	

Client: NASA/WSTF/Navarro **Service Request:**R1910325
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**656768
Instrument ID:R-MS-12

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\msvoa12\Data\102319\P31231.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	05:54:00	
I:\ACQUDATA\msvoa12\Data\102319\P31232.D\	ZZZZZZZ	ZZZZZZZ	10/24/2019	06:16:00	

Analysis: 8260 Waters | Analyst: KDuest | pH strips: 207519 | Tune Method: W091119

Date: 10/23/19 Run#2 | Balance ID: N/A | ResCl strips: N/A | Run Method: ↓

Instr. 12 | 50 mL Class A used for dilution FV | Syringes: 202536 | LIMS Run#: 656768

Data Path: j:\acqudata\msvoa(InstID)\(Date)

Pos.	Sample	Diln.	Diln. Prep./	RL	Tier	Vial	pH	File#	OK?	Comments
19	TUNE		R0191226H.01					P31203	YT	19:46 (auto)
20	CCV		02					P31204	YC	
21	LCS.FP		03					P31205	YQ	
22	BLK		—					P31206	(N)	not c/o
23	MBLK.UNP		—					P31207	YB	
24	MBLK.FP		↓ 04					P31208	YB	
25	R1910321.001	1.0	(LL)	66656	4	1	22	P31209	Y	
26	002	1.0				1	22	P31210	Y	
27	003	1.0				1	22	P31211	Y	
28	004	1.0				1	22	P31212	Y	
29	005	1.0				1	22	P31213	Y	
30	006	1.0				1	22	P31214	Y	
31	R1910252.005	1.0		66656	4	2	22	P31215	Y	
32	001	1.0				1	22	P31216	Y	
33	BLK					—	—	P31217	—	
34	R1910325.002	1.0		66656	4	1	22	P31218	Y	
35	004	1.0				1	22	P31219	Y	
36	007	1.0				1	22	P31220	Y	
37	010	1.0				1	22	P31221	Y	
38	013	1.0				1	22	P31222	Y	
39	016	1.0				1	22	P31223	Y	
40	R1910319.001	1.0		66656	4	1	22	P31224	(Y)	not 5.0
41	002	1.0				1	22	P31225	(N)	not 1.0
42	003	1.0				1	22	P31226	Y	
43	004	1.0				1	22	P31227	Y	
44	005	1.0				1	22	P31228	Y	
45	BLK					—	—	P31229	—	
46	R1910040.005	50		6673	2	2	7	P31230	Y	
47	MS 005	50				2	7	P31231	YQ	RunQC
48	MSD 005	50		↓	↓	2	7	P31232	YQ	↓ 6:16✓
49	BLK					—	—	P31233	—	

All samples = 5 mL + 5 uL combined IS/Surr. 5 mL purged

Combined IS/Surr: _____

Surrogate 50 : 203911

Internal Std 50 : 203912

Reagents: _____

500 Primary Acct : 202638

Primary Fr : 203440 — 5uL → 50mL = CCV

Primary T6 : 204037

Primary HSL : 203335

Primary _____

200 Secondary Fr : 203524 - 5uL

500 Secondary Acct : 203345

Secondary T6 : 203500 — 2uL

Secondary HSL : 203349

Secondary _____

50mL = LCS

- 10.6mL → 4.2uL → 4.2mL vial = MS/D

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Runlog-MSVOAr4 1/17/17

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160917 700-SVS-043	**Units:**	ug/L
Lab Code:	R1910325-001	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 17:37	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 17:37	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	84	30 - 132	10/25/19 17:37	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910160947 700-SVS-044	**Units:**	ug/L
Lab Code:	R1910325-006	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 17:59	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 17:59	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	70	30 - 132	10/25/19 17:59	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161322 700-SVS-051	**Units:**	ug/L
Lab Code:	R1910325-009	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 18:21	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 18:21	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	66	30 - 132	10/25/19 18:21	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/16/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910161332 700-SVS-052	**Units:**	ug/L
Lab Code:	R1910325-012	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 18:44	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 18:44	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	66	30 - 132	10/25/19 18:44	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910170932 700-SVS-059	**Units:**	ug/L
Lab Code:	R1910325-015	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 19:06	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 19:06	10/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	72	30 - 132	10/25/19 19:06	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/17/19
Sample Matrix:	Water	**Date Received:**	10/22/19 07:35
Sample Name:	1910171002 700-SVS-060	**Units:**	ug/L
Lab Code:	R1910325-018	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/25/19 19:29	10/23/19	
C28 - C40 ORO	ND U	100	75	1	10/25/19 19:29	10/23/19	

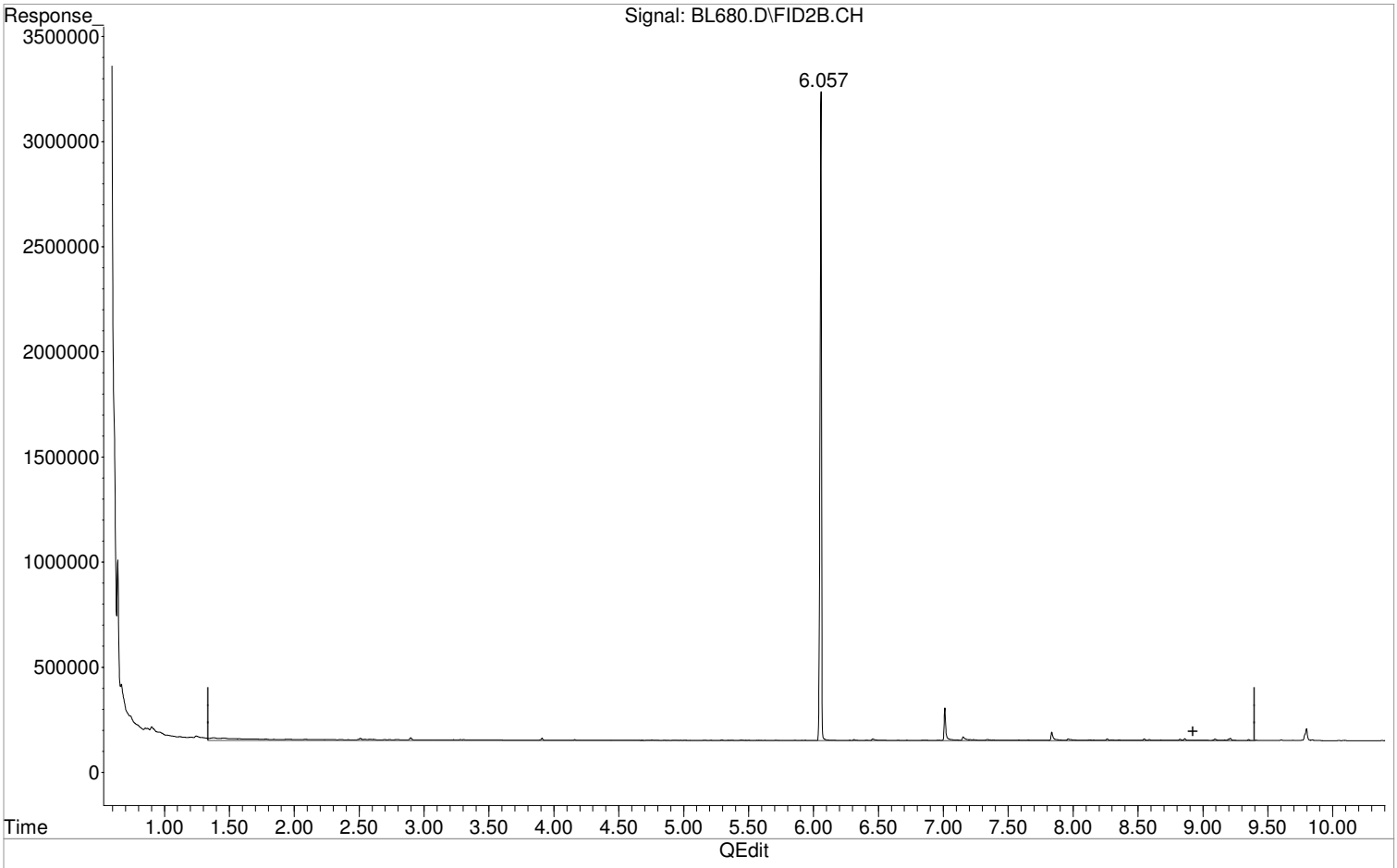
Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	95	30 - 132	10/25/19 19:29	

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL680.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:37 pm
Operator : JMisiurewicz
Sample : R1910325-001
Misc : 347123 8015 DRO
ALS Vial : 16 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 46.239 mg/l m

response 13959054

Manual Integration:

After

Poor integration.

10/28/19

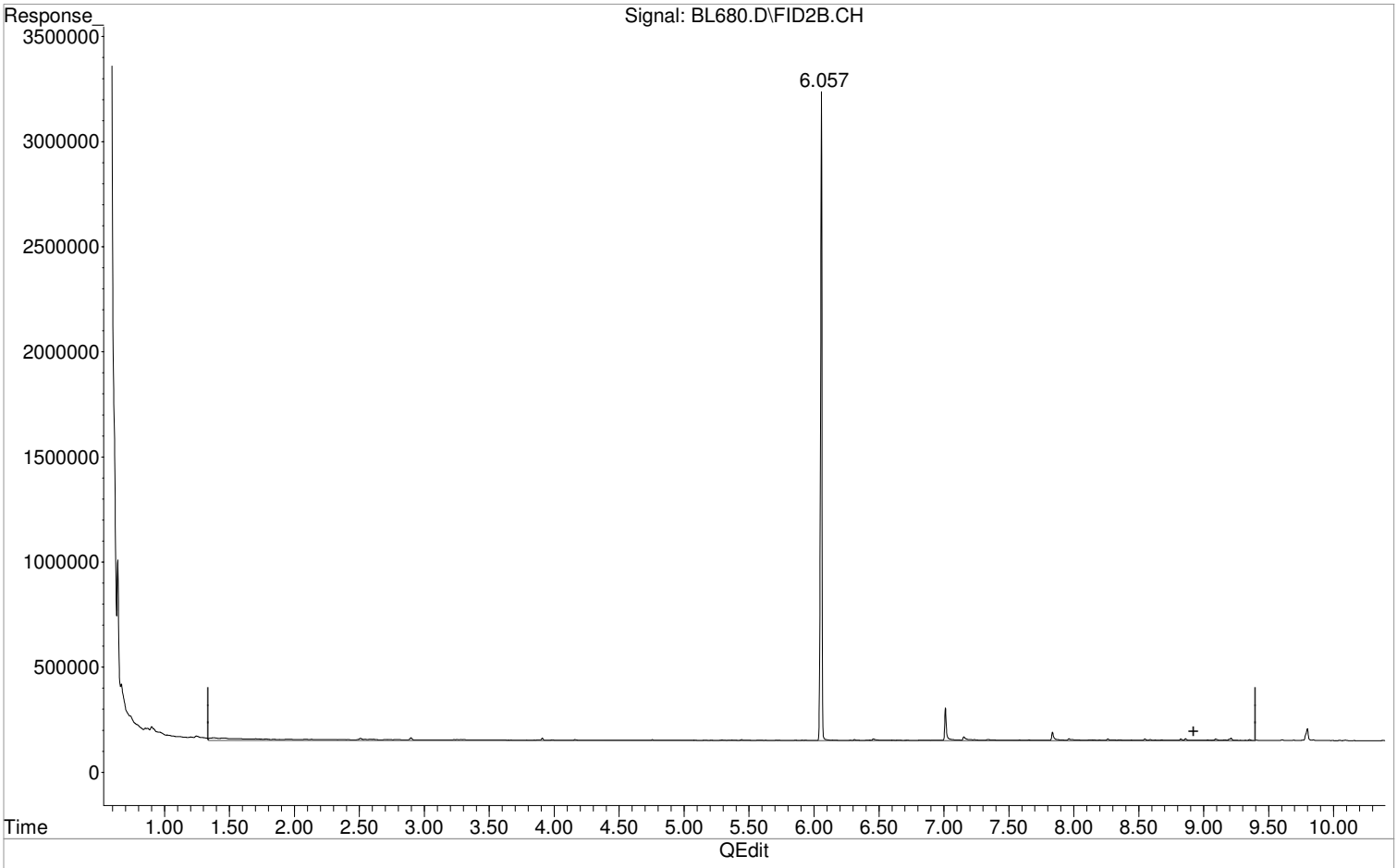
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL680.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:37 pm
Operator : JMisiurewicz
Sample : R1910325-001
Misc : 347123 8015 DRO
ALS Vial : 16 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 52.975 mg/l

response 15992624

Manual Integration:

Before

10/28/19

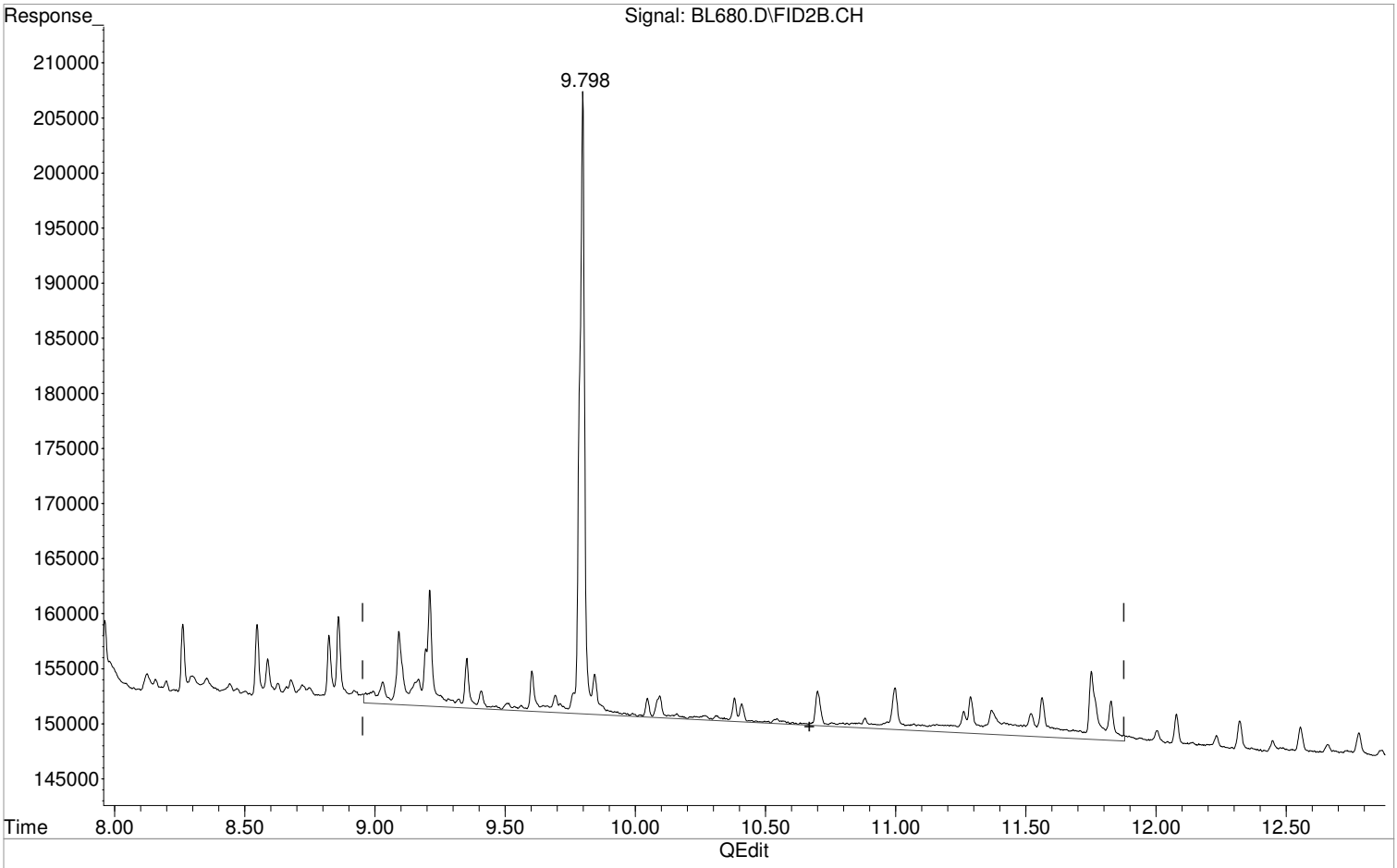
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL680.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:37 pm
Operator : JMisiurewicz
Sample : R1910325-001
Misc : 347123 8015 DRO
ALS Vial : 16 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 10.899 mg/l m

response 2330286

Manual Integration:

After

Poor integration.

10/28/19

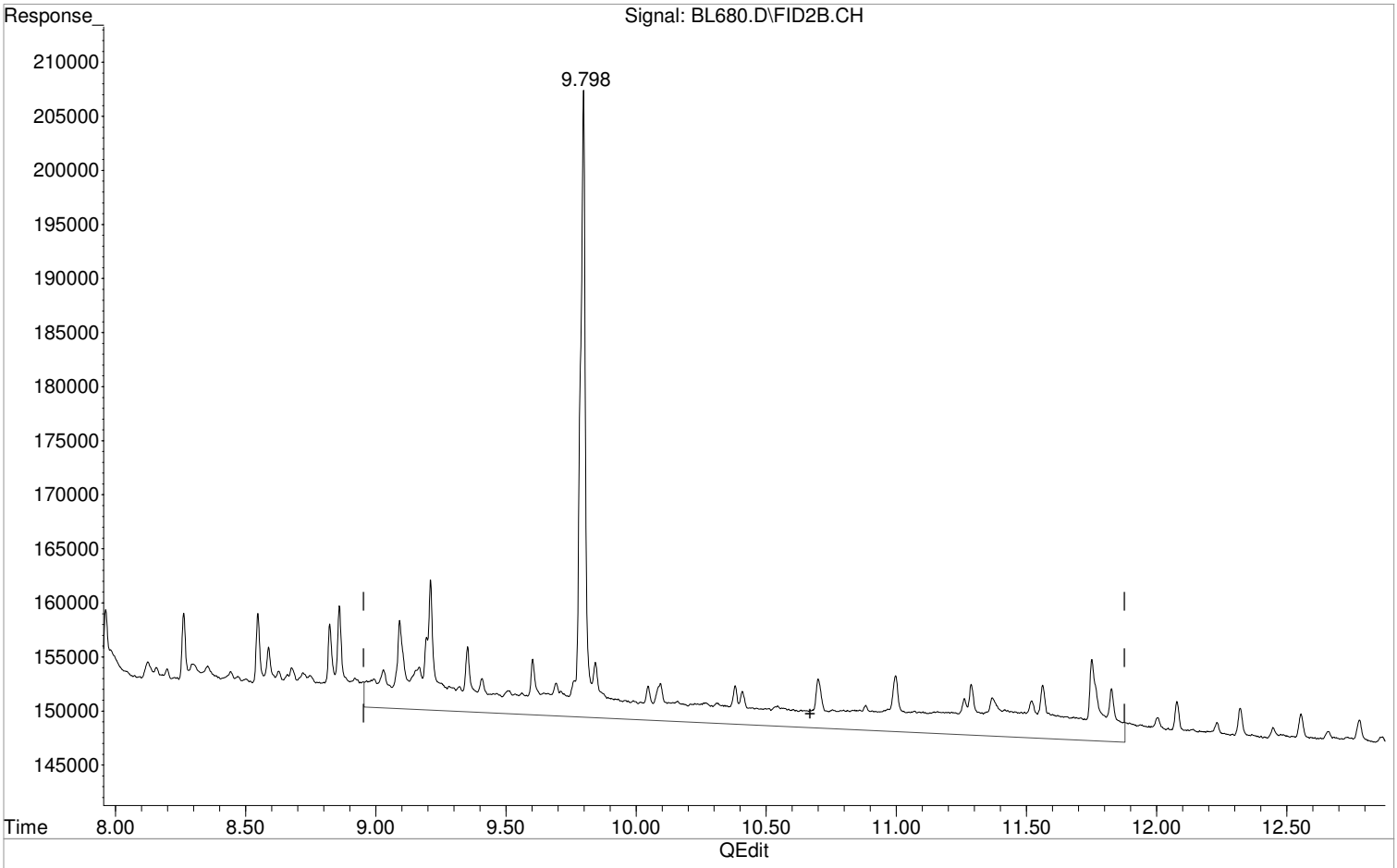
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL680.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:37 pm
Operator : JMisiurewicz
Sample : R1910325-001
Misc : 347123 8015 DRO
ALS Vial : 16 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 22.610 mg/l

response 4834378

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL680.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:37 pm
Operator : JMisiurewicz
Sample : R1910325-001
Misc : 347123 8015 DRO
ALS Vial : 16 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.058	24933310	84.022 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	84.02%
Target Compounds			
2) HC Diesel Range Organics	8.922	13959054	46.239 mg/l m
3) HC Oil Range Organics	10.670	2330286	10.899 mg/l m

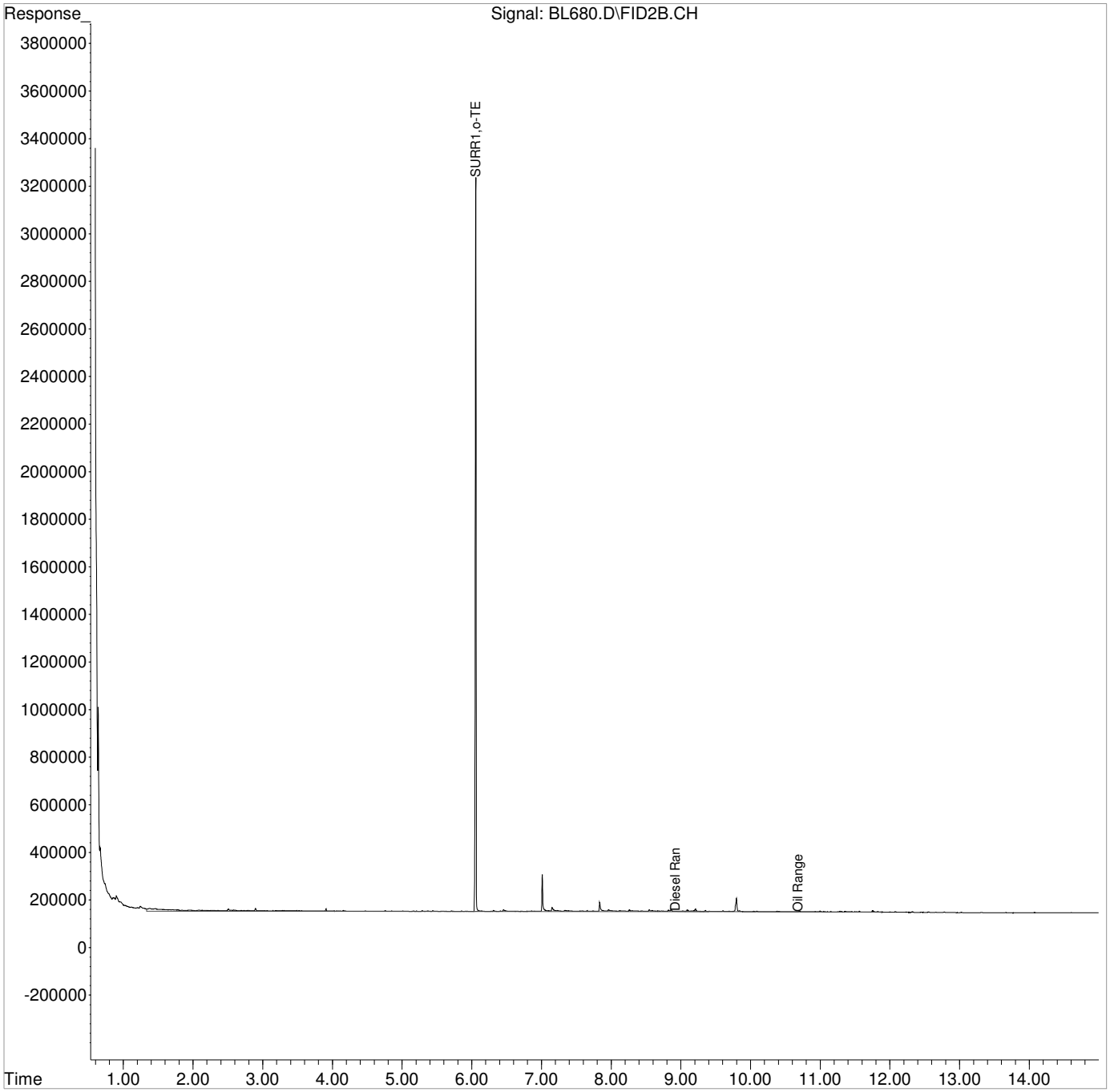
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL680.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:37 pm
Operator : JMisiurewicz
Sample : R1910325-001
Misc : 347123 8015 DRO
ALS Vial : 16 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

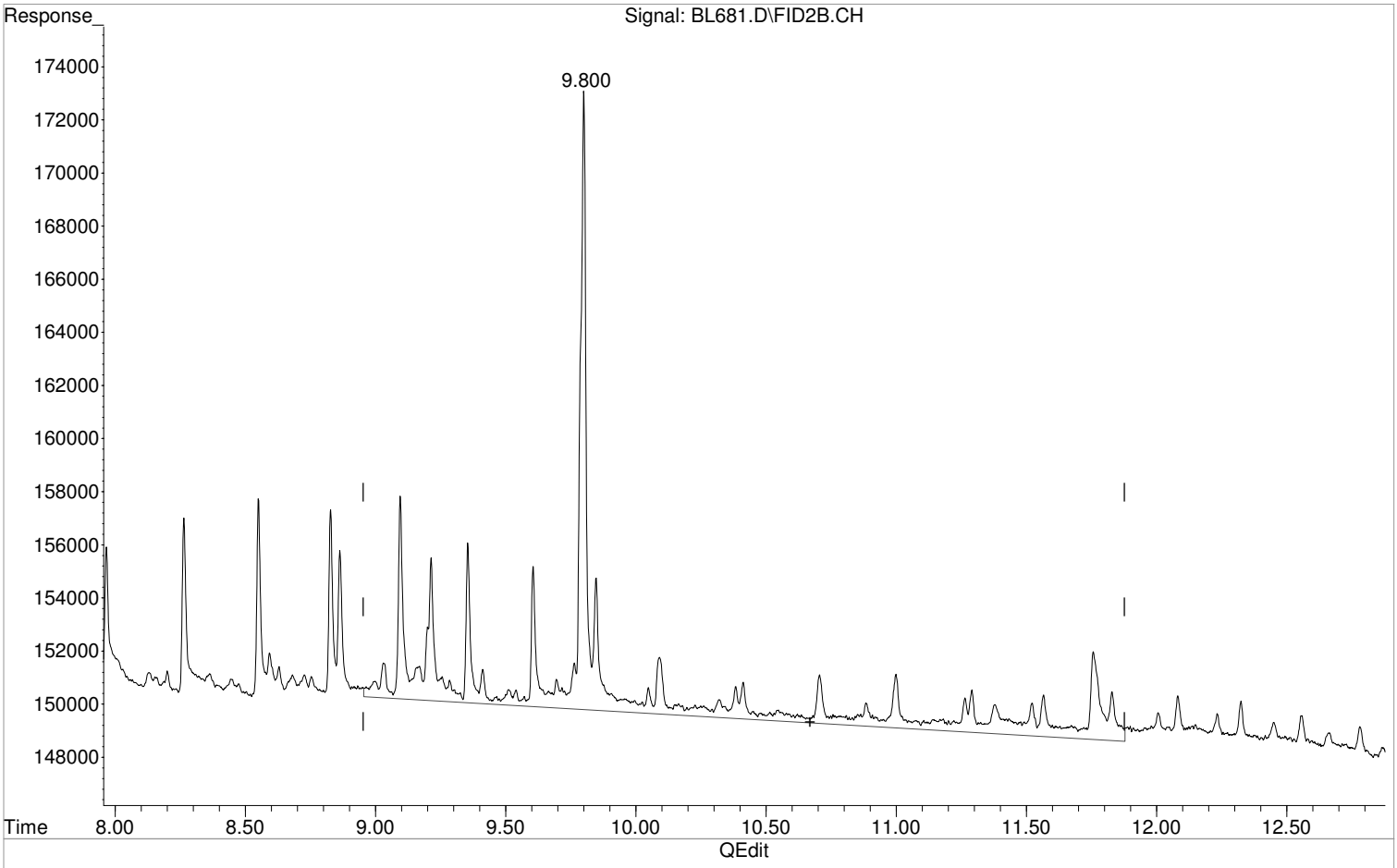


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL681.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:59 pm
Operator : JMisiurewicz
Sample : R1910325-006
Misc : 347123 8015 DRO
ALS Vial : 17 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 7.295 mg/l m

response 1559790

Manual Integration:

After

Poor integration.

10/28/19

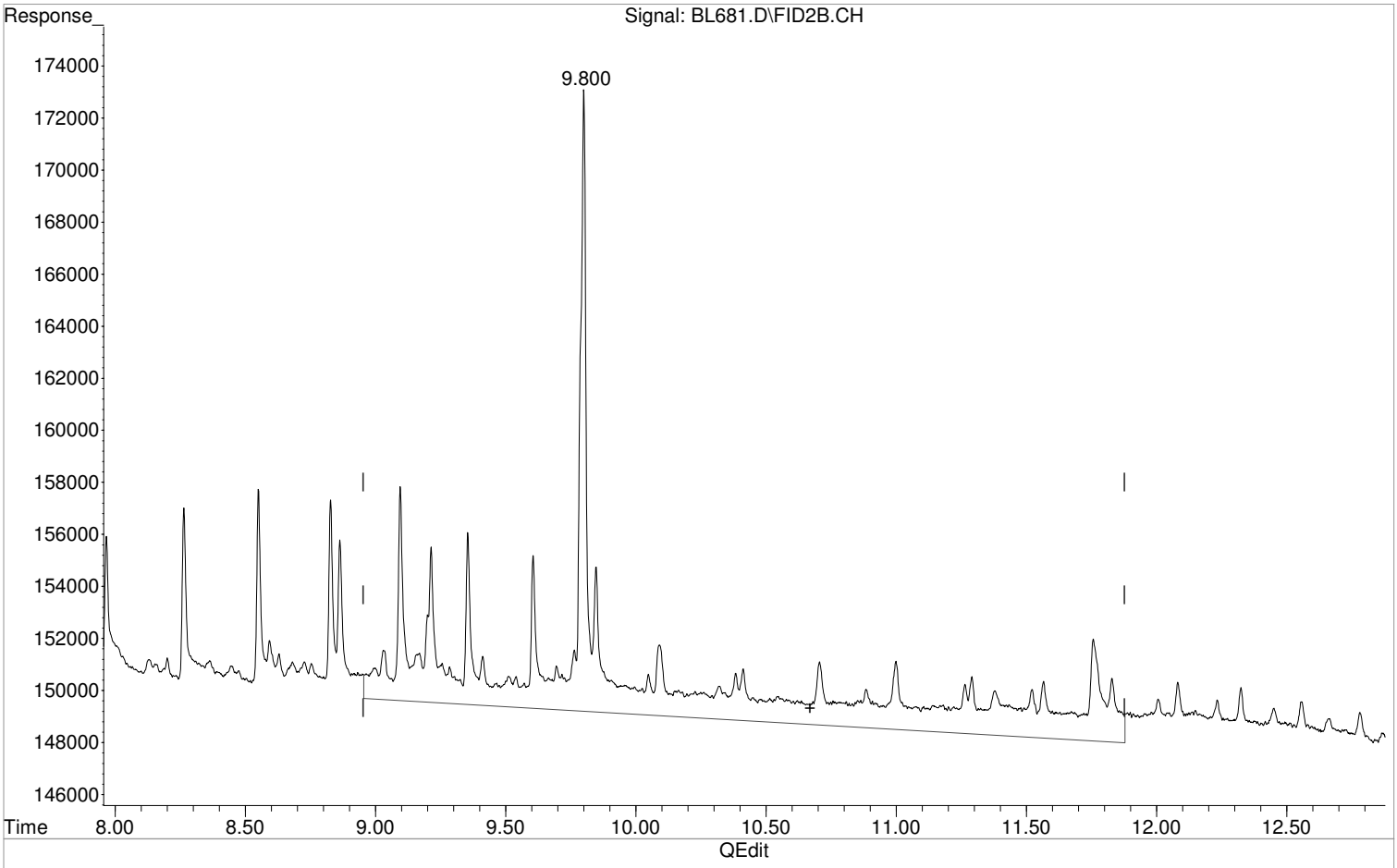
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL681.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:59 pm
Operator : JMisiurewicz
Sample : R1910325-006
Misc : 347123 8015 DRO
ALS Vial : 17 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 12.192 mg/l

response 2606877

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL681.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:59 pm
Operator : JMisiurewicz
Sample : R1910325-006
Misc : 347123 8015 DRO
ALS Vial : 17 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.060	20793421	70.071 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	70.07%
Target Compounds			
2) HC Diesel Range Organics	8.922	11982405	39.691 mg/l
3) HC Oil Range Organics	10.670	1559790	7.295 mg/l m

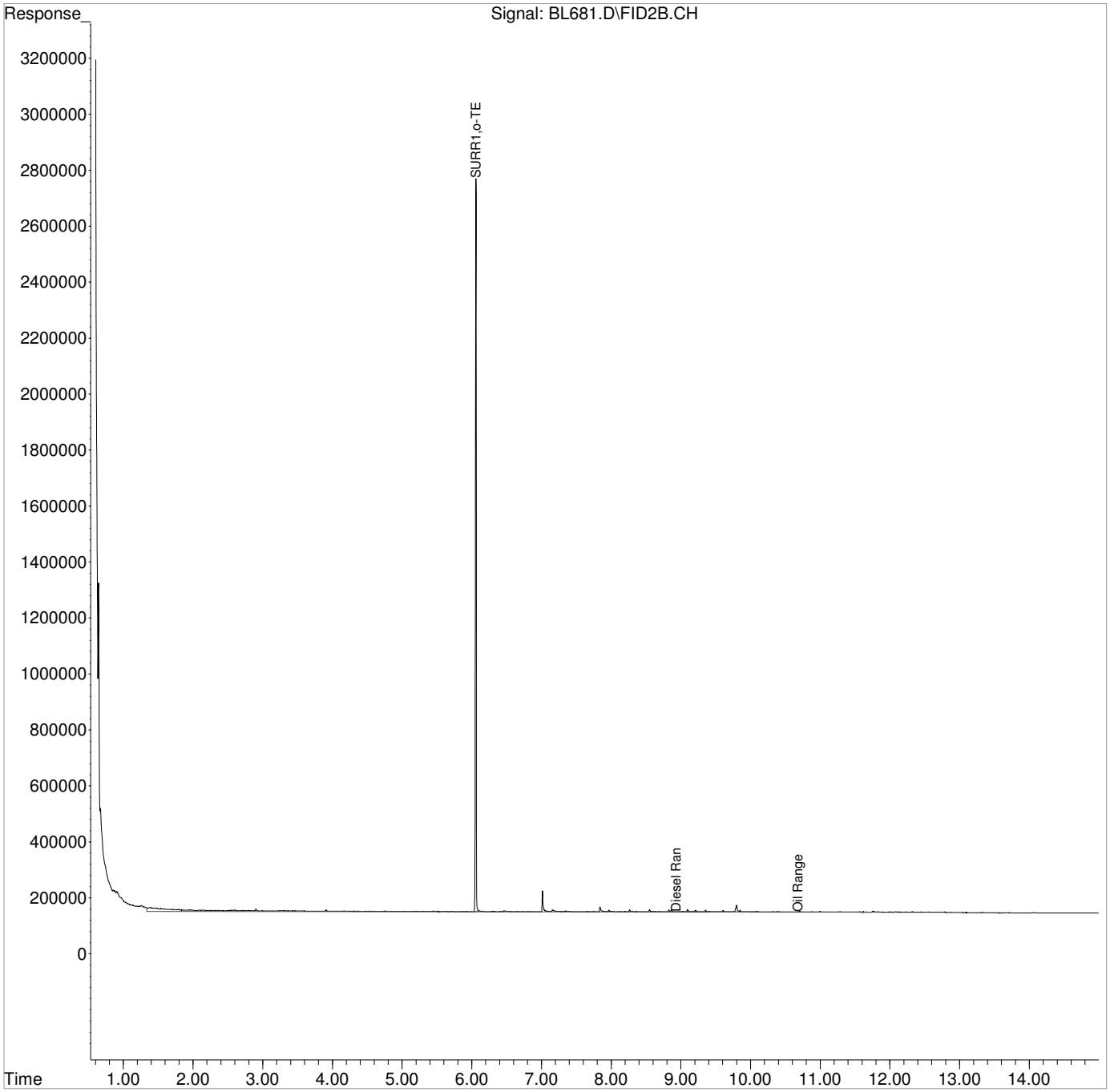
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL681.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:59 pm
Operator : JMisiurewicz
Sample : R1910325-006
Misc : 347123 8015 DRO
ALS Vial : 17 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

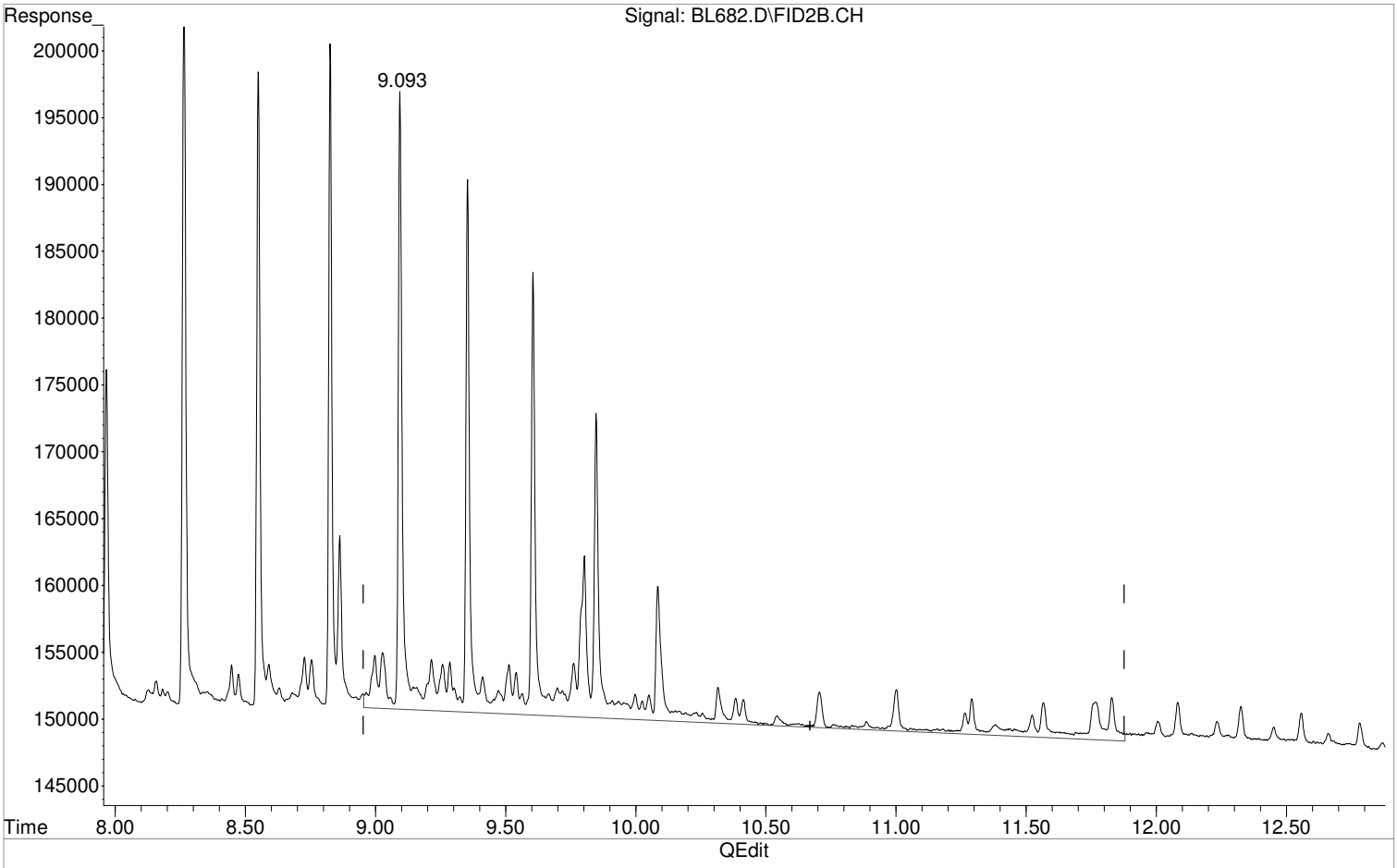


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL682.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 6:21 pm
Operator : JMisiurewicz
Sample : R1910325-009
Misc : 347123 8015 DRO
ALS Vial : 18 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 15.143 mg/l m

response 3237880

Manual Integration:

After

Poor integration.

10/28/19

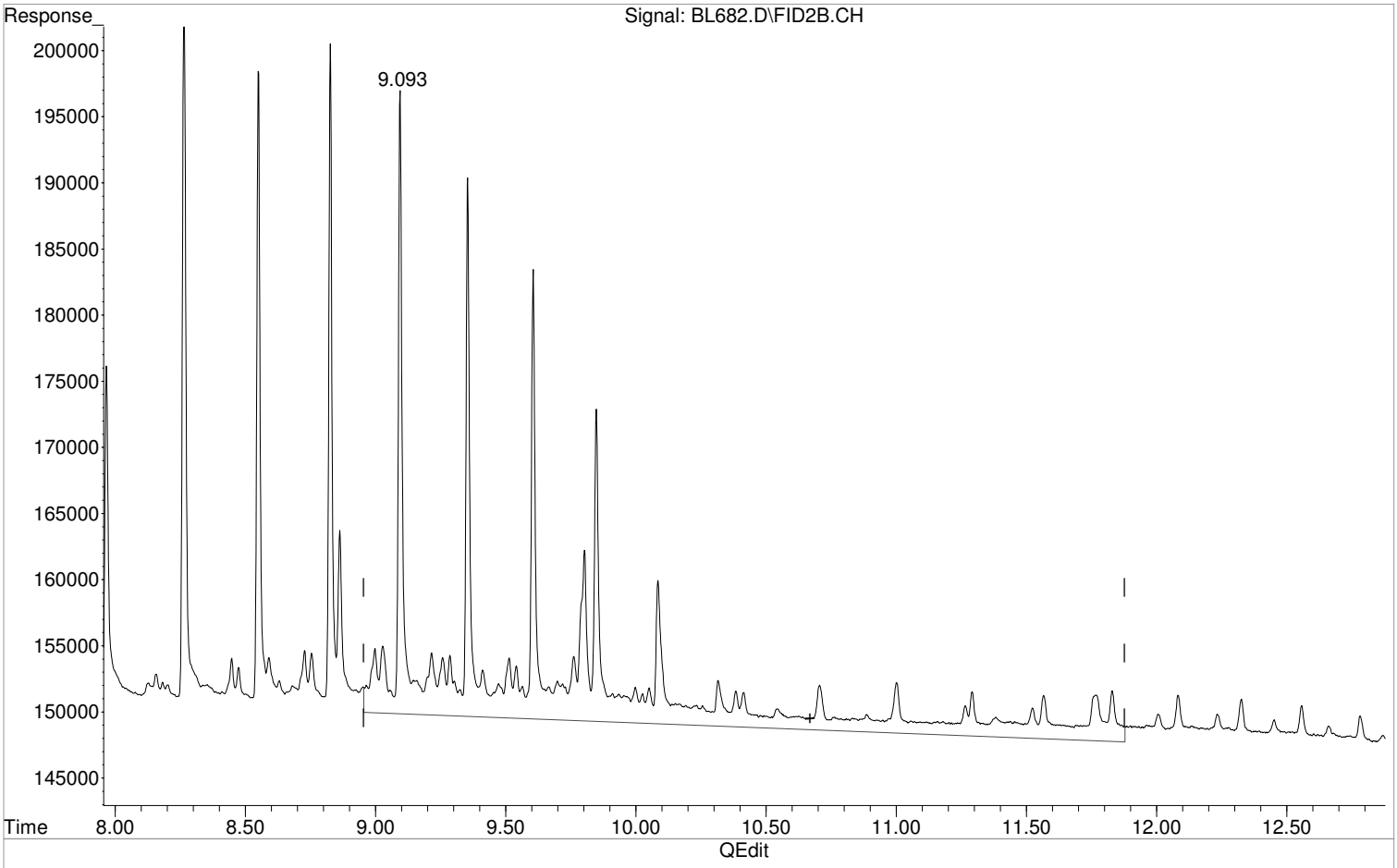
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL682.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 6:21 pm
Operator : JMisiurewicz
Sample : R1910325-009
Misc : 347123 8015 DRO
ALS Vial : 18 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 21.360 mg/l

response 4567136

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL682.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 6:21 pm
Operator : JMisiurewicz
Sample : R1910325-009
Misc : 347123 8015 DRO
ALS Vial : 18 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.062	19579731	65.981 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	65.98%
Target Compounds			
2) HC Diesel Range Organics	8.922	14614825	48.411 mg/l
3) HC Oil Range Organics	10.670	3237880	15.143 mg/l m

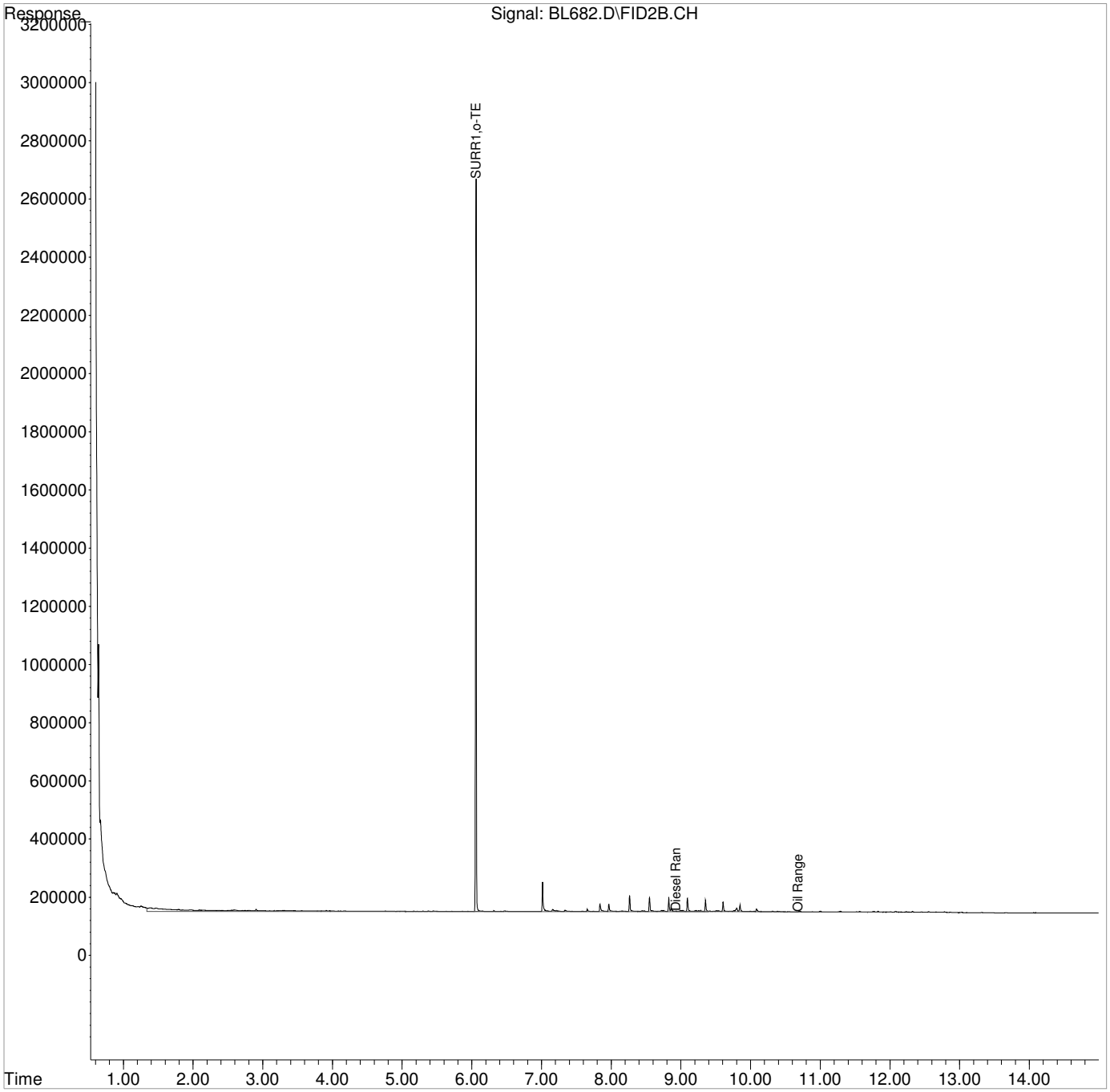
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL682.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 6:21 pm
Operator : JMisiurewicz
Sample : R1910325-009
Misc : 347123 8015 DRO
ALS Vial : 18 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

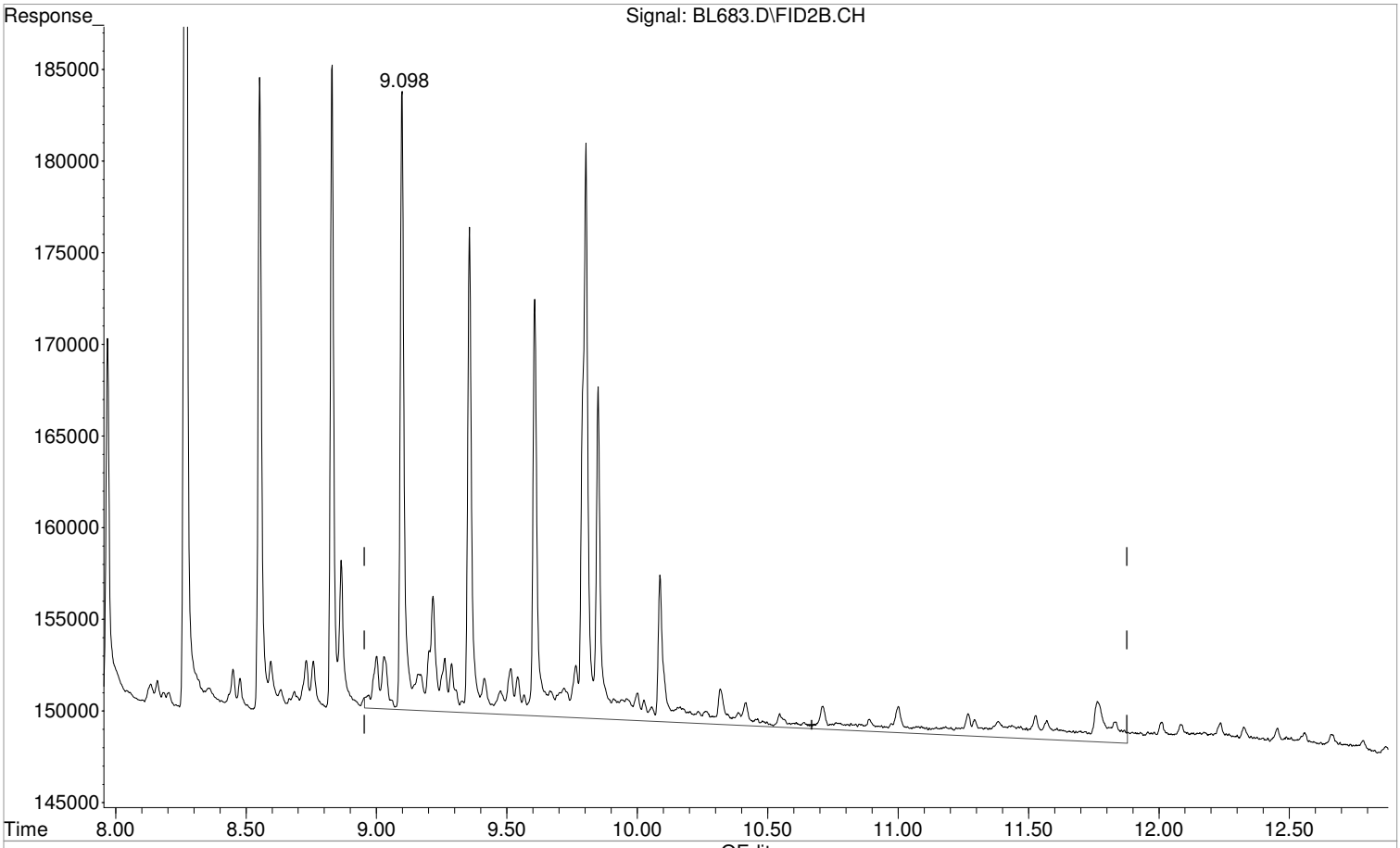


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL683.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 6:44 pm
Operator : JMisiurewicz
Sample : R1910325-012
Misc : 347123 8015 DRO
ALS Vial : 19 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 13.275 mg/l m

response 2838358

Manual Integration:

After

Poor integration.

10/28/19

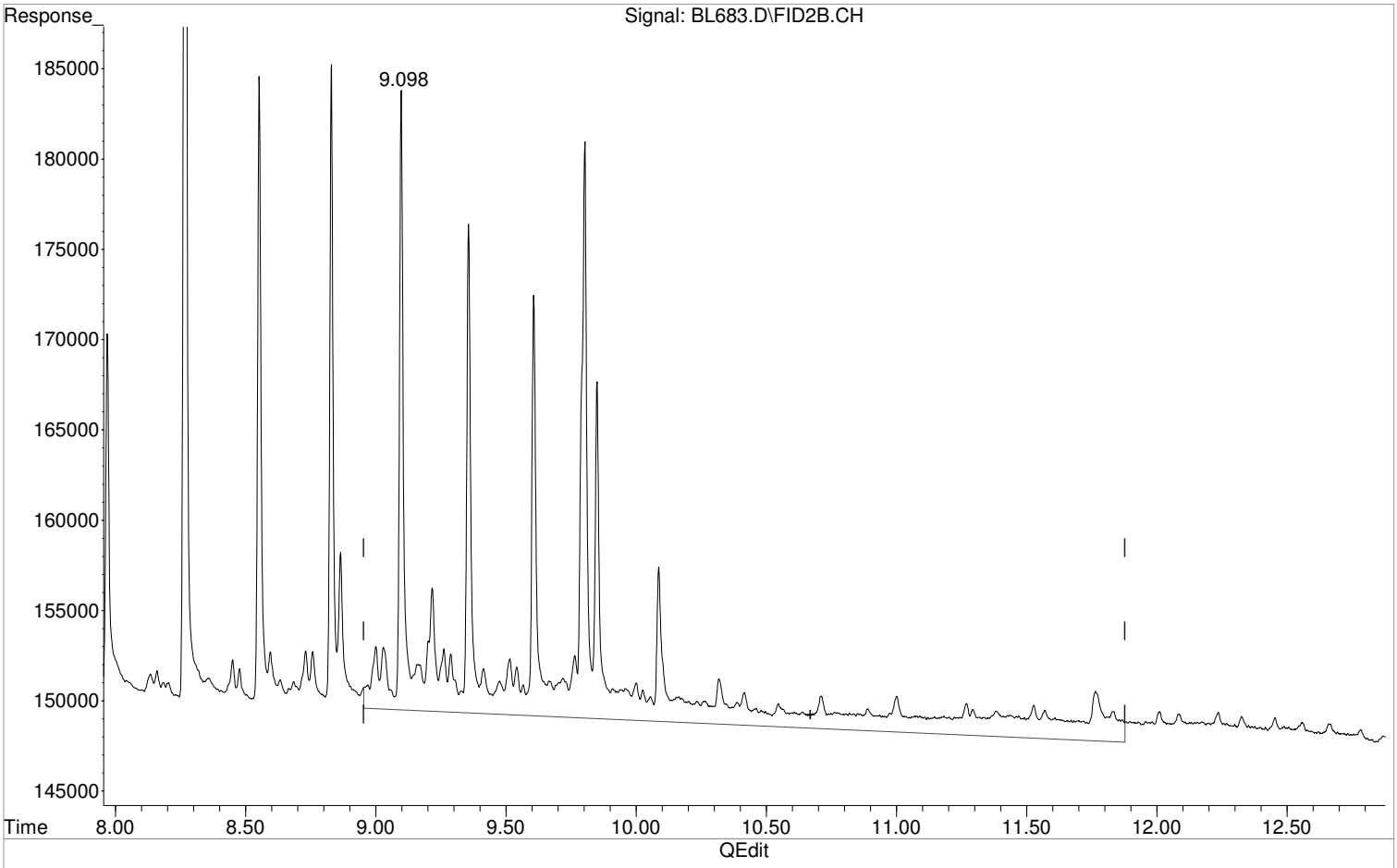
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL683.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 6:44 pm
Operator : JMisiurewicz
Sample : R1910325-012
Misc : 347123 8015 DRO
ALS Vial : 19 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 17.869 mg/l

response 3820588

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL683.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 6:44 pm
Operator : JMisiurewicz
Sample : R1910325-012
Misc : 347123 8015 DRO
ALS Vial : 19 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.064	19424181	65.457 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	65.46%
Target Compounds			
2) HC Diesel Range Organics	8.922	14550449	48.198 mg/l
3) HC Oil Range Organics	10.670	2838358	13.275 mg/l m

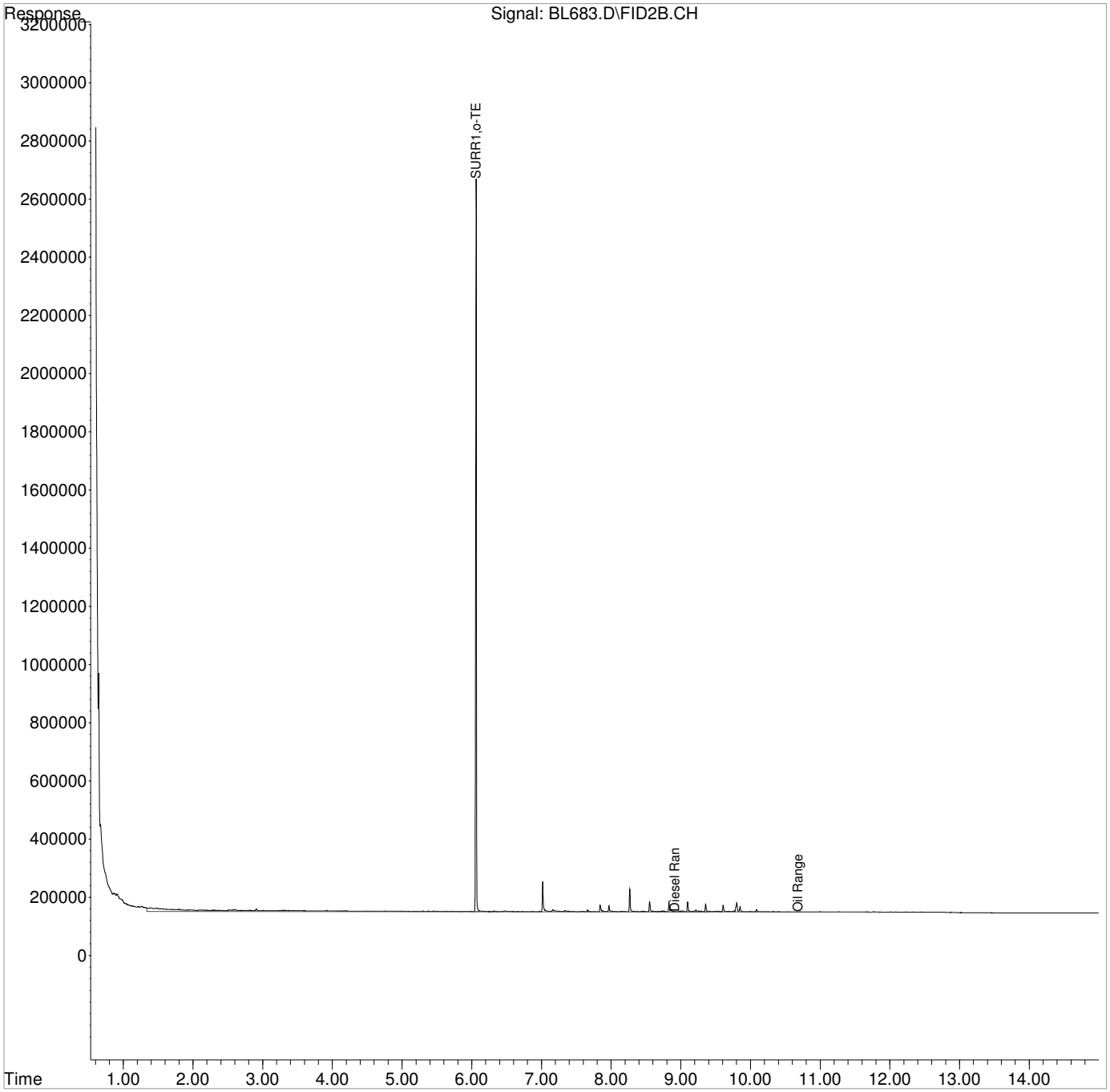
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL683.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 6:44 pm
Operator : JMisiurewicz
Sample : R1910325-012
Misc : 347123 8015 DRO
ALS Vial : 19 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

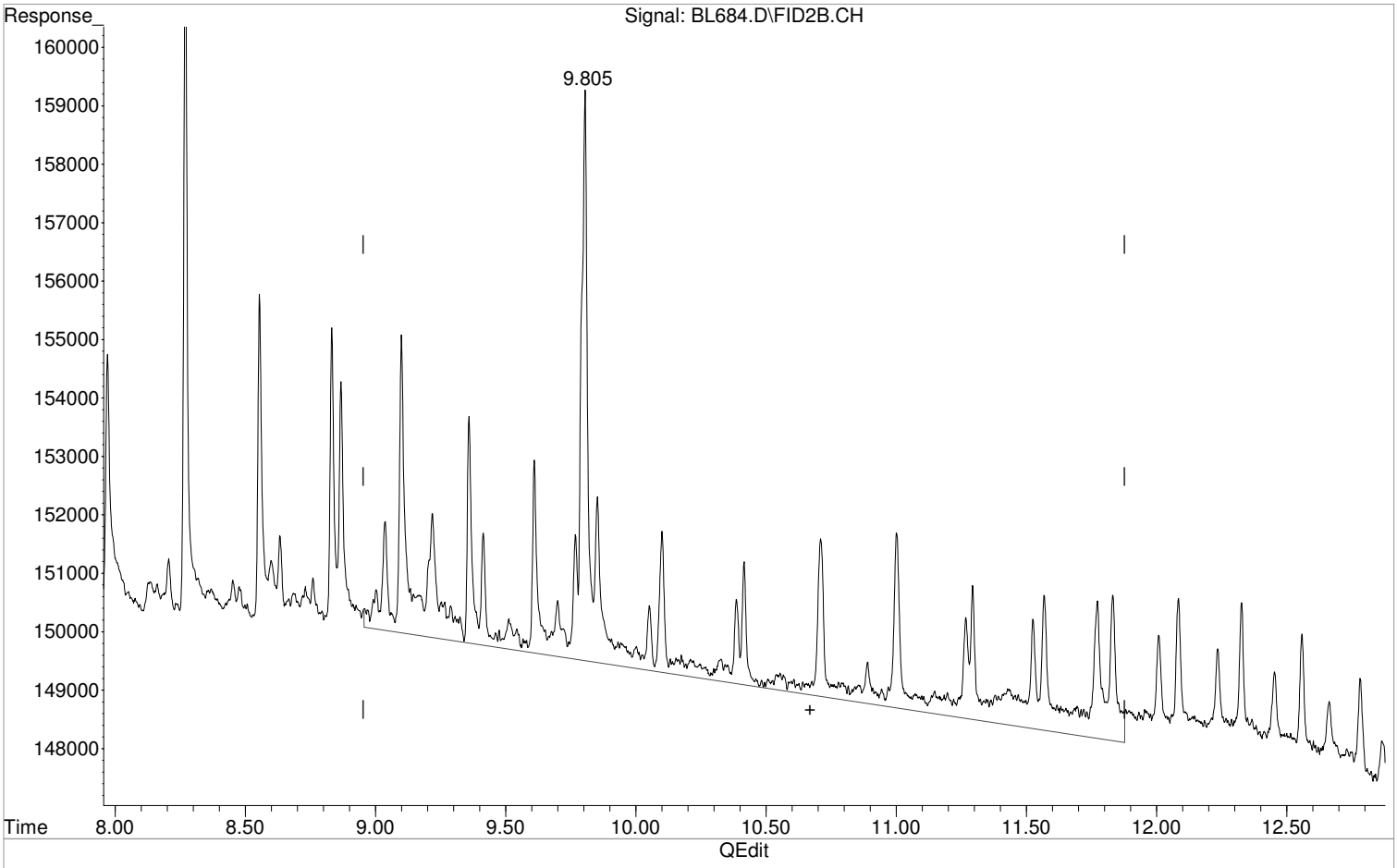


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL684.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:06 pm
Operator : JMisiurewicz
Sample : R1910325-015
Misc : 347123 8015 DRO
ALS Vial : 20 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 5.459 mg/l m

response 1167321

Manual Integration:

After

Poor integration.

10/28/19

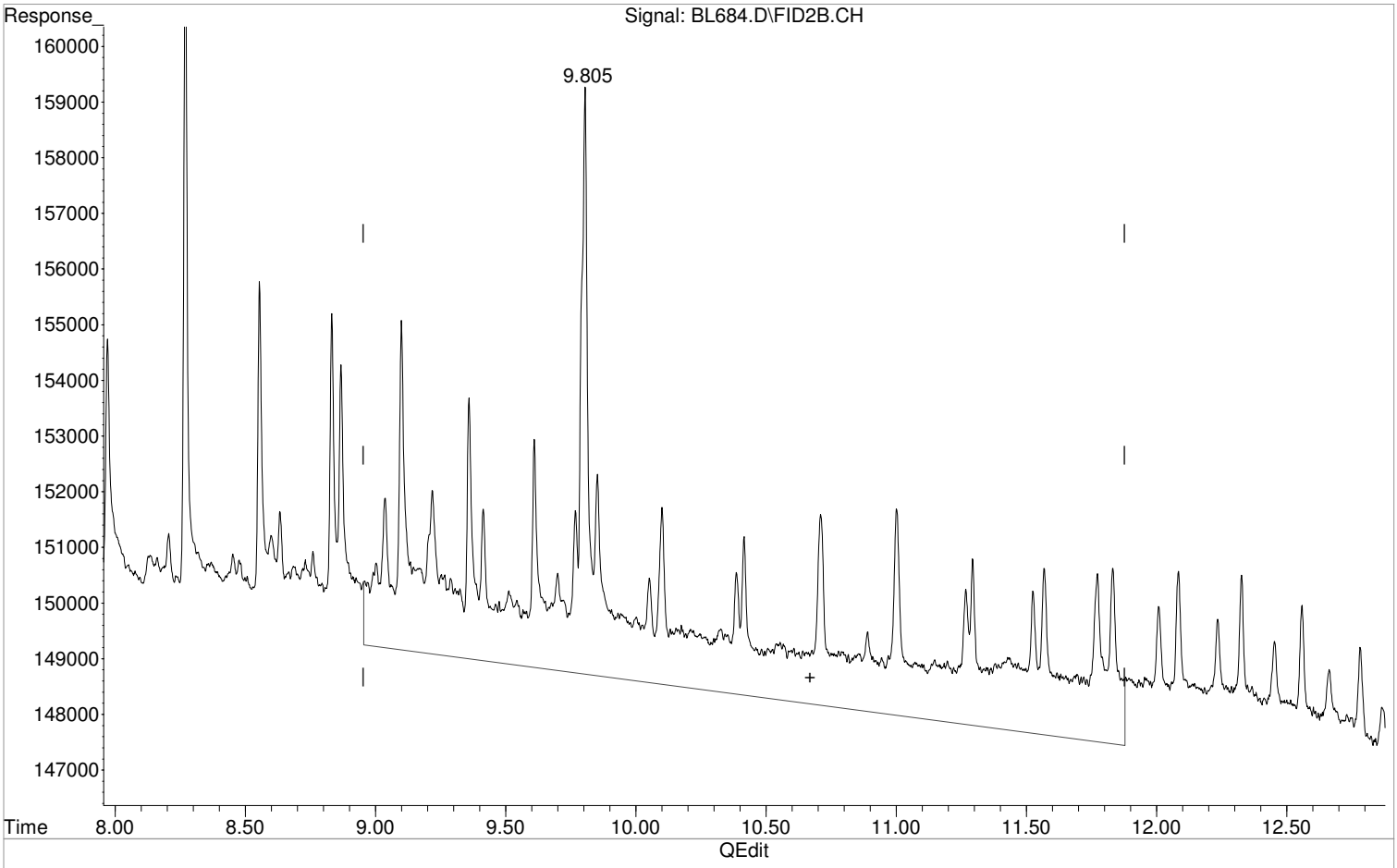
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL684.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:06 pm
Operator : JMisiurewicz
Sample : R1910325-015
Misc : 347123 8015 DRO
ALS Vial : 20 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 11.589 mg/l

response 2477966

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL684.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:06 pm
Operator : JMisiurewicz
Sample : R1910325-015
Misc : 347123 8015 DRO
ALS Vial : 20 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.065	21353230	71.957 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	71.96%
Target Compounds			
2) HC Diesel Range Organics	8.922	13537266	44.842 mg/l
3) HC Oil Range Organics	10.670	1167321	5.459 mg/l m

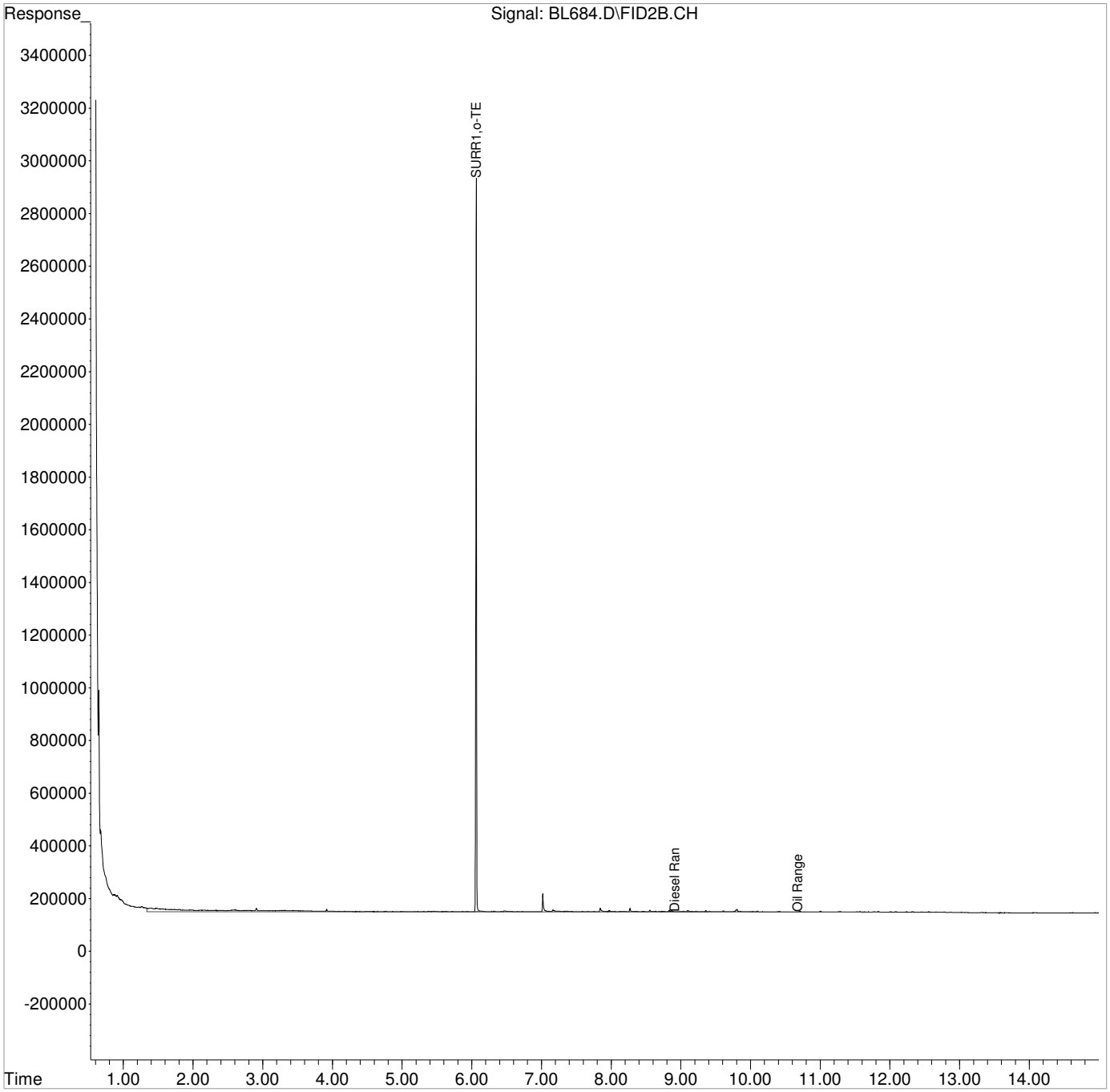
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL684.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:06 pm
Operator : JMisiurewicz
Sample : R1910325-015
Misc : 347123 8015 DRO
ALS Vial : 20 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

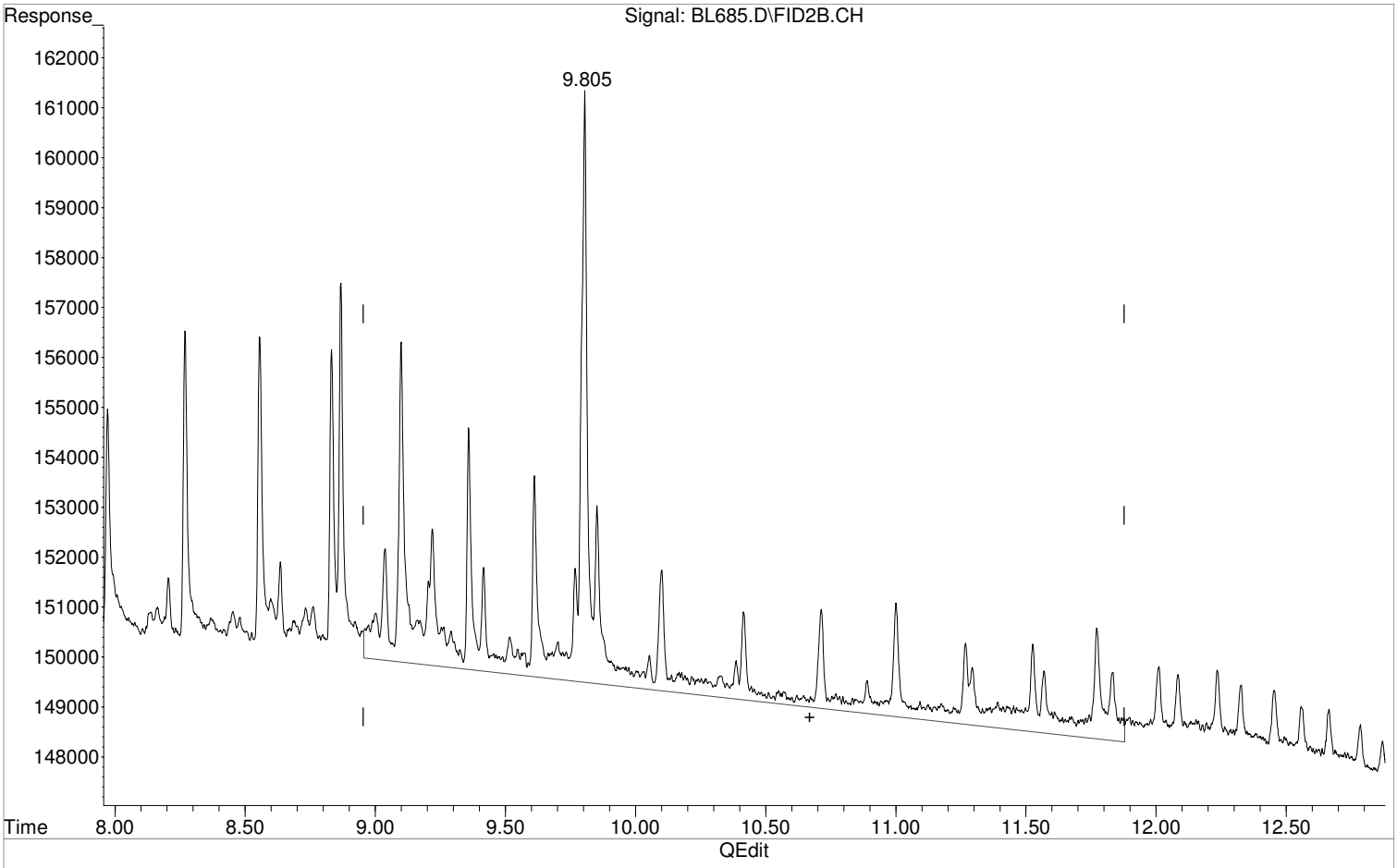


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL685.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:29 pm
Operator : JMisiurewicz
Sample : R1910325-018
Misc : 347123 8015 DRO
ALS Vial : 21 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 5.727 mg/l m

response 1224626

Manual Integration:

After

Poor integration.

10/28/19

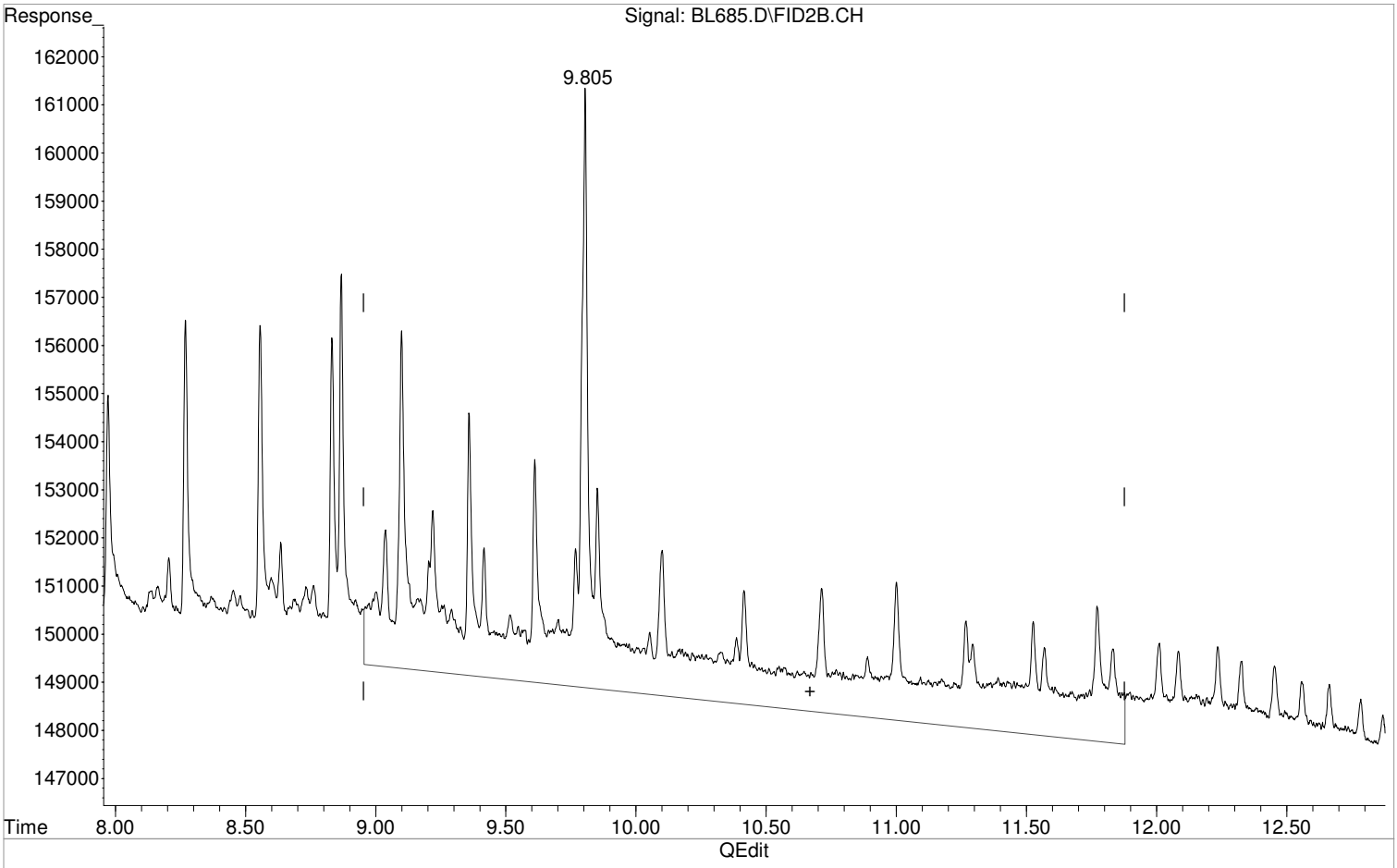
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL685.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:29 pm
Operator : JMisiurewicz
Sample : R1910325-018
Misc : 347123 8015 DRO
ALS Vial : 21 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 10.659 mg/l

response 2279127

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL685.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:29 pm
Operator : JMisiurewicz
Sample : R1910325-018
Misc : 347123 8015 DRO
ALS Vial : 21 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.069	28220441	95.099 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	95.10%
Target Compounds			
2) HC Diesel Range Organics	8.922	12114926	40.130 mg/l
3) HC Oil Range Organics	10.670	1224626	5.727 mg/l m

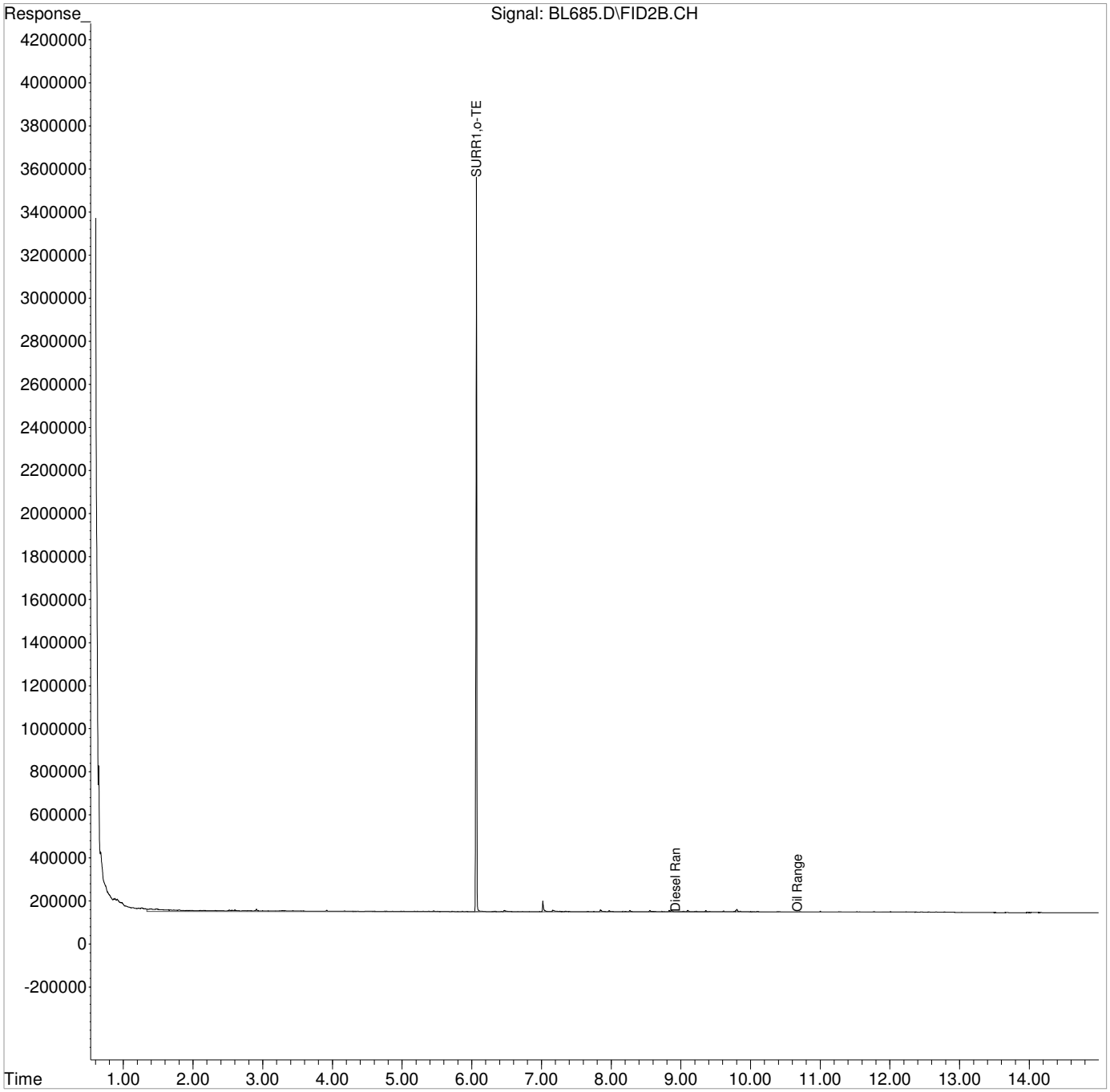
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL685.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:29 pm
Operator : JMisiurewicz
Sample : R1910325-018
Misc : 347123 8015 DRO
ALS Vial : 21 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

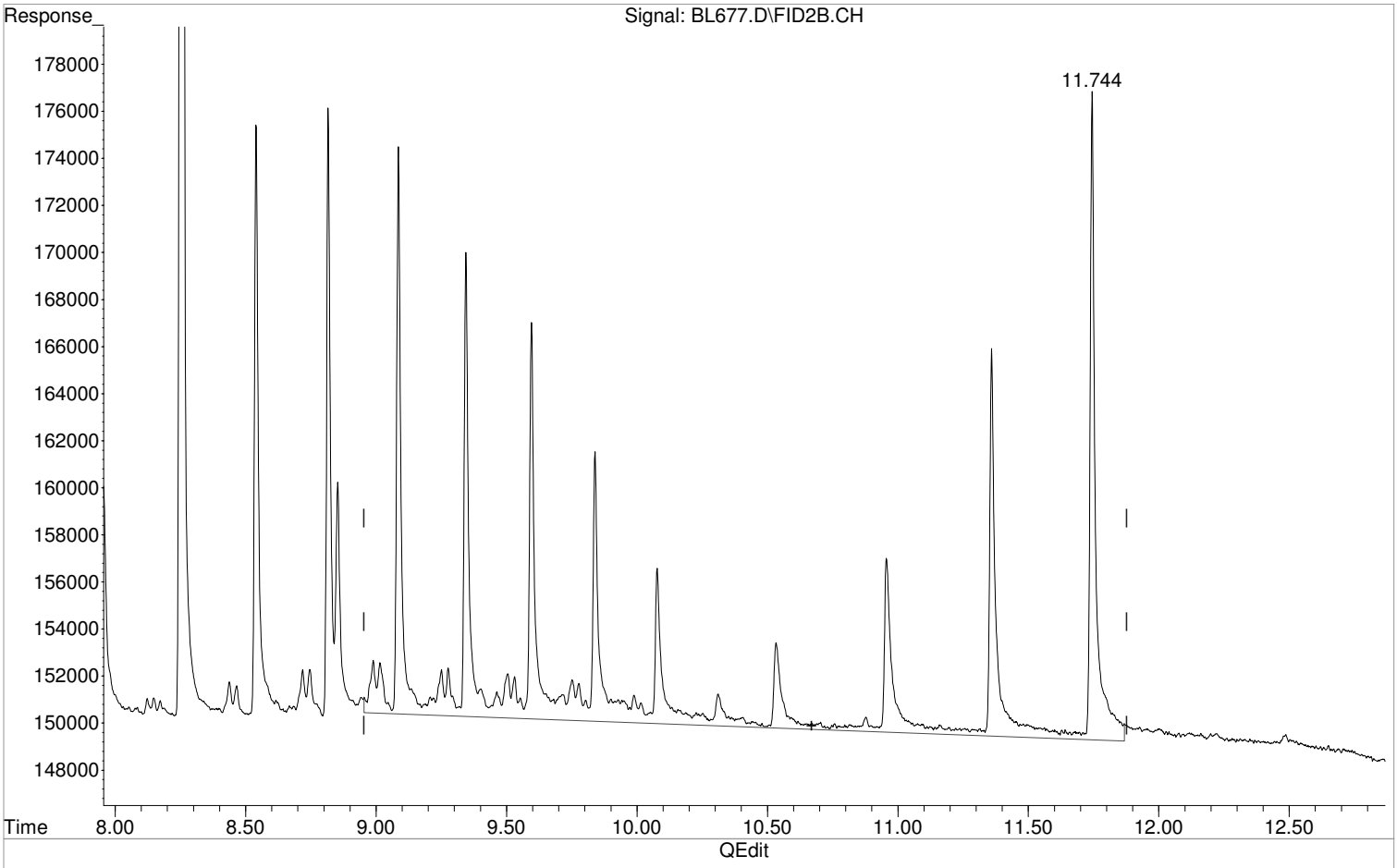


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL677.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:29 pm
Operator : JMisiurewicz
Sample : RQ1912217-01
Misc : 347123 8015 DRO MB
ALS Vial : 13 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 11.757 mg/l m

response 2513739

Manual Integration:

After

Poor integration.

10/28/19

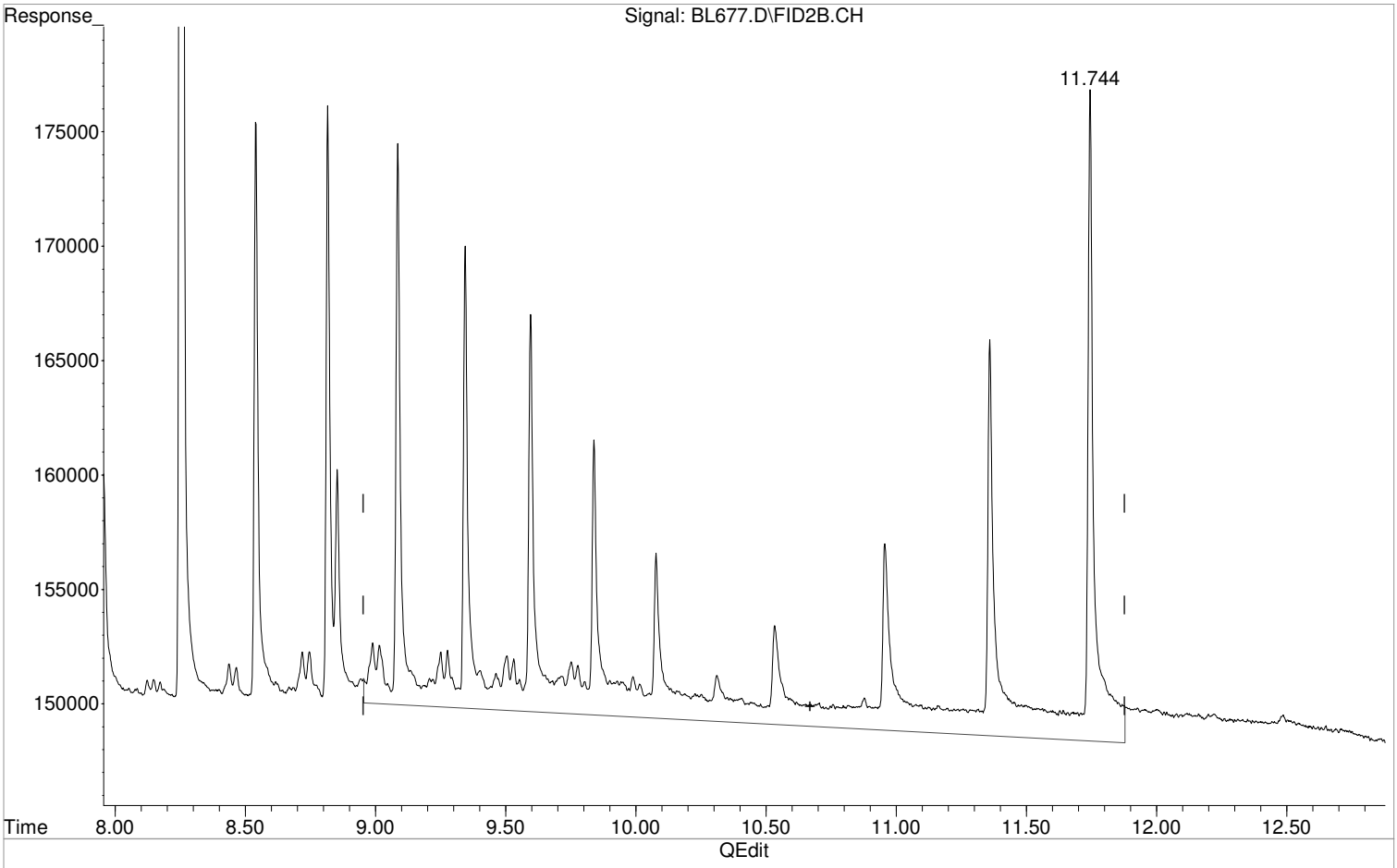
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL677.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:29 pm
Operator : JMisiurewicz
Sample : RQ1912217-01
Misc : 347123 8015 DRO MB
ALS Vial : 13 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 17.260 mg/l

response 3690529

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL677.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:29 pm
Operator : JMisiurewicz
Sample : RQ1912217-01
Misc : 347123 8015 DRO MB
ALS Vial : 13 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.049	26291893	88.600 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	88.60%
Target Compounds			
2) HC Diesel Range Organics	8.922	11609840	38.457 mg/l
3) HC Oil Range Organics	10.670	2513739	11.757 mg/l m

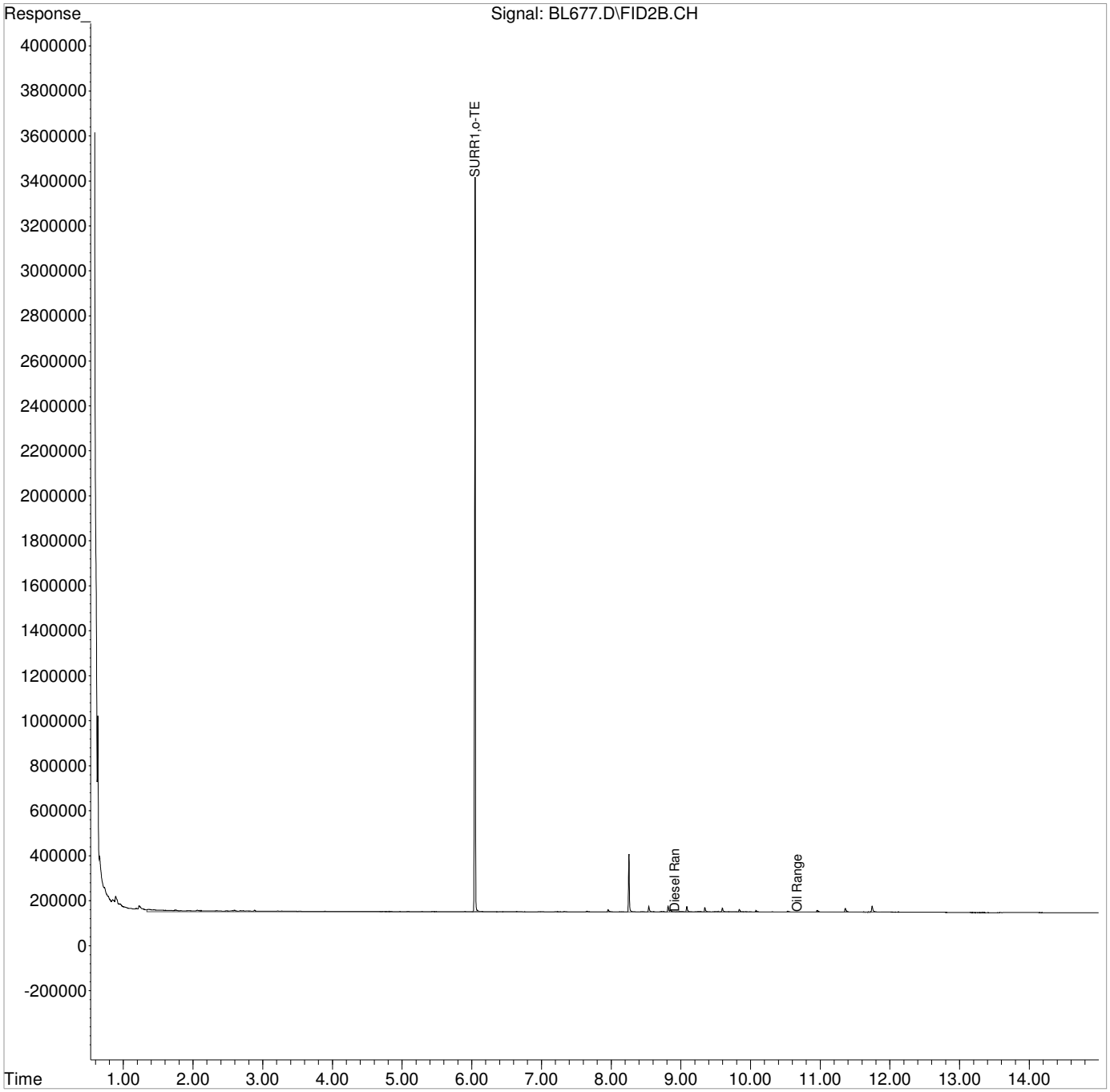
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL677.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:29 pm
Operator : JMisiurewicz
Sample : RQ1912217-01
Misc : 347123 8015 DRO MB
ALS Vial : 13 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

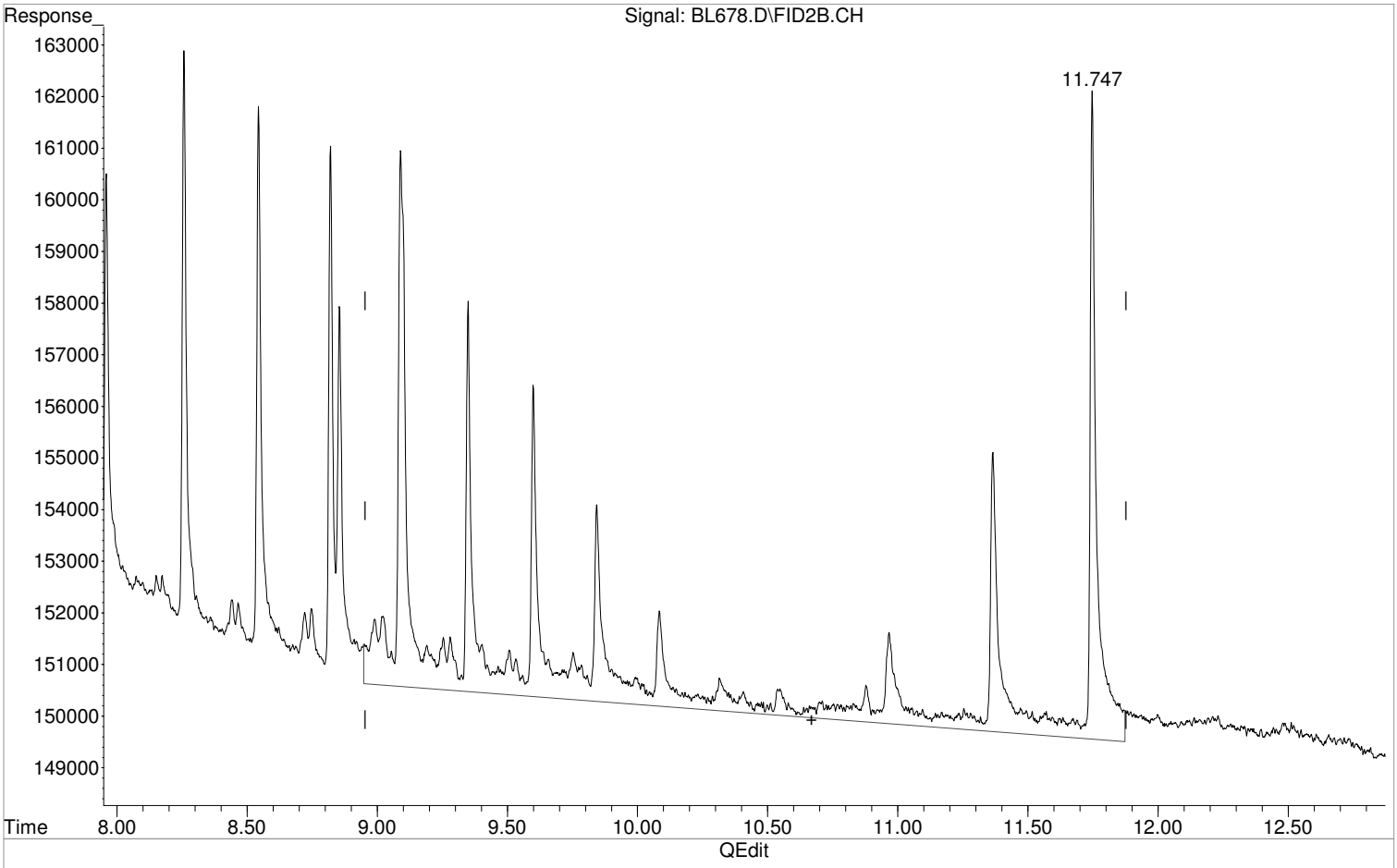


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL678.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:52 pm
Operator : JMisiurewicz
Sample : RQ1912217-02
Misc : 347123 8015 DRO LCS
ALS Vial : 14 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 6.406 mg/l m

response 1369810

Manual Integration:

After

Poor integration.

10/28/19

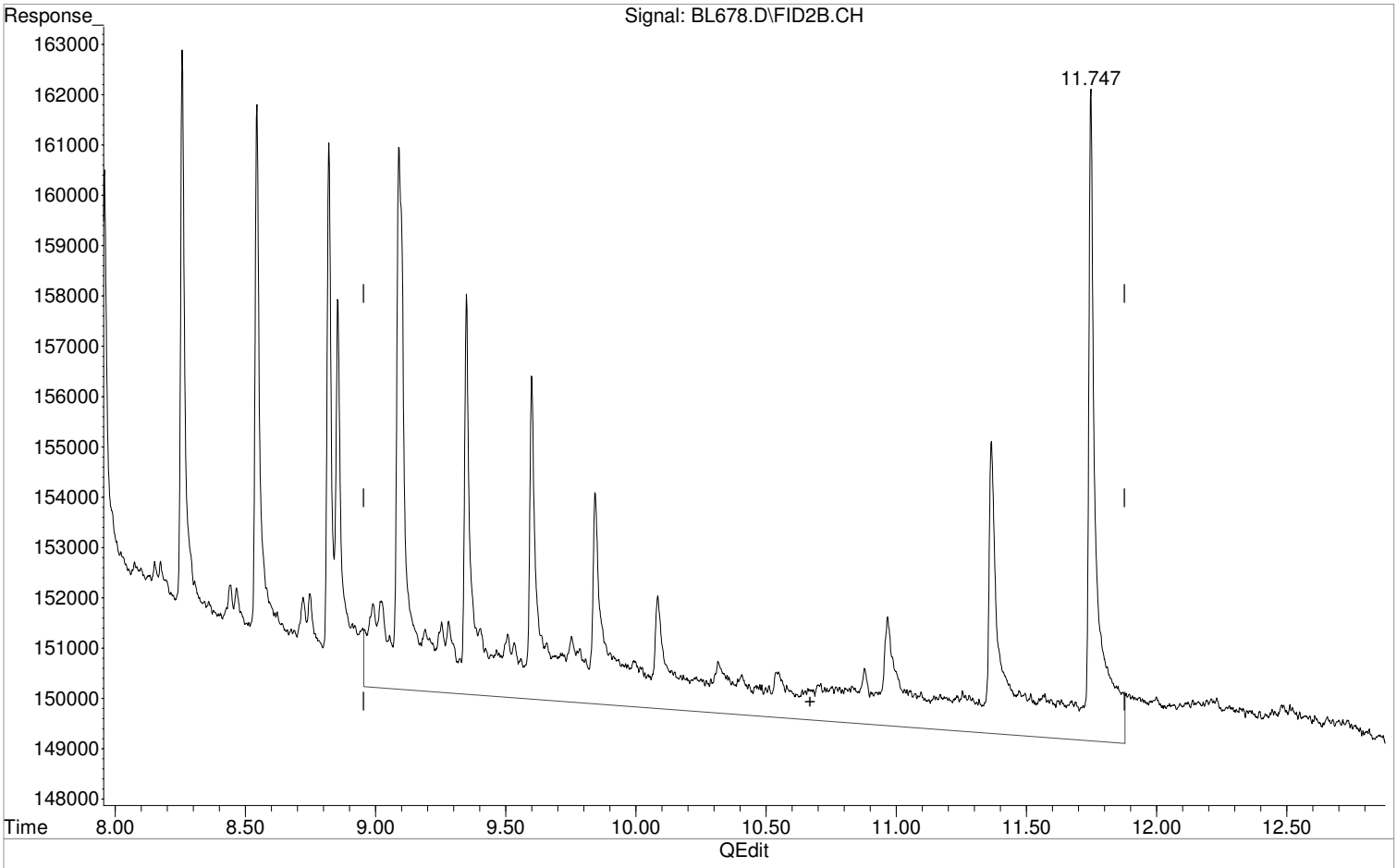
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL678.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:52 pm
Operator : JMisiurewicz
Sample : RQ1912217-02
Misc : 347123 8015 DRO LCS
ALS Vial : 14 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 9.631 mg/l

response 2059330

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL678.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:52 pm
Operator : JMisiurewicz
Sample : RQ1912217-02
Misc : 347123 8015 DRO LCS
ALS Vial : 14 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.053	28828701	97.149 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	97.15%
Target Compounds			
2) HC Diesel Range Organics	8.922	79561323	263.544 mg/l
3) HC Oil Range Organics	10.670	1369810	6.406 mg/l m

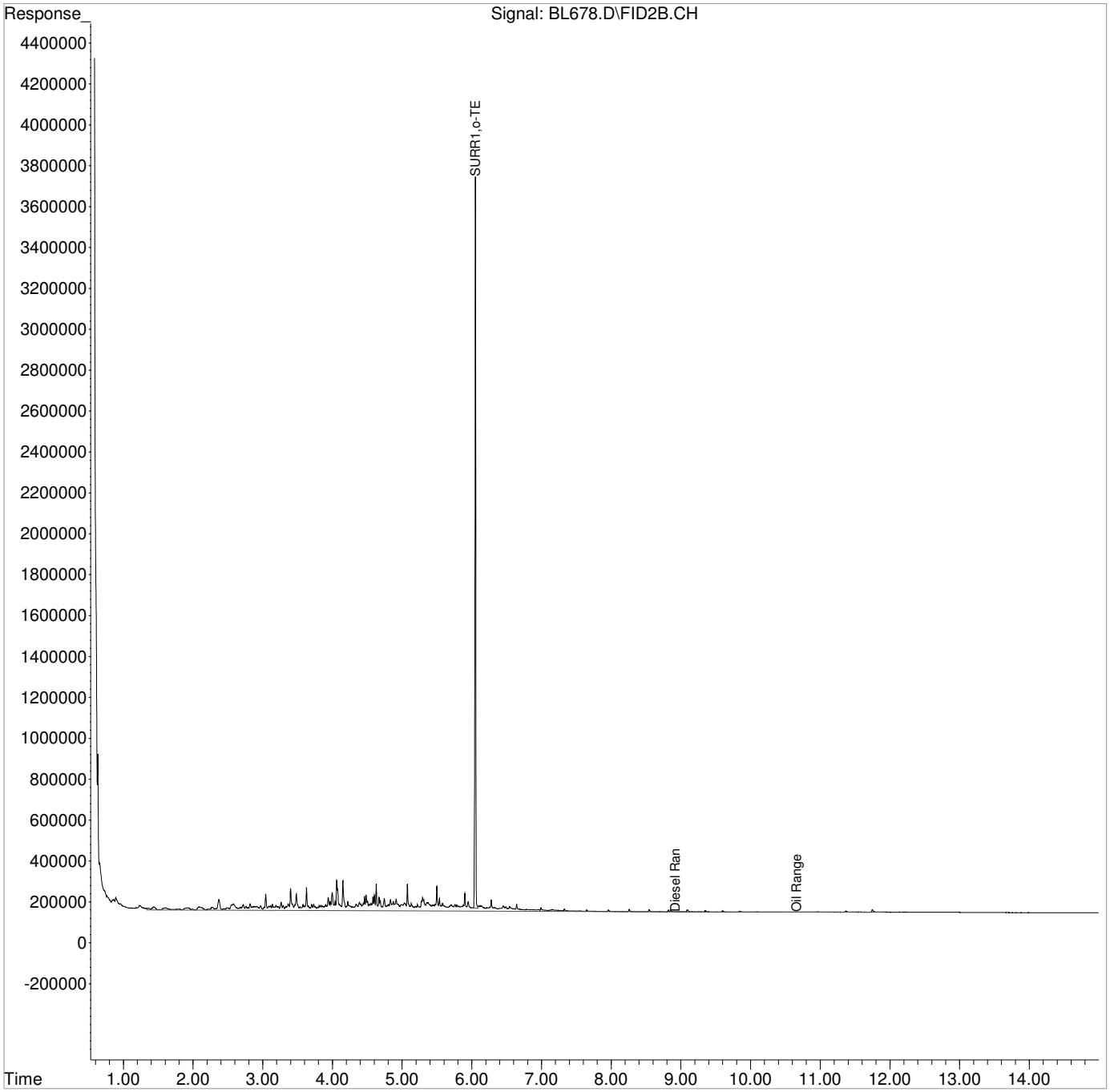
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL678.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:52 pm
Operator : JMisiurewicz
Sample : RQ1912217-02
Misc : 347123 8015 DRO LCS
ALS Vial : 14 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

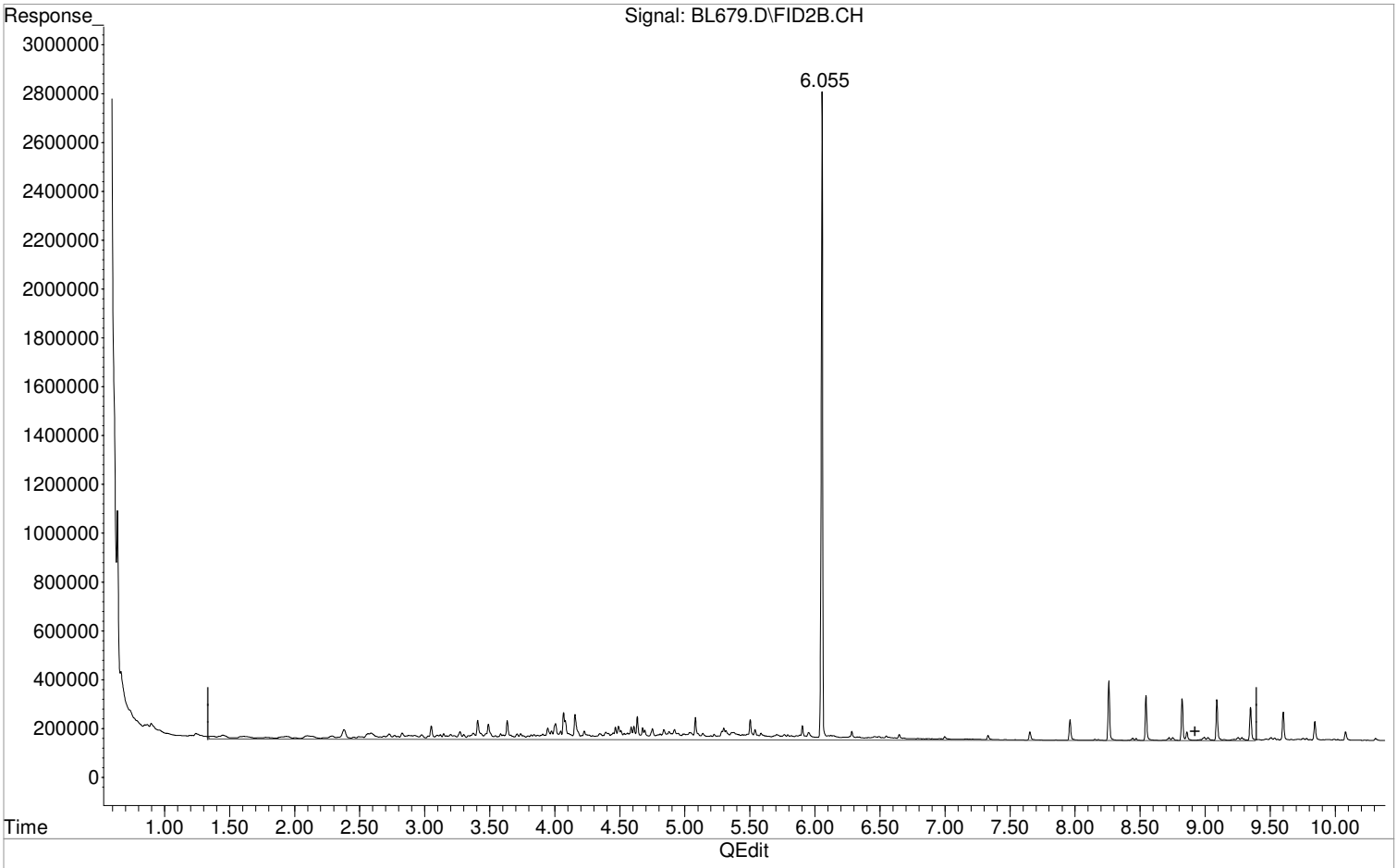


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL679.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:14 pm
Operator : JMisiurewicz
Sample : RQ1912217-03
Misc : 347123 8015 DRO DLCS
ALS Vial : 15 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 240.170 mg/l m

response 72505117

Manual Integration:

After

Poor integration.

10/28/19

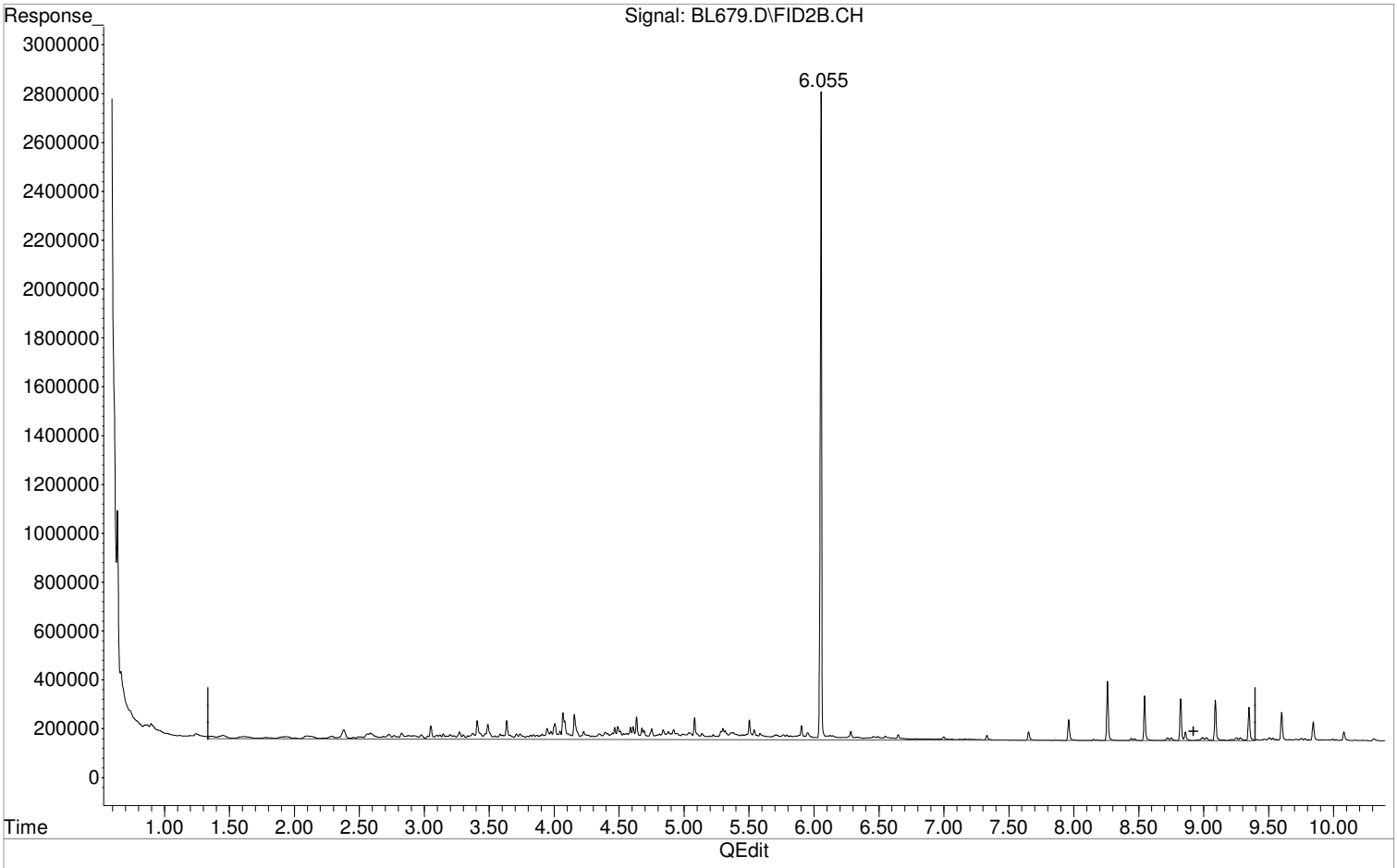
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL679.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:14 pm
Operator : JMisiurewicz
Sample : RQ1912217-03
Misc : 347123 8015 DRO DLCS
ALS Vial : 15 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 217.230 mg/l

response 65579736

Manual Integration:

Before

10/28/19

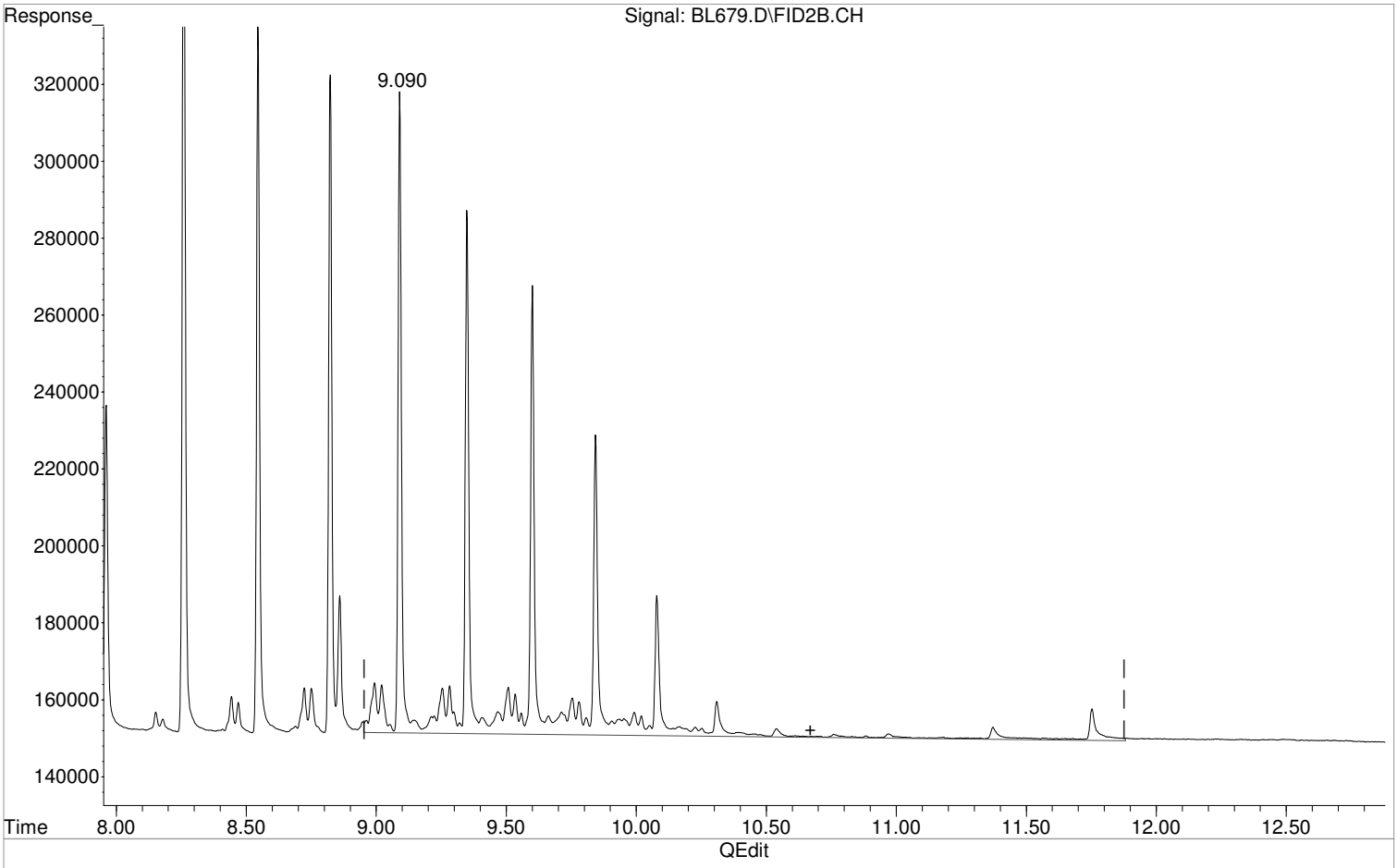
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL679.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:14 pm
Operator : JMisiurewicz
Sample : RQ1912217-03
Misc : 347123 8015 DRO DLCS
ALS Vial : 15 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 39.119 mg/l m

response 8364209

Manual Integration:

After

Poor integration.

10/28/19

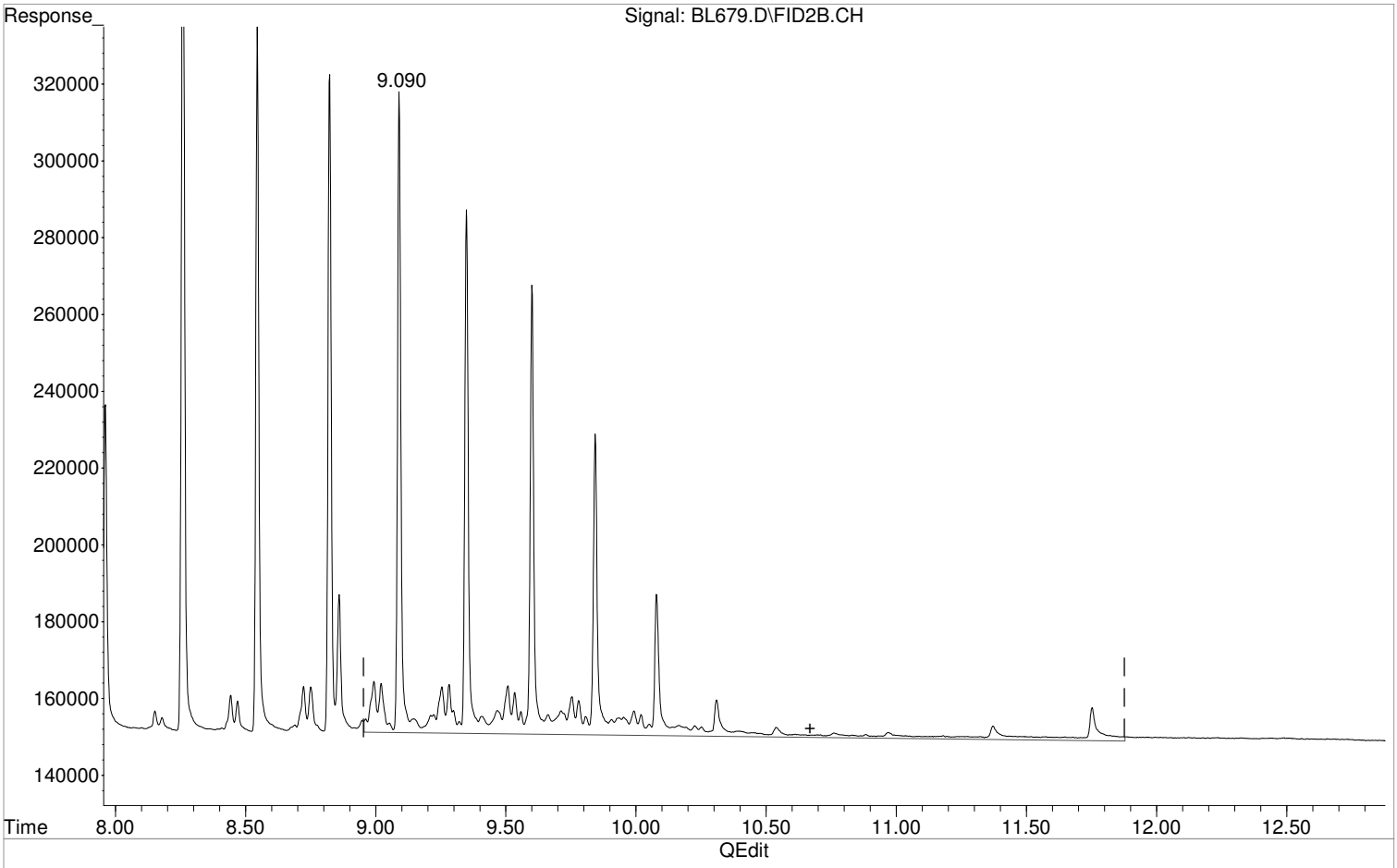
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL679.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:14 pm
Operator : JMisiurewicz
Sample : RQ1912217-03
Misc : 347123 8015 DRO DLCS
ALS Vial : 15 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 41.932 mg/l

response 8965663

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL679.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:14 pm
Operator : JMisiurewicz
Sample : RQ1912217-03
Misc : 347123 8015 DRO DLCS
ALS Vial : 15 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.055	20393440	68.723 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	68.72%
Target Compounds			
2) HC Diesel Range Organics	8.922	72505117	240.170 mg/l m
3) HC Oil Range Organics	10.670	8364209	39.119 mg/l m

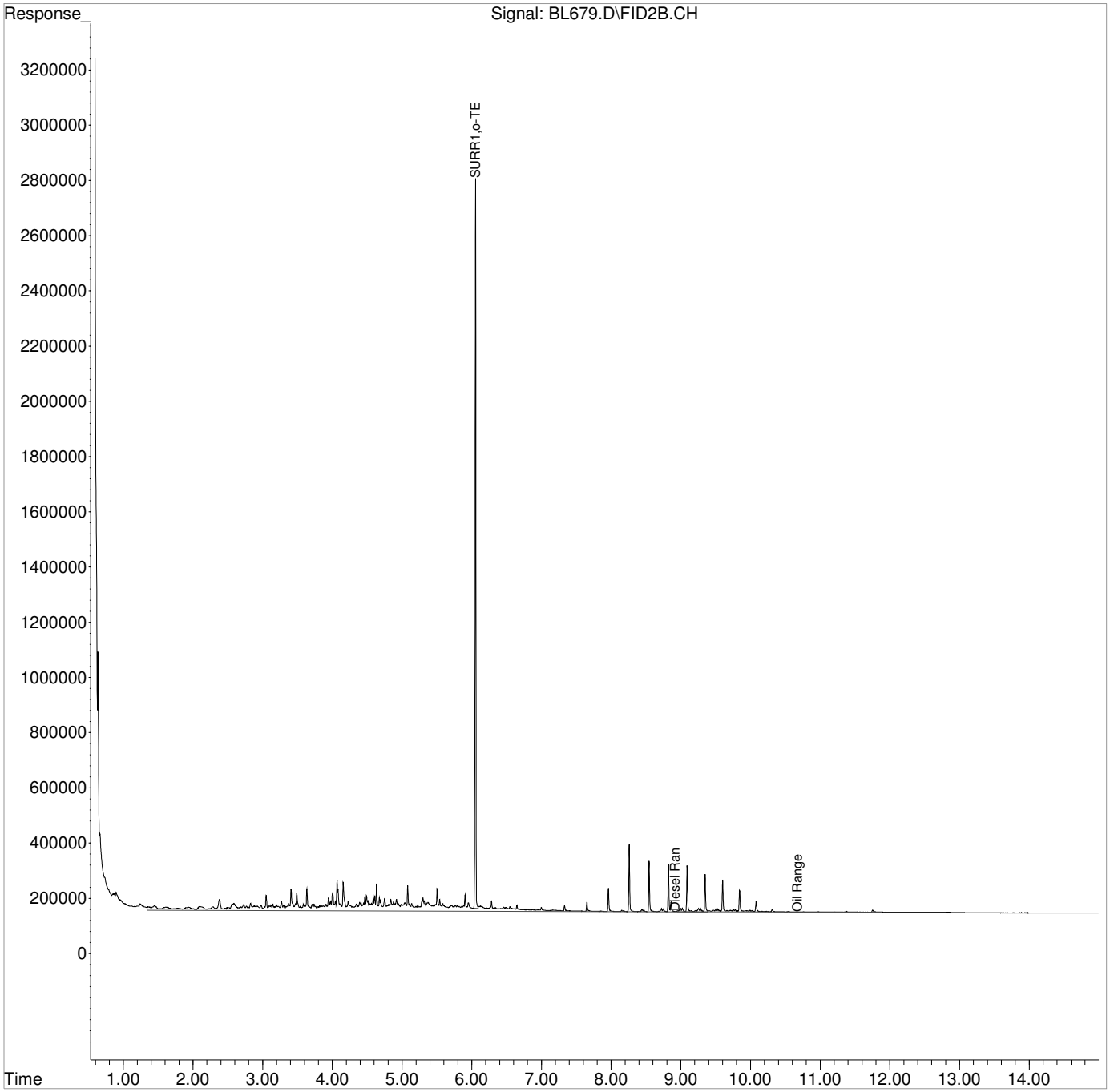
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL679.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 5:14 pm
Operator : JMisiurewicz
Sample : RQ1912217-03
Misc : 347123 8015 DRO DLCS
ALS Vial : 15 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

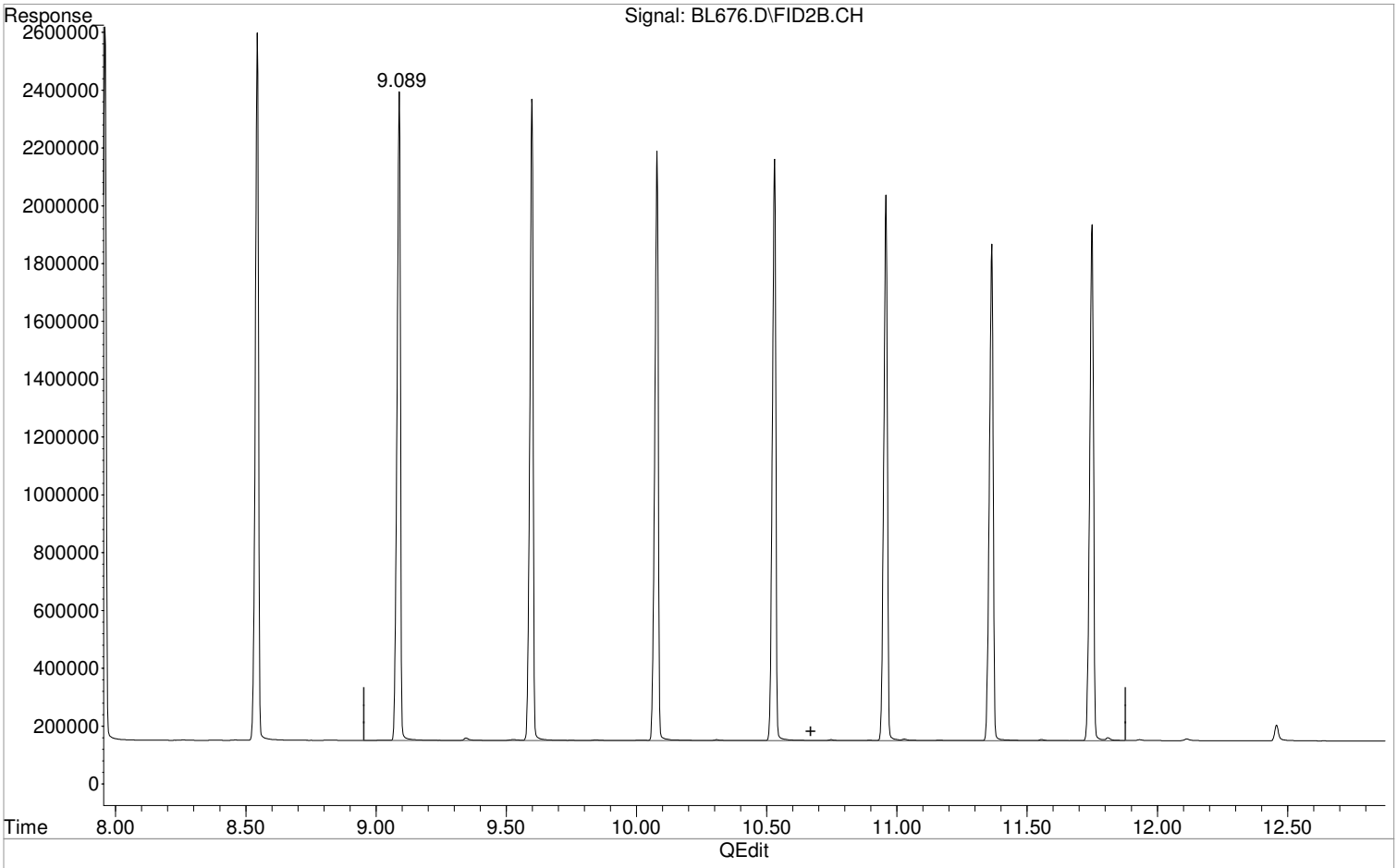


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL676.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:07 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 619.652 mg/l m

response 132491464

Manual Integration:

After

Poor integration.

10/28/19

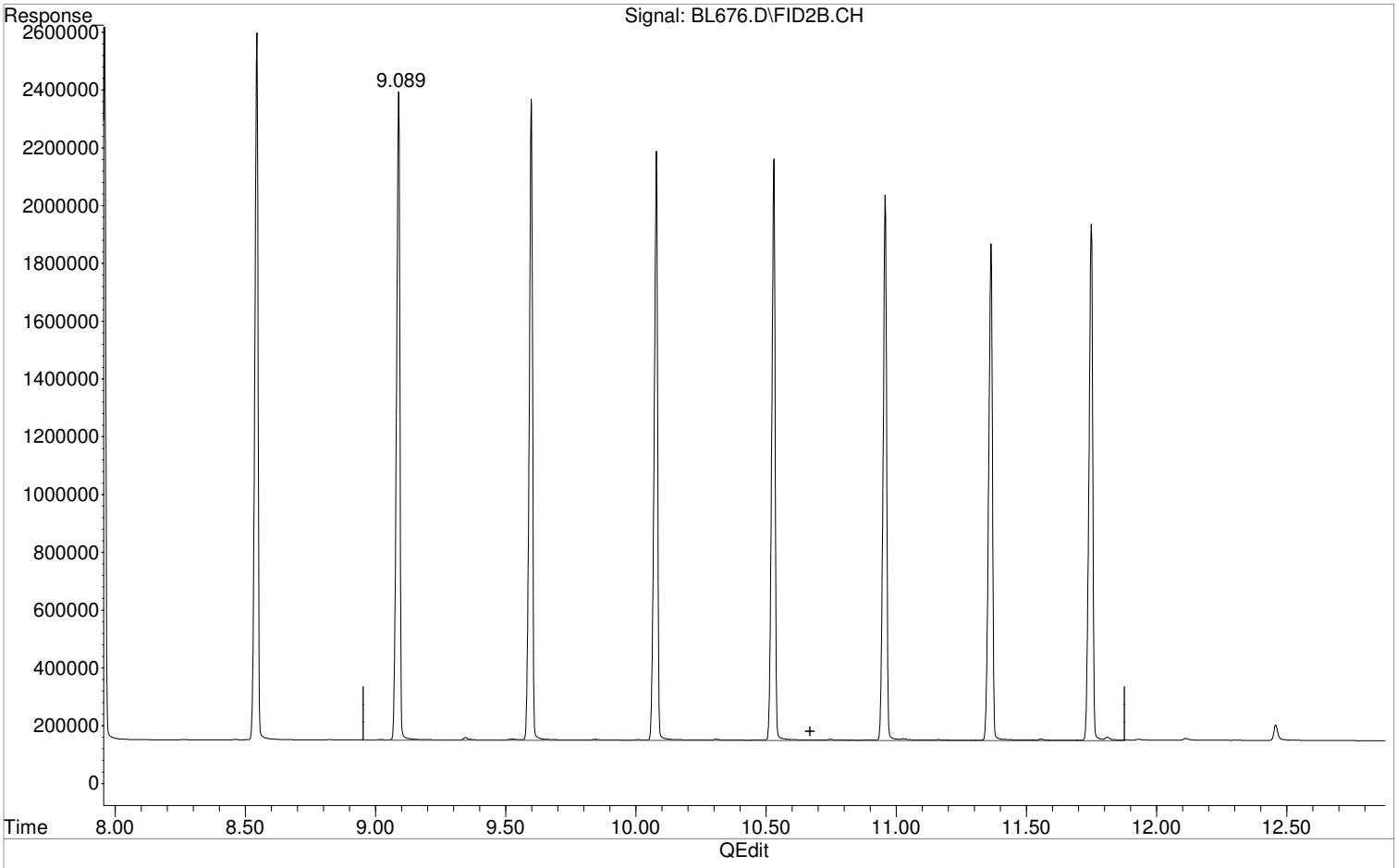
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL676.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:07 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 627.178 mg/l

response 134100701

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL676.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:07 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 S	SURR1,o-TERPHENYL	296.748	253.070 E3	14.7	79	0.02
2 HC	Diesel Range Organics	301.890	255.562 E3	15.3	83	0.00
3 HC	Oil Range Organics	213.816	189.274 E3	11.5	84	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL676.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:07 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.038	10122803	34.112 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	34.11%#
Target Compounds			
2) HC Diesel Range Organics	8.922	255562109	846.540 mg/l
3) HC Oil Range Organics	10.670	132491464	619.652 mg/l m

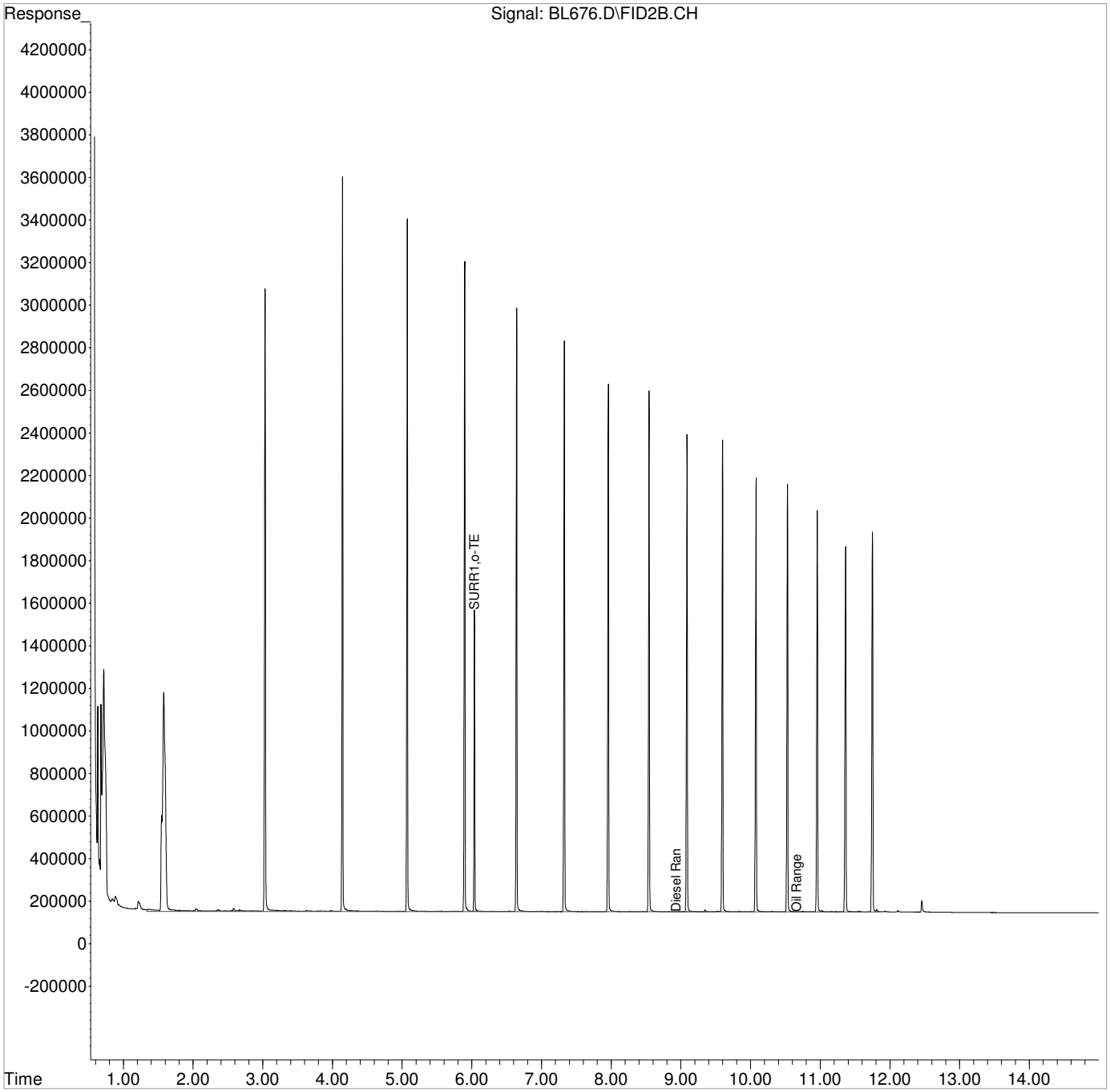
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL676.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 4:07 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

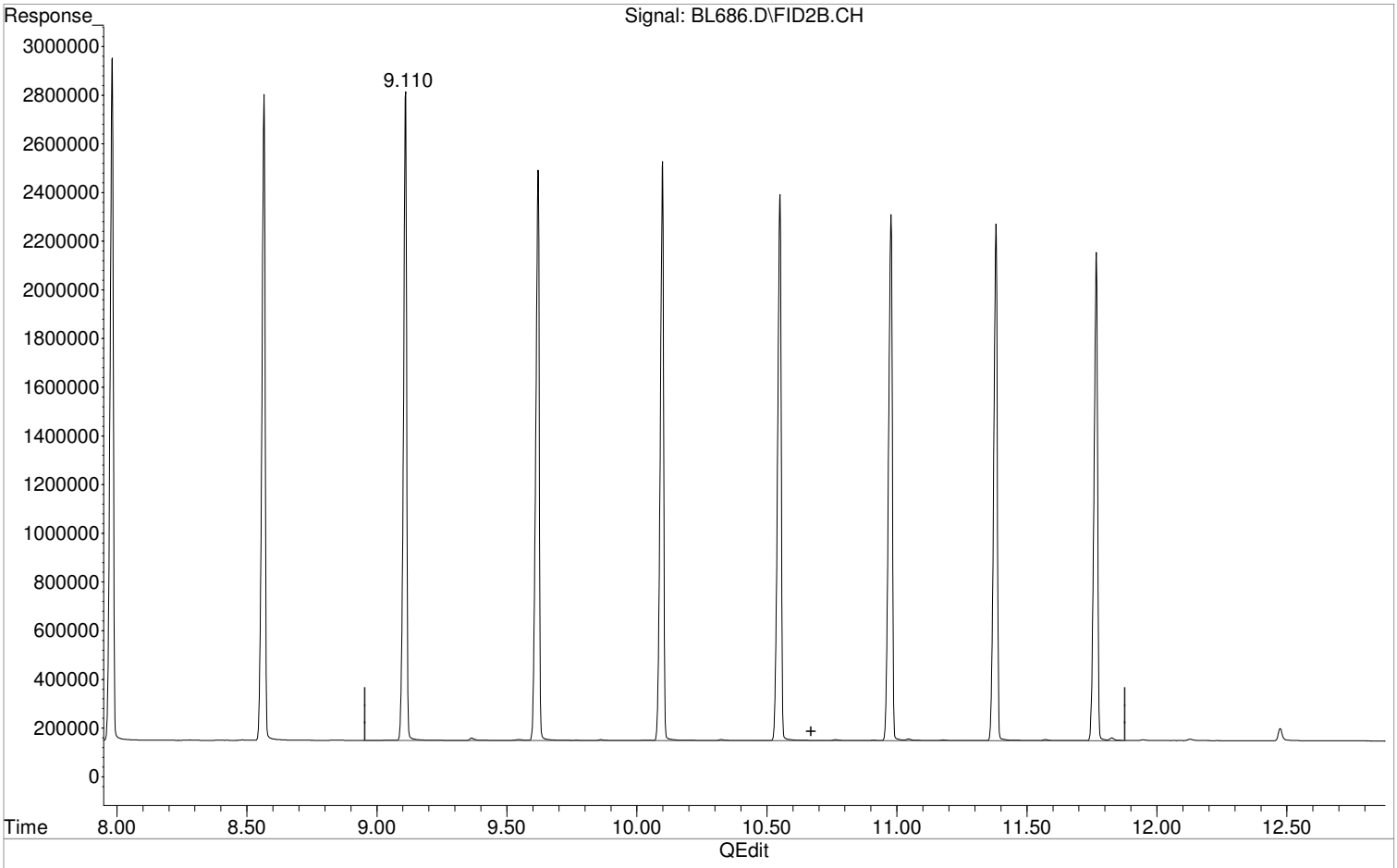


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL686.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:51 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:35 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 706.545 mg/l m

response 151070521

Manual Integration:

After

Poor integration.

10/28/19

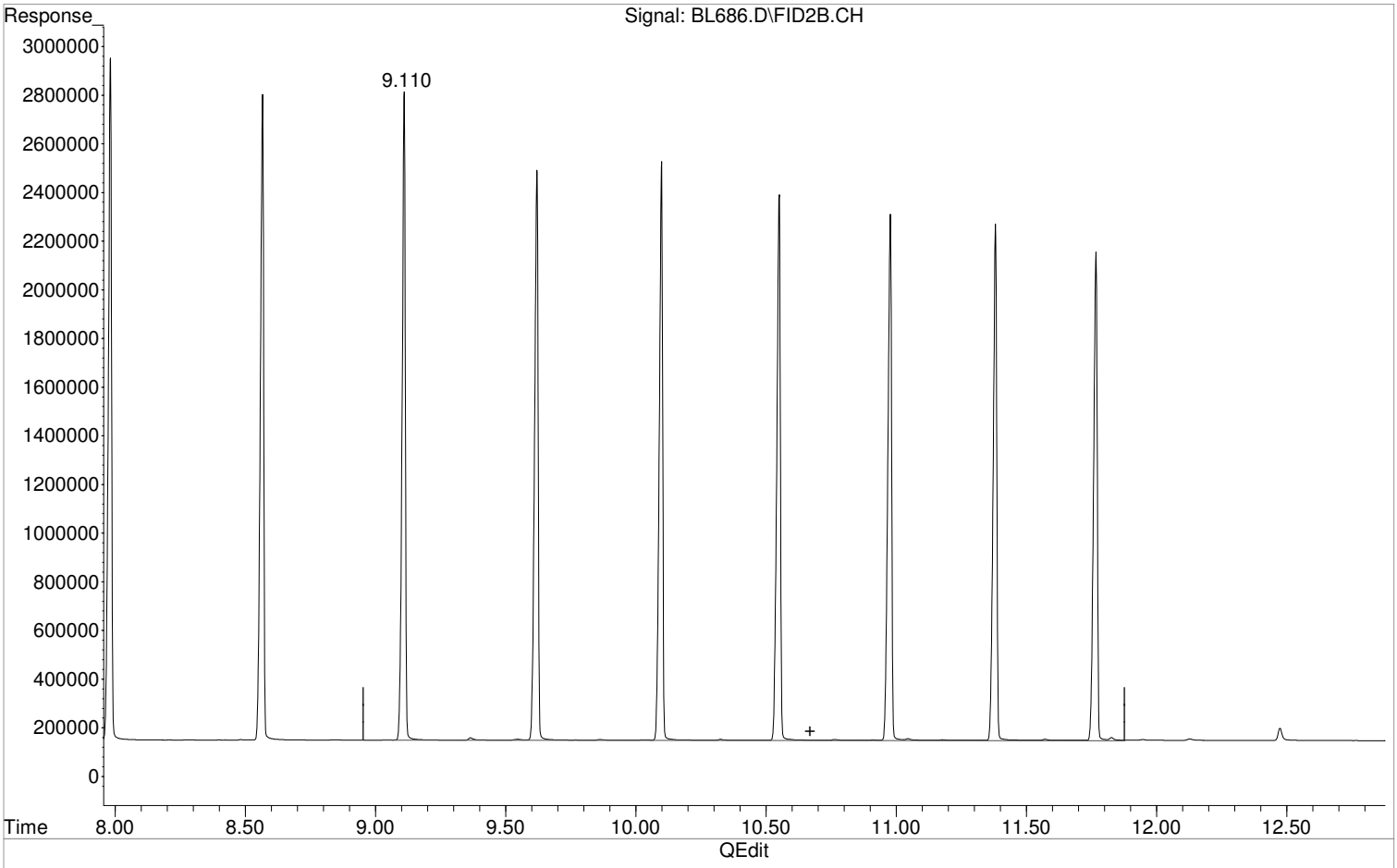
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL686.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:51 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:35 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 712.135 mg/l

response 152265670

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL686.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:51 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:35 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 S	SURR1,o-TERPHENYL	296.748	284.926 E3	4.0	89	0.05
2 HC	Diesel Range Organics	301.890	278.792 E3	7.7	90	0.00
3 HC	Oil Range Organics	213.816	215.815 E3	-0.9	96	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL686.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:51 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:35 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.066	11397040	38.406 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	38.41%#
Target Compounds			
2) HC Diesel Range Organics	8.922	278791841	923.487 mg/l
3) HC Oil Range Organics	10.670	151070521	706.545 mg/l m

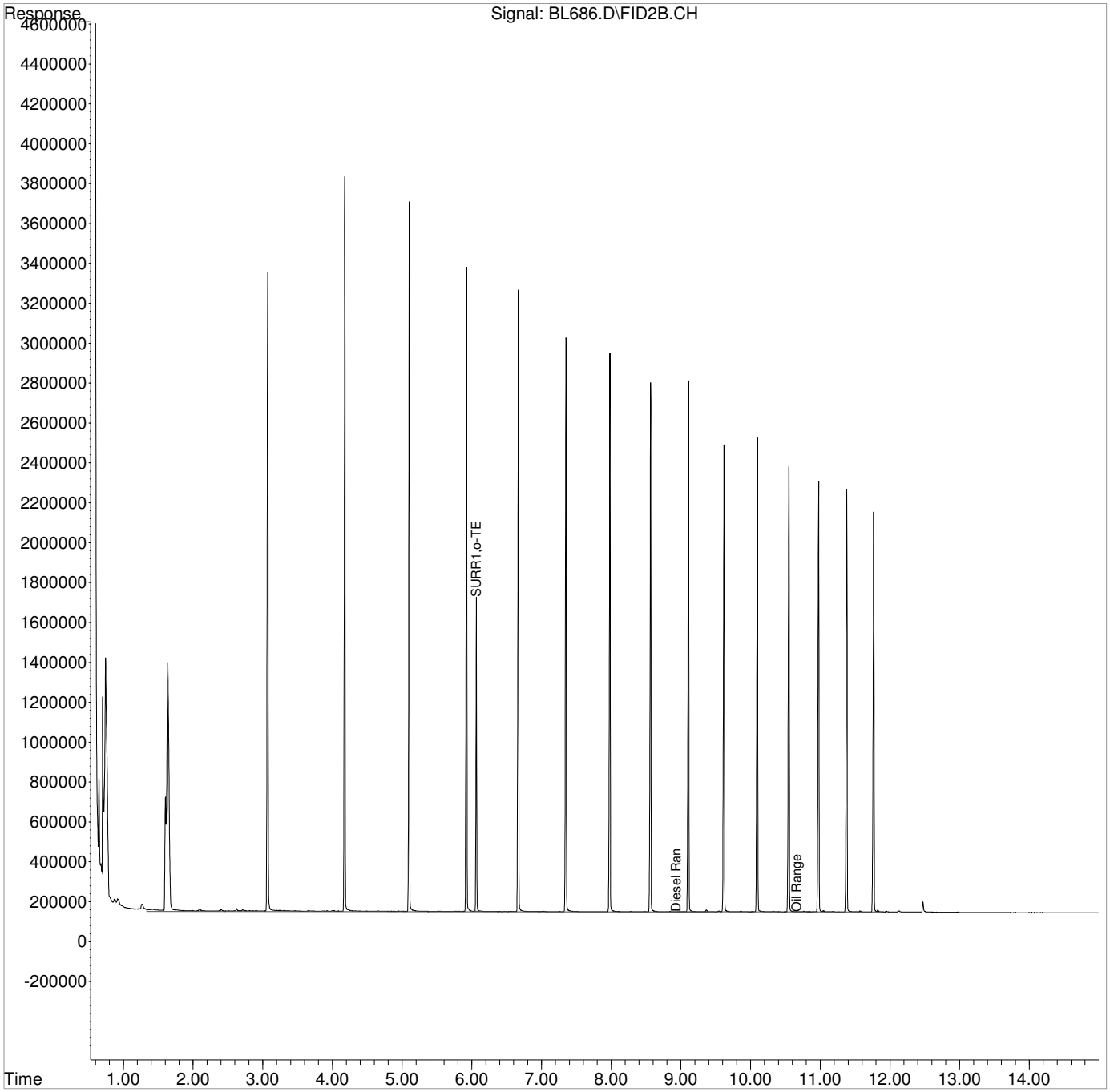
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL686.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 7:51 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO CCV MED
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:23:35 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	0.000	0	N.D. mg/l d
Spiked Amount 100.000	Range 40 - 133	Recovery =	0.00%#
Target Compounds			
2) HC Diesel Range Organics	8.922	162795401	539.254 mg/l
3) HC Oil Range Organics	0.000	0	N.D. mg/l d

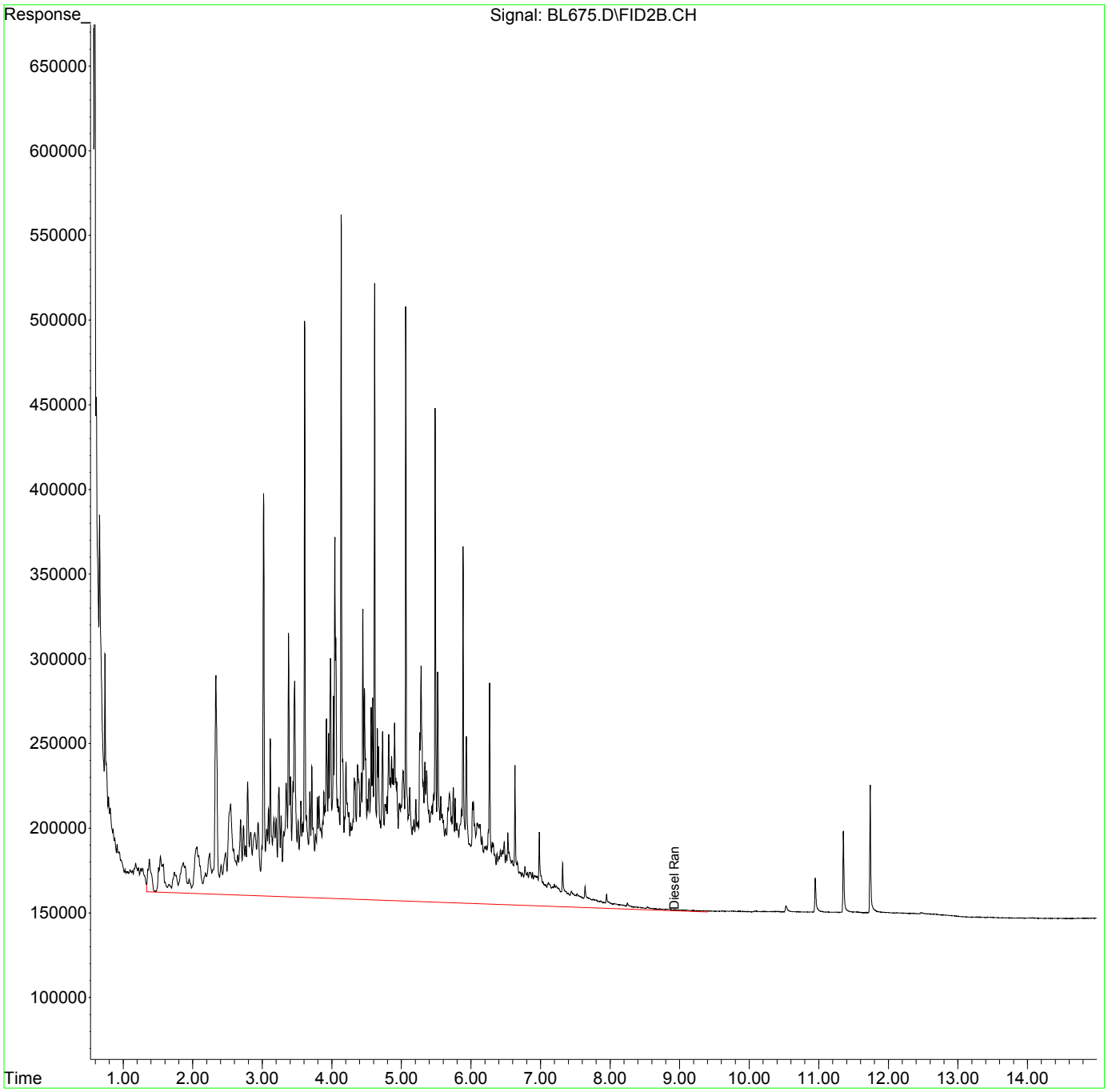
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

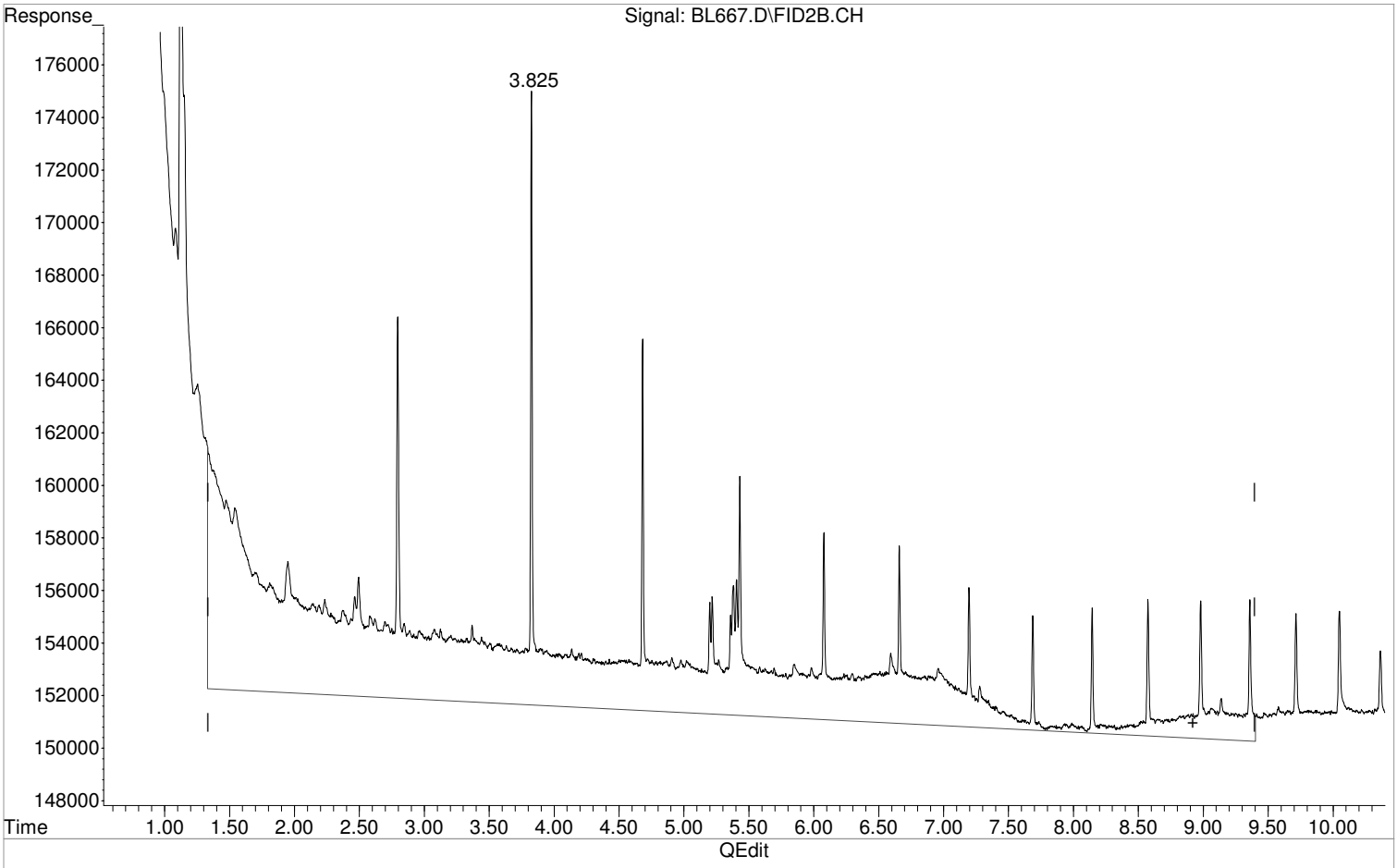


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 34.051 mg/l m

response 10279784

Manual Integration:

After

Poor integration.

10/28/19

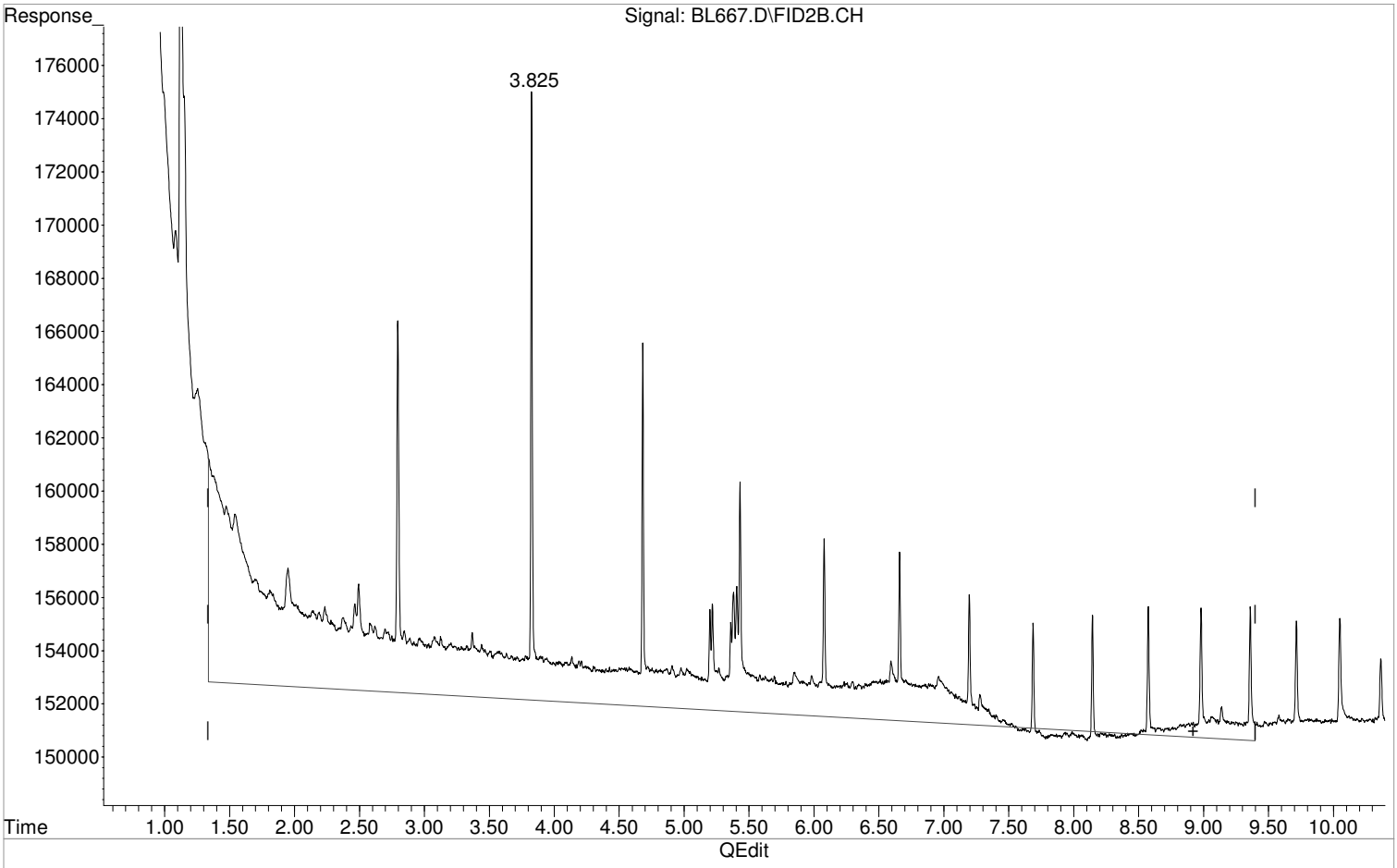
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 26.667 mg/l

response 8050388

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S SURR1,o-TERPHENYL	0.000	0	N.D.	mg/l	d
Spiked Amount 100.000	Range 40 - 133	Recovery =	0.00%#		
Target Compounds					
2) HC Diesel Range Organics	8.922	10331817	34.224	mg/l	m
3) HC Oil Range Organics	0.000	0	N.D.	mg/l	d

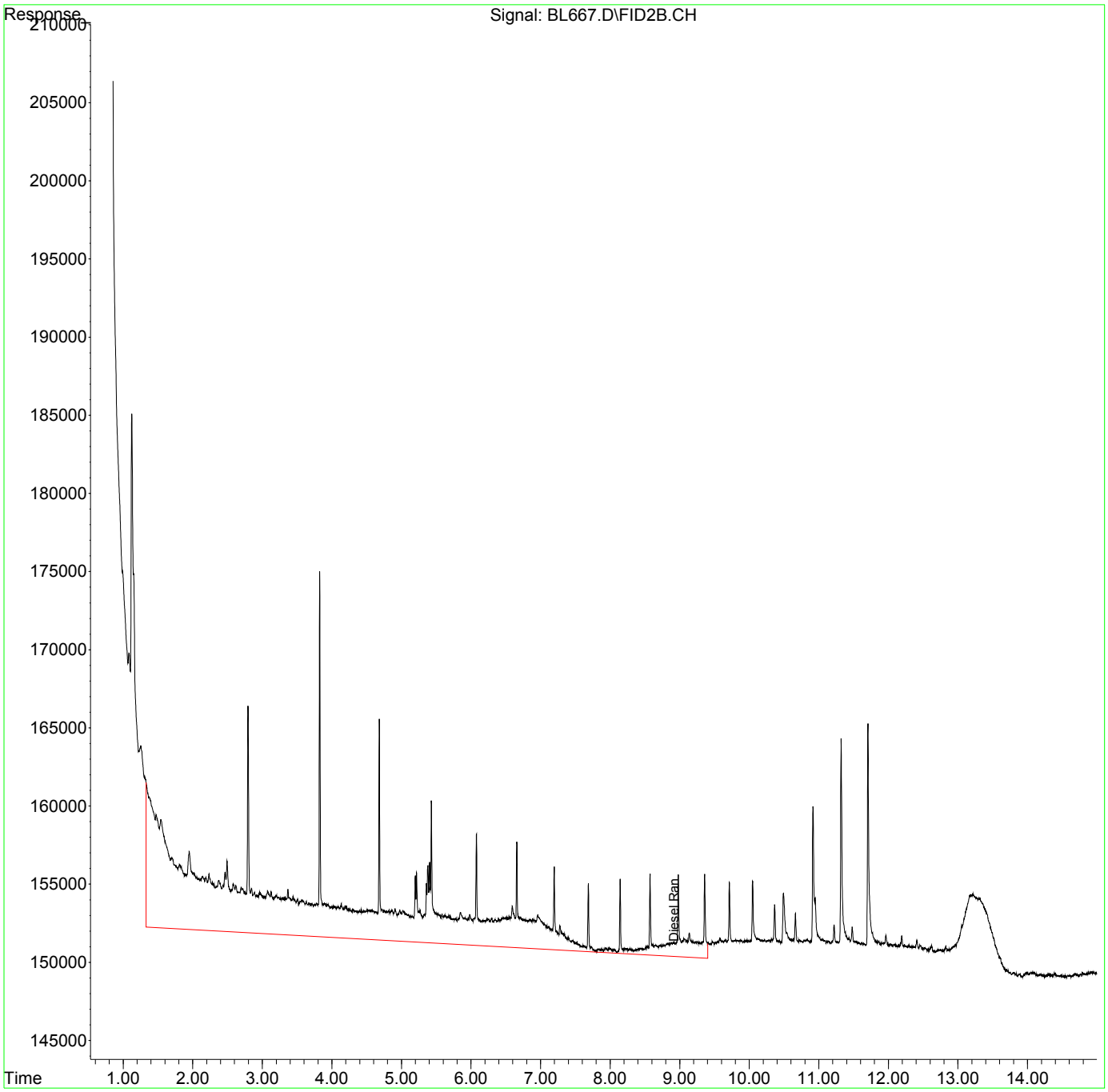
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

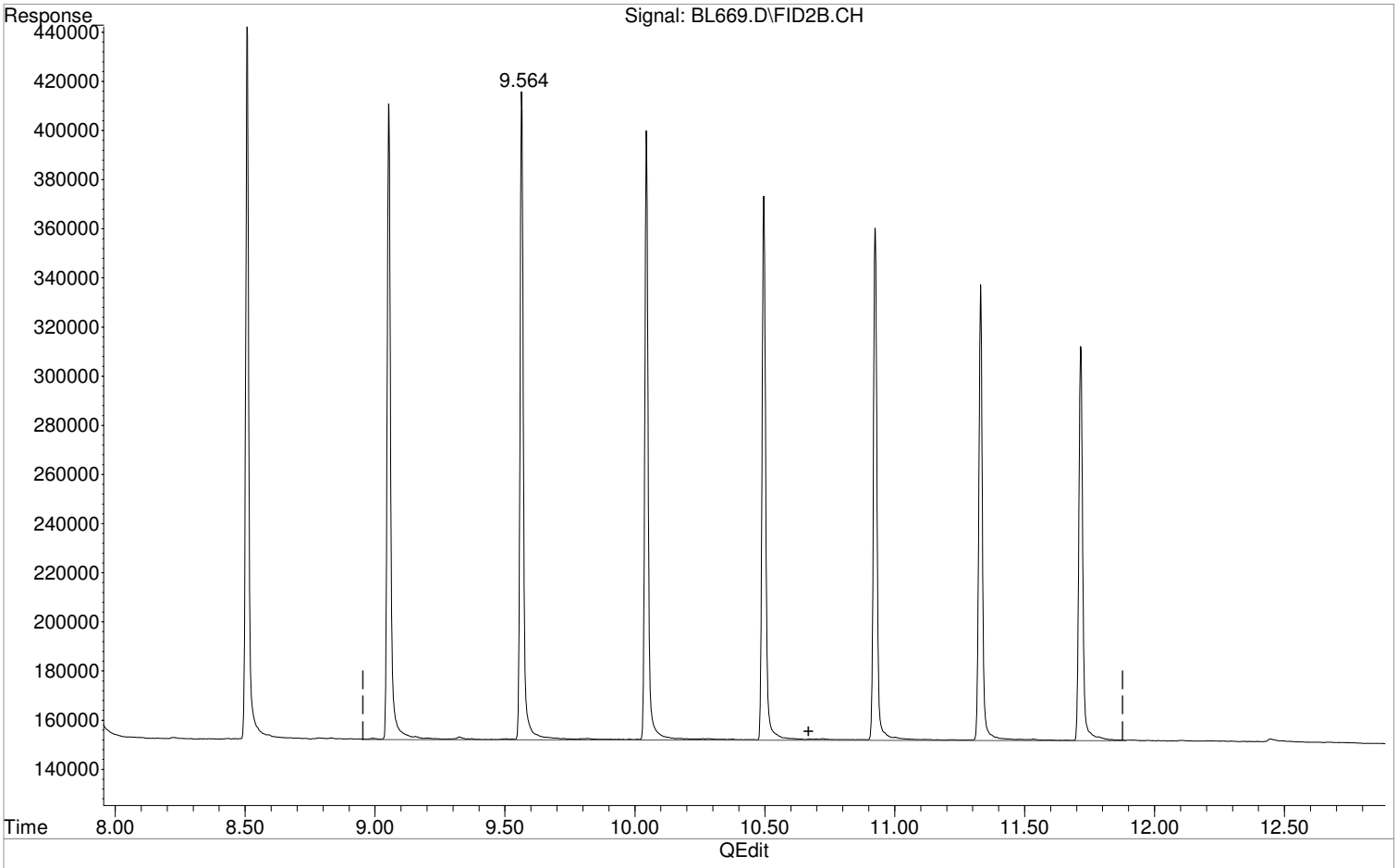


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 77.404 mg/l m

response 15468045

Manual Integration:

After

Poor integration.

10/25/19

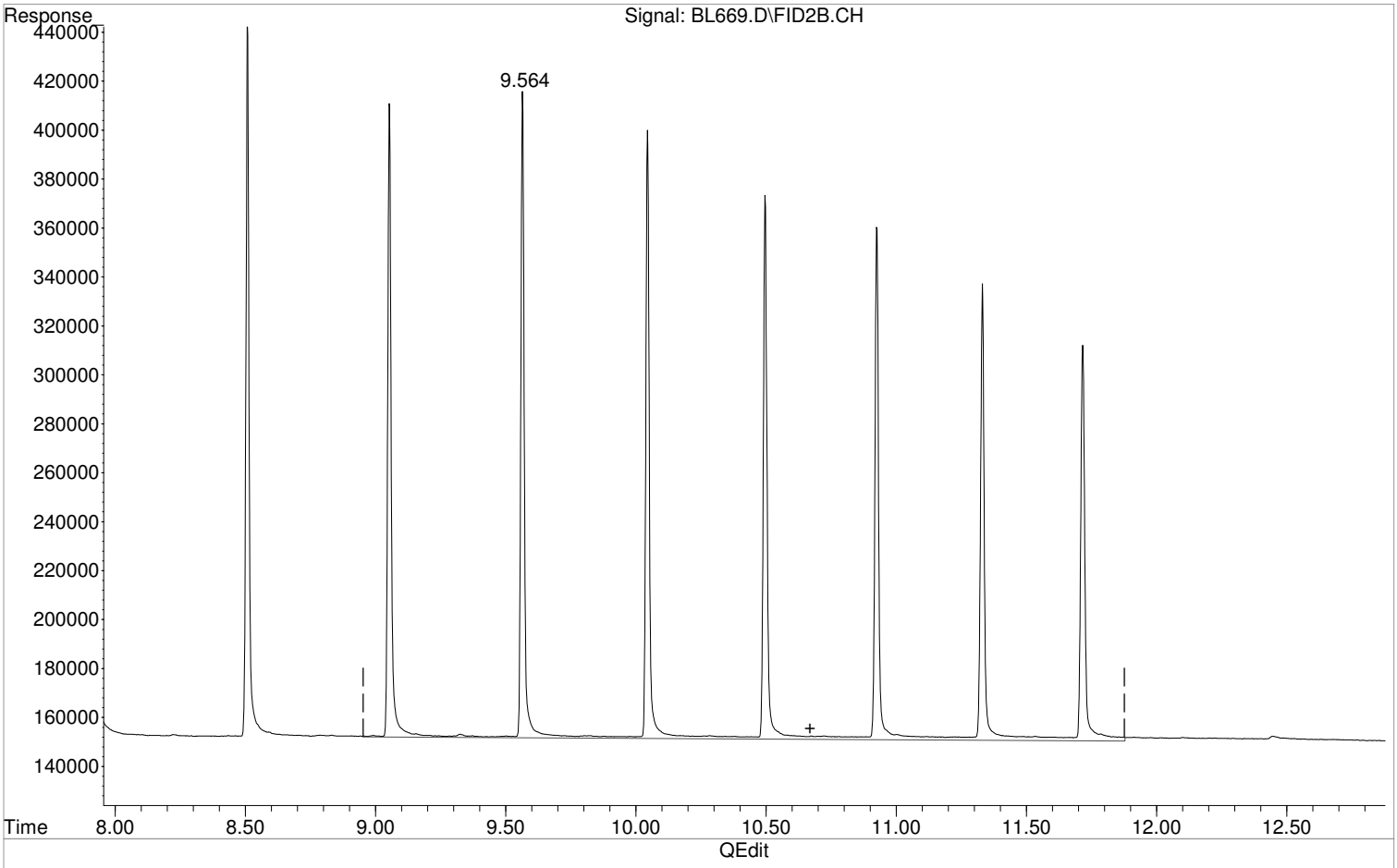
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 83.173 mg/l

response 16620884

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	5.999f	1200808	2.660 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	2.66%#
Target Compounds			
2) HC Diesel Range Organics	8.922	34483937	82.698 mg/l
3) HC Oil Range Organics	10.670	15468045	77.404 mg/l m

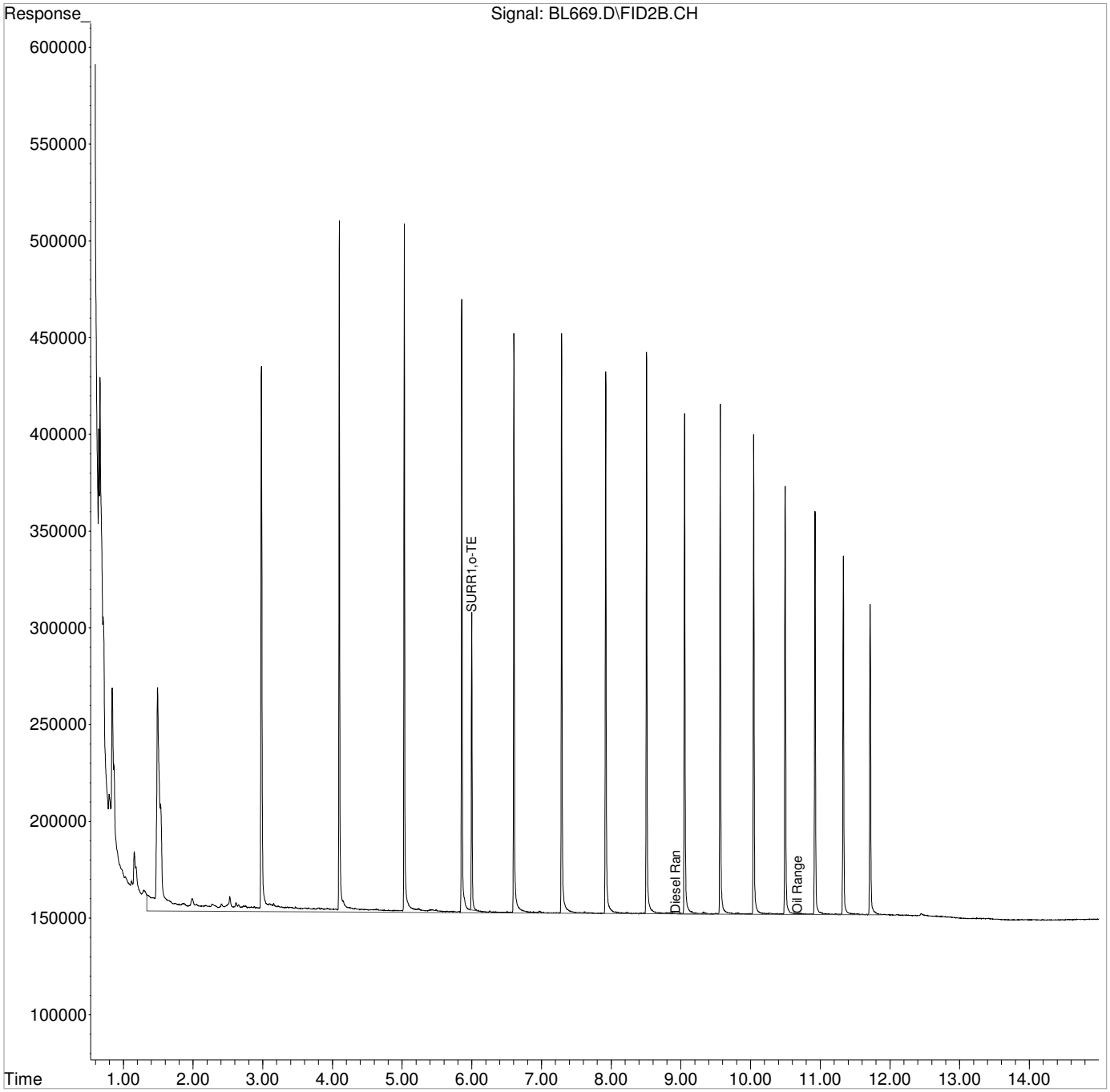
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

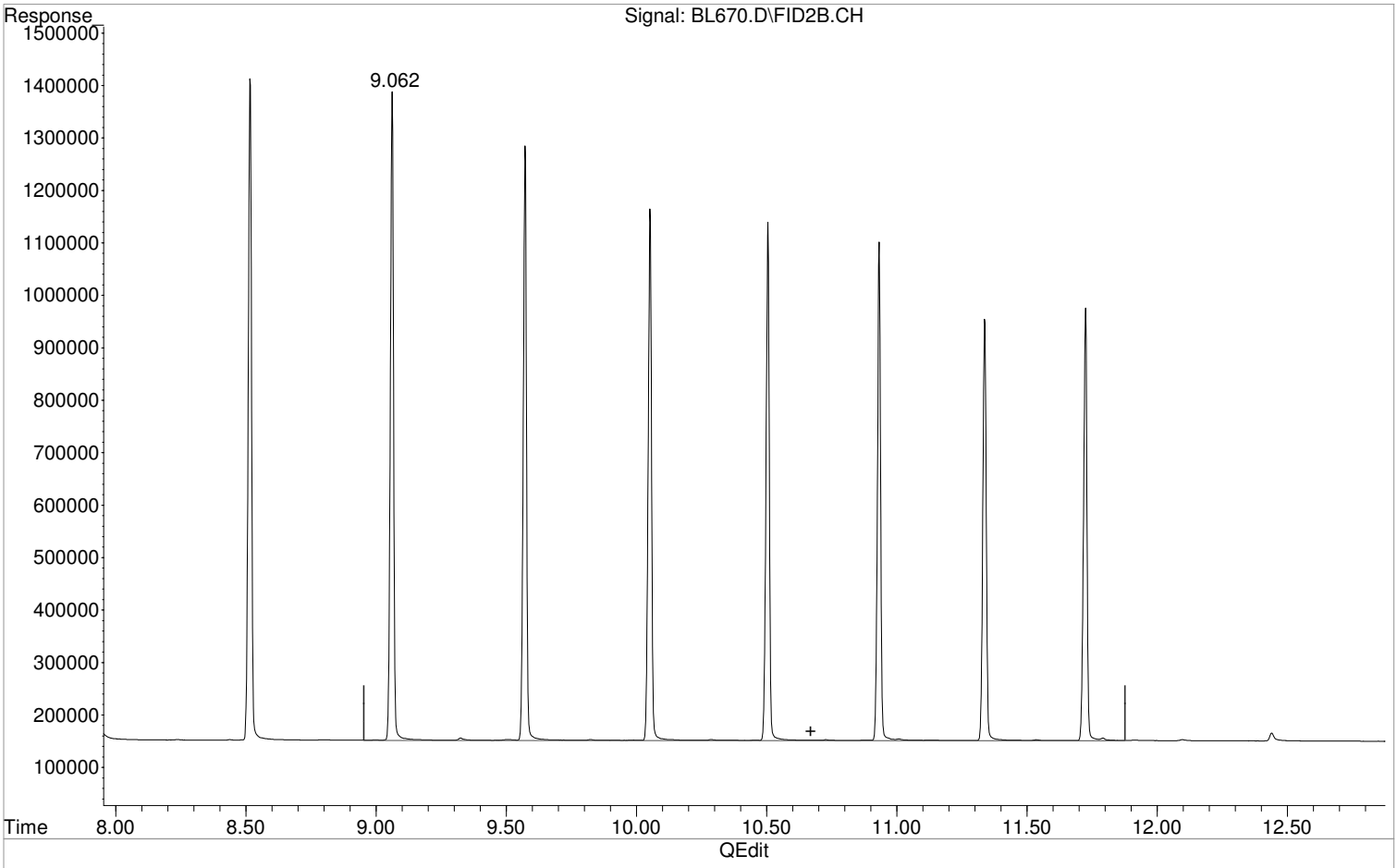


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 313.456 mg/l m

response 62639860

Manual Integration:

After

Poor integration.

10/25/19

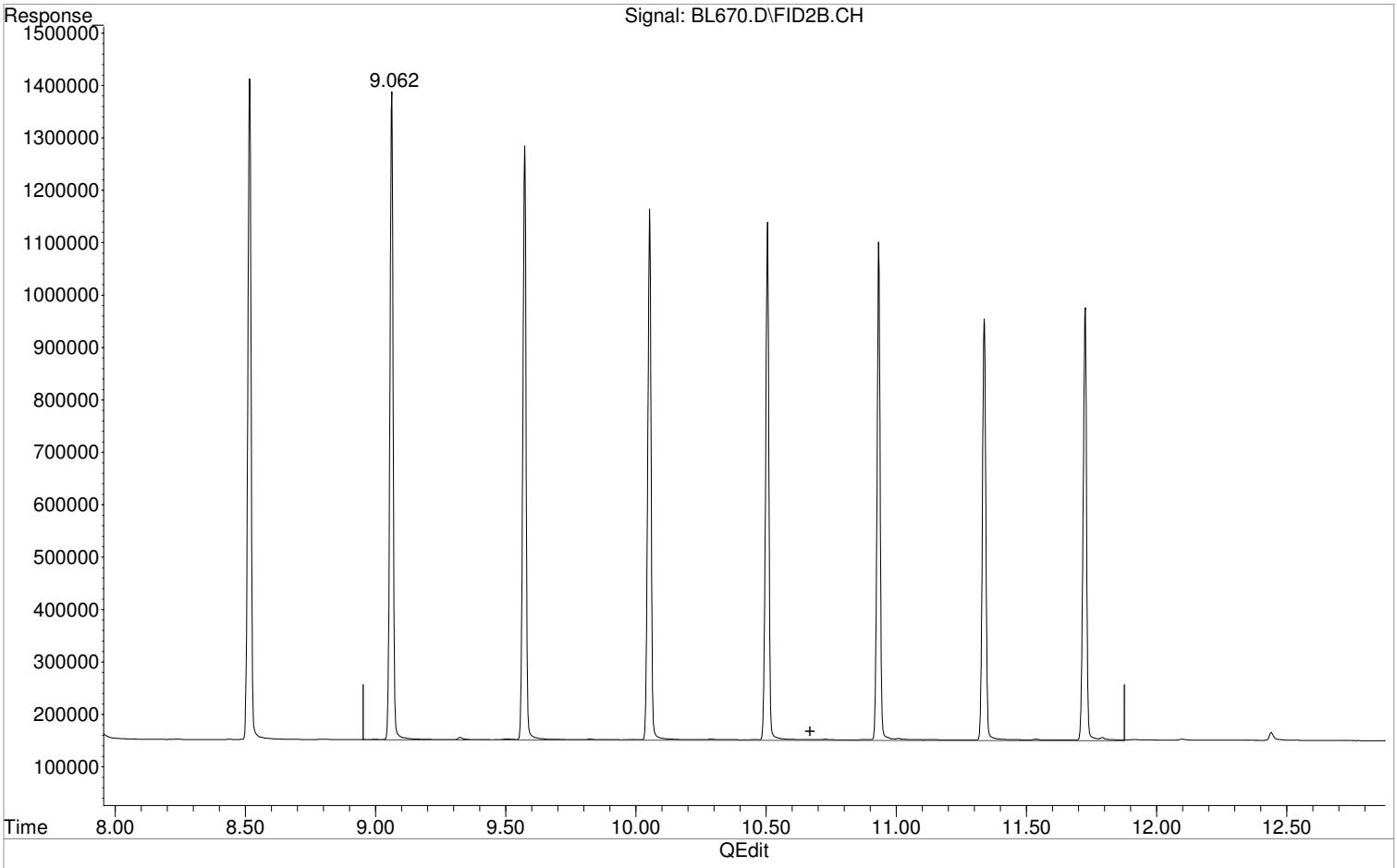
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 319.145 mg/l

response 63776554

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.008f	5688695	12.600 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	12.60%#
Target Compounds			
2) HC Diesel Range Organics	8.922	142199911	341.018 mg/l
3) HC Oil Range Organics	10.670	62639860	313.456 mg/l m

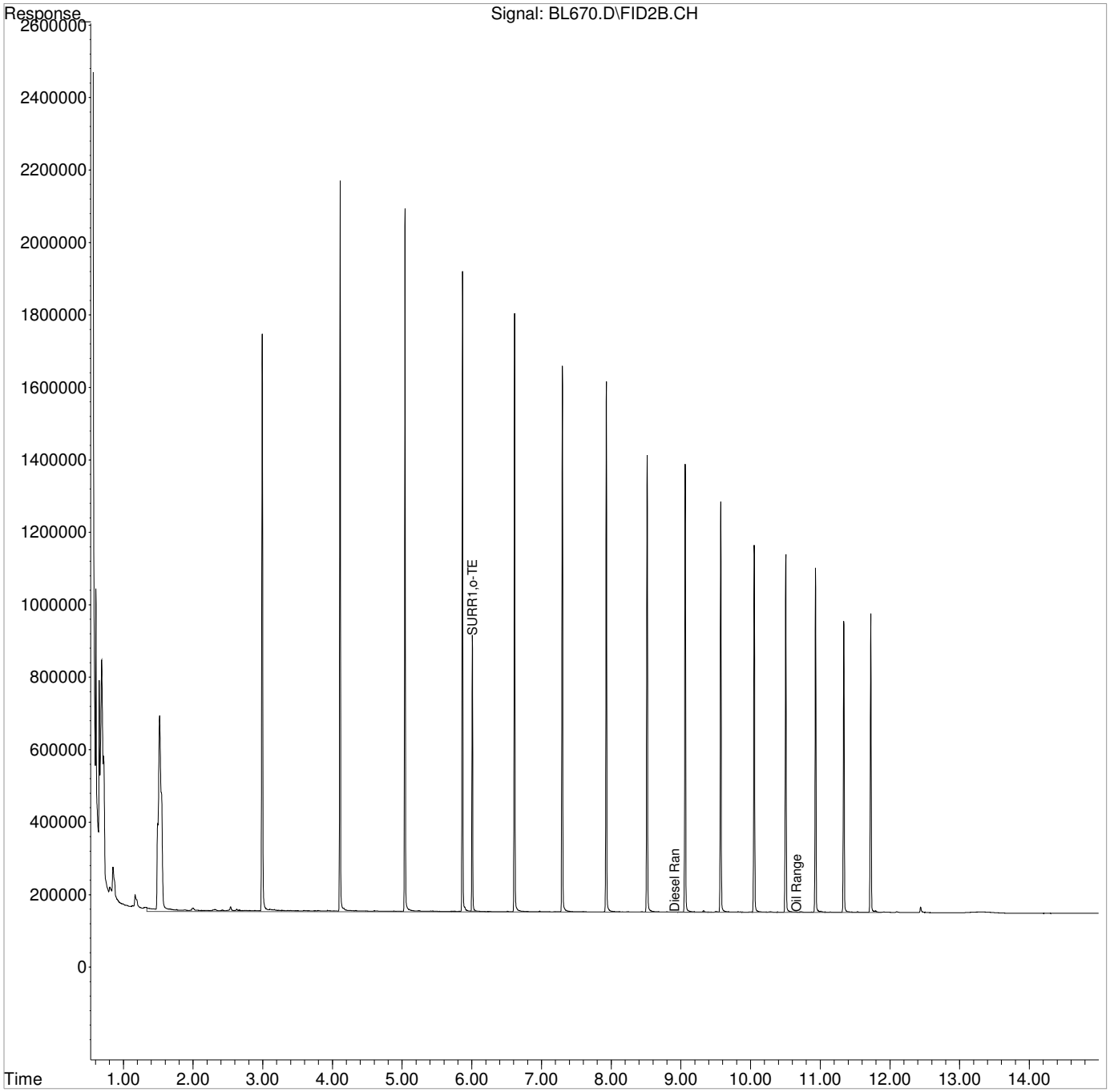
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

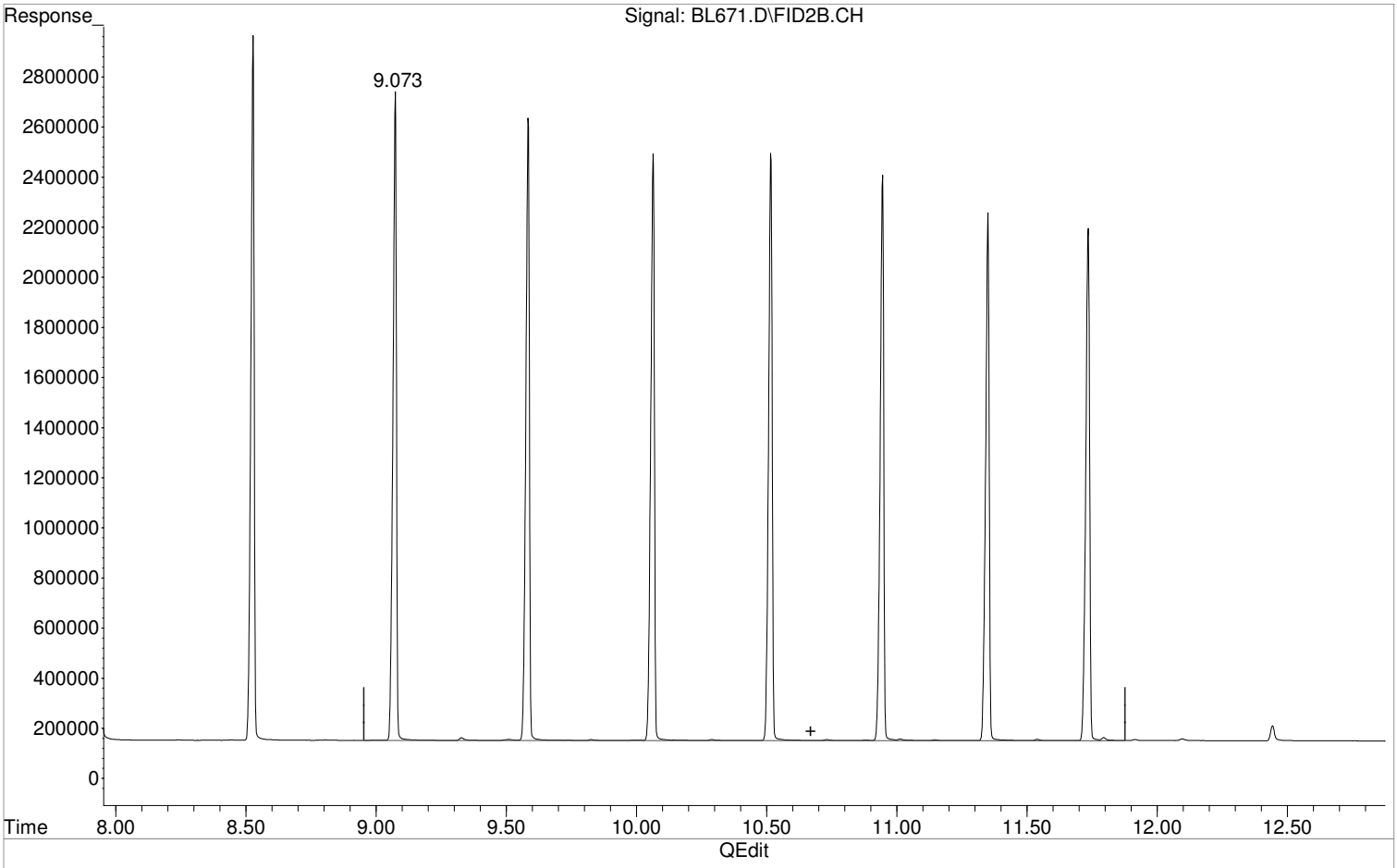


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)
10.670min 787.866 mg/l m
response 157443972

Manual Integration:
After
Poor integration.
10/25/19

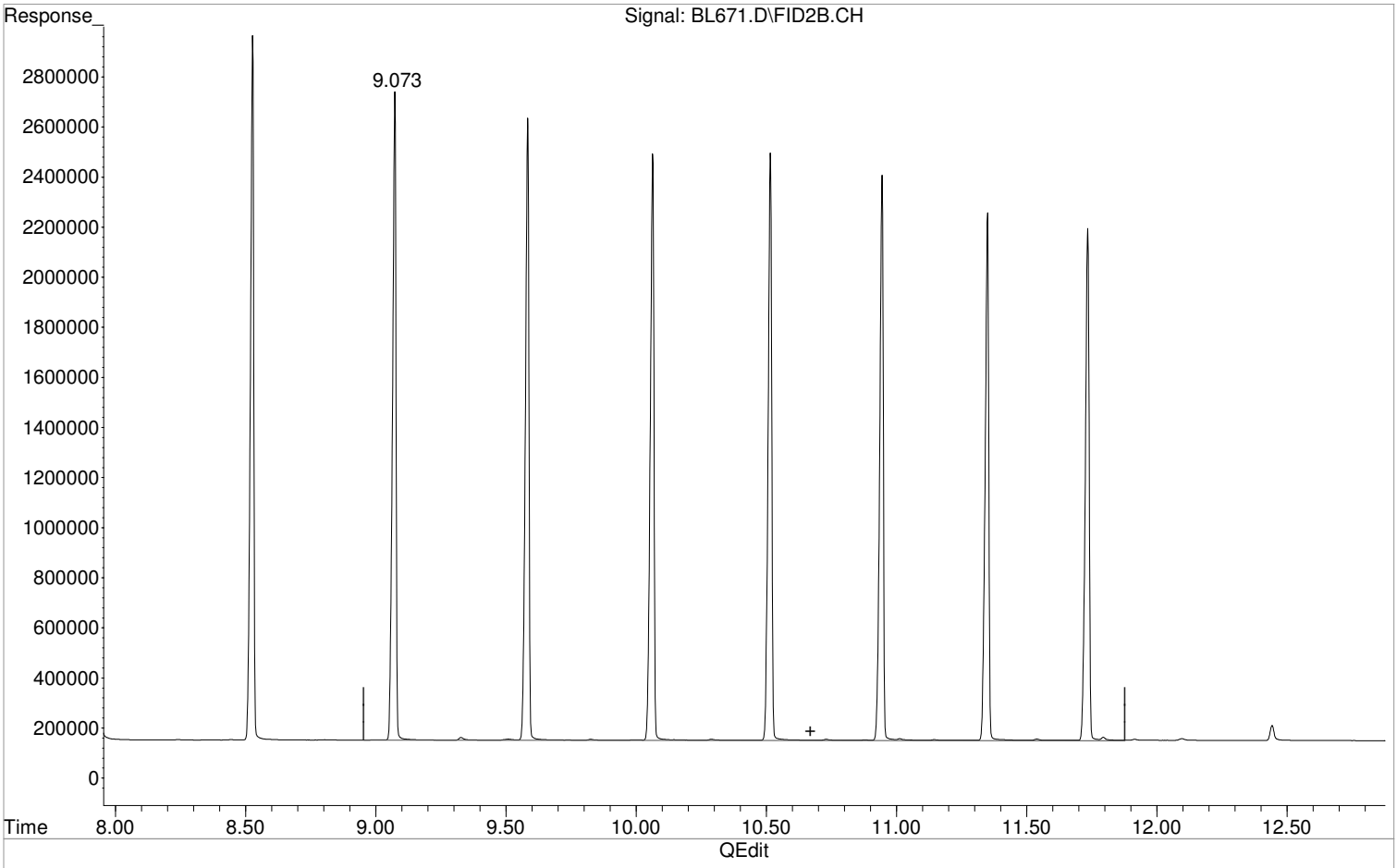
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 793.928 mg/l

response 158655408

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.016f	12830088	28.417 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	28.42%#
Target Compounds			
2) HC Diesel Range Organics	8.922	308718950	740.357 mg/l
3) HC Oil Range Organics	10.670	157443972	787.866 mg/l m

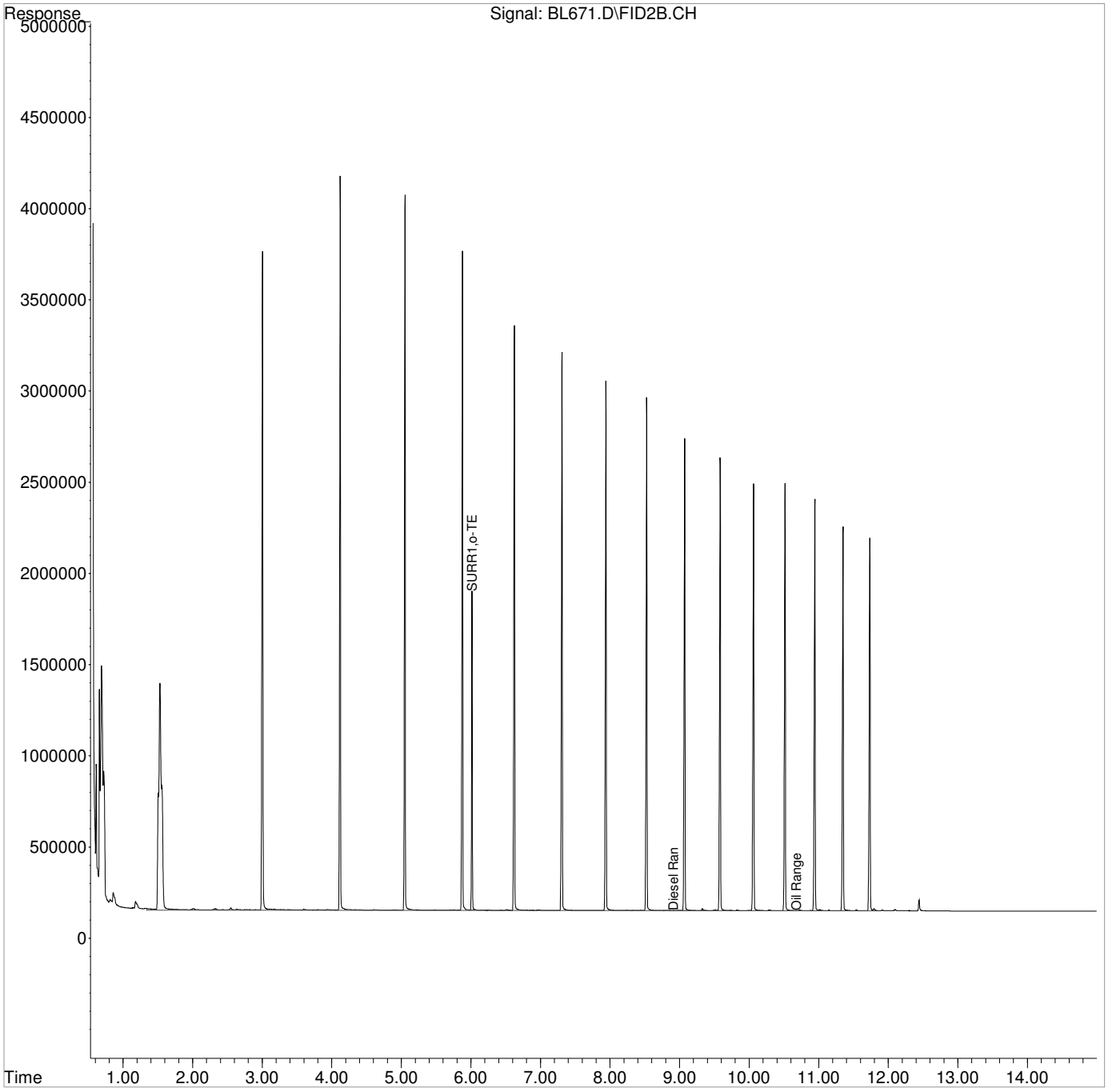
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

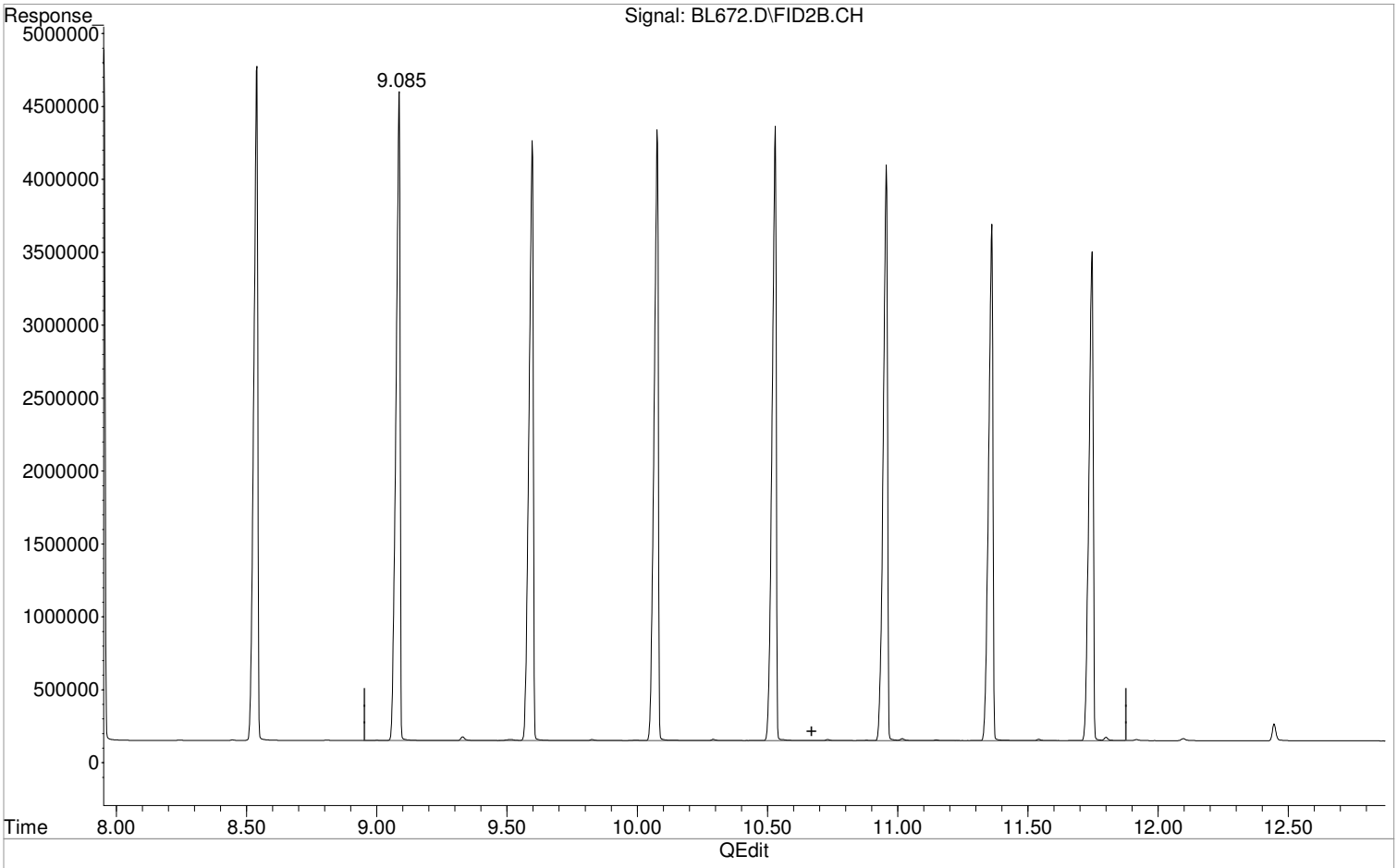


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 1562.093 mg/l m

response 312162250

Manual Integration:

After

Poor integration.

10/25/19

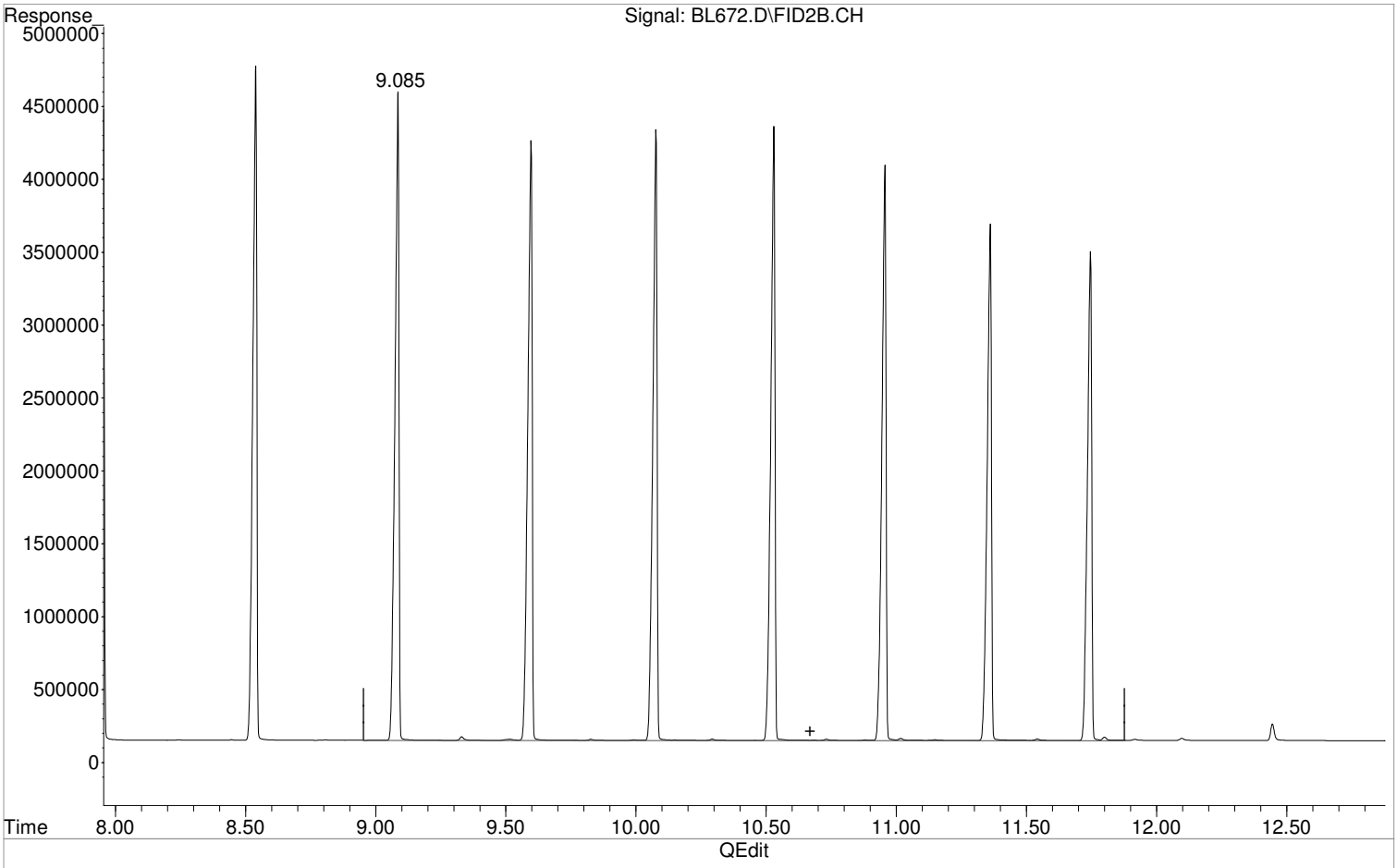
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 1570.029 mg/l

response 313748183

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.027f	22929286	50.785 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 50.78%	
Target Compounds			
2) HC Diesel Range Organics	8.922	564133736	1352.882 mg/l
3) HC Oil Range Organics	10.670	312162250	1562.093 mg/l m

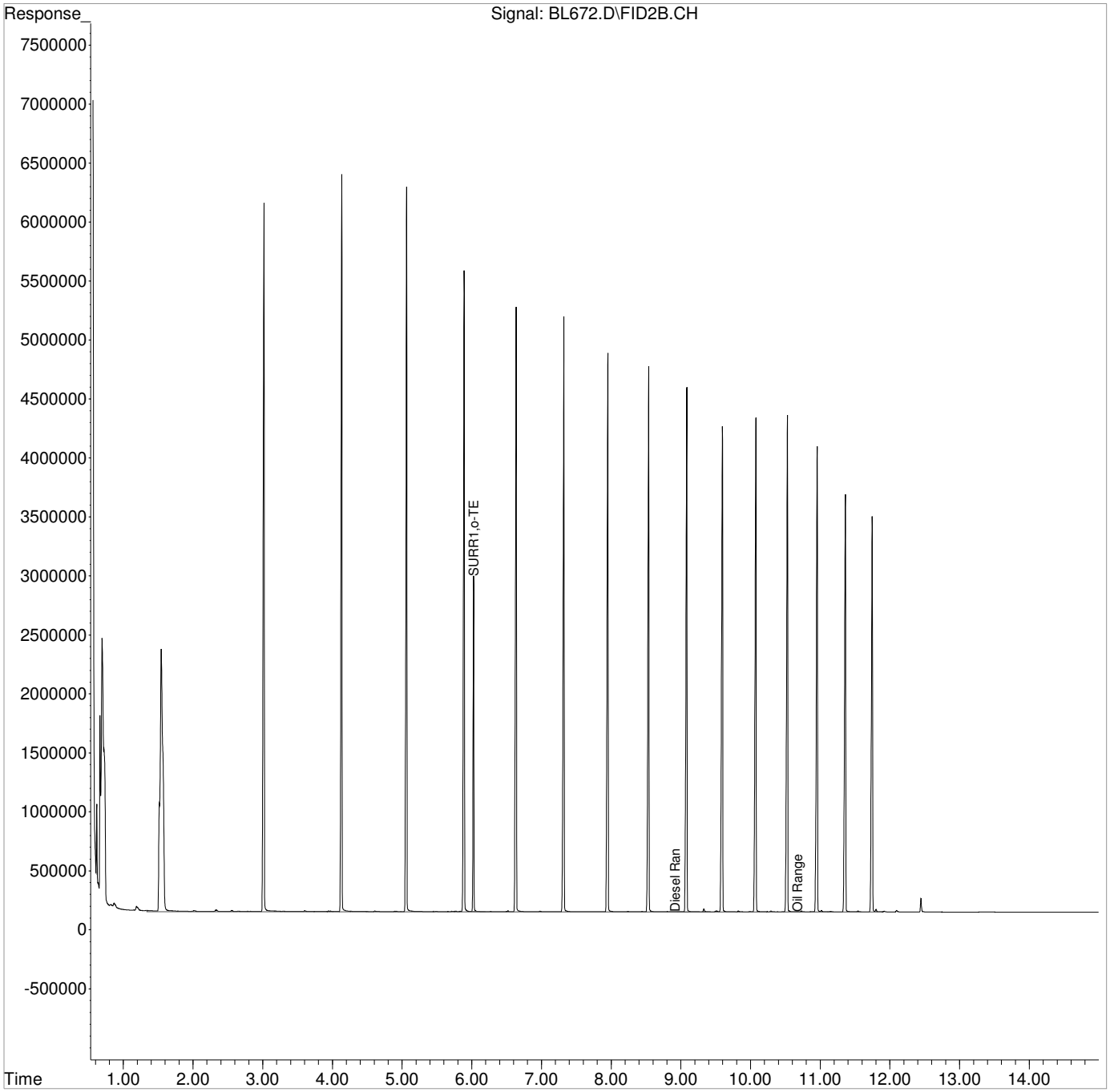
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

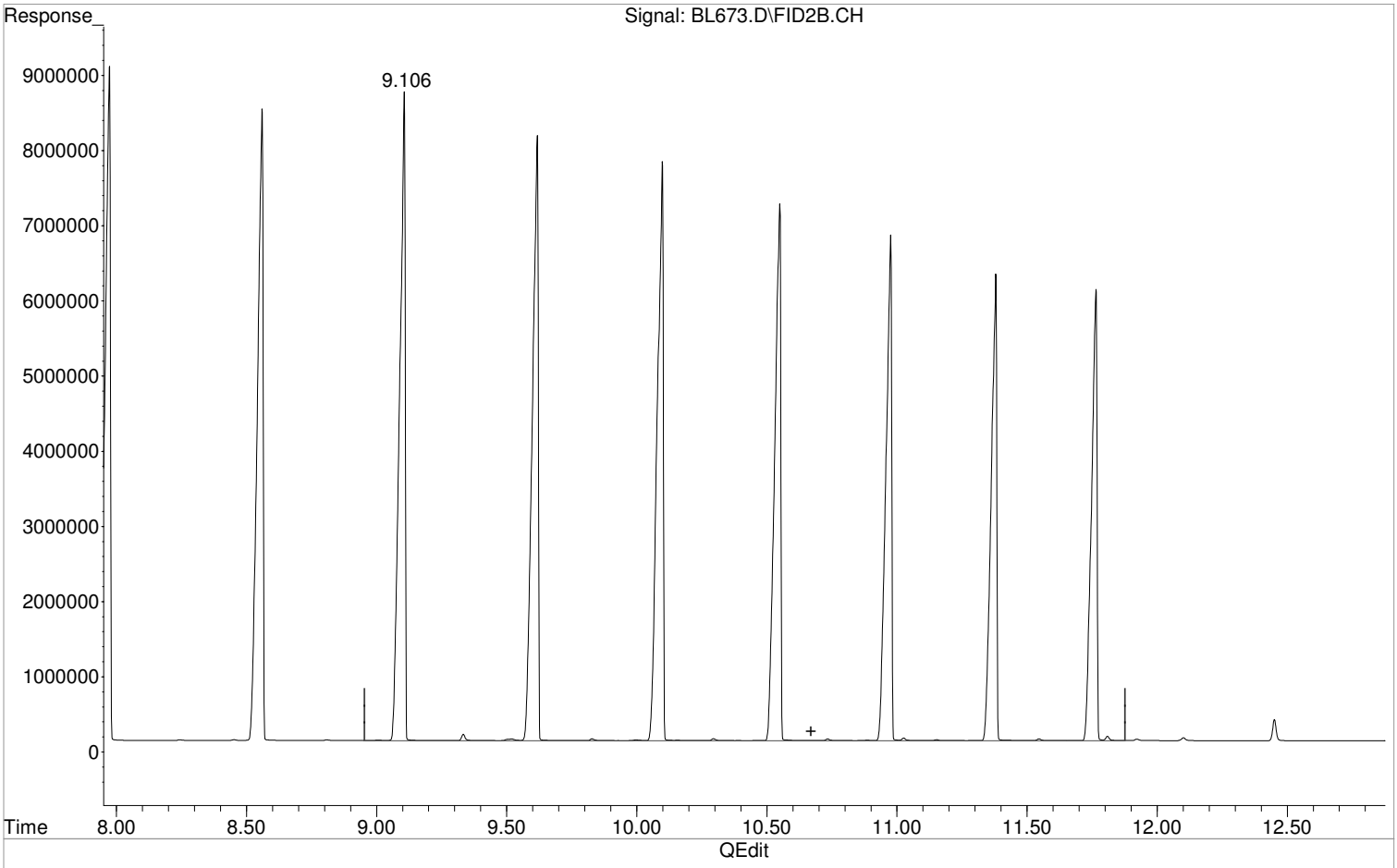


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 3874.934 mg/l m

response 774351022

Manual Integration:

After

Poor integration.

10/25/19

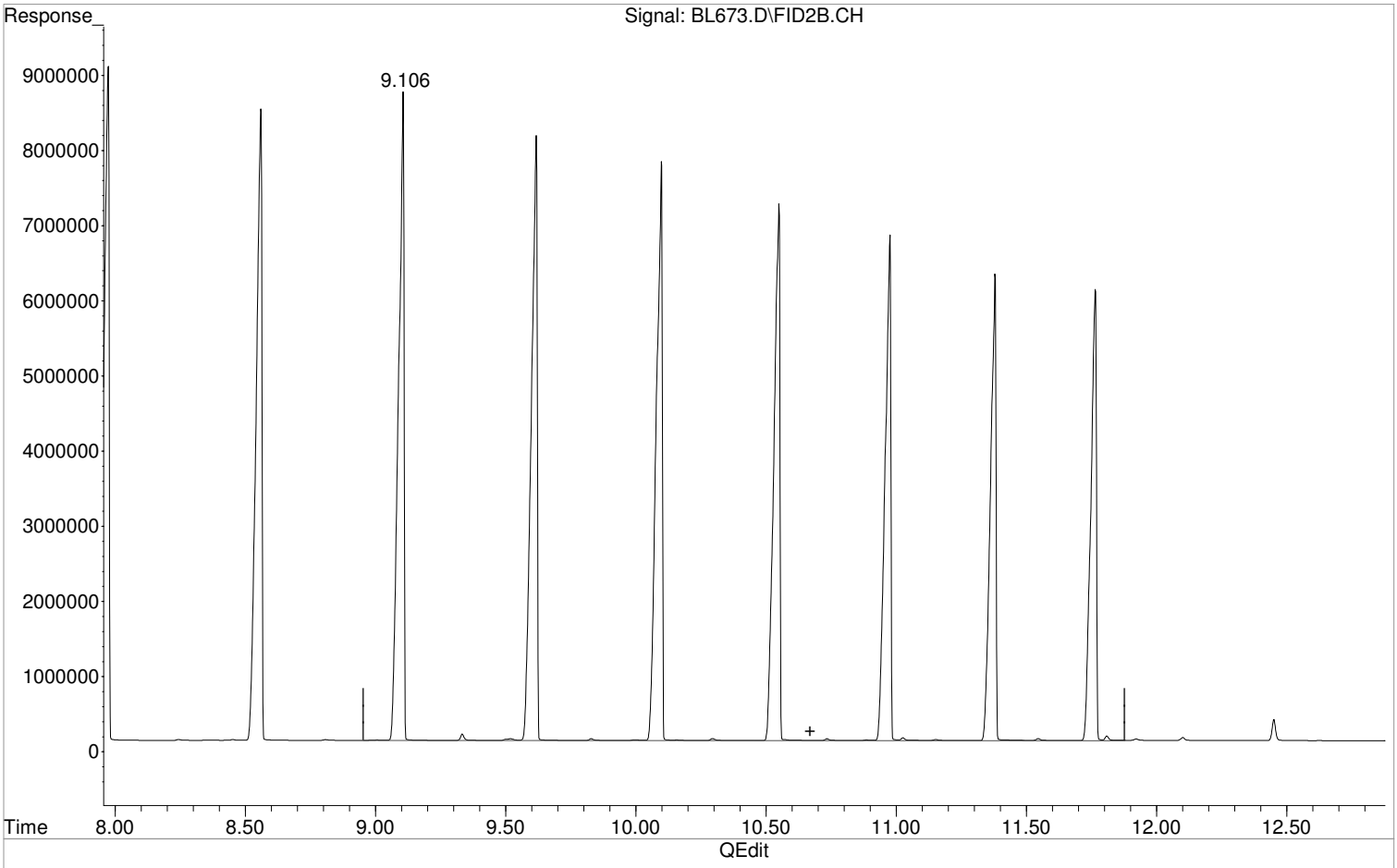
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 3887.349 mg/l

response 776831945

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.043f	58346880	129.229 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 129.23%	
Target Compounds			
2) HC Diesel Range Organics	8.922	1447130845	3470.449 mg/l
3) HC Oil Range Organics	10.670	774351022	3874.934 mg/l m

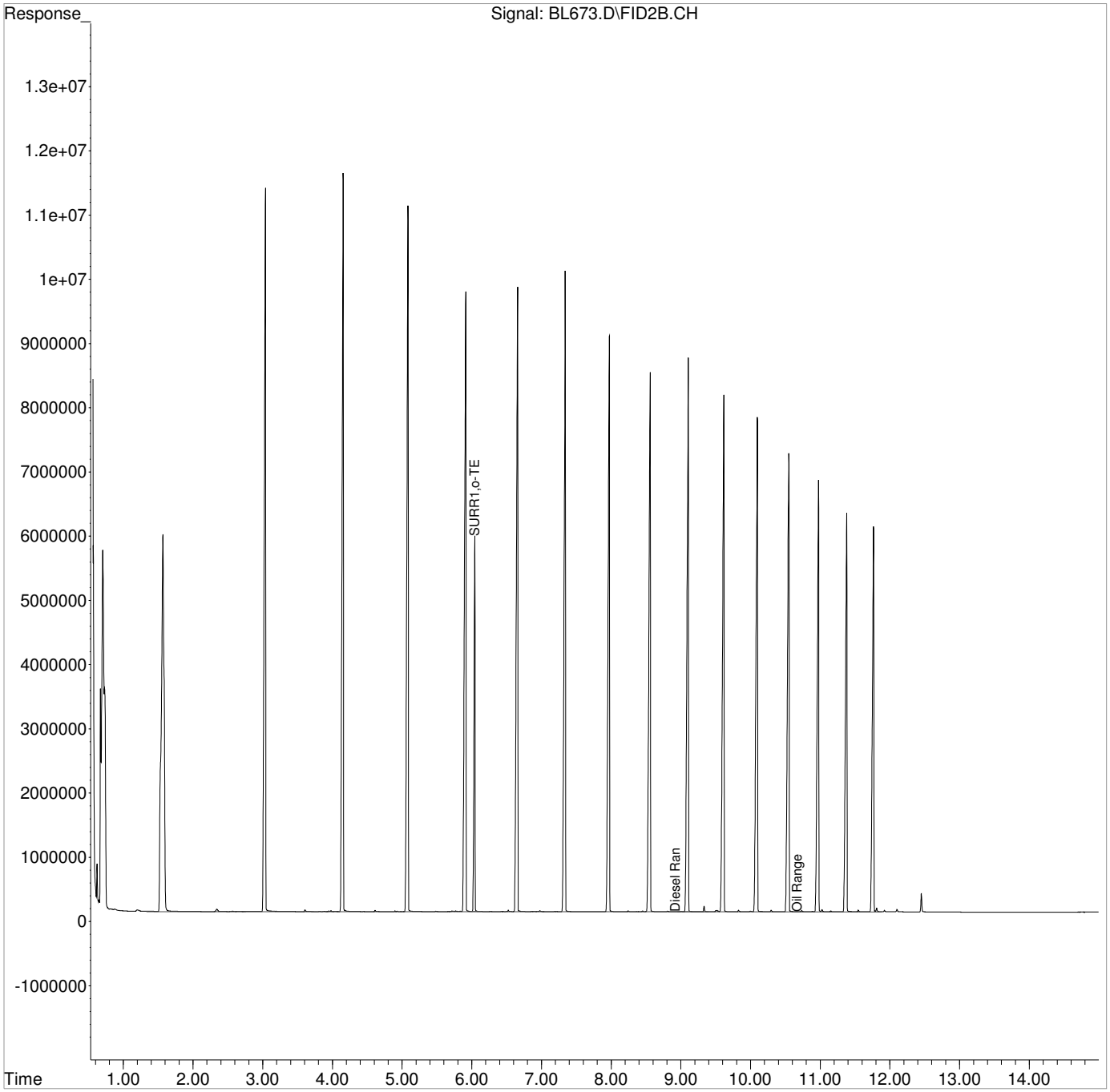
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
2 HC	Diesel Range Organics	500.000	539.254	-7.9	114	0.00

Evaluate Continuing Calibration Report - Not Founds

1 S	SURR1,o-TERPHENYL	20.000	0.000	100.0#	0	-6.02#
3 HC	Oil Range Organics	350.000	0.000	100.0#	0	-10.67#

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Analysis: 8015 DRO	Analyst: AFelker	Run Method: DRO-FUEL3.M	
Date: 10/25/19	Instr. 6890J	Quant Method: DRO 102519.M	
Syringes:		LIMS Run#:	657295

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
2	Mid Std Check		204084	BL660	Y	ORDT
2	↓		↓	61	Y	↓
1	BLK			62	—	
1	↓			63	—	
2	Mid Std Check		204084	64	Y	ORDT
2	↓		↓	65	Y	↓
3	CCV		204084	66	Y	
1	BLK			67	Y	
4	STD 6 25 ppm			68	N	
5	STD 1		201920	69	Y	
6	2		201921	70	Y	
7	3		204084	71	Y	
8	4		201922	72	Y	
9	5		201879	73	Y	
10	3		204084	74	Y	Accidentally repeated, not used
11	ICV		200472	75	Y	
12	CCV		204084	76	Y	
13	RQ1912217-01			77	Y	
14	-02			78	Y	
15	-03			79	Y	
16	RQ1910325-001			80	Y	
17	-006			81	Y	
18	-009			82	Y	
19	-012			83	Y	
20	-015			84	Y	
21	-018			85	Y	
12	CCV		204084	86	Y	

AFelker 10/25/19

All samples = _____mL + _____uL Combined IS/Surr.;

Primary : 204084 exp: 1/21/20 Secondary :_____ exp:

Primary:_____ exp: Secondary :_____ exp:

Reagents:

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

#	Lab Code	Sample Name	File Location	Acquisition Date
01	RC1900130-01	STD 1	I:\ACQUDATA\6890I\DATA\102519\BL669.D	10/25/2019 13:19
02	RC1900130-02	STD 2	I:\ACQUDATA\6890I\DATA\102519\BL670.D	10/25/2019 13:42
03	RC1900130-03	STD 3	I:\ACQUDATA\6890I\DATA\102519\BL671.D	10/25/2019 14:04
04	RC1900130-04	STD 4	I:\ACQUDATA\6890I\DATA\102519\BL672.D	10/25/2019 14:27
05	RC1900130-05	STD 5	I:\ACQUDATA\6890I\DATA\102519\BL673.D	10/25/2019 14:49

Analyte

C28 - C40 ORO

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	70.000	2.21E5	02	350.000	1.79E5	03	700.000	2.249E5	04	1400.000	2.23E5
05	3500.000	2.212E5									

Diesel Range Organics (DRO) as C10-C28 Alkanes

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	100.000	3.448E5	02	500.000	2.844E5	03	1000.000	3.087E5	04	2000.000	2.821E5
05	5000.000	2.894E5									

o-Terphenyl

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	3.002E5	02	20.000	2.844E5	03	40.000	3.208E5	04	80.000	2.866E5
05	200.000	2.917E5									

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
C28 - C40 ORO	TRG	Average RF	% RSD	9.1	≤20	2.138E5	
Diesel Range Organics (DRO) as C10 -C28 Alkanes	TRG	Average RF	% RSD	8.7	≤20	3.019E5	
o-Terphenyl	SURR	Average RF	% RSD	5.0	≤20	2.967E5	

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Verification Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

#	Lab Code	Sample Name	File Location	Acquisition Date
06	RC1900130-06	ICV	I:\ACQUDATA\6890I\DATA\102519\BL675.D	10/25/2019 15:41

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	500	539	3.019E5	3.256E5	7.85	±30	Average RF

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/25/19 16:07

Continuing Calibration Verification (CCV) Summary
Diesel and Residual Range Organics by GC

Analysis Method:	8015C	**Calibration Date:**	10/25/2019
File ID:	I:\ACQUDATA\6890I\DATA\102519\BL676.D\	**Calibration ID:**	RC1900130
Signal ID:	Phenomenex ZB-5	**Analysis Lot:**	657295
		Units:	mg/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	1000	847	3.019E5	2.556E5	-15.3	NA	±20	Average RF
C28 - C40 ORO	700	620	2.138E5	1.893E5	-11.5	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
o-Terphenyl	39.9	34.1	2.967E5	2.538E5	-14.5	NA	±20	Average RF

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910325
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/25/19 19:51

Continuing Calibration Verification (CCV) Summary
Diesel and Residual Range Organics by GC

Analysis Method:	8015C	**Calibration Date:**	10/25/2019
File ID:	I:\ACQUDATA\6890I\DATA\102519\BL686.D\	**Calibration ID:**	RC1900130
Signal ID:	Phenomenex ZB-5	**Analysis Lot:**	657295
		Units:	mg/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	1000	923	3.019E5	2.788E5	-7.7	NA	±20	Average RF
C28 - C40 ORO	700	707	2.138E5	2.158E5	0.9	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
o-Terphenyl	39.9	38.4	2.967E5	2.858E5	-3.7	NA	±20	Average RF

Client: NASA/WSTF/Navarro **Service Request:** R1910325
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Diesel and Residual Range Organics by GC

Analysis Method: 8015C **Analysis Lot:** 657295
Instrument ID: R-GC-59

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\6890I\DATA\102519\BL676.D\	Continuing Calibration Verification	RQ1912458-01	10/25/2019	16:07:00	
I:\ACQUDATA\6890I\DATA\102519\BL677.D\	Method Blank	RQ1912217-01	10/25/2019	16:29:00	
I:\ACQUDATA\6890I\DATA\102519\BL678.D\	Lab Control Sample	RQ1912217-02	10/25/2019	16:52:00	
I:\ACQUDATA\6890I\DATA\102519\BL679.D\	Duplicate Lab Control Sample	RQ1912217-03	10/25/2019	17:14:00	
I:\ACQUDATA\6890I\DATA\102519\BL680.D\	1910160917 700-SVS-043	R1910325-001	10/25/2019	17:37:00	
I:\ACQUDATA\6890I\DATA\102519\BL681.D\	1910160947 700-SVS-044	R1910325-006	10/25/2019	17:59:00	
I:\ACQUDATA\6890I\DATA\102519\BL682.D\	1910161322 700-SVS-051	R1910325-009	10/25/2019	18:21:00	
I:\ACQUDATA\6890I\DATA\102519\BL683.D\	1910161332 700-SVS-052	R1910325-012	10/25/2019	18:44:00	
I:\ACQUDATA\6890I\DATA\102519\BL684.D\	1910170932 700-SVS-059	R1910325-015	10/25/2019	19:06:00	
I:\ACQUDATA\6890I\DATA\102519\BL685.D\	1910171002 700-SVS-060	R1910325-018	10/25/2019	19:29:00	
I:\ACQUDATA\6890I\DATA\102519\BL686.D\	Continuing Calibration Verification	RQ1912458-02	10/25/2019	19:51:00	

Analysis: 8015 DRO	Analyst: AFelker	Run Method: DRO-FUEL3.M	
Date: 10/25/19	Instr. 6890I	Quant Method: DRO 102519.M	
Syringes:		LIMS Run#:	657295

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
2	Mid Std Check		204084	BL660	Y	ORDT
2	↓		↓	61	Y	↓
1	BLK			62	—	
1	↓			63	—	
2	Mid Std Check		204084	64	Y	ORDT
2	↓		↓	65	Y	↓
3	CCV		204084	66	Y	
1	BLK			67	X	
4	STD 6 25 ppm			68	N	
5	STD 1		201920	69	Y	
6	2		201921	70	Y	
7	3		204084	71	Y	
8	4		201922	72	Y	
9	5		201879	73	Y	
10	3		204084	74	Y	Accidentally reported, not used
11	ICV		200472	75	Y	
12	CCV		204084	76	Y	
13	R1911221 7-01			77	Y	
14	-02			78	Y	
15	-03			79	Y	
16	R1910325-001			80	Y	
17	-006			81	Y	
18	-009			82	Y	
19	-012			83	Y	
20	-015			84	Y	
21	-018			85	Y	
12	CCV		204084	86	Y	

AFelker 10/25/19

All samples = _____mL + _____uL Combined IS/Surr.;

Primary : 204084 exp: 1/21/20 Secondary :_____ exp:

Primary:_____ exp: Secondary :_____ exp:

Reagents:

Runlog GCEXT r2 4/27/17

Prep Summary Report

Client: NASA/WSTF/Navarro **Service Request:**R1910325
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Diesel and Residual Range Organics by GC

Prep Method: EPA 3510C **Extraction Lot:** 347123
Analytical Method: 8015C **Extraction Date:** 10/23/19 07:14

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
1910160917 700-SVS-043	R1910325-001	10/16/19	10/22/19	1070.0000	1 mL	
1910160947 700-SVS-044	R1910325-006	10/16/19	10/22/19	1070.0000	1 mL	
1910161322 700-SVS-051	R1910325-009	10/16/19	10/22/19	1070.0000	1 mL	
1910161332 700-SVS-052	R1910325-012	10/16/19	10/22/19	1070.0000	1 mL	
1910170932 700-SVS-059	R1910325-015	10/17/19	10/22/19	1070.0000	1 mL	
1910171002 700-SVS-060	R1910325-018	10/17/19	10/22/19	1070.0000	1 mL	
Method Blank	RQ1912217-01MB	NA	NA	1000 mL	1 mL	
Lab Control Sample	RQ1912217-02LCS	NA	NA	1000 mL	1 mL	
Duplicate Lab Control Sample	RQ1912217-03DLCS	NA	NA	1000 mL	1 mL	

Preparation Information Benchsheet

Prep Run#: 347123
Team: Semivoa GC/VSTAUFFER

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3510C

Status: Prepped
Prep Date/Time: 10/23/19 07:14

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ1912217-01	MB		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
2	RQ1912217-02	LCS		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/200472; 1.0000 mL/201407	
3	RQ1912217-03	DLCS		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/200472; 1.0000 mL/201407	
4	R1910325-001	1910160917 700-SVS-043	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
5	R1910325-006	1910160947 700-SVS-044	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
6	R1910325-009	1910161322 700-SVS-051	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
7	R1910325-012	1910161332 700-SVS-052	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
8	R1910325-015	1910170932 700-SVS-059	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
9	R1910325-018	1910171002 700-SVS-060	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	

Spiking Solutions

Name: Fuel Oil #2 Water Spike 500 ug/mL Inventory ID 200472 Logbook Ref: Expires On: 12/21/2019

Name: o-Terphenyl Water Surrogate 100 ug/mL Inventory ID 201407 Logbook Ref: Expires On: 01/21/2020

Preparation Materials

Eppendorf Pipette Repeater EXT #19 (200588)

pH Paper 0-14 (203491)

Sulfuric Acid, 50% H2SO4 (203605)

Prepared Sodium Sulfate Na2SO4 (203734)

Dichloromethane (Methylene Chloride) 99.9% MeCl2 canister (203029)

Page 3896 of 3959

Preparation Steps

Step:	Extraction	Step:	Concentration	Step:	Final Volume
Started:	10/23/19 07:14	Started:	10/24/19 13:58	Started:	10/24/19 14:56
Finished:	10/23/19 16:39	Finished:	10/24/19 14:56	Finished:	10/24/19 14:56
By:	VSTAUFFER	By:	KSERCU	By:	KSERCU
Comments		Comments		Comments	

Comments: _____

Reviewed By: _____ Date: 10/25/19 Spike Witness: KSERCU Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Subcontracted Analytical Parameters

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental
301 Fulling Mill Road
Middletown, PA 17057
T: +1 717 944 5541
F: +1 717 944 1430
www.alsglobal.com

November 01, 2019

Work Order: 3066033
SDG: AER381

Ms. Janice Jaeger
ALS Environmental-Rochester NY
1565 Jefferson Road, Bldg. 300
Suite 360
Rochester, NY 14623

Laboratory Results for Custom EDD, MDL, QC

Dear Ms. Janice Jaeger:

Enclosed are the analytical results for samples received by the laboratory starting on October 25, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP. Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads. This laboratory report may not be reproduced, except infull, without the written approval of ALS Environmental. Any events, such as QC failures, are explained in the report narrative.

If you have any questions regarding this certificate of analysis, please contact Ms. Jennifer M Stanhope Lamoreux (Reporting Manager) at (717) 944-5541. You may also contact me via email at jennifer.lamoreux@ALSglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Jennifer M Stanhope Lamoreux
Reporting Manager

Table of Contents

Chain of Custody Records

ALS Environmental Chain of Cus

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • F

ntact: Janice Jaeger

3066033

3066033

Project Number: R1910325
Project Manager: Janice Jaeger
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	VOC GRO 8015C
~~R1910325-003~~	1910160916 700-SVS-043	3	Water	10/16/19		Middletown ALS	X
~~R1910325-005~~	1910160946 700-SVS-044		Water	10/16/19		Middletown ALS	X
R1910325-008	1910161321 700-SVS-051		Water	10/16/19		Middletown ALS	X
~~R1910325-011~~	1910161331 700-SVS-052		Water	10/16/19		Middletown ALS	X
R1910325-014	1910170931 700-SVS-059		Water	10/17/19		Middletown ALS	X
~~R1910325-017~~	1910171001 700-SVS-060		Water	10/17/19		Middletown ALS	X

Folder Comments:
ND U analyst name

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5	____ I. Results Only ____ II. Results + QC Summaries ____ III. Results + QC and Calibration Summaries	PO# 58R1910325
H - Test is On Hold P - Test is Authorized for Prep Only	____ STANDARD Requested FAX Date: _____ Requested Report Date: 11/01/19	____ IV. Data Validation Report with Raw Data PQL/MDL/J Y EDD Y Honeywell WSTF	Bill to

Relinquished By: [signature] 10/24/19/1550 Fedex
Received By: Fedex [signature] 10/25/19 923
Airbill Number:

306633

R1910325

____ **Ship To: Middletown ALS**
ALS Environmental - Middletown
301 Fulling Mill Rd.
Middletown, PA 17057

PC MD Date 10/24

SMO _____ Date _____

Instructions:

Ice _____

Dry Ice _____

No Ice _____

Shipping:

Overnight _____

2nd Day _____

Ground _____

Bill to Client Account _____

Comments:

301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client: ALS Roch. Work Order #: 3066033 Initials: DA Date: 10/28

1. Were airbills / tracking numbers present and recorded?	NONE	(YES)	NO
Tracking number: 4696 1684 4879			
2. Are Custody Seals on shipping containers intact?	NONE	(YES)	NO
3. Are Custody Seals on sample containers intact?	NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples? No times		(YES)	(NO)
5c. Does the COC contain sample collectors name? Collected by Client		YES	(NO)
5d. Does the COC note the type(s) of preservation for all bottles? Not Listed		YES	(NO)
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab? No C/O		YES	(NO)
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	(N/A)	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?		(YES)	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	(N/A)	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		(YES)	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	(NO)
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	N/A	YES	NO
13d. Did the client provide the SDWA sample-location ID/Description?	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	N/A	YES	NO

Cooler #: _____

Temperature (°C): 4

Thermometer ID: 403

Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):

Rev. 4/29/2019

Certificate of Analysis

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

October 29, 2019

Ms. Janice Jaeger
ALS Environmental-Rochester NY
1565 Jefferson Road, Bldg. 300
Suite 360
Rochester, NY 14623

Certificate of Analysis

Project Name:	**Custom EDD, MDL, QC**	Workorder:	**3066033**
Purchase Order:		Workorder ID:	**AER381|R1910325**

Dear Ms. Jaeger:

Enclosed are the analytical results for samples received by the laboratory on Friday, October 25, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Sarah S Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Michael Chevalier , Mr. Brady Kalkman , Reports and Invoices

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
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SAMPLE SUMMARY

Workorder: 3066033 AER381|R1910325

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3066033001	1910160916 700-SVS-043	Water	10/16/2019 00:00	10/25/2019 09:23	Collected by Client
3066033002	1910160946 700-SVS-044	Water	10/16/2019 00:00	10/25/2019 09:23	Collected by Client
3066033003	1910161321 700-SVS-051	Water	10/16/2019 00:00	10/25/2019 09:23	Collected by Client
3066033004	1910161331 700-SVS-052	Water	10/16/2019 00:00	10/25/2019 09:23	Collected by Client
3066033005	1910170931 700-SVS-059	Water	10/17/2019 00:00	10/25/2019 09:23	Collected by Client
3066033006	1910171001 700-SVS-060	Water	10/17/2019 00:00	10/25/2019 09:23	Collected by Client

ALS Environmental

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SAMPLE SUMMARY

Workorder: 3066033 AER381|R1910325

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 3066033 AER381|R1910325

Lab ID: **3066033001** Date Collected: 10/16/2019 00:00 Matrix: Water

Sample ID: **1910160916 700-SVS-043** Date Received: 10/25/2019 09:23

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/28/19 13:14	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	124		%	90 - 129		SW846 8015D			10/28/19 13:14	CHS	A

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3066033 AER381|R1910325

Lab ID: **3066033002** Date Collected: 10/16/2019 00:00 Matrix: Water

Sample ID: **1910160946 700-SVS-044** Date Received: 10/25/2019 09:23

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/28/19 13:41	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	104		%	90 - 129		SW846 8015D			10/28/19 13:41	CHS	A

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3066033 AER381|R1910325

Lab ID: **3066033003** Date Collected: 10/16/2019 00:00 Matrix: Water

Sample ID: **1910161321 700-SVS-051** Date Received: 10/25/2019 09:23

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/28/19 14:08	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	120		%	90 - 129		SW846 8015D			10/28/19 14:08	CHS	A

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3066033 AER381|R1910325

Lab ID: **3066033004** Date Collected: 10/16/2019 00:00 Matrix: Water

Sample ID: **1910161331 700-SVS-052** Date Received: 10/25/2019 09:23

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/28/19 14:36	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	118		%	90 - 129		SW846 8015D			10/28/19 14:36	CHS	A

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3066033 AER381|R1910325

Lab ID: **3066033005** Date Collected: 10/17/2019 00:00 Matrix: Water

Sample ID: **1910170931 700-SVS-059** Date Received: 10/25/2019 09:23

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/28/19 16:25	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	116		%	90 - 129		SW846 8015D			10/28/19 16:25	CHS	A

Ms. Sarah S Leung
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3066033 AER381|R1910325

Lab ID: **3066033006** Date Collected: 10/17/2019 00:00 Matrix: Water

Sample ID: **1910171001 700-SVS-060** Date Received: 10/25/2019 09:23

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/28/19 16:52	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	121		%	90 - 129		SW846 8015D			10/28/19 16:52	CHS	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3066033 AER381|R1910325

Lab ID	Sample ID	Analysis Method	Prep Method
3066033001	1910160916 700-SVS-043	SW846 8015D	
3066033002	1910160946 700-SVS-044	SW846 8015D	
3066033003	1910161321 700-SVS-051	SW846 8015D	
3066033004	1910161331 700-SVS-052	SW846 8015D	
3066033005	1910170931 700-SVS-059	SW846 8015D	
3066033006	1910171001 700-SVS-060	SW846 8015D	

Case Narrative

ALS-Middletown
Analytical Narrative
ALS-Rochester
AER-381

Sample Management

This report contains the results of the analysis of six (6) water samples collected on October 16-17, 2019. Analytical results and quality control information are summarized in this data package.

Sample Receipt

The samples arrived at ALS - Middletown via courier on October 25, 2019. Upon receipt, the samples were inspected and compared to the Chain of Custody. Sample temperature was documented on the enclosed Chain of Custody. The samples were received intact and properly preserved, unless noted on the enclosed Certificate of Analysis and/or Chain of Custody.

Gasoline Range Organics (GRO) by SW-846 Method 8015

Sample Handling. Six (6) water samples were analyzed for gasoline range organics by SW-846 Method 8015. All analyses were performed within the holding time.

Initial Calibrations. An initial calibration was properly analyzed and met method criteria for gasoline range organics.

Continuing Calibration Checks. Continuing calibration check standards were properly analyzed and met method criteria for gasoline range organics.

Blanks. Gasoline range organics were not detected in the method blank.

Surrogates. All surrogate recoveries were within control limits.

Spiked Blanks. Gasoline range organics were recovered within control limits.

Internal Standards. All internal standard results met method criteria.

Matrix Spikes. All results for precision and accuracy were within control limits

Gasoline Range Organics by Method 8015 Summary Forms

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA CASE No.: SAS No.: SDG NO.: AER-381

	Sample NO.	SMC1 (TFT) #	SMC2	SMC3	SMC4	TOT OUT
01	3035297(LCS)	109				0
02	3035296(MB)	112				0
03	1910160916 700-SVS-043	124				0
04	1910160946 700-SVS-044	104				0
05	1910161321 700-SVS-051	120				0
06	1910161331 700-SVS-052	118				0
07	1910170931 700-SVS-059	116				0
08	1910171001 700-SVS-060	121				0
09	1910160916 70...MS	109				0
10	1910160916 7...MSD	104				0

	QC LIMITS
SMC1 (TFT) = a,a,a-Trifluorotoluene	(90-129)

Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate Diluted Out

3A

WATER VOLATILE LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Laboratory Control Spike - Sample No: ICV120618-1206201819

COMPOUND	SPIKE ADDED (ug/L)		ICV CONCENTRATION (ug/L)	ICV % REC#	QC LIMIT REC
GASOLINE RANGE ORGANICS	1000		914	91.4	(80-120)

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Comments:

3A

WATER VOLATILE LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Laboratory Control Spike - Sample No: 3035297

COMPOUND	SPIKE ADDED (ug/L)		LCS CONCENTRATION (ug/L)	LCS % REC#	QC LIMIT REC
GASOLINE RANGE ORGANICS	1000		838	83.8	(77-125)

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

Comments:

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: _____ SAS No.: _____ SDG No.: AER-381

Matrix Spike - Sample No: 1910160916 70...MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC#	QC LIMIT REC
GASOLINE RANGE ORGANICS	1000	0	908	90.8	(77-125)

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

Comments: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: _____ SAS No.: _____ SDG No.: AER-381

Matrix Spike - Sample No: 1910160916 7...MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	MSD % RPD #	QC LIMITS RPD	QC LIMITS REC
GASOLINE RANGE ORGANICS	1000	959	95.9	5.37	10	(77-125)

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Comments: _____

4A
VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.
3035296

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG NO.: AER-381

Lab File ID: 8JSA006.D Lab Sample ID: 3035296

Date Analyzed: 10/28/2019 Time Analyzed: 12:19

GC Column: DB VRX E ID: 0.45 (mm) Heated Purge: (Y/N) N

Instrument ID: gc08.i

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
3035297(LCS)	3035297	8JSA002.D	10:30
1910160916 700-SVS-04	3066033001	8JSA008.D	13:14
1910160946 700-SVS-04	3066033002	8JSA009.D	13:41
1910161321 700-SVS-05	3066033003	8JSA010.D	14:08
1910161331 700-SVS-05	3066033004	8JSA011.D	14:36
1910170931 700-SVS-05	3066033005	8JSA015.D	16:25
1910171001 700-SVS-06	3066033006	8JSA016.D	16:52
1910160916 70...MS	3035298	8JSA021.D	19:08
1910160916 7...MSD	3035299	8JSA022.D	19:35

COMMENTS:

8Az

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Lab File ID: 8JSA001.D Date Analyzed: 10/28/2019

Instrument ID: gc08.i Time Analyzed: 10:02

GC Column: DB VRX E ID: 0.4 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT#	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	241927	6.199				
UPPER LIMIT	483854	6.699				
LOWER LIMIT	120964	5.699				
SAMPLE NO.						
CCAL	241927	6.199				
3035297(LCS)	313701	6.191				
3035296(MB)	291351	6.207				
1910160916 700-SV	243289	6.218				
1910160946 700-SV	302112	6.210				
1910161321 700-SV	270775	6.211				
1910161331 700-SV	249331	6.210				
1910170931 700-SV	295273	6.210				
1910171001 700-SV	273765	6.210				
1910160916 70...M	276917	6.203				
1910160916 7...MS	268004	6.205				

IS1 = 1-Chloro-4-fluorobenzene
IS2 =
IS3 =

AREA UPPER LIMIT = +2% of internal standard area
AREA LOWER LIMIT = -1% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Gasoline Range Organics by Method 8015 Raw Data

Sample Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910160916 700-SVS-043

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3066033001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA008.D

Level (low/med): Date Received: 10/25/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA008.D
Lab Smp Id: 3066033001 Client Smp ID: 1910160916 700-SVS-
Inj Date : 28-OCT-2019 13:14
Operator : CHS Inst ID: gc08.i
Smp Info : 3066033001
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
$	5 a,a,a-Trifluorotoluene	3.932	3.921	(0.632)	772885	37.2400	37.2400
S	1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
*	6 1-Chloro-4-fluorobenzene	6.218	6.175	(1.000)	243289	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA008.D
Lab Smp Id: 3066033001
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: 1910160916 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	243289	0.56

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.22	0.32

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066033001 Client Smp ID: 1910160916 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	37.2400	124.13	90-129

ALS Environmental Services

TARGET COMPOUNDS

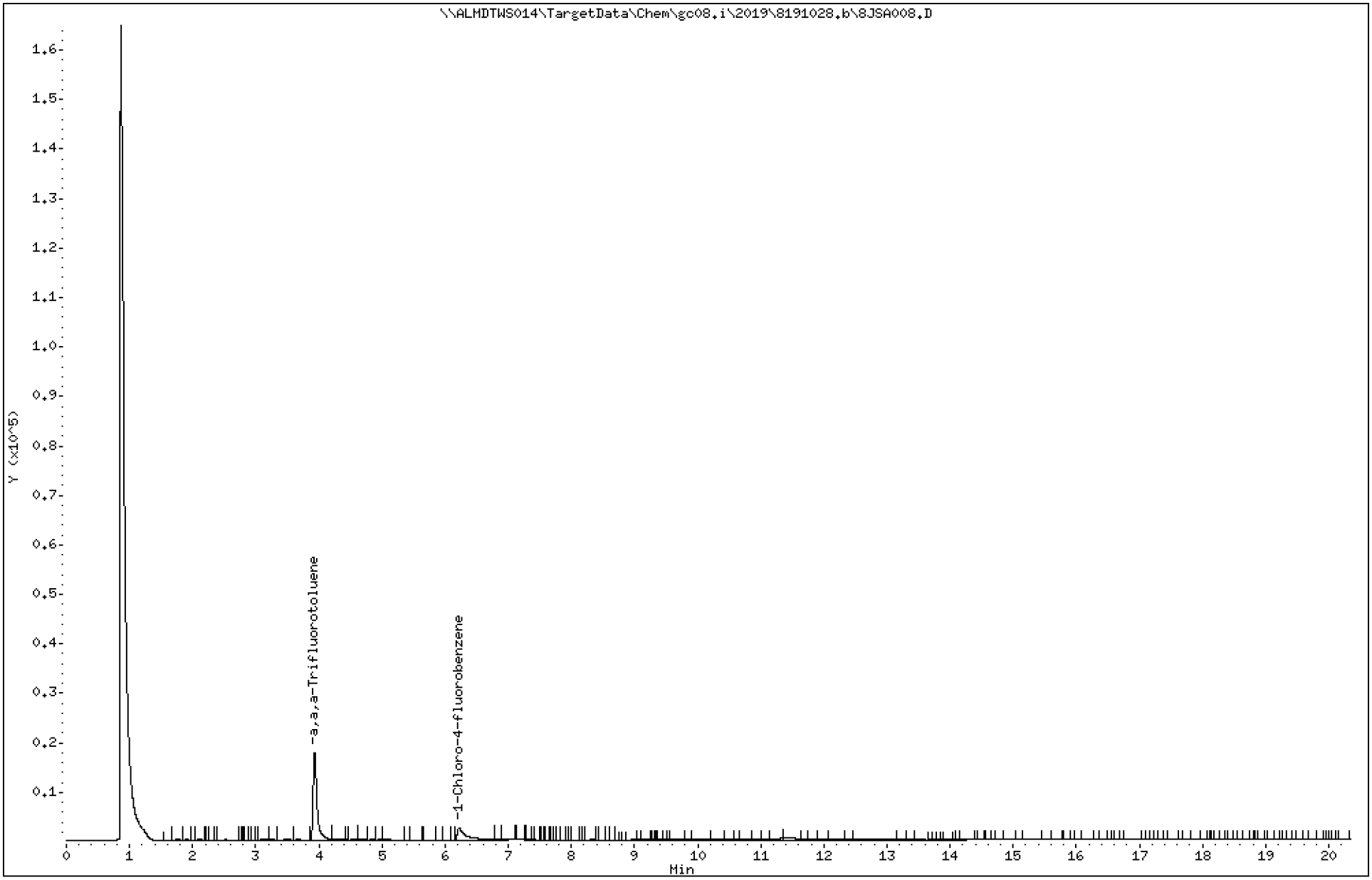
Client Name: ALS Environmental-Rochester Client SDG: R1910325
Lab Smp Id: 3066033001 Client Smp ID: 1910160916 700-SVS-
Sample Location: Sample Point:
Sample Date: 16-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10297 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	37.2400	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA008.D
Date : 28-OCT-2019 13:14
Client ID: 1910160916 700-SVS-
Sample Info: 3066033001

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX



MANUAL INTEGRATION REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033001 Client ID: 1910160916 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA008.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA008.D
Injection Date: 28-OCT-2019 13:14 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033001 Client ID: 1910160916 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA008.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA008.D
Injection Date: 28-OCT-2019 13:14 Operator: CHS

There were no Unassigned peaks in this sample!

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910160946 700-SVS-044

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3066033002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA009.D

Level (low/med): Date Received: 10/25/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA009.D
Lab Smp Id: 3066033002 Client Smp ID: 1910160946 700-SVS-
Inj Date : 28-OCT-2019 13:41
Operator : CHS Inst ID: gc08.i
Smp Info : 3066033002
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
$	5 a,a,a-Trifluorotoluene	3.930	3.921	(0.633)	802754	31.1481	31.1481
S	1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
*	6 1-Chloro-4-fluorobenzene	6.210	6.175	(1.000)	302112	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA009.D
Lab Smp Id: 3066033002
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: 1910160946 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	302112	24.88

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.21	0.18

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066033002 Client Smp ID: 1910160946 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	31.1481	103.83	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Lab Smp Id: 3066033002 Client Smp ID: 1910160946 700-SVS-
Sample Location: Sample Point:
Sample Date: 16-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10297 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	31.1481	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA009.D

Date : 28-OCT-2019 13:41

Client ID: 1910160946 700-SVS-

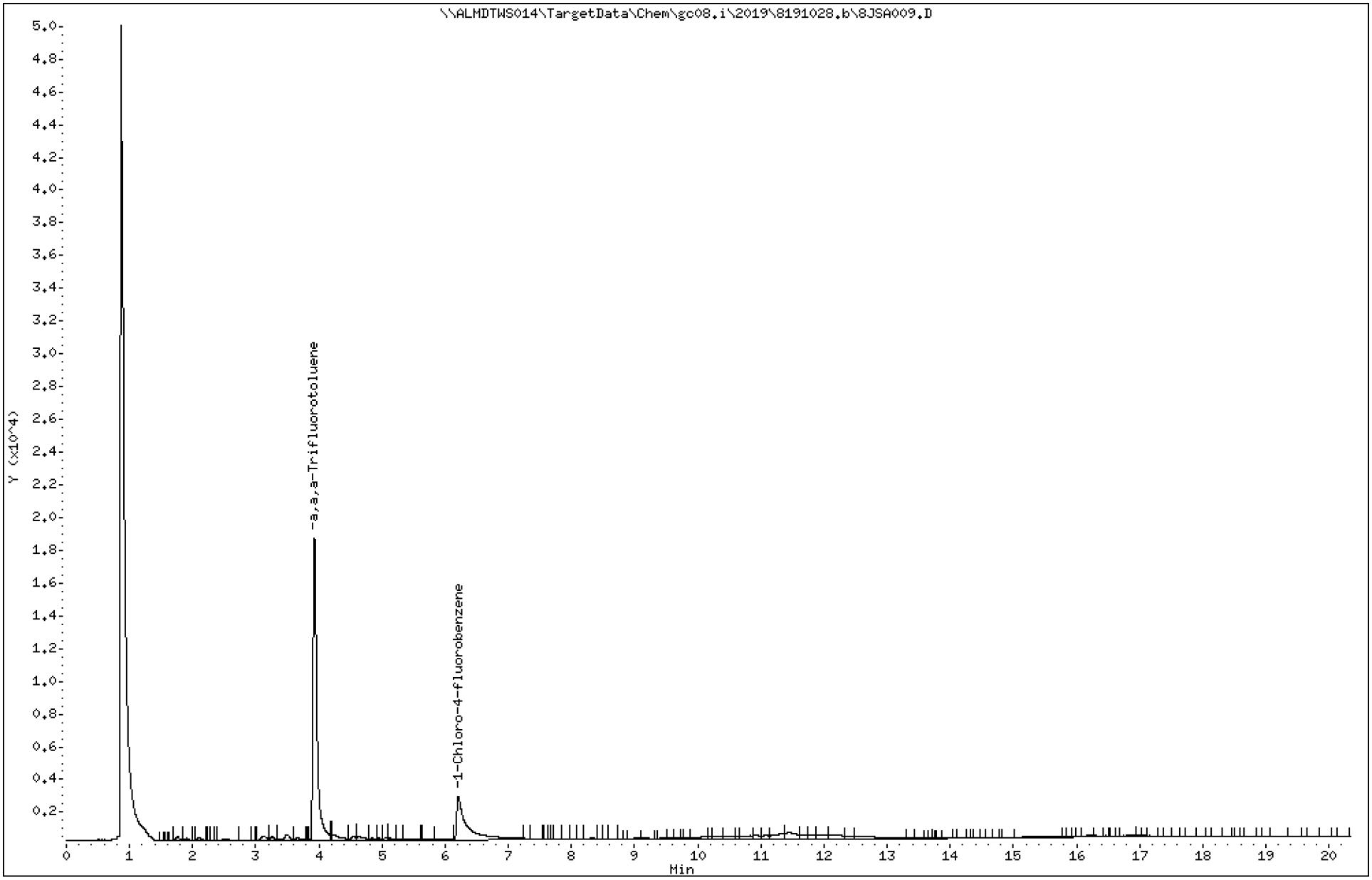
Sample Info: 3066033002

Instrument: gc08.i

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033002 Client ID: 1910160946 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA009.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA009.D
Injection Date: 28-OCT-2019 13:41 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033002 Client ID: 1910160946 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA009.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA009.D
Injection Date: 28-OCT-2019 13:41 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910161321 700-SVS-051

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3066033003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA010.D

Level (low/med): Date Received: 10/25/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA010.D
Lab Smp Id: 3066033003 Client Smp ID: 1910161321 700-SVS-
Inj Date : 28-OCT-2019 14:08
Operator : CHS Inst ID: gc08.i
Smp Info : 3066033003
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
$	5 a,a,a-Trifluorotoluene	3.929	3.921	(0.633)	829747	35.9215	35.9215
S	1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
*	6 1-Chloro-4-fluorobenzene	6.211	6.175	(1.000)	270775	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA010.D
Lab Smp Id: 3066033003
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: 1910161321 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	270775	11.92

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.21	0.20

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066033003 Client Smp ID: 1910161321 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	35.9215	119.74	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Lab Smp Id: 3066033003 Client Smp ID: 1910161321 700-SVS-
Sample Location: Sample Point:
Sample Date: 16-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10297 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	35.9215	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA010.D

Date : 28-OCT-2019 14:08

Client ID: 1910161321 700-SVS-

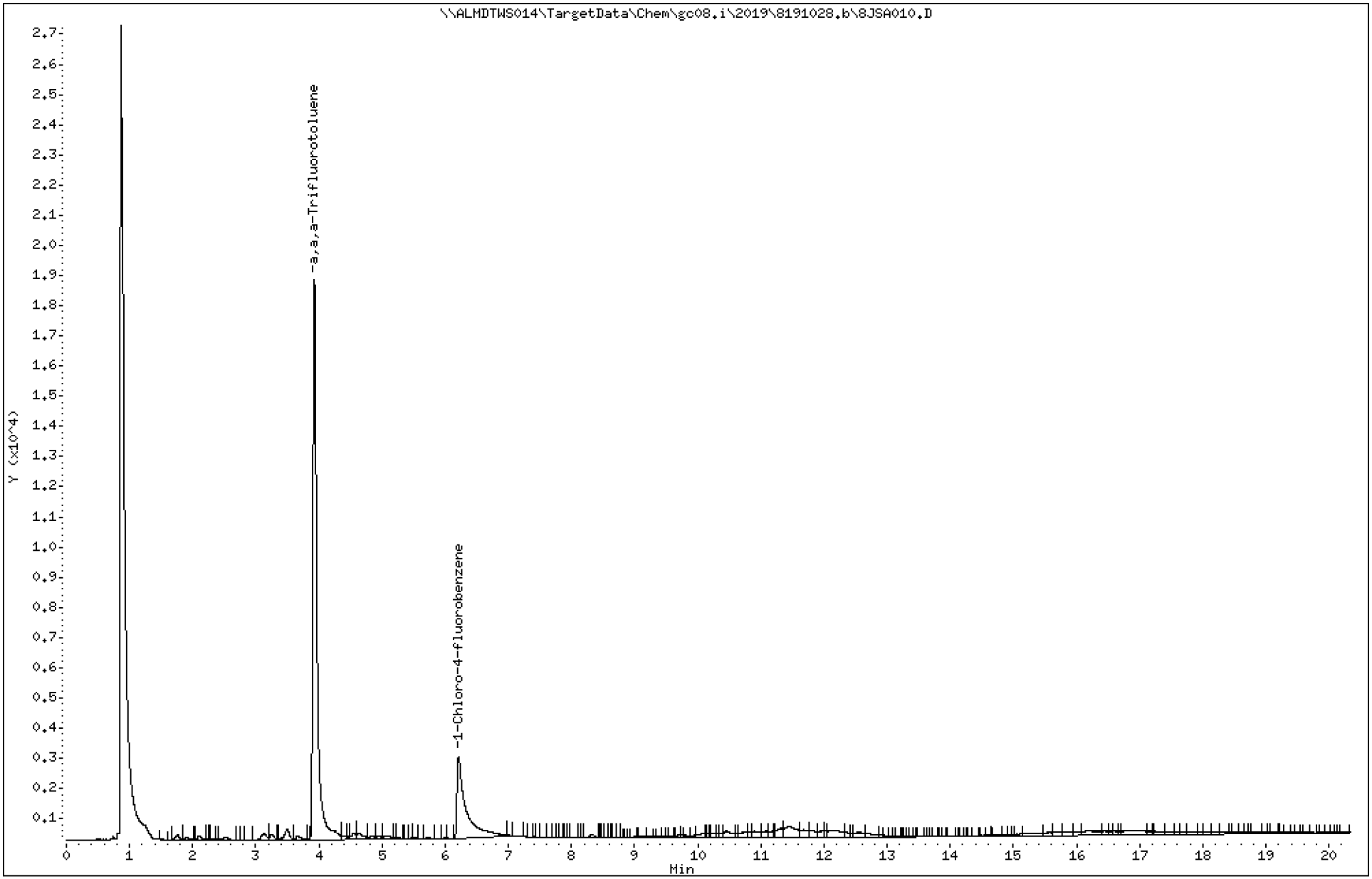
Sample Info: 3066033003

Instrument: gc08.i

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033003 Client ID: 1910161321 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA010.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA010.D
Injection Date: 28-OCT-2019 14:08 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033003 Client ID: 1910161321 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA010.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA010.D
Injection Date: 28-OCT-2019 14:08 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910161331 700-SVS-052

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3066033004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA011.D

Level (low/med): Date Received: 10/25/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA011.D
Lab Smp Id: 3066033004 Client Smp ID: 1910161331 700-SVS-
Inj Date : 28-OCT-2019 14:36
Operator : CHS Inst ID: gc08.i
Smp Info : 3066033004
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
$	5 a,a,a-Trifluorotoluene	3.928	3.921	(0.633)	751646	35.3390	35.3390
S	1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
*	6 1-Chloro-4-fluorobenzene	6.210	6.175	(1.000)	249331	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA011.D
Lab Smp Id: 3066033004
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: 1910161331 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	249331	3.06

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.21	0.18

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066033004 Client Smp ID: 1910161331 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	35.3390	117.80	90-129

ALS Environmental Services

TARGET COMPOUNDS

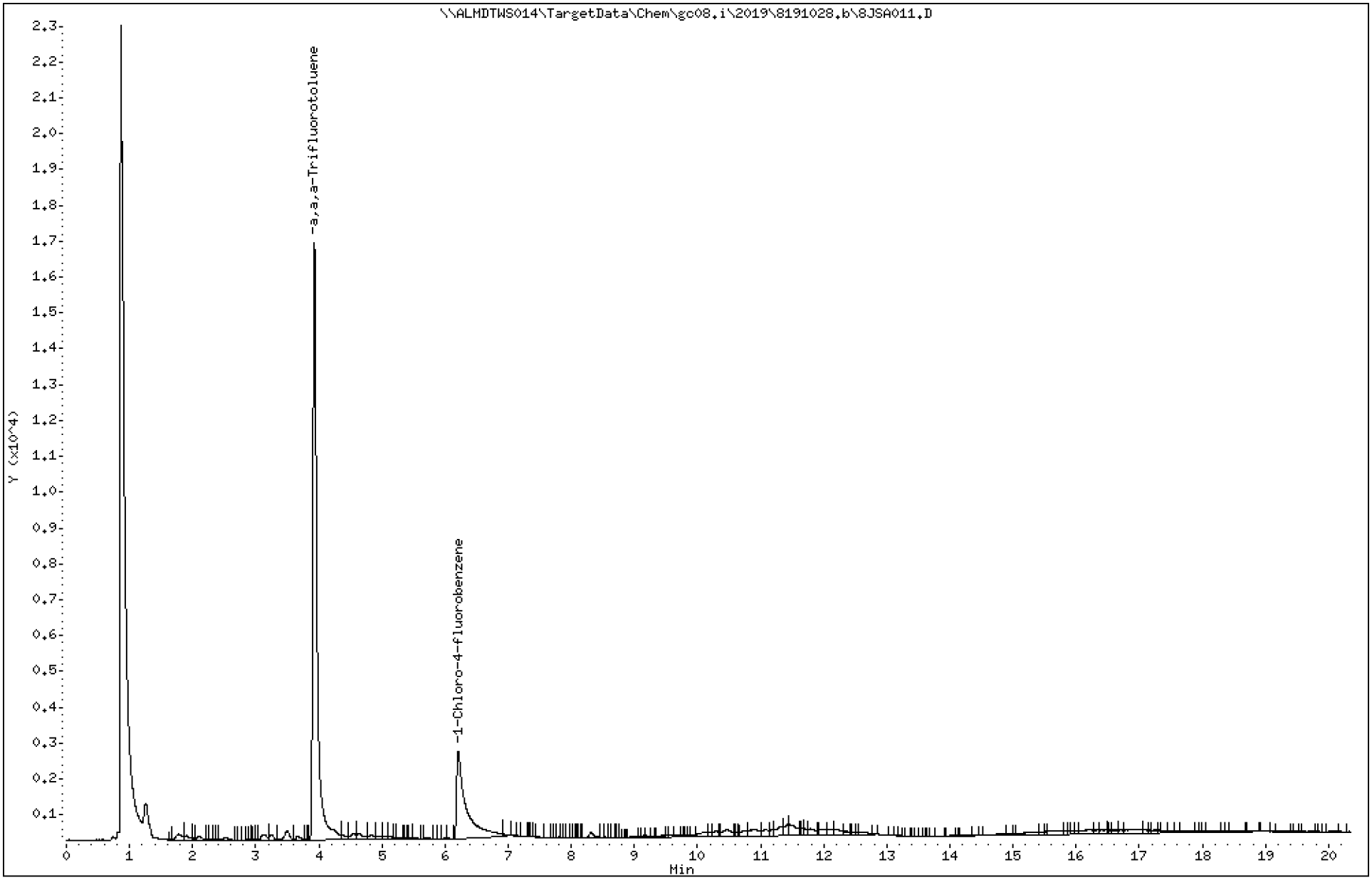
Client Name: ALS Environmental-Rochester Client SDG: R1910325
Lab Smp Id: 3066033004 Client Smp ID: 1910161331 700-SVS-
Sample Location: Sample Point:
Sample Date: 16-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10297 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	35.3390	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA011.D
Date : 28-OCT-2019 14:36
Client ID: 1910161331 700-SVS-
Sample Info: 3066033004

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX



MANUAL INTEGRATION REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033004 Client ID: 1910161331 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA011.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA011.D
Injection Date: 28-OCT-2019 14:36 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033004 Client ID: 1910161331 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA011.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA011.D
Injection Date: 28-OCT-2019 14:36 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910170931 700-SVS-059

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3066033005

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA015.D

Level (low/med): Date Received: 10/25/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA015.D
Lab Smp Id: 3066033005 Client Smp ID: 1910170931 700-SVS-
Inj Date : 28-OCT-2019 16:25
Operator : CHS Inst ID: gc08.i
Smp Info : 3066033005
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.927	3.921	(0.632)	875296	34.7495	34.7495
S	1 GASOLINE RANGE ORGANICS	1.717-8.754			298263	16.0715	16.0715(aM)
*	6 1-Chloro-4-fluorobenzene	6.210	6.175	(1.000)	295273	10.0000	(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA015.D
Lab Smp Id: 3066033005
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: 1910170931 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	295273	22.05

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.21	0.18

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066033005 Client Smp ID: 1910170931 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	34.7495	115.83	90-129

ALS Environmental Services

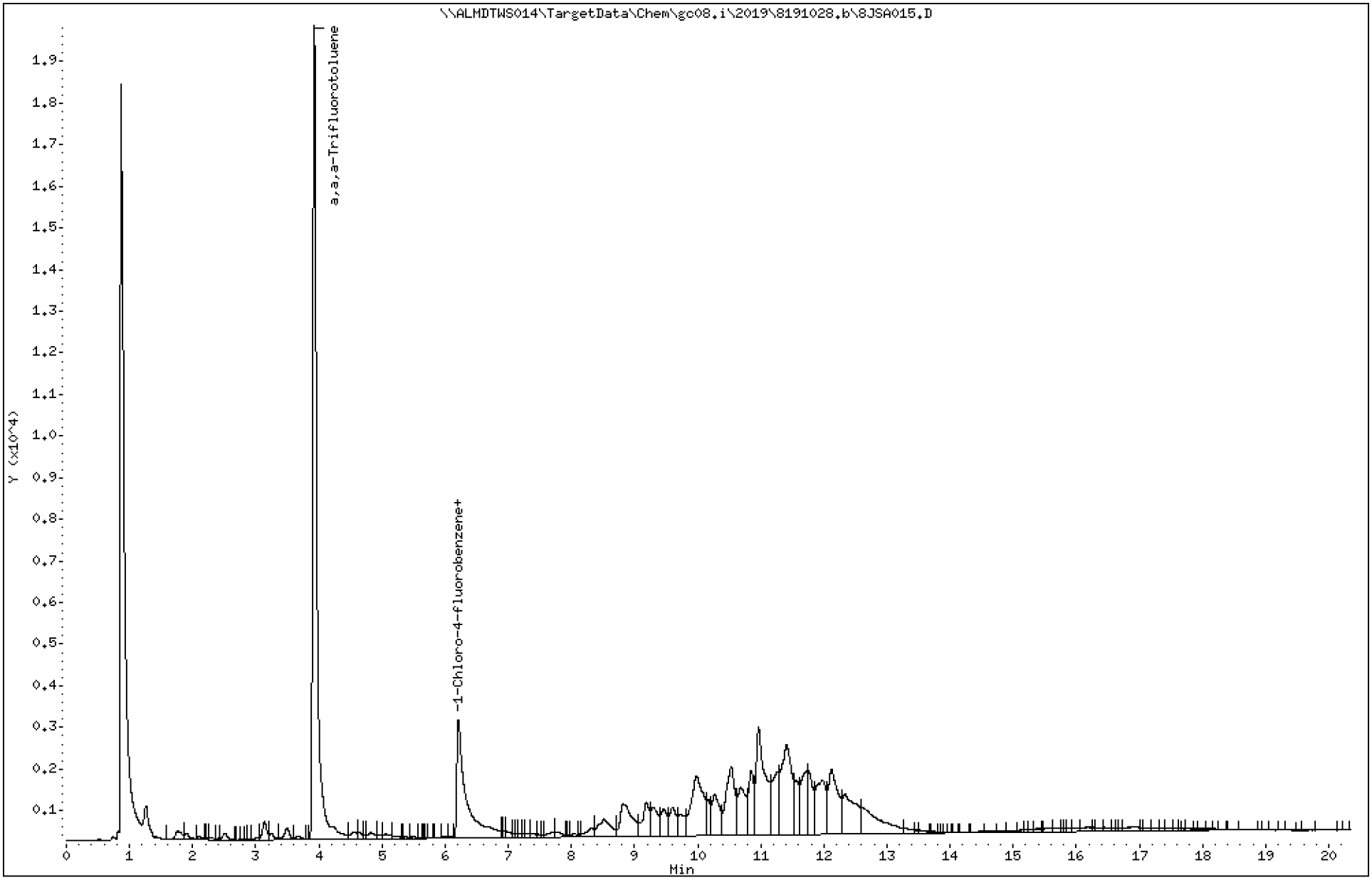
TARGET COMPOUNDS

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Lab Smp Id: 3066033005 Client Smp ID: 1910170931 700-SVS-
Sample Location: Sample Point:
Sample Date: 17-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10297 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	16.0715	J
98-08-8	a,a,a-Trifluorotoluene	34.7495	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA015.D
Date : 28-OCT-2019 16:25
Client ID: 1910170931 700-SVS-
Sample Info: 3066033005

Instrument: gc08.i
Operator: CHS
Column phase: DB-VRX
Column diameter: 0.45

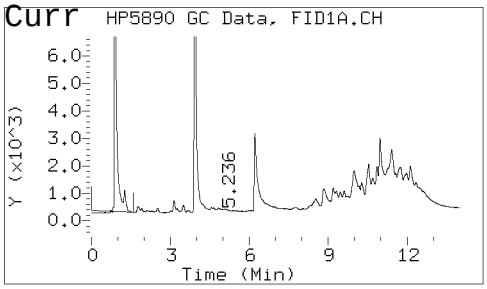


MANUAL INTEGRATION REPORT

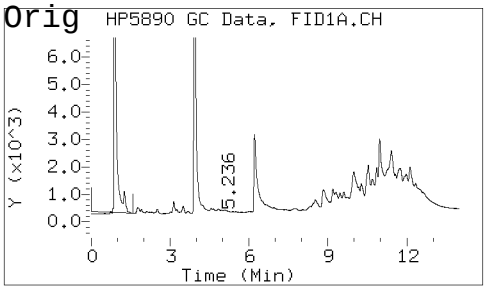
Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033005 Client ID: 1910170931 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA015.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA015.D
Injection Date: 28-OCT-2019 16:25 Operator: CHS

GASOLINE RANGE ORGANICS

Curr



Orig

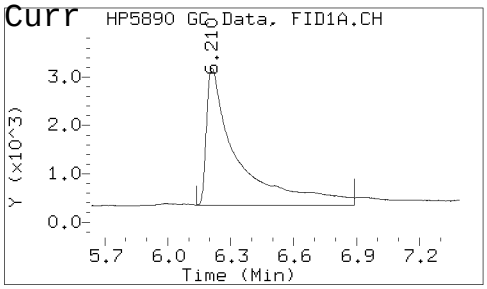


Curr. Area: 298263
Orig. Area: 358380

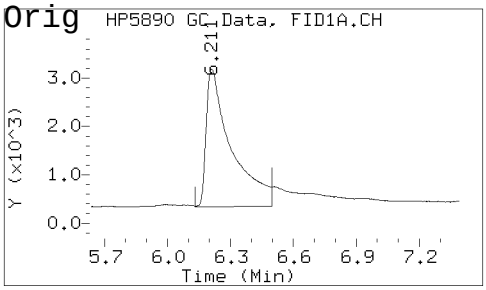
Curr. ON-COL: 16.0715
Orig. ON-COL: 24.0491

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 295273
Orig. Area: 237097

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 04:56
Lab Sample ID: 3066033005 Client ID: 1910170931 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA015.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA015.D
Injection Date: 28-OCT-2019 16:25 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910171001 700-SVS-060

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3066033006

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA016.D

Level (low/med): Date Received: 10/25/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA016.D
Lab Smp Id: 3066033006 Client Smp ID: 1910171001 700-SVS-
Inj Date : 28-OCT-2019 16:52
Operator : CHS Inst ID: gc08.i
Smp Info : 3066033006
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.930	3.921	(0.633)	847149	36.2743	36.2743
S	1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
*	6 1-Chloro-4-fluorobenzene	6.210	6.175	(1.000)	273765	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA016.D
Lab Smp Id: 3066033006
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: 1910171001 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	273765	13.16

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.21	0.18

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066033006 Client Smp ID: 1910171001 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	36.2743	120.91	90-129

ALS Environmental Services

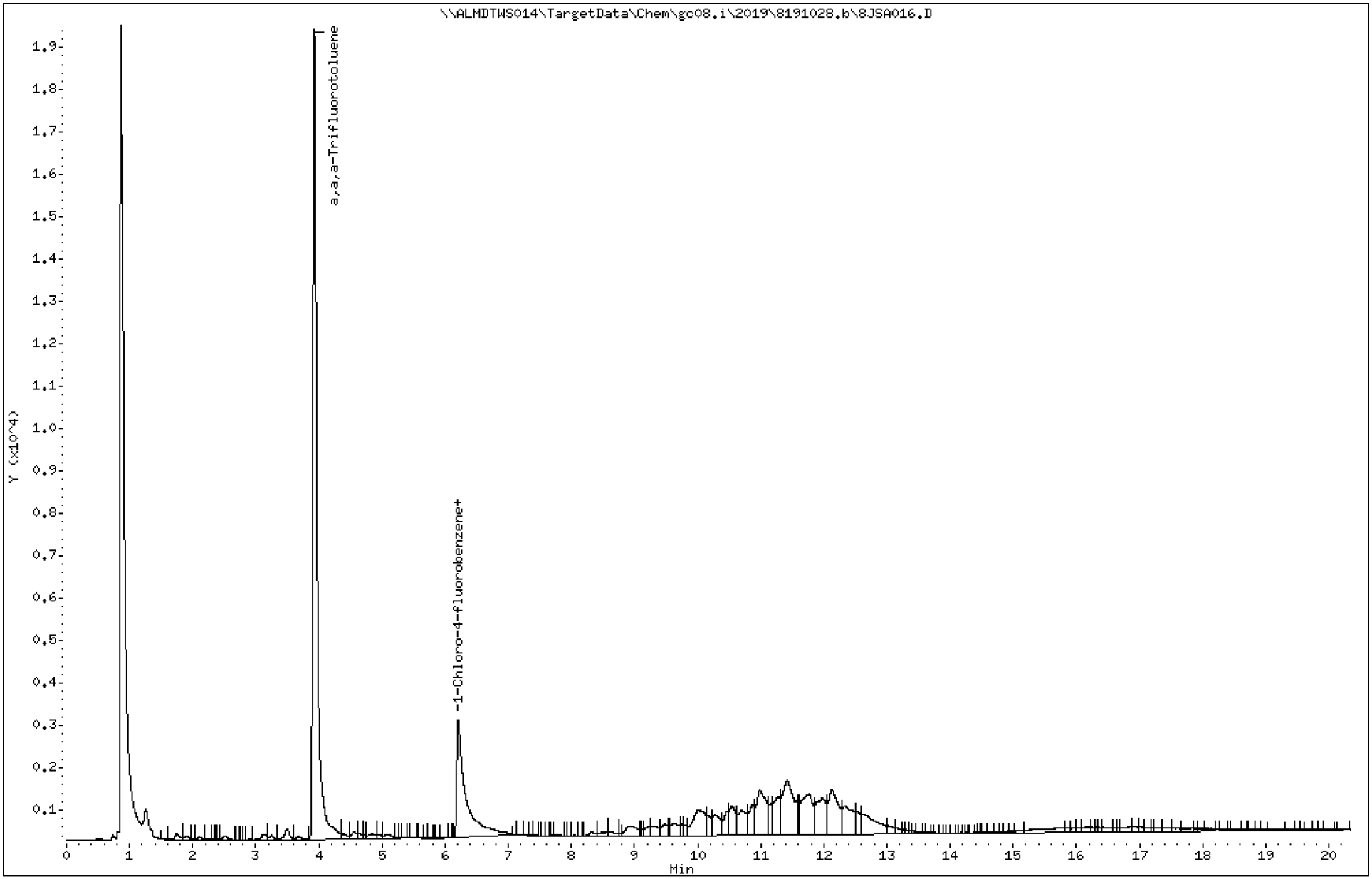
TARGET COMPOUNDS

Client Name: ALS Environmental-Rochester Client SDG: R1910325
Lab Smp Id: 3066033006 Client Smp ID: 1910171001 700-SVS-
Sample Location: Sample Point:
Sample Date: 17-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10297 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	36.2743	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA016.D
Date : 28-OCT-2019 16:52
Client ID: 1910171001 700-SVS-
Sample Info: 3066033006

Instrument: gc08.i
Operator: CHS
Column phase: DB-VRX
Column diameter: 0.45

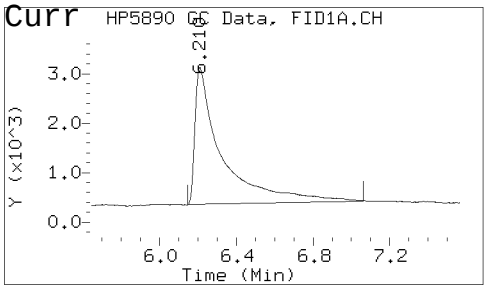


MANUAL INTEGRATION REPORT

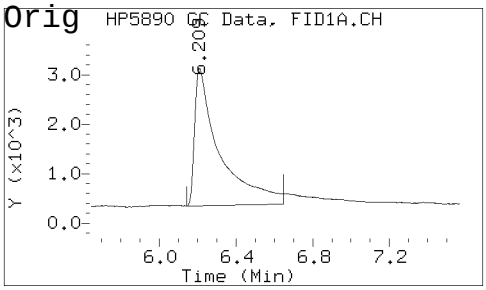
Report Date: 10/29/2019 05:01
Lab Sample ID: 3066033006 Client ID: 1910171001 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA016.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA016.D
Injection Date: 28-OCT-2019 16:52 Operator: CHS

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 273765
Orig. Area: 250699

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 05:01
Lab Sample ID: 3066033006 Client ID: 1910171001 700-SVS-
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA016.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA016.D
Injection Date: 28-OCT-2019 16:52 Operator: CHS

There were no Unassigned peaks in this sample!

Standards Raw Data

Initial Calibrations

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ALS Global SDG No.: AER-381

Instrument ID: gc08.i Calibration Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Calibration Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

LAB FILE ID: RRF100 = 8L6A002.D RRF250 = 8L6A003.D RRF500 = 8L6A004.D RRF1000 = 8L6A005.D

RRF2500 = 8L6A006.D RRF5000 = 8L6A007.D

COMPOUND	RRF100	RRF250	RRF500	RRF1000	RRF2500	CT
GASOLINE RANGE ORGANICS	0.69284	0.68342	0.72961	0.62264	0.54761	A
a,a,a-Trifluorotoluene	0.87356	0.86178	0.92772	0.82054	0.84516	A

CT Column contains the Calibration Type. A - Average Response Factor, L - Linear Regression, and Q - Quadratic.
SPCC Compounds (*) with required minimum RRF.
CCC Compounds (**) with required maximum %RSD.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ALS Global SDG No.: AER-381

Instrument ID: gc08.i Calibration Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Calibration Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

LAB FILE ID: RRF100 = 8L6A002.D RRF250 = 8L6A003.D RRF500 = 8L6A004.D RRF1000 = 8L6A005.D

RRF2500 = 8L6A006.D RRF5000 = 8L6A007.D

COMPOUND	RRF5000			CT	b	m1	m2	% RSD or R^2
GASOLINE RANGE ORGANICS	0.49500			A		0.628520		14.54370
a,a,a-Trifluorotoluene	0.78964			A		0.853070		5.55122

CT Column contains the Calibration Type. A - Average Response Factor, L - Linear Regression, and Q - Quadratic.
SPCC Compounds (*) with required minimum RRF.
CCC Compounds (**) with required maximum %RSD.

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A002.D
Lab Smp Id: LEVEL1
Inj Date : 06-DEC-2018 15:20
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL1
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 15:20 Cal File: 8L6A002.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$ 5 a,a,a-Trifluorotoluene	3.995	3.973	(0.642)	27695	1.00000	1.02403(M)
S 1 GASOLINE RANGE ORGANICS	1.754-8.780			2196558	100.000	115.565(M)
* 6 1-Chloro-4-fluorobenzene	6.226	6.208	(1.000)	317035	10.0000	

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A002.D
Lab Smp Id: LEVEL1
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	317035	-1.76

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.23	0.16

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL1
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

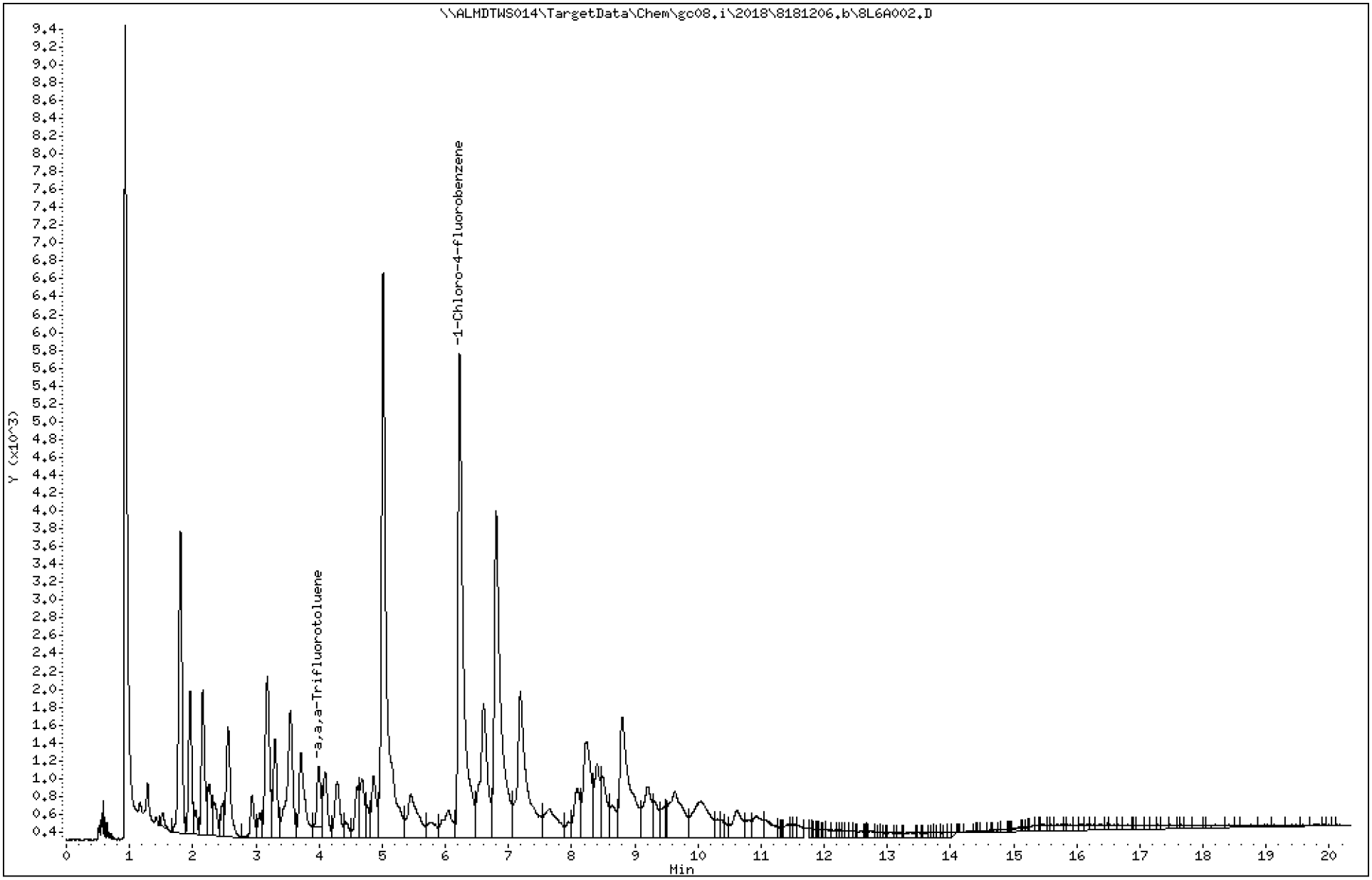
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	115.565	
98-08-8	a,a,a-Trifluorotoluene	1.02403	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A002.D
Date : 06-DEC-2018 15:20
Client ID:
Sample Info: LEVEL1

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

Column phase: DB-VRX

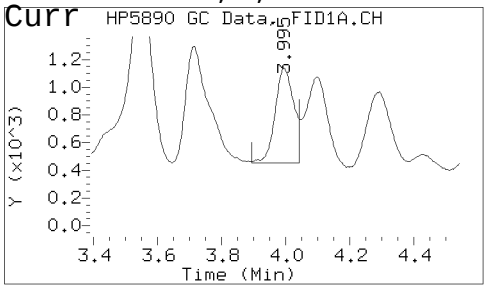


MANUAL INTEGRATION REPORT

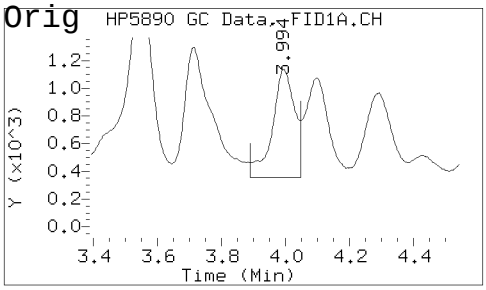
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL1 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A002.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A002.D
Injection Date: 06-DEC-2018 15:20 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

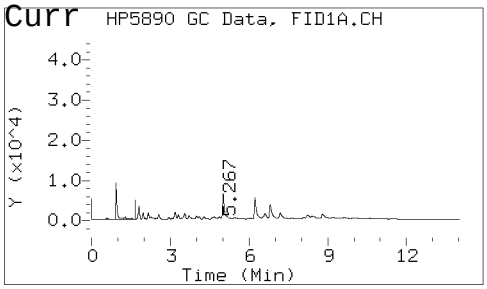


Curr. Area: 27695
Orig. Area: 37350

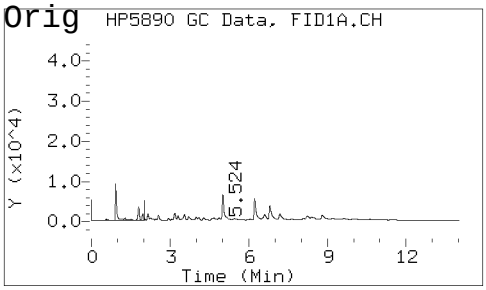
Curr. ON-COL: 1.02403
Orig. ON-COL: 0.896257

GASOLINE RANGE ORGANICS

Curr



Orig



Curr. Area: 2196558
Orig. Area: 2004671

Curr. ON-COL: 115.565
Orig. ON-COL: 106.596

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL1 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A002.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A002.D
Injection Date: 06-DEC-2018 15:20 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A003.D
Lab Smp Id: LEVEL2
Inj Date : 06-DEC-2018 15:47
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL2
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 15:47 Cal File: 8L6A003.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	68087	2.50000	2.52553(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			5399527	250.000	280.398(M)
*	6 1-Chloro-4-fluorobenzene	6.218	6.208	(1.000)	316031	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A003.D
Lab Smp Id: LEVEL2
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	316031	-2.07

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.03

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL2
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

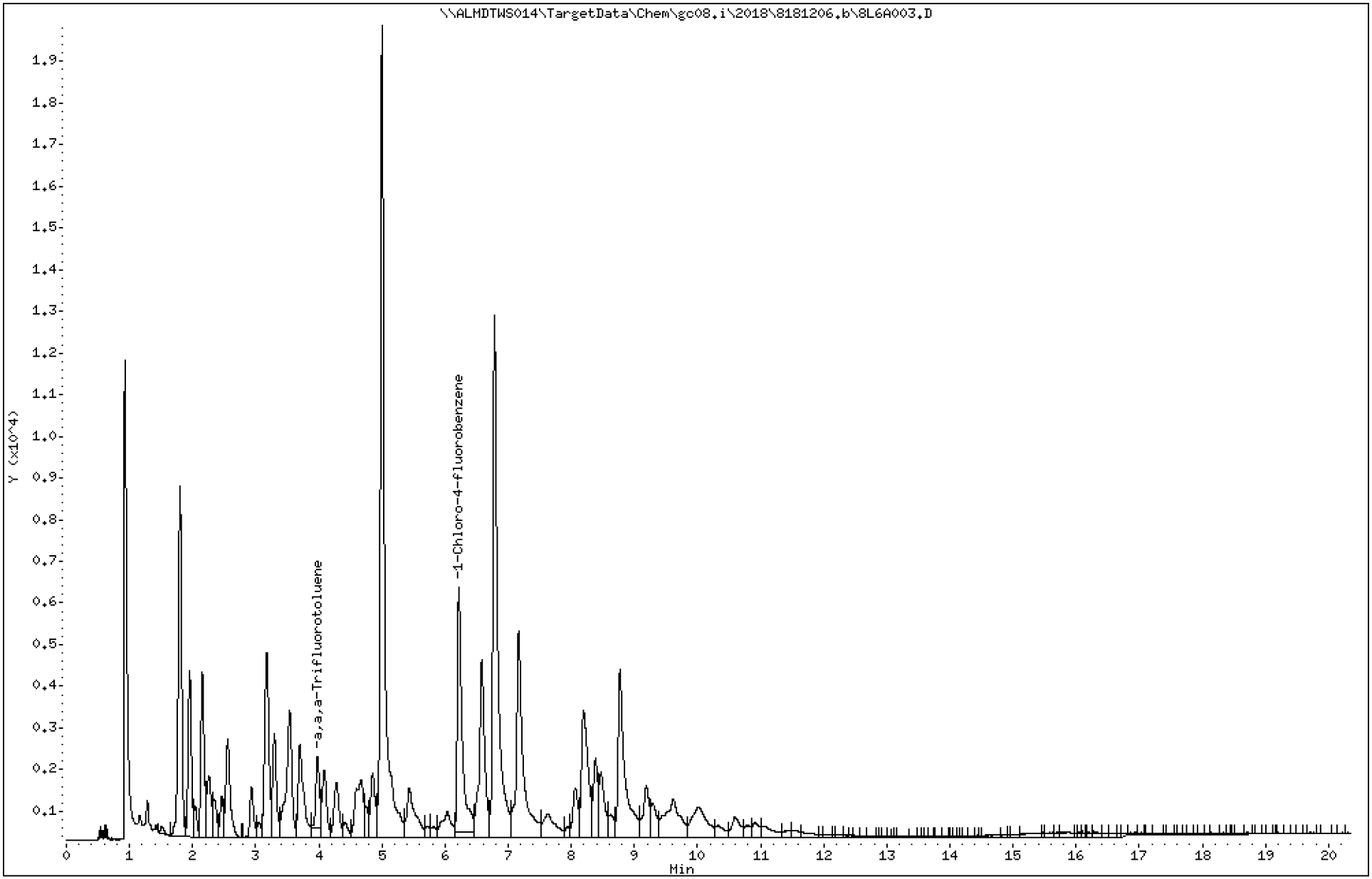
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	280.398	
98-08-8	a,a,a-Trifluorotoluene	2.52553	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A003.D
Date : 06-DEC-2018 15:47
Client ID:
Sample Info: LEVEL2

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

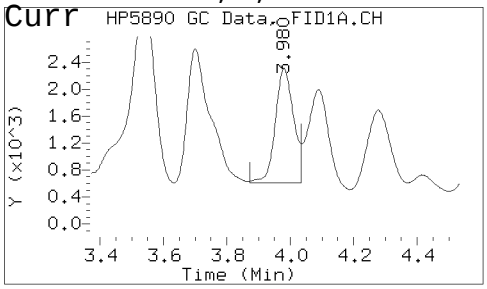
Column phase: DB-VRX

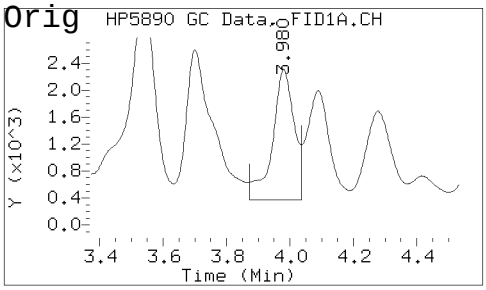


MANUAL INTEGRATION REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL2 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A003.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A003.D
Injection Date: 06-DEC-2018 15:47 Operator: DD

a,a,a-Trifluorotoluene

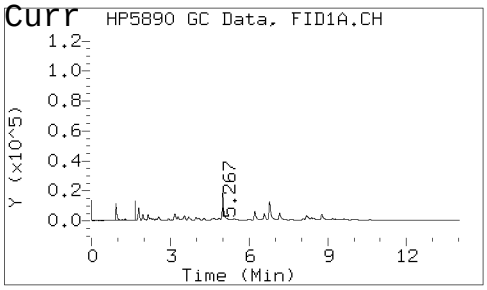


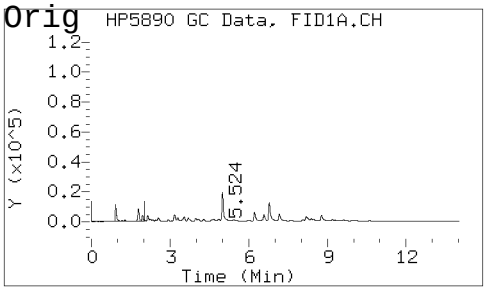


Curr. Area: 68087
Orig. Area: 92630

Curr. ON-COL: 2.52553
Orig. ON-COL: 3.02634

GASOLINE RANGE ORGANICS

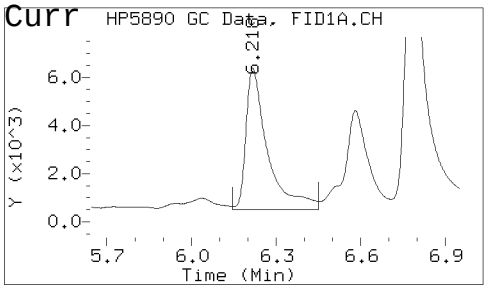


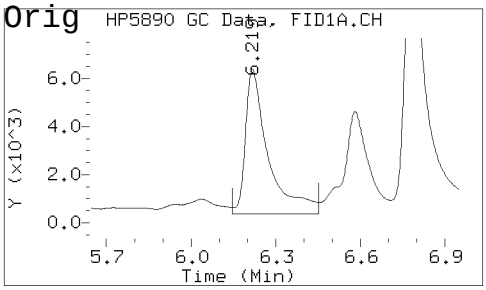


Curr. Area: 5399527
Orig. Area: 4848761

Curr. ON-COL: 280.398
Orig. ON-COL: 234.291

1-Chloro-4-fluorobenzene





Curr. Area: 316031
Orig. Area: 339546

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL2 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A003.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A003.D
Injection Date: 06-DEC-2018 15:47 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A004.D
Lab Smp Id: LEVEL3
Inj Date : 06-DEC-2018 16:14
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL3
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 16:14 Cal File: 8L6A004.D
Als bottle: 4 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.976	3.973	(0.640)	146779	5.00000	5.43757(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			11543509	500.000	588.652(M)
*	6 1-Chloro-4-fluorobenzene	6.216	6.208	(1.000)	316429	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A004.D
Lab Smp Id: LEVEL3
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	316429	-1.94

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.00

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL3
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

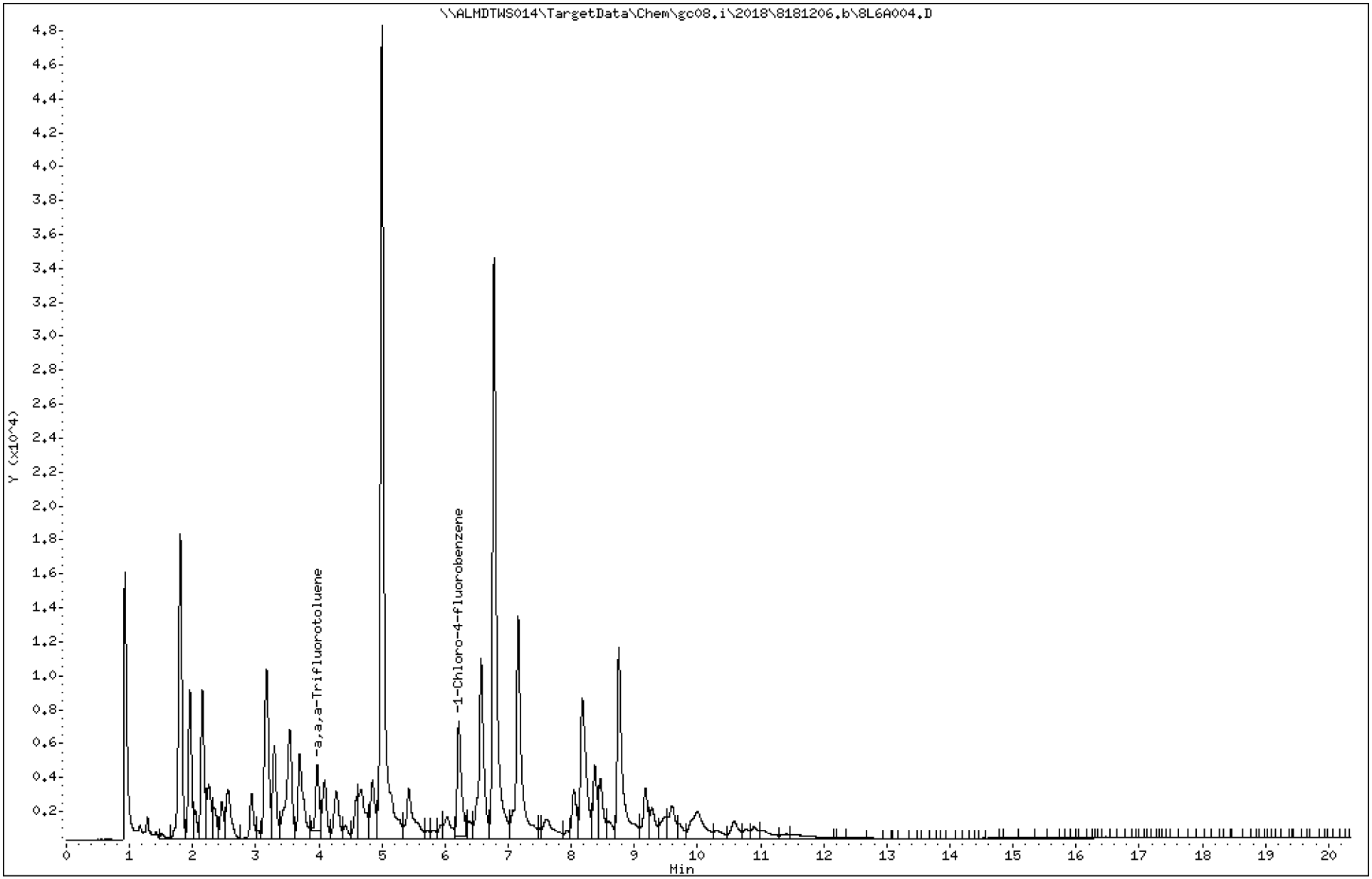
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	588.652	
98-08-8	a,a,a-Trifluorotoluene	5.43757	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A004.D
Date : 06-DEC-2018 16:14
Client ID:
Sample Info: LEVEL3

Column phase: DB-VRX

Instrument: gc08.i

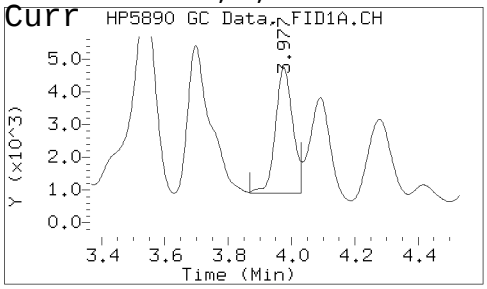
Operator: DD
Column diameter: 0.45

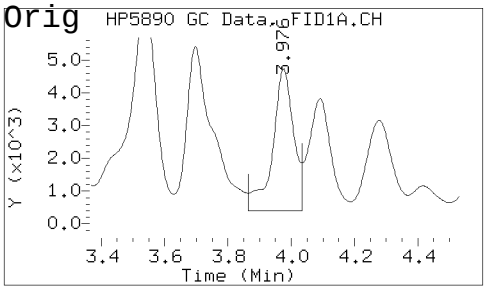


MANUAL INTEGRATION REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL3 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A004.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A004.D
Injection Date: 06-DEC-2018 16:14 Operator: DD

a,a,a-Trifluorotoluene

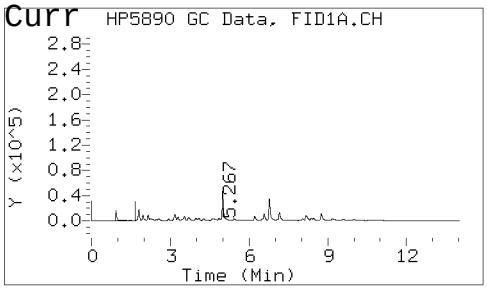


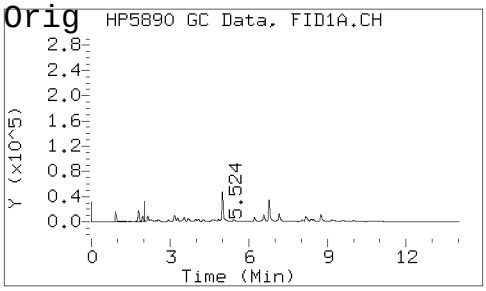


Curr. Area: 146779
Orig. Area: 200647

Curr. ON-COL: 5.43757
Orig. ON-COL: 7.54827

GASOLINE RANGE ORGANICS

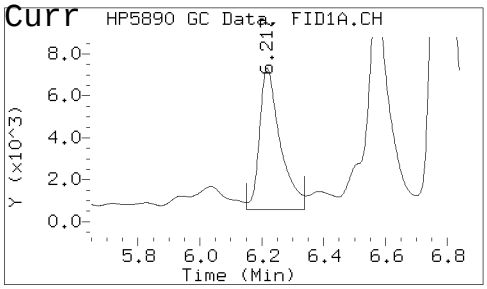


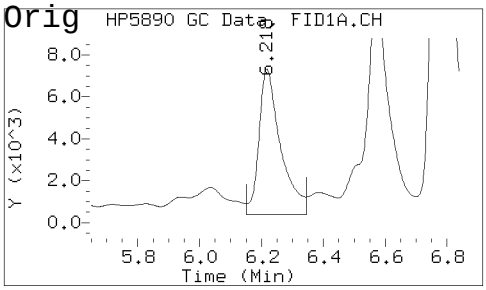


Curr. Area: 11543509
Orig. Area: 10479670

Curr. ON-COL: 588.652
Orig. ON-COL: 509.834

1-Chloro-4-fluorobenzene





Curr. Area: 316429
Orig. Area: 337242

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL3 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A004.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A004.D
Injection Date: 06-DEC-2018 16:14 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A005.D
Lab Smp Id: LEVEL4
Inj Date : 06-DEC-2018 16:41
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL4
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 16:41 Cal File: 8L6A005.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	264789	10.0000	9.61871(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			20092712	1000.00	1042.25(M)
*	6 1-Chloro-4-fluorobenzene	6.216	6.208	(1.000)	322701	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A005.D
Lab Smp Id: LEVEL4
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	322701	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.00

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

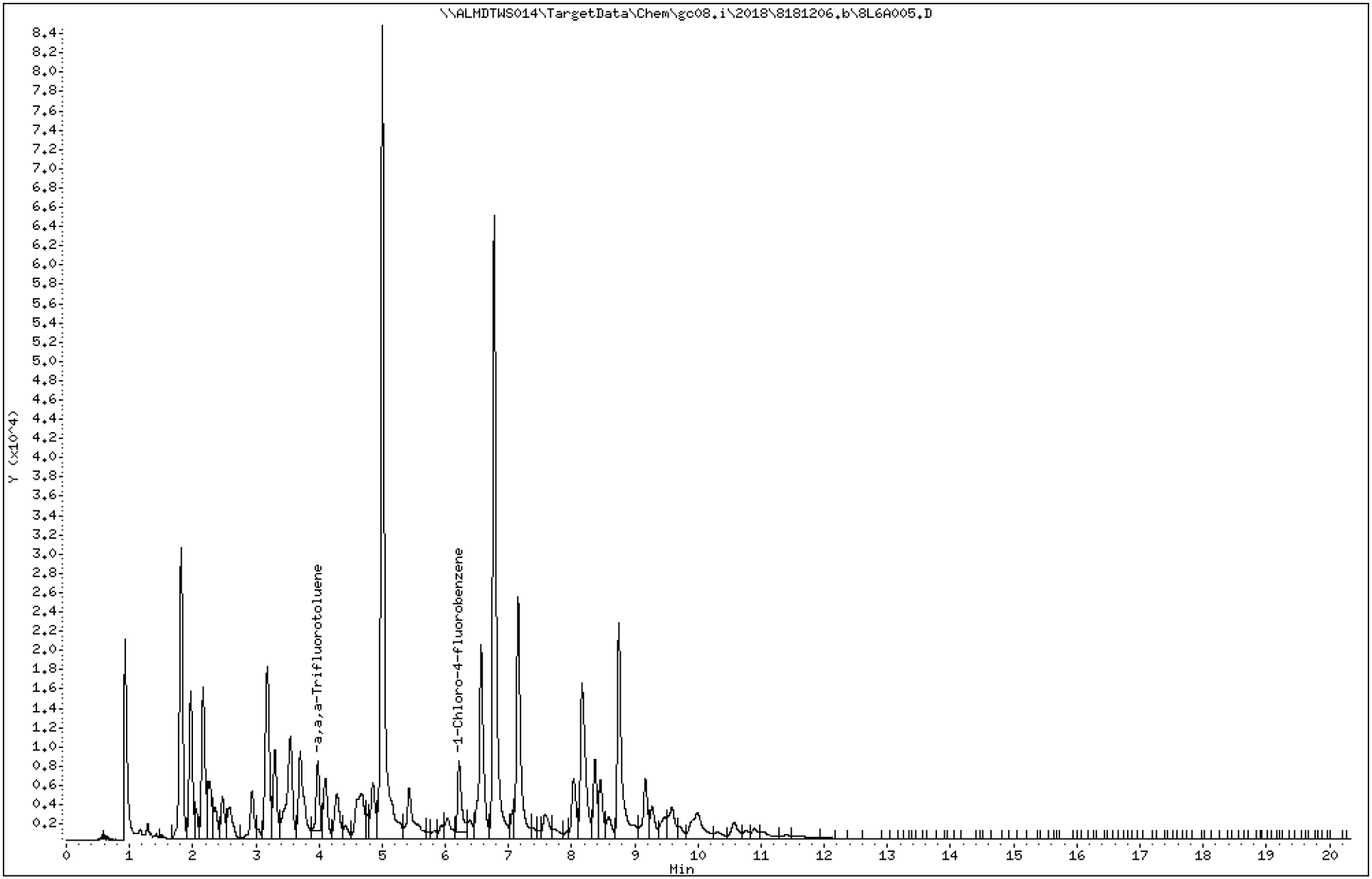
Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL4
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	1042.25	
98-08-8	a,a,a-Trifluorotoluene	9.61871	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A005.D
Date : 06-DEC-2018 16:41
Client ID:
Sample Info: LEVEL4

Instrument: gc08.i
Operator: DD
Column diameter: 0.45

Column phase: DB-VRX

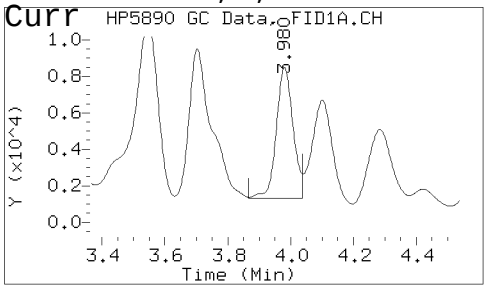


MANUAL INTEGRATION REPORT

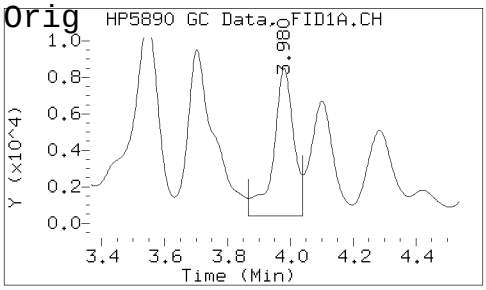
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL4 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A005.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A005.D
Injection Date: 06-DEC-2018 16:41 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

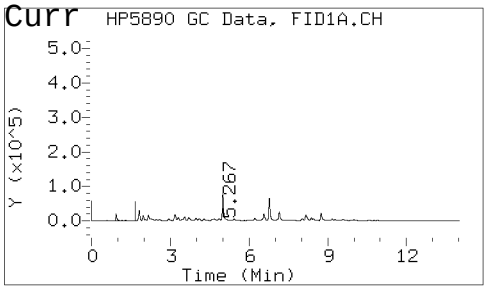


Curr. Area: 264789
Orig. Area: 361891

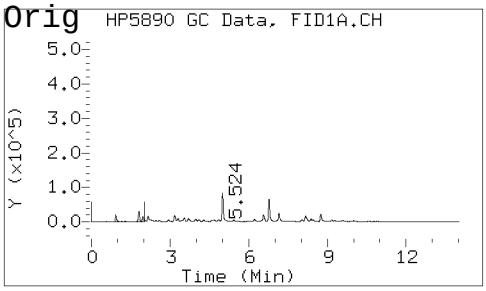
Curr. ON-COL: 9.61871
Orig. ON-COL: 11.6145

GASOLINE RANGE ORGANICS

Curr



Orig

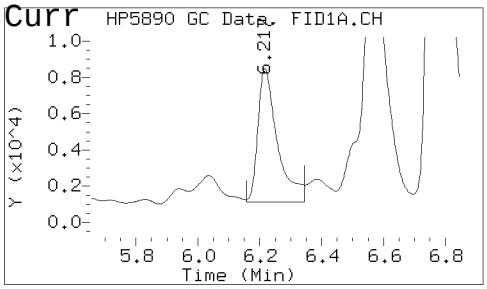


Curr. Area: 20092712
Orig. Area: 18235644

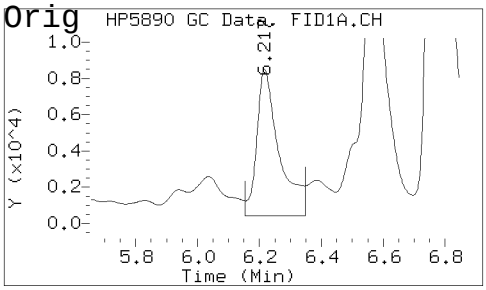
Curr. ON-COL: 1042.25
Orig. ON-COL: 731.378

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 322701
Orig. Area: 409074

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL4 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A005.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A005.D
Injection Date: 06-DEC-2018 16:41 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A006.D
Lab Smp Id: LEVEL5
Inj Date : 06-DEC-2018 17:08
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL5
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 17:08 Cal File: 8L6A006.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	693697	25.0000	24.7682(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			44946908	2500.00	2188.28(M)
*	6 1-Chloro-4-fluorobenzene	6.220	6.208	(1.000)	328316	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A006.D
Lab Smp Id: LEVEL5
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	328316	1.74

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.05

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL5
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

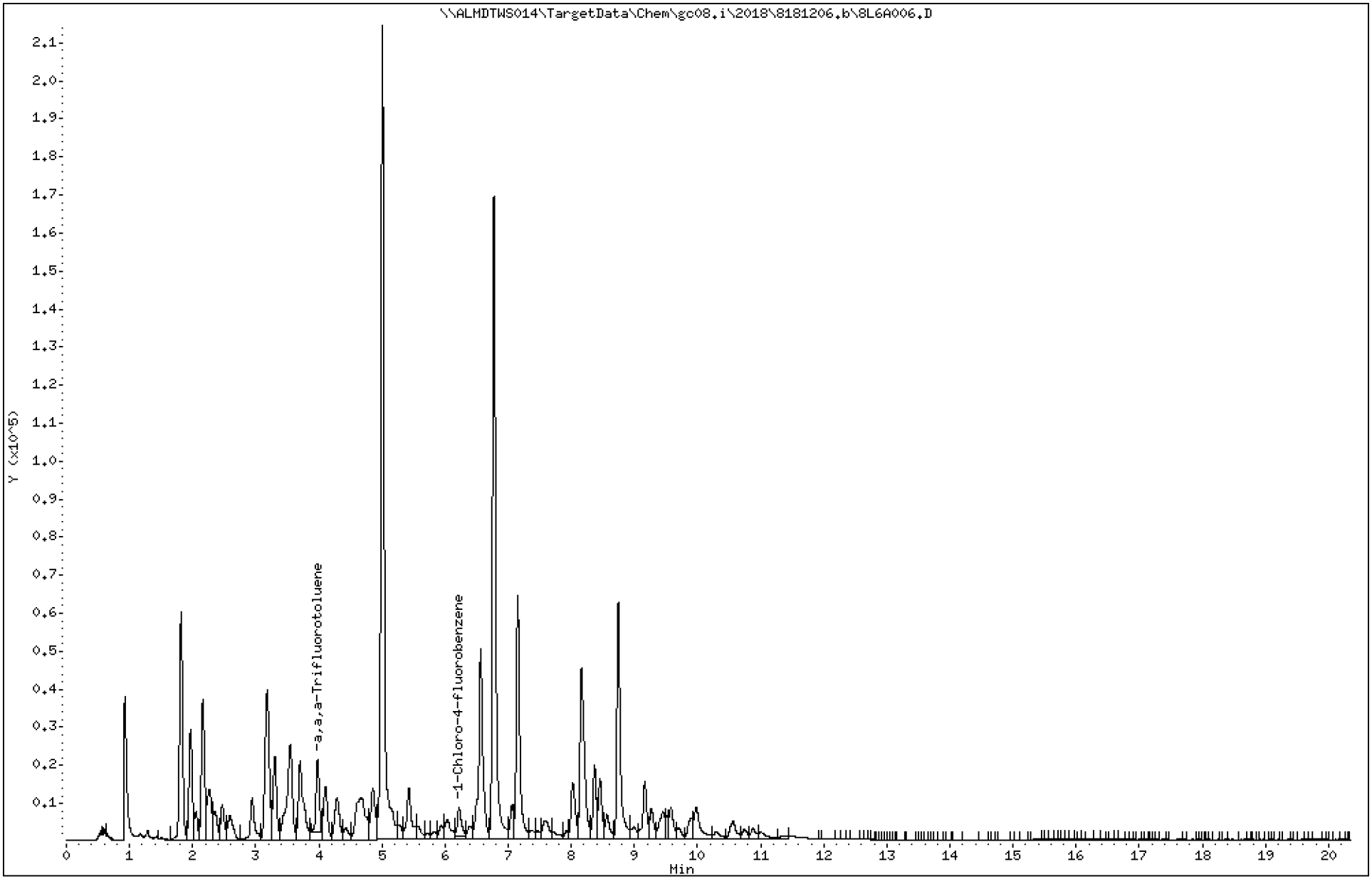
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	2188.28	
98-08-8	a,a,a-Trifluorotoluene	24.7682	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A006.D
Date : 06-DEC-2018 17:08
Client ID:
Sample Info: LEVEL5

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

Column phase: DB-VRX

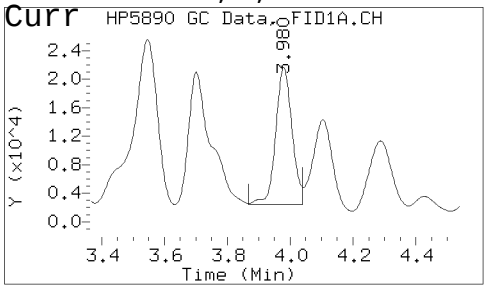


MANUAL INTEGRATION REPORT

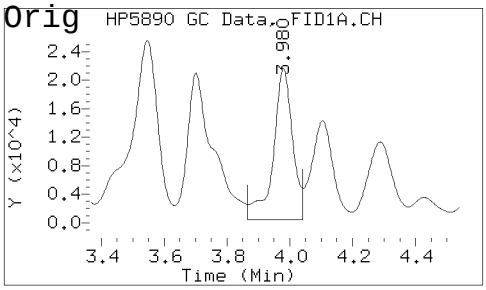
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL5 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A006.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A006.D
Injection Date: 06-DEC-2018 17:08 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

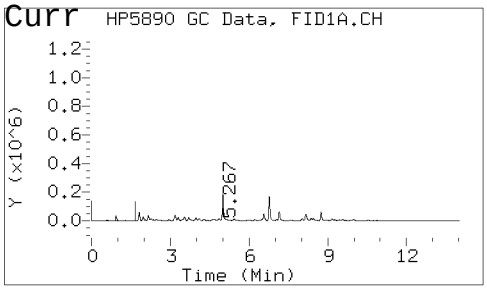


Curr. Area: 693697
Orig. Area: 909522

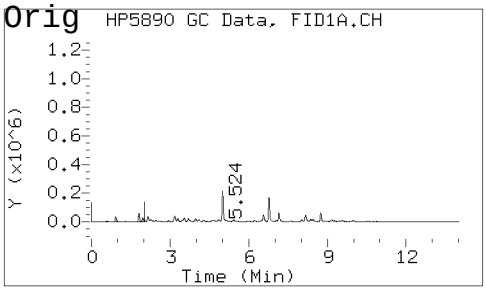
Curr. ON-COL: 24.7682
Orig. ON-COL: 29.8918

GASOLINE RANGE ORGANICS

Curr



Orig

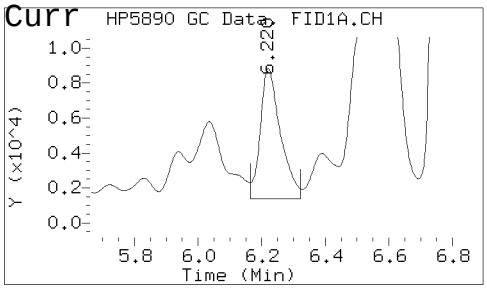


Curr. Area: 44946908
Orig. Area: 41746090

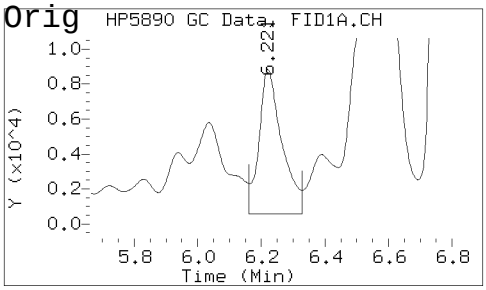
Curr. ON-COL: 2188.28
Orig. ON-COL: 1646.77

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 328316
Orig. Area: 415915

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL5 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A006.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A006.D
Injection Date: 06-DEC-2018 17:08 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A007.D
Lab Smp Id: LEVEL6
Inj Date : 06-DEC-2018 17:35
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL6
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$ 5 a,a,a-Trifluorotoluene	3.973	3.973	(0.640)	1402089	50.0000	46.2825(M)
S 1 GASOLINE RANGE ORGANICS	1.754-8.780			87893085	5000.00	3937.85(M)
* 6 1-Chloro-4-fluorobenzene	6.208	6.208	(1.000)	355121	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A007.D
Lab Smp Id: LEVEL6
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	355121	10.05

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.21	-0.13

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL6
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	3937.85	
98-08-8	a,a,a-Trifluorotoluene	46.2825	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A007.D

Date : 06-DEC-2018 17:35

Client ID:

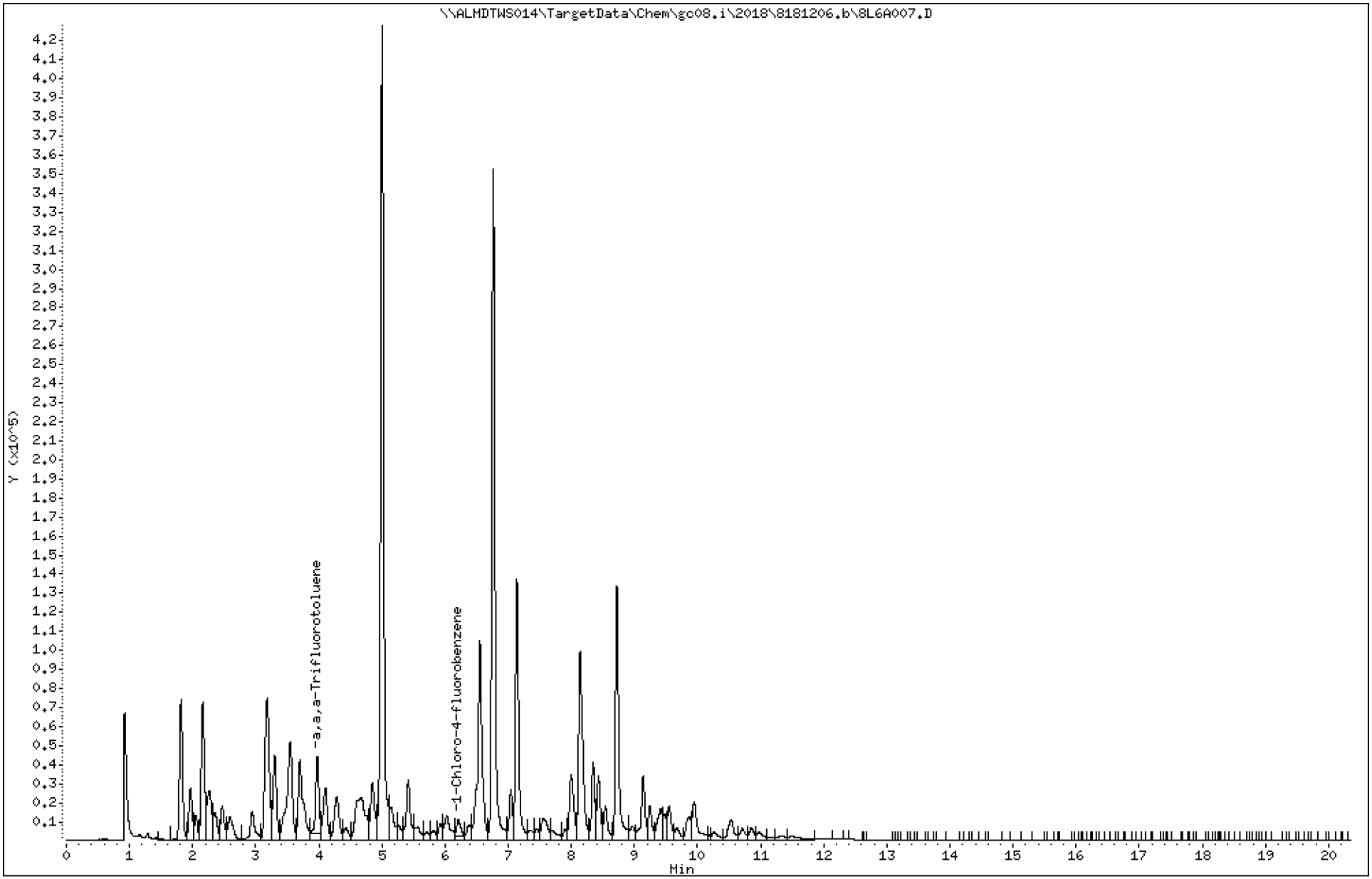
Instrument: gc08.i

Sample Info: LEVEL6

Operator: DD

Column phase: DB-VRX

Column diameter: 0.45

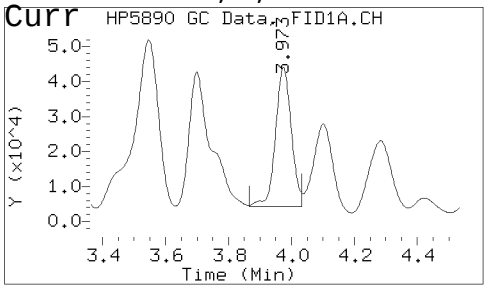


MANUAL INTEGRATION REPORT

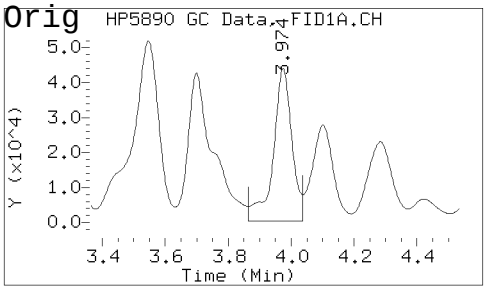
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL6 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A007.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A007.D
Injection Date: 06-DEC-2018 17:35 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

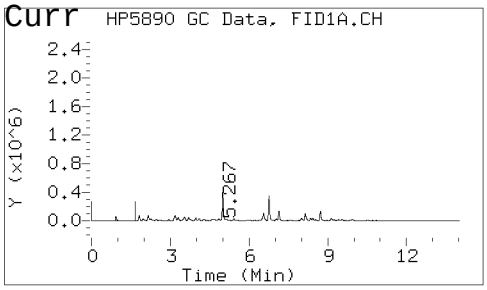


Curr. Area: 1402089
Orig. Area: 1802472

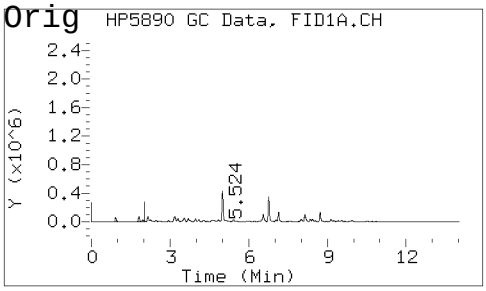
Curr. ON-COL: 46.2825
Orig. ON-COL: 69.1773

GASOLINE RANGE ORGANICS

Curr



Orig

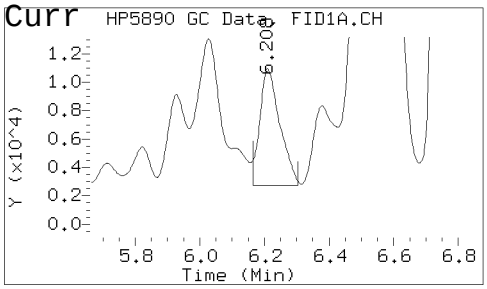


Curr. Area: 87893085
Orig. Area: 84385737

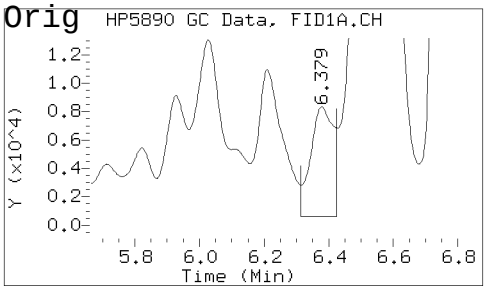
Curr. ON-COL: 3937.85
Orig. ON-COL: 3829.53

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 355121
Orig. Area: 361532

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL6 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A007.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A007.D
Injection Date: 06-DEC-2018 17:35 Operator: DD

There were no Unassigned peaks in this sample!

Initial Calibration Verifications

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A011.D
Lab Smp Id: LCS
Inj Date : 06-DEC-2018 19:23
Operator : DD Inst ID: gc08.i
Smp Info : LCS
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 07-Dec-2018 10:34 don Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 11 QC Sample: LCS
Dil Factor: 0.25000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)	
$ 5 a,a,a-Trifluorotoluene	3.946	3.973	(0.639)	955373	31.4832	7.87079(M)	
S 1 GASOLINE RANGE ORGANICS	1.754-8.780			81733967	3655.70	913.926(M)	
* 6 1-Chloro-4-fluorobenzene	6.180	6.208	(1.000)	355723	10.0000	(M)	

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A011.D
Lab Smp Id: LCS
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	355723	10.23

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.18	-0.59

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8181206.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: LCS
Level: MED Operator: DD
Data Type: GC DATA SampleType: LCS
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
S 1 GASOLINE RANGE ORG	1000.00	913.926	91.39	77-125

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	7.50000	7.87079	104.94	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LCS
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

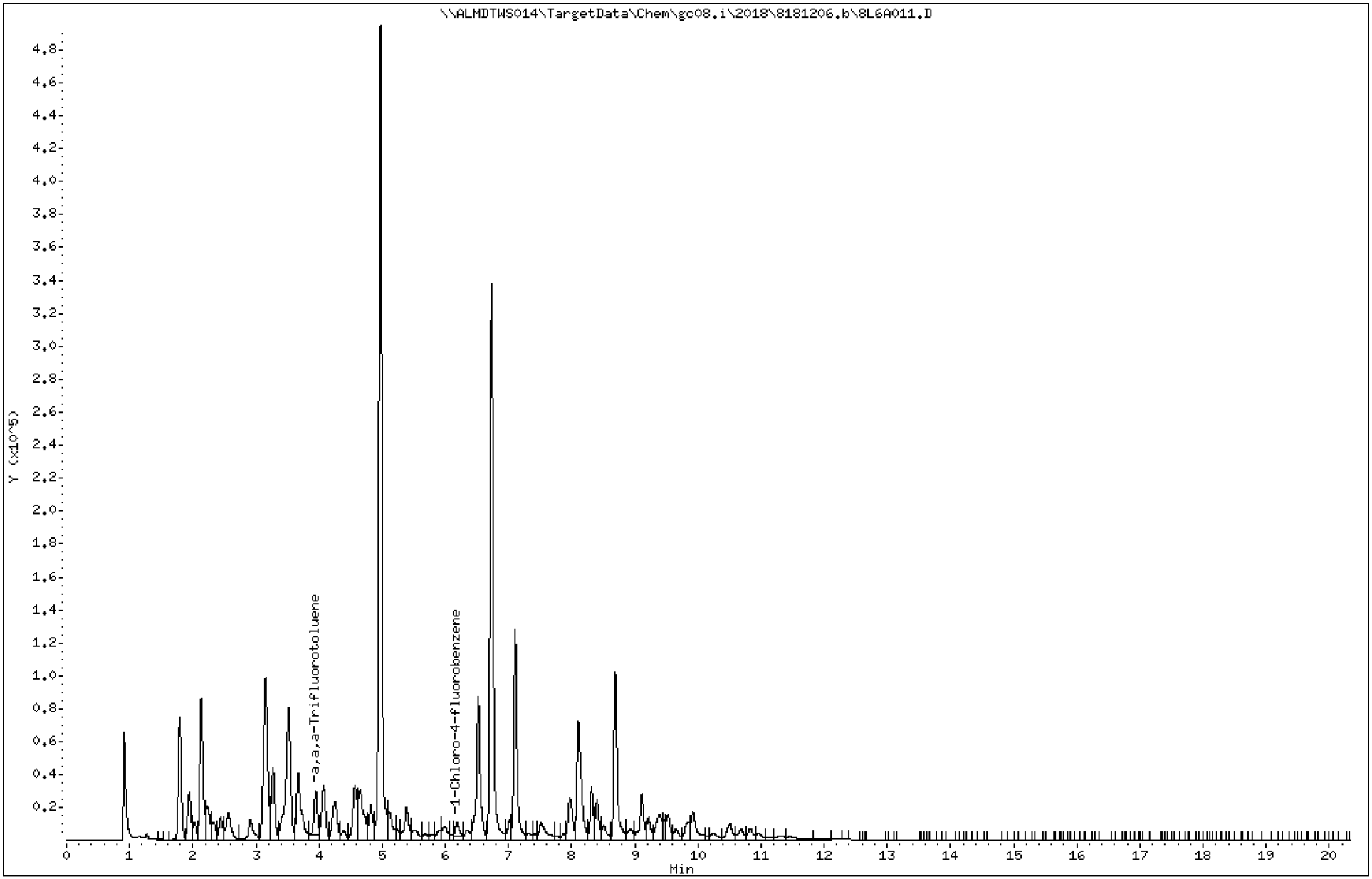
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	913.926	
98-08-8	a,a,a-Trifluorotoluene	7.87079	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A011.D
Date : 06-DEC-2018 19:23
Client ID:
Sample Info: LCS

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

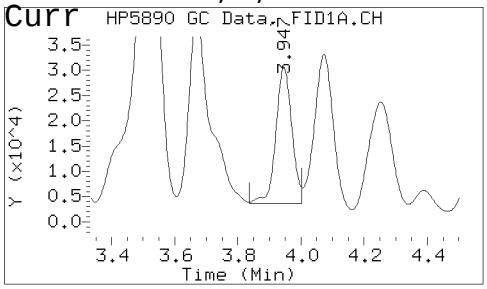
Column phase: DB-VRX

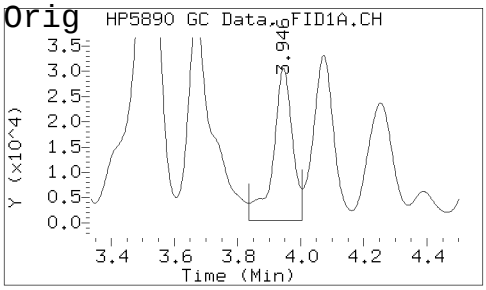


MANUAL INTEGRATION REPORT

Report Date: 12/07/2018 10:36
Lab Sample ID: LCS Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A011.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A011.D
Injection Date: 06-DEC-2018 19:23 Operator: DD

a,a,a-Trifluorotoluene

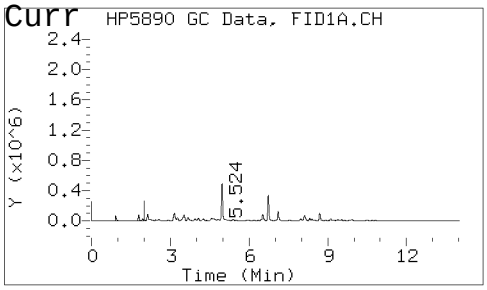
Curr


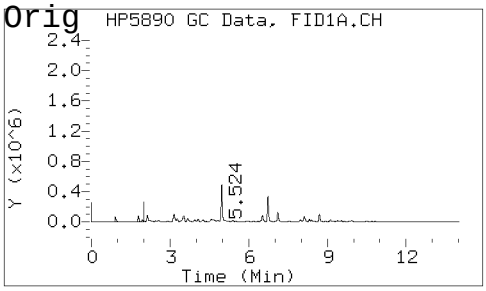
Orig


Curr. Area: 955373
Orig. Area: 1286806

Curr. ON-COL: 31.4832
Orig. ON-COL: 22.6877

GASOLINE RANGE ORGANICS

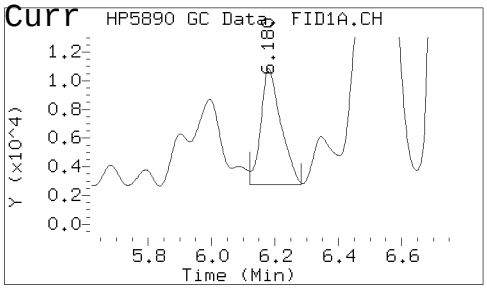
Curr


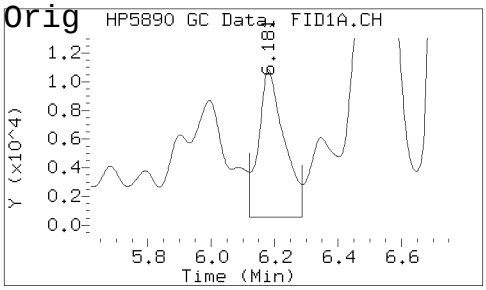
Orig


Curr. Area: 81733967
Orig. Area: 81175820

Curr. ON-COL: 3655.70
Orig. ON-COL: 2371.64

1-Chloro-4-fluorobenzene

Curr


Orig


Curr. Area: 355723
Orig. Area: 582527

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/07/2018 10:36
Lab Sample ID: LCS Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A011.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A011.D
Injection Date: 06-DEC-2018 19:23 Operator: DD

There were no Unassigned peaks in this sample!

Continuing Calibrations

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ALS Global SDG No.: AER-381

Instrument ID: gc08.i Calibration Date/Time: 10/28/2019 10:02

Lab File ID: 8JSA001.D Init. Calib. Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Init. Calib. Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

COMPOUND	RRF	RRF050	Conc. CC std	MIN RRF	%D	MAX%D	CT
GASOLINE RANGE ORGANICS	0.6285	0.6001		0.010	-4.5	20.0	A
a,a,a-Trifluorotoluene	0.8531	0.9806		0.010	14.9	20.0	A

Calibration Type: A=Average Response Factor, L=Linear Regression, Q=Quadratic Regression
Compounds with "Calibration Type" other than "A" are calculated as % Drift due to alternate calibration type.

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA001.D
Lab Smp Id: CCAL
Inj Date : 28-OCT-2019 10:02
Operator : CHS Inst ID: gc08.i
Smp Info : CCAL
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.922	3.921	(0.633)	711678	30.0000	34.4839
S	1 GASOLINE RANGE ORGANICS	1.717-8.754			14517258	1000.00	954.730
*	6 1-Chloro-4-fluorobenzene	6.199	6.175	(1.000)	241927	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i Calibration Date: 25-OCT-2019
Lab File ID: 8JSA001.D Calibration Time: 08:52
Lab Smp Id: CCAL
Analysis Type: VOA Level: MED
Quant Type: ISTD Sample Type: WATER
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	290869	145435	436304	241927	-16.83

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.07

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gc08.i Injection Date: 28-OCT-2019 10:02
Lab File ID: 8JSA001.D Init. Cal. Date(s): 06-DEC-2018 06-DEC-2018
Analysis Type: WATER Init. Cal. Times: 15:20 17:35
Lab Sample ID: CCAL Quant Type: ISTD
Method: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.m

			MIN		MAX	
COMPOUND	RRF / AMOUNT	RF1000	RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
$ 5 a,a,a-Trifluorotoluene	0.85307	0.98057	0.010	14.94633	20.00000	Averaged
S 1 GASOLINE RANGE ORGANICS	0.62852	0.60007	0.010	-4.52696	20.00000	Averaged

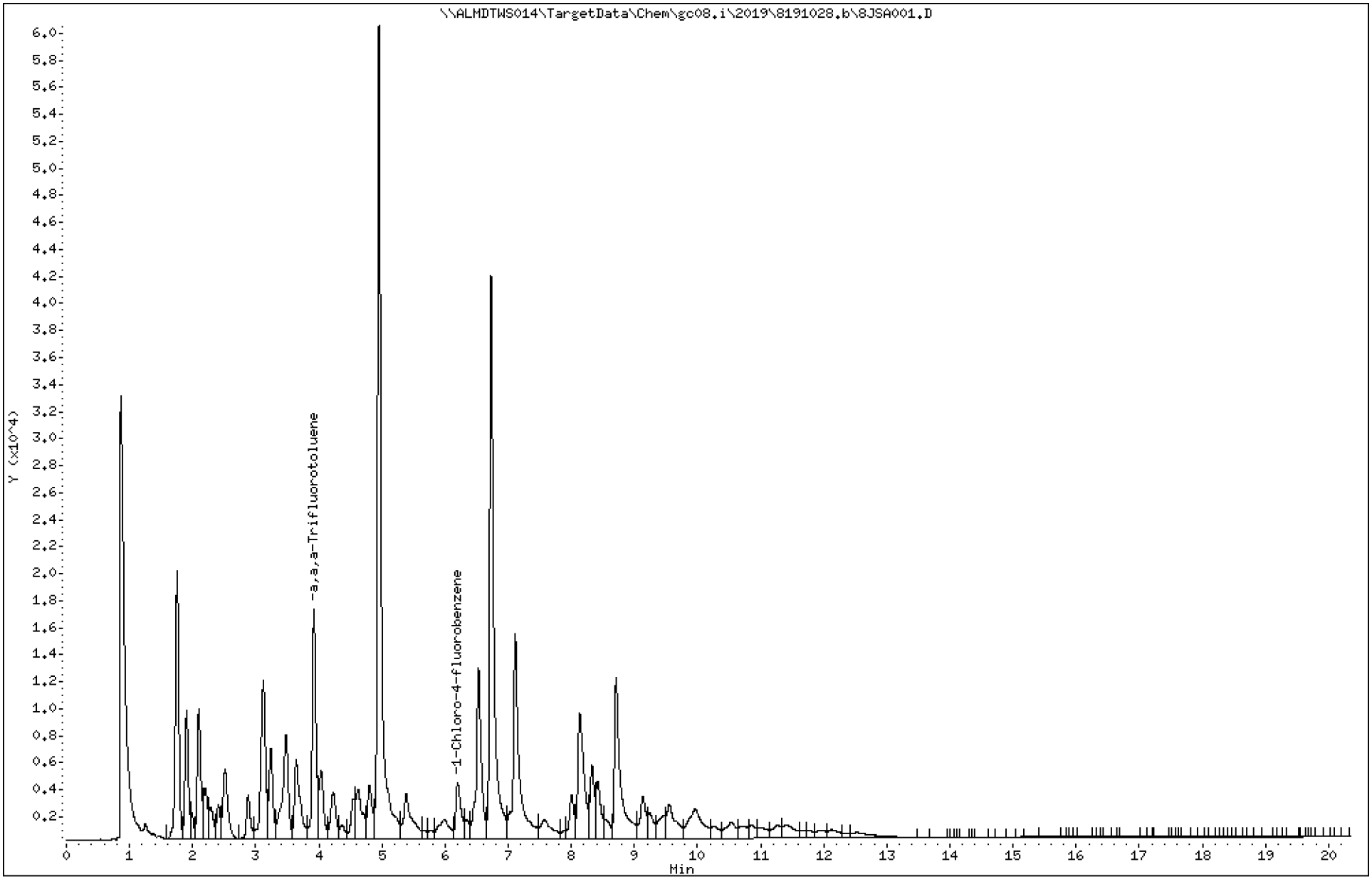
Average %D / Drift Results.

Calculated Average %D/Drift = 9.73665
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA001.D
Date : 28-OCT-2019 10:02
Client ID:
Sample Info: CCAL

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX



MANUAL INTEGRATION REPORT

Report Date: 10/29/2019 04:52
Lab Sample ID: CCAL Client ID:
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA001.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA001.D
Injection Date: 28-OCT-2019 10:02 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 04:52
Lab Sample ID: CCAL Client ID:
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA001.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA001.D
Injection Date: 28-OCT-2019 10:02 Operator: CHS

There were no Unassigned peaks in this sample!

QC Raw Data

Blank Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

3035296(MB)

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3035296

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA006.D

Level (low/med): Date Received: 10/28/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA006.D
Lab Smp Id: 3035296 Client Smp ID: MB for HBN 552405 [
Inj Date : 28-OCT-2019 12:19
Operator : CHS Inst ID: gc08.i
Smp Info : 3035296
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
$	5 a,a,a-Trifluorotoluene	3.929	3.921	(0.633)	837010	33.6768	33.6768
S	1 GASOLINE RANGE ORGANICS	1.717-8.754			335777	18.3364	18.3364(a)
*	6 1-Chloro-4-fluorobenzene	6.207	6.175	(1.000)	291351	10.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA006.D
Lab Smp Id: 3035296
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: MB for HBN 5524
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	291351	20.43

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.21	0.13

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: In-house QC Account Client SDG: 8191028.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3035296 Client Smp ID: MB for HBN 552405 [
Level: MED Operator: CHS
Data Type: GC DATA SampleType: BLANK
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	33.6768	112.26	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: In-house QC Account
Lab Smp Id: 3035296
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: GC DATA
Misc Info: ZZ VOGC 10297 8015GROW

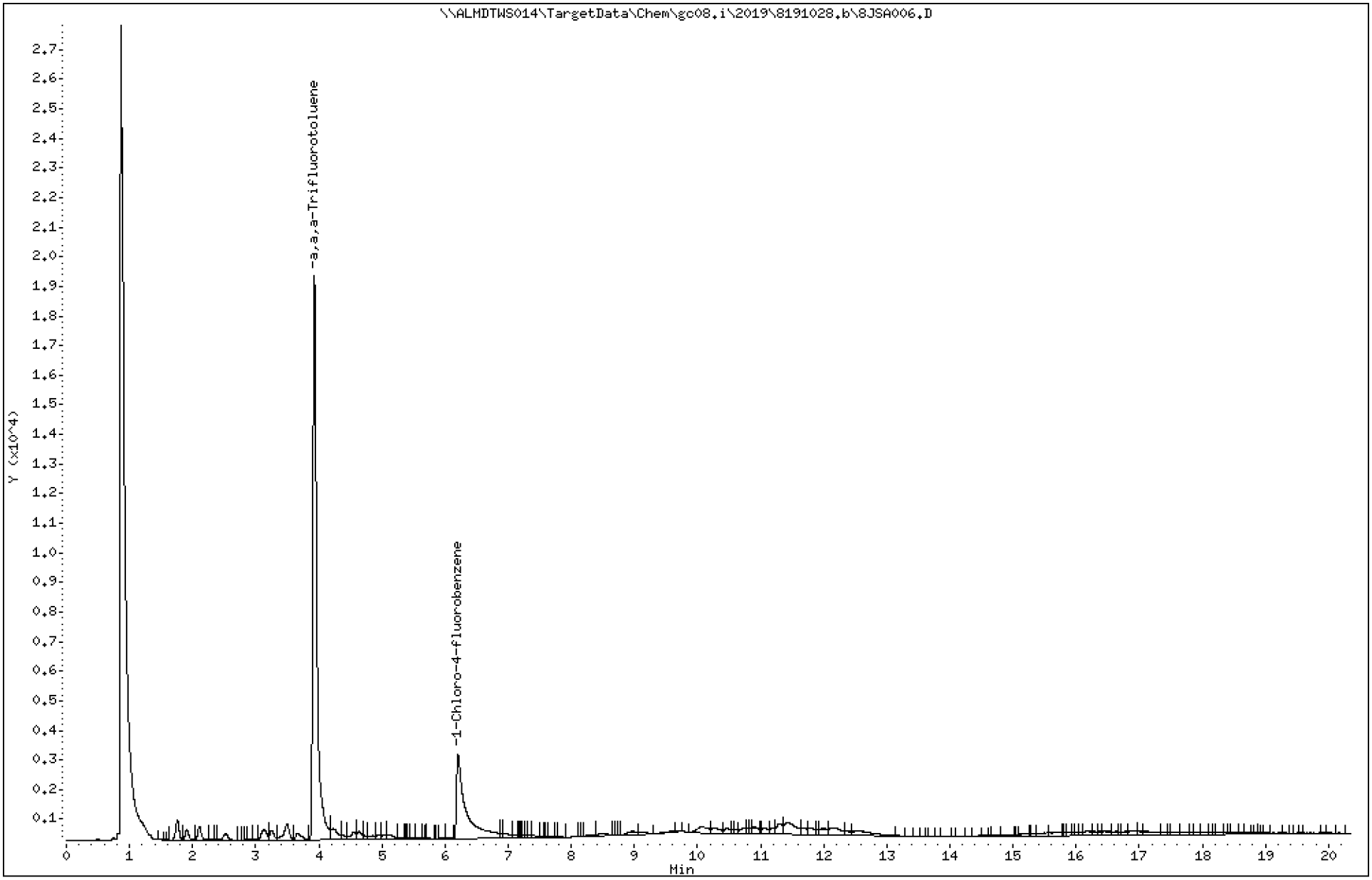
Client SDG: 8191028.b
Client Smp ID: MB for HBN 552405 [
Sample Point:
Date Received: 28-OCT-2019
Quant Type: ISTD
Level: MED
Operator: CHS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	18.3364	J
98-08-8	a,a,a-Trifluorotoluene	33.6768	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA006.D
Date : 28-OCT-2019 12:19
Client ID: MB for HBN 552405 [
Sample Info: 3035296

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX



MANUAL INTEGRATION REPORT

Report Date: 10/29/2019 04:52
Lab Sample ID: 3035296 Client ID: MB for HBN 552405 [
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA006.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA006.D
Injection Date: 28-OCT-2019 12:19 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 04:52
Lab Sample ID: 3035296 Client ID: MB for HBN 552405 [
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA006.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA006.D
Injection Date: 28-OCT-2019 12:19 Operator: CHS

There were no Unassigned peaks in this sample!

MS/MSD Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910160916 70...MS

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3035298

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA021.D

Level (low/med): Date Received: 10/25/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	908	

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA021.D
Lab Smp Id: 3035298 Client Smp ID: 3066033001MS
Inj Date : 28-OCT-2019 19:08
Operator : CHS Inst ID: gc08.i
Smp Info : 3035298
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 21 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.929	3.921	(0.633)	774815	32.7994	32.7994
S	1 GASOLINE RANGE ORGANICS	1.717-8.754			15811346	908.447	908.447(M)
*	6 1-Chloro-4-fluorobenzene	6.203	6.175	(1.000)	276917	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA021.D
Lab Smp Id: 3035298
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: 3066033001MS
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	276917	14.46

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.20	0.07

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: In-house QC Account Client SDG: 8191028.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3035298 Client Smp ID: 3066033001MS
Level: MED Operator: CHS
Data Type: GC DATA SampleType: MS
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
S 1 GASOLINE RANGE ORG	1000.00	908.447	90.84	77-125

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	32.7994	109.33	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: In-house QC Account
Lab Smp Id: 3035298
Sample Location:
Sample Date: 16-OCT-2019
Sample Matrix: WATER
Analysis Type: VOA
Data Type: GC DATA
Misc Info: ZZ VOGC 10297 8015GROW

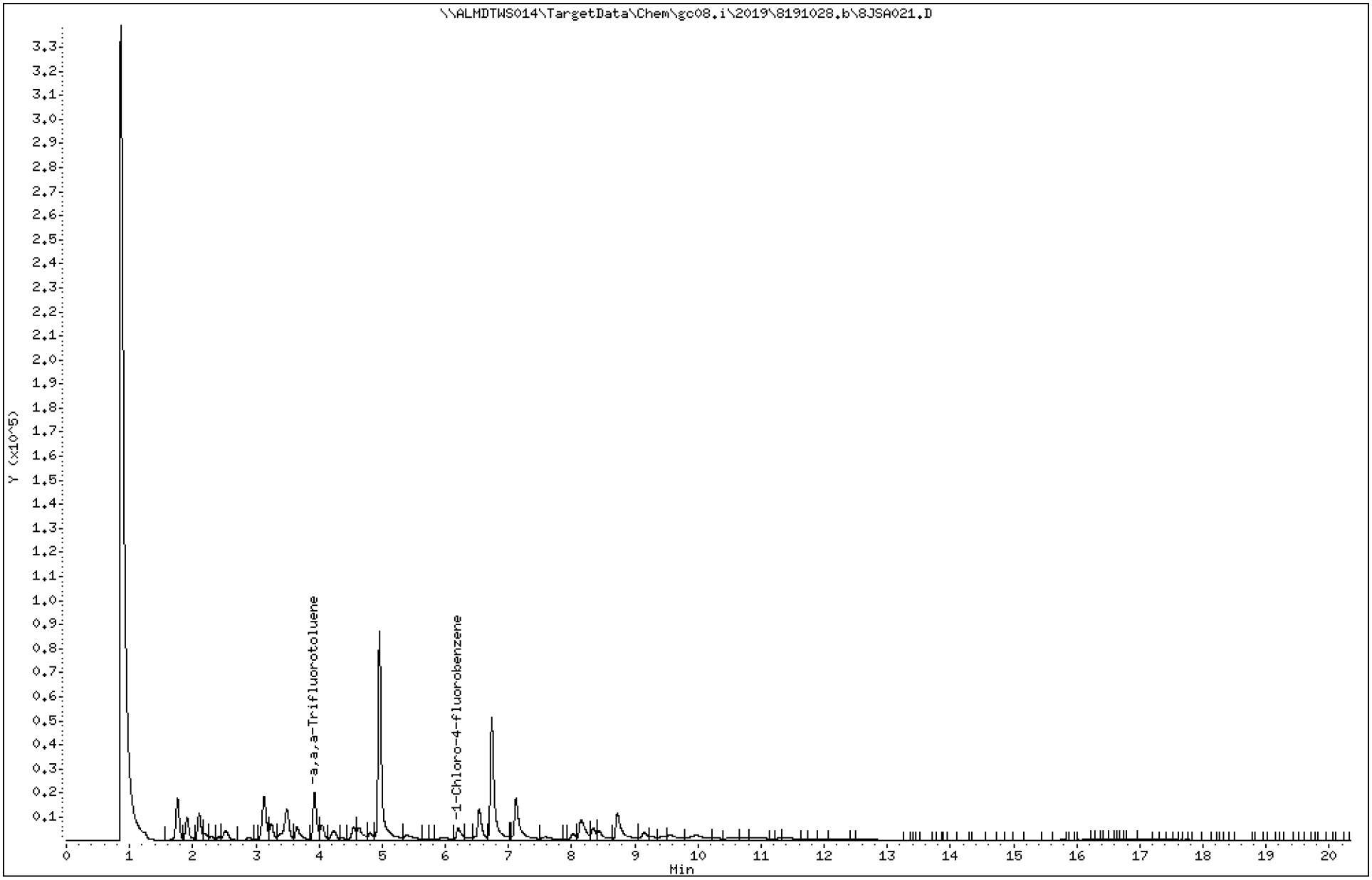
Client SDG: 8191028.b
Client Smp ID: 3066033001MS
Sample Point:
Date Received: 25-OCT-2019
Quant Type: ISTD
Level: MED
Operator: CHS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	908.447	
98-08-8	a,a,a-Trifluorotoluene	32.7994	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA021.D
Date : 28-OCT-2019 19:08
Client ID: 3066033001MS
Sample Info: 3035298

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX

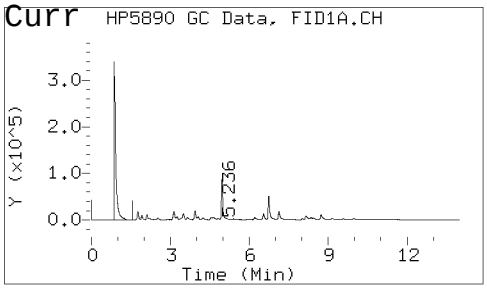


MANUAL INTEGRATION REPORT

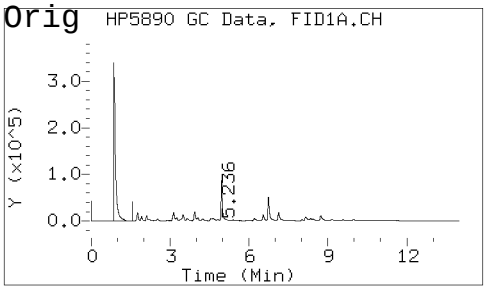
Report Date: 10/29/2019 11:13
Lab Sample ID: 3035298 Client ID: 3066033001MS
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA021.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA021.D
Injection Date: 28-OCT-2019 19:08 Operator: CHS

GASOLINE RANGE ORGANICS

Curr



Orig

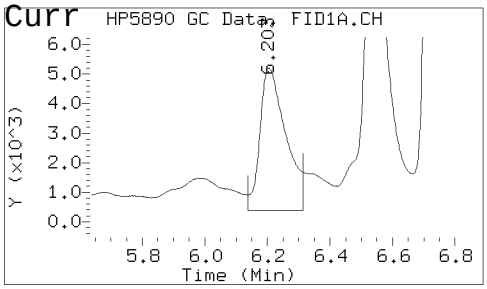


Curr. Area: 15811346
Orig. Area: 15738577

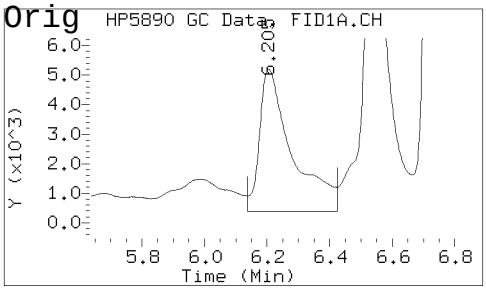
Curr. ON-COL: 908.447
Orig. ON-COL: 720.095

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 276917
Orig. Area: 347741

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 11:13
Lab Sample ID: 3035298 Client ID: 3066033001MS
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA021.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA021.D
Injection Date: 28-OCT-2019 19:08 Operator: CHS

There were no Unassigned peaks in this sample!

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910160916 7...MSD

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3035299

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA022.D

Level (low/med): Date Received: 10/25/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	959	

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA022.D
Lab Smp Id: 3035299 Client Smp ID: 3066033001MSD
Inj Date : 28-OCT-2019 19:35
Operator : CHS Inst ID: gc08.i
Smp Info : 3035299
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 21 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$ 5 a,a,a-Trifluorotoluene	3.929	3.921	(0.633)	711423	31.1174	31.1174
S 1 GASOLINE RANGE ORGANICS	1.717-8.754			16146689	958.567	958.567(M)
* 6 1-Chloro-4-fluorobenzene	6.205	6.175	(1.000)	268004	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA022.D
Lab Smp Id: 3035299
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: 3066033001MSD
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	268004	10.78

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.21	0.10

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: In-house QC Account Client SDG: 8191028.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3035299 Client Smp ID: 3066033001MSD
Level: MED Operator: CHS
Data Type: GC DATA SampleType: MSD
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
S 1 GASOLINE RANGE ORG	1000.00	958.567	95.86	77-125

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	31.1174	103.72	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: In-house QC Account
Lab Smp Id: 3035299
Sample Location:
Sample Date: 16-OCT-2019
Sample Matrix: WATER
Analysis Type: VOA
Data Type: GC DATA
Misc Info: ZZ VOGC 10297 8015GROW

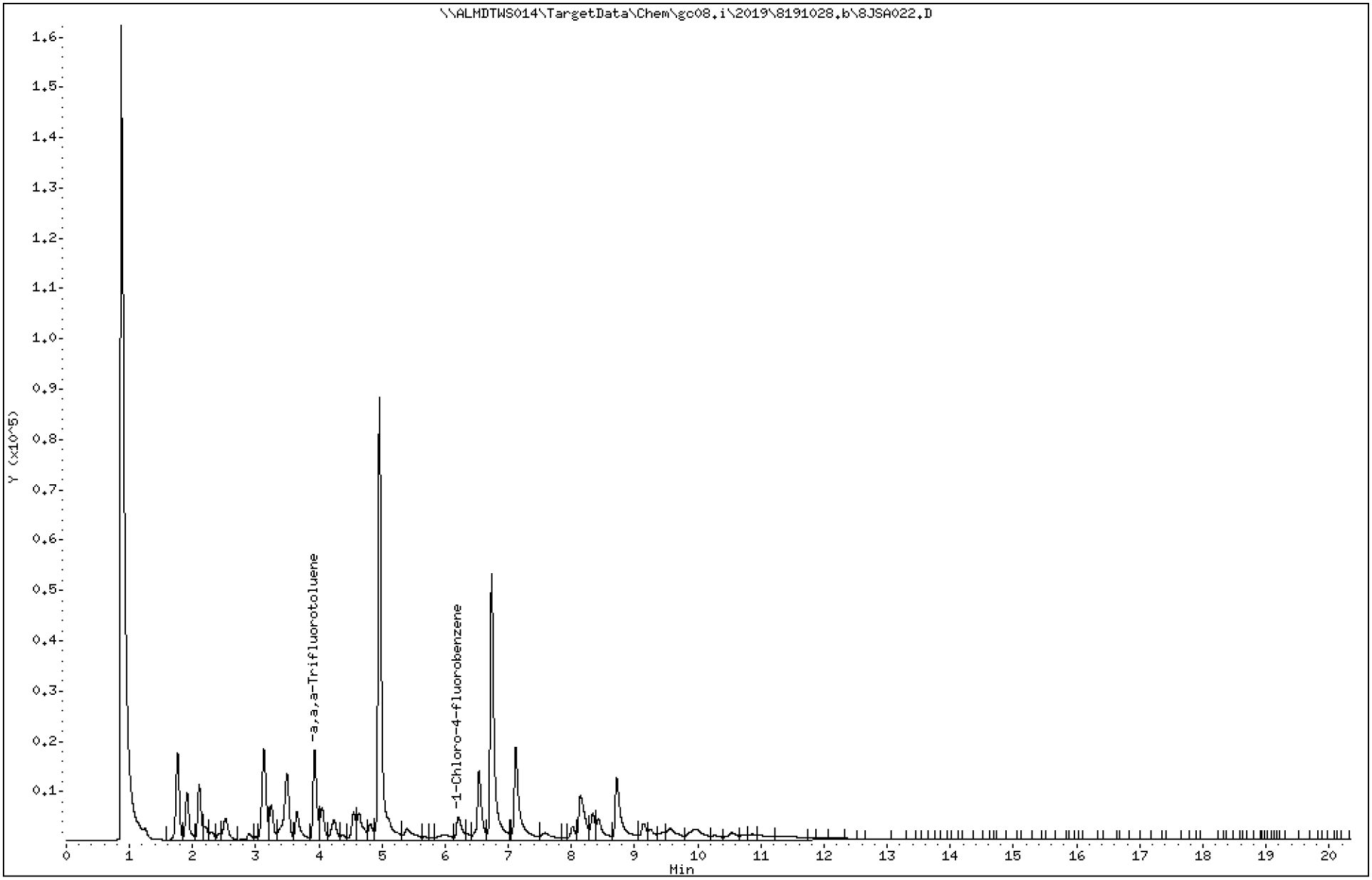
Client SDG: 8191028.b
Client Smp ID: 3066033001MSD
Sample Point:
Date Received: 25-OCT-2019
Quant Type: ISTD
Level: MED
Operator: CHS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	958.567	
98-08-8	a,a,a-Trifluorotoluene	31.1174	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA022.D
Date : 28-OCT-2019 19:35
Client ID: 3066033001MSD
Sample Info: 3035299

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX

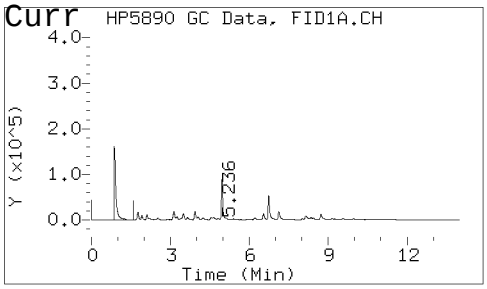


MANUAL INTEGRATION REPORT

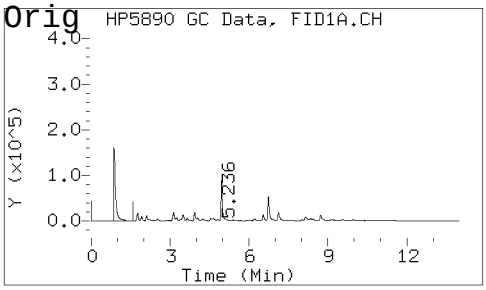
Report Date: 10/29/2019 05:01
Lab Sample ID: 3035299 Client ID: 3066033001MSD
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA022.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA022.D
Injection Date: 28-OCT-2019 19:35 Operator: CHS

GASOLINE RANGE ORGANICS

Curr



Orig

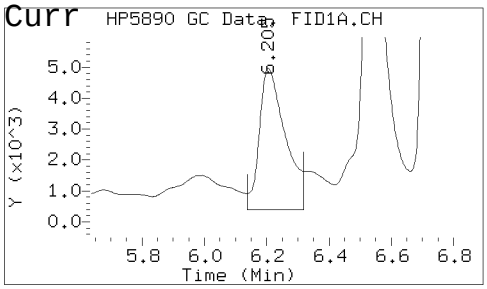


Curr. Area: 16146689
Orig. Area: 16081668

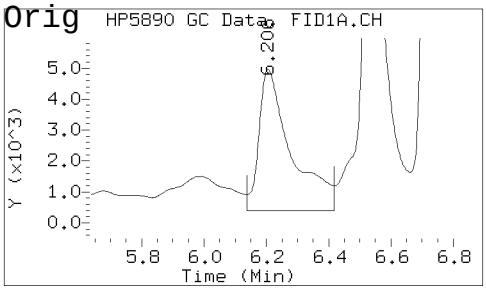
Curr. ON-COL: 958.567
Orig. ON-COL: 772.237

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 268004
Orig. Area: 331330

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 05:01
Lab Sample ID: 3035299 Client ID: 3066033001MSD
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA022.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA022.D
Injection Date: 28-OCT-2019 19:35 Operator: CHS

There were no Unassigned peaks in this sample!

LCS Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

3035297(LCS)

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-381

Matrix (soil/water): WATER Lab Sample ID: 3035297

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JSA002.D

Level (low/med): Date Received: 10/28/19

% Moisture: not dec. 100.0 Date Analyzed: 10/28/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	838	

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA002.D
Lab Smp Id: 3035297 Client Smp ID: LCS for HBN 552405
Inj Date : 28-OCT-2019 10:30
Operator : CHS Inst ID: gc08.i
Smp Info : 3035297
Misc Info : ZZ VOGC 10297 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909.
Meth Date : 28-Oct-2019 10:33 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.918	3.921	(0.633)	875895	32.7306	32.7306
S	1 GASOLINE RANGE ORGANICS	1.717-8.754			16516106	837.669	837.669
*	6 1-Chloro-4-fluorobenzene	6.191	6.175	(1.000)	313701	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JSA002.D
Lab Smp Id: 3035297
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 28-OCT-2019
Calibration Time: 10:02
Client Smp ID: LCS for HBN 552
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	241927	120964	362891	313701	29.67

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.20	5.70	6.70	6.19	-0.11

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: In-house QC Account Client SDG: 8191028.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3035297 Client Smp ID: LCS for HBN 552405
Level: MED Operator: CHS
Data Type: GC DATA SampleType: LCS
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8_GRO_102909
Misc Info: ZZ VOGC 10297 8015GROW

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
S 1 GASOLINE RANGE ORG	1000.00	837.669	83.77	77-125

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	32.7306	109.10	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: In-house QC Account
Lab Smp Id: 3035297
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: GC DATA
Misc Info: ZZ VOGC 10297 8015GROW

Client SDG: 8191028.b
Client Smp ID: LCS for HBN 552405
Sample Point:
Date Received: 28-OCT-2019
Quant Type: ISTD
Level: MED
Operator: CHS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	837.669	
98-08-8	a,a,a-Trifluorotoluene	32.7306	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191028.b\8JSA002.D

Date : 28-OCT-2019 10:30

Client ID: LCS for HBN 552405

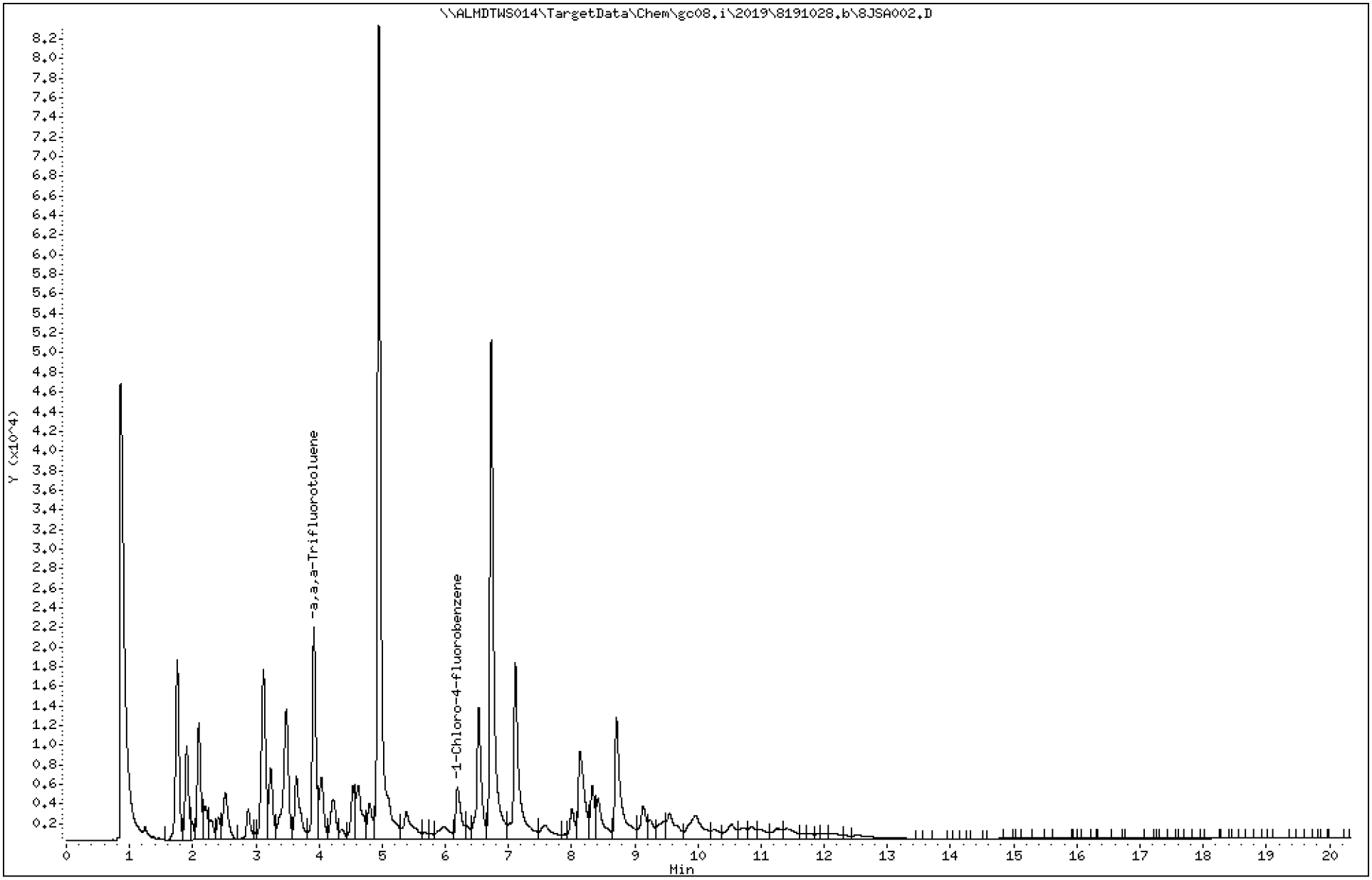
Instrument: gc08.i

Sample Info: 3035297

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 10/29/2019 04:52
Lab Sample ID: 3035297 Client ID: LCS for HBN 552405
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA002.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA002.D
Injection Date: 28-OCT-2019 10:30 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 10/29/2019 04:52
Lab Sample ID: 3035297 Client ID: LCS for HBN 552405
DataFile:/Chem/gc08.i/2019/8191028.b/8JSA002.D
RawFile:/Chem/gc08.i/2019/8191028.b/RawData/8JSA002.D
Injection Date: 28-OCT-2019 10:30 Operator: CHS

There were no Unassigned peaks in this sample!

Analytical Logbook

Data File: \\GC01\TargetData\Chem\gc08.i\2018\8181206.b

GC ANALYSIS - VOLATILE ORGANICS

DATE(S):	12/6/2018	Analyst:	DD				
DATA FILE:	8L6Axxx.d	ICAL INJ :	12/6/18 15:20	INSTRUMENT: GC08	METHOD(S)	GROW	DGROS	GROS
BATCH:	8181206.b	12-HOUR ENDING:	12/7/18 3:20	ICAL DATE: 12/6/2018	LIMS BATCH:			

Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment	Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment
1	01	WP	1	8015GRO	-	-	-		33	34							
2	02	Level 1	1	8015GRO	-	-	-		34	35							
3	03	Level 2	1	8015GRO	-	-	-		35	36							
4	04	Level 3	1	8015GRO	-	-	-		36	37							
5	05	Level 4	1	8015GRO	-	-	-		37	38							
6	06	Level 5	1	8015GRO	-	-	-		38	39							
7	07	Level 6	1	8015GRO	-	-	-		39	40							
8	08	WP	1	8015GRO	-	-	-		40	41							
9	09	WP	1	8015GRO	-	-	-		41	42							
10	10	WP	1	8015GRO	-	-	-		42	43							
11	11	IODC	1	8015GRO	-	-	-	RR diluted wrong	42	44							
12	12	IODC	1	8015GRO	-	-	-	RR should have been 200 in 400	43	45							
13	13	IODC	1	8015GRO	-	-	-	RR not 400 in 200	46	46							
14	14	IODC	1	8015GRO	-	-	-	RR	47	47							
15	15	WP	1	8015GRO	-	-	-		48	48							
16	16	WP	1	8015GRO	-	-	-		49	49							
17	17	MDL1	1	8015GRO	-	-	-		50	50							
18	18	MDL1	1	8015GRO	-	-	-		51	51							
19	19	MDL1	1	8015GRO	-	-	-		52	52							
20	20	MDL1	1	8015GRO	-	-	-		53	53							
21	21								54	54							
22	22								55	55							
23	23								56	56							
24	24								57	57							
25	25								58	58							
26	26								59	59							
27	27								60	60							
28	28								61	61							
29	29								62	62							
30	30								63	63							
31	31								64	64							
32	32								65	65							
33	33								66	66							

IS:	GC3425	GRO Cal:	GC3426
SS:	GC3421	LCS:	GC3427
IS/SS	GC3424	int. S	GC3423

ABBREVIATIONS

CO:	Suspect Carryover	SS:	Surrogate Failure
LS:	Library Search	IS:	ISTD Failure
RR:	Rerun same dilution	DNR:	Do not Report
DFx:	Rerun @ less diln x	NU:	Not Used
DLx:	Rerun @ diln x	AF:	Antifoam was used

10ul :	HS801
25ul :	HS804
100ul :	HS771
0.5 mL :	HS772
5 mL :	HS779
10 mL :	HS780

GRO		GRO	
Prev		Prev	
Current		Current	
Total		Total	
Needs QC?		Needs QC?	

Data File: \\GC01\TargetData\Chem\gc08.i\2019\8191028.b

GC ANALYSIS - VOLATILE ORGANICS

DATE(S):	10/28/2019	Analyst:	CHS/DPC			METHOD(S)	GROW	GROS	DGROS	DGROW
DATA FILE:	8JSAxxx.d	ICAL INJ :	10/28/18 10:02	INSTRUMENT:	GC08	LIMS BATCH:	10297	10299		
BATCH:	8191028.b	12-HOUR ENDING:	10/28/18 22:02	ICAL DATE:	12/6/2018					

Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment	Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment
1	01	CCAL	1	8015GRO	-	-	-		33	34							
2	02	3035297	1	8015GRO	-	-	-		34	35							
3	03	3035330	100	8015GRO	-	-	-		35	36							
4	04	WP	1	8015GRO	-	-	-		36	37							
5	05	WP	1	8015GRO	-	-	-		37	38							
6	06	3035296	1	8015GRO	-	-	-		38	39							
7	07	3035329	1	8015GRO	-	-	-		39	40							
8	08	3066033001	1	8015GRO	<2	N	N	MS/MSD	40	41							
9	09	3066033002	1	8015GRO	<2	N	N		41	42							
10	10	3066033003	1	8015GRO	<2	N	N		42	43							
11	11	3066033004	1	8015GRO	<2	N	N		42	44							
12	12	3065368001	1	8015GRO	<2	N	N	(RR) NB SS	43	45							
13	13	3065368005	1	8015GRO	<2	N	N	(RR) NB	46	46							
14	14	3065368006	5	8015GRO	>2	N	N	(RR) NB SS	47	47							
15	15	3066033005	1	8015GRO	<2	N	N		48	48							
16	16	3066033006	1	8015GRO	<2	N	N		49	49							
17	17	3065944001	1	8015GRO	<2	N	N		50	50							
18	18	3065835001	100	8015GRO	-	5.37	-	8260	51	51							
19	19	3065835002	100	8015GRO	-	3.51	-	8260	52	52							
20	20	3066031001	100	8015GRO	-	4.49	-	8260 JAR	54	53							
23	21	3035298	1	8015GRO	<2	N	N	"B"	55	54							
23	22	3035299	1	8015GRO	<2	N	N	"B"	56	55							
24	24								57	56							
25	25								58	57							
26	26								59	58							
27	27								60	59							
28	28								61	60							
29	29								62	61							
30	30								63	62							
31	31								64	63							
32	32								65	64							

IS:	GC3431	GRO Cal:	GC3429
SS:	GC3436	LCS:	GC3433
IS/SS	GC3435	int. S	

ABBREVIATIONS

CO:	Suspect Carryover	SS:	Surrogate Failure
LS:	Library Search	IS:	ISTD Failure
RR:	Rerun same dilution	DNR:	Do not Report
DFx:	Rerun @ less diln x	NU:	Not Used
DLx:	Rerun @ diln x	AF:	Antifoam was used

10ul :	HS801
25ul :	HS804
100ul :	HS771
0.5 mL :	HS772
5 mL :	HS779
10 mL :	HS780

	GRO		GRO
Prev		Prev	
Current		Current	
Total		Total	
Needs QC?		Needs QC?	

December 13, 2019 Service Request No:R1910505

Ms. Carlyn Tufts
NASA/WSTF/Navarro
NASA JSC WHITE SANDS TEST
FACILITY
12600 NASA ROAD; BLDG. 120
Las Cruces, NM 88004

Laboratory Results for: White Sands Test Facility

Dear Ms.Tufts,

Enclosed are the results of the sample(s) submitted to our laboratory October 25, 2019
For your reference, these analyses have been assigned our service request number **R1910505.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
For
Janice Jaeger
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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ALS Group USA, Corp.
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Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility
Sample Matrix: Water

Service Request: R1910505
Date Received: 10/25/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Eighteen water samples were received for analysis at ALS Environmental on 10/25/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

No significant anomalies were noted with this analysis.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Volatiles by GC/MS:

Method 8260C, 10/30/2019: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8260C, 10/30/2019: The control limit was exceeded for one or more analytes in the Laboratory Control Sample (LCS). The discrepancy indicates a potential bias for results reported from this analytical batch. Reanalysis was not performed because the high recovery is due to contamination in the vial preservative. The analytes affected are flagged in the LCS Summary Report.

Method 8260C, 10/30/2019: The Method Blank contained a low level of the following analytes above the Reporting Limit: Acetone, 2-propanol. All associated sample results less than ten times the level found in the Method Blank are flagged. The samples were not reprepared/reanalyzed because the contamination is in the vial preservative.

Approved by _____ Date 12/13/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: 1910220915 700-SVS-067			Lab ID: R1910505-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	15	BJ	3.4	50	ug/L	8260C
Acetone	2.3	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910220930 700-SVS-068			Lab ID: R1910505-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	13	BJ	3.4	50	ug/L	8260C
Acetone	3.5	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910221330 700-SVS-075			Lab ID: R1910505-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	11	BJ	3.4	50	ug/L	8260C

CLIENT ID: 1910221400 700-SVS-076			Lab ID: R1910505-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	35	BJ	3.4	50	ug/L	8260C
Acetone	5.6	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910220945 700-SVS-083			Lab ID: R1910505-014			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	52	B	3.4	50	ug/L	8260C
Acetone	6.0	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910221000 700-SVS-084			Lab ID: R1910505-016			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	120	B	3.4	50	ug/L	8260C
Acetone	10	B	2.1	10	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro **Service Request:**R1910505
Project: White Sands Test Facility/18EC006B

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1910505-001	1910220915 700-SVS-067	10/22/2019	
R1910505-003	1910220917 700-SVS-067	10/22/2019	
R1910505-004	1910220930 700-SVS-068	10/22/2019	
R1910505-006	1910220932 700-SVS-068	10/22/2019	
R1910505-007	1910221330 700-SVS-075	10/22/2019	
R1910505-009	1910221332 700-SVS-075	10/22/2019	
R1910505-010	1910221400 700-SVS-076	10/22/2019	
R1910505-012	1910221402 700-SVS-076	10/22/2019	
R1910505-013	1910220947 700-SVS-083	10/22/2019	
R1910505-014	1910220945 700-SVS-083	10/22/2019	
R1910505-016	1910221000 700-SVS-084	10/22/2019	
R1910505-018	1910221002 700-SVS-084	10/22/2019	

WSTF CHAIN OF CUSTODY RECORD

Date 10-24-19

Laboratory: ALS PO# 18EC006B

Address shipping questions to:
- [x] Lori Minnick, 575-524-5119
- [ ] Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- [x] Carlyn Tufts, carlyn.a.tufts@nasa.gov
- [x] Betty Nietubyc, elizabeth.m.nietubyc@nasa.gov
- [ ] Other

Analytical Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	Method 8260 Analytes VOA	8015 GRO	8015 DRO				Charge Number (WSTF Use Only)	Comments
1910220915	700-SVS-067	3	A	X						CAS1	
1910220916	"	3	A		X					"	
1910220917	"	1	A			X				"	
1910220930	700-SVS-068	3	A	X						"	
1910220931	"	3	A		X					"	
1910220932	"	1	A			X				"	
1910221330	700-SVS-075	3	A	X						"	
1910221331	"	3	A		X					"	
1910221332	"	1	A			X				"	
1910221400	700-SVS-076	3	A	X						"	
1910221401	"	3	A		X					"	
1910221402	"	1	A			X				"	

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	10-24-19 1100 HRS.	[signature]	10/25/19 0750

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

R1910505 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF CHAIN OF CUSTODY RECORD

Date 10-24-19

Laboratory: ALS PO# 19EC006B

Address shipping questions to:
- [x] Lori Minnick, 575-524-5119
- [ ] Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- [x] Carlyn Tufts, carlyn.a.tufts@nasa.gov
- [x] Betty Nietubyc, elizabeth.m.nietubyc@nasa.gov
- [ ] Other

Analytical Requirements

Sample Number	Sample Location	# of Containers	Sample Matrix*	Method / Analyte 8260 VOA	8015D GRO	8015D DRO				Charge Number (WSTF Use Only)	Comments
1910230947	700-SVS-083	1	A			X				8CA51	
1910230945	"	3	A	X						"	
1910230946	"	3	A		X					"	
1910231000	700-SVS-084	3	A	X						"	
1910231001	"	3	A		X					"	
1910231002	"	1	A			X				"	

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Lori Minnick	10-24-19 / 1100 HRS	Gerry Fahey	10/25/19 0750

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

Cooler Receipt and Preservation Check Form

R1910505 5
NASA/WSTF/Navarro
White Sands Test Facility

Project/Client NASA Folder Number

Cooler received on 10/25/19 by: GB

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	**Were Custody seals** on outside of cooler?	(Y)	N
2	**Custody papers** properly completed (ink, signed)?	(Y)	N
3	Did all bottles ~~arrive~~ in good **condition** (unbroken)?	(Y)	N
4	Circle: **Wet Ice Dry Ice Gel packs** present?	(Y)	N

5a	**Perchlorate** samples have required headspace?	Y	N	(NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y	(N)	NA
6	Where did the bottles originate? ALS/ROC	(CLIENT)		
7	Soil VOA received as: Bulk Encore 5035set			(NA)

8. Temperature Readings Date: 10/25 Time: 0755 ID: IR#7 (IR#10) From: Temp Blank (Sample Bottle)

Observed Temp (°C)	3.4						
Correction Factor (°C)	+0.3						
Corrected Temp (°C)	3.7						
Temp from:Type of bottle	1L Amber						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y (N)	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R002 by GB on 10/25 at 0800
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 10-25-19 Time: 13:10 by: ME

9.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
10.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
11.	Were correct containers used for the tests indicated?	(YES)	NO
12.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO (N/A)
13.	Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized		Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**	411810					

Bottle lot numbers: 9-093-001, 070819-1DK

Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: ME

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1910505-001.01					
	8260C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
		10/29/2019	1529	In Lab / KRUEST	
R1910505-001.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-001.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-002.01					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-002.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-002.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-003.01					
	8015C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-002 / GLAFORCE	
		10/28/2019	0750	In Lab / VSTAUFFER	
R1910505-004.01					
	8260C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
		10/29/2019	1529	In Lab / KRUEST	
R1910505-004.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-004.03					

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-005.01					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-005.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-005.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-006.01					
	8015C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-002 / GLAFORCE	
		10/28/2019	0750	In Lab / VSTAUFFER	
R1910505-007.01					
	8260C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
		10/29/2019	1529	In Lab / KRUEST	
R1910505-007.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-007.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-008.01					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-008.02					
		10/25/2019	1317	SMO / GLAFORCE	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-008.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-009.01					
	8015C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-002 / GLAFORCE	
		10/28/2019	0750	In Lab / VSTAUFFER	
R1910505-010.01					
	8260C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
		10/29/2019	1529	In Lab / KRUEST	
R1910505-010.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-010.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-011.01					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-011.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-011.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-012.01					
	8015C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-002 / GLAFORCE	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8015C				
		10/28/2019	0750	In Lab / VSTAUFFER	
R1910505-013.01					
	8015C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-002 / GLAFORCE	
		10/28/2019	0750	In Lab / VSTAUFFER	
R1910505-014.01					
	8260C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
		10/29/2019	1529	In Lab / KRUEST	
R1910505-014.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-014.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-015.01					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-015.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-015.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-016.01					
	8260C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
		10/29/2019	1529	In Lab / KRUEST	
R1910505-016.02					
		10/25/2019	1317	SMO / GLAFORCE	

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Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-016.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-001 / GLAFORCE	
R1910505-017.01					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-017.02					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-017.03					
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	SUBBED / GLAFORCE	
R1910505-018.01					
	8015C				
		10/25/2019	1317	SMO / GLAFORCE	
		10/25/2019	1319	R-002 / GLAFORCE	
		10/28/2019	0750	In Lab / VSTAUFFER	

Miscellaneous Forms

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REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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Analyst Summary report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B		

Sample Name:	1910220915 700-SVS-067	**Date Collected:**	10/22/19
Lab Code:	R1910505-001	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910220917 700-SVS-067	**Date Collected:**	10/22/19
Lab Code:	R1910505-003	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910220930 700-SVS-068	**Date Collected:**	10/22/19
Lab Code:	R1910505-004	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910220932 700-SVS-068	**Date Collected:**	10/22/19
Lab Code:	R1910505-006	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910221330 700-SVS-075	**Date Collected:**	10/22/19
Lab Code:	R1910505-007	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

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Analyst Summary report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B		

Sample Name:	1910221332 700-SVS-075	**Date Collected:**	10/22/19
Lab Code:	R1910505-009	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910221400 700-SVS-076	**Date Collected:**	10/22/19
Lab Code:	R1910505-010	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910221402 700-SVS-076	**Date Collected:**	10/22/19
Lab Code:	R1910505-012	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910220947 700-SVS-083	**Date Collected:**	10/22/19
Lab Code:	R1910505-013	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910220945 700-SVS-083	**Date Collected:**	10/22/19
Lab Code:	R1910505-014	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

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Analyst Summary report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B		

Sample Name:	1910221000 700-SVS-084	**Date Collected:**	10/22/19
Lab Code:	R1910505-016	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910221002 700-SVS-084	**Date Collected:**	10/22/19
Lab Code:	R1910505-018	**Date Received:**	10/25/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

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Volatile Organic Compounds by GC/MS

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220915 700-SVS-067	**Units:**	ug/L
Lab Code:	R1910505-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 02:28	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 02:28	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 02:28	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 02:28	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,4-Dioxane	ND	U	100	13	1	10/30/19 02:28	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 02:28	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 02:28	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 02:28	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 02:28	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 02:28	
2-Propanol	**15**	**BJ**	50	3.4	1	10/30/19 02:28	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 02:28	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 02:28	
Acetone	**2.3**	**BJ**	10	2.1	1	10/30/19 02:28	
Acetonitrile	ND	U	25	5.2	1	10/30/19 02:28	
Acrolein	ND	U	10	0.90	1	10/30/19 02:28	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 02:28	
Benzene	ND	U	1.0	0.20	1	10/30/19 02:28	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 02:28	
Bromoform	ND	U	1.0	0.25	1	10/30/19 02:28	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 02:28	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 02:28	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 02:28	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 02:28	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 02:28	
Chloroform	ND	U	1.0	0.24	1	10/30/19 02:28	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 02:28	
Cyclohexane	ND	U	10	0.26	1	10/30/19 02:28	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 02:28	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 02:28	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 02:28	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 02:28	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 02:28	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 02:28	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 02:28	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220915 700-SVS-067	**Units:**	ug/L
Lab Code:	R1910505-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 02:28	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 02:28	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 02:28	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 02:28	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 02:28	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 02:28	
Styrene	ND	U	1.0	0.20	1	10/30/19 02:28	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 02:28	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 02:28	
Toluene	ND	U	1.0	0.20	1	10/30/19 02:28	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 02:28	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 02:28	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 02:28	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 02:28	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 02:28	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 02:28	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 02:28	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 02:28	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 02:28	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 02:28	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 02:28	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 02:28	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	10/30/19 02:28	
Dibromofluoromethane	96	89 - 119	10/30/19 02:28	
Toluene-d8	100	87 - 121	10/30/19 02:28	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220930 700-SVS-068	**Units:**	ug/L
Lab Code:	R1910505-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 02:50	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 02:50	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 02:50	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 02:50	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,4-Dioxane	ND	U	100	13	1	10/30/19 02:50	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 02:50	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 02:50	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 02:50	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 02:50	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 02:50	
2-Propanol	**13**	**BJ**	50	3.4	1	10/30/19 02:50	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 02:50	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 02:50	
Acetone	**3.5**	**BJ**	10	2.1	1	10/30/19 02:50	
Acetonitrile	ND	U	25	5.2	1	10/30/19 02:50	
Acrolein	ND	U	10	0.90	1	10/30/19 02:50	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 02:50	
Benzene	ND	U	1.0	0.20	1	10/30/19 02:50	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 02:50	
Bromoform	ND	U	1.0	0.25	1	10/30/19 02:50	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 02:50	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 02:50	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 02:50	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 02:50	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 02:50	
Chloroform	ND	U	1.0	0.24	1	10/30/19 02:50	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 02:50	
Cyclohexane	ND	U	10	0.26	1	10/30/19 02:50	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 02:50	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 02:50	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 02:50	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 02:50	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 02:50	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 02:50	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 02:50	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220930 700-SVS-068	**Units:**	ug/L
Lab Code:	R1910505-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 02:50	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 02:50	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 02:50	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 02:50	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 02:50	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 02:50	
Styrene	ND	U	1.0	0.20	1	10/30/19 02:50	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 02:50	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 02:50	
Toluene	ND	U	1.0	0.20	1	10/30/19 02:50	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 02:50	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 02:50	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 02:50	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 02:50	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 02:50	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 02:50	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 02:50	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 02:50	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 02:50	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 02:50	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 02:50	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 02:50	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/30/19 02:50	
Dibromofluoromethane	95	89 - 119	10/30/19 02:50	
Toluene-d8	98	87 - 121	10/30/19 02:50	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221330 700-SVS-075	**Units:**	ug/L
Lab Code:	R1910505-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 03:11	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 03:11	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 03:11	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 03:11	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,4-Dioxane	ND	U	100	13	1	10/30/19 03:11	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 03:11	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 03:11	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 03:11	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 03:11	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 03:11	
2-Propanol	**11**	**BJ**	50	3.4	1	10/30/19 03:11	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 03:11	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 03:11	
Acetone	ND	U	10	2.1	1	10/30/19 03:11	
Acetonitrile	ND	U	25	5.2	1	10/30/19 03:11	
Acrolein	ND	U	10	0.90	1	10/30/19 03:11	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 03:11	
Benzene	ND	U	1.0	0.20	1	10/30/19 03:11	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 03:11	
Bromoform	ND	U	1.0	0.25	1	10/30/19 03:11	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 03:11	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 03:11	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 03:11	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 03:11	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 03:11	
Chloroform	ND	U	1.0	0.24	1	10/30/19 03:11	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 03:11	
Cyclohexane	ND	U	10	0.26	1	10/30/19 03:11	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 03:11	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 03:11	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 03:11	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 03:11	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 03:11	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 03:11	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 03:11	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221330 700-SVS-075	**Units:**	ug/L
Lab Code:	R1910505-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 03:11	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 03:11	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 03:11	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 03:11	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 03:11	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 03:11	
Styrene	ND	U	1.0	0.20	1	10/30/19 03:11	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 03:11	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 03:11	
Toluene	ND	U	1.0	0.20	1	10/30/19 03:11	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 03:11	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 03:11	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 03:11	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 03:11	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 03:11	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 03:11	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 03:11	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 03:11	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 03:11	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 03:11	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 03:11	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 03:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	10/30/19 03:11	
Dibromofluoromethane	97	89 - 119	10/30/19 03:11	
Toluene-d8	99	87 - 121	10/30/19 03:11	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

ALS Group USA, Corp.
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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221400 700-SVS-076	**Units:**	ug/L
Lab Code:	R1910505-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 03:33	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 03:33	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 03:33	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 03:33	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,4-Dioxane	ND	U	100	13	1	10/30/19 03:33	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 03:33	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 03:33	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 03:33	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 03:33	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 03:33	
2-Propanol	**35**	**BJ**	50	3.4	1	10/30/19 03:33	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 03:33	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 03:33	
Acetone	**5.6**	**BJ**	10	2.1	1	10/30/19 03:33	
Acetonitrile	ND	U	25	5.2	1	10/30/19 03:33	
Acrolein	ND	U	10	0.90	1	10/30/19 03:33	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 03:33	
Benzene	ND	U	1.0	0.20	1	10/30/19 03:33	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 03:33	
Bromoform	ND	U	1.0	0.25	1	10/30/19 03:33	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 03:33	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 03:33	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 03:33	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 03:33	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 03:33	
Chloroform	ND	U	1.0	0.24	1	10/30/19 03:33	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 03:33	
Cyclohexane	ND	U	10	0.26	1	10/30/19 03:33	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 03:33	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 03:33	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 03:33	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 03:33	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 03:33	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 03:33	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 03:33	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221400 700-SVS-076	**Units:**	ug/L
Lab Code:	R1910505-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 03:33	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 03:33	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 03:33	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 03:33	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 03:33	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 03:33	
Styrene	ND	U	1.0	0.20	1	10/30/19 03:33	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 03:33	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 03:33	
Toluene	ND	U	1.0	0.20	1	10/30/19 03:33	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 03:33	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 03:33	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 03:33	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 03:33	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 03:33	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 03:33	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 03:33	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 03:33	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 03:33	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 03:33	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 03:33	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 03:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/30/19 03:33	
Dibromofluoromethane	95	89 - 119	10/30/19 03:33	
Toluene-d8	101	87 - 121	10/30/19 03:33	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220945 700-SVS-083	**Units:**	ug/L
Lab Code:	R1910505-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 03:55	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 03:55	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 03:55	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 03:55	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,4-Dioxane	ND	U	100	13	1	10/30/19 03:55	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 03:55	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 03:55	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 03:55	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 03:55	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 03:55	
2-Propanol	**52**	**B**	50	3.4	1	10/30/19 03:55	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 03:55	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 03:55	
Acetone	**6.0**	**BJ**	10	2.1	1	10/30/19 03:55	
Acetonitrile	ND	U	25	5.2	1	10/30/19 03:55	
Acrolein	ND	U	10	0.90	1	10/30/19 03:55	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 03:55	
Benzene	ND	U	1.0	0.20	1	10/30/19 03:55	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 03:55	
Bromoform	ND	U	1.0	0.25	1	10/30/19 03:55	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 03:55	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 03:55	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 03:55	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 03:55	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 03:55	
Chloroform	ND	U	1.0	0.24	1	10/30/19 03:55	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 03:55	
Cyclohexane	ND	U	10	0.26	1	10/30/19 03:55	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 03:55	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 03:55	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 03:55	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 03:55	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 03:55	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 03:55	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 03:55	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220945 700-SVS-083	**Units:**	ug/L
Lab Code:	R1910505-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 03:55	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 03:55	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 03:55	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 03:55	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 03:55	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 03:55	
Styrene	ND	U	1.0	0.20	1	10/30/19 03:55	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 03:55	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 03:55	
Toluene	ND	U	1.0	0.20	1	10/30/19 03:55	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 03:55	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 03:55	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 03:55	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 03:55	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 03:55	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 03:55	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 03:55	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 03:55	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 03:55	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 03:55	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 03:55	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 03:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	10/30/19 03:55	
Dibromofluoromethane	96	89 - 119	10/30/19 03:55	
Toluene-d8	99	87 - 121	10/30/19 03:55	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221000 700-SVS-084	**Units:**	ug/L
Lab Code:	R1910505-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 04:16	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 04:16	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 04:16	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 04:16	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,4-Dioxane	ND	U	100	13	1	10/30/19 04:16	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 04:16	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 04:16	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 04:16	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 04:16	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 04:16	
2-Propanol	**120**	**B**	50	3.4	1	10/30/19 04:16	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 04:16	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 04:16	
Acetone	**10**	**B**	10	2.1	1	10/30/19 04:16	
Acetonitrile	ND	U	25	5.2	1	10/30/19 04:16	
Acrolein	ND	U	10	0.90	1	10/30/19 04:16	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 04:16	
Benzene	ND	U	1.0	0.20	1	10/30/19 04:16	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 04:16	
Bromoform	ND	U	1.0	0.25	1	10/30/19 04:16	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 04:16	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 04:16	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 04:16	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 04:16	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 04:16	
Chloroform	ND	U	1.0	0.24	1	10/30/19 04:16	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 04:16	
Cyclohexane	ND	U	10	0.26	1	10/30/19 04:16	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 04:16	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 04:16	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 04:16	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 04:16	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 04:16	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 04:16	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 04:16	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221000 700-SVS-084	**Units:**	ug/L
Lab Code:	R1910505-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 04:16	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 04:16	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 04:16	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 04:16	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 04:16	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 04:16	
Styrene	ND	U	1.0	0.20	1	10/30/19 04:16	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 04:16	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 04:16	
Toluene	ND	U	1.0	0.20	1	10/30/19 04:16	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 04:16	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 04:16	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 04:16	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 04:16	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 04:16	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 04:16	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 04:16	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 04:16	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 04:16	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 04:16	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 04:16	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 04:16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	10/30/19 04:16	
Dibromofluoromethane	97	89 - 119	10/30/19 04:16	
Toluene-d8	103	87 - 121	10/30/19 04:16	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Semivolatile Organic Compounds by GC

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220917 700-SVS-067	**Units:**	ug/L
Lab Code:	R1910505-003	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 13:12	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 13:12	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	91	30 - 132	10/30/19 13:12	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220932 700-SVS-068	**Units:**	ug/L
Lab Code:	R1910505-006	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 13:34	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 13:34	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	70	30 - 132	10/30/19 13:34	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221332 700-SVS-075	**Units:**	ug/L
Lab Code:	R1910505-009	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND	U	100	75	1	10/30/19 13:56	10/28/19	
C28 - C40 ORO	ND	U	100	75	1	10/30/19 13:56	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	74	30 - 132	10/30/19 13:56	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221402 700-SVS-076	**Units:**	ug/L
Lab Code:	R1910505-012	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 14:19	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 14:19	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	87	30 - 132	10/30/19 14:19	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220947 700-SVS-083	**Units:**	ug/L
Lab Code:	R1910505-013	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 14:41	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 14:41	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	88	30 - 132	10/30/19 14:41	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221002 700-SVS-084	**Units:**	ug/L
Lab Code:	R1910505-018	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 15:04	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 15:04	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	95	30 - 132	10/30/19 15:04	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Dibromofluoromethane 89-119	Toluene-d8 87-121
1910220915 700-SVS-067	R1910505-001	95	96	100
1910220930 700-SVS-068	R1910505-004	96	95	98
1910221330 700-SVS-075	R1910505-007	95	97	99
1910221400 700-SVS-076	R1910505-010	96	95	101
1910220945 700-SVS-083	R1910505-014	92	96	99
1910221000 700-SVS-084	R1910505-016	99	97	103
Method Blank	RQ1912564-06	98	98	102
Lab Control Sample	RQ1912564-03	98	96	99

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/29/19 23:12
Sample Matrix:	Water	**Date Extracted:**	

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	R-MS-12
Lab Code:	RQ1912564-06	**File ID:**	I:\ACQUDATA\msvoa12\Data\102919\P31400.D\
Analysis Method:	8260C	**Analysis Lot:**	657587
Prep Method:	EPA 5030C		

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1912564-03	I:\ACQUDATA\msvoa12\Data\102919\P31397.D\	10/29/19 21:46
1910220915 700-SVS-067	R1910505-001	I:\ACQUDATA\msvoa12\Data\102919\P31409.D\	10/30/19 02:28
1910220930 700-SVS-068	R1910505-004	I:\ACQUDATA\msvoa12\Data\102919\P31410.D\	10/30/19 02:50
1910221330 700-SVS-075	R1910505-007	I:\ACQUDATA\msvoa12\Data\102919\P31411.D\	10/30/19 03:11
1910221400 700-SVS-076	R1910505-010	I:\ACQUDATA\msvoa12\Data\102919\P31412.D\	10/30/19 03:33
1910220945 700-SVS-083	R1910505-014	I:\ACQUDATA\msvoa12\Data\102919\P31413.D\	10/30/19 03:55
1910221000 700-SVS-084	R1910505-016	I:\ACQUDATA\msvoa12\Data\102919\P31414.D\	10/30/19 04:16

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912564-06	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/29/19 23:12	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/29/19 23:12	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/29/19 23:12	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/29/19 23:12	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/29/19 23:12	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/29/19 23:12	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/29/19 23:12	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/29/19 23:12	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/29/19 23:12	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/29/19 23:12	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/29/19 23:12	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/29/19 23:12	
1,4-Dioxane	ND	U	100	13	1	10/29/19 23:12	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/29/19 23:12	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/29/19 23:12	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/29/19 23:12	
2-Hexanone	ND	U	5.0	0.20	1	10/29/19 23:12	
Isobutyl Alcohol	**27**	**J**	100	17	1	10/29/19 23:12	
2-Propanol	**640**		50	3.4	1	10/29/19 23:12	
Allyl Chloride	ND	U	2.0	0.36	1	10/29/19 23:12	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/29/19 23:12	
Acetone	**30**		10	2.1	1	10/29/19 23:12	
Acetonitrile	ND	U	25	5.2	1	10/29/19 23:12	
Acrolein	ND	U	10	0.90	1	10/29/19 23:12	
Acrylonitrile	ND	U	5.0	0.90	1	10/29/19 23:12	
Benzene	ND	U	1.0	0.20	1	10/29/19 23:12	
Bromodichloromethane	ND	U	1.0	0.22	1	10/29/19 23:12	
Bromoform	ND	U	1.0	0.25	1	10/29/19 23:12	
Bromomethane	ND	U	2.0	0.70	1	10/29/19 23:12	
Carbon Disulfide	ND	U	1.0	0.25	1	10/29/19 23:12	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/29/19 23:12	
Chlorobenzene	ND	U	1.0	0.20	1	10/29/19 23:12	
Chloroethane	ND	U	2.0	0.23	1	10/29/19 23:12	
Chloroform	ND	U	1.0	0.24	1	10/29/19 23:12	
Chloromethane	**0.81**	**J**	2.0	0.28	1	10/29/19 23:12	
Cyclohexane	ND	U	10	0.26	1	10/29/19 23:12	
Dibromochloromethane	ND	U	1.0	0.20	1	10/29/19 23:12	
Dibromomethane	ND	U	1.0	0.20	1	10/29/19 23:12	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/29/19 23:12	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/29/19 23:12	
Dichloromethane	ND	U	1.0	0.36	1	10/29/19 23:12	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/29/19 23:12	
Ethylbenzene	ND	U	1.0	0.20	1	10/29/19 23:12	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912564-06	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/29/19 23:12	
Methacrylonitrile	ND	U	5.0	0.52	1	10/29/19 23:12	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/29/19 23:12	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/29/19 23:12	
Methylcyclohexane	ND	U	10	0.20	1	10/29/19 23:12	
Propionitrile	ND	U	5.0	1.2	1	10/29/19 23:12	
Styrene	ND	U	1.0	0.20	1	10/29/19 23:12	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/29/19 23:12	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/29/19 23:12	
Toluene	ND	U	1.0	0.20	1	10/29/19 23:12	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/29/19 23:12	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/29/19 23:12	
Vinyl Acetate	ND	U	5.0	1.1	1	10/29/19 23:12	
Vinyl Chloride	ND	U	1.0	0.20	1	10/29/19 23:12	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/29/19 23:12	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/29/19 23:12	
m,p-Xylenes	ND	U	2.0	0.20	1	10/29/19 23:12	
o-Xylene	ND	U	1.0	0.20	1	10/29/19 23:12	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/29/19 23:12	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/29/19 23:12	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/29/19 23:12	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/29/19 23:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	10/29/19 23:12	
Dibromofluoromethane	98	89 - 119	10/29/19 23:12	
Toluene-d8	102	87 - 121	10/29/19 23:12	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	8.13	6.7	J

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/29/19 21:46
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	R-MS-12
Lab Code:	RQ1912564-03	**File ID:**	I:\ACQUDATA\msvoa12\Data\102919\P31397.D\
Analysis Method:	8260C	**Analysis Lot:**	657587
Prep Method:	EPA 5030C		

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1912564-06	I:\ACQUDATA\msvoa12\Data\102919\P31400.D\	10/29/19 23:12
1910220915 700-SVS-067	R1910505-001	I:\ACQUDATA\msvoa12\Data\102919\P31409.D\	10/30/19 02:28
1910220930 700-SVS-068	R1910505-004	I:\ACQUDATA\msvoa12\Data\102919\P31410.D\	10/30/19 02:50
1910221330 700-SVS-075	R1910505-007	I:\ACQUDATA\msvoa12\Data\102919\P31411.D\	10/30/19 03:11
1910221400 700-SVS-076	R1910505-010	I:\ACQUDATA\msvoa12\Data\102919\P31412.D\	10/30/19 03:33
1910220945 700-SVS-083	R1910505-014	I:\ACQUDATA\msvoa12\Data\102919\P31413.D\	10/30/19 03:55
1910221000 700-SVS-084	R1910505-016	I:\ACQUDATA\msvoa12\Data\102919\P31414.D\	10/30/19 04:16

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910505
Date Analyzed: 10/29/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1912564-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	19.5	20.0	98	76-129
1,1,1-Trichloroethane (TCA)	8260C	15.9	20.0	79	70-130
1,1,2,2-Tetrachloroethane	8260C	19.4	20.0	97	78-126
1,1,2-Trichloroethane	8260C	19.3	20.0	96	82-121
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	14.9	20.0	74	70-130
1,1-Dichloroethane (1,1-DCA)	8260C	16.8	20.0	84	80-124
1,1-Dichloroethene (1,1-DCE)	8260C	16.1	20.0	81	70-130
1,2,3-Trichloropropane	8260C	17.9	20.0	89	75-118
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.9	20.0	89	55-136
1,2-Dibromoethane	8260C	18.8	20.0	94	82-127
1,2-Dichloroethane	8260C	18.0	20.0	90	71-127
1,2-Dichloropropane	8260C	17.6	20.0	88	80-119
1,4-Dioxane	8260C	337	400	84	44-154
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	8260C	18.8	20.0	94	70-130
2-Butanone (MEK)	8260C	18.0	20.0	90	61-137
2-Chloro-1,3-butadiene	8260C	20.8	20.0	104	68-139
2-Hexanone	8260C	18.7	20.0	93	63-124
Isobutyl Alcohol	8260C	337	400	84	51-143
2-Propanol	8260C	632	400	158 *	52-136
Allyl Chloride	8260C	17.9	20.0	89	61-143
4-Methyl-2-pentanone	8260C	18.4	20.0	92	66-124
Acetone	8260C	38.6	20.0	193 *	40-161
Acetonitrile	8260C	92.7	100	93	46-154
Acrolein	8260C	35.3	40.0	88	13-165
Acrylonitrile	8260C	90.8	100	91	71-130
Benzene	8260C	17.4	20.0	87	79-119
Bromodichloromethane	8260C	18.8	20.0	94	81-123
Bromoform	8260C	20.2	20.0	101	65-146
Bromomethane	8260C	22.1	20.0	110	42-166
Carbon Disulfide	8260C	20.7	20.0	103	66-128
Carbon Tetrachloride	8260C	16.4	20.0	82	70-127
Chlorobenzene	8260C	18.0	20.0	90	81-120
Chloroethane	8260C	16.0	20.0	80	62-131

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910505
Date Analyzed: 10/29/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1912564-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloroform	8260C	17.0	20.0	85	70-130
Chloromethane	8260C	17.1	20.0	86	65-135
Cyclohexane	8260C	19.4	20.0	97	69-120
Dibromochloromethane	8260C	19.9	20.0	100	72-128
Dibromomethane	8260C	20.0	20.0	100	80-118
Dichlorodifluoromethane (CFC 12)	8260C	19.8	20.0	99	59-155
Dichlorofluoromethane (CFC 21)	8260C	18.3	20.0	92	70-130
Dichloromethane	8260C	16.0	20.0	80	73-122
Ethyl Methacrylate	8260C	18.2	20.0	91	68-132
Ethylbenzene	8260C	16.8	20.0	84	76-120
Iodomethane	8260C	15.7	20.0	78	18-160
Methacrylonitrile	8260C	16.4	20.0	82	68-123
Methyl Methacrylate	8260C	18.9	20.0	95	68-129
Methyl tert-Butyl Ether	8260C	17.7	20.0	89	75-118
Methylcyclohexane	8260C	19.1	20.0	96	51-129
Propionitrile	8260C	88.7	100	89	69-126
Styrene	8260C	18.2	20.0	91	80-124
Tetrachloroethene (PCE)	8260C	16.5	20.0	82	70-130
Tetrahydrofuran (THF)	8260C	16.0	20.0	80	65-128
Toluene	8260C	17.9	20.0	89	79-119
Trichloroethene (TCE)	8260C	16.2	20.0	81	70-130
Trichlorofluoromethane (CFC 11)	8260C	17.3	20.0	86	70-130
Vinyl Acetate	8260C	18.3	20.0	91	52-174
Vinyl Chloride	8260C	16.2	20.0	81	74-159
cis-1,2-Dichloroethene	8260C	17.5	20.0	87	80-121
cis-1,3-Dichloropropene	8260C	17.1	20.0	86	77-122
m,p-Xylenes	8260C	35.1	40.0	88	80-126
o-Xylene	8260C	17.2	20.0	86	79-123
trans-1,2-Dichloroethene	8260C	16.3	20.0	81	73-118
trans-1,3-Dichloropropene	8260C	17.2	20.0	86	71-133
trans-1,4-Dichloro-2-butene	8260C	15.3	20.0	76	39-137
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	8260C	17.4	20.0	87	70-130

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QC/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910505
Project: White Sands Test Facility/18EC006B **Date Analyzed:**10/29/19 21:02

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\102919\P31395.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-12 **Analysis Lot:** 657587

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	19.58	31749	Pass
75	95	30	60	49.30	79931	Pass
95	95	100	100	100.00	162147	Pass
96	95	5	9	6.75	10947	Pass
173	174	0	2	0.96	1205	Pass
174	95	50	120	77.69	125976	Pass
175	174	5	9	7.43	9366	Pass
176	174	95	101	97.84	123261	Pass
177	176	5	9	6.44	7942	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1912564-02	I:\ACQUDATA\msvoa12\Data\102919\P31396.D\	10/29/19 21:24	
Lab Control Sample	RQ1912564-03	I:\ACQUDATA\msvoa12\Data\102919\P31397.D\	10/29/19 21:46	
Method Blank	RQ1912564-06	I:\ACQUDATA\msvoa12\Data\102919\P31400.D\	10/29/19 23:12	
1910220915 700-SVS-067	R1910505-001	I:\ACQUDATA\msvoa12\Data\102919\P31409.D\	10/30/19 02:28	
1910220930 700-SVS-068	R1910505-004	I:\ACQUDATA\msvoa12\Data\102919\P31410.D\	10/30/19 02:50	
1910221330 700-SVS-075	R1910505-007	I:\ACQUDATA\msvoa12\Data\102919\P31411.D\	10/30/19 03:11	
1910221400 700-SVS-076	R1910505-010	I:\ACQUDATA\msvoa12\Data\102919\P31412.D\	10/30/19 03:33	
1910220945 700-SVS-083	R1910505-014	I:\ACQUDATA\msvoa12\Data\102919\P31413.D\	10/30/19 03:55	
1910221000 700-SVS-084	R1910505-016	I:\ACQUDATA\msvoa12\Data\102919\P31414.D\	10/30/19 04:16	

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910505
Project: White Sands Test Facility/18EC006B **Date Analyzed:**10/29/19 21:24

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\102919\P31396.D\ **Lab Code:**RQ1912564-02
Instrument ID: R-MS-12 **Analysis Lot:**657587
Analysis Method: 8260C **Signal ID:**1

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	246,068	11.84	510,965	6.52	452,228	9.80
	Upper Limit ==>	492,136	12.34	1,021,930	7.02	904,456	10.30
	Lower Limit ==>	123,034	11.34	255,483	6.02	226,114	9.30
Associated Analyses							
Lab Control Sample	RQ1912564-03	234450	11.84	501110	6.53	436873	9.80
Method Blank	RQ1912564-06	229753	11.84	500058	6.52	437903	9.80
1910220915 700-SVS-067	R1910505-001	236155	11.84	501012	6.52	446176	9.80
1910220930 700-SVS-068	R1910505-004	235103	11.84	511566	6.52	444835	9.80
1910221330 700-SVS-075	R1910505-007	229177	11.84	493640	6.52	440296	9.80
1910221400 700-SVS-076	R1910505-010	224077	11.84	485024	6.53	425570	9.80
1910220945 700-SVS-083	R1910505-014	217813	11.84	472876	6.53	417979	9.80
1910221000 700-SVS-084	R1910505-016	235000	11.84	493166	6.53	434980	9.80

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910505
Project: White Sands Test Facility/18EC006B **Date Analyzed:**10/29/19 21:24

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\102919\P31396.D\ **Lab Code:**RQ1912564-02
Instrument ID: R-MS-12 **Analysis Lot:**657587
Analysis Method: 8260C **Signal ID:**1

		Pentafluorobenzene	
		Area	**RT**
	Result ==>	321,932	5.44
	Upper Limit ==>	643,864	5.94
	Lower Limit ==>	160,966	4.94
Associated Analyses			
Lab Control Sample	RQ1912564-03	315495	5.45
Method Blank	RQ1912564-06	317332	5.44
1910220915 700-SVS-067	R1910505-001	317476	5.45
1910220930 700-SVS-068	R1910505-004	316308	5.44
1910221330 700-SVS-075	R1910505-007	316490	5.44
1910221400 700-SVS-076	R1910505-010	303071	5.45
1910220945 700-SVS-083	R1910505-014	298242	5.46
1910221000 700-SVS-084	R1910505-016	313609	5.45

Semivolatile Organic Compounds by GC

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Extraction Method: EPA 3510C

Sample Name	Lab Code	o-Terphenyl 30-132
1910220917 700-SVS-067	R1910505-003	91
1910220932 700-SVS-068	R1910505-006	70
1910221332 700-SVS-075	R1910505-009	74
1910221402 700-SVS-076	R1910505-012	87
1910220947 700-SVS-083	R1910505-013	88
1910221002 700-SVS-084	R1910505-018	95
Method Blank	RQ1912454-01	90
Lab Control Sample	RQ1912454-02	91
Duplicate Lab Control Sample	RQ1912454-03	70

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/30/19 12:04
Sample Matrix:	Water	**Date Extracted:**	10/28/19

Method Blank Summary
Diesel and Residual Range Organics by GC

Sample Name:	Method Blank	**Instrument ID:**	R-GC-59
Lab Code:	RQ1912454-01	**File ID:**	I:\ACQUDATA\6890I\DATA\103019\BL715.D\
Analysis Method:	8015C	**Analysis Lot:**	657766
Prep Method:	EPA 3510C	**Extraction Lot:**	347416

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1912454-02	I:\ACQUDATA\6890I\DATA\103019\BL716.D\	10/30/19 12:27
Duplicate Lab Control Sample	RQ1912454-03	I:\ACQUDATA\6890I\DATA\103019\BL717.D\	10/30/19 12:49
1910220917 700-SVS-067	R1910505-003	I:\ACQUDATA\6890I\DATA\103019\BL718.D\	10/30/19 13:12
1910220932 700-SVS-068	R1910505-006	I:\ACQUDATA\6890I\DATA\103019\BL719.D\	10/30/19 13:34
1910221332 700-SVS-075	R1910505-009	I:\ACQUDATA\6890I\DATA\103019\BL720.D\	10/30/19 13:56
1910221402 700-SVS-076	R1910505-012	I:\ACQUDATA\6890I\DATA\103019\BL721.D\	10/30/19 14:19
1910220947 700-SVS-083	R1910505-013	I:\ACQUDATA\6890I\DATA\103019\BL722.D\	10/30/19 14:41
1910221002 700-SVS-084	R1910505-018	I:\ACQUDATA\6890I\DATA\103019\BL723.D\	10/30/19 15:04

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912454-01	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	**81**	**J**	100	75	1	10/30/19 12:04	10/28/19	
C28 - C40 ORO	ND	U	100	75	1	10/30/19 12:04	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	90	30 - 132	10/30/19 12:04	

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/30/19 12:27
Sample Matrix:	Water	**Date Extracted:**	10/28/19

Lab Control Sample Summary
Diesel and Residual Range Organics by GC

Sample Name:	Lab Control Sample	**Instrument ID:**	R-GC-59
Lab Code:	RQ1912454-02	**File ID:**	I:\ACQUDATA\6890I\DATA\103019\BL716.D\
Analysis Method:	8015C	**Analysis Lot:**	657766
Prep Method:	EPA 3510C	**Extraction Lot:**	347416

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1912454-01	I:\ACQUDATA\6890I\DATA\103019\BL715.D\	10/30/19 12:04
Duplicate Lab Control Sample	RQ1912454-03	I:\ACQUDATA\6890I\DATA\103019\BL717.D\	10/30/19 12:49
1910220917 700-SVS-067	R1910505-003	I:\ACQUDATA\6890I\DATA\103019\BL718.D\	10/30/19 13:12
1910220932 700-SVS-068	R1910505-006	I:\ACQUDATA\6890I\DATA\103019\BL719.D\	10/30/19 13:34
1910221332 700-SVS-075	R1910505-009	I:\ACQUDATA\6890I\DATA\103019\BL720.D\	10/30/19 13:56
1910221402 700-SVS-076	R1910505-012	I:\ACQUDATA\6890I\DATA\103019\BL721.D\	10/30/19 14:19
1910220947 700-SVS-083	R1910505-013	I:\ACQUDATA\6890I\DATA\103019\BL722.D\	10/30/19 14:41
1910221002 700-SVS-084	R1910505-018	I:\ACQUDATA\6890I\DATA\103019\BL723.D\	10/30/19 15:04

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910505
Date Analyzed: 10/30/19

Duplicate Lab Control Sample Summary
Diesel and Residual Range Organics by GC

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1912454-02			RQ1912454-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Diesel Range Organics (DRO) as C10-C28 Alkanes	8015C	228	500	46	170	500	34	20-126	29	30

Raw Data

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Volatile Organic Compounds by GC/MS

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ALS Group USA, Corp.
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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220915 700-SVS-067	**Units:**	ug/L
Lab Code:	R1910505-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 02:28	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 02:28	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 02:28	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 02:28	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 02:28	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 02:28	
1,4-Dioxane	ND	U	100	13	1	10/30/19 02:28	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 02:28	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 02:28	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 02:28	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 02:28	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 02:28	
2-Propanol	**15**	**BJ**	50	3.4	1	10/30/19 02:28	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 02:28	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 02:28	
Acetone	**2.3**	**BJ**	10	2.1	1	10/30/19 02:28	
Acetonitrile	ND	U	25	5.2	1	10/30/19 02:28	
Acrolein	ND	U	10	0.90	1	10/30/19 02:28	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 02:28	
Benzene	ND	U	1.0	0.20	1	10/30/19 02:28	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 02:28	
Bromoform	ND	U	1.0	0.25	1	10/30/19 02:28	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 02:28	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 02:28	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 02:28	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 02:28	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 02:28	
Chloroform	ND	U	1.0	0.24	1	10/30/19 02:28	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 02:28	
Cyclohexane	ND	U	10	0.26	1	10/30/19 02:28	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 02:28	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 02:28	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 02:28	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 02:28	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 02:28	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 02:28	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 02:28	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220915 700-SVS-067	**Units:**	ug/L
Lab Code:	R1910505-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 02:28	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 02:28	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 02:28	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 02:28	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 02:28	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 02:28	
Styrene	ND	U	1.0	0.20	1	10/30/19 02:28	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 02:28	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 02:28	
Toluene	ND	U	1.0	0.20	1	10/30/19 02:28	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 02:28	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 02:28	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 02:28	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 02:28	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 02:28	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 02:28	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 02:28	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 02:28	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 02:28	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 02:28	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 02:28	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 02:28	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	10/30/19 02:28	
Dibromofluoromethane	96	89 - 119	10/30/19 02:28	
Toluene-d8	100	87 - 121	10/30/19 02:28	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220930 700-SVS-068	**Units:**	ug/L
Lab Code:	R1910505-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 02:50	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 02:50	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 02:50	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 02:50	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 02:50	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 02:50	
1,4-Dioxane	ND	U	100	13	1	10/30/19 02:50	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 02:50	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 02:50	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 02:50	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 02:50	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 02:50	
2-Propanol	**13**	**BJ**	50	3.4	1	10/30/19 02:50	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 02:50	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 02:50	
Acetone	**3.5**	**BJ**	10	2.1	1	10/30/19 02:50	
Acetonitrile	ND	U	25	5.2	1	10/30/19 02:50	
Acrolein	ND	U	10	0.90	1	10/30/19 02:50	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 02:50	
Benzene	ND	U	1.0	0.20	1	10/30/19 02:50	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 02:50	
Bromoform	ND	U	1.0	0.25	1	10/30/19 02:50	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 02:50	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 02:50	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 02:50	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 02:50	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 02:50	
Chloroform	ND	U	1.0	0.24	1	10/30/19 02:50	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 02:50	
Cyclohexane	ND	U	10	0.26	1	10/30/19 02:50	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 02:50	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 02:50	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 02:50	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 02:50	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 02:50	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 02:50	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 02:50	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220930 700-SVS-068	**Units:**	ug/L
Lab Code:	R1910505-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 02:50	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 02:50	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 02:50	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 02:50	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 02:50	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 02:50	
Styrene	ND	U	1.0	0.20	1	10/30/19 02:50	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 02:50	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 02:50	
Toluene	ND	U	1.0	0.20	1	10/30/19 02:50	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 02:50	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 02:50	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 02:50	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 02:50	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 02:50	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 02:50	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 02:50	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 02:50	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 02:50	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 02:50	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 02:50	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 02:50	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/30/19 02:50	
Dibromofluoromethane	95	89 - 119	10/30/19 02:50	
Toluene-d8	98	87 - 121	10/30/19 02:50	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

ALS Group USA, Corp.
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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221330 700-SVS-075	**Units:**	ug/L
Lab Code:	R1910505-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 03:11	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 03:11	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 03:11	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 03:11	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 03:11	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 03:11	
1,4-Dioxane	ND	U	100	13	1	10/30/19 03:11	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 03:11	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 03:11	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 03:11	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 03:11	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 03:11	
2-Propanol	**11**	**BJ**	50	3.4	1	10/30/19 03:11	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 03:11	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 03:11	
Acetone	ND	U	10	2.1	1	10/30/19 03:11	
Acetonitrile	ND	U	25	5.2	1	10/30/19 03:11	
Acrolein	ND	U	10	0.90	1	10/30/19 03:11	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 03:11	
Benzene	ND	U	1.0	0.20	1	10/30/19 03:11	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 03:11	
Bromoform	ND	U	1.0	0.25	1	10/30/19 03:11	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 03:11	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 03:11	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 03:11	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 03:11	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 03:11	
Chloroform	ND	U	1.0	0.24	1	10/30/19 03:11	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 03:11	
Cyclohexane	ND	U	10	0.26	1	10/30/19 03:11	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 03:11	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 03:11	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 03:11	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 03:11	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 03:11	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 03:11	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 03:11	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221330 700-SVS-075	**Units:**	ug/L
Lab Code:	R1910505-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 03:11	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 03:11	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 03:11	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 03:11	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 03:11	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 03:11	
Styrene	ND	U	1.0	0.20	1	10/30/19 03:11	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 03:11	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 03:11	
Toluene	ND	U	1.0	0.20	1	10/30/19 03:11	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 03:11	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 03:11	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 03:11	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 03:11	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 03:11	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 03:11	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 03:11	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 03:11	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 03:11	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 03:11	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 03:11	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 03:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	10/30/19 03:11	
Dibromofluoromethane	97	89 - 119	10/30/19 03:11	
Toluene-d8	99	87 - 121	10/30/19 03:11	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

ALS Group USA, Corp.
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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221400 700-SVS-076	**Units:**	ug/L
Lab Code:	R1910505-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 03:33	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 03:33	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 03:33	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 03:33	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 03:33	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 03:33	
1,4-Dioxane	ND	U	100	13	1	10/30/19 03:33	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 03:33	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 03:33	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 03:33	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 03:33	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 03:33	
2-Propanol	**35**	**BJ**	50	3.4	1	10/30/19 03:33	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 03:33	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 03:33	
Acetone	**5.6**	**BJ**	10	2.1	1	10/30/19 03:33	
Acetonitrile	ND	U	25	5.2	1	10/30/19 03:33	
Acrolein	ND	U	10	0.90	1	10/30/19 03:33	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 03:33	
Benzene	ND	U	1.0	0.20	1	10/30/19 03:33	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 03:33	
Bromoform	ND	U	1.0	0.25	1	10/30/19 03:33	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 03:33	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 03:33	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 03:33	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 03:33	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 03:33	
Chloroform	ND	U	1.0	0.24	1	10/30/19 03:33	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 03:33	
Cyclohexane	ND	U	10	0.26	1	10/30/19 03:33	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 03:33	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 03:33	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 03:33	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 03:33	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 03:33	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 03:33	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 03:33	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221400 700-SVS-076	**Units:**	ug/L
Lab Code:	R1910505-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 03:33	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 03:33	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 03:33	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 03:33	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 03:33	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 03:33	
Styrene	ND	U	1.0	0.20	1	10/30/19 03:33	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 03:33	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 03:33	
Toluene	ND	U	1.0	0.20	1	10/30/19 03:33	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 03:33	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 03:33	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 03:33	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 03:33	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 03:33	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 03:33	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 03:33	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 03:33	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 03:33	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 03:33	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 03:33	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 03:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/30/19 03:33	
Dibromofluoromethane	95	89 - 119	10/30/19 03:33	
Toluene-d8	101	87 - 121	10/30/19 03:33	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220945 700-SVS-083	**Units:**	ug/L
Lab Code:	R1910505-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 03:55	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 03:55	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 03:55	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 03:55	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 03:55	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 03:55	
1,4-Dioxane	ND	U	100	13	1	10/30/19 03:55	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 03:55	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 03:55	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 03:55	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 03:55	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 03:55	
2-Propanol	**52**	**B**	50	3.4	1	10/30/19 03:55	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 03:55	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 03:55	
Acetone	**6.0**	**BJ**	10	2.1	1	10/30/19 03:55	
Acetonitrile	ND	U	25	5.2	1	10/30/19 03:55	
Acrolein	ND	U	10	0.90	1	10/30/19 03:55	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 03:55	
Benzene	ND	U	1.0	0.20	1	10/30/19 03:55	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 03:55	
Bromoform	ND	U	1.0	0.25	1	10/30/19 03:55	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 03:55	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 03:55	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 03:55	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 03:55	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 03:55	
Chloroform	ND	U	1.0	0.24	1	10/30/19 03:55	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 03:55	
Cyclohexane	ND	U	10	0.26	1	10/30/19 03:55	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 03:55	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 03:55	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 03:55	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 03:55	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 03:55	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 03:55	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 03:55	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220945 700-SVS-083	**Units:**	ug/L
Lab Code:	R1910505-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 03:55	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 03:55	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 03:55	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 03:55	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 03:55	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 03:55	
Styrene	ND	U	1.0	0.20	1	10/30/19 03:55	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 03:55	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 03:55	
Toluene	ND	U	1.0	0.20	1	10/30/19 03:55	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 03:55	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 03:55	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 03:55	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 03:55	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 03:55	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 03:55	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 03:55	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 03:55	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 03:55	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 03:55	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 03:55	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 03:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	10/30/19 03:55	
Dibromofluoromethane	96	89 - 119	10/30/19 03:55	
Toluene-d8	99	87 - 121	10/30/19 03:55	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

ALS Group USA, Corp.
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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221000 700-SVS-084	**Units:**	ug/L
Lab Code:	R1910505-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/30/19 04:16	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/30/19 04:16	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/30/19 04:16	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/30/19 04:16	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/30/19 04:16	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/30/19 04:16	
1,4-Dioxane	ND	U	100	13	1	10/30/19 04:16	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/30/19 04:16	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/30/19 04:16	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/30/19 04:16	
2-Hexanone	ND	U	5.0	0.20	1	10/30/19 04:16	
Isobutyl Alcohol	ND	U	100	17	1	10/30/19 04:16	
2-Propanol	**120**	**B**	50	3.4	1	10/30/19 04:16	
Allyl Chloride	ND	U	2.0	0.36	1	10/30/19 04:16	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/30/19 04:16	
Acetone	**10**	**B**	10	2.1	1	10/30/19 04:16	
Acetonitrile	ND	U	25	5.2	1	10/30/19 04:16	
Acrolein	ND	U	10	0.90	1	10/30/19 04:16	
Acrylonitrile	ND	U	5.0	0.90	1	10/30/19 04:16	
Benzene	ND	U	1.0	0.20	1	10/30/19 04:16	
Bromodichloromethane	ND	U	1.0	0.22	1	10/30/19 04:16	
Bromoform	ND	U	1.0	0.25	1	10/30/19 04:16	
Bromomethane	ND	U	2.0	0.70	1	10/30/19 04:16	
Carbon Disulfide	ND	U	1.0	0.25	1	10/30/19 04:16	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/30/19 04:16	
Chlorobenzene	ND	U	1.0	0.20	1	10/30/19 04:16	
Chloroethane	ND	U	2.0	0.23	1	10/30/19 04:16	
Chloroform	ND	U	1.0	0.24	1	10/30/19 04:16	
Chloromethane	ND	U	2.0	0.28	1	10/30/19 04:16	
Cyclohexane	ND	U	10	0.26	1	10/30/19 04:16	
Dibromochloromethane	ND	U	1.0	0.20	1	10/30/19 04:16	
Dibromomethane	ND	U	1.0	0.20	1	10/30/19 04:16	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/30/19 04:16	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/30/19 04:16	
Dichloromethane	ND	U	1.0	0.36	1	10/30/19 04:16	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/30/19 04:16	
Ethylbenzene	ND	U	1.0	0.20	1	10/30/19 04:16	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221000 700-SVS-084	**Units:**	ug/L
Lab Code:	R1910505-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/30/19 04:16	
Methacrylonitrile	ND	U	5.0	0.52	1	10/30/19 04:16	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/30/19 04:16	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/30/19 04:16	
Methylcyclohexane	ND	U	10	0.20	1	10/30/19 04:16	
Propionitrile	ND	U	5.0	1.2	1	10/30/19 04:16	
Styrene	ND	U	1.0	0.20	1	10/30/19 04:16	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/30/19 04:16	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/30/19 04:16	
Toluene	ND	U	1.0	0.20	1	10/30/19 04:16	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/30/19 04:16	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/30/19 04:16	
Vinyl Acetate	ND	U	5.0	1.1	1	10/30/19 04:16	
Vinyl Chloride	ND	U	1.0	0.20	1	10/30/19 04:16	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/30/19 04:16	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/30/19 04:16	
m,p-Xylenes	ND	U	2.0	0.20	1	10/30/19 04:16	
o-Xylene	ND	U	1.0	0.20	1	10/30/19 04:16	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/30/19 04:16	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/30/19 04:16	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/30/19 04:16	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/30/19 04:16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	10/30/19 04:16	
Dibromofluoromethane	97	89 - 119	10/30/19 04:16	
Toluene-d8	103	87 - 121	10/30/19 04:16	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31409.D
Acq On : 30 Oct 2019 2:28 am
Operator : K.Ruest
Sample : R1910505-001|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 41 Sample Multiplier: 1

Quant Time: Oct 30 16:59:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

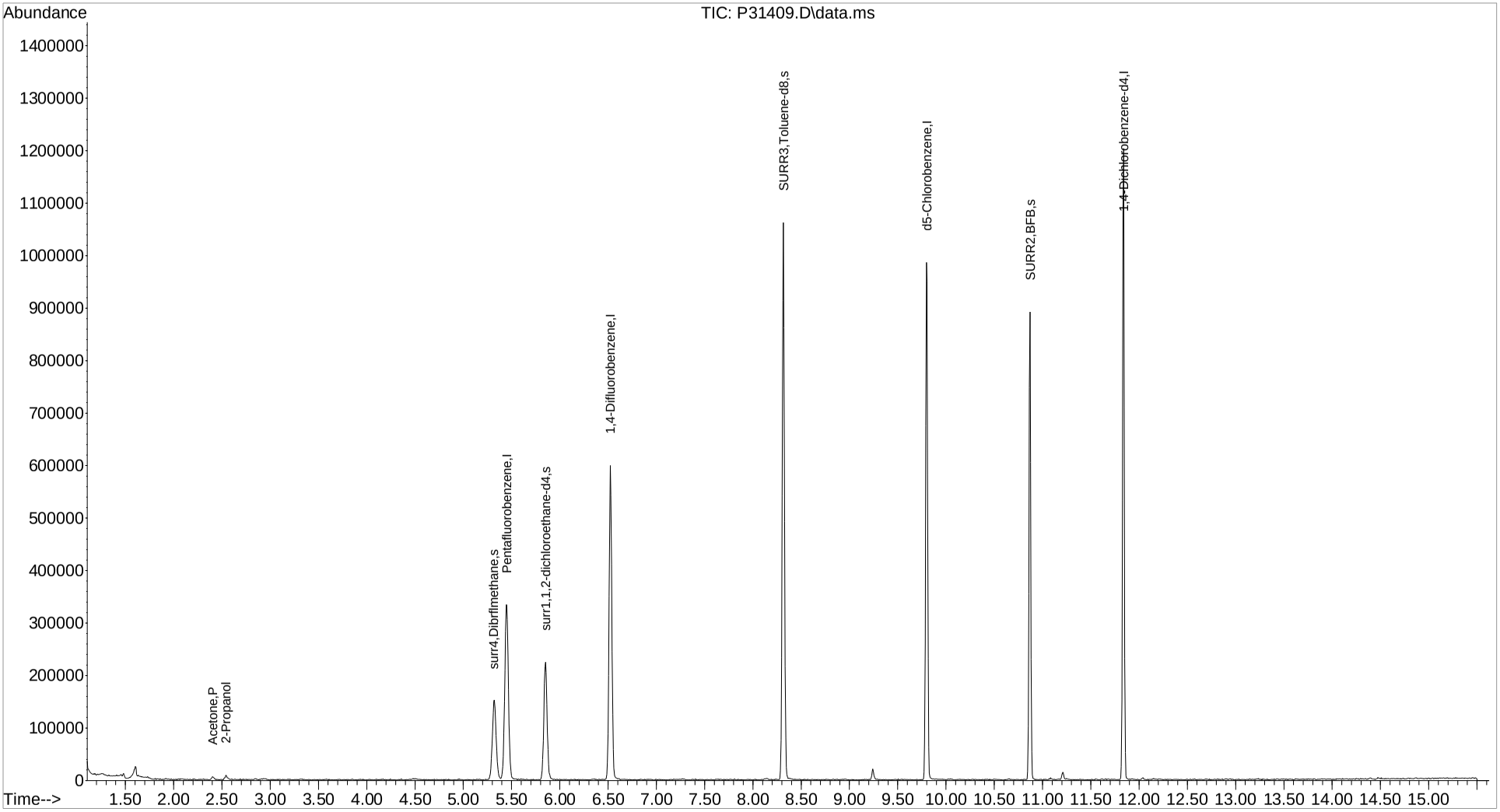
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	317476	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	501012	50.00	ppb	0.00
71) d5-Chlorobenzene	9.797	117	446176	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	236155	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.316	113	126977	47.82	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 95.64%			
48) surr1,1,2-dichloroetha...	5.853	65	183524	49.95	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 99.90%			
65) SURR3,Toluene-d8	8.316	98	624727	49.98	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.96%			
70) SURR2,BFB	10.870	95	231332	47.56	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 95.12%			
Target Compounds						Qvalue
15) Acetone	2.402	43	6061	2.35	ppb	96
16) 2-Propanol	2.542	45	8782	14.95	ppb	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

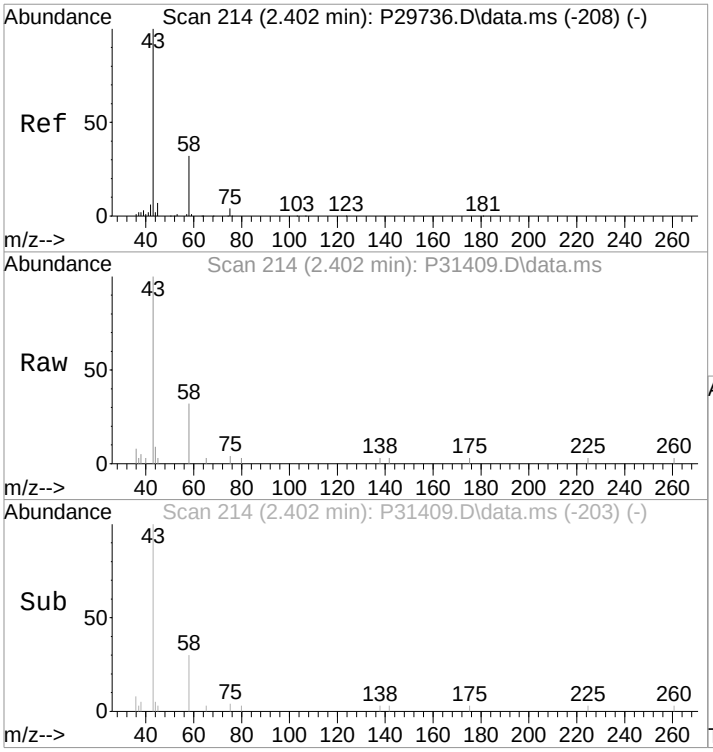
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31409.D
Acq On : 30 Oct 2019 2:28 am
Operator : K.Ruest
Sample : R1910505-001|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 41 Sample Multiplier: 1

Quant Time: Oct 30 16:59:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



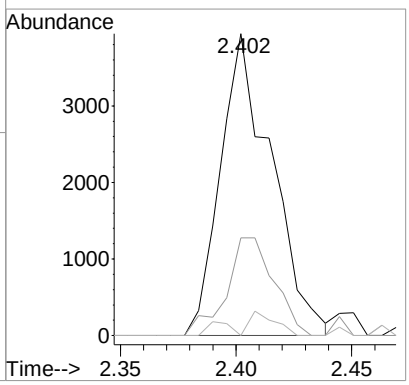
1st 10/30/19
2nd 10/31/19

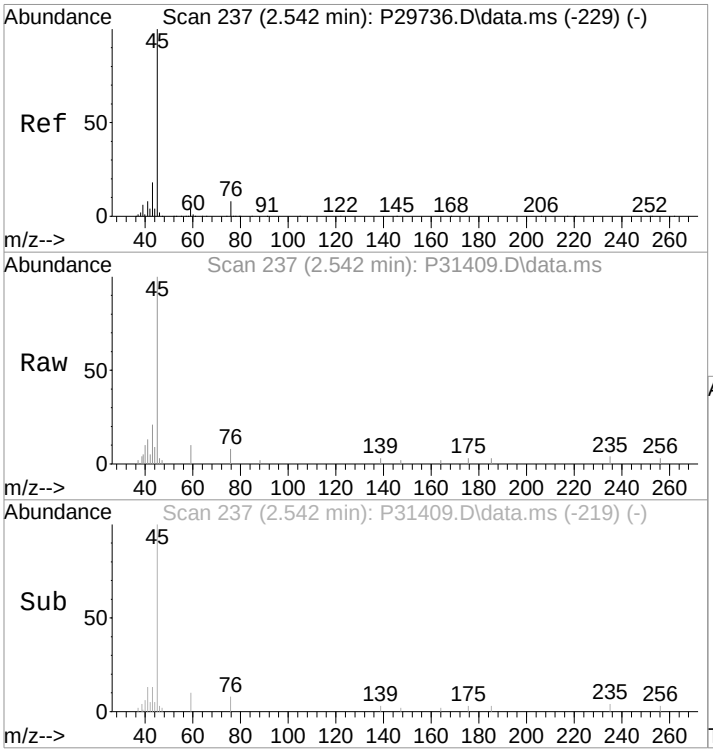


#15
Acetone
Concen: 2.35 ppb
RT: 2.402 min Scan# 214
Delta R.T. -0.006 min
Lab File: P31409.D
Acq: 30 Oct 2019 2:28 am

Tgt Ion: 43 Resp: 6061

Ion	Ratio	Lower	Upper
43	100		
58	32.4	11.7	51.7
42	0.0	0.0	26.5

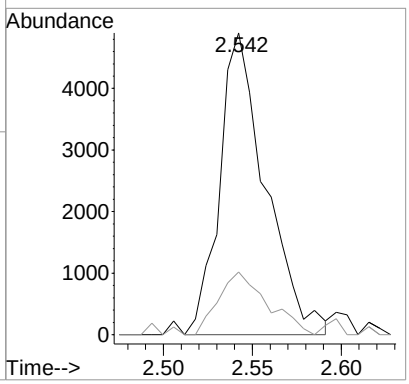




#16
2-Propanol
Concen: 14.95 ppb
RT: 2.542 min Scan# 237
Delta R.T. -0.000 min
Lab File: P31409.D
Acq: 30 Oct 2019 2:28 am

Tgt Ion: 45 Resp: 8782

Ion	Ratio	Lower	Upper
45	100		
43	20.8	0.0	37.7



1st 10/30/19
2nd 10/31/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31409.D
Acq On : 30 Oct 2019 2:28 am
Operator : K.Ruest
Sample : R1910505-001|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 41 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31409.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.603	74	83	87	rBV4	21065	42273	2.55%	0.485%
2	5.322	681	693	704	rBV	152005	414796	25.03%	4.759%
3	5.444	704	713	726	rVB	332526	881681	53.20%	10.115%
4	5.853	770	780	793	rBV	223948	529130	31.92%	6.071%
5	6.523	881	890	902	rBV	598530	1174691	70.87%	13.477%
6	8.316	1176	1184	1192	rBV	1061768	1657425	100.00%	19.015%
7	9.242	1331	1336	1341	rBV2	20329	27652	1.67%	0.317%
8	9.797	1421	1427	1437	rBV	985556	1409855	85.06%	16.175%
9	10.870	1597	1603	1608	rBV	891287	1100996	66.43%	12.631%
10	11.211	1654	1659	1663	rBV2	14395	20955	1.26%	0.240%
11	11.839	1756	1762	1767	rBV	1201836	1456866	87.90%	16.714%

Sum of corrected areas: 8716320

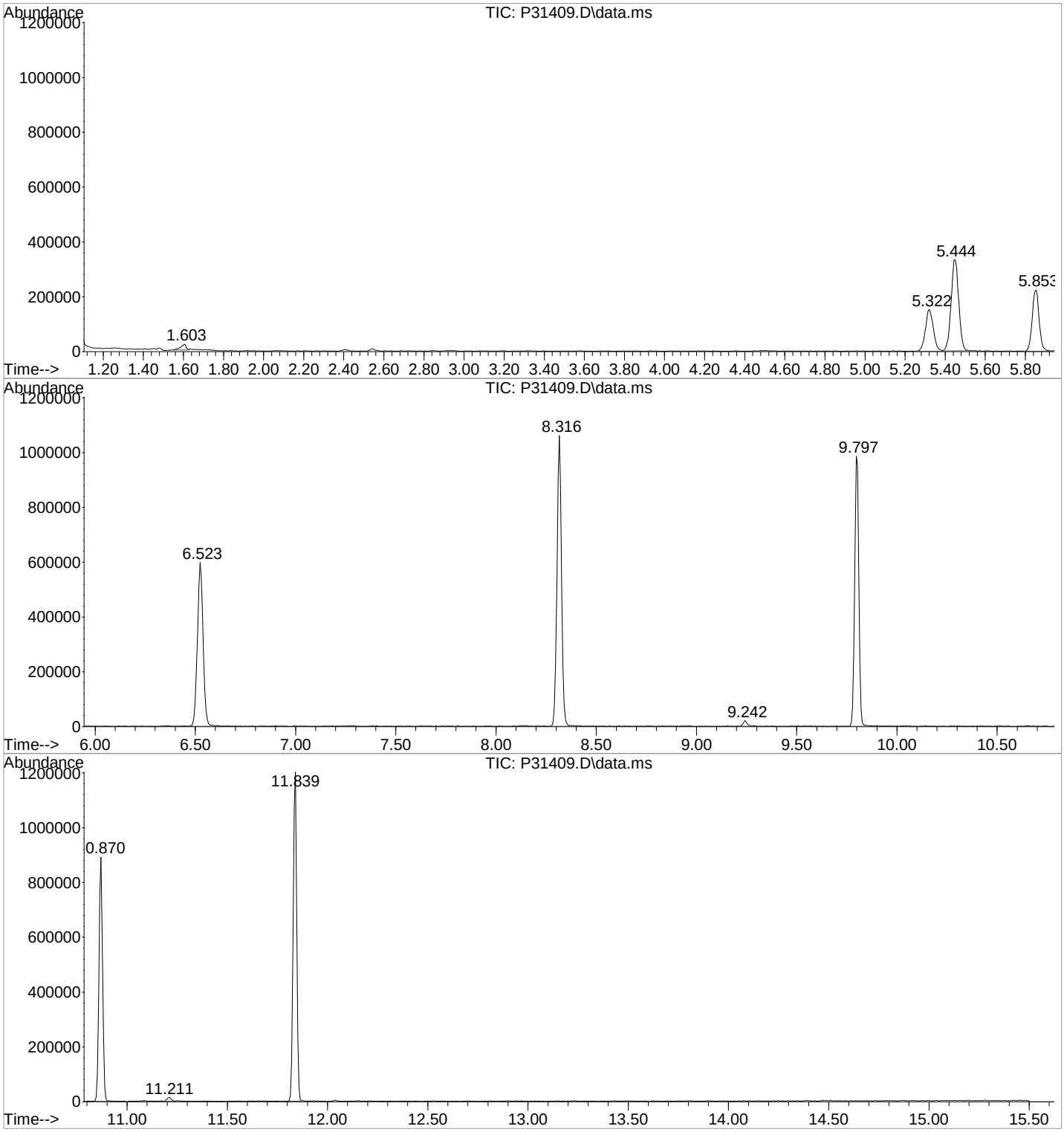
1st 10/30/19
2nd 10/31/19

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31409.D
Acq On : 30 Oct 2019 2:28 am
Operator : K.Ruest
Sample : R1910505-001|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 41 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/30/19
2nd 10/31/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102919\\
Data File : P31409.D
Acq On : 30 Oct 2019 2:28 amm
Operator : K.Ruestt
Sample : R1910505-001|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 41 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31410.D
Acq On : 30 Oct 2019 2:50 am
Operator : K.Ruest
Sample : R1910505-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Oct 30 17:00:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

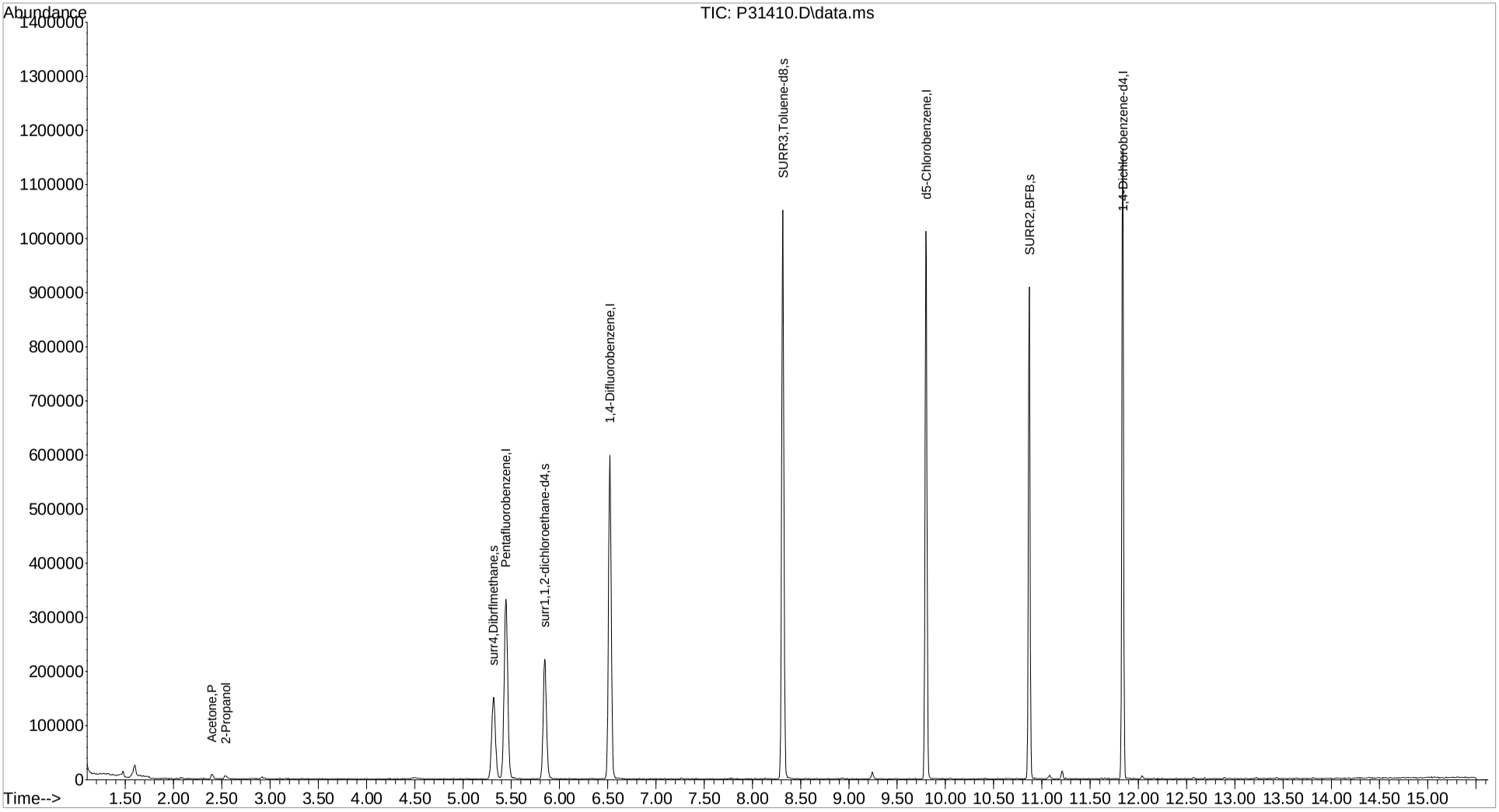
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.444	168	316308	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	511566	50.00	ppb	0.00
71) d5-Chlorobenzene	9.797	117	444835	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	235103	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.316	113	128243	47.30	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 94.60%			
48) surr1,1,2-dichloroetha...	5.846	65	185220	49.37	ppb	-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 98.74%			
65) SURR3,Toluene-d8	8.315	98	627842	49.19	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 98.38%			
70) SURR2,BFB	10.870	95	238609	48.05	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.10%			
Target Compounds						Qvalue
15) Acetone	2.396	43	8984	3.49	ppb	90
16) 2-Propanol	2.536	45	7886	13.47	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

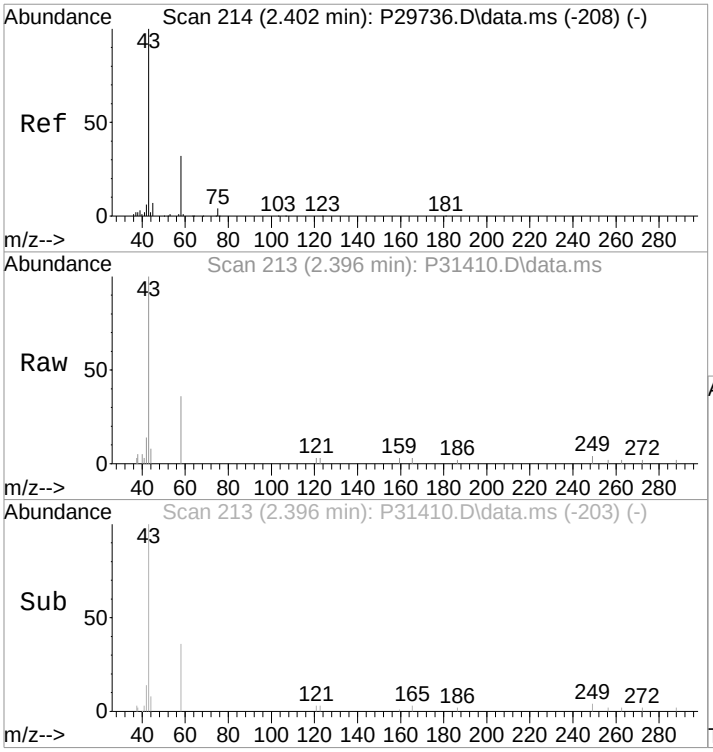
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31410.D
Acq On : 30 Oct 2019 2:50 am
Operator : K.Ruest
Sample : R1910505-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Oct 30 17:00:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



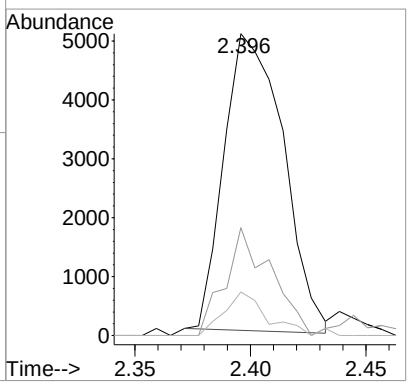
1st 10/30/19
2nd 10/31/19

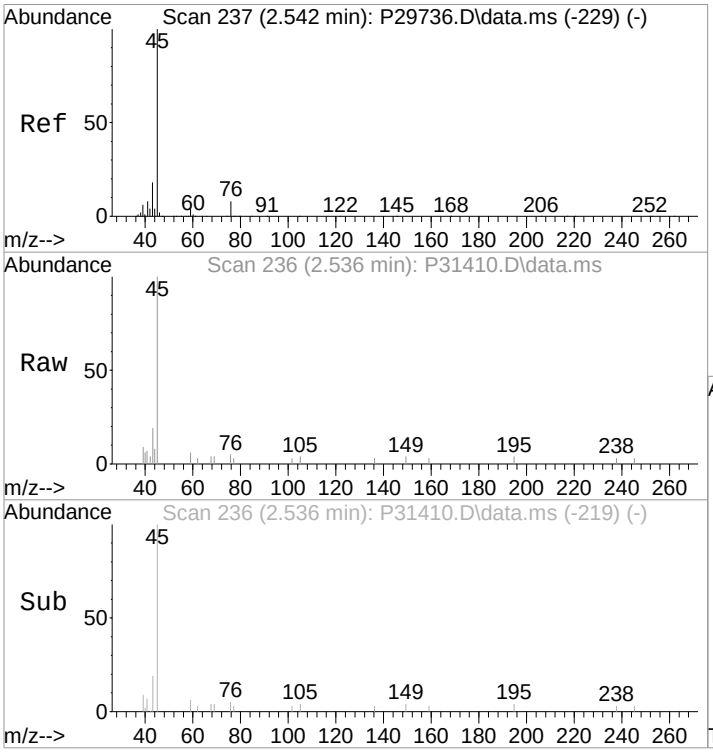


#15
Acetone
Concen: 3.49 ppb
RT: 2.396 min Scan# 213
Delta R.T. -0.012 min
Lab File: P31410.D
Acq: 30 Oct 2019 2:50 am

Tgt Ion: 43 Resp: 8984

Ion	Ratio	Lower	Upper
43	100		
58	35.7	11.7	51.7
42	14.4	0.0	26.5

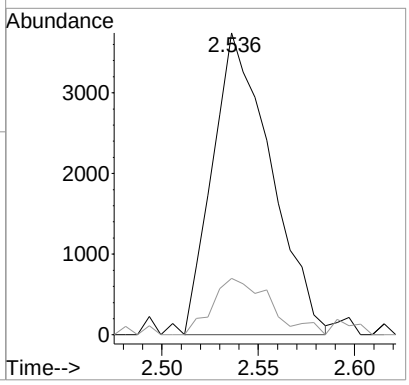




#16
2-Propanol
Concen: 13.47 ppb
RT: 2.536 min Scan# 236
Delta R.T. -0.006 min
Lab File: P31410.D
Acq: 30 Oct 2019 2:50 am

Tgt Ion: 45 Resp: 7886

Ion	Ratio	Lower	Upper
45	100		
43	18.7	0.0	37.7



1st 10/30/19
2nd 10/31/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31410.D
Acq On : 30 Oct 2019 2:50 am
Operator : K.Ruest
Sample : R1910505-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 42 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31410.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.597	72	82	86	rBV3	23657	53183	3.18%	0.608%
2	5.316	680	692	703	rBV2	151592	415867	24.85%	4.751%
3	5.444	703	713	724	rVV	330860	870452	52.02%	9.944%
4	5.846	770	779	792	rVB2	221474	526132	31.44%	6.010%
5	6.523	881	890	901	rBV	598701	1195230	71.42%	13.654%
6	8.315	1171	1184	1192	rBV	1051845	1673408	100.00%	19.116%
7	9.242	1331	1336	1341	rBV3	12835	17937	1.07%	0.205%
8	9.797	1421	1427	1437	rVB	1011703	1401695	83.76%	16.013%
9	10.870	1596	1603	1609	rBV	909650	1125777	67.27%	12.861%
10	11.211	1653	1659	1664	rBV2	15132	21674	1.30%	0.248%
11	11.839	1756	1762	1767	rBV	1165515	1452383	86.79%	16.592%

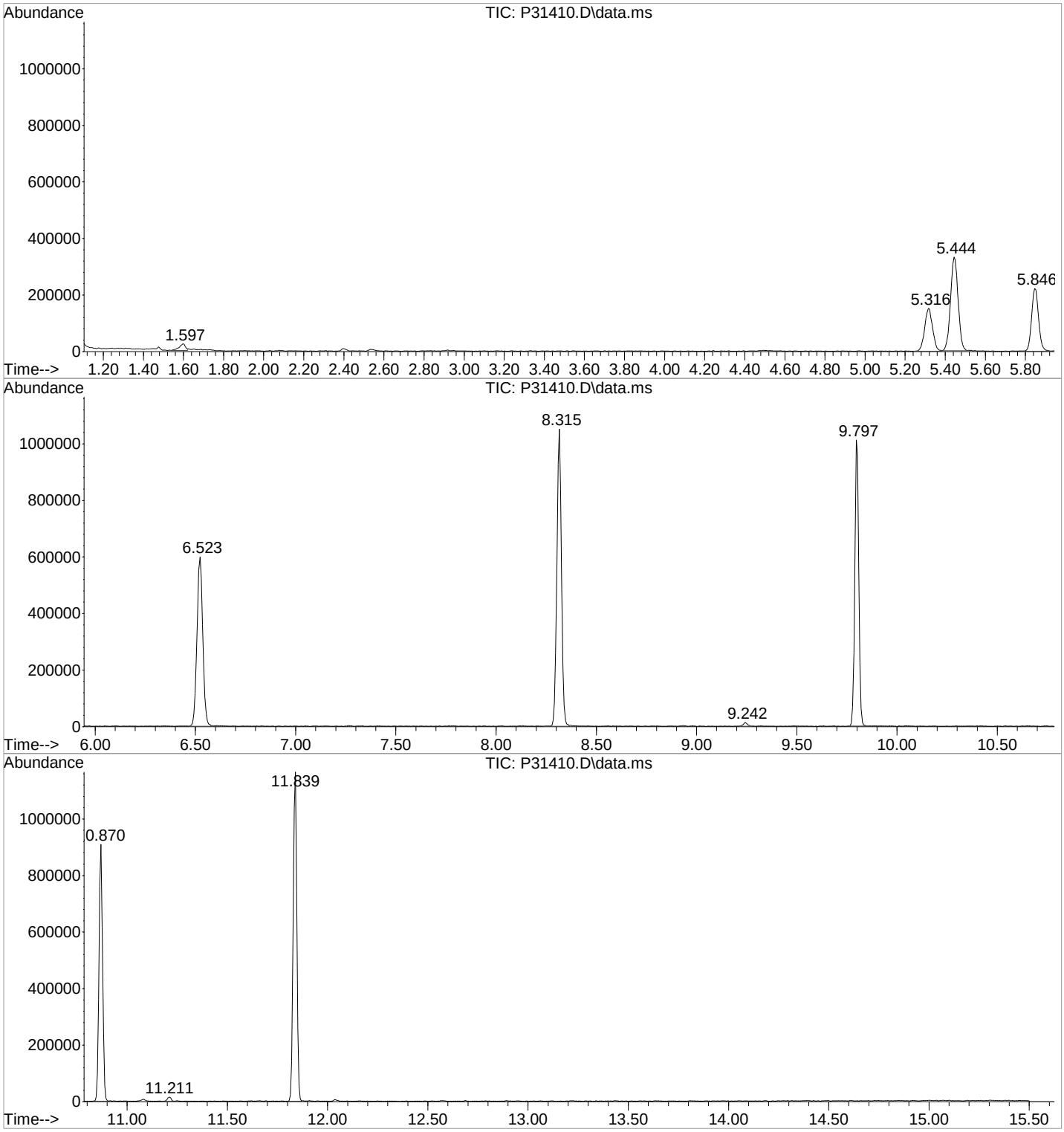
Sum of corrected areas: 8753738

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31410.D
Acq On : 30 Oct 2019 2:50 am
Operator : K.Ruest
Sample : R1910505-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 42 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/30/19
2nd 10/31/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102919\\
Data File : P31410.D
Acq On : 30 Oct 2019 2:50 amm
Operator : K.Ruestt
Sample : R1910505-004|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 42 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31411.D
Acq On : 30 Oct 2019 3:11 am
Operator : K.Ruest
Sample : R1910505-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Oct 30 17:02:26 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

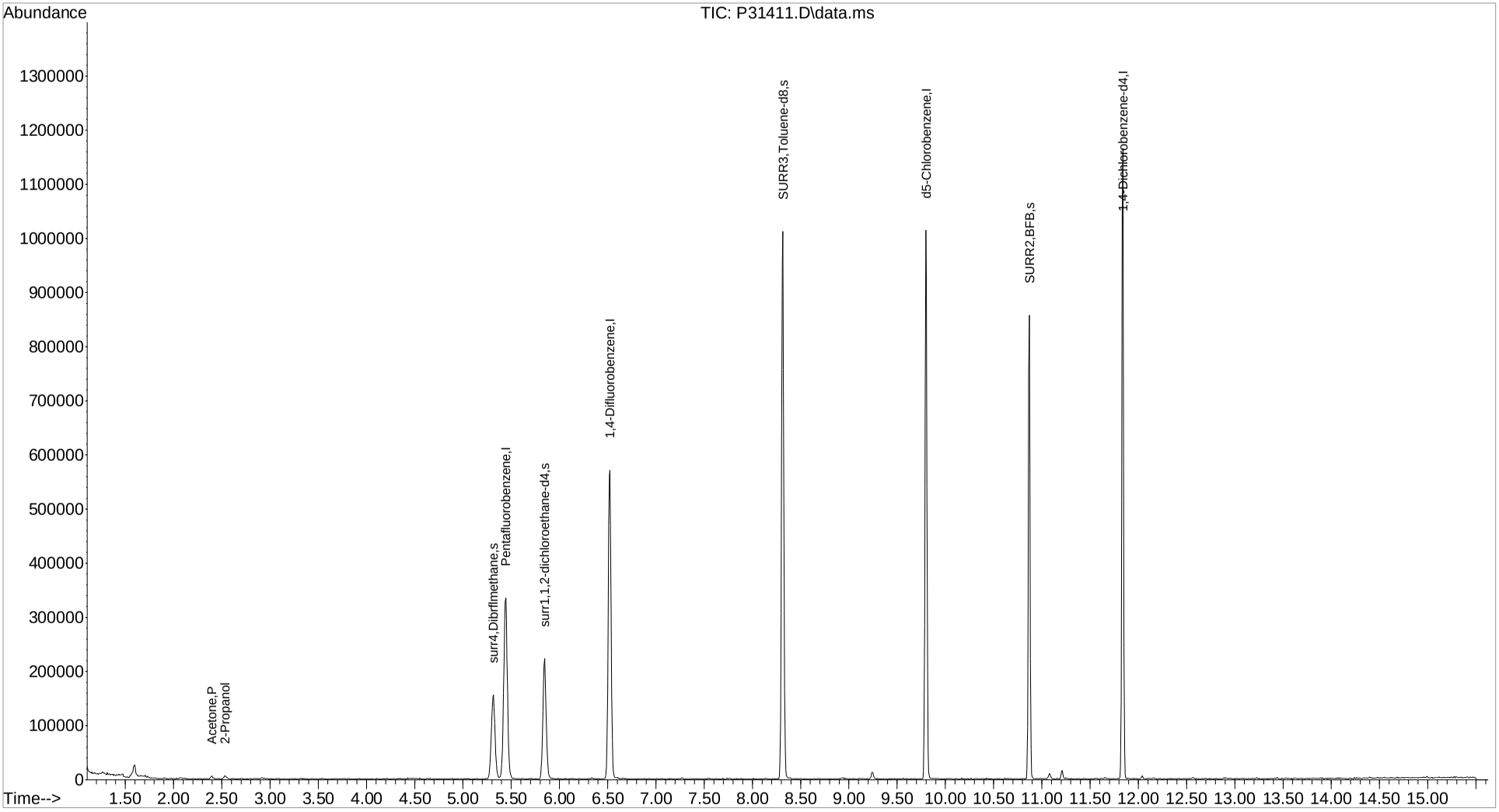
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.444	168	316490	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	493640	50.00	ppb	0.00
71) d5-Chlorobenzene	9.797	117	440296	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	229177	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.316	113	127128	48.59	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 97.18%			
48) surr1,1,2-dichloroetha...	5.847	65	183872	50.79	ppb	-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 101.58%			
65) SURR3,Toluene-d8	8.316	98	612396	49.72	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.44%			
70) SURR2,BFB	10.870	95	226548	47.28	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 94.56%			
Target Compounds						Qvalue
15) Acetone	2.396	43	5027	1.95	ppb	70
16) 2-Propanol	2.530	45	6486	11.07	ppb	84

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

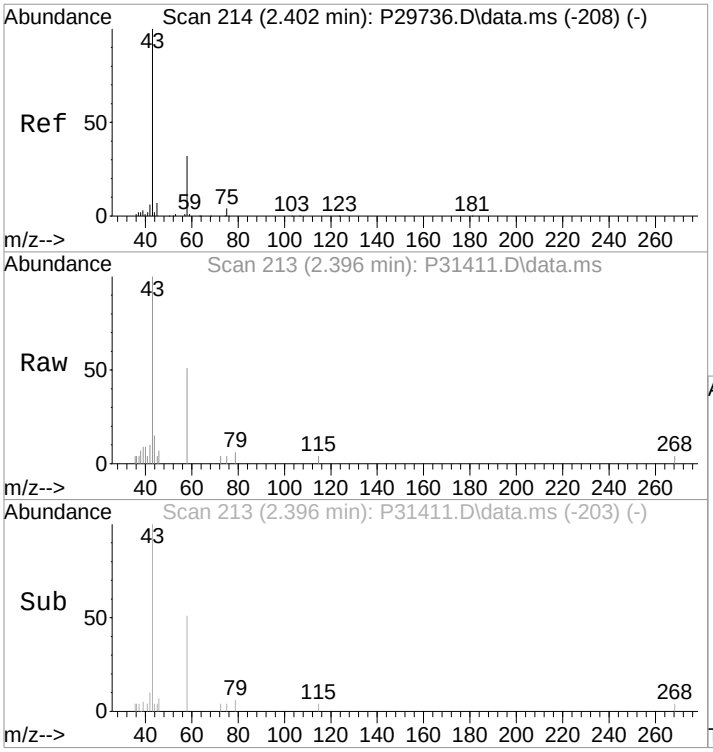
Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31411.D
Acq On : 30 Oct 2019 3:11 am
Operator : K.Ruest
Sample : R1910505-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Oct 30 17:02:26 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



1st 10/30/19
2nd 10/31/19

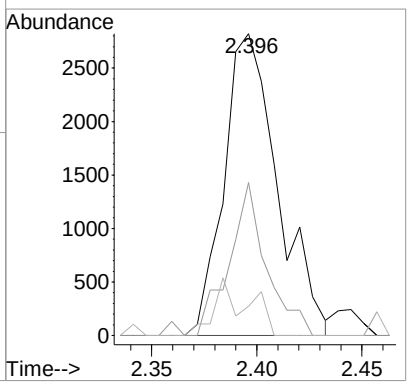
1st 10/30/19
2nd 10/31/19

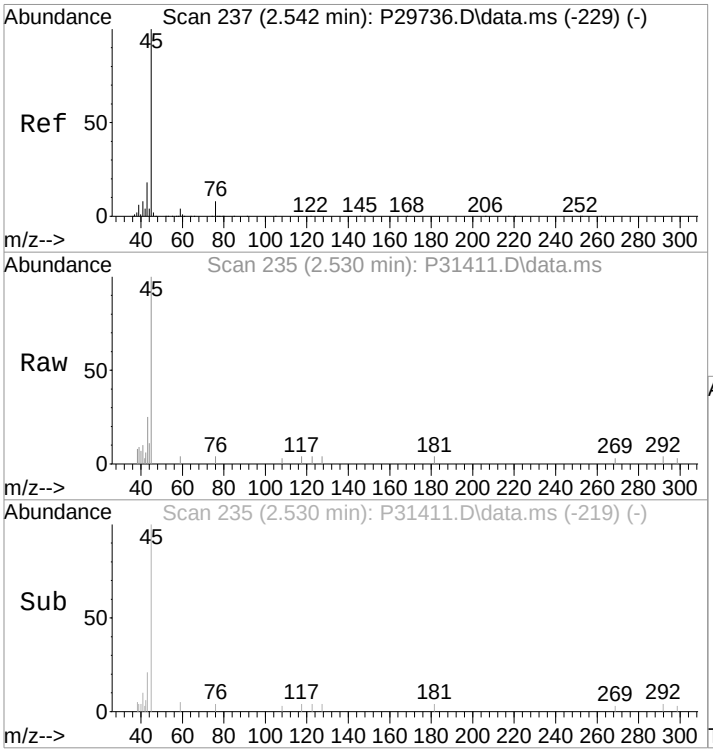


#15
Acetone
Concen: 1.95 ppb
RT: 2.396 min Scan# 213
Delta R.T. -0.012 min
Lab File: P31411.D
Acq: 30 Oct 2019 3:11 am

Tgt Ion: 43 Resp: 5027

Ion	Ratio	Lower	Upper
43	100		
58	50.7	11.7	51.7
42	9.7	0.0	26.5

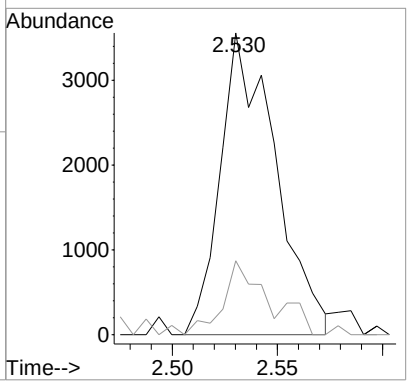




#16
2-Propanol
Concen: 11.07 ppb
RT: 2.530 min Scan# 235
Delta R.T. -0.012 min
Lab File: P31411.D
Acq: 30 Oct 2019 3:11 am

Tgt Ion: 45 Resp: 6486

Ion	Ratio	Lower	Upper
45	100		
43	24.6	0.0	37.7



1st 10/30/19
2nd 10/31/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31411.D
Acq On : 30 Oct 2019 3:11 am
Operator : K.Ruest
Sample : R1910505-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 43 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31411.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.597	73	82	85	rBV3	23471	48912	3.01%	0.569%
2	5.316	682	692	701	rBV	155277	410076	25.20%	4.772%
3	5.444	701	713	725	rVB	333994	886895	54.51%	10.321%
4	5.847	768	779	794	rBV	222710	523276	32.16%	6.090%
5	6.523	881	890	898	rBV	569844	1161905	71.41%	13.521%
6	8.316	1177	1184	1193	rBV	1011580	1627069	100.00%	18.935%
7	9.242	1329	1336	1343	rBV4	13250	23869	1.47%	0.278%
8	9.797	1421	1427	1435	rBV	1013451	1386598	85.22%	16.136%
9	10.870	1598	1603	1611	rVB	856426	1076829	66.18%	12.531%
10	11.211	1655	1659	1664	rBV	15651	21388	1.31%	0.249%
11	11.839	1756	1762	1769	rBV	1164738	1426208	87.66%	16.597%

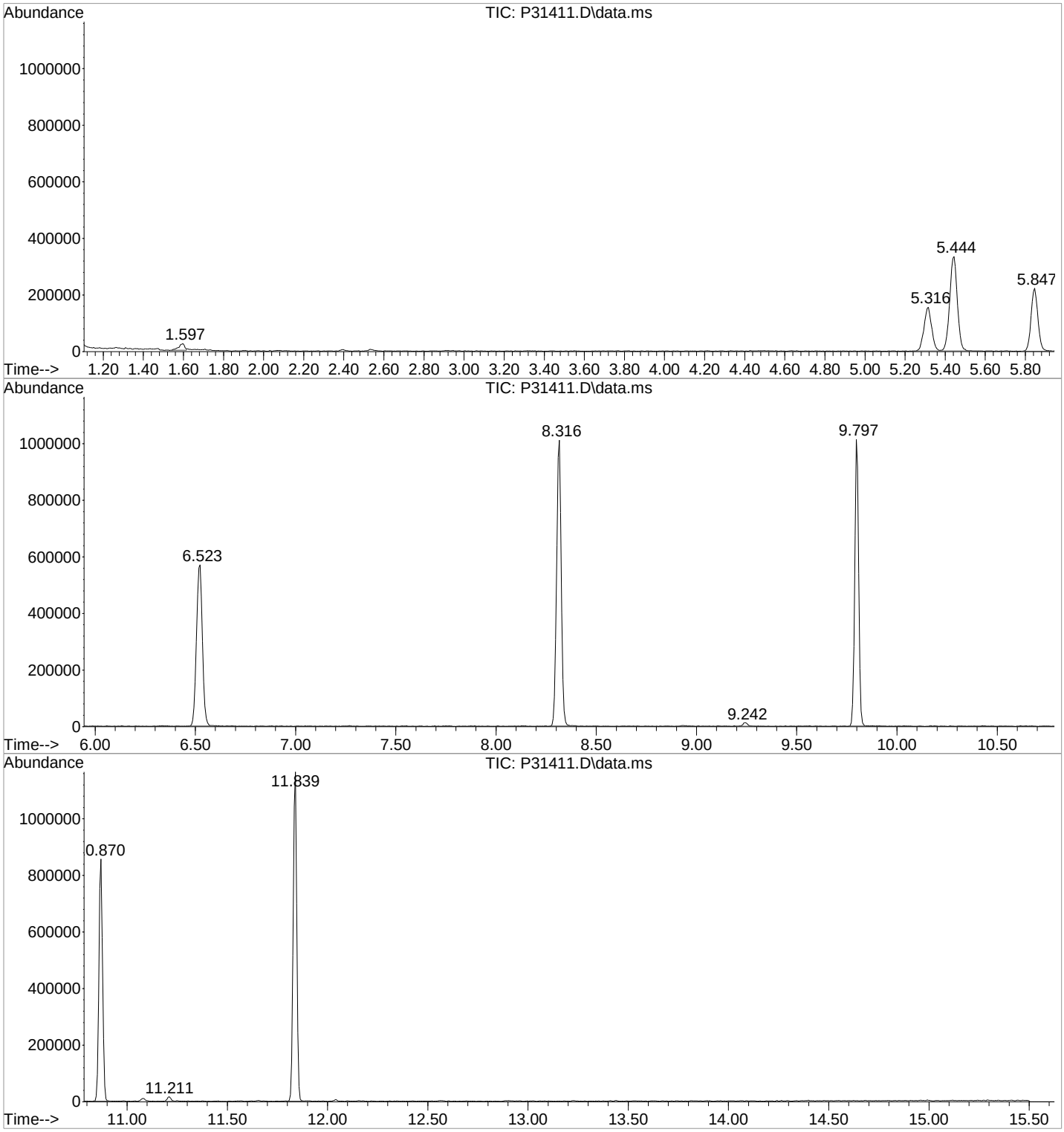
Sum of corrected areas: 8593025

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31411.D
Acq On : 30 Oct 2019 3:11 am
Operator : K.Ruest
Sample : R1910505-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 43 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/30/19
2nd 10/31/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102919\\
Data File : P31411.D
Acq On : 30 Oct 2019 3:11 amm
Operator : K.Ruestt
Sample : R1910505-007|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 43 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

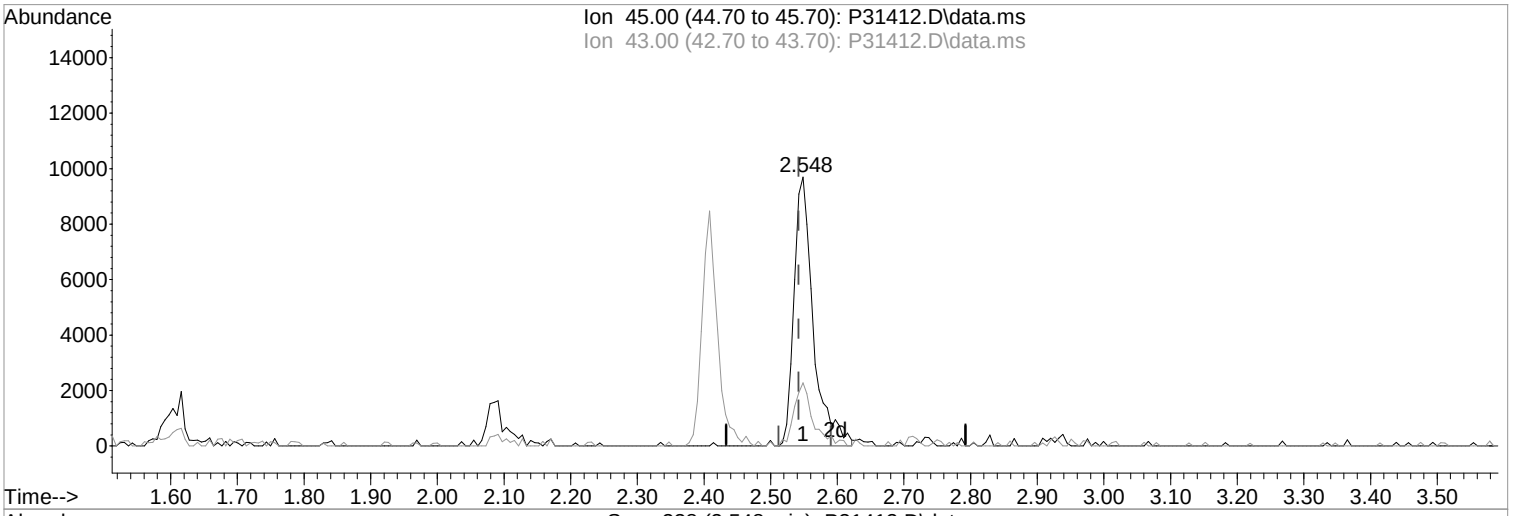
No Library Search Compounds Detected
****

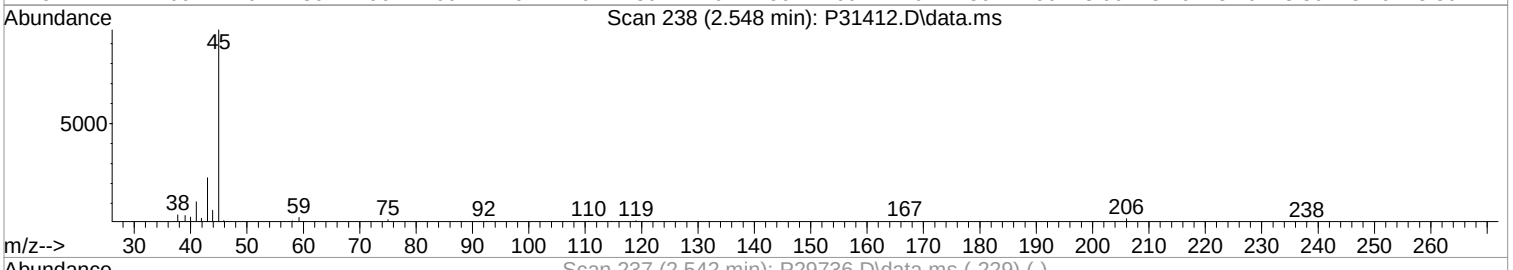
1st 10/30/19
2nd 10/31/19

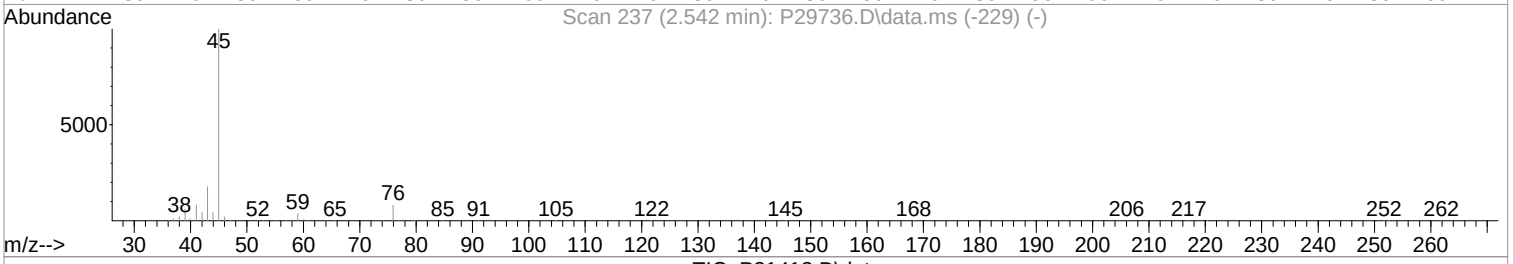
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31412.D
Acq On : 30 Oct 2019 3:33 am
Operator : K.Ruest
Sample : R1910505-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Oct 30 11:08:00 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31412.D\data.ms

(16) 2-Propanol

2.548min (+0.006) 34.91 ppb m

response 19580

Ion	Exp%	Act%
45.00	100	100
43.00	17.70	23.51
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

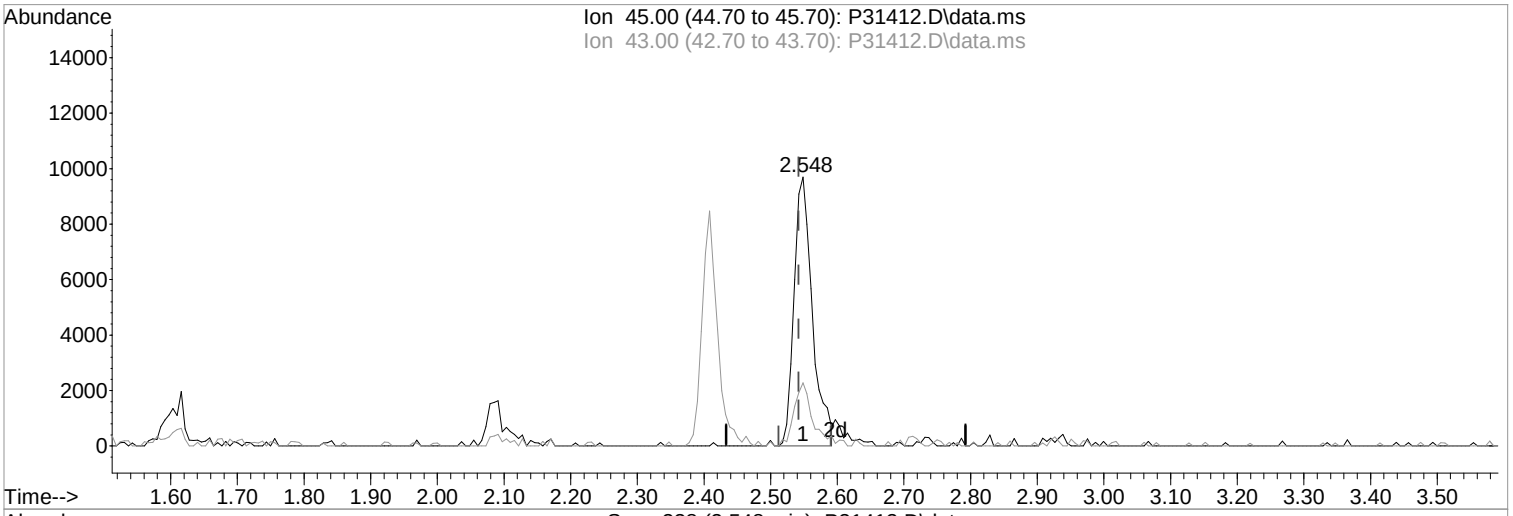
10/30/19

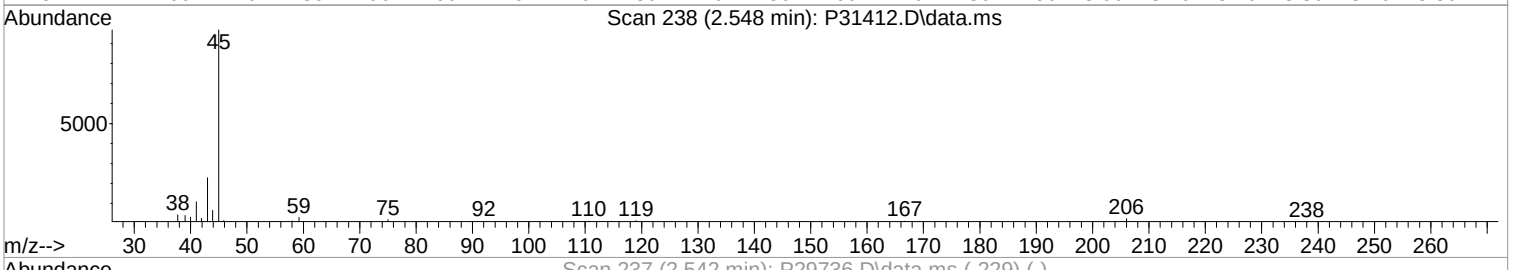
1st 10/30/19
2nd 10/31/19

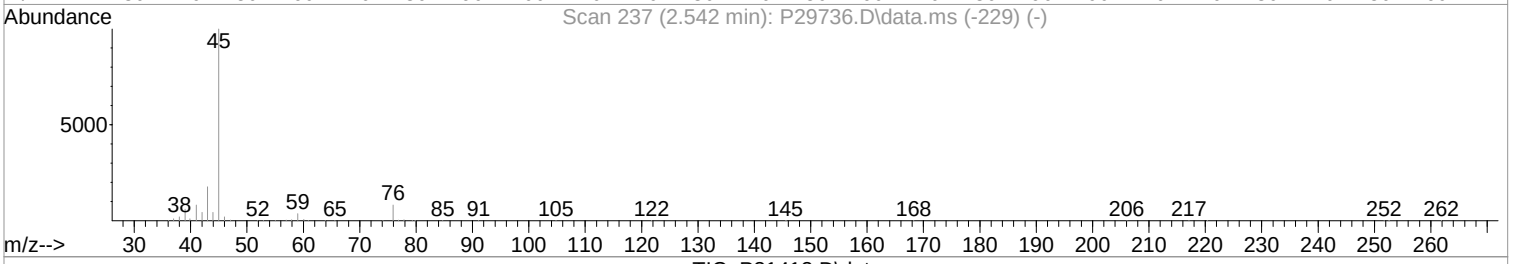
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31412.D
Acq On : 30 Oct 2019 3:33 am
Operator : K.Ruest
Sample : R1910505-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Oct 30 11:08:00 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31412.D\data.ms

(16) 2-Propanol

2.548min (+0.006) 33.19 ppb

response 18614

Ion	Exp%	Act%
45.00	100	100
43.00	17.70	23.51
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

10/30/19

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31412.D
Acq On : 30 Oct 2019 3:33 am
Operator : K.Ruest
Sample : R1910505-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Oct 30 17:04:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

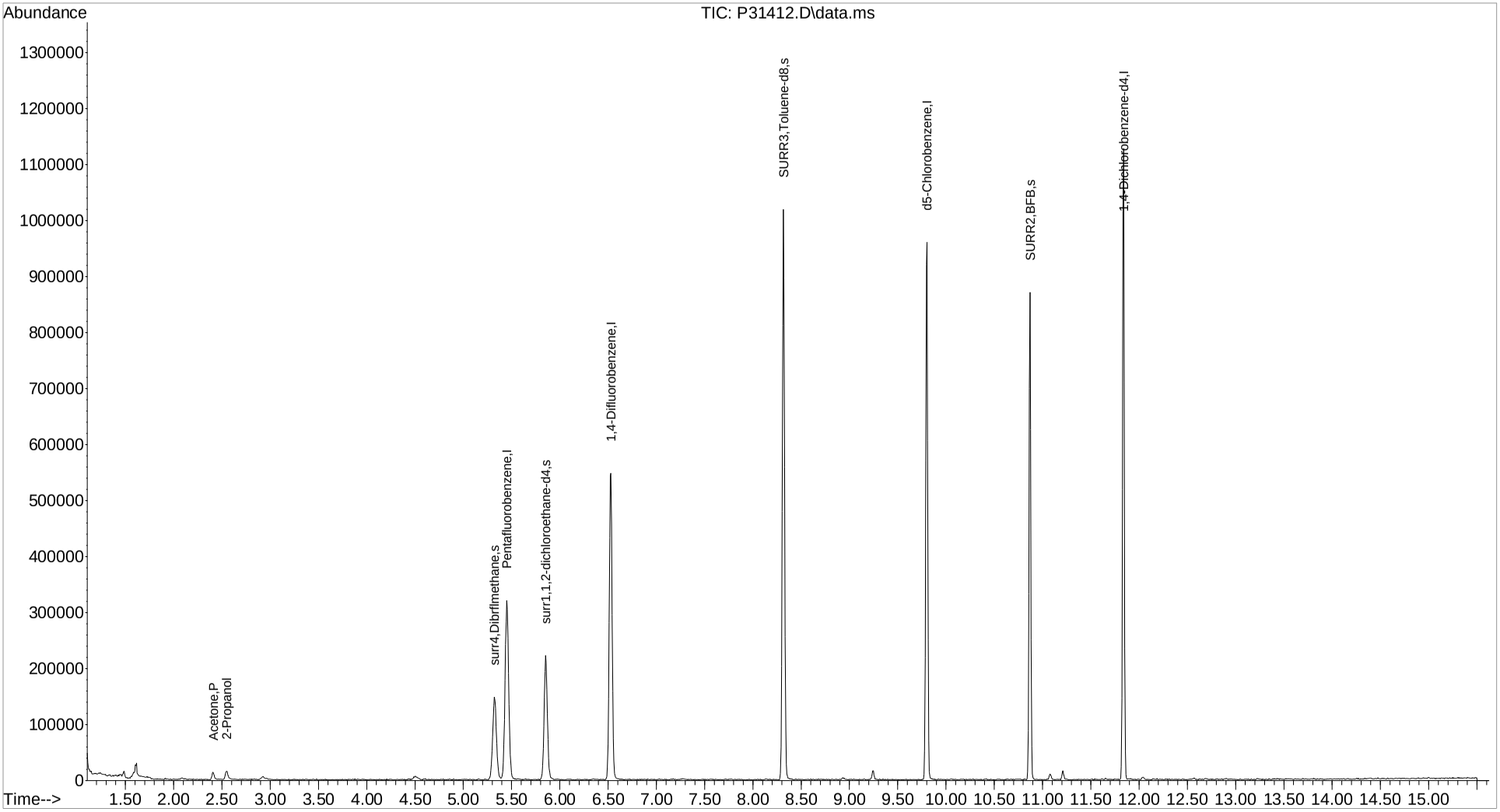
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	303071	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	485024	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	425570	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	224077	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	122478	47.65	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 95.30%			
48) surr1,1,2-dichloroetha...	5.853	65	180149	50.65	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 101.30%			
65) SURR3,Toluene-d8	8.316	98	610031	50.41	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.82%			
70) SURR2,BFB	10.870	95	226895	48.19	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.38%			
Target Compounds						Qvalue
15) Acetone	2.408	43	13714	5.56	ppb	95
16) 2-Propanol	2.548	45	19580m	34.91	ppb	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

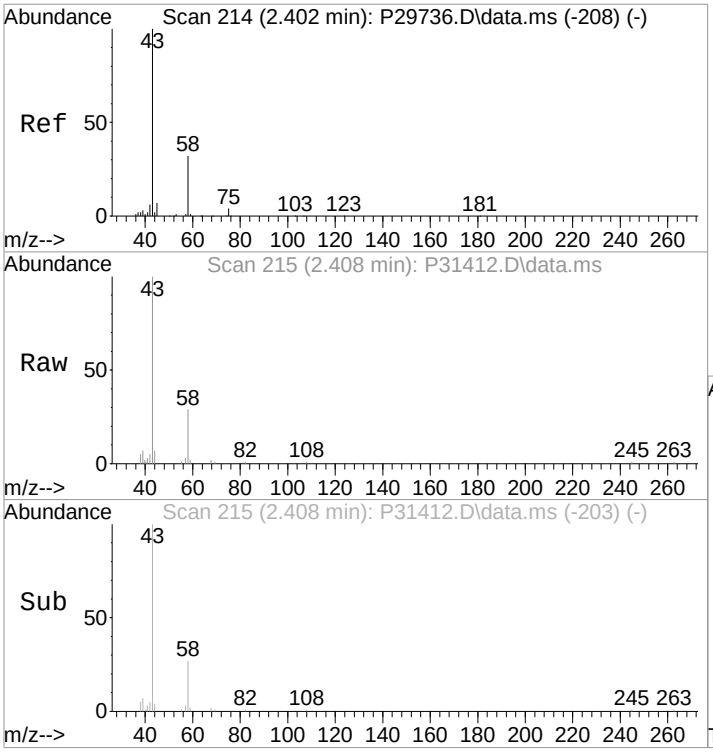
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31412.D
Acq On : 30 Oct 2019 3:33 am
Operator : K.Ruest
Sample : R1910505-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Oct 30 17:04:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



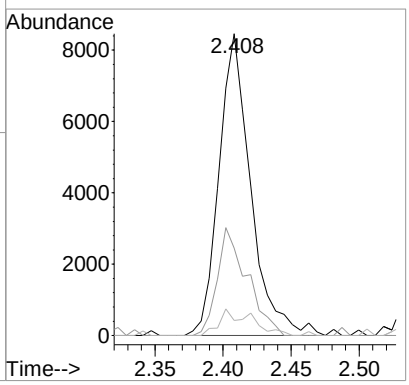
1st 10/30/19
2nd 10/31/19

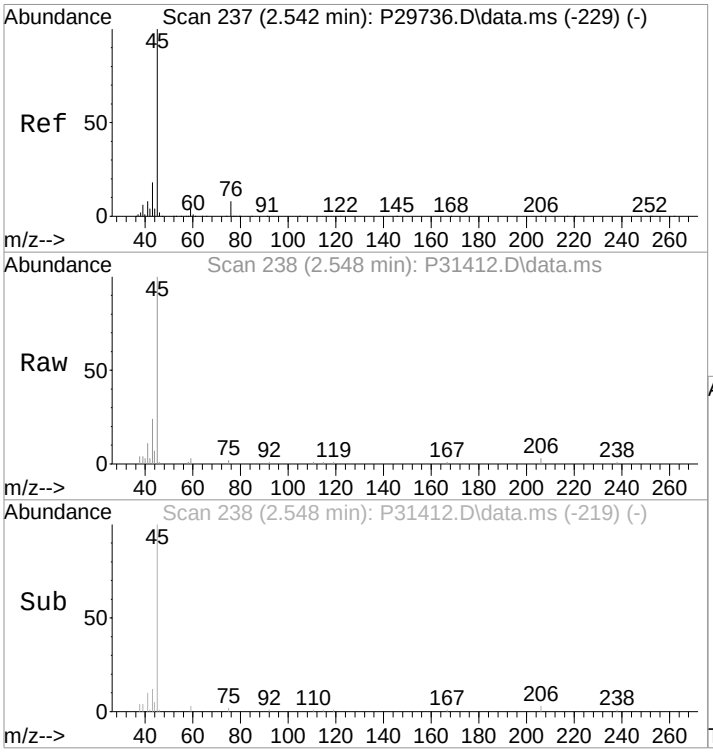


#15
Acetone
Concen: 5.56 ppb
RT: 2.408 min Scan# 215
Delta R.T. -0.000 min
Lab File: P31412.D
Acq: 30 Oct 2019 3:33 am

Tgt Ion: 43 Resp: 13714

Ion	Ratio	Lower	Upper
43	100		
58	29.0	11.7	51.7
42	5.1	0.0	26.5

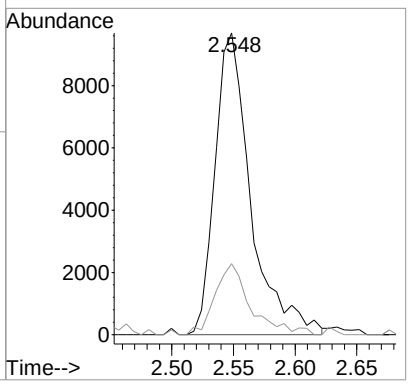




#16
2-Propanol
Concen: 34.91 ppb m
RT: 2.548 min Scan# 238
Delta R.T. 0.006 min
Lab File: P31412.D
Acq: 30 Oct 2019 3:33 am

Tgt Ion: 45 Resp: 19580

Ion	Ratio	Lower	Upper
45	100		
43	23.5	0.0	37.7



1st 10/30/19
2nd 10/31/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31412.D
Acq On : 30 Oct 2019 3:33 am
Operator : K.Ruest
Sample : R1910505-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 44 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31412.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.616	81	85	91	rVB2	23858	31832	1.96%	0.376%
2	2.408	210	215	223	rBV2	13515	24397	1.51%	0.288%
3	2.548	232	238	250	rBV	14884	31402	1.94%	0.371%
4	5.322	682	693	704	rBV	148327	406699	25.10%	4.803%
5	5.450	704	714	725	rVB	318655	831696	51.33%	9.822%
6	5.853	770	780	794	rBV	222631	518897	32.02%	6.128%
7	6.529	882	891	903	rBV	547242	1129127	69.68%	13.335%
8	8.316	1177	1184	1192	rBV	1018664	1620449	100.00%	19.137%
9	9.242	1331	1336	1340	rBV3	16108	22641	1.40%	0.267%
10	9.803	1421	1428	1435	rBV	959437	1343103	82.88%	15.862%
11	10.870	1597	1603	1612	rBV	870527	1082002	66.77%	12.778%
12	11.211	1655	1659	1663	rBV2	16480	22303	1.38%	0.263%
13	11.839	1756	1762	1768	rBV	1126862	1402911	86.58%	16.568%

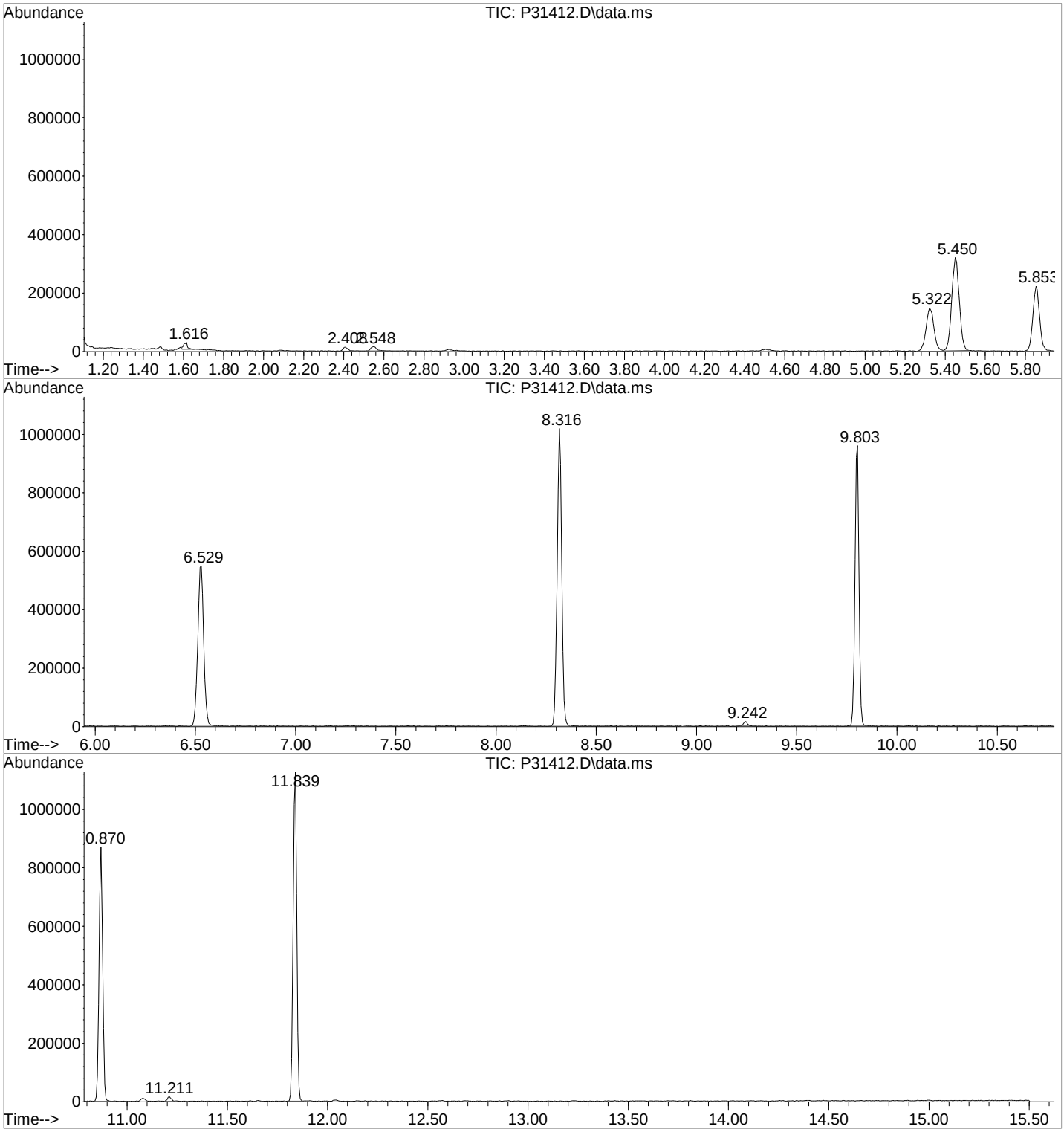
Sum of corrected areas: 8467459

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31412.D
Acq On : 30 Oct 2019 3:33 am
Operator : K.Ruest
Sample : R1910505-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 44 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/30/19
2nd 10/31/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102919\\
Data File : P31412.D
Acq On : 30 Oct 2019 3:33 amm
Operator : K.Ruestt
Sample : R1910505-010|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 44 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31413.D
Acq On : 30 Oct 2019 3:55 am
Operator : K.Ruest
Sample : R1910505-014|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Oct 30 17:06:30 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

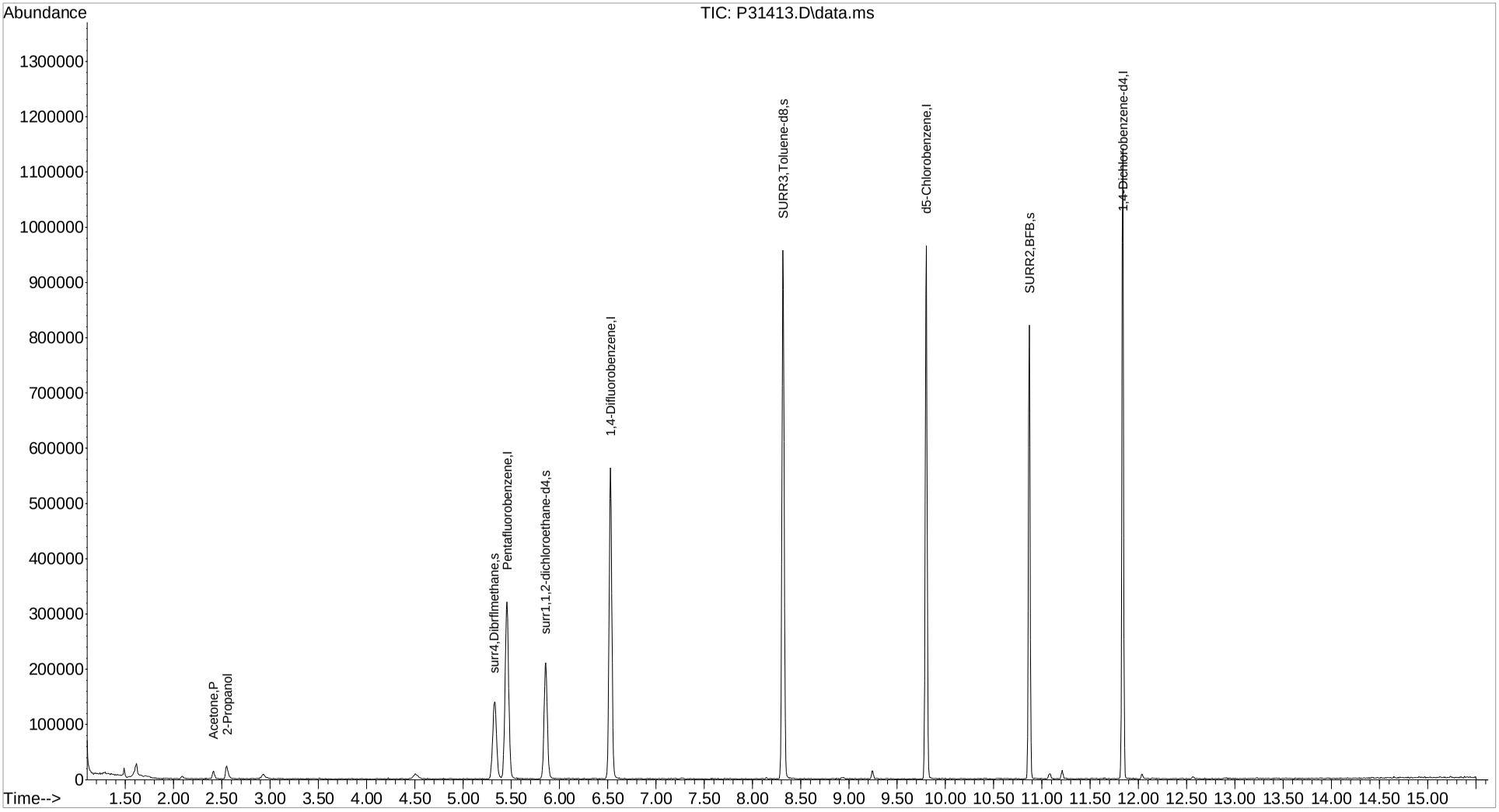
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.456	168	298242	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	472876	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	417979	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	217813	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	120732	48.17	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 96.34%			
48) surr1,1,2-dichloroetha...	5.853	65	175266	50.54	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 101.08%			
65) SURR3,Toluene-d8	8.315	98	584273	49.52	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.04%			
70) SURR2,BFB	10.870	95	212193	46.23	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 92.46%			
Target Compounds						Qvalue
15) Acetone	2.414	43	14665	6.04	ppb	96
16) 2-Propanol	2.554	45	28738	52.07	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

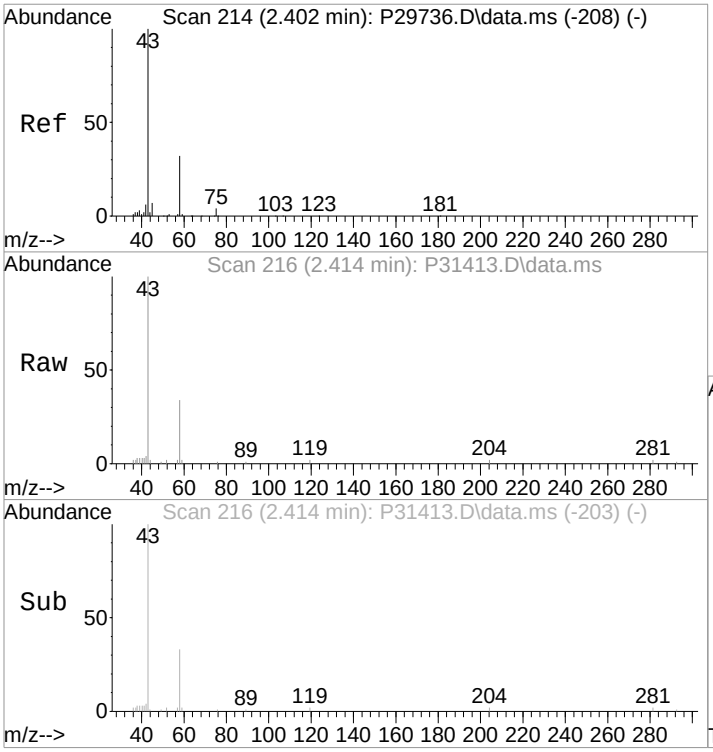
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31413.D
Acq On : 30 Oct 2019 3:55 am
Operator : K.Ruest
Sample : R1910505-014|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Oct 30 17:06:30 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



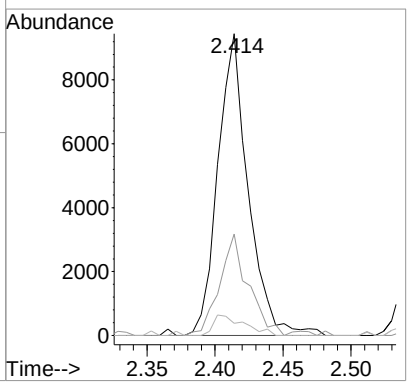
1st 10/30/19
2nd 10/31/19

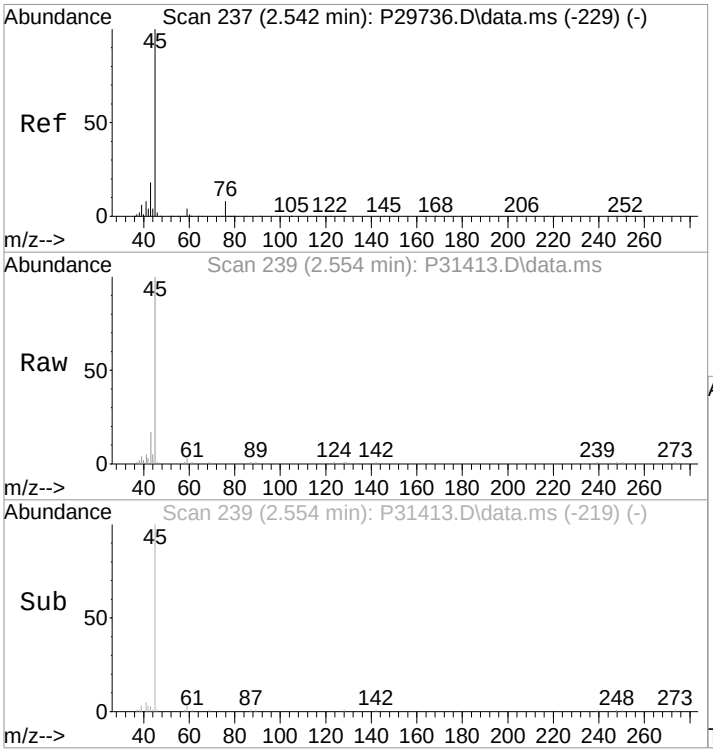


#15
Acetone
Concen: 6.04 ppb
RT: 2.414 min Scan# 216
Delta R.T. 0.006 min
Lab File: P31413.D
Acq: 30 Oct 2019 3:55 am

Tgt Ion: 43 Resp: 14665

Ion	Ratio	Lower	Upper
43	100		
58	33.6	11.7	51.7
42	4.0	0.0	26.5

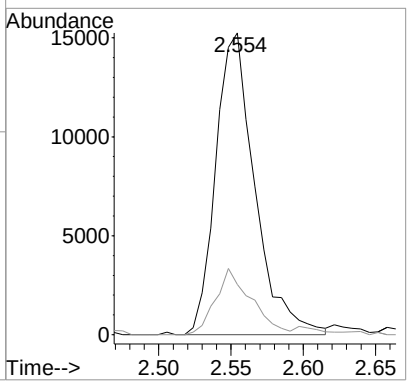




#16
2-Propanol
Concen: 52.07 ppb
RT: 2.554 min Scan# 239
Delta R.T. 0.012 min
Lab File: P31413.D
Acq: 30 Oct 2019 3:55 am

Tgt Ion: 45 Resp: 28738

Ion	Ratio	Lower	Upper
45	100		
43	16.6	0.0	37.7



1st 10/30/19
2nd 10/31/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31413.D
Acq On : 30 Oct 2019 3:55 am
Operator : K.Ruest
Sample : R1910505-014|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 45 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31413.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.488	61	64	69	rVB	17201	17729	1.15%	0.213%
2	1.616	76	85	90	rBV3	23281	46757	3.03%	0.561%
3	2.414	212	216	221	rBV	14050	21026	1.36%	0.252%
4	2.548	234	238	248	rBV	22962	44569	2.89%	0.535%
5	2.932	296	301	310	rVB2	8166	19376	1.25%	0.232%
6	4.505	552	559	570	rVB2	9277	28990	1.88%	0.348%
7	5.328	683	694	705	rBV2	140478	400190	25.91%	4.801%
8	5.456	705	715	730	rVB	320313	840376	54.40%	10.083%
9	5.859	771	781	793	rBV	210084	494231	32.00%	5.930%
10	6.529	882	891	902	rBV	563089	1114126	72.13%	13.367%
11	8.315	1177	1184	1195	rBV	956362	1544695	100.00%	18.533%
12	9.242	1332	1336	1341	rBV2	14744	19943	1.29%	0.239%
13	9.803	1421	1428	1434	rBV	966065	1316842	85.25%	15.799%
14	10.870	1598	1603	1611	rVB	821027	1024588	66.33%	12.293%
15	11.083	1633	1638	1641	rBV4	9435	16206	1.05%	0.194%
16	11.211	1655	1659	1662	rBV2	15742	20296	1.31%	0.244%
17	11.839	1756	1762	1770	rBV	1140858	1364905	88.36%	16.376%

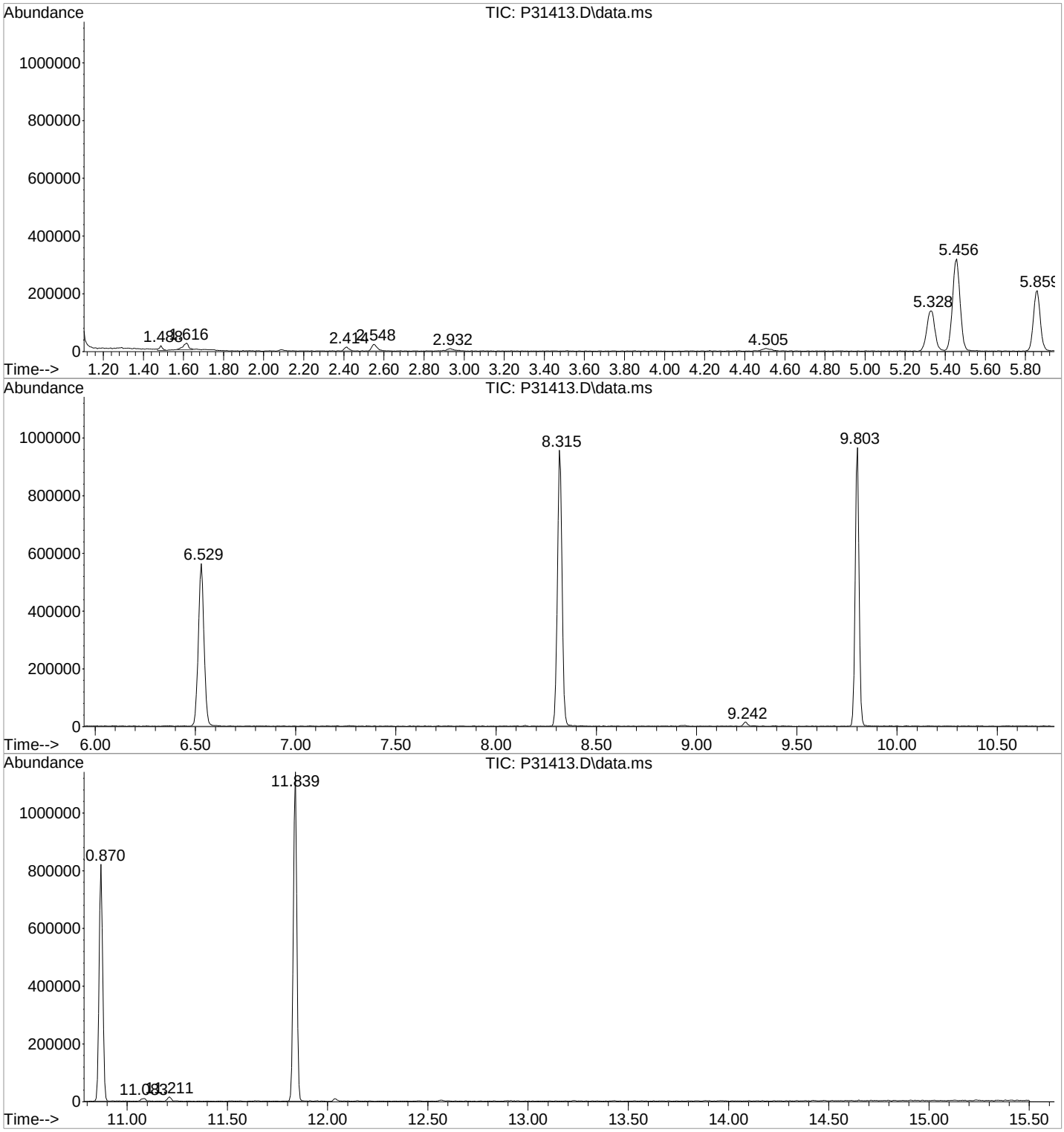
Sum of corrected areas: 8334845

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31413.D
Acq On : 30 Oct 2019 3:55 am
Operator : K.Ruest
Sample : R1910505-014|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 45 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/30/19
2nd 10/31/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102919\\
Data File : P31413.D
Acq On : 30 Oct 2019 3:55 amm
Operator : K.Ruestt
Sample : R1910505-014|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 45 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31414.D
Acq On : 30 Oct 2019 4:16 am
Operator : K.Ruest
Sample : R1910505-016|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Oct 30 17:08:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

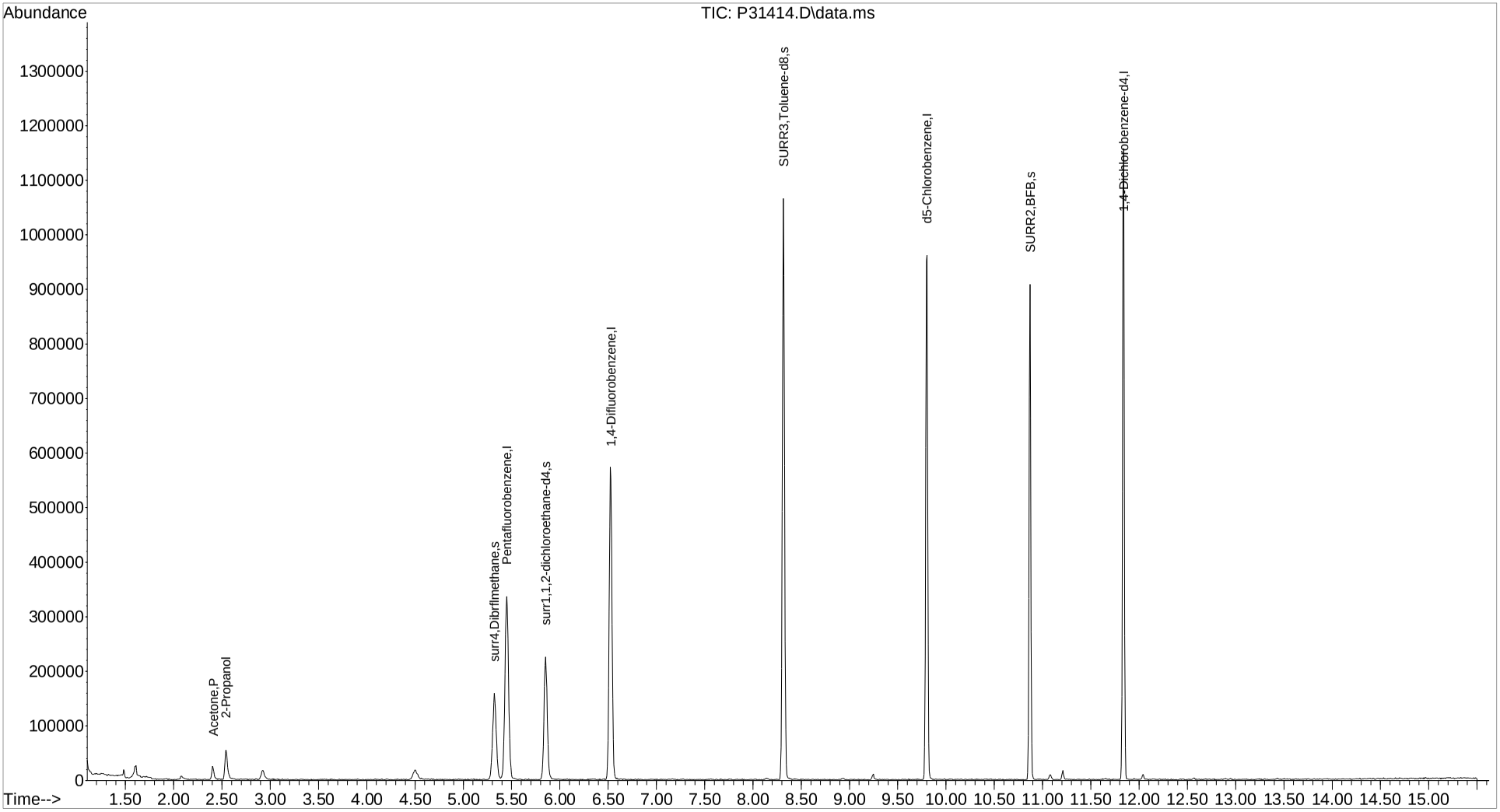
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	313609	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	493166	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	434980	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	235000	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	126265	48.31	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 96.62%			
48) surr1,1,2-dichloroetha...	5.852	65	186755	51.64	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 103.28%			
65) SURR3,Toluene-d8	8.315	98	631876	51.35	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 102.70%			
70) SURR2,BFB	10.870	95	236081	49.31	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 98.62%			
Target Compounds						Qvalue
15) Acetone	2.408	43	25681	10.06	ppb	94
16) 2-Propanol	2.542	45	69132	119.12	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

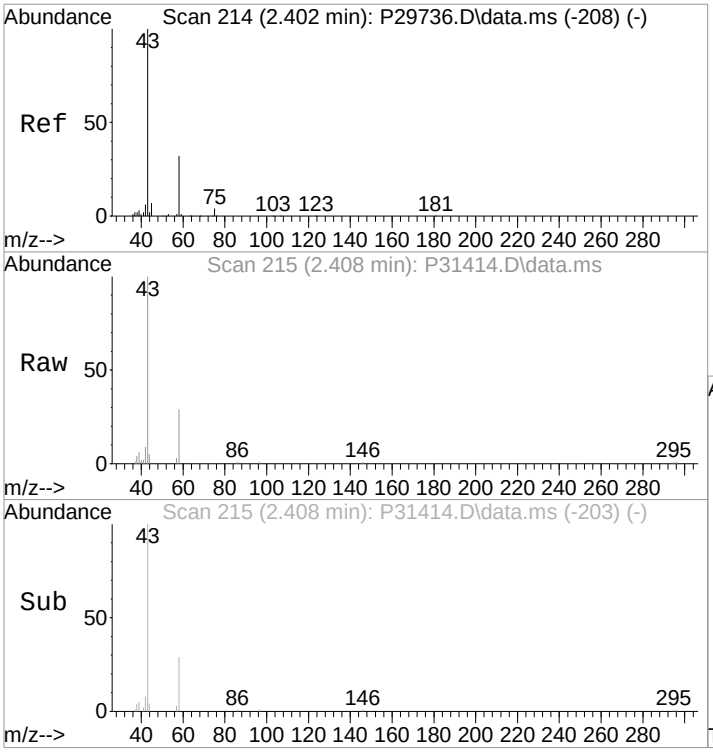
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31414.D
Acq On : 30 Oct 2019 4:16 am
Operator : K.Ruest
Sample : R1910505-016|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Oct 30 17:08:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



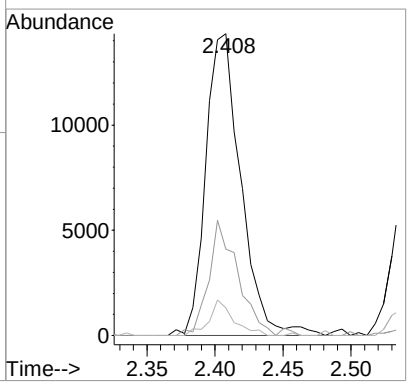
1st 10/30/19
2nd 10/31/19

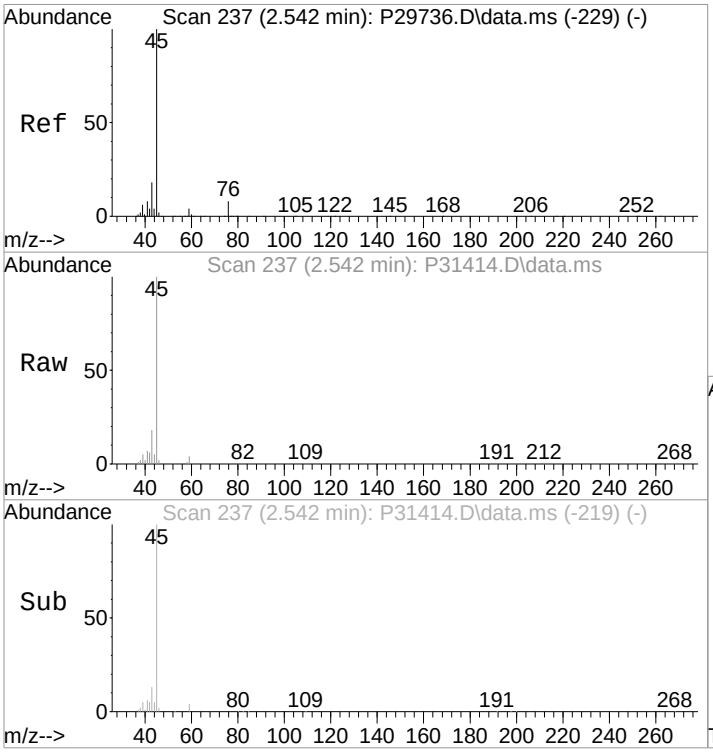


#15
Acetone
Concen: 10.06 ppb
RT: 2.408 min Scan# 215
Delta R.T. -0.000 min
Lab File: P31414.D
Acq: 30 Oct 2019 4:16 am

Tgt Ion: 43 Resp: 25681

Ion	Ratio	Lower	Upper
43	100		
58	28.7	11.7	51.7
42	9.2	0.0	26.5

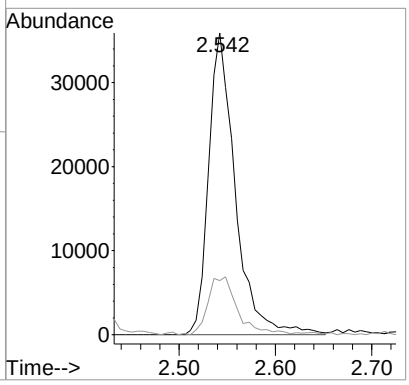




#16
2-Propanol
Concen: 119.12 ppb
RT: 2.542 min Scan# 237
Delta R.T. -0.000 min
Lab File: P31414.D
Acq: 30 Oct 2019 4:16 am

Tgt Ion: 45 Resp: 69132

Ion	Ratio	Lower	Upper
45	100		
43	18.0	0.0	37.7



1st 10/30/19
2nd 10/31/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31414.D
Acq On : 30 Oct 2019 4:16 am
Operator : K.Ruest
Sample : R1910505-016|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 46 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31414.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.609	72	84	87	rBV3	23387	49717	2.97%	0.556%
2	2.402	208	214	221	rBV	24805	41378	2.47%	0.463%
3	2.542	232	237	246	rBV2	53582	103189	6.17%	1.155%
4	2.926	291	300	310	rBV	17535	46015	2.75%	0.515%
5	4.499	545	558	567	rBV2	18573	61579	3.68%	0.689%
6	5.322	682	693	703	rBV	158082	412115	24.63%	4.612%
7	5.450	703	714	726	rVV2	334026	875918	52.34%	9.802%
8	5.852	771	780	791	rBV2	224461	525207	31.38%	5.877%
9	6.523	881	890	900	rBV	573328	1161346	69.39%	12.996%
10	8.315	1177	1184	1193	rBV	1065010	1673531	100.00%	18.728%
11	9.803	1421	1428	1438	rBV	961413	1383500	82.67%	15.482%
12	10.870	1598	1603	1612	rVB	907717	1116807	66.73%	12.498%
13	11.211	1653	1659	1664	rBV3	16761	20881	1.25%	0.234%
14	11.839	1756	1762	1768	rBV	1156579	1464970	87.54%	16.394%

Sum of corrected areas: 8936153

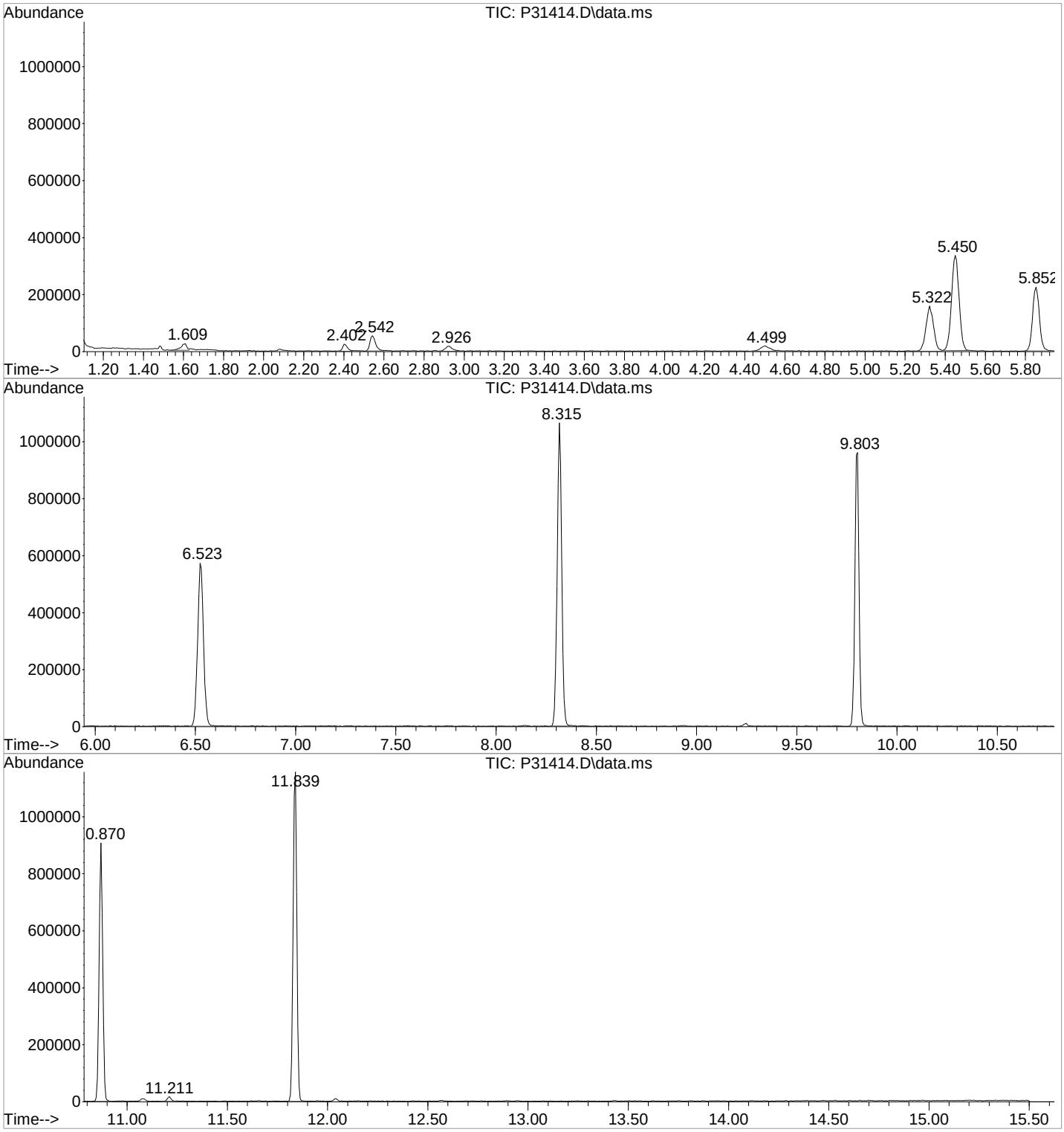
1st 10/30/19
2nd 10/31/19

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31414.D
Acq On : 30 Oct 2019 4:16 am
Operator : K.Ruest
Sample : R1910505-016|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 46 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 10/30/19
2nd 10/31/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102919\\
Data File : P31414.D
Acq On : 30 Oct 2019 4:16 amm
Operator : K.Ruestt
Sample : R1910505-016|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 46 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31400.D
Acq On : 29 Oct 2019 11:12 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 30 10:49:05 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

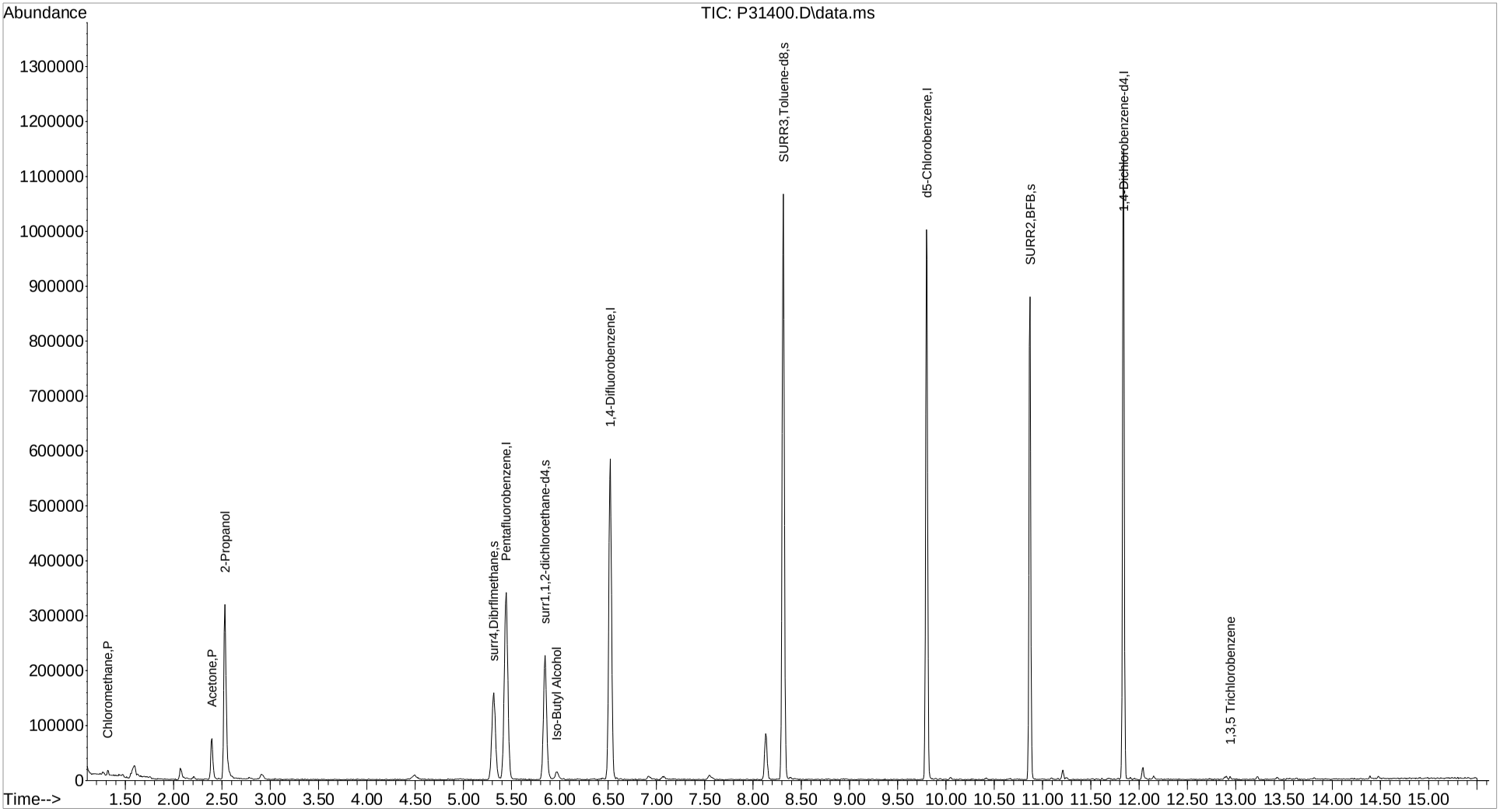
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	317332	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	500058	50.00	ppb		0.00
71) d5-Chlorobenzene	9.797	117	437903	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	229753	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	129992	49.05	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 98.10%				
48) surr1,1,2-dichloroetha...	5.846	65	181471	49.49	ppb		-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 98.98%				
65) SURR3,Toluene-d8	8.315	98	637368	51.09	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 102.18%				
70) SURR2,BFB	10.870	95	236889	48.80	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 97.60%				
Target Compounds							Qvalue
3) Chloromethane	1.317	50	4887	0.81	ppb		98
15) Acetone	2.396	43	78609	30.44	ppb		97
16) 2-Propanol	2.530	45	375900	640.10	ppb		93
51) Iso-Butyl Alcohol	5.962	43	11629	27.17	ppb		100
113) 1,3,5 Trichlorobenzene	12.943	180	1146	0.20	ppb	#	54

(#) = qualifier out of range (m) = manual integration (+) = signals summed

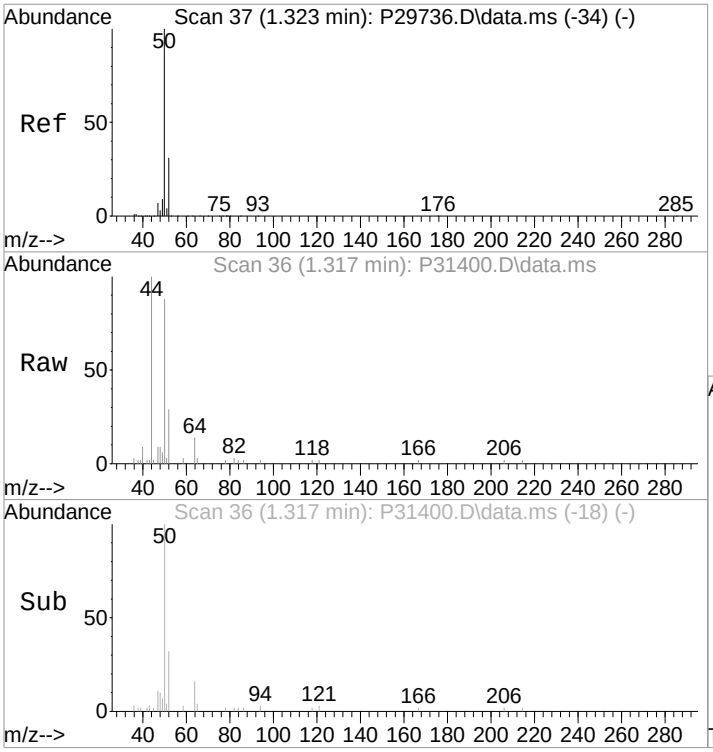
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31400.D
Acq On : 29 Oct 2019 11:12 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 30 10:49:05 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



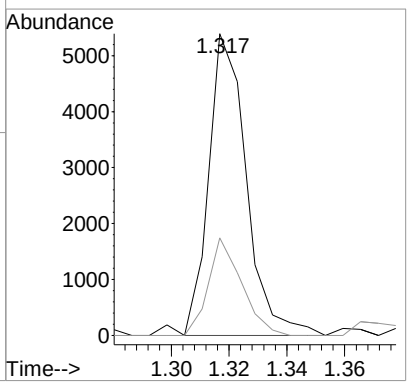
1st 10/30/19
2nd 10/31/19

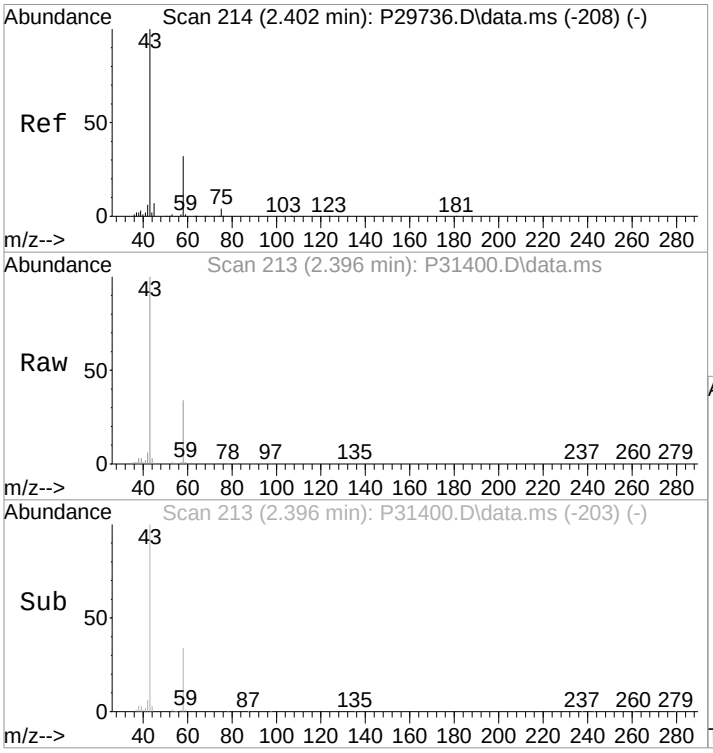


#3
Chloromethane
Concen: 0.81 ppb
RT: 1.317 min Scan# 36
Delta R.T. -0.006 min
Lab File: P31400.D
Acq: 29 Oct 2019 11:12 pm

Tgt Ion: 50 Resp: 4887

Ion	Ratio	Lower	Upper
50	100		
52	32.3	11.2	51.2

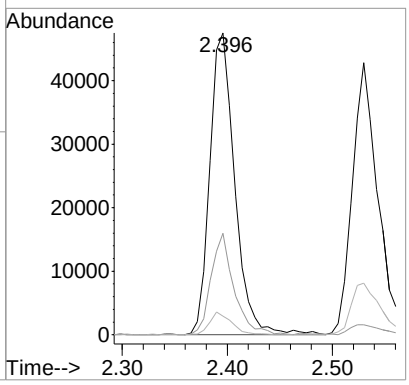


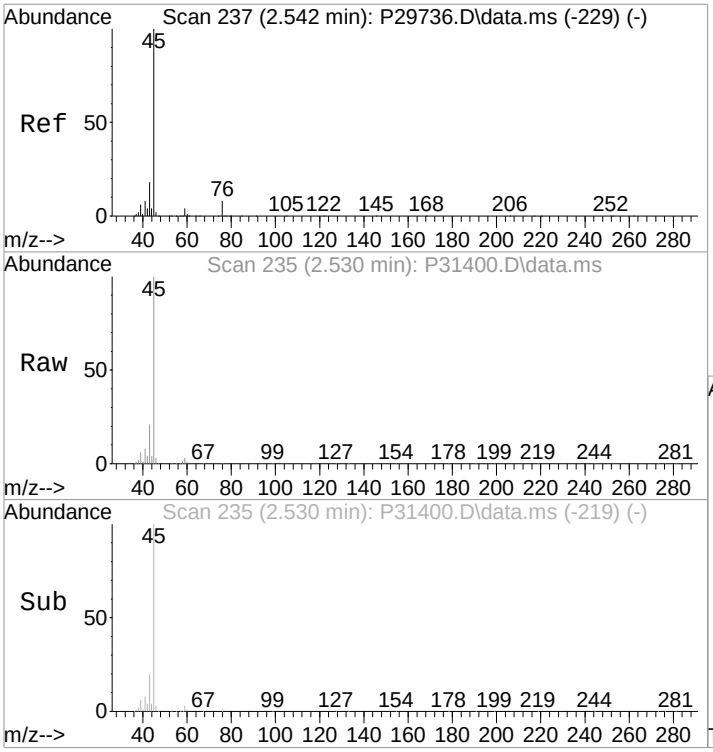


#15
Acetone
Concen: 30.44 ppb
RT: 2.396 min Scan# 213
Delta R.T. -0.012 min
Lab File: P31400.D
Acq: 29 Oct 2019 11:12 pm

Tgt Ion: 43 Resp: 78609

Ion	Ratio	Lower	Upper
43	100		
58	33.7	11.7	51.7
42	6.1	0.0	26.5

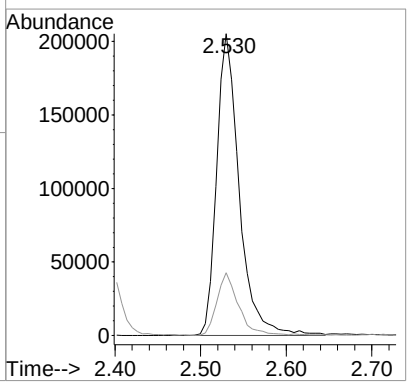


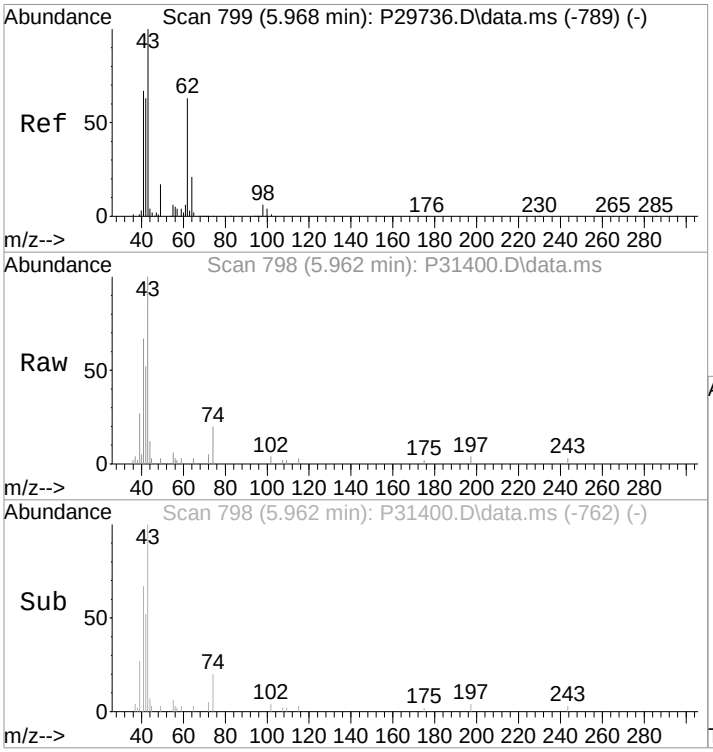


#16
2-Propanol
Concen: 640.10 ppb
RT: 2.530 min Scan# 235
Delta R.T. -0.012 min
Lab File: P31400.D
Acq: 29 Oct 2019 11:12 pm

Tgt Ion: 45 Resp: 375900

Ion	Ratio	Lower	Upper
45	100		
43	20.8	0.0	37.7

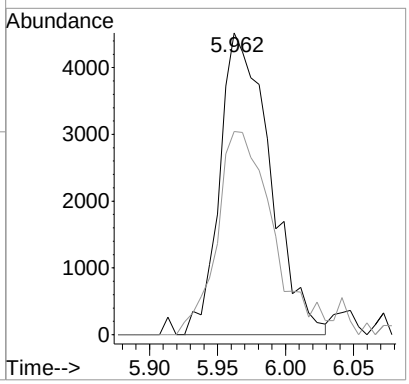


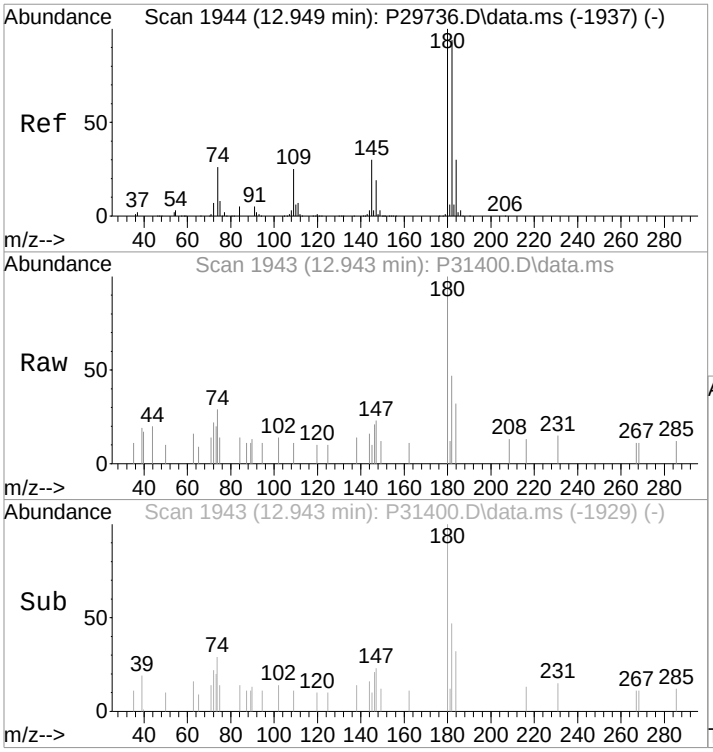


#51
Iso-Butyl Alcohol
Concen: 27.17 ppb
RT: 5.962 min Scan# 798
Delta R.T. -0.018 min
Lab File: P31400.D
Acq: 29 Oct 2019 11:12 pm

Tgt Ion: 43 Resp: 11629

Ion	Ratio	Lower	Upper
43	100		
41	67.3	47.1	87.1

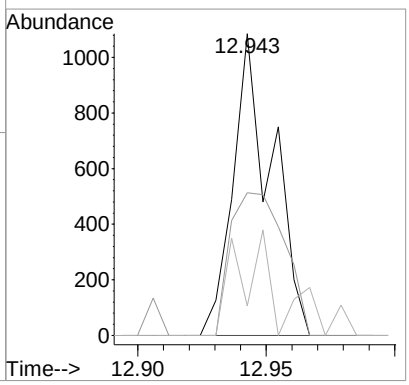




#113
1,3,5 Trichlorobenzene
Concen: 0.20 ppb
RT: 12.943 min Scan# 1943
Delta R.T. -0.006 min
Lab File: P31400.D
Acq: 29 Oct 2019 11:12 pm

Tgt Ion:180 Resp: 1146

Ion	Ratio	Lower	Upper
180	100		
182	47.2	75.3	112.9#
145	9.8	23.8	35.6#



1st 10/30/19
2nd 10/31/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31400.D
Acq On : 29 Oct 2019 11:12 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 32 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31400.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.591	72	81	85	rBV4	23402	63106	3.72%	0.646%
2	2.067	153	159	168	rBV	21518	43744	2.58%	0.448%
3	2.396	207	213	222	rBV	74629	123178	7.25%	1.260%
4	2.530	229	235	246	rBV	317594	567816	33.43%	5.810%
5	2.908	292	297	308	rVB2	10137	25988	1.53%	0.266%
6	4.493	549	557	561	rBV3	8345	21544	1.27%	0.220%
7	5.316	681	692	702	rBV2	158134	424793	25.01%	4.347%
8	5.444	704	713	725	rVB	339923	885961	52.16%	9.065%
9	5.846	770	779	790	rBV	225885	523190	30.80%	5.353%
10	5.974	792	800	808	rVB2	13079	33130	1.95%	0.339%
11	6.523	882	890	899	rBV	582972	1166269	68.67%	11.934%
12	7.547	1053	1058	1068	rVB6	8280	22368	1.32%	0.229%
13	8.133	1147	1154	1163	rBV	84095	156615	9.22%	1.603%
14	8.315	1177	1184	1193	rBV	1065643	1698437	100.00%	17.379%
15	9.797	1421	1427	1436	rBV	1001669	1396566	82.23%	14.290%
16	10.870	1597	1603	1609	rBV	879163	1124622	66.22%	11.507%
17	11.211	1654	1659	1662	rBV3	17729	23889	1.41%	0.244%
18	11.839	1755	1762	1767	rBV	1149421	1441738	84.89%	14.752%
19	12.040	1790	1795	1799	rBV	22020	30096	1.77%	0.308%

Sum of corrected areas: 9773050

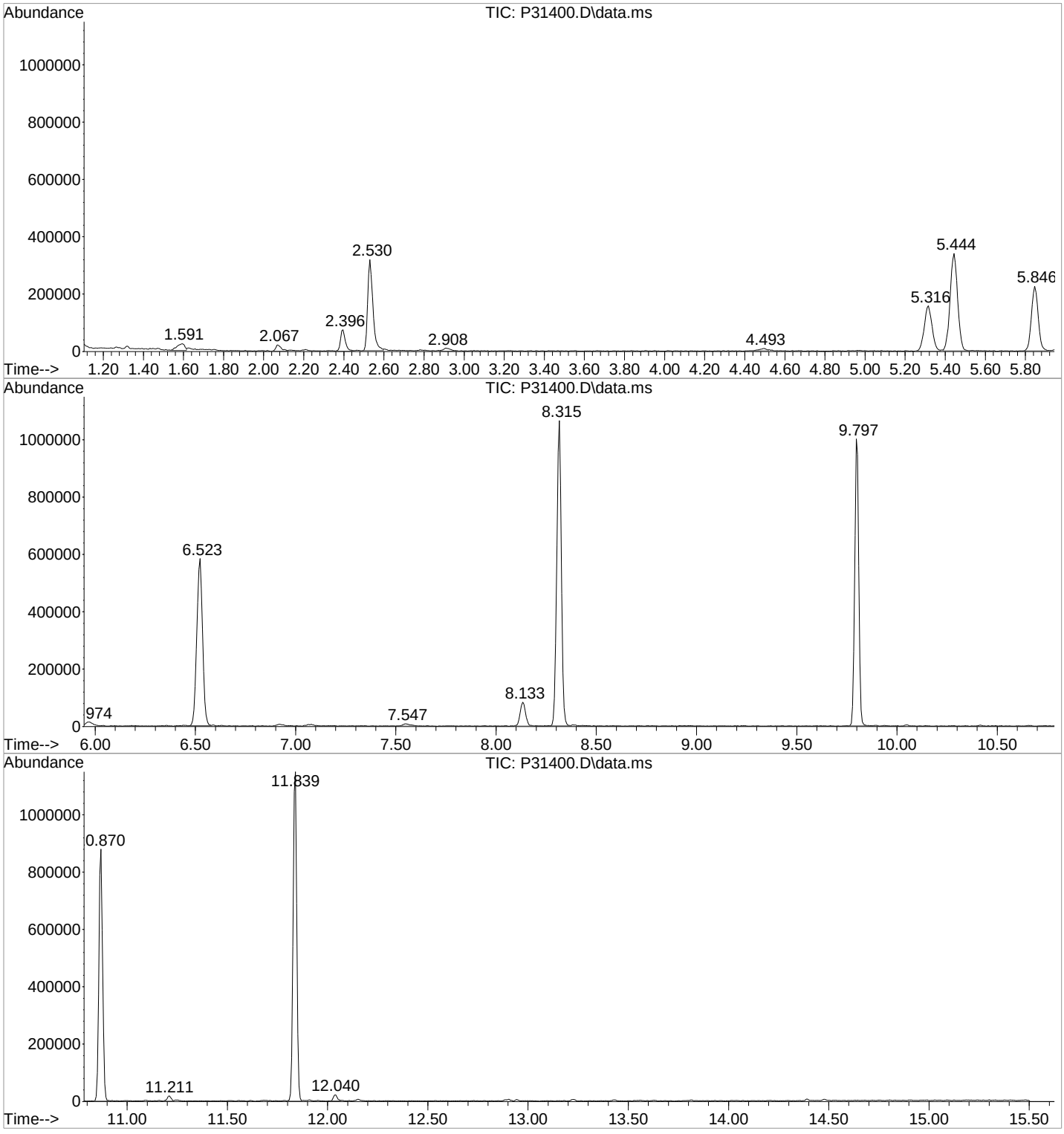
1st 10/30/19
2nd 10/31/19

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31400.D
Acq On : 29 Oct 2019 11:12 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 32 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31400.D
Acq On : 29 Oct 2019 11:12 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 32 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

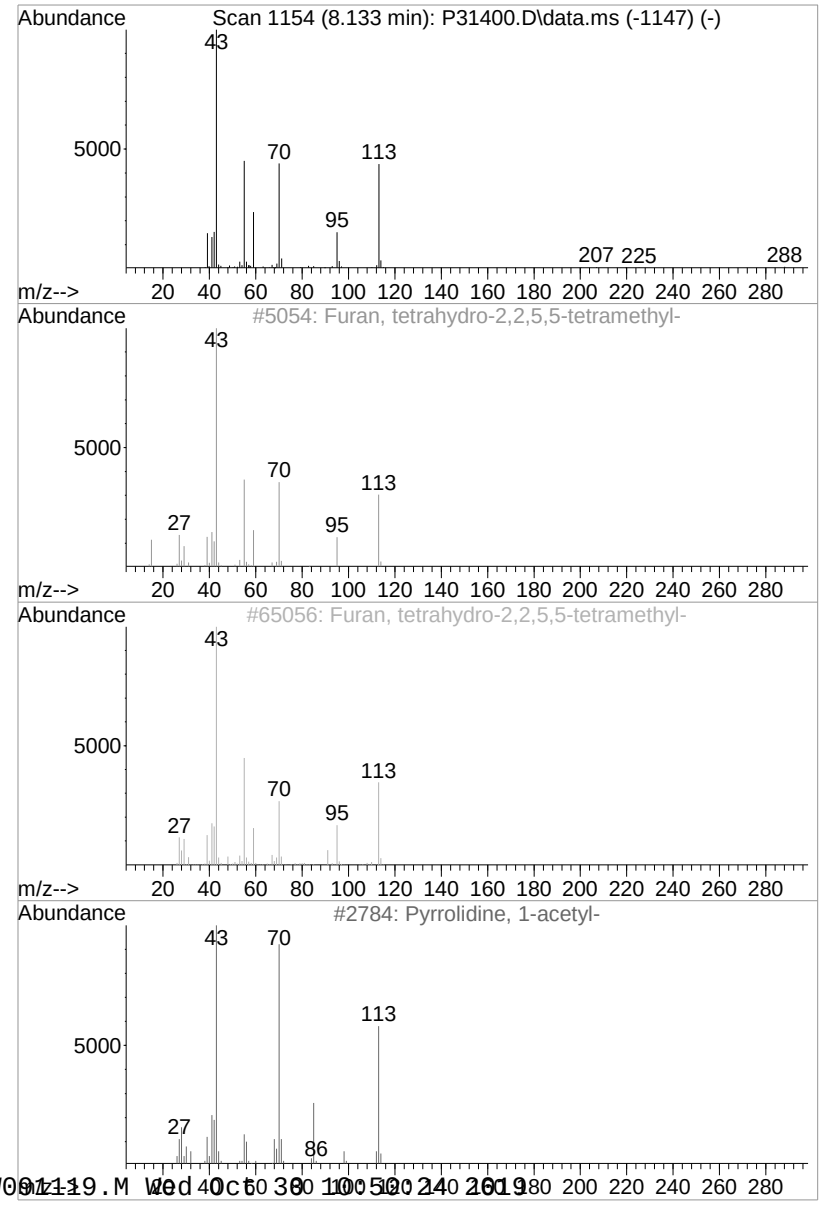
TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P

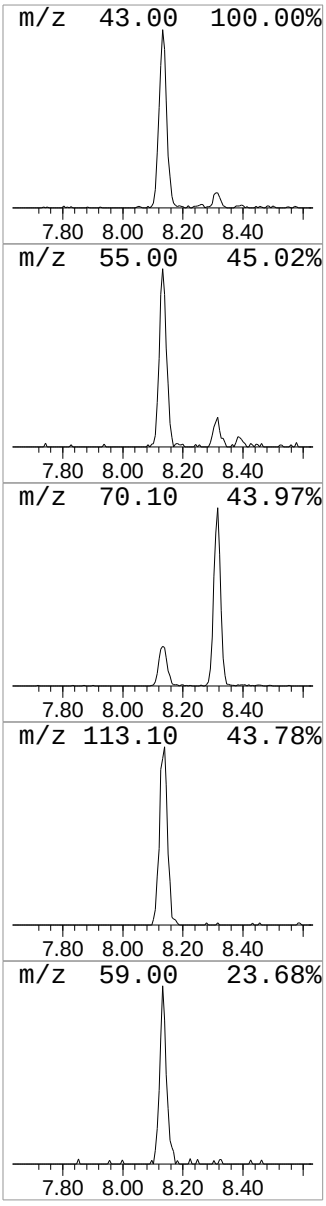
****

Peak Number 1 unknown Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.133	6.71 ppb	156615	1,4-Difluorobenzene	6.523

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Furan, tetrahydro-2,2,5,5-tetram...	128	C8H16O	015045-43-9	78
2	Furan, tetrahydro-2,2,5,5-tetram...	128	C8H16O	015045-43-9	59
3	Pyrrolidine, 1-acetyl-	113	C6H11NO	004030-18-6	53
4	2,5-Hexanediol, 2,5-dimethyl-	146	C8H18O2	000110-03-2	45
5	Heptane, 4-methyl-	114	C8H18	000589-53-7	35





1st 10/30/19
2nd 10/31/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31400.D
Acq On : 29 Oct 2019 11:12 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 32 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P

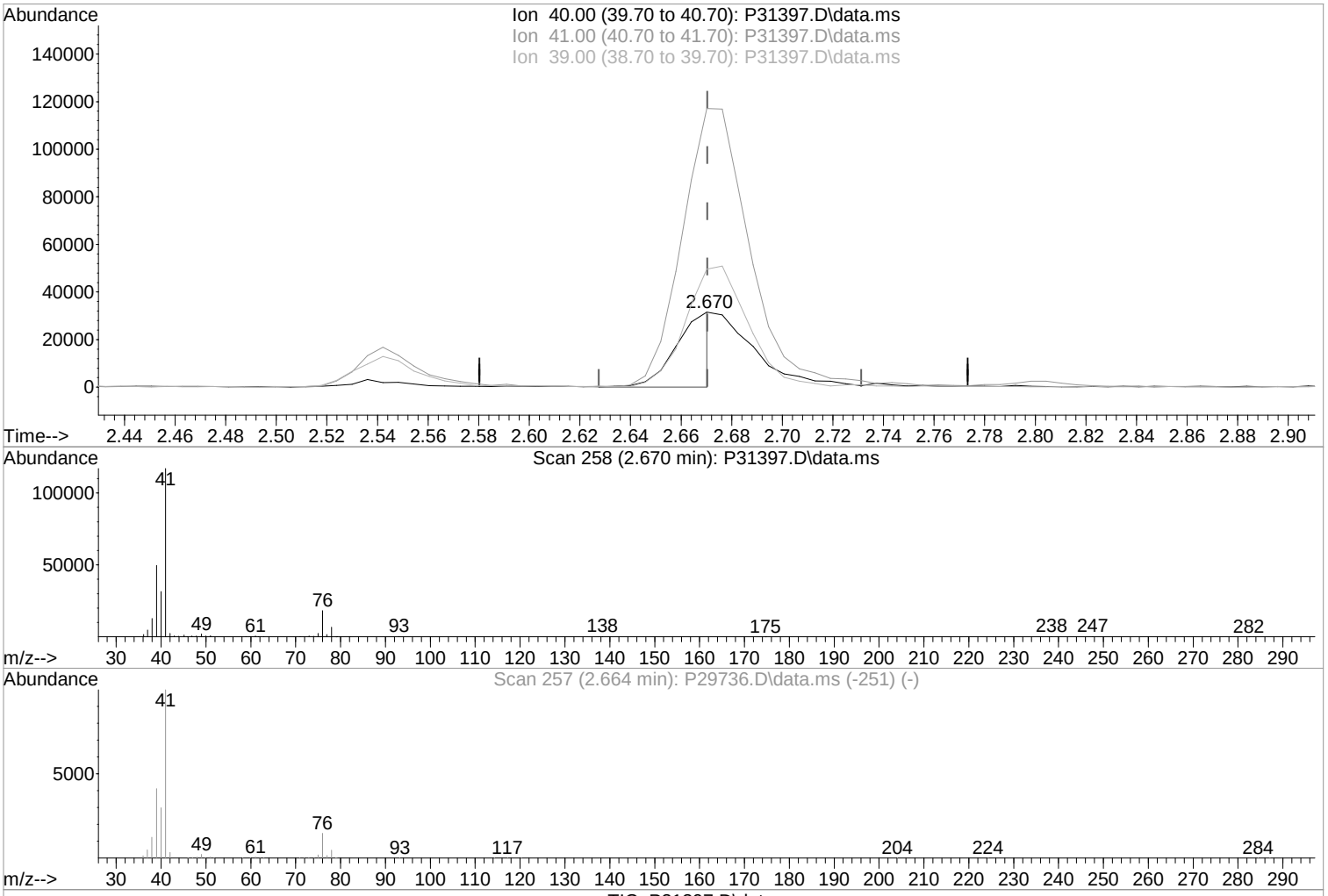
					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
unknown	8.133	6.7	ppb	156615	2	6.523	1166270	50.0

1st 10/30/19
2nd 10/31/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31397.D
Acq On : 29 Oct 2019 9:46 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 30 10:37:03 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31397.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 92.72 ppb m

response 31596

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	371.84#
39.00	137.60	157.41
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

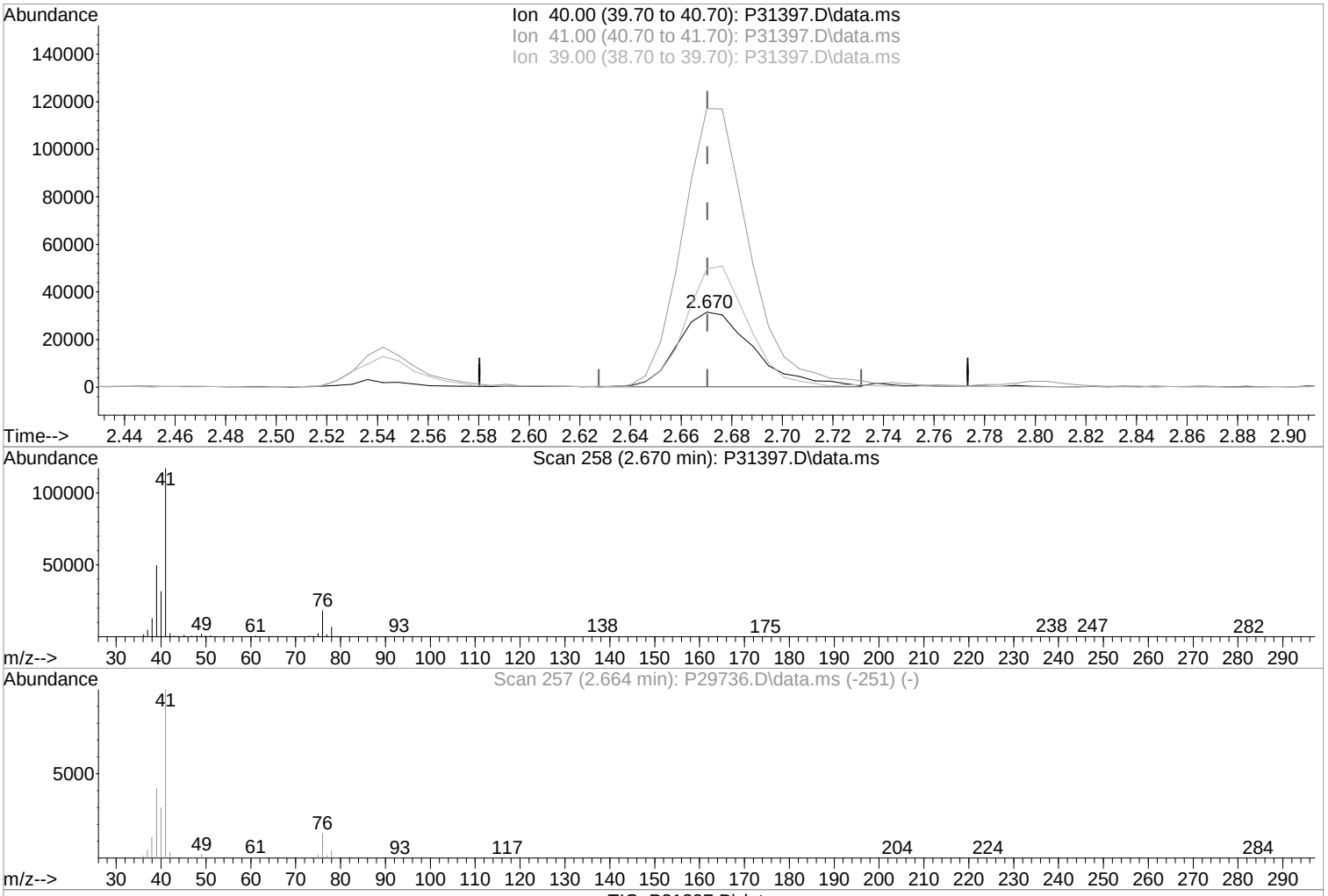
10/30/19

1st 10/30/19
2nd 10/31/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31397.D
Acq On : 29 Oct 2019 9:46 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 30 10:37:03 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31397.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 193.02 ppb

response 65777

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	371.84#
39.00	137.60	157.41
0.00	0.00	0.00

Manual Integration:

Before

10/30/19

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31397.D
Acq On : 29 Oct 2019 9:46 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 30 10:38:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.450	168	315495	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	501110	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	436873	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	234450	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	128065	48.22	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 96.44%				
48) surr1,1,2-dichloroetha...	5.853	65	184348	50.16	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.32%				
65) SURR3,Toluene-d8	8.315	98	621955	49.75	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.50%				
70) SURR2,BFB	10.870	95	238659	49.06	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 98.12%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	77362	19.84	ppb		98
3) Chloromethane	1.329	50	102779	17.11	ppb		97
4) Vinyl Chloride	1.402	62	90722	16.18	ppb		99
5) Bromomethane	1.628	94	58249	22.07	ppb		89
6) Chloroethane	1.707	64	54088	16.02	ppb		98
7) Freon 21	1.865	67	114625	18.34	ppb		97
8) Trichlorofluoromethane	1.908	101	78497	17.26	ppb		94
9) Diethyl Ether	2.146	59	69063	17.23	ppb		93
10) Freon 123a	2.158	67	76194	17.44	ppb		99
11) Freon 123	2.213	83	90441	18.77	ppb		98
12) Acrolein	2.262	56	39363	35.26	ppb		97
13) 1,1-Diclethene	2.335	96	49751	16.12	ppb		94
14) Freon 113	2.335	101	44631	14.87	ppb		95
15) Acetone	2.408	43	99143	38.61	ppb		98
16) 2-Propanol	2.542	45	368965	631.95	ppb		96
17) Iodomethane	2.475	142	55608	15.65	ppb		99
18) Carbon Disulfide	2.524	76	191262	20.68	ppb		100
19) Acetonitrile	2.670	40	31596m	92.72	ppb		
20) Allyl Chloride	2.676	76	31652	17.89	ppb	#	85
21) Methyl Acetate	2.713	43	86476	16.99	ppb		96
22) Methylene Chloride	2.798	84	64349	16.01	ppb		97
23) TBA	2.951	59	286265	331.21	ppb		98
24) Acrylonitrile	3.085	53	239083	90.78	ppb		100
25) Methyl-t-Butyl Ether	3.103	73	230452	17.74	ppb		97
26) trans-1,2-Dichloroethene	3.085	96	54576	16.28	ppb		93
28) 1,1-Diclethane	3.603	63	116162	16.76	ppb		96
29) Vinyl Acetate	3.700	86	15577	18.26	ppb	#	76
30) DIPE	3.707	45	265871	17.61	ppb		98
31) 2-Chloro-1,3-Butadiene	3.713	53	116961	20.84	ppb		94
32) ETBE	4.237	59	225916	16.62	ppb		98
33) 2,2-Dichloropropane	4.432	77	71727	14.11	ppb		94
34) cis-1,2-Dichloroethene	4.450	96	67129	17.45	ppb		85
35) 2-Butanone	4.530	43	64632	18.02	ppb		97
36) Propionitrile	4.639	54	98728	88.74	ppb		98
37) Bromochloromethane	4.859	130	40343	17.73	ppb		94
38) Methacrylonitrile	4.889	67	43025	16.35	ppb		95
39) Tetrahydrofuran	4.975	42	42328	16.01	ppb		94
40) Chloroform	5.036	83	103627	16.96	ppb		96
41) 1,1,1-Trichloroethane	5.304	97	77223	15.85	ppb		91

1st 10/30/19
2nd 10/31/19

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31397.D
Acq On : 29 Oct 2019 9:46 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 30 10:38:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) TAME	6.139	73	212721	16.99	ppb	96
44) Cyclohexane	5.359	41	77657	19.41	ppb	88
46) Carbontetrachloride	5.572	117	55833	16.36	ppb	96
47) 1,1-Dichloropropene	5.590	75	78310	16.15	ppb	95
49) Benzene	5.907	78	262398	17.42	ppb	98
50) 1,2-Dichloroethane	5.974	62	92142	18.00	ppb	96
51) Iso-Butyl Alcohol	5.968	43	144378	336.59	ppb	97
52) n-Heptane	6.352	43	83069	14.74	ppb	86
53) 1-Butanol	6.907	56	209609	852.32	ppb	99
54) Trichloroethene	6.840	130	54249	16.20	ppb	92
55) Methylcyclohexane	7.047	55	103203	19.12	ppb	91
56) 1,2-Diclpropane	7.133	63	73260	17.62	ppb	100
57) Dibromomethane	7.279	93	41254	20.01	ppb	96
58) 1,4-Dioxane	7.346	88	32431	337.33	ppb	97
59) Methyl Methacrylate	7.352	69	73161	18.90	ppb	98
60) Bromodichloromethane	7.499	83	75187	18.79	ppb	99
61) 2-Nitropropane	7.809	41	30534	48.30	ppb	97
63) cis-1,3-Dichloropropene	8.035	75	101691	17.11	ppb	99
64) 4-Methyl-2-pentanone	8.248	43	118521	18.42	ppb	98
66) Toluene	8.389	91	272623	17.89	ppb	95
67) trans-1,3-Dichloropropene	8.675	75	93791	17.15	ppb	96
68) Ethyl Methacrylate	8.803	69	123168	18.20	ppb	99
69) 1,1,2-Trichloroethane	8.864	97	65267	19.29	ppb	92
72) Tetrachloroethene	8.968	164	43391	16.47	ppb	94
73) 2-Hexanone	9.151	43	90926	18.69	ppb	97
74) 1,3-Dichloropropane	9.029	76	121428	18.54	ppb	97
75) Dibromochloromethane	9.248	129	53979	19.95	ppb	96
76) N-Butyl Acetate	9.291	43	156974	16.94	ppb	100
77) 1,2-Dibromoethane	9.346	107	64192	18.81	ppb	99
78) Chlorobenzene	9.827	112	173712	18.02	ppb	98
79) 3-CBTF	9.840	180	98375	19.81	ppb	90
80) 4-CBTF	9.894	180	86715	19.37	ppb	94
81) 1,1,1,2-Tetrachloroethane	9.919	131	56044	19.51	ppb	99
82) Ethylbenzene	9.937	106	87712	16.76	ppb	93
83) (m+p)Xylene	10.053	106	221944	35.11	ppb	94
84) o-Xylene	10.406	106	110740	17.21	ppb	95
85) Styrene	10.425	104	194202	18.23	ppb	96
87) Bromoform	10.589	173	33262	20.24	ppb	91
88) 2-CBTF	10.656	180	98630	20.16	ppb	98
89) Isopropylbenzene	10.736	105	273775	17.11	ppb	99
90) Cyclohexanone	10.827	55	106072	155.12	ppb	100
91) trans-1,4-Dichloro-2-B...	11.065	53	26978	15.28	ppb	94
92) 1,1,2,2-Tetrachloroethane	11.016	83	103179	19.36	ppb	97
93) Bromobenzene	10.992	156	69796	17.71	ppb	94
94) 1,2,3-Trichloropropane	11.047	110	31340	17.87	ppb	95
95) n-Propylbenzene	11.095	91	335510	17.53	ppb	99
96) 2-Chlorotoluene	11.156	91	205705	17.03	ppb	96
97) 3-Chlorotoluene	11.211	91	233114	19.00	ppb	97
98) 4-Chlorotoluene	11.254	91	233706	17.92	ppb	96
99) 1,3,5-Trimethylbenzene	11.242	105	230730	17.32	ppb	94
100) tert-Butylbenzene	11.516	119	202416	17.26	ppb	97
101) 1,2,4-Trimethylbenzene	11.553	105	235647	17.81	ppb	97
102) 3,4-DCBTF	11.620	214	75699	18.76	ppb	97
103) sec-Butylbenzene	11.693	105	288947	17.03	ppb	99
104) p-Isopropyltoluene	11.821	119	238592	16.42	ppb	95
105) 1,3-Dclbenz	11.784	146	136165	17.34	ppb	96

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31397.D
Acq On : 29 Oct 2019 9:46 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 30 10:38:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

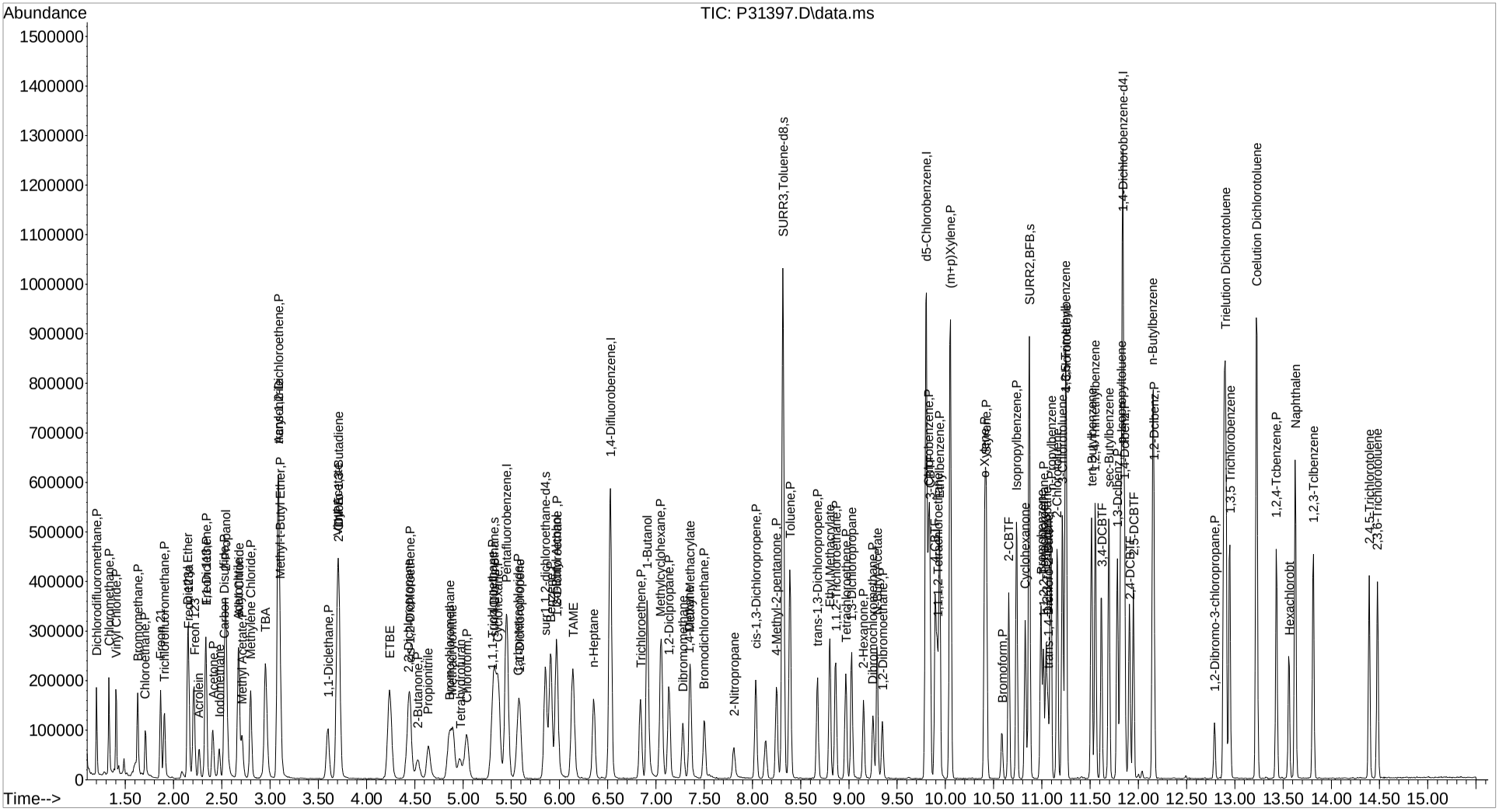
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 1,4-Dclbenz	11.857	146	142634	17.75	ppb	97
107) 2,4-DCBTF	11.912	214	69426	18.85	ppb	91
108) 2,5-DCBTF	11.949	214	77164	18.84	ppb	97
109) n-Butylbenzene	12.150	91	228643	16.10	ppb	96
110) 1,2-Dclbenz	12.162	146	146331	18.84	ppb	93
111) 1,2-Dibromo-3-chloropr...	12.790	157	22007	17.88	ppb	91
112) Trielution Dichlorotol...	12.900	125	409538	57.65	ppb	99
113) 1,3,5 Trichlorobenzene	12.949	180	113250	19.46	ppb	94
114) Coelution Dichlorotoluene	13.223	125	306382	38.50	ppb	99
115) 1,2,4-Tcbenzene	13.430	180	107218	17.92	ppb	97
116) Hexachlorobt	13.564	225	37217	15.53	ppb	97
117) Naphthalen	13.625	128	368477	19.58	ppb	97
118) 1,2,3-Tclbenzene	13.814	180	109150	18.47	ppb	97
119) 2,4,5-Trichlorotolene	14.394	159	81114	18.01	ppb	95
120) 2,3,6-Trichlorotoluene	14.479	159	72596	15.59	ppb	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31397.D
Acq On : 29 Oct 2019 9:46 pm
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 30 10:38:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

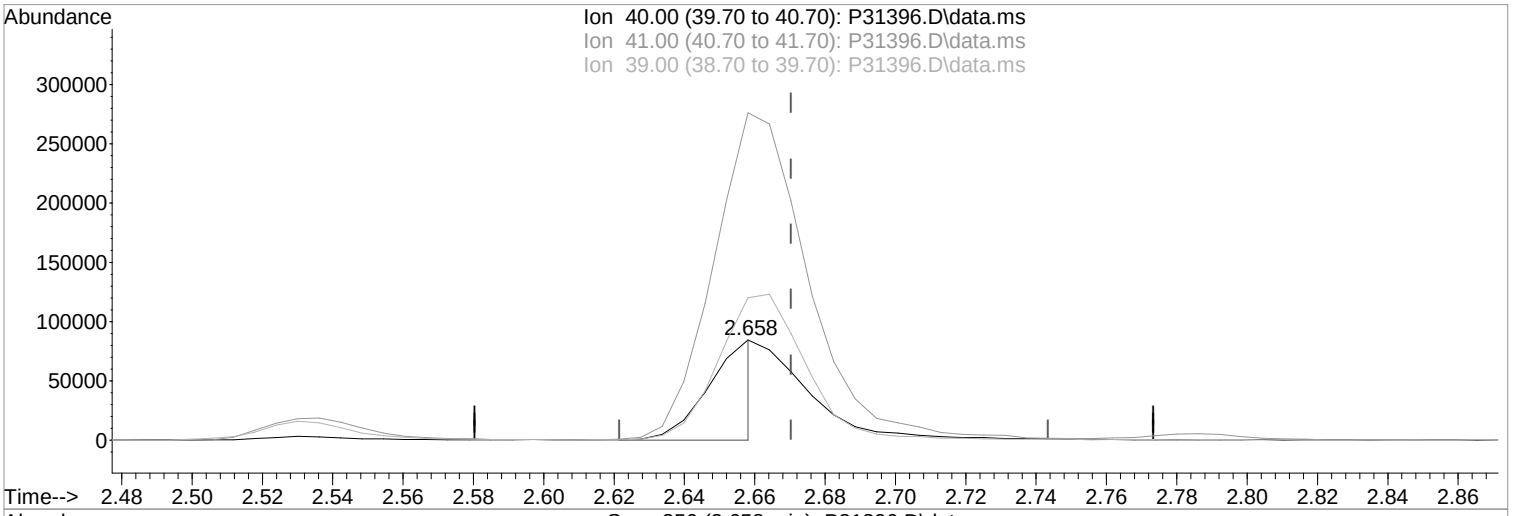


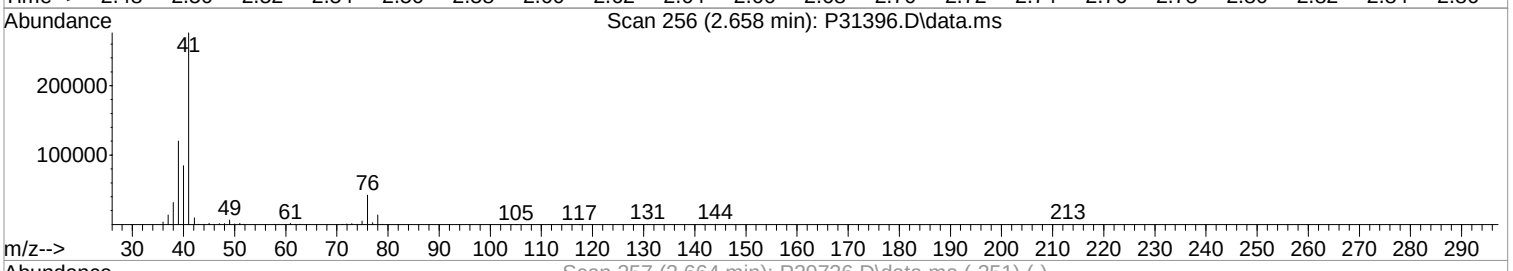
1st 10/30/19
2nd 10/31/19

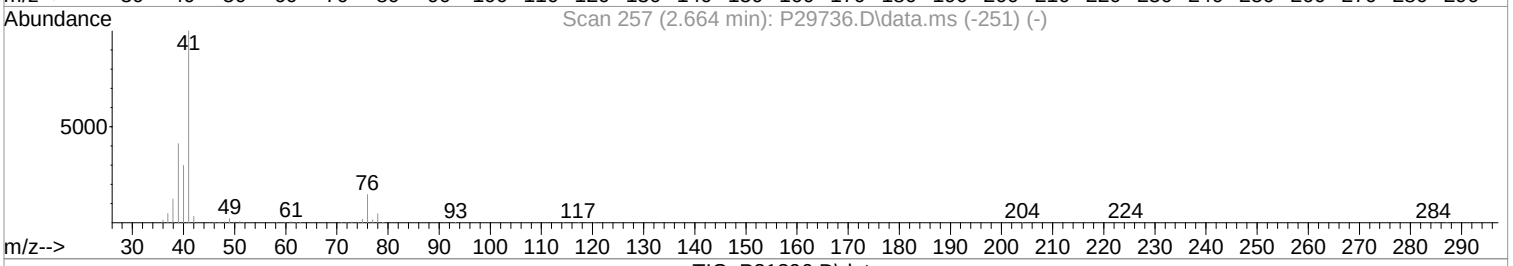
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:34:26 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31396.D\data.ms

(19) Acetonitrile

2.658min (-0.012) 227.96 ppb m

response 79269

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	326.94
39.00	137.60	142.22
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

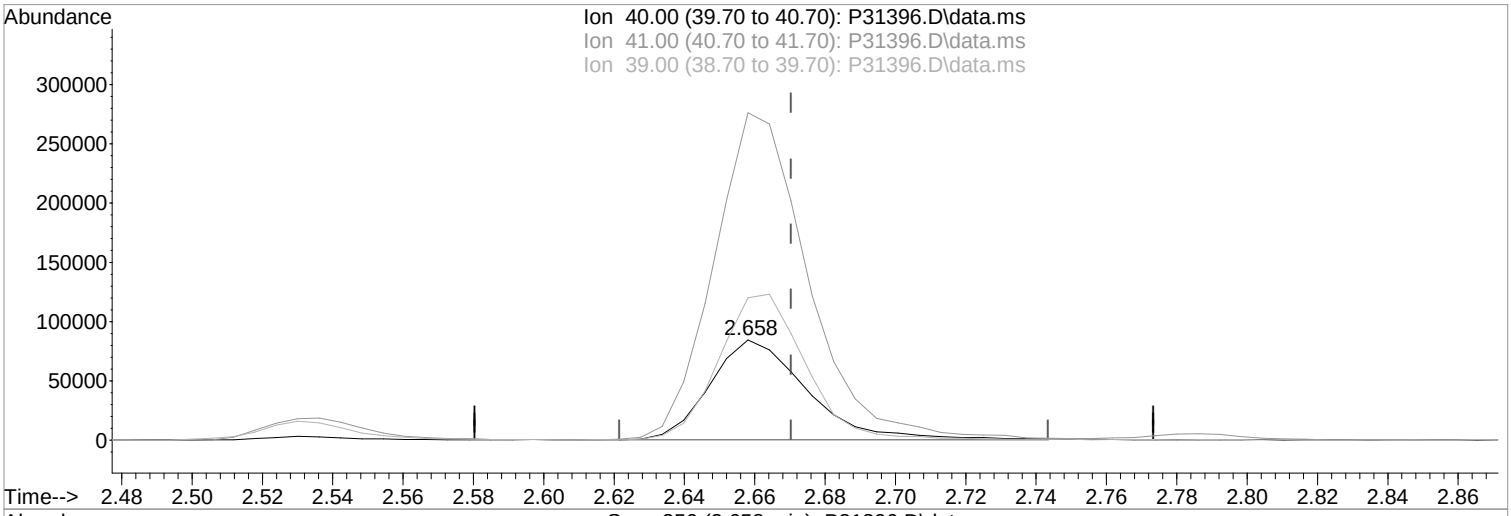
10/30/19

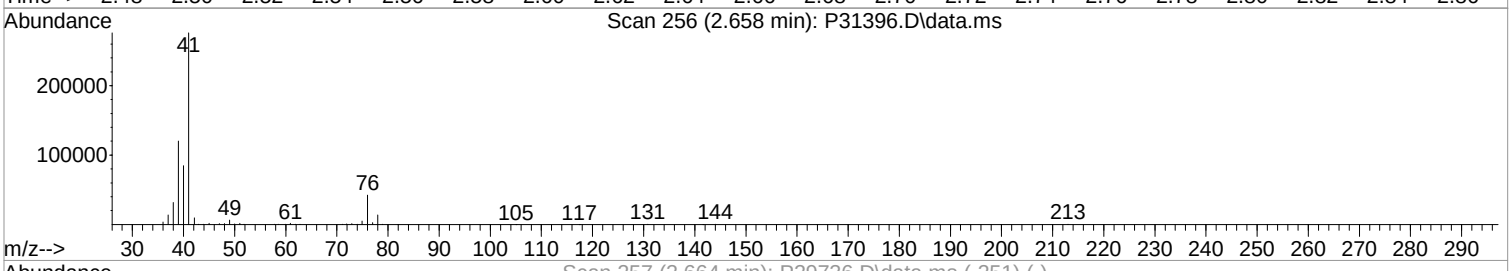
1st 10/30/19
2nd 10/31/19

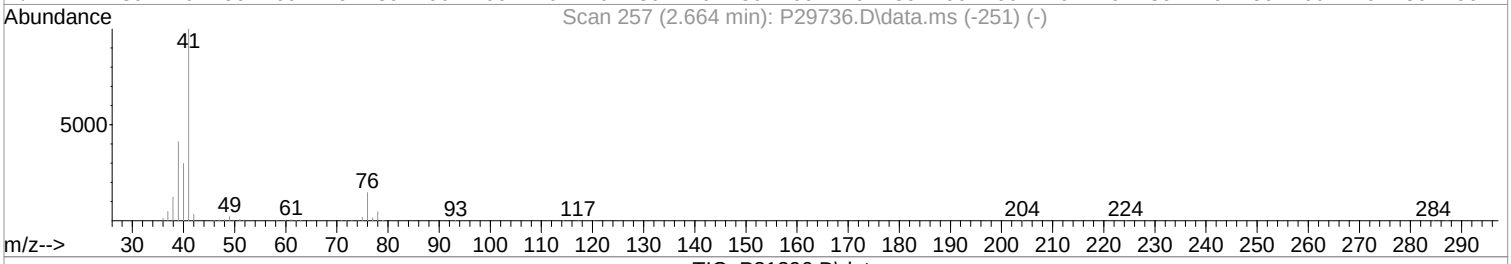
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:34:26 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31396.D\data.ms

(19) Acetonitrile

2.658min (-0.012) 467.53 ppb

response 162576

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	326.94
39.00	137.60	142.22
0.00	0.00	0.00

Manual Integration:

Before

10/30/19

1st 10/30/19
2nd 10/31/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:35:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	50.0000	50.0000	0.0	99	0.00
2	P	Dichlorodifluoromethane	50.0000	49.3082	1.4	91	-0.01
3	P	Chloromethane	50.0000	43.1118	13.8	87	0.00
4	P	Vinyl Chloride	50.0000	44.9165	10.2	88	-0.01
5	P	Bromomethane	50.0000	53.5147	-7.0	107	0.00
6	P	Chloroethane	50.0000	43.0302	13.9	86	-0.01
7		Freon 21	50.0000	47.8548	4.3	99	-0.01
8	P	Trichlorofluoromethane	50.0000	43.8891	12.2	83	-0.01
9		Diethyl Ether	50.0000	42.9952	14.0	85	-0.01
10		Freon 123a	50.0000	44.3600	11.3	95	-0.01
11		Freon 123	50.0000	45.0279	9.9	96	-0.01
12		Acrolein	250.0000	236.8316	5.3	95	-0.01
13	P	1,1-Diclethene	50.0000	42.3821	15.2	84	0.00
14	P	Freon 113	50.0000	41.0138	18.0	83	-0.01
15	P	Acetone	50.0000	40.0854	19.8	82	-0.01
16		2-Propanol	1000.0000	823.4583	17.7	83	-0.01
17		Iodomethane	50.0000	45.9809	8.0	86	-0.01
18	P	Carbon Disulfide	50.0000	47.4675	5.1	93	-0.01
19		Acetonitrile	250.0000	227.9571	8.8	98	-0.01
20		Allyl Chloride	50.0000	41.9058	16.2	88	-0.01
21	P	Methyl Acetate	50.0000	48.1035	3.8	98	-0.01
22	P	Methylene Chloride	50.0000	39.8999	20.2#	89	-0.01
23		TBA	1000.0000	797.7025	20.2#	78	-0.02
24		Acrylonitrile	250.0000	220.2397	11.9	85	0.00
25	P	Methyl-t-Butyl Ether	50.0000	43.0480	13.9	85	-0.02
26	P	trans-1,2-Dichloroethene	50.0000	42.3531	15.3	86	-0.01
27		Halothane	-1.0000	0.0000	0.0	0	-4.22#
28	P	1,1-Diclethane	50.0000	42.9004	14.2	85	-0.01
29		Vinyl Acetate	50.0000	42.5367	14.9	92	-0.02
30		DIPE	50.0000	43.5003	13.0	86	-0.01
31		2-Chloro-1,3-Butadiene	50.0000	48.7893	2.4	94	0.00
32		ETBE	50.0000	42.4782	15.0	85	-0.01
33		2,2-Dichloropropane	50.0000	38.4070	23.2#	75	0.00
34	P	cis-1,2-Dichloroethene	50.0000	43.6452	12.7	87	0.00
35	P	2-Butanone	50.0000	43.3635	13.3	89	-0.02
36		Propionitrile	250.0000	221.3646	11.5	86	-0.01
37		Bromochloromethane	50.0000	41.9289	16.1	86	-0.01
38		Methacrylonitrile	50.0000	41.7203	16.6	82	-0.01
39		Tetrahydrofuran	50.0000	43.8378	12.3	87	-0.02
40	P	Chloroform	50.0000	41.5069	17.0	84	-0.01
41	P	1,1,1-Trichloroethane	50.0000	42.1449	15.7	86	-0.01
42		TAME	50.0000	43.2684	13.5	85	0.00
43	I	1,4-Difluorobenzene	50.0000	50.0000	0.0	96	0.00
44	P	Cyclohexane	50.0000	47.9981	4.0	95	0.00
45	s	surr4,Dibrflmethane	50.0000	48.5055	3.0	93	-0.01
46	P	Carbontetrachloride	50.0000	45.5139	9.0	86	0.00
47		1,1-Dichloropropene	50.0000	42.1900	15.6	80	-0.01
48	s	surr1,1,2-dichloroethane-d4	50.0000	50.0249	-0.0	94	-0.01
49	P	Benzene	50.0000	44.6043	10.8	85	0.00
50	P	1,2-Dichloroethane	50.0000	45.4641	9.1	88	-0.01
51		Iso-Butyl Alcohol	1000.0000	802.4480	19.8	78	-0.02

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:35:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
52		n-Heptane	50.0000	40.0681	19.9	77	0.00
53		1-Butanol	2500.0000	2169.5398	13.2	78	-0.01
54	P	Trichloroethene	50.0000	47.0376	5.9	88	0.00
55	P	Methylcyclohexane	50.0000	46.8689	6.3	93	-0.01
56	P	1,2-Diclpropane	50.0000	45.2070	9.6	86	0.00
57		Dibromomethane	50.0000	48.6109	2.8	91	0.00
58		1,4-Dioxane	1000.0000	806.5577	19.3	81	-0.02
59		Methyl Methacrylate	50.0000	45.7834	8.4	81	0.00
60	P	Bromodichloromethane	50.0000	47.3323	5.3	89	0.00
61		2-Nitropropane	100.0000	121.7072	-21.7#	133	0.00
62		2-Chloroethylvinyl Ether	50.0000	40.6173	18.8	72	0.00
63	P	cis-1,3-Dichloropropene	50.0000	45.5205	9.0	83	0.00
64	P	4-Methyl-2-pentanone	50.0000	47.0402	5.9	89	0.00
65	s	SURR3,Toluene-d8	50.0000	49.8687	0.3	95	0.00
66	P	Toluene	50.0000	45.7067	8.6	85	0.00
67	P	trans-1,3-Dichloropropene	50.0000	45.8244	8.4	85	0.00
68		Ethyl Methacrylate	50.0000	45.4691	9.1	83	0.00
69	P	1,1,2-Trichloroethane	50.0000	46.8101	6.4	86	0.00
70	s	SURR2,BFB	50.0000	48.6404	2.7	94	0.00
71	I	d5-Chlorobenzene	50.0000	50.0000	0.0	94	0.00
72	P	Tetrachloroethene	50.0000	42.1054	15.8	84	0.00
73	P	2-Hexanone	50.0000	46.8123	6.4	88	0.00
74		1,3-Dichloropropane	50.0000	46.9046	6.2	89	0.00
75	P	Dibromochloromethane	50.0000	48.9100	2.2	93	0.00
76		N-Butyl Acetate	50.0000	47.8990	4.2	86	0.00
77	P	1,2-Dibromoethane	50.0000	45.1503	9.7	86	0.00
78	P	Chlorobenzene	50.0000	44.6221	10.8	85	0.00
79		3-CBTF	50.0000	43.2718	13.5	86	0.00
80		4-CBTF	50.0000	43.1744	13.7	86	0.00
81		1,1,1,2-Tetrachloroethane	50.0000	48.2389	3.5	89	0.00
82	P	Ethylbenzene	50.0000	44.2388	11.5	84	0.00
83	P	(m+p)Xylene	100.0000	89.7697	10.2	83	0.00
84	P	o-Xylene	50.0000	43.8812	12.2	84	0.00
85	P	Styrene	50.0000	46.0853	7.8	83	0.00
86	I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	98	0.00
87	P	Bromoform	50.0000	50.1716	-0.3	97	0.00
88		2-CBTF	50.0000	43.4993	13.0	87	0.00
89	P	Isopropylbenzene	50.0000	44.6596	10.7	83	0.00
90		Cyclohexanone	1000.0000	858.3473	14.2	84	0.00
91		trans-1,4-Dichloro-2-Butene	50.0000	36.7541	26.5#	72	0.00
92	P	1,1,2,2-Tetrachloroethane	50.0000	44.1702	11.7	82	0.00
93		Bromobenzene	50.0000	45.3948	9.2	90	0.00
94		1,2,3-Trichloropropane	50.0000	42.3770	15.2	86	0.00
95		n-Propylbenzene	50.0000	43.8035	12.4	81	0.00
96		2-Chlorotoluene	50.0000	42.9672	14.1	83	0.00
97		3-Chlorotoluene	50.0000	42.2567	15.5	82	0.00
98		4-Chlorotoluene	50.0000	44.9500	10.1	84	0.00
99		1,3,5-Trimethylbenzene	50.0000	43.9643	12.1	82	0.00
100		tert-Butylbenzene	50.0000	43.7870	12.4	83	0.00
101		1,2,4-Trimethylbenzene	50.0000	45.3597	9.3	82	0.00

1st 10/30/19
2nd 10/31/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:35:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
102		3,4-DCBTF	50.0000	42.5159	15.0	87	0.00
103		sec-Butylbenzene	50.0000	43.1399	13.7	80	0.00
104		p-Isopropyltoluene	50.0000	43.9655	12.1	81	0.00
105	P	1,3-Dclbenz	50.0000	44.1797	11.6	88	0.00
106	P	1,4-Dclbenz	50.0000	44.0643	11.9	87	0.00
107		2,4-DCBTF	50.0000	42.9476	14.1	87	0.00
108		2,5-DCBTF	50.0000	42.9750	14.0	87	0.00
109		n-Butylbenzene	50.0000	41.8007	16.4	79	0.00
110	P	1,2-Dclbenz	50.0000	45.4670	9.1	89	0.00
111	P	1,2-Dibromo-3-chloropropane	50.0000	45.0674	9.9	87	0.00
112		Trielution Dichlorotoluene	150.0000	129.5675	13.6	83	0.00
113		1,3,5 Trichlorobenzene	50.0000	44.1910	11.6	89	0.00
114		Coelution Dichlorotoluene	100.0000	86.8833	13.1	84	0.00
115	P	1,2,4-Tcbenzene	50.0000	43.2349	13.5	86	0.00
116		Hexachlorobt	50.0000	40.7592	18.5	81	0.00
117		Naphthalen	50.0000	46.7699	6.5	84	0.00
118		1,2,3-Tclbenzene	50.0000	44.7122	10.6	87	0.00
119		2,4,5-Trichlorotolene	50.0000	41.1789	17.6	81	0.00
120		2,3,6-Trichlorotoluene	50.0000	41.6278	16.7	82	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

1st 10/30/19
2nd 10/31/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:35:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	321932	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	510965	50.00	ppb		0.00
71) d5-Chlorobenzene	9.797	117	452228	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	246068	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.310	113	131354	48.51	ppb		-0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 97.02%				
48) surr1,1,2-dichloroetha...	5.846	65	187452	50.02	ppb		-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.04%				
65) SURR3,Toluene-d8	8.316	98	635761	49.87	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.74%				
70) SURR2,BFB	10.870	95	241263	48.64	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 97.28%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	196197	49.31	ppb		97
3) Chloromethane	1.317	50	264271	43.11	ppb		100
4) Vinyl Chloride	1.390	62	257010	44.92	ppb		97
5) Bromomethane	1.616	94	143133	53.51	ppb		92
6) Chloroethane	1.695	64	148252	43.03	ppb		99
7) Freon 21	1.853	67	305215	47.85	ppb		98
8) Trichlorofluoromethane	1.890	101	203623	43.89	ppb		94
9) Diethyl Ether	2.134	59	175856	43.00	ppb		95
10) Freon 123a	2.140	67	197770	44.36	ppb		99
11) Freon 123	2.195	83	221425	45.03	ppb		95
12) Acrolein	2.250	56	269807	236.83	ppb		99
13) 1,1-Diclethene	2.323	96	133478	42.38	ppb		94
14) Freon 113	2.323	101	125588	41.01	ppb		94
15) Acetone	2.396	43	105021	40.09	ppb		96
16) 2-Propanol	2.530	45	490590	823.46	ppb		94
17) Iodomethane	2.457	142	179948	45.98	ppb		99
18) Carbon Disulfide	2.512	76	447938	47.47	ppb		99
19) Acetonitrile	2.658	40	79269m	227.96	ppb		
20) Allyl Chloride	2.664	76	75671	41.91	ppb	#	82
21) Methyl Acetate	2.695	43	249768	48.10	ppb		95
22) Methylene Chloride	2.786	84	163662	39.90	ppb		99
23) TBA	2.939	59	703517	797.70	ppb		99
24) Acrylonitrile	3.073	53	591859	220.24	ppb		99
25) Methyl-t-Butyl Ether	3.085	73	570535	43.05	ppb		99
26) trans-1,2-Dichloroethene	3.073	96	144836	42.35	ppb		94
28) 1,1-Diclethane	3.585	63	303473	42.90	ppb		98
29) Vinyl Acetate	3.682	86	38748	42.54	ppb	#	76
30) DIPE	3.694	45	670063	43.50	ppb		98
31) 2-Chloro-1,3-Butadiene	3.701	53	279389	48.79	ppb		100
32) ETBE	4.225	59	589048	42.48	ppb		99
33) 2,2-Dichloropropane	4.426	77	199208	38.41	ppb		96
34) cis-1,2-Dichloroethene	4.438	96	171327	43.65	ppb		95
35) 2-Butanone	4.517	43	158686	43.36	ppb		96
36) Propionitrile	4.627	54	251307	221.36	ppb		97
37) Bromochloromethane	4.841	130	97360	41.93	ppb		96
38) Methacrylonitrile	4.889	67	112009	41.72	ppb		88
39) Tetrahydrofuran	4.950	42	112332	43.84	ppb		95
40) Chloroform	5.023	83	258779	41.51	ppb		96
41) 1,1,1-Trichloroethane	5.292	97	209499	42.14	ppb		99

1st 10/30/19
2nd 10/31/19

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:35:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.133	73	552936	43.27	ppb		97
44) Cyclohexane	5.359	41	195839	48.00	ppb		89
46) Carbontetrachloride	5.560	117	158379	45.51	ppb		95
47) 1,1-Dichloropropene	5.578	75	208559	42.19	ppb		97
49) Benzene	5.901	78	685144	44.60	ppb		99
50) 1,2-Dichloroethane	5.962	62	237369	45.46	ppb		97
51) Iso-Butyl Alcohol	5.962	43	350973	802.45	ppb		97
52) n-Heptane	6.346	43	230276	40.07	ppb		92
53) 1-Butanol	6.907	56	544045	2169.54	ppb		99
54) Trichloroethene	6.834	130	160658	47.04	ppb		98
55) Methylcyclohexane	7.047	55	257978	46.87	ppb		95
56) 1,2-Diclpropane	7.133	63	191651	45.21	ppb		96
57) Dibromomethane	7.273	93	102216	48.61	ppb		96
58) 1,4-Dioxane	7.340	88	79068	806.56	ppb		100
59) Methyl Methacrylate	7.352	69	180668	45.78	ppb		96
60) Bromodichloromethane	7.499	83	193083	47.33	ppb		93
61) 2-Nitropropane	7.803	41	78450	121.71	ppb		85
62) 2-Chloroethylvinyl Ether	7.901	63	115738	40.62	ppb		95
63) cis-1,3-Dichloropropene	8.029	75	275855	45.52	ppb		99
64) 4-Methyl-2-pentanone	8.248	43	308551	47.04	ppb		97
66) Toluene	8.389	91	710171	45.71	ppb		100
67) trans-1,3-Dichloropropene	8.669	75	255526	45.82	ppb		99
68) Ethyl Methacrylate	8.797	69	313757	45.47	ppb		97
69) 1,1,2-Trichloroethane	8.858	97	161470	46.81	ppb		97
72) Tetrachloroethene	8.968	164	114833	42.11	ppb		97
73) 2-Hexanone	9.151	43	235684	46.81	ppb		96
74) 1,3-Dichloropropane	9.029	76	318057	46.90	ppb		95
75) Dibromochloromethane	9.248	129	137007	48.91	ppb		95
76) N-Butyl Acetate	9.291	43	459531	47.90	ppb		99
77) 1,2-Dibromoethane	9.346	107	159526	45.15	ppb		98
78) Chlorobenzene	9.827	112	445199	44.62	ppb		98
79) 3-CBTF	9.840	180	222439	43.27	ppb		99
80) 4-CBTF	9.894	180	200072	43.17	ppb		96
81) 1,1,1,2-Tetrachloroethane	9.913	131	143423	48.24	ppb		96
82) Ethylbenzene	9.937	106	239631	44.24	ppb		99
83) (m+p)Xylene	10.047	106	587474	89.77	ppb		97
84) o-Xylene	10.407	106	292218	43.88	ppb		99
85) Styrene	10.425	104	508246	46.09	ppb		97
87) Bromoform	10.583	173	86530	50.17	ppb		88
88) 2-CBTF	10.657	180	223387	43.50	ppb		97
89) Isopropylbenzene	10.736	105	749918	44.66	ppb		99
90) Cyclohexanone	10.827	55	616019	858.35	ppb		99
91) trans-1,4-Dichloro-2-B...	11.065	53	68091	36.75	ppb		97
92) 1,1,2,2-Tetrachloroethane	11.016	83	247037	44.17	ppb		93
93) Bromobenzene	10.992	156	187787	45.39	ppb		90
94) 1,2,3-Trichloropropane	11.047	110	78020	42.38	ppb	#	87
95) n-Propylbenzene	11.089	91	880056	43.80	ppb		99
96) 2-Chlorotoluene	11.156	91	544760	42.97	ppb		100
97) 3-Chlorotoluene	11.211	91	544124	42.26	ppb		100
98) 4-Chlorotoluene	11.254	91	615267	44.95	ppb		93
99) 1,3,5-Trimethylbenzene	11.242	105	614801	43.96	ppb		99
100) tert-Butylbenzene	11.516	119	538908	43.79	ppb		99
101) 1,2,4-Trimethylbenzene	11.553	105	629743	45.36	ppb		99
102) 3,4-DCBTF	11.620	214	180077	42.52	ppb		94
103) sec-Butylbenzene	11.693	105	768259	43.14	ppb		99
104) p-Isopropyltoluene	11.815	119	670305	43.97	ppb		99

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:35:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

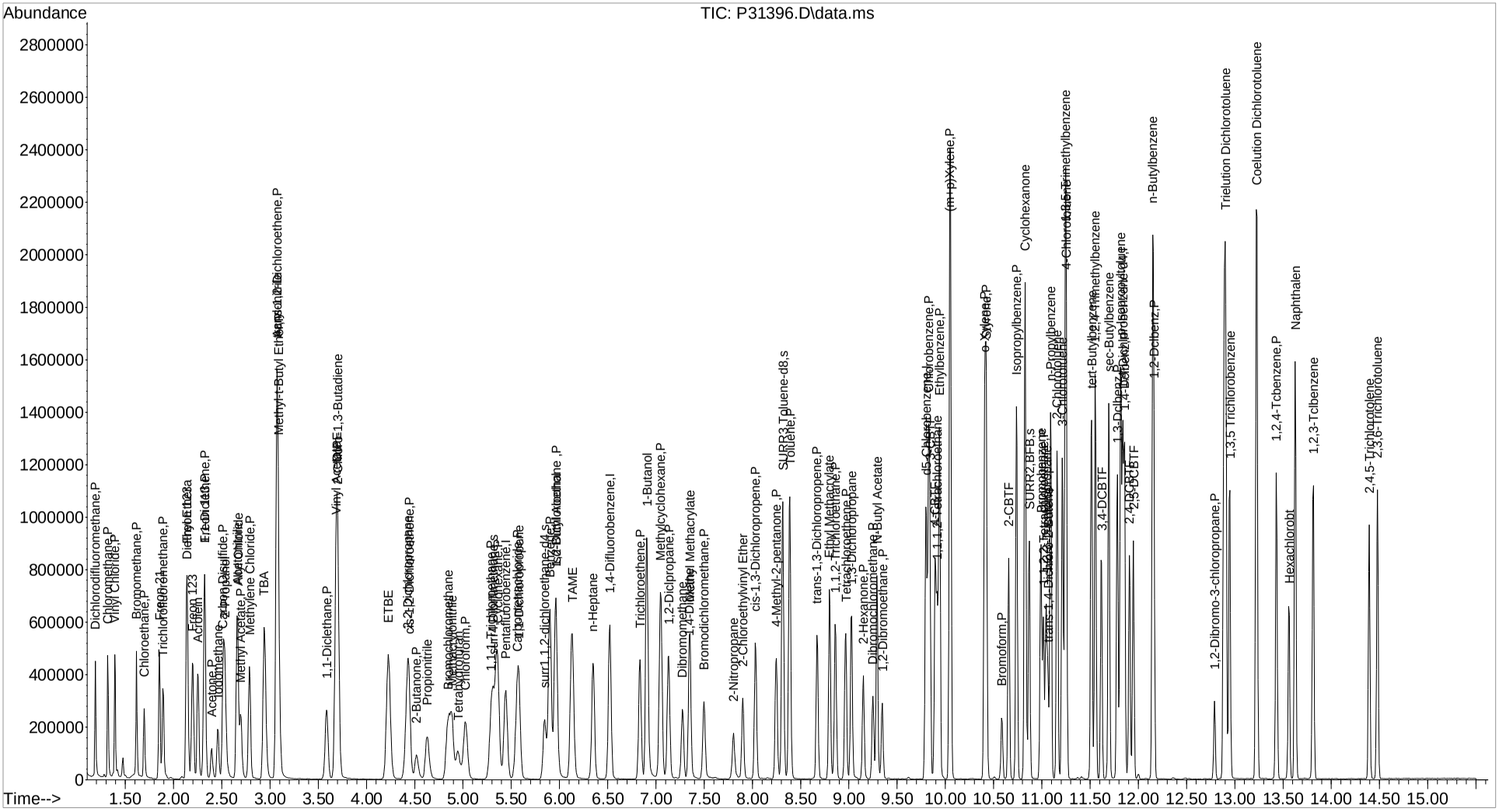
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	364054	44.18	ppb	96
106) 1,4-Dclbenz	11.858	146	371716	44.06	ppb	99
107) 2,4-DCBTF	11.906	214	165991	42.95	ppb	97
108) 2,5-DCBTF	11.949	214	184745	42.98	ppb	99
109) n-Butylbenzene	12.150	91	623214	41.80	ppb	97
110) 1,2-Dclbenz	12.162	146	370696	45.47	ppb	96
111) 1,2-Dibromo-3-chloropr...	12.790	157	58225	45.07	ppb	97
112) Trielution Dichlorotol...	12.900	125	966019	129.57	ppb	98
113) 1,3,5 Trichlorobenzene	12.949	180	269855	44.19	ppb	97
114) Coelution Dichlorotoluene	13.229	125	725653	86.88	ppb	97
115) 1,2,4-Tcbenzene	13.430	180	271466	43.23	ppb	100
116) Hexachlorobt	13.565	225	102518	40.76	ppb	99
117) Naphthalen	13.625	128	924005	46.77	ppb	99
118) 1,2,3-Tclbenzene	13.814	180	277306	44.71	ppb	98
119) 2,4,5-Trichlorotolene	14.394	159	194664	41.18	ppb	97
120) 2,3,6-Trichlorotoluene	14.479	159	203493	41.63	ppb	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31396.D
Acq On : 29 Oct 2019 9:24 pm
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 30 10:35:12 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

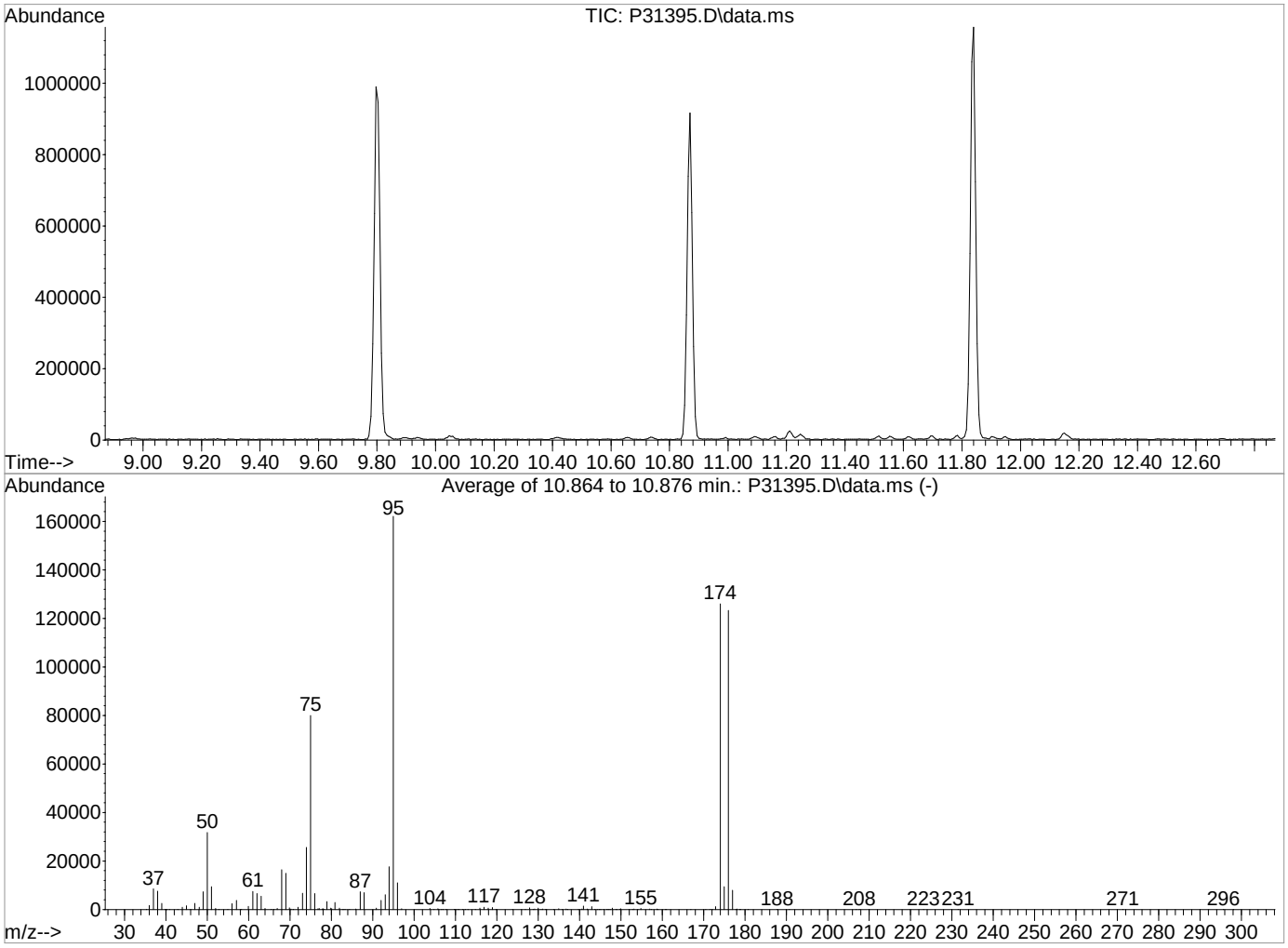


1st 10/30/19
2nd 10/31/19

Data Path : I:\ACQUDATA\msvoa12\Data\102919\
Data File : P31395.D
Acq On : 29 Oct 2019 9:02 pm
Operator : K.Ruest
Sample : TUNE Inst : MSVOA-12
Misc :
ALS Vial : 26 Sample Multiplier: 1

Integration File: INTP90.P

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge
Last Update : Thu Sep 12 10:44:40 2019



AutoFind: Scans 1602, 1603, 1604; Background Corrected with Scan 1595

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	31749	PASS
75	95	30	60	49.3	79931	PASS
95	95	100	100	100.0	162147	PASS
96	95	5	9	6.8	10947	PASS
173	174	0.00	2	1.0	1205	PASS
174	95	50	120	77.7	125976	PASS
175	174	5	9	7.4	9366	PASS
176	174	95	101	97.8	123261	PASS
177	176	5	9	6.4	7942	PASS

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	329762	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	550163	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	492719	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.845	152	279593	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	144813	49.67	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 99.34%				
48) surr1,1,2-dichloroetha...	5.846	65	205796	51.01	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 102.02%				
65) SURR3,Toluene-d8	8.315	98	688761	50.18	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.36%				
70) SURR2,BFB	10.870	95	281699	52.75	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 105.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	835524	204.97	ppb		95
3) Chloromethane	1.317	50	1189927	189.51	ppb		94
4) Vinyl Chloride	1.390	62	1114747	190.21	ppb		96
5) Bromomethane	1.615	94	556200	174.82	ppb		91
6) Chloroethane	1.682	64	676108	191.57	ppb		100
7) Freon 21	1.847	67	1258200	192.59	ppb		99
8) Trichlorofluoromethane	1.884	101	963519	202.73	ppb		94
9) Diethyl Ether	2.134	59	826357	197.24	ppb		97
10) Freon 123a	2.140	67	859261	188.12	ppb		100
11) Freon 123	2.195	83	950098	188.62	ppb		98
12) Acrolein	2.249	56	1219763	1045.26	ppb		98
13) 1,1-Diclethene	2.316	96	647899	200.84	ppb		93
14) Freon 113	2.316	101	620892	197.95	ppb		99
15) Acetone	2.396	43	511030	190.42	ppb		99
16) 2-Propanol	2.542	45	2479426	4062.93	ppb		93
17) Iodomethane	2.457	142	881495	237.27	ppb		98
18) Carbon Disulfide	2.512	76	1819663	188.25	ppb		96
19) Acetonitrile	2.658	40	346022m	842.06	ppb		
20) Allyl Chloride	2.658	76	348240	189.07	ppb	#	89
21) Methyl Acetate	2.701	43	1086866	204.35	ppb		97
22) Methylene Chloride	2.786	84	752763	179.16	ppb		96
23) TBA	2.950	59	3559823	3940.56	ppb		93
24) Acrylonitrile	3.072	53	2641204	965.26	ppb		96
25) Methyl-t-Butyl Ether	3.085	73	2617151	192.78	ppb		96
26) trans-1,2-Dichloroethene	3.072	96	714986	202.57	ppb		92
28) 1,1-Diclethane	3.584	63	1453717	200.62	ppb		98
29) Vinyl Acetate	3.682	86	186512	235.90	ppb	#	58
30) DIPE	3.694	45	2965387	187.94	ppb		98
31) 2-Chloro-1,3-Butadiene	3.700	53	1182131	201.75	ppb		99
32) ETBE	4.231	59	2718798	191.41	ppb		99
33) 2,2-Dichloropropane	4.420	77	1090649	205.28	ppb		97
34) cis-1,2-Dichloroethene	4.438	96	794974	198.25	ppb		95
35) 2-Butanone	4.523	43	758998	202.48	ppb		95
36) Propionitrile	4.633	54	1234454	1061.55	ppb		100
37) Bromochloromethane	4.846	130	450622	189.46	ppb		92
38) Methacrylonitrile	4.883	67	565431	205.61	ppb		89
39) Tetrahydrofuran	4.944	42	553375	179.23	ppb		95
40) Chloroform	5.029	83	1237089	193.71	ppb		98
41) 1,1,1-Trichloroethane	5.298	97	1045451	205.32	ppb		97

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.133	73	2580844	197.16	ppb		94
44) Cyclohexane	5.352	41	857910	195.28	ppb		98
46) Carbontetrachloride	5.560	117	827968	217.53	ppb		96
47) 1,1-Dichloropropene	5.578	75	1060838	199.31	ppb		99
49) Benzene	5.901	78	3075242	185.94	ppb		96
50) 1,2-Dichloroethane	5.968	62	1084162	192.86	ppb		98
51) Iso-Butyl Alcohol	5.974	43	2076522	4409.40	ppb		98
52) n-Heptane	6.352	43	1239989	200.42	ppb		97
53) 1-Butanol	6.919	56	3001113	11115.14	ppb		95
54) Trichloroethene	6.840	130	745915	202.83	ppb		98
55) Methylcyclohexane	7.053	55	1149121	193.90	ppb		100
56) 1,2-Diclpropane	7.133	63	895109	196.10	ppb		90
57) Dibromomethane	7.279	93	471222	208.15	ppb		97
58) 1,4-Dioxane	7.346	88	441875	4199.75	ppb		95
59) Methyl Methacrylate	7.358	69	921970	216.99	ppb		100
60) Bromodichloromethane	7.498	83	928430	211.38	ppb		97
61) 2-Nitropropane	7.809	41	342453	493.43	ppb		98
62) 2-Chloroethylvinyl Ether	7.901	63	653425	211.11	ppb		98
63) cis-1,3-Dichloropropene	8.035	75	1366795	209.47	ppb		97
64) 4-Methyl-2-pentanone	8.248	43	1436099	203.34	ppb		98
66) Toluene	8.388	91	2878078	172.04	ppb		81
67) trans-1,3-Dichloropropene	8.675	75	1279426	213.10	ppb		96
68) Ethyl Methacrylate	8.803	69	1535017	206.61	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	752692	202.66	ppb		98
72) Tetrachloroethene	8.968	164	568330	191.26	ppb		99
73) 2-Hexanone	9.150	43	1126653	205.39	ppb		98
74) 1,3-Dichloropropane	9.029	76	1425990	193.01	ppb		97
75) Dibromochloromethane	9.254	129	697339	228.48	ppb		96
76) N-Butyl Acetate	9.297	43	2031760	194.38	ppb		88
77) 1,2-Dibromoethane	9.346	107	769267	199.83	ppb		99
78) Chlorobenzene	9.827	112	1986576	182.75	ppb		91
79) 3-CBTF	9.845	180	1095758	195.64	ppb		97
80) 4-CBTF	9.900	180	994219	196.92	ppb		96
81) 1,1,1,2-Tetrachloroethane	9.919	131	723453	223.33	ppb		99
82) Ethylbenzene	9.943	106	1168482	197.99	ppb	#	53
83) (m+p)Xylene	10.053	106	2521151	353.59	ppb	#	65
84) o-Xylene	10.412	106	1413400	194.80	ppb	#	67
85) Styrene	10.431	104	2233412	185.87	ppb		91
87) Bromoform	10.589	173	476596	243.20	ppb		95
88) 2-CBTF	10.662	180	1102486	188.94	ppb		99
89) Isopropylbenzene	10.742	105	2953037	154.77	ppb		75
90) Cyclohexanone	10.833	55	2538023	3112.39	ppb		90
91) trans-1,4-Dichloro-2-B...	11.065	53	447623	212.65	ppb		99
92) 1,1,2,2-Tetrachloroethane	11.022	83	1261943	198.58	ppb		95
93) Bromobenzene	10.992	156	888220	188.97	ppb		95
94) 1,2,3-Trichloropropane	11.046	110	397650	190.09	ppb	#	85
95) n-Propylbenzene	11.095	91	3277692	143.58	ppb		69
96) 2-Chlorotoluene	11.162	91	2371650	164.41	ppb		85
97) 3-Chlorotoluene	11.217	91	2387024	163.14	ppb	#	84
98) 4-Chlorotoluene	11.254	91	2554003	164.22	ppb		80
99) 1,3,5-Trimethylbenzene	11.248	105	2613089	164.46	ppb		78
100) tert-Butylbenzene	11.516	119	2385151	170.56	ppb		86
101) 1,2,4-Trimethylbenzene	11.559	105	2590181	164.20	ppb		76
102) 3,4-DCBTF	11.620	214	915617	190.26	ppb		98
103) sec-Butylbenzene	11.699	105	3017730	149.14	ppb		75
104) p-Isopropyltoluene	11.821	119	2727751	157.46	ppb		70

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	1668057	178.15	ppb		92
106) 1,4-Dclbenz	11.863	146	1698777	177.23	ppb		91
107) 2,4-DCBTF	11.912	214	836695	190.52	ppb		98
108) 2,5-DCBTF	11.955	214	943644	193.19	ppb		97
109) n-Butylbenzene	12.150	91	2661288	157.10	ppb		73
110) 1,2-Dclbenz	12.162	146	1685329	181.92	ppb		94
111) 1,2-Dibromo-3-chloropr...	12.796	157	327261	222.93	ppb		98
112) Trielution Dichlorotol...	12.906	125	4035898	476.41	ppb	#	76
113) 1,3,5 Trichlorobenzene	12.955	180	1289962	185.91	ppb		98
114) Coelution Dichlorotoluene	13.229	125	2860998	301.48	ppb	#	73
115) 1,2,4-Tcbenzene	13.436	180	1308617	183.43	ppb		97
116) Hexachlorobt	13.564	225	550130	192.49	ppb		98
117) Naphthalen	13.631	128	3213060	143.13	ppb		78
118) 1,2,3-Tclbenzene	13.820	180	1300833	184.59	ppb		96
119) 2,4,5-Trichlorotolene	14.399	159	966243	179.89	ppb		99
120) 2,3,6-Trichlorotoluene	14.485	159	1005986	181.12	ppb		93

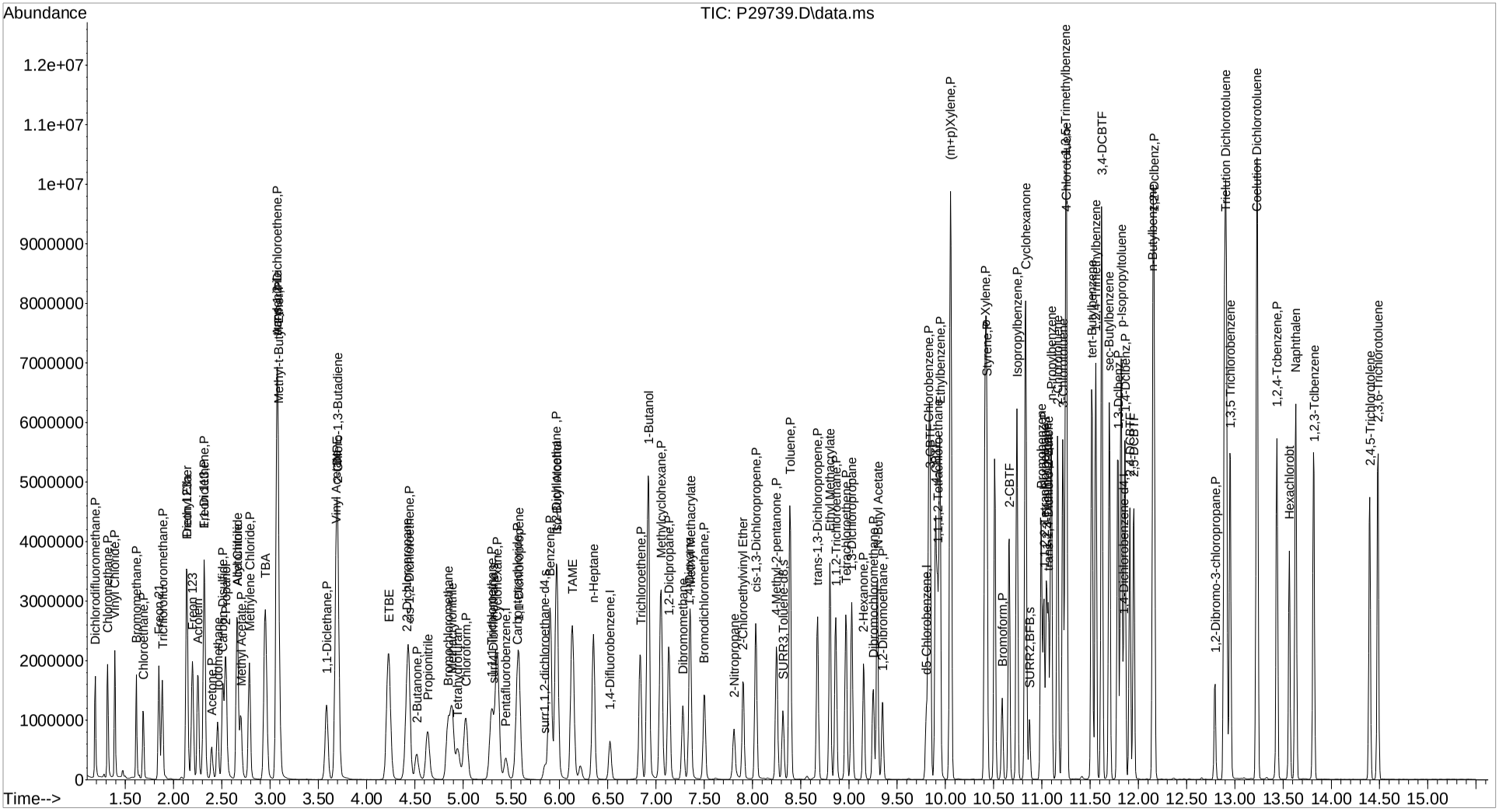
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/12/19 1st 09/12/19 2nd

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

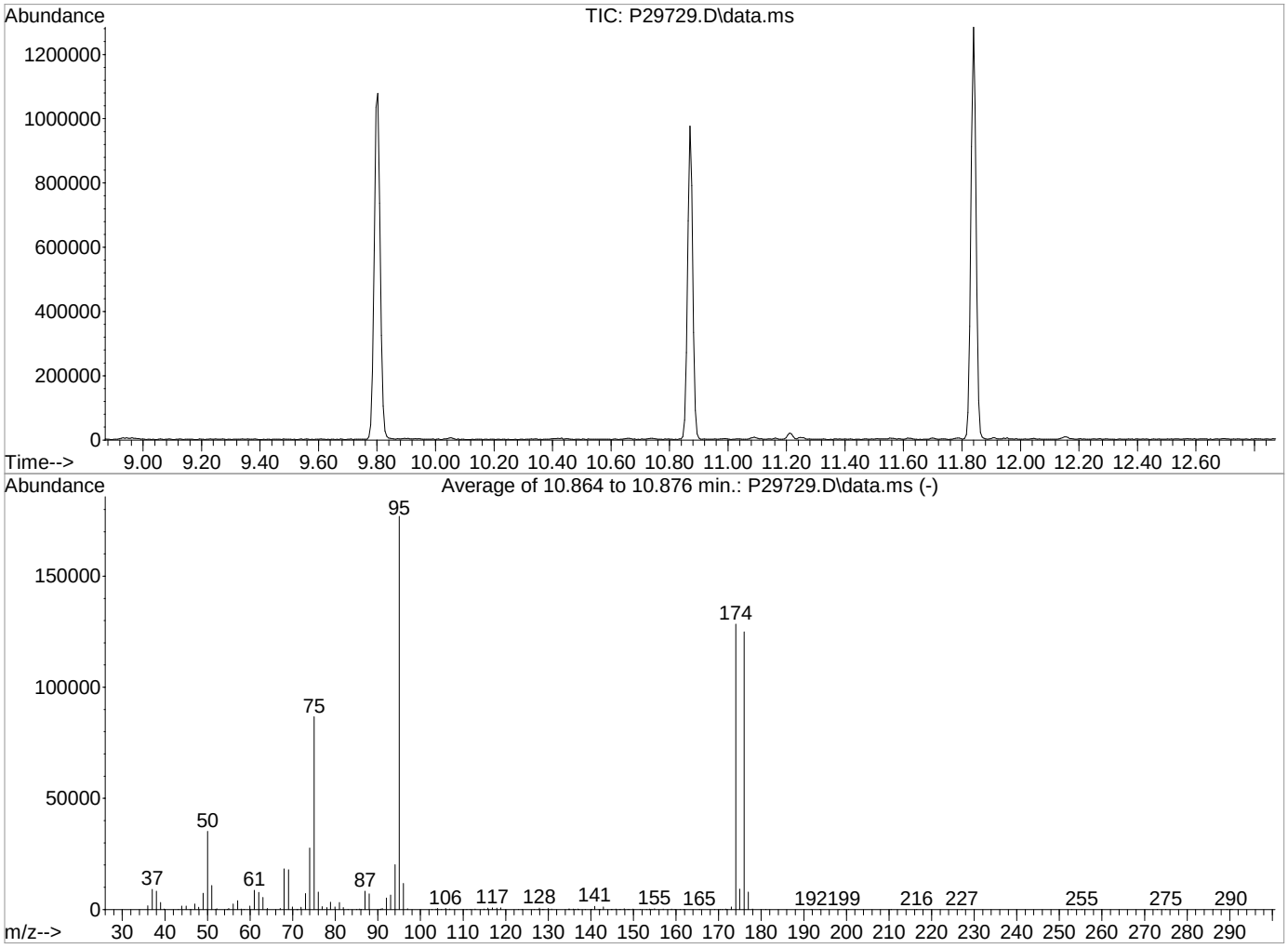


1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29729.D
Acq On : 11 Sep 2019 2:39 pm
Operator : K.Ruest
Sample : TUNE Inst : MSVOA-12
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: INTP90.P

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge
Last Update : Wed Sep 11 14:48:56 2019



AutoFind: Scans 1602, 1603, 1604; Background Corrected with Scan 1595

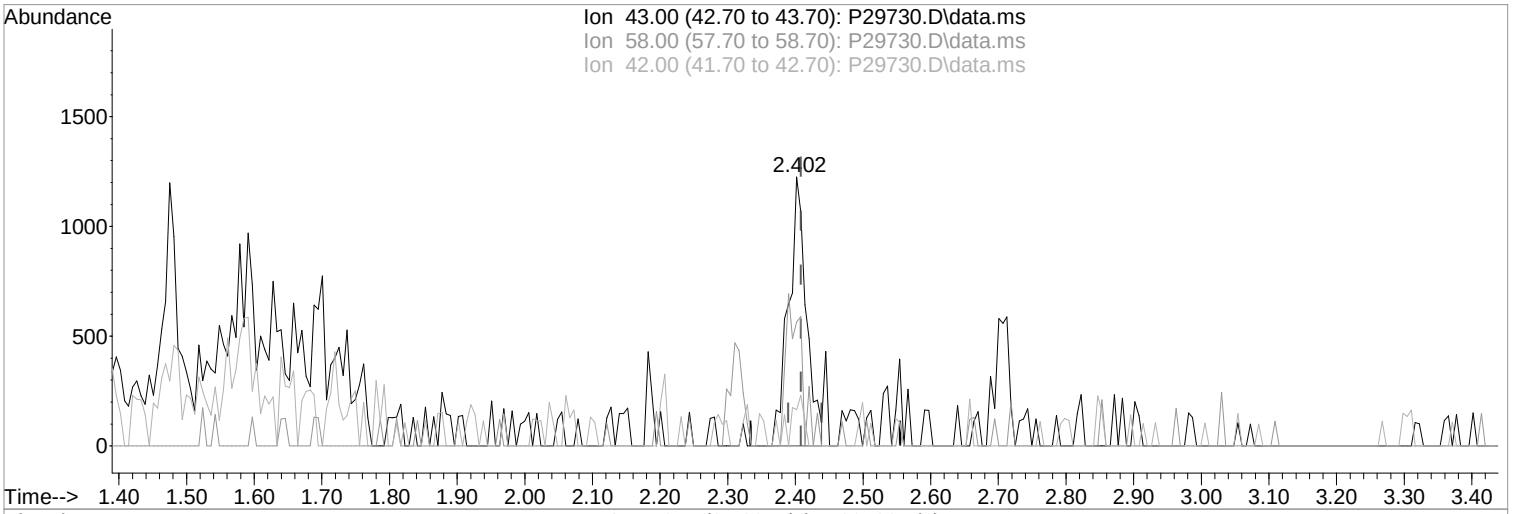
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.8	35115	PASS
75	95	30	60	49.0	86744	PASS
95	95	100	100	100.0	176981	PASS
96	95	5	9	6.6	11701	PASS
173	174	0.00	2	0.9	1122	PASS
174	95	50	120	72.5	128395	PASS
175	174	5	9	7.1	9139	PASS
176	174	95	101	97.3	124885	PASS
177	176	5	9	6.3	7852	PASS

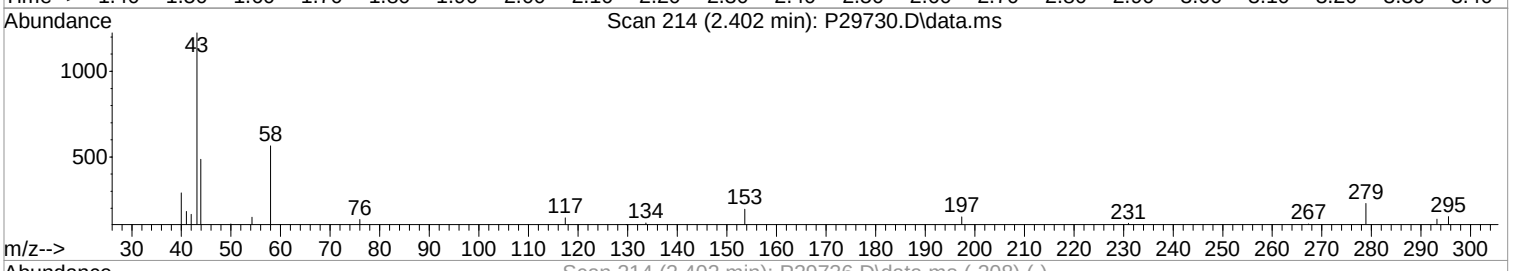
1st 09/12/19
2nd 09/12/19

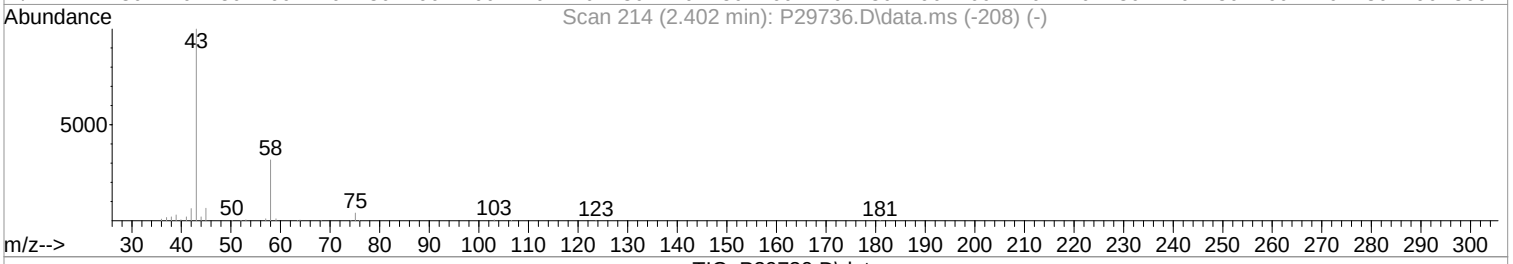
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:58:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29730.D\data.ms

(15) Acetone (P)

2.402min (-0.006) 0.83 ppb m

response 2259

Ion	Exp%	Act%
43.00	100	100
58.00	31.70	46.12
42.00	6.50	13.47
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

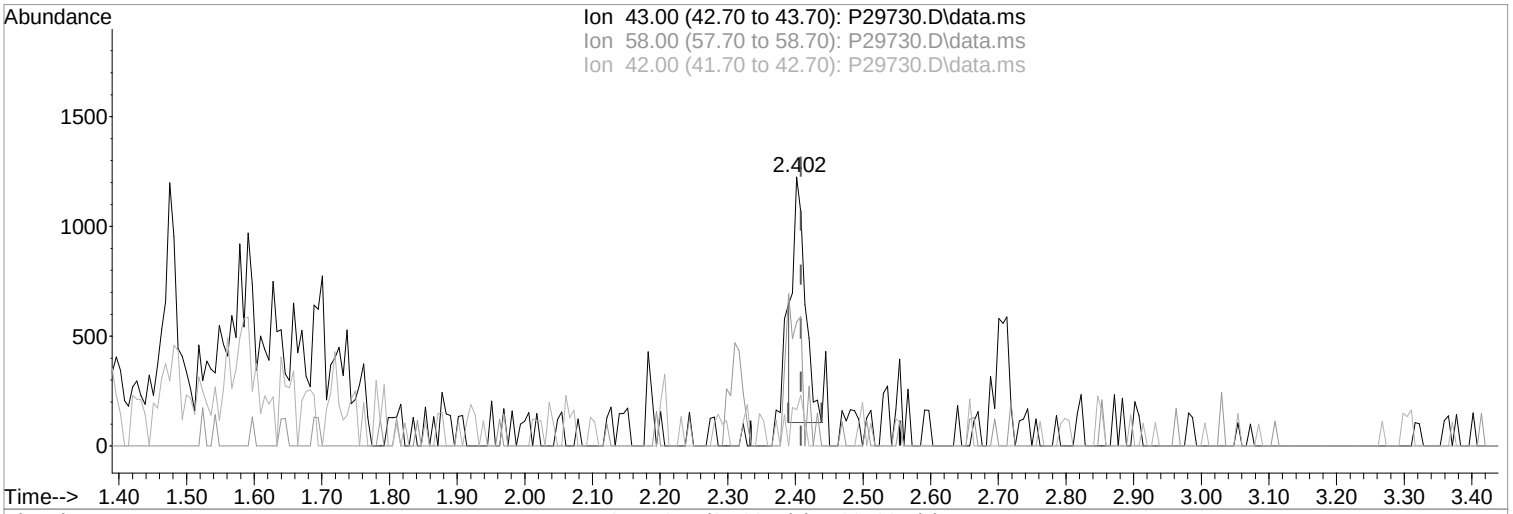
09/12/19

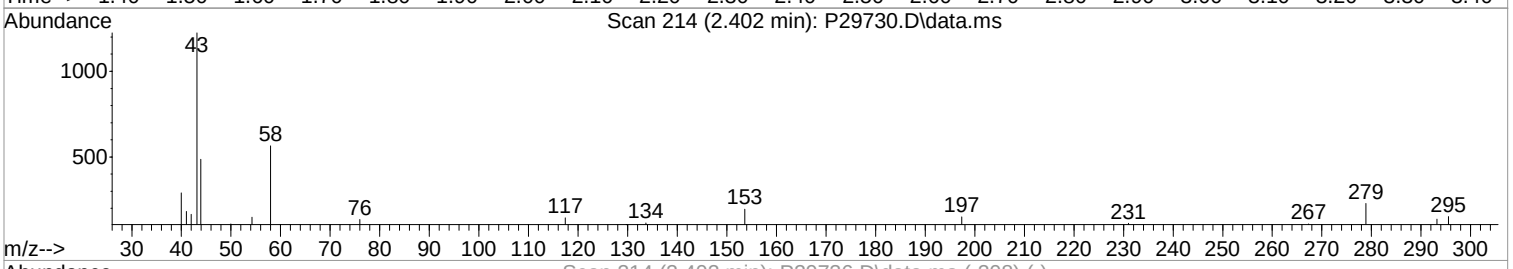
1st 09/12/19
2nd 09/12/19

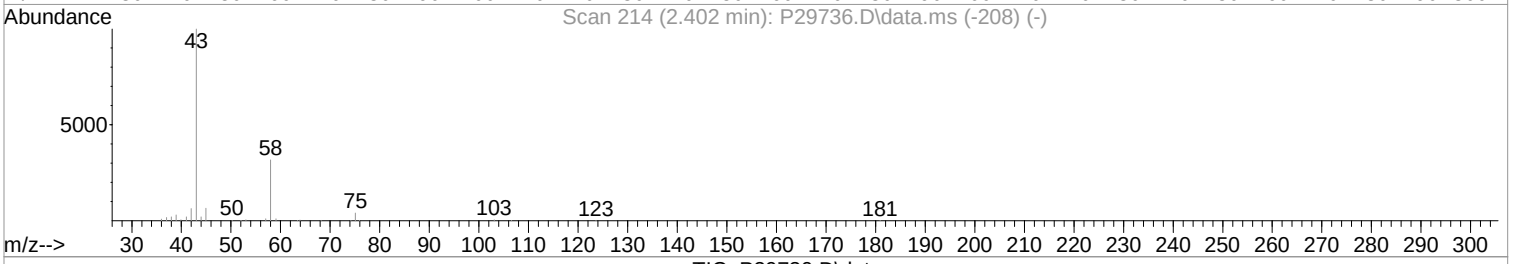
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:58:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29730.D\data.ms

(15) Acetone (P)

2.402min (-0.006) 0.51 ppb

response 1383

Ion	Exp%	Act%
43.00	100	100
58.00	31.70	46.12
42.00	6.50	13.47
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:59:52 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

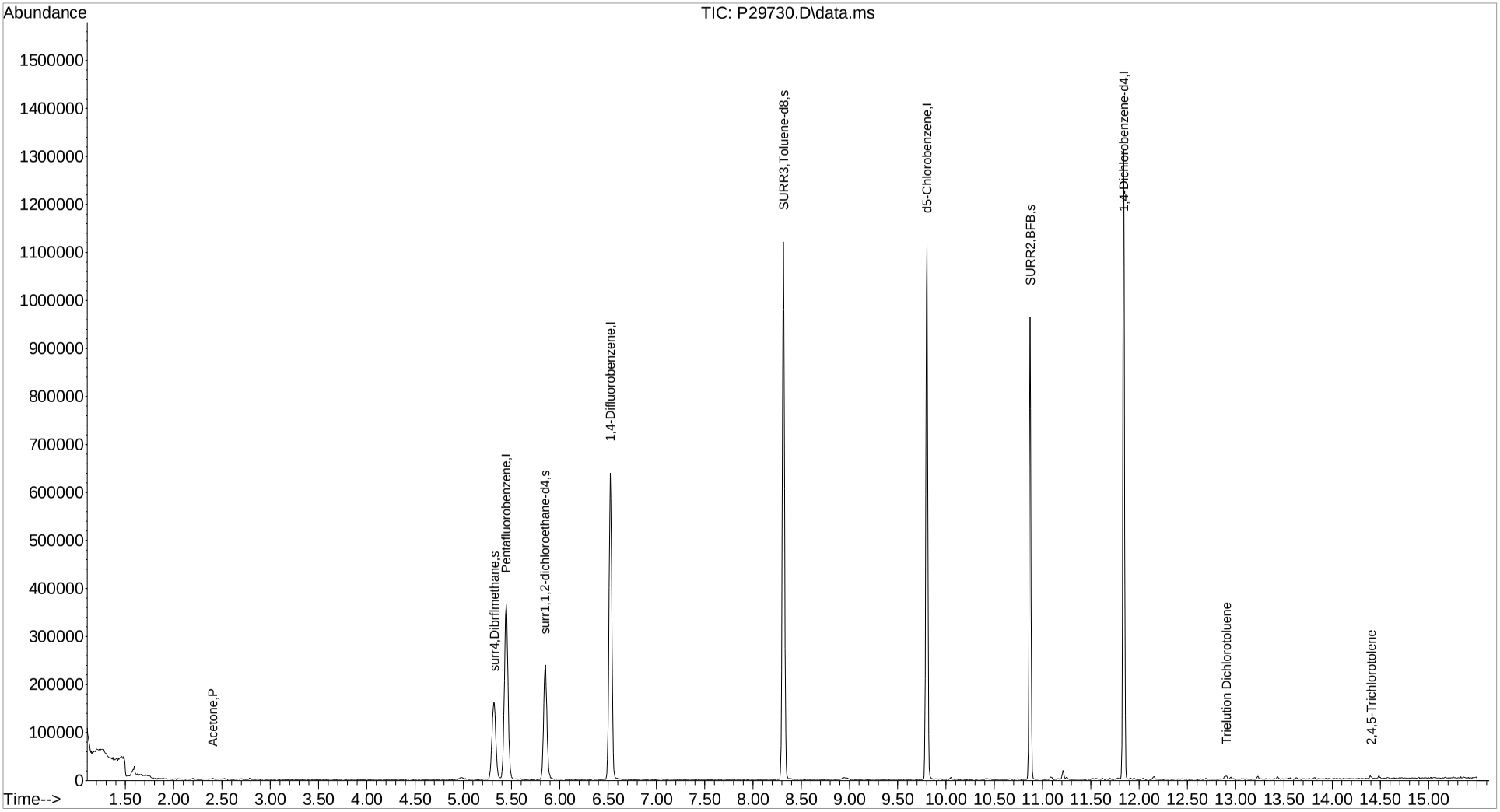
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	332985	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	546934	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	480739	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	251403	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	140192	48.36	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 96.72%				
48) surr1,1,2-dichloroetha...	5.846	65	202785	50.56	ppb		-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 101.12%				
65) SURR3,Toluene-d8	8.315	98	671599	49.22	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 98.44%				
70) SURR2,BFB	10.870	95	255359	48.10	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.20%				
Target Compounds							Qvalue
15) Acetone	2.402	43	2259m	0.83	ppb		
39) Tetrahydrofuran	4.981	42	4458	Below Cal			78
112) Trielution Dichlorotol...	12.900	125	2846	0.37	ppb	#	73
119) 2,4,5-Trichlorotolene	14.400	159	1006	0.21	ppb	#	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

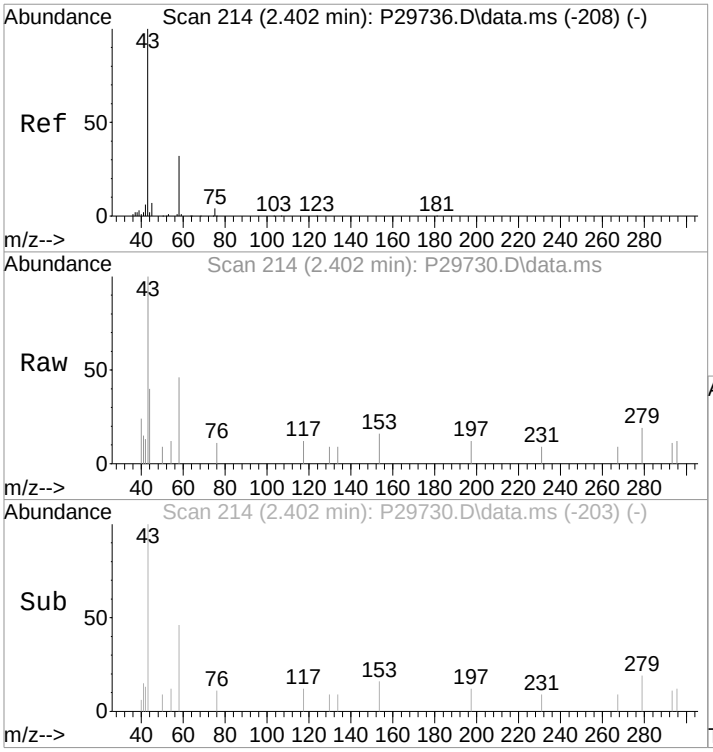
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:59:52 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



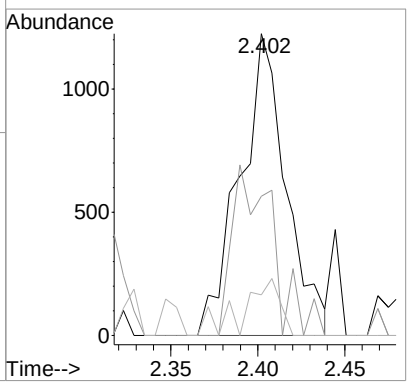
1st 09/12/19
2nd 09/12/19

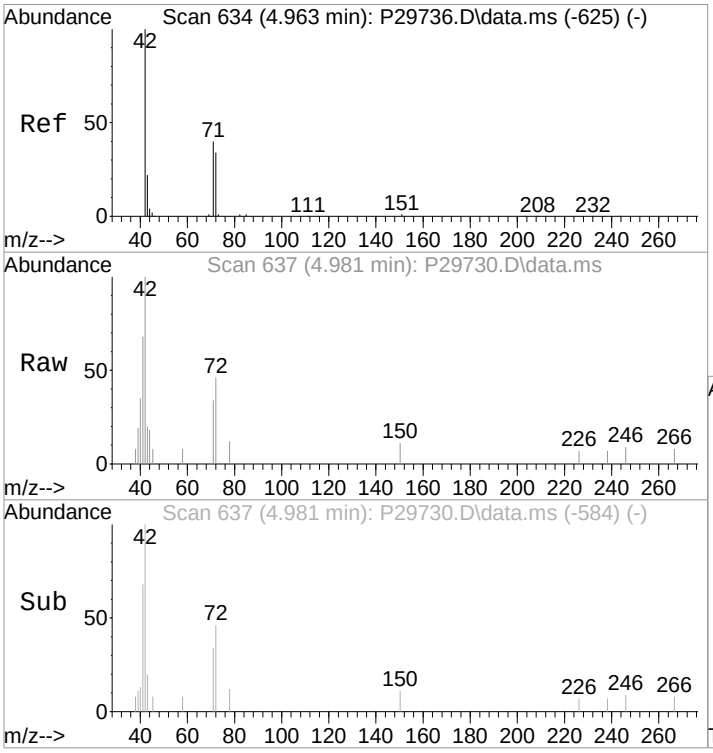


#15
Acetone
Concen: 0.83 ppb m
RT: 2.402 min Scan# 214
Delta R.T. -0.006 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion: 43 Resp: 2259

Ion	Ratio	Lower	Upper
43	100		
58	46.1	11.7	51.7
42	13.5	0.0	26.5

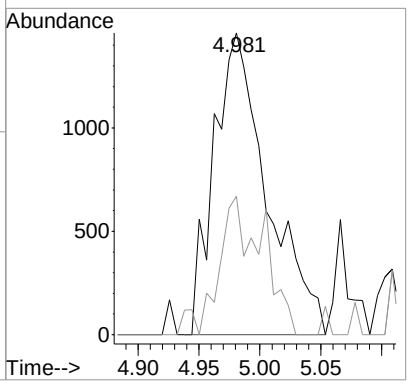


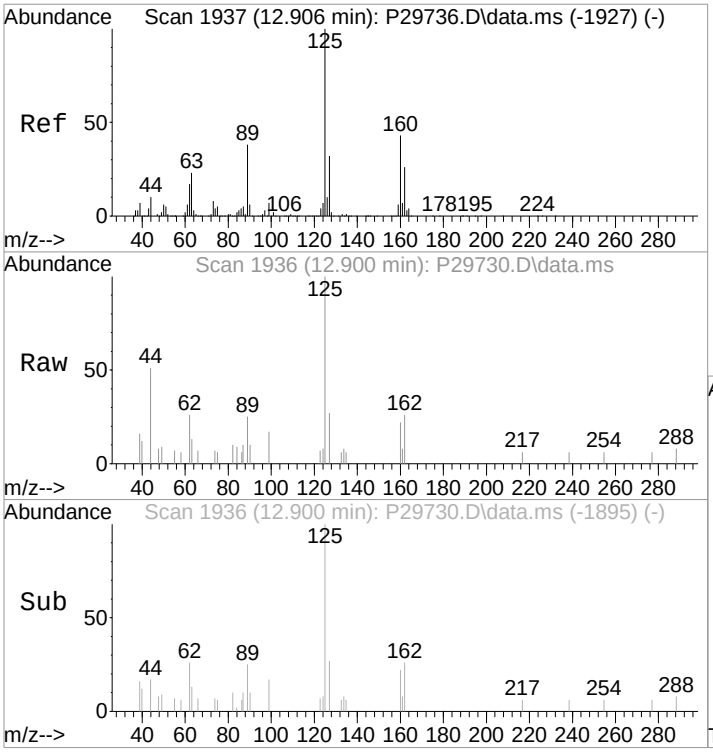


#39
Tetrahydrofuran
Concen: Below Cal
RT: 4.981 min Scan# 637
Delta R.T. 0.007 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion: 42 Resp: 4458

Ion	Ratio	Lower	Upper
42	100		
72	45.9	13.2	53.2

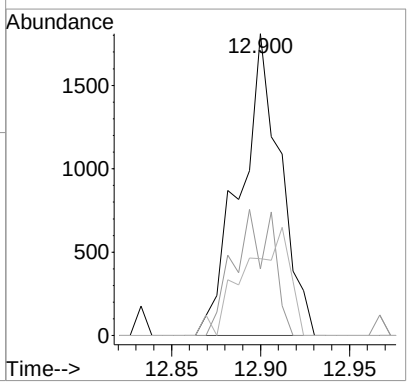


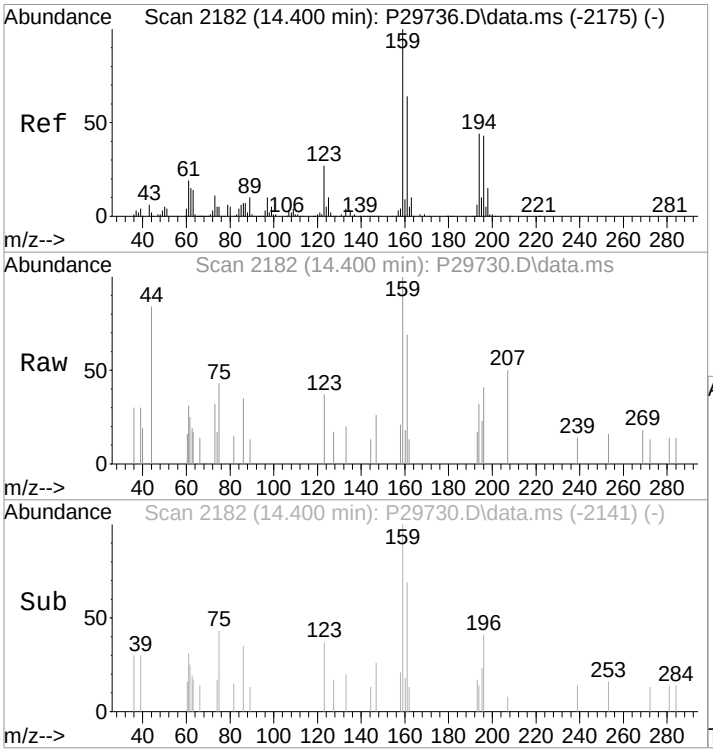


#112
Trielution Dichlorotoluene
Concen: 0.37 ppb
RT: 12.900 min Scan# 1936
Delta R.T. -0.000 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion:125 Resp: 2846

Ion	Ratio	Lower	Upper
125	100		
160	22.1	34.3	51.5#
89	25.5	30.8	46.2#

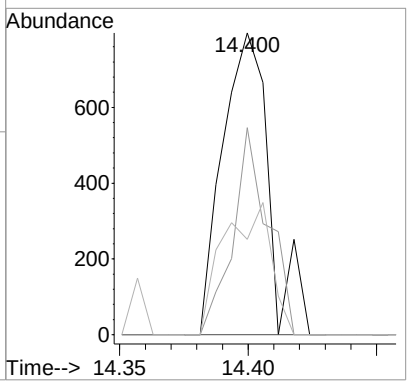




#119
2,4,5-Trichlorotolene
Concen: 0.21 ppb
RT: 14.400 min Scan# 2182
Delta R.T. -0.000 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion:159 Resp: 1006

Ion	Ratio	Lower	Upper
159	100		
161	68.6	50.8	76.2
194	31.6	35.3	52.9#

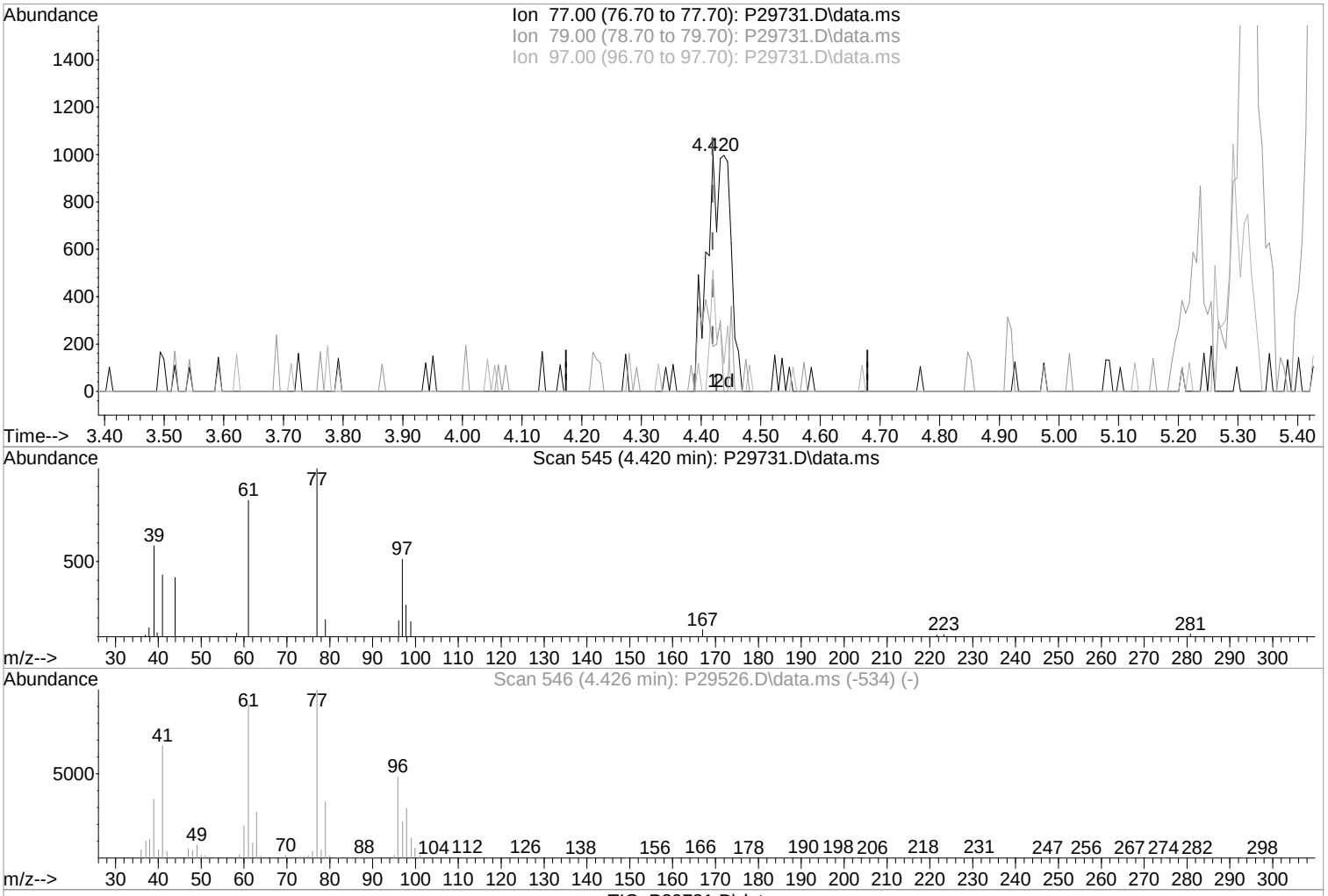


1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(33) 2,2-Dichloropropane

4.420min (+0.000) 0.49 ppb m

response 2749

Ion	Exp%	Act%
77.00	100	100
79.00	34.40	19.06
97.00	19.80	51.35#
0.00	0.00	0.00

Manual Integration:

After

Split Peak

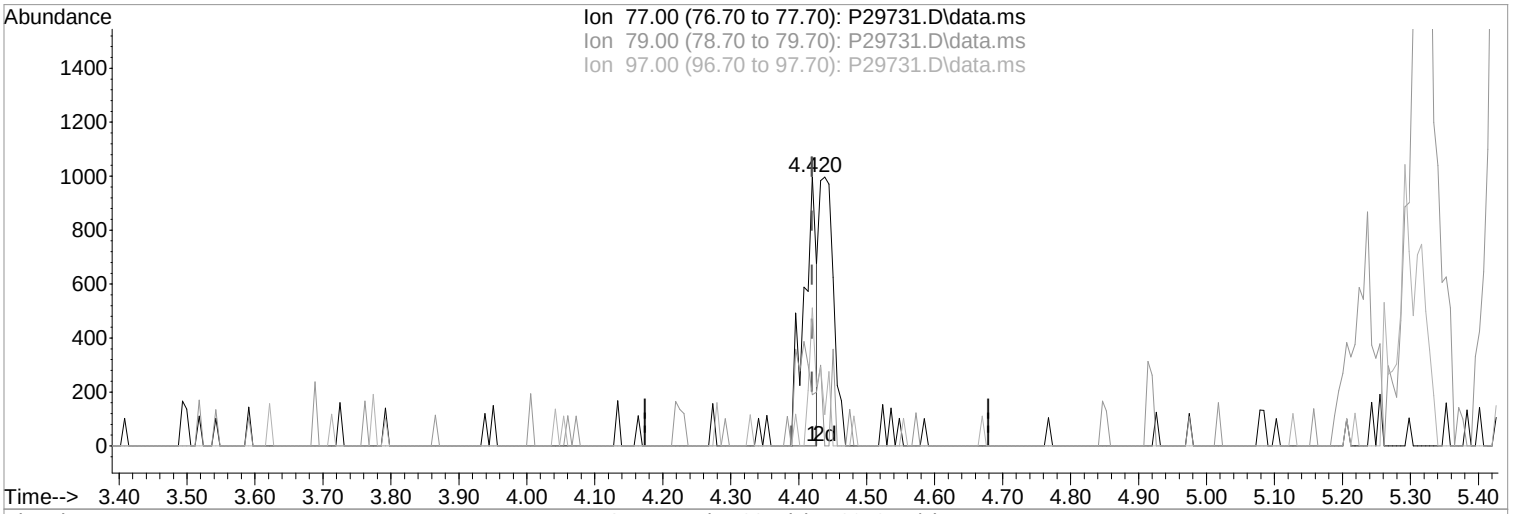
09/12/19

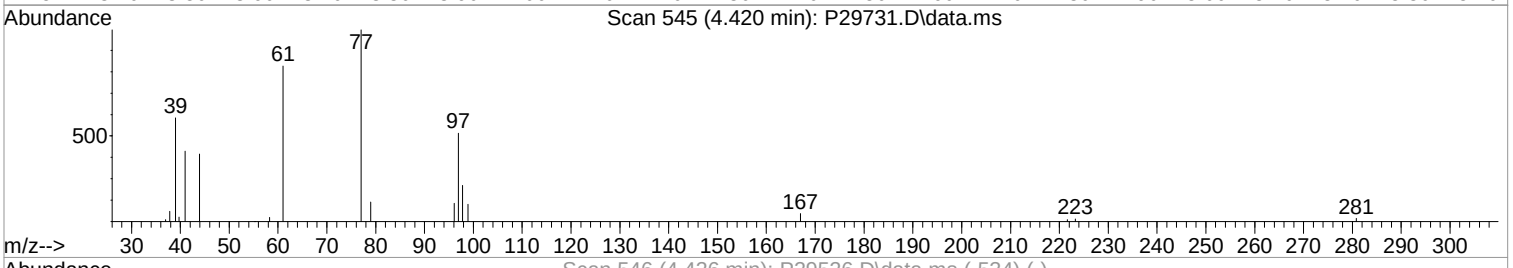
1st 09/12/19
2nd 09/12/19

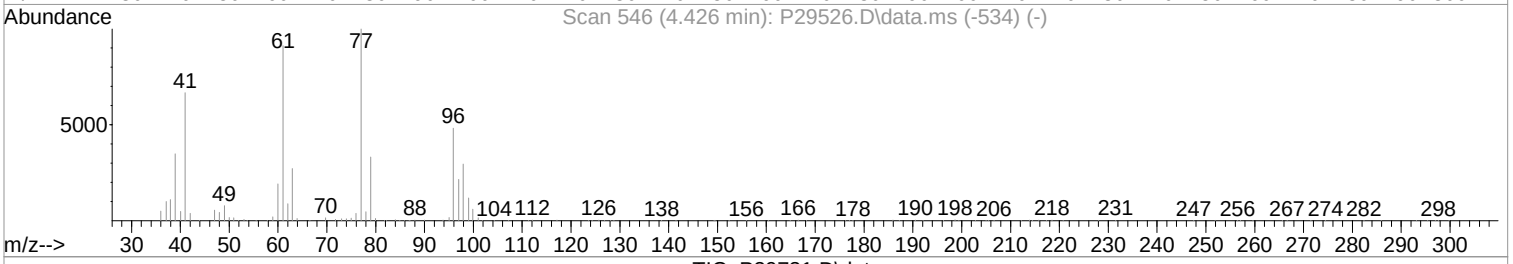
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(33) 2,2-Dichloropropane

4.420min (+0.000) 0.23 ppb

response 1298

Ion	Exp%	Act%
77.00	100	100
79.00	34.40	19.06
97.00	19.80	51.35#
0.00	0.00	0.00

Manual Integration:

Before

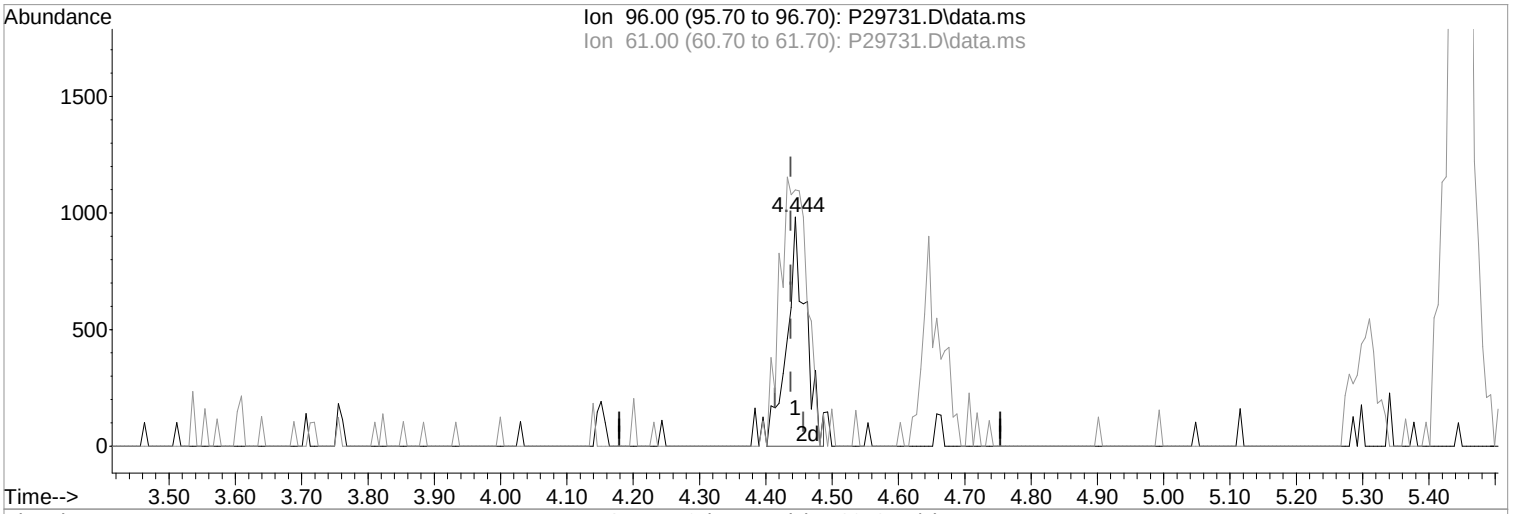
09/12/19

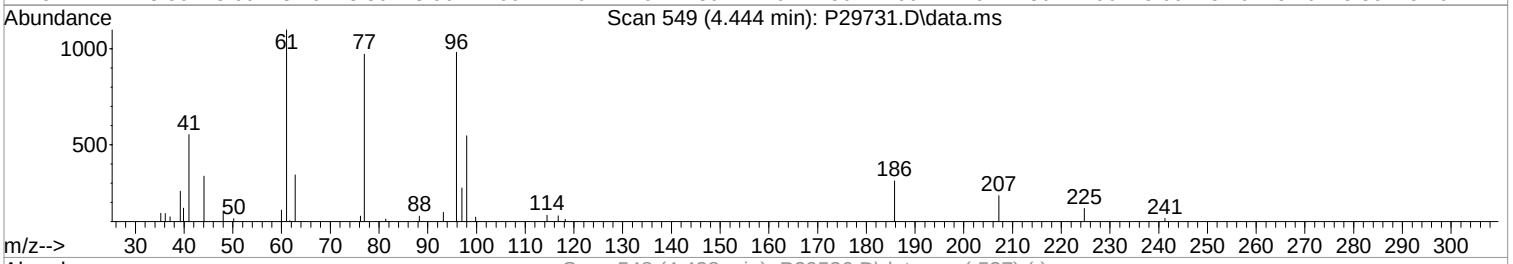
1st 09/12/19
2nd 09/12/19

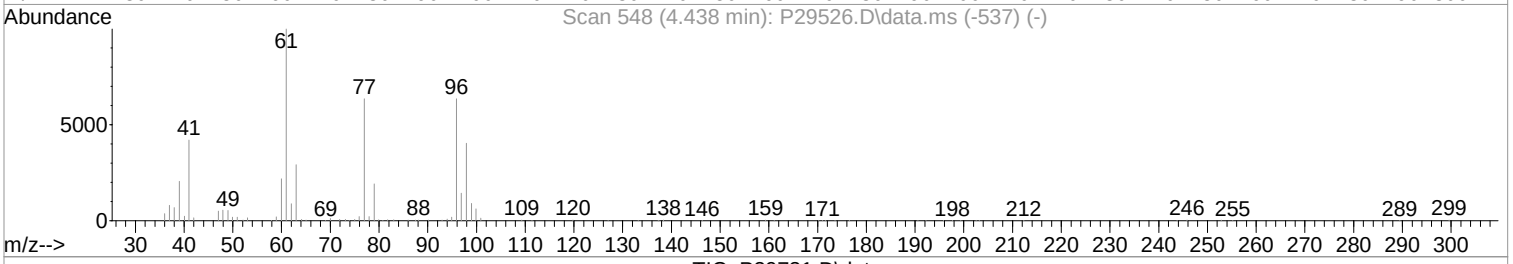
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.47 ppb m

response 1957

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	111.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

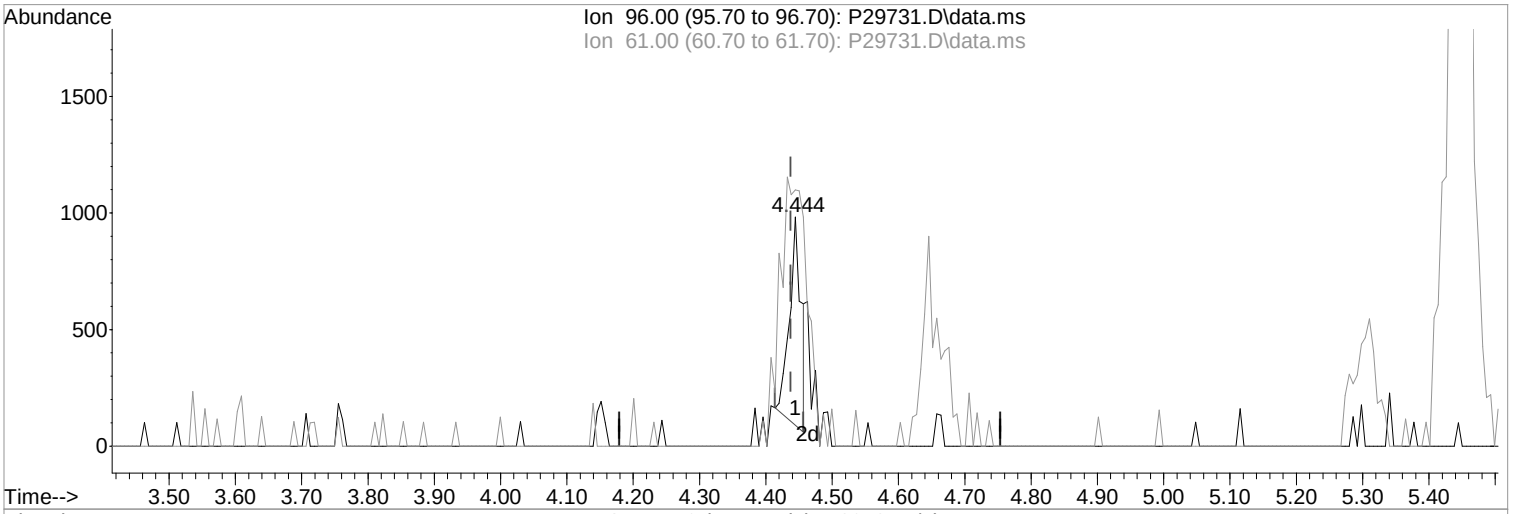
09/12/19

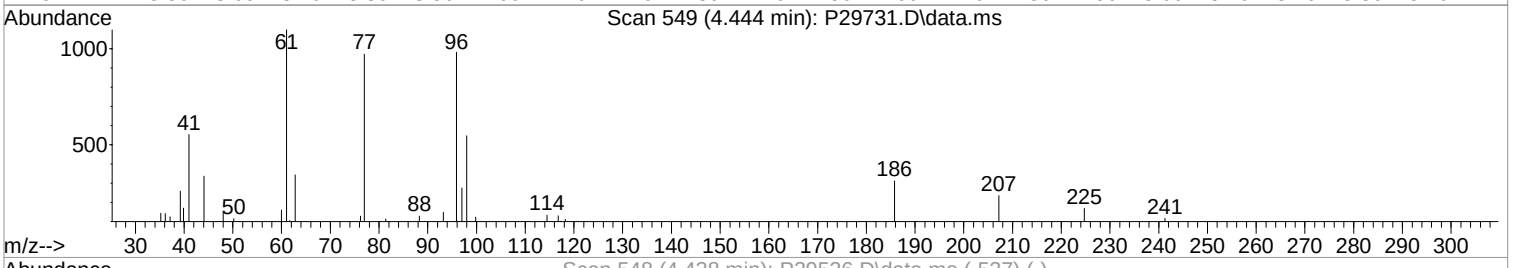
1st 09/12/19
2nd 09/12/19

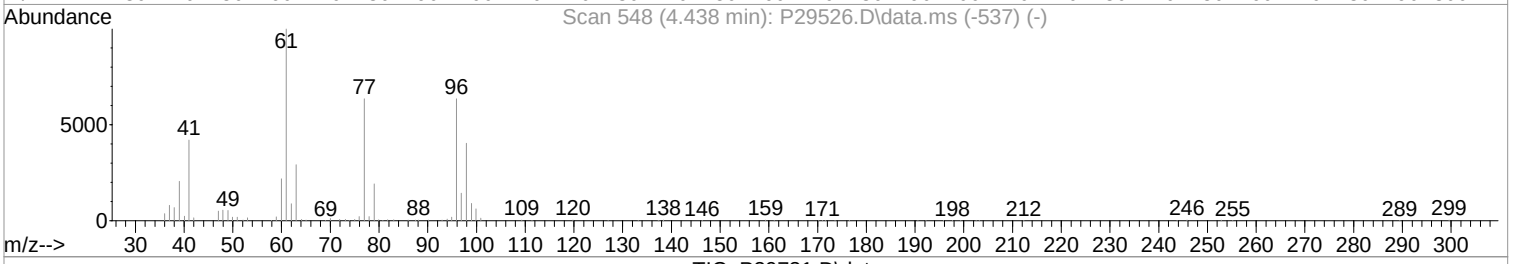
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.26 ppb

response 1089

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	122.61#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

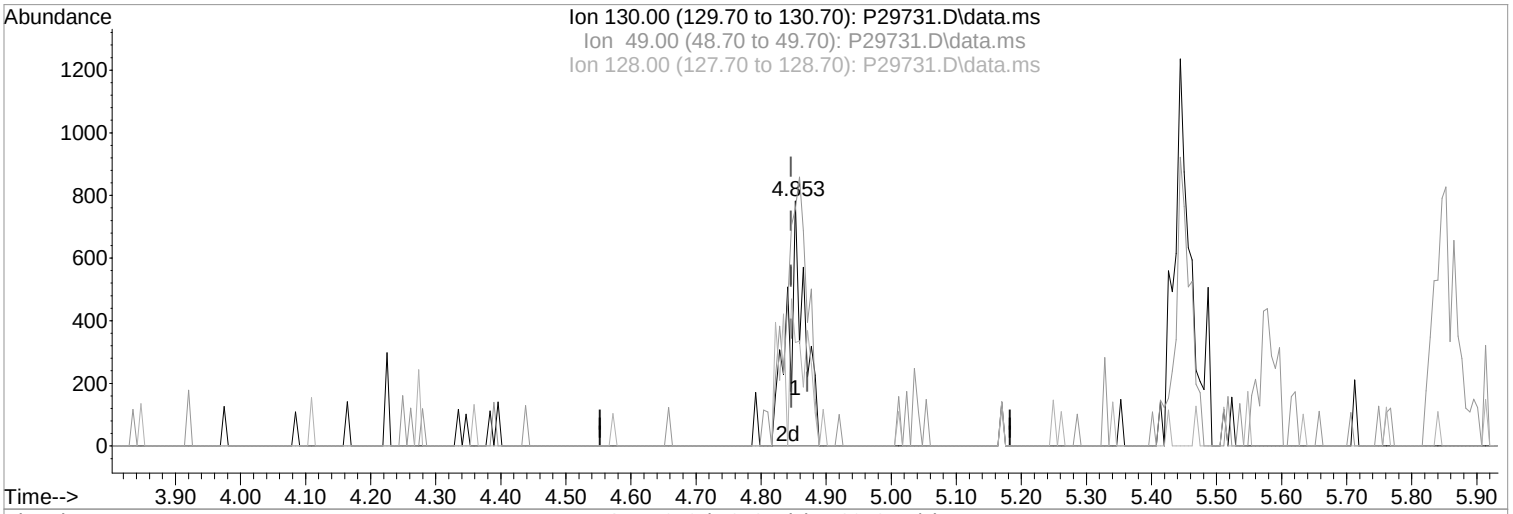
09/12/19

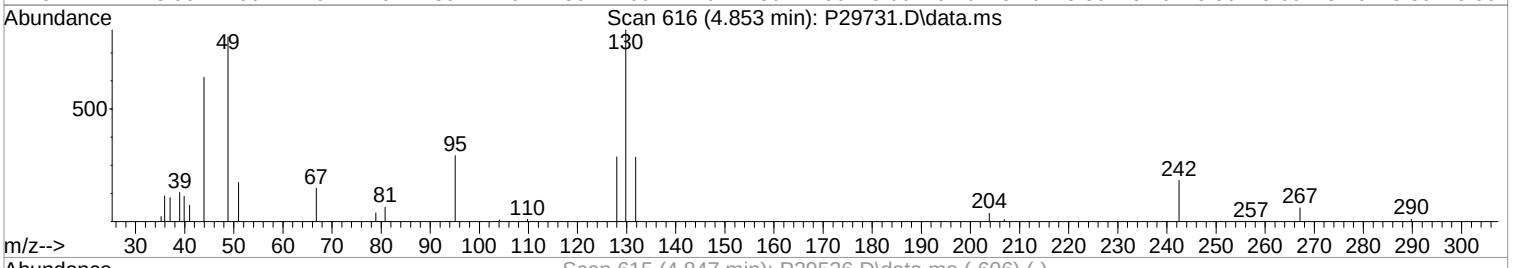
1st 09/12/19
2nd 09/12/19

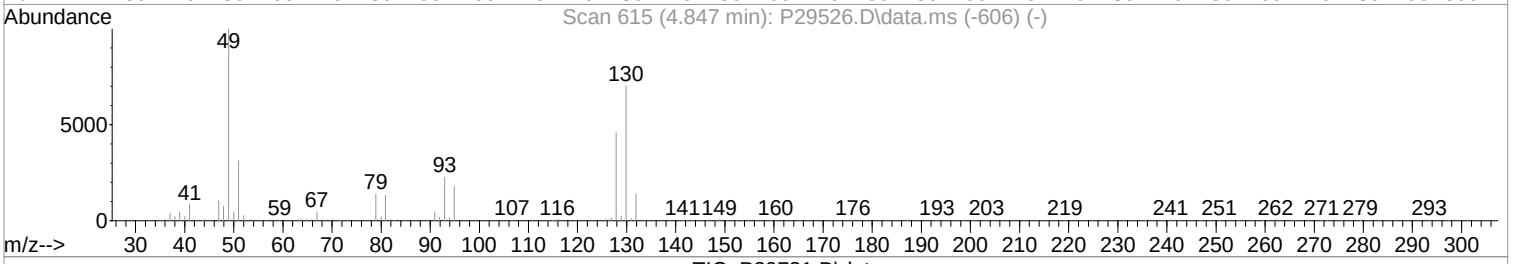
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.56 ppb m

response 1398

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	96.68#
128.00	71.40	42.20#
0.00	0.00	0.00

Manual Integration:

After

Split Peak

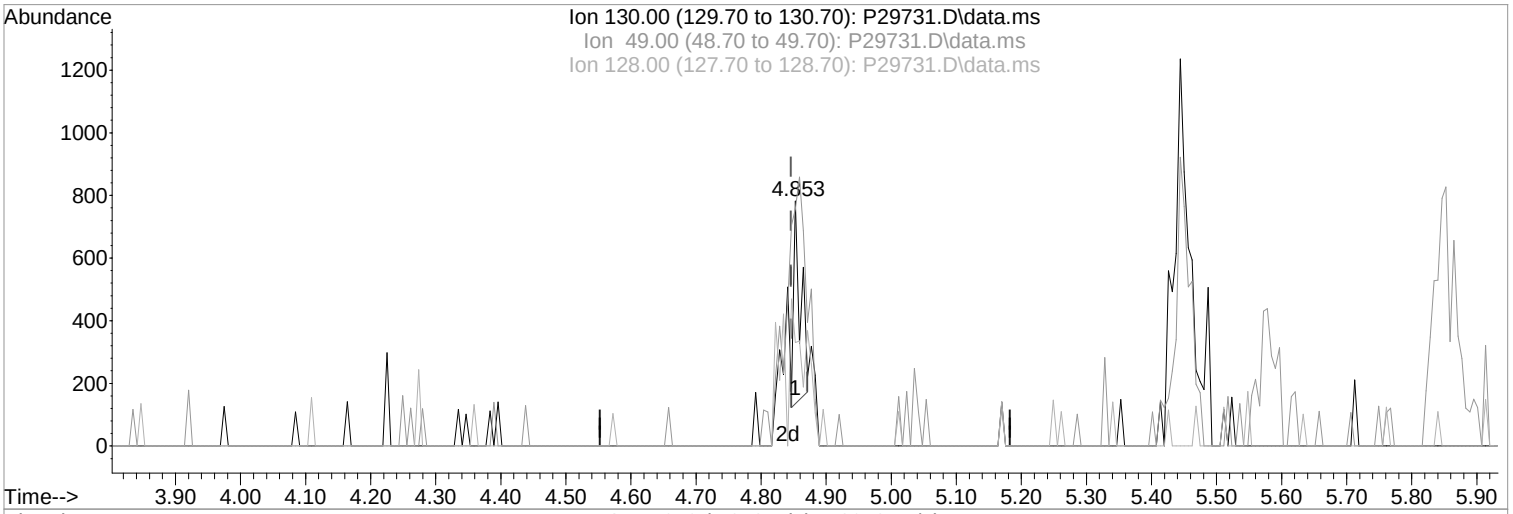
09/12/19

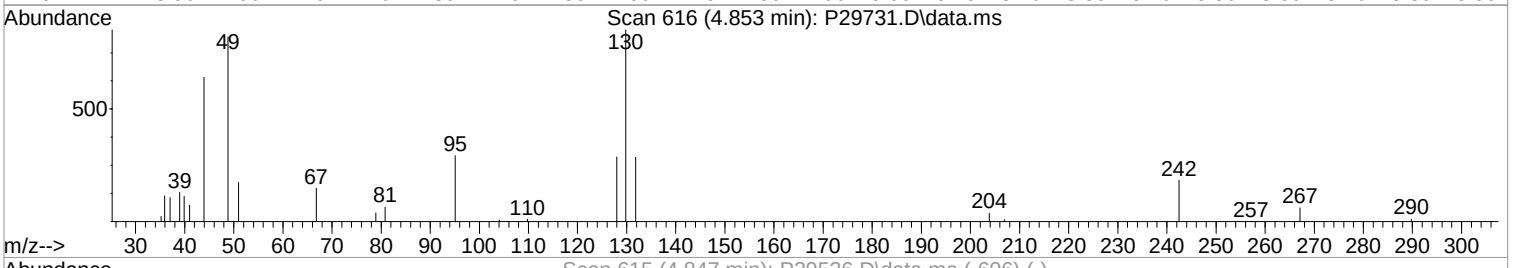
1st 09/12/19
2nd 09/12/19

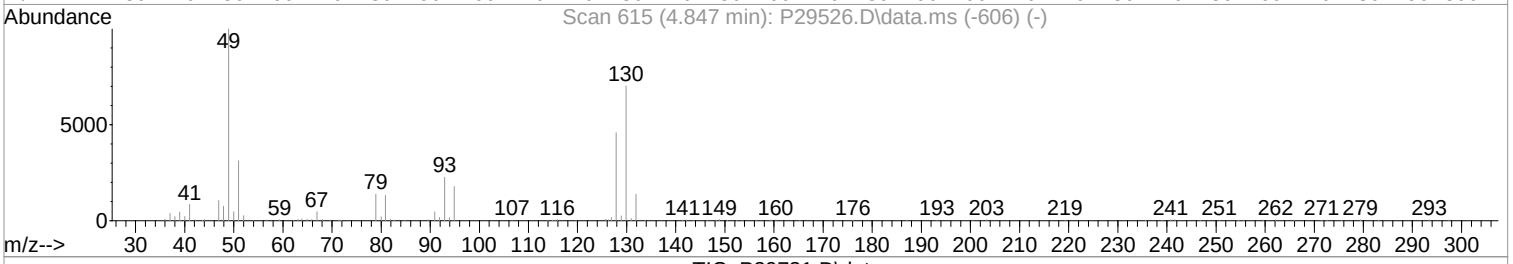
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.19 ppb

response 478

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	96.68#
128.00	71.40	42.20#
0.00	0.00	0.00

Manual Integration:

Before

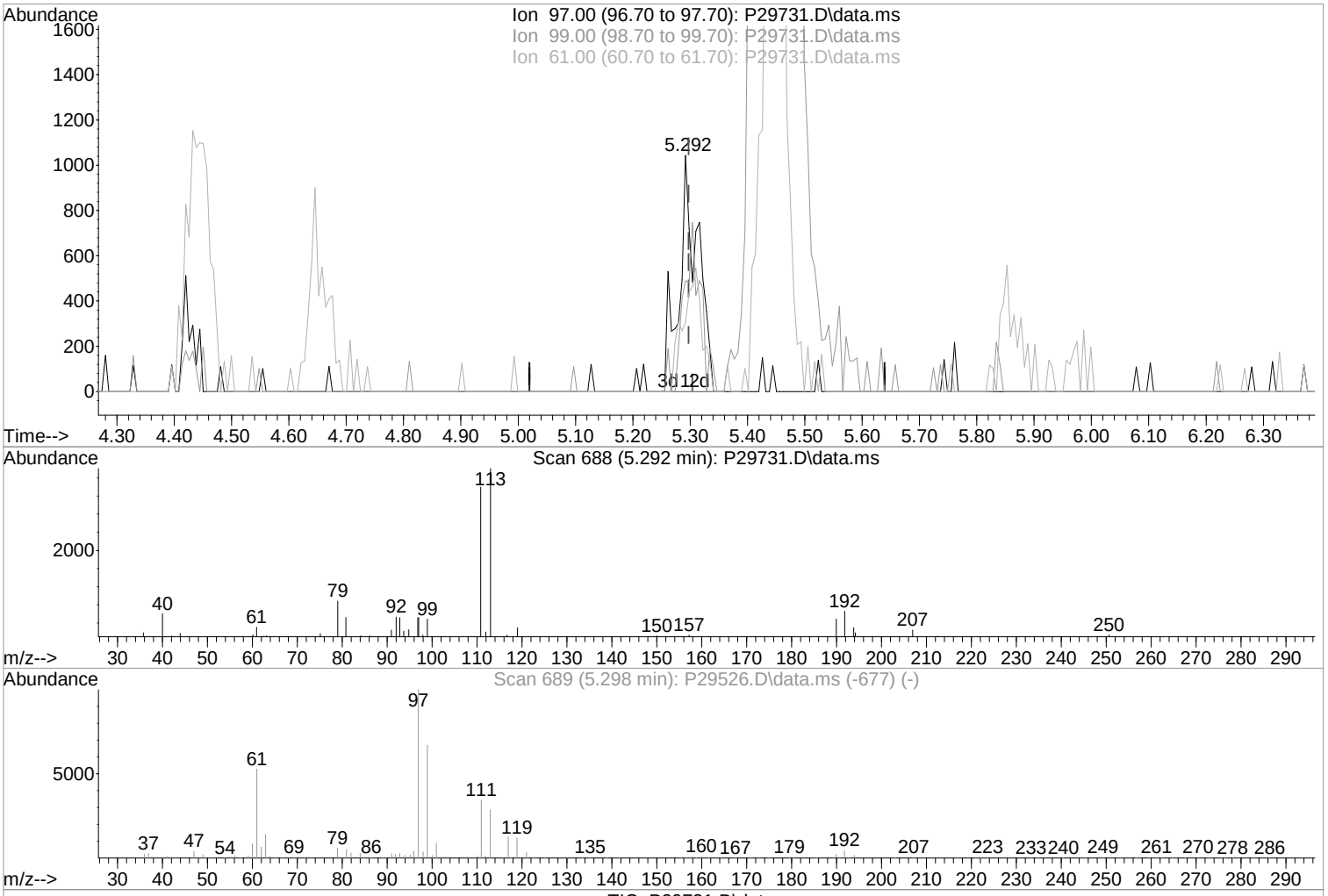
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.292min (-0.006) 0.45 ppb m

response 2421

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	92.60#
61.00	44.60	57.87
0.00	0.00	0.00

Manual Integration:

After

Split Peak

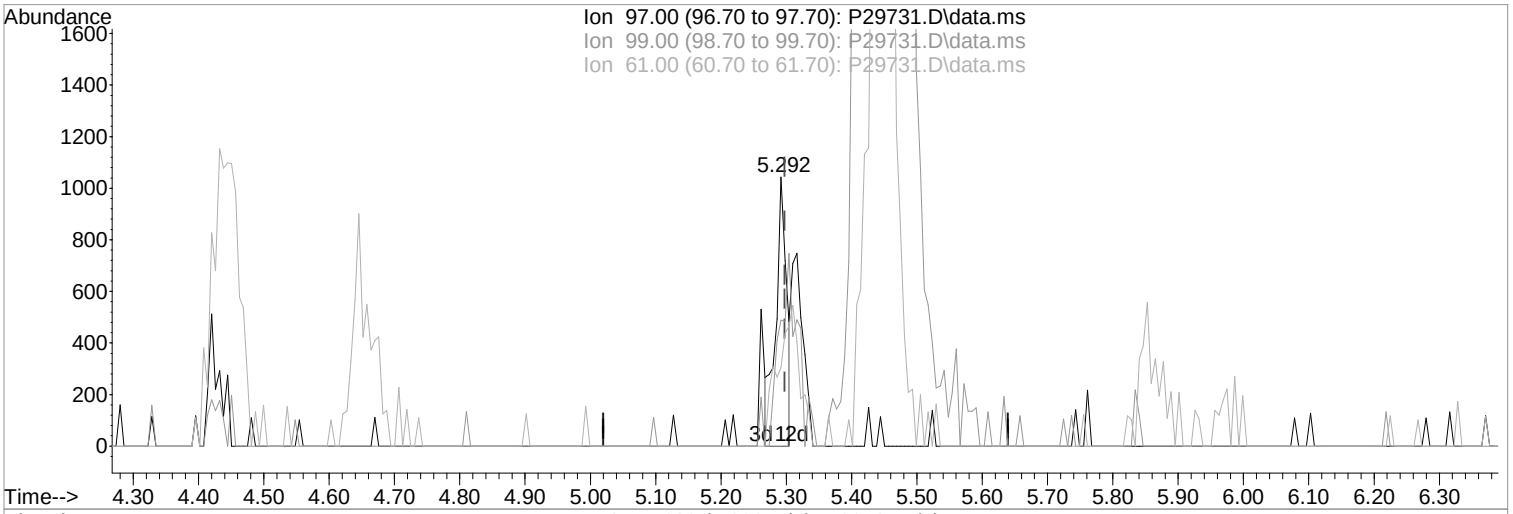
09/12/19

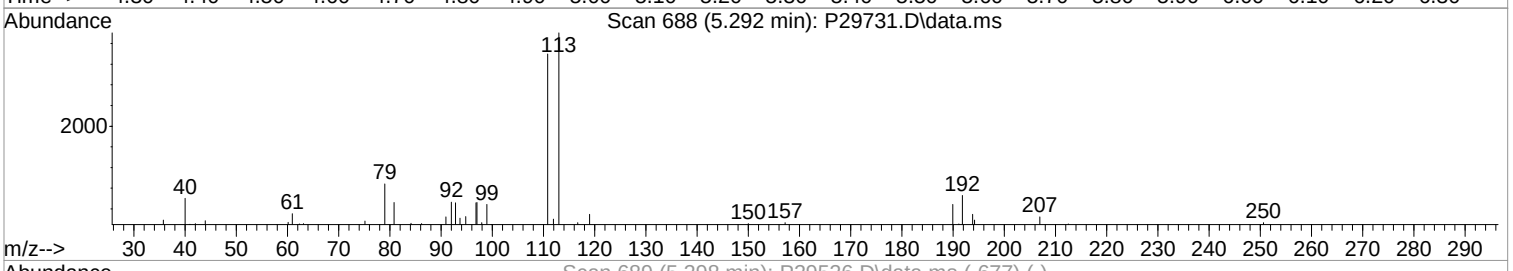
1st 09/12/19
2nd 09/12/19

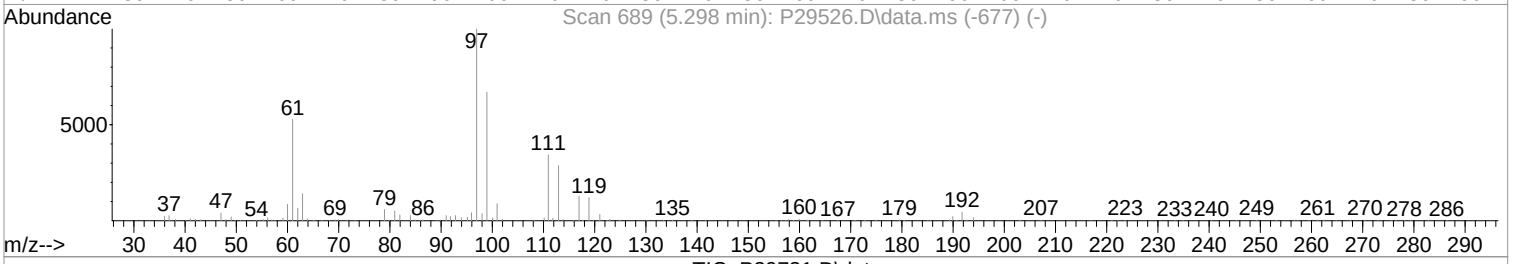
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.292min (-0.006) 0.23 ppb

response 1215

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	46.79
61.00	44.60	29.24
0.00	0.00	0.00

Manual Integration:

Before

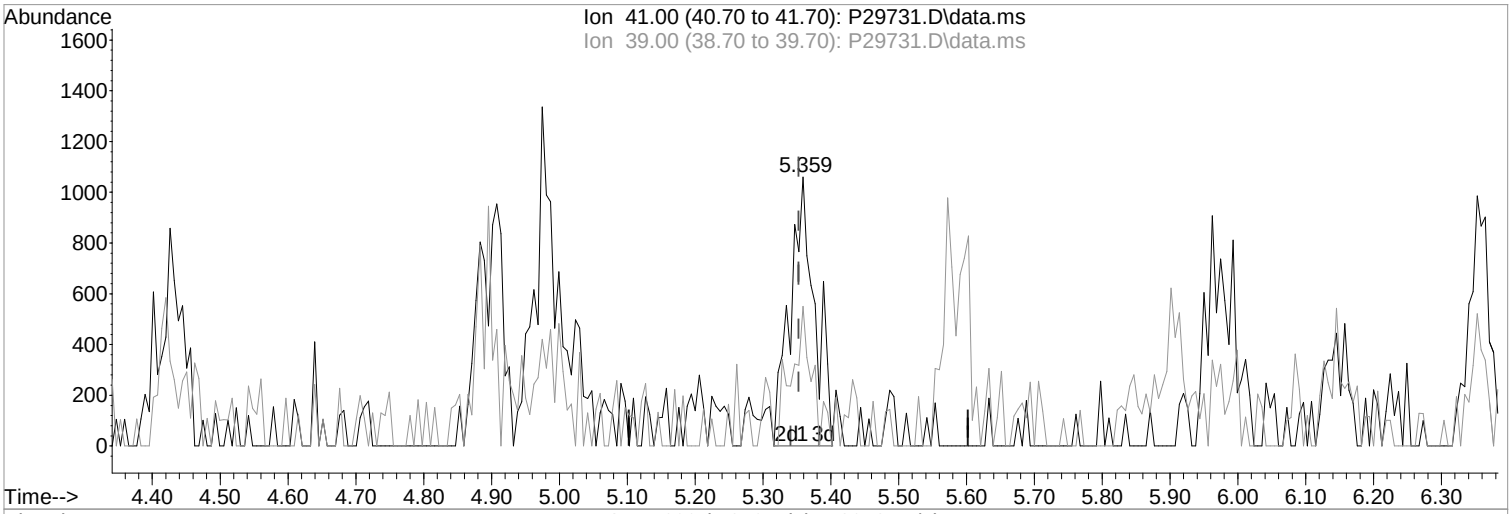
09/12/19

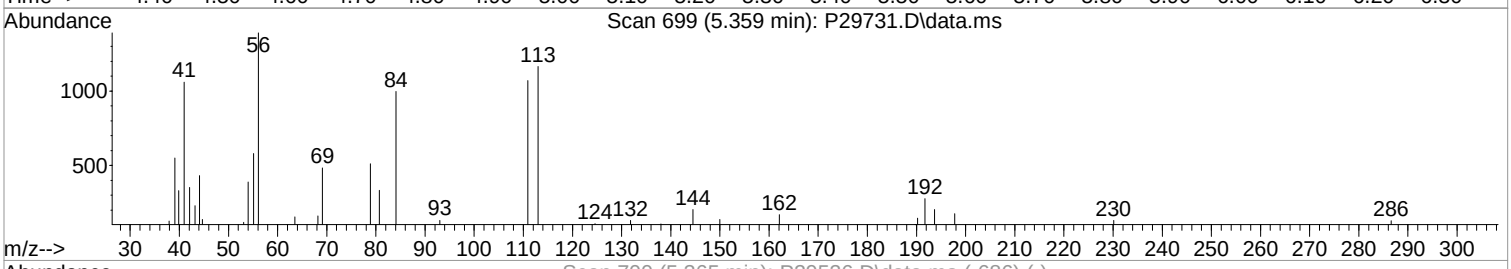
1st 09/12/19
2nd 09/12/19

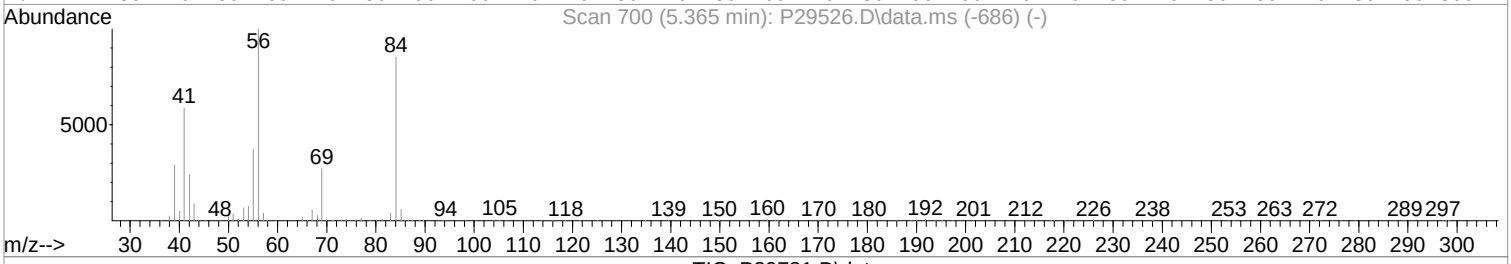
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(44) Cyclohexane (P)

5.359min (+0.006) 0.60 ppb m

response 2693

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	51.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

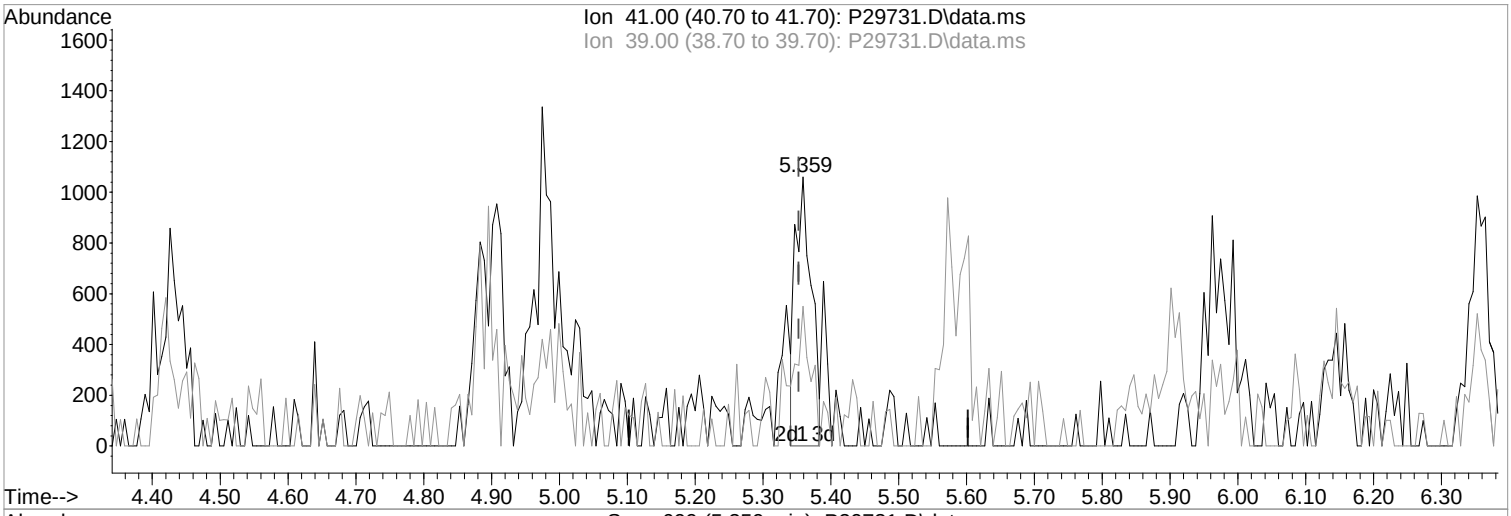
09/12/19

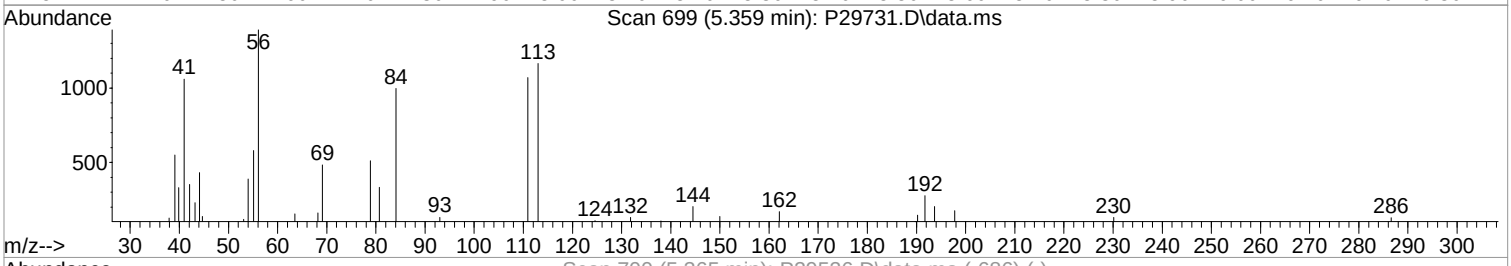
1st 09/12/19
2nd 09/12/19

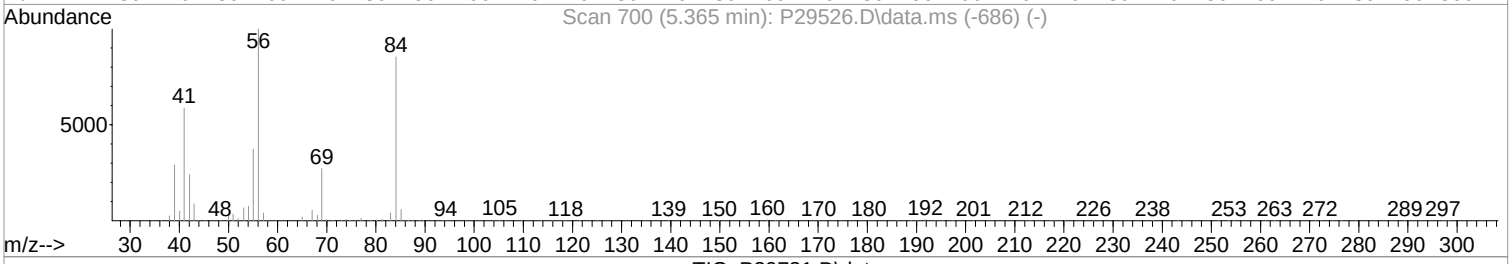
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(44) Cyclohexane (P)

5.359min (+0.006) 0.39 ppb

response 1765

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	51.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

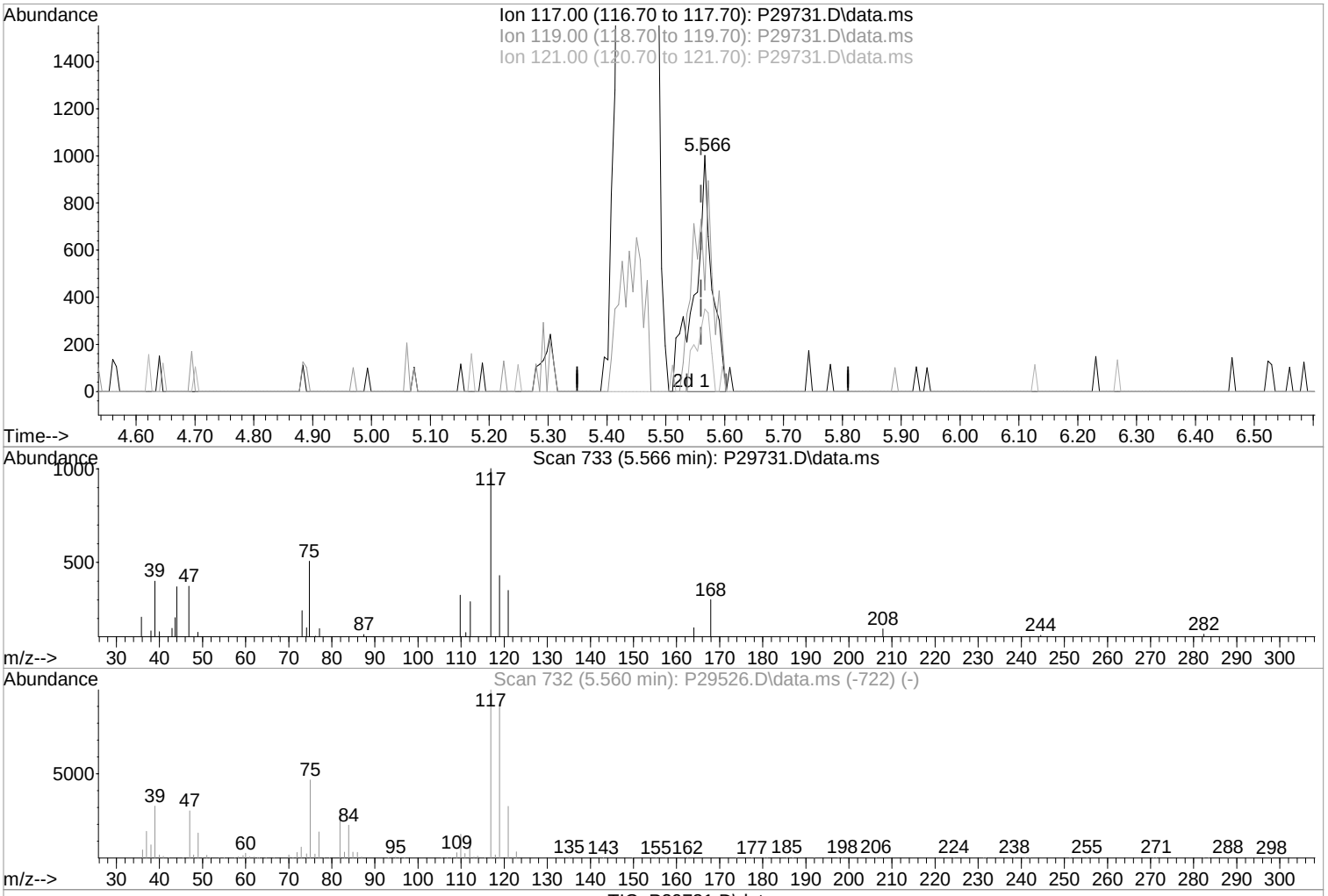
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(46) Carbontetrachloride (P)

5.566min (+0.006) 0.54 ppb m

response 2085

Ion	Exp%	Act%
117.00	100	100
119.00	99.20	42.91#
121.00	31.70	34.93
0.00	0.00	0.00

Manual Integration:

After

Split Peak

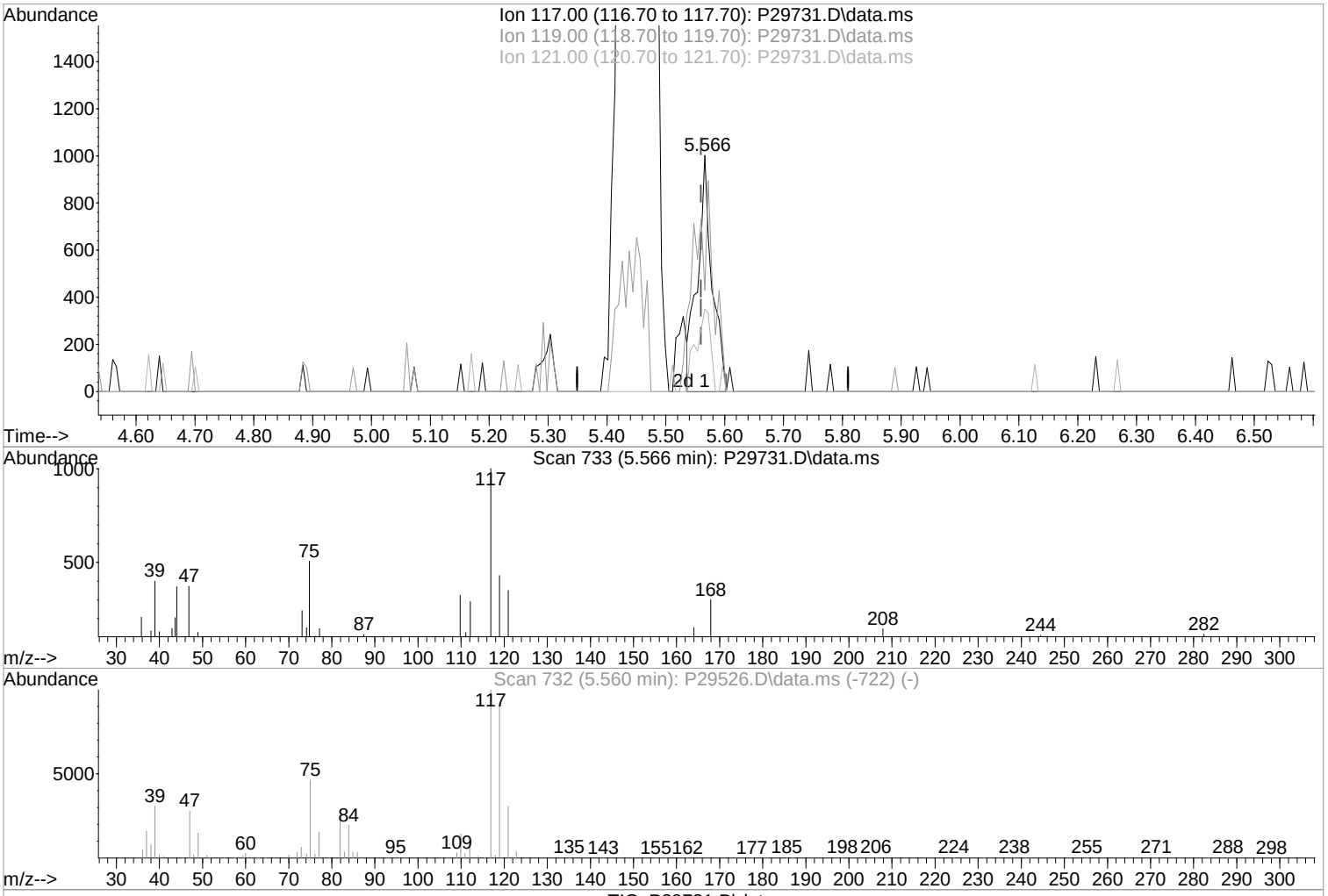
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(46) Carbontetrachloride (P)

5.566min (+0.006) 0.44 ppb

response 1720

Ion	Exp%	Act%
117.00	100	100
119.00	99.20	42.91#
121.00	31.70	34.93
0.00	0.00	0.00

Manual Integration:

Before

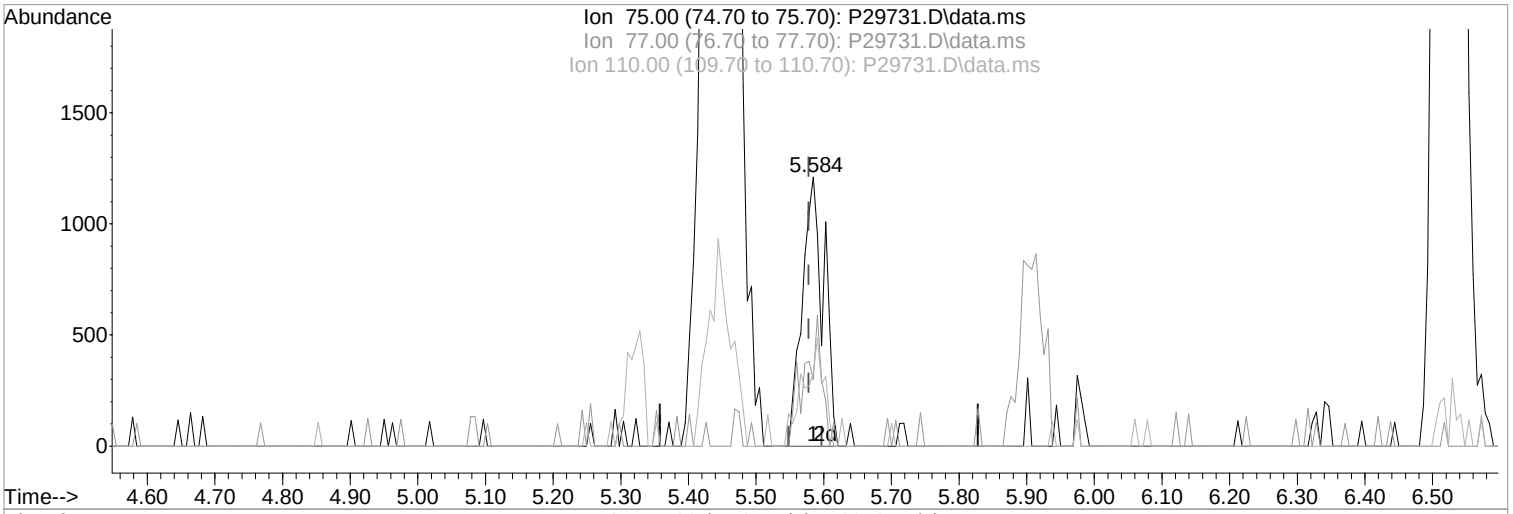
09/12/19

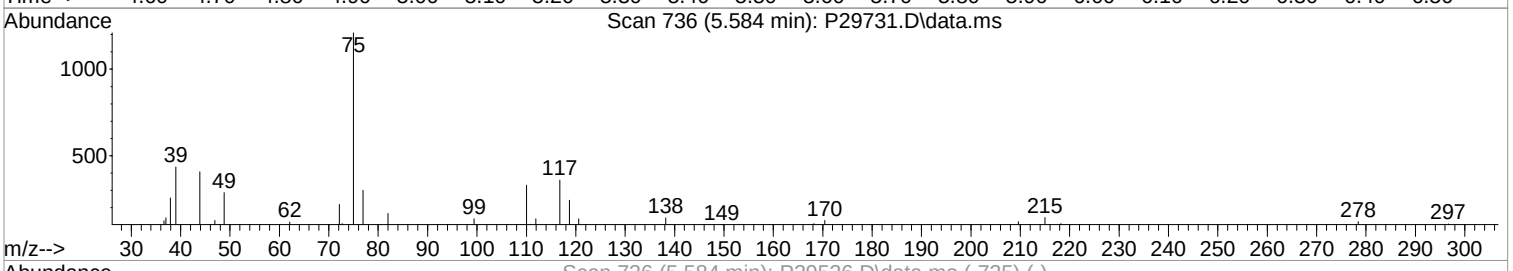
1st 09/12/19
2nd 09/12/19

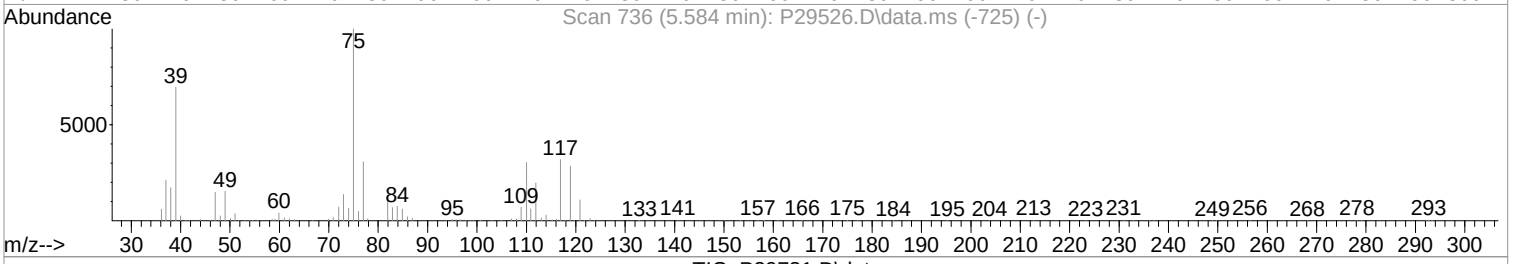
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(47) 1,1-Dichloropropene

5.584min (+0.006) 0.50 ppb m

response 2695

Ion	Exp%	Act%
75.00	100	100
77.00	30.80	24.69
110.00	30.50	27.09
0.00	0.00	0.00

Manual Integration:

After

Split Peak

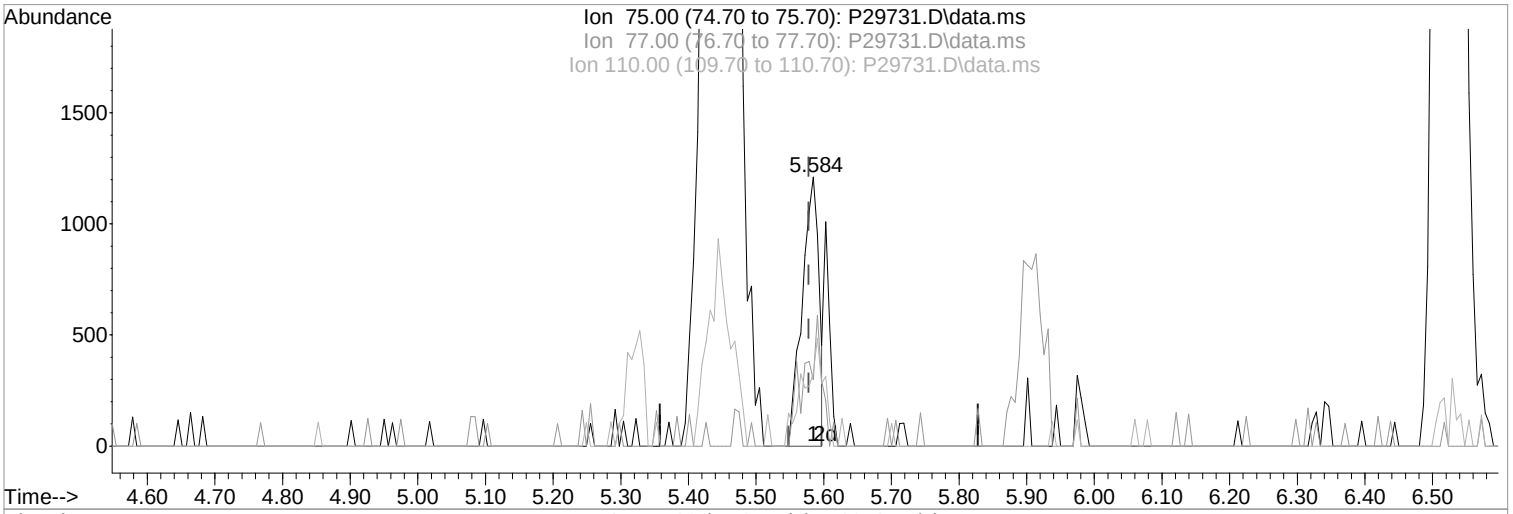
09/12/19

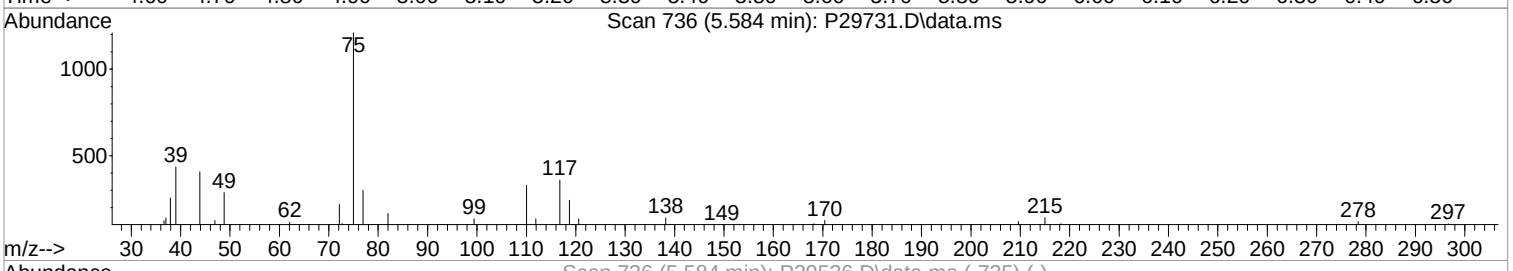
1st 09/12/19
2nd 09/12/19

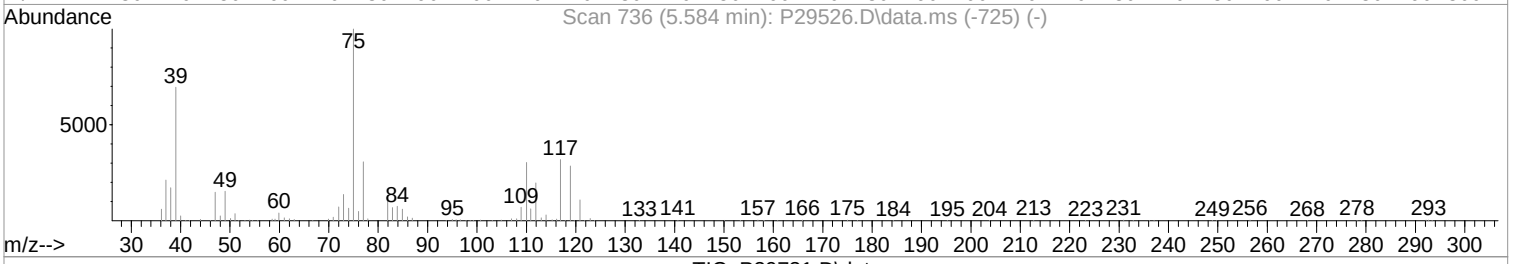
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(47) 1,1-Dichloropropene

5.584min (+0.006) 0.38 ppb

response 2075

Ion	Exp%	Act%
75.00	100	100
77.00	30.80	24.69
110.00	30.50	27.09
0.00	0.00	0.00

Manual Integration:

Before

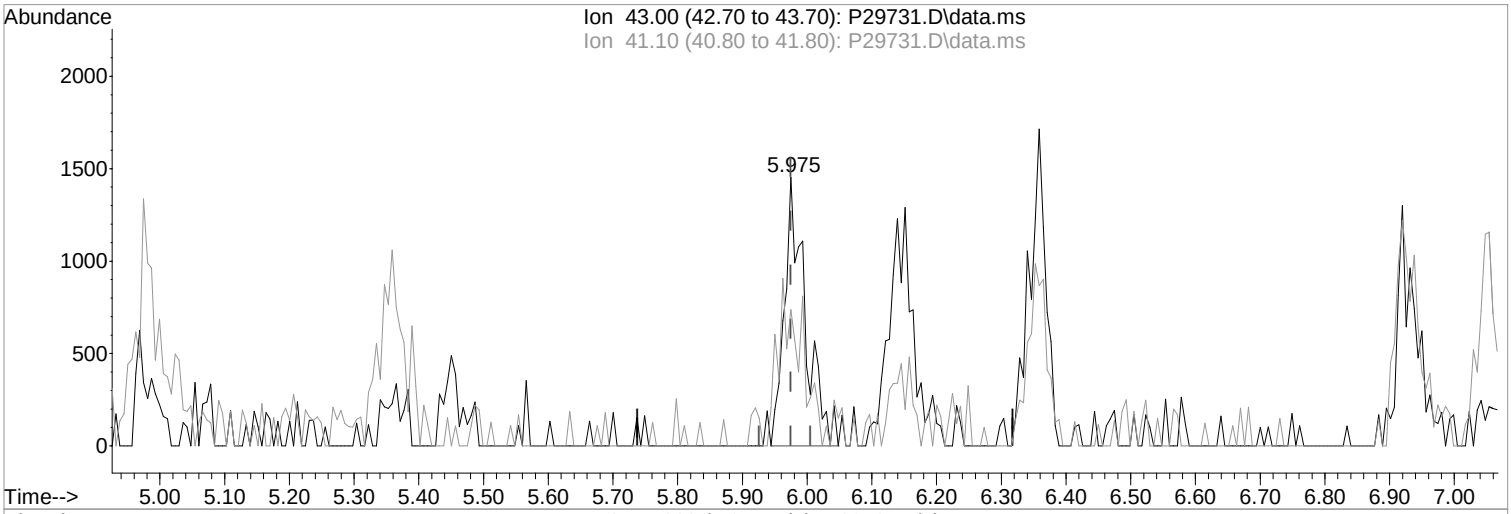
09/12/19

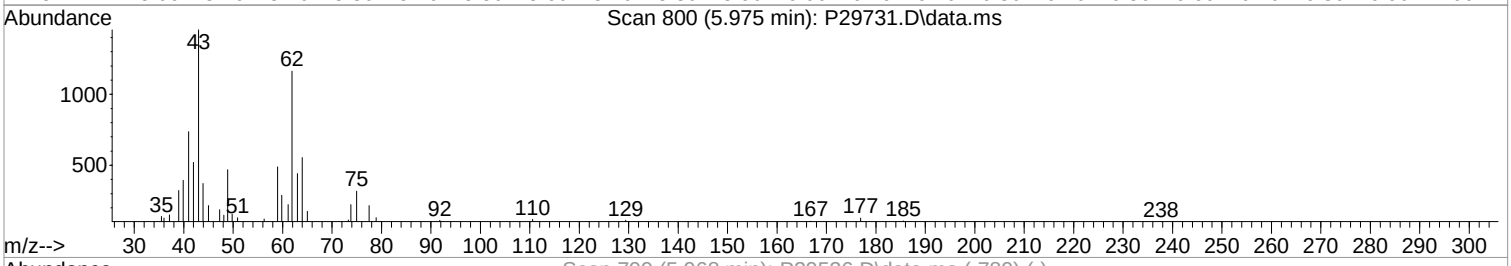
1st 09/12/19
2nd 09/12/19

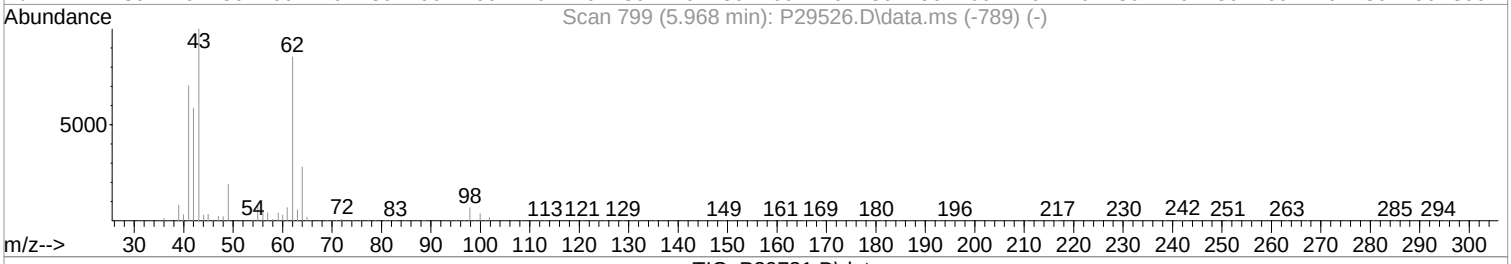
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(51) Iso-Butyl Alcohol

5.975min (+0.000) 6.80 ppb m

response 3274

Ion	Exp%	Act%
43.00	100	100
41.10	67.10	50.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

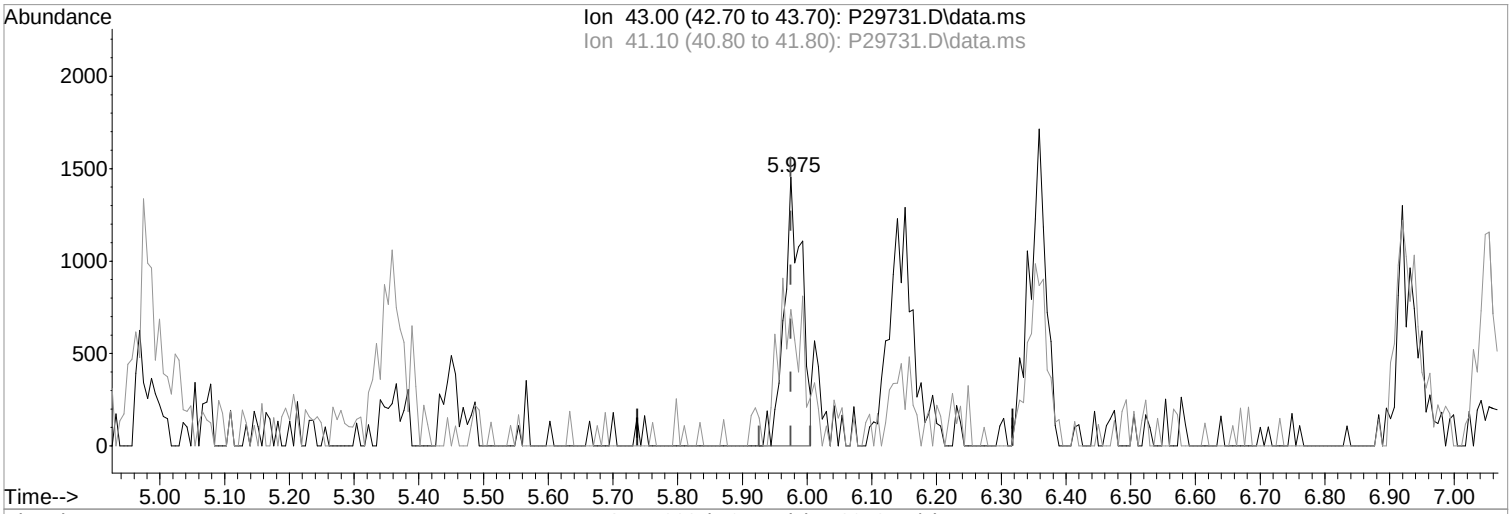
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(51) Iso-Butyl Alcohol

5.975min (+0.000) 5.77 ppb

response 2778

Ion	Exp%	Act%
43.00	100	100
41.10	67.10	50.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

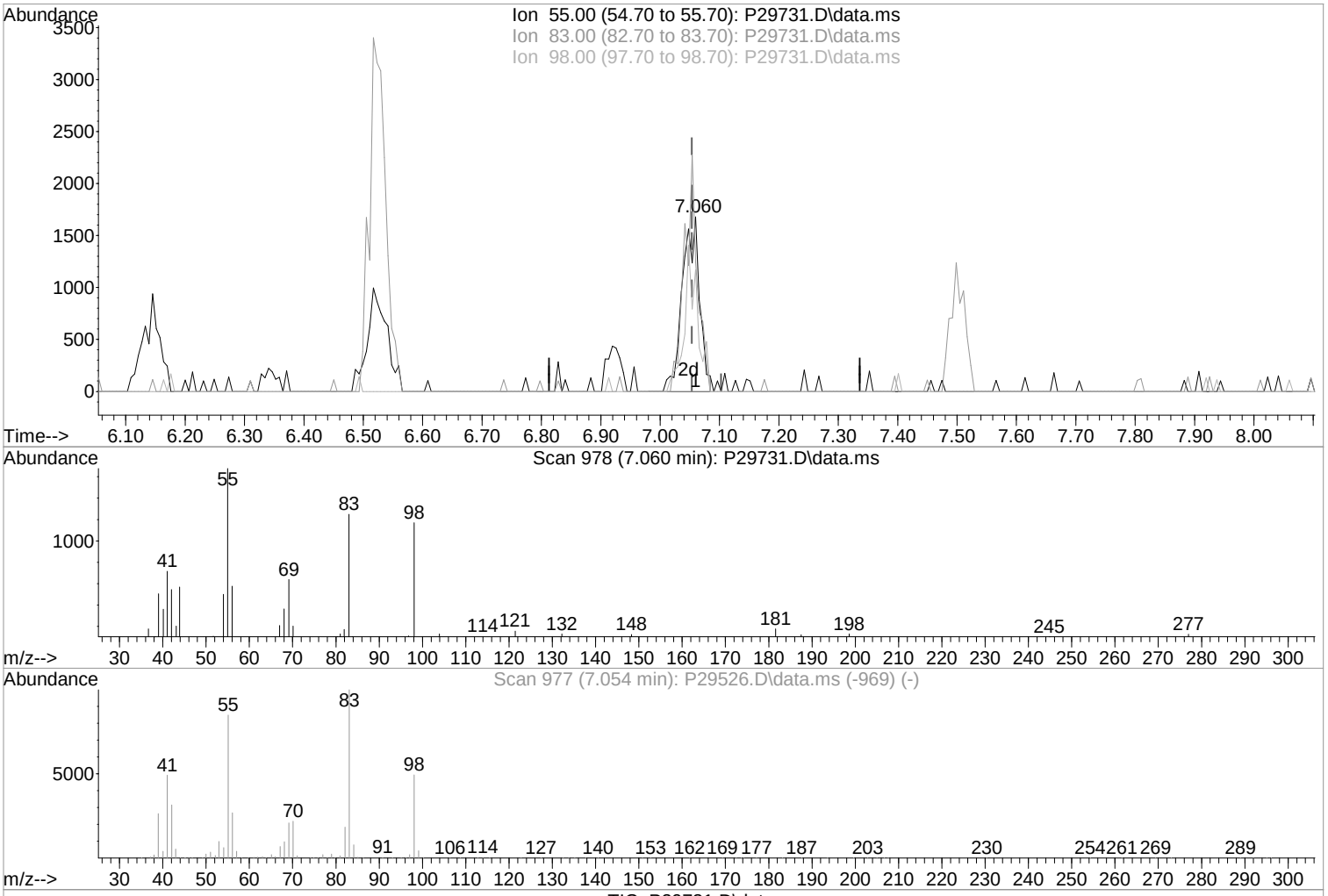
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(55) Methylcyclohexane (P)

7.060min (+0.006) 0.56 ppb m

response 3414

Ion	Exp%	Act%
55.00	100	100
83.00	121.60	74.49#
98.00	57.00	69.73
0.00	0.00	0.00

Manual Integration:

After

Split Peak

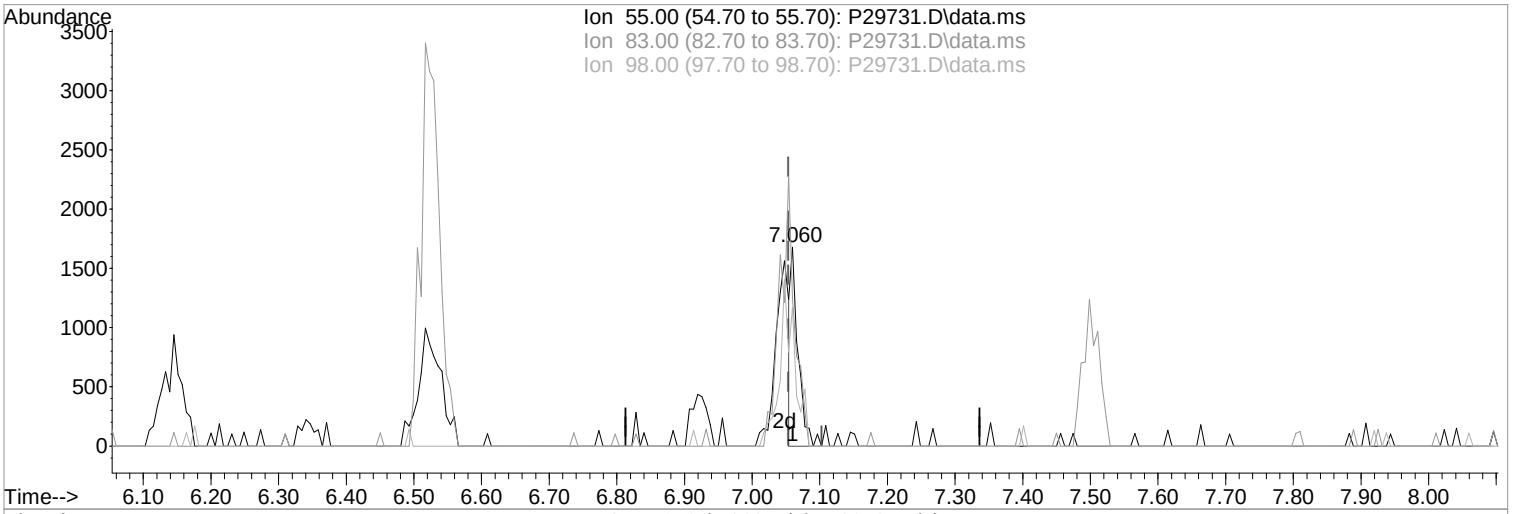
09/12/19

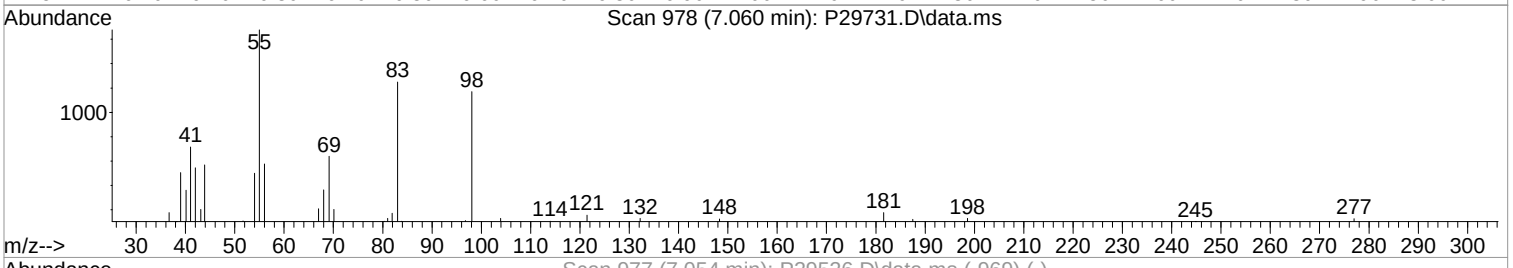
1st 09/12/19
2nd 09/12/19

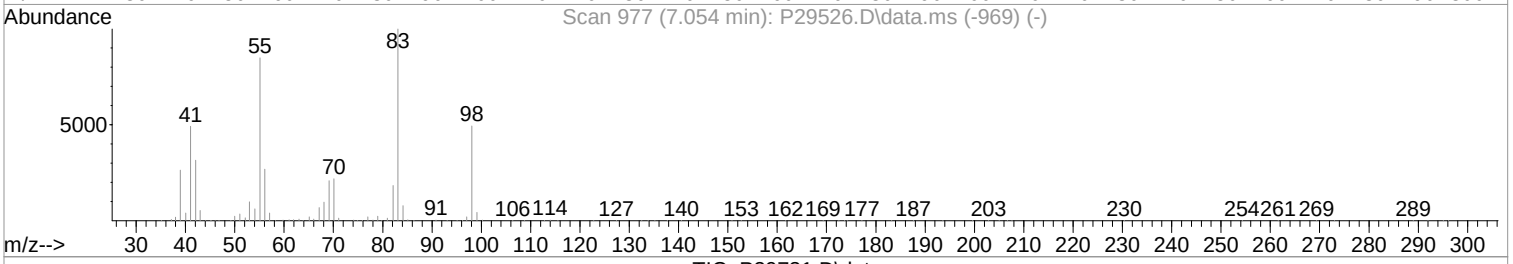
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(55) Methylcyclohexane (P)

7.060min (+0.006) 0.22 ppb

response 1303

Ion	Exp%	Act%
55.00	100	100
83.00	121.60	74.49#
98.00	57.00	69.73
0.00	0.00	0.00

Manual Integration:

Before

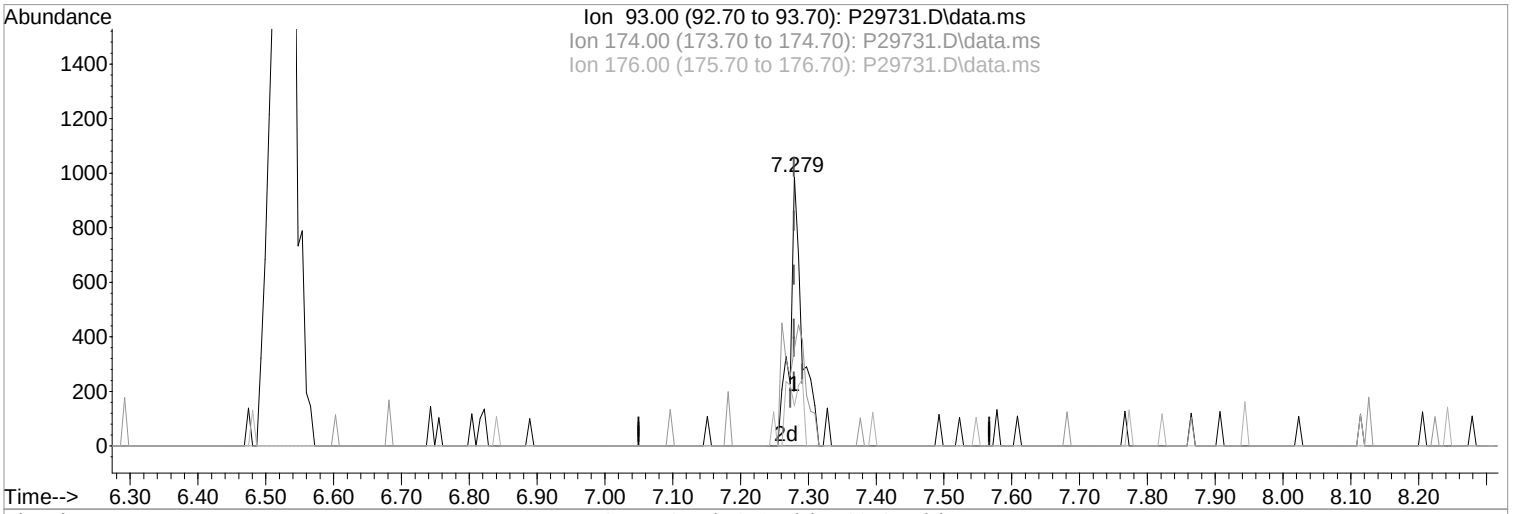
09/12/19

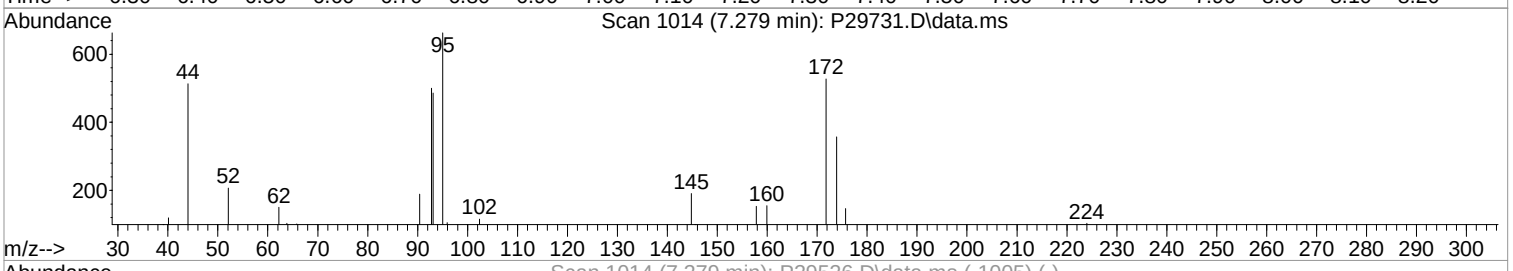
1st 09/12/19
2nd 09/12/19

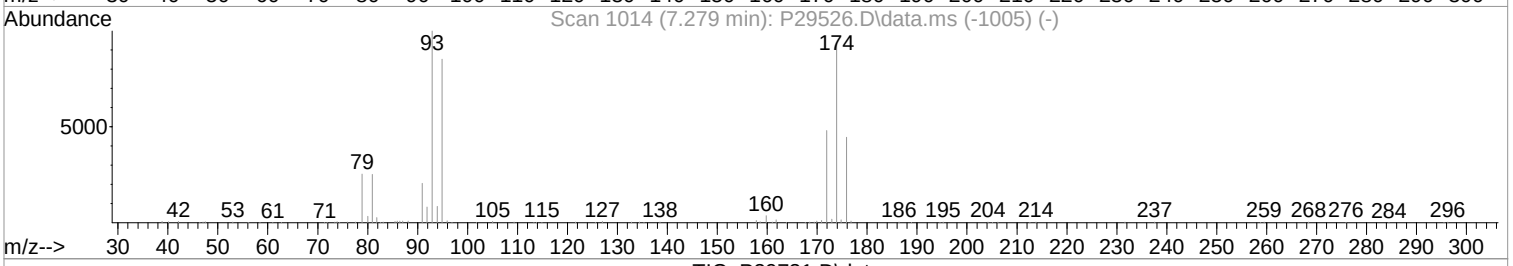
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(57) Dibromomethane

7.279min (+0.000) 0.54 ppb m

response 1246

Ion	Exp%	Act%
93.00	100	100
174.00	97.30	71.40#
176.00	43.60	29.40
0.00	0.00	0.00

Manual Integration:

After

Split Peak

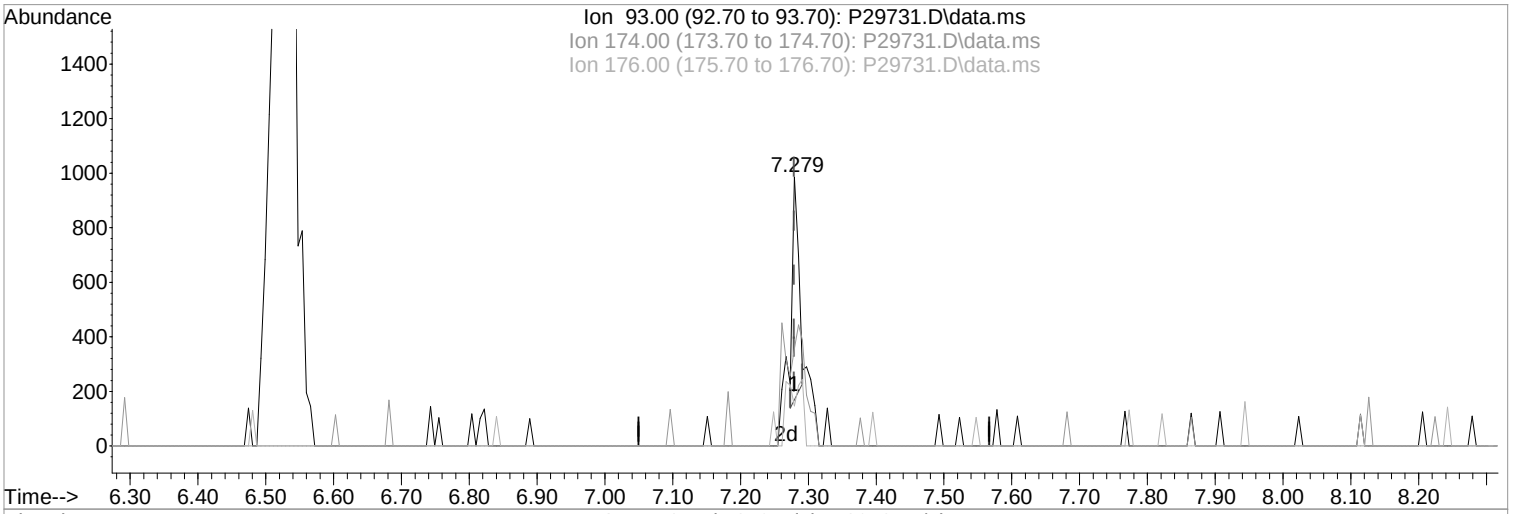
09/12/19

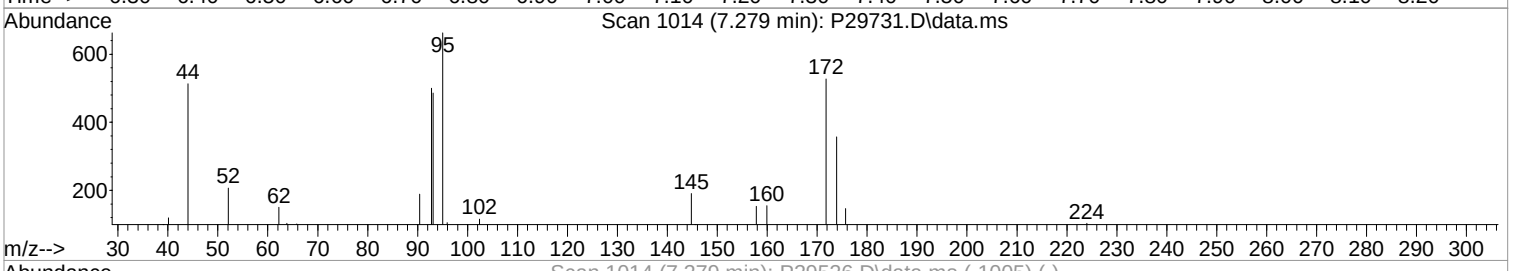
1st 09/12/19
2nd 09/12/19

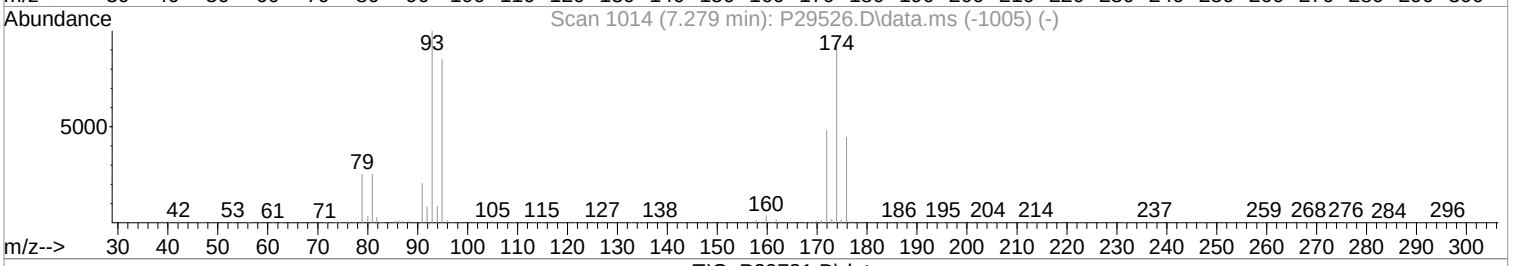
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(57) Dibromomethane

7.279min (+0.000) 0.22 ppb

response 515

Ion	Exp%	Act%
93.00	100	100
174.00	97.30	36.21#
176.00	43.60	14.91#
0.00	0.00	0.00

Manual Integration:

Before

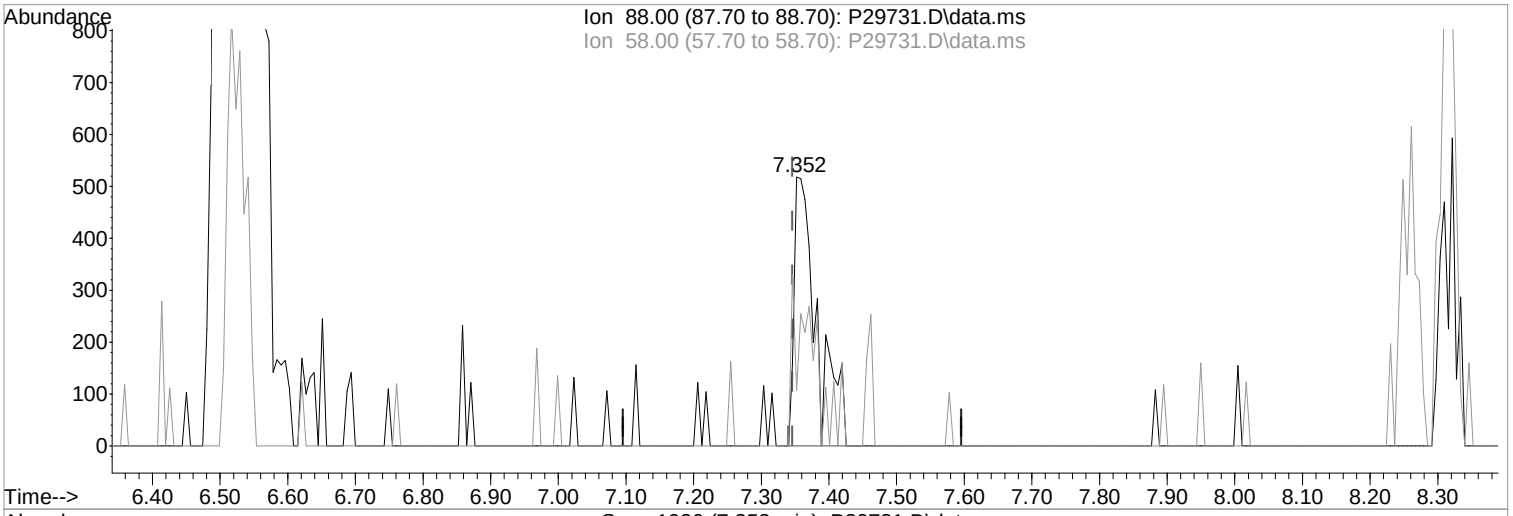
09/12/19

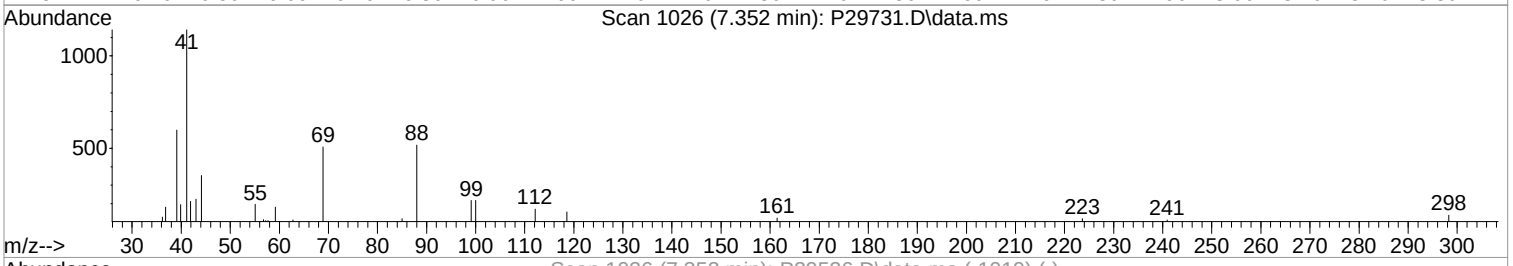
1st 09/12/19
2nd 09/12/19

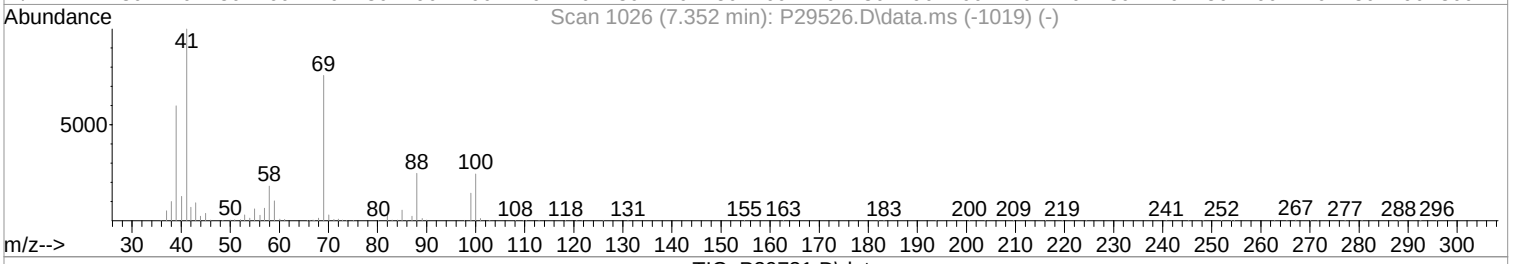
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(58) 1,4-Dioxane

7.352min (+0.006) 11.33 ppb m

response 1219

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	20.85#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

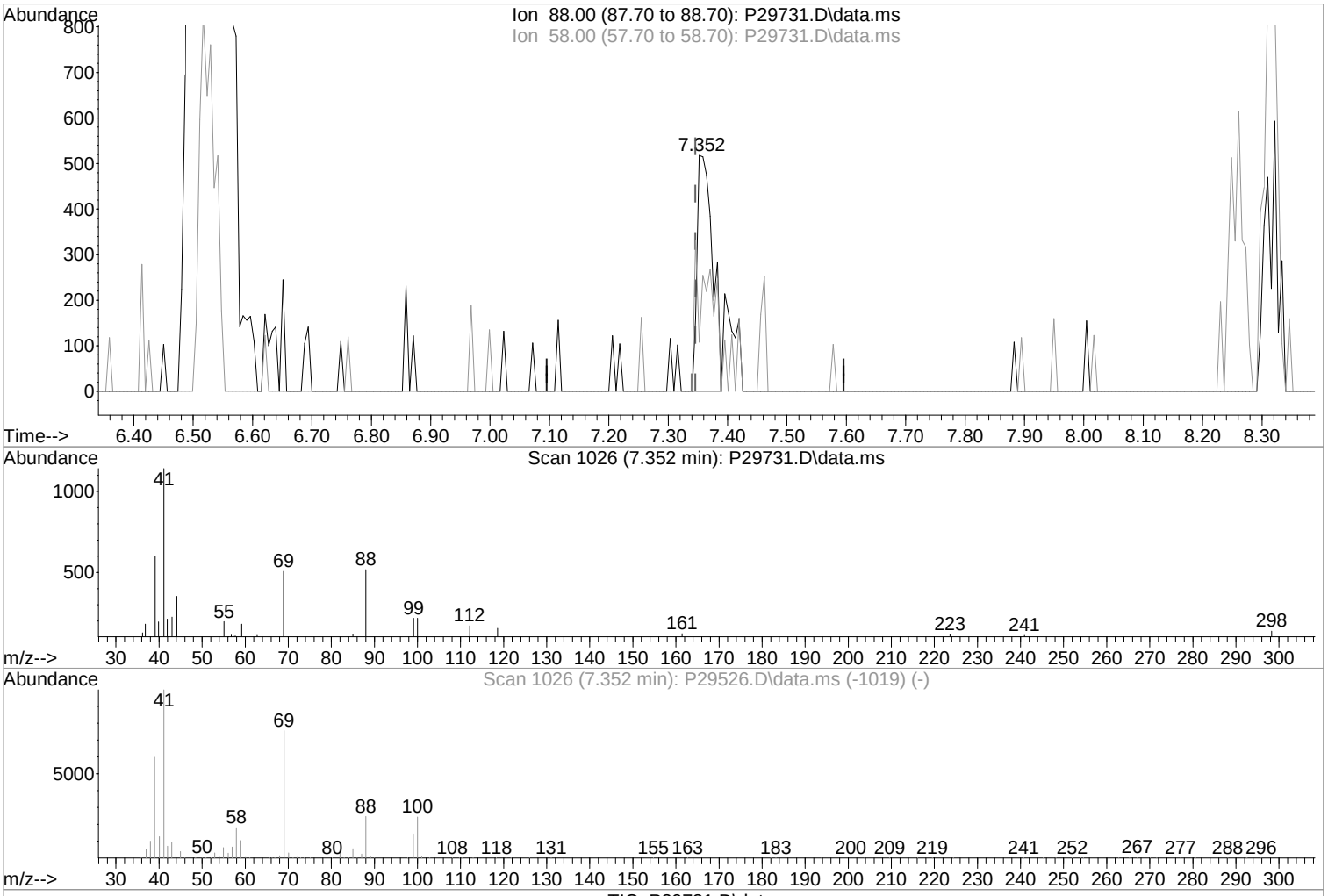
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(58) 1,4-Dioxane

7.352min (+0.006) 8.62 ppb

response 927

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	20.85#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

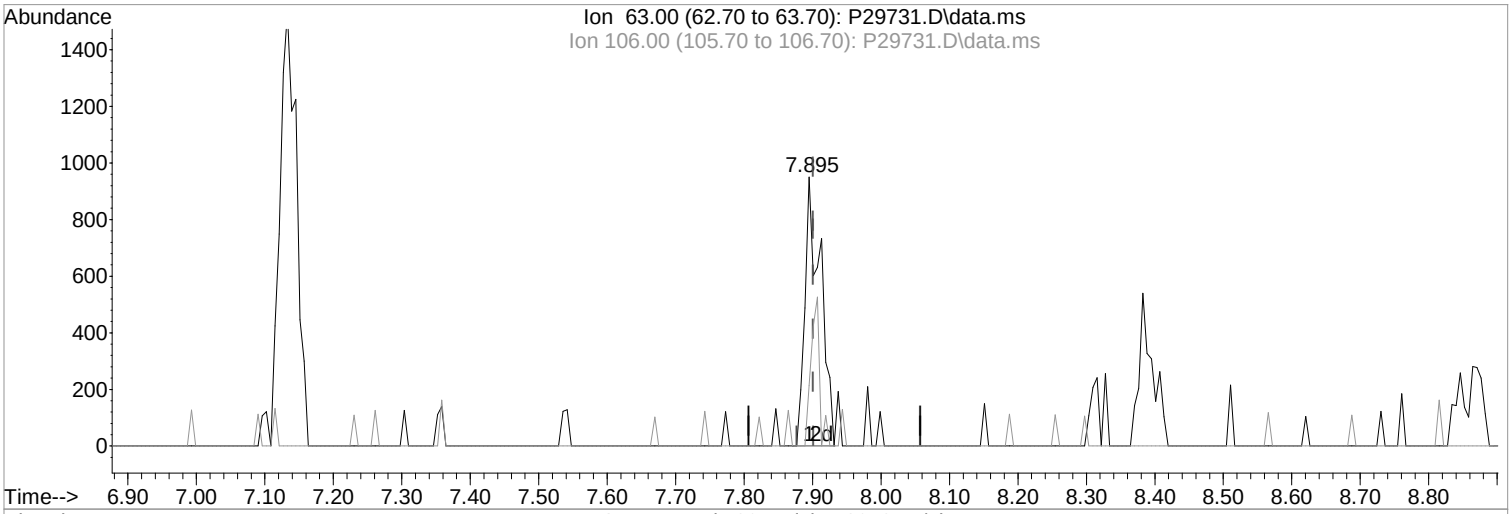
09/12/19

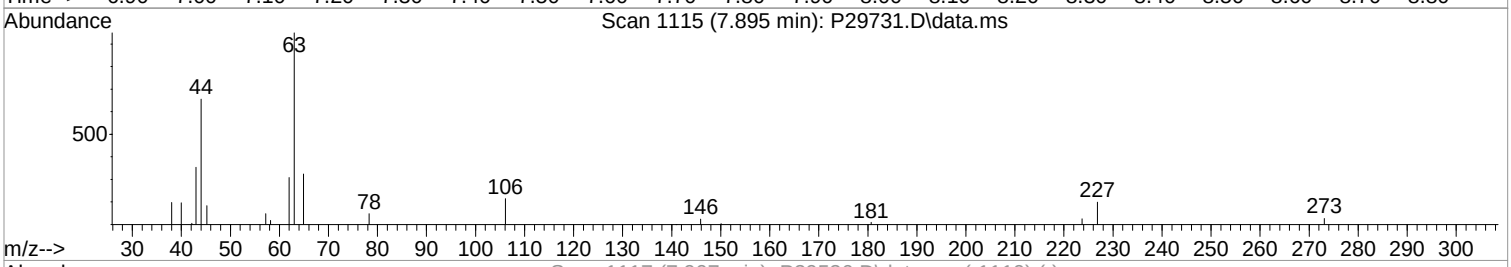
1st 09/12/19
2nd 09/12/19

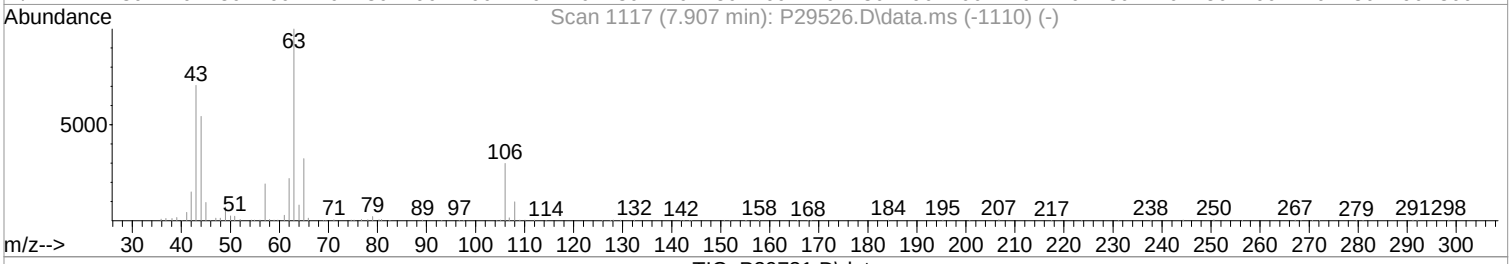
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(62) 2-Chloroethylvinyl Ether

7.895min (-0.006) 0.48 ppb m

response 1514

Ion	Exp%	Act%
63.00	100	100
106.00	25.50	22.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

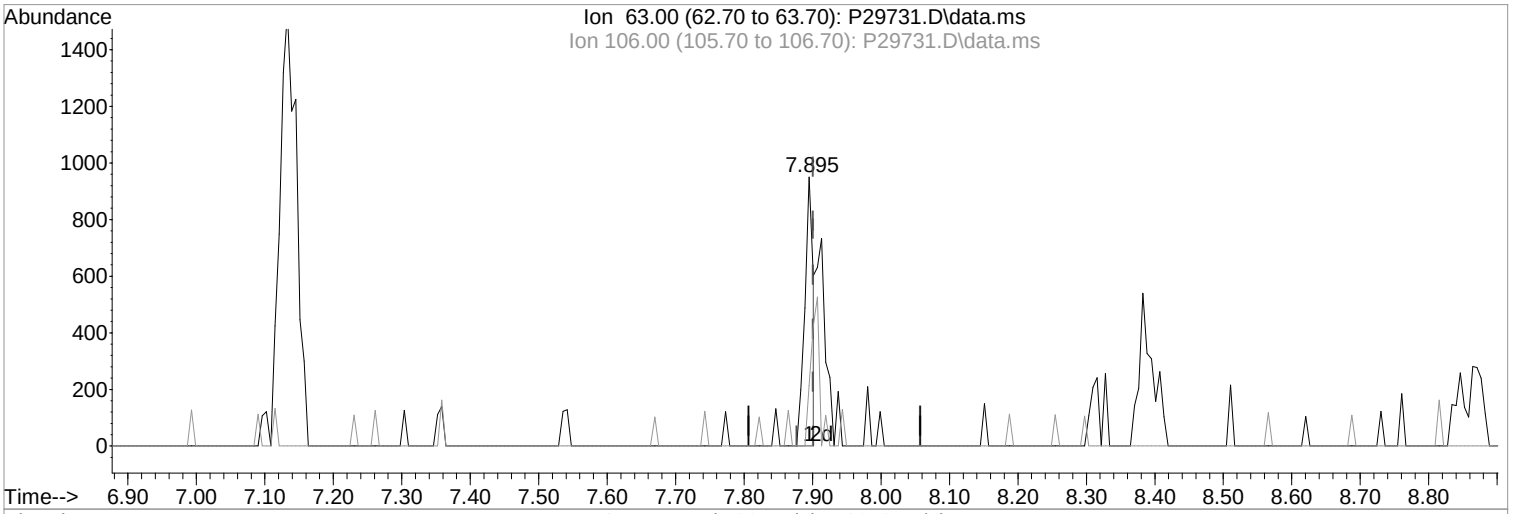
09/12/19

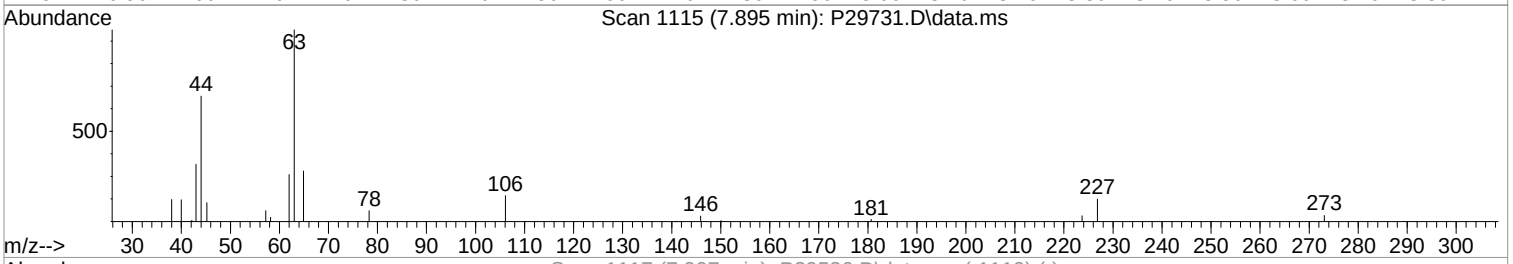
1st 09/12/19
2nd 09/12/19

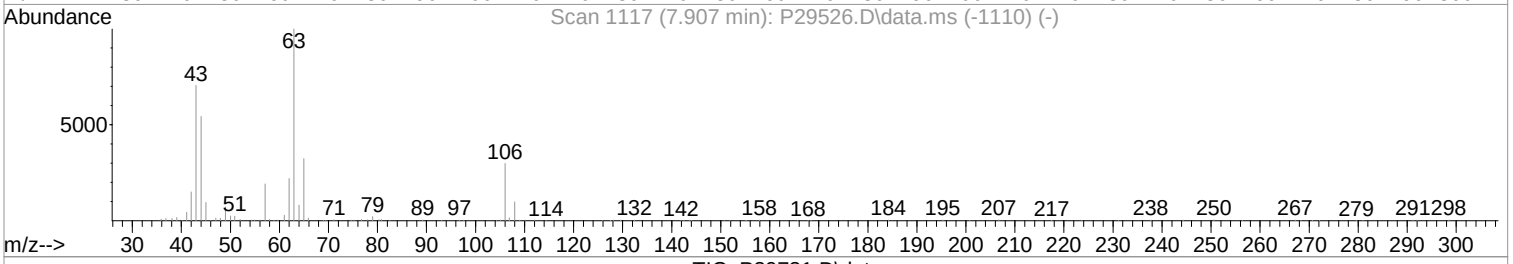
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(62) 2-Chloroethylvinyl Ether

7.895min (-0.006) 0.26 ppb

response 819

Ion	Exp%	Act%
63.00	100	100
106.00	25.50	22.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

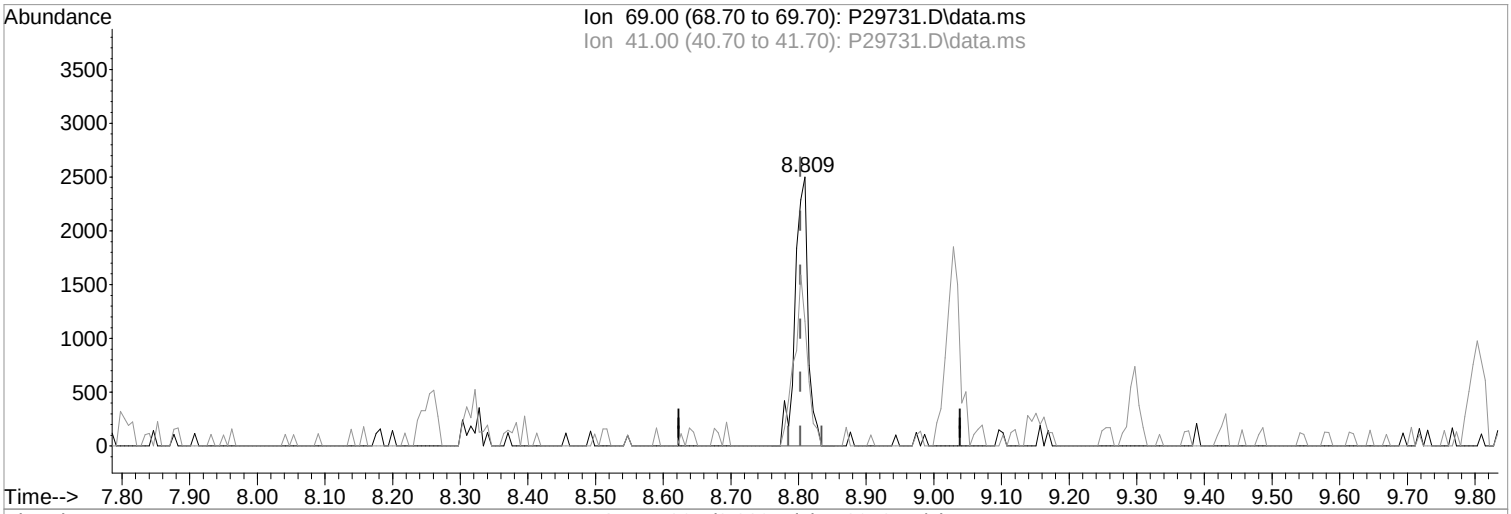
09/12/19

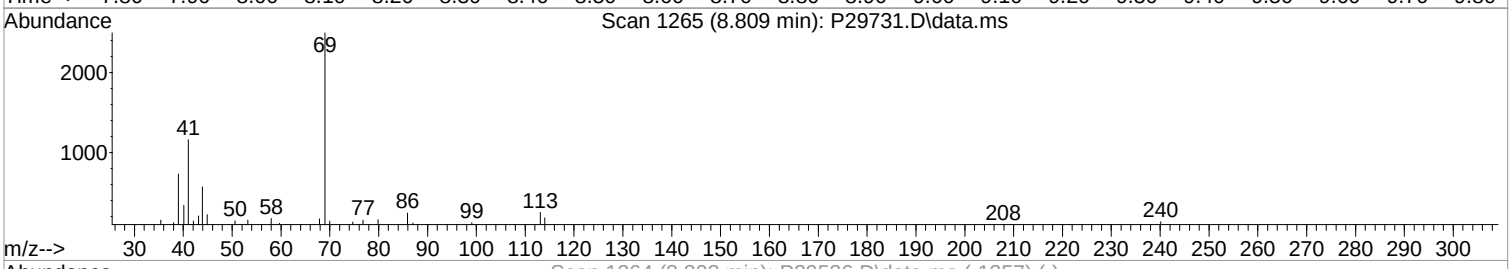
1st 09/12/19
2nd 09/12/19

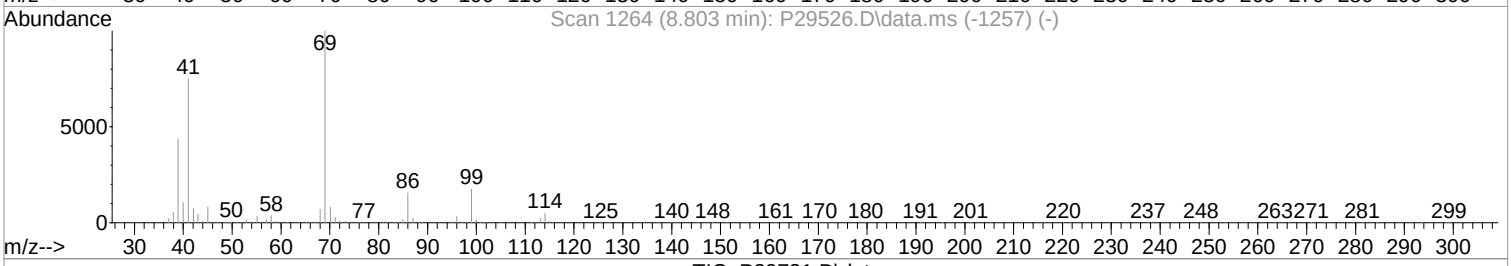
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(68) Ethyl Methacrylate

8.809min (+0.006) 0.44 ppb m

response 3315

Ion	Exp%	Act%
69.00	100	100
41.00	77.10	46.40#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

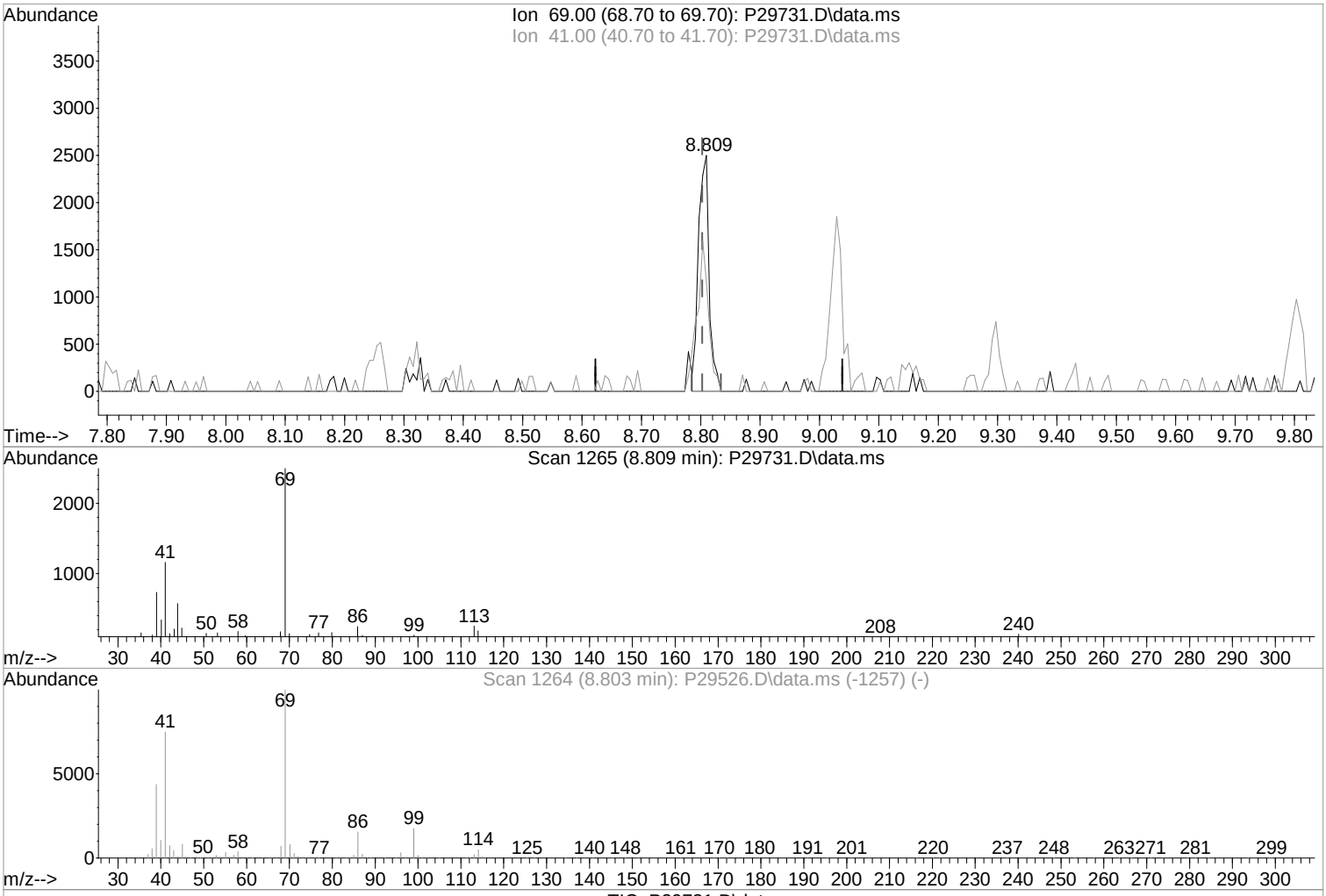
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(68) Ethyl Methacrylate

8.809min (+0.006) 0.41 ppb

response 3092

Ion	Exp%	Act%
69.00	100	100
41.00	77.10	46.40#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

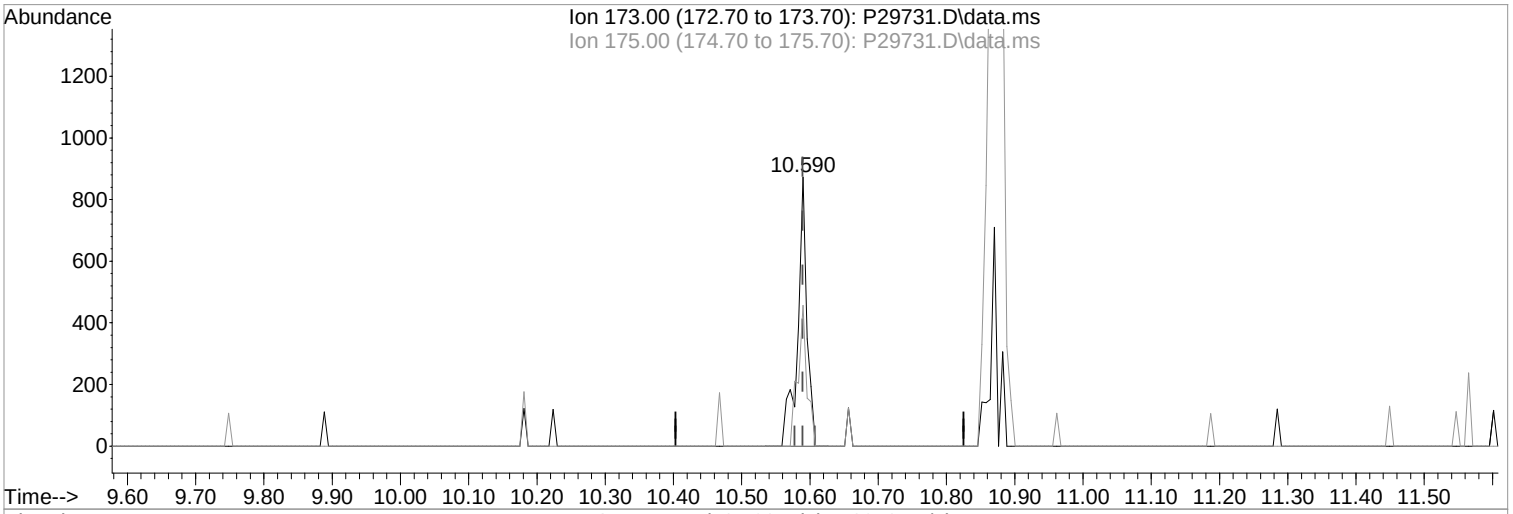
09/12/19

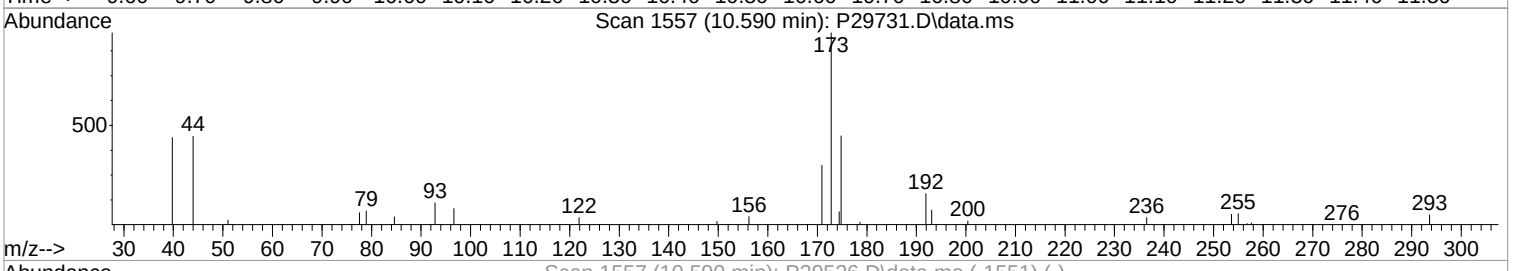
1st 09/12/19
2nd 09/12/19

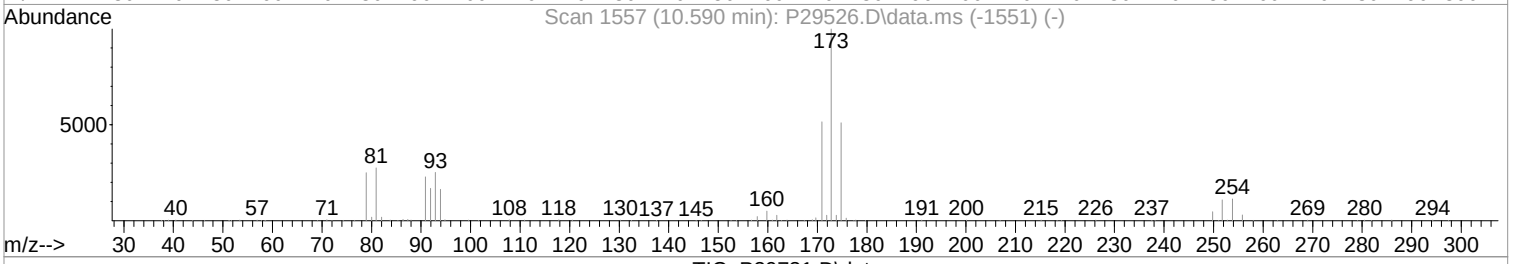
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(87) Bromoform (P)

10.590min (+0.000) 0.46 ppb m

response 829

Ion	Exp%	Act%
173.00	100	100
175.00	52.80	52.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

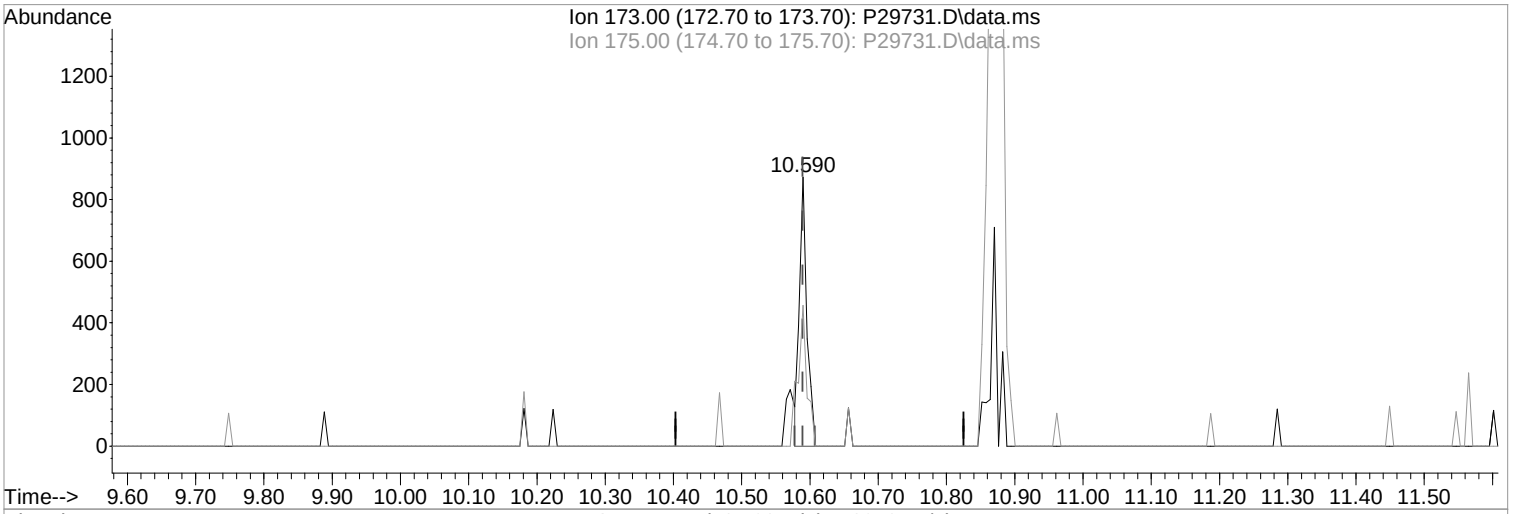
09/12/19

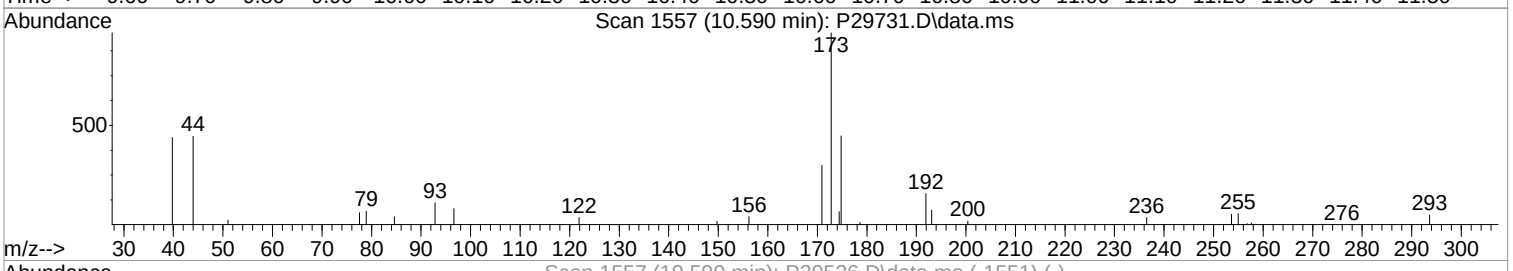
1st 09/12/19
2nd 09/12/19

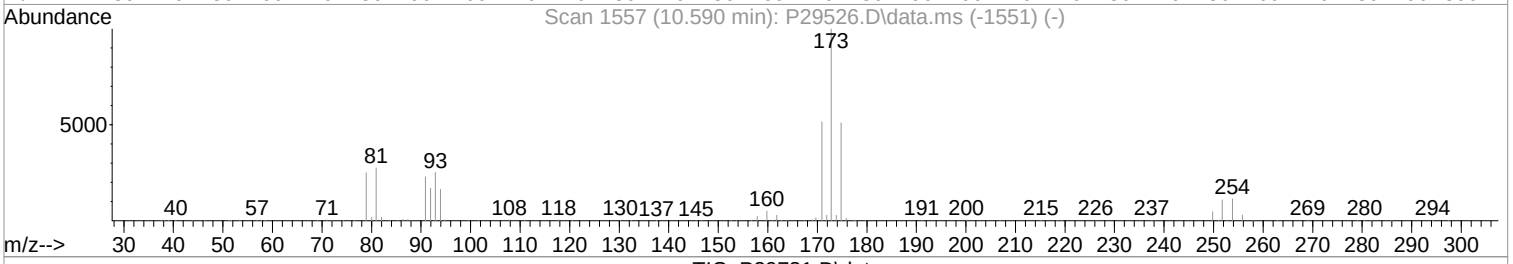
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(87) Bromoform (P)

10.590min (+0.000) 0.36 ppb

response 660

Ion	Exp%	Act%
173.00	100	100
175.00	52.80	52.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.450	168	344778	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	562397	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	503688	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	259929	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	32171	10.79	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 21.58%#				
48) surr1,1,2-dichloroetha...	5.853	65	47891	11.61	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 23.22%#				
65) SURR3,Toluene-d8	8.316	98	165601	11.80	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.60%#				
70) SURR2,BFB	10.870	95	64735	11.86	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 23.72%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.195	85	1916	0.45	ppb		79
3) Chloromethane	1.323	50	3982	0.61	ppb		94
4) Vinyl Chloride	1.402	62	3326	0.54	ppb		84
5) Bromomethane	1.634	94	2343	0.70	ppb		89
6) Chloroethane	1.713	64	1905	0.52	ppb		94
7) Freon 21	1.866	67	3493	0.51	ppb		89
8) Trichlorofluoromethane	1.908	101	2503	0.50	ppb		92
9) Diethyl Ether	2.146	59	2265	0.52	ppb		89
10) Freon 123a	2.152	67	2894	0.61	ppb		76
11) Freon 123	2.207	83	2883	0.55	ppb	#	69
12) Acrolein	2.256	56	3099	2.54	ppb	#	50
13) 1,1-Diclethene	2.329	96	1681	0.50	ppb		86
14) Freon 113	2.323	101	1794	0.55	ppb		82
15) Acetone	2.402	43	2673	0.95	ppb		86
16) 2-Propanol	2.542	45	4317	6.77	ppb		82
17) Iodomethane	2.469	142	1059	0.27	ppb		78
18) Carbon Disulfide	2.524	76	6220	0.62	ppb		86
20) Allyl Chloride	2.670	76	900	0.47	ppb	#	83
21) Methyl Acetate	2.707	43	3090	0.56	ppb		73
22) Methylene Chloride	2.798	84	2642	0.60	ppb	#	82
23) TBA	2.951	59	6593	6.98	ppb		96
24) Acrylonitrile	3.079	53	7019	2.45	ppb	#	65
25) Methyl-t-Butyl Ether	3.091	73	5878	0.41	ppb		93
26) trans-1,2-Dichloroethene	3.085	96	1732	0.47	ppb	#	79
28) 1,1-Diclethane	3.597	63	3433	0.45	ppb	#	78
30) DIPE	3.701	45	8467	0.51	ppb		86
31) 2-Chloro-1,3-Butadiene	3.707	53	2817	0.46	ppb		85
32) ETBE	4.237	59	7204	0.49	ppb	#	76
33) 2,2-Dichloropropane	4.420	77	2749m	0.49	ppb		
34) cis-1,2-Dichloroethene	4.444	96	1957m	0.47	ppb		
36) Propionitrile	4.646	54	2187	1.80	ppb		85
37) Bromochloromethane	4.853	130	1398m	0.56	ppb		
38) Methacrylonitrile	4.896	67	1354	0.47	ppb	#	49
39) Tetrahydrofuran	4.981	42	5574	1.73	ppb		91
40) Chloroform	5.030	83	3070	0.46	ppb	#	75
41) 1,1,1-Trichloroethane	5.292	97	2421m	0.45	ppb		
42) TAME	6.145	73	5695	0.42	ppb		95
44) Cyclohexane	5.359	41	2693m	0.60	ppb		
46) Carbontetrachloride	5.566	117	2085m	0.54	ppb		

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
47)	1,1-Dichloropropene	5.584	75	2695m	0.50	ppb		
49)	Benzene	5.901	78	8685	0.51	ppb		98
50)	1,2-Dichloroethane	5.969	62	3084	0.54	ppb		86
51)	Iso-Butyl Alcohol	5.975	43	3274m	6.80	ppb		
52)	n-Heptane	6.359	43	3061	0.48	ppb		85
53)	1-Butanol	6.926	56	3994	14.47	ppb		90
54)	Trichloroethene	6.834	130	2024	0.54	ppb	#	72
55)	Methylcyclohexane	7.060	55	3414m	0.56	ppb		
56)	1,2-Diclpropane	7.133	63	2630	0.56	ppb		81
57)	Dibromomethane	7.279	93	1246m	0.54	ppb		
58)	1,4-Dioxane	7.352	88	1219m	11.33	ppb		
59)	Methyl Methacrylate	7.358	69	1640	0.38	ppb	#	72
60)	Bromodichloromethane	7.499	83	2036	0.45	ppb		82
62)	2-Chloroethylvinyl Ether	7.895	63	1514m	0.48	ppb		
63)	cis-1,3-Dichloropropene	8.035	75	2987	0.45	ppb		94
64)	4-Methyl-2-pentanone	8.261	43	2727	0.38	ppb		96
66)	Toluene	8.389	91	9114	0.53	ppb		97
67)	trans-1,3-Dichloropropene	8.675	75	3298	0.54	ppb		81
68)	Ethyl Methacrylate	8.809	69	3315m	0.44	ppb		
69)	1,1,2-Trichloroethane	8.864	97	1371	0.36	ppb	#	76
72)	Tetrachloroethene	8.974	164	1576	0.52	ppb	#	76
73)	2-Hexanone	9.163	43	1848	0.33	ppb		88
74)	1,3-Dichloropropane	9.029	76	3644	0.48	ppb		83
75)	Dibromochloromethane	9.248	129	1346	0.43	ppb		75
76)	N-Butyl Acetate	9.291	43	4174	0.39	ppb		92
77)	1,2-Dibromoethane	9.346	107	1979	0.50	ppb		89
78)	Chlorobenzene	9.828	112	6227	0.56	ppb		84
79)	3-CBTF	9.846	180	2482	0.43	ppb	#	80
80)	4-CBTF	9.901	180	2571	0.50	ppb		95
81)	1,1,1,2-Tetrachloroethane	9.913	131	1411	0.43	ppb	#	62
82)	Ethylbenzene	9.937	106	3187	0.53	ppb		92
83)	(m+p)Xylene	10.047	106	7241	0.99	ppb		90
84)	o-Xylene	10.413	106	4016	0.54	ppb		92
85)	Styrene	10.431	104	5759	0.47	ppb		94
87)	Bromoform	10.590	173	829m	0.46	ppb		
88)	2-CBTF	10.663	180	2797	0.52	ppb	#	62
89)	Isopropylbenzene	10.742	105	9234	0.52	ppb		97
90)	Cyclohexanone	10.833	55	7032	9.28	ppb	#	74
91)	trans-1,4-Dichloro-2-B...	11.071	53	826	0.42	ppb	#	63
92)	1,1,2,2-Tetrachloroethane	11.016	83	2552	0.43	ppb		94
93)	Bromobenzene	10.992	156	2221	0.51	ppb	#	69
94)	1,2,3-Trichloropropane	11.059	110	905	0.47	ppb	#	50
95)	n-Propylbenzene	11.096	91	11705	0.55	ppb		92
96)	2-Chlorotoluene	11.163	91	7030	0.52	ppb		96
97)	3-Chlorotoluene	11.211	91	7352	0.54	ppb	#	88
98)	4-Chlorotoluene	11.254	91	7420	0.51	ppb		80
99)	1,3,5-Trimethylbenzene	11.248	105	7513	0.51	ppb		83
100)	tert-Butylbenzene	11.516	119	6481	0.50	ppb		87
101)	1,2,4-Trimethylbenzene	11.559	105	7074	0.48	ppb		85
102)	3,4-DCBTF	11.620	214	2762	0.62	ppb	#	69
103)	sec-Butylbenzene	11.699	105	10445	0.56	ppb		88
104)	p-Isopropyltoluene	11.821	119	8759	0.54	ppb		86
105)	1,3-Dclbenz	11.784	146	4743	0.54	ppb		87
106)	1,4-Dclbenz	11.864	146	4885	0.55	ppb	#	73
107)	2,4-DCBTF	11.919	214	2395	0.59	ppb	#	71
108)	2,5-DCBTF	11.949	214	2744	0.60	ppb	#	84

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
109) n-Butylbenzene	12.150	91	9043	0.57	ppb		85
110) 1,2-Dclbenz	12.162	146	4216	0.49	ppb		91
111) 1,2-Dibromo-3-chloropr...	12.796	157	569	0.42	ppb		94
112) Trielution Dichlorotol...	12.900	125	12599	1.60	ppb	#	91
113) 1,3,5 Trichlorobenzene	12.949	180	3551	0.55	ppb	#	81
114) Coelution Dichlorotoluene	13.229	125	10356	1.17	ppb	#	88
115) 1,2,4-Tcbenzene	13.437	180	3403	0.51	ppb		89
116) Hexachlorobt	13.565	225	1438	0.54	ppb	#	77
117) Naphthalen	13.632	128	10022	0.48	ppb		81
118) 1,2,3-Tclbenzene	13.815	180	3694	0.56	ppb		93
119) 2,4,5-Trichlorotolene	14.400	159	2594	0.52	ppb	#	82
120) 2,3,6-Trichlorotoluene	14.479	159	2795	0.54	ppb	#	79

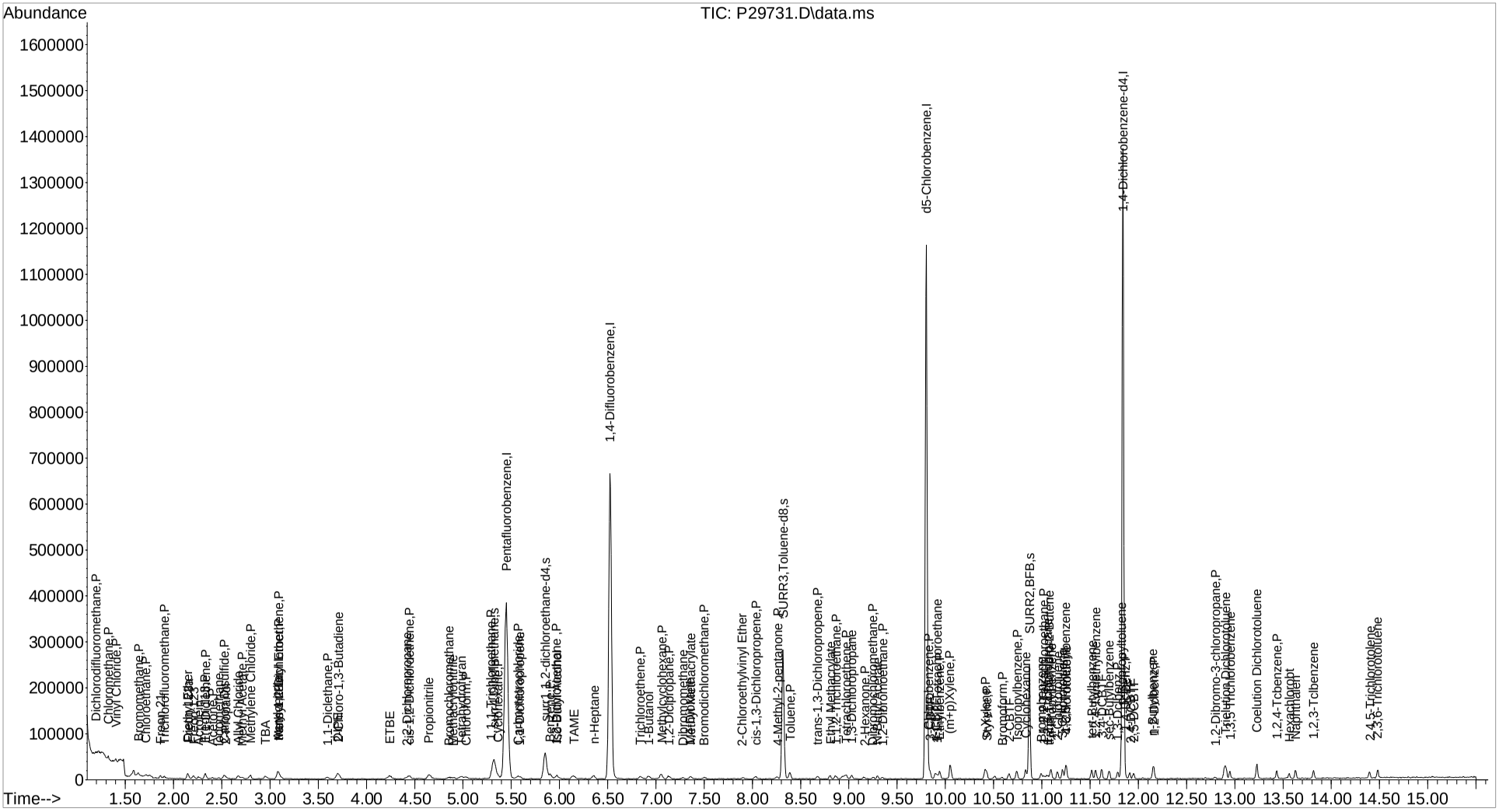
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

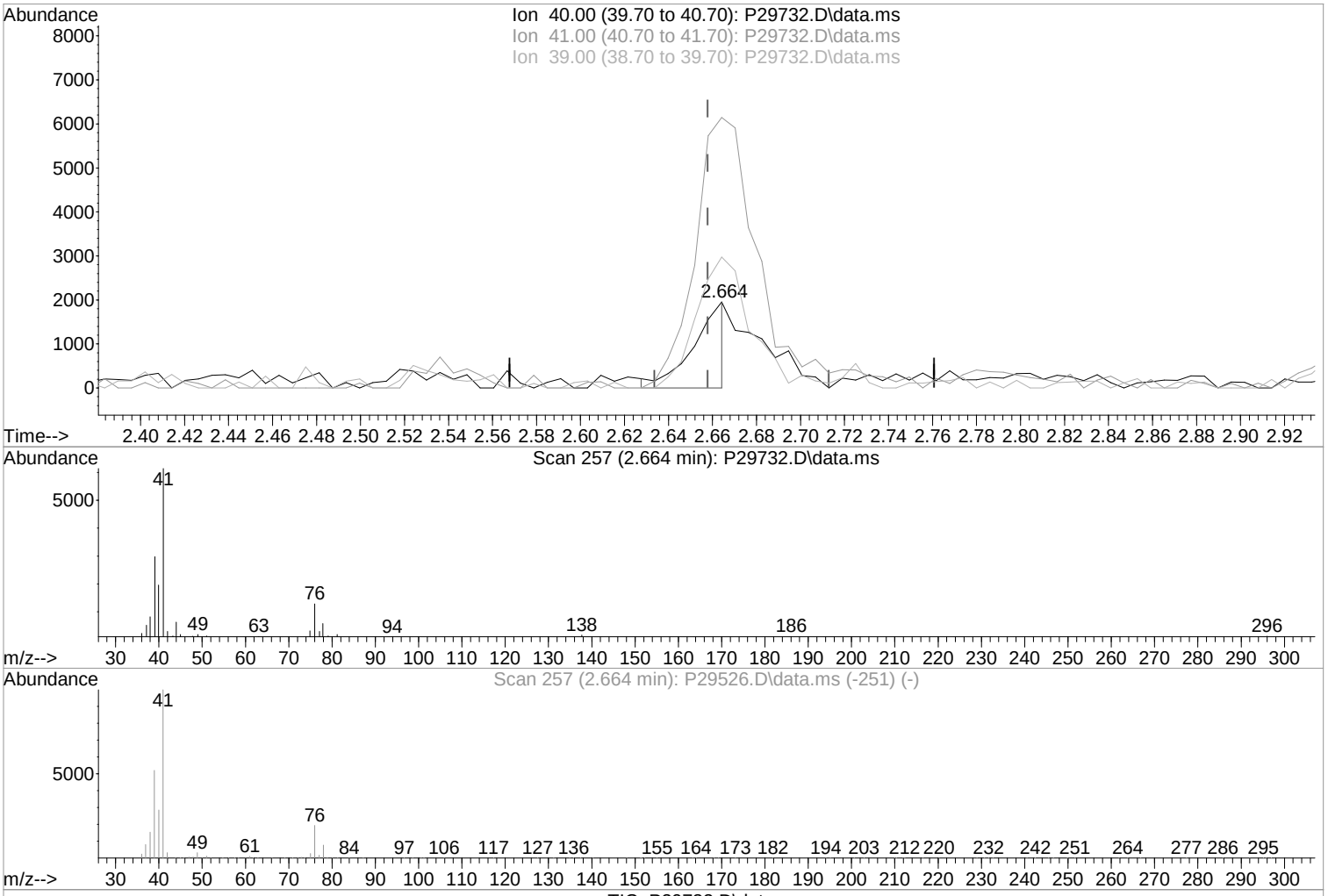


1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 4.76 ppb m

response 2011

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	314.48
39.00	137.60	152.02
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

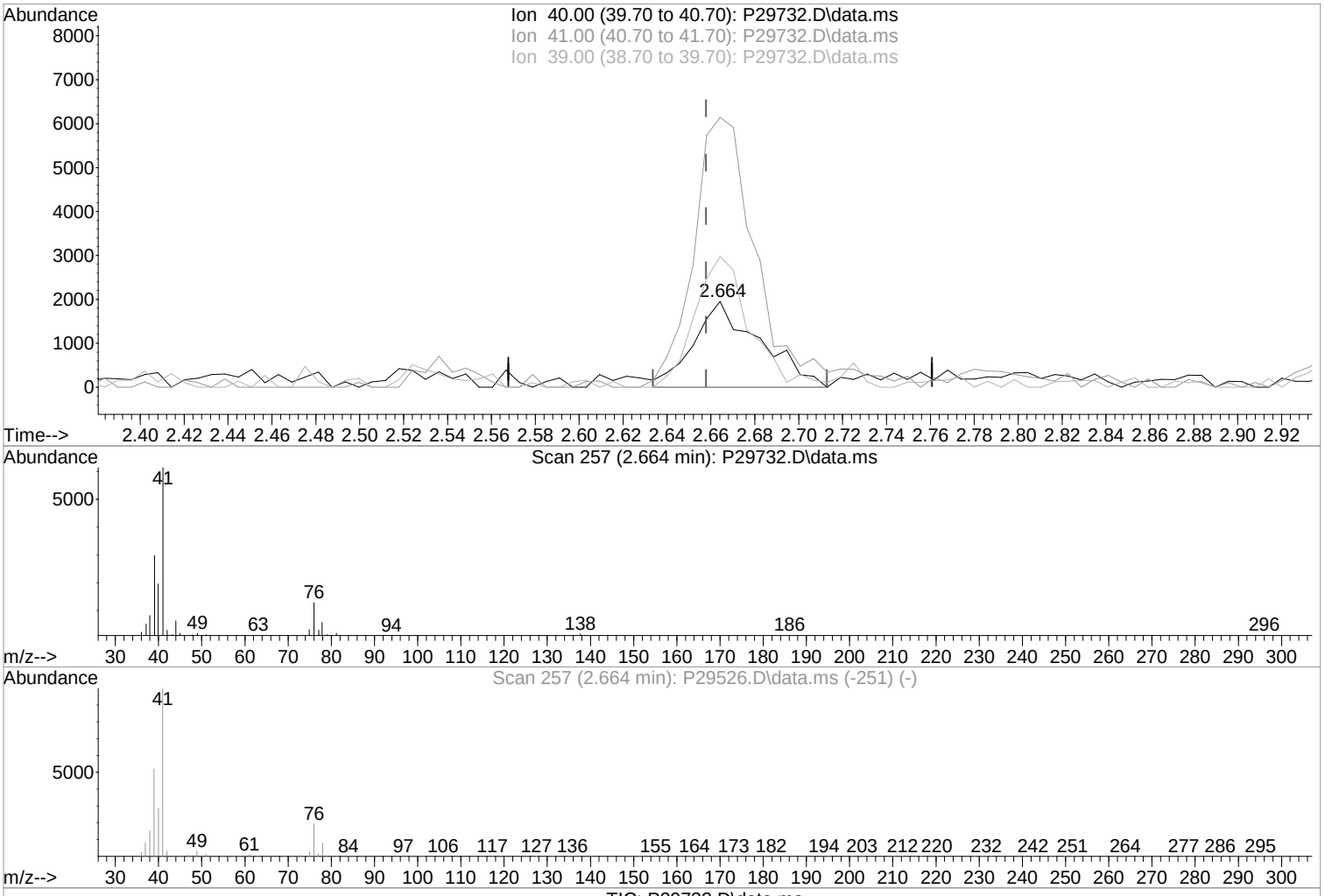
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 9.60 ppb

response 4059

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	314.48
39.00	137.60	152.02
0.00	0.00	0.00

Manual Integration:

Before

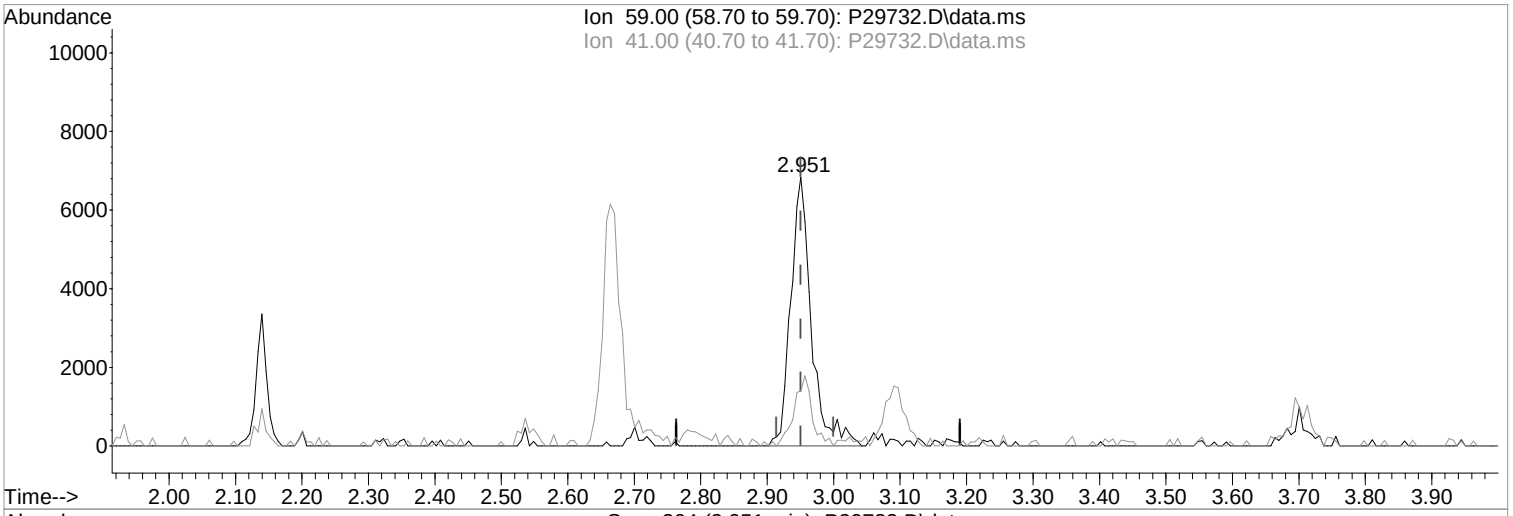
09/12/19

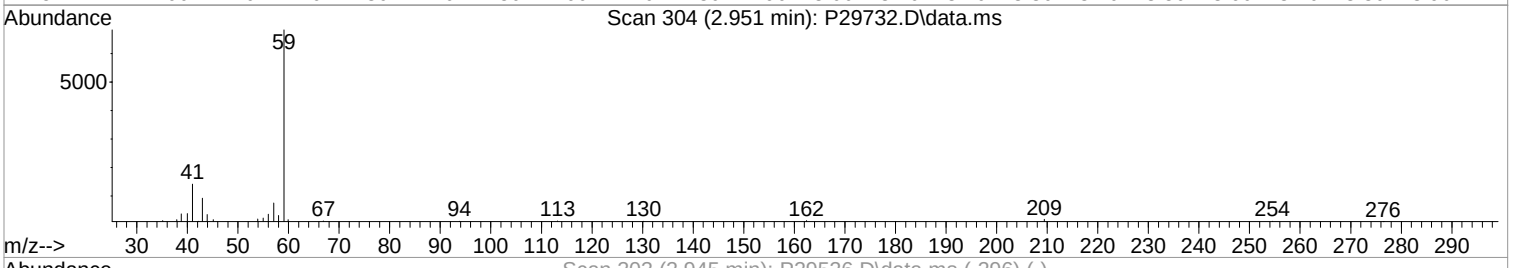
1st 09/12/19
2nd 09/12/19

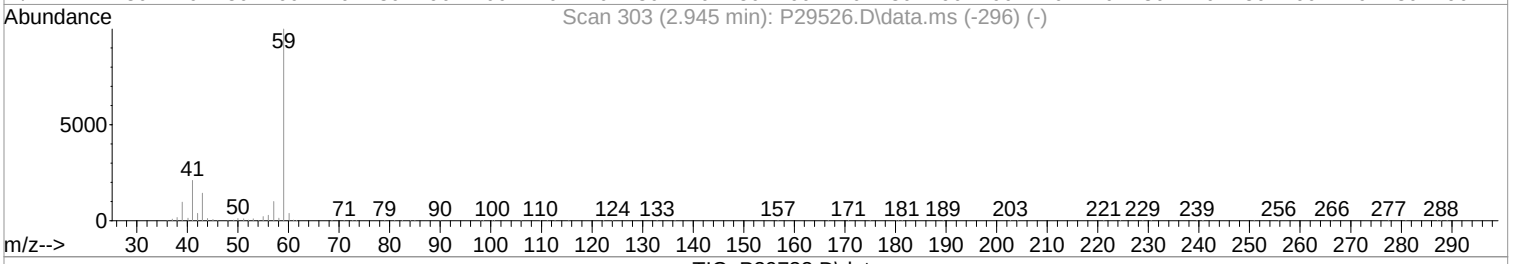
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(23) TBA

2.951min (+0.000) 15.91 ppb m

response 14787

Ion	Exp%	Act%
59.00	100	100
41.00	22.20	20.57
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

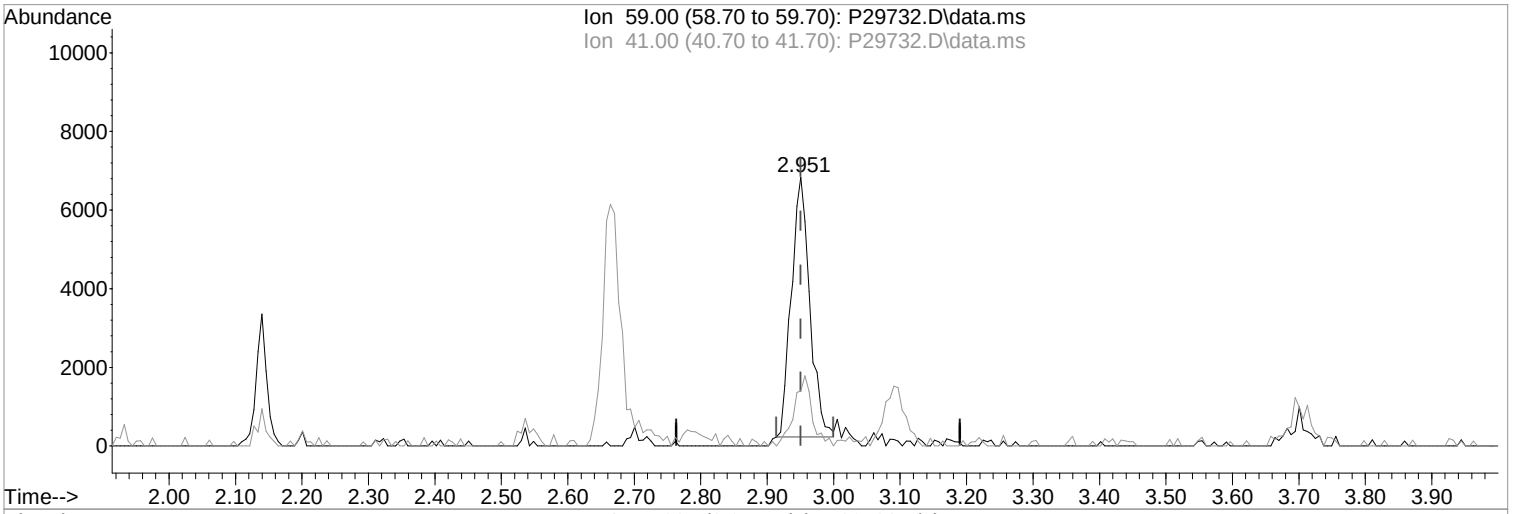
09/12/19

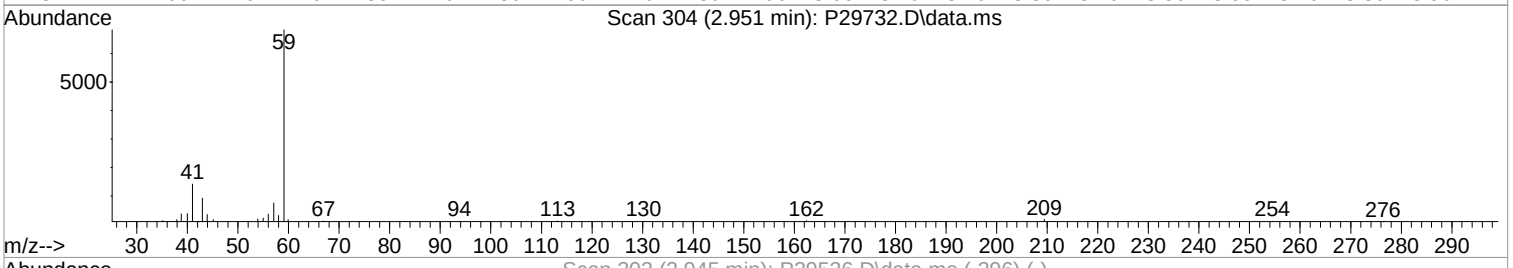
1st 09/12/19
2nd 09/12/19

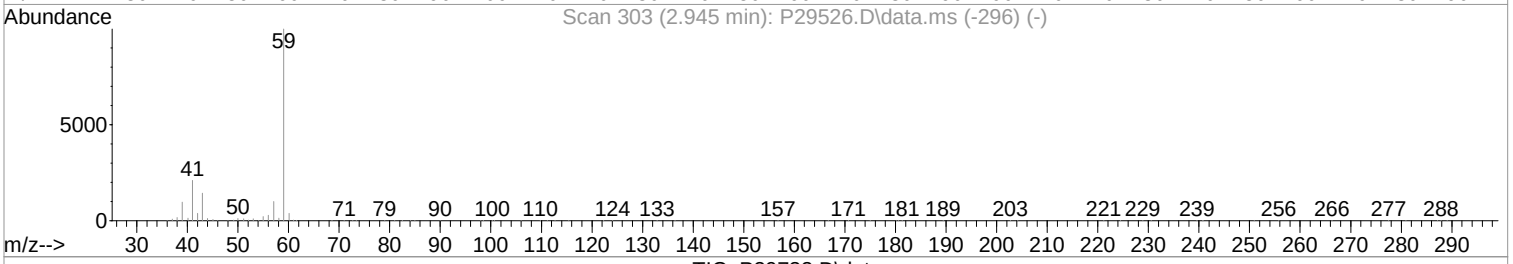
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(23) TBA

2.951min (+0.000) 13.69 ppb

response 12726

Ion	Exp%	Act%
59.00	100	100
41.00	22.20	20.57
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

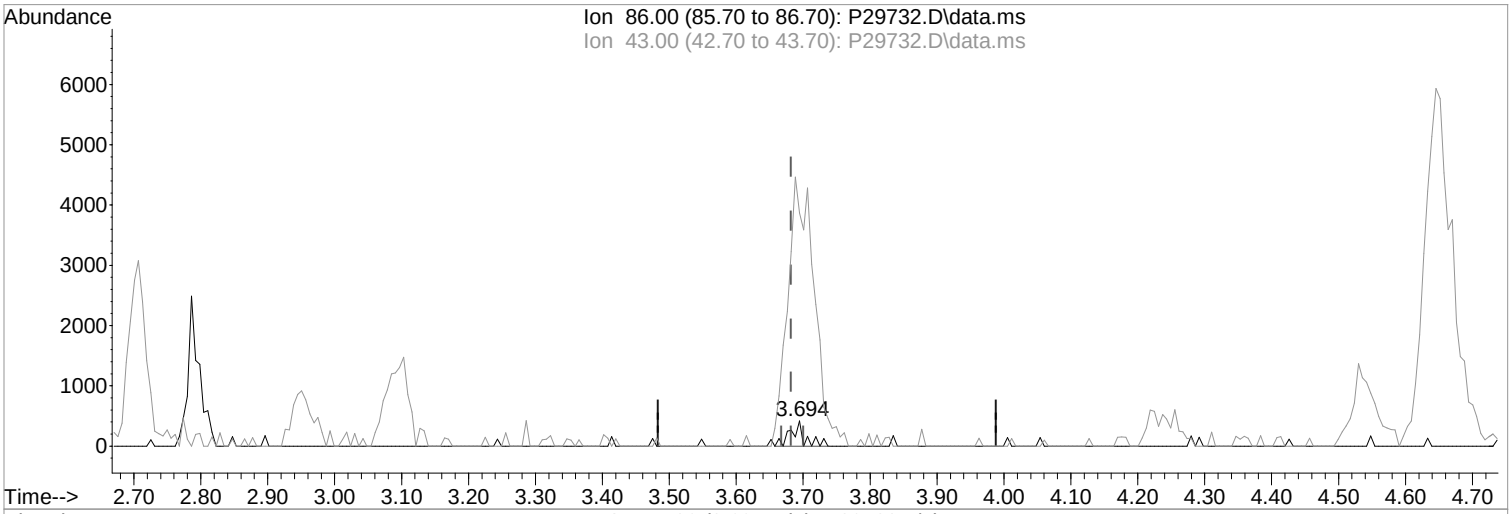
09/12/19

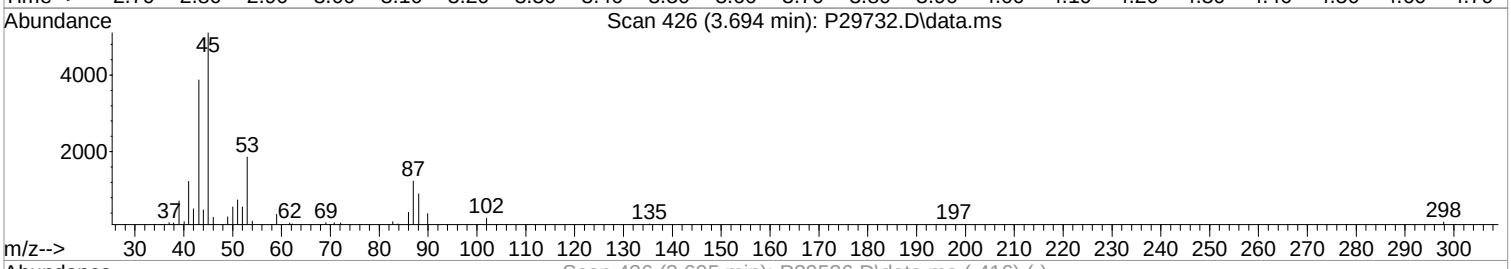
1st 09/12/19
2nd 09/12/19

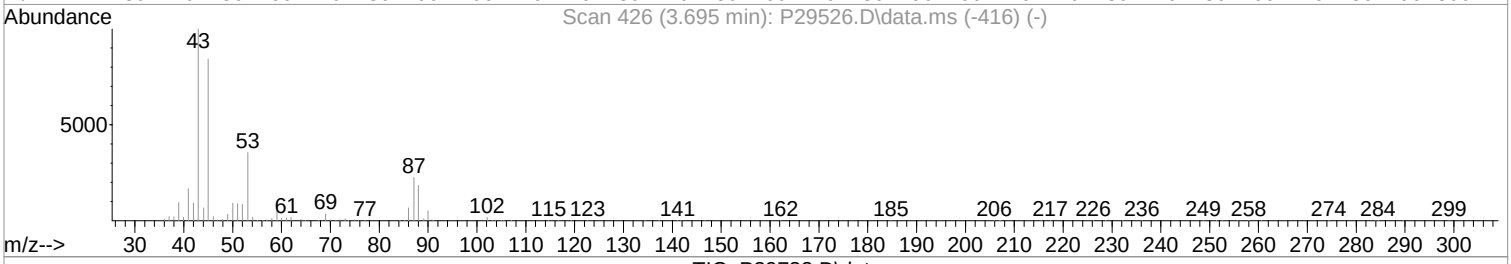
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(29) Vinyl Acetate

3.694min (+0.012) 0.74 ppb m

response 602

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	930.53#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

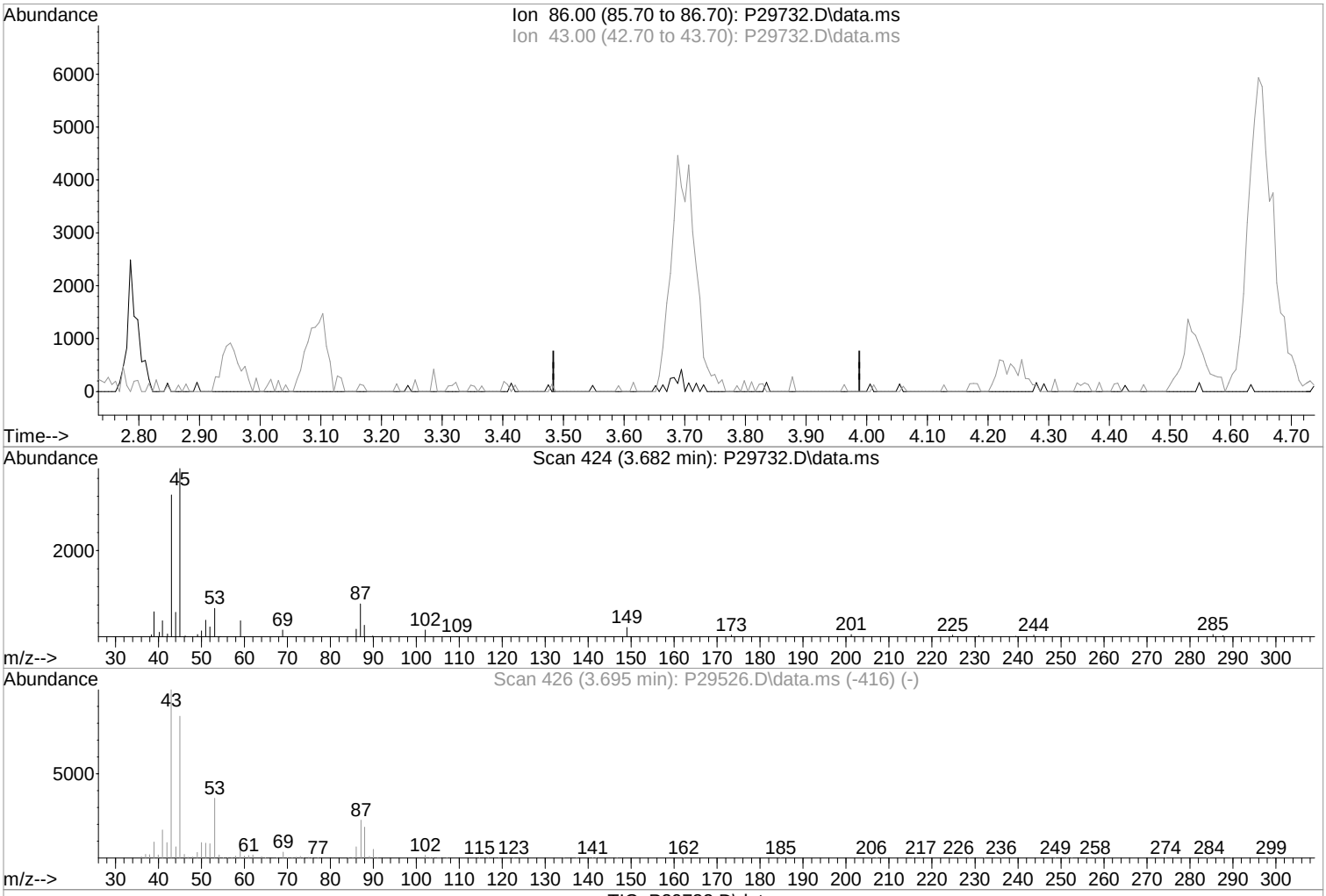
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(29) Vinyl Acetate

3.682min (-3.682) 0.00 ppb

response 0

Ion	Exp%	Act%
86.00	100	0.00
43.00	1567.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

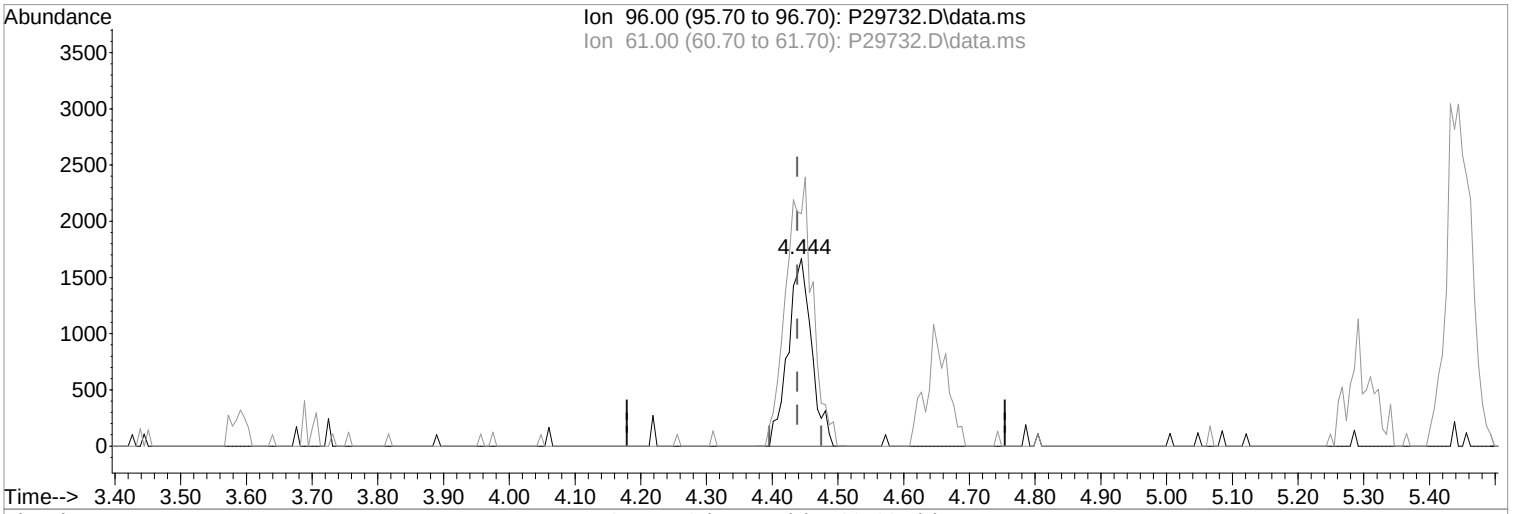
09/12/19

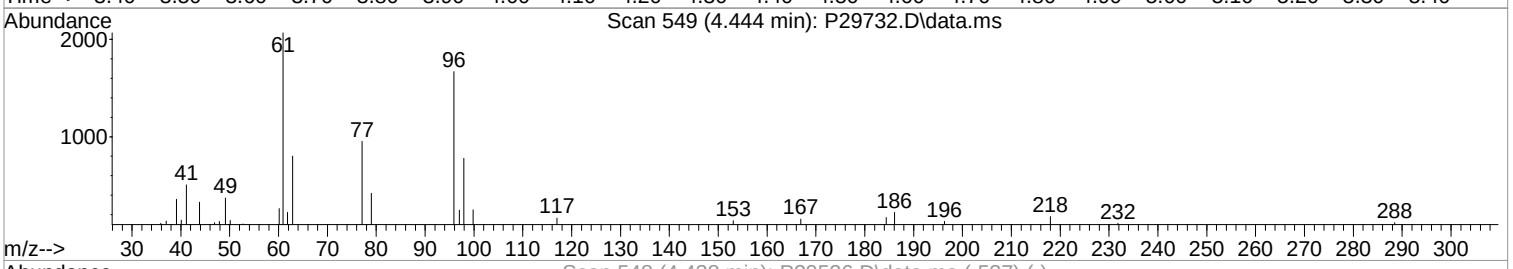
1st 09/12/19
2nd 09/12/19

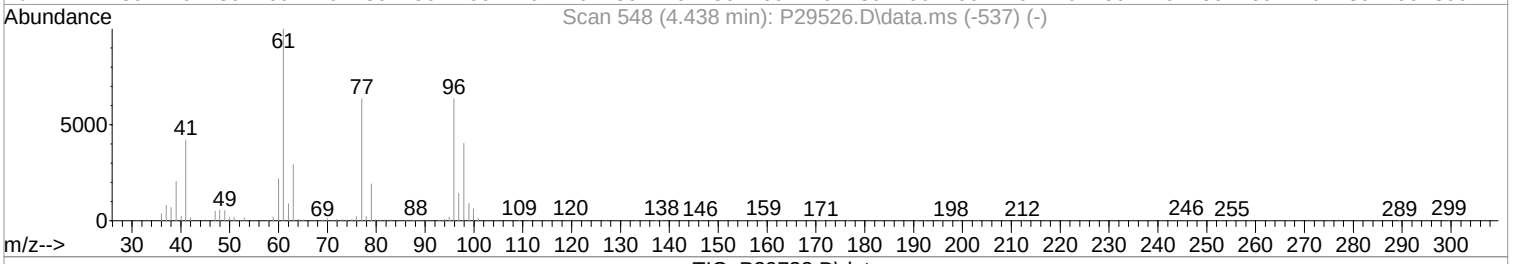
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 1.00 ppb m

response 4145

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	123.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

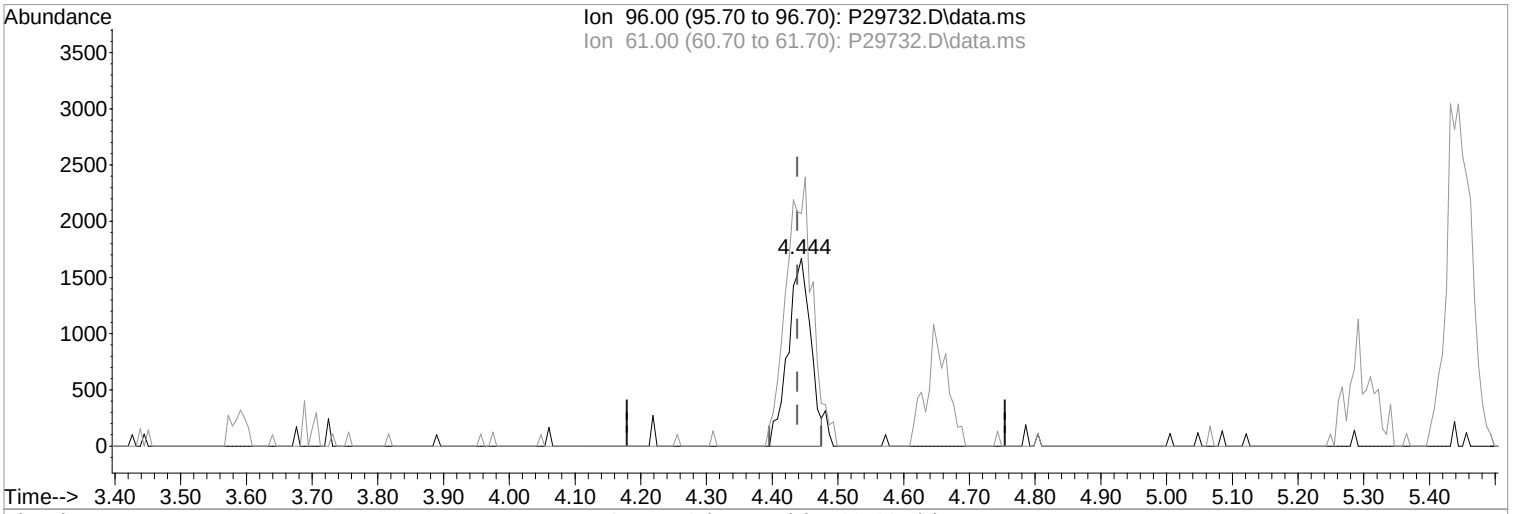
09/12/19

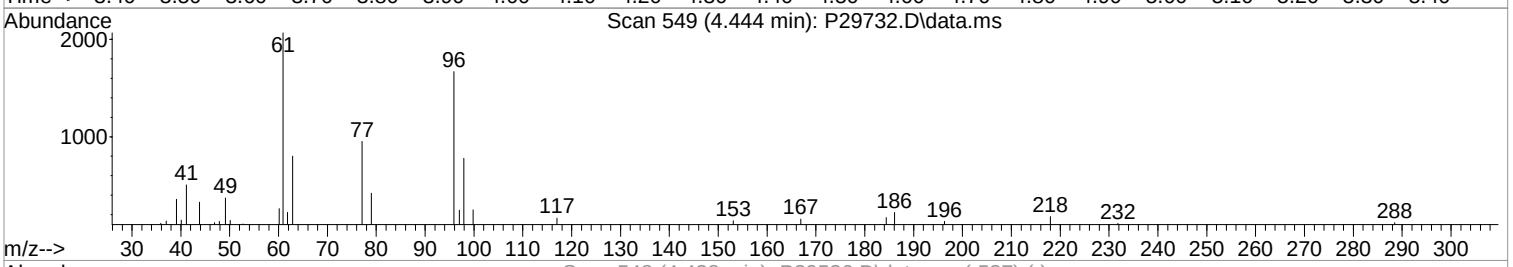
1st 09/12/19
2nd 09/12/19

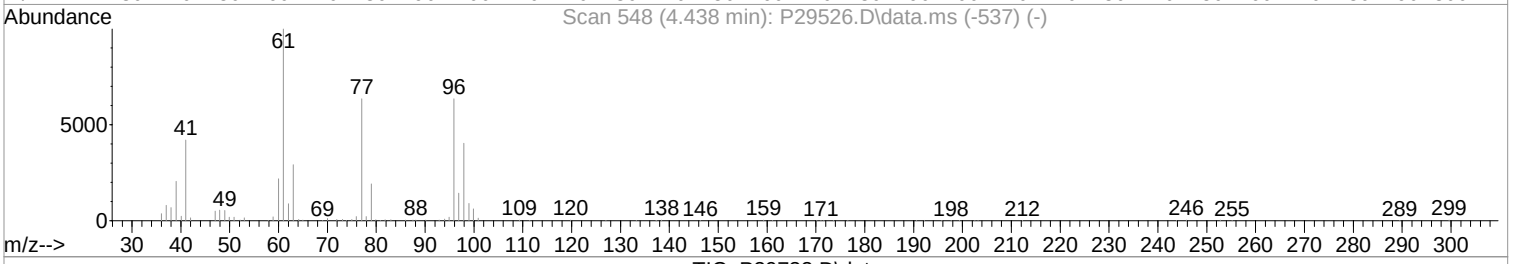
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.97 ppb

response 3989

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	123.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

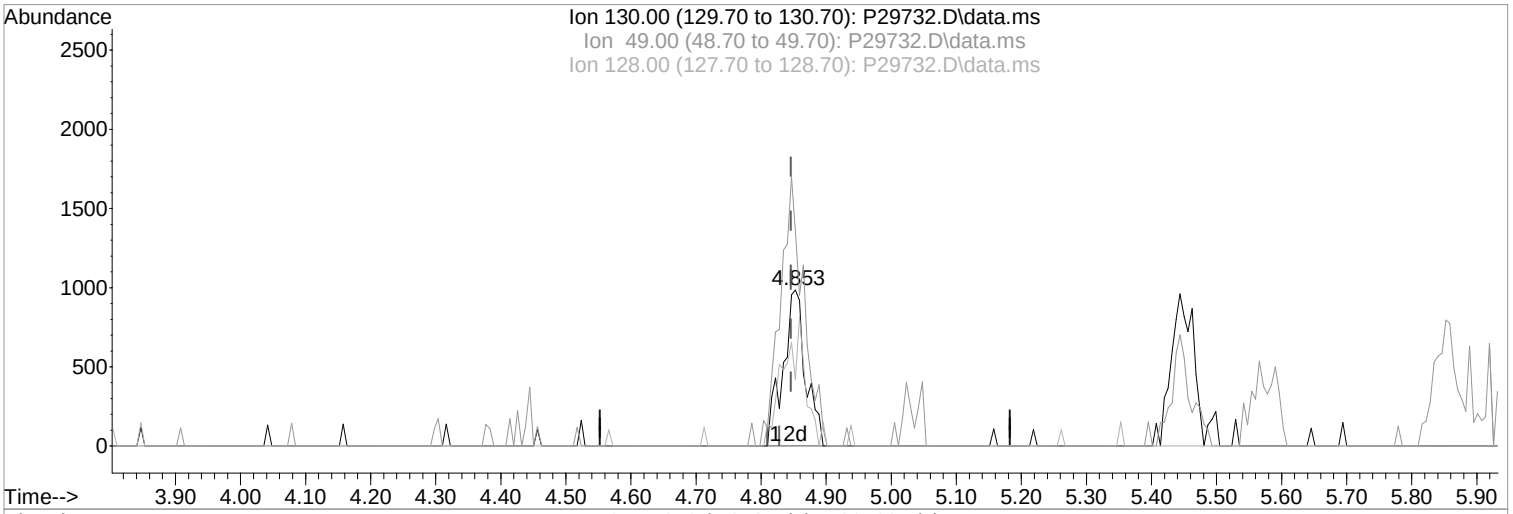
09/12/19

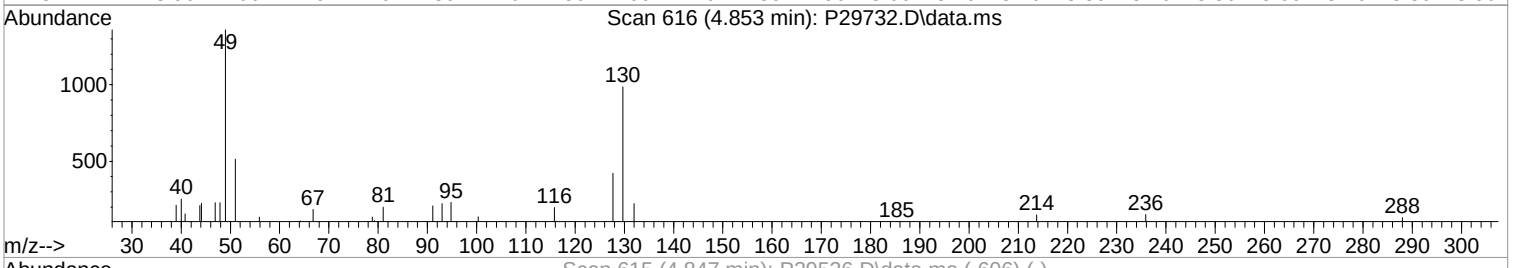
1st 09/12/19
2nd 09/12/19

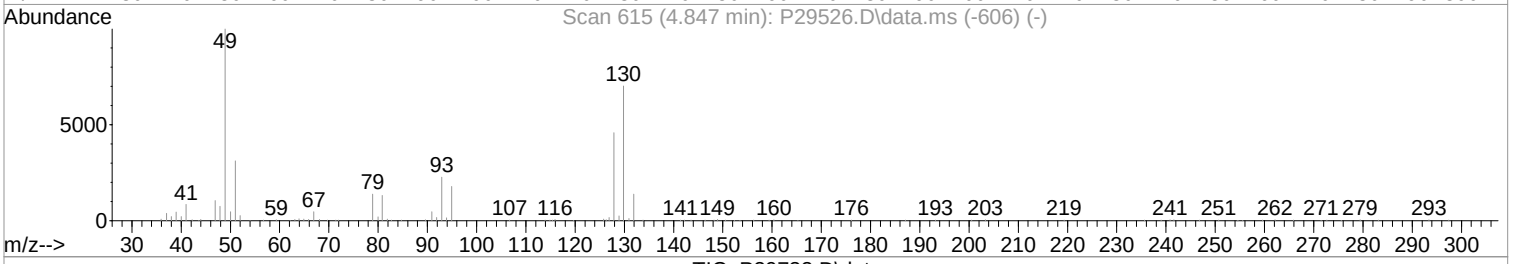
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.97 ppb m

response 2384

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	137.83#
128.00	71.40	42.70#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

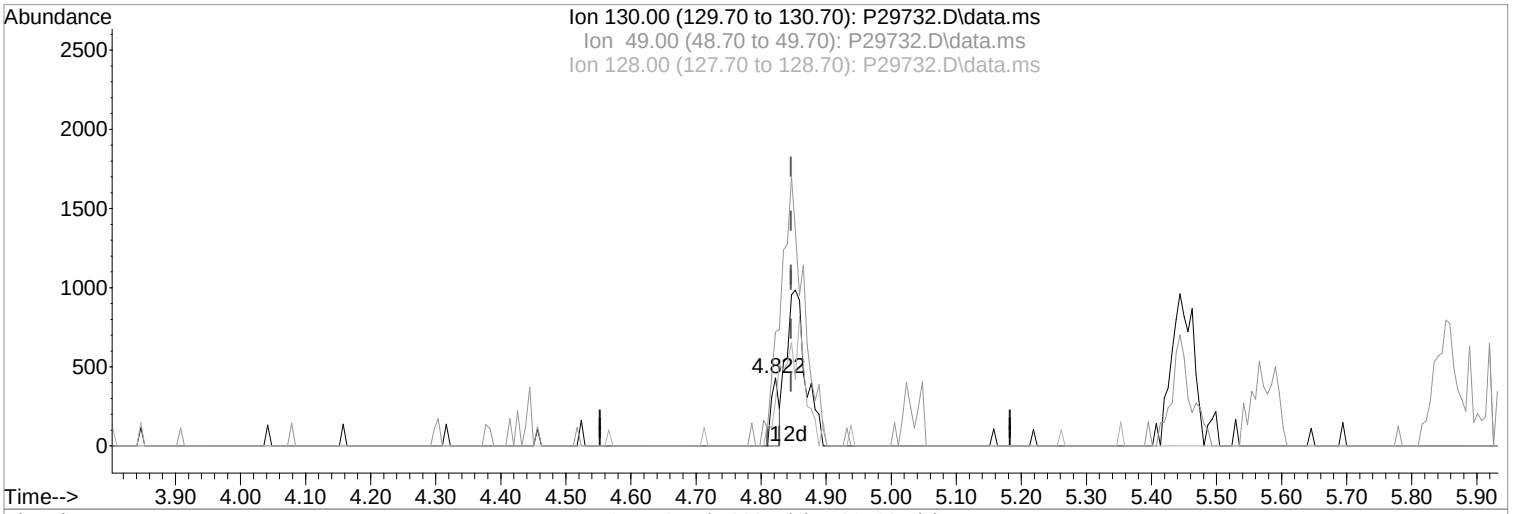
09/12/19

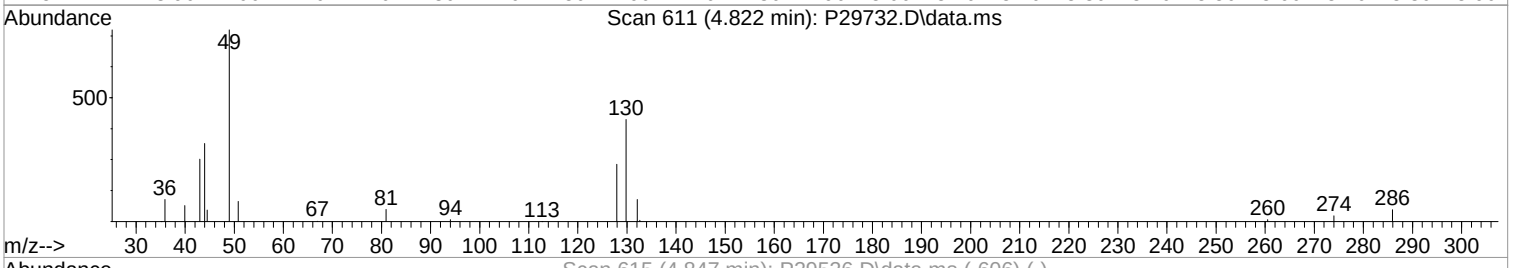
1st 09/12/19
2nd 09/12/19

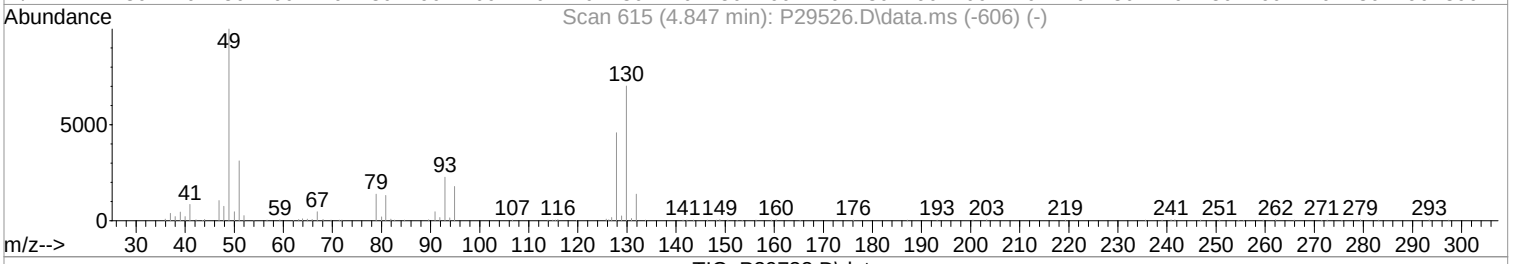
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(37) Bromochloromethane

4.822min (-0.024) 0.15 ppb

response 357

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	167.44
128.00	71.40	66.28
0.00	0.00	0.00

Manual Integration:

Before

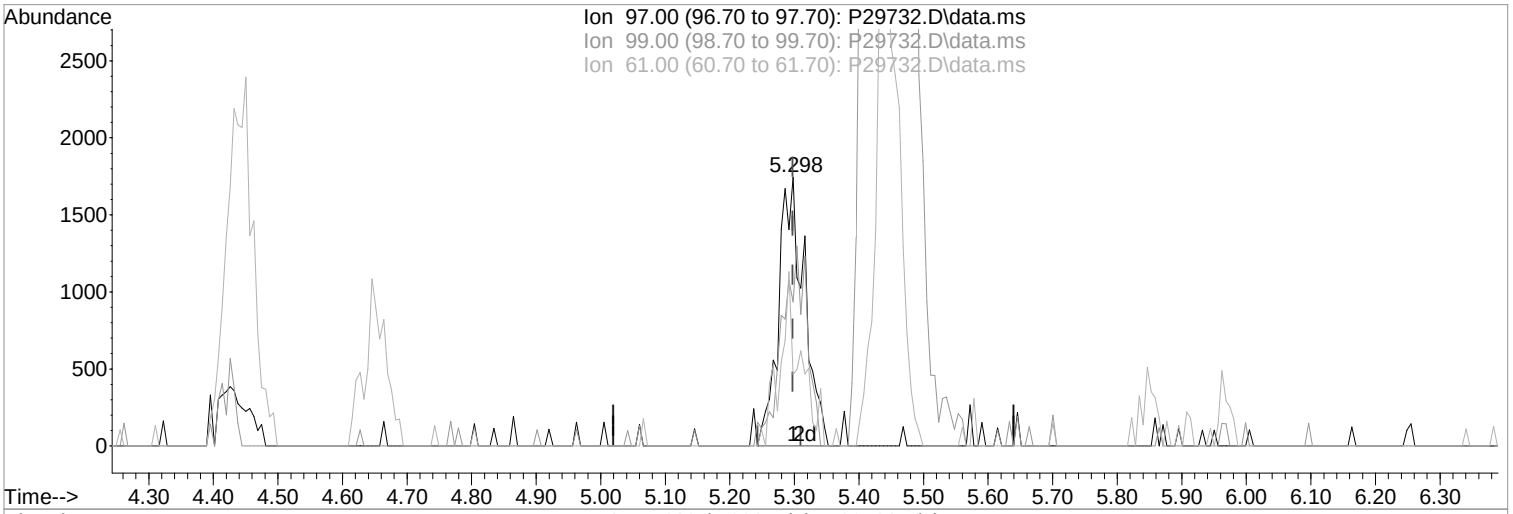
09/12/19

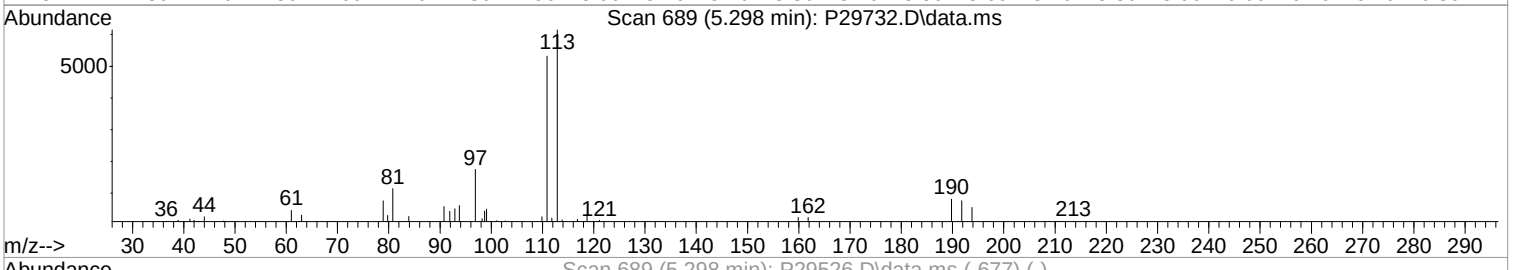
1st 09/12/19
2nd 09/12/19

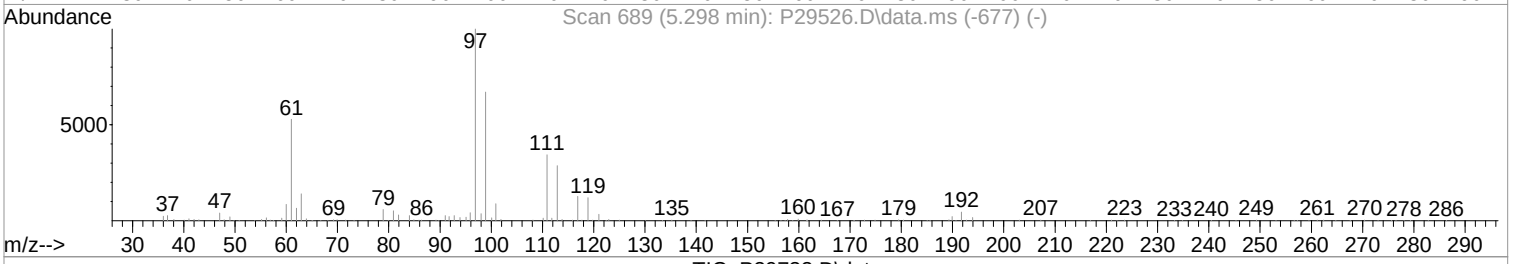
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.298min (+0.000) 0.92 ppb m

response 4828

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	28.47#
61.00	44.60	26.58
0.00	0.00	0.00

Manual Integration:

After

Split Peak

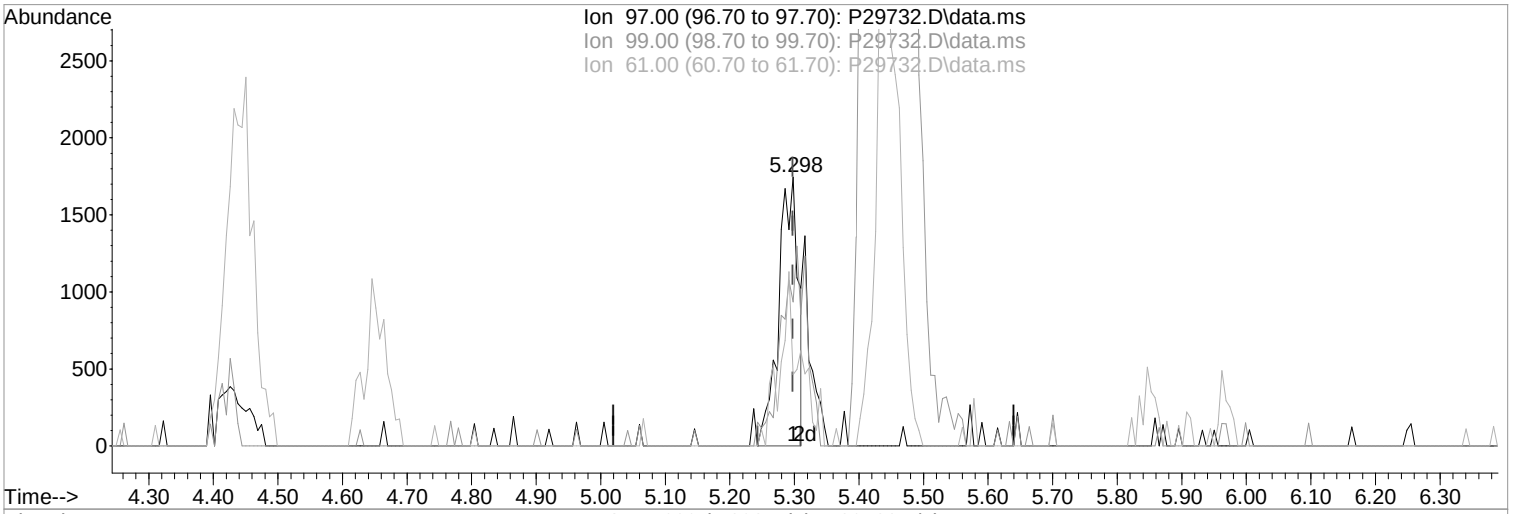
09/12/19

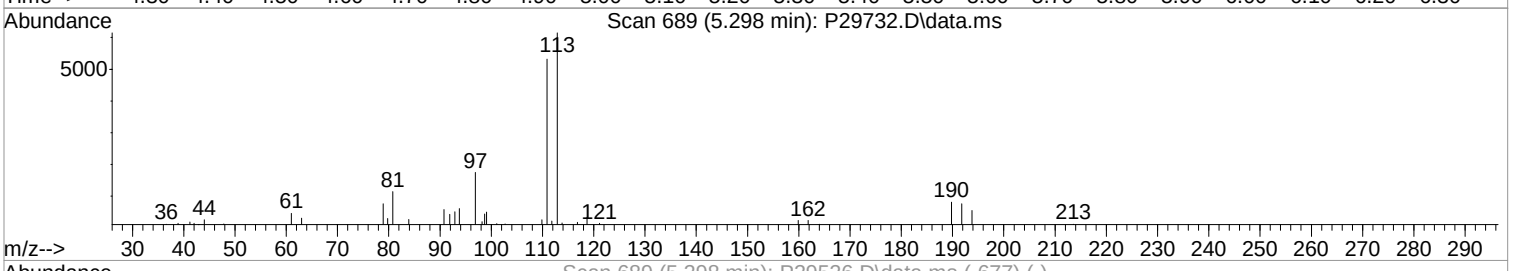
1st 09/12/19
2nd 09/12/19

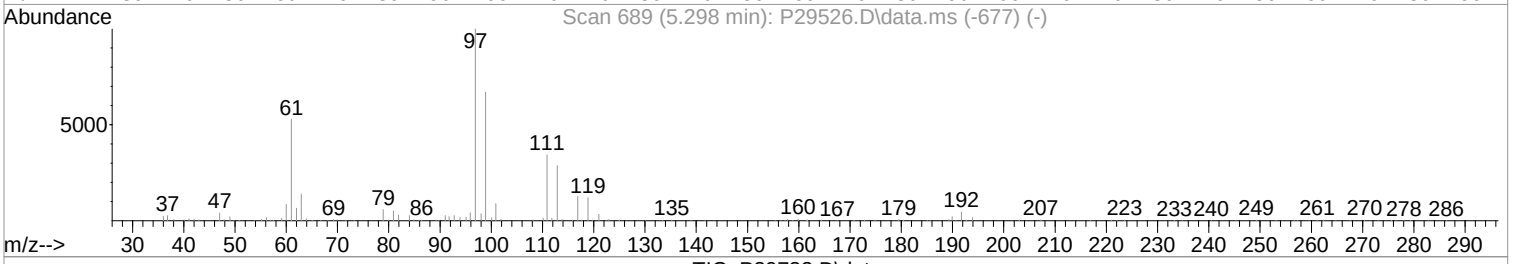
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.298min (+0.000) 0.70 ppb

response 3672

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	53.55
61.00	44.60	26.58
0.00	0.00	0.00

Manual Integration:

Before

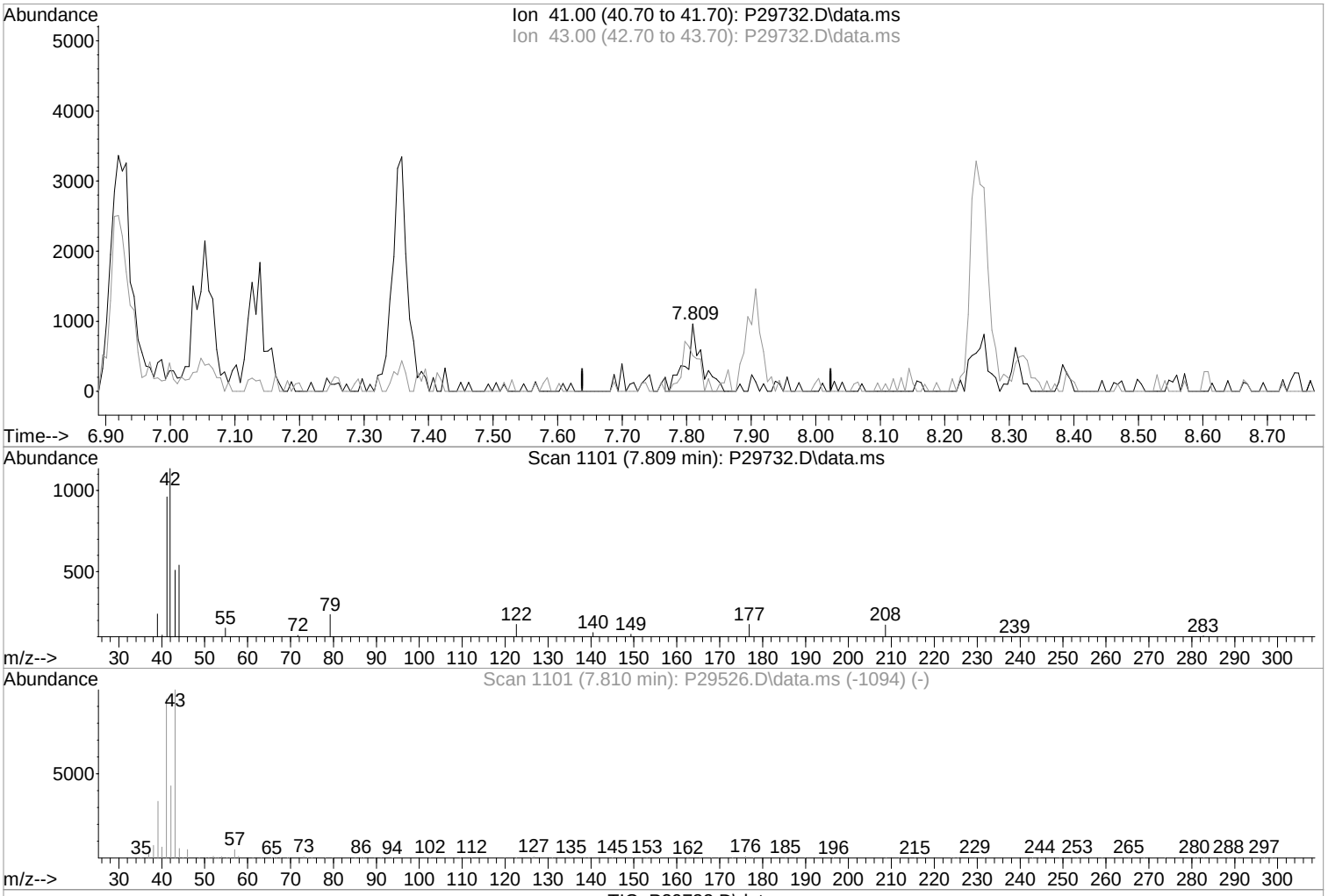
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(61) 2-Nitropropane

7.809min (+0.000) 2.36 ppb m

response 1664

Ion	Exp%	Act%
41.00	100	100
43.00	105.70	52.97#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Peak not found.

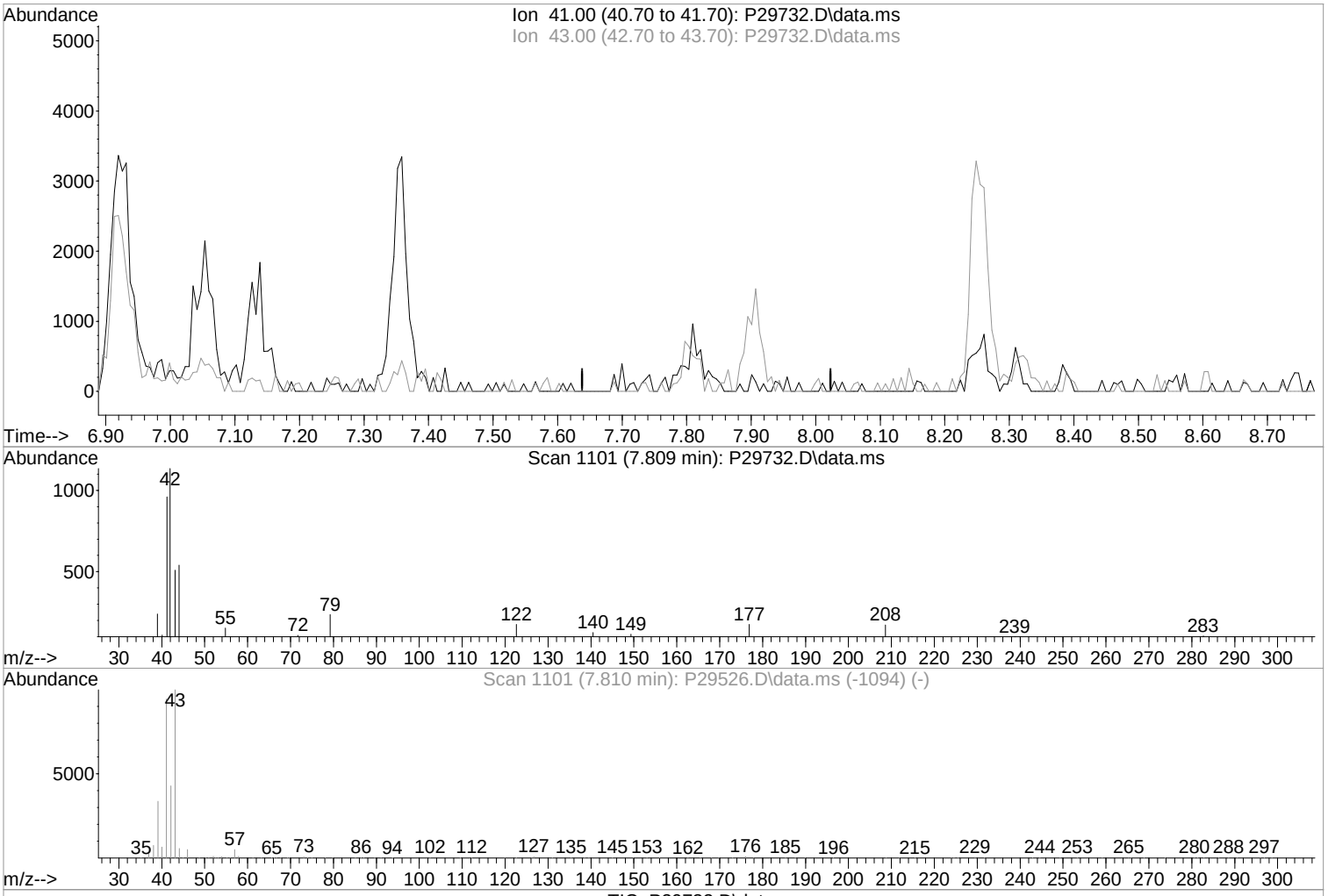
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(61) 2-Nitropropane

7.809min (-7.809) 0.00 ppb

response 0

Ion	Exp%	Act%
41.00	100	0.00
43.00	105.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

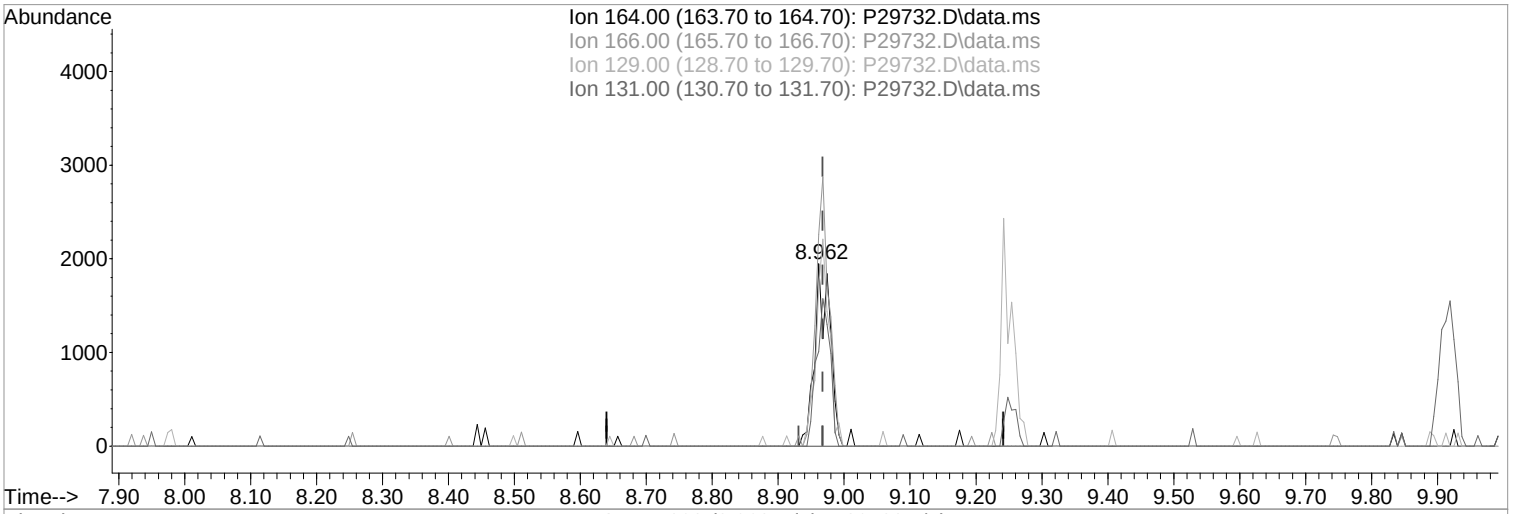
09/12/19

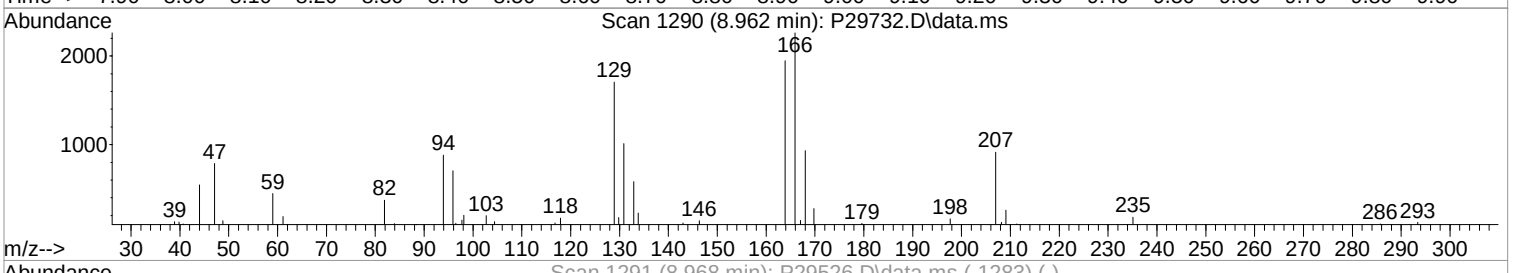
1st 09/12/19
2nd 09/12/19

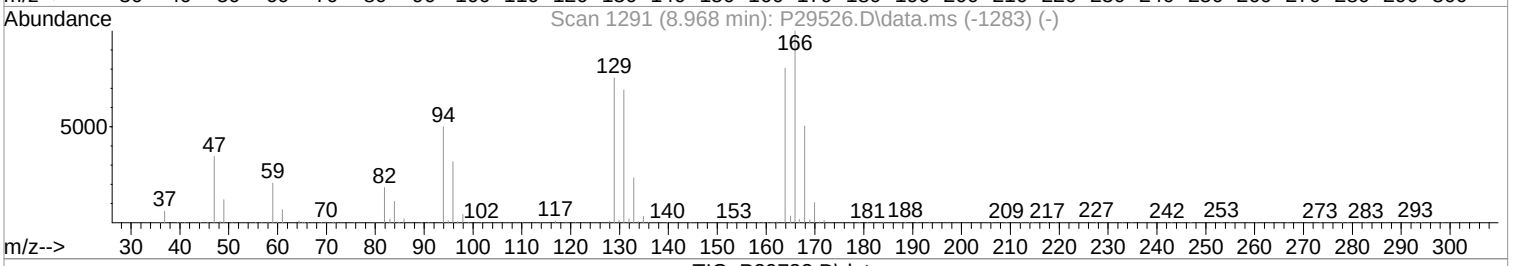
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(72) Tetrachloroethene (P)

8.962min (-0.006) 1.08 ppb m

response 3113

Ion	Exp%	Act%
164.00	100	100
166.00	124.80	116.24
129.00	90.60	87.67
131.00	90.10	51.95#

Manual Integration:

After

Split Peak

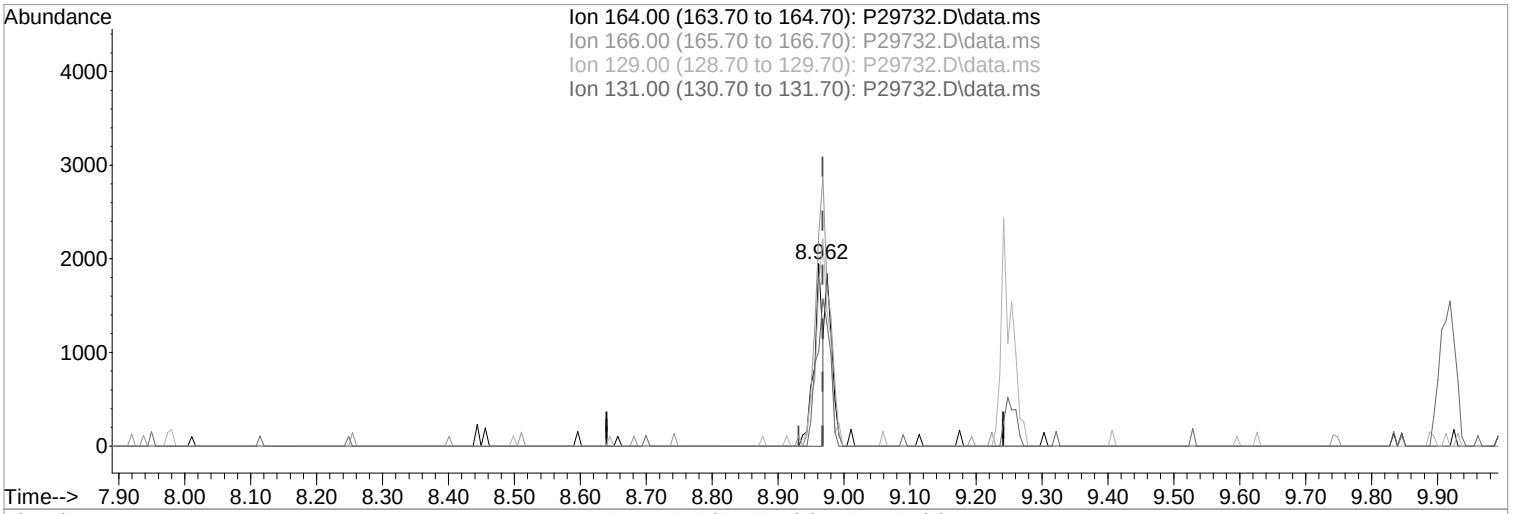
09/12/19

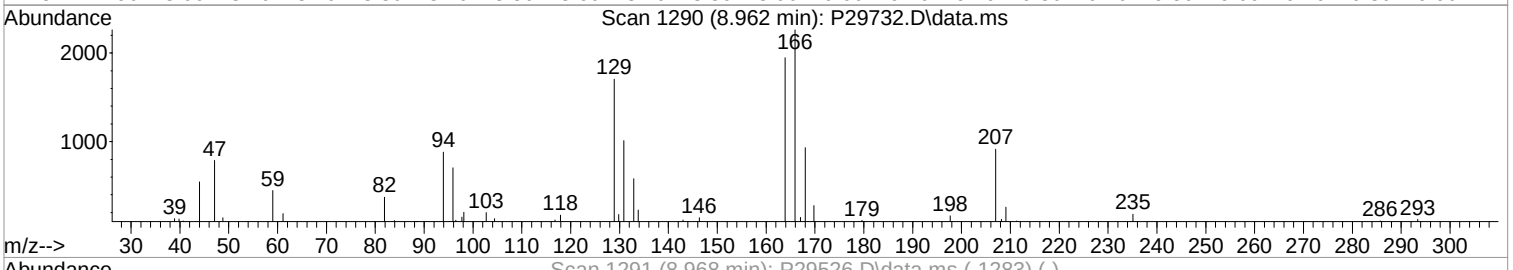
1st 09/12/19
2nd 09/12/19

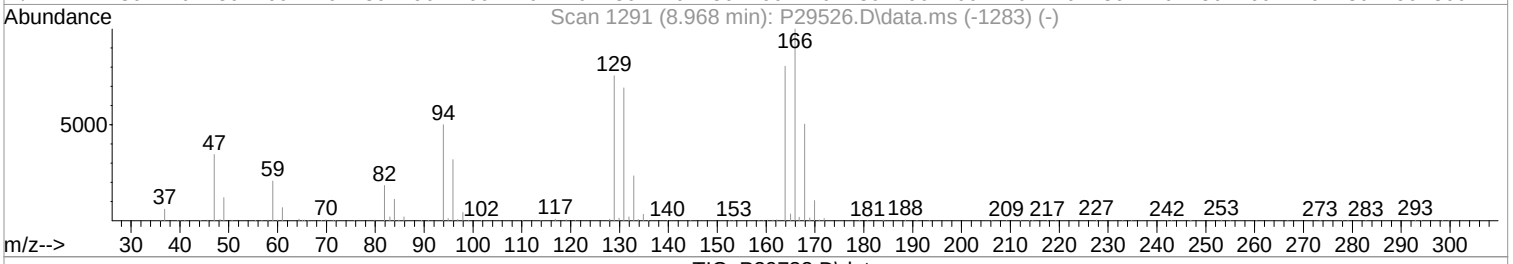
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(72) Tetrachloroethene (P)

8.962min (-0.006) 0.62 ppb

response 1772

Ion	Exp%	Act%
164.00	100	100
166.00	124.80	116.24
129.00	90.60	87.67
131.00	90.10	51.95#

Manual Integration:

Before

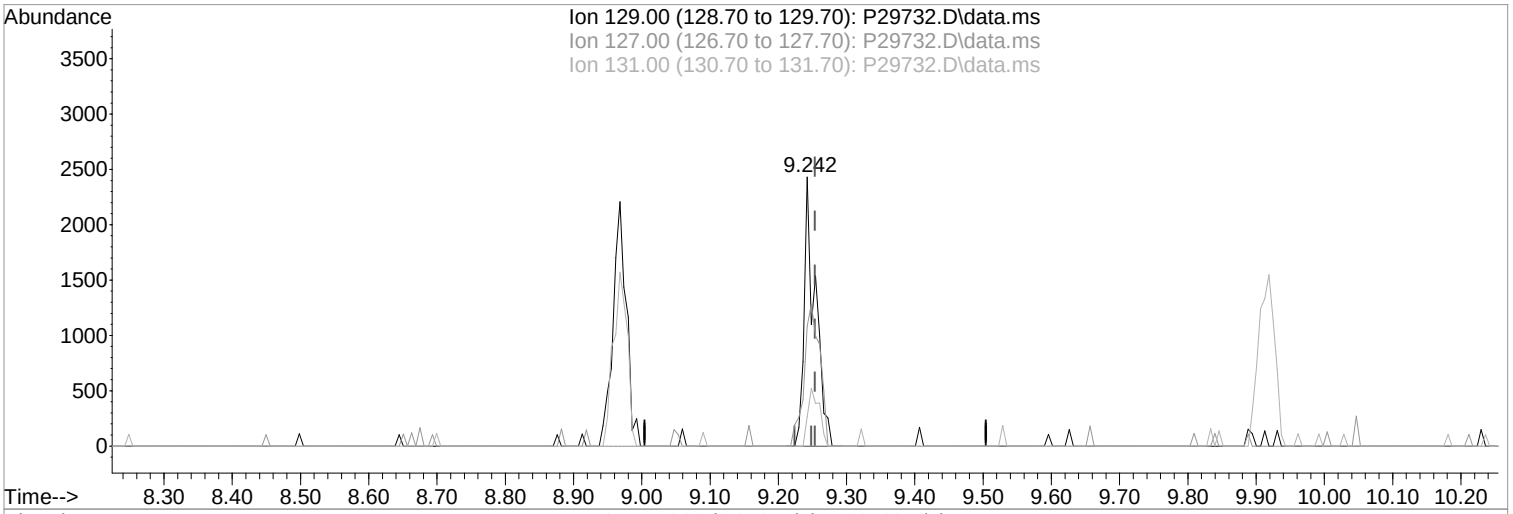
09/12/19

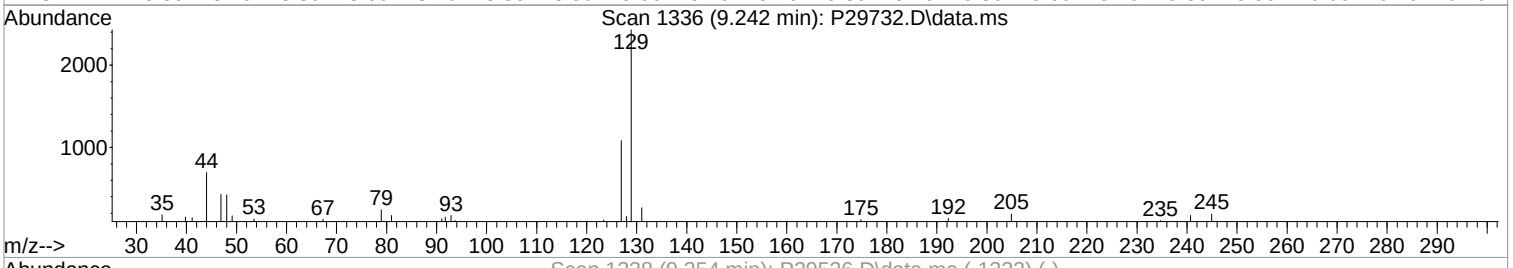
1st 09/12/19
2nd 09/12/19

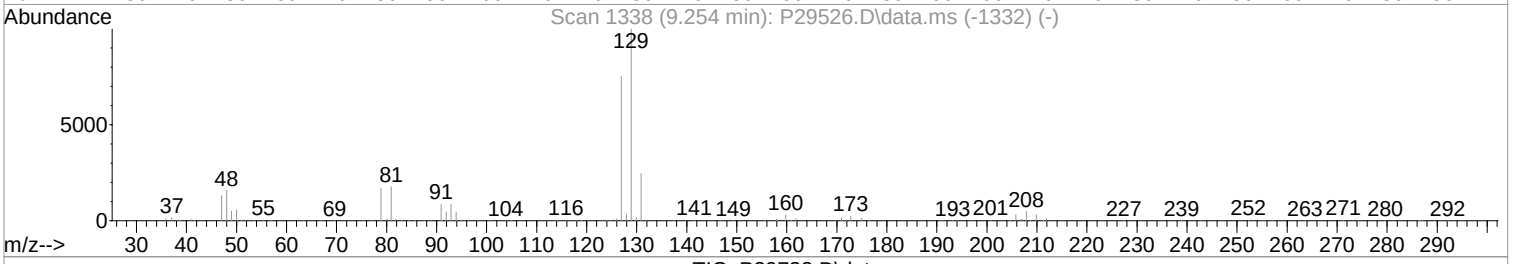
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(75) Dibromochloromethane (P)

9.242min (-0.012) 0.93 ppb m

response 2756

Ion	Exp%	Act%
129.00	100	100
127.00	74.60	44.51#
131.00	23.20	10.90
0.00	0.00	0.00

Manual Integration:

After

Split Peak

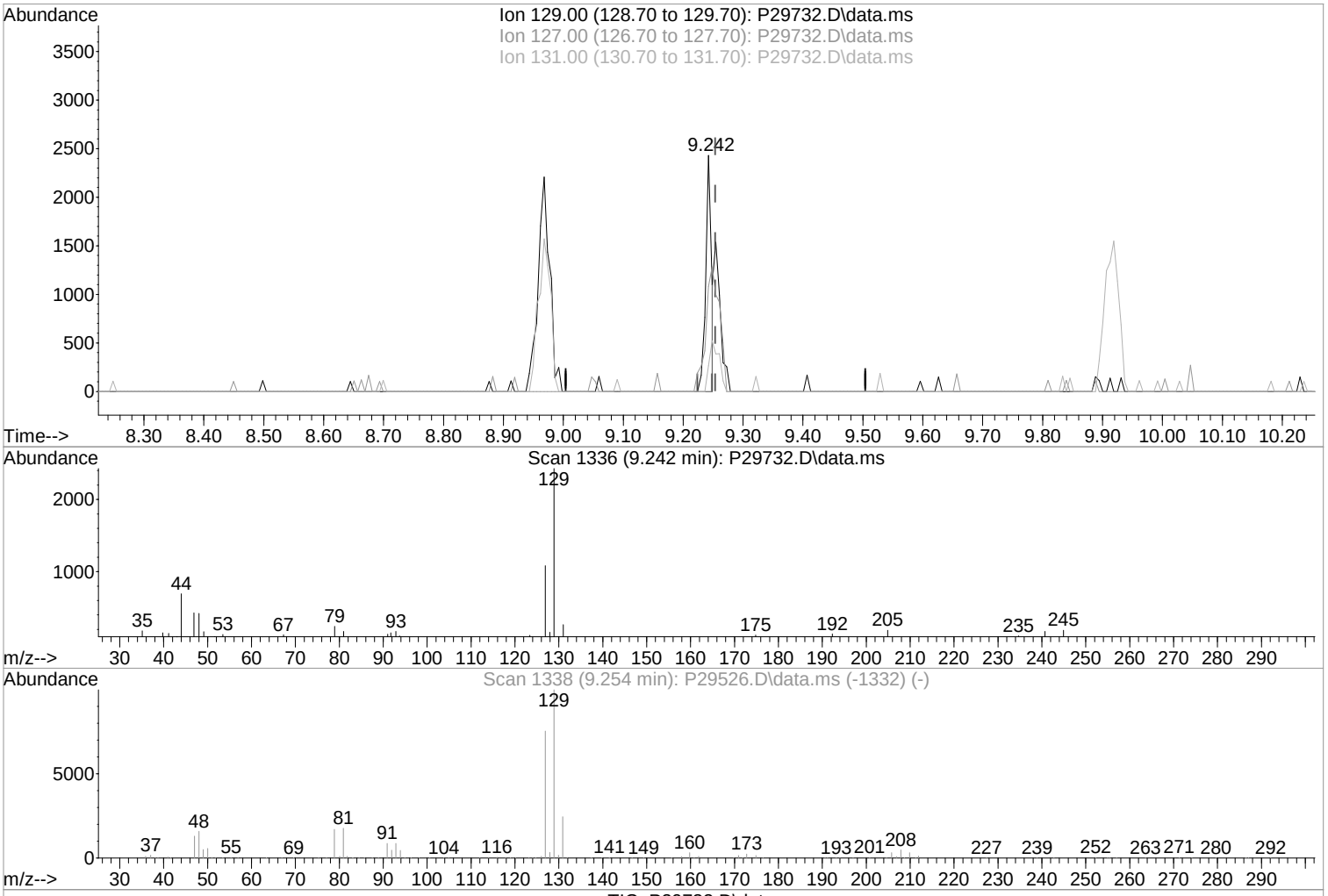
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(75) Dibromochloromethane (P)

9.242min (-0.012) 0.55 ppb

response 1629

Ion	Exp%	Act%
129.00	100	100
127.00	74.60	44.51#
131.00	23.20	10.90
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	339330	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	558674	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	476949	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	247909	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	31545	10.65	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 21.30%#				
48) surr1,1,2-dichloroetha...	5.853	65	46511	11.35	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 22.70%#				
65) SURR3,Toluene-d8	8.315	98	155659	11.17	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 22.34%#				
70) SURR2,BFB	10.870	95	60957	11.24	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 22.48%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	3941	0.94	ppb		79
3) Chloromethane	1.317	50	6129	0.95	ppb		100
4) Vinyl Chloride	1.396	62	5503	0.91	ppb		87
5) Bromomethane	1.628	94	3847	1.18	ppb		86
6) Chloroethane	1.707	64	3703	1.02	ppb		92
7) Freon 21	1.859	67	6568	0.98	ppb		78
8) Trichlorofluoromethane	1.902	101	4187	0.86	ppb	#	74
9) Diethyl Ether	2.140	59	3787	0.88	ppb		88
10) Freon 123a	2.140	67	4348	0.93	ppb		88
11) Freon 123	2.201	83	5245	1.01	ppb		92
12) Acrolein	2.256	56	5427	4.52	ppb		99
13) 1,1-Diclethene	2.323	96	3176	0.96	ppb	#	65
14) Freon 113	2.323	101	3203	0.99	ppb	#	70
15) Acetone	2.402	43	3689	1.34	ppb		85
16) 2-Propanol	2.542	45	8988	14.31	ppb		97
17) Iodomethane	2.463	142	1999	0.52	ppb		92
18) Carbon Disulfide	2.518	76	9133	0.92	ppb		99
19) Acetonitrile	2.664	40	2011m	4.76	ppb		
20) Allyl Chloride	2.664	76	2281	1.20	ppb	#	89
21) Methyl Acetate	2.707	43	4857	0.89	ppb		87
22) Methylene Chloride	2.792	84	4920	1.14	ppb	#	68
23) TBA	2.951	59	14787m	15.91	ppb		
24) Acrylonitrile	3.073	53	12468	4.43	ppb		92
25) Methyl-t-Butyl Ether	3.097	73	13745	0.98	ppb		86
26) trans-1,2-Dichloroethene	3.073	96	3405	0.94	ppb	#	57
28) 1,1-Diclethane	3.597	63	7200	0.97	ppb		88
29) Vinyl Acetate	3.694	86	602m	0.74	ppb		
30) DIPE	3.701	45	15199	0.94	ppb	#	66
31) 2-Chloro-1,3-Butadiene	3.701	53	5599	0.93	ppb		96
32) ETBE	4.231	59	14361	0.98	ppb		87
33) 2,2-Dichloropropane	4.426	77	5133	0.94	ppb		90
34) cis-1,2-Dichloroethene	4.444	96	4145m	1.00	ppb		
35) 2-Butanone	4.530	43	3173	0.82	ppb		88
36) Propionitrile	4.639	54	6195	5.18	ppb		75
37) Bromochloromethane	4.853	130	2384m	0.97	ppb		
38) Methacrylonitrile	4.889	67	2785	0.98	ppb		98
39) Tetrahydrofuran	4.981	42	6885	2.17	ppb		80
40) Chloroform	5.030	83	7021	1.07	ppb		99
41) 1,1,1-Trichloroethane	5.298	97	4828m	0.92	ppb		

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	TAME	6.133	73	13055	0.97	ppb		87
44)	Cyclohexane	5.359	41	4224	0.95	ppb		92
46)	Carbontetrachloride	5.560	117	2879	0.74	ppb	#	56
47)	1,1-Dichloropropene	5.578	75	5353	0.99	ppb		93
49)	Benzene	5.901	78	17026	1.01	ppb		92
50)	1,2-Dichloroethane	5.968	62	5569	0.98	ppb		94
51)	Iso-Butyl Alcohol	5.968	43	6723	14.06	ppb	#	70
52)	n-Heptane	6.346	43	5981	0.95	ppb		91
53)	1-Butanol	6.913	56	10513	38.34	ppb		89
54)	Trichloroethene	6.834	130	3142	0.84	ppb	#	85
55)	Methylcyclohexane	7.054	55	6050	1.01	ppb		84
56)	1,2-Diclpropane	7.133	63	4315	0.93	ppb		90
57)	Dibromomethane	7.273	93	1934	0.84	ppb	#	65
58)	1,4-Dioxane	7.352	88	1651	15.45	ppb	#	52
59)	Methyl Methacrylate	7.358	69	3644	0.84	ppb	#	84
60)	Bromodichloromethane	7.505	83	3954	0.89	ppb		90
61)	2-Nitropropane	7.809	41	1664m	2.36	ppb		
62)	2-Chloroethylvinyl Ether	7.907	63	2393	0.76	ppb		66
63)	cis-1,3-Dichloropropene	8.035	75	6097	0.92	ppb		86
64)	4-Methyl-2-pentanone	8.248	43	6173	0.86	ppb		93
66)	Toluene	8.389	91	17439	1.03	ppb		97
67)	trans-1,3-Dichloropropene	8.675	75	4882	0.80	ppb		95
68)	Ethyl Methacrylate	8.803	69	6974	0.92	ppb		97
69)	1,1,2-Trichloroethane	8.864	97	3960	1.05	ppb		98
72)	Tetrachloroethene	8.962	164	3113m	1.08	ppb		
73)	2-Hexanone	9.157	43	4056	0.76	ppb		92
74)	1,3-Dichloropropane	9.029	76	7368	1.03	ppb		88
75)	Dibromochloromethane	9.242	129	2756m	0.93	ppb		
76)	N-Butyl Acetate	9.297	43	9887	0.98	ppb		97
77)	1,2-Dibromoethane	9.346	107	3573	0.96	ppb		93
78)	Chlorobenzene	9.827	112	10733	1.02	ppb		90
79)	3-CBTF	9.840	180	5952	1.10	ppb		92
80)	4-CBTF	9.901	180	5289	1.08	ppb		93
81)	1,1,1,2-Tetrachloroethane	9.919	131	2590	0.83	ppb		88
82)	Ethylbenzene	9.943	106	5328	0.93	ppb		92
83)	(m+p)Xylene	10.053	106	13849	2.01	ppb	#	81
84)	o-Xylene	10.413	106	7122	1.01	ppb	#	70
85)	Styrene	10.425	104	11094	0.95	ppb		96
87)	Bromoform	10.589	173	1421	0.82	ppb		94
88)	2-CBTF	10.656	180	5509	1.06	ppb		88
89)	Isopropylbenzene	10.742	105	17014	1.01	ppb		97
90)	Cyclohexanone	10.833	55	13171	18.22	ppb		94
91)	trans-1,4-Dichloro-2-B...	11.065	53	1750	0.94	ppb	#	54
92)	1,1,2,2-Tetrachloroethane	11.022	83	5232	0.93	ppb		98
93)	Bromobenzene	10.998	156	4405	1.06	ppb	#	78
94)	1,2,3-Trichloropropane	11.047	110	2104	1.13	ppb	#	48
95)	n-Propylbenzene	11.095	91	22742	1.12	ppb		96
96)	2-Chlorotoluene	11.156	91	13609	1.06	ppb		97
97)	3-Chlorotoluene	11.217	91	12818	0.99	ppb		98
98)	4-Chlorotoluene	11.254	91	13956	1.01	ppb		93
99)	1,3,5-Trimethylbenzene	11.248	105	14026	1.00	ppb		86
100)	tert-Butylbenzene	11.516	119	12171	0.98	ppb		95
101)	1,2,4-Trimethylbenzene	11.559	105	13735	0.98	ppb		92
102)	3,4-DCBTF	11.626	214	4459	1.04	ppb	#	90
103)	sec-Butylbenzene	11.699	105	18561	1.03	ppb		93
104)	p-Isopropyltoluene	11.821	119	15115	0.98	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	8367	1.01	ppb		96
106) 1,4-Dclbenz	11.857	146	8960	1.05	ppb		87
107) 2,4-DCBTF	11.912	214	4158	1.07	ppb	#	82
108) 2,5-DCBTF	11.949	214	4549	1.05	ppb		94
109) n-Butylbenzene	12.150	91	14570	0.97	ppb		97
110) 1,2-Dclbenz	12.162	146	8042	0.98	ppb		93
111) 1,2-Dibromo-3-chloropr...	12.796	157	1294	0.99	ppb	#	58
112) Trielution Dichlorotol...	12.894	125	24223	3.22	ppb	#	80
113) 1,3,5 Trichlorobenzene	12.949	180	6254	1.02	ppb		88
114) Coelution Dichlorotoluene	13.229	125	18268	2.17	ppb		95
115) 1,2,4-Tcbenzene	13.436	180	6635	1.05	ppb		89
116) Hexachlorobt	13.564	225	2933	1.16	ppb	#	66
117) Naphthalen	13.632	128	21752	1.09	ppb		90
118) 1,2,3-Tclbenzene	13.820	180	6441	1.03	ppb		92
119) 2,4,5-Trichlorotolene	14.394	159	5125	1.08	ppb	#	86
120) 2,3,6-Trichlorotoluene	14.479	159	5042	1.02	ppb		91

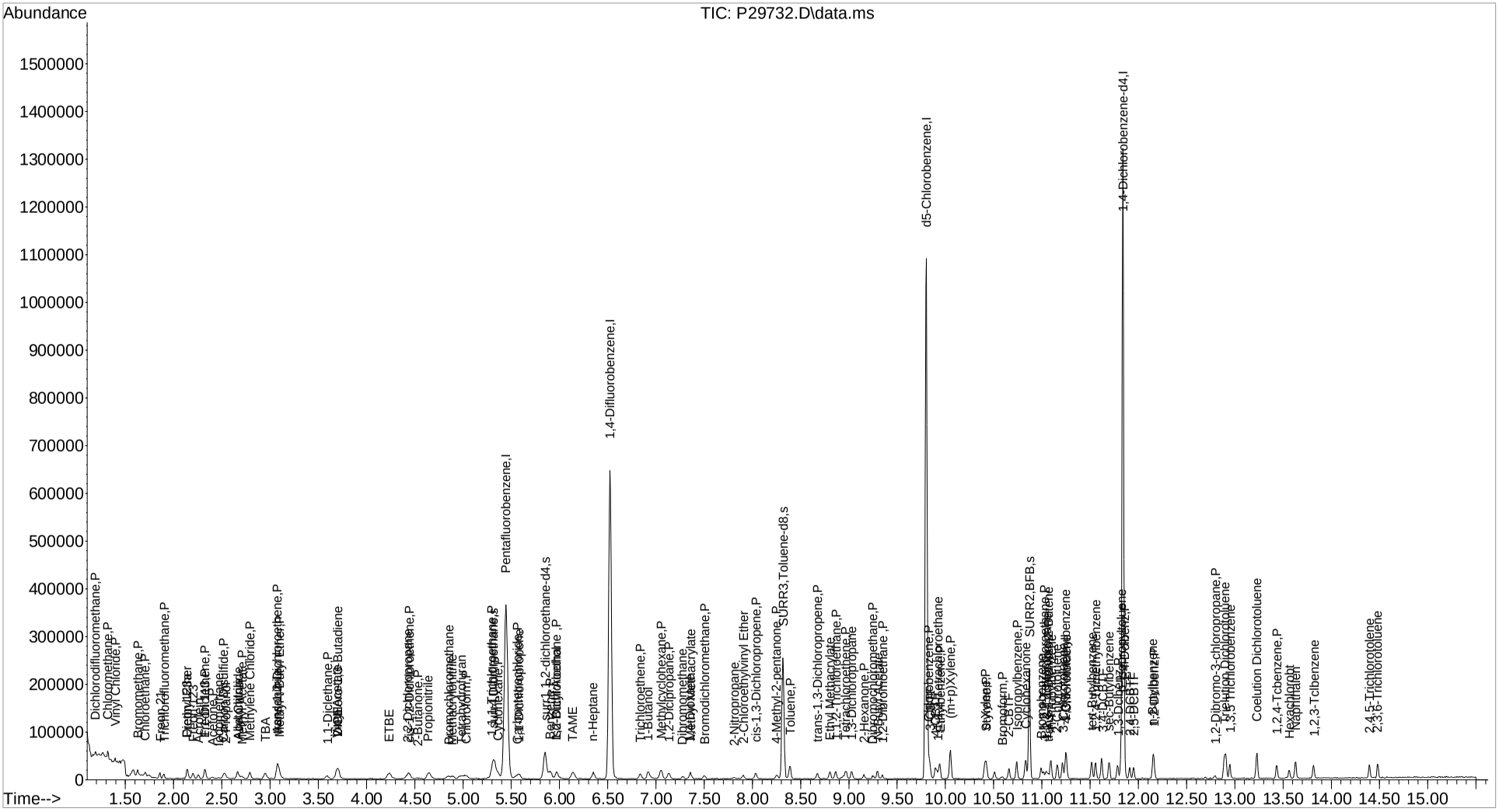
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

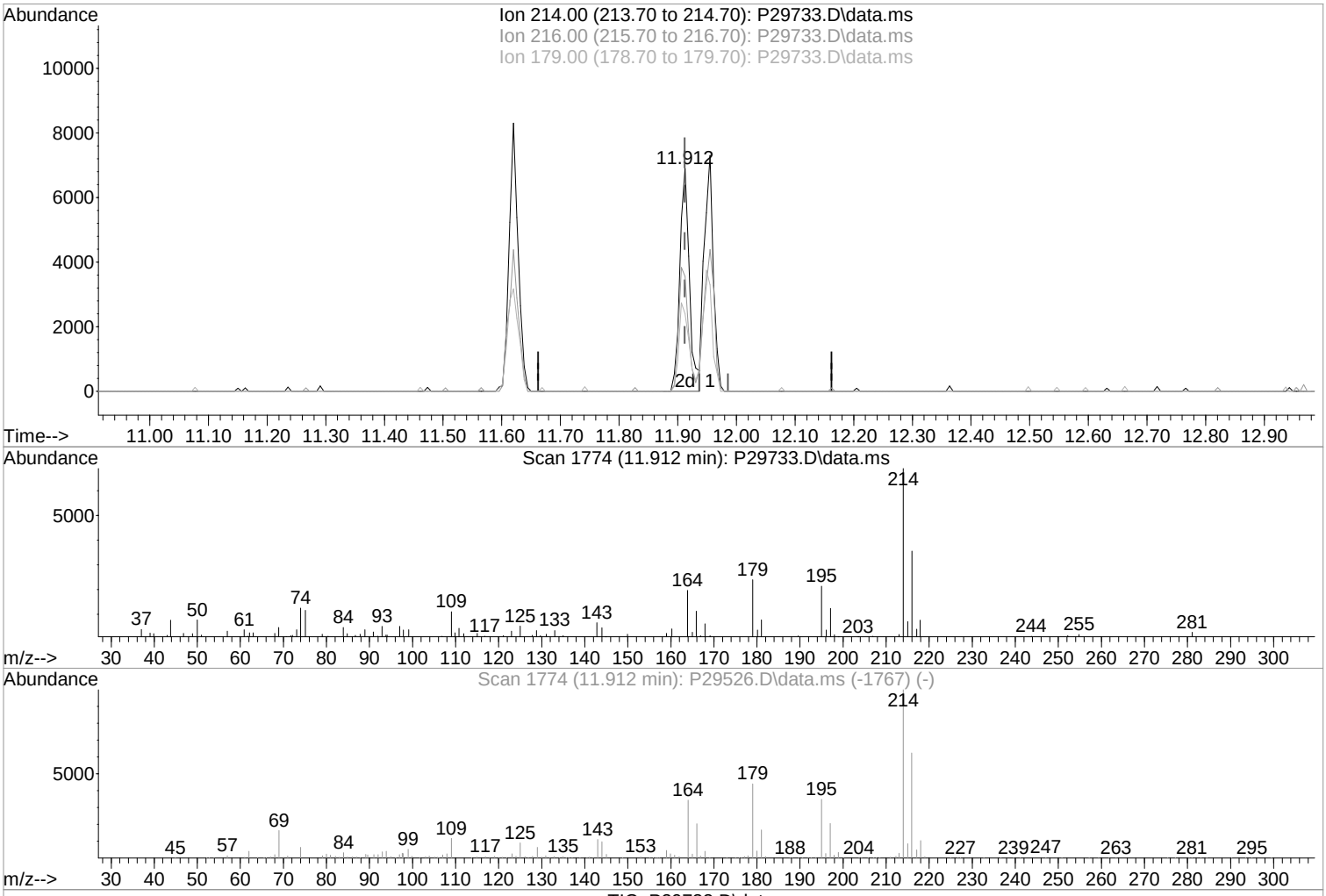


1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(107) 2,4-DCBTF

11.912min (+0.000) 2.16 ppb m

response 7816

Ion	Exp%	Act%
214.00	100	100
216.00	64.60	51.55#
179.00	44.00	34.80#
0.00	0.00	0.00

Manual Integration:

After

Wrong peak selected.

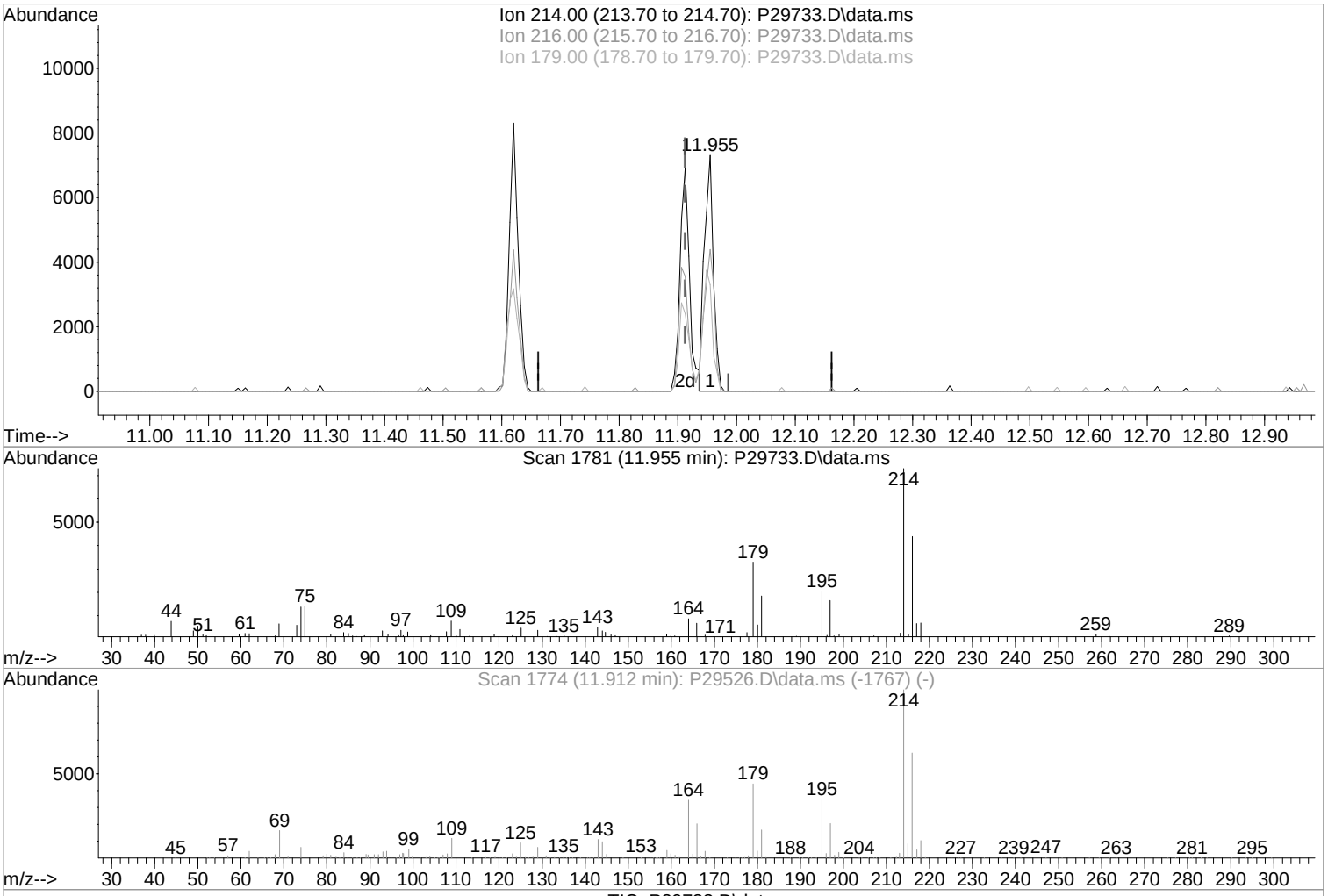
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(107) 2,4-DCBTF

11.955min (+0.043) 2.18 ppb

response 7910

Ion	Exp%	Act%
214.00	100	100
216.00	64.60	60.07
179.00	44.00	45.10
0.00	0.00	0.00

Manual Integration:

Before

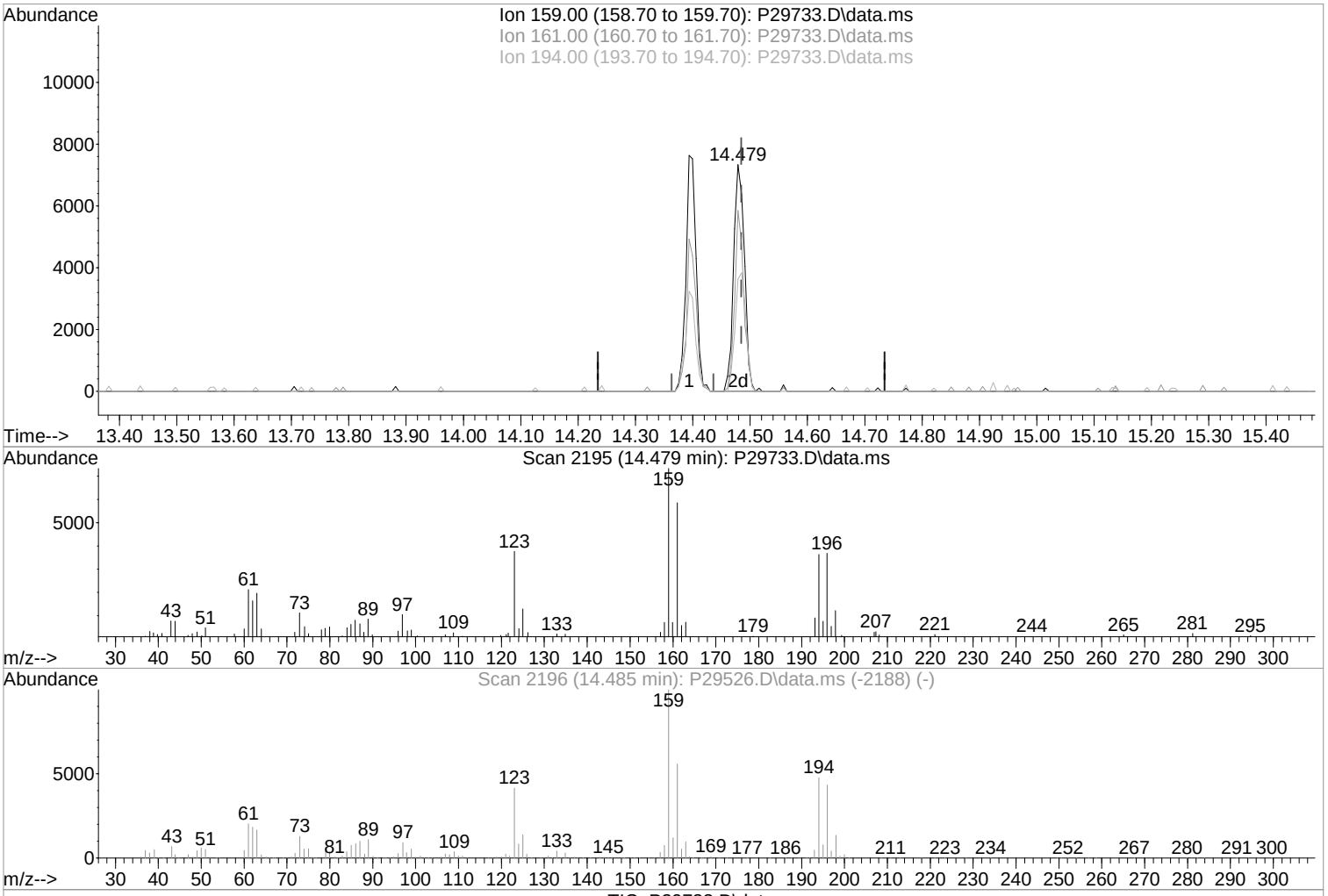
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(120) 2,3,6-Trichlorotoluene

14.479min (-0.006) 2.09 ppb m

response 9583

Ion	Exp%	Act%
159.00	100	100
161.00	59.40	79.85#
194.00	46.10	49.48
0.00	0.00	0.00

Manual Integration:

After

Wrong peak selected.

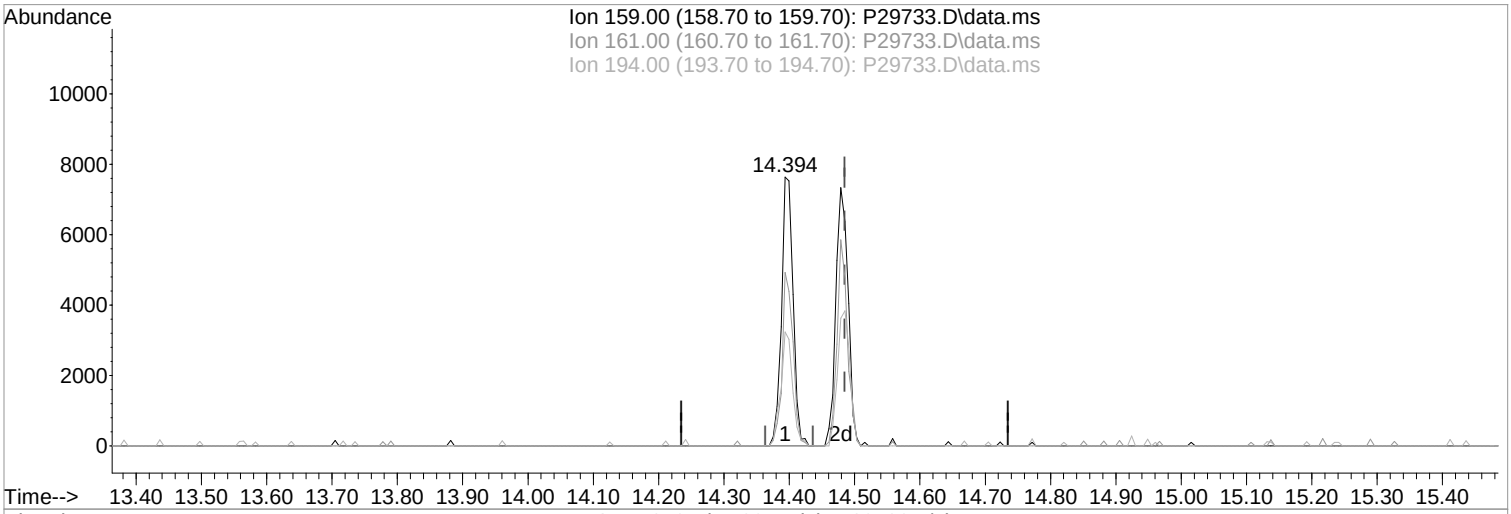
09/12/19

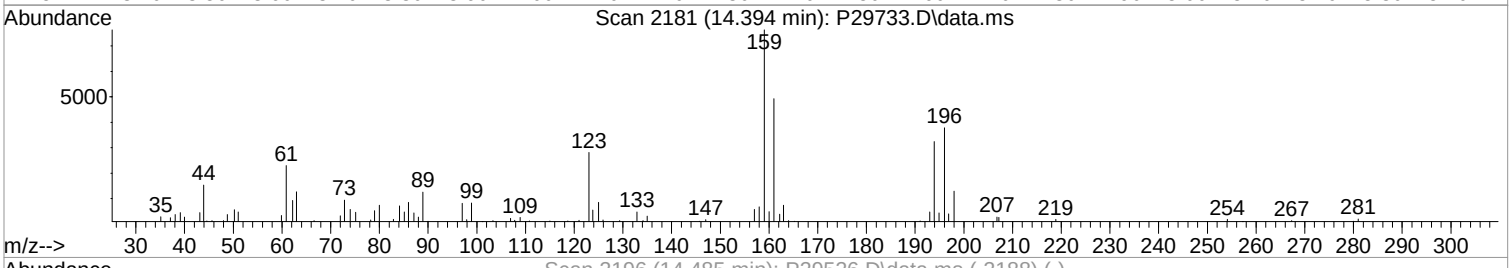
1st 09/12/19
2nd 09/12/19

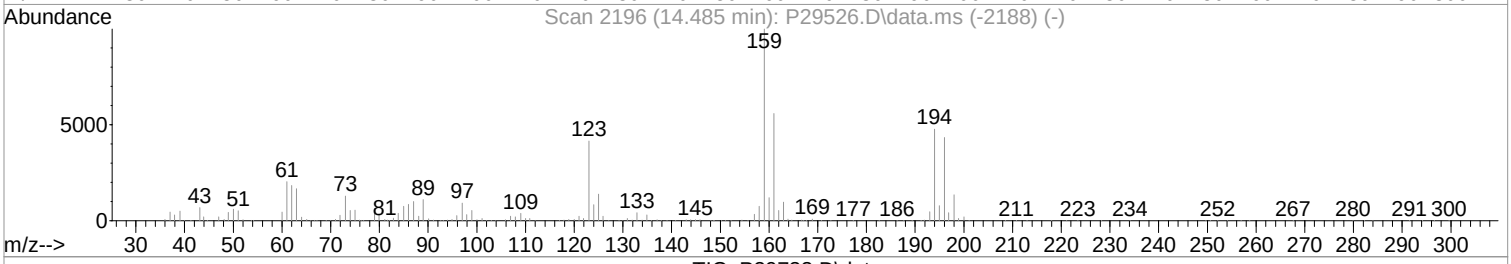
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(120) 2,3,6-Trichlorotoluene

14.394min (-0.091) 2.07 ppb

response 9498

Ion	Exp%	Act%
159.00	100	100
161.00	59.40	64.51
194.00	46.10	42.45
0.00	0.00	0.00

Manual Integration:

Before

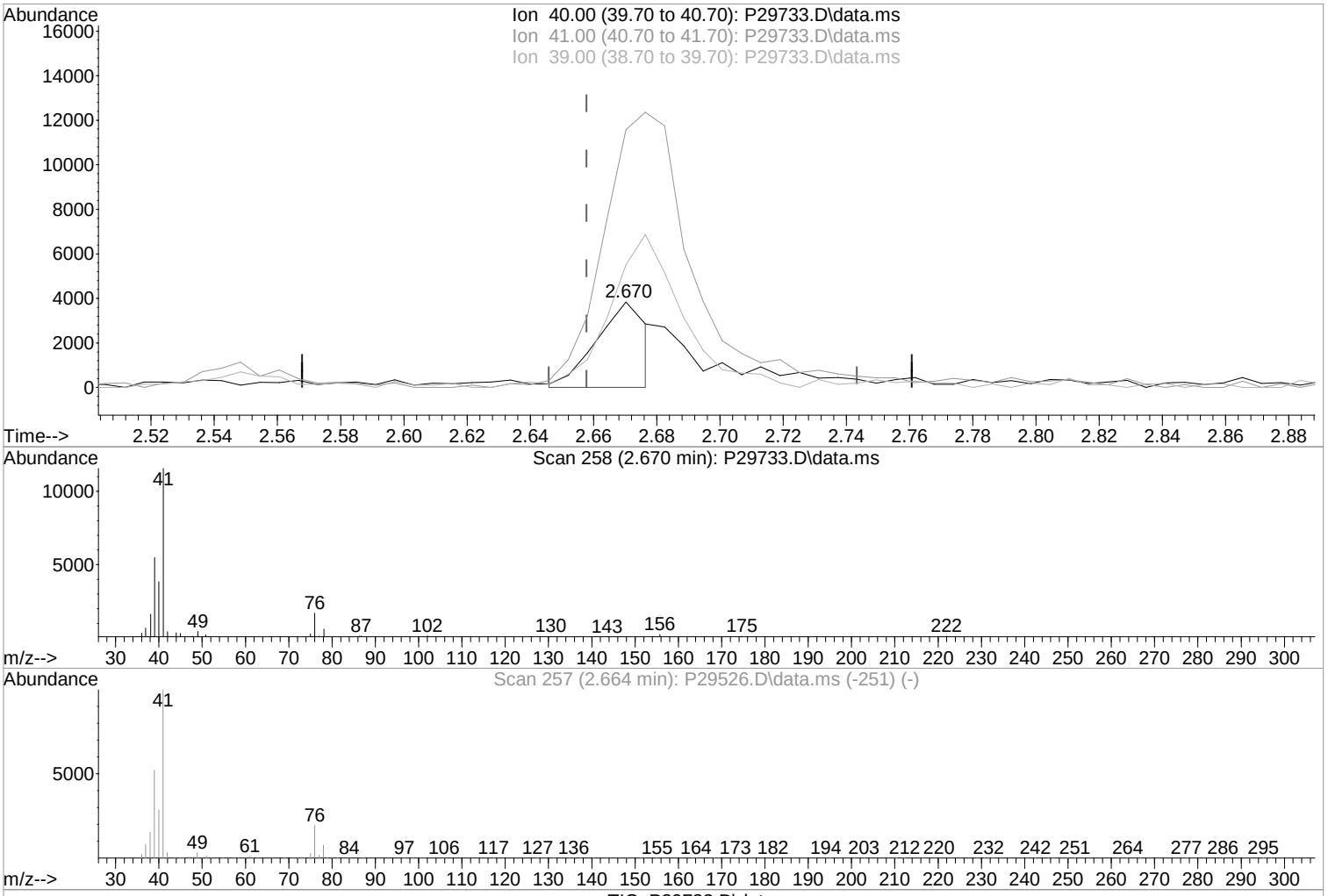
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 10.78 ppb m

response 4219

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	300.81#
39.00	137.60	143.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

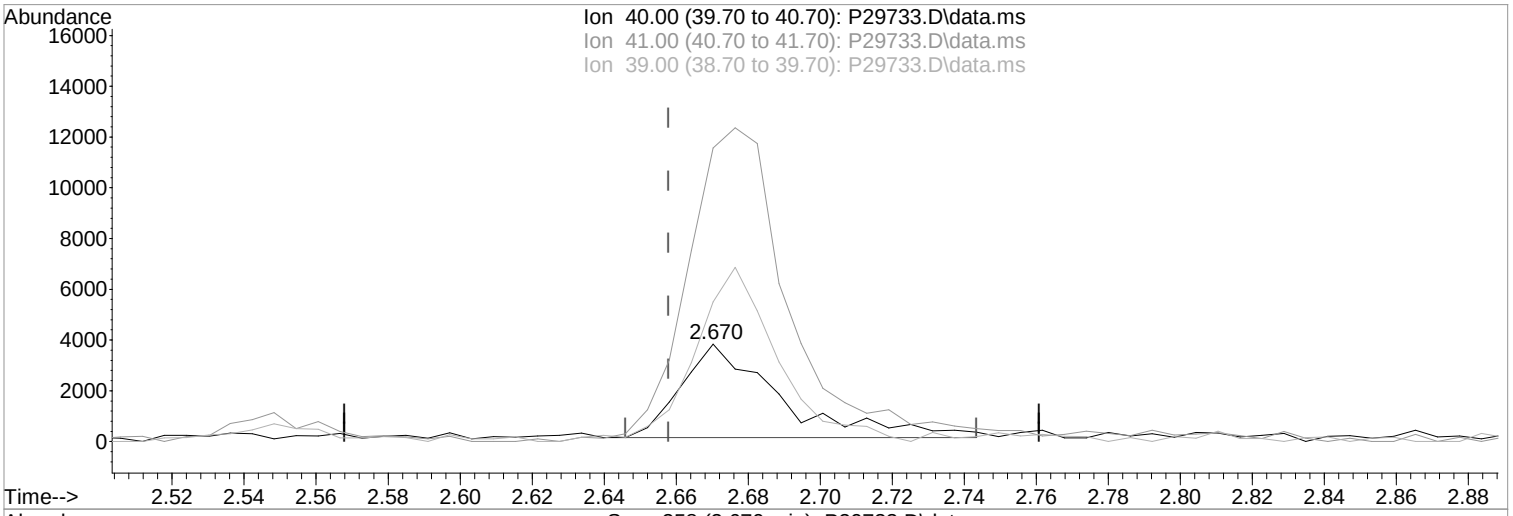
09/12/19

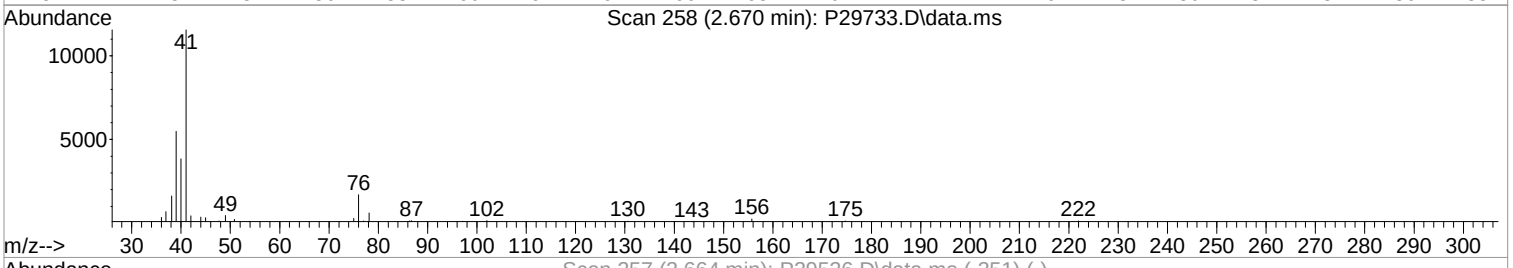
1st 09/12/19
2nd 09/12/19

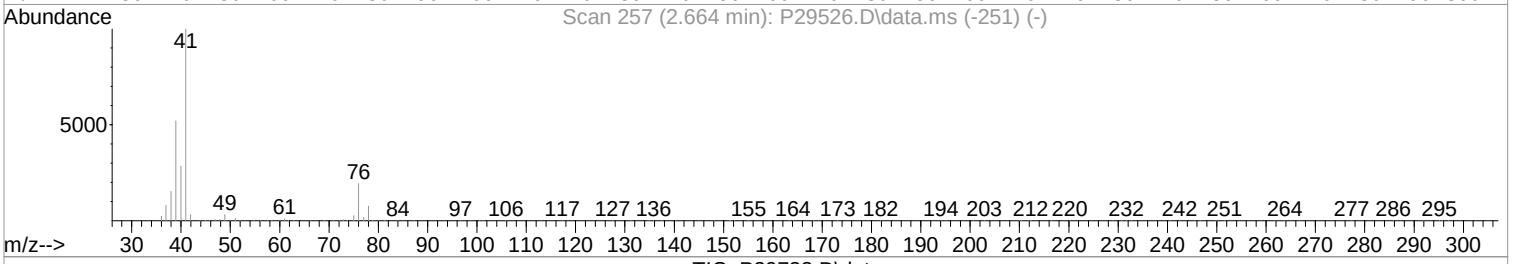
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 18.21 ppb

response 7128

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	300.81#
39.00	137.60	143.00
0.00	0.00	0.00

Manual Integration:

Before

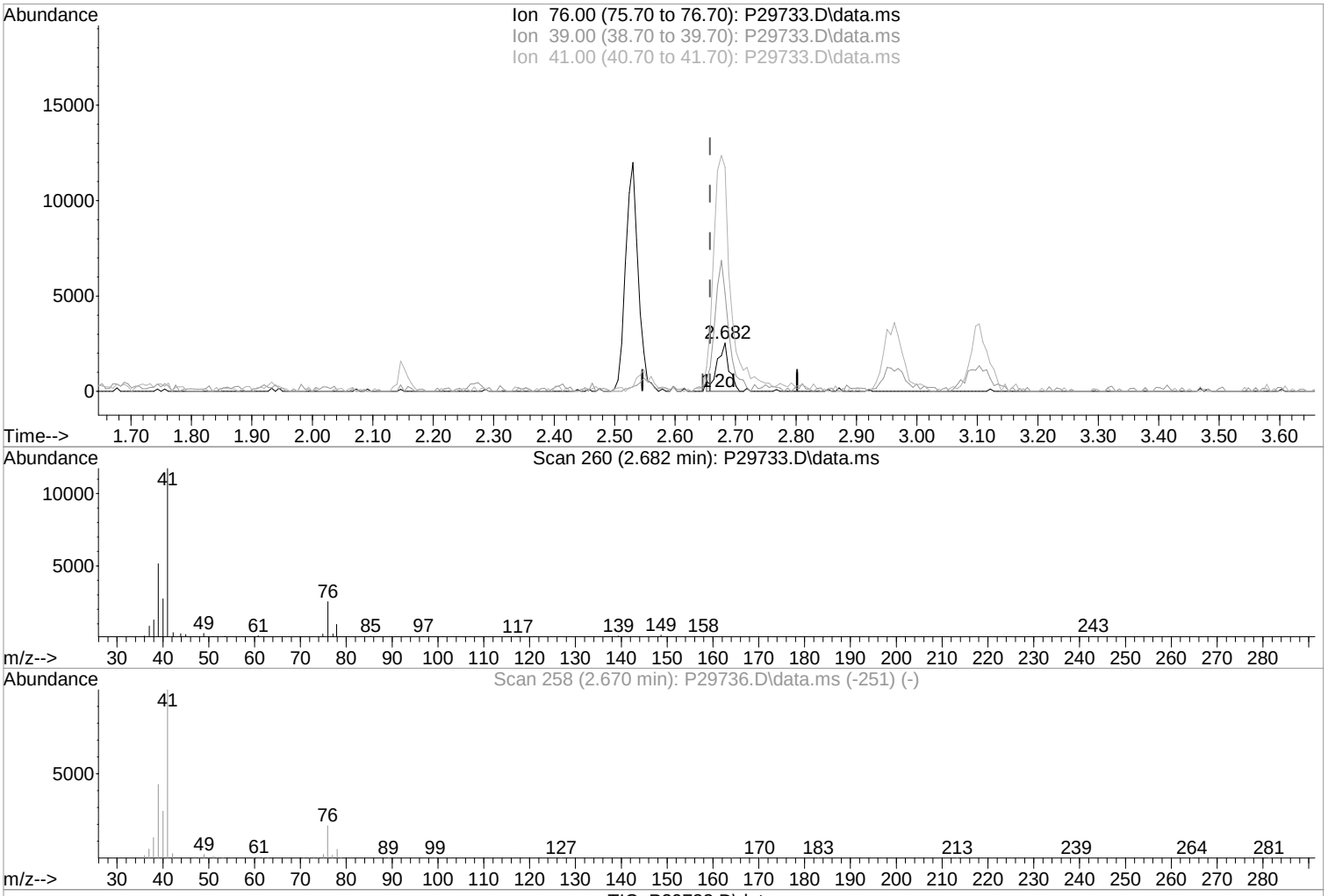
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:35:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(20) Allyl Chloride

2.682min (+0.025) 1.94 ppb m

response 3403

Ion	Exp%	Act%
76.00	100	100
39.00	226.70	203.24#
41.00	519.30	464.12#
0.00	0.00	0.00

Manual Integration:

After

Peak not found.

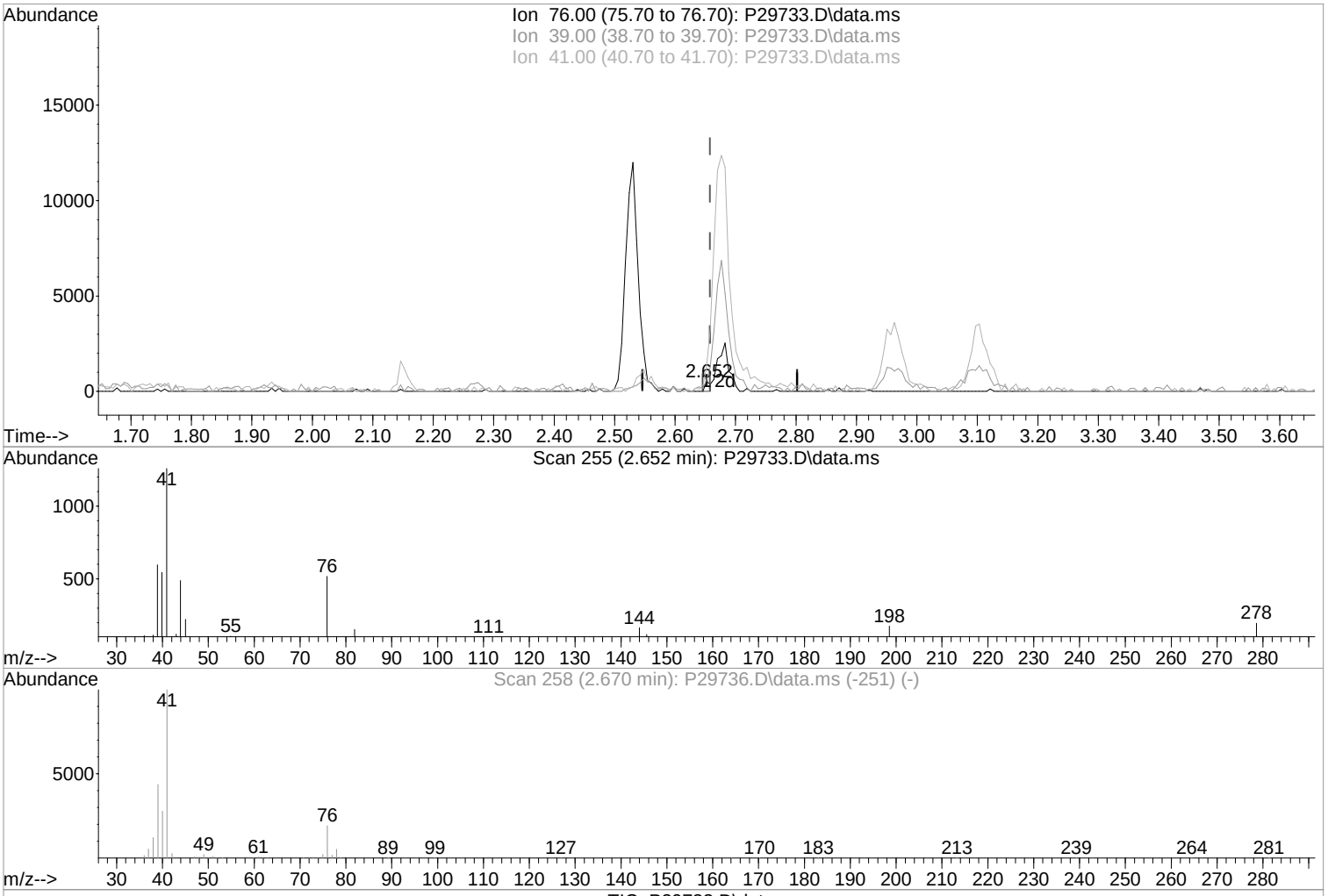
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:35:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(20) Allyl Chloride

2.652min (-0.006) 0.18 ppb

response 324

Ion	Exp%	Act%
76.00	100	100
39.00	226.70	115.25#
41.00	519.30	243.05#
0.00	0.00	0.00

Manual Integration:

Before

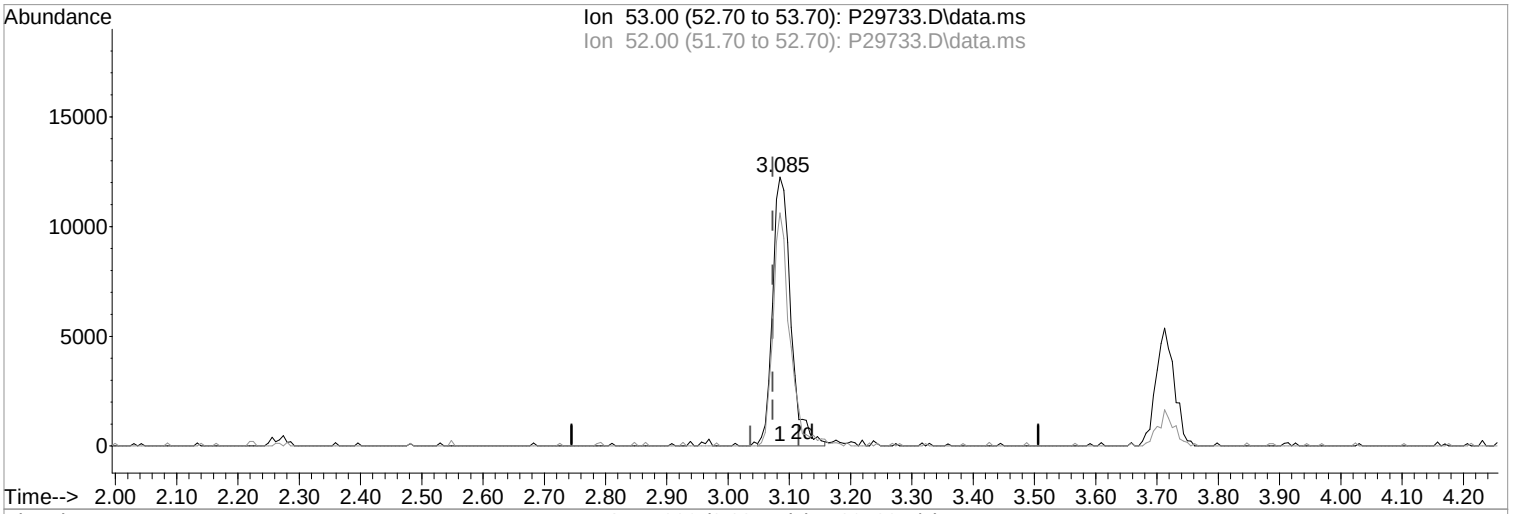
09/12/19

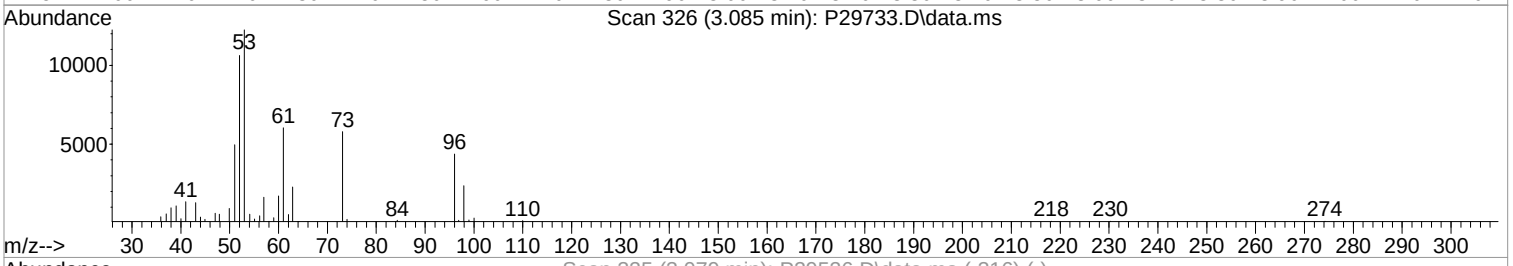
1st 09/12/19
2nd 09/12/19

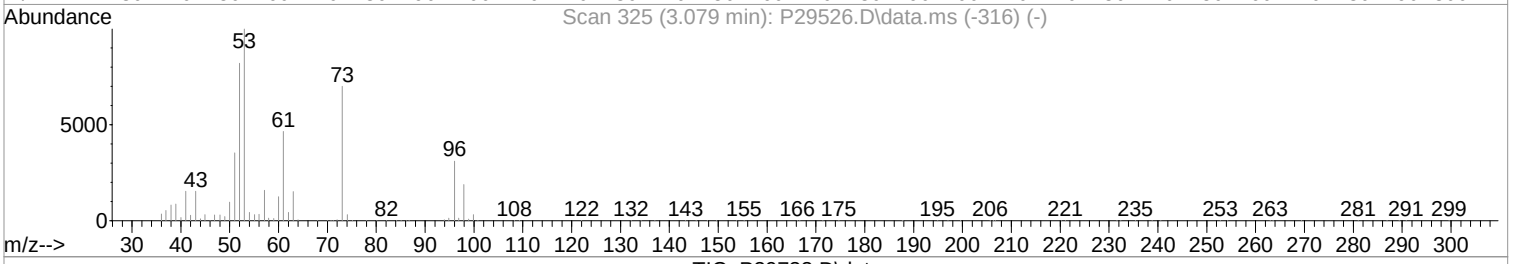
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(24) Acrylonitrile

3.085min (+0.012) 9.71 ppb m

response 25317

Ion	Exp%	Act%
53.00	100	100
52.00	81.80	86.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

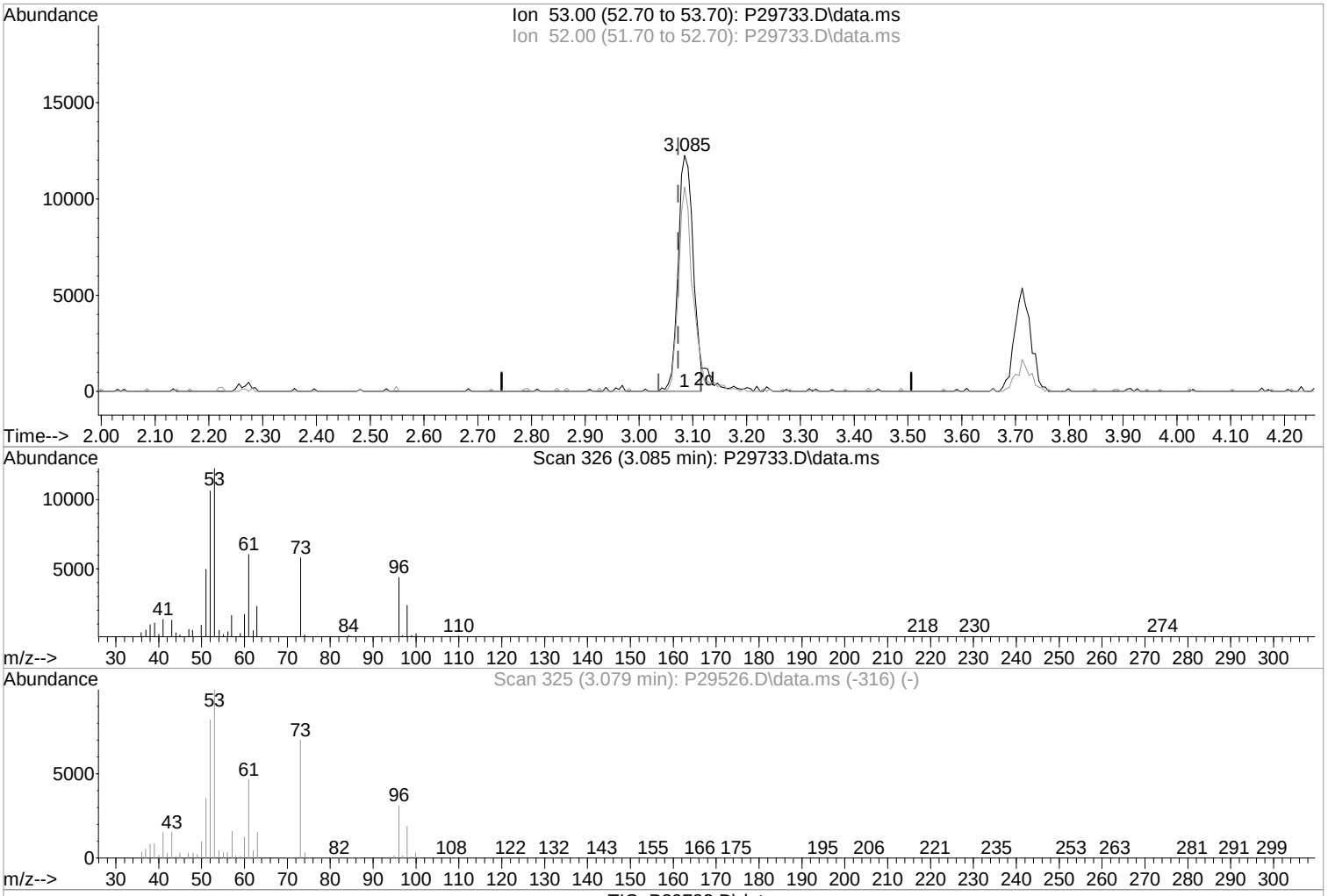
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(24) Acrylonitrile

3.085min (+0.012) 9.17 ppb

response 23909

Ion	Exp%	Act%
53.00	100	100
52.00	81.80	86.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

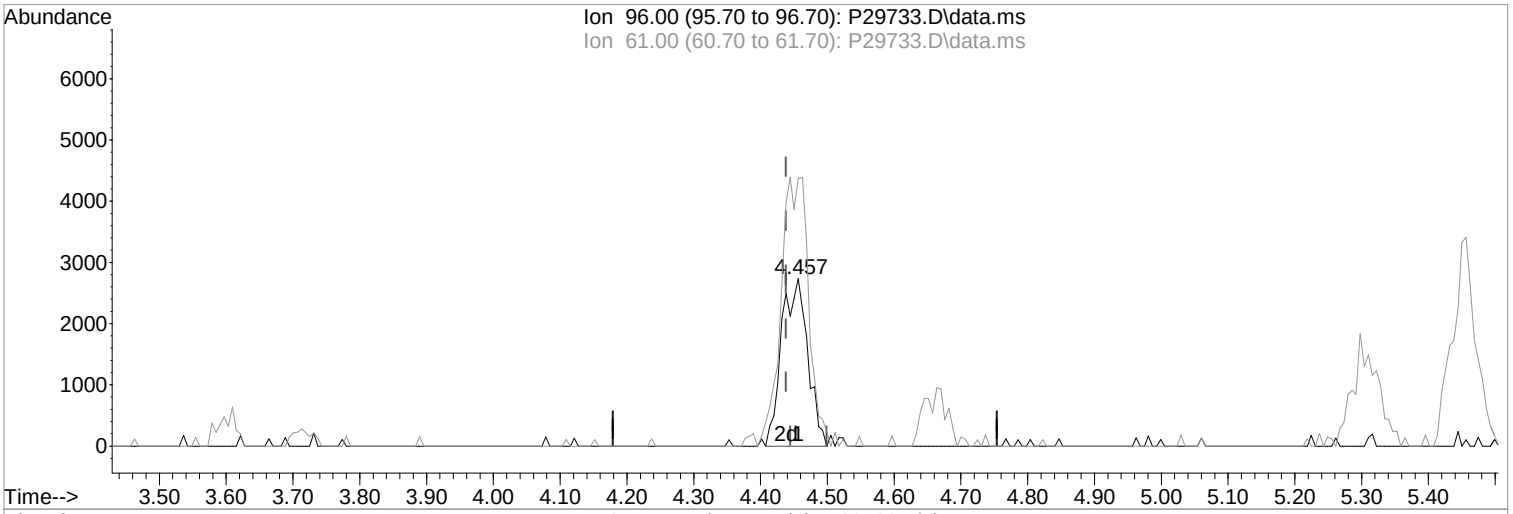
09/12/19

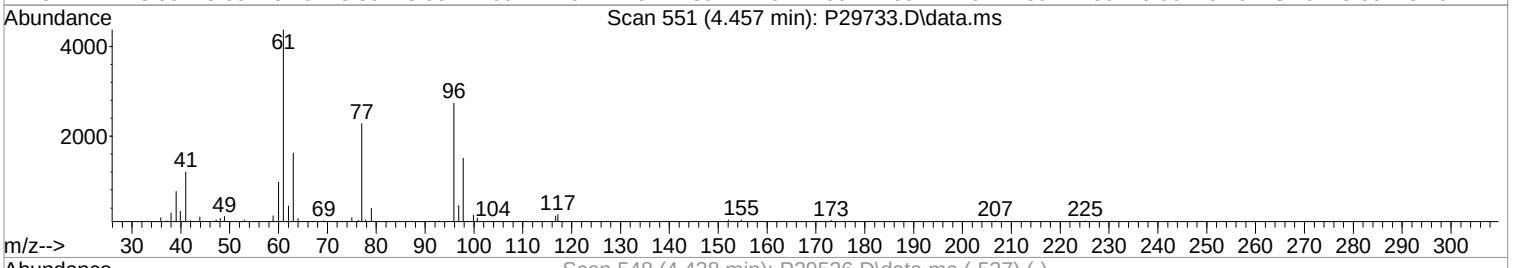
1st 09/12/19
2nd 09/12/19

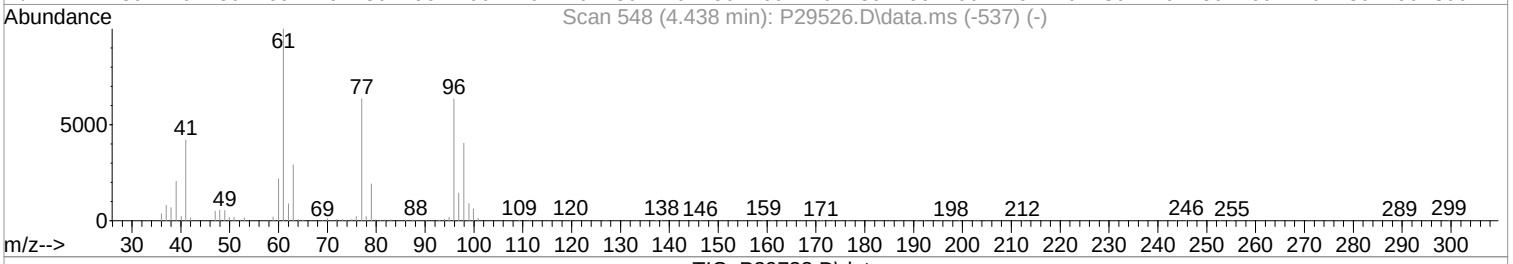
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.457min (+0.019) 1.94 ppb m

response 7392

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	159.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

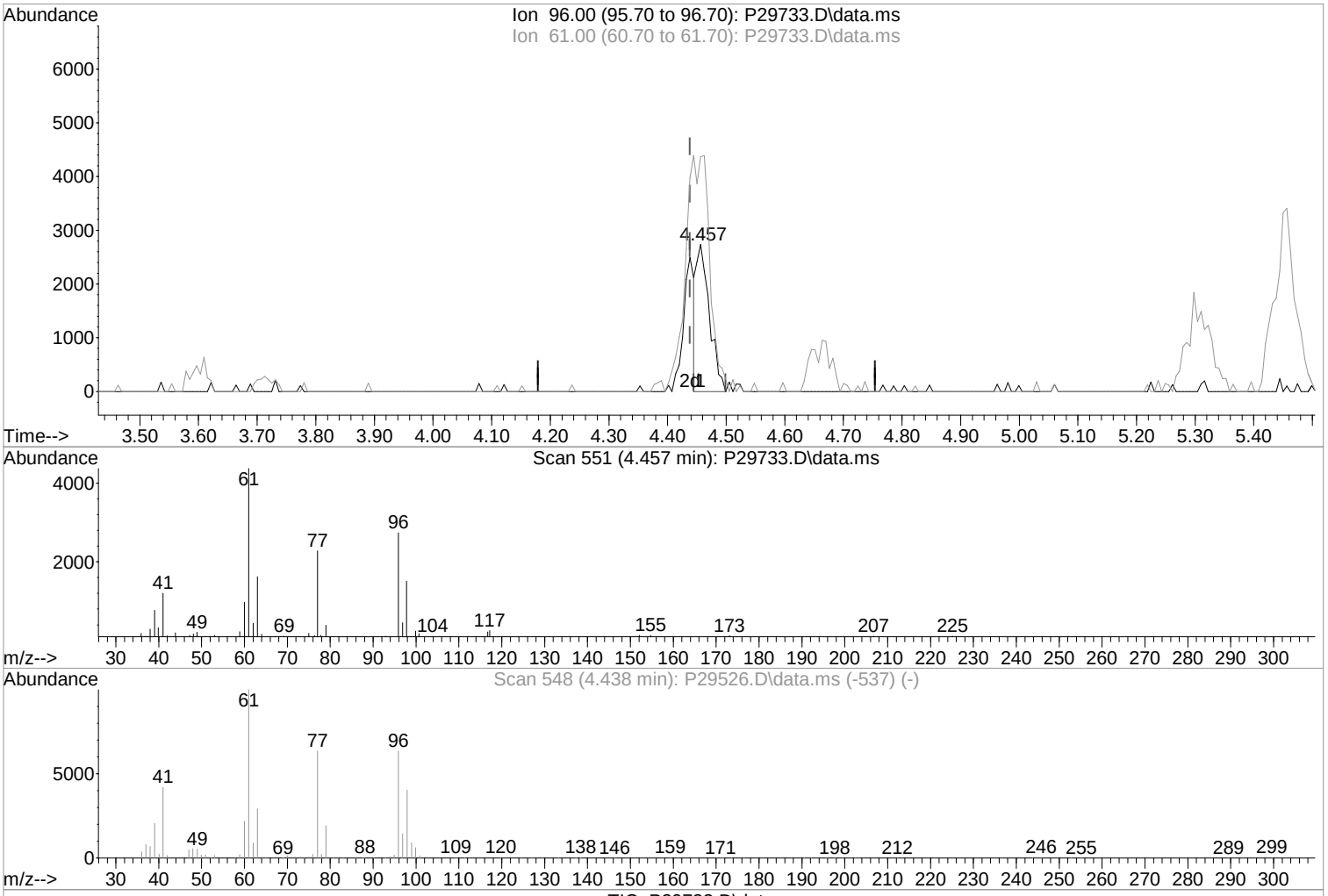
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.457min (+0.019) 1.12 ppb

response 4265

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	159.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

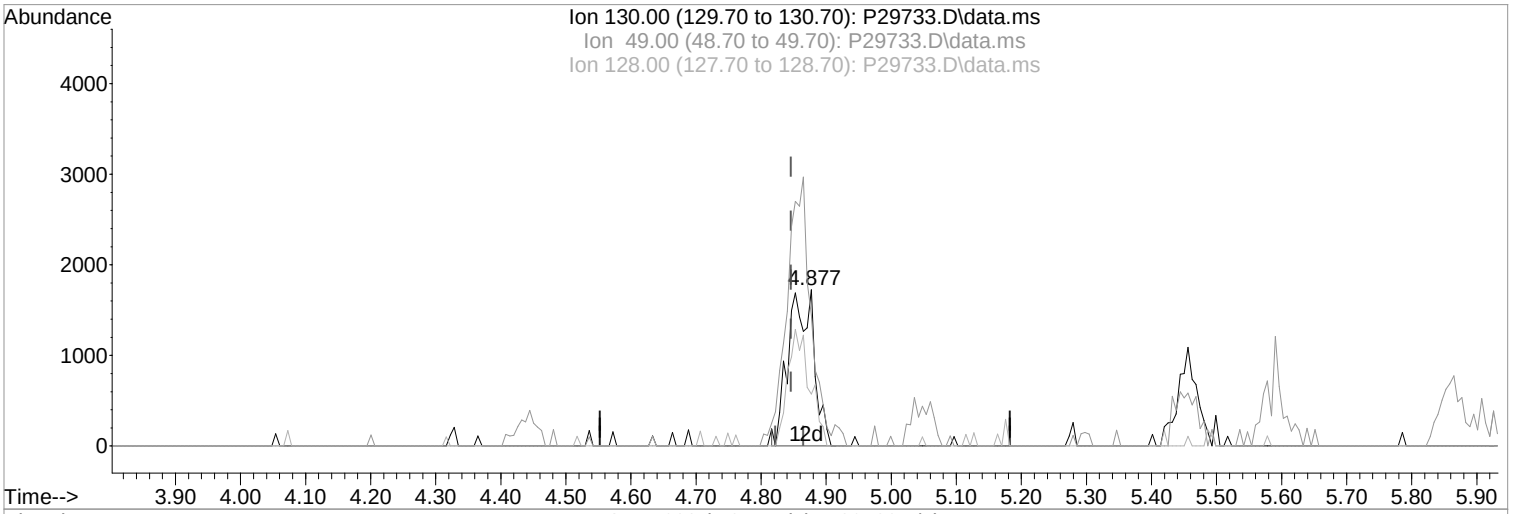
09/12/19

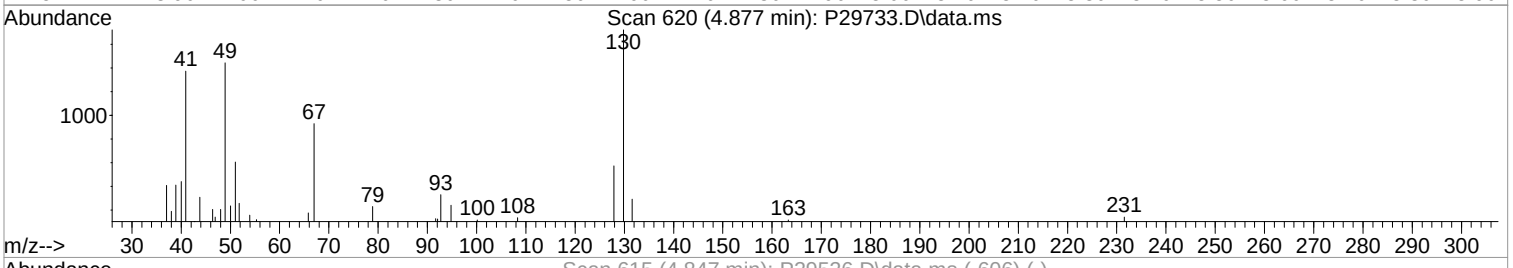
1st 09/12/19
2nd 09/12/19

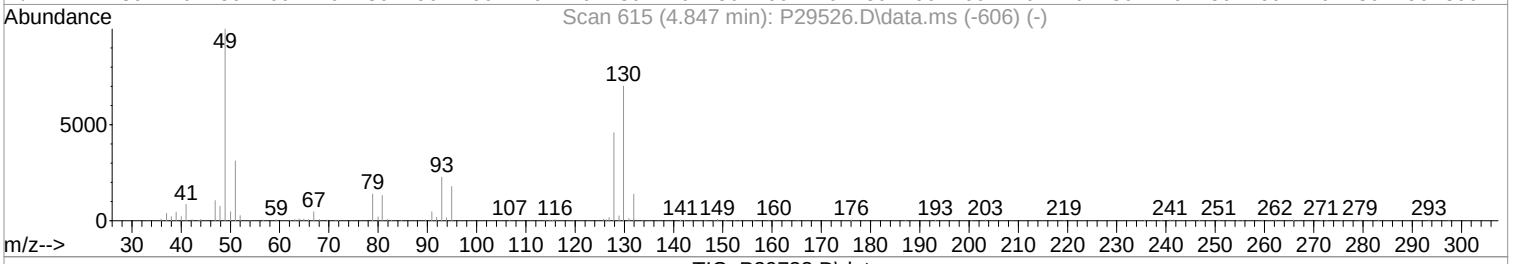
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(37) Bromochloromethane

4.877min (+0.031) 2.04 ppb m

response 4626

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	83.82#
128.00	71.40	33.24#
0.00	0.00	0.00

Manual Integration:

After

Split Peak

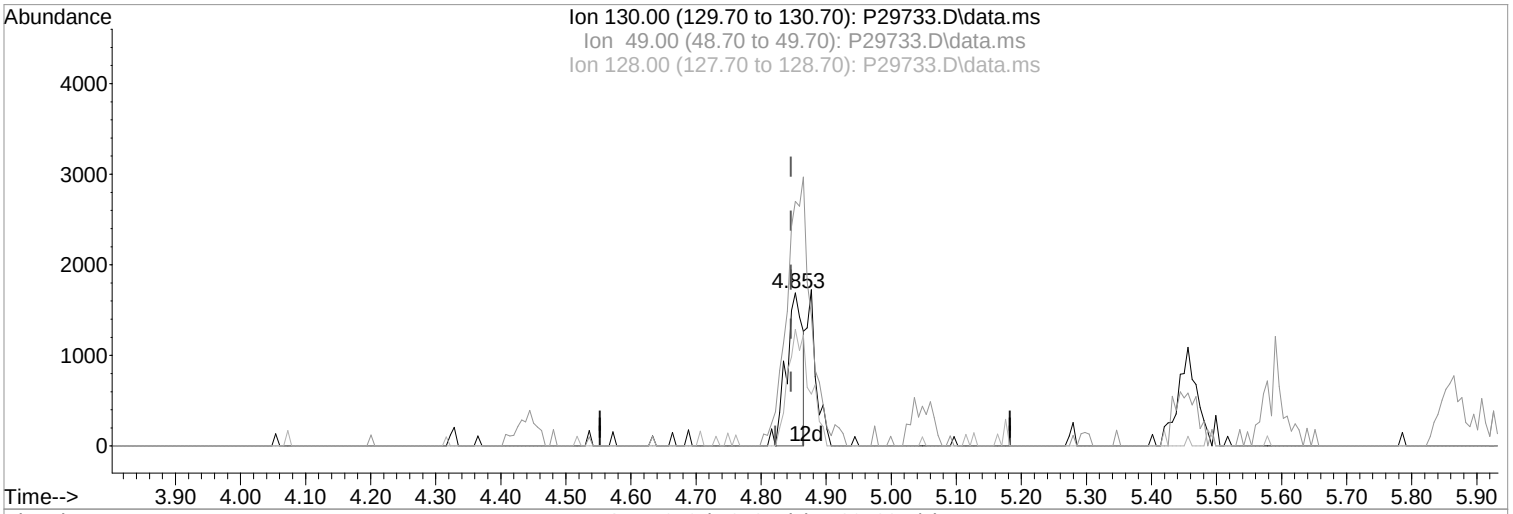
09/12/19

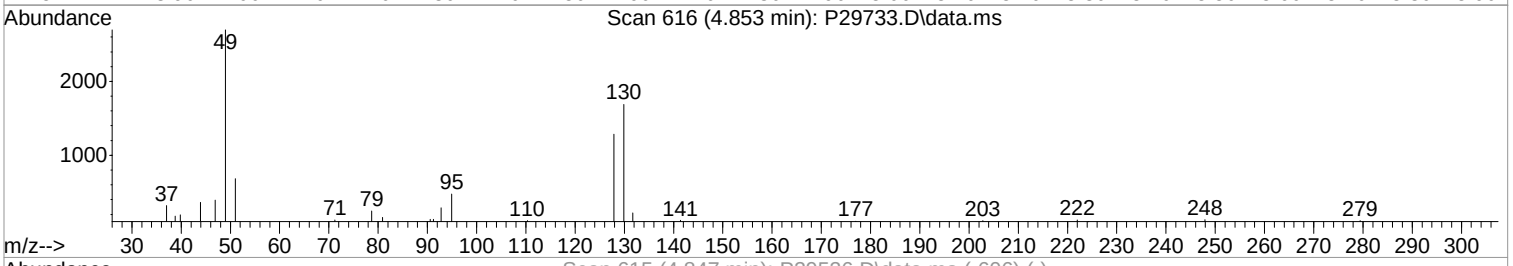
1st 09/12/19
2nd 09/12/19

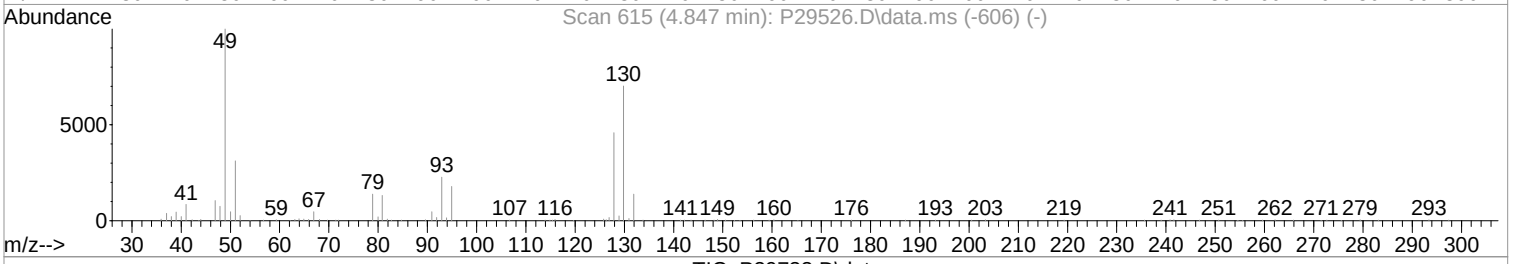
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 1.27 ppb

response 2883

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	159.70
128.00	71.40	76.15
0.00	0.00	0.00

Manual Integration:

Before

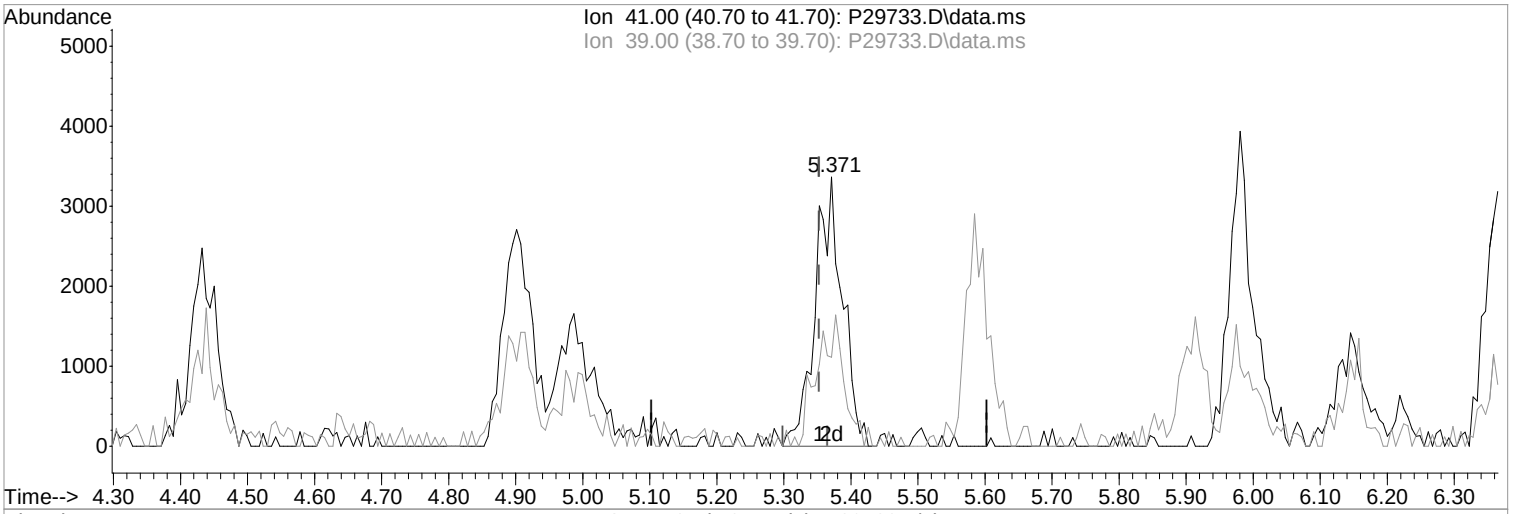
09/12/19

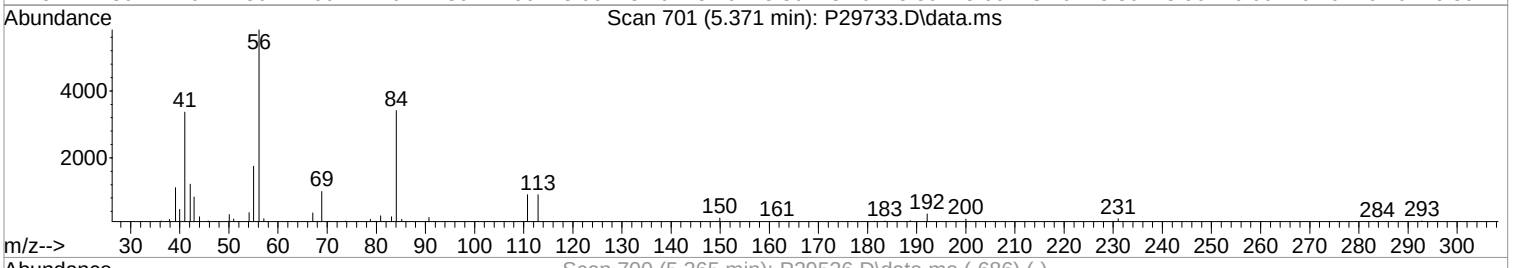
1st 09/12/19
2nd 09/12/19

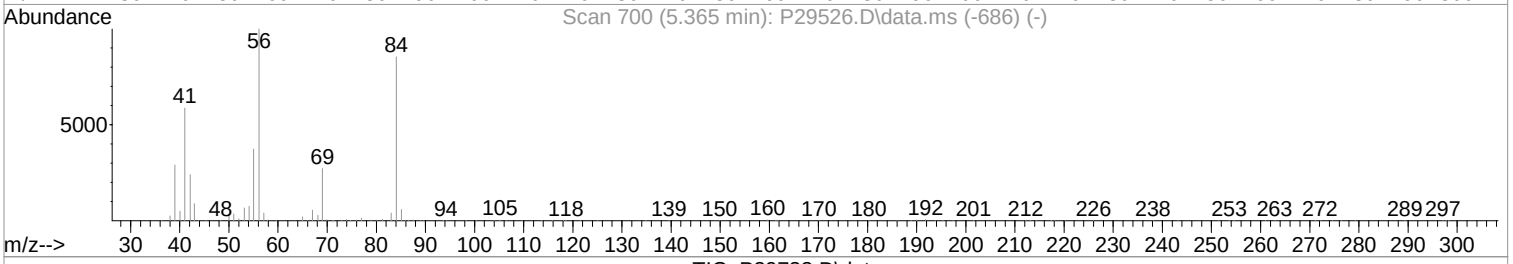
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(44) Cyclohexane (P)

5.371min (+0.019) 2.26 ppb m

response 9499

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	32.97
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

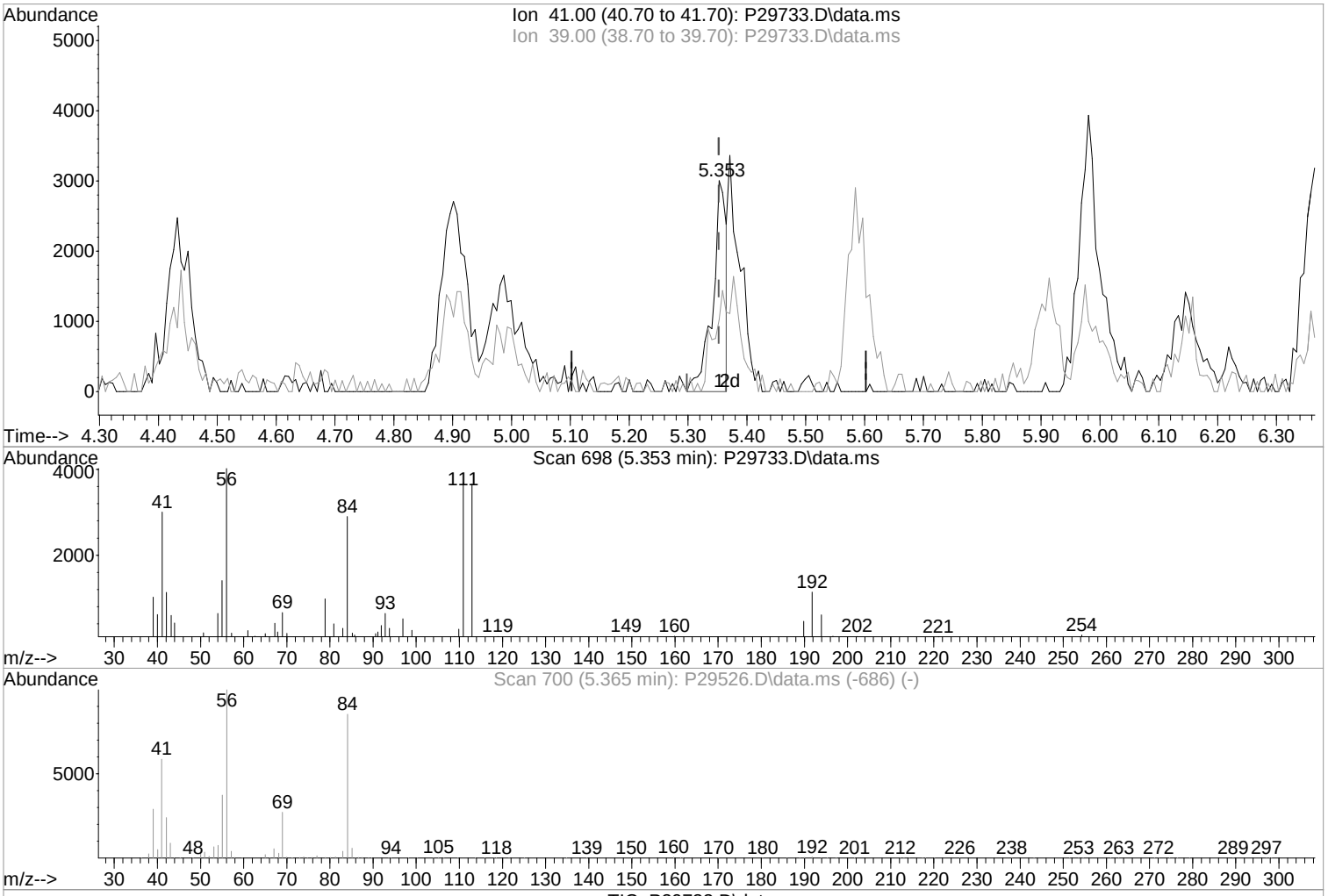
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(44) Cyclohexane (P)

5.353min (+0.000) 1.15 ppb

response 4820

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	34.09
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

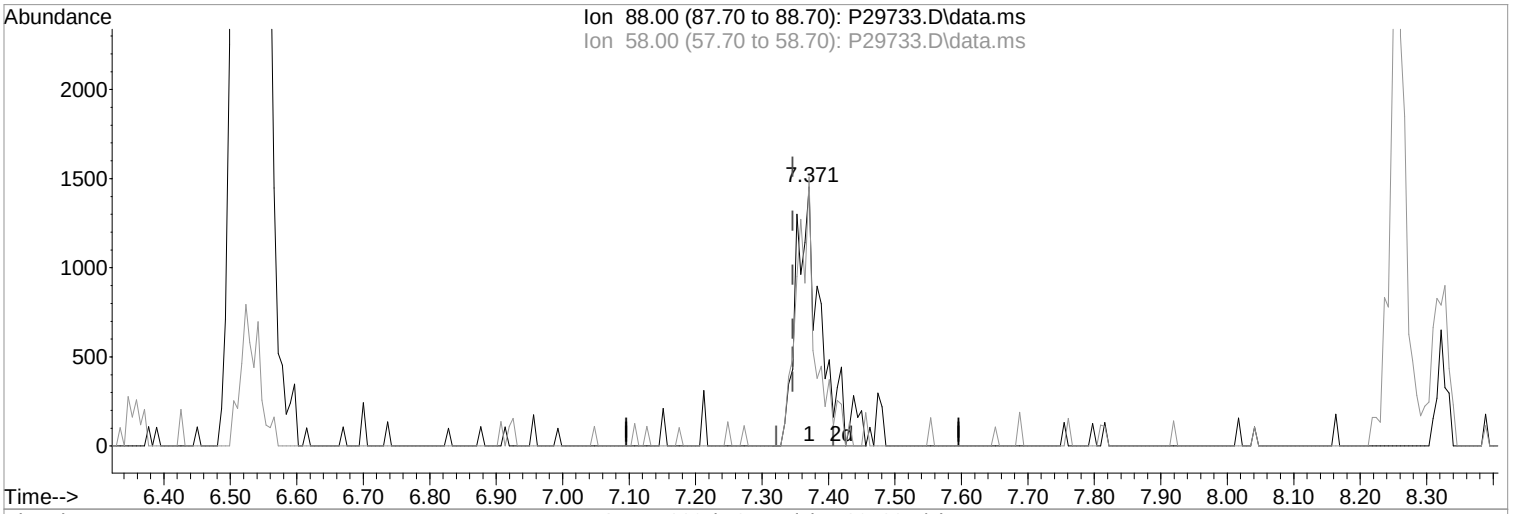
09/12/19

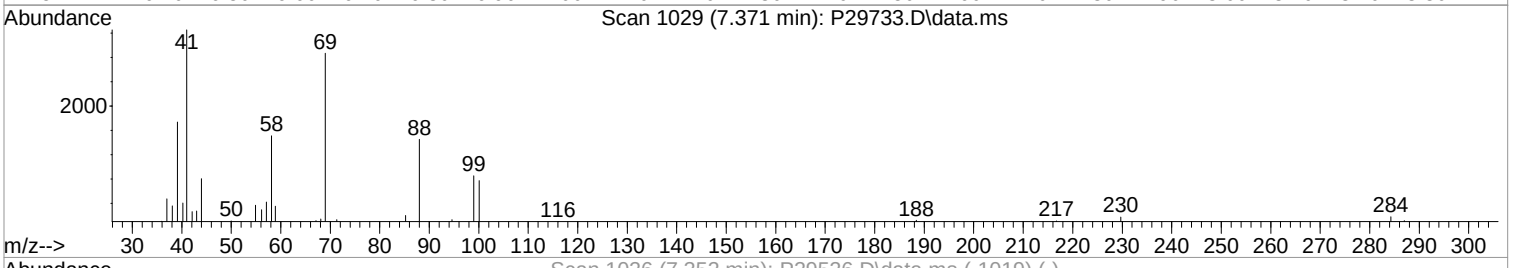
1st 09/12/19
2nd 09/12/19

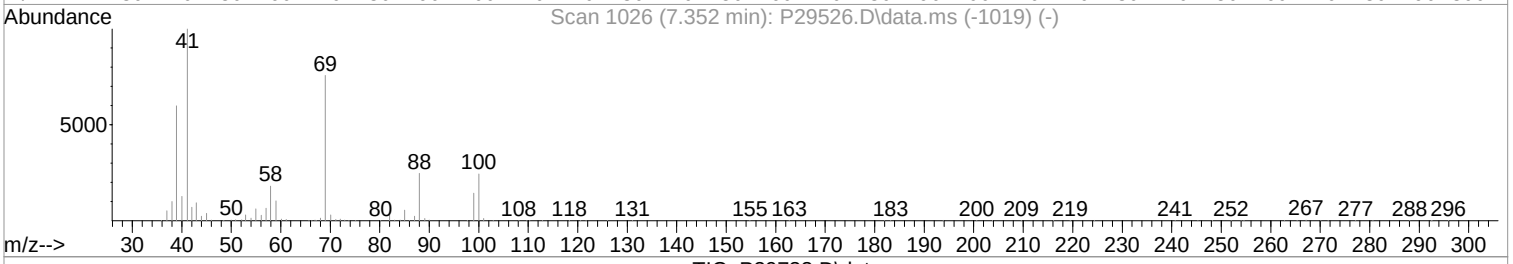
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(58) 1,4-Dioxane

7.371min (+0.025) 38.75 ppb m

response 3897

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	103.78#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

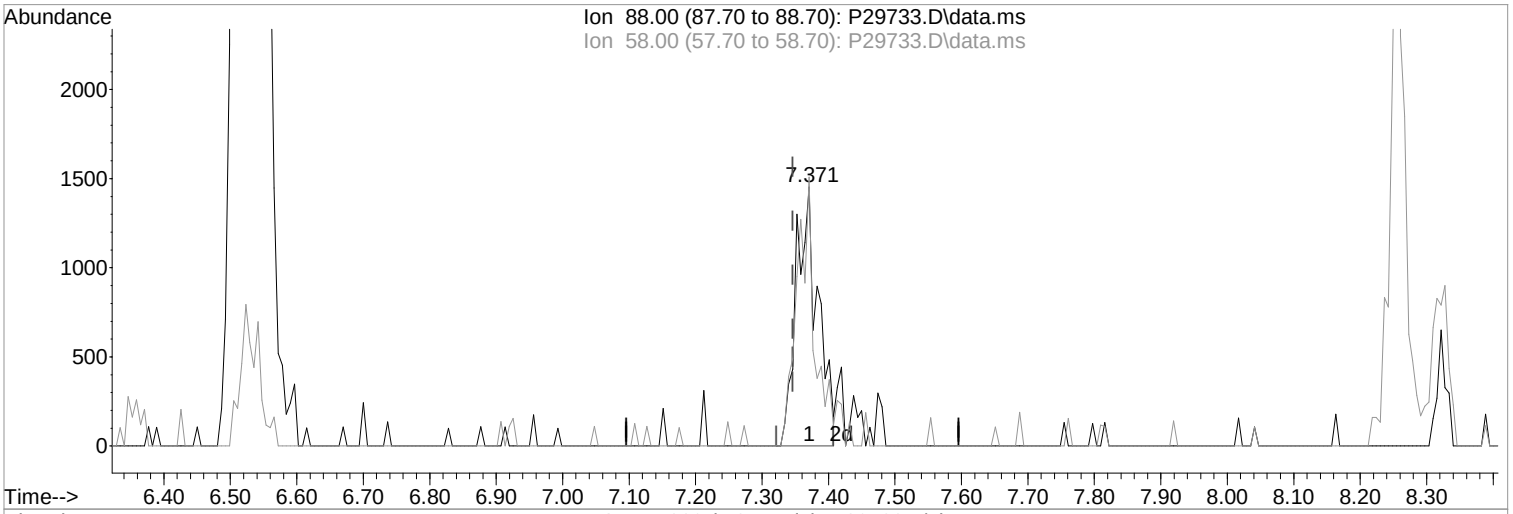
09/12/19

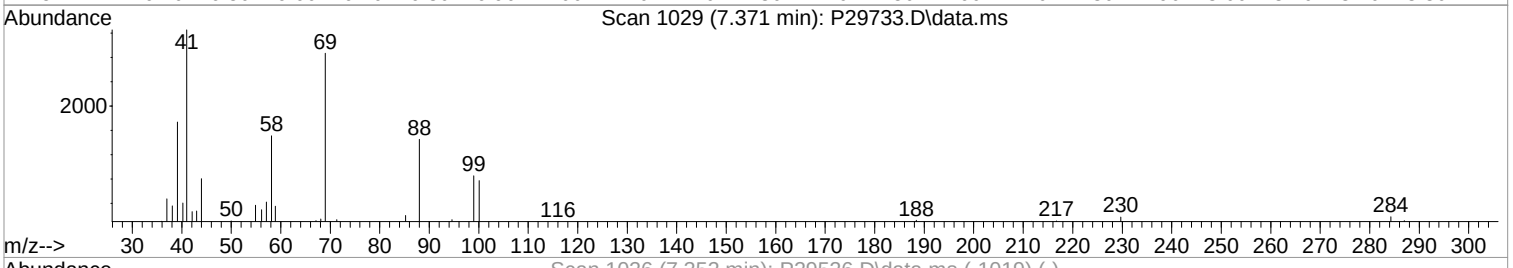
1st 09/12/19
2nd 09/12/19

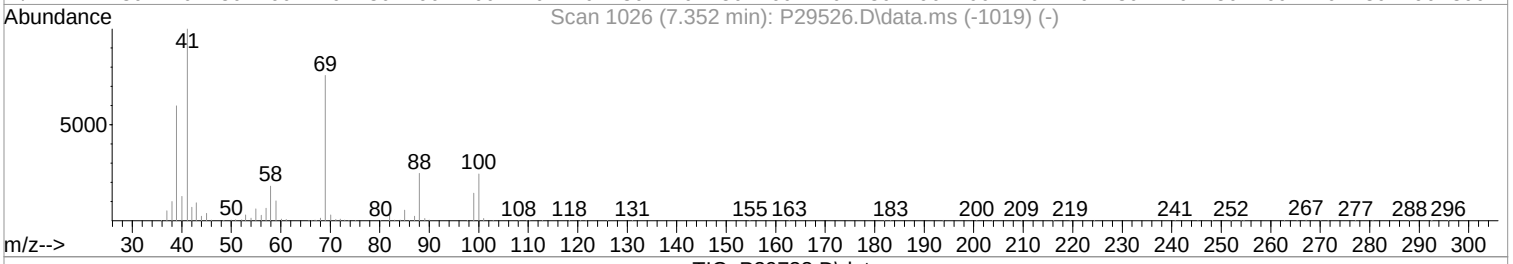
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(58) 1,4-Dioxane

7.371min (+0.025) 33.22 ppb

response 3341

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	103.78#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	314065	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	525904	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	453358	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	230837	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	27986	10.04	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 20.08%#				
48) surr1,1,2-dichloroetha...	5.859	65	43764	11.35	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 22.70%#				
65) SURR3,Toluene-d8	8.322	98	153879	11.73	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.46%#				
70) SURR2,BFB	10.870	95	58312	11.42	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 22.84%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	7053	1.82	ppb		94
3) Chloromethane	1.329	50	12112	2.03	ppb		89
4) Vinyl Chloride	1.408	62	10588	1.90	ppb		95
5) Bromomethane	1.634	94	6758	2.23	ppb		95
6) Chloroethane	1.713	64	7384	2.20	ppb		96
7) Freon 21	1.866	67	12954	2.08	ppb		88
8) Trichlorofluoromethane	1.908	101	8611	1.90	ppb		97
9) Diethyl Ether	2.152	59	8209	2.06	ppb	#	78
10) Freon 123a	2.158	67	9121	2.10	ppb		88
11) Freon 123	2.213	83	10101	2.11	ppb		95
12) Acrolein	2.268	56	10204	9.18	ppb		95
13) 1,1-Diclethene	2.335	96	6046	1.97	ppb		91
14) Freon 113	2.335	101	5624	1.88	ppb		95
15) Acetone	2.408	43	7392	2.89	ppb		92
16) 2-Propanol	2.548	45	20371	35.05	ppb		94
17) Iodomethane	2.475	142	3749	1.06	ppb		90
18) Carbon Disulfide	2.530	76	17455	1.90	ppb		98
19) Acetonitrile	2.670	40	4219m	10.78	ppb		
20) Allyl Chloride	2.682	76	3403m	1.94	ppb		
21) Methyl Acetate	2.713	43	9886	1.95	ppb		99
22) Methylene Chloride	2.804	84	8425	2.11	ppb		96
23) TBA	2.957	59	30839	35.84	ppb		97
24) Acrylonitrile	3.085	53	25317m	9.71	ppb		
25) Methyl-t-Butyl Ether	3.109	73	27102	2.10	ppb		94
26) trans-1,2-Dichloroethene	3.085	96	6440	1.92	ppb	#	81
28) 1,1-Diclethane	3.603	63	13825	2.00	ppb		82
29) Vinyl Acetate	3.694	86	1040	1.38	ppb	#	1
30) DIPE	3.713	45	30856	2.05	ppb	#	67
31) 2-Chloro-1,3-Butadiene	3.713	53	11211	2.01	ppb		93
32) ETBE	4.243	59	27551	2.04	ppb		91
33) 2,2-Dichloropropane	4.444	77	9871	1.95	ppb		98
34) cis-1,2-Dichloroethene	4.457	96	7392m	1.94	ppb		
35) 2-Butanone	4.554	43	6761	1.89	ppb		79
36) Propionitrile	4.646	54	10399	9.39	ppb		89
37) Bromochloromethane	4.877	130	4626m	2.04	ppb		
38) Methacrylonitrile	4.889	67	5066	1.93	ppb		97
39) Tetrahydrofuran	4.993	42	9111	3.10	ppb		84
40) Chloroform	5.036	83	13238	2.18	ppb		97
41) 1,1,1-Trichloroethane	5.310	97	10060	2.07	ppb		94

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.145	73	25269	2.03	ppb		92
44) Cyclohexane	5.371	41	9499m	2.26	ppb		
46) Carbontetrachloride	5.566	117	6578	1.81	ppb	#	78
47) 1,1-Dichloropropene	5.597	75	10262	2.02	ppb		90
49) Benzene	5.914	78	32447	2.05	ppb		98
50) 1,2-Dichloroethane	5.975	62	10578	1.97	ppb		96
51) Iso-Butyl Alcohol	5.981	43	13703	30.44	ppb		95
52) n-Heptane	6.359	43	12155	2.06	ppb		89
53) 1-Butanol	6.919	56	20367	78.91	ppb		92
54) Trichloroethene	6.846	130	7197	2.05	ppb		84
55) Methylcyclohexane	7.060	55	11777	2.08	ppb		98
56) 1,2-Diclpropane	7.145	63	8271	1.90	ppb		88
57) Dibromomethane	7.279	93	3989	1.84	ppb	#	73
58) 1,4-Dioxane	7.371	88	3897m	38.75	ppb		
59) Methyl Methacrylate	7.358	69	7981	1.97	ppb		87
60) Bromodichloromethane	7.499	83	8278	1.97	ppb		94
61) 2-Nitropropane	7.810	41	2627	3.96	ppb	#	41
62) 2-Chloroethylvinyl Ether	7.907	63	4985	1.68	ppb		93
63) cis-1,3-Dichloropropene	8.035	75	11826	1.90	ppb		96
64) 4-Methyl-2-pentanone	8.248	43	11806	1.75	ppb		87
66) Toluene	8.389	91	32857	2.05	ppb		89
67) trans-1,3-Dichloropropene	8.675	75	10527	1.83	ppb		88
68) Ethyl Methacrylate	8.803	69	13696	1.93	ppb		89
69) 1,1,2-Trichloroethane	8.858	97	7060	1.99	ppb		96
72) Tetrachloroethene	8.968	164	6105	2.23	ppb	#	92
73) 2-Hexanone	9.157	43	9152	1.81	ppb		91
74) 1,3-Dichloropropane	9.029	76	13358	1.97	ppb		93
75) Dibromochloromethane	9.248	129	5263	1.87	ppb	#	79
76) N-Butyl Acetate	9.297	43	18028	1.87	ppb		99
77) 1,2-Dibromoethane	9.352	107	7101	2.00	ppb		92
78) Chlorobenzene	9.827	112	19785	1.98	ppb		98
79) 3-CBTF	9.840	180	10091	1.96	ppb	#	77
80) 4-CBTF	9.901	180	9062	1.95	ppb		93
81) 1,1,1,2-Tetrachloroethane	9.919	131	5762	1.93	ppb		92
82) Ethylbenzene	9.943	106	10680	1.97	ppb		93
83) (m+p)Xylene	10.053	106	27396	4.18	ppb	#	82
84) o-Xylene	10.407	106	12214	1.83	ppb		98
85) Styrene	10.425	104	22252	2.01	ppb		89
87) Bromoform	10.589	173	3004	1.86	ppb		81
88) 2-CBTF	10.657	180	10778	2.24	ppb		95
89) Isopropylbenzene	10.742	105	34745	2.21	ppb		92
90) Cyclohexanone	10.833	55	31514	46.81	ppb		96
91) trans-1,4-Dichloro-2-B...	11.065	53	3193	1.84	ppb		92
92) 1,1,2,2-Tetrachloroethane	11.016	83	10154	1.94	ppb		96
93) Bromobenzene	10.992	156	8388	2.16	ppb	#	67
94) 1,2,3-Trichloropropane	11.047	110	3570	2.07	ppb	#	88
95) n-Propylbenzene	11.095	91	41871	2.22	ppb		98
96) 2-Chlorotoluene	11.156	91	25518	2.14	ppb		95
97) 3-Chlorotoluene	11.217	91	26900	2.23	ppb		93
98) 4-Chlorotoluene	11.254	91	27810	2.17	ppb		93
99) 1,3,5-Trimethylbenzene	11.248	105	28082	2.14	ppb		96
100) tert-Butylbenzene	11.516	119	25012	2.17	ppb		98
101) 1,2,4-Trimethylbenzene	11.559	105	28690	2.20	ppb		95
102) 3,4-DCBTF	11.620	214	8961	2.26	ppb		87
103) sec-Butylbenzene	11.699	105	36777	2.20	ppb		99
104) p-Isopropyltoluene	11.821	119	30649	2.14	ppb		98

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.784	146	16881	2.18	ppb		90
106) 1,4-Dclbenz	11.864	146	16730	2.11	ppb		91
107) 2,4-DCBTF	11.912	214	7816m	2.16	ppb		
108) 2,5-DCBTF	11.955	214	7910	1.96	ppb	#	89
109) n-Butylbenzene	12.150	91	29811	2.13	ppb		98
110) 1,2-Dclbenz	12.162	146	16819	2.20	ppb		89
111) 1,2-Dibromo-3-chloropr...	12.790	157	1981	1.63	ppb		94
112) Trielution Dichlorotol...	12.900	125	45692	6.53	ppb		97
113) 1,3,5 Trichlorobenzene	12.949	180	12615	2.20	ppb	#	92
114) Coelution Dichlorotoluene	13.229	125	32329	4.13	ppb		92
115) 1,2,4-Tcbenzene	13.436	180	13089	2.22	ppb		98
116) Hexachlorobt	13.565	225	4028	1.71	ppb	#	73
117) Naphthalen	13.632	128	41157	2.22	ppb		97
118) 1,2,3-Tclbenzene	13.814	180	12584	2.16	ppb		91
119) 2,4,5-Trichlorotolene	14.394	159	9498	2.14	ppb		98
120) 2,3,6-Trichlorotoluene	14.479	159	9583m	2.09	ppb		

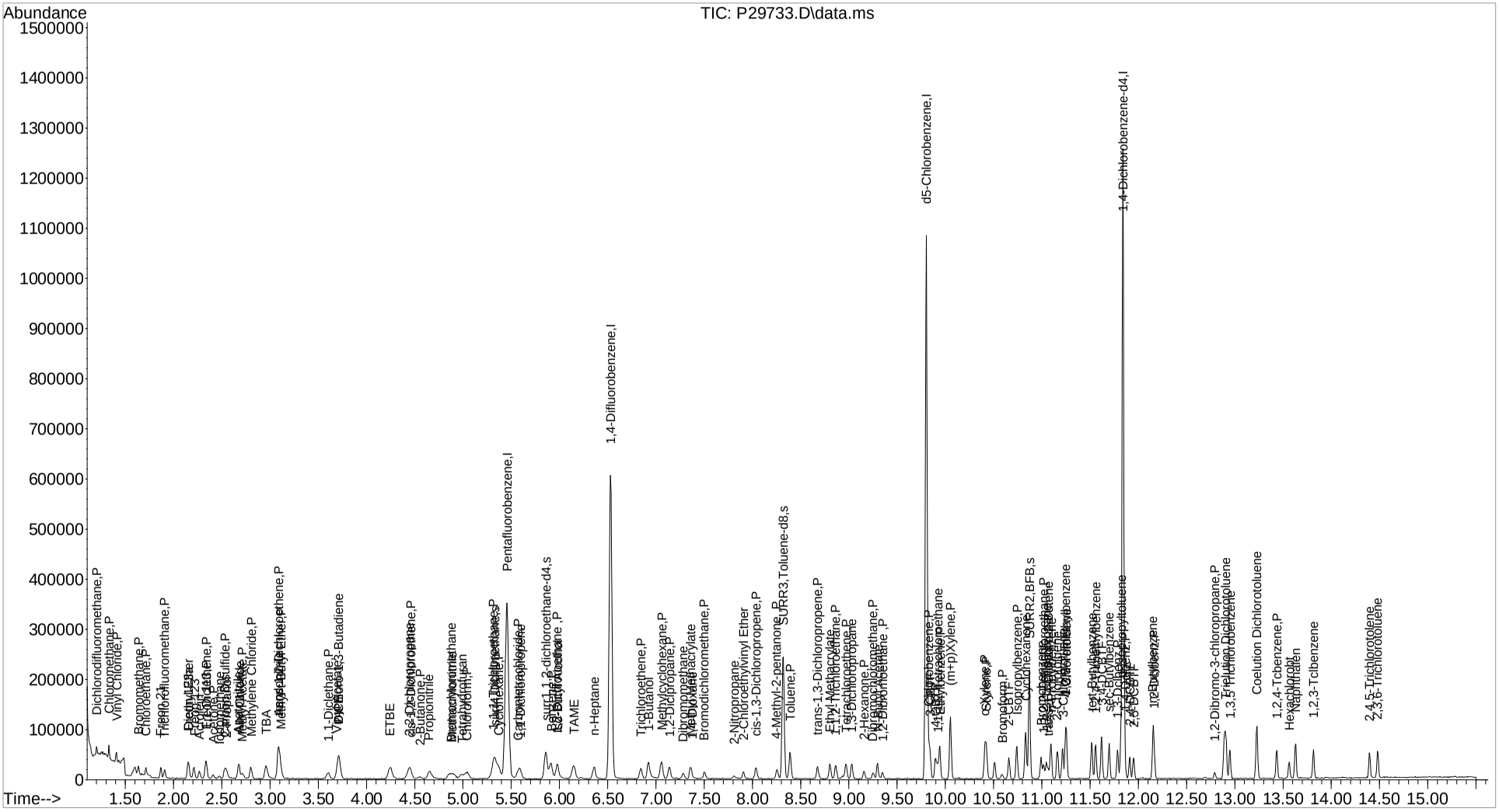
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

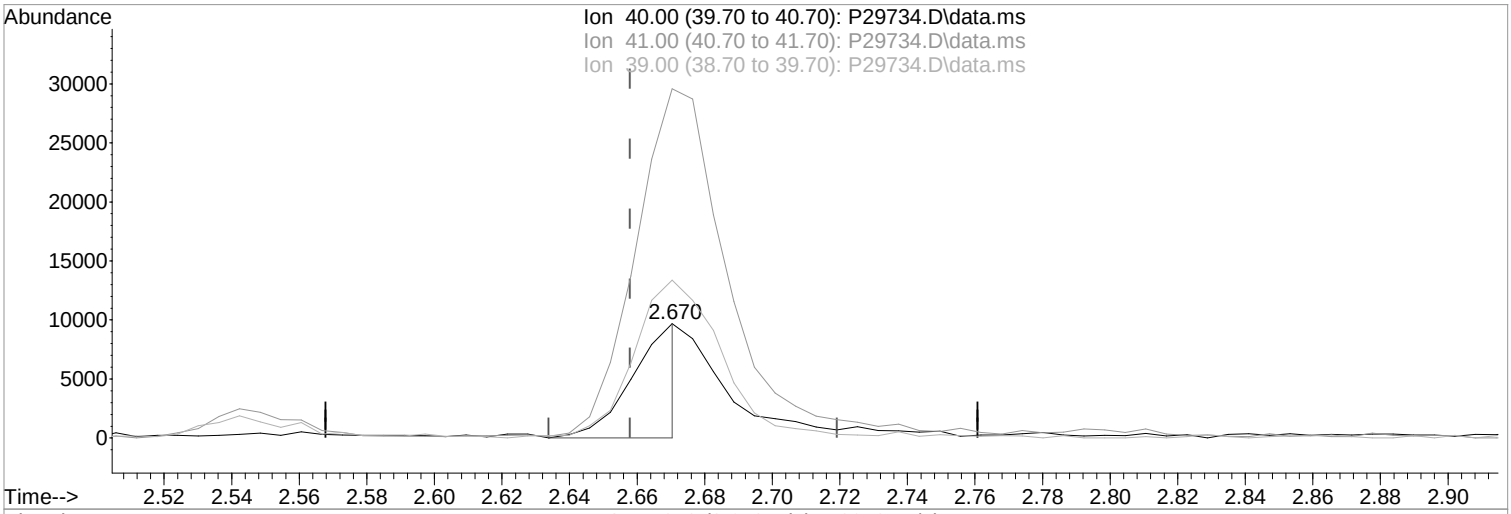


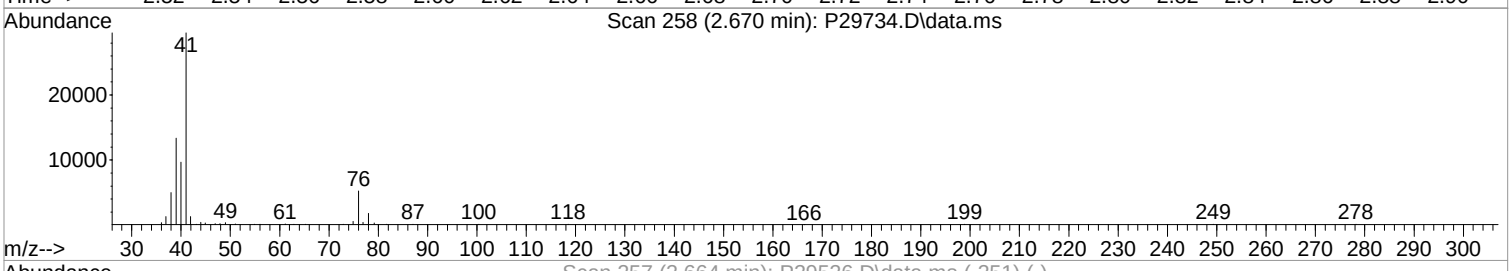
1st 09/12/19
2nd 09/12/19

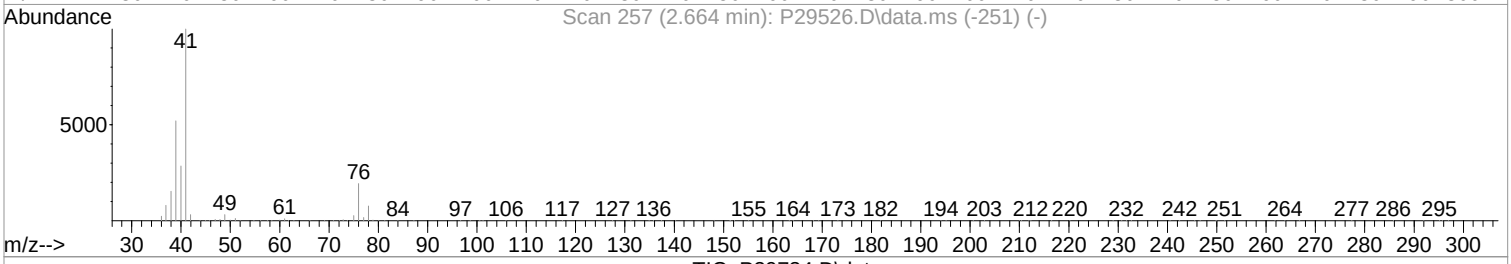
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:22:30 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29734.D\data.ms

(19) Acetonitrile

2.670min (+0.013) 23.94 ppb m

response 9489

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	305.03#
39.00	137.60	137.88
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

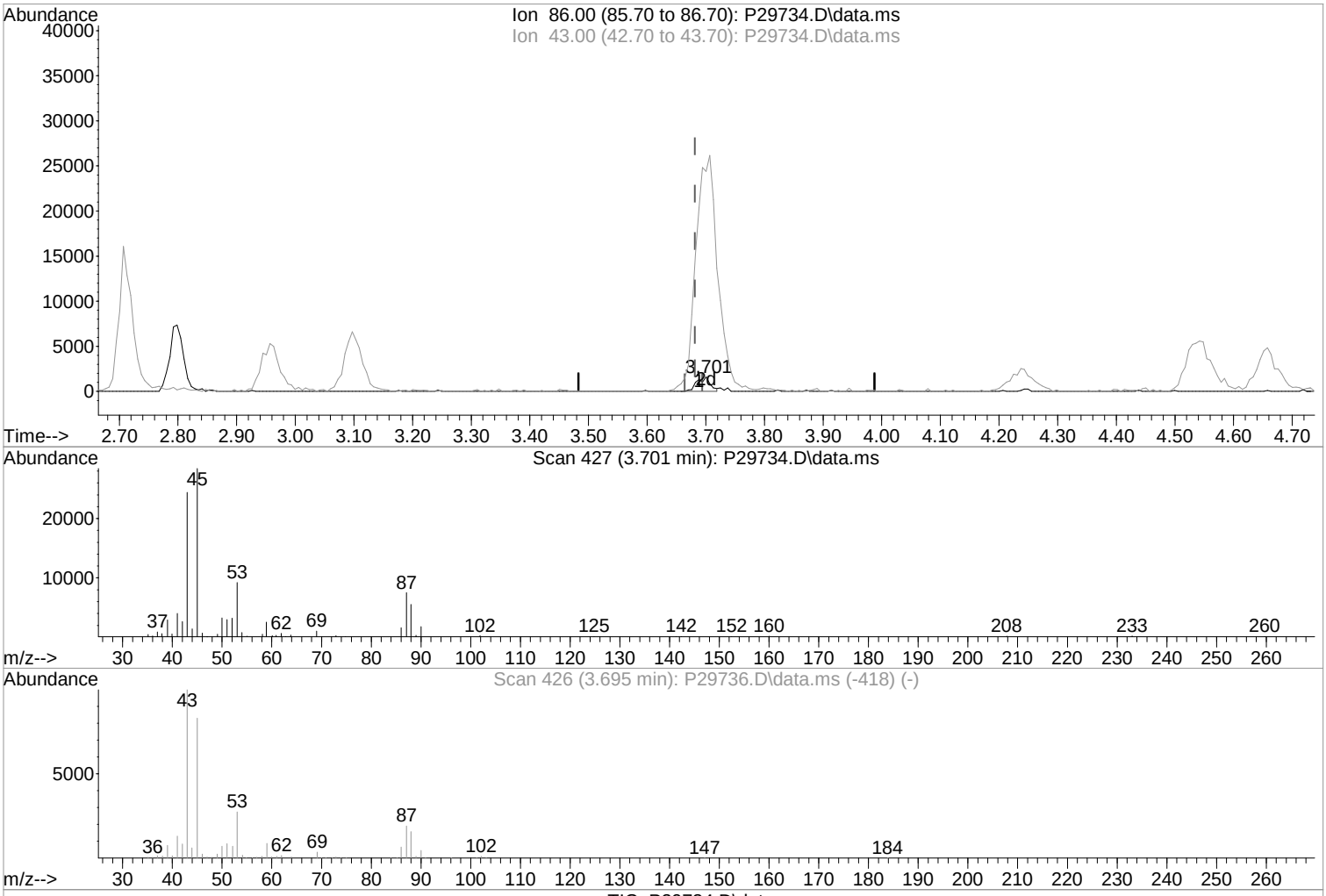
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:39:05 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29734.D\data.ms

(29) Vinyl Acetate

3.701min (+0.019) 3.32 ppb m

response 2535

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	1533.58#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

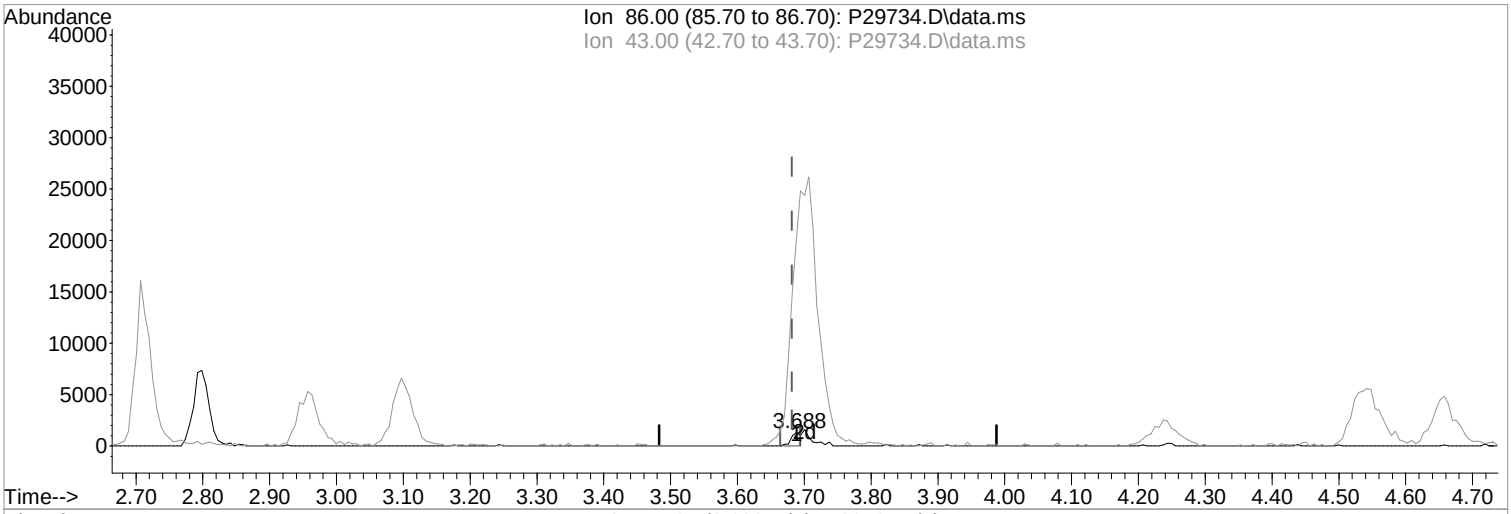
09/12/19

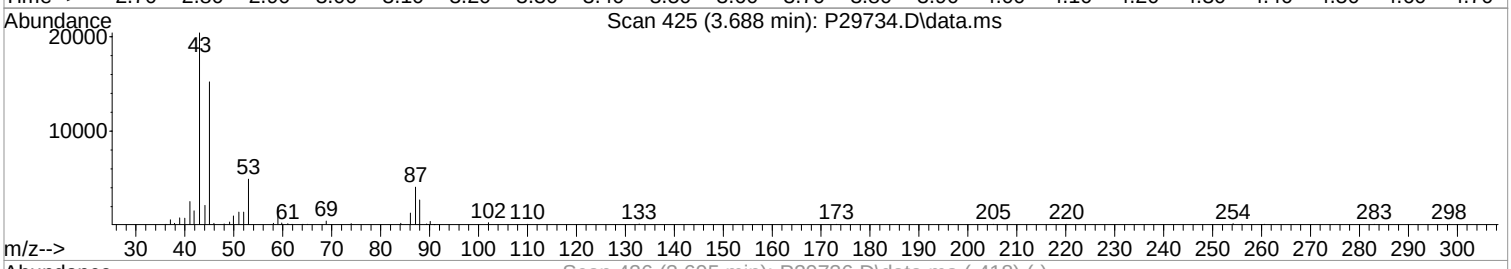
1st 09/12/19
2nd 09/12/19

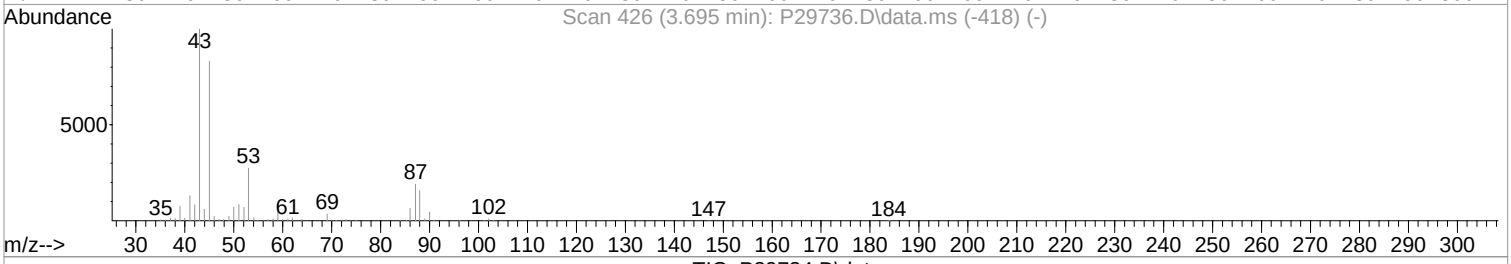
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:39:05 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29734.D\data.ms

(29) Vinyl Acetate

3.688min (+0.006) 1.80 ppb

response 1370

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	1554.91
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

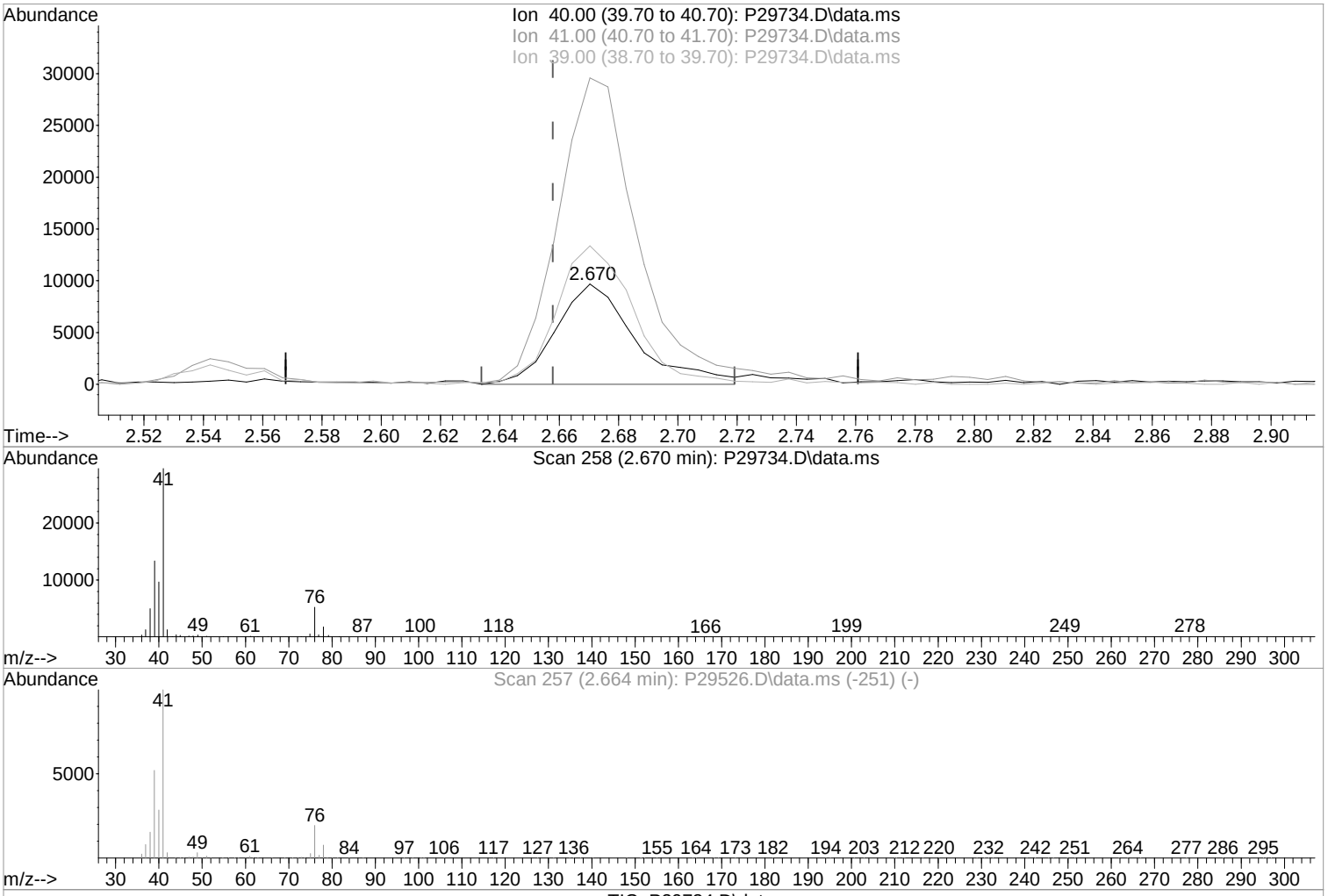
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:22:30 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29734.D\data.ms

(19) Acetonitrile

2.670min (+0.013) 45.71 ppb

response 18120

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	305.03#
39.00	137.60	137.88
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.450	168	318121	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	515646	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	461611	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	240152	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	30688	11.23	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 22.46%#				
48) surr1,1,2-dichloroetha...	5.859	65	41075	10.86	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 21.72%#				
65) SURR3,Toluene-d8	8.316	98	149291	11.60	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.20%#				
70) SURR2,BFB	10.870	95	54511	10.89	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 21.78%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	15356	3.91	ppb		98
3) Chloromethane	1.323	50	25770	4.25	ppb		96
4) Vinyl Chloride	1.402	62	25775	4.56	ppb		98
5) Bromomethane	1.622	94	15128	4.93	ppb		97
6) Chloroethane	1.707	64	14892	4.37	ppb		89
7) Freon 21	1.866	67	31323	4.97	ppb		98
8) Trichlorofluoromethane	1.902	101	20569	4.49	ppb		96
9) Diethyl Ether	2.146	59	20126	4.98	ppb		92
10) Freon 123a	2.152	67	21122	4.79	ppb		97
11) Freon 123	2.207	83	23326	4.80	ppb		96
12) Acrolein	2.262	56	26951	23.94	ppb		91
13) 1,1-Diclethene	2.329	96	14784	4.75	ppb	#	81
14) Freon 113	2.335	101	13494	4.46	ppb		85
15) Acetone	2.408	43	13756	5.31	ppb		100
16) 2-Propanol	2.542	45	55759	94.71	ppb		99
17) Iodomethane	2.469	142	12015	3.35	ppb		96
18) Carbon Disulfide	2.524	76	41122	4.41	ppb		98
19) Acetonitrile	2.670	40	9489m	23.94	ppb		
20) Allyl Chloride	2.676	76	8923	5.02	ppb	#	93
21) Methyl Acetate	2.707	43	25213	4.91	ppb		98
22) Methylene Chloride	2.798	84	19640	4.85	ppb		94
23) TBA	2.957	59	79737	91.50	ppb		99
24) Acrylonitrile	3.079	53	67984	25.75	ppb		97
25) Methyl-t-Butyl Ether	3.103	73	66938	5.11	ppb		97
26) trans-1,2-Dichloroethene	3.085	96	16397	4.82	ppb		89
28) 1,1-Diclethane	3.597	63	33558	4.80	ppb		93
29) Vinyl Acetate	3.701	86	2535m	3.32	ppb		
30) DIPE	3.707	45	73173	4.81	ppb		92
31) 2-Chloro-1,3-Butadiene	3.707	53	26452	4.68	ppb		98
32) ETBE	4.237	59	68875	5.03	ppb		95
33) 2,2-Dichloropropane	4.432	77	22052	4.30	ppb		92
34) cis-1,2-Dichloroethene	4.444	96	18741	4.84	ppb	#	81
35) 2-Butanone	4.542	43	17346	4.80	ppb		89
36) Propionitrile	4.639	54	27064	24.13	ppb		99
37) Bromochloromethane	4.853	130	11430	4.98	ppb	#	89
38) Methacrylonitrile	4.902	67	12154	4.58	ppb	#	78
39) Tetrahydrofuran	4.975	42	15732	5.28	ppb	#	55
40) Chloroform	5.036	83	29460	4.78	ppb		91
41) 1,1,1-Trichloroethane	5.304	97	23585	4.80	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	66026	5.23	ppb		95
44) Cyclohexane	5.365	41	18586	4.51	ppb		94
46) Carbontetrachloride	5.566	117	16680	4.68	ppb		92
47) 1,1-Dichloropropene	5.591	75	24371	4.89	ppb		93
49) Benzene	5.908	78	74800	4.83	ppb		94
50) 1,2-Dichloroethane	5.975	62	27114	5.15	ppb		88
51) Iso-Butyl Alcohol	5.981	43	41965	95.08	ppb		89
52) n-Heptane	6.353	43	26345	4.54	ppb		82
53) 1-Butanol	6.920	56	59178	233.85	ppb		97
54) Trichloroethene	6.840	130	16117	4.68	ppb		92
55) Methylcyclohexane	7.060	55	27159	4.89	ppb		93
56) 1,2-Diclpropane	7.133	63	20327	4.75	ppb		83
57) Dibromomethane	7.279	93	10317	4.86	ppb		99
58) 1,4-Dioxane	7.358	88	9266	93.96	ppb		83
59) Methyl Methacrylate	7.358	69	19701	4.95	ppb		96
60) Bromodichloromethane	7.505	83	20432	4.96	ppb		91
61) 2-Nitropropane	7.810	41	5234	8.05	ppb	#	74
62) 2-Chloroethylvinyl Ether	7.907	63	14186	4.89	ppb		97
63) cis-1,3-Dichloropropene	8.035	75	30513	4.99	ppb		95
64) 4-Methyl-2-pentanone	8.255	43	30654	4.63	ppb		96
66) Toluene	8.389	91	78273	4.99	ppb		97
67) trans-1,3-Dichloropropene	8.675	75	27135	4.82	ppb		92
68) Ethyl Methacrylate	8.803	69	32552	4.67	ppb		97
69) 1,1,2-Trichloroethane	8.864	97	18294	5.26	ppb		94
72) Tetrachloroethene	8.968	164	12992	4.67	ppb	#	84
73) 2-Hexanone	9.157	43	24098	4.69	ppb		96
74) 1,3-Dichloropropane	9.029	76	35214	5.09	ppb		94
75) Dibromochloromethane	9.248	129	13675	4.78	ppb		95
76) N-Butyl Acetate	9.297	43	51146	5.22	ppb		98
77) 1,2-Dibromoethane	9.346	107	17839	4.95	ppb		99
78) Chlorobenzene	9.827	112	49884	4.90	ppb		96
79) 3-CBTF	9.846	180	25983	4.95	ppb		89
80) 4-CBTF	9.901	180	22427	4.74	ppb		92
81) 1,1,1,2-Tetrachloroethane	9.919	131	14435	4.76	ppb		93
82) Ethylbenzene	9.943	106	25867	4.68	ppb		98
83) (m+p)Xylene	10.053	106	67991	10.18	ppb		94
84) o-Xylene	10.413	106	32574	4.79	ppb		97
85) Styrene	10.425	104	56257	5.00	ppb		98
87) Bromoform	10.583	173	8059	4.79	ppb		89
88) 2-CBTF	10.663	180	23639	4.72	ppb		96
89) Isopropylbenzene	10.742	105	87280	5.33	ppb		96
90) Cyclohexanone	10.833	55	77728	110.97	ppb		93
91) trans-1,4-Dichloro-2-B...	11.059	53	8817	4.88	ppb	#	74
92) 1,1,2,2-Tetrachloroethane	11.022	83	27544	5.05	ppb		90
93) Bromobenzene	10.992	156	19537	4.84	ppb		91
94) 1,2,3-Trichloropropane	11.047	110	9684	5.39	ppb	#	79
95) n-Propylbenzene	11.096	91	100647	5.13	ppb		98
96) 2-Chlorotoluene	11.156	91	64901	5.24	ppb		98
97) 3-Chlorotoluene	11.217	91	66036	5.25	ppb		98
98) 4-Chlorotoluene	11.254	91	69452	5.20	ppb		99
99) 1,3,5-Trimethylbenzene	11.248	105	69678	5.11	ppb		98
100) tert-Butylbenzene	11.516	119	62672	5.22	ppb		93
101) 1,2,4-Trimethylbenzene	11.559	105	68078	5.02	ppb		99
102) 3,4-DCBTF	11.620	214	18845	4.56	ppb		97
103) sec-Butylbenzene	11.699	105	87677	5.04	ppb		99
104) p-Isopropyltoluene	11.821	119	74736	5.02	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.784	146	39864	4.96	ppb		95
106) 1,4-Dclbenz	11.858	146	40553	4.93	ppb		95
107) 2,4-DCBTF	11.912	214	18477	4.90	ppb		91
108) 2,5-DCBTF	11.955	214	20656	4.92	ppb		97
109) n-Butylbenzene	12.150	91	75622	5.20	ppb		96
110) 1,2-Dclbenz	12.162	146	40816	5.13	ppb		94
111) 1,2-Dibromo-3-chloropr...	12.796	157	5409	4.29	ppb		89
112) Trielution Dichlorotol...	12.900	125	111013	15.26	ppb		96
113) 1,3,5 Trichlorobenzene	12.949	180	29013	4.87	ppb	#	94
114) Coelution Dichlorotoluene	13.229	125	84438	10.36	ppb		97
115) 1,2,4-Tcbenzene	13.437	180	29801	4.86	ppb		95
116) Hexachlorobt	13.565	225	12514	5.10	ppb		85
117) Naphthalen	13.632	128	106004	5.50	ppb		98
118) 1,2,3-Tclbenzene	13.815	180	29631	4.90	ppb		96
119) 2,4,5-Trichlorotolene	14.400	159	23217	5.03	ppb		92
120) 2,3,6-Trichlorotoluene	14.479	159	25129	5.27	ppb		95

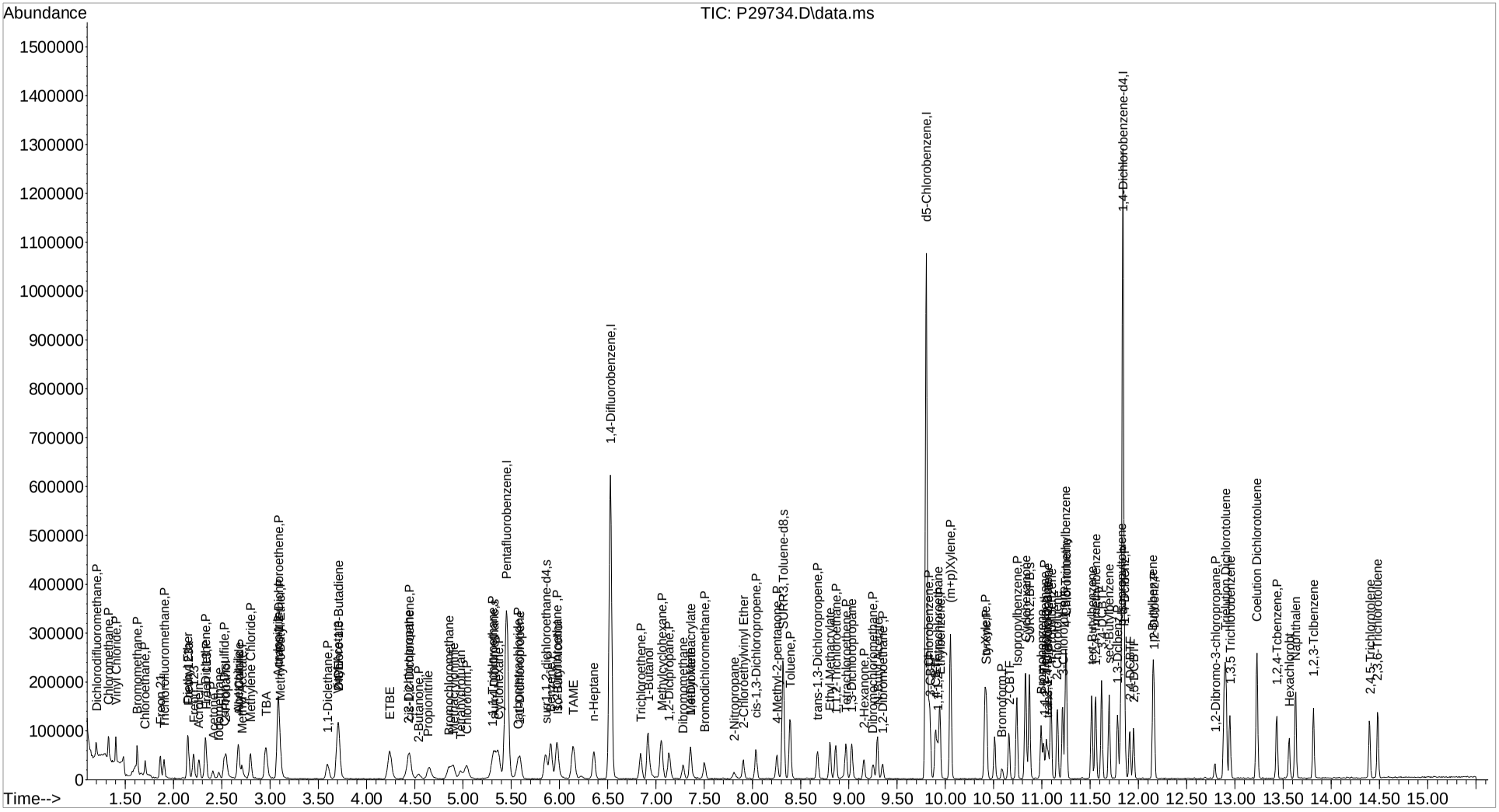
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

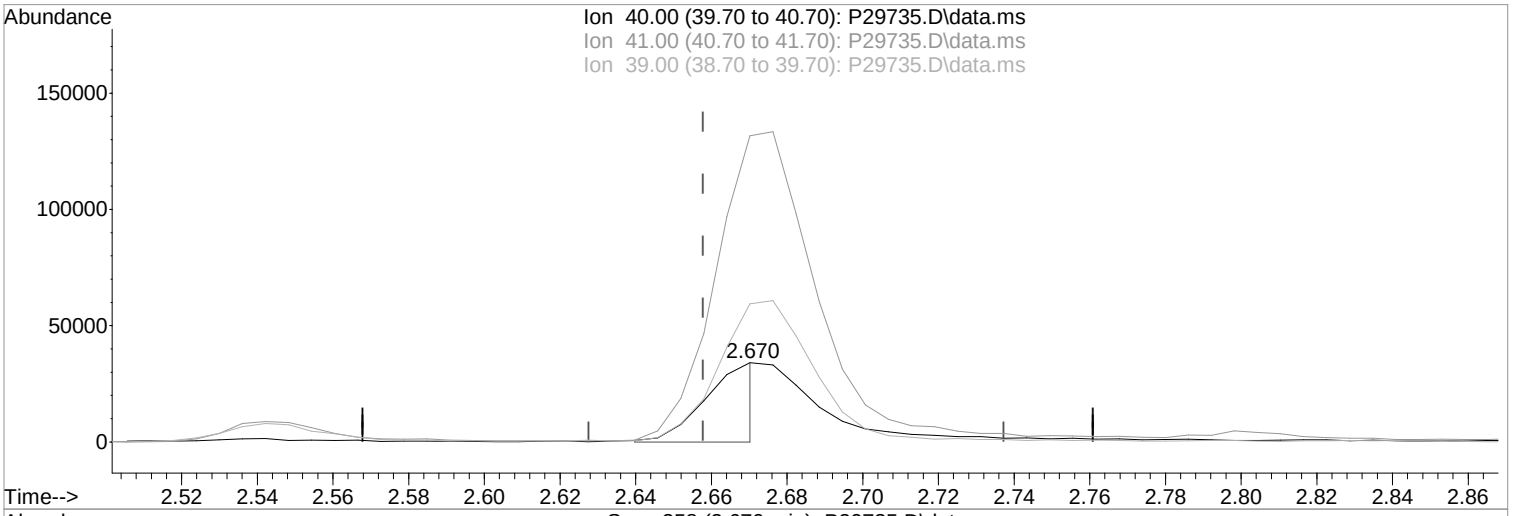


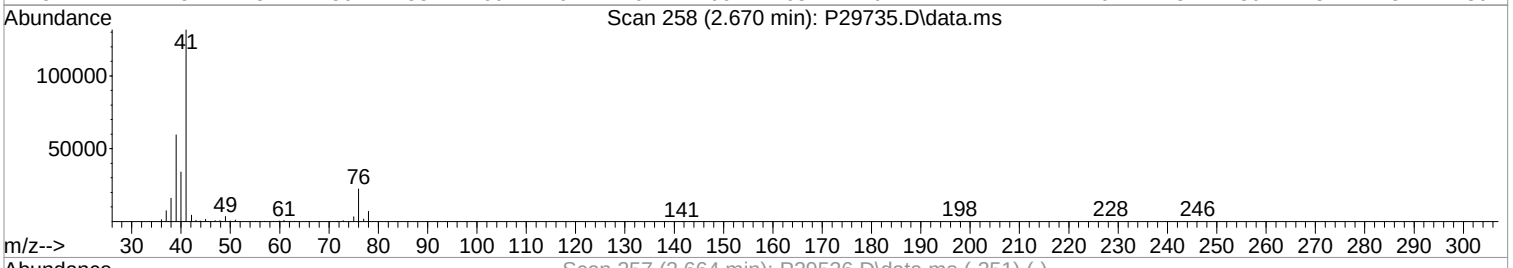
1st 09/12/19
2nd 09/12/19

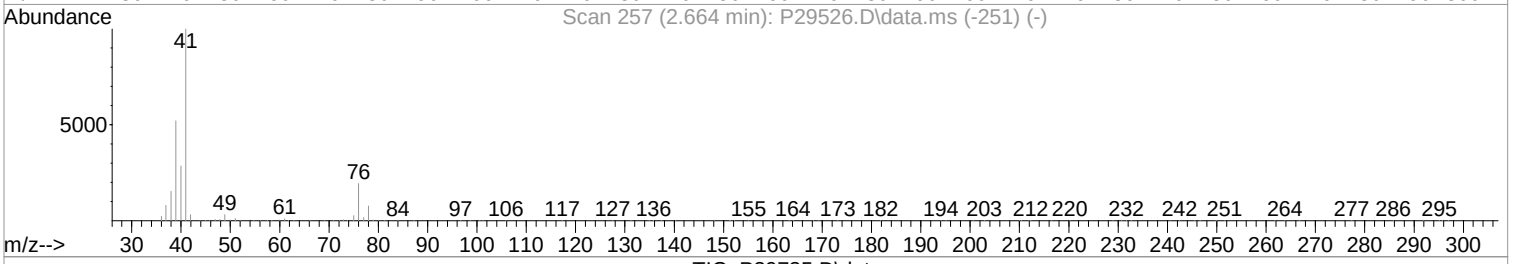
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:22:33 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 83.25 ppb m

response 32923

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	386.47#
39.00	137.60	174.50#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

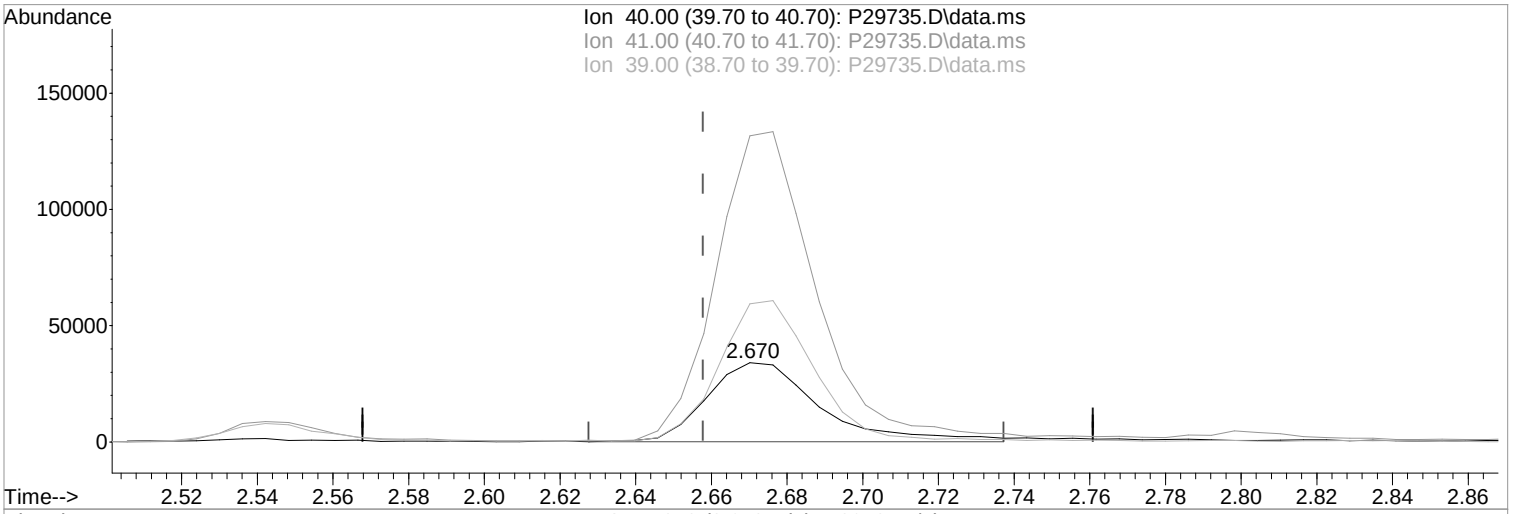
09/12/19

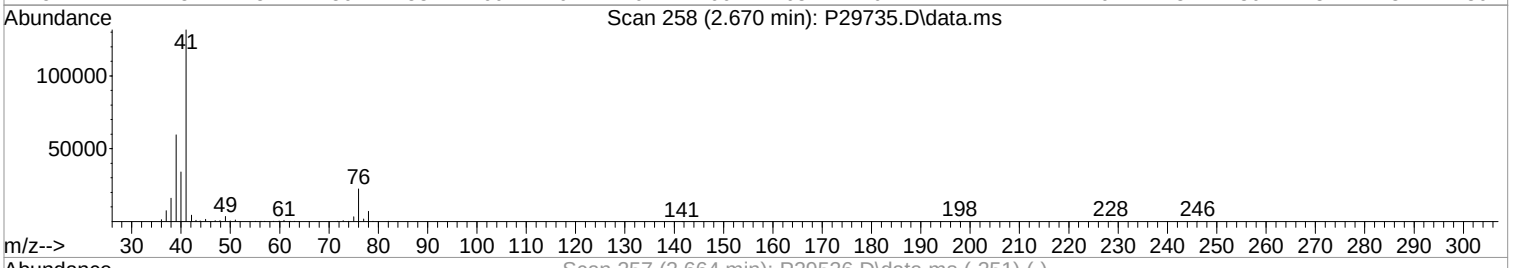
1st 09/12/19
2nd 09/12/19

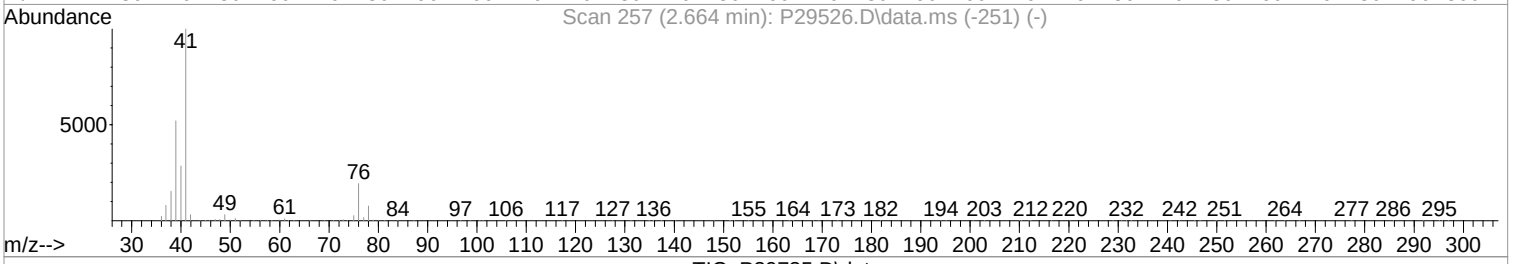
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:22:33 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 177.59 ppb

response 70228

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	386.47#
39.00	137.60	174.50#
0.00	0.00	0.00

Manual Integration:

Before

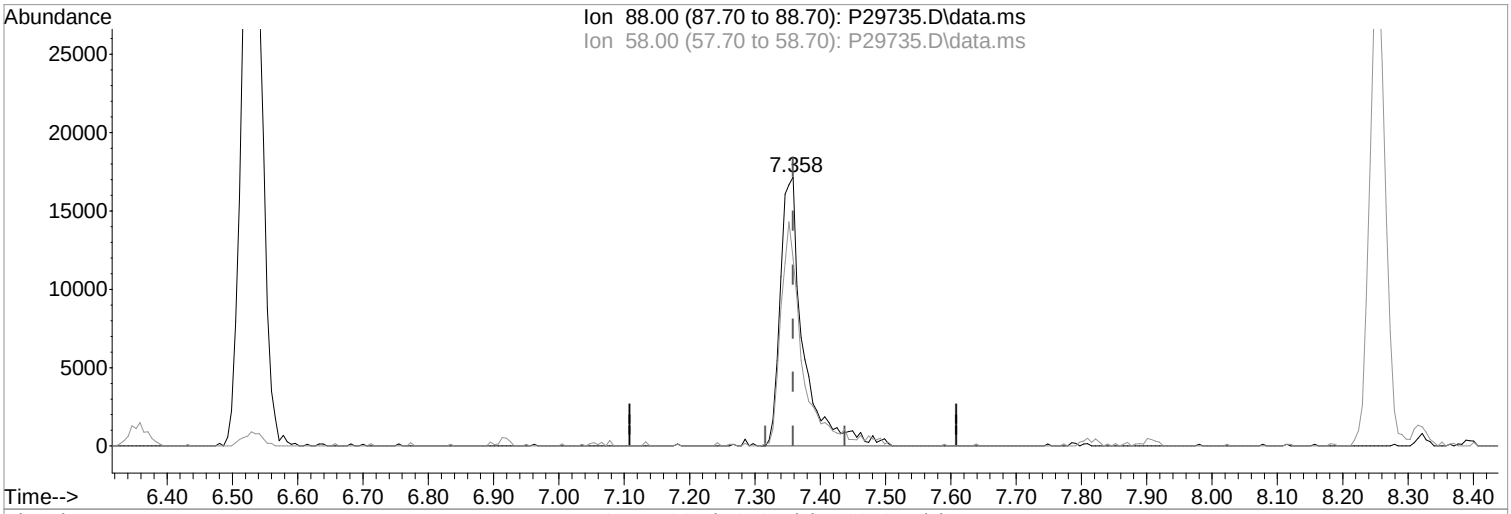
09/12/19

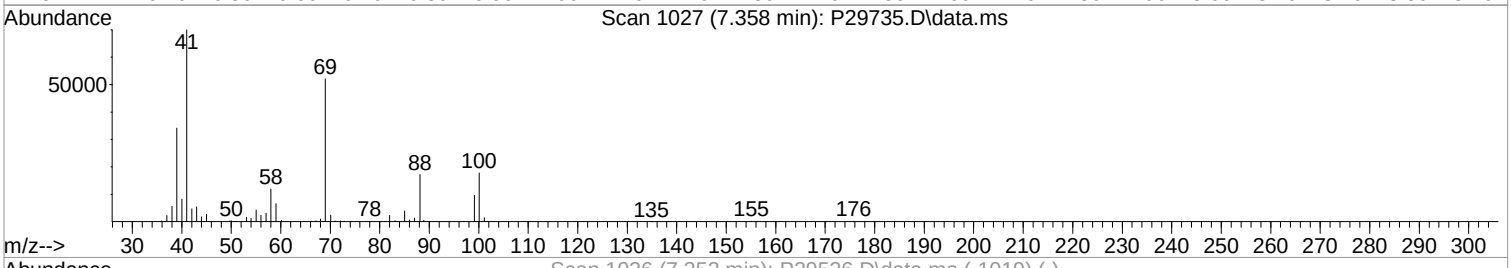
1st 09/12/19
2nd 09/12/19

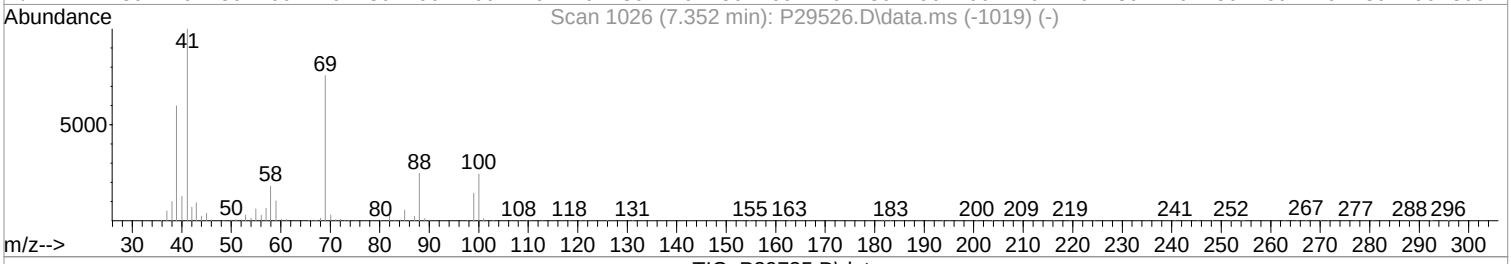
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 17:20:57 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Wed Sep 11 16:56:27 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(58) 1,4-Dioxane

7.358min (+0.000) 443.88 ppb m

response 41982

Ion	Exp%	Act%
88.00	100	100
58.00	72.10	69.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

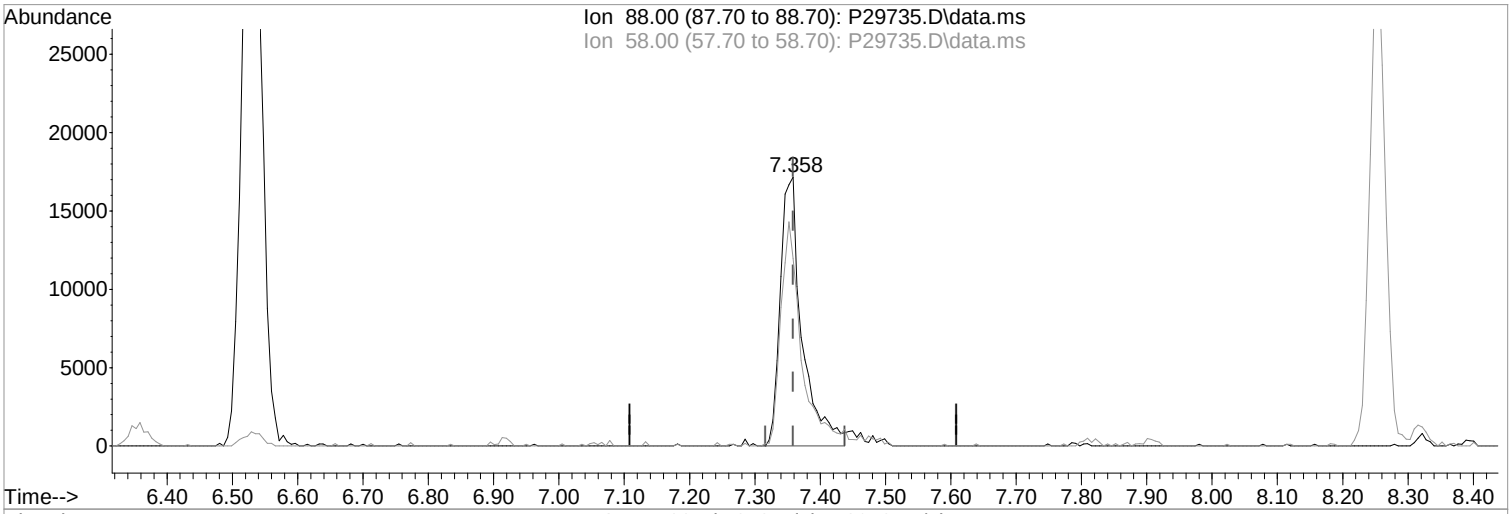
09/11/19

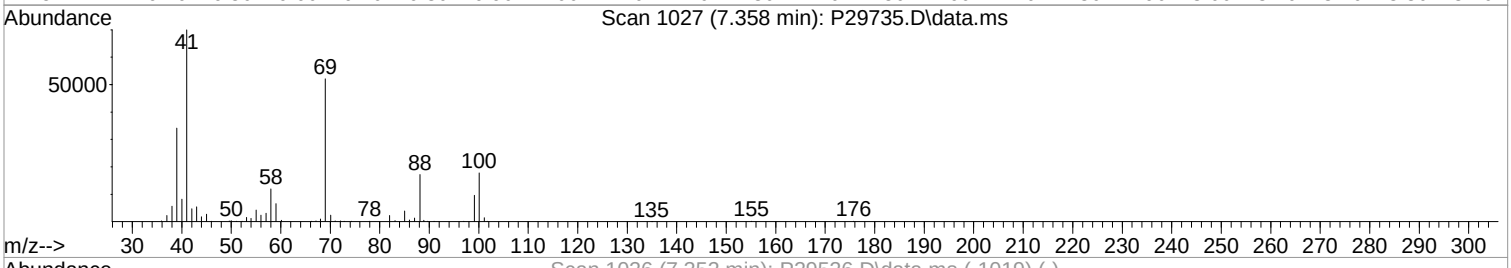
1st 09/12/19
2nd 09/12/19

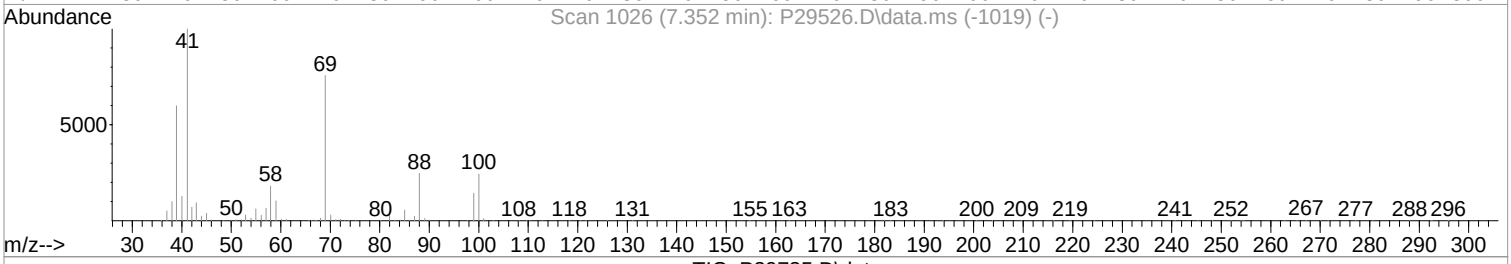
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 17:20:57 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Wed Sep 11 16:56:27 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(58) 1,4-Dioxane

7.358min (+0.000) 421.76 ppb

response 39890

Ion	Exp%	Act%
88.00	100	100
58.00	72.10	69.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/11/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	317354	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	537506	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	469086	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	248315	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	51567	18.10	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 36.20%#				
48) surr1,1,2-dichloroetha...	5.859	65	70941	18.00	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 36.00%#				
65) SURR3,Toluene-d8	8.322	98	255173	19.03	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 38.06%#				
70) SURR2,BFB	10.870	95	96353	18.47	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 36.94%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	89406	22.79	ppb		98
3) Chloromethane	1.329	50	122906	20.34	ppb		95
4) Vinyl Chloride	1.402	62	120753	21.41	ppb		98
5) Bromomethane	1.634	94	52501	17.15	ppb		100
6) Chloroethane	1.713	64	70559	20.77	ppb		98
7) Freon 21	1.865	67	131742	20.95	ppb		100
8) Trichlorofluoromethane	1.908	101	97211	21.25	ppb		95
9) Diethyl Ether	2.146	59	84878	21.05	ppb		96
10) Freon 123a	2.152	67	89375	20.33	ppb		100
11) Freon 123	2.207	83	98697	20.36	ppb		98
12) Acrolein	2.262	56	114158	101.65	ppb		96
13) 1,1-Diclethene	2.335	96	63876	20.57	ppb		95
14) Freon 113	2.335	101	62246	20.62	ppb		99
15) Acetone	2.408	43	53418	20.68	ppb		95
16) 2-Propanol	2.542	45	230110	391.81	ppb		96
17) Iodomethane	2.469	142	74189	20.75	ppb		100
18) Carbon Disulfide	2.524	76	192186	20.66	ppb		100
19) Acetonitrile	2.670	40	32923m	83.25	ppb		
20) Allyl Chloride	2.676	76	40803	23.02	ppb	#	90
21) Methyl Acetate	2.713	43	108490	21.20	ppb		96
22) Methylene Chloride	2.798	84	80354	19.87	ppb		92
23) TBA	2.957	59	354620	407.90	ppb		98
24) Acrylonitrile	3.085	53	281621	106.95	ppb		99
25) Methyl-t-Butyl Ether	3.097	73	282084	21.59	ppb		97
26) trans-1,2-Dichloroethene	3.085	96	70745	20.83	ppb		89
28) 1,1-Diclethane	3.597	63	149744	21.47	ppb		98
29) Vinyl Acetate	3.694	86	17336	22.78	ppb		97
30) DIPE	3.707	45	327561	21.57	ppb		94
31) 2-Chloro-1,3-Butadiene	3.713	53	119044	21.11	ppb		91
32) ETBE	4.243	59	285452	20.88	ppb		97
33) 2,2-Dichloropropane	4.432	77	105202	20.58	ppb		96
34) cis-1,2-Dichloroethene	4.444	96	81603	21.15	ppb		88
35) 2-Butanone	4.536	43	73905	20.49	ppb		94
36) Propionitrile	4.645	54	116379	103.99	ppb		100
37) Bromochloromethane	4.859	130	45334	19.81	ppb		94
38) Methacrylonitrile	4.901	67	52864	19.97	ppb		96
39) Tetrahydrofuran	4.969	42	54413	18.31	ppb		91
40) Chloroform	5.036	83	122909	20.00	ppb		99
41) 1,1,1-Trichloroethane	5.310	97	102067	20.83	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) TAME	6.139	73	267274	21.22	ppb	94
44) Cyclohexane	5.371	41	90924	21.18	ppb	84
46) Carbontetrachloride	5.572	117	72254	19.43	ppb	91
47) 1,1-Dichloropropene	5.590	75	103006	19.81	ppb	99
49) Benzene	5.913	78	331895	20.54	ppb	97
50) 1,2-Dichloroethane	5.974	62	109411	19.92	ppb	97
51) Iso-Butyl Alcohol	5.968	43	177489	385.76	ppb	96
52) n-Heptane	6.359	43	121430	20.09	ppb	93
53) 1-Butanol	6.913	56	263125	997.48	ppb	97
54) Trichloroethene	6.846	130	72390	20.15	ppb	93
55) Methylcyclohexane	7.060	55	118721	20.50	ppb	93
56) 1,2-Diclpropane	7.139	63	92042	20.64	ppb	93
57) Dibromomethane	7.279	93	44313	20.04	ppb	91
58) 1,4-Dioxane	7.358	88	41207	400.87	ppb	93
59) Methyl Methacrylate	7.358	69	87638	21.11	ppb	99
60) Bromodichloromethane	7.505	83	86910	20.25	ppb	97
61) 2-Nitropropane	7.809	41	21115	31.14	ppb	94
62) 2-Chloroethylvinyl Ether	7.907	63	62335	20.61	ppb	98
63) cis-1,3-Dichloropropene	8.035	75	126927	19.91	ppb	98
64) 4-Methyl-2-pentanone	8.254	43	142152	20.60	ppb	98
66) Toluene	8.389	91	339286	20.76	ppb	98
67) trans-1,3-Dichloropropene	8.675	75	121280	20.68	ppb	94
68) Ethyl Methacrylate	8.803	69	151408	20.86	ppb	94
69) 1,1,2-Trichloroethane	8.864	97	76523	21.09	ppb	95
72) Tetrachloroethene	8.968	164	56102	19.83	ppb	92
73) 2-Hexanone	9.151	43	106930	20.48	ppb	98
74) 1,3-Dichloropropane	9.029	76	144206	20.50	ppb	97
75) Dibromochloromethane	9.254	129	56899	19.58	ppb	95
76) N-Butyl Acetate	9.297	43	219936	22.10	ppb	95
77) 1,2-Dibromoethane	9.346	107	74904	20.44	ppb	93
78) Chlorobenzene	9.827	112	209465	20.24	ppb	96
79) 3-CBTF	9.846	180	107255	20.11	ppb	96
80) 4-CBTF	9.894	180	98961	20.59	ppb	95
81) 1,1,1,2-Tetrachloroethane	9.919	131	63627	20.63	ppb	95
82) Ethylbenzene	9.943	106	116671	20.76	ppb	99
83) (m+p)Xylene	10.053	106	283811	41.81	ppb	91
84) o-Xylene	10.413	106	142100	20.57	ppb	99
85) Styrene	10.425	104	242594	21.21	ppb	98
87) Bromoform	10.589	173	34707	19.94	ppb	87
88) 2-CBTF	10.663	180	104170	20.10	ppb	99
89) Isopropylbenzene	10.742	105	374127	22.08	ppb	98
90) Cyclohexanone	10.833	55	300785	415.31	ppb	97
91) trans-1,4-Dichloro-2-B...	11.065	53	40265	21.54	ppb	90
92) 1,1,2,2-Tetrachloroethane	11.016	83	120615	21.37	ppb	94
93) Bromobenzene	10.992	156	84753	20.30	ppb	97
94) 1,2,3-Trichloropropane	11.047	110	36008	19.38	ppb	95
95) n-Propylbenzene	11.095	91	441498	21.78	ppb	99
96) 2-Chlorotoluene	11.162	91	268492	20.96	ppb	98
97) 3-Chlorotoluene	11.217	91	279003	21.47	ppb	97
98) 4-Chlorotoluene	11.254	91	294671	21.33	ppb	98
99) 1,3,5-Trimethylbenzene	11.248	105	303461	21.50	ppb	95
100) tert-Butylbenzene	11.516	119	263964	21.25	ppb	98
101) 1,2,4-Trimethylbenzene	11.559	105	307794	21.97	ppb	97
102) 3,4-DCBTF	11.620	214	88090	20.61	ppb	100
103) sec-Butylbenzene	11.699	105	395554	22.01	ppb	100
104) p-Isopropyltoluene	11.821	119	334791	21.76	ppb	100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	168242	20.23	ppb	99
106) 1,4-Dclbenz	11.864	146	171462	20.14	ppb	98
107) 2,4-DCBTF	11.912	214	76685	19.66	ppb	98
108) 2,5-DCBTF	11.955	214	87438	20.16	ppb	98
109) n-Butylbenzene	12.150	91	321739	21.38	ppb	99
110) 1,2-Dclbenz	12.162	146	167399	20.35	ppb	98
111) 1,2-Dibromo-3-chloropr...	12.796	157	25610	19.64	ppb	94
112) Trielution Dichlorotol...	12.906	125	475017	63.14	ppb	99
113) 1,3,5 Trichlorobenzene	12.949	180	125844	20.42	ppb	96
114) Coelution Dichlorotoluene	13.229	125	365691	43.39	ppb	96
115) 1,2,4-Tcbenzene	13.436	180	125674	19.83	ppb	97
116) Hexachlorobt	13.564	225	48698	19.19	ppb	94
117) Naphthalen	13.631	128	454677	22.81	ppb	98
118) 1,2,3-Tclbenzene	13.814	180	125404	20.04	ppb	99
119) 2,4,5-Trichlorotolene	14.394	159	95140	19.94	ppb	97
120) 2,3,6-Trichlorotoluene	14.485	159	101485	20.57	ppb	97

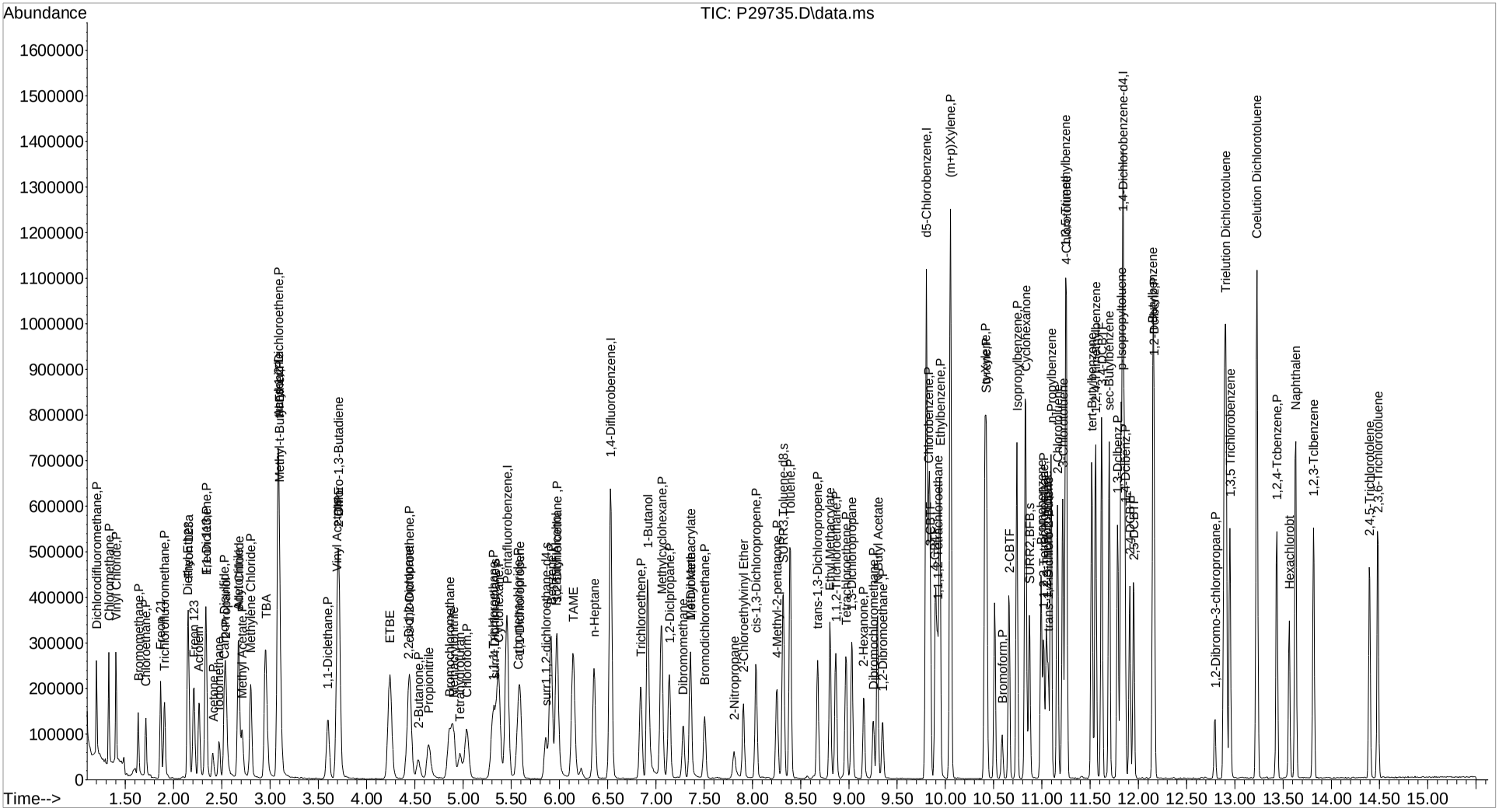
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

09/12/19 1st
09/12/19 2nd

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

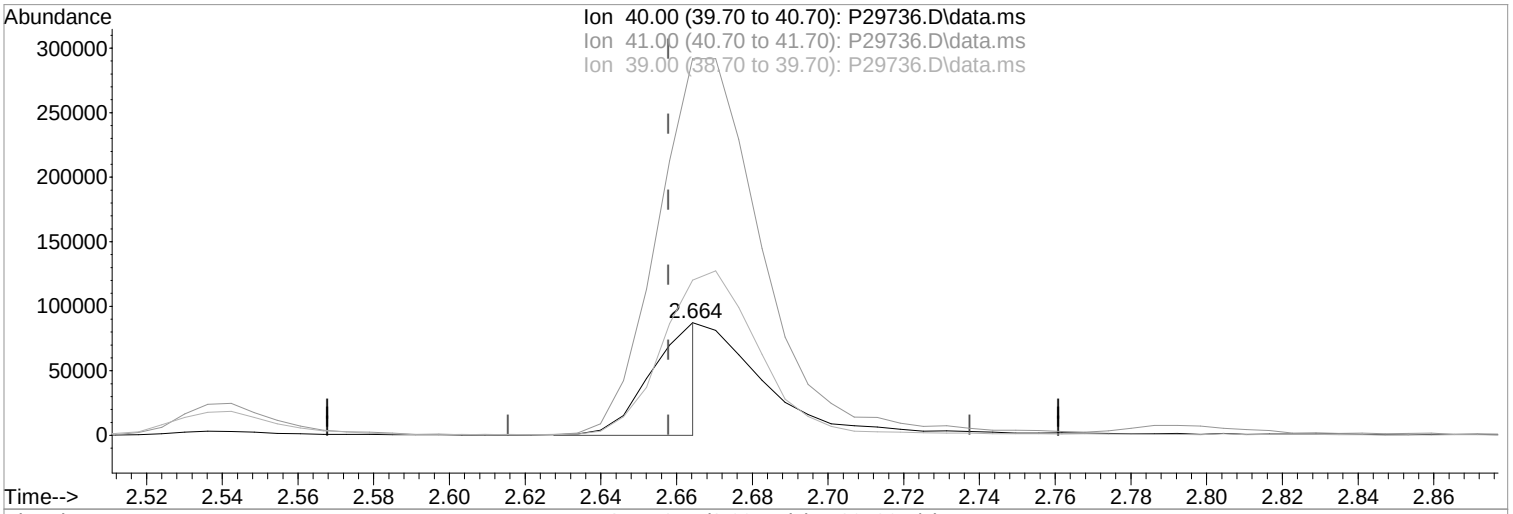


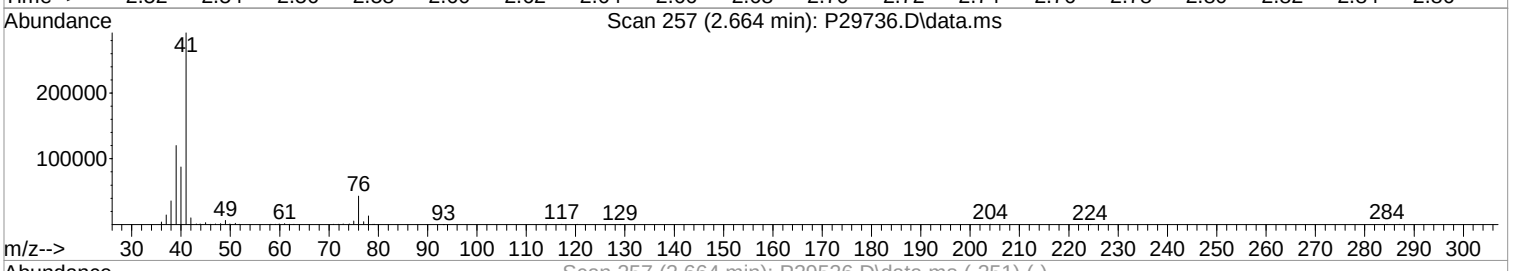
1st 09/12/19
2nd 09/12/19

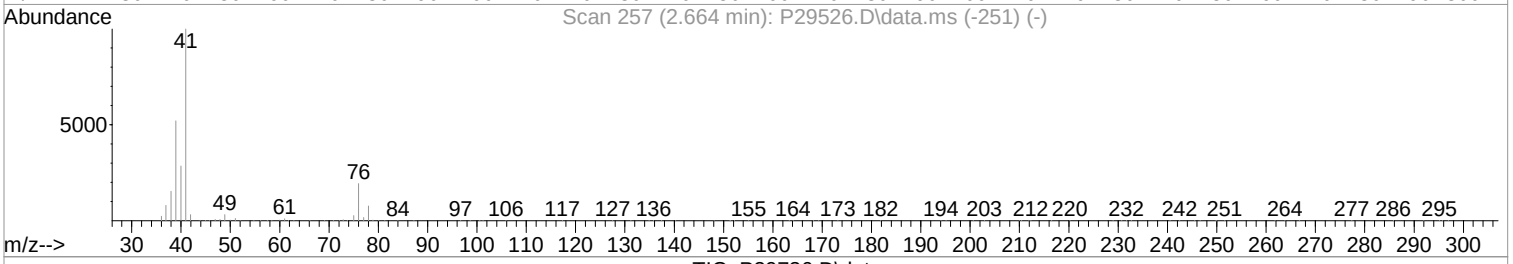
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 200.48 ppb m

response 81057

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

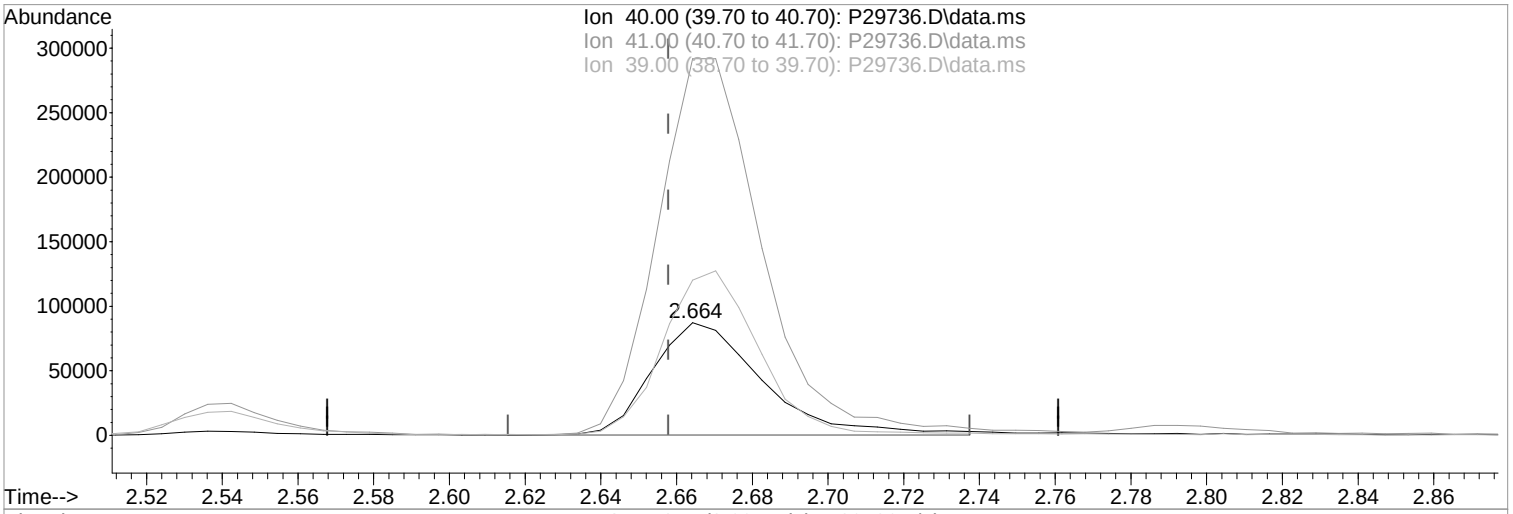
09/12/19

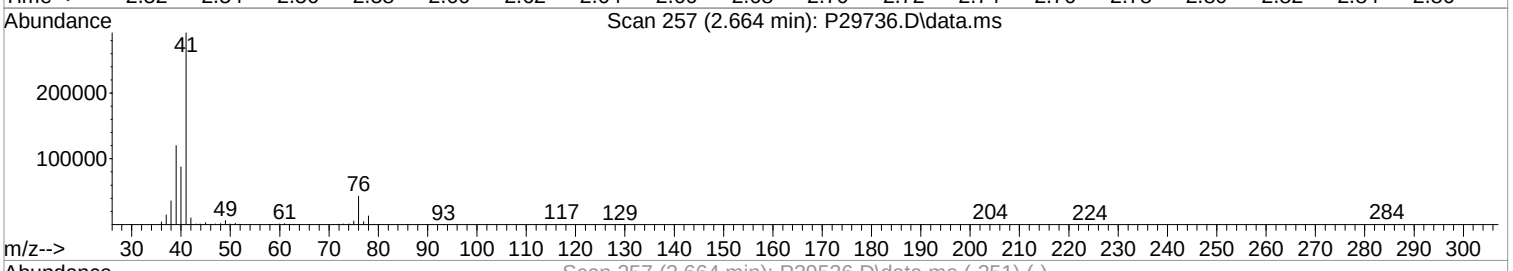
1st 09/12/19
2nd 09/12/19

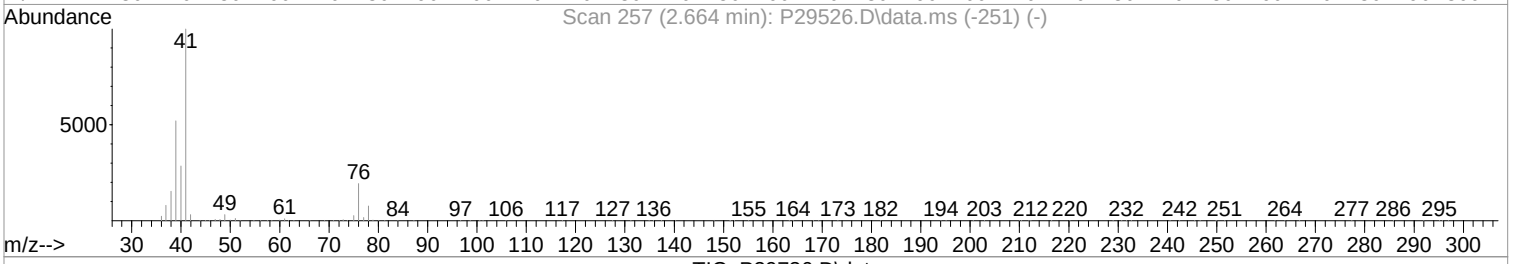
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 437.98 ppb

response 177083

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

Before

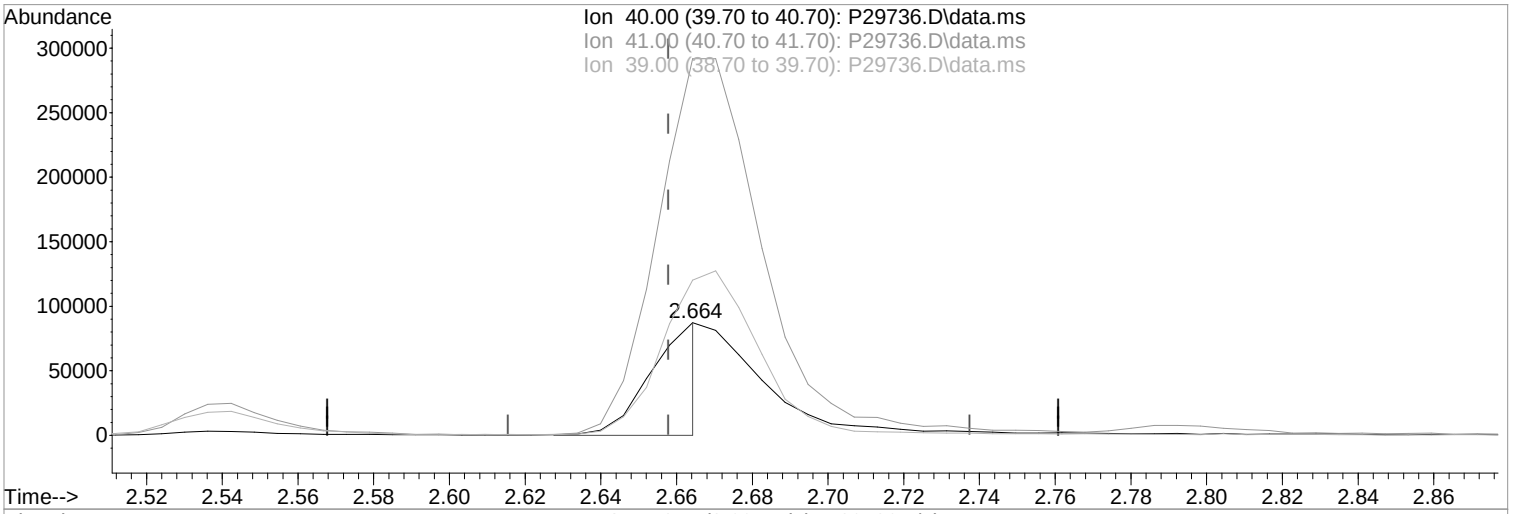
09/12/19

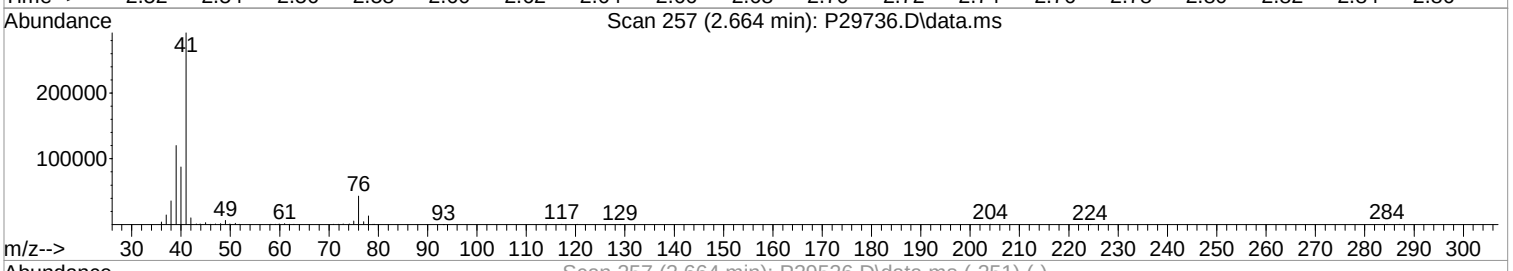
1st 09/12/19
2nd 09/12/19

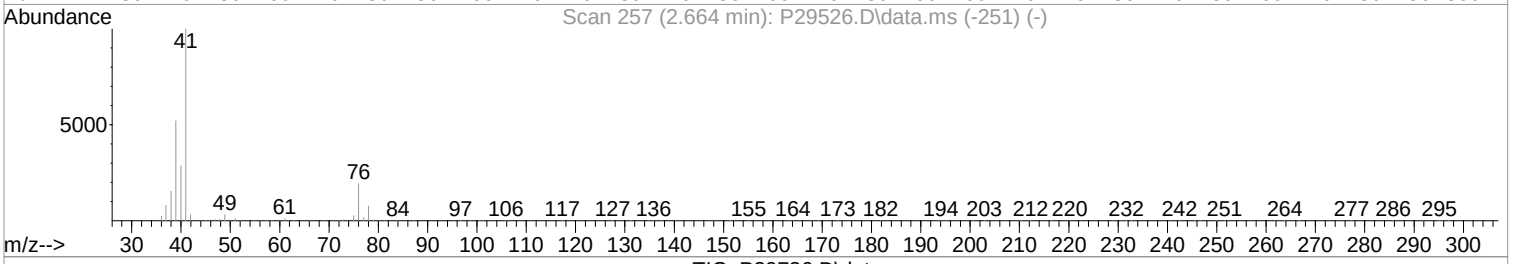
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 200.48 ppb m

response 81057

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	324461	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	532634	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	479166	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	251706	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	141350	50.07	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 100.14%			
48) surr1,1,2-dichloroetha...	5.853	65	199899	51.18	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 102.36%			
65) SURR3,Toluene-d8	8.316	98	672653	50.62	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.24%			
70) SURR2,BFB	10.870	95	256024	49.52	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.195	85	215531	53.74	ppb	100
3) Chloromethane	1.323	50	302885	49.03	ppb	100
4) Vinyl Chloride	1.396	62	293076	50.83	ppb	100
5) Bromomethane	1.622	94	133731	42.72	ppb	100
6) Chloroethane	1.701	64	171429	49.37	ppb	100
7) Freon 21	1.860	67	307916	47.90	ppb	100
8) Trichlorofluoromethane	1.902	101	244119	52.20	ppb	100
9) Diethyl Ether	2.140	59	207829	50.42	ppb	100
10) Freon 123a	2.152	67	208671	46.43	ppb	100
11) Freon 123	2.207	83	230973	46.60	ppb	100
12) Acrolein	2.262	56	285148	248.35	ppb	100
13) 1,1-Diclethene	2.329	96	158151	49.82	ppb	100
14) Freon 113	2.329	101	151216	49.00	ppb	100
15) Acetone	2.402	43	127403	48.25	ppb	100
16) 2-Propanol	2.542	45	594430	989.98	ppb	100
17) Iodomethane	2.463	142	209156	57.22	ppb	100
18) Carbon Disulfide	2.518	76	480659	50.54	ppb	100
19) Acetonitrile	2.664	40	81057m	200.48	ppb	
20) Allyl Chloride	2.670	76	85919	47.41	ppb	100
21) Methyl Acetate	2.707	43	255363	48.80	ppb	100
22) Methylene Chloride	2.792	84	184592	44.65	ppb	100
23) TBA	2.951	59	897097	1009.27	ppb	100
24) Acrylonitrile	3.079	53	699525	259.83	ppb	100
25) Methyl-t-Butyl Ether	3.091	73	671020	50.24	ppb	100
26) trans-1,2-Dichloroethene	3.079	96	169347	48.76	ppb	100
28) 1,1-Diclethane	3.591	63	358183	50.24	ppb	100
29) Vinyl Acetate	3.695	86	42082	54.09	ppb	100
30) DIPE	3.701	45	774996	49.92	ppb	100
31) 2-Chloro-1,3-Butadiene	3.707	53	297783	51.65	ppb	100
32) ETBE	4.237	59	693264	49.60	ppb	100
33) 2,2-Dichloropropane	4.426	77	266861	51.05	ppb	100
34) cis-1,2-Dichloroethene	4.444	96	197952	50.17	ppb	100
35) 2-Butanone	4.530	43	178893	48.50	ppb	100
36) Propionitrile	4.633	54	293172	256.23	ppb	100
37) Bromochloromethane	4.859	130	113316	48.42	ppb	100
38) Methacrylonitrile	4.889	67	136177	50.33	ppb	100
39) Tetrahydrofuran	4.963	42	128648	42.35	ppb	100
40) Chloroform	5.036	83	306331	48.75	ppb	100
41) 1,1,1-Trichloroethane	5.304	97	244936	48.89	ppb	100

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) TAME	6.139	73	651418	50.58	ppb	100
44) Cyclohexane	5.359	41	205615	48.34	ppb	100
46) Carbontetrachloride	5.566	117	183716	49.86	ppb	100
47) 1,1-Dichloropropene	5.584	75	262035	50.85	ppb	100
49) Benzene	5.908	78	808808	50.51	ppb	100
50) 1,2-Dichloroethane	5.968	62	271114	49.81	ppb	100
51) Iso-Butyl Alcohol	5.968	43	447807	982.19	ppb	100
52) n-Heptane	6.353	43	300090	50.10	ppb	100
53) 1-Butanol	6.913	56	693201	2651.88	ppb	100
54) Trichloroethene	6.840	130	182470	51.25	ppb	100
55) Methylcyclohexane	7.054	55	277166	48.31	ppb	100
56) 1,2-Diclpropane	7.139	63	222619	50.38	ppb	100
57) Dibromomethane	7.279	93	111821	51.02	ppb	100
58) 1,4-Dioxane	7.346	88	97730	959.43	ppb	100
59) Methyl Methacrylate	7.358	69	222587	54.11	ppb	100
60) Bromodichloromethane	7.505	83	217450	51.14	ppb	100
61) 2-Nitropropane	7.803	41	58774	87.47	ppb	100
62) 2-Chloroethylvinyl Ether	7.907	63	160242	53.48	ppb	100
63) cis-1,3-Dichloropropene	8.035	75	331394	52.46	ppb	100
64) 4-Methyl-2-pentanone	8.249	43	347144	50.77	ppb	100
66) Toluene	8.389	91	834948	51.55	ppb	100
67) trans-1,3-Dichloropropene	8.675	75	301624	51.89	ppb	100
68) Ethyl Methacrylate	8.803	69	380128	52.85	ppb	100
69) 1,1,2-Trichloroethane	8.864	97	187474	52.14	ppb	100
72) Tetrachloroethene	8.968	164	136413	47.21	ppb	100
73) 2-Hexanone	9.151	43	266356	49.93	ppb	100
74) 1,3-Dichloropropane	9.029	76	358926	49.96	ppb	100
75) Dibromochloromethane	9.254	129	147171	49.58	ppb	100
76) N-Butyl Acetate	9.291	43	535921	52.72	ppb	100
77) 1,2-Dibromoethane	9.352	107	185929	49.66	ppb	100
78) Chlorobenzene	9.827	112	522906	49.46	ppb	100
79) 3-CBTF	9.846	180	258339	47.43	ppb	100
80) 4-CBTF	9.901	180	232017	47.25	ppb	100
81) 1,1,1,2-Tetrachloroethane	9.919	131	160264	50.87	ppb	100
82) Ethylbenzene	9.943	106	284740	49.61	ppb	100
83) (m+p)Xylene	10.053	106	711205	102.57	ppb	100
84) o-Xylene	10.413	106	347592	49.26	ppb	100
85) Styrene	10.425	104	609331	52.15	ppb	100
87) Bromoform	10.590	173	89121	50.52	ppb	100
88) 2-CBTF	10.663	180	256639	48.85	ppb	100
89) Isopropylbenzene	10.742	105	903066	52.58	ppb	100
90) Cyclohexanone	10.827	55	736250	1002.90	ppb	100
91) trans-1,4-Dichloro-2-B...	11.065	53	94428	49.83	ppb	100
92) 1,1,2,2-Tetrachloroethane	11.016	83	302363	52.85	ppb	100
93) Bromobenzene	10.992	156	207883	49.13	ppb	100
94) 1,2,3-Trichloropropane	11.047	110	90282	47.94	ppb	100
95) n-Propylbenzene	11.096	91	1087035	52.89	ppb	100
96) 2-Chlorotoluene	11.163	91	659211	50.76	ppb	100
97) 3-Chlorotoluene	11.217	91	666507	50.60	ppb	100
98) 4-Chlorotoluene	11.254	91	733306	52.37	ppb	100
99) 1,3,5-Trimethylbenzene	11.248	105	753081	52.65	ppb	100
100) tert-Butylbenzene	11.516	119	651836	51.78	ppb	100
101) 1,2,4-Trimethylbenzene	11.559	105	763613	53.77	ppb	100
102) 3,4-DCBTF	11.620	214	206134	47.58	ppb	100
103) sec-Butylbenzene	11.699	105	959593	52.68	ppb	100
104) p-Isopropyltoluene	11.821	119	826547	53.00	ppb	100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	414182	49.14	ppb	100
106) 1,4-Dclbenz	11.864	146	425018	49.25	ppb	100
107) 2,4-DCBTF	11.912	214	189727	47.99	ppb	100
108) 2,5-DCBTF	11.955	214	213021	48.44	ppb	100
109) n-Butylbenzene	12.150	91	793099	52.00	ppb	100
110) 1,2-Dclbenz	12.162	146	417731	50.09	ppb	100
111) 1,2-Dibromo-3-chloropr...	12.796	157	67083	50.76	ppb	100
112) Trielution Dichlorotol...	12.906	125	1164285	152.66	ppb	100
113) 1,3,5 Trichlorobenzene	12.949	180	304519	48.75	ppb	100
114) Coelution Dichlorotoluene	13.229	125	867272	101.51	ppb	100
115) 1,2,4-Tcbenzene	13.437	180	314722	49.00	ppb	100
116) Hexachlorobt	13.565	225	126686	49.24	ppb	100
117) Naphthalen	13.632	128	1099005	54.38	ppb	100
118) 1,2,3-Tclbenzene	13.815	180	318665	50.23	ppb	100
119) 2,4,5-Trichlorotolene	14.400	159	240524	49.74	ppb	100
120) 2,3,6-Trichlorotoluene	14.479	159	249068	49.81	ppb	100

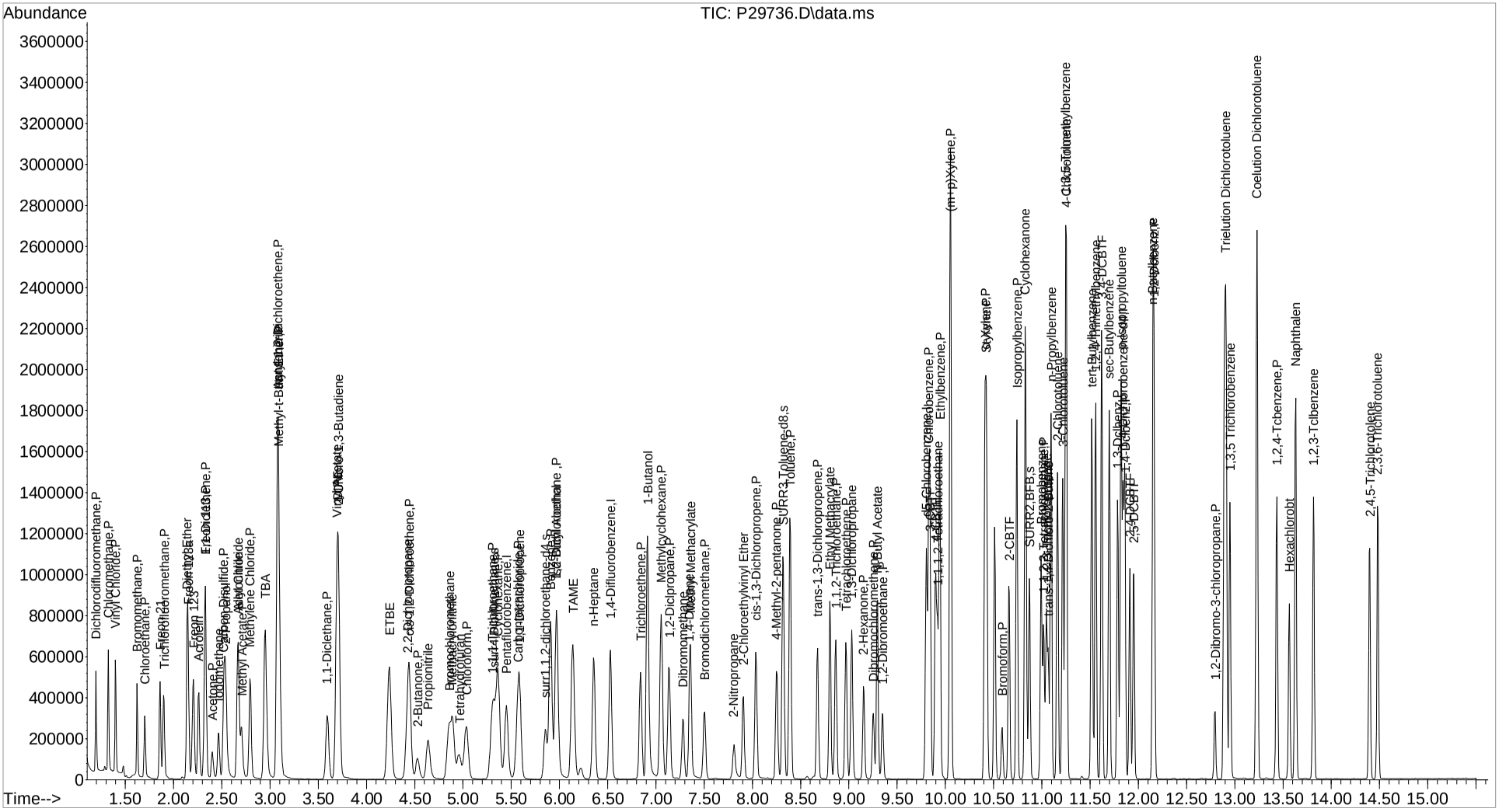
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

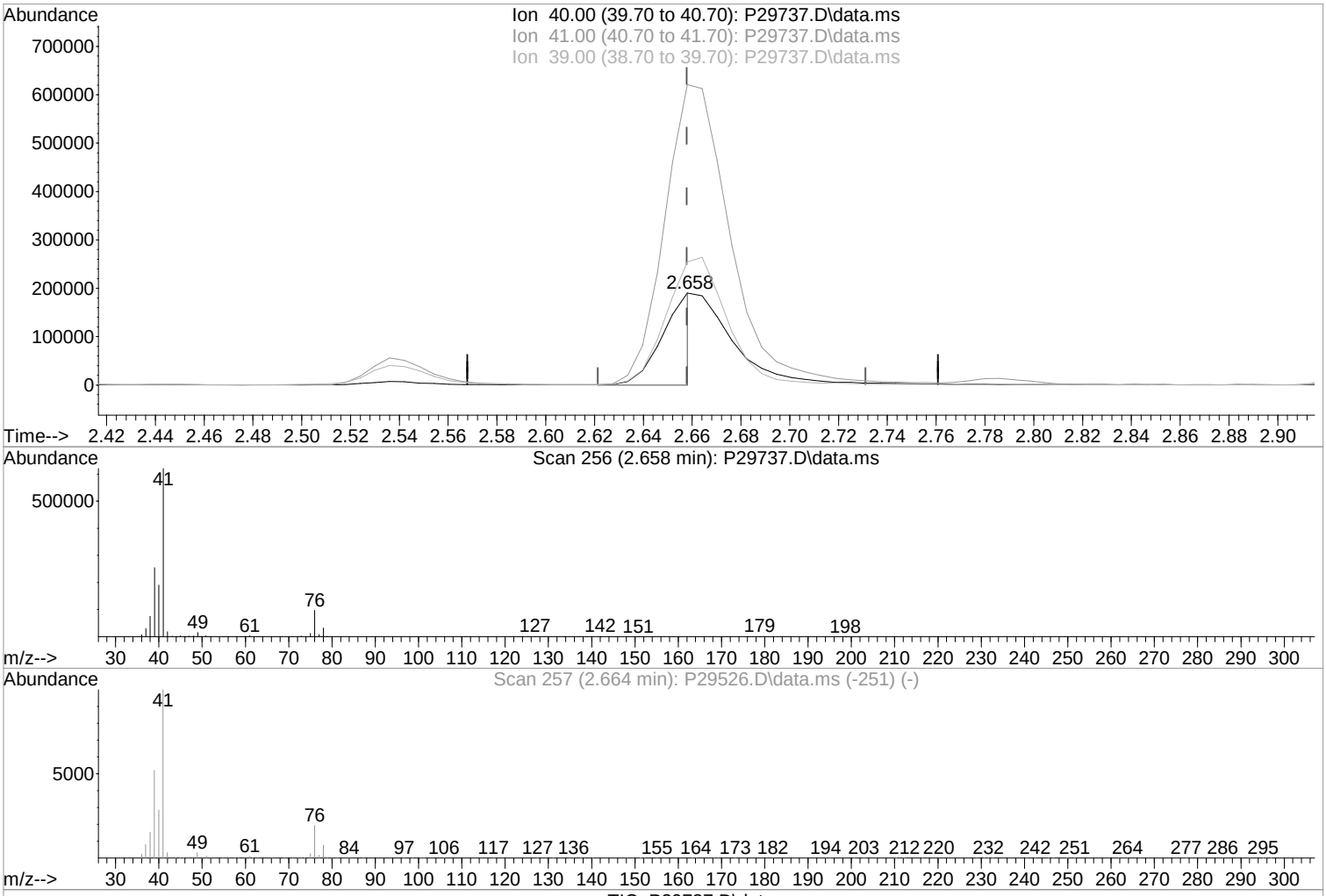


1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:22:39 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29737.D\data.ms

(19) Acetonitrile

2.658min (+0.000) 405.52 ppb m

response 166334

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	326.51
39.00	137.60	133.88
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

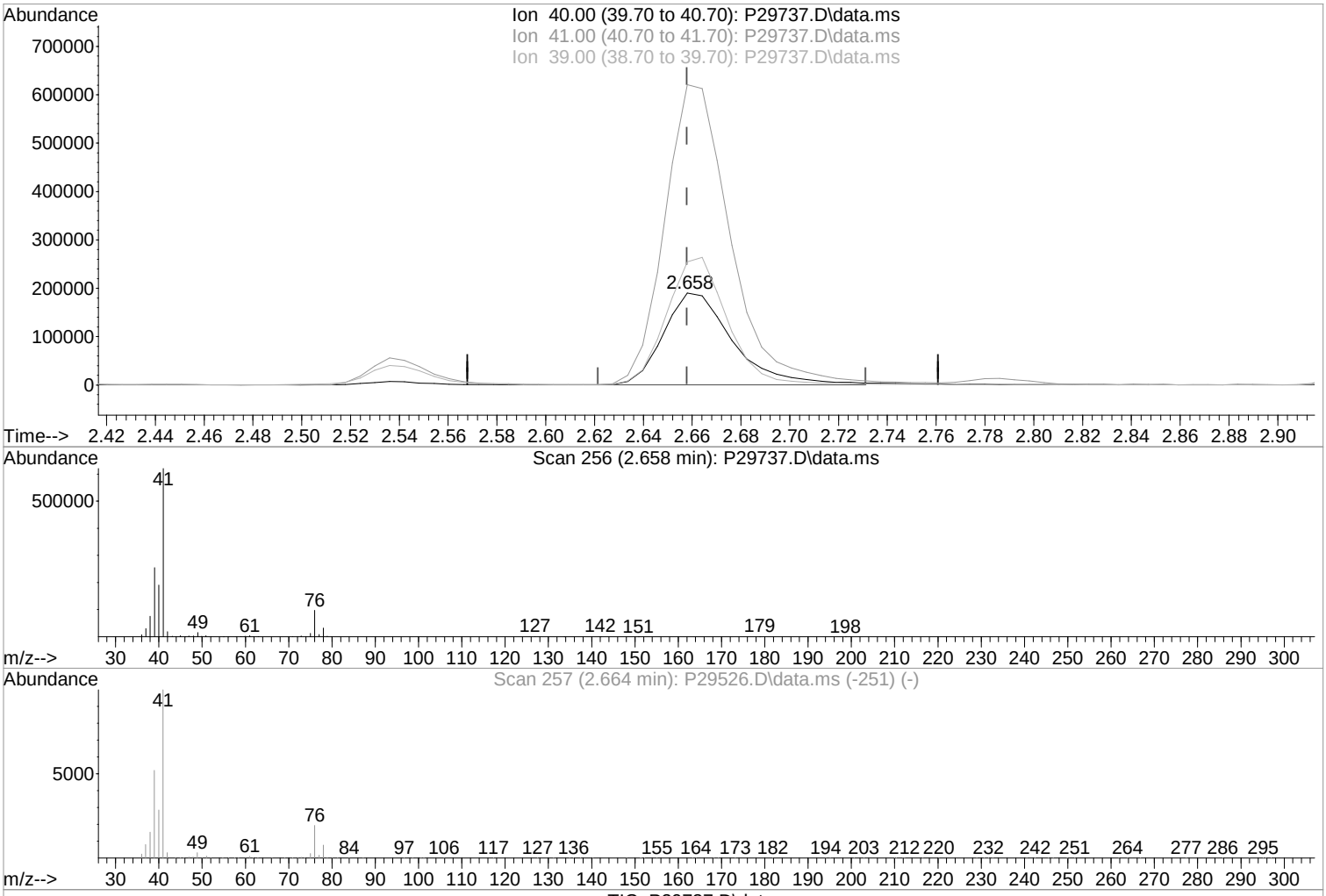
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:22:39 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29737.D\data.ms

(19) Acetonitrile

2.658min (+0.000) 914.14 ppb

response 374958

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	326.51
39.00	137.60	133.88
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	329161	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	545283	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	487330	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	266768	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	292427	101.19	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 202.38%#				
48) surr1,1,2-dichloroetha...	5.852	65	408205	102.08	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 204.16%#				
65) SURR3,Toluene-d8	8.315	98	1356520	99.71	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 199.42%#				
70) SURR2,BFB	10.870	95	533681	100.82	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 201.64%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	452520	111.22	ppb		99
3) Chloromethane	1.317	50	623073	99.41	ppb		97
4) Vinyl Chloride	1.390	62	612902	104.77	ppb		98
5) Bromomethane	1.615	94	275242	86.67	ppb		98
6) Chloroethane	1.689	64	346969	98.49	ppb		98
7) Freon 21	1.847	67	640094	98.16	ppb		96
8) Trichlorofluoromethane	1.884	101	514502	108.45	ppb		95
9) Diethyl Ether	2.134	59	420480	100.55	ppb		96
10) Freon 123a	2.140	67	443876	97.36	ppb		96
11) Freon 123	2.195	83	495186	98.49	ppb		99
12) Acrolein	2.256	56	613604	526.78	ppb		96
13) 1,1-Diclethene	2.323	96	331212	102.86	ppb		95
14) Freon 113	2.317	101	324971	103.80	ppb		93
15) Acetone	2.396	43	260170	97.12	ppb		96
16) 2-Propanol	2.536	45	1270476	2085.68	ppb		98
17) Iodomethane	2.457	142	446695	120.45	ppb		97
18) Carbon Disulfide	2.512	76	976250	101.18	ppb		99
19) Acetonitrile	2.658	40	166334m	405.52	ppb		
20) Allyl Chloride	2.664	76	171097	93.06	ppb	#	90
21) Methyl Acetate	2.701	43	536285	101.02	ppb		97
22) Methylene Chloride	2.786	84	383768	91.51	ppb		97
23) TBA	2.951	59	1881738	2086.80	ppb		100
24) Acrylonitrile	3.073	53	1428006	522.83	ppb		100
25) Methyl-t-Butyl Ether	3.085	73	1376869	101.61	ppb		97
26) trans-1,2-Dichloroethene	3.073	96	365353	103.70	ppb		94
28) 1,1-Diclethane	3.591	63	739785	102.28	ppb		99
29) Vinyl Acetate	3.688	86	97381	123.39	ppb		99
30) DIPE	3.694	45	1581816	100.44	ppb		97
31) 2-Chloro-1,3-Butadiene	3.700	53	613998	104.98	ppb		100
32) ETBE	4.231	59	1410465	99.48	ppb		97
33) 2,2-Dichloropropane	4.420	77	569458	107.38	ppb		97
34) cis-1,2-Dichloroethene	4.438	96	415421	103.79	ppb		95
35) 2-Butanone	4.517	43	376158	100.53	ppb		97
36) Propionitrile	4.633	54	621076	535.06	ppb		97
37) Bromochloromethane	4.847	130	230264	96.99	ppb		92
38) Methacrylonitrile	4.889	67	280839	102.31	ppb		90
39) Tetrahydrofuran	4.944	42	257313	83.49	ppb		96
40) Chloroform	5.029	83	636000	99.77	ppb		99
41) 1,1,1-Trichloroethane	5.298	97	529122	104.10	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.133	73	1332348	101.97	ppb		96
44) Cyclohexane	5.353	41	439195	100.87	ppb		93
46) Carbontetrachloride	5.560	117	398420	105.61	ppb		96
47) 1,1-Dichloropropene	5.584	75	534392	101.30	ppb		99
49) Benzene	5.901	78	1666039	101.64	ppb		100
50) 1,2-Dichloroethane	5.968	62	554369	99.50	ppb		98
51) Iso-Butyl Alcohol	5.968	43	989597	2120.17	ppb		97
52) n-Heptane	6.352	43	652745	106.45	ppb		99
53) 1-Butanol	6.913	56	1502287	5613.77	ppb		99
54) Trichloroethene	6.834	130	381748	104.73	ppb		97
55) Methylcyclohexane	7.053	55	597670	101.75	ppb		98
56) 1,2-Diclpropane	7.133	63	460968	101.89	ppb		93
57) Dibromomethane	7.279	93	238396	106.25	ppb		93
58) 1,4-Dioxane	7.346	88	208150	1996.04	ppb		97
59) Methyl Methacrylate	7.352	69	460048	109.24	ppb		95
60) Bromodichloromethane	7.498	83	460048	105.68	ppb		98
61) 2-Nitropropane	7.809	41	136717	198.75	ppb		99
62) 2-Chloroethylvinyl Ether	7.901	63	334971	109.19	ppb		100
63) cis-1,3-Dichloropropene	8.035	75	691322	106.90	ppb		99
64) 4-Methyl-2-pentanone	8.248	43	737543	105.37	ppb		98
66) Toluene	8.389	91	1664348	100.38	ppb		91
67) trans-1,3-Dichloropropene	8.675	75	636615	106.98	ppb		97
68) Ethyl Methacrylate	8.803	69	788023	107.01	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	376781	102.35	ppb		97
72) Tetrachloroethene	8.968	164	288794	98.26	ppb		97
73) 2-Hexanone	9.151	43	559599	103.14	ppb		95
74) 1,3-Dichloropropane	9.029	76	746319	102.13	ppb		99
75) Dibromochloromethane	9.254	129	325296	107.76	ppb		96
76) N-Butyl Acetate	9.291	43	1102688	106.66	ppb		96
77) 1,2-Dibromoethane	9.346	107	384836	101.07	ppb		100
78) Chlorobenzene	9.827	112	1082960	100.73	ppb		98
79) 3-CBTF	9.846	180	551969	99.64	ppb		97
80) 4-CBTF	9.900	180	507664	101.66	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	357875	111.70	ppb		96
82) Ethylbenzene	9.943	106	610146	104.53	ppb	#	83
83) (m+p)Xylene	10.053	106	1445477	204.97	ppb	#	83
84) o-Xylene	10.413	106	741828	103.37	ppb	#	85
85) Styrene	10.425	104	1259773	106.00	ppb		98
87) Bromoform	10.589	173	209434	112.01	ppb		95
88) 2-CBTF	10.663	180	550854	98.94	ppb		98
89) Isopropylbenzene	10.742	105	1813030	99.59	ppb		94
90) Cyclohexanone	10.827	55	1468858	1887.86	ppb		96
91) trans-1,4-Dichloro-2-B...	11.065	53	219688	109.38	ppb		97
92) 1,1,2,2-Tetrachloroethane	11.016	83	642070	105.89	ppb		99
93) Bromobenzene	10.992	156	441190	98.38	ppb		97
94) 1,2,3-Trichloropropane	11.047	110	195327	97.86	ppb	#	91
95) n-Propylbenzene	11.095	91	2083963	95.68	ppb		90
96) 2-Chlorotoluene	11.162	91	1354362	98.40	ppb		95
97) 3-Chlorotoluene	11.217	91	1369032	98.07	ppb		96
98) 4-Chlorotoluene	11.254	91	1494188	100.69	ppb		94
99) 1,3,5-Trimethylbenzene	11.248	105	1565641	103.27	ppb		96
100) tert-Butylbenzene	11.516	119	1363067	102.16	ppb		96
101) 1,2,4-Trimethylbenzene	11.559	105	1557637	103.49	ppb		94
102) 3,4-DCBTF	11.620	214	460289	100.24	ppb		98
103) sec-Butylbenzene	11.699	105	1926730	99.80	ppb		93
104) p-Isopropyltoluene	11.821	119	1699982	102.85	ppb		91

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	881082	98.63	ppb	98
106) 1,4-Dclbenz	11.864	146	901060	98.53	ppb	97
107) 2,4-DCBTF	11.912	214	416250	99.34	ppb	98
108) 2,5-DCBTF	11.955	214	479746	102.94	ppb	98
109) n-Butylbenzene	12.150	91	1617781	100.09	ppb	91
110) 1,2-Dclbenz	12.162	146	892513	100.98	ppb	99
111) 1,2-Dibromo-3-chloropr...	12.796	157	154090	110.01	ppb	96
112) Trielution Dichlorotol...	12.906	125	2385254	295.10	ppb	94
113) 1,3,5 Trichlorobenzene	12.949	180	665346	100.50	ppb	98
114) Coelution Dichlorotoluene	13.229	125	1741970	192.38	ppb	94
115) 1,2,4-Tcbenzene	13.436	180	673289	98.91	ppb	98
116) Hexachlorobt	13.564	225	272895	100.08	ppb	98
117) Naphthalen	13.631	128	2068743	96.59	ppb	94
118) 1,2,3-Tclbenzene	13.814	180	675311	100.44	ppb	96
119) 2,4,5-Trichlorotolene	14.400	159	507239	98.97	ppb	99
120) 2,3,6-Trichlorotoluene	14.485	159	525459	99.15	ppb	95

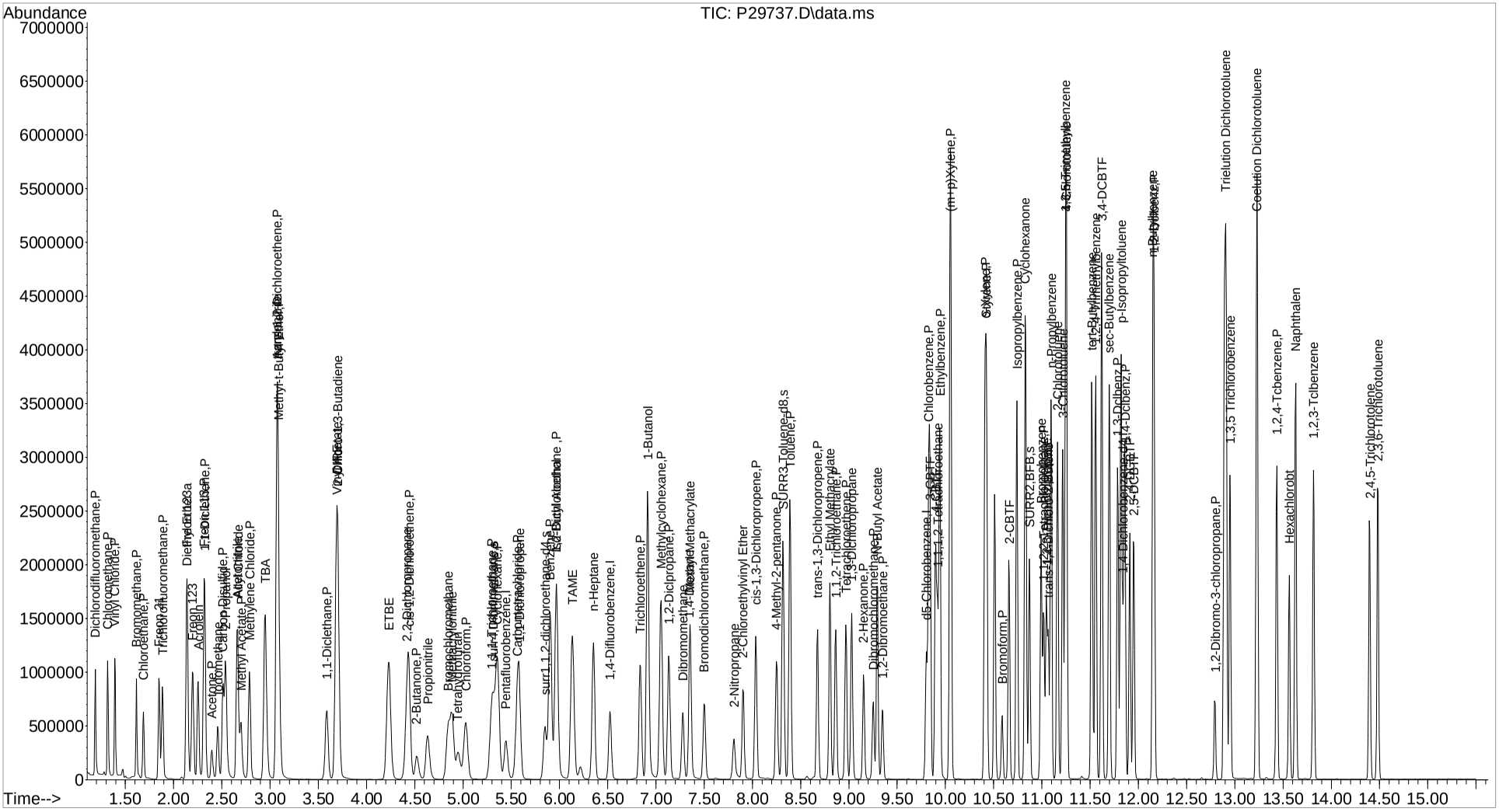
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

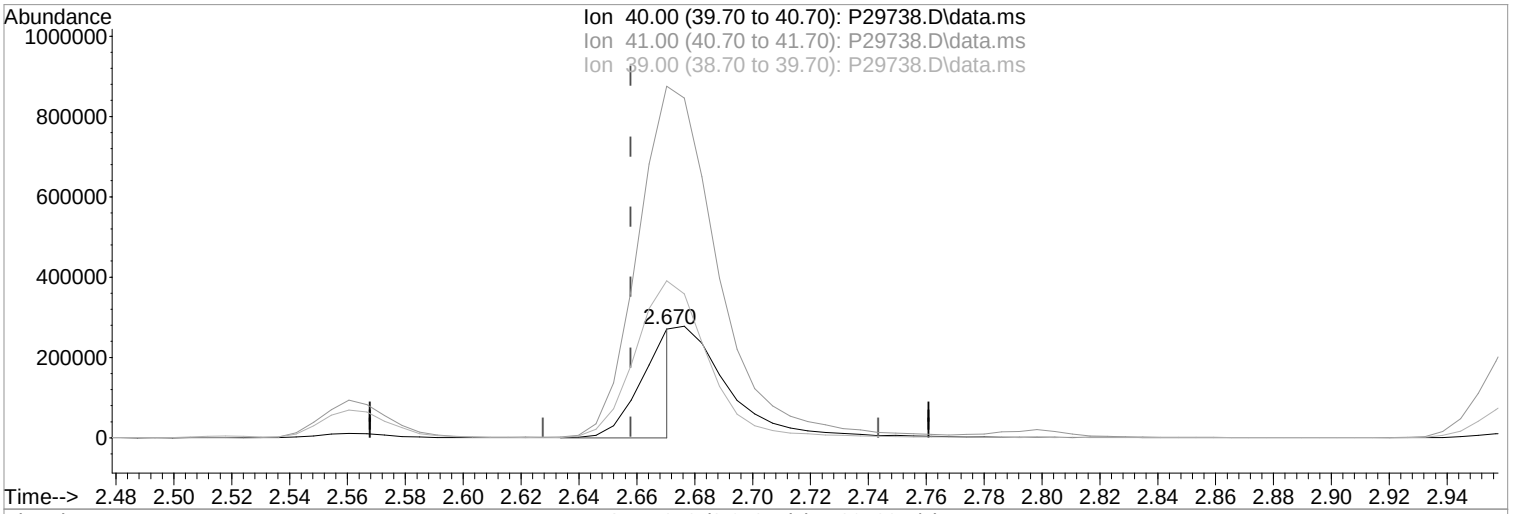


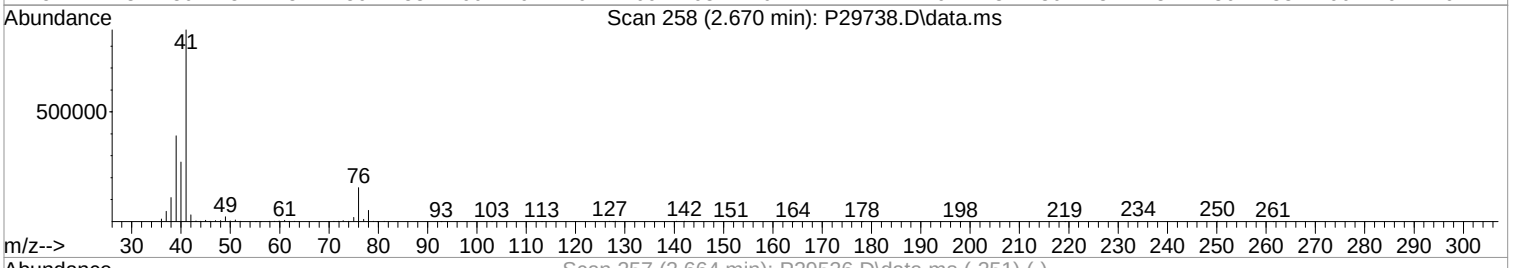
1st 09/12/19
2nd 09/12/19

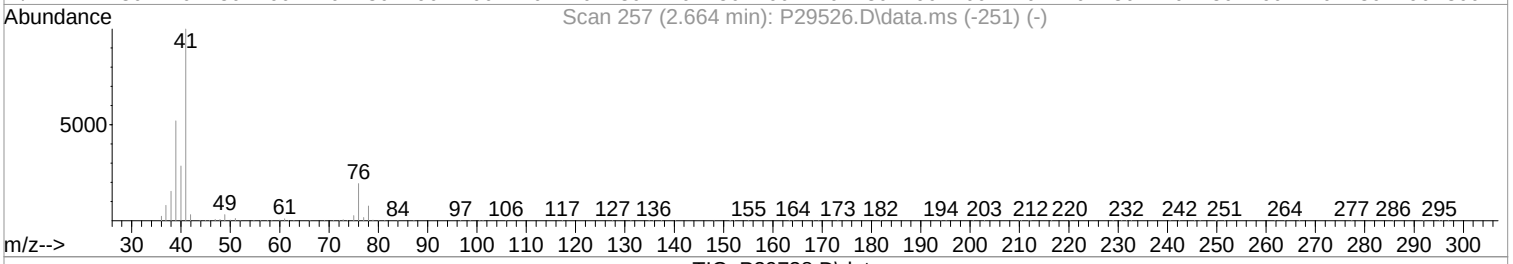
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:22:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29738.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 558.49 ppb m

response 213385

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	323.42
39.00	137.60	144.56
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

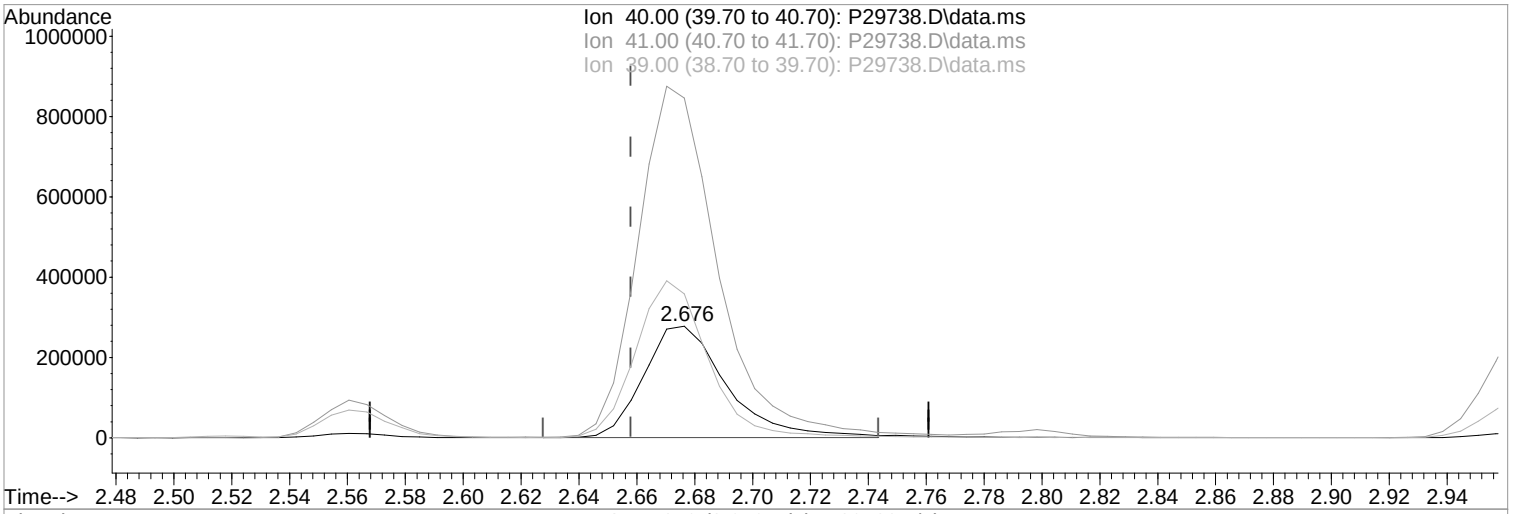
09/12/19

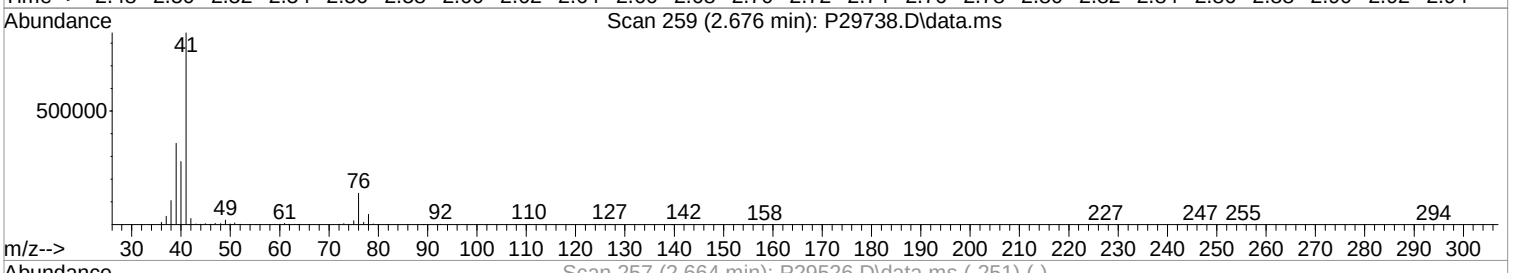
1st 09/12/19
2nd 09/12/19

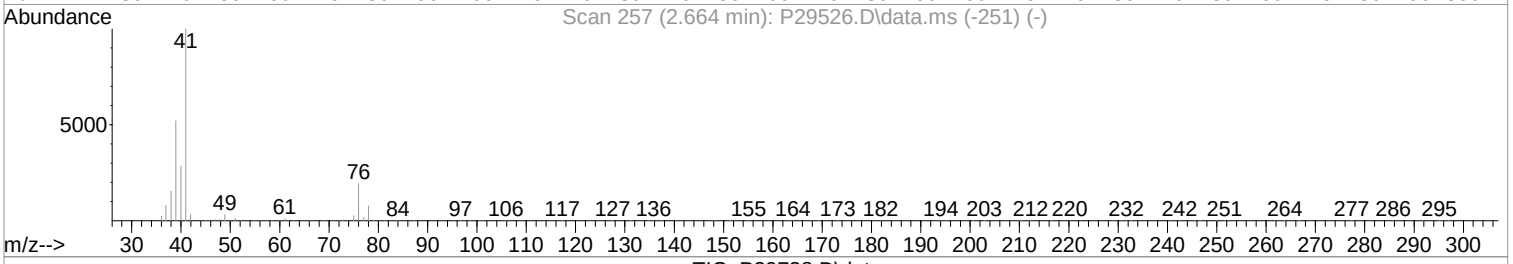
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:22:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29738.D\data.ms

(19) Acetonitrile

2.676min (+0.019) 1452.04 ppb

response 554783

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	304.77#
39.00	137.60	129.04
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	306609	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	529627	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	480064	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	276240	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	538146	191.72	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 383.44%#				
48) surr1,1,2-dichloroetha...	5.859	65	753193	193.92	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 387.84%#				
65) SURR3,Toluene-d8	8.322	98	2322663	175.77	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 351.54%#				
70) SURR2,BFB	10.870	95	1017080	197.83	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 395.66%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	636454	167.93	ppb		98
3) Chloromethane	1.329	50	906875	155.34	ppb		96
4) Vinyl Chloride	1.402	62	863704	158.51	ppb		97
5) Bromomethane	1.628	94	382930	129.44	ppb		97
6) Chloroethane	1.689	64	494874	150.81	ppb		99
7) Freon 21	1.859	67	924846	152.25	ppb		98
8) Trichlorofluoromethane	1.890	101	717467	162.36	ppb		92
9) Diethyl Ether	2.146	59	610303	156.67	ppb		99
10) Freon 123a	2.152	67	633690	149.21	ppb		96
11) Freon 123	2.207	83	704186	150.36	ppb		99
12) Acrolein	2.268	56	904603	833.73	ppb		99
13) 1,1-Diclethene	2.329	96	474447	158.18	ppb		95
14) Freon 113	2.329	101	455613	156.23	ppb		100
15) Acetone	2.414	43	379830	152.22	ppb		97
16) 2-Propanol	2.561	45	1955124	3445.71	ppb		94
17) Iodomethane	2.469	142	635822	184.06	ppb		96
18) Carbon Disulfide	2.518	76	1380685	153.62	ppb		98
19) Acetonitrile	2.670	40	213385m	558.49	ppb		
20) Allyl Chloride	2.670	76	244143	142.56	ppb	#	83
21) Methyl Acetate	2.713	43	805736	162.93	ppb		98
22) Methylene Chloride	2.798	84	550744	140.98	ppb		98
23) TBA	2.969	59	2850981	3394.22	ppb		97
24) Acrylonitrile	3.085	53	2033469	799.27	ppb		99
25) Methyl-t-Butyl Ether	3.097	73	1994444	158.01	ppb		99
26) trans-1,2-Dichloroethene	3.085	96	525894	160.25	ppb		92
28) 1,1-Diclethane	3.597	63	1073044	159.27	ppb		99
29) Vinyl Acetate	3.694	86	143645	195.40	ppb	#	73
30) DIPE	3.707	45	2262565	154.23	ppb		95
31) 2-Chloro-1,3-Butadiene	3.713	53	877587	161.08	ppb		99
32) ETBE	4.243	59	2051944	155.37	ppb		100
33) 2,2-Dichloropropane	4.432	77	804314	162.82	ppb		97
34) cis-1,2-Dichloroethene	4.450	96	592809	159.00	ppb		99
35) 2-Butanone	4.536	43	565407	162.23	ppb		96
36) Propionitrile	4.646	54	928192	858.46	ppb		99
37) Bromochloromethane	4.859	130	334532	151.27	ppb		89
38) Methacrylonitrile	4.902	67	412742	161.42	ppb		90
39) Tetrahydrofuran	4.963	42	387896	135.12	ppb		96
40) Chloroform	5.042	83	914020	153.93	ppb		98
41) 1,1,1-Trichloroethane	5.304	97	770240	162.69	ppb		96

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	1937998	159.23	ppb		95
44) Cyclohexane	5.365	41	639582	151.23	ppb		93
46) Carbontetrachloride	5.566	117	599776	163.69	ppb		96
47) 1,1-Dichloropropene	5.590	75	781189	152.46	ppb		99
49) Benzene	5.914	78	2350564	147.63	ppb		99
50) 1,2-Dichloroethane	5.975	62	800400	147.90	ppb		97
51) Iso-Butyl Alcohol	5.987	43	1603786	3537.62	ppb		97
52) n-Heptane	6.359	43	929220	156.02	ppb		96
53) 1-Butanol	6.926	56	2370737	9120.89	ppb		97
54) Trichloroethene	6.840	130	546510	154.37	ppb		98
55) Methylcyclohexane	7.054	55	855039	149.87	ppb		97
56) 1,2-Diclpropane	7.139	63	662389	150.74	ppb		92
57) Dibromomethane	7.285	93	347546	159.47	ppb		94
58) 1,4-Dioxane	7.352	88	335634	3313.69	ppb		96
59) Methyl Methacrylate	7.358	69	682916	166.96	ppb		97
60) Bromodichloromethane	7.505	83	684370	161.85	ppb		97
61) 2-Nitropropane	7.810	41	229365	343.30	ppb		94
62) 2-Chloroethylvinyl Ether	7.907	63	491849	165.07	ppb		100
63) cis-1,3-Dichloropropene	8.041	75	1014892	161.57	ppb		96
64) 4-Methyl-2-pentanone	8.255	43	1105061	162.54	ppb		100
66) Toluene	8.395	91	2292640	142.36	ppb		87
67) trans-1,3-Dichloropropene	8.675	75	955084	165.24	ppb		99
68) Ethyl Methacrylate	8.803	69	1180822	165.10	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	562315	157.27	ppb		98
72) Tetrachloroethene	8.974	164	414989	143.34	ppb		97
73) 2-Hexanone	9.157	43	861634	161.22	ppb		99
74) 1,3-Dichloropropane	9.029	76	1073401	149.12	ppb		98
75) Dibromochloromethane	9.254	129	499501	167.98	ppb		98
76) N-Butyl Acetate	9.297	43	1622150	159.28	ppb		92
77) 1,2-Dibromoethane	9.352	107	573090	152.80	ppb		96
78) Chlorobenzene	9.827	112	1538264	145.24	ppb		95
79) 3-CBTF	9.846	180	821586	150.56	ppb		98
80) 4-CBTF	9.901	180	751625	152.79	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	530877	168.20	ppb		99
82) Ethylbenzene	9.943	106	885089	153.92	ppb	#	70
83) (m+p)Xylene	10.053	106	2004516	288.54	ppb	#	72
84) o-Xylene	10.413	106	1069150	151.24	ppb	#	77
85) Styrene	10.431	104	1773726	151.51	ppb		98
87) Bromoform	10.589	173	339436	175.31	ppb		93
88) 2-CBTF	10.663	180	827587	143.55	ppb		97
89) Isopropylbenzene	10.742	105	2431415	128.98	ppb		85
90) Cyclohexanone	10.833	55	1992030	2472.48	ppb		95
91) trans-1,4-Dichloro-2-B...	11.065	53	341237	164.07	ppb		98
92) 1,1,2,2-Tetrachloroethane	11.022	83	991927	157.98	ppb		96
93) Bromobenzene	10.992	156	662965	142.76	ppb		99
94) 1,2,3-Trichloropropane	11.047	110	299712	145.01	ppb	#	88
95) n-Propylbenzene	11.095	91	2756105	122.20	ppb		81
96) 2-Chlorotoluene	11.163	91	1897210	133.12	ppb		91
97) 3-Chlorotoluene	11.217	91	1917916	132.67	ppb	#	90
98) 4-Chlorotoluene	11.254	91	2067046	134.52	ppb		88
99) 1,3,5-Trimethylbenzene	11.248	105	2149284	136.91	ppb		88
100) tert-Butylbenzene	11.516	119	1911170	138.32	ppb		92
101) 1,2,4-Trimethylbenzene	11.559	105	2144377	137.59	ppb		85
102) 3,4-DCBTF	11.620	214	698900	146.99	ppb		98
103) sec-Butylbenzene	11.699	105	2542096	127.15	ppb		84
104) p-Isopropyltoluene	11.821	119	2280865	133.26	ppb		81

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	1315084	142.16	ppb		96
106) 1,4-Dclbenz	11.864	146	1340377	141.54	ppb		93
107) 2,4-DCBTF	11.912	214	641554	147.86	ppb		98
108) 2,5-DCBTF	11.955	214	732845	151.85	ppb		99
109) n-Butylbenzene	12.150	91	2211322	132.12	ppb		82
110) 1,2-Dclbenz	12.162	146	1342751	146.70	ppb		98
111) 1,2-Dibromo-3-chloropr...	12.796	157	243323	167.77	ppb		98
112) Trielution Dichlorotol...	12.906	125	3408696	407.26	ppb	#	86
113) 1,3,5 Trichlorobenzene	12.955	180	1005778	146.71	ppb		99
114) Coelution Dichlorotoluene	13.229	125	2412820	257.34	ppb	#	83
115) 1,2,4-Tcbenzene	13.436	180	1018500	144.49	ppb		99
116) Hexachlorobt	13.565	225	414898	146.94	ppb		96
117) Naphthalen	13.632	128	2752498	124.10	ppb		85
118) 1,2,3-Tclbenzene	13.821	180	1018141	146.23	ppb		97
119) 2,4,5-Trichlorotolene	14.400	159	768495	144.81	ppb		99
120) 2,3,6-Trichlorotoluene	14.485	159	786988	143.41	ppb		93

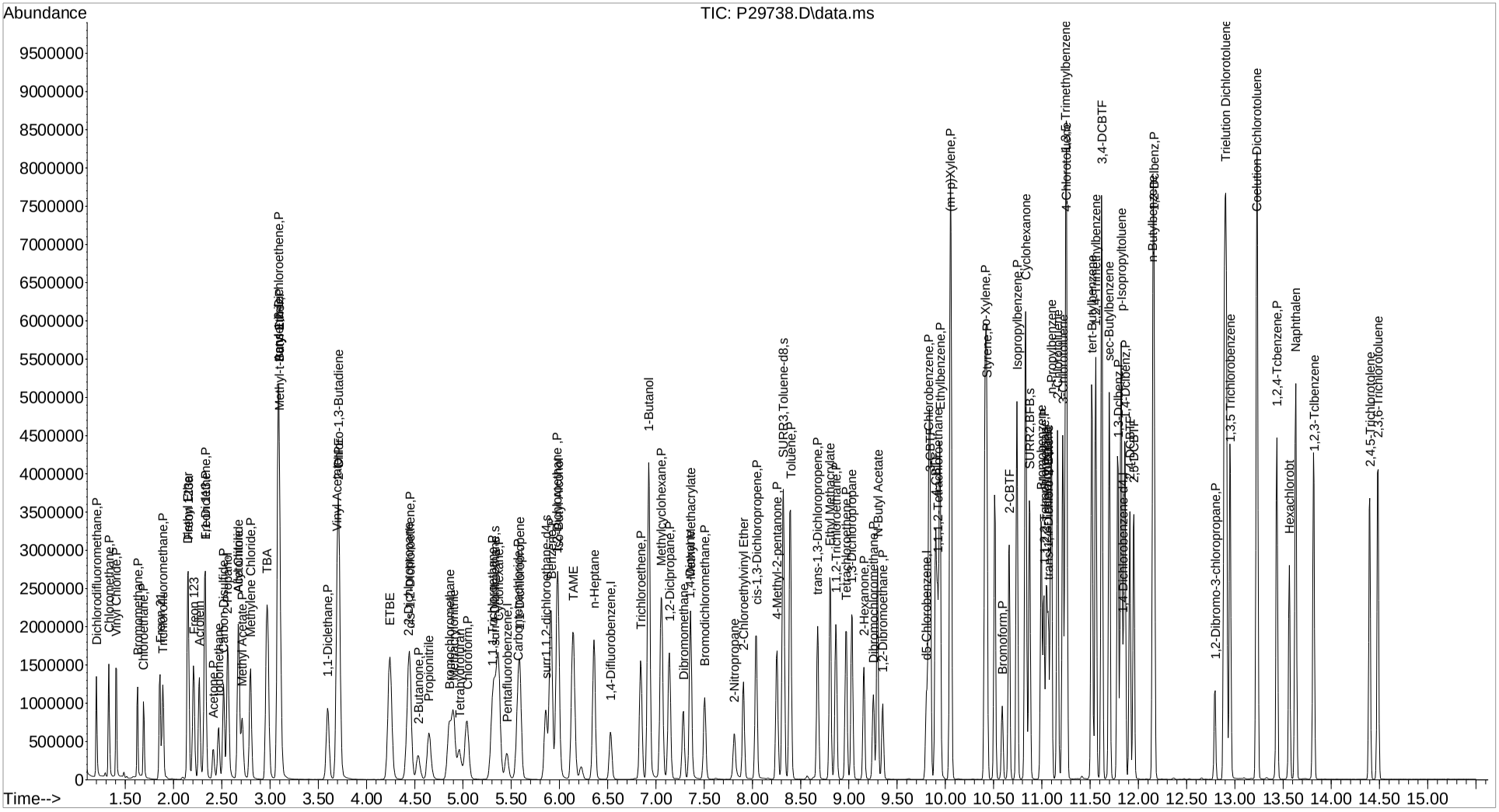
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/12/19 1st
09/12/19 2nd

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

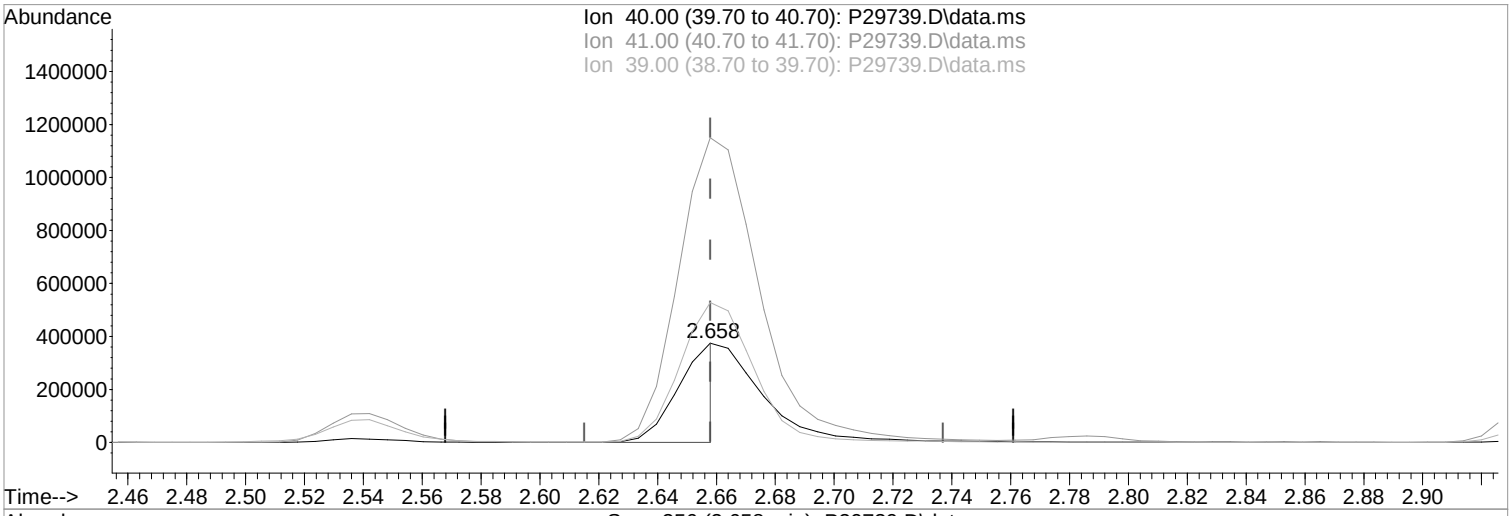


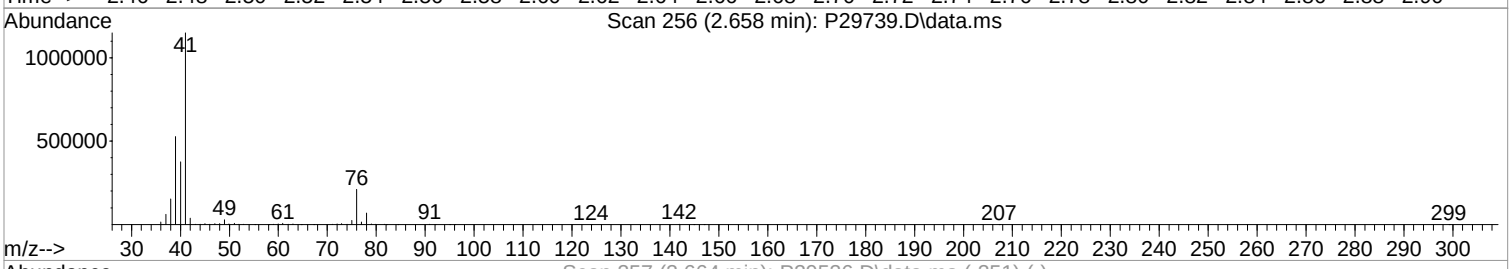
1st 09/12/19
2nd 09/12/19

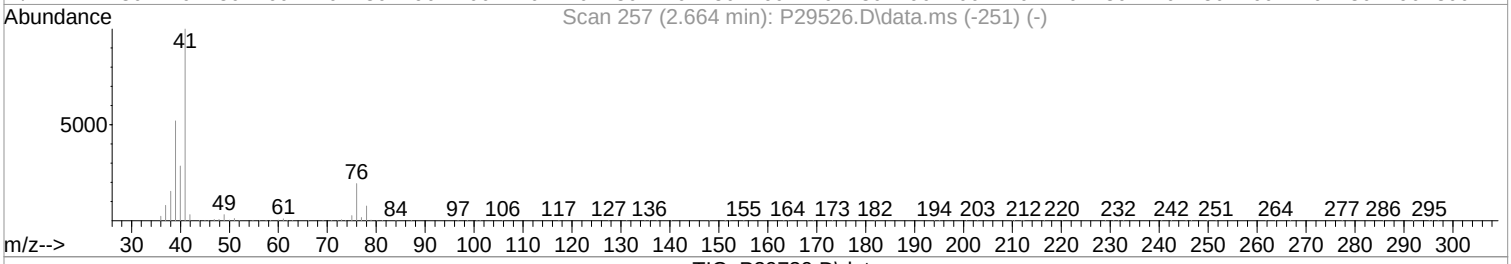
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:22:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29739.D\data.ms

(19) Acetonitrile

2.658min (0.000) 842.06 ppb m

response 346022

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	306.99#
39.00	137.60	140.82
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

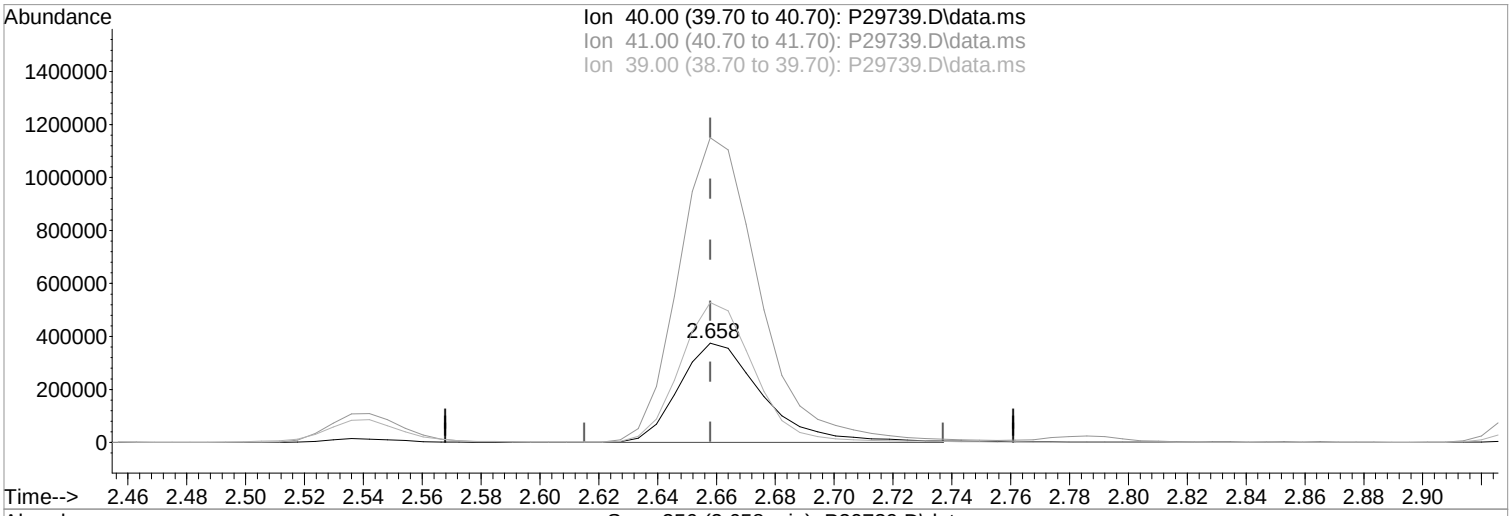
09/12/19

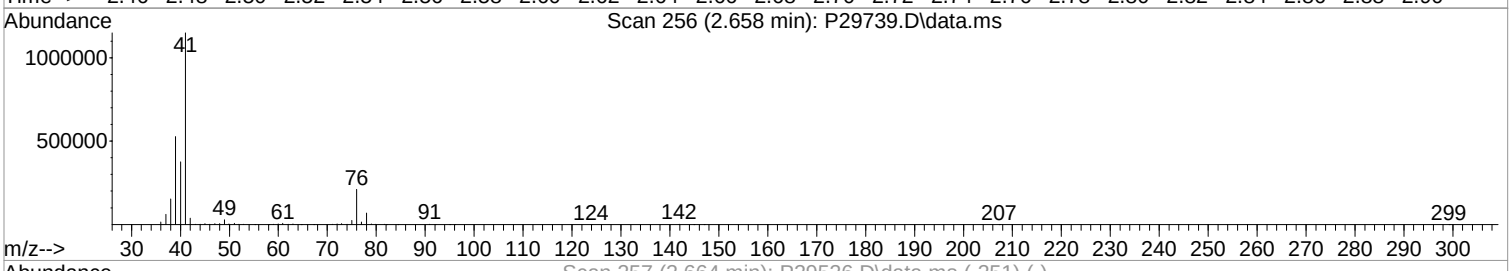
1st 09/12/19
2nd 09/12/19

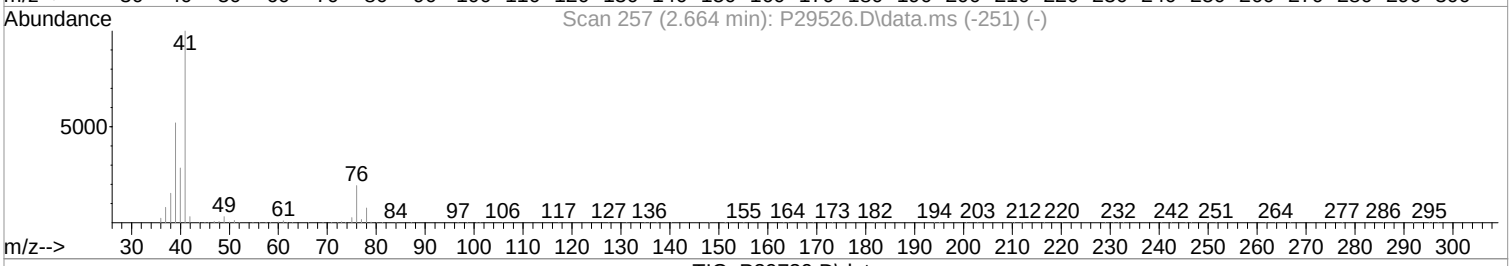
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:22:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29739.D\data.ms

(19) Acetonitrile

2.658min (0.000) 1795.51 ppb

response 737815

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	306.99#
39.00	137.60	140.82
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	334332	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	555220	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	488208	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	267427	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	143351	48.72	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 97.44%				
48) surr1,1,2-dichloroetha...	5.853	65	204265	50.17	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.34%				
65) SURR3,Toluene-d8	8.315	98	703409	50.78	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.56%				
70) SURR2,BFB	10.870	95	267579	49.65	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.30%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	163442	39.55	ppb		99
3) Chloromethane	1.329	50	242908	38.16	ppb		95
4) Vinyl Chloride	1.408	62	242131	40.75	ppb		97
5) Bromomethane	1.628	94	131262	47.25	ppb		95
6) Chloroethane	1.707	64	140521	39.27	ppb		98
7) Freon 21	1.865	67	288960	43.63	ppb		97
8) Trichlorofluoromethane	1.908	101	224641	46.62	ppb		96
9) Diethyl Ether	2.146	59	178759	42.08	ppb		98
10) Freon 123a	2.158	67	195295	42.18	ppb		96
11) Freon 123	2.207	83	232925	45.61	ppb		98
12) Acrolein	2.268	56	74378	62.87	ppb		98
13) 1,1-Diclethene	2.335	96	139973	42.80	ppb		95
14) Freon 113	2.335	101	139802	43.96	ppb		100
15) Acetone	2.402	43	109388	40.20	ppb		92
16) 2-Propanol	2.542	45	460965	745.04	ppb		99
17) Iodomethane	2.475	142	159206	39.56	ppb		99
18) Carbon Disulfide	2.524	76	460505	46.99	ppb		100
19) Acetonitrile	2.670	40	75280m	208.46	ppb		
20) Allyl Chloride	2.676	76	90407	48.21	ppb		94
21) Methyl Acetate	2.713	43	214922	39.86	ppb		96
22) Methylene Chloride	2.798	84	170831	40.10	ppb		98
23) TBA	2.951	59	675582	737.62	ppb		99
24) Acrylonitrile	3.085	53	573227	205.40	ppb		96
25) Methyl-t-Butyl Ether	3.097	73	596702	43.35	ppb		98
26) trans-1,2-Dichloroethene	3.085	96	157537	44.36	ppb		90
28) 1,1-Diclethane	3.597	63	326655	44.46	ppb		99
29) Vinyl Acetate	3.694	86	47805	50.25	ppb	#	85
30) DIPE	3.707	45	698823	43.68	ppb		96
31) 2-Chloro-1,3-Butadiene	3.713	53	280996	47.25	ppb		95
32) ETBE	4.243	59	564474	39.20	ppb		98
33) 2,2-Dichloropropane	4.432	77	255044	47.35	ppb		94
34) cis-1,2-Dichloroethene	4.444	96	178584	43.81	ppb		97
35) 2-Butanone	4.530	43	158206	41.63	ppb		97
36) Propionitrile	4.639	54	234253	198.69	ppb		99
37) Bromochloromethane	4.859	130	98326	40.77	ppb		97
38) Methacrylonitrile	4.901	67	107879	38.69	ppb		91
39) Tetrahydrofuran	4.962	42	103391	38.77	ppb		93
40) Chloroform	5.042	83	279487	43.17	ppb		99
41) 1,1,1-Trichloroethane	5.304	97	232385	45.01	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	564482	42.53	ppb		94
44) Cyclohexane	5.365	41	196747	44.38	ppb		96
46) Carbontetrachloride	5.566	117	176954	46.80	ppb		95
47) 1,1-Dichloropropene	5.590	75	241297	44.92	ppb		97
49) Benzene	5.913	78	730478	43.77	ppb		98
50) 1,2-Dichloroethane	5.968	62	230393	40.61	ppb		97
51) Iso-Butyl Alcohol	5.968	43	328146	690.46	ppb		94
52) n-Heptane	6.352	43	301079	48.21	ppb		97
53) 1-Butanol	6.907	56	494086	1813.27	ppb		99
54) Trichloroethene	6.840	130	157505	42.44	ppb		96
55) Methylcyclohexane	7.053	55	271895	45.46	ppb		99
56) 1,2-Diclpropane	7.133	63	196693	42.70	ppb		88
57) Dibromomethane	7.279	93	102506	44.86	ppb		96
58) 1,4-Dioxane	7.346	88	79750	748.67	ppb		98
59) Methyl Methacrylate	7.358	69	180919	42.19	ppb		96
60) Bromodichloromethane	7.505	83	201247	45.40	ppb		97
61) 2-Nitropropane	7.809	41	52535	75.01	ppb		96
62) 2-Chloroethylvinyl Ether	7.907	63	122162	39.45	ppb		100
63) cis-1,3-Dichloropropene	8.035	75	294696	44.75	ppb		99
64) 4-Methyl-2-pentanone	8.248	43	298594	41.89	ppb		99
66) Toluene	8.389	91	769502	45.58	ppb		98
67) trans-1,3-Dichloropropene	8.675	75	264681	43.68	ppb		99
68) Ethyl Methacrylate	8.803	69	320105	42.69	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	166210	44.34	ppb		97
72) Tetrachloroethene	8.968	164	126691	43.03	ppb		96
73) 2-Hexanone	9.151	43	230240	42.36	ppb		96
74) 1,3-Dichloropropane	9.029	76	315496	43.10	ppb		97
75) Dibromochloromethane	9.254	129	143607	47.49	ppb		95
76) N-Butyl Acetate	9.291	43	448990	43.35	ppb		99
77) 1,2-Dibromoethane	9.346	107	161491	42.34	ppb		100
78) Chlorobenzene	9.827	112	479595	44.53	ppb		98
79) 3-CBTF	9.840	180	244888	44.13	ppb		99
80) 4-CBTF	9.894	180	218979	43.77	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	154644	48.18	ppb		97
82) Ethylbenzene	9.943	106	271546	46.44	ppb		98
83) (m+p)Xylene	10.053	106	674429	95.46	ppb		98
84) o-Xylene	10.413	106	329833	45.88	ppb		96
85) Styrene	10.425	104	545204	45.79	ppb		97
87) Bromoform	10.589	173	84694	45.18	ppb		90
88) 2-CBTF	10.663	180	233642	41.86	ppb		99
89) Isopropylbenzene	10.742	105	859991	47.12	ppb		99
90) Cyclohexanone	10.827	55	727904	933.24	ppb		100
91) trans-1,4-Dichloro-2-B...	11.065	53	85181	42.31	ppb		95
92) 1,1,2,2-Tetrachloroethane	11.016	83	272520	44.83	ppb		98
93) Bromobenzene	10.992	156	188397	41.90	ppb		99
94) 1,2,3-Trichloropropane	11.047	110	76360	38.16	ppb	#	87
95) n-Propylbenzene	11.095	91	1069113	48.96	ppb		98
96) 2-Chlorotoluene	11.162	91	623457	45.25	ppb		98
97) 3-Chlorotoluene	11.217	91	603572	43.13	ppb		100
98) 4-Chlorotoluene	11.254	91	687926	46.24	ppb		97
99) 1,3,5-Trimethylbenzene	11.248	105	734098	48.30	ppb		99
100) tert-Butylbenzene	11.516	119	631458	47.21	ppb		100
101) 1,2,4-Trimethylbenzene	11.559	105	735637	48.76	ppb		99
102) 3,4-DCBTF	11.620	214	195770	42.53	ppb		99
103) sec-Butylbenzene	11.699	105	952544	49.22	ppb		98
104) p-Isopropyltoluene	11.821	119	803704	48.50	ppb		100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	397907	44.43	ppb	99
106) 1,4-Dclbenz	11.857	146	403596	44.02	ppb	99
107) 2,4-DCBTF	11.912	214	178086	42.40	ppb	99
108) 2,5-DCBTF	11.955	214	199902	42.79	ppb	99
109) n-Butylbenzene	12.150	91	781785	48.25	ppb	99
110) 1,2-Dclbenz	12.162	146	391170	44.15	ppb	99
111) 1,2-Dibromo-3-chloropr...	12.796	157	56444	40.20	ppb	97
112) Trielution Dichlorotol...	12.900	125	1078619	133.12	ppb	98
113) 1,3,5 Trichlorobenzene	12.949	180	286721	43.20	ppb	99
114) Coelution Dichlorotoluene	13.229	125	793743	87.45	ppb	99
115) 1,2,4-Tcbenzene	13.436	180	306597	44.93	ppb	98
116) Hexachlorobt	13.564	225	127818	46.76	ppb	99
117) Naphthalen	13.631	128	992049	46.20	ppb	99
118) 1,2,3-Tclbenzene	13.814	180	300094	44.52	ppb	99
119) 2,4,5-Trichlorotolene	14.400	159	225546	43.90	ppb	98
120) 2,3,6-Trichlorotoluene	14.479	159	201494	37.93	ppb	94

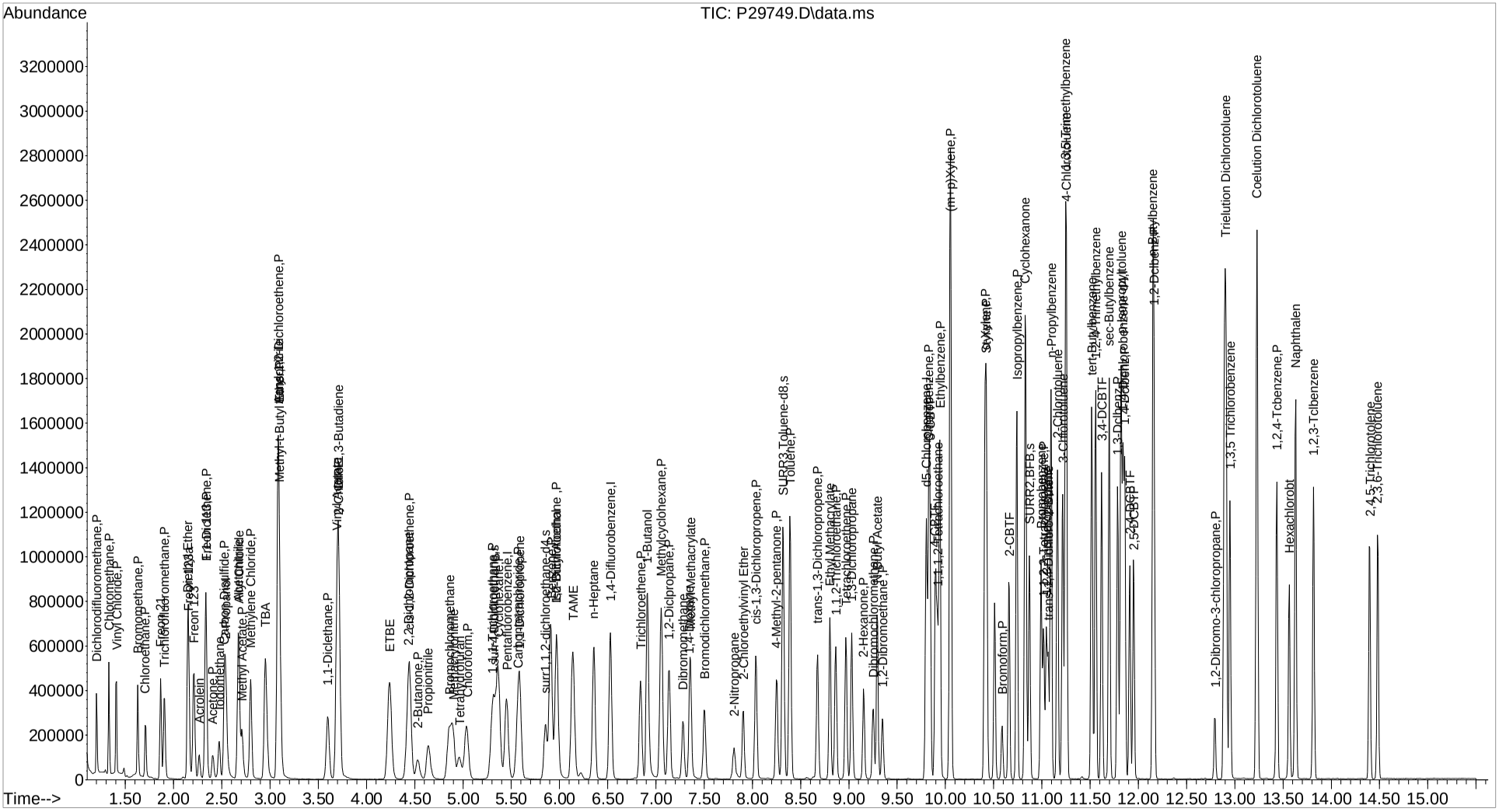
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/12/19 1st
09/12/19 2nd

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

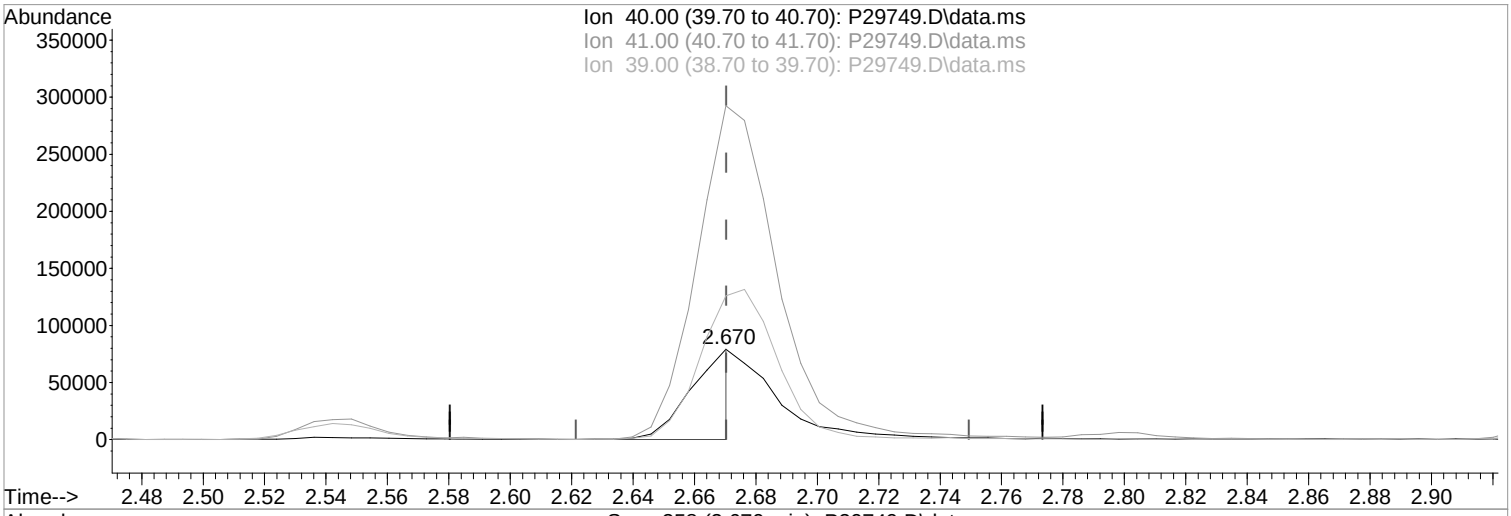


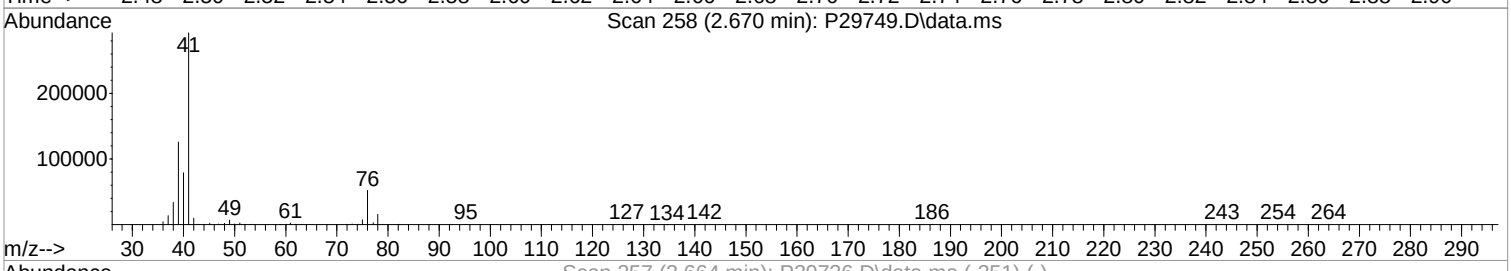
1st 09/12/19
2nd 09/12/19

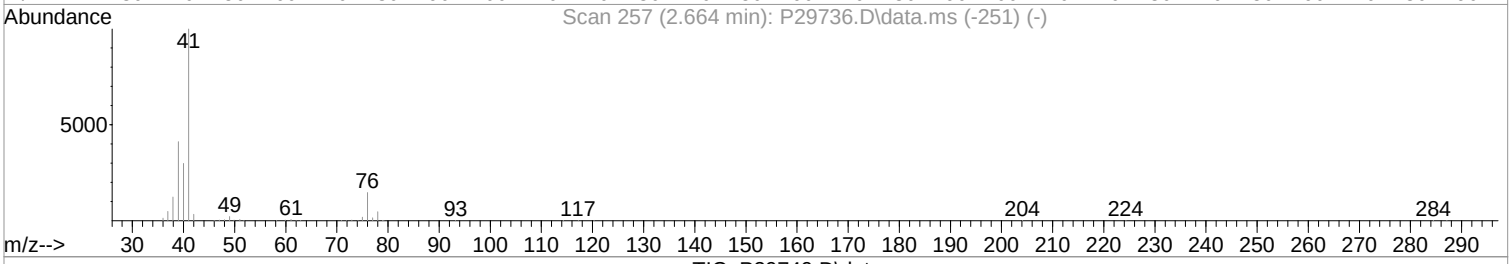
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:44:56 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29749.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 208.46 ppb m

response 75280

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	369.77#
39.00	137.60	159.29#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

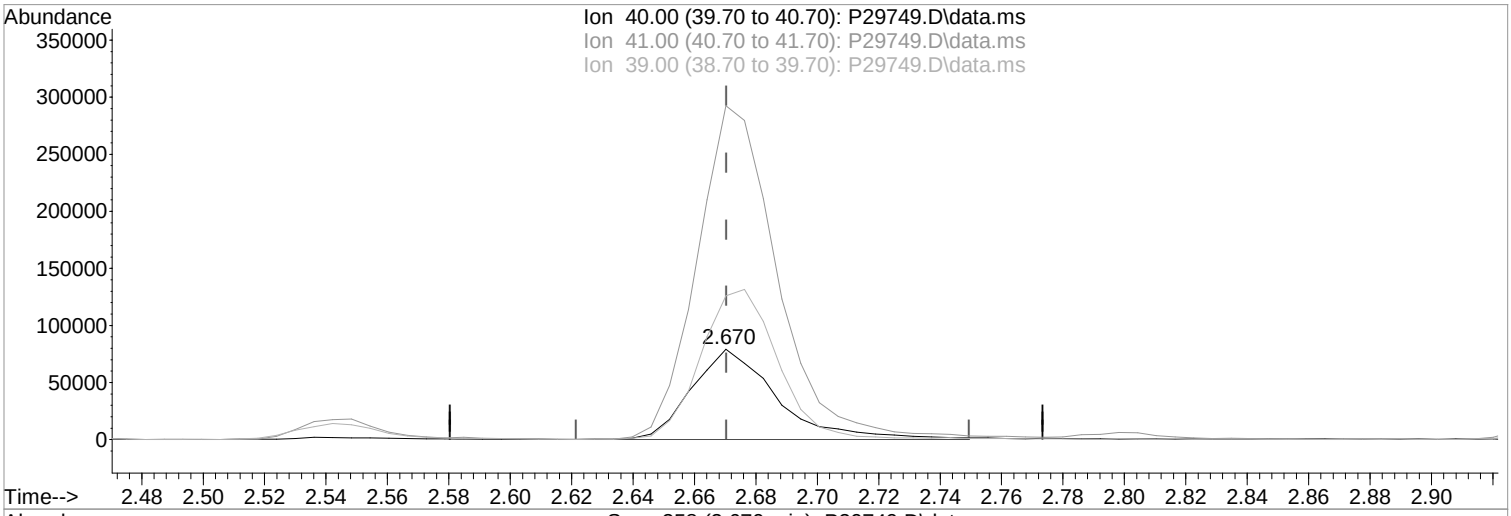
09/12/19

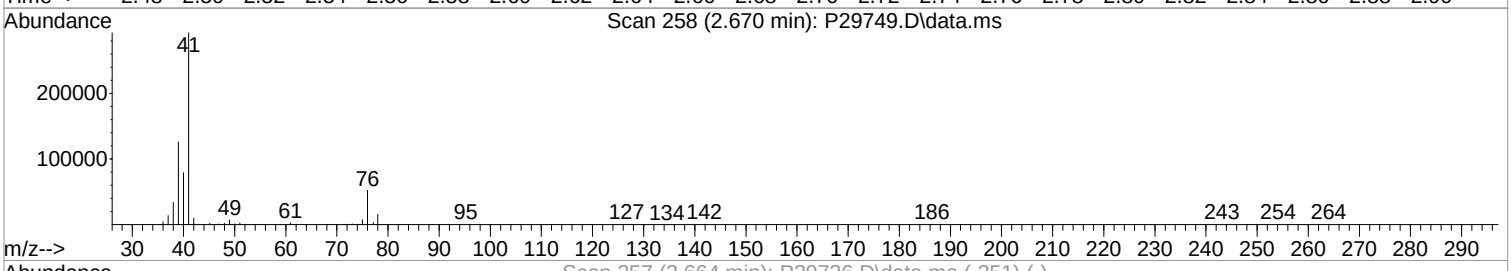
1st 09/12/19
2nd 09/12/19

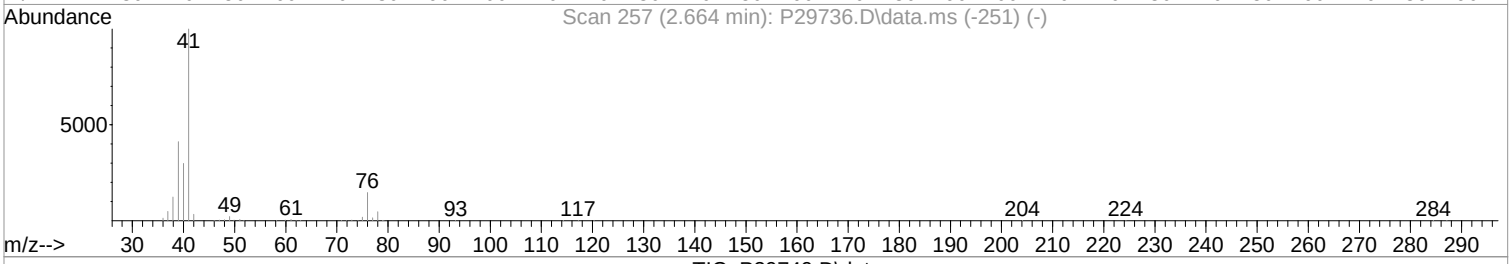
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:44:56 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29749.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 424.41 ppb

response 153268

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	369.77#
39.00	137.60	159.29#
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

#	Lab Code	Sample Name	File Location	Acquisition Date
01	RC1900101-01	0.5ppb	I:\ACQUDATA\msvoa12\Data\091119\P29731.D	09/11/2019 15:34
02	RC1900101-02	1.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29732.D	09/11/2019 15:55
03	RC1900101-03	2.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29733.D	09/11/2019 16:17
04	RC1900101-04	5.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29734.D	09/11/2019 16:39
05	RC1900101-05	20ppb	I:\ACQUDATA\msvoa12\Data\091119\P29735.D	09/11/2019 17:00
06	RC1900101-06	50ppb	I:\ACQUDATA\msvoa12\Data\091119\P29736.D	09/11/2019 17:22
07	RC1900101-07	100ppb	I:\ACQUDATA\msvoa12\Data\091119\P29737.D	09/11/2019 17:44
08	RC1900101-08	150ppb	I:\ACQUDATA\msvoa12\Data\091119\P29738.D	09/11/2019 18:06
09	RC1900101-09	200ppb	I:\ACQUDATA\msvoa12\Data\091119\P29739.D	09/11/2019 18:28

Analyte

1,1,1,2-Tetrachloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2801	02	1.000	0.2715	03	2.000	0.3177	04	5.000	0.3127
05	20.000	0.3391	06	50.000	0.3345	07	100.000	0.3672	08	150.000	0.3686
09	200.000	0.3671									

1,1,1-Trichloroethane (TCA)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7022	02	1.000	0.7114	03	2.000	0.8008	04	5.000	0.7414
05	20.000	0.804	06	50.000	0.7549	07	100.000	0.8037	08	150.000	0.8374
09	200.000	0.7926									

1,1,2,2-Tetrachloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9818	02	1.000	1.055	03	2.000	1.1	04	5.000	1.147
05	20.000	1.214	06	50.000	1.201	07	100.000	1.203	08	150.000	1.197
09	200.000	1.128									

1,1,2-Trichloro-1,2,2-trifluoroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5203	02	1.000	0.472	03	2.000	0.4477	04	5.000	0.4242
05	20.000	0.4904	06	50.000	0.4661	07	100.000	0.4936	08	150.000	0.4953
09	200.000	0.4707									

1,1,2-Trichloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2438	02	1.000	0.3544	03	2.000	0.3356	04	5.000	0.3548
05	20.000	0.3559	06	50.000	0.352	07	100.000	0.3455	08	150.000	0.3539
09	200.000	0.342									

1,1-Dichloroethane (1,1-DCA)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9957	02	1.000	1.061	03	2.000	1.1	04	5.000	1.055
05	20.000	1.18	06	50.000	1.104	07	100.000	1.124	08	150.000	1.167
09	200.000	1.102									

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

1,1-Dichloroethene (1,1-DCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.4876	02	1.000	0.468	03	2.000	0.4813	04	5.000	0.4647
05	20.000	0.5032	06	50.000	0.4874	07	100.000	0.5031	08	150.000	0.5158
09	200.000	0.4912									

1,2,3-Trichloropropane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3482	02	1.000	0.4243	03	2.000	0.3866	04	5.000	0.4032
05	20.000	0.3625	06	50.000	0.3587	07	100.000	0.3661	08	150.000	0.3617
09	200.000	0.3556									

1,2-Dibromo-3-chloropropane (DBCP)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.261	03	2.000	0.2145	04	5.000	0.2252	05	20.000	0.2578
06	50.000	0.2665	07	100.000	0.2888	08	150.000	0.2936	09	200.000	0.2926

1,2-Dibromoethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3929	02	1.000	0.3746	03	2.000	0.3916	04	5.000	0.3865
05	20.000	0.3992	06	50.000	0.388	07	100.000	0.3948	08	150.000	0.3979
09	200.000	0.3903									

1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8394	02	1.000	0.6407	03	2.000	0.726	04	5.000	0.664
05	20.000	0.7041	06	50.000	0.6431	07	100.000	0.6743	08	150.000	0.6889
09	200.000	0.6514									

1,2-Dichloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5484	02	1.000	0.4984	03	2.000	0.5028	04	5.000	0.5258
05	20.000	0.5089	06	50.000	0.509	07	100.000	0.5083	08	150.000	0.5038
09	200.000	0.4927									

1,2-Dichloropropane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.4676	02	1.000	0.3862	03	2.000	0.3932	04	5.000	0.3942
05	20.000	0.4281	06	50.000	0.418	07	100.000	0.4227	08	150.000	0.4169
09	200.000	0.4067									

1,4-Dioxane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.009263	04	100.000	0.008985	05	400.000	0.009583	06	1000.000	0.009174
07	2000.000	0.009543	08	3000.000	0.01056	09	4000.000	0.01004			

2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8362	02	1.000	0.7728	03	2.000	0.8041	04	5.000	0.7332

Client: NASA/WSTF/Navarro **Service Request:** R1910505
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Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	20.000	0.7775	06	50.000	0.7119	07	100.000	0.7522	08	150.000	0.7656
09	200.000	0.7203									

2-Butanone (MEK)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5382	04	5.000	0.5453	05	20.000	0.5822	06	50.000	0.5514
07	100.000	0.5714	08	150.000	0.6147	09	200.000	0.5754			

2-Chloro-1,3-butadiene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.817	02	1.000	0.825	03	2.000	0.8924	04	5.000	0.8315
05	20.000	0.9378	06	50.000	0.9178	07	100.000	0.9327	08	150.000	0.9541
09	200.000	0.8962									

2-Hexanone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5047	04	5.000	0.522	05	20.000	0.5699	06	50.000	0.5559
07	100.000	0.5741	08	150.000	0.5983	09	200.000	0.5717			

2-Propanol

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.08108	04	100.000	0.08764	05	400.000	0.09064	06	1000.000	0.0916
07	2000.000	0.09649	08	3000.000	0.1063	09	4000.000	0.09399			

4-Bromofluorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	0.5286	05	20.000	0.4481	06	50.000	0.4807	07	100.000	0.4894
08	200.000	0.4801									

4-Methyl-2-pentanone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5612	04	5.000	0.5945	05	20.000	0.6612	06	50.000	0.6517
07	100.000	0.6763	08	150.000	0.6955	09	200.000	0.6526			

Acetone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	5.000	0.4324	05	20.000	0.4208	06	50.000	0.3927	07	100.000	0.3952
08	150.000	0.4129	09	200.000	0.3874						

Acetonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	10.000	0.06717	04	25.000	0.05966	05	100.000	0.05187	06	250.000	0.04996
07	500.000	0.05053	08	750.000	0.0464	09	1000.000	0.05247			

Acrolein

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	5.000	0.1599	03	10.000	0.1625	04	25.000	0.1694	05	100.000	0.1799

Client: NASA/WSTF/Navarro **Service Request:** R1910505
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Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
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Analyte

Acrolein

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
06	250.000	0.1758	07	500.000	0.1864	08	750.000	0.1967	09	1000.000	0.1849

Acrylonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.500	0.4072	02	5.000	0.3674	03	10.000	0.4031	04	25.000	0.4274
05	100.000	0.4437	06	250.000	0.4312	07	500.000	0.4338	08	750.000	0.4421
09	1000.000	0.4005									

Allyl Chloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.261	02	1.000	0.3361	03	2.000	0.2709	04	5.000	0.2805
05	20.000	0.3214	06	50.000	0.2648	07	100.000	0.2599	08	150.000	0.2654
09	200.000	0.264									

Benzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.544	02	1.000	1.524	03	2.000	1.542	04	5.000	1.451
05	20.000	1.544	06	50.000	1.519	07	100.000	1.528	08	150.000	1.479
09	200.000	1.397									

Bromodichloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.362	02	1.000	0.3539	03	2.000	0.3935	04	5.000	0.3962
05	20.000	0.4042	06	50.000	0.4083	07	100.000	0.4218	08	150.000	0.4307
09	200.000	0.4219									

Bromoform

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.2866	03	2.000	0.3253	04	5.000	0.3356	05	20.000	0.3494
06	50.000	0.3541	07	100.000	0.3925	08	150.000	0.4096			

Bromomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.6796	02	1.000	0.5669	03	2.000	0.5379	04	5.000	0.4755
05	20.000	0.4136	06	50.000	0.4122	07	100.000	0.4181	08	150.000	0.4163
09	200.000	0.4217									

Carbon Disulfide

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.804	02	1.000	1.346	03	2.000	1.389	04	5.000	1.293
05	20.000	1.514	06	50.000	1.481	07	100.000	1.483	08	150.000	1.501
09	200.000	1.38									

Carbon Tetrachloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3707	02	1.000	0.2577	03	2.000	0.3127	04	5.000	0.3235
05	20.000	0.3361	06	50.000	0.3449	07	100.000	0.3653	08	150.000	0.3775

Client: NASA/WSTF/Navarro **Service Request:** R1910505
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Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
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Analyte

Carbon Tetrachloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	200.000	0.3762									

Chlorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.236	02	1.000	1.125	03	2.000	1.091	04	5.000	1.081
05	20.000	1.116	06	50.000	1.091	07	100.000	1.111	08	150.000	1.068
09	200.000	1.008									

Chloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5525	02	1.000	0.5456	03	2.000	0.5878	04	5.000	0.4681
05	20.000	0.5558	06	50.000	0.5284	07	100.000	0.5271	08	150.000	0.538
09	200.000	0.5126									

Chloroform

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8904	02	1.000	1.035	03	2.000	1.054	04	5.000	0.9261
05	20.000	0.9682	06	50.000	0.9441	07	100.000	0.9661	08	150.000	0.9937
09	200.000	0.9379									

Chloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.155	02	1.000	0.9031	03	2.000	0.9641	04	5.000	0.8101
05	20.000	0.9682	06	50.000	0.9335	07	100.000	0.9465	08	150.000	0.9859
09	200.000	0.9021									

Cyclohexane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.378	03	2.000	0.4516	04	5.000	0.3604	05	20.000	0.4229
06	50.000	0.386	07	100.000	0.4027	08	150.000	0.4025	09	200.000	0.3898

Dibromochloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2672	02	1.000	0.2889	03	2.000	0.2902	04	5.000	0.2962
05	20.000	0.3032	06	50.000	0.3071	07	100.000	0.3338	08	150.000	0.3468
09	200.000	0.3538									

Dibromofluoromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	0.2976	05	20.000	0.2398	06	50.000	0.2654	07	100.000	0.2681
08	200.000	0.254									

Dibromomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2216	02	1.000	0.1731	03	2.000	0.1896	04	5.000	0.2001
05	20.000	0.2061	06	50.000	0.2099	07	100.000	0.2186	08	150.000	0.2187
09	200.000	0.2141									

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Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
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Analyte

Dichlorodifluoromethane (CFC 12)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5557	02	1.000	0.5807	03	2.000	0.5614	04	5.000	0.4827
05	20.000	0.7043	06	50.000	0.6643	07	100.000	0.6874	08	150.000	0.6919
09	200.000	0.6334									

Dichlorofluoromethane (CFC 21)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.013	02	1.000	0.9678	03	2.000	1.031	04	5.000	0.9846
05	20.000	1.038	06	50.000	0.949	07	100.000	0.9723	08	150.000	1.005
09	200.000	0.9539									

Dichloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7663	02	1.000	0.725	03	2.000	0.6706	04	5.000	0.6174
05	20.000	0.633	06	50.000	0.5689	07	100.000	0.5829	08	150.000	0.5987
09	200.000	0.5707									

Ethyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5894	02	1.000	0.6242	03	2.000	0.6511	04	5.000	0.6313
05	20.000	0.7042	06	50.000	0.7137	07	100.000	0.7226	08	150.000	0.7432
09	200.000	0.6975									

Ethylbenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.6327	02	1.000	0.5586	03	2.000	0.5889	04	5.000	0.5604
05	20.000	0.6218	06	50.000	0.5942	07	100.000	0.626	08	150.000	0.6146
09	200.000	0.5929									

Iodomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.2984	04	5.000	0.3777	05	20.000	0.5844	06	50.000	0.6446
07	100.000	0.6785	08	150.000	0.6912	09	200.000	0.6683			

Isobutyl Alcohol

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.03257	04	100.000	0.04069	05	400.000	0.04128	06	1000.000	0.04204
07	2000.000	0.04537	08	3000.000	0.05047	09	4000.000	0.04718			

Methacrylonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.4104	03	2.000	0.4033	04	5.000	0.3821	05	20.000	0.4164
06	50.000	0.4197	07	100.000	0.4266	08	150.000	0.4487	09	200.000	0.4287

Methyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2916	02	1.000	0.3261	03	2.000	0.3794	04	5.000	0.3821
05	20.000	0.4076	06	50.000	0.4179	07	100.000	0.4218	08	150.000	0.4298

Client: NASA/WSTF/Navarro **Service Request:** R1910505
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Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
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Analyte

Methyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	200.000	0.419									

Methyl tert-Butyl Ether

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.705	02	1.000	2.025	03	2.000	2.157	04	5.000	2.104
05	20.000	2.222	06	50.000	2.068	07	100.000	2.091	08	150.000	2.168
09	200.000	1.984									

Methylcyclohexane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.5415	03	2.000	0.5598	04	5.000	0.5267	05	20.000	0.5522
06	50.000	0.5204	07	100.000	0.548	08	150.000	0.5381	09	200.000	0.5222

Propionitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.500	0.1269	02	5.000	0.1826	03	10.000	0.1656	04	25.000	0.1701
05	100.000	0.1834	06	250.000	0.1807	07	500.000	0.1887	08	750.000	0.2018
09	1000.000	0.1872									

Styrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.143	02	1.000	1.163	03	2.000	1.227	04	5.000	1.219
05	20.000	1.293	06	50.000	1.272	07	100.000	1.293	08	150.000	1.232
09	200.000	1.133									

Tetrachloroethene (PCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3129	02	1.000	0.3263	03	2.000	0.3367	04	5.000	0.2814
05	20.000	0.299	06	50.000	0.2847	07	100.000	0.2963	08	150.000	0.2881
09	200.000	0.2884									

Tetrahydrofuran (THF)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.7252	04	5.000	0.4945	05	20.000	0.4286	06	50.000	0.3965
07	100.000	0.3909	08	150.000	0.4217	09	200.000	0.4195			

Toluene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.621	02	1.000	1.561	03	2.000	1.562	04	5.000	1.518
05	20.000	1.578	06	50.000	1.568	07	100.000	1.526	08	150.000	1.443
09	200.000	1.308									

Toluene-d8

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	1.448	05	20.000	1.187	06	50.000	1.263	07	100.000	1.244
08	200.000	1.096									

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

Trichloroethene (TCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3599	02	1.000	0.2812	03	2.000	0.3421	04	5.000	0.3126
05	20.000	0.3367	06	50.000	0.3426	07	100.000	0.35	08	150.000	0.344
09	200.000	0.339									

Trichlorofluoromethane (CFC 11)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.726	02	1.000	0.617	03	2.000	0.6854	04	5.000	0.6466
05	20.000	0.7658	06	50.000	0.7524	07	100.000	0.7815	08	150.000	0.78
09	200.000	0.7305									

Vinyl Acetate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.08279	04	5.000	0.07969	05	20.000	0.1366	06	50.000	0.1297
07	100.000	0.1479	08	150.000	0.1562	09	200.000	0.1414			

Vinyl Chloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9647	02	1.000	0.8109	03	2.000	0.8428	04	5.000	0.8102
05	20.000	0.9512	06	50.000	0.9033	07	100.000	0.931	08	150.000	0.939
09	200.000	0.8451									

cis-1,2-Dichloroethene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5676	02	1.000	0.6108	03	2.000	0.5884	04	5.000	0.5891
05	20.000	0.6428	06	50.000	0.6101	07	100.000	0.631	08	150.000	0.6445
09	200.000	0.6027									

cis-1,3-Dichloropropene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5311	02	1.000	0.5457	03	2.000	0.5622	04	5.000	0.5917
05	20.000	0.5904	06	50.000	0.6222	07	100.000	0.6339	08	150.000	0.6387
09	200.000	0.6211									

m,p-Xylenes

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	1.000	0.7188	02	2.000	0.7259	03	4.000	0.7554	04	10.000	0.7365
05	40.000	0.7563	06	100.000	0.7421	07	200.000	0.7415	08	300.000	0.6959
09	400.000	0.6396									

o-Xylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7973	02	1.000	0.7466	03	2.000	0.6735	04	5.000	0.7057
05	20.000	0.7573	06	50.000	0.7254	07	100.000	0.7611	08	150.000	0.7424
09	200.000	0.7171									

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

trans-1,2-Dichloroethene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5024	02	1.000	0.5017	03	2.000	0.5126	04	5.000	0.5154
05	20.000	0.5573	06	50.000	0.5219	07	100.000	0.555	08	150.000	0.5717
09	200.000	0.542									

trans-1,3-Dichloropropene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5864	02	1.000	0.4369	03	2.000	0.5004	04	5.000	0.5262
05	20.000	0.5641	06	50.000	0.5663	07	100.000	0.5837	08	150.000	0.6011

trans-1,4-Dichloro-2-butene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3178	02	1.000	0.353	03	2.000	0.3458	04	5.000	0.3671
05	20.000	0.4054	06	50.000	0.3752	07	100.000	0.4118	08	150.000	0.4118
09	200.000	0.4002									

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
1,1,1,2-Tetrachloroethane	TRG	Average RF	% RSD	11.1	≤20	0.3287	
1,1,1-Trichloroethane (TCA)	TRG	Average RF	% RSD	6.0	≤20	0.772	0.100
1,1,2,2-Tetrachloroethane	TRG	Average RF	% RSD	7.0	≤20	1.136	0.300
1,1,2-Trichloro-1,2,2-trifluoroethane	TRG	Average RF	% RSD	6.0	≤20	0.4756	0.100
1,1,2-Trichloroethane	TRG	Average RF	% RSD	10.6	≤20	0.3375	0.100
1,1-Dichloroethane (1,1-DCA)	TRG	Average RF	% RSD	5.2	≤20	1.099	0.200
1,1-Dichloroethene (1,1-DCE)	TRG	Average RF	% RSD	3.4	≤20	0.4891	0.100
1,2,3-Trichloropropane	TRG	Average RF	% RSD	6.8	≤20	0.3741	
1,2-Dibromo-3-chloropropane (DBCP)	TRG	Average RF	% RSD	11.4	≤20	0.2625	0.050
1,2-Dibromoethane	TRG	Average RF	% RSD	1.9	≤20	0.3906	0.100
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	TRG	Average RF	% RSD	9.0	≤20	0.6924	
1,2-Dichloroethane	TRG	Average RF	% RSD	3.3	≤20	0.5109	0.100
1,2-Dichloropropane	TRG	Average RF	% RSD	5.9	≤20	0.4148	0.100
1,4-Dioxane	TRG	Average RF	% RSD	5.7	≤20	0.009593	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	TRG	Average RF	% RSD	5.2	≤20	0.7637	
2-Butanone (MEK)	TRG	Average RF	% RSD	4.6	≤20	0.5684	0.05
2-Chloro-1,3-butadiene	TRG	Average RF	% RSD	5.9	≤20	0.8894	
2-Hexanone	TRG	Average RF	% RSD	5.8	≤20	0.5567	0.05
2-Propanol	TRG	Average RF	% RSD	8.4	≤20	0.09253	
4-Bromofluorobenzene	SURR	Average RF	% RSD	5.9	≤20	0.4854	
4-Methyl-2-pentanone	TRG	Average RF	% RSD	7.4	≤20	0.6419	0.05
Acetone	TRG	Average RF	% RSD	4.4	≤20	0.4069	0.05
Acetonitrile	TRG	Average RF	% RSD	13.1	≤20	0.05401	
Acrolein	TRG	Average RF	% RSD	7.1	≤20	0.1769	
Acrylonitrile	TRG	Average RF	% RSD	6.0	≤20	0.4174	
Allyl Chloride	TRG	Average RF	% RSD	10.1	≤20	0.2805	
Benzene	TRG	Average RF	% RSD	3.4	≤20	1.503	0.500
Bromodichloromethane	TRG	Average RF	% RSD	6.6	≤20	0.3992	0.200
Bromoform	TRG	Average RF	% RSD	11.8	≤20	0.3504	0.100
Bromomethane	TRG	Quadratic	COD	1.0000	≥0.99	0.4824	0.100
Carbon Disulfide	TRG	Average RF	% RSD	10.1	≤20	1.466	0.100
Carbon Tetrachloride	TRG	Average RF	% RSD	11.4	≤20	0.3405	0.05
Chlorobenzene	TRG	Average RF	% RSD	5.5	≤20	1.103	0.500

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Chloroethane	TRG	Average RF	% RSD	6.2	≤20	0.5351	0.100
Chloroform	TRG	Average RF	% RSD	5.4	≤20	0.9683	0.200
Chloromethane	TRG	Average RF	% RSD	9.7	≤20	0.952	0.100
Cyclohexane	TRG	Average RF	% RSD	7.0	≤20	0.3993	0.100
Dibromochloromethane	TRG	Average RF	% RSD	9.4	≤20	0.3097	0.100
Dibromofluoromethane	SURR	Average RF	% RSD	8.1	≤20	0.265	
Dibromomethane	TRG	Average RF	% RSD	7.7	≤20	0.2058	
Dichlorodifluoromethane (CFC 12)	TRG	Average RF	% RSD	12.4	≤20	0.618	0.100
Dichlorofluoromethane (CFC 21)	TRG	Average RF	% RSD	3.3	≤20	0.9906	
Dichloromethane	TRG	Average RF	% RSD	11.0	≤20	0.6371	0.100
Ethyl Methacrylate	TRG	Average RF	% RSD	7.8	≤20	0.6752	
Ethylbenzene	TRG	Average RF	% RSD	4.5	≤20	0.5989	0.100
Iodomethane	TRG	Quadratic	COD	0.9949	≥0.99	0.5633	
Isobutyl Alcohol	TRG	Average RF	% RSD	13.4	≤20	0.0428	
Methacrylonitrile	TRG	Average RF	% RSD	4.7	≤20	0.417	
Methyl Methacrylate	TRG	Average RF	% RSD	12.4	≤20	0.3861	
Methyl tert-Butyl Ether	TRG	Average RF	% RSD	7.4	≤20	2.058	0.100
Methylcyclohexane	TRG	Average RF	% RSD	2.7	≤20	0.5386	0.100
Propionitrile	TRG	Average RF	% RSD	12.1	≤20	0.1763	
Styrene	TRG	Average RF	% RSD	5.0	≤20	1.219	0.300
Tetrachloroethene (PCE)	TRG	Average RF	% RSD	6.5	≤20	0.3015	0.200
Tetrahydrofuran (THF)	TRG	Quadratic	COD	0.9992	≥0.99	0.4681	
Toluene	TRG	Average RF	% RSD	6.2	≤20	1.52	0.400
Toluene-d8	SURR	Average RF	% RSD	10.4	≤20	1.248	
Trichloroethene (TCE)	TRG	Average RF	% RSD	7.1	≤20	0.3342	0.200
Trichlorofluoromethane (CFC 11)	TRG	Average RF	% RSD	8.2	≤20	0.7206	0.100
Vinyl Acetate	TRG	Quadratic	COD	0.9938	≥0.99	0.1249	
Vinyl Chloride	TRG	Average RF	% RSD	6.9	≤20	0.8887	0.100
cis-1,2-Dichloroethene	TRG	Average RF	% RSD	4.3	≤20	0.6097	0.100
cis-1,3-Dichloropropene	TRG	Average RF	% RSD	6.6	≤20	0.593	0.200
m,p-Xylenes	TRG	Average RF	% RSD	5.1	≤20	0.7236	0.100
o-Xylene	TRG	Average RF	% RSD	4.9	≤20	0.7363	0.300
trans-1,2-Dichloroethene	TRG	Average RF	% RSD	4.9	≤20	0.5311	0.100
trans-1,3-Dichloropropene	TRG	Average RF	% RSD	10.1	≤20	0.5457	0.100
trans-1,4-Dichloro-2-butene	TRG	Average RF	% RSD	8.9	≤20	0.3764	

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

#	Lab Code	Sample Name	File Location	Acquisition Date
10	RC1900101-10	ICV/LCS 50	I:\ACQUDATA\msvoa12\Data\091219\P29749.D	09/12/2019 10:23

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	48.2	3.287E-1	3.168E-1	-3.641	±30	Average RF
1,1,1-Trichloroethane (TCA)	50.0	45.0	7.72E-1	6.951E-1	-9.970	±30	Average RF
1,1,2,2-Tetrachloroethane	50.0	44.8	1.136E0	1.019E0	-10.330	±30	Average RF
1,1,2-Trichloroethane	50.0	44.3	3.375E-1	2.994E-1	-11.313	±30	Average RF
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	44.0	4.756E-1	4.182E-1	-12.075	±30	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	44.5	1.099E0	9.77E-1	-11.070	±30	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	42.8	4.891E-1	4.187E-1	-14.408	±30	Average RF
1,2,3-Trichloropropane	50.0	38.2	3.741E-1	2.855E-1	-23.674	±30	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	40.2	2.625E-1	2.111E-1	-19.601	±30	Average RF
1,2-Dibromoethane	50.0	42.3	3.906E-1	3.308E-1	-15.324	±30	Average RF
1,2-Dichloroethane	50.0	40.6	5.109E-1	4.15E-1	-18.779	±30	Average RF
1,2-Dichloropropane	50.0	42.7	4.148E-1	3.543E-1	-14.604	±30	Average RF
1,4-Dioxane	1000	749	9.593E-3	7.182E-3	-25.133	±30	Average RF
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	50.0	45.6	7.637E-1	6.967E-1	-8.781	±30	Average RF
2-Butanone (MEK)	50.0	41.6	5.684E-1	4.732E-1	-16.742	±30	Average RF
2-Chloro-1,3-butadiene	50.0	47.2	8.894E-1	8.405E-1	-5.500	±30	Average RF
2-Hexanone	50.0	42.4	5.567E-1	4.716E-1	-15.279	±30	Average RF
Isobutyl Alcohol	1000	690	4.28E-2	2.955E-2	-30.954*	±30	Average RF
2-Propanol	1000	745	9.253E-2	6.894E-2	-25.496	±30	Average RF
Allyl Chloride	50.0	48.2	2.805E-1	2.704E-1	-3.581	±30	Average RF
4-Methyl-2-pentanone	50.0	41.9	6.419E-1	5.378E-1	-16.213	±30	Average RF
Acetone	50.0	40.2	4.069E-1	3.272E-1	-19.593	±30	Average RF
Acetonitrile	250	208	5.401E-2	4.503E-2	-16.617	±30	Average RF
Acrolein	100	62.9	1.769E-1	1.112E-1	-37.134*	±30	Average RF
Acrylonitrile	250	205	4.174E-1	3.429E-1	-17.842	±30	Average RF
Benzene	50.0	43.8	1.503E0	1.316E0	-12.470	±30	Average RF
Bromodichloromethane	50.0	45.4	3.992E-1	3.625E-1	-9.197	±30	Average RF
Bromoform	50.0	45.2	3.504E-1	3.167E-1	-9.630	±30	Average RF
Bromomethane	50.0	47.2	4.824E-1	3.926E-1	-5.508	±30	Quadratic
Carbon Disulfide	50.0	47.0	1.466E0	1.377E0	-6.021	±30	Average RF
Carbon Tetrachloride	50.0	46.8	3.405E-1	3.187E-1	-6.403	±30	Average RF
Chlorobenzene	50.0	44.5	1.103E0	9.824E-1	-10.946	±30	Average RF
Chloroethane	50.0	39.3	5.351E-1	4.203E-1	-21.453	±30	Average RF

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Chloroform	50.0	43.2	9.683E-1	8.36E-1	-13.669	±30	Average RF
Chloromethane	50.0	38.2	9.52E-1	7.265E-1	-23.686	±30	Average RF
Cyclohexane	50.0	44.4	3.993E-1	3.544E-1	-11.246	±30	Average RF
Dibromochloromethane	50.0	47.5	3.097E-1	2.942E-1	-5.024	±30	Average RF
Dibromomethane	50.0	44.9	2.058E-1	1.846E-1	-10.274	±30	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	39.6	6.18E-1	4.889E-1	-20.895	±30	Average RF
Dichlorofluoromethane (CFC 21)	50.0	43.6	9.906E-1	8.643E-1	-12.748	±30	Average RF
Dichloromethane	50.0	40.1	6.371E-1	5.11E-1	-19.794	±30	Average RF
Ethyl Methacrylate	50.0	42.7	6.752E-1	5.765E-1	-14.617	±30	Average RF
Ethylbenzene	50.0	46.4	5.989E-1	5.562E-1	-7.128	±30	Average RF
Iodomethane	50.0	39.6	5.633E-1	4.762E-1	-20.888	±30	Quadratic
Methacrylonitrile	50.0	38.7	4.17E-1	3.227E-1	-22.617	±30	Average RF
Methyl Methacrylate	50.0	42.2	3.861E-1	3.259E-1	-15.615	±30	Average RF
Methyl tert-Butyl Ether	50.0	43.4	2.058E0	1.785E0	-13.295	±30	Average RF
Methylcyclohexane	50.0	45.5	5.386E-1	4.897E-1	-9.080	±30	Average RF
Propionitrile	250	199	1.763E-1	1.401E-1	-20.524	±30	Average RF
Styrene	50.0	45.8	1.219E0	1.117E0	-8.414	±30	Average RF
Tetrachloroethene (PCE)	50.0	43.0	3.015E-1	2.595E-1	-13.940	±30	Average RF
Tetrahydrofuran (THF)	50.0	38.8	4.681E-1	3.092E-1	-22.467	±30	Quadratic
Toluene	50.0	45.6	1.52E0	1.386E0	-8.845	±30	Average RF
Trichloroethene (TCE)	50.0	42.4	3.342E-1	2.837E-1	-15.122	±30	Average RF
Trichlorofluoromethane (CFC 11)	50.0	46.6	7.206E-1	6.719E-1	-6.753	±30	Average RF
Vinyl Acetate	50.0	50.3	1.249E-1	1.43E-1	0.507	±30	Quadratic
Vinyl Chloride	50.0	40.7	8.887E-1	7.242E-1	-18.507	±30	Average RF
cis-1,2-Dichloroethene	50.0	43.8	6.097E-1	5.342E-1	-12.387	±30	Average RF
cis-1,3-Dichloropropene	50.0	44.8	5.93E-1	5.308E-1	-10.493	±30	Average RF
m,p-Xylenes	100	95.5	7.236E-1	6.907E-1	-4.538	±30	Average RF
o-Xylene	50.0	45.9	7.363E-1	6.756E-1	-8.241	±30	Average RF
trans-1,2-Dichloroethene	50.0	44.4	5.311E-1	4.712E-1	-11.283	±30	Average RF
trans-1,3-Dichloropropene	50.0	43.7	5.457E-1	4.767E-1	-12.634	±30	Average RF
trans-1,4-Dichloro-2-butene	50.0	42.3	3.764E-1	3.185E-1	-15.387	±30	Average RF
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	50.0	42.2	6.924E-1	5.841E-1	-15.640	±30	Average RF

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
4-Bromofluorobenzene	50.0	49.6	4.854E-1	4.819E-1	-0.708	±30	Average RF
Dibromofluoromethane	50.0	48.7	2.65E-1	2.582E-1	-2.567	±30	Average RF
Toluene-d8	50.0	50.8	1.248E0	1.267E0	1.55	±30	Average RF

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Service Request: R1910505
Date Analyzed: 10/29/19 21:24

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
File ID: I:\ACQUDATA\msvoa12\Data\102919\P31396.D\
Signal ID: 1
Calibration Date: 9/11/2019
Calibration ID: RC1900101
Analysis Lot: 657587
Units: ppb

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	48.2	0.3287	0.3171	-3.5	NA	±20	Average RF
1,1,1-Trichloroethane (TCA)	50.0	42.1	0.772	0.6508	-15.7	NA	±20	Average RF
1,1,2,2-Tetrachloroethane	50.0	44.2	1.1364	1.0039	-11.7	NA	±20	Average RF
1,1,2-Trichloroethane	50.0	46.8	0.3375	0.316	-6.4	NA	±20	Average RF
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	41.0	0.4756	0.3901	-18.0	NA	±20	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	42.9	1.0987	0.9427	-14.2	NA	±20	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	42.4	0.4891	0.4146	-15.2	NA	±20	Average RF
1,2,3-Trichloropropane	50.0	42.4	0.3741	0.3171	-15.2	NA	±20	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	45.1	0.2625	0.2366	-9.9	NA	±20	Average RF
1,2-Dibromoethane	50.0	45.2	0.3906	0.3528	-9.7	NA	±20	Average RF
1,2-Dichloroethane	50.0	45.5	0.5109	0.4646	-9.1	NA	±20	Average RF
1,2-Dichloropropane	50.0	45.2	0.4148	0.3751	-9.6	NA	±20	Average RF
1,4-Dioxane	1000	807	0.0096	0.0077	-19.3	NA	±20	Average RF
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	50.0	45.0	0.7637	0.6878	-9.9	NA	±20	Average RF
2-Butanone (MEK)	50.0	43.4	0.5684	0.4929	-13.3	NA	±20	Average RF
2-Chloro-1,3-butadiene	50.0	48.8	0.8894	0.8679	-2.4	NA	±20	Average RF
2-Hexanone	50.0	46.8	0.5567	0.5212	-6.4	NA	±20	Average RF
Isobutyl Alcohol	1000	802	0.0428	0.0343	-19.8	NA	±20	Average RF
2-Propanol	1000	823	0.0925	0.0762	-17.7	NA	±20	Average RF
Allyl Chloride	50.0	41.9	0.2805	0.2351	-16.2	NA	±20	Average RF
4-Methyl-2-pentanone	50.0	47.0	0.6419	0.6039	-5.9	NA	±20	Average RF
Acetone	50.0	40.1	0.4069	0.3262	-19.8	NA	±20	Average RF
Acetonitrile	250	228	0.054	0.0492	-8.8	NA	±20	Average RF
Acrolein	250	237	0.1769	0.1676	-5.3	NA	±20	Average RF
Acrylonitrile	250	220	0.4174	0.3677	-11.9	NA	±20	Average RF
Benzene	50.0	44.6	1.5031	1.3409	-10.8	NA	±20	Average RF
Bromodichloromethane	50.0	47.3	0.3992	0.3779	-5.3	NA	±20	Average RF
Bromoform	50.0	50.2	0.3504	0.3517	0.3	NA	±20	Average RF
Bromomethane	50.0	53.5	0.4824	0.4446	NA	7.0	±20	Quadratic
Carbon Disulfide	50.0	47.5	1.4656	1.3914	-5.1	NA	±20	Average RF
Carbon Tetrachloride	50.0	45.5	0.3405	0.31	-9.0	NA	±20	Average RF
Chlorobenzene	50.0	44.6	1.1031	0.9845	-10.8	NA	±20	Average RF
Chloroethane	50.0	43.0	0.5351	0.4605	-13.9	NA	±20	Average RF
Chloroform	50.0	41.5	0.9683	0.8038	-17.0	NA	±20	Average RF
Chloromethane	50.0	43.1	0.952	0.8209	-13.8	NA	±20	Average RF
Cyclohexane	50.0	48.0	0.3993	0.3833	-4.0	NA	±20	Average RF
Dibromochloromethane	50.0	48.9	0.3097	0.303	-2.2	NA	±20	Average RF
Dibromomethane	50.0	48.6	0.2058	0.2	-2.8	NA	±20	Average RF

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B

Service Request: R1910505
Date Analyzed: 10/29/19 21:24

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
File ID: I:\ACQUDATA\msvoa12\Data\102919\P31396.D\
Signal ID: 1

Calibration Date: 9/11/2019
Calibration ID: RC1900101
Analysis Lot: 657587
Units: ppb

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Dichlorodifluoromethane (CFC 12)	50.0	49.3	0.618	0.6094	-1.4	NA	±20	Average RF
Dichlorofluoromethane (CFC 21)	50.0	47.9	0.9906	0.9481	-4.3	NA	±20	Average RF
Dichloromethane	50.0	39.9	0.6371	0.5084	-20.2	NA	±20	Average RF
Ethyl Methacrylate	50.0	45.5	0.6752	0.614	-9.1	NA	±20	Average RF
Ethylbenzene	50.0	44.2	0.5989	0.5299	-11.5	NA	±20	Average RF
Iodomethane	50.0	46.0	0.5633	0.559	NA	-8.0	±20	Quadratic
Methacrylonitrile	50.0	41.7	0.417	0.3479	-16.6	NA	±20	Average RF
Methyl Methacrylate	50.0	45.8	0.3861	0.3536	-8.4	NA	±20	Average RF
Methyl tert-Butyl Ether	50.0	43.0	2.0584	1.7722	-13.9	NA	±20	Average RF
Methylcyclohexane	50.0	46.9	0.5386	0.5049	-6.3	NA	±20	Average RF
Propionitrile	250	221	0.1763	0.1561	-11.5	NA	±20	Average RF
Styrene	50.0	46.1	1.2193	1.1239	-7.8	NA	±20	Average RF
Tetrachloroethene (PCE)	50.0	42.1	0.3015	0.2539	-15.8	NA	±20	Average RF
Tetrahydrofuran (THF)	50.0	43.8	0.4681	0.3489	NA	-12.3	±20	Quadratic
Toluene	50.0	45.7	1.5204	1.3899	-8.6	NA	±20	Average RF
Trichloroethene (TCE)	50.0	47.0	0.3342	0.3144	-5.9	NA	±20	Average RF
Trichlorofluoromethane (CFC 11)	50.0	43.9	0.7206	0.6325	-12.2	NA	±20	Average RF
Vinyl Acetate	50.0	42.5	0.1249	0.1204	NA	-14.9	±20	Quadratic
Vinyl Chloride	50.0	44.9	0.8887	0.7983	-10.2	NA	±20	Average RF
cis-1,2-Dichloroethene	50.0	43.6	0.6097	0.5322	-12.7	NA	±20	Average RF
cis-1,3-Dichloropropene	50.0	45.5	0.593	0.5399	-9.0	NA	±20	Average RF
m,p-Xylenes	100	89.8	0.7236	0.6495	-10.2	NA	±20	Average RF
o-Xylene	50.0	43.9	0.7363	0.6462	-12.2	NA	±20	Average RF
trans-1,2-Dichloroethene	50.0	42.4	0.5311	0.4499	-15.3	NA	±20	Average RF
trans-1,3-Dichloropropene	50.0	45.8	0.5457	0.5001	-8.4	NA	±20	Average RF
trans-1,4-Dichloro-2-butene	50.0	36.8	0.3764	0.2767	-26.5*	NA	±20	Average RF
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	50.0	44.4	0.6924	0.6143	-11.3	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
4-Bromofluorobenzene	50.0	48.6	0.4854	0.4722	-2.7	NA	±20	Average RF
Dibromofluoromethane	50.0	48.5	0.265	0.2571	-3.0	NA	±20	Average RF
Toluene-d8	50.0	49.9	1.2475	1.2442	-0.3	NA	±20	Average RF

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910505
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**657587
Instrument ID:R-MS-12

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\msvoa12\Data\102919 \P31395.D\	ZZZZZZZ	ZZZZZZZ	10/29/2019	21:02:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31396.D\	Continuing Calibration Verification	RQ1912564-02	10/29/2019	21:24:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31397.D\	Lab Control Sample	RQ1912564-03	10/29/2019	21:46:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31397A.D\	ZZZZZZZ	ZZZZZZZ	10/29/2019	22:07:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31399.D\	ZZZZZZZ	ZZZZZZZ	10/29/2019	22:51:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31400.D\	Method Blank	RQ1912564-06	10/29/2019	23:12:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31401.D\	ZZZZZZZ	ZZZZZZZ	10/29/2019	23:34:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31402.D\	ZZZZZZZ	ZZZZZZZ	10/29/2019	23:56:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31403.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	00:18:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31404.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	00:39:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31405.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	01:01:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31406.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	01:23:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31407.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	01:45:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31408.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	02:06:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31409.D\	1910220915 700-SVS-067	R1910505-001	10/30/2019	02:28:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31410.D\	1910220930 700-SVS-068	R1910505-004	10/30/2019	02:50:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31411.D\	1910221330 700-SVS-075	R1910505-007	10/30/2019	03:11:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31412.D\	1910221400 700-SVS-076	R1910505-010	10/30/2019	03:33:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31413.D\	1910220945 700-SVS-083	R1910505-014	10/30/2019	03:55:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31414.D\	1910221000 700-SVS-084	R1910505-016	10/30/2019	04:16:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31415.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	04:38:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31416.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	05:00:00	
I:\ACQUDATA\msvoa12\Data\102919 \P31417.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	05:22:00	

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910505
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**657587
Instrument ID:R-MS-12

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\msvoa12\Data\102919 \P31418.D\	ZZZZZZZ	ZZZZZZZ	10/30/2019	05:43:00	

Analysis: 8260 Waters | Analyst: K. Quest | pH strips: 207519 | Tune Method: WOG1119

Date: 10/29/19. Run#2 | Balance ID: N/A | ResCl strips: N/A | Run Method: ↓

Instr. 12 | 50 mL Class A used for dilution FV | Syringes: 207536 | LIMS Run#: 657587

Data Path: j:\acqudata\msvoa(InstID)\(Date)

Pos.	Sample	Diln.	Diln. Prep./	RL	Tier	Vial	pH	File#	OK?	Comments
26	TUNE		RQ1912564-01					P31395	YT	21:02 (auto)
27	CCV		02					P31396	YC	
28	LCS. FP		03					P31397	YQ	
30	BLK		=					P31398	(N)	apt 10
31	MBLK.ump		= 05					P31399	YB	
32	MBLK. FP		(YB) 04 06					P31400	YB	Ace 12 ppm > MRL
33	R1910425.002	1.0		66073	2	2	12	P31401	Y	
34	R1910426.001	1.0		68813	2	2	12	P31402	Y	
35	R1910462.004	1.0		66056	4	1	12	P31403	Y	
36	006	1.0				1	12	P31404	Y	
37	007	1.0				1	12	P31405	Y	
38	008	1.0				1	12	P31406	Y	
39	009	1.0				1	12	P31407	Y	
40	010	1.0				1	12	P31408	Y	
41	R1910505.001	1.0		66056	4	1	12	P31409	Y	
42	004	1.0				1	12	P31410	Y	
43	007	1.0				1	12	P31411	Y	
44	010	1.0				1	12	P31412	Y	
45	014	1.0				1	12	P31413	Y	
46	016	1.0				1	12	P31414	Y	
47	R1910425.001	50	1/50mls	19620	2	1	(6)	P31415	Y	Foamy - good dil.
(YB)	R1910426.002	500	1/500mls			1	(7)	P31416	(N)	apt 250 OK (Y)
49	MS 002	500	↓			1	(7)	P31417		(RunOC) Overdilute (KE)
50	MSD 002	500	↓			1	(7)	P31418	↓	↓
51	BLK					—	—	P31419	—	
* 29	LCS.ump		RQ1912564-04			—	—	P3139A	YQ	

All samples = 5 mL + 5 uL combined IS/Surr. 5 mL purged

Combined IS/Surr: ——

500 Primary OCt: 202638

Primary Frt: 203440 | 5mL → 50mls = CCV

Primary T6: 204037

Primary HSL: 204107

Primary: ——

200 Secondary Frt: 204079 - 5mL

500 Secondary OCt: 203345

Secondary T6: 203500 | 1mL ≠ LCS

Secondary HSL: 204109

Secondary: ——

-10.6uL | 50mls / 4.2mL ↓ 4dram vial = MS/D

Surrogate 50: 203911

Internal Std 50: 203912

Reagents: ——

Runlog-MSVOAr4 1/17/17

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220917 700-SVS-067	**Units:**	ug/L
Lab Code:	R1910505-003	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 13:12	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 13:12	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	91	30 - 132	10/30/19 13:12	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220932 700-SVS-068	**Units:**	ug/L
Lab Code:	R1910505-006	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 13:34	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 13:34	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	70	30 - 132	10/30/19 13:34	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221332 700-SVS-075	**Units:**	ug/L
Lab Code:	R1910505-009	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND	U	100	75	1	10/30/19 13:56	10/28/19	
C28 - C40 ORO	ND	U	100	75	1	10/30/19 13:56	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	74	30 - 132	10/30/19 13:56	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221402 700-SVS-076	**Units:**	ug/L
Lab Code:	R1910505-012	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 14:19	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 14:19	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	87	30 - 132	10/30/19 14:19	

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dba ALS Environmental

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910220947 700-SVS-083	**Units:**	ug/L
Lab Code:	R1910505-013	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 14:41	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 14:41	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	88	30 - 132	10/30/19 14:41	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/22/19
Sample Matrix:	Water	**Date Received:**	10/25/19 07:50
Sample Name:	1910221002 700-SVS-084	**Units:**	ug/L
Lab Code:	R1910505-018	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	10/30/19 15:04	10/28/19	
C28 - C40 ORO	ND U	100	75	1	10/30/19 15:04	10/28/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	95	30 - 132	10/30/19 15:04	

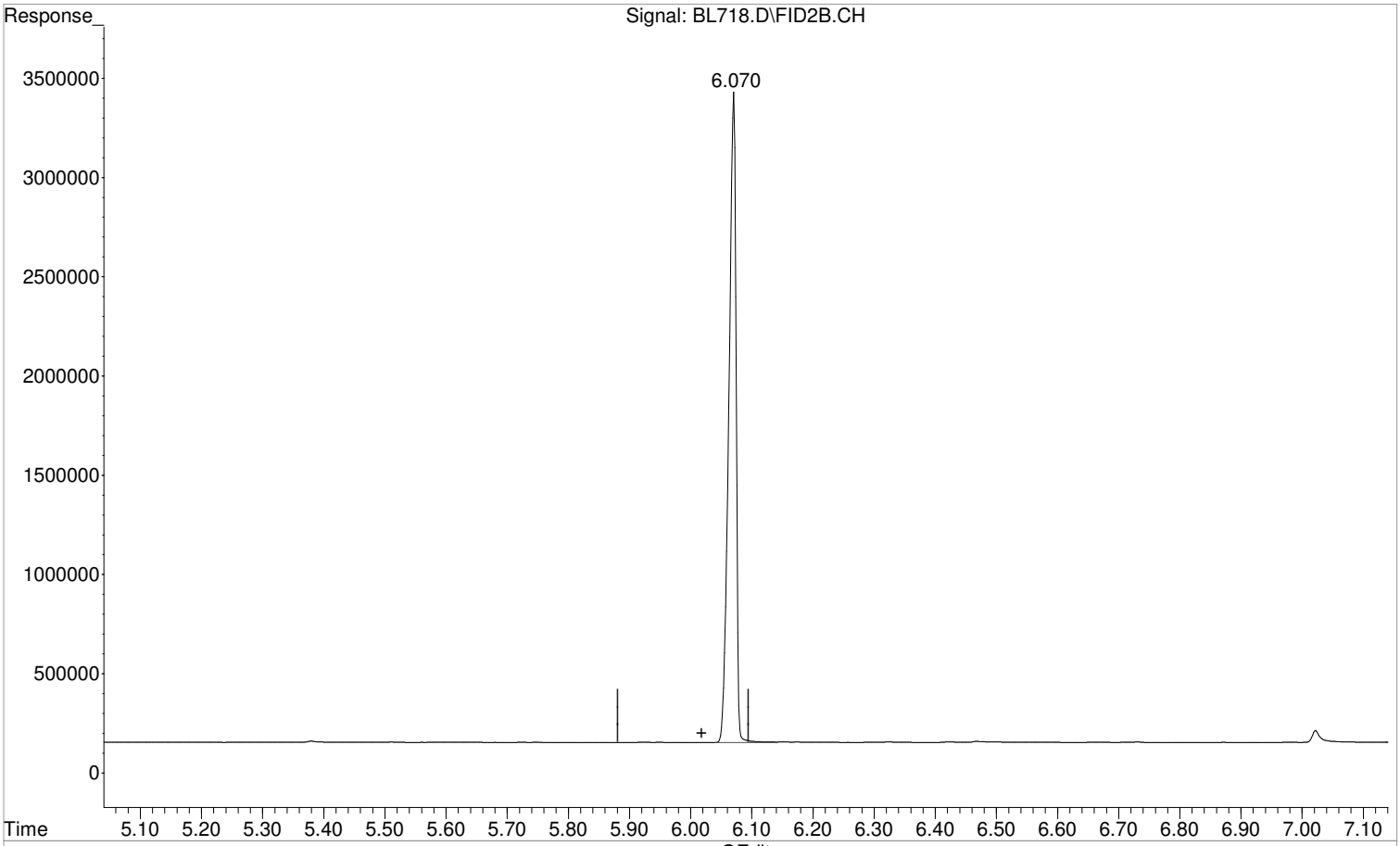
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL718.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:12 pm
Operator : JMisiurewicz
Sample : R1910505-003
Misc : 347416 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:53 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(1) SURR1,o-TERPHENYL (S)

6.070min 90.621 mg/l m

response 26891446

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

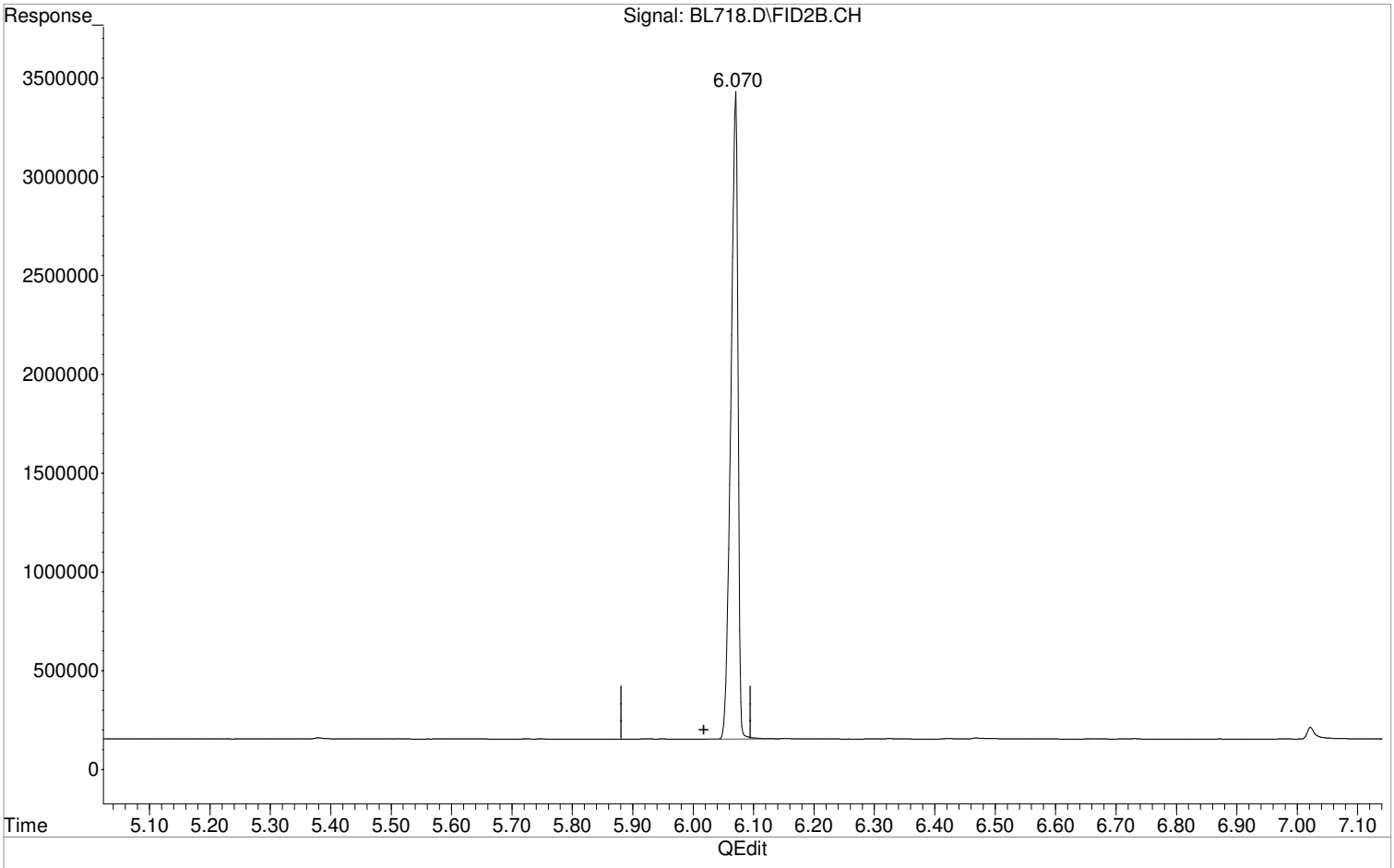
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL718.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:12 pm
Operator : JMisiurewicz
Sample : R1910505-003
Misc : 347416 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:53 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(1) SURR1,o-TERPHENYL (S)

6.071min 90.460 mg/l

response 26843830

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

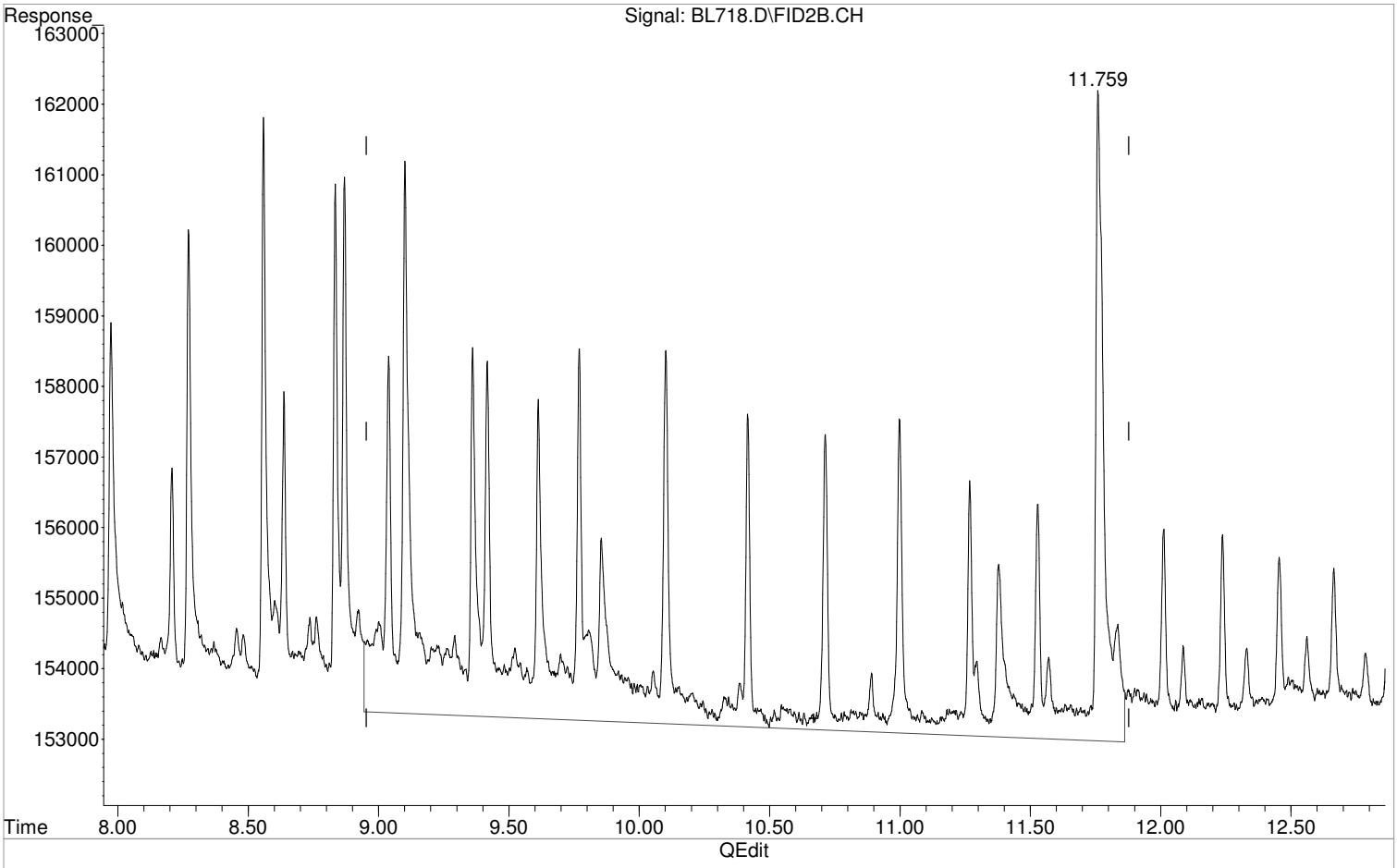
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL718.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:12 pm
Operator : JMisiurewicz
Sample : R1910505-003
Misc : 347416 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:53 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 7.852 mg/l m

response 1678897

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

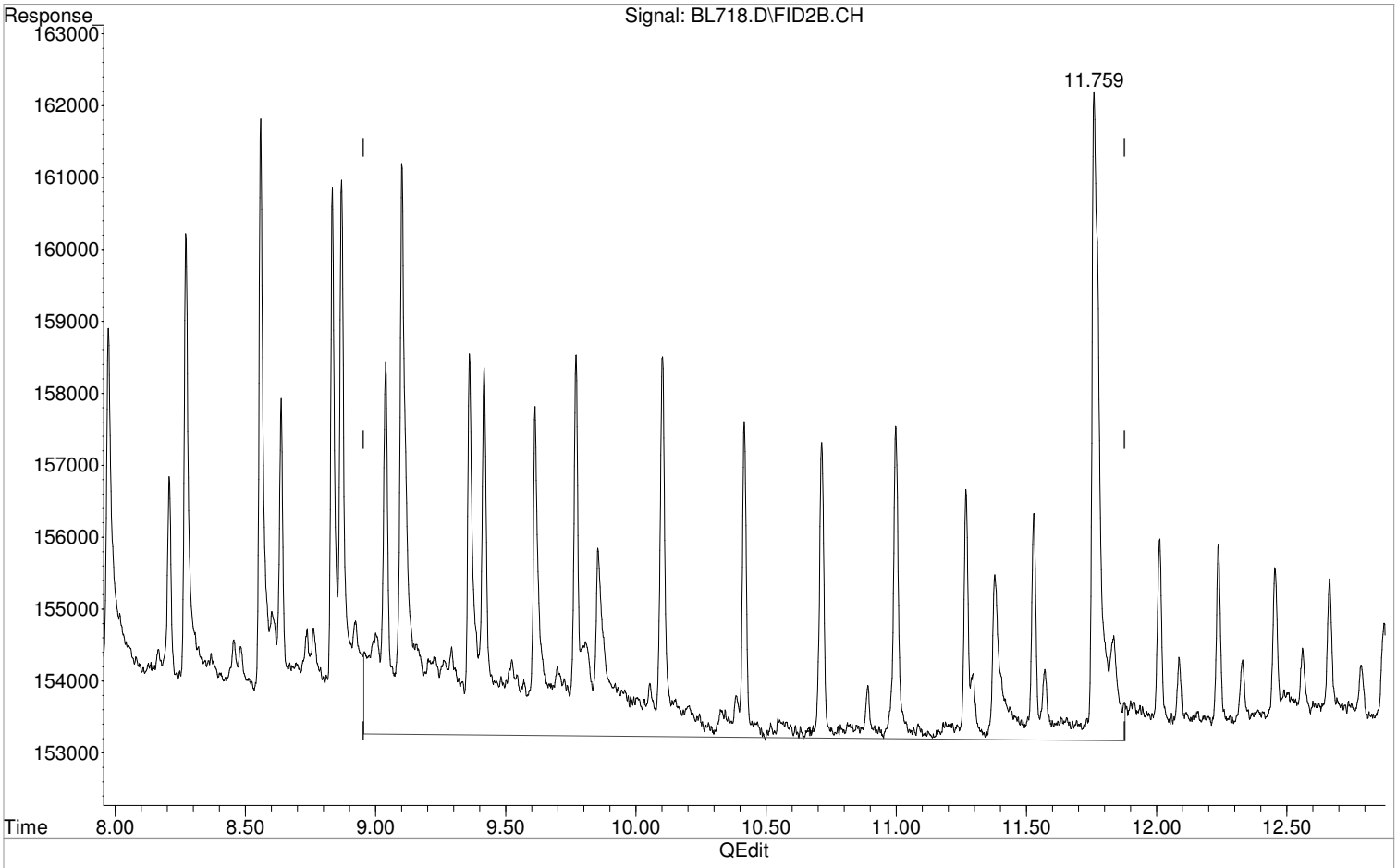
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL718.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:12 pm
Operator : JMisiurewicz
Sample : R1910505-003
Misc : 347416 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:53 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 7.504 mg/l

response 1604501

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL718.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:12 pm
Operator : JMisiurewicz
Sample : R1910505-003
Misc : 347416 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:53 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.070	26891446	90.621 mg/l m
Spiked Amount 100.000	Range 40 - 133	Recovery =	90.62%
Target Compounds			
2) HC Diesel Range Organics	8.922	11984398	39.698 mg/l
3) HC Oil Range Organics	10.670	1678897	7.852 mg/l m

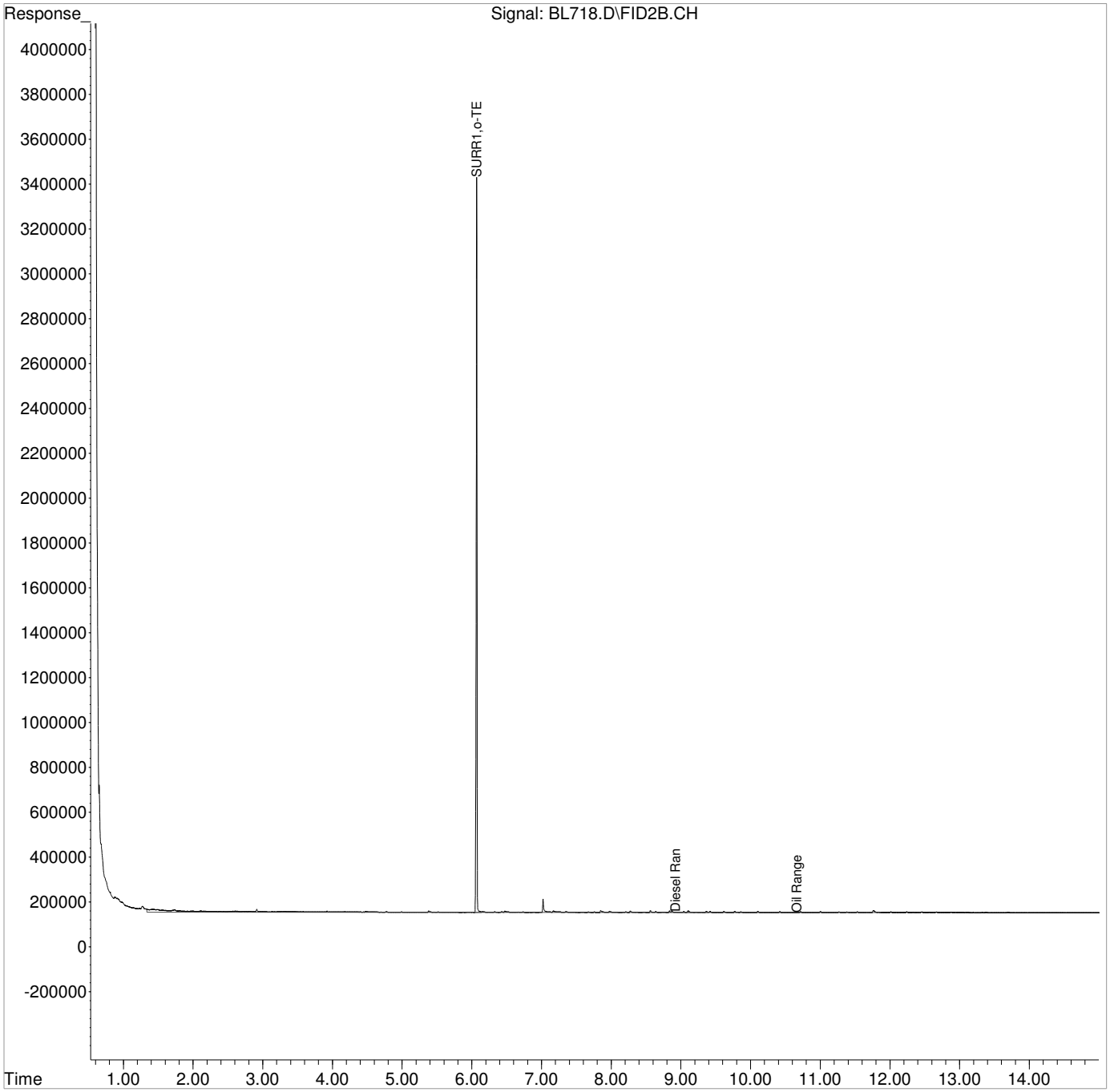
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL718.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:12 pm
Operator : JMisiurewicz
Sample : R1910505-003
Misc : 347416 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:53 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



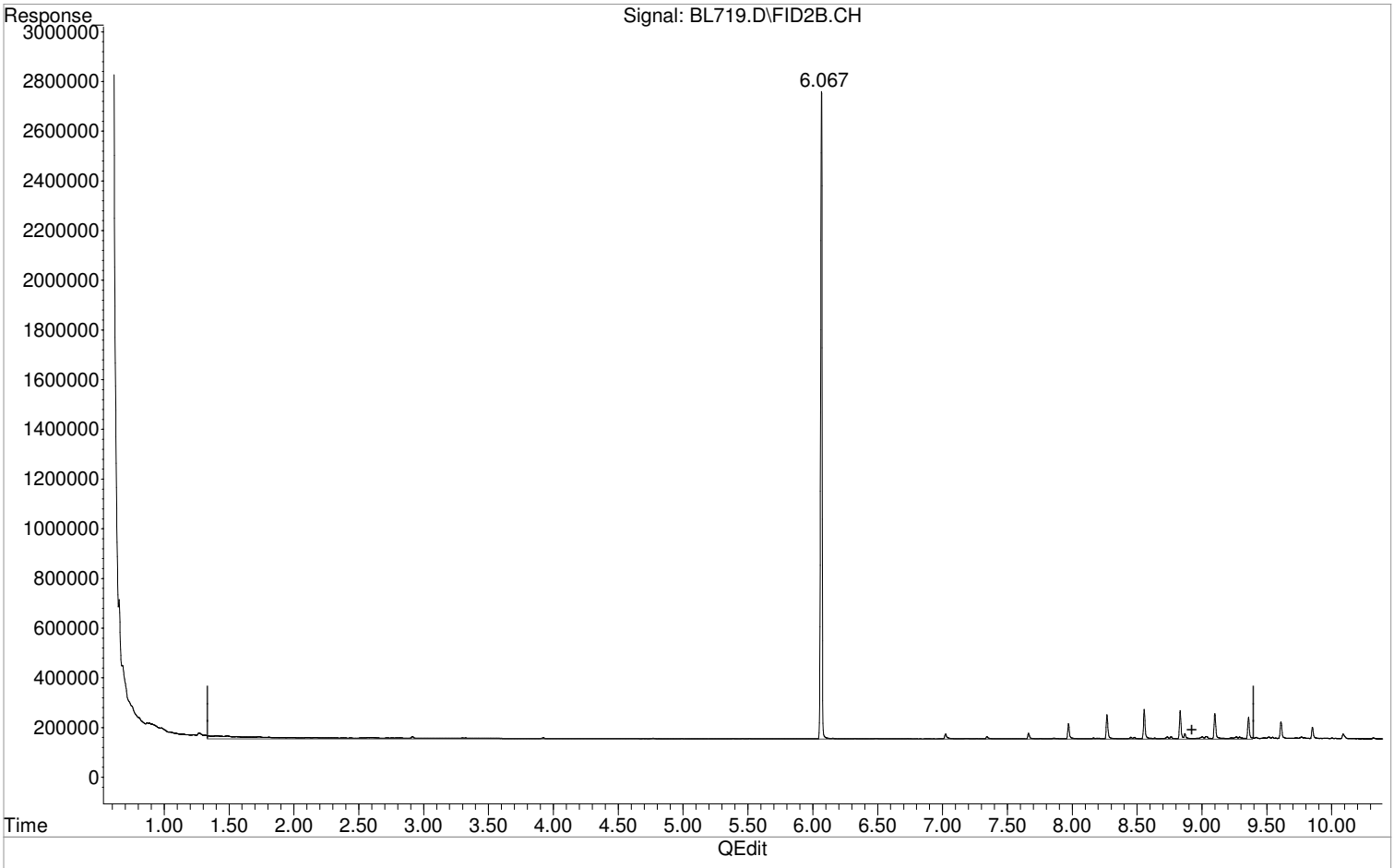
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL719.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:34 pm
Operator : JMisiurewicz
Sample : R1910505-006
Misc : 347416 8015 DRO
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:55 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 55.449 mg/l m

response 16739616

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

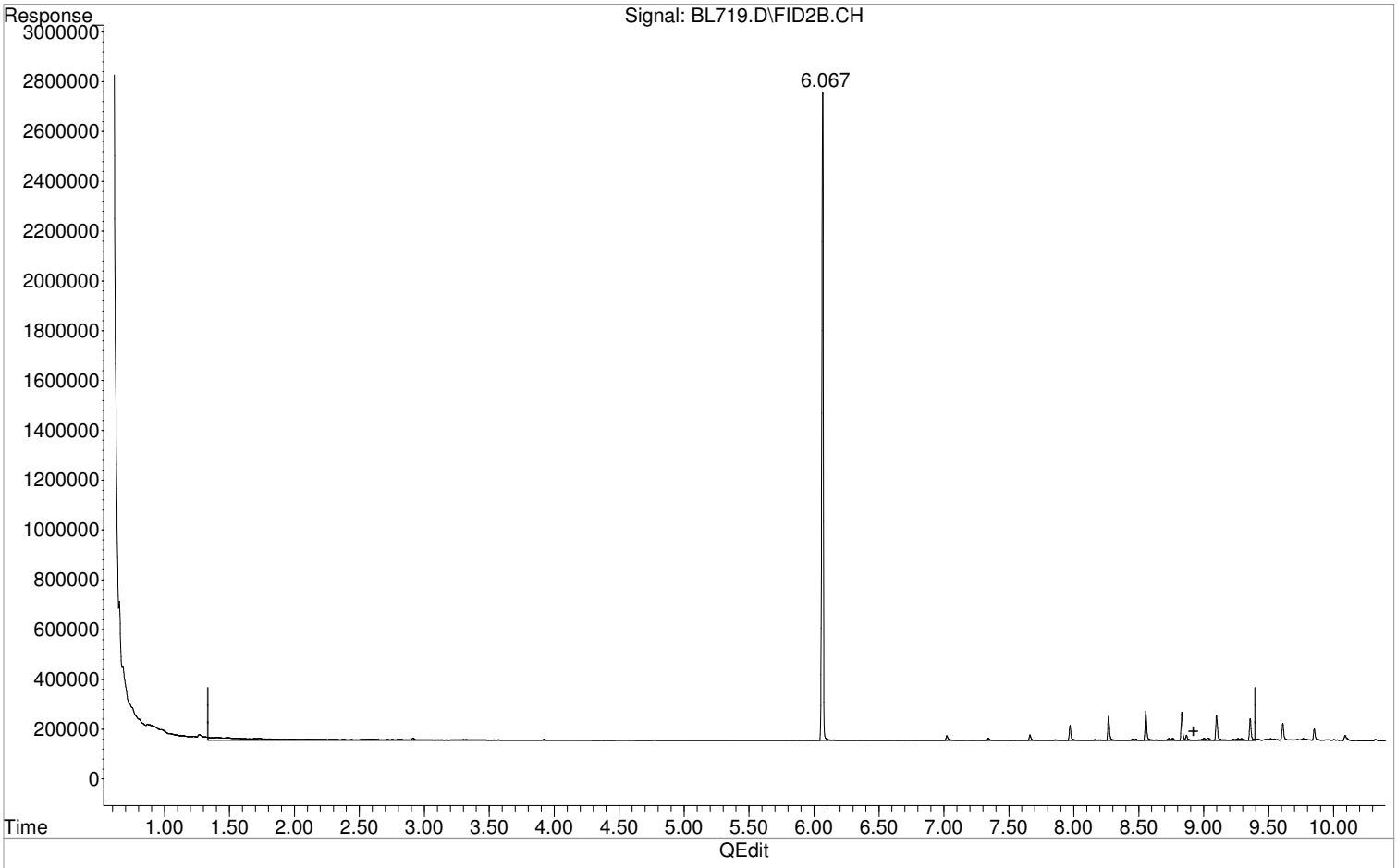
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL719.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:34 pm
Operator : JMisiurewicz
Sample : R1910505-006
Misc : 347416 8015 DRO
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:55 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 52.815 mg/l

response 15944279

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

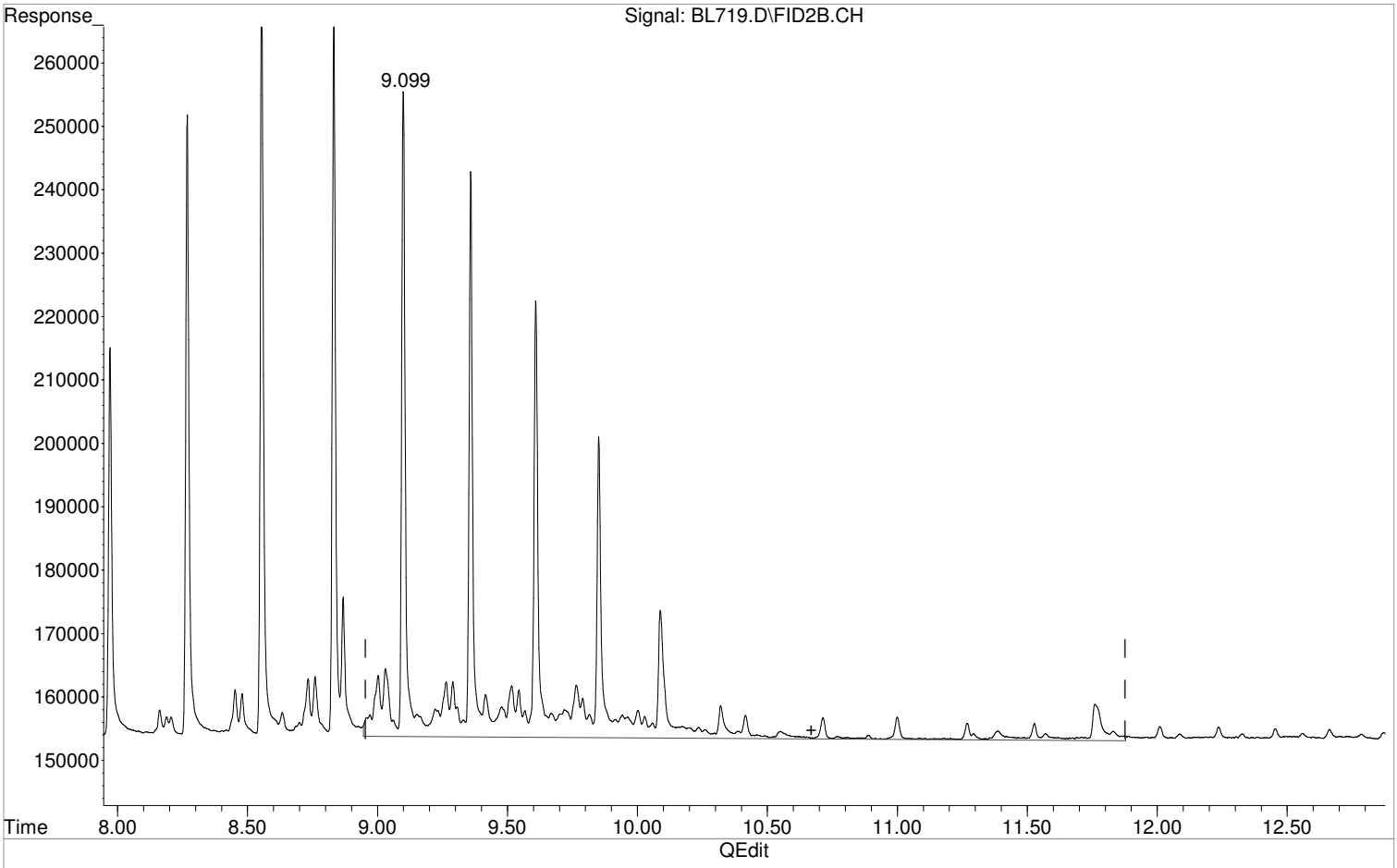
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL719.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:34 pm
Operator : JMisiurewicz
Sample : R1910505-006
Misc : 347416 8015 DRO
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:55 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)
10.670min 29.818 mg/l m
response 6375639

Manual Integration:
After
Poor integration.
10/30/19

(+) = Expected Retention Time

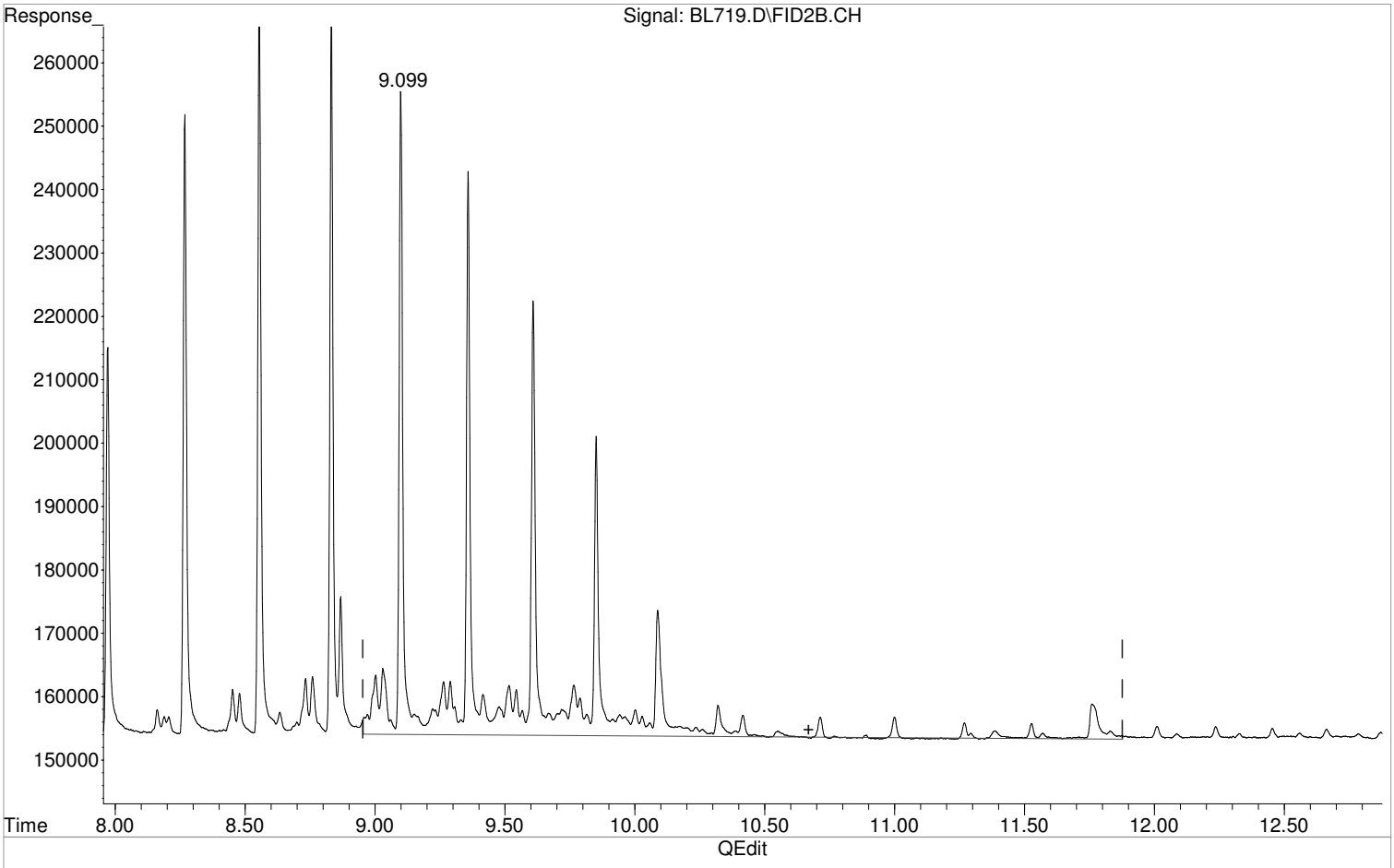
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL719.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:34 pm
Operator : JMisiurewicz
Sample : R1910505-006
Misc : 347416 8015 DRO
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:55 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 27.606 mg/l

response 5902633

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL719.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:34 pm
Operator : JMisiurewicz
Sample : R1910505-006
Misc : 347416 8015 DRO
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:55 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.068	20689730	69.722 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 69.72%	
Target Compounds			
2) HC Diesel Range Organics	8.922	16739616	55.449 mg/l m
3) HC Oil Range Organics	10.670	6375639	29.818 mg/l m

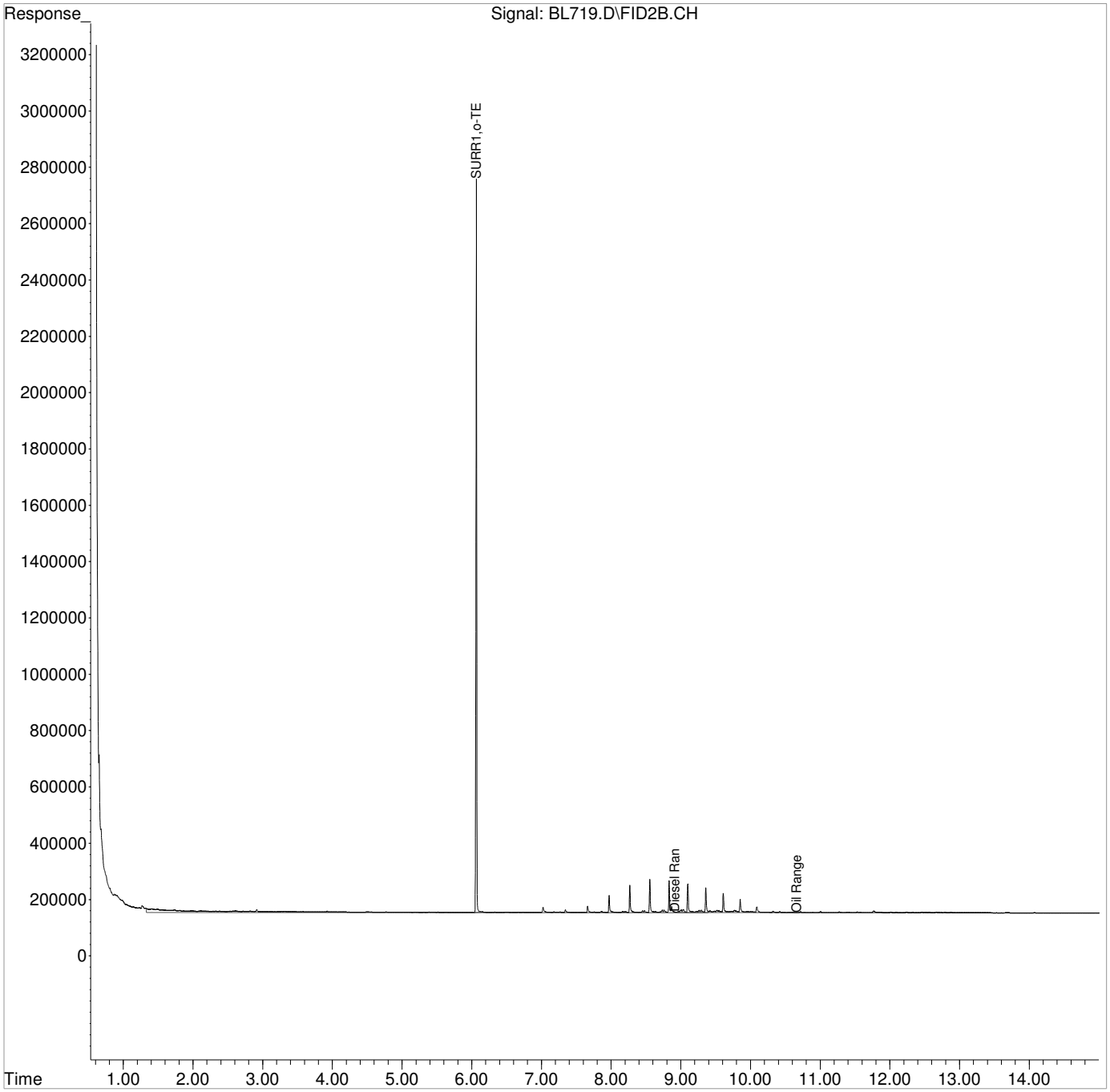
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/30/19
2nd BA 10/30/19

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL719.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:34 pm
Operator : JMisiurewicz
Sample : R1910505-006
Misc : 347416 8015 DRO
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:55 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



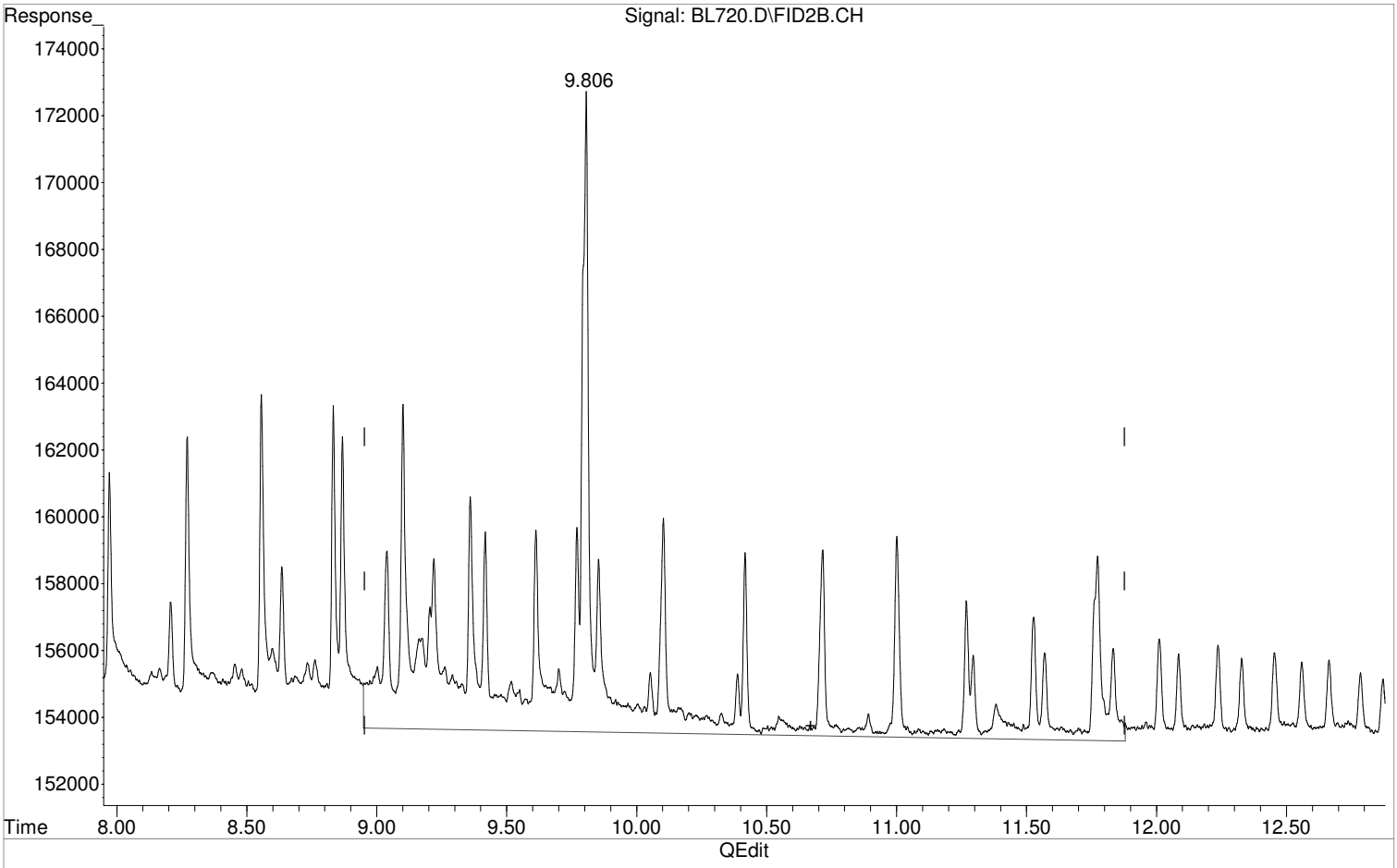
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL720.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:56 pm
Operator : JMisiurewicz
Sample : R1910505-009
Misc : 347416 8015 DRO
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 11.114 mg/l m

response 2376429

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

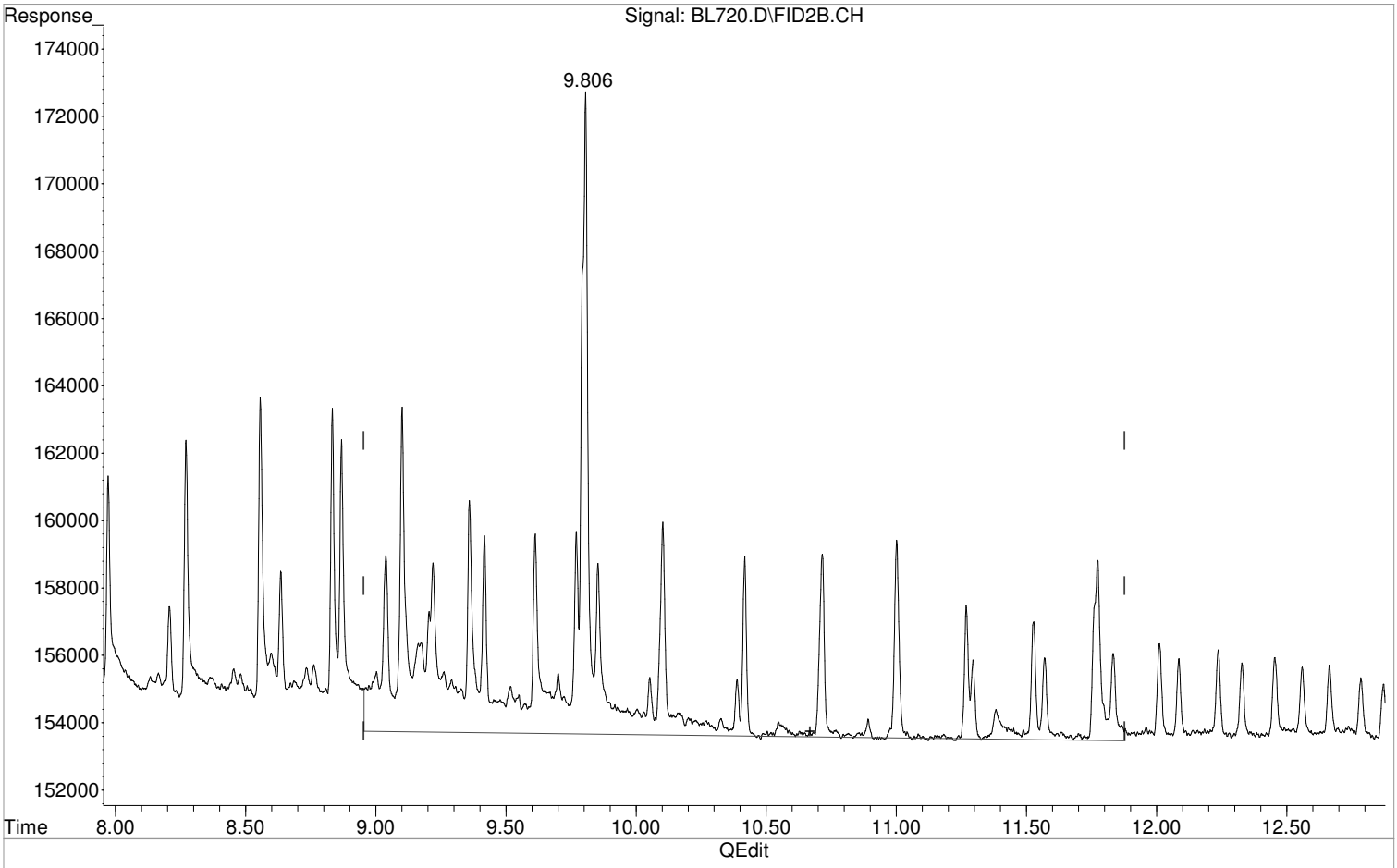
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL720.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:56 pm
Operator : JMisiurewicz
Sample : R1910505-009
Misc : 347416 8015 DRO
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 10.109 mg/l

response 2161449

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL720.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:56 pm
Operator : JMisiurewicz
Sample : R1910505-009
Misc : 347416 8015 DRO
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.068	21771507	73.367 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 73.37%	
Target Compounds			
2) HC Diesel Range Organics	8.922	12055728	39.934 mg/l
3) HC Oil Range Organics	10.670	2376429	11.114 mg/l m

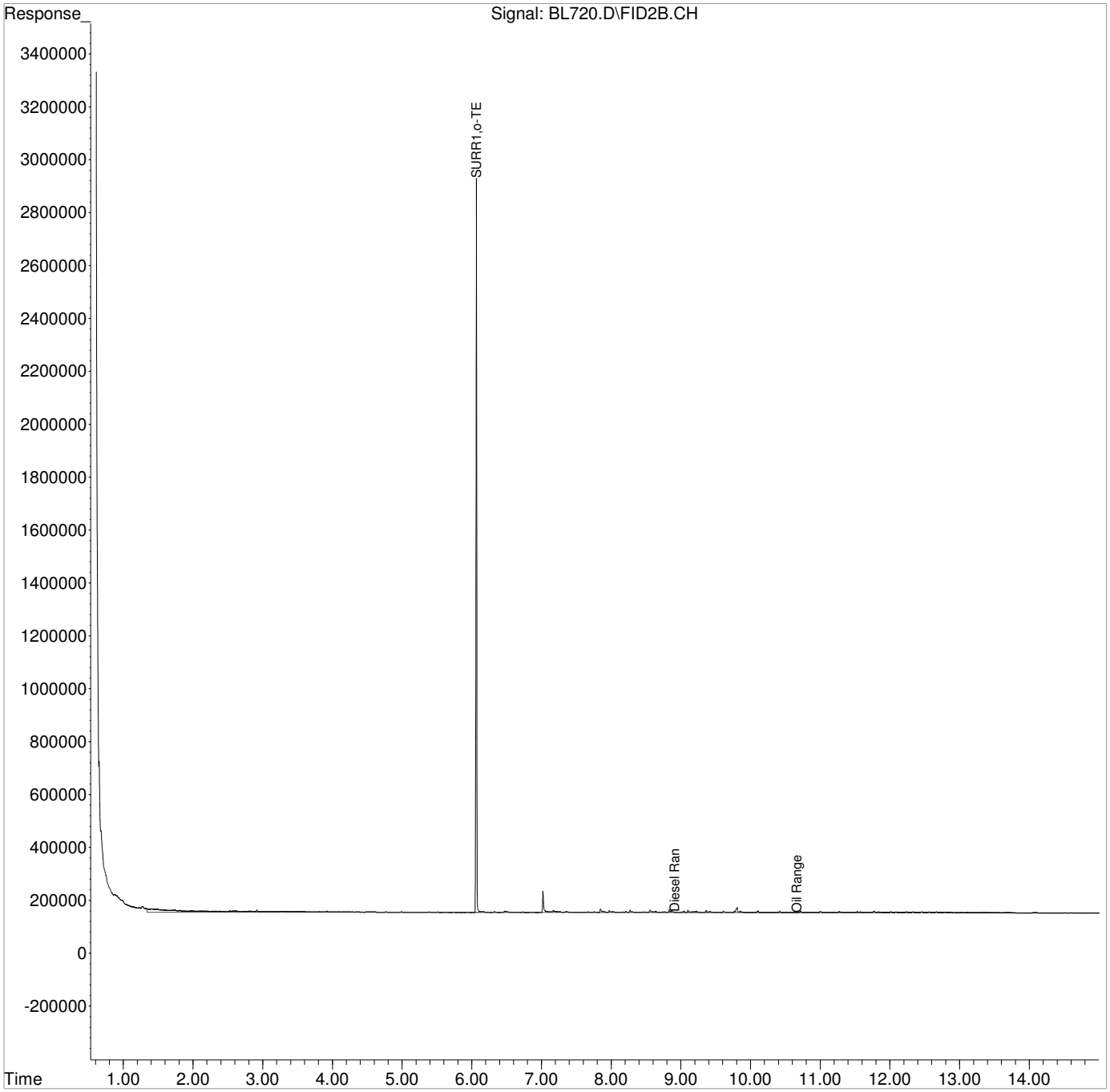
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL720.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 1:56 pm
Operator : JMisiurewicz
Sample : R1910505-009
Misc : 347416 8015 DRO
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



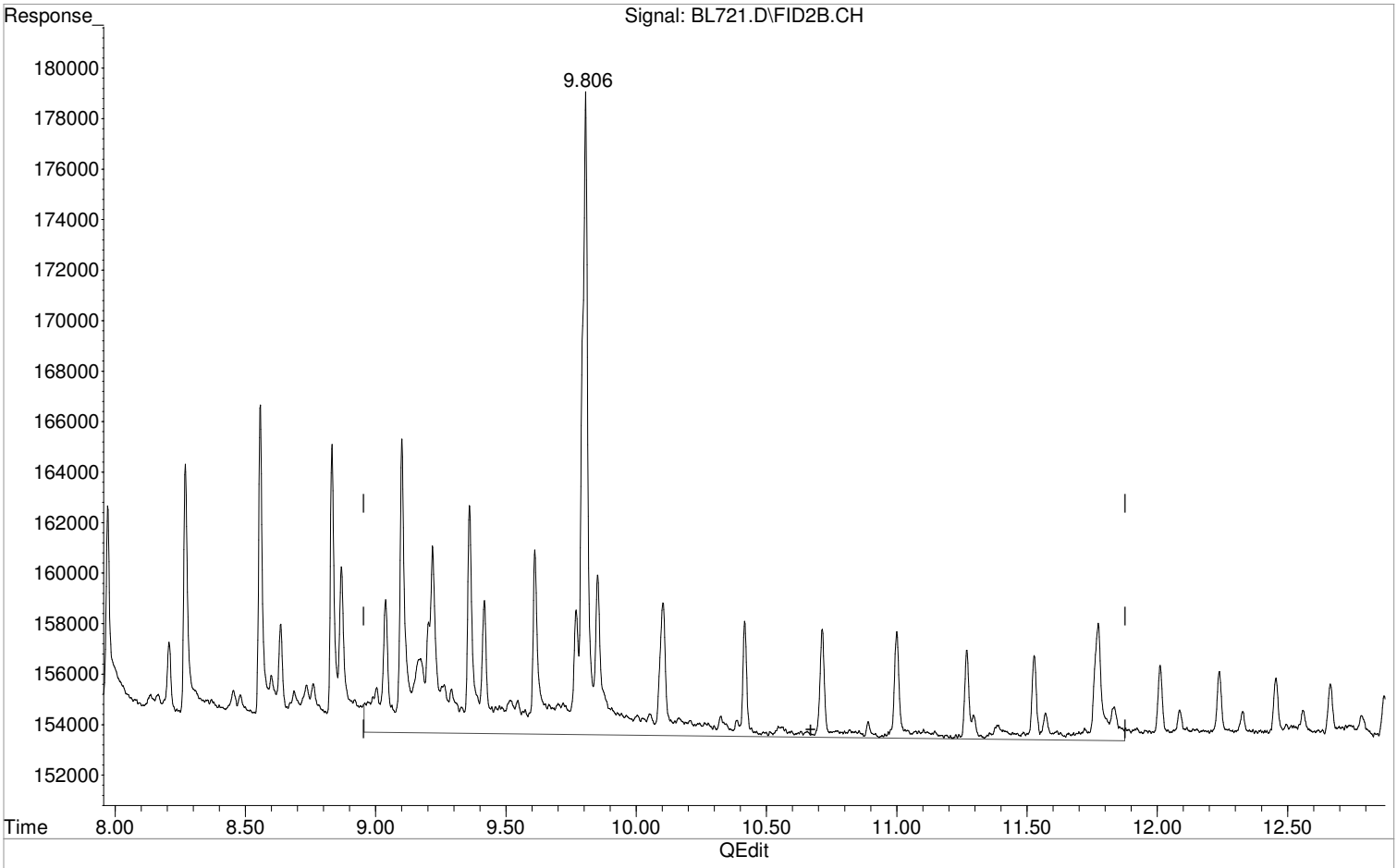
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL721.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 2:19 pm
Operator : JMisiurewicz
Sample : R1910505-012
Misc : 347416 8015 DRO
ALS Vial : 10 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:59 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 10.681 mg/l m

response 2283854

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

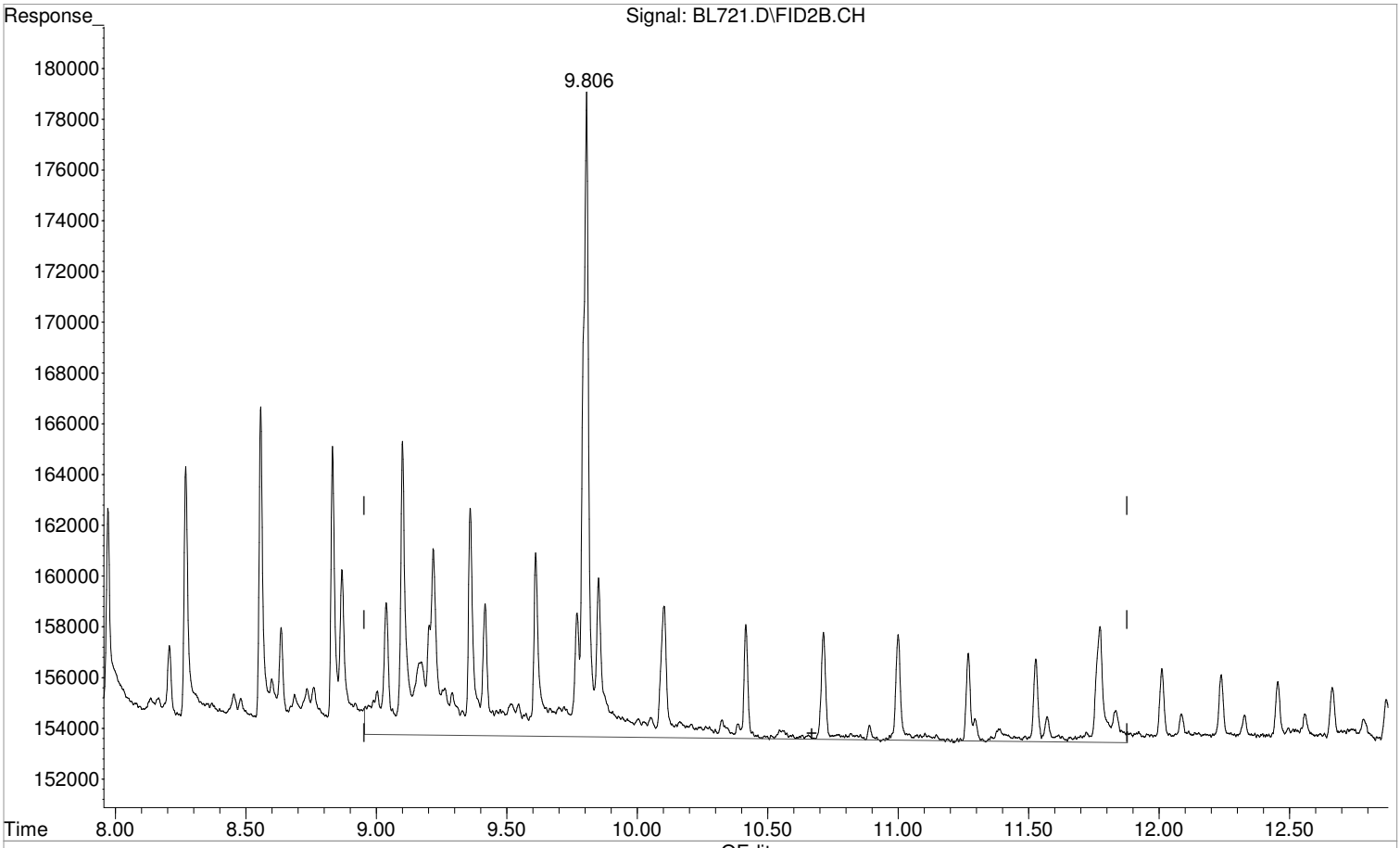
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL721.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 2:19 pm
Operator : JMisiurewicz
Sample : R1910505-012
Misc : 347416 8015 DRO
ALS Vial : 10 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:59 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 10.083 mg/l

response 2155804

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL721.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 2:19 pm
Operator : JMisiurewicz
Sample : R1910505-012
Misc : 347416 8015 DRO
ALS Vial : 10 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:59 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.069	25628427	86.364 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 86.36%	
Target Compounds			
2) HC Diesel Range Organics	8.922	12082314	40.022 mg/l
3) HC Oil Range Organics	10.670	2283854	10.681 mg/l m

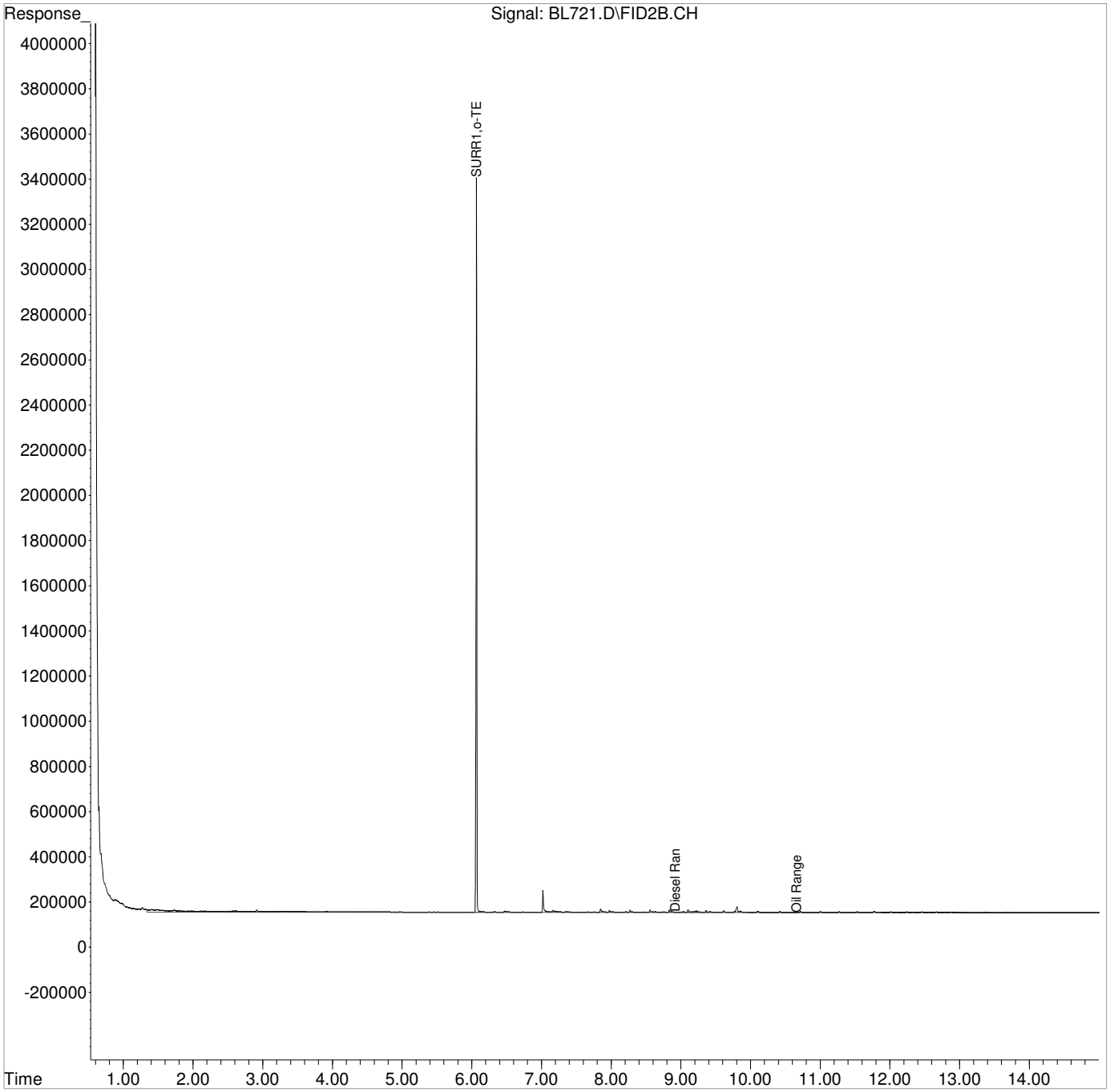
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/30/19
2nd BA 10/30/19

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL721.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 2:19 pm
Operator : JMisiurewicz
Sample : R1910505-012
Misc : 347416 8015 DRO
ALS Vial : 10 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:59 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



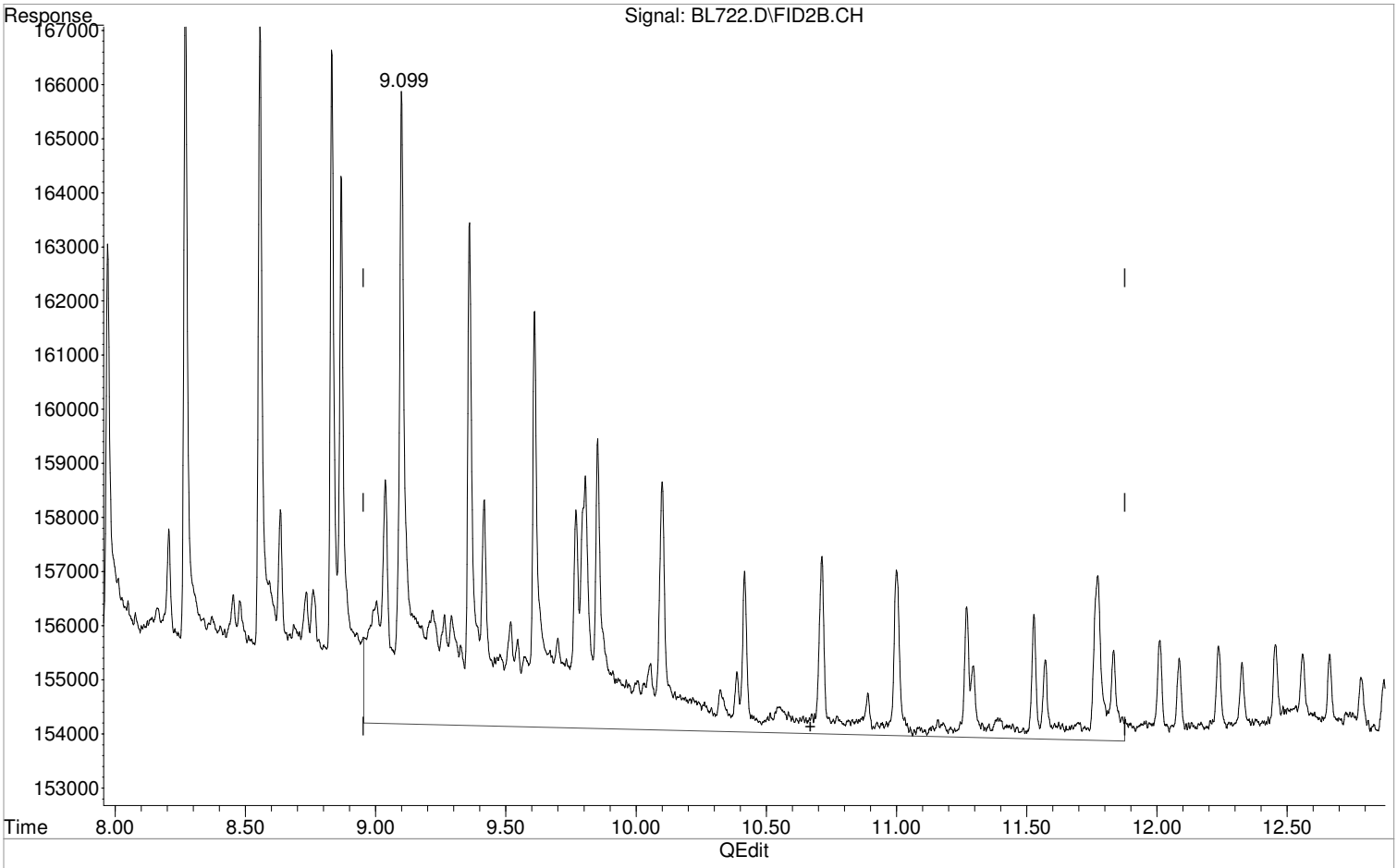
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL722.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 2:41 pm
Operator : JMisiurewicz
Sample : R1910505-013
Misc : 347416 8015 DRO
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:26:01 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 9.155 mg/l m

response 1957411

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

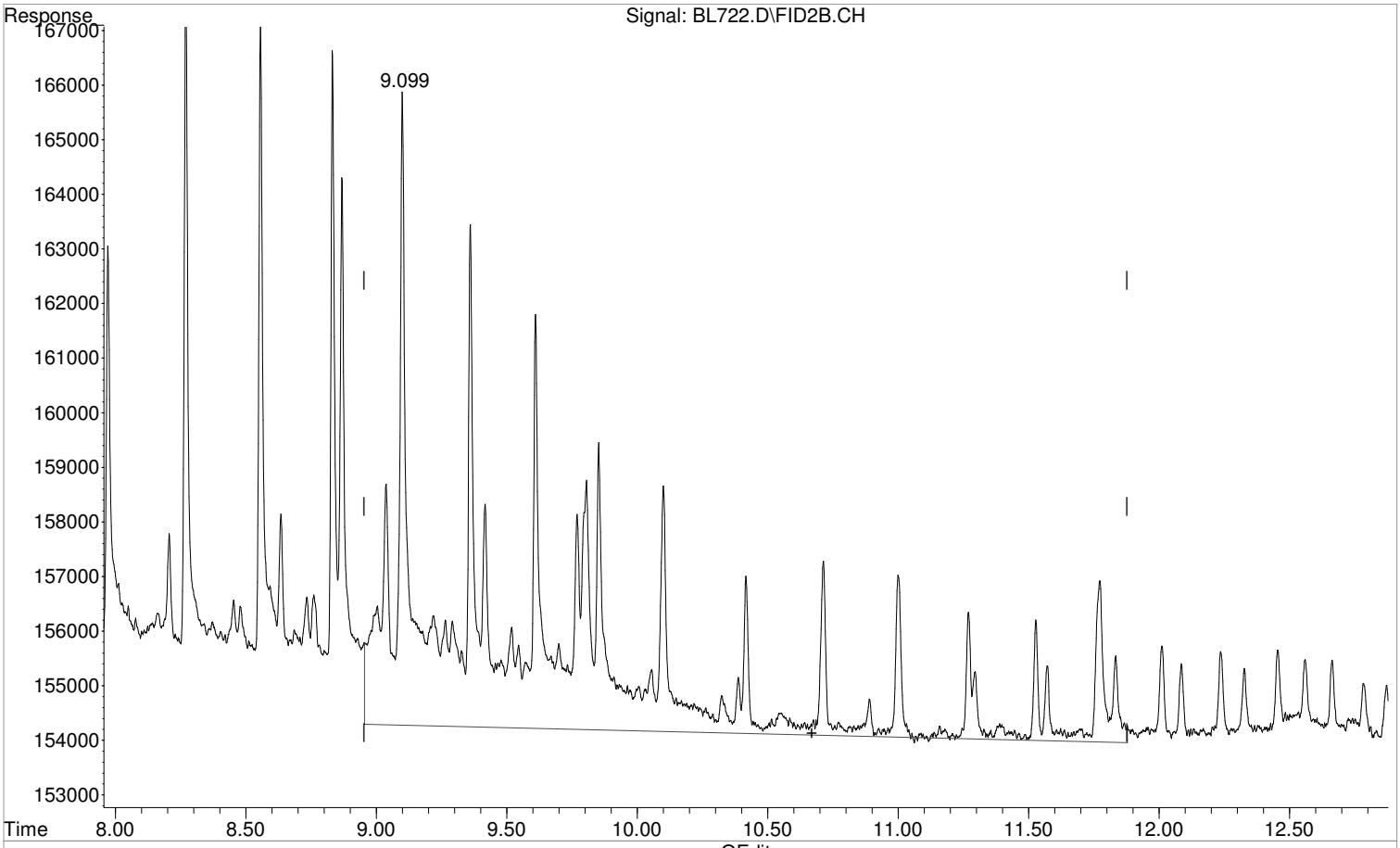
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL722.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 2:41 pm
Operator : JMisiurewicz
Sample : R1910505-013
Misc : 347416 8015 DRO
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:26:01 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 8.408 mg/l

response 1797716

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL722.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 2:41 pm
Operator : JMisiurewicz
Sample : R1910505-013
Misc : 347416 8015 DRO
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:26:01 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.069	26171453	88.194 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	88.19%
Target Compounds			
2) HC Diesel Range Organics	8.922	12120620	40.149 mg/l
3) HC Oil Range Organics	10.670	1957411	9.155 mg/l m

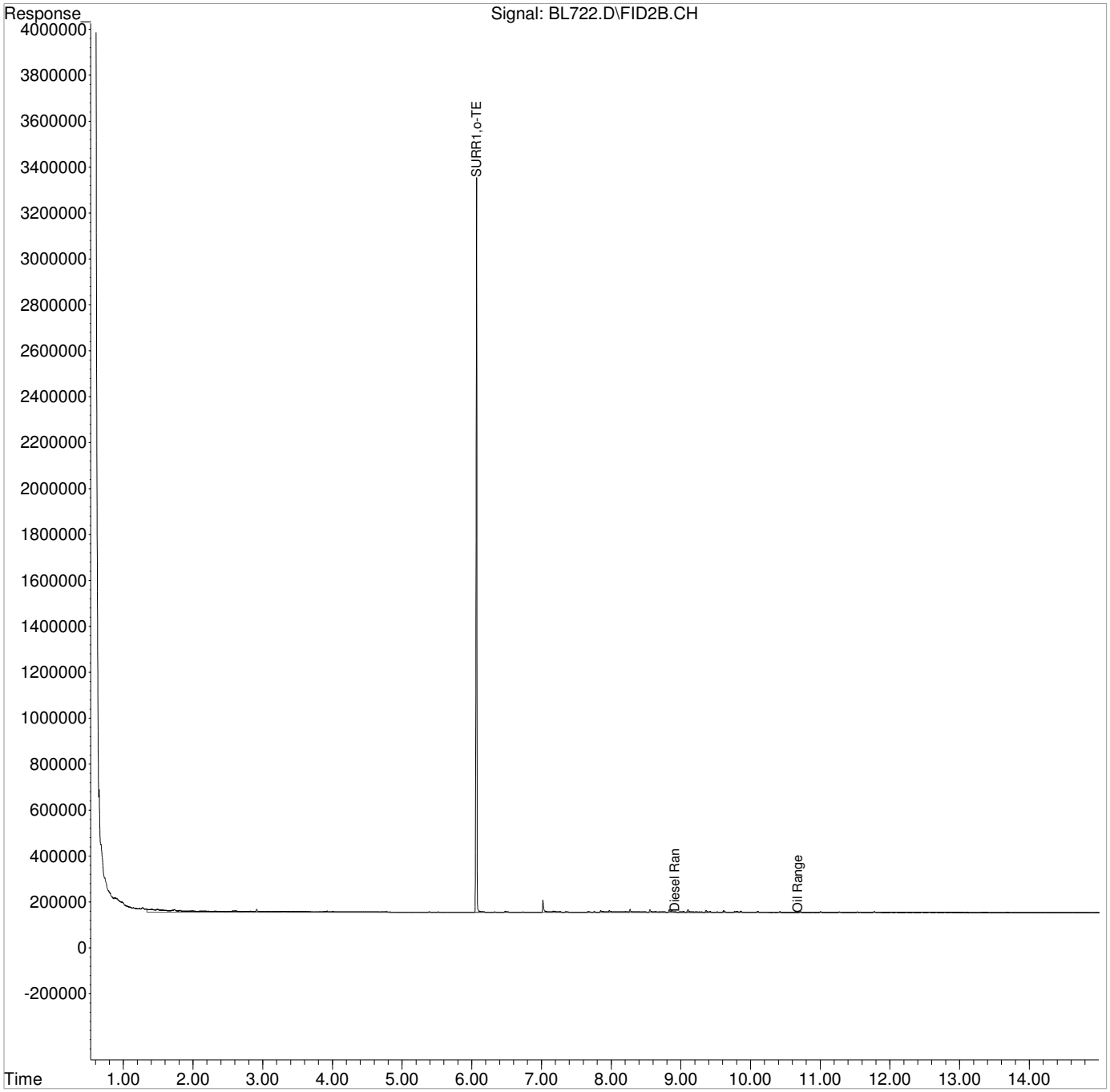
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL722.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 2:41 pm
Operator : JMisiurewicz
Sample : R1910505-013
Misc : 347416 8015 DRO
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:26:01 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



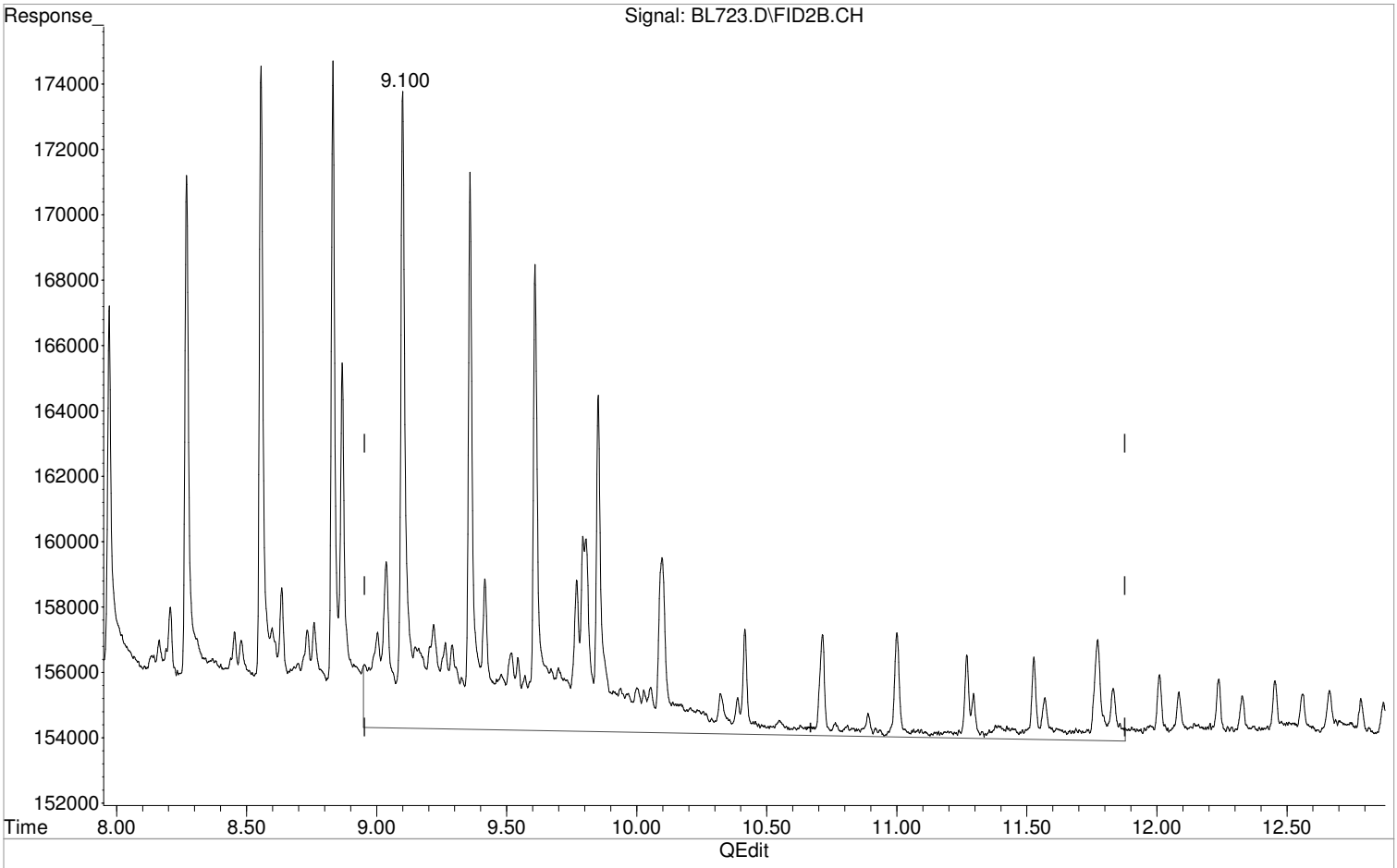
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL723.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 3:04 pm
Operator : JMisiurewicz
Sample : R1910505-018
Misc : 347416 8015 DRO
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:26:03 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 11.654 mg/l m

response 2491849

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

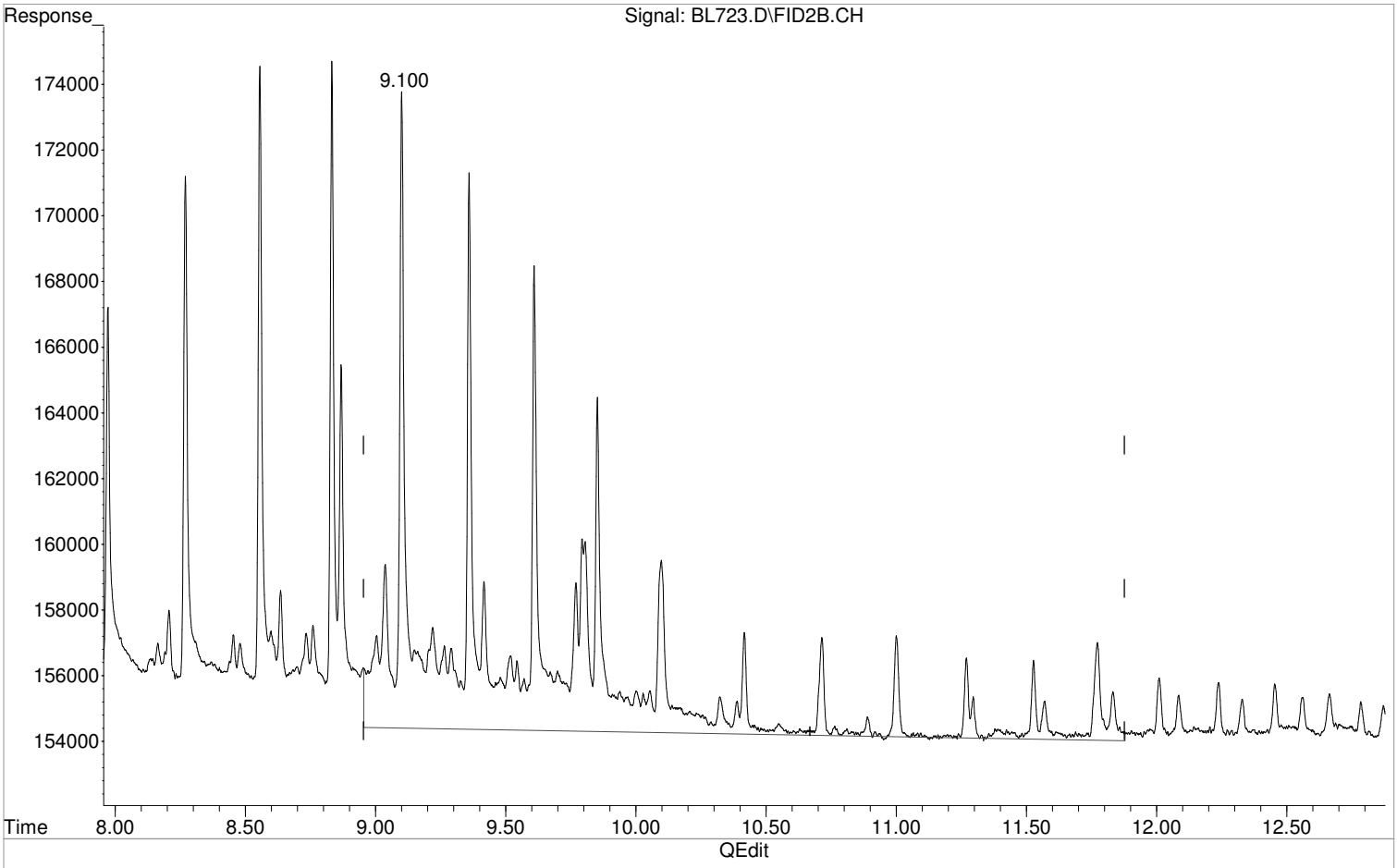
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL723.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 3:04 pm
Operator : JMisiurewicz
Sample : R1910505-018
Misc : 347416 8015 DRO
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:26:03 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 10.702 mg/l

response 2288314

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL723.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 3:04 pm
Operator : JMisiurewicz
Sample : R1910505-018
Misc : 347416 8015 DRO
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:26:03 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.069	27983055	94.299 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	94.30%
Target Compounds			
2) HC Diesel Range Organics	8.922	14121882	46.778 mg/l
3) HC Oil Range Organics	10.670	2491849	11.654 mg/l m

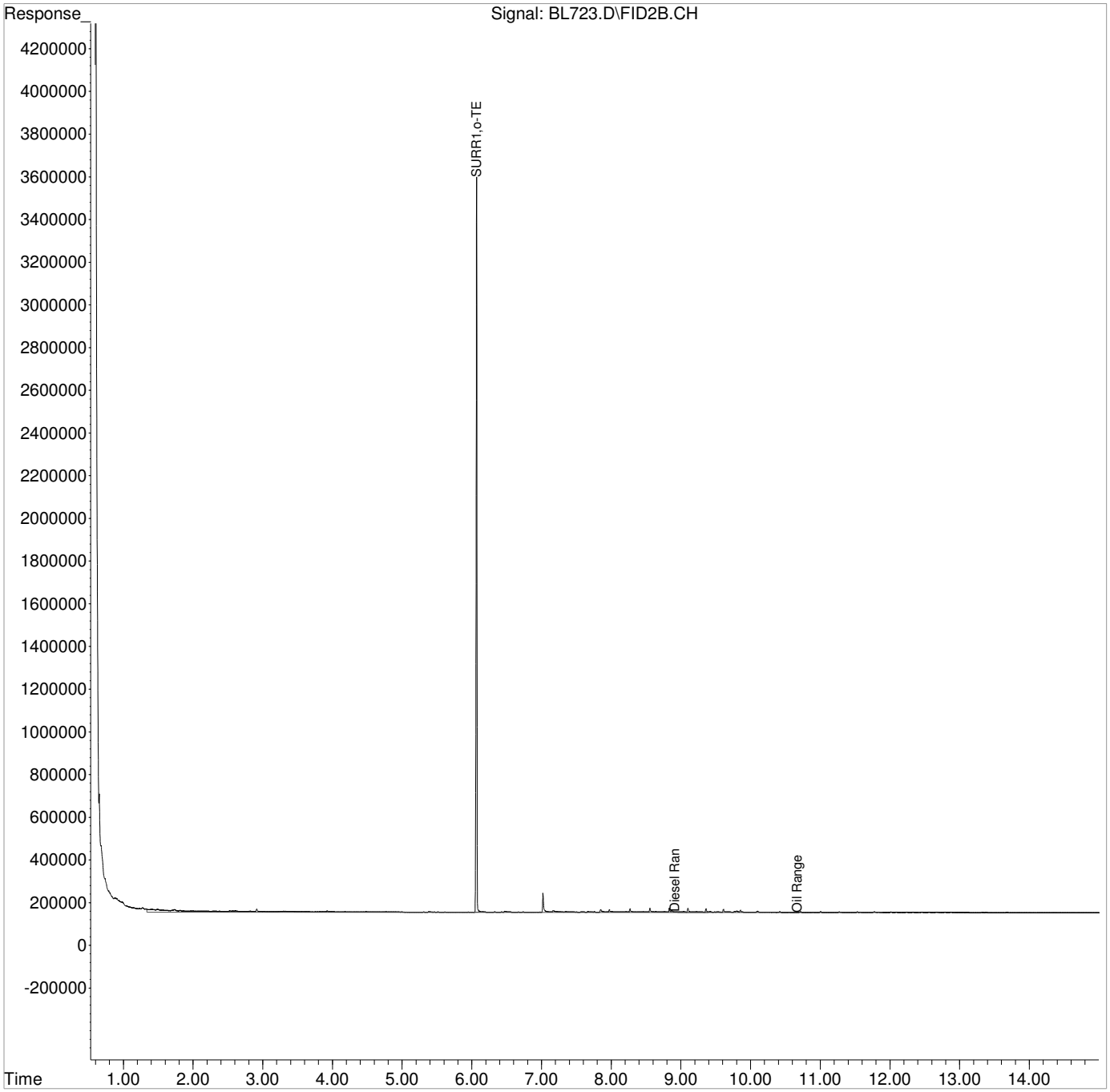
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL723.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 3:04 pm
Operator : JMisiurewicz
Sample : R1910505-018
Misc : 347416 8015 DRO
ALS Vial : 12 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:26:03 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



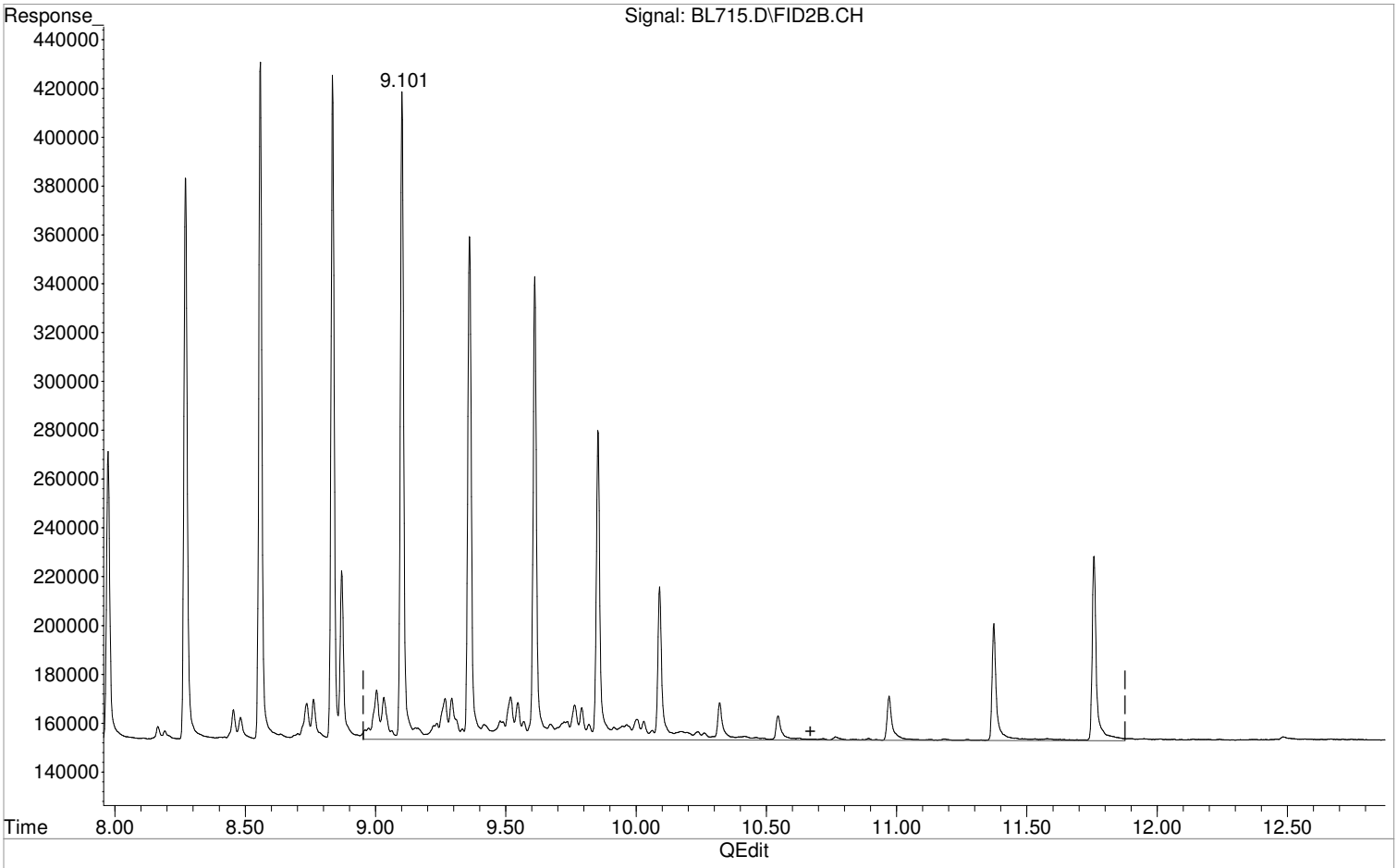
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL715.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:04 pm
Operator : JMisiurewicz
Sample : RQ1912454-01
Misc : 347416 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:47 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 66.115 mg/l m

response 14136331

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

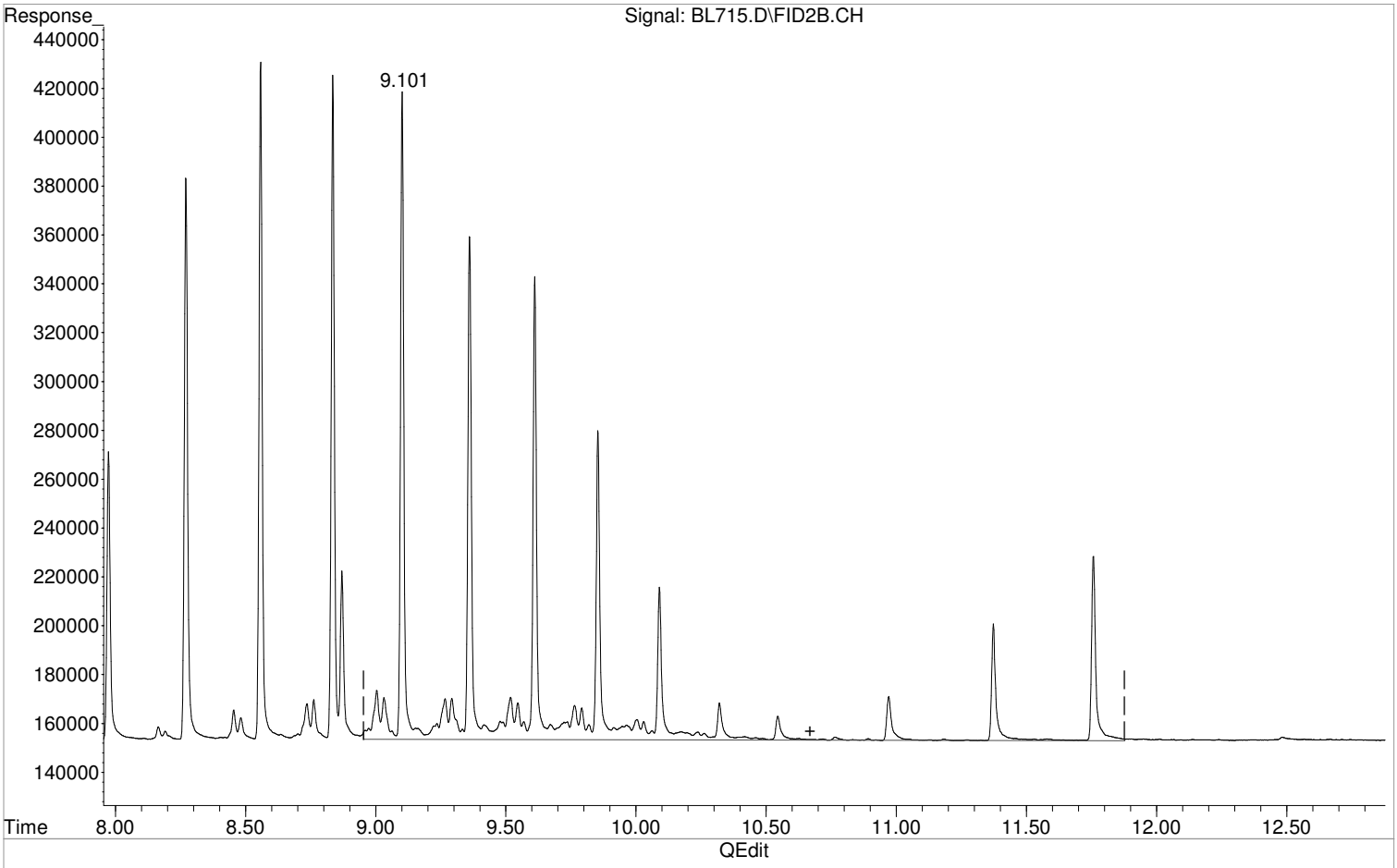
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL715.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:04 pm
Operator : JMisiurewicz
Sample : RQ1912454-01
Misc : 347416 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:47 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 65.094 mg/l

response 13918172

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL715.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:04 pm
Operator : JMisiurewicz
Sample : RQ1912454-01
Misc : 347416 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:47 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.071	26599756	89.638 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 89.64%	
Target Compounds			
2) HC Diesel Range Organics	8.922	24334650	80.608 mg/l
3) HC Oil Range Organics	10.670	14136331	66.115 mg/l m

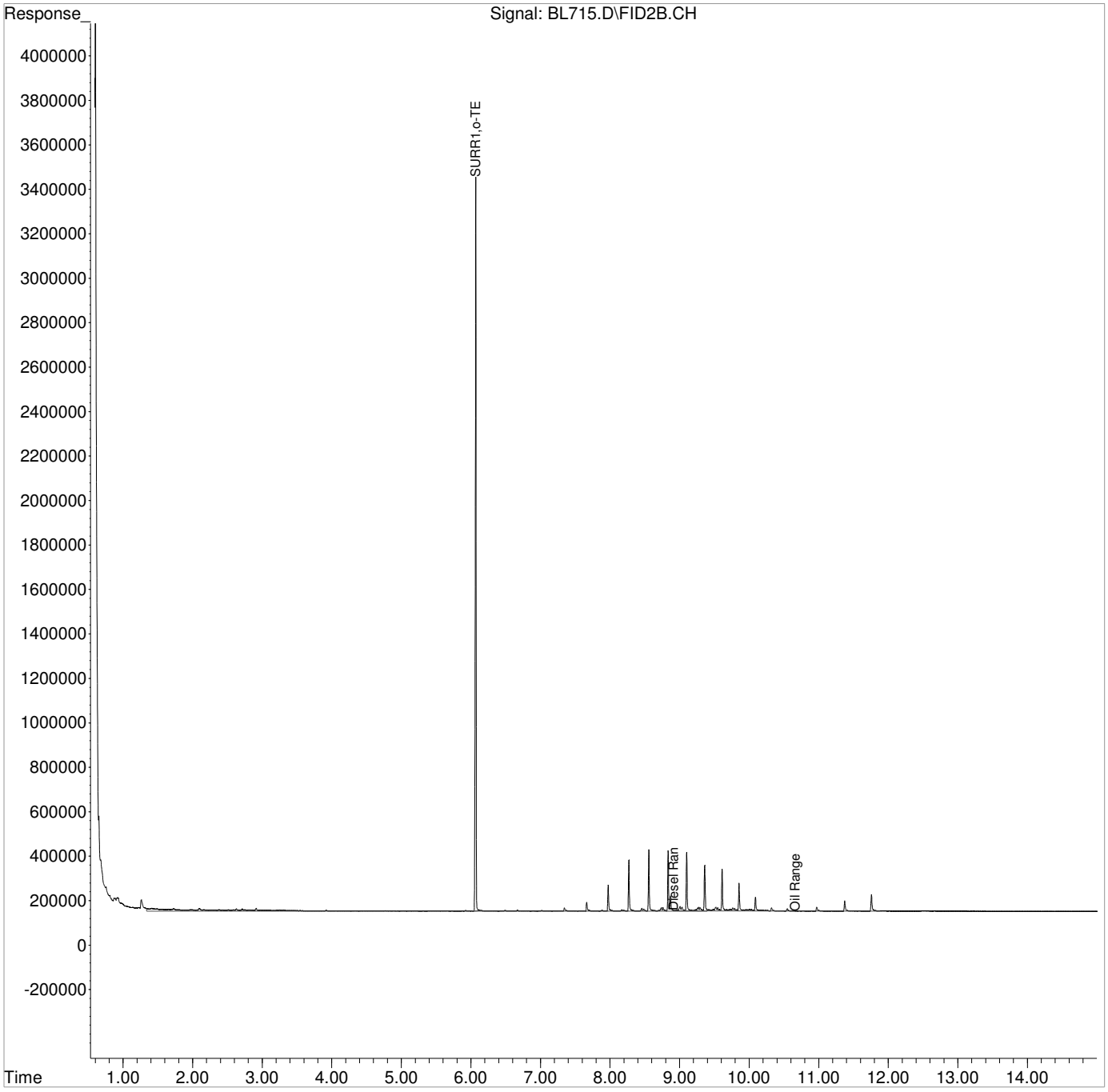
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/30/19
2nd BA 10/30/19

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL715.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:04 pm
Operator : JMisiurewicz
Sample : RQ1912454-01
Misc : 347416 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:47 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



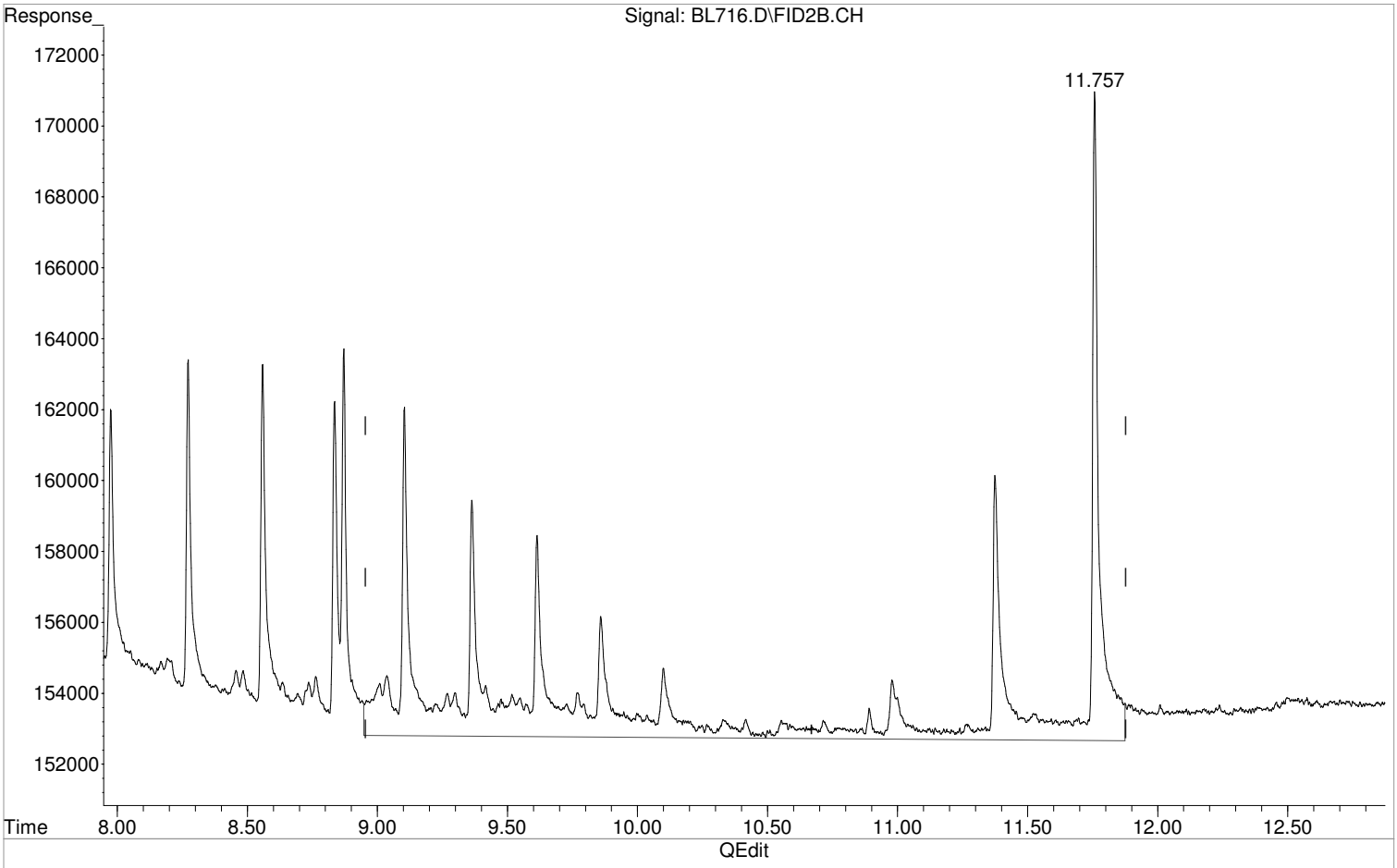
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL716.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:27 pm
Operator : JMisiurewicz
Sample : RQ1912454-02
Misc : 347416 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:49 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 7.872 mg/l m

response 1683157

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

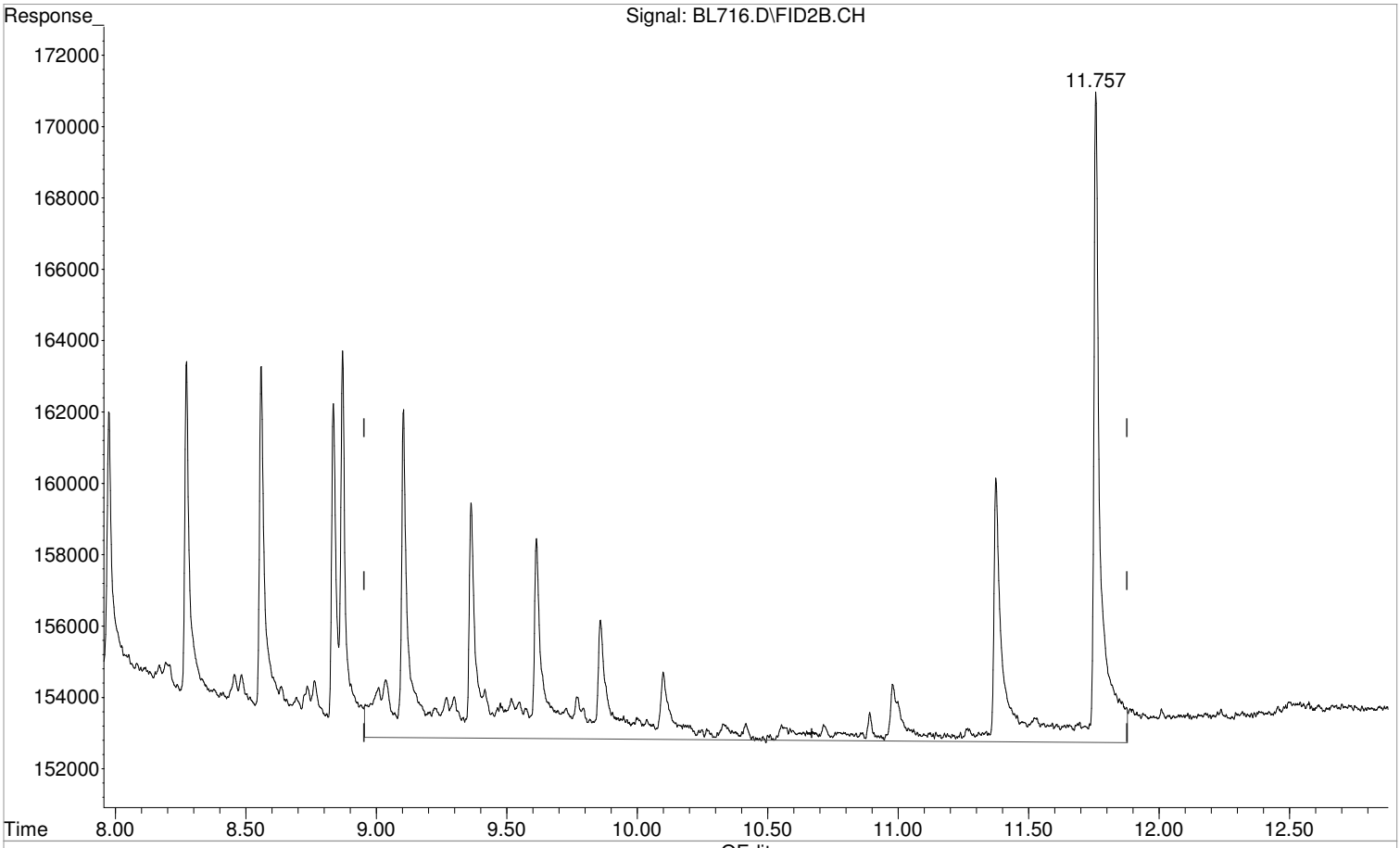
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL716.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:27 pm
Operator : JMisiurewicz
Sample : RQ1912454-02
Misc : 347416 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:49 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 7.265 mg/l

response 1553337

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL716.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:27 pm
Operator : JMisiurewicz
Sample : RQ1912454-02
Misc : 347416 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:49 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.070	26786994	90.269 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	90.27%
Target Compounds			
2) HC Diesel Range Organics	8.922	68944800	228.377 mg/l
3) HC Oil Range Organics	10.670	1683157	7.872 mg/l m

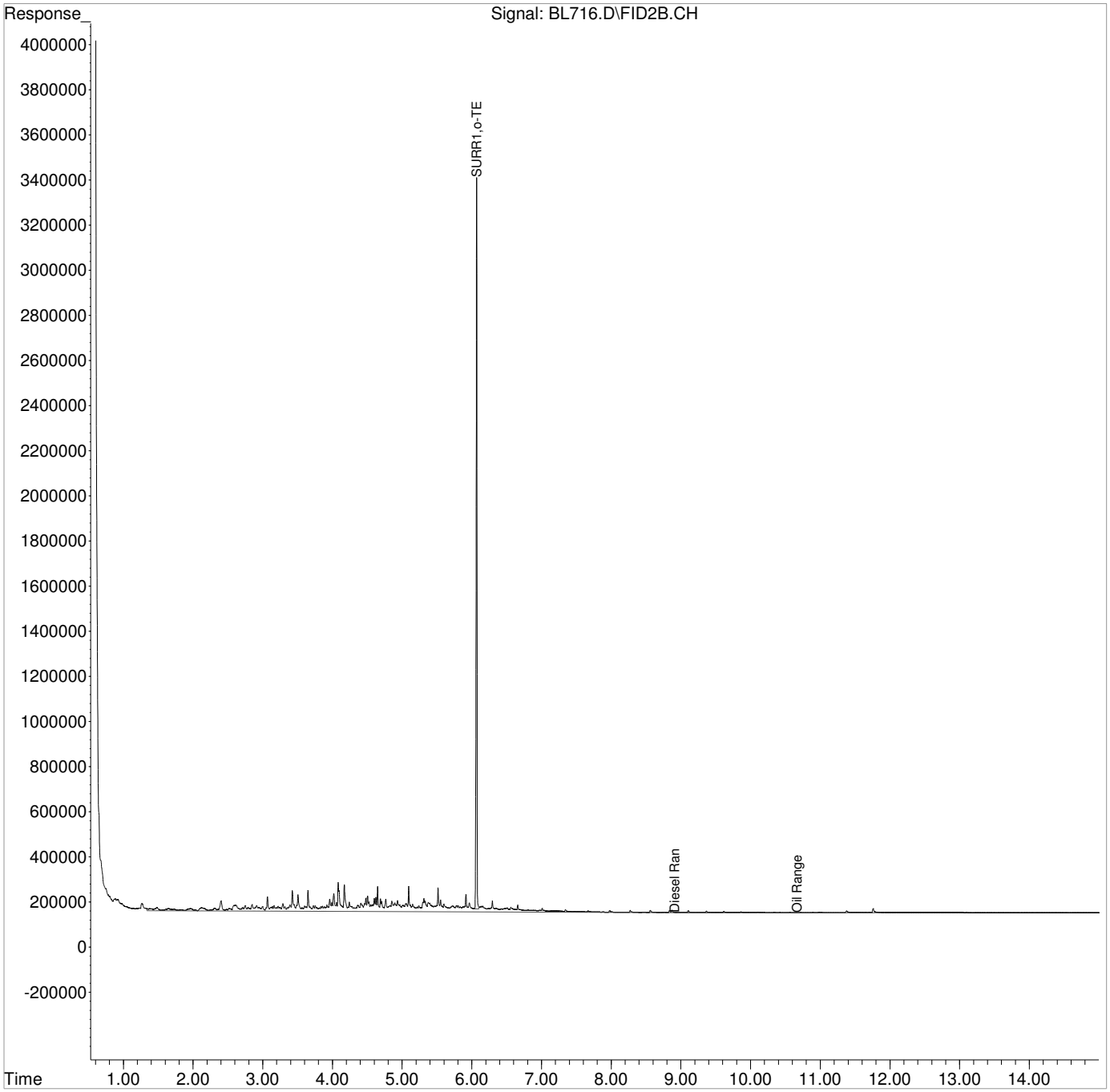
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/30/19
2nd BA 10/30/19

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL716.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:27 pm
Operator : JMisiurewicz
Sample : RQ1912454-02
Misc : 347416 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:49 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



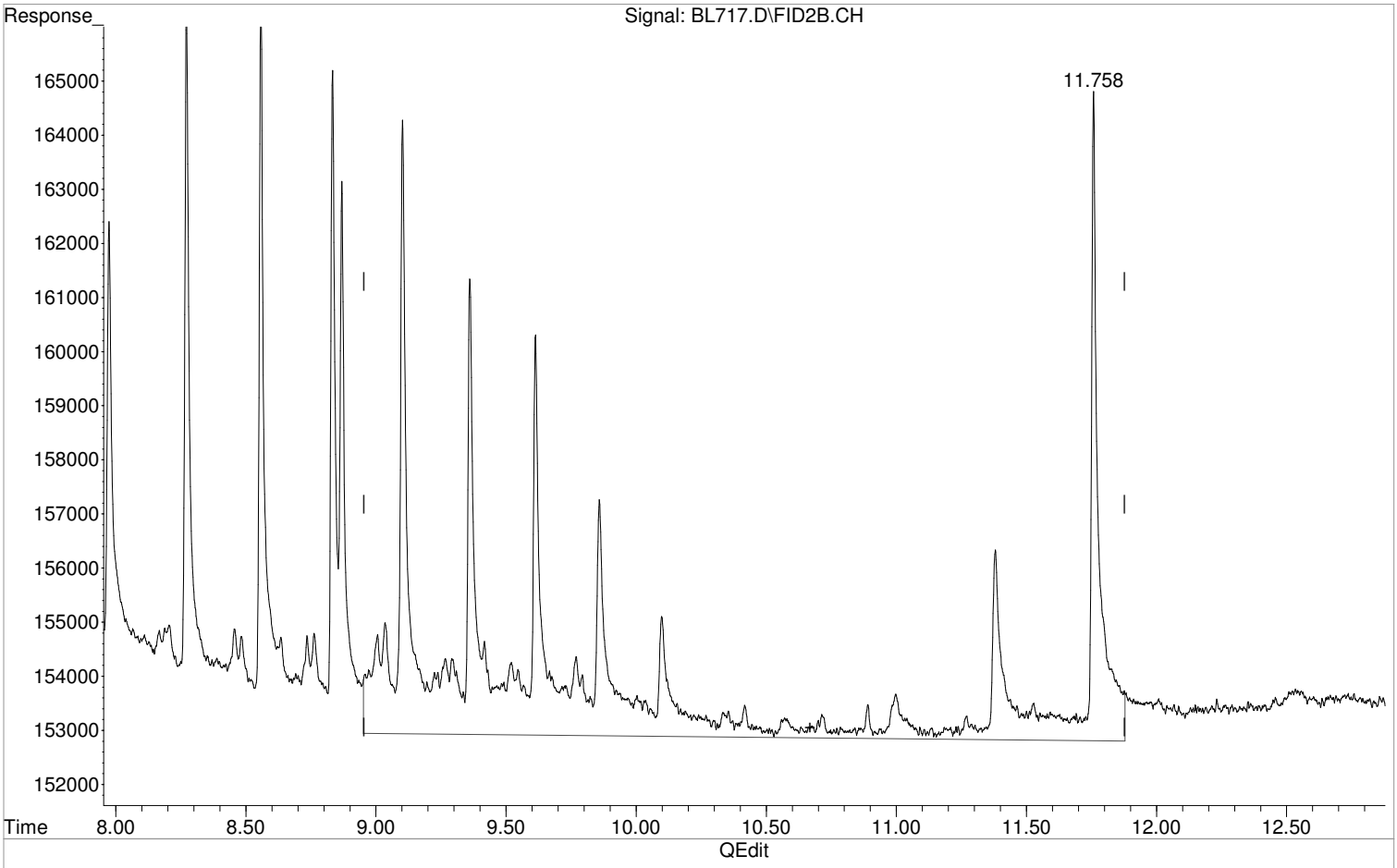
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL717.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:49 pm
Operator : JMisiurewicz
Sample : RQ1912454-03
Misc : 347416 8015 DRO
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:51 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 7.537 mg/l m

response 1611501

Manual Integration:

After

Poor integration.

10/30/19

(+) = Expected Retention Time

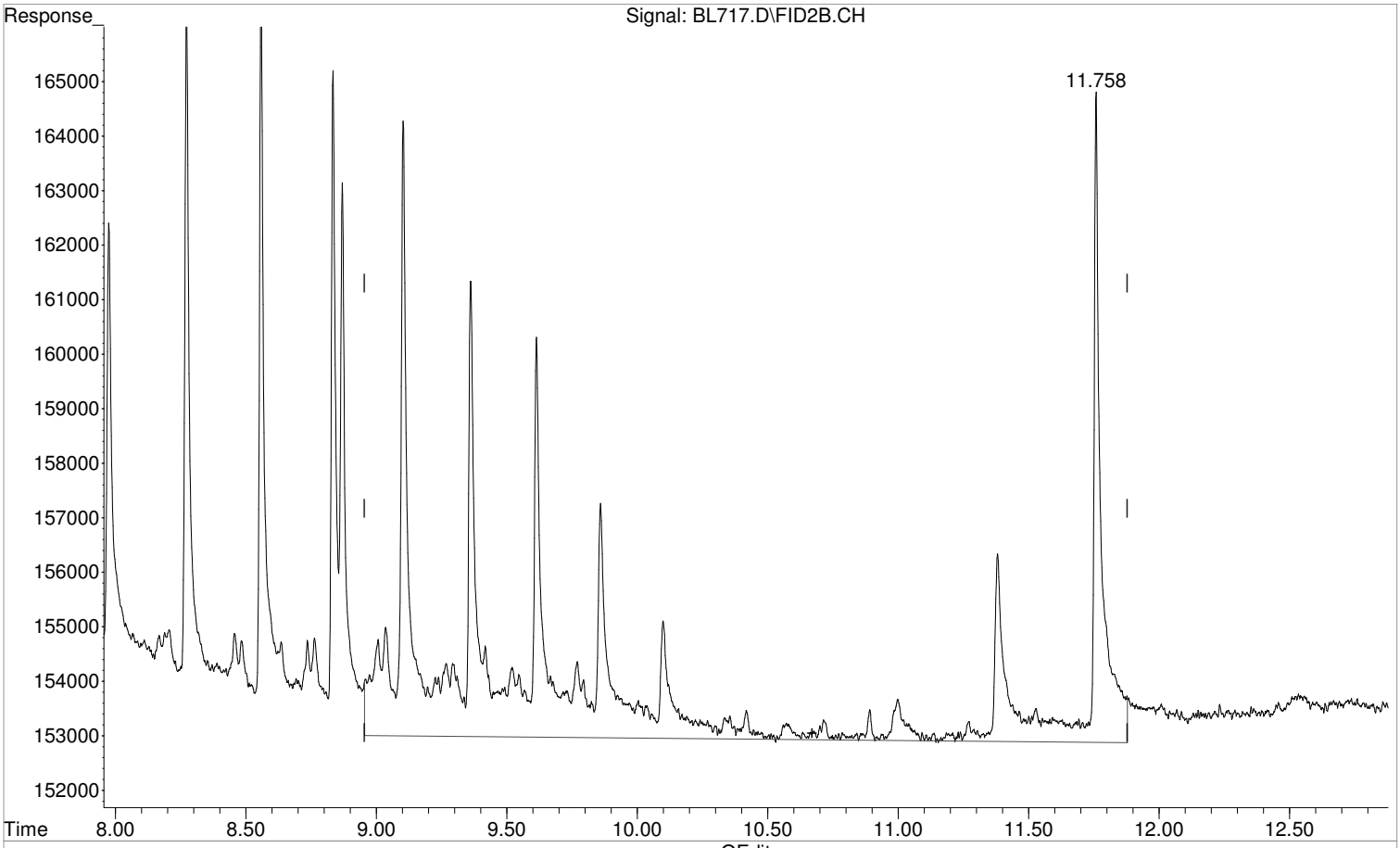
1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL717.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:49 pm
Operator : JMisiurewicz
Sample : RQ1912454-03
Misc : 347416 8015 DRO
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:51 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 6.979 mg/l

response 1492193

Manual Integration:

Before

10/30/19

(+) = Expected Retention Time

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL717.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:49 pm
Operator : JMisiurewicz
Sample : RQ1912454-03
Misc : 347416 8015 DRO
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:51 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.067	20565058	69.301 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	69.30%
Target Compounds			
2) HC Diesel Range Organics	8.922	51221665	169.670 mg/l
3) HC Oil Range Organics	10.670	1611501	7.537 mg/l m

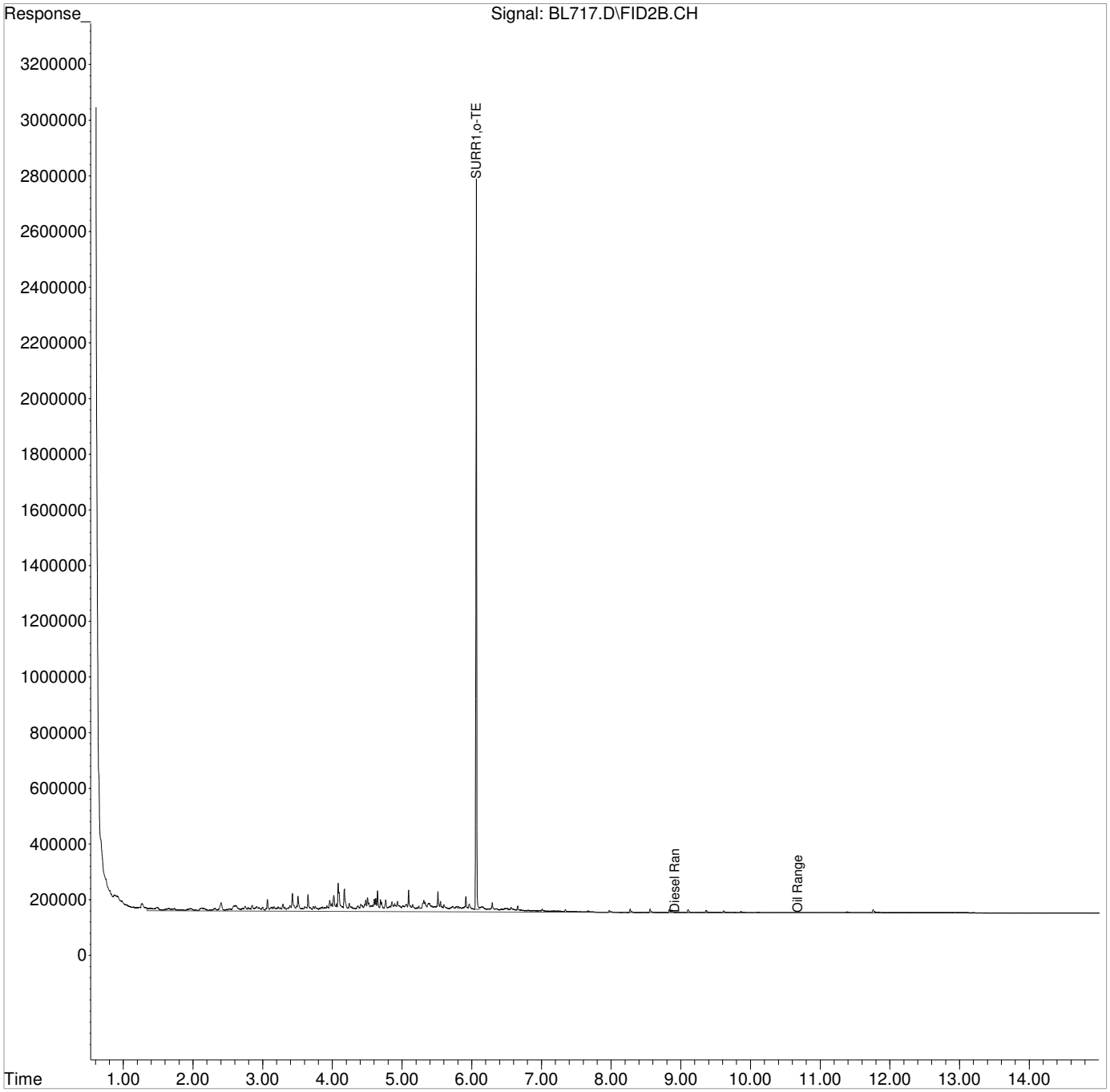
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/30/19
2nd BA 10/30/19

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL717.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 12:49 pm
Operator : JMisiurewicz
Sample : RQ1912454-03
Misc : 347416 8015 DRO
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:25:51 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



1st AF 10/30/19
2nd BA 10/30/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL714.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 11:28 am
Operator : JMisiurewicz
Sample : CCV
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 12:01:01 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 S	SURR1,o-TERPHENYL	40.000	41.511	-3.8	96	0.05
2 HC	Diesel Range Organics	1000.000	952.287	4.8	93	0.00
3 HC	Oil Range Organics	700.000	573.517	18.1	78	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL714.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 11:28 am
Operator : JMisiurewicz
Sample : CCV
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 12:01:01 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.067	12318175	41.511 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 41.51%	
Target Compounds			
2) HC Diesel Range Organics	8.922	287486119	952.287 mg/l
3) HC Oil Range Organics	10.670	122626963	573.517 mg/l

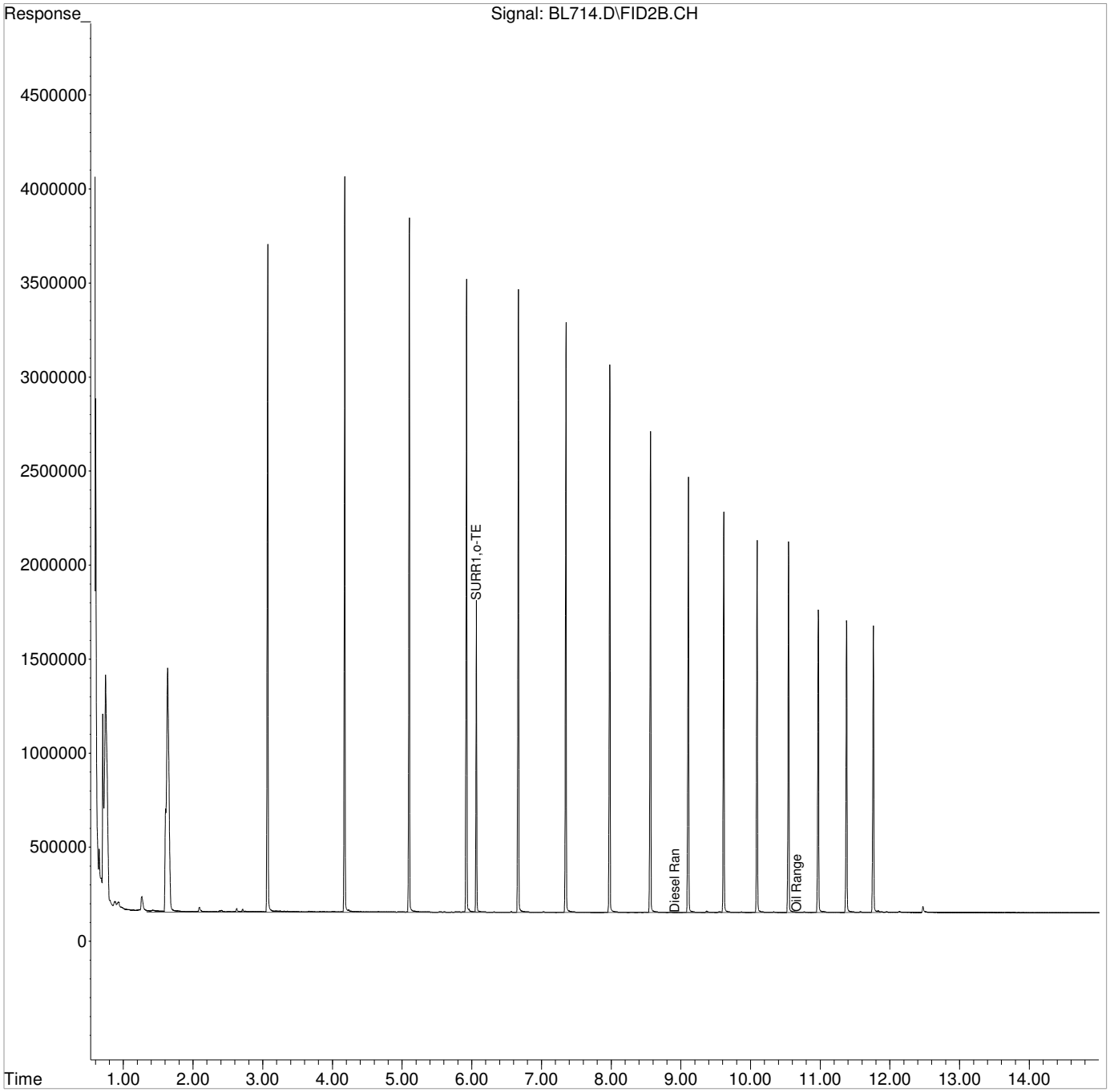
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/30/19
2nd BA 10/30/19

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL714.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 11:28 am
Operator : JMisiurewicz
Sample : CCV
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 12:01:01 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



1st AF 10/30/19
2nd BA 10/30/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL724.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 3:26 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO MED
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:46:42 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 S	SURR1,o-TERPHENYL	40.000	43.526	-8.8	101	0.05
2 HC	Diesel Range Organics	1000.000	1002.795	-0.3	98	0.00
3 HC	Oil Range Organics	700.000	607.898	13.2	83	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

1st AF 10/30/19
2nd BA 10/30/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL724.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 3:26 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO MED
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:46:42 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.065	12916121	43.526 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 43.53%	
Target Compounds			
2) HC Diesel Range Organics	8.922	302734010	1002.795 mg/l
3) HC Oil Range Organics	10.670	129978332	607.898 mg/l

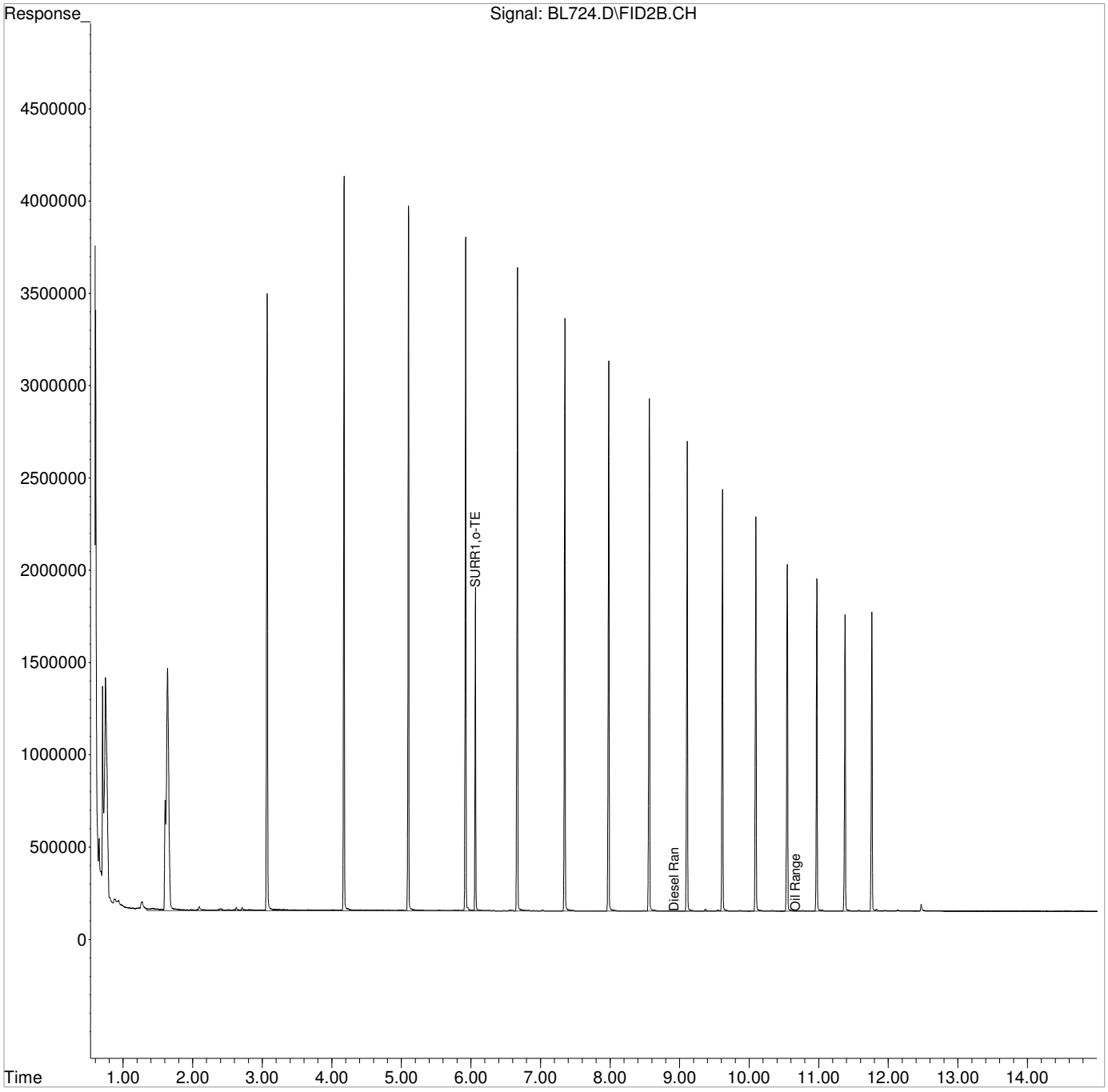
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/30/19
2nd BA 10/30/19

Data Path : I:\ACQUDATA\6890I\DATA\103019\
Data File : BL724.D
Signal(s) : FID2B.CH
Acq On : 30 Oct 2019 3:26 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO MED
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 30 15:46:42 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	0.000	0	N.D. mg/l d
Spiked Amount 100.000	Range 40 - 133	Recovery =	0.00%#
Target Compounds			
2) HC Diesel Range Organics	8.922	162795401	539.254 mg/l
3) HC Oil Range Organics	0.000	0	N.D. mg/l d

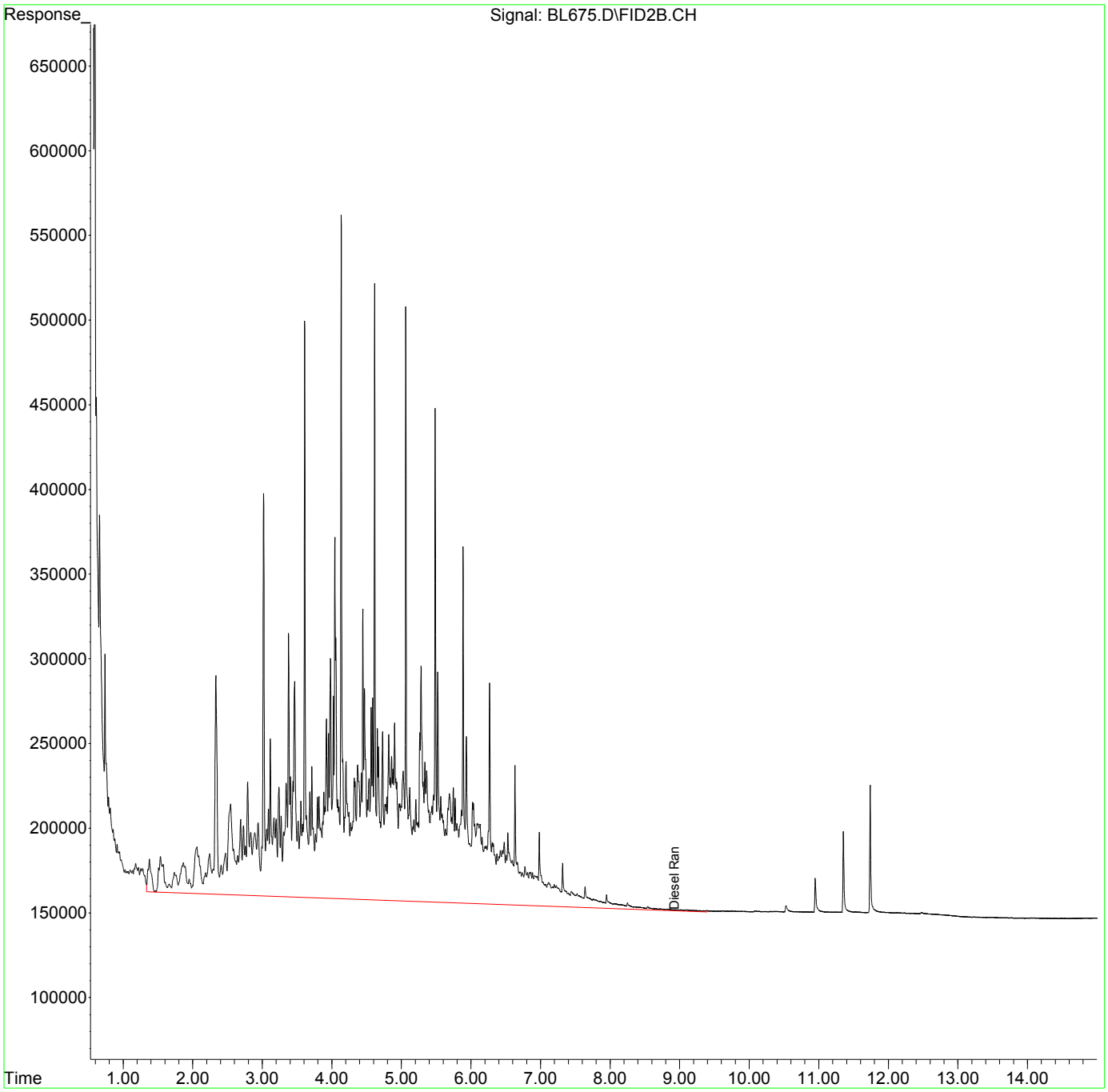
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



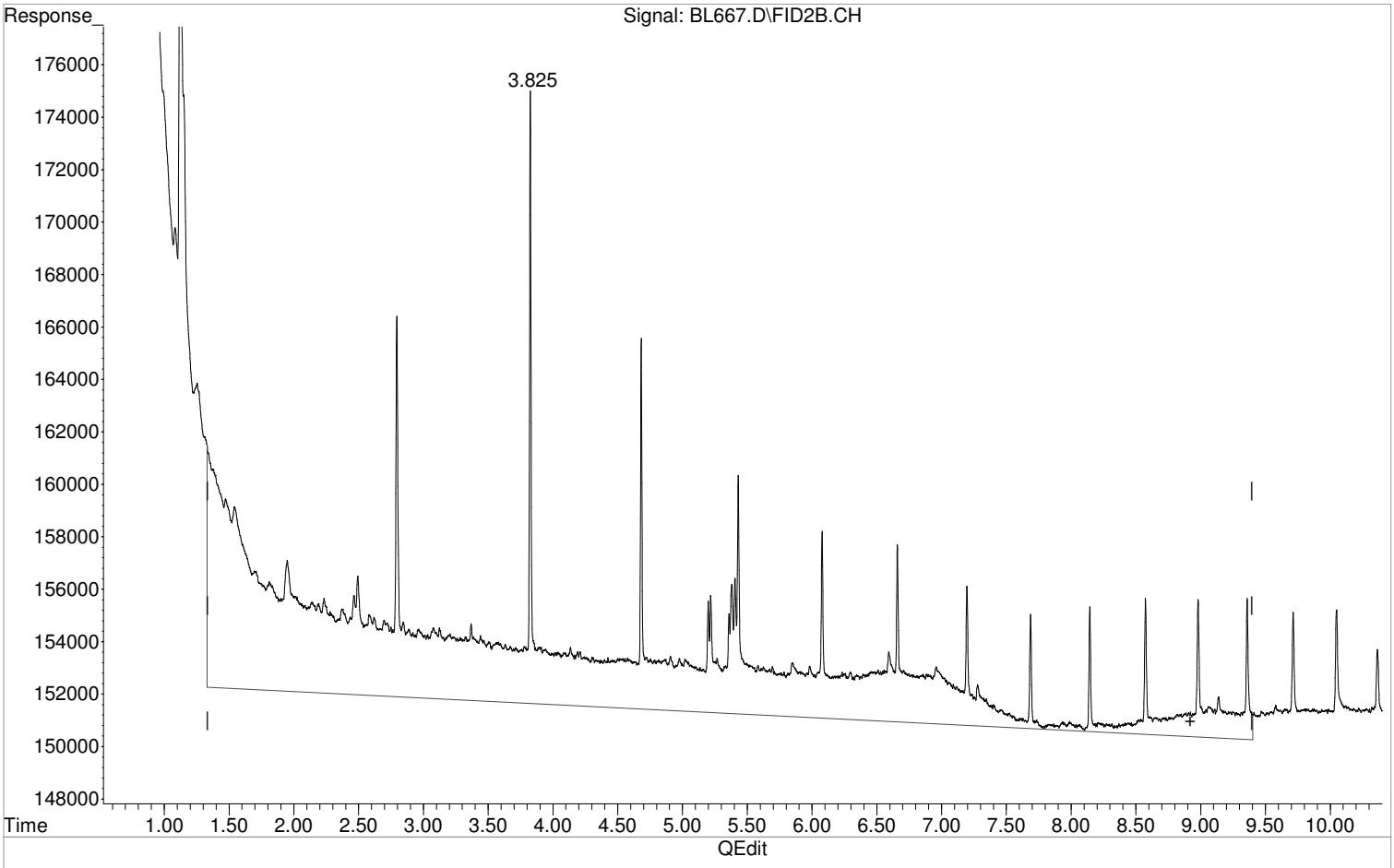
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 34.051 mg/l m

response 10279784

Manual Integration:

After

Poor integration.

10/28/19

(+) = Expected Retention Time

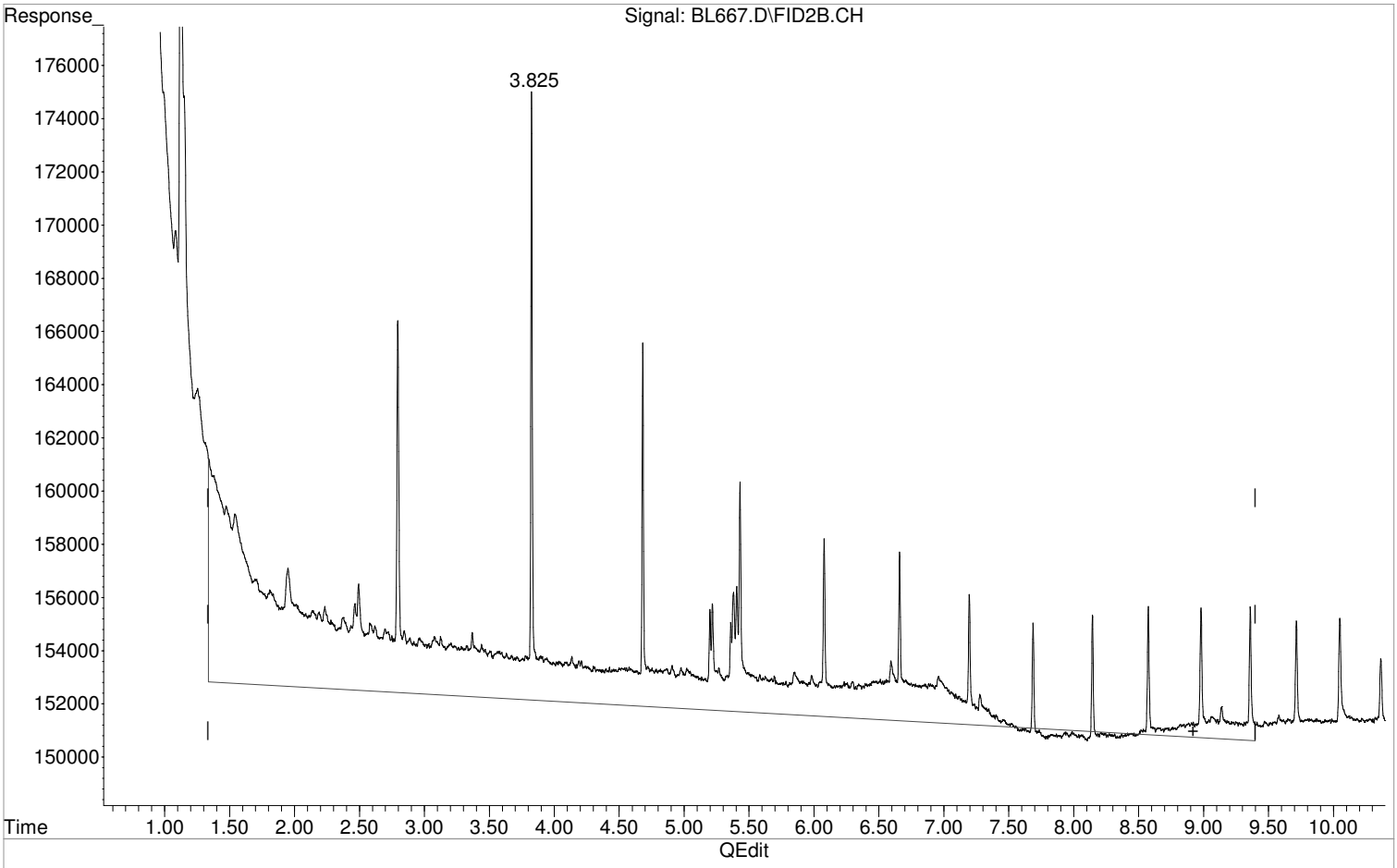
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 26.667 mg/l

response 8050388

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S SURR1,o-TERPHENYL	0.000	0	N.D.	mg/l	d
Spiked Amount 100.000	Range 40 - 133	Recovery =	0.00%#		
Target Compounds					
2) HC Diesel Range Organics	8.922	10331817	34.224	mg/l	m
3) HC Oil Range Organics	0.000	0	N.D.	mg/l	d

(f)=RT Delta > 1/2 Window (m)=manual int.

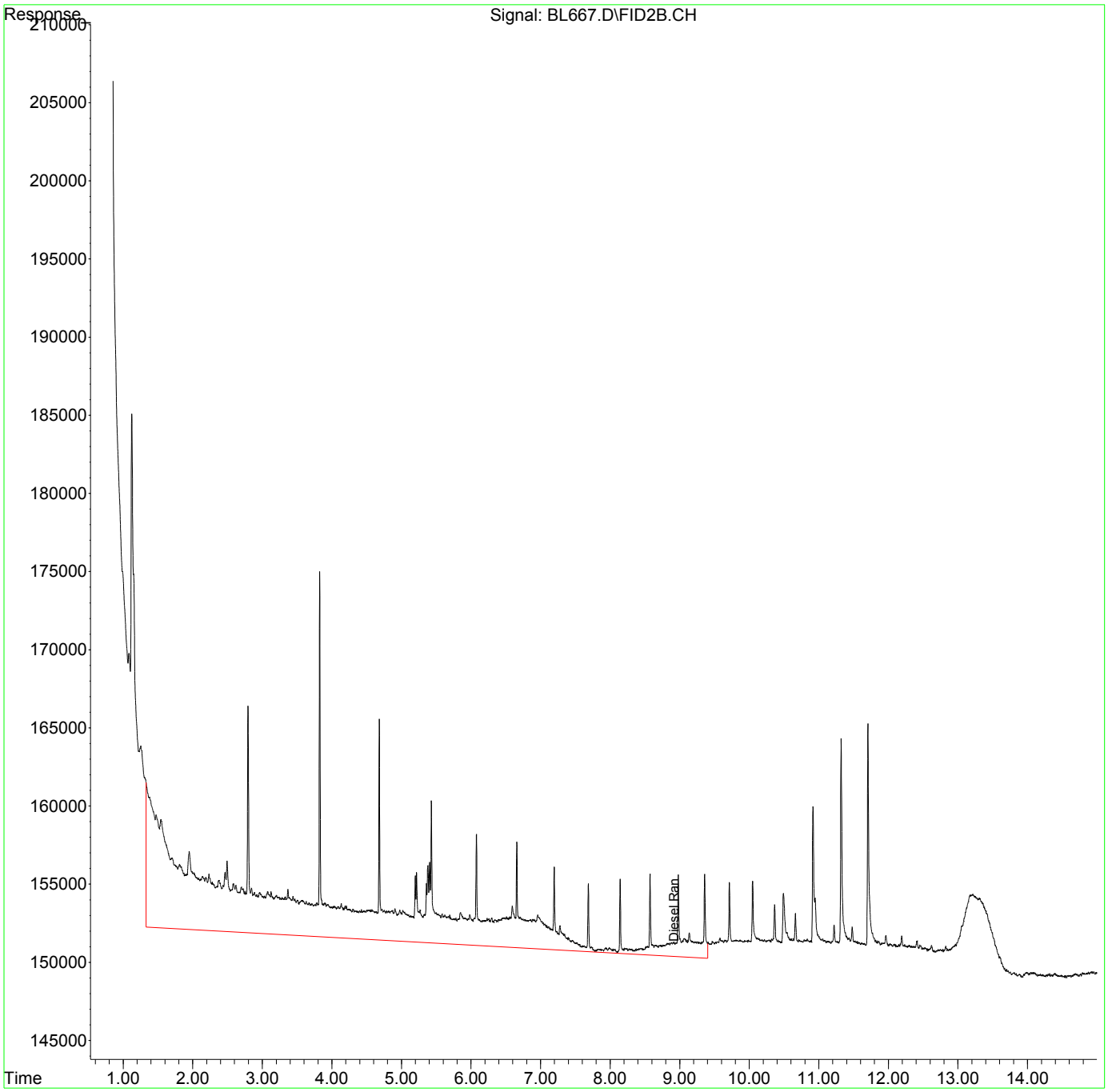
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



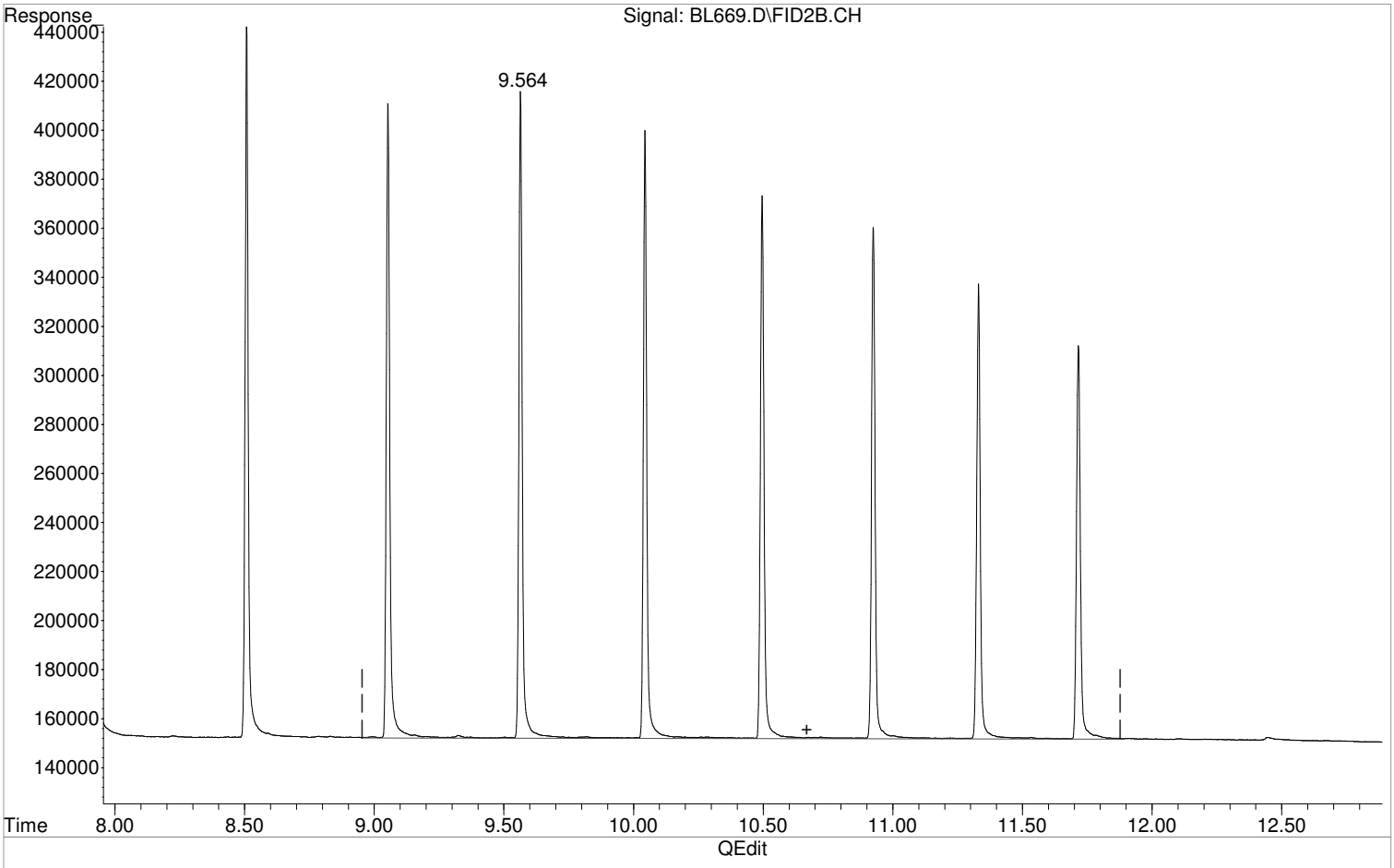
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 77.404 mg/l m

response 15468045

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

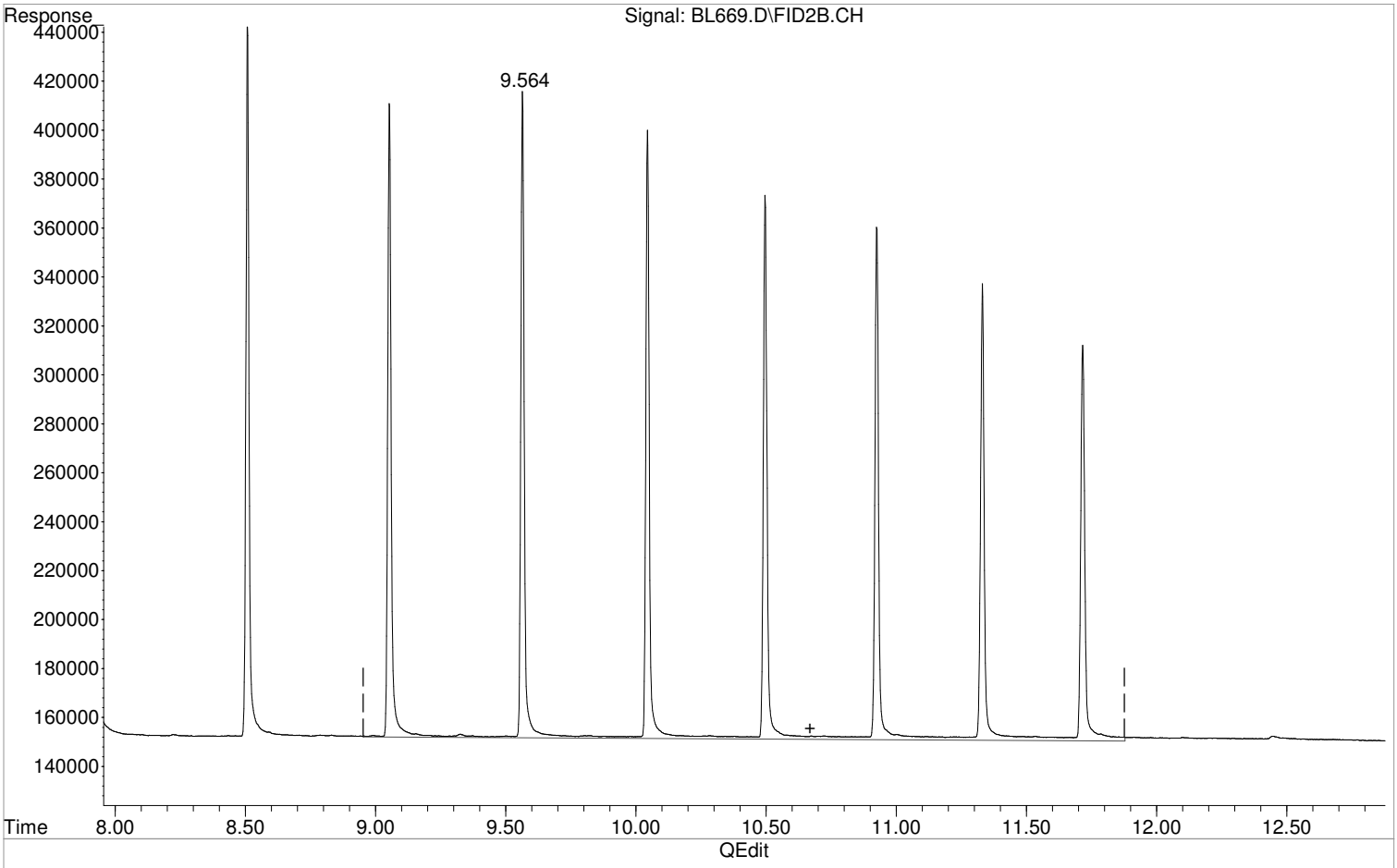
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 83.173 mg/l

response 16620884

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	5.999f	1200808	2.660 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	2.66%#
Target Compounds			
2) HC Diesel Range Organics	8.922	34483937	82.698 mg/l
3) HC Oil Range Organics	10.670	15468045	77.404 mg/l m

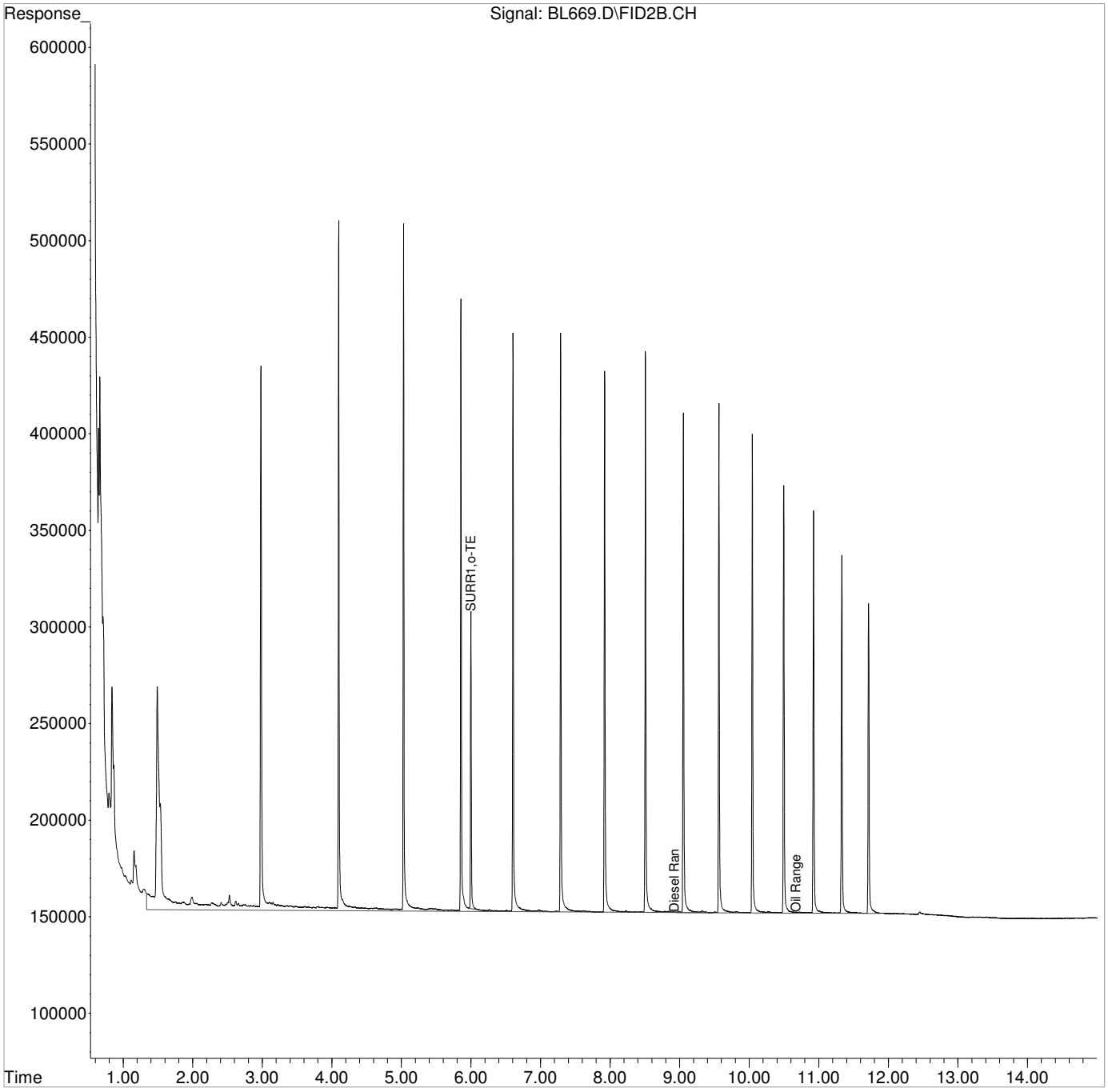
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



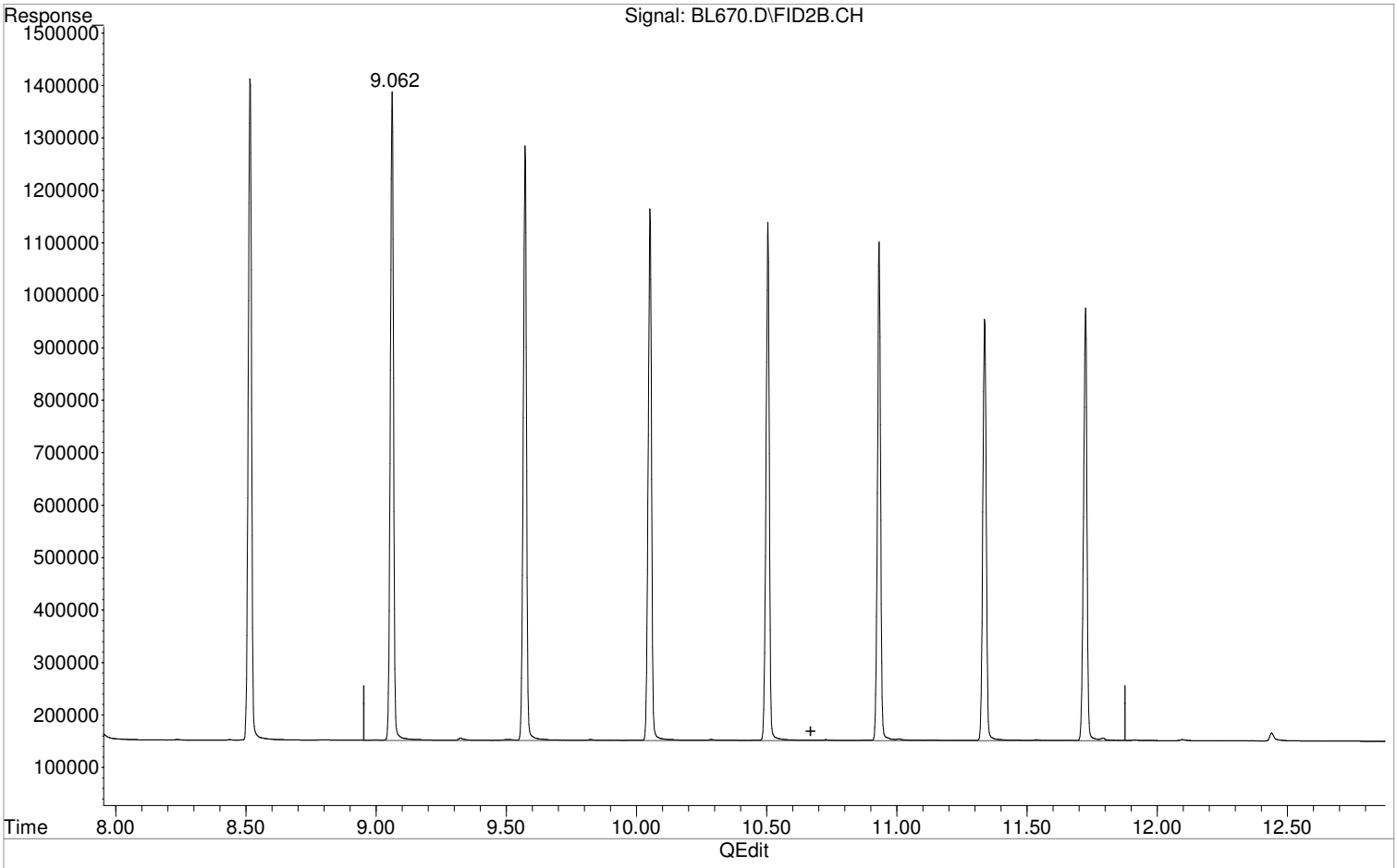
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 313.456 mg/l m

response 62639860

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

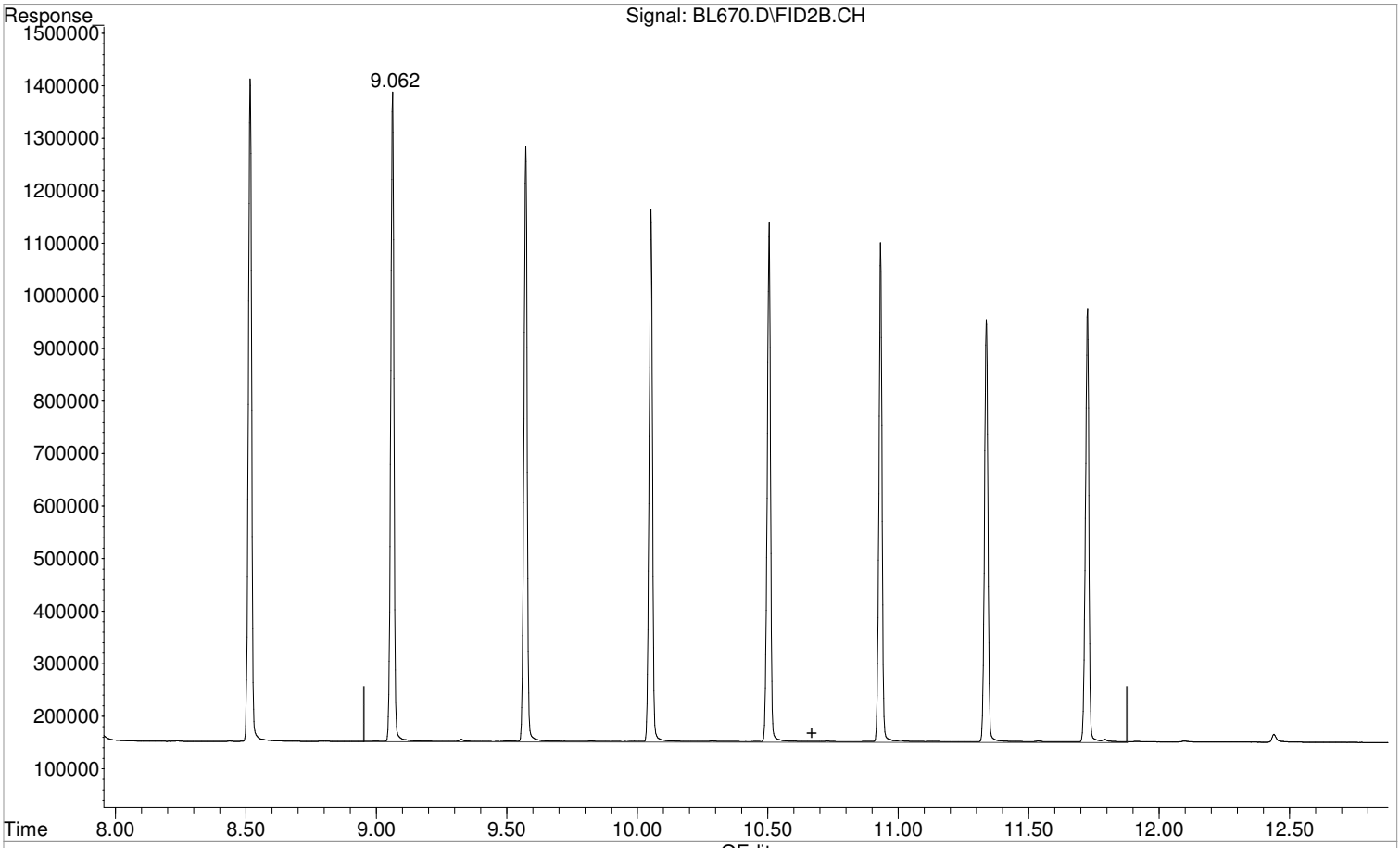
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 319.145 mg/l

response 63776554

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.008f	5688695	12.600 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	12.60%#
Target Compounds			
2) HC Diesel Range Organics	8.922	142199911	341.018 mg/l
3) HC Oil Range Organics	10.670	62639860	313.456 mg/l m

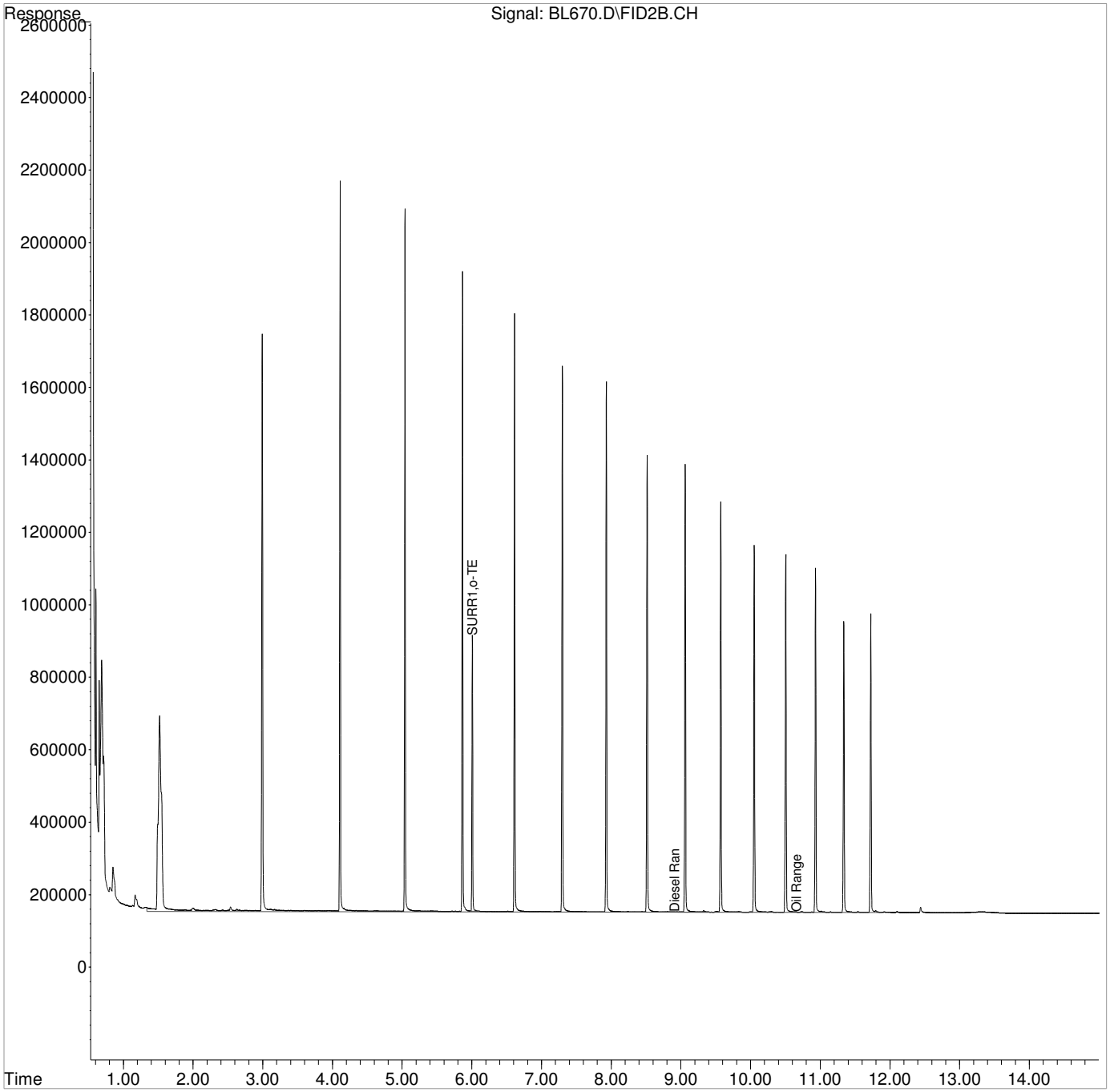
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



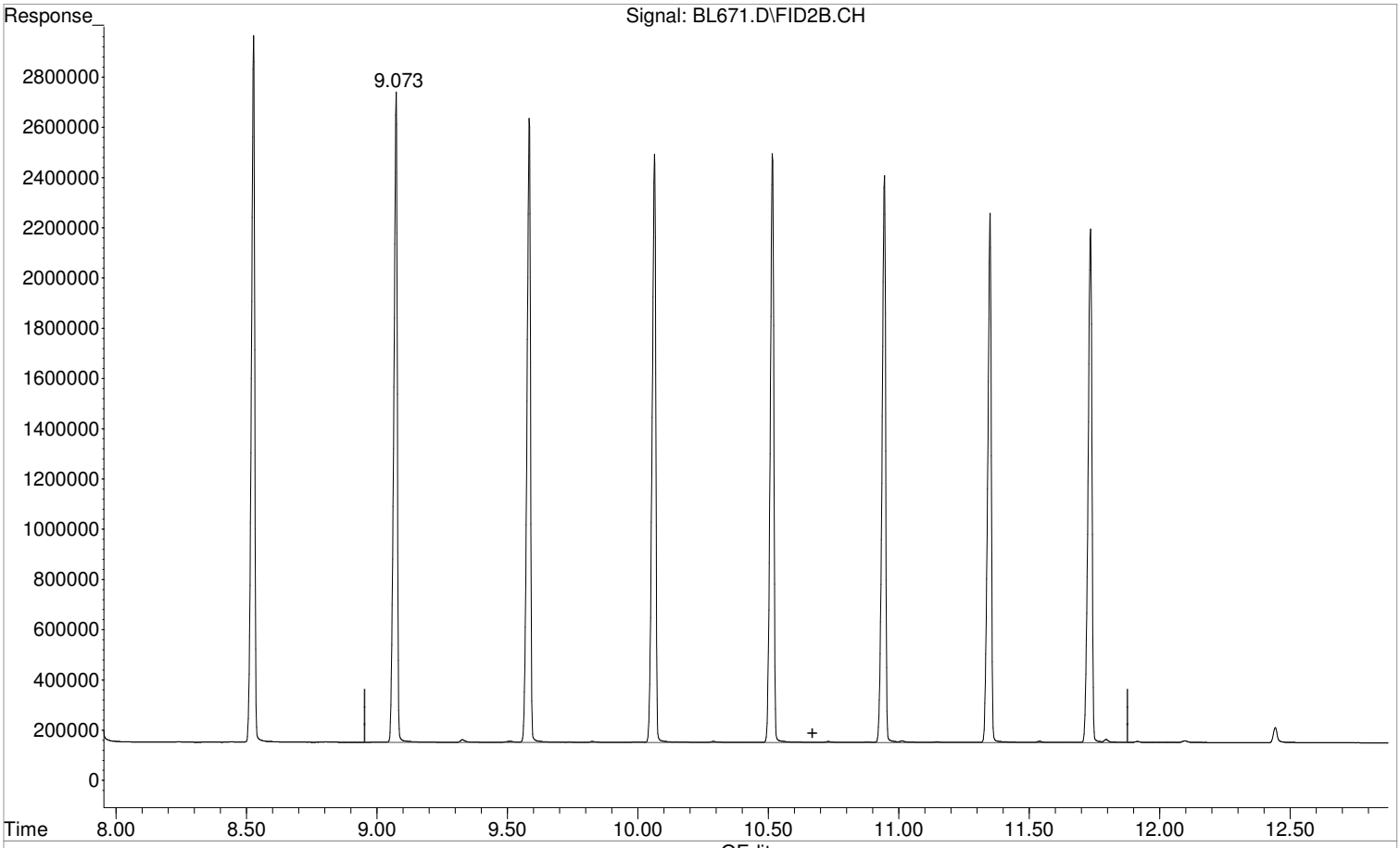
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 787.866 mg/l m

response 157443972

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

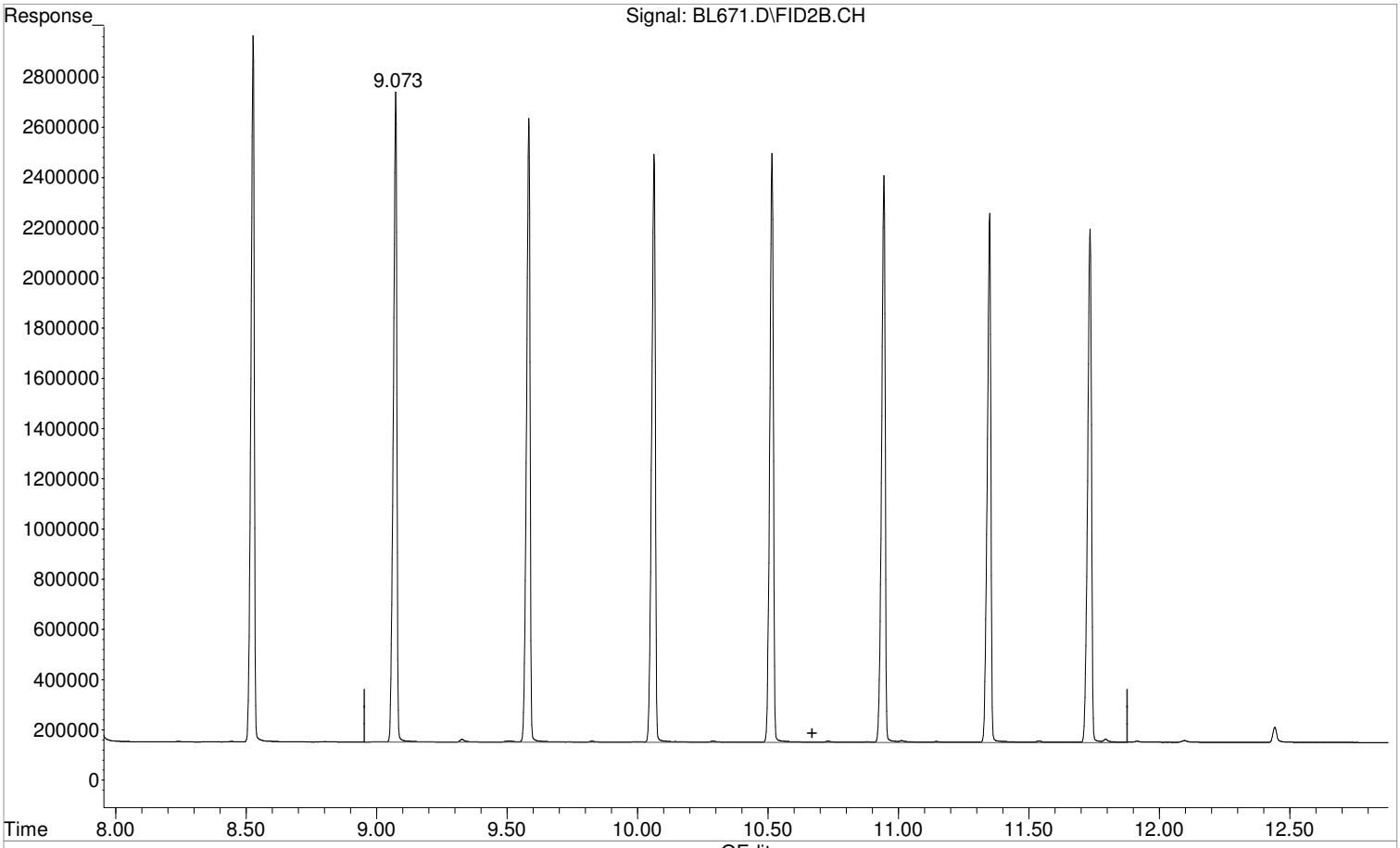
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 793.928 mg/l

response 158655408

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.016f	12830088	28.417 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	28.42%#
Target Compounds			
2) HC Diesel Range Organics	8.922	308718950	740.357 mg/l
3) HC Oil Range Organics	10.670	157443972	787.866 mg/l m

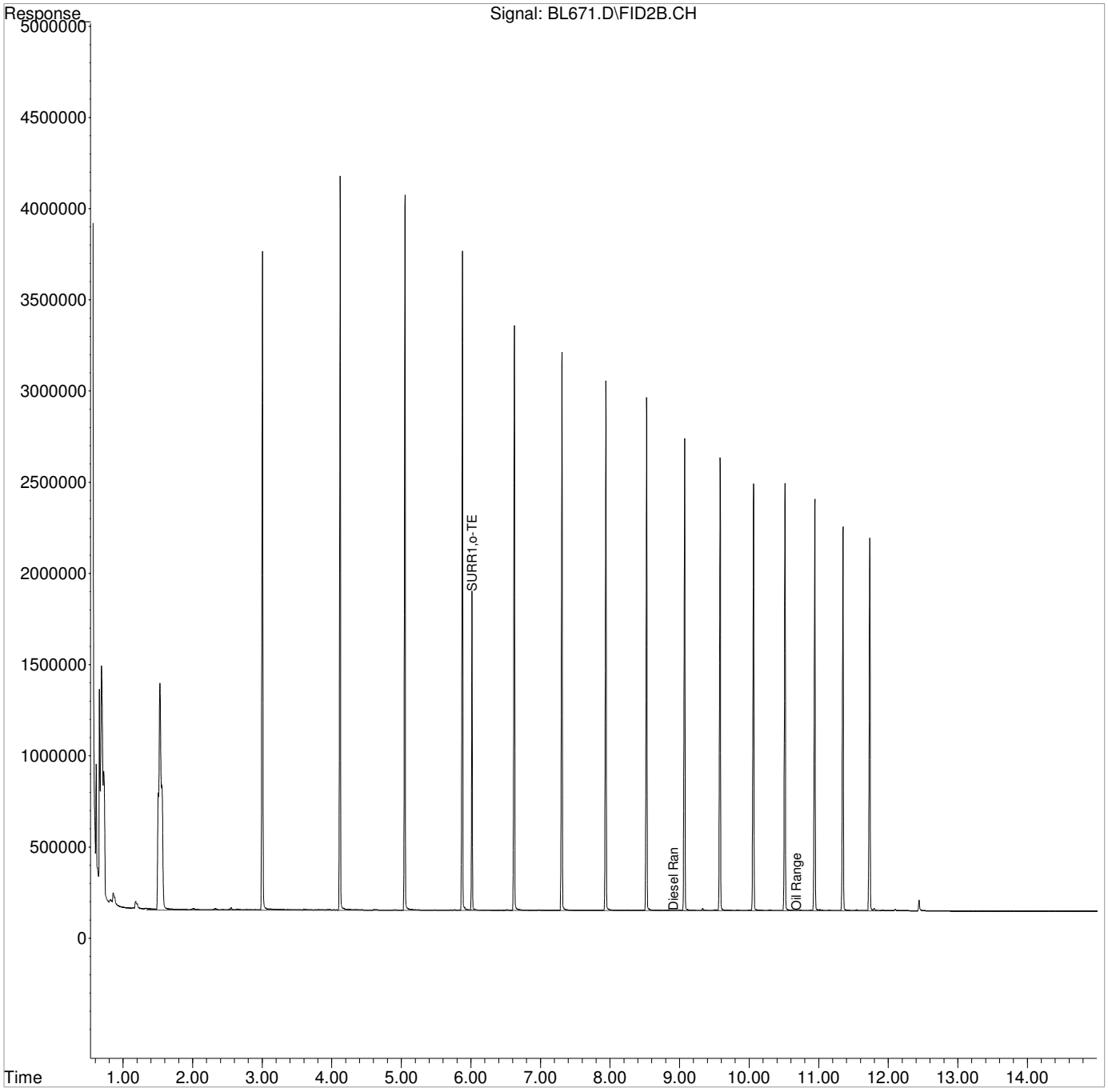
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



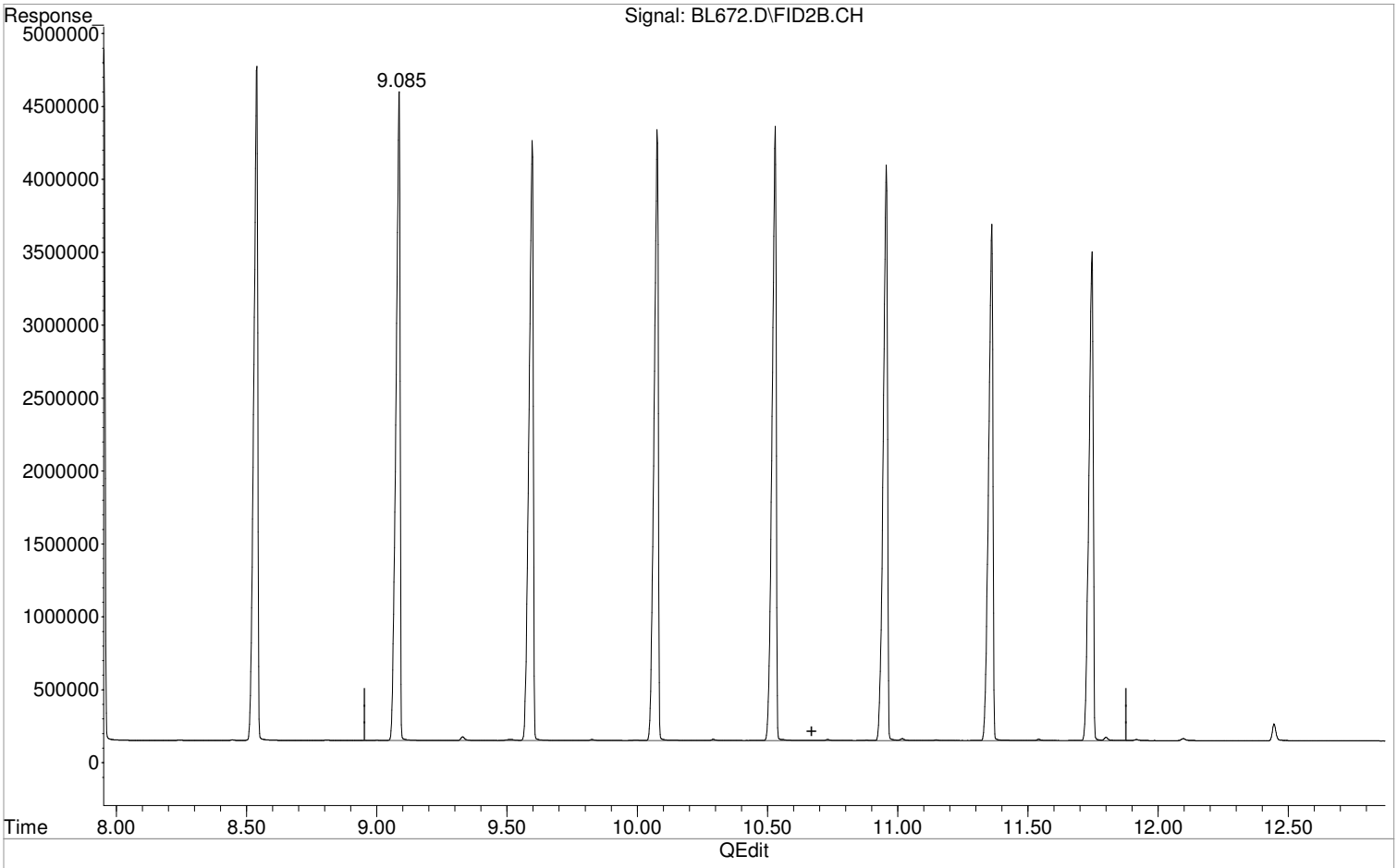
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 1562.093 mg/l m

response 312162250

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

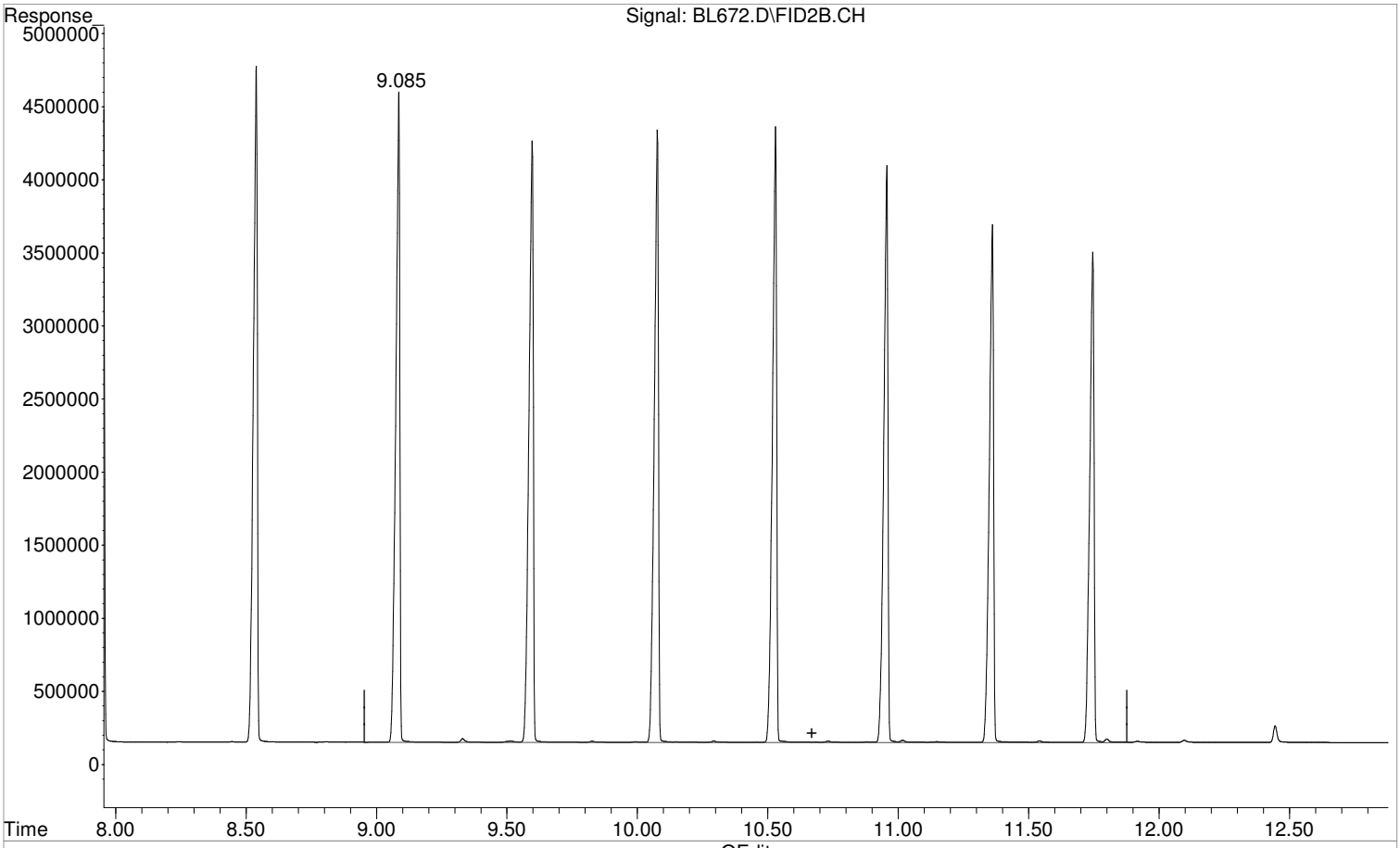
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 1570.029 mg/l

response 313748183

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.027f	22929286	50.785 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 50.78%	
Target Compounds			
2) HC Diesel Range Organics	8.922	564133736	1352.882 mg/l
3) HC Oil Range Organics	10.670	312162250	1562.093 mg/l m

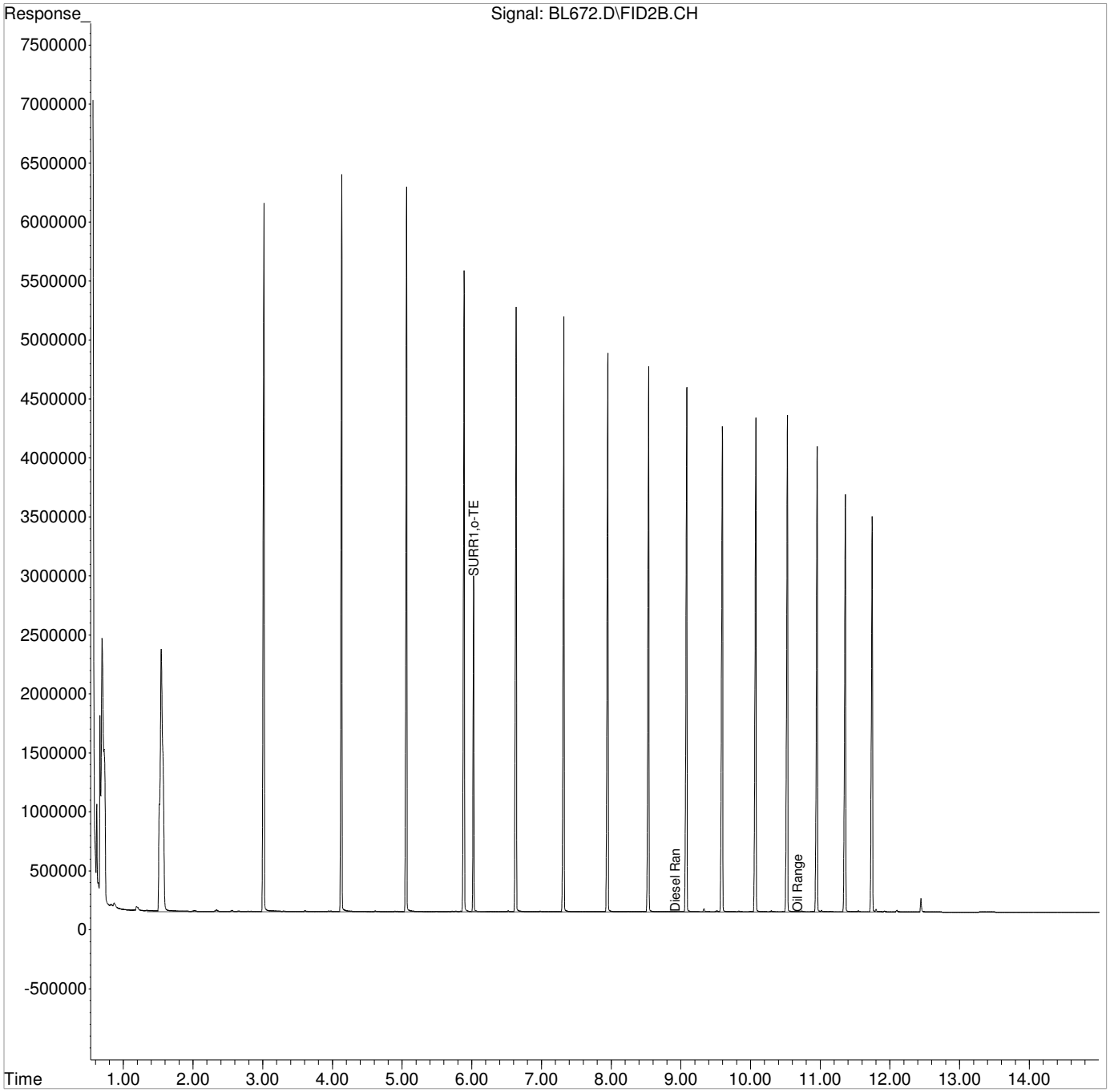
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



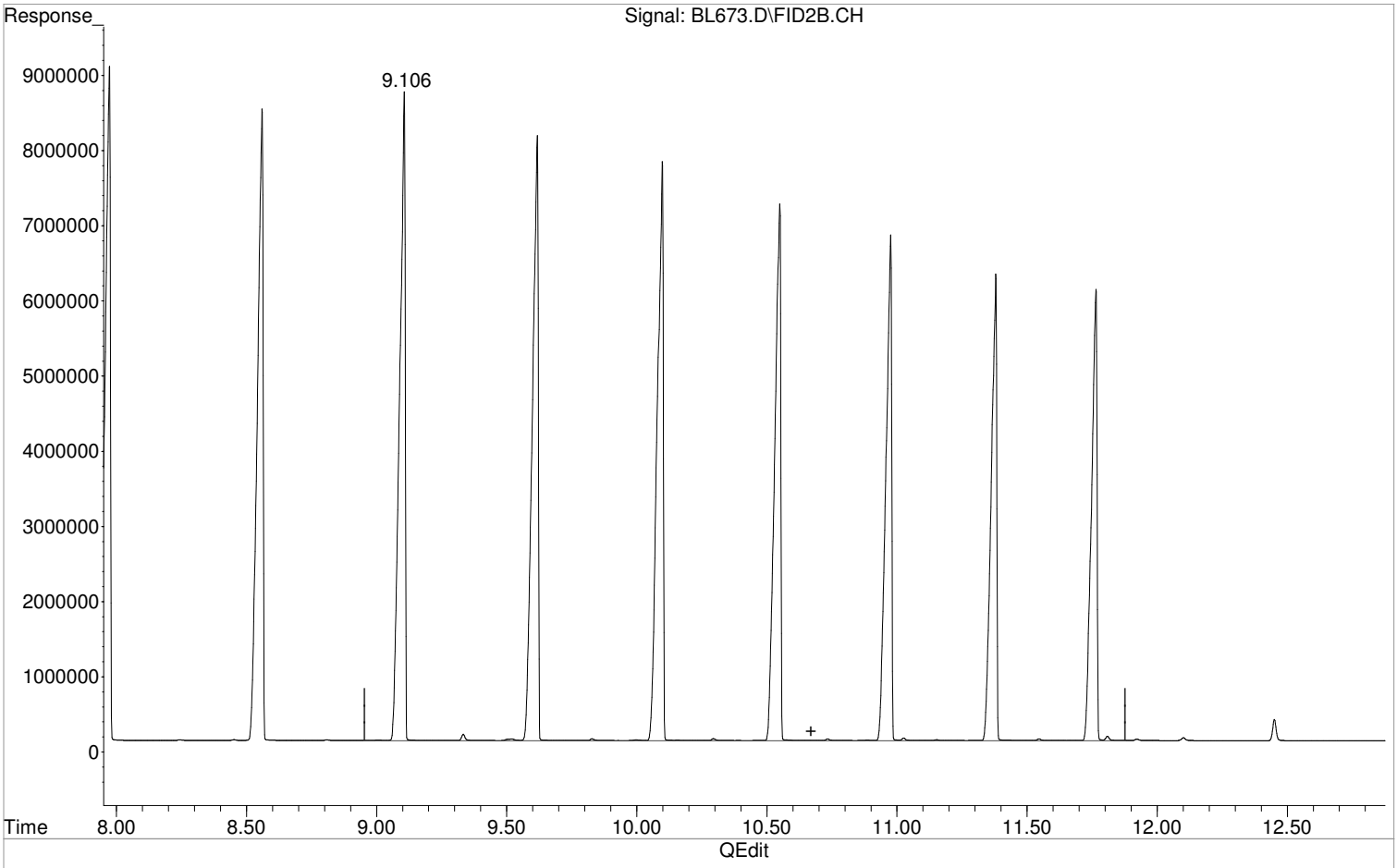
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 3874.934 mg/l m

response 774351022

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

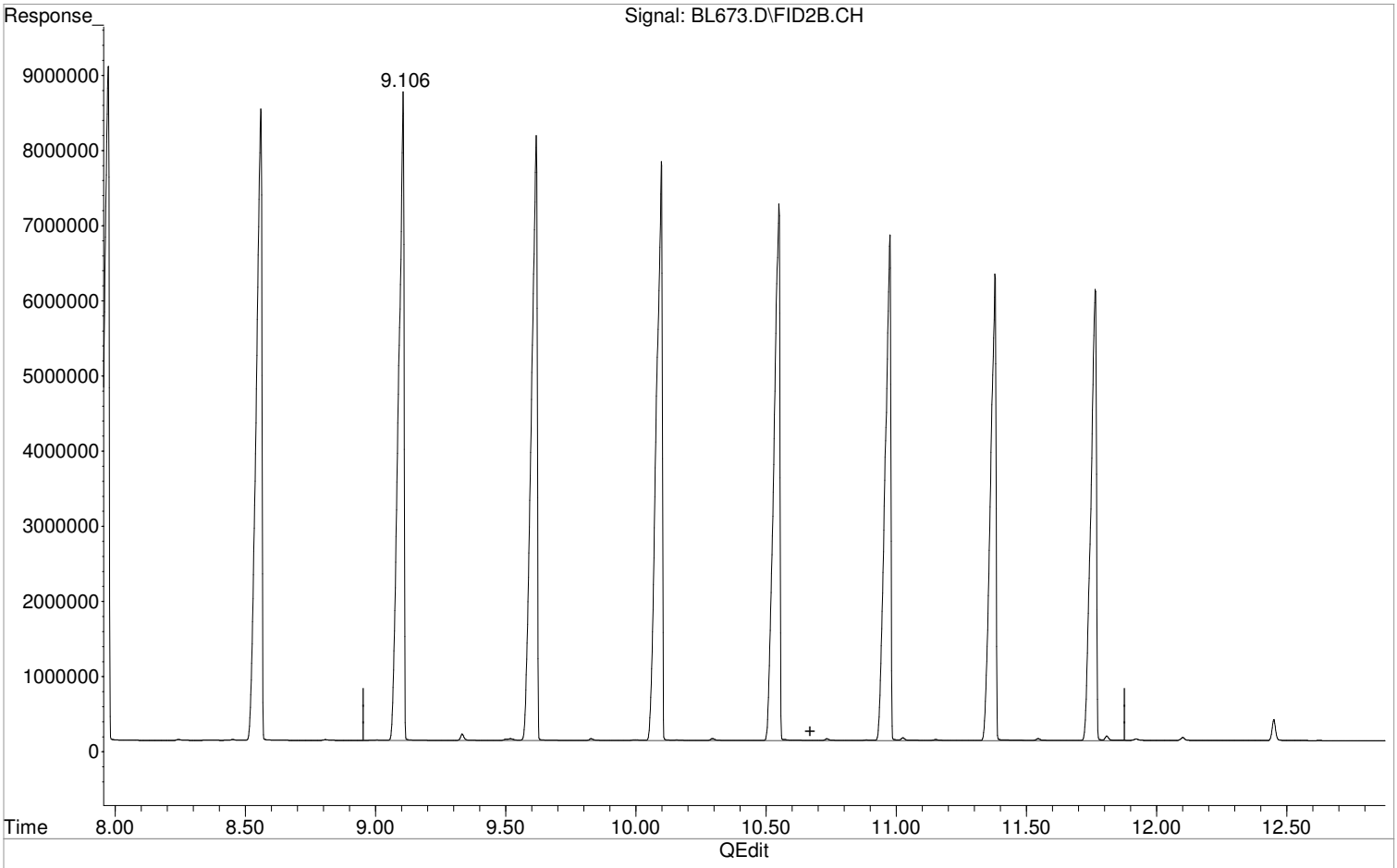
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 3887.349 mg/l

response 776831945

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.043f	58346880	129.229 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 129.23%	
Target Compounds			
2) HC Diesel Range Organics	8.922	1447130845	3470.449 mg/l
3) HC Oil Range Organics	10.670	774351022	3874.934 mg/l m

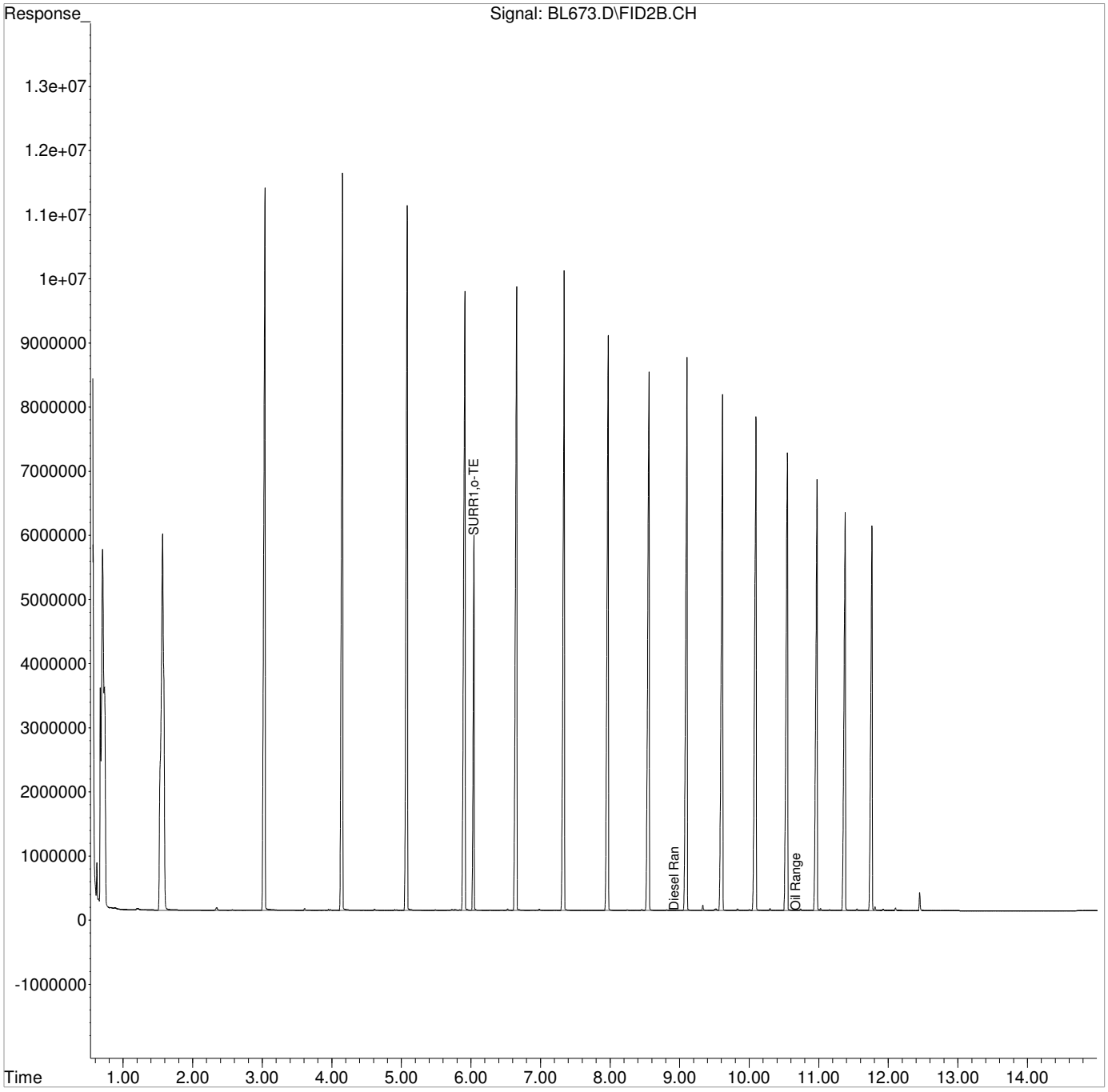
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



1st AF 10/28/19
2nd JM 10/28/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
2 HC	Diesel Range Organics	500.000	539.254	-7.9	114	0.00

Evaluate Continuing Calibration Report - Not Founds

1 S	SURR1,o-TERPHENYL	20.000	0.000	100.0#	0	-6.02#
3 HC	Oil Range Organics	350.000	0.000	100.0#	0	-10.67#

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Analysis: 8015 DRO	Analyst: AFelker	Run Method: DRO-FUEL3.M	
Date: 10/25/19	Instr. 6890J	Quant Method: DRO 102519.M	
Syringes:		LIMS Run#:	657295

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
2	Mid Std Check		204084	BL660	Y	ORDT
2	↓		↓	61	Y	↓
1	BLK			62	—	
1	↓			63	—	
2	Mid Std Check		204084	64	Y	ORDT
2	↓		↓	65	Y	↓
3	CCV		204084	66	Y	
1	BLK			67	~~Y~~	
4	STD 6 25 ppm			68	N	
5	STD 1		201920	69	Y	
6	2		201921	70	Y	
7	3		204084	71	Y	
8	4		201922	72	Y	
9	5		201879	73	Y	
10	3		204084	74	Y	Accidentally repeated, not used
11	ICV		200472	75	Y	
12	CCV		204084	76	Y	
13	RQ1912217-01			77	Y	
14	-02			78	Y	
15	-03			79	Y	
16	R1910325-001			80	Y	
17	-006			81	Y	
18	-009			82	Y	
19	-012			83	Y	
20	-015			84	Y	
21	-018			85	Y	
12	CCV		204084	86	Y	

AFelker 10/28/19

All samples = _____mL + _____uL Combined IS/Surr.;

Primary : 204084 exp: 1/21/20 Secondary :_____ exp:

Primary:_____ exp: Secondary :_____ exp:

Reagents:

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

#	Lab Code	Sample Name	File Location	Acquisition Date
01	RC1900130-01	STD 1	I:\ACQUDATA\6890I\DATA\102519\BL669.D	10/25/2019 13:19
02	RC1900130-02	STD 2	I:\ACQUDATA\6890I\DATA\102519\BL670.D	10/25/2019 13:42
03	RC1900130-03	STD 3	I:\ACQUDATA\6890I\DATA\102519\BL671.D	10/25/2019 14:04
04	RC1900130-04	STD 4	I:\ACQUDATA\6890I\DATA\102519\BL672.D	10/25/2019 14:27
05	RC1900130-05	STD 5	I:\ACQUDATA\6890I\DATA\102519\BL673.D	10/25/2019 14:49

Analyte

C28 - C40 ORO

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	70.000	2.21E5	02	350.000	1.79E5	03	700.000	2.249E5	04	1400.000	2.23E5
05	3500.000	2.212E5									

Diesel Range Organics (DRO) as C10-C28 Alkanes

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	100.000	3.448E5	02	500.000	2.844E5	03	1000.000	3.087E5	04	2000.000	2.821E5
05	5000.000	2.894E5									

o-Terphenyl

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	3.002E5	02	20.000	2.844E5	03	40.000	3.208E5	04	80.000	2.866E5
05	200.000	2.917E5									

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
C28 - C40 ORO	TRG	Average RF	% RSD	9.1	≤20	2.138E5	
Diesel Range Organics (DRO) as C10 -C28 Alkanes	TRG	Average RF	% RSD	8.7	≤20	3.019E5	
o-Terphenyl	SURR	Average RF	% RSD	5.0	≤20	2.967E5	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910505
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Verification Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

#	Lab Code	Sample Name	File Location	Acquisition Date
06	RC1900130-06	ICV	I:\ACQUDATA\6890I\DATA\102519\BL675.D	10/25/2019 15:41

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	500	539	3.019E5	3.256E5	7.85	±30	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/30/19 11:28

Continuing Calibration Verification (CCV) Summary
Diesel and Residual Range Organics by GC

Analysis Method:	8015C	**Calibration Date:**	10/25/2019
File ID:	I:\ACQUDATA\6890I\DATA\103019\BL714.D\	**Calibration ID:**	RC1900130
Signal ID:	Phenomenex ZB-5	**Analysis Lot:**	657766
		Units:	mg/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	1000	952	3.019E5	2.875E5	-4.8	NA	±20	Average RF
C28 - C40 ORO	700	574	2.138E5	1.752E5	-18.1	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
o-Terphenyl	39.9	41.5	2.967E5	3.089E5	4.1	NA	±20	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910505
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/30/19 15:26

Continuing Calibration Verification (CCV) Summary
Diesel and Residual Range Organics by GC

Analysis Method:	8015C	**Calibration Date:**	10/25/2019
File ID:	I:\ACQUDATA\6890I\DATA\103019\BL724.D\	**Calibration ID:**	RC1900130
Signal ID:	Phenomenex ZB-5	**Analysis Lot:**	657766
		Units:	mg/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	1000	1000	3.019E5	3.027E5	0.3	NA	±20	Average RF
C28 - C40 ORO	700	608	2.138E5	1.857E5	-13.2	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
o-Terphenyl	39.9	43.5	2.967E5	3.239E5	9.1	NA	±20	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910505
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Diesel and Residual Range Organics by GC

Analysis Method: 8015C **Analysis Lot:**657766
Instrument ID:R-GC-59

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\6890I\DATA\103019 \BL714.D\	Continuing Calibration Verification	RQ1912624-01	10/30/2019	11:28:00	
I:\ACQUDATA\6890I\DATA\103019 \BL715.D\	Method Blank	RQ1912454-01	10/30/2019	12:04:00	
I:\ACQUDATA\6890I\DATA\103019 \BL716.D\	Lab Control Sample	RQ1912454-02	10/30/2019	12:27:00	
I:\ACQUDATA\6890I\DATA\103019 \BL717.D\	Duplicate Lab Control Sample	RQ1912454-03	10/30/2019	12:49:00	
I:\ACQUDATA\6890I\DATA\103019 \BL718.D\	1910220917 700-SVS-067	R1910505-003	10/30/2019	13:12:00	
I:\ACQUDATA\6890I\DATA\103019 \BL719.D\	1910220932 700-SVS-068	R1910505-006	10/30/2019	13:34:00	
I:\ACQUDATA\6890I\DATA\103019 \BL720.D\	1910221332 700-SVS-075	R1910505-009	10/30/2019	13:56:00	
I:\ACQUDATA\6890I\DATA\103019 \BL721.D\	1910221402 700-SVS-076	R1910505-012	10/30/2019	14:19:00	
I:\ACQUDATA\6890I\DATA\103019 \BL722.D\	1910220947 700-SVS-083	R1910505-013	10/30/2019	14:41:00	
I:\ACQUDATA\6890I\DATA\103019 \BL723.D\	1910221002 700-SVS-084	R1910505-018	10/30/2019	15:04:00	
I:\ACQUDATA\6890I\DATA\103019 \BL724.D\	Continuing Calibration Verification	RQ1912624-02	10/30/2019	15:26:00	

Analysis: 8015 DRO	Analyst: A. Fisher	Run Method: PRO-FID43.m	
Date: 10/30/19	Instr. 6890 I	Quant Method: DRO102519.M	
Syringes:		LIMS Run#:	657766

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	High STD			DL711	—	
1	High STD			12	—	
2	DLK			13	—	
3	CCV		204084	14	Y	
4	R1912454-01			15	Y	
5	↓ -02			16	Y	
6	↓ -03			17	Y	
7	R1910505-003			18	Y	
8	-006			19	Y	
9	-009			20	Y	
10	-012			21	Y	
11	-013			22	Y	
12	-018			23	Y	
3	CCV		204084	24	Y	

All samples = _____mL + _____uL Combined IS/Surr.;

Primary : 204084 exp: 1/21/20 Secondary :_____ exp:

Primary:_____ exp: Secondary :_____ exp:

Reagents:

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: NASA/WSTF/Navarro **Service Request:**R1910505
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Diesel and Residual Range Organics by GC

Prep Method: EPA 3510C **Extraction Lot:** 347416
Analytical Method: 8015C **Extraction Date:** 10/28/19 07:26

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
1910220917 700-SVS-067	R1910505-003	10/22/19	10/25/19	1070.0000	1 mL	
1910220932 700-SVS-068	R1910505-006	10/22/19	10/25/19	1070.0000	1 mL	
1910221332 700-SVS-075	R1910505-009	10/22/19	10/25/19	1070.0000	1 mL	
1910221402 700-SVS-076	R1910505-012	10/22/19	10/25/19	1070.0000	1 mL	
1910220947 700-SVS-083	R1910505-013	10/22/19	10/25/19	1070.0000	1 mL	
1910221002 700-SVS-084	R1910505-018	10/22/19	10/25/19	1070.0000	1 mL	
Method Blank	RQ1912454-01MB	NA	NA	1000 mL	1 mL	
Lab Control Sample	RQ1912454-02LCS	NA	NA	1000 mL	1 mL	
Duplicate Lab Control Sample	RQ1912454-03DLCS	NA	NA	1000 mL	1 mL	

Preparation Information Benchsheet

Prep Run#: 347416
Team: Semivoa GC/VSTAUFFER

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3510C

Status: Prepped
Prep Date/Time: 10/28/19 07:26

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ1912454-01	MB		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
2	RQ1912454-02	LCS		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/200472; 1.0000 mL/201407	
3	RQ1912454-03	DLCS		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/200472; 1.0000 mL/201407	
4	R1910505-003	1910220917 700-SVS-067	.01	1070mL	8015C/DRO RRO	6	x		1.00mL	clear/colorless	1.0000 mL/201407	
5	R1910505-006	1910220932 700-SVS-068	.01	1070mL	8015C/DRO RRO	6	x		1.00mL	clear/colorless	1.0000 mL/201407	
6	R1910505-009	1910221332 700-SVS-075	.01	1070mL	8015C/DRO RRO	6	x		1.00mL	clear/colorless	1.0000 mL/201407	
7	R1910505-012	1910221402 700-SVS-076	.01	1070mL	8015C/DRO RRO	6	x		1.00mL	clear/colorless	1.0000 mL/201407	
8	R1910505-013	1910220947 700-SVS-083	.01	1070mL	8015C/DRO RRO	6	x		1.00mL	clear/colorless	1.0000 mL/201407	
9	R1910505-018	1910221002 700-SVS-084	.01	1070mL	8015C/DRO RRO	6	x		1.00mL	clear/colorless	1.0000 mL/201407	

Spiking Solutions

Name: Fuel Oil #2 Water Spike 500 ug/mL Inventory ID 200472 Logbook Ref: Expires On: 12/21/2019

Name: o-Terphenyl Water Surrogate 100 ug/mL Inventory ID 201407 Logbook Ref: Expires On: 01/21/2020

Preparation Materials

Eppendorf Pipette Repeater	EXT #19 (200588)	Sulfuric Acid, 50% H2SO4	(203605)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	canister (203029)
pH Paper 0-14	(203491)	Prepared Sodium Sulfate Na2SO4	(203968)		

Preparation Steps

Step:	Extraction	Step:	Concentration	Step:	Final Volume
Started:	10/28/19 07:26	Started:	10/29/19 10:19	Started:	10/29/19 11:20
Finished:	10/28/19 16:08	Finished:	10/29/19 11:20	Finished:	10/29/19 11:20
By:	VSTAUFFER	By:	KSERCU	By:	KSERCU
Comments		Comments		Comments	

Comments: _____

Reviewed By: _____ Date: 10/29/19 Spike Witness: KSERCU Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Subcontracted Analytical Parameters

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental
301 Fulling Mill Road
Middletown, PA 17057
T: +1 717 944 5541
F: +1 717 944 1430
www.alsglobal.com

December 13, 2019

Work Order: 3066456
SDG: AER382

Mr. Brady Kalkman
ALS Environmental-Rochester NY
1565 Jefferson Road, Bldg. 300
Suite 360
Rochester, NY 14623

Laboratory Results for Custom EDD, MDL, QC

Dear Mr. Brady Kalkman:

Enclosed are the analytical results for samples received by the laboratory starting on October 29, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP. Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads. This laboratory report may not be reproduced, except infull, without the written approval of ALS Environmental. Any events, such as QC failures, are explained in the report narrative.

If you have any questions regarding this certificate of analysis, please contact Ms. Jennifer M Stanhope Lamoreux (Reporting Manager) at (717) 944-5541. You may also contact me via email at jennifer.lamoreux@ALSglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Jennifer M Stanhope Lamoreux
Reporting Manager

Table of Contents

Chain of Custody Records

ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

3066456

Project Number: R1910505
Project Manager: Janice Jaeger
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	VOC GRO 8015C
~~R1910505-002~~	1910220916 700-SVS-067	3	Water	10/22/19		Middletown ALS	X
~~R1910505-005~~	1910220931 700-SVS-068		Water	10/22/19		Middletown ALS	X
~~R1910505-008~~	1910221331 700-SVS-075		Water	10/22/19		Middletown ALS	X
~~R1910505-011~~	1910221401 700-SVS-076		Water	10/22/19		Middletown ALS	X
~~R1910505-015~~	1910220946 700-SVS-083		Water	10/22/19		Middletown ALS	X
~~R1910505-017~~	1910221001 700-SVS-084		Water	10/22/19		Middletown ALS	X

Folder Comments:
ND U, DESELECT - Form 1s, Raw Data, ICal Summary, ICV Summary.

Special Instructions/Comments

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS
1 2 3 4 5

X **STANDARD**

Requested FAX Date: _____

Requested Report Date: 11/05/19

Report Requirements

___ I. Results Only
___ II. Results + QC Summaries
___ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data

PQL/MDL/J Y
EDD (Y) Honeywell WSTF

Invoice Information

PO# 58R1910505

Bill to

Relinquished By: [signature] 10/28/19/ 1438 Received By: Fedex Airbill Number:

Fedex [signature] 10/29 903

30664456

R1910505

____ **Ship To: Middletown ALS**
ALS Environmental - Middletown
301 Fulling Mill Rd.
Middletown, PA 17057

PC _____ Date _____

SMO _____ Date _____

Instructions:

Ice _____

Dry Ice _____

No Ice _____

Shipping:

Overnight _____

2nd Day _____

Ground _____

Bill to Client Account _____

Comments:

301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client: ALS Boch. Work Order #: 306604520 Initials: DN Date: 10/29

1. Were airbills / tracking numbers present and recorded?	NONE	(YES)	NO
Tracking number: 4846 1684 5531			
2. Are Custody Seals on shipping containers intact?	NONE	(YES)	NO
3. Are Custody Seals on sample containers intact?	NONE	(YES)	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		~~YES~~	(NO)
5a. Does the COC contain sample locations?		YES	NO
5b. Does the COC contain date and time of sample collection for all samples? No times Listed		~~YES~~	(NO)
5c. Does the COC contain sample collectors name? (collected by Client		YES	(NO)
5d. Does the COC note the type(s) of preservation for all bottles? Not Listed		YES	(NO)
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab? NO C/G		~~YES~~	(NO)
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	(N/A)	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		~~YES~~	NO
8. Are all samples within holding times for the requested analyses?		(YES)	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	~~N/A~~	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		(YES)	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	N/A	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	N/A	YES	NO

Cooler #: _____

Temperature (°C): 4

Thermometer ID: 403

Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):

Rev. 4/29/2019

Certificate of Analysis

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

November 1, 2019

Mr. Brady Kalkman
ALS Environmental-Rochester NY
1565 Jefferson Road, Bldg. 300
Suite 360
Rochester, NY 14623

Certificate of Analysis

Project Name:	**Custom EDD, MDL, QC**	Workorder:	**3066456**
Purchase Order:	**58R1910505**	Workorder ID:	**AER382|R1910505**

Dear Mr. Kalkman:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, October 29, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Sarah S Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Michael Chevalier , Reports and Invoices , Ms. Janice Jaeger

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3066456 AER382|R1910505

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3066456001	1910220916 700-SVS-067	Water	10/22/2019 00:00	10/29/2019 09:03	Collected by Client
3066456002	1910220931 700-SVS-068	Water	10/22/2019 00:00	10/29/2019 09:03	Collected by Client
3066456003	1910221331 700-SVS-075	Water	10/22/2019 00:00	10/29/2019 09:03	Collected by Client
3066456004	1910221401 700-SVS-076	Water	10/22/2019 00:00	10/29/2019 09:03	Collected by Client
3066456005	1910220946 700-SVS-083	Water	10/22/2019 00:00	10/29/2019 09:03	Collected by Client
3066456006	1910221001 700-SVS-084	Water	10/22/2019 00:00	10/29/2019 09:03	Collected by Client

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3066456 AER382|R1910505

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3066456 AER382|R1910505

Lab ID: **3066456001** Date Collected: 10/22/2019 00:00 Matrix: Water

Sample ID: **1910220916 700-SVS-067** Date Received: 10/29/2019 09:03

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/31/19 11:00	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	119		%	90 - 129		SW846 8015D			10/31/19 11:00	CHS	A

Ms. Sarah S Leung
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3066456 AER382|R1910505

Lab ID: **3066456002** Date Collected: 10/22/2019 00:00 Matrix: Water

Sample ID: **1910220931 700-SVS-068** Date Received: 10/29/2019 09:03

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/31/19 11:28	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	123		%	90 - 129		SW846 8015D			10/31/19 11:28	CHS	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3066456 AER382|R1910505

Lab ID: **3066456003** Date Collected: 10/22/2019 00:00 Matrix: Water

Sample ID: **1910221331 700-SVS-075** Date Received: 10/29/2019 09:03

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/31/19 11:55	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	119		%	90 - 129		SW846 8015D			10/31/19 11:55	CHS	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3066456 AER382|R1910505

Lab ID: **3066456004** Date Collected: 10/22/2019 00:00 Matrix: Water

Sample ID: **1910221401 700-SVS-076** Date Received: 10/29/2019 09:03

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/31/19 12:50	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	124		%	90 - 129		SW846 8015D			10/31/19 12:50	CHS	A

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ANALYTICAL RESULTS

Workorder: 3066456 AER382|R1910505

Lab ID: **3066456005** Date Collected: 10/22/2019 00:00 Matrix: Water

Sample ID: **1910220946 700-SVS-083** Date Received: 10/29/2019 09:03

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/31/19 13:18	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	112		%	90 - 129		SW846 8015D			10/31/19 13:18	CHS	A

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ANALYTICAL RESULTS

Workorder: 3066456 AER382|R1910505

Lab ID: **3066456006** Date Collected: 10/22/2019 00:00 Matrix: Water

Sample ID: **1910221001 700-SVS-084** Date Received: 10/29/2019 09:03

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			10/31/19 13:45	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	125		%	90 - 129		SW846 8015D			10/31/19 13:45	CHS	A

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3066456 AER382|R1910505

Lab ID	Sample ID	Analysis Method	Prep Method
3066456001	1910220916 700-SVS-067	SW846 8015D	
3066456002	1910220931 700-SVS-068	SW846 8015D	
3066456003	1910221331 700-SVS-075	SW846 8015D	
3066456004	1910221401 700-SVS-076	SW846 8015D	
3066456005	1910220946 700-SVS-083	SW846 8015D	
3066456006	1910221001 700-SVS-084	SW846 8015D	

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

QUALITY CONTROL DATA

Workorder: 3066456 AER382|R1910505

QC Batch: VOGC/10302 **Analysis Method:** SW846 8015D

QC Batch Method: SW846 8015D

Associated Lab Samples: 3066456001, 3066456002, 3066456003, 3066456004, 3066456005, 3066456006

METHOD BLANK: 3037535

Parameter	Blank Result	Units	Reporting Limit
Gasoline Range Organics	ND	ug/L	100
a,a,a-Trifluorotoluene (S)	123	%	90 - 129

LABORATORY CONTROL SAMPLE: 3037536

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Gasoline Range Organics	81.1	ug/L	1000	811	77 - 125
a,a,a-Trifluorotoluene (S)	112	%			90 - 129

MATRIX SPIKE: 3037672 DUPLICATE: 3037673 ORIGINAL: 3066595005

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Gasoline Range Organics	0	ug/L	1000	885.451	960.723	88.5	96.1	77 - 125	8.15	10
a,a,a-Trifluorotoluene (S)	110	%				110	108	90 - 129		

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3066456 AER382|R1910505

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3066456001	1910220916 700-SVS-067			SW846 8015D	VOGC/10302
3066456002	1910220931 700-SVS-068			SW846 8015D	VOGC/10302
3066456003	1910221331 700-SVS-075			SW846 8015D	VOGC/10302
3066456004	1910221401 700-SVS-076			SW846 8015D	VOGC/10302
3066456005	1910220946 700-SVS-083			SW846 8015D	VOGC/10302
3066456006	1910221001 700-SVS-084			SW846 8015D	VOGC/10302

Case Narrative

ALS-Middletown
Analytical Narrative
ALS-Rochester
AER-382

Sample Management

This report contains the results of the analysis of six (6) water samples collected on October 22, 2019. Analytical results and quality control information are summarized in this data package.

Sample Receipt

The samples arrived at ALS - Middletown via courier on October 29, 2019. Upon receipt, the samples were inspected and compared to the Chain of Custody. Sample temperature was documented on the enclosed Chain of Custody. The samples were received intact and properly preserved, unless noted on the enclosed Certificate of Analysis and/or Chain of Custody.

Gasoline Range Organics (GRO) by SW-846 Method 8015

Sample Handling. Six (6) water samples were analyzed for gasoline range organics by SW-846 Method 8015. All analyses were performed within the holding time.

Initial Calibrations. An initial calibration was properly analyzed and met method criteria for gasoline range organics.

Continuing Calibration Checks. Continuing calibration check standards were properly analyzed and met method criteria for gasoline range organics.

Blanks. Gasoline range organics were not detected in the method blank.

Surrogates. All surrogate recoveries were within control limits.

Spiked Blanks. Gasoline range organics were recovered within control limits.

Internal Standards. All internal standard results met method criteria.

Gasoline Range Organics by Method 8015 Summary Forms

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA CASE No.: SAS No.: SDG NO.: AER-382

	Sample NO.	SMC1 (TFT) #	SMC2	SMC3	SMC4	TOT OUT
01	3037536(LCS)	112				0
02	3037535(MB)	123				0
03	1910220916 700-SVS-067	119				0
04	1910220931 700-SVS-068	123				0
05	1910221331 700-SVS-075	119				0
06	1910221401 700-SVS-076	124				0
07	1910220946 700-SVS-083	112				0
08	1910221001 700-SVS-084	125				0

	QC LIMITS
SMC1 (TFT) = a,a,a-Trifluorotoluene	(90-129)

Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate Diluted Out

3A

WATER VOLATILE LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Laboratory Control Spike - Sample No: 3037536

COMPOUND	SPIKE ADDED (ug/L)		LCS CONCENTRATION (ug/L)	LCS % REC#	QC LIMIT REC
GASOLINE RANGE ORGANICS	1000		811	81.1	(77-125)

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

Comments:

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

3037535

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG NO.: AER-382

Lab File ID: 8JVA005.D Lab Sample ID: 3037535

Date Analyzed: 10/31/2019 Time Analyzed: 10:33

GC Column: DB VRX E ID: 0.45 (mm) Heated Purge: (Y/N) N

Instrument ID: gc08.i

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
3037536(LCS)	3037536	8JVA002.D	09:11
1910220916 700-SVS-06	3066456001	8JVA006.D	11:00
1910220931 700-SVS-06	3066456002	8JVA007.D	11:28
1910221331 700-SVS-07	3066456003	8JVA008.D	11:55
1910221401 700-SVS-07	3066456004	8JVA009.D	12:50
1910220946 700-SVS-08	3066456005	8JVA010.D	13:18
1910221001 700-SVS-08	3066456006	8JVA011.D	13:45

COMMENTS:

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ALS Global SDG No.: AER-382

Instrument ID: gc08.i Calibration Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Calibration Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

LAB FILE ID: RRF100 = 8L6A002.D RRF250 = 8L6A003.D RRF500 = 8L6A004.D RRF1000 = 8L6A005.D

RRF2500 = 8L6A006.D RRF5000 = 8L6A007.D

COMPOUND	RRF100	RRF250	RRF500	RRF1000	RRF2500	CT
GASOLINE RANGE ORGANICS	0.69284	0.68342	0.72961	0.62264	0.54761	A
a,a,a-Trifluorotoluene	0.87356	0.86178	0.92772	0.82054	0.84516	A

CT Column contains the Calibration Type. A - Average Response Factor, L - Linear Regression, and Q - Quadratic.
SPCC Compounds (*) with required minimum RRF.
CCC Compounds (**) with required maximum %RSD.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ALS Global SDG No.: AER-382

Instrument ID: gc08.i Calibration Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Calibration Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

LAB FILE ID: RRF100 = 8L6A002.D RRF250 = 8L6A003.D RRF500 = 8L6A004.D RRF1000 = 8L6A005.D

RRF2500 = 8L6A006.D RRF5000 = 8L6A007.D

COMPOUND	RRF5000			CT	b	m1	m2	% RSD or R^2
GASOLINE RANGE ORGANICS	0.49500			A		0.628520		14.54370
a,a,a-Trifluorotoluene	0.78964			A		0.853070		5.55122

CT Column contains the Calibration Type. A - Average Response Factor, L - Linear Regression, and Q - Quadratic.
SPCC Compounds (*) with required minimum RRF.
CCC Compounds (**) with required maximum %RSD.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ALS Global SDG No.: AER-382

Instrument ID: gc08.i Calibration Date/Time: 10/31/2019 08:44

Lab File ID: 8JVA001.D Init. Calib. Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Init. Calib. Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

COMPOUND	RRF	RRF050	Conc. CC std	MIN RRF	%D	MAX%D	CT
GASOLINE RANGE ORGANICS	0.6285	0.5232		0.010	-16.7	20.0	A
a,a,a-Trifluorotoluene	0.8531	0.9571		0.010	12.2	20.0	A

Calibration Type: A=Average Response Factor, L=Linear Regression, Q=Quadratic Regression
Compounds with "Calibration Type" other than "A" are calculated as % Drift due to alternate calibration type.

8Az

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Lab File ID: 8JVA001.D Date Analyzed: 10/31/2019

Instrument ID: gc08.i Time Analyzed: 08:44

GC Column: DB VRX E ID: 0.4 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT#	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	276244	6.187				
UPPER LIMIT	552488	6.687				
LOWER LIMIT	138122	5.687				
SAMPLE NO.						
CCAL	276244	6.187				
3037536(LCS)	304044	6.185				
3037535(MB)	282548	6.198				
1910220916 700-SV	274500	6.203				
1910220931 700-SV	276876	6.201				
1910221331 700-SV	295546	6.196				
1910221401 700-SV	260676	6.197				
1910220946 700-SV	318387	6.197				
1910221001 700-SV	284354	6.198				

IS1 = 1-Chloro-4-fluorobenzene
IS2 =
IS3 =

AREA UPPER LIMIT = +2% of internal standard area
AREA LOWER LIMIT = -1% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Gasoline Range Organics by Method 8015 Raw Data

Sample Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910220916 700-SVS-067

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Matrix (soil/water): WATER Lab Sample ID: 3066456001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JVA006.D

Level (low/med): Date Received: 10/29/19

% Moisture: not dec. 100.0 Date Analyzed: 10/31/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA006.D
Lab Smp Id: 3066456001
Inj Date : 31-OCT-2019 11:00
Operator : CHS Inst ID: gc08.i
Smp Info : 3066456001;;;;;;;
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.919	3.921	(0.632)	832595	35.5557	35.5557
S	1 GASOLINE RANGE ORGANICS	1.710-8.748			335275	19.4330	19.4330(a)
*	6 1-Chloro-4-fluorobenzene	6.203	6.175	(1.000)	274500	10.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA006.D
Lab Smp Id: 3066456001
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

Calibration Date: 31-OCT-2019
Calibration Time: 08:44
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	276244	138122	414366	274500	-0.63

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.26

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8191031.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066456001
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	35.5557	118.52	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8191031.b
Lab Smp Id: 3066456001
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	19.4330	J
98-08-8	a,a,a-Trifluorotoluene	35.5557	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA006.D

Date : 31-OCT-2019 11:00

Client ID:

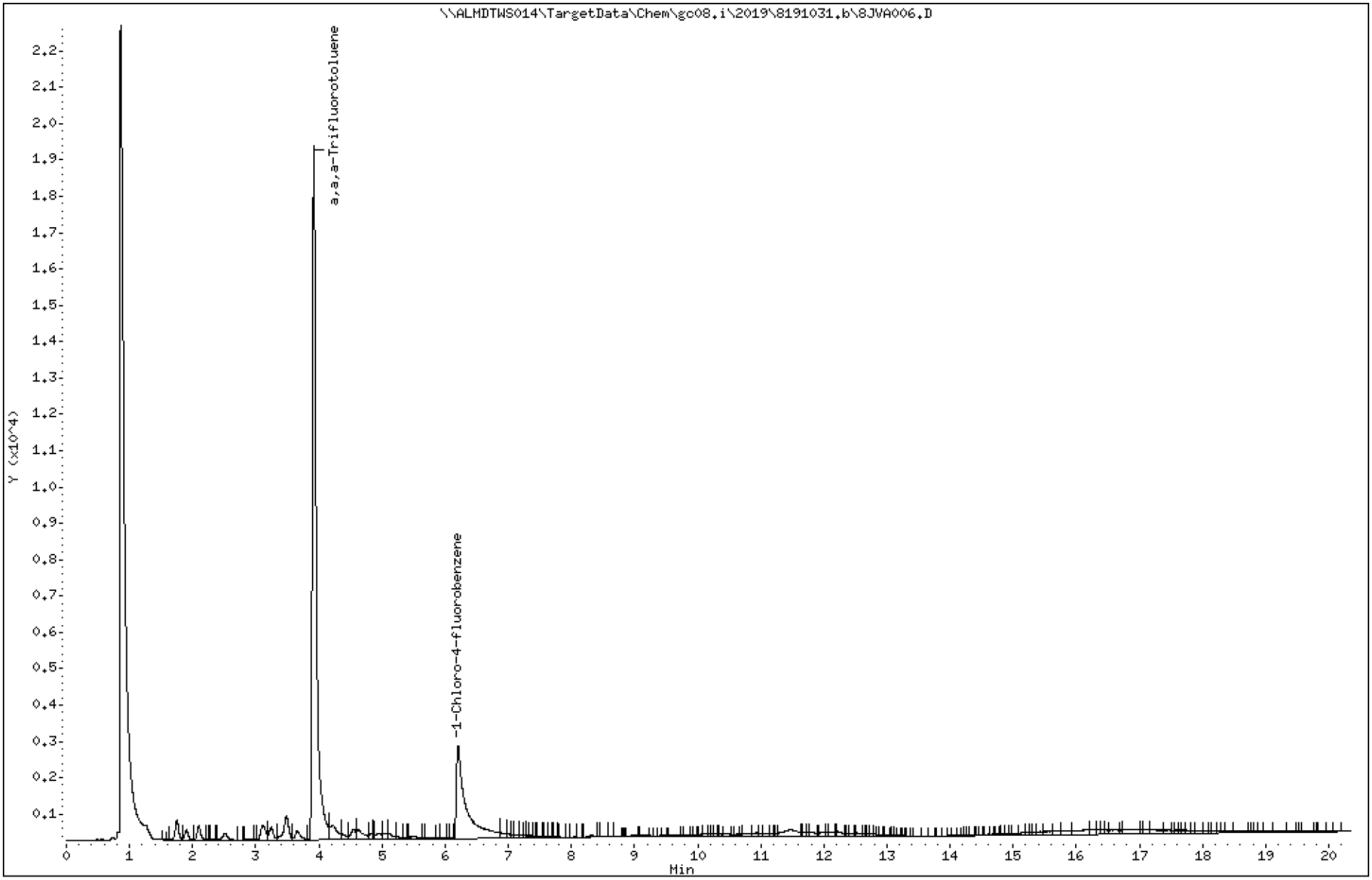
Instrument: gc08.i

Sample Info: 3066456001;;;;;;;

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456001 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA006.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA006.D
Injection Date: 31-OCT-2019 11:00 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456001 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA006.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA006.D
Injection Date: 31-OCT-2019 11:00 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910220931 700-SVS-068

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Matrix (soil/water): WATER Lab Sample ID: 3066456002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JVA007.D

Level (low/med): Date Received: 10/29/19

% Moisture: not dec. 100.0 Date Analyzed: 10/31/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA007.D
Lab Smp Id: 3066456002
Inj Date : 31-OCT-2019 11:28
Operator : CHS Inst ID: gc08.i
Smp Info : 3066456002;;;;;;;
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.922	3.921	(0.633)	874727	37.0343	37.0343
S	1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
*	6 1-Chloro-4-fluorobenzene	6.201	6.175	(1.000)	276876	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA007.D
Lab Smp Id: 3066456002
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

Calibration Date: 31-OCT-2019
Calibration Time: 08:44
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	276244	138122	414366	276876	0.23

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.21

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8191031.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066456002
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	37.0343	123.45	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8191031.b
Lab Smp Id: 3066456002
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	37.0343	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA007.D

Date : 31-OCT-2019 11:28

Client ID:

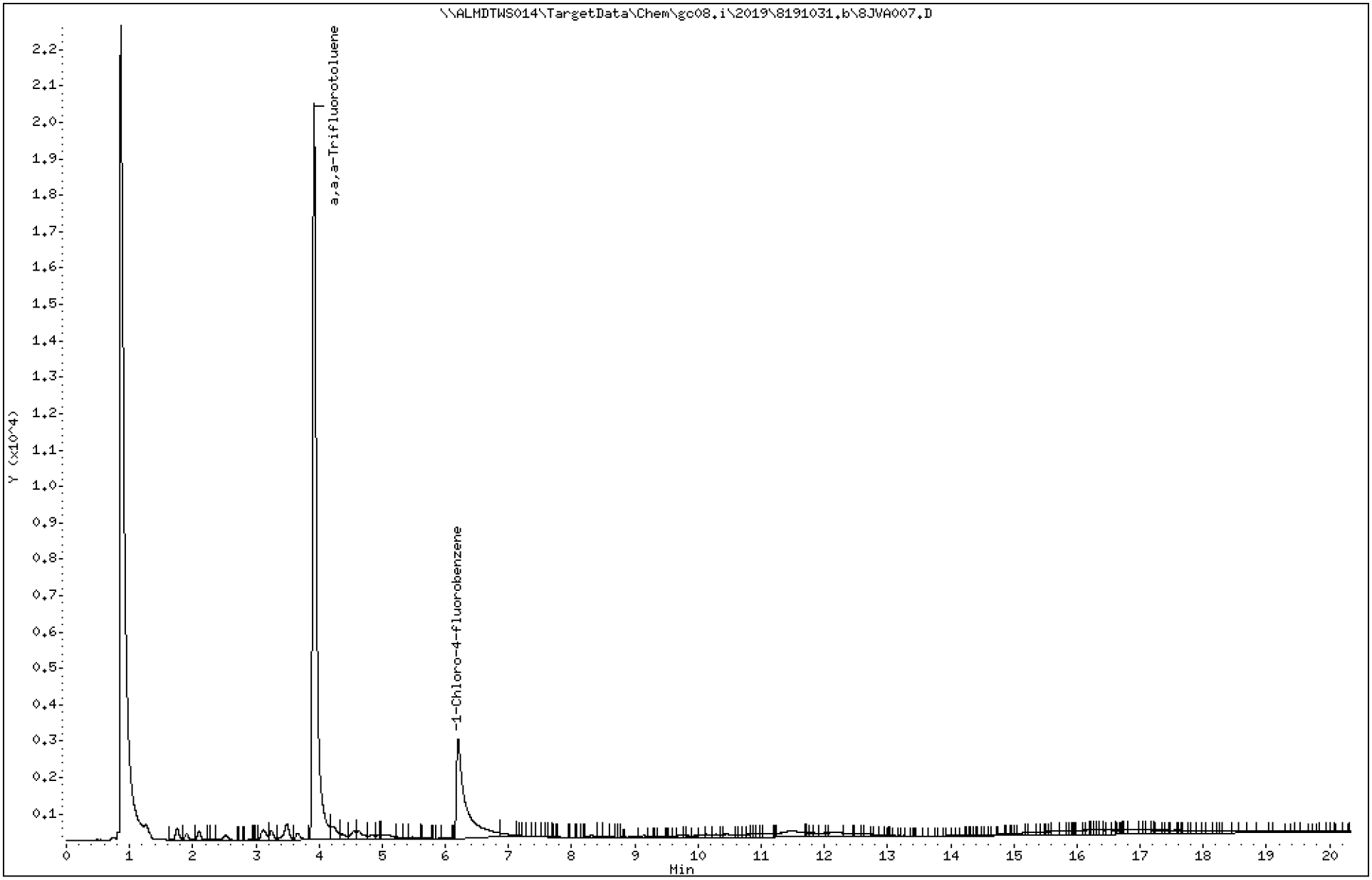
Instrument: gc08.i

Sample Info: 3066456002;;;;;;;

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456002 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA007.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA007.D
Injection Date: 31-OCT-2019 11:28 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456002 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA007.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA007.D
Injection Date: 31-OCT-2019 11:28 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910221331 700-SVS-075

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Matrix (soil/water): WATER Lab Sample ID: 3066456003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JVA008.D

Level (low/med): Date Received: 10/29/19

% Moisture: not dec. 100.0 Date Analyzed: 10/31/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA008.D
Lab Smp Id: 3066456003
Inj Date : 31-OCT-2019 11:55
Operator : CHS Inst ID: gc08.i
Smp Info : 3066456003;;;;;;;
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.917	3.921	(0.632)	903167	35.8229	35.8229
S	1 GASOLINE RANGE ORGANICS	1.710-8.748			228351	12.2930	12.2930(aM)
*	6 1-Chloro-4-fluorobenzene	6.196	6.175	(1.000)	295546	10.0000	(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA008.D
Lab Smp Id: 3066456003
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

Calibration Date: 31-OCT-2019
Calibration Time: 08:44
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	276244	138122	414366	295546	6.99

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.14

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8191031.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066456003
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	35.8229	119.41	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8191031.b
Lab Smp Id: 3066456003
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info:

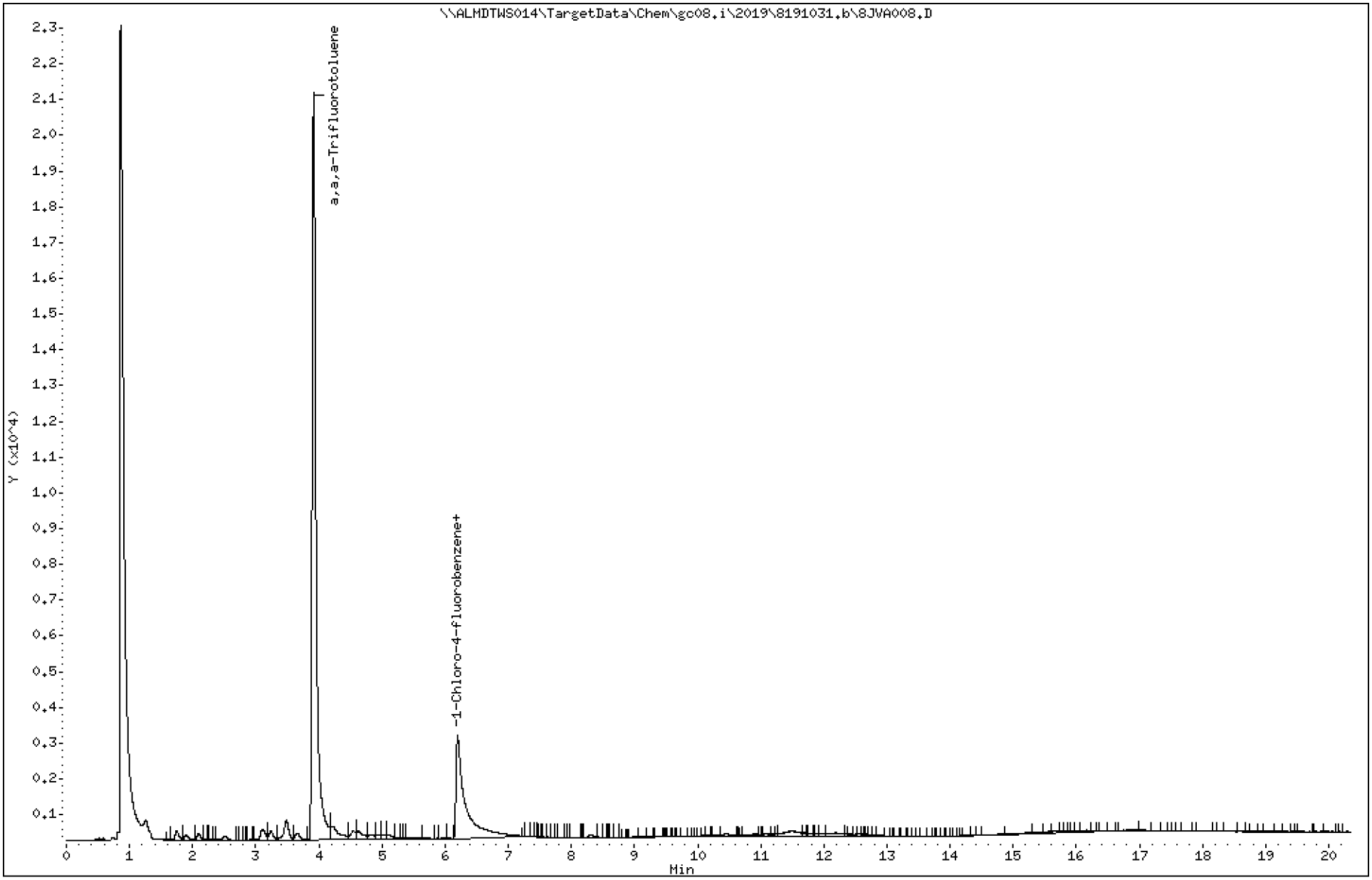
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	12.2930	J
98-08-8	a,a,a-Trifluorotoluene	35.8229	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA008.D
Date : 31-OCT-2019 11:55
Client ID:
Sample Info: 3066456003:::::::

Instrument: gc08.i

Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX

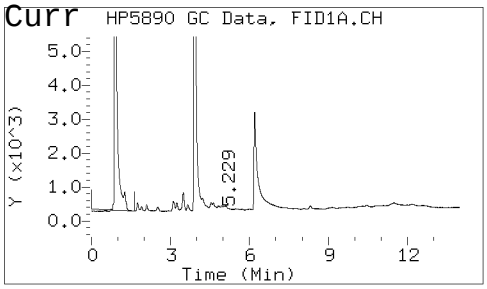


MANUAL INTEGRATION REPORT

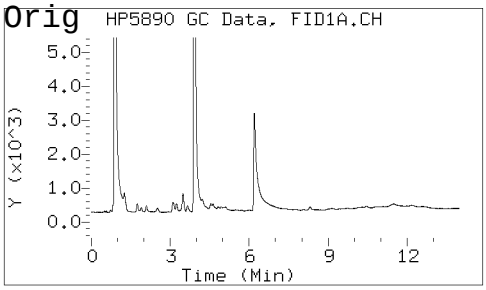
Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456003 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA008.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA008.D
Injection Date: 31-OCT-2019 11:55 Operator: CHS

GASOLINE RANGE ORGANICS

Curr



Orig

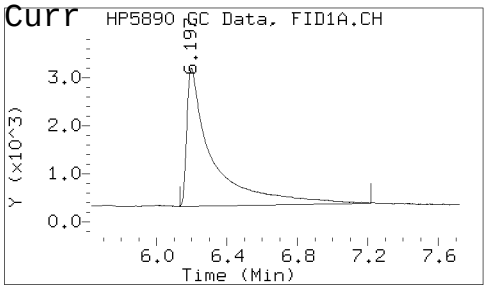


Curr. Area: 228351
Orig. Area: 0

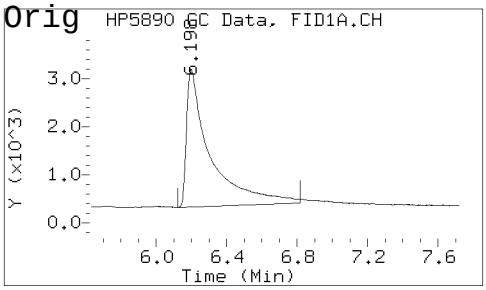
Curr. ON-COL: 12.2930
Orig. ON-COL: 0.000000

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 295546
Orig. Area: 269715

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456003 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA008.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA008.D
Injection Date: 31-OCT-2019 11:55 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910221401 700-SVS-076

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Matrix (soil/water): WATER Lab Sample ID: 3066456004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JVA009.D

Level (low/med): Date Received: 10/29/19

% Moisture: not dec. 100.0 Date Analyzed: 10/31/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA009.D
Lab Smp Id: 3066456004
Inj Date : 31-OCT-2019 12:50
Operator : CHS Inst ID: gc08.i
Smp Info : 3066456004;;;;;;;
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$ 5 a,a,a-Trifluorotoluene	3.913	3.921	(0.631)	826502	37.1672	37.1672
S 1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
* 6 1-Chloro-4-fluorobenzene	6.197	6.175	(1.000)	260676	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA009.D
Lab Smp Id: 3066456004
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

Calibration Date: 31-OCT-2019
Calibration Time: 08:44
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	276244	138122	414366	260676	-5.64

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.16

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8191031.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066456004
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	37.1672	123.89	90-129

ALS Environmental Services

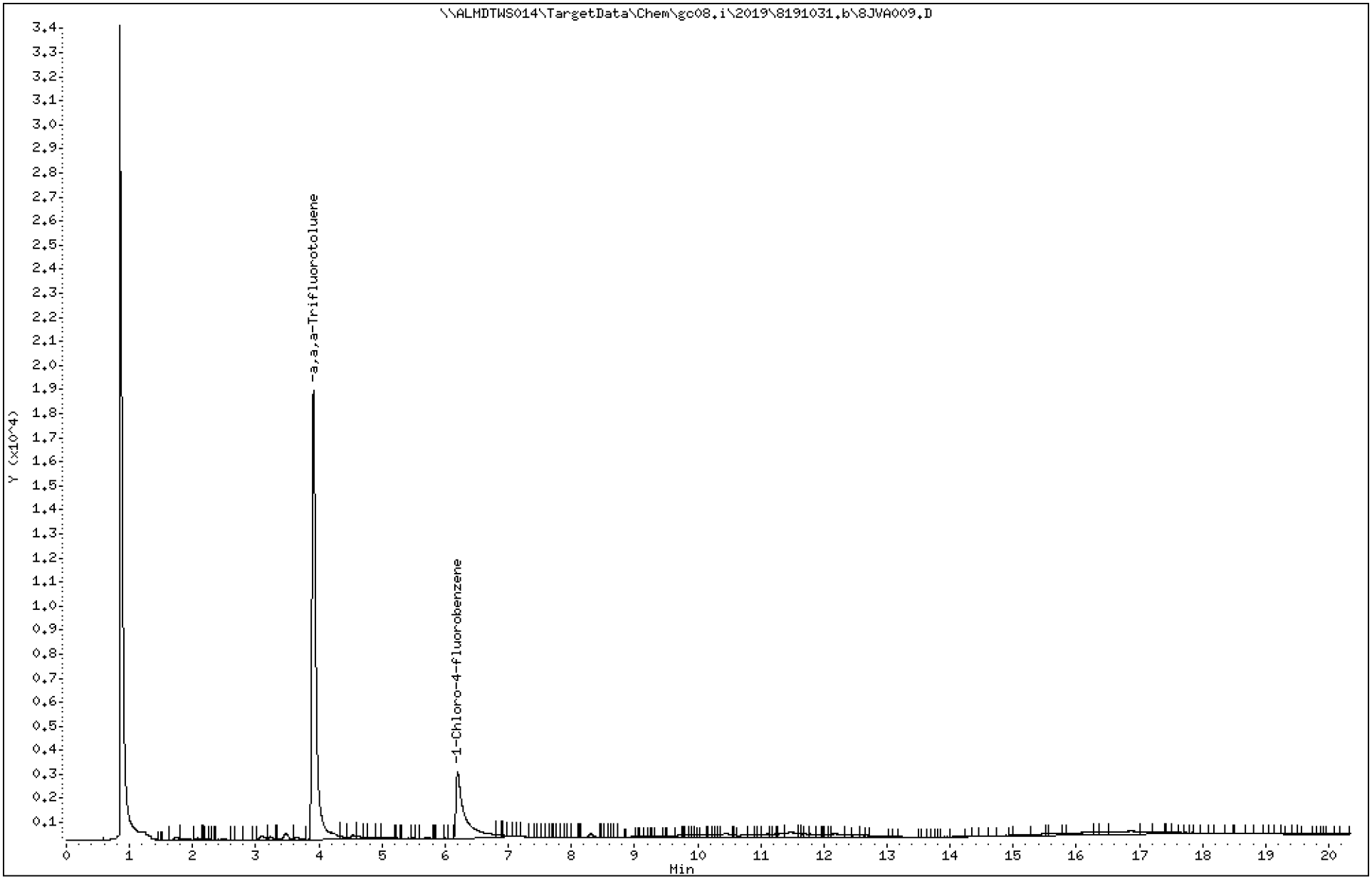
TARGET COMPOUNDS

Client Name: Client SDG: 8191031.b
Lab Smp Id: 3066456004
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	37.1672	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA009.D
Date : 31-OCT-2019 12:50
Client ID:
Sample Info: 3066456004;;;;;;;

Instrument: gc08.i
Operator: CHS
Column phase: DB-VRX
Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456004 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA009.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA009.D
Injection Date: 31-OCT-2019 12:50 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456004 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA009.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA009.D
Injection Date: 31-OCT-2019 12:50 Operator: CHS

There were no Unassigned peaks in this sample!

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910220946 700-SVS-083

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Matrix (soil/water): WATER Lab Sample ID: 3066456005

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JVA010.D

Level (low/med): Date Received: 10/29/19

% Moisture: not dec. 100.0 Date Analyzed: 10/31/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA010.D
Lab Smp Id: 3066456005
Inj Date : 31-OCT-2019 13:18
Operator : CHS Inst ID: gc08.i
Smp Info : 3066456005;;;;;;;
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$ 5 a,a,a-Trifluorotoluene	3.918	3.921	(0.632)	912336	33.5905	33.5905
S 1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
* 6 1-Chloro-4-fluorobenzene	6.197	6.175	(1.000)	318387	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA010.D
Lab Smp Id: 3066456005
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

Calibration Date: 31-OCT-2019
Calibration Time: 08:44
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	276244	138122	414366	318387	15.26

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.16

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8191031.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066456005
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	33.5905	111.97	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8191031.b
Lab Smp Id: 3066456005
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	33.5905	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA010.D

Date : 31-OCT-2019 13:18

Client ID:

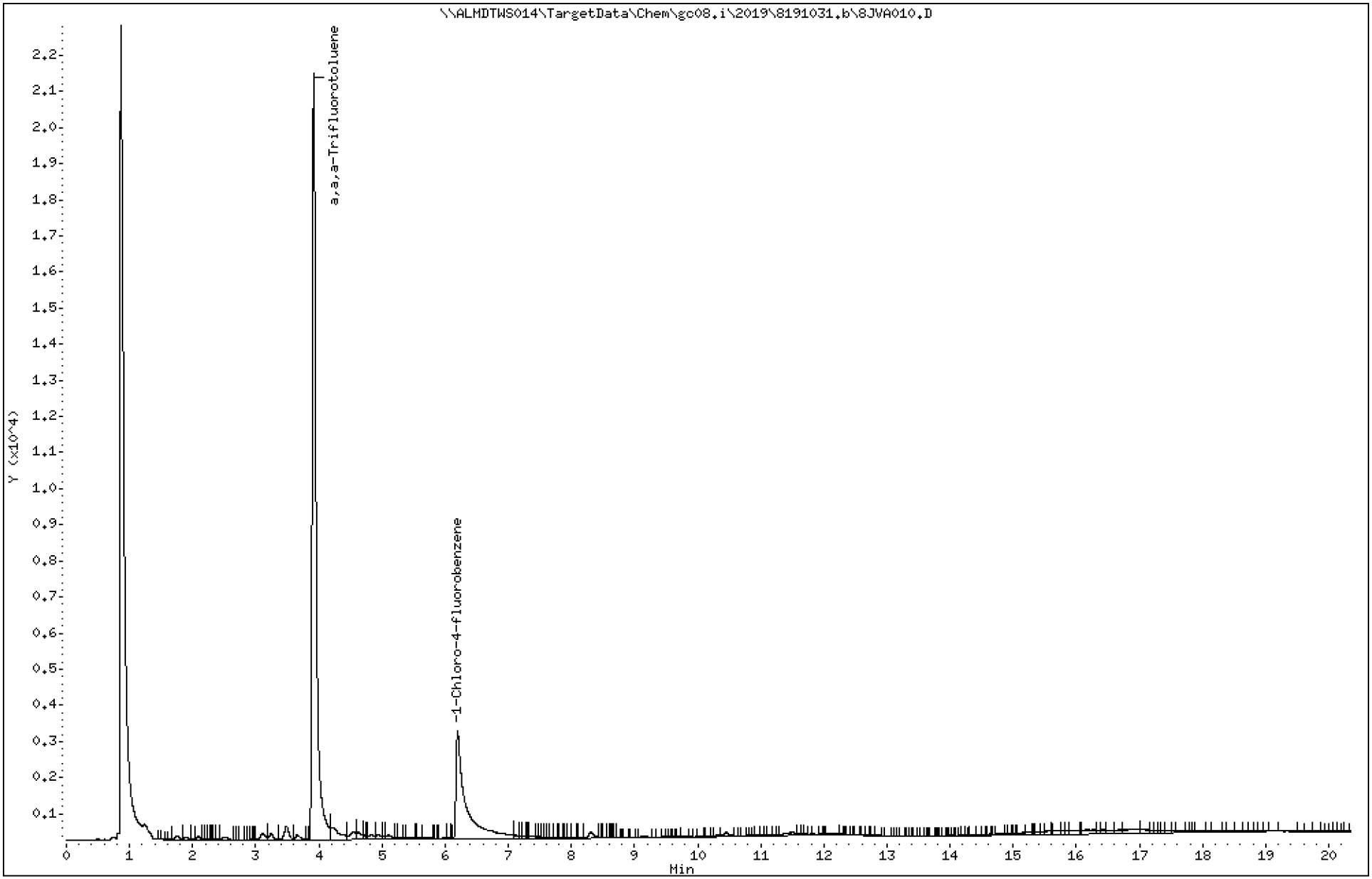
Instrument: gc08.i

Sample Info: 3066456005;;;;;;;

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456005 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA010.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA010.D
Injection Date: 31-OCT-2019 13:18 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456005 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA010.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA010.D
Injection Date: 31-OCT-2019 13:18 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910221001 700-SVS-084

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Matrix (soil/water): WATER Lab Sample ID: 3066456006

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JVA011.D

Level (low/med): Date Received: 10/29/19

% Moisture: not dec. 100.0 Date Analyzed: 10/31/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA011.D
Lab Smp Id: 3066456006
Inj Date : 31-OCT-2019 13:45
Operator : CHS Inst ID: gc08.i
Smp Info : 3066456006
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.918	3.921	(0.632)	909524	37.4949	37.4949
S	1 GASOLINE RANGE ORGANICS	1.710-8.748			134113	7.50399	7.50399(aM)
*	6 1-Chloro-4-fluorobenzene	6.198	6.175	(1.000)	284354	10.0000	(M)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA011.D
Lab Smp Id: 3066456006
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

Calibration Date: 31-OCT-2019
Calibration Time: 08:44
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	276244	138122	414366	284354	2.94

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.17

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8191031.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3066456006
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	37.4949	124.98	90-129

ALS Environmental Services

TARGET COMPOUNDS

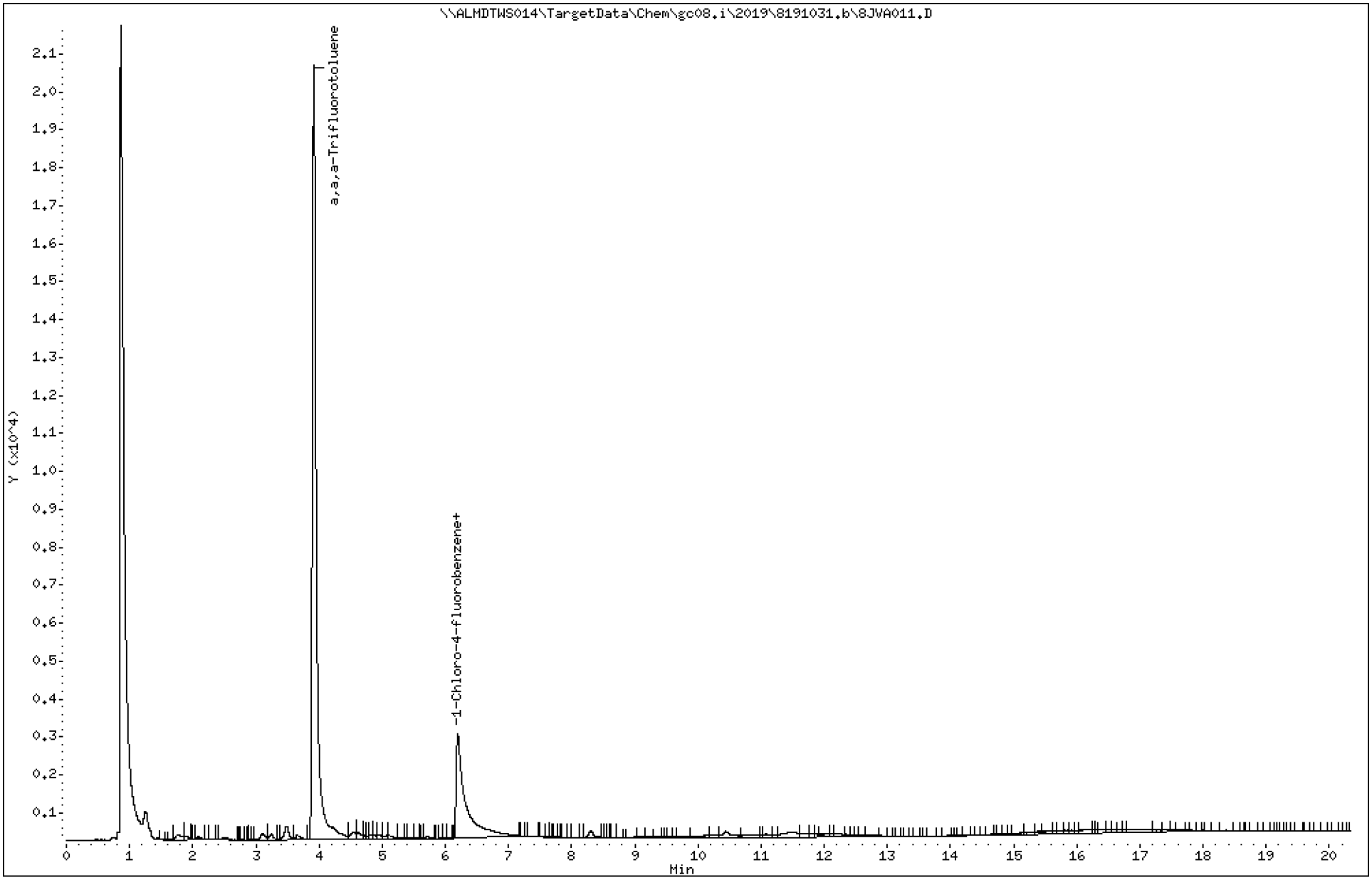
Client Name: Client SDG: 8191031.b
Lab Smp Id: 3066456006
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	7.50399	J
98-08-8	a,a,a-Trifluorotoluene	37.4949	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA011.D
Date : 31-OCT-2019 13:45
Client ID:
Sample Info: 3066456006

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX

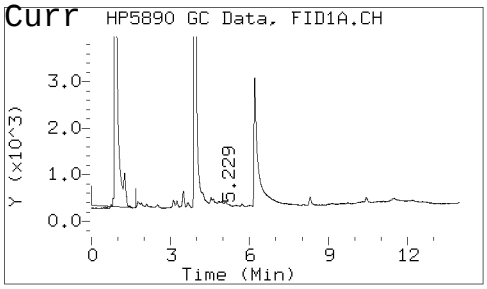


MANUAL INTEGRATION REPORT

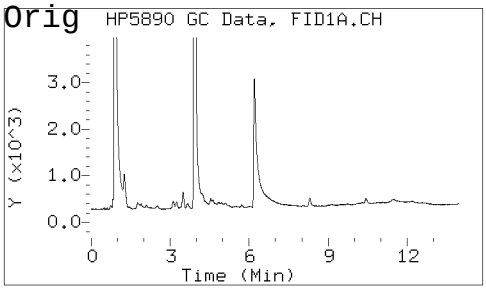
Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456006 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA011.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA011.D
Injection Date: 31-OCT-2019 13:45 Operator: CHS

GASOLINE RANGE ORGANICS

Curr



Orig

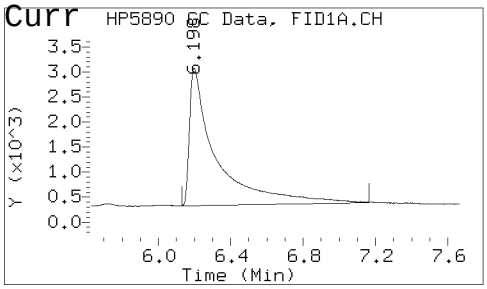


Curr. Area: 134113
Orig. Area: 0

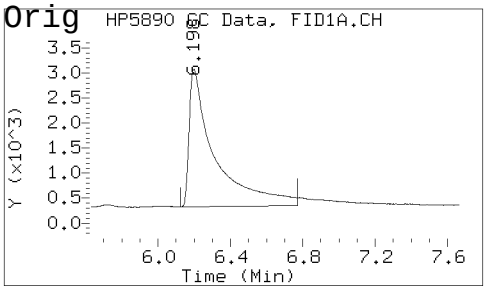
Curr. ON-COL: 7.50399
Orig. ON-COL: 0.000000

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 284354
Orig. Area: 270831

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3066456006 Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA011.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA011.D
Injection Date: 31-OCT-2019 13:45 Operator: CHS

There were no Unassigned peaks in this sample!

Standards Raw Data

Initial Calibrations

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ALS Global SDG No.: AER-382

Instrument ID: gc08.i Calibration Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Calibration Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

LAB FILE ID: RRF100 = 8L6A002.D RRF250 = 8L6A003.D RRF500 = 8L6A004.D RRF1000 = 8L6A005.D

RRF2500 = 8L6A006.D RRF5000 = 8L6A007.D

COMPOUND	RRF100	RRF250	RRF500	RRF1000	RRF2500	CT
GASOLINE RANGE ORGANICS	0.69284	0.68342	0.72961	0.62264	0.54761	A
a,a,a-Trifluorotoluene	0.87356	0.86178	0.92772	0.82054	0.84516	A

CT Column contains the Calibration Type. A - Average Response Factor, L - Linear Regression, and Q - Quadratic.
SPCC Compounds (*) with required minimum RRF.
CCC Compounds (**) with required maximum %RSD.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ALS Global SDG No.: AER-382

Instrument ID: gc08.i Calibration Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Calibration Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

LAB FILE ID: RRF100 = 8L6A002.D RRF250 = 8L6A003.D RRF500 = 8L6A004.D RRF1000 = 8L6A005.D

RRF2500 = 8L6A006.D RRF5000 = 8L6A007.D

COMPOUND	RRF5000			CT	b	m1	m2	% RSD or R^2
GASOLINE RANGE ORGANICS	0.49500			A		0.628520		14.54370
a,a,a-Trifluorotoluene	0.78964			A		0.853070		5.55122

CT Column contains the Calibration Type. A - Average Response Factor, L - Linear Regression, and Q - Quadratic.
SPCC Compounds (*) with required minimum RRF.
CCC Compounds (**) with required maximum %RSD.

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A002.D
Lab Smp Id: LEVEL1
Inj Date : 06-DEC-2018 15:20
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL1
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 15:20 Cal File: 8L6A002.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$ 5 a,a,a-Trifluorotoluene	3.995	3.973	(0.642)	27695	1.00000	1.02403(M)
S 1 GASOLINE RANGE ORGANICS	1.754-8.780			2196558	100.000	115.565(M)
* 6 1-Chloro-4-fluorobenzene	6.226	6.208	(1.000)	317035	10.0000	

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A002.D
Lab Smp Id: LEVEL1
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	317035	-1.76

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.23	0.16

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL1
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

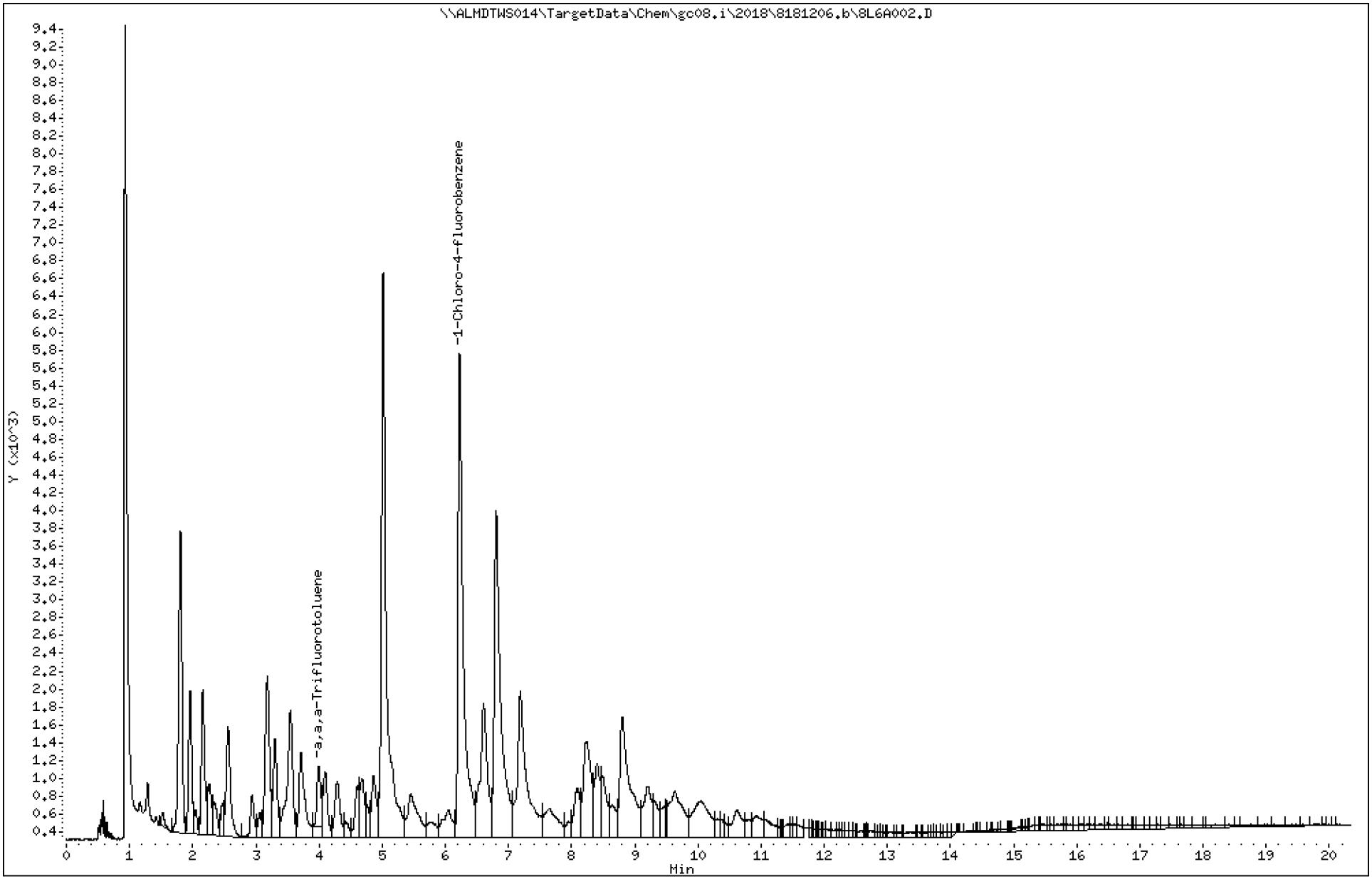
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	115.565	
98-08-8	a,a,a-Trifluorotoluene	1.02403	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A002.D
Date : 06-DEC-2018 15:20
Client ID:
Sample Info: LEVEL1

Column phase: DB-VRX

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

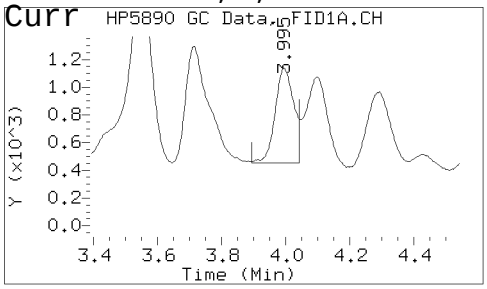


MANUAL INTEGRATION REPORT

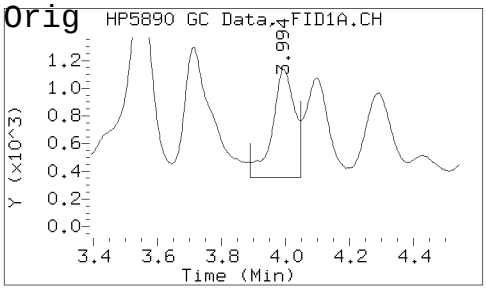
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL1 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A002.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A002.D
Injection Date: 06-DEC-2018 15:20 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

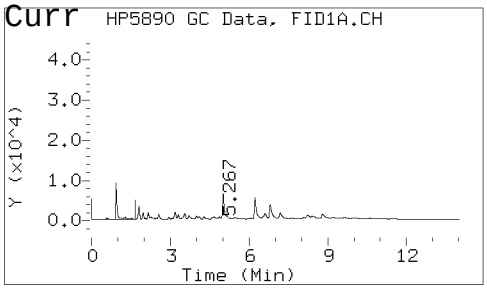


Curr. Area: 27695
Orig. Area: 37350

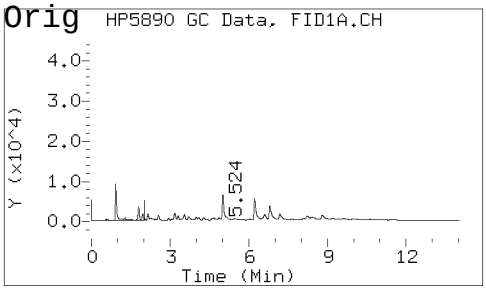
Curr. ON-COL: 1.02403
Orig. ON-COL: 0.896257

GASOLINE RANGE ORGANICS

Curr



Orig



Curr. Area: 2196558
Orig. Area: 2004671

Curr. ON-COL: 115.565
Orig. ON-COL: 106.596

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL1 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A002.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A002.D
Injection Date: 06-DEC-2018 15:20 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A003.D
Lab Smp Id: LEVEL2
Inj Date : 06-DEC-2018 15:47
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL2
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 15:47 Cal File: 8L6A003.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ng)	AMOUNTS ON-COL (ng)
$ 5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	68087	2.50000	2.52553(M)
S 1 GASOLINE RANGE ORGANICS	1.754-8.780			5399527	250.000	280.398(M)
* 6 1-Chloro-4-fluorobenzene	6.218	6.208	(1.000)	316031	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A003.D
Lab Smp Id: LEVEL2
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	316031	-2.07

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.03

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL2
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

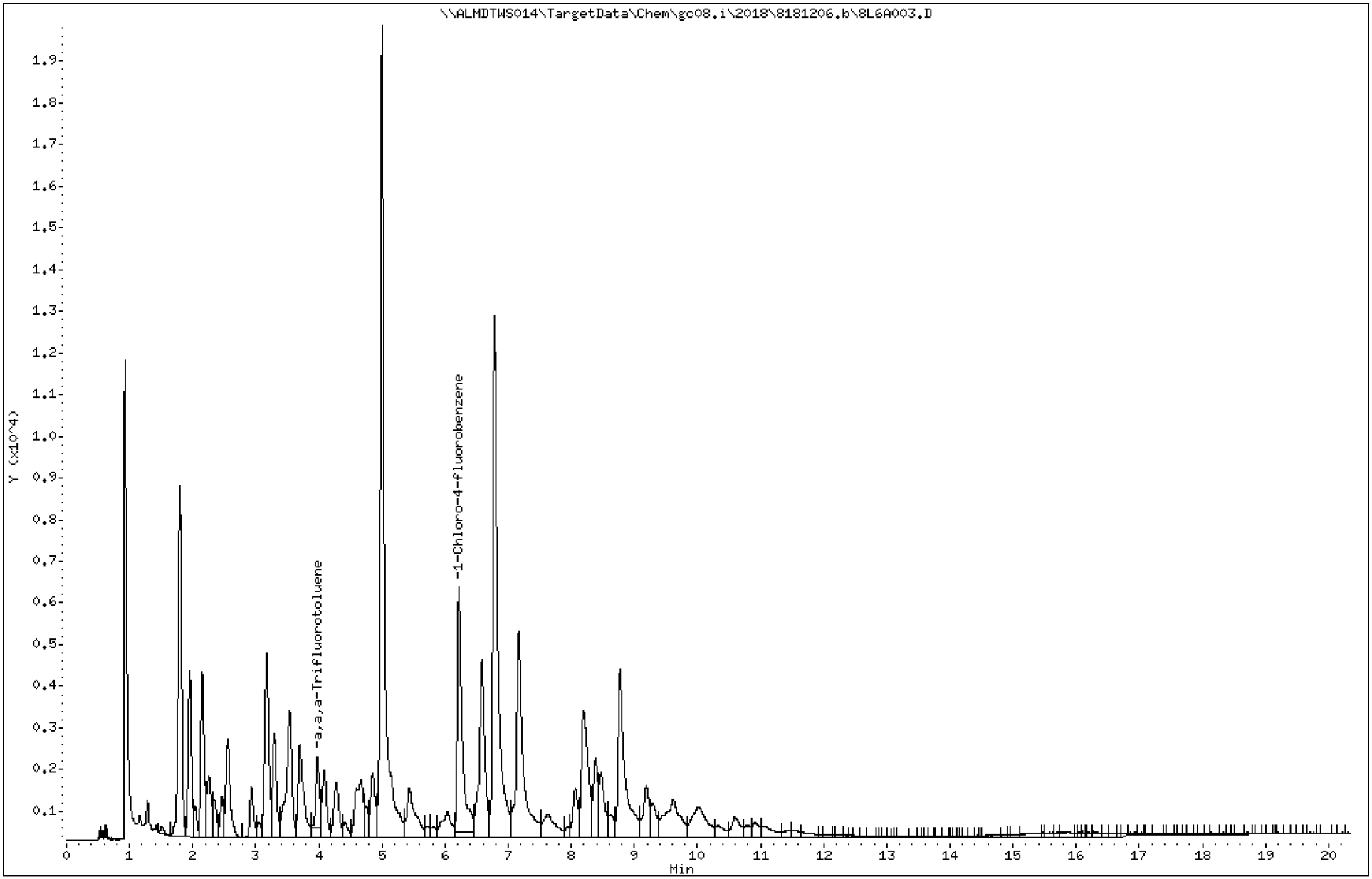
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	280.398	
98-08-8	a,a,a-Trifluorotoluene	2.52553	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A003.D
Date : 06-DEC-2018 15:47
Client ID:
Sample Info: LEVEL2

Column phase: DB-VRX

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

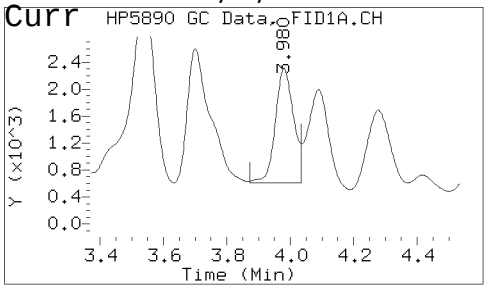


MANUAL INTEGRATION REPORT

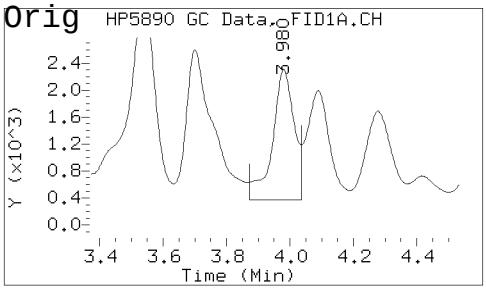
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL2 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A003.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A003.D
Injection Date: 06-DEC-2018 15:47 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

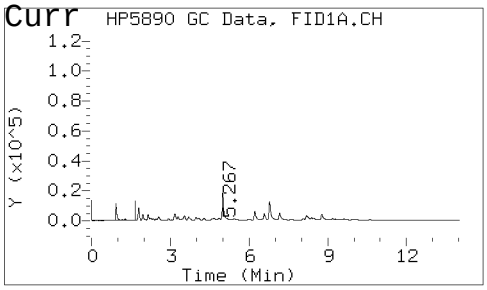


Curr. Area: 68087
Orig. Area: 92630

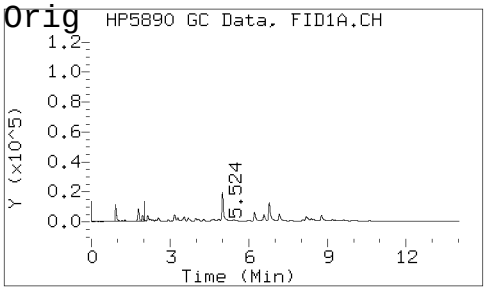
Curr. ON-COL: 2.52553
Orig. ON-COL: 3.02634

GASOLINE RANGE ORGANICS

Curr



Orig

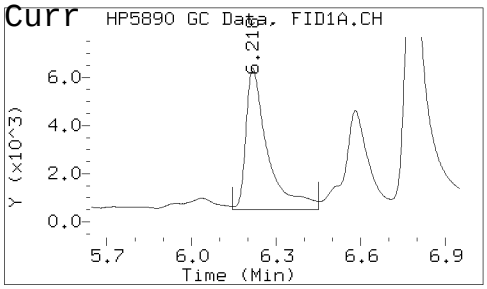


Curr. Area: 5399527
Orig. Area: 4848761

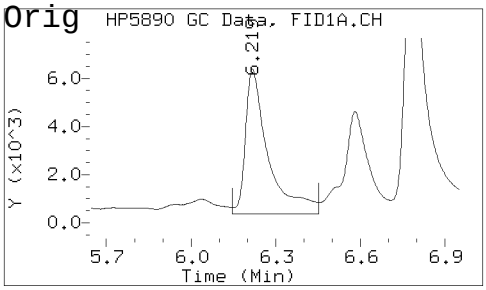
Curr. ON-COL: 280.398
Orig. ON-COL: 234.291

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 316031
Orig. Area: 339546

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL2 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A003.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A003.D
Injection Date: 06-DEC-2018 15:47 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A004.D
Lab Smp Id: LEVEL3
Inj Date : 06-DEC-2018 16:14
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL3
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 16:14 Cal File: 8L6A004.D
Als bottle: 4 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.976	3.973	(0.640)	146779	5.00000	5.43757(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			11543509	500.000	588.652(M)
*	6 1-Chloro-4-fluorobenzene	6.216	6.208	(1.000)	316429	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A004.D
Lab Smp Id: LEVEL3
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	316429	-1.94

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.00

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL3
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

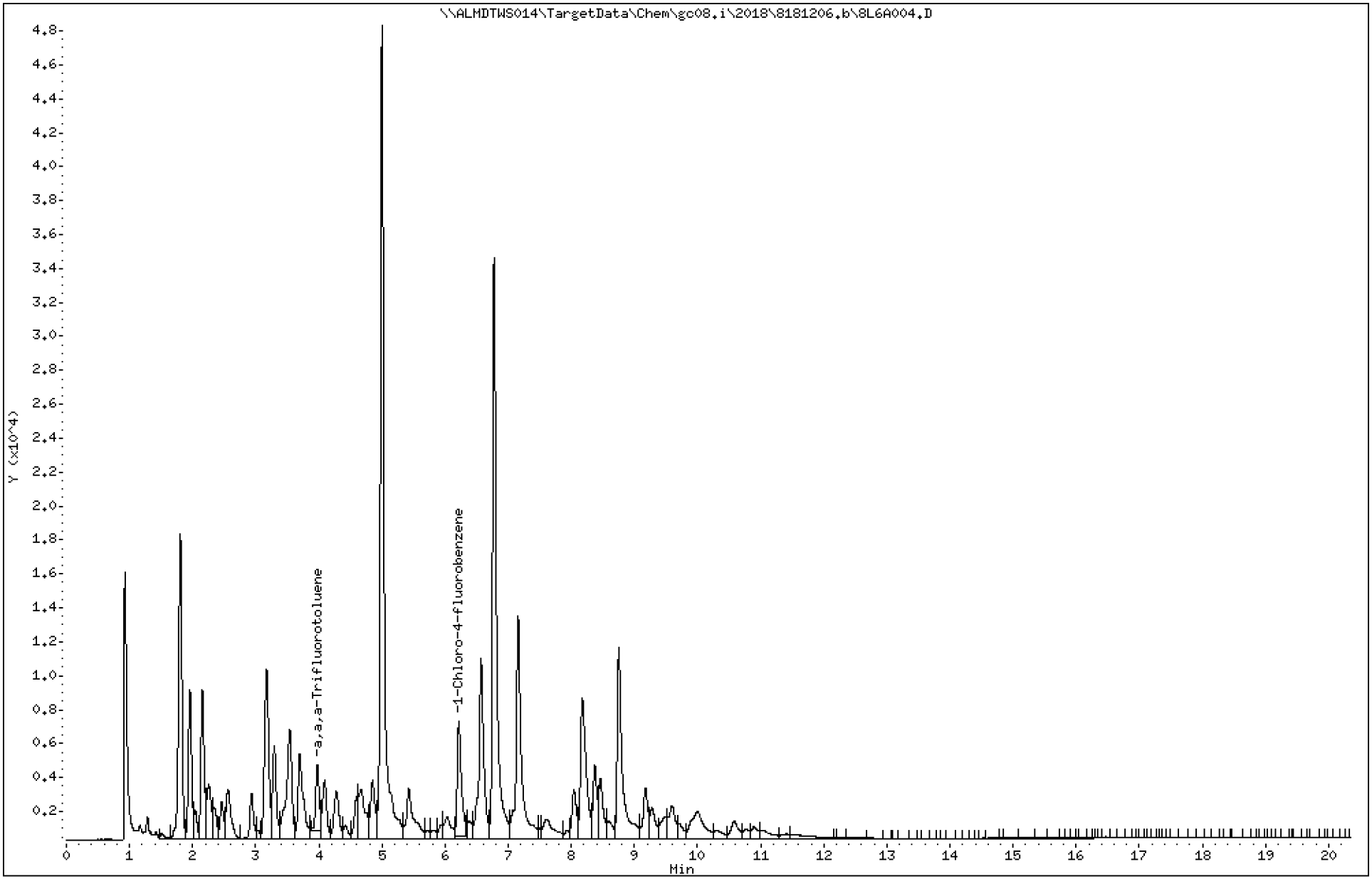
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	588.652	
98-08-8	a,a,a-Trifluorotoluene	5.43757	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A004.D
Date : 06-DEC-2018 16:14
Client ID:
Sample Info: LEVEL3

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

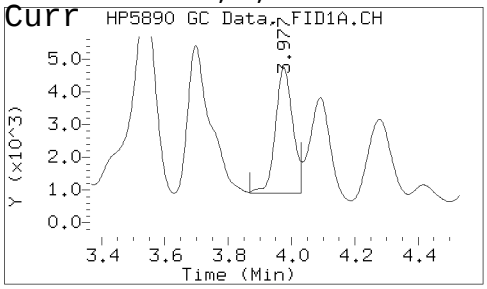
Column phase: DB-VRX

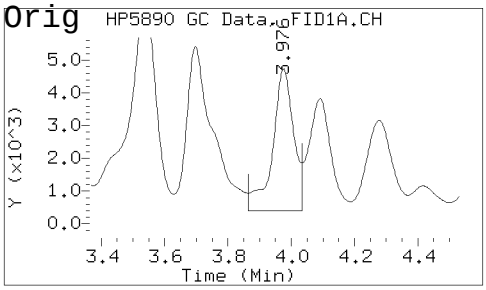


MANUAL INTEGRATION REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL3 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A004.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A004.D
Injection Date: 06-DEC-2018 16:14 Operator: DD

a,a,a-Trifluorotoluene

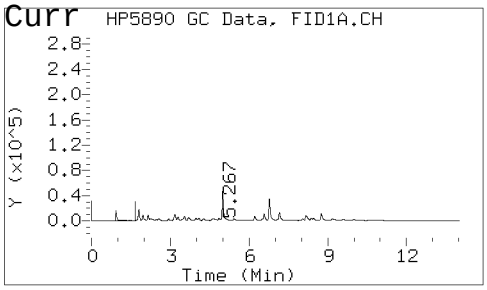


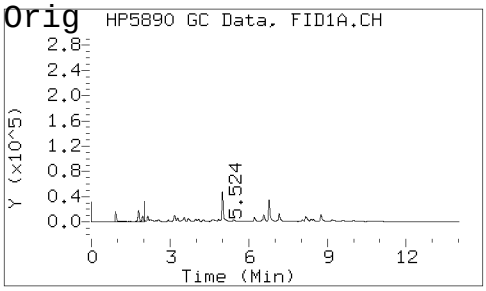


Curr. Area: 146779
Orig. Area: 200647

Curr. ON-COL: 5.43757
Orig. ON-COL: 7.54827

GASOLINE RANGE ORGANICS

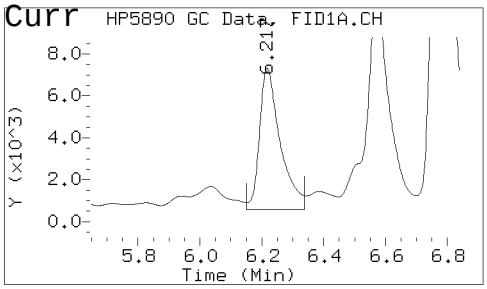


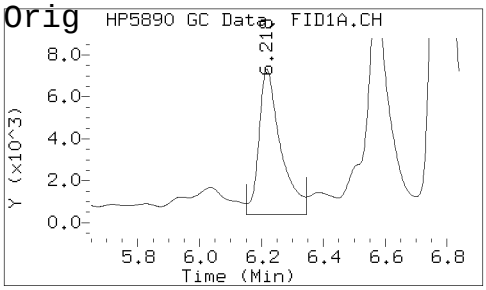


Curr. Area: 11543509
Orig. Area: 10479670

Curr. ON-COL: 588.652
Orig. ON-COL: 509.834

1-Chloro-4-fluorobenzene





Curr. Area: 316429
Orig. Area: 337242

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL3 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A004.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A004.D
Injection Date: 06-DEC-2018 16:14 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A005.D
Lab Smp Id: LEVEL4
Inj Date : 06-DEC-2018 16:41
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL4
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 16:41 Cal File: 8L6A005.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	264789	10.0000	9.61871(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			20092712	1000.00	1042.25(M)
*	6 1-Chloro-4-fluorobenzene	6.216	6.208	(1.000)	322701	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A005.D
Lab Smp Id: LEVEL4
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	322701	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.00

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL4
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	1042.25	
98-08-8	a,a,a-Trifluorotoluene	9.61871	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A005.D

Date : 06-DEC-2018 16:41

Client ID:

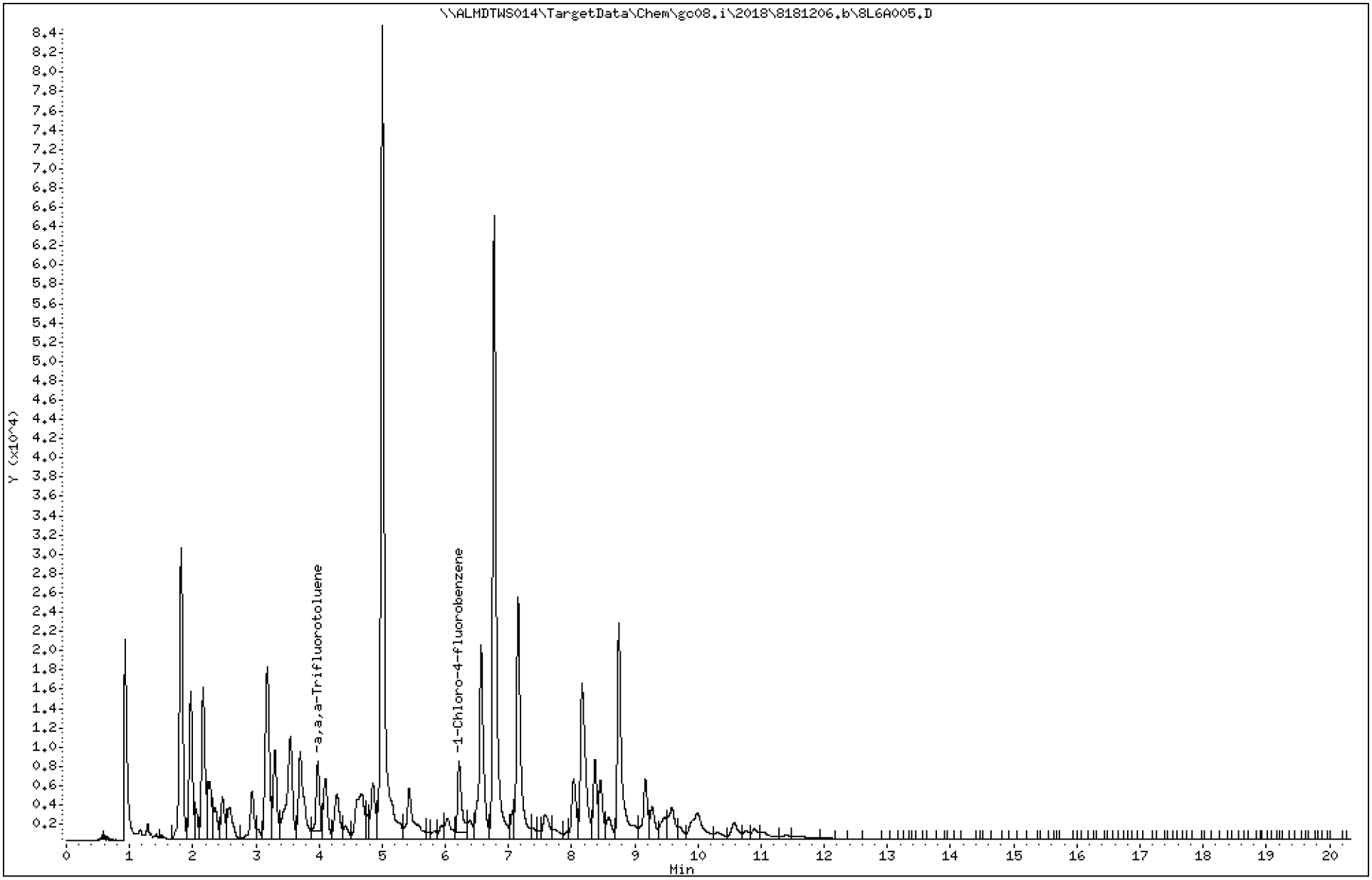
Instrument: gc08.i

Sample Info: LEVEL4

Operator: DD

Column phase: DB-VRX

Column diameter: 0.45

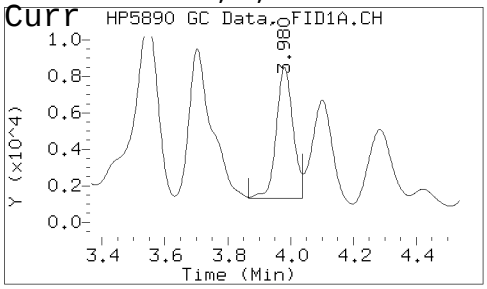


MANUAL INTEGRATION REPORT

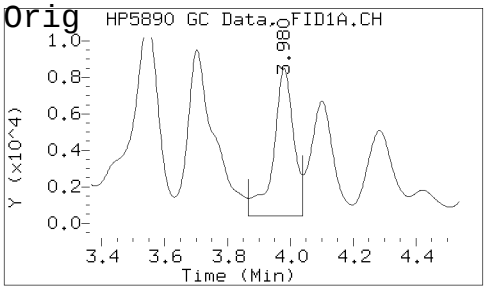
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL4 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A005.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A005.D
Injection Date: 06-DEC-2018 16:41 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

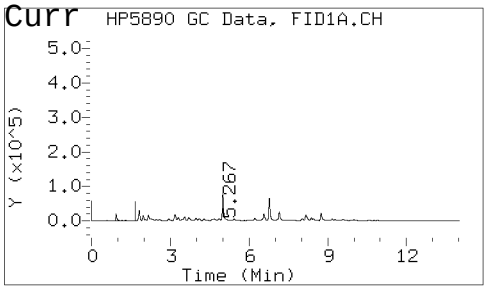


Curr. Area: 264789
Orig. Area: 361891

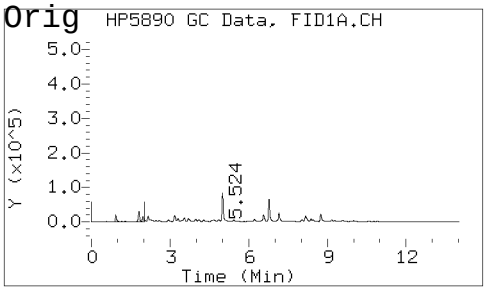
Curr. ON-COL: 9.61871
Orig. ON-COL: 11.6145

GASOLINE RANGE ORGANICS

Curr



Orig

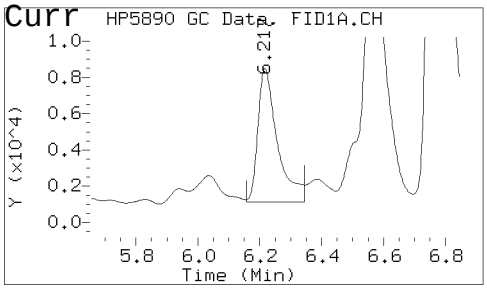


Curr. Area: 20092712
Orig. Area: 18235644

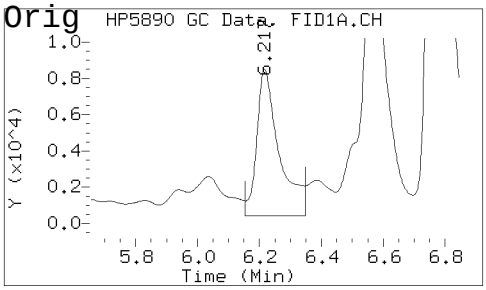
Curr. ON-COL: 1042.25
Orig. ON-COL: 731.378

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 322701
Orig. Area: 409074

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL4 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A005.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A005.D
Injection Date: 06-DEC-2018 16:41 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A006.D
Lab Smp Id: LEVEL5
Inj Date : 06-DEC-2018 17:08
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL5
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 17:08 Cal File: 8L6A006.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	693697	25.0000	24.7682(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			44946908	2500.00	2188.28(M)
*	6 1-Chloro-4-fluorobenzene	6.220	6.208	(1.000)	328316	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A006.D
Lab Smp Id: LEVEL5
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	328316	1.74

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.05

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL5
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

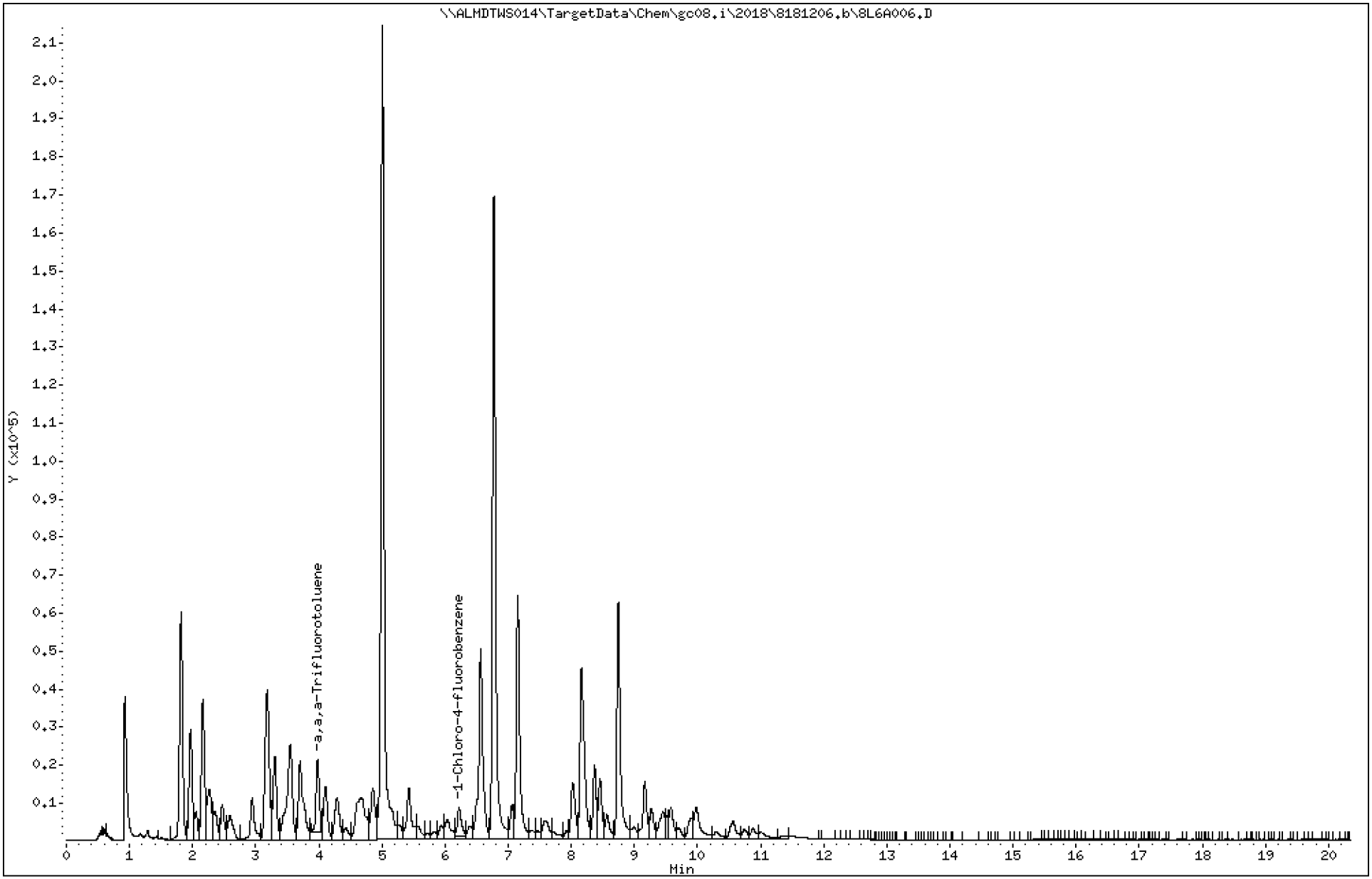
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	2188.28	
98-08-8	a,a,a-Trifluorotoluene	24.7682	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A006.D
Date : 06-DEC-2018 17:08
Client ID:
Sample Info: LEVEL5

Column phase: DB-VRX

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

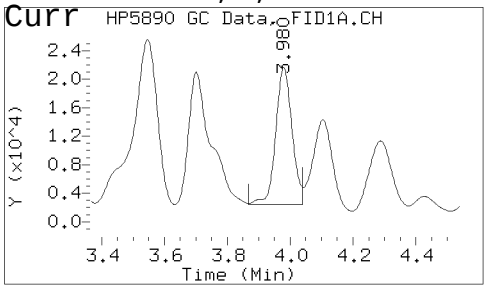


MANUAL INTEGRATION REPORT

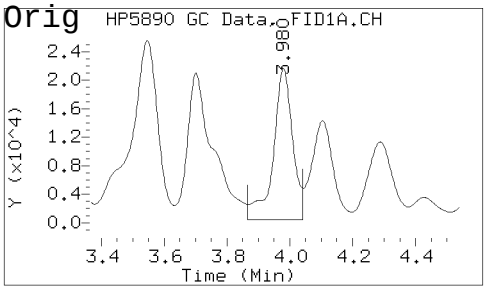
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL5 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A006.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A006.D
Injection Date: 06-DEC-2018 17:08 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

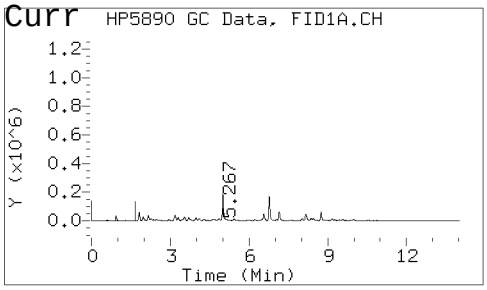


Curr. Area: 693697
Orig. Area: 909522

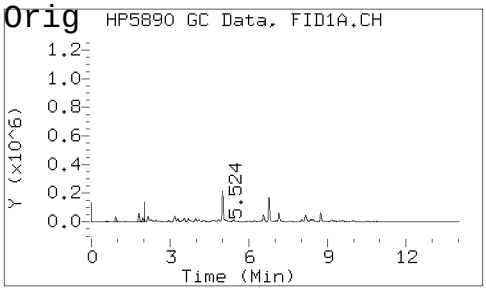
Curr. ON-COL: 24.7682
Orig. ON-COL: 29.8918

GASOLINE RANGE ORGANICS

Curr



Orig

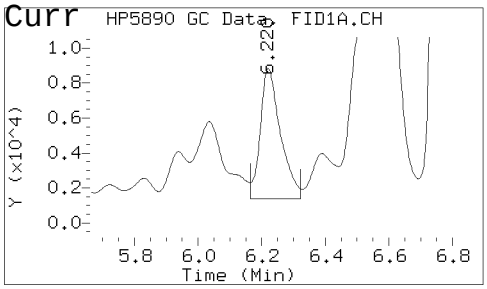


Curr. Area: 44946908
Orig. Area: 41746090

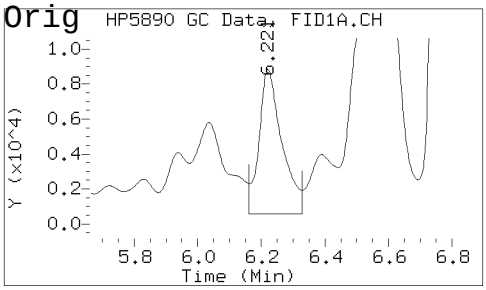
Curr. ON-COL: 2188.28
Orig. ON-COL: 1646.77

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 328316
Orig. Area: 415915

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL5 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A006.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A006.D
Injection Date: 06-DEC-2018 17:08 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A007.D
Lab Smp Id: LEVEL6
Inj Date : 06-DEC-2018 17:35
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL6
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.973	3.973	(0.640)	1402089	50.0000	46.2825(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			87893085	5000.00	3937.85(M)
*	6 1-Chloro-4-fluorobenzene	6.208	6.208	(1.000)	355121	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A007.D
Lab Smp Id: LEVEL6
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	355121	10.05

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.21	-0.13

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL6
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	3937.85	
98-08-8	a,a,a-Trifluorotoluene	46.2825	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A007.D

Date : 06-DEC-2018 17:35

Client ID:

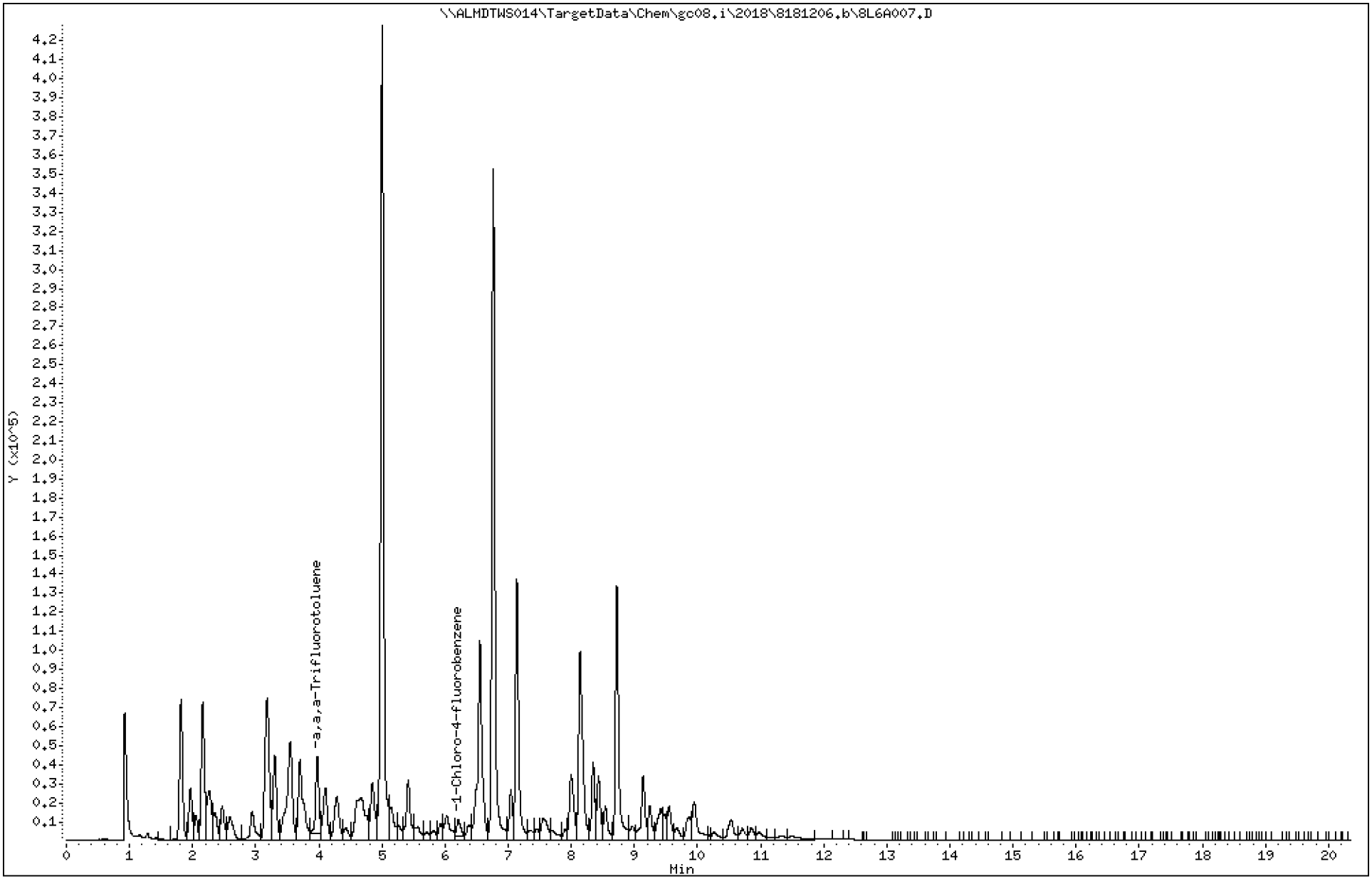
Instrument: gc08.i

Sample Info: LEVEL6

Operator: DD

Column phase: DB-VRX

Column diameter: 0.45

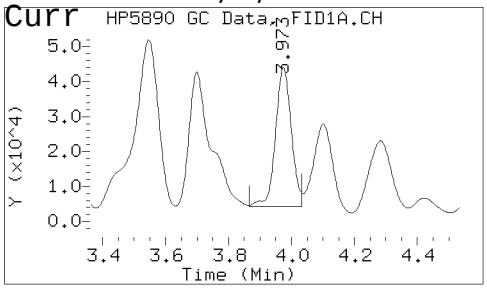


MANUAL INTEGRATION REPORT

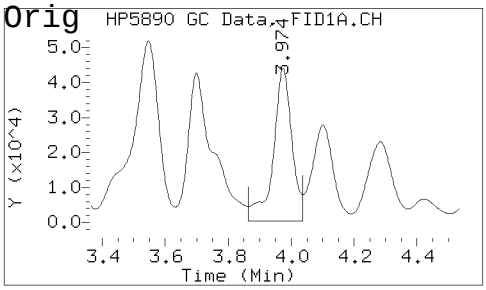
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL6 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A007.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A007.D
Injection Date: 06-DEC-2018 17:35 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

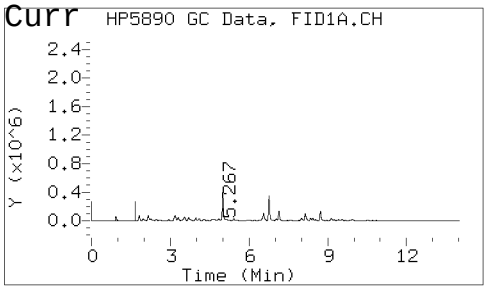


Curr. Area: 1402089
Orig. Area: 1802472

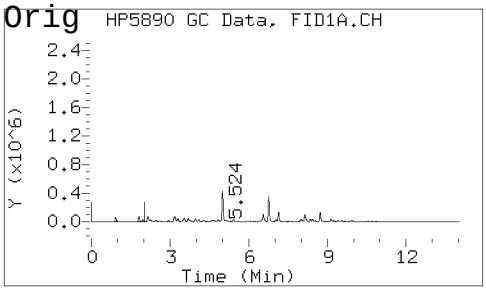
Curr. ON-COL: 46.2825
Orig. ON-COL: 69.1773

GASOLINE RANGE ORGANICS

Curr



Orig

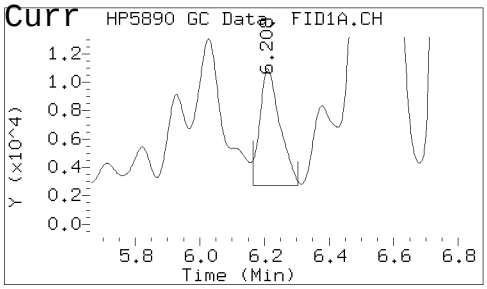


Curr. Area: 87893085
Orig. Area: 84385737

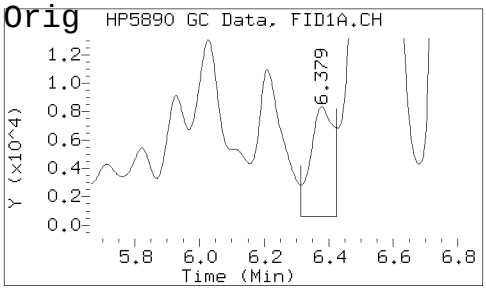
Curr. ON-COL: 3937.85
Orig. ON-COL: 3829.53

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 355121
Orig. Area: 361532

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL6 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A007.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A007.D
Injection Date: 06-DEC-2018 17:35 Operator: DD

There were no Unassigned peaks in this sample!

Initial Calibration Verifications

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A011.D
Lab Smp Id: LCS
Inj Date : 06-DEC-2018 19:23
Operator : DD Inst ID: gc08.i
Smp Info : LCS
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 07-Dec-2018 10:34 don Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 11 QC Sample: LCS
Dil Factor: 0.25000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.946	3.973	(0.639)	955373	31.4832	7.87079(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			81733967	3655.70	913.926(M)
*	6 1-Chloro-4-fluorobenzene	6.180	6.208	(1.000)	355723	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A011.D
Lab Smp Id: LCS
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	355723	10.23

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.18	-0.59

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8181206.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: LCS
Level: MED Operator: DD
Data Type: GC DATA SampleType: LCS
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
S 1 GASOLINE RANGE ORG	1000.00	913.926	91.39	77-125

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	7.50000	7.87079	104.94	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LCS
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

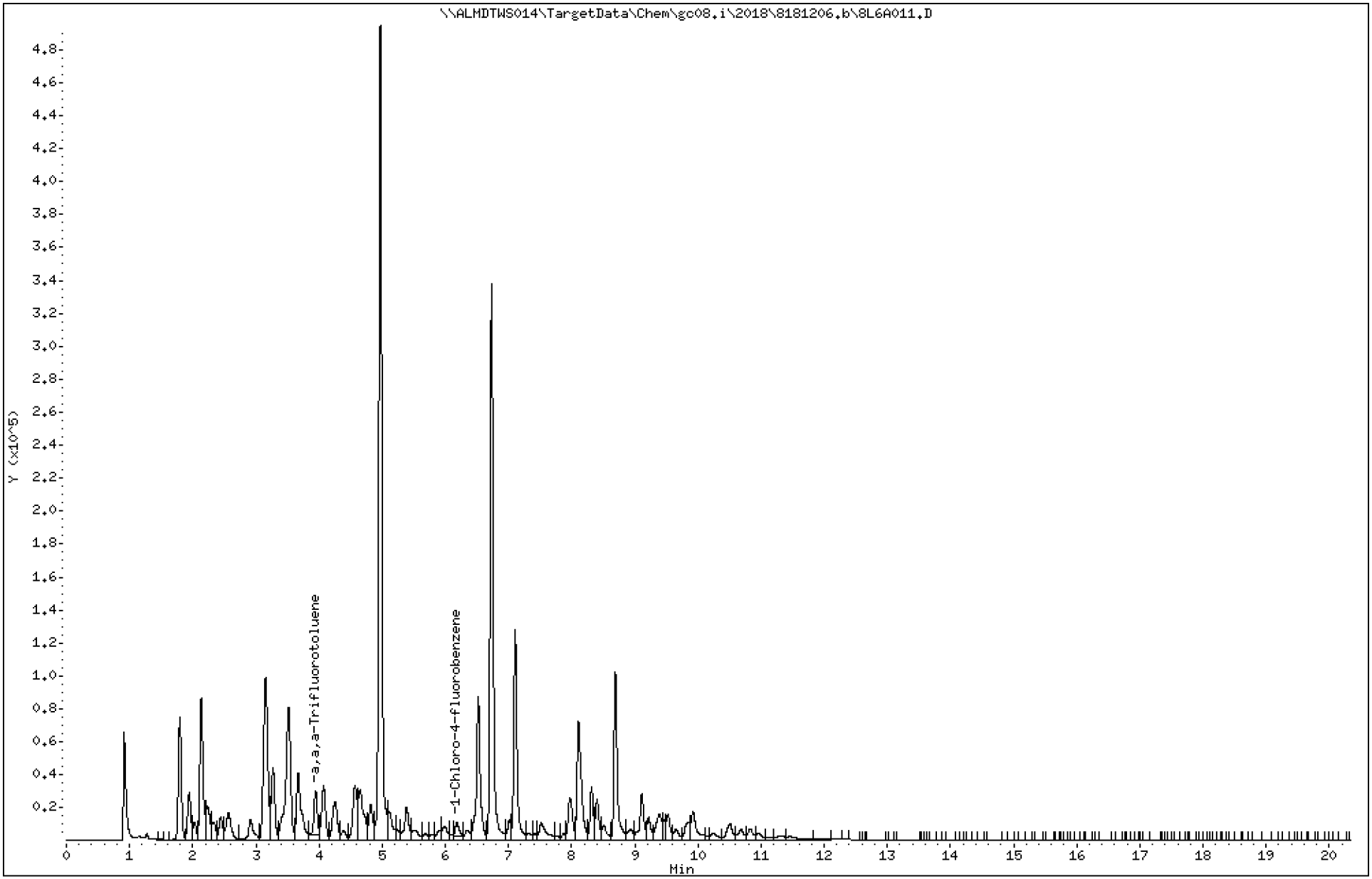
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	913.926	
98-08-8	a,a,a-Trifluorotoluene	7.87079	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A011.D
Date : 06-DEC-2018 19:23
Client ID:
Sample Info: LCS

Column phase: DB-VRX

Instrument: gc08.i

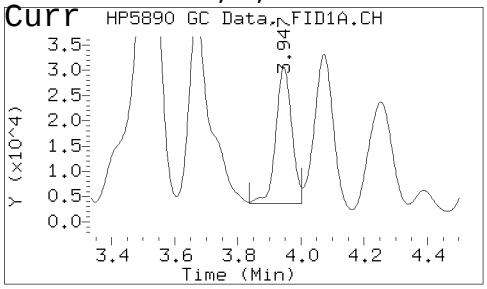
Operator: DD
Column diameter: 0.45

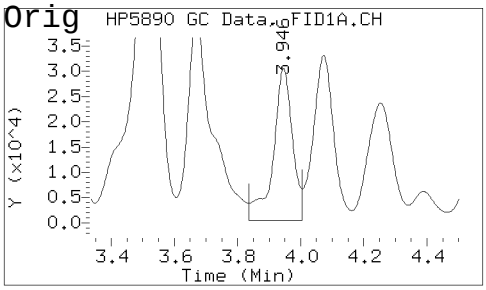


MANUAL INTEGRATION REPORT

Report Date: 12/07/2018 10:36
Lab Sample ID: LCS Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A011.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A011.D
Injection Date: 06-DEC-2018 19:23 Operator: DD

a,a,a-Trifluorotoluene

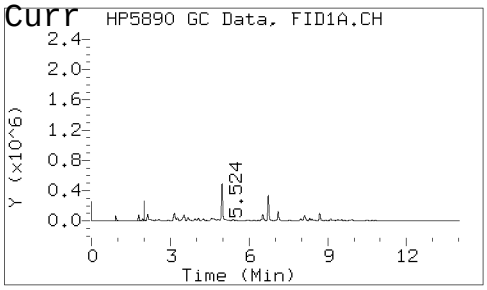
Curr


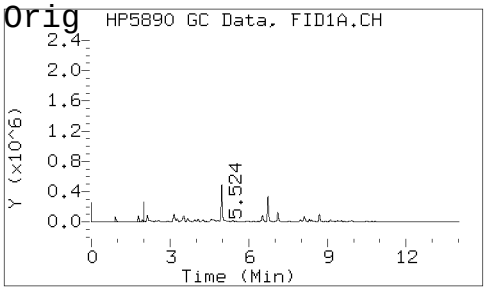
Orig


Curr. Area: 955373
Orig. Area: 1286806

Curr. ON-COL: 31.4832
Orig. ON-COL: 22.6877

GASOLINE RANGE ORGANICS

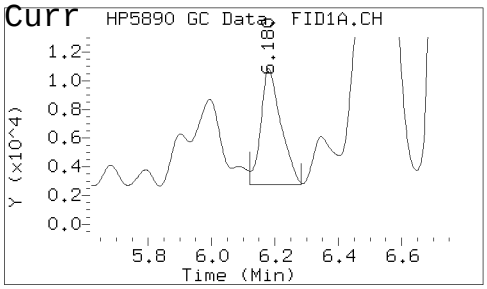
Curr


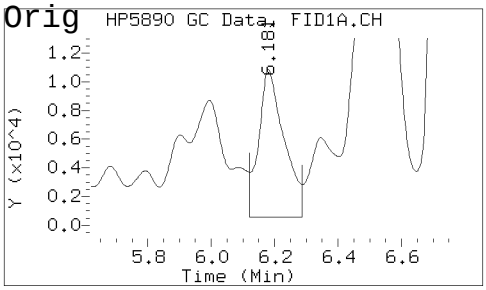
Orig


Curr. Area: 81733967
Orig. Area: 81175820

Curr. ON-COL: 3655.70
Orig. ON-COL: 2371.64

1-Chloro-4-fluorobenzene

Curr


Orig


Curr. Area: 355723
Orig. Area: 582527

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/07/2018 10:36
Lab Sample ID: LCS Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A011.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A011.D
Injection Date: 06-DEC-2018 19:23 Operator: DD

There were no Unassigned peaks in this sample!

Continuing Calibrations

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ALS Global SDG No.: AER-382

Instrument ID: gc08.i Calibration Date/Time: 10/31/2019 08:44

Lab File ID: 8JVA001.D Init. Calib. Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Init. Calib. Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

COMPOUND	RRF	RRF050	Conc. CC std	MIN RRF	%D	MAX%D	CT
GASOLINE RANGE ORGANICS	0.6285	0.5232		0.010	-16.7	20.0	A
a,a,a-Trifluorotoluene	0.8531	0.9571		0.010	12.2	20.0	A

Calibration Type: A=Average Response Factor, L=Linear Regression, Q=Quadratic Regression
Compounds with "Calibration Type" other than "A" are calculated as % Drift due to alternate calibration type.

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA001.D
Lab Smp Id: CCAL
Inj Date : 31-OCT-2019 08:44
Operator : CHS Inst ID: gc08.i
Smp Info : CCAL
Misc Info :
Comment : DB-VRX E
Method : \\almdtws014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.913	3.921	(0.632)	793175	30.0000	33.6584
S	1 GASOLINE RANGE ORGANICS	1.710-8.748			14454477	1000.00	832.511
*	6 1-Chloro-4-fluorobenzene	6.187	6.175	(1.000)	276244	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA001.D
Lab Smp Id: CCAL
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\almdtws014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info:

Calibration Date: 30-OCT-2019
Calibration Time: 05:11
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	312404	156202	468606	276244	-11.57

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.18	5.68	6.68	6.19	0.07

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gc08.i Injection Date: 31-OCT-2019 08:44
Lab File ID: 8JVA001.D Init. Cal. Date(s): 06-DEC-2018 06-DEC-2018
Analysis Type: WATER Init. Cal. Times: 15:20 17:35
Lab Sample ID: CCAL Quant Type: ISTD
Method: \\almdtws014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.m

COMPOUND	RRF / AMOUNT	RF1000	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 5 a,a,a-Trifluorotoluene	0.85307	0.95709	0.010	12.19463	20.00000	Averaged
S 1 GASOLINE RANGE ORGANICS	0.62852	0.52325	0.010	-16.74889	20.00000	Averaged

Average %D / Drift Results.

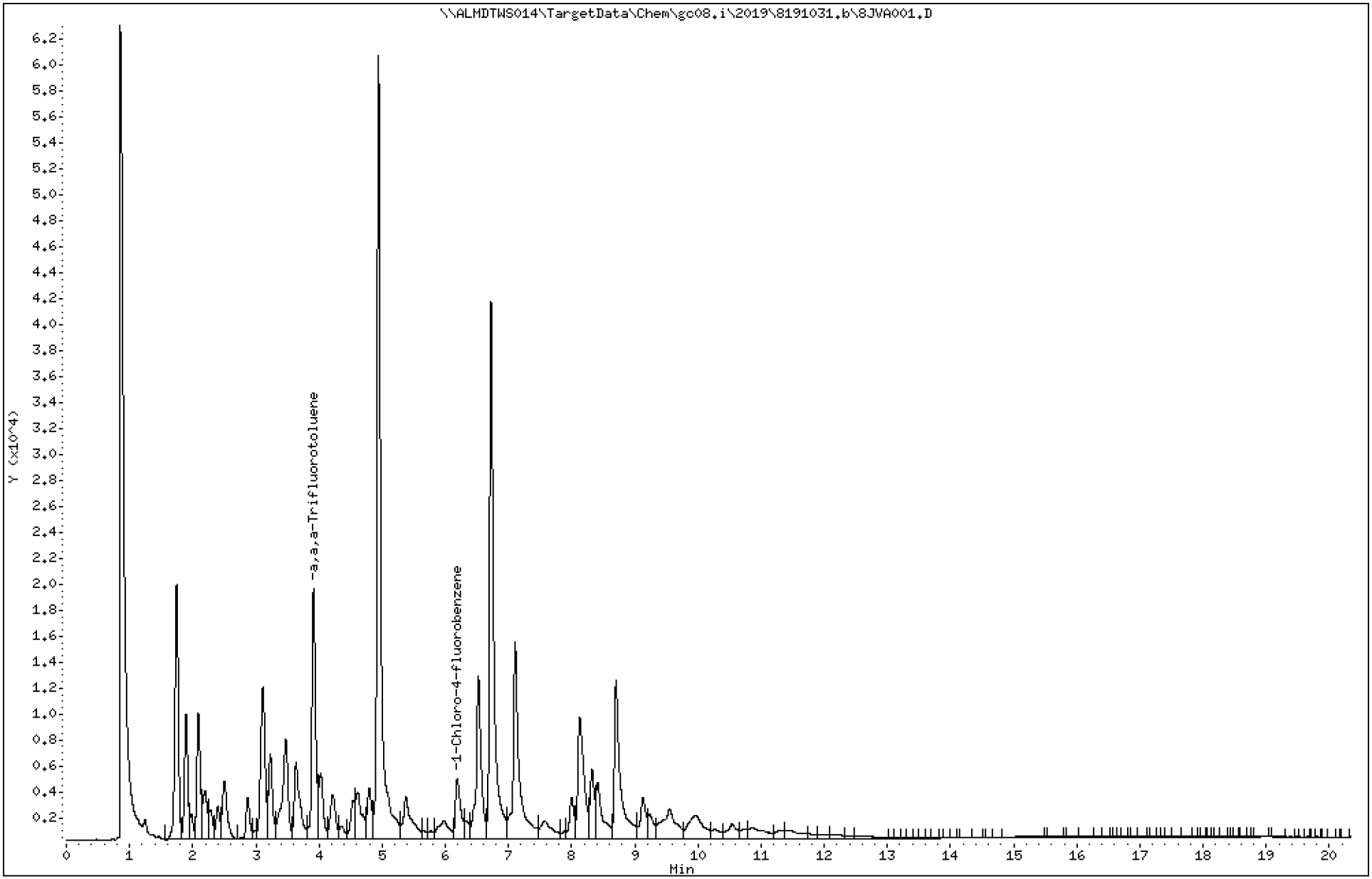
Calculated Average %D/Drift = 14.47176
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA001.D
Date : 31-OCT-2019 08:44
Client ID:
Sample Info: CCAL

Instrument: gc08.i

Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX



MANUAL INTEGRATION REPORT

Report Date: 11/01/2019 04:16
Lab Sample ID: CCAL Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA001.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA001.D
Injection Date: 31-OCT-2019 08:44 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:16
Lab Sample ID: CCAL Client ID:
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA001.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA001.D
Injection Date: 31-OCT-2019 08:44 Operator: CHS

There were no Unassigned peaks in this sample!

QC Raw Data

Blank Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

3037535(MB)

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Matrix (soil/water): WATER Lab Sample ID: 3037535

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JVA005.D

Level (low/med): Date Received: 10/31/19

% Moisture: not dec. 100.0 Date Analyzed: 10/31/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA005.D
Lab Smp Id: 3037535 Client Smp ID: MB for HBN 553889 [
Inj Date : 31-OCT-2019 10:33
Operator : CHS Inst ID: gc08.i
Smp Info : 3037535;;;;;;;
Misc Info : ZZ VOGC 10302 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.918	3.921	(0.632)	890777	36.9568	36.9568
S	1 GASOLINE RANGE ORGANICS	1.710-8.748			324617	18.2793	18.2793(a)
*	6 1-Chloro-4-fluorobenzene	6.198	6.175	(1.000)	282548	10.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA005.D
Lab Smp Id: 3037535
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 31-OCT-2019
Calibration Time: 08:44
Client Smp ID: MB for HBN 5538
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info: ZZ VOGC 10302 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	276244	138122	414366	282548	2.28

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.17

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: In-house QC Account Client SDG: 8191031.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3037535 Client Smp ID: MB for HBN 553889 [
Level: MED Operator: CHS
Data Type: GC DATA SampleType: BLANK
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info: ZZ VOGC 10302 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	36.9568	123.19	90-129

ALS Environmental Services

TARGET COMPOUNDS

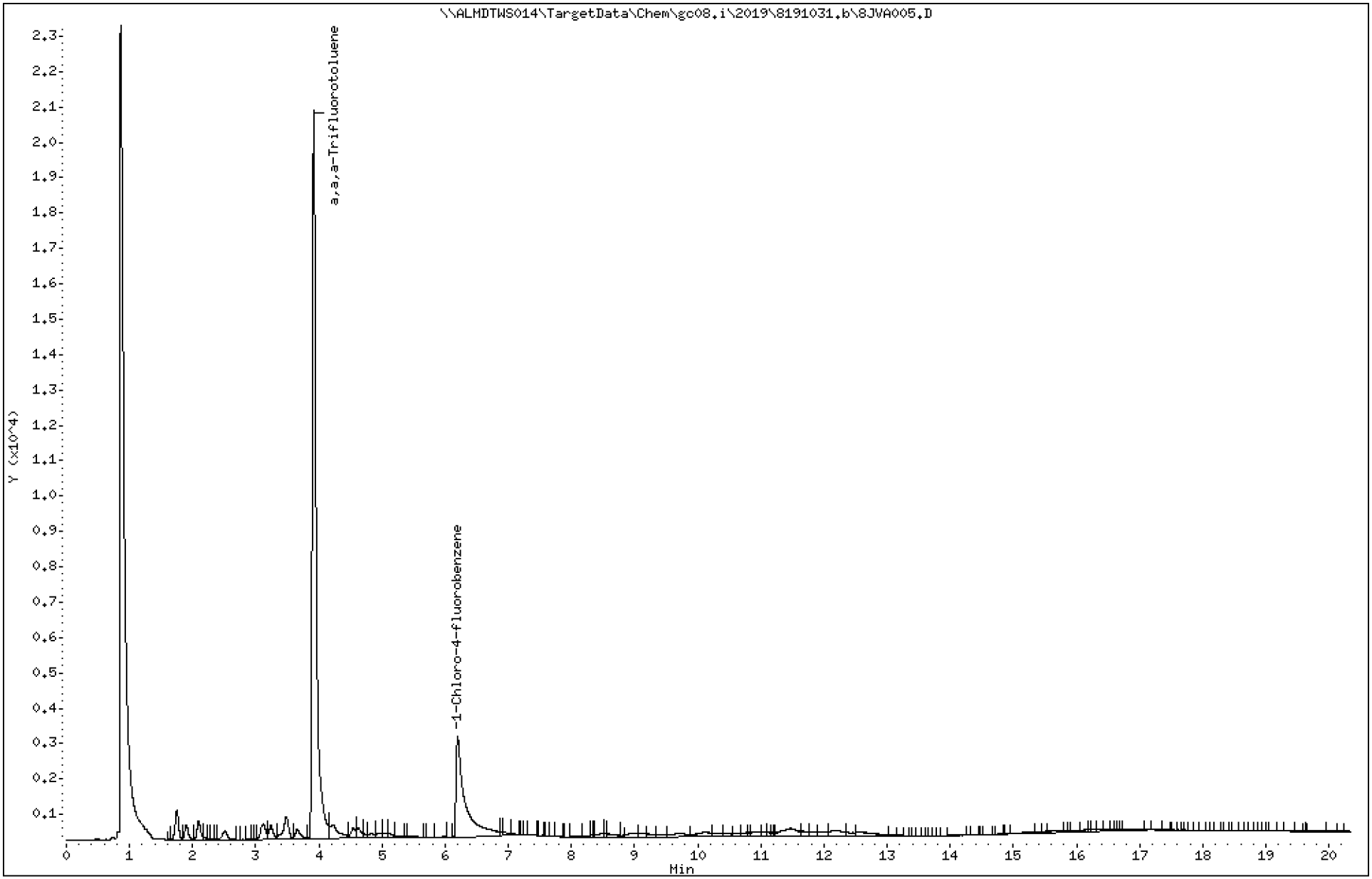
Client Name: In-house QC Account
Lab Smp Id: 3037535
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: GC DATA
Misc Info: ZZ VOGC 10302 8015GROW

Client SDG: 8191031.b
Client Smp ID: MB for HBN 553889 [
Sample Point:
Date Received: 31-OCT-2019
Quant Type: ISTD
Level: MED
Operator: CHS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	18.2793	J
98-08-8	a,a,a-Trifluorotoluene	36.9568	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA005.D
Date : 31-OCT-2019 10:33
Client ID: MB for HBN 553889 [
Sample Info: 3037535;;;;;;;
Column phase: DB-VRX

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3037535 Client ID: MB for HBN 553889 [
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA005.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA005.D
Injection Date: 31-OCT-2019 10:33 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3037535 Client ID: MB for HBN 553889 [
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA005.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA005.D
Injection Date: 31-OCT-2019 10:33 Operator: CHS

There were no Unassigned peaks in this sample!

LCS Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

3037536(LCS)

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-382

Matrix (soil/water): WATER Lab Sample ID: 3037536

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8JVA002.D

Level (low/med): Date Received: 10/31/19

% Moisture: not dec. 100.0 Date Analyzed: 10/31/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	811	

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA002.D
Lab Smp Id: 3037536 Client Smp ID: LCS for HBN 553889
Inj Date : 31-OCT-2019 09:11
Operator : CHS Inst ID: gc08.i
Smp Info : 3037536;;;;;;;
Misc Info : ZZ VOGC 10302 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909.
Meth Date : 31-Oct-2019 09:16 dpc Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)	
$ 5 a,a,a-Trifluorotoluene	3.912	3.921	(0.633)	867695	33.4540	33.4540	
S 1 GASOLINE RANGE ORGANICS	1.710-8.748			15502595	811.238	811.238	(M)
* 6 1-Chloro-4-fluorobenzene	6.185	6.175	(1.000)	304044	10.0000		(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8JVA002.D
Lab Smp Id: 3037536
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info: ZZ VOGC 10302 8015GROW

Calibration Date: 31-OCT-2019
Calibration Time: 08:44
Client Smp ID: LCS for HBN 553
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	276244	138122	414366	304044	10.06

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.19	-0.05

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: In-house QC Account Client SDG: 8191031.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3037536 Client Smp ID: LCS for HBN 553889
Level: MED Operator: CHS
Data Type: GC DATA SampleType: LCS
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8_GRO_102909
Misc Info: ZZ VOGC 10302 8015GROW

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
S 1 GASOLINE RANGE ORG	1000.00	811.238	81.12	77-125

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	33.4540	111.51	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: In-house QC Account
Lab Smp Id: 3037536
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: GC DATA
Misc Info: ZZ VOGC 10302 8015GROW

Client SDG: 8191031.b
Client Smp ID: LCS for HBN 553889
Sample Point:
Date Received: 31-OCT-2019
Quant Type: ISTD
Level: MED
Operator: CHS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	811.238	
98-08-8	a,a,a-Trifluorotoluene	33.4540	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191031.b\8JVA002.D

Date : 31-OCT-2019 09:11

Client ID: LCS for HBN 553889

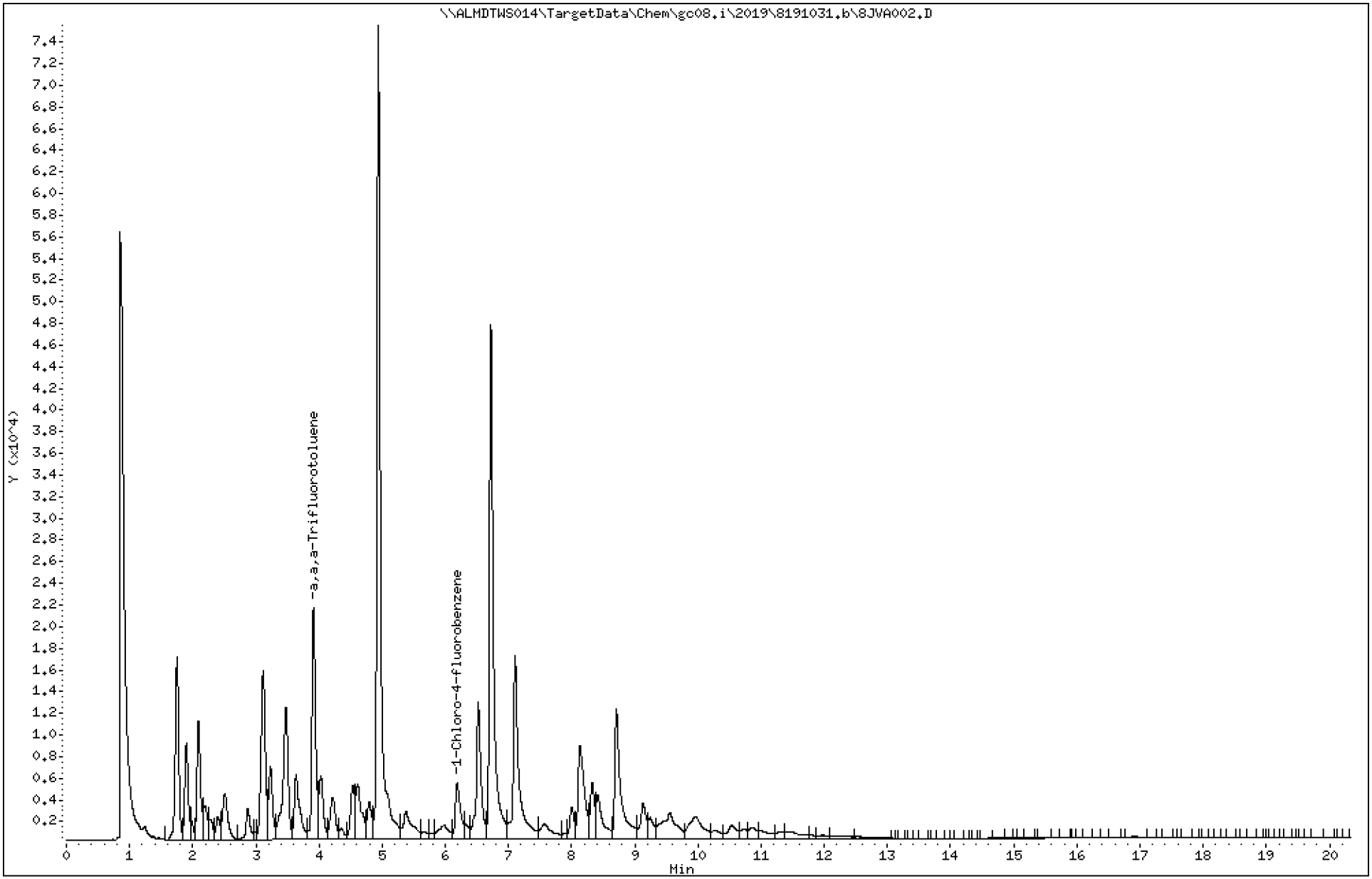
Instrument: gc08.i

Sample Info: 3037536;;;;;;;

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45

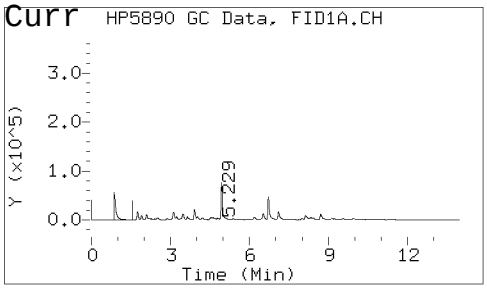


MANUAL INTEGRATION REPORT

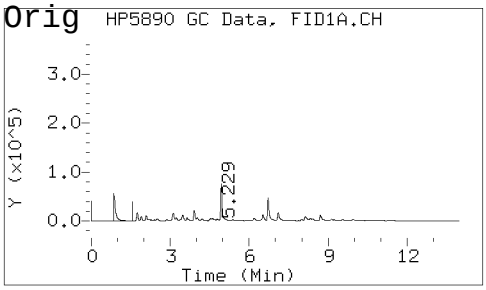
Report Date: 11/01/2019 04:15
Lab Sample ID: 3037536 Client ID: LCS for HBN 553889
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA002.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA002.D
Injection Date: 31-OCT-2019 09:11 Operator: CHS

GASOLINE RANGE ORGANICS

Curr



Orig

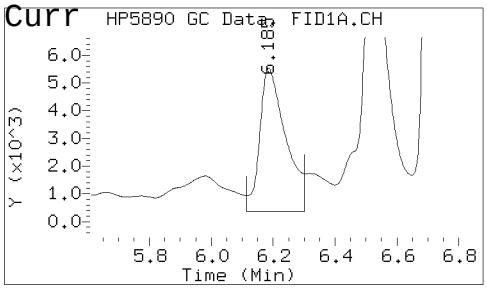


Curr. Area: 15502595
Orig. Area: 15430731

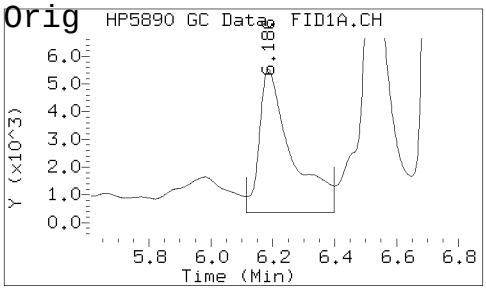
Curr. ON-COL: 811.238
Orig. ON-COL: 656.760

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 304044
Orig. Area: 373818

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 11/01/2019 04:15
Lab Sample ID: 3037536 Client ID: LCS for HBN 553889
DataFile:/Chem/gc08.i/2019/8191031.b/8JVA002.D
RawFile:/Chem/gc08.i/2019/8191031.b/RawData/8JVA002.D
Injection Date: 31-OCT-2019 09:11 Operator: CHS

There were no Unassigned peaks in this sample!

Analytical Logbook

Data File: \\GC01\TargetData\Chem\gc08.i\2018\8181206.b

GC ANALYSIS - VOLATILE ORGANICS

DATE(S):	12/6/2018	Analyst:	DD				
DATA FILE:	8L6Axxx.d	ICAL INJ :	12/6/18 15:20	INSTRUMENT: GC08	METHOD(S)	GROW	DGROS	GROS
BATCH:	8181206.b	12-HOUR ENDING:	12/7/18 3:20	ICAL DATE: 12/6/2018	LIMS BATCH:			

Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment	Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment
1	01	WP	1	8015GRO	-	-	-		33	34							
2	02	Level 1	1	8015GRO	-	-	-		34	35							
3	03	Level 2	1	8015GRO	-	-	-		35	36							
4	04	Level 3	1	8015GRO	-	-	-		36	37							
5	05	Level 4	1	8015GRO	-	-	-		37	38							
6	06	Level 5	1	8015GRO	-	-	-		38	39							
7	07	Level 6	1	8015GRO	-	-	-		39	40							
8	08	WP	1	8015GRO	-	-	-		40	41							
9	09	WP	1	8015GRO	-	-	-		41	42							
10	10	WP	1	8015GRO	-	-	-		42	43							
11	11	IODC	1	8015GRO	-	-	-	RR diluted wrong	42	44							
12	12	IODC	1	8015GRO	-	-	-	RR should have been 200 in 400	43	45							
13	13	IODC	1	8015GRO	-	-	-	RR not 400 in 200	46	46							
14	14	IODC	1	8015GRO	-	-	-	RR	47	47							
15	15	WP	1	8015GRO	-	-	-		48	48							
16	16	WP	1	8015GRO	-	-	-		49	49							
17	17	MDL1	1	8015GRO	-	-	-		50	50							
18	18	MDL1	1	8015GRO	-	-	-		51	51							
19	19	MDL1	1	8015GRO	-	-	-		52	52							
20	20	MDL1	1	8015GRO	-	-	-		53	53							
21	21								54	54							
22	22								55	55							
23	23								56	56							
24	24								57	57							
25	25								58	58							
26	26								59	59							
27	27								60	60							
28	28								61	61							
29	29								62	62							
30	30								63	63							
31	31								64	64							
32	32								65	65							
33	33								66	66							

IS:	GC3425	GRO Cal:	GC3426
SS:	GC3421	LCS:	GC3427
IS/SS	GC3424	int. S	GC3423

ABBREVIATIONS

CO:	Suspect Carryover	SS:	Surrogate Failure
LS:	Library Search	IS:	ISTD Failure
RR:	Rerun same dilution	DNR:	Do not Report
DFx:	Rerun @ less diln x	NU:	Not Used
DLx:	Rerun @ diln x	AF:	Antifoam was used

10ul :	HS801
25ul :	HS804
100ul :	HS771
0.5 mL :	HS772
5 mL :	HS779
10 mL :	HS780

GRO		GRO	
Prev		Prev	
Current		Current	
Total		Total	
Needs QC?		Needs QC?	

Data File: \\GC01\TargetData\Chem\gc08.i\2019\8191031.b

GC ANALYSIS - VOLATILE ORGANICS

DATE(S):	10/31/2019	Analyst:	CHS/DPC				
DATA FILE:	8JVAxxx.d	ICAL INJ :	10/31/18 8:44	INSTRUMENT: GC08	METHOD(S)	GROW	GROS	DGROS DGROW
BATCH:	8191031.b	12-HOUR ENDING:	10/31/18 20:44	ICAL DATE: 12/6/2018	LIMS BATCH:	10302		

Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment	Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment
1	01	CCAL	1	8015GRO	-	-	-		33	34							
2	02	3037536	1	8015GRO	-	-	-		34	35							
3	03	WP	1	8015GRO	-	-	-		35	36							
4	04	WP	1	8015GRO	-	-	-		36	37							
5	05	3037535	1	8015GRO	-	-	-		37	38							
6	06	3066456001-A	1	8015GRO	<2	N	N		38	39							
7	07	3066456002-A	1	8015GRO	<2	N	N		39	40							
8	08	3066456003-A	1	8015GRO	<2	N	N		40	41							
9	09	3066456004-A	1	8015GRO	<2	N	N		41	42							
10	10	3066456005-A	1	8015GRO	<2	N	N		42	43							
11	11	3066456006-A	1	8015GRO	<2	N	N		42	44							
12	12	3066594002-D	5	8015GRO	<2	N	N	Matrix	43	45							
13	13	3066594003-D	5	8015GRO	<2	N	N	Matrix	46	46							
14	14	3066594004-D	5	8015GRO	<2	N	N	Matrix	47	47							
15	15	3066594005-D	5	8015GRO	<2	N	N	Matrix	48	48							
16	16	3066595002-D	1	8015GRO	<2	N	N		49	49							
17	17	3066595003-D	1	8015GRO	<2	N	N		50	50							
18	18	3066595004-D	1	8015GRO	<2	N	N		51	51							
19	19	3066595005-D	1	8015GRO	<2	N	N	MS/D	52	52							
20	20	3037672	1	8015GRO	<2	N	N	"E"	53	53							
21	21	3037673	1	8015GRO	<2	N	N	"E"	54	54							
22	22								55	55							
23	23								56	56							
23	24								57	57							
24	25								58	58							
25	26								59	59							
26	27								60	60							
27	28								61	61							
28	29								62	62							
29	30								63	63							
30	31								64	64							
31	32								65	65							
32	33								66	66							

IS:	GC3432	GRO Cal:	GC3429
SS:	GC3433	LCS:	GC3433
IS/SS	GC3435	int. S	

ABBREVIATIONS

CO:	Suspect Carryover	SS:	Surrogate Failure
LS:	Library Search	IS:	ISTD Failure
RR:	Rerun same dilution	DNR:	Do not Report
DFx:	Rerun @ less diln x	NU:	Not Used
DLx:	Rerun @ diln x	AF:	Antifoam was used

10ul :	HS801
25ul :	HS804
100ul :	HS771
0.5 mL :	HS772
5 mL :	HS779
10 mL :	HS780

	GRO	GRO
Prev		Prev
Current		Current
Total		Total
Needs QC?		Needs QC?

November 21, 2019 Service Request No:R1910542

Ms. Carlyn Tufts
NASA/WSTF/Navarro
NASA JSC WHITE SANDS TEST
FACILITY
12600 NASA ROAD; BLDG. 120
Las Cruces, NM 88004

Laboratory Results for: White Sands Test Facility

Dear Ms.Tufts,

Enclosed are the results of the sample(s) submitted to our laboratory October 29, 2019
For your reference, these analyses have been assigned our service request number **R1910542.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
For
Janice Jaeger
Project Manager

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dba ALS Environmental

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Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility
Sample Matrix: Water

Service Request: R1910542
Date Received: 10/29/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Twelve water samples were received for analysis at ALS Environmental on 10/29/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

Method 8015C, 11/01/2019: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8015C, 11/01/2019: The control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Volatiles by GC/MS:

Method 8260C, 10/31/2019: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8260C, 10/31/2019: The control limit was exceeded for one or more analytes in the Laboratory Control Sample (LCS). Reanalysis was not performed because the LCS was preserved in the same manner as the samples and the contamination is in the vial preservative. The analytes affected are flagged in the LCS Summary Report.

Method 8260C, 10/31/2019: The Method Blank contained a low level of the following analytes above the Reporting Limit: Acetone, 2-propanol. All associated sample results less than ten times the level found in the Method Blank are flagged. The samples were not reprepared/reanalyzed because the contamination is in the vial preservative.

Approved by _____ Date 11/21/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: 1910241000 700-SVS-091			Lab ID: R1910542-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	45	BJ	3.4	50	ug/L	8260C
Acetone	6.7	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910241020 700-SVS-092			Lab ID: R1910542-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	75	B	3.4	50	ug/L	8260C
Acetone	9.8	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910251000 700-SVS-99			Lab ID: R1910542-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	15	BJ	3.4	50	ug/L	8260C
Acetone	3.5	BJ	2.1	10	ug/L	8260C

CLIENT ID: 1910251030 700-SVS-100			Lab ID: R1910542-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Propanol	36	BJ	3.4	50	ug/L	8260C
Acetone	5.2	BJ	2.1	10	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro **Service Request:**R1910542
Project: White Sands Test Facility/18EC006B

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1910542-001	1910241000 700-SVS-091	10/24/2019	
R1910542-003	1910241002 700-SVS-091	10/24/2019	
R1910542-004	1910241020 700-SVS-092	10/24/2019	
R1910542-006	1910241022 700-SVS-092	10/24/2019	
R1910542-007	1910251000 700-SVS-99	10/25/2019	
R1910542-009	1910251002 700-SVS-99	10/25/2019	
R1910542-010	1910251030 700-SVS-100	10/25/2019	
R1910542-012	1910251032 700-SVS-100	10/25/2019	

WSTF CHAIN OF CUSTODY RECORD

Date 10-28-19

Laboratory: ALS PO# 18EC0063

Address shipping questions to:
- [x] Lori Minnick, 575-524-5119
- [ ] Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- [x] Carlyn Tufts, carlyn.a.tufts@nasa.gov
- [x] Betty Nietubyc, elizabeth.m.nietubyc@nasa.gov
- [ ] Other

Analytical Requirements

Sample Number	Sample Location	# of Containers	Sample Matrix*	Method / Analyte 8260 VOA	8015D GRO	8015D DRO				Charge Number (WSTF Use Only)	Comments
1910241000	700-SVS-091	3	A	X						CAS1	
1910241001	"	3	A		X					"	
1910241002	"	1	A			X				"	
1910241020	700-SVS-092	3	A	X						"	
1910241021	"	3	A		X					"	
1910241022	"	1	A			X				"	
1910251000	700-SVS-99	3	A	X						"	
1910251001	"	3	A		X					"	
1910251002	"	1	A			X				"	
1910251030	700-SVS-100	3	A	X						"	
1910251031	"	3	A		X					"	
1910251032	"	1	A			X				"	

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	10-28-19 / 1100 Hrs	Gary Bohen	10/29/19 0755

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

R1910542 5
NASA/WSTF/Navarro
White Sands Test Facility

Cooler Receipt and Preservation Check Form

R1910542 5
NASA/WSTF/Navarro
White Sands Test Facility

Project/Client NASA Folder Number

Cooler received on 10/29/19 by: GB

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y) N	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y (N) NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate? ALS/ROC	(CLIENT)
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 10/29 Time: 0810 ID: IR#7 (IR#10) From: Temp Blank (Sample Bottle)

Observed Temp (°C)	3.9	4.1					
Correction Factor (°C)	+0.3	+0.3					
Corrected Temp (°C)	4.2	4.4					
Temp from:Type of bottle	1L Amber	1L Amber					
Within 0-6°C?	(Y) N	(Y) N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y (N)	Y (N)	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: ROC2 by GB on 10/29 at 0820
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 10/29/19 Time: 1128 by: (JH)

9.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	~~NO~~
10.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
11.	Were correct containers used for the tests indicated?	(YES)	NO
12.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO (N/A)
13.	Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized		Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**	See Chem					

Bottle lot numbers: Client 070819-1DL
Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	(SUB)
SO3	MARRS
ALS	REV

Labels secondary reviewed by: (JH)
PC Secondary Review: MW

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1910542-001.01					
	8260C				
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
		10/31/2019	1228	In Lab / KRUEST	
		10/31/2019	1255	R-001-S12 / KRUEST	
R1910542-001.02					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
R1910542-001.03					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
R1910542-002.01					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-002.02					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-002.03					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-003.01					
	8015C				
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-002 / GLAFORCE	
		10/31/2019	0758	In Lab / VSTAUFFER	
R1910542-004.01					
	8260C				
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
		10/31/2019	1228	In Lab / KRUEST	
		10/31/2019	1255	R-001-S12 / KRUEST	
R1910542-004.02					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	

ALS Group USA, Corp.
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Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1910542-004.03					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
R1910542-005.01					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-005.02					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-005.03					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-006.01					
	8015C				
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-002 / GLAFORCE	
		10/31/2019	0758	In Lab / VSTAUFFER	
R1910542-007.01					
	8260C				
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
		10/31/2019	1228	In Lab / KRUEST	
		10/31/2019	1255	R-001-S12 / KRUEST	
R1910542-007.02					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
R1910542-007.03					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
R1910542-008.01					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1910542-008.02					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-008.03					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-009.01					
	8015C				
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-002 / GLAFORCE	
		10/31/2019	0758	In Lab / VSTAUFFER	
R1910542-010.01					
	8260C				
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
		10/31/2019	1228	In Lab / KRUEST	
		10/31/2019	1255	R-001-S12 / KRUEST	
R1910542-010.02					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
R1910542-010.03					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-001 / GLAFORCE	
R1910542-011.01					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-011.02					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-011.03					
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	SUBBED / GLAFORCE	
R1910542-012.01					

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility/18EC006B

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8015C				
		10/29/2019	1129	SMO / GLAFORCE	
		10/29/2019	1129	R-002 / GLAFORCE	
		10/31/2019	0758	In Lab / VSTAUFFER	

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B		

Sample Name:	1910241000 700-SVS-091	**Date Collected:**	10/24/19
Lab Code:	R1910542-001	**Date Received:**	10/29/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910241002 700-SVS-091	**Date Collected:**	10/24/19
Lab Code:	R1910542-003	**Date Received:**	10/29/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910241020 700-SVS-092	**Date Collected:**	10/24/19
Lab Code:	R1910542-004	**Date Received:**	10/29/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910241022 700-SVS-092	**Date Collected:**	10/24/19
Lab Code:	R1910542-006	**Date Received:**	10/29/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910251000 700-SVS-99	**Date Collected:**	10/25/19
Lab Code:	R1910542-007	**Date Received:**	10/29/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B		

Sample Name:	1910251002 700-SVS-99	**Date Collected:**	10/25/19
Lab Code:	R1910542-009	**Date Received:**	10/29/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

Sample Name:	1910251030 700-SVS-100	**Date Collected:**	10/25/19
Lab Code:	R1910542-010	**Date Received:**	10/29/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	1910251032 700-SVS-100	**Date Collected:**	10/25/19
Lab Code:	R1910542-012	**Date Received:**	10/29/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KSERCU	AFELSER

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241000 700-SVS-091	**Units:**	ug/L
Lab Code:	R1910542-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 14:12	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 14:12	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 14:12	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 14:12	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,4-Dioxane	ND	U	100	13	1	10/31/19 14:12	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 14:12	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 14:12	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 14:12	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 14:12	
Isobutyl Alcohol	ND	U	100	17	1	10/31/19 14:12	
2-Propanol	**45**	**BJ**	50	3.4	1	10/31/19 14:12	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 14:12	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 14:12	
Acetone	**6.7**	**BJ**	10	2.1	1	10/31/19 14:12	
Acetonitrile	ND	U	25	5.2	1	10/31/19 14:12	
Acrolein	ND	U	10	0.90	1	10/31/19 14:12	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 14:12	
Benzene	ND	U	1.0	0.20	1	10/31/19 14:12	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 14:12	
Bromoform	ND	U	1.0	0.25	1	10/31/19 14:12	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 14:12	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 14:12	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 14:12	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 14:12	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 14:12	
Chloroform	ND	U	1.0	0.24	1	10/31/19 14:12	
Chloromethane	ND	U	2.0	0.28	1	10/31/19 14:12	
Cyclohexane	ND	U	10	0.26	1	10/31/19 14:12	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 14:12	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 14:12	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 14:12	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 14:12	
Dichloromethane	ND	U	1.0	0.36	1	10/31/19 14:12	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 14:12	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 14:12	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241000 700-SVS-091	**Units:**	ug/L
Lab Code:	R1910542-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/31/19 14:12	
Methacrylonitrile	ND	U	5.0	0.52	1	10/31/19 14:12	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/31/19 14:12	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/31/19 14:12	
Methylcyclohexane	ND	U	10	0.20	1	10/31/19 14:12	
Propionitrile	ND	U	5.0	1.2	1	10/31/19 14:12	
Styrene	ND	U	1.0	0.20	1	10/31/19 14:12	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/31/19 14:12	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/31/19 14:12	
Toluene	ND	U	1.0	0.20	1	10/31/19 14:12	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/31/19 14:12	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/31/19 14:12	
Vinyl Acetate	ND	U	5.0	1.1	1	10/31/19 14:12	
Vinyl Chloride	ND	U	1.0	0.20	1	10/31/19 14:12	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/31/19 14:12	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/31/19 14:12	
m,p-Xylenes	ND	U	2.0	0.20	1	10/31/19 14:12	
o-Xylene	ND	U	1.0	0.20	1	10/31/19 14:12	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/31/19 14:12	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/31/19 14:12	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/31/19 14:12	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/31/19 14:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	10/31/19 14:12	
Dibromofluoromethane	95	89 - 119	10/31/19 14:12	
Toluene-d8	99	87 - 121	10/31/19 14:12	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241020 700-SVS-092	**Units:**	ug/L
Lab Code:	R1910542-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 14:33	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 14:33	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 14:33	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 14:33	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,4-Dioxane	ND	U	100	13	1	10/31/19 14:33	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 14:33	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 14:33	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 14:33	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 14:33	
Isobutyl Alcohol	ND	U	100	17	1	10/31/19 14:33	
2-Propanol	**75**	**B**	50	3.4	1	10/31/19 14:33	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 14:33	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 14:33	
Acetone	**9.8**	**BJ**	10	2.1	1	10/31/19 14:33	
Acetonitrile	ND	U	25	5.2	1	10/31/19 14:33	
Acrolein	ND	U	10	0.90	1	10/31/19 14:33	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 14:33	
Benzene	ND	U	1.0	0.20	1	10/31/19 14:33	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 14:33	
Bromoform	ND	U	1.0	0.25	1	10/31/19 14:33	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 14:33	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 14:33	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 14:33	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 14:33	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 14:33	
Chloroform	ND	U	1.0	0.24	1	10/31/19 14:33	
Chloromethane	ND	U	2.0	0.28	1	10/31/19 14:33	
Cyclohexane	ND	U	10	0.26	1	10/31/19 14:33	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 14:33	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 14:33	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 14:33	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 14:33	
Dichloromethane	ND	U	1.0	0.36	1	10/31/19 14:33	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 14:33	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 14:33	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241020 700-SVS-092	**Units:**	ug/L
Lab Code:	R1910542-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/31/19 14:33	
Methacrylonitrile	ND U	5.0	0.52	1	10/31/19 14:33	
Methyl Methacrylate	ND U	2.0	0.24	1	10/31/19 14:33	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/31/19 14:33	
Methylcyclohexane	ND U	10	0.20	1	10/31/19 14:33	
Propionitrile	ND U	5.0	1.2	1	10/31/19 14:33	
Styrene	ND U	1.0	0.20	1	10/31/19 14:33	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/31/19 14:33	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/31/19 14:33	
Toluene	ND U	1.0	0.20	1	10/31/19 14:33	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/31/19 14:33	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/31/19 14:33	
Vinyl Acetate	ND U	5.0	1.1	1	10/31/19 14:33	
Vinyl Chloride	ND U	1.0	0.20	1	10/31/19 14:33	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/31/19 14:33	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/31/19 14:33	
m,p-Xylenes	ND U	2.0	0.20	1	10/31/19 14:33	
o-Xylene	ND U	1.0	0.20	1	10/31/19 14:33	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/31/19 14:33	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/31/19 14:33	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/31/19 14:33	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/31/19 14:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	10/31/19 14:33	
Dibromofluoromethane	94	89 - 119	10/31/19 14:33	
Toluene-d8	101	87 - 121	10/31/19 14:33	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251000 700-SVS-99	**Units:**	ug/L
Lab Code:	R1910542-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 14:55	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 14:55	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 14:55	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 14:55	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,4-Dioxane	ND	U	100	13	1	10/31/19 14:55	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 14:55	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 14:55	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 14:55	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 14:55	
Isobutyl Alcohol	ND	U	100	17	1	10/31/19 14:55	
2-Propanol	**15**	**BJ**	50	3.4	1	10/31/19 14:55	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 14:55	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 14:55	
Acetone	**3.5**	**BJ**	10	2.1	1	10/31/19 14:55	
Acetonitrile	ND	U	25	5.2	1	10/31/19 14:55	
Acrolein	ND	U	10	0.90	1	10/31/19 14:55	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 14:55	
Benzene	ND	U	1.0	0.20	1	10/31/19 14:55	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 14:55	
Bromoform	ND	U	1.0	0.25	1	10/31/19 14:55	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 14:55	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 14:55	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 14:55	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 14:55	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 14:55	
Chloroform	ND	U	1.0	0.24	1	10/31/19 14:55	
Chloromethane	ND	U	2.0	0.28	1	10/31/19 14:55	
Cyclohexane	ND	U	10	0.26	1	10/31/19 14:55	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 14:55	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 14:55	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 14:55	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 14:55	
Dichloromethane	ND	U	1.0	0.36	1	10/31/19 14:55	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 14:55	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 14:55	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251000 700-SVS-99	**Units:**	ug/L
Lab Code:	R1910542-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/31/19 14:55	
Methacrylonitrile	ND U	5.0	0.52	1	10/31/19 14:55	
Methyl Methacrylate	ND U	2.0	0.24	1	10/31/19 14:55	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/31/19 14:55	
Methylcyclohexane	ND U	10	0.20	1	10/31/19 14:55	
Propionitrile	ND U	5.0	1.2	1	10/31/19 14:55	
Styrene	ND U	1.0	0.20	1	10/31/19 14:55	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/31/19 14:55	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/31/19 14:55	
Toluene	ND U	1.0	0.20	1	10/31/19 14:55	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/31/19 14:55	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/31/19 14:55	
Vinyl Acetate	ND U	5.0	1.1	1	10/31/19 14:55	
Vinyl Chloride	ND U	1.0	0.20	1	10/31/19 14:55	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/31/19 14:55	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/31/19 14:55	
m,p-Xylenes	ND U	2.0	0.20	1	10/31/19 14:55	
o-Xylene	ND U	1.0	0.20	1	10/31/19 14:55	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/31/19 14:55	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/31/19 14:55	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/31/19 14:55	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/31/19 14:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/31/19 14:55	
Dibromofluoromethane	94	89 - 119	10/31/19 14:55	
Toluene-d8	99	87 - 121	10/31/19 14:55	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

ALS Group USA, Corp.
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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251030 700-SVS-100	**Units:**	ug/L
Lab Code:	R1910542-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 15:17	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 15:17	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 15:17	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 15:17	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,4-Dioxane	ND	U	100	13	1	10/31/19 15:17	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 15:17	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 15:17	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 15:17	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 15:17	
Isobutyl Alcohol	ND	U	100	17	1	10/31/19 15:17	
2-Propanol	**36**	**BJ**	50	3.4	1	10/31/19 15:17	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 15:17	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 15:17	
Acetone	**5.2**	**BJ**	10	2.1	1	10/31/19 15:17	
Acetonitrile	ND	U	25	5.2	1	10/31/19 15:17	
Acrolein	ND	U	10	0.90	1	10/31/19 15:17	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 15:17	
Benzene	ND	U	1.0	0.20	1	10/31/19 15:17	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 15:17	
Bromoform	ND	U	1.0	0.25	1	10/31/19 15:17	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 15:17	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 15:17	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 15:17	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 15:17	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 15:17	
Chloroform	ND	U	1.0	0.24	1	10/31/19 15:17	
Chloromethane	ND	U	2.0	0.28	1	10/31/19 15:17	
Cyclohexane	ND	U	10	0.26	1	10/31/19 15:17	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 15:17	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 15:17	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 15:17	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 15:17	
Dichloromethane	ND	U	1.0	0.36	1	10/31/19 15:17	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 15:17	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 15:17	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251030 700-SVS-100	**Units:**	ug/L
Lab Code:	R1910542-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/31/19 15:17	
Methacrylonitrile	ND	U	5.0	0.52	1	10/31/19 15:17	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/31/19 15:17	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/31/19 15:17	
Methylcyclohexane	ND	U	10	0.20	1	10/31/19 15:17	
Propionitrile	ND	U	5.0	1.2	1	10/31/19 15:17	
Styrene	ND	U	1.0	0.20	1	10/31/19 15:17	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/31/19 15:17	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/31/19 15:17	
Toluene	ND	U	1.0	0.20	1	10/31/19 15:17	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/31/19 15:17	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/31/19 15:17	
Vinyl Acetate	ND	U	5.0	1.1	1	10/31/19 15:17	
Vinyl Chloride	ND	U	1.0	0.20	1	10/31/19 15:17	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/31/19 15:17	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/31/19 15:17	
m,p-Xylenes	ND	U	2.0	0.20	1	10/31/19 15:17	
o-Xylene	ND	U	1.0	0.20	1	10/31/19 15:17	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/31/19 15:17	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/31/19 15:17	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/31/19 15:17	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/31/19 15:17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	10/31/19 15:17	
Dibromofluoromethane	95	89 - 119	10/31/19 15:17	
Toluene-d8	98	87 - 121	10/31/19 15:17	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Semivolatile Organic Compounds by GC

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241002 700-SVS-091	**Units:**	ug/L
Lab Code:	R1910542-003	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	11/01/19 17:11	10/31/19	
C28 - C40 ORO	ND U	100	75	1	11/01/19 17:11	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	99	30 - 132	11/01/19 17:11	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241022 700-SVS-092	**Units:**	ug/L
Lab Code:	R1910542-006	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND	U	100	75	1	11/01/19 17:34	10/31/19	
C28 - C40 ORO	ND	U	100	75	1	11/01/19 17:34	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	108	30 - 132	11/01/19 17:34	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251002 700-SVS-99	**Units:**	ug/L
Lab Code:	R1910542-009	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND	U	100	75	1	11/01/19 17:56	10/31/19	
C28 - C40 ORO	ND	U	100	75	1	11/01/19 17:56	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	85	30 - 132	11/01/19 17:56	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251032 700-SVS-100	**Units:**	ug/L
Lab Code:	R1910542-012	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	11/01/19 18:18	10/31/19	
C28 - C40 ORO	ND U	100	75	1	11/01/19 18:18	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	90	30 - 132	11/01/19 18:18	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Dibromofluoromethane 89-119	Toluene-d8 87-121
1910241000 700-SVS-091	R1910542-001	98	95	99
1910241020 700-SVS-092	R1910542-004	97	94	101
1910251000 700-SVS-99	R1910542-007	96	94	99
1910251030 700-SVS-100	R1910542-010	95	95	98
Method Blank	RQ1912691-04	97	99	101
Lab Control Sample	RQ1912691-03	98	97	101
1910251030 700-SVS-100 MS	RQ1912691-05	99	99	100
1910251030 700-SVS-100 DMS	RQ1912691-06	98	98	100

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19
		Date Analyzed:	10/31/19
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	1910251030 700-SVS-100	**Units:**	ug/L
Lab Code:	R1910542-010	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1912691-05			Duplicate Matrix Spike RQ1912691-06				
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	51.4	50.0	103	54.4	50.0	109	68-146	6	30
1,1,1-Trichloroethane (TCA)	ND U	45.3	50.0	91	47.0	50.0	94	70-130	4	25
1,1,2,2-Tetrachloroethane	ND U	48.3	50.0	97	48.5	50.0	97	72-122	<1	30
1,1,2-Trichloroethane	ND U	47.4	50.0	95	49.5	50.0	99	82-121	4	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	46.5	50.0	93	46.9	50.0	94	70-130	<1	25
1,1-Dichloroethane (1,1-DCA)	ND U	45.8	50.0	92	47.7	50.0	95	74-132	4	30
1,1-Dichloroethene (1,1-DCE)	ND U	46.0	50.0	92	47.1	50.0	94	70-130	2	25
1,2,3-Trichloropropane	ND U	42.5	50.0	85	42.0	50.0	84	75-122	1	30
1,2-Dibromo-3-chloropropane (DBCP)	ND U	44.3	50.0	89	43.3	50.0	87	37-150	2	30
1,2-Dibromoethane	ND U	46.0	50.0	92	47.5	50.0	95	67-127	3	30
1,2-Dichloroethane	ND U	44.1	50.0	88	45.3	50.0	91	68-130	3	30
1,2-Dichloropropane	ND U	47.0	50.0	94	47.8	50.0	96	79-124	2	30
1,4-Dioxane	ND U	828	1000	83	811	1000	81	44-154	2	30
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	49.6	50.0	99	49.6	50.0	99	70-130	<1	25
2-Butanone (MEK)	ND U	39.7	50.0	79	41.6	50.0	83	61-137	5	30
2-Chloro-1,3-butadiene	ND U	50.0	50.0	100	53.3	50.0	107	68-139	6	30
2-Hexanone	ND U	41.6	50.0	83	44.2	50.0	88	56-132	6	30
Isobutyl Alcohol	ND U	777	1000	78	797	1000	80	51-143	3	30
2-Propanol	36 BJ	798	1000	76	787	1000	75	52-136	1	30
Allyl Chloride	ND U	51.5	50.0	103	53.2	50.0	106	49-156	3	30
4-Methyl-2-pentanone	ND U	43.8	50.0	88	45.8	50.0	92	60-141	5	30
Acetone	5.2 BJ	39.8	50.0	69	41.4	50.0	72	35-183	4	30
Acetonitrile	ND U	278	250	111	256	250	103	46-154	8	30
Acrolein	ND U	78.3	100	78	78.1	100	78	13-165	<1	30
Acrylonitrile	ND U	216	250	87	220	250	88	69-131	2	30
Benzene	ND U	49.2	50.0	98	49.3	50.0	99	76-129	<1	30
Bromodichloromethane	ND U	48.5	50.0	97	48.9	50.0	98	78-133	<1	30
Bromoform	ND U	48.7	50.0	97	49.0	50.0	98	58-133	<1	30
Bromomethane	ND U	61.3	50.0	123	58.3	50.0	117	10-184	5	30
Carbon Disulfide	ND U	48.4	50.0	97	50.4	50.0	101	59-140	4	30
Carbon Tetrachloride	ND U	51.0	50.0	102	53.2	50.0	106	65-135	4	30
Chlorobenzene	ND U	48.9	50.0	98	50.4	50.0	101	76-125	3	30
Chloroethane	ND U	45.7	50.0	91	44.9	50.0	90	58-146	2	30
Chloroform	ND U	44.3	50.0	89	45.7	50.0	91	70-130	3	25
Chloromethane	ND U	48.4	50.0	97	49.3	50.0	99	55-160	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19
		Date Analyzed:	10/31/19
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	1910251030 700-SVS-100	**Units:**	ug/L
Lab Code:	R1910542-010	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike			Duplicate Matrix Spike				
		RQ1912691-05			RQ1912691-06				
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyclohexane	ND U	48.8	50.0	98	49.4	50.0	99	52-145	1	30
Dibromochloromethane	ND U	49.9	50.0	100	52.4	50.0	105	72-128	5	30
Dibromomethane	ND U	48.2	50.0	96	50.7	50.0	101	77-119	5	30
Dichlorodifluoromethane (CFC 12)	ND U	57.8	50.0	116	56.0	50.0	112	49-154	3	30
Dichlorofluoromethane (CFC 21)	ND U	47.6	50.0	95	47.8	50.0	96	70-130	<1	25
Dichloromethane	ND U	41.9	50.0	84	43.1	50.0	86	73-122	3	30
Ethyl Methacrylate	ND U	45.4	50.0	91	46.9	50.0	94	63-138	3	30
Ethylbenzene	ND U	49.0	50.0	98	51.4	50.0	103	72-134	5	30
Iodomethane	ND U	42.9	50.0	86	49.4	50.0	99	18-160	14	30
Methacrylonitrile	ND U	41.0	50.0	82	40.3	50.0	81	67-131	2	30
Methyl Methacrylate	ND U	45.4	50.0	91	47.0	50.0	94	64-129	3	30
Methyl tert-Butyl Ether	ND U	44.4	50.0	89	45.7	50.0	91	75-119	3	30
Methylcyclohexane	ND U	47.5	50.0	95	49.0	50.0	98	45-146	3	30
Propionitrile	ND U	215	250	86	217	250	87	66-129	<1	30
Styrene	ND U	48.7	50.0	97	50.8	50.0	102	74-136	4	30
Tetrachloroethene (PCE)	ND U	48.0	50.0	96	48.5	50.0	97	70-130	1	25
Tetrahydrofuran (THF)	ND U	38.8	50.0	78	39.3	50.0	79	65-136	1	30
Toluene	ND U	50.3	50.0	101	51.0	50.0	102	79-119	1	30
Trichloroethene (TCE)	ND U	48.7	50.0	97	50.2	50.0	100	70-130	3	25
Trichlorofluoromethane (CFC 11)	ND U	49.7	50.0	99	51.0	50.0	102	70-130	3	25
Vinyl Acetate	ND U	42.6	50.0	85	42.1	50.0	84	48-172	1	30
Vinyl Chloride	ND U	47.8	50.0	96	49.0	50.0	98	74-159	3	30
cis-1,2-Dichloroethene	ND U	46.1	50.0	92	47.4	50.0	95	77-127	3	30
cis-1,3-Dichloropropene	ND U	44.9	50.0	90	46.1	50.0	92	52-134	3	30
m,p-Xylenes	ND U	100	100	100	105	100	105	80-126	5	30
o-Xylene	ND U	49.0	50.0	98	50.3	50.0	101	79-123	3	30
trans-1,2-Dichloroethene	ND U	47.5	50.0	95	48.5	50.0	97	73-118	2	30
trans-1,3-Dichloropropene	ND U	43.6	50.0	87	45.4	50.0	91	71-133	4	30
trans-1,4-Dichloro-2-butene	ND U	36.8	50.0	74	37.2	50.0	74	27-155	1	30
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	45.6	50.0	91	44.5	50.0	89	70-130	2	25

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/31/19 12:59
Sample Matrix:	Water	**Date Extracted:**	

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	R-MS-12
Lab Code:	RQ1912691-04	**File ID:**	I:\ACQUDATA\msvoa12\Data\103119\P31460.D\
Analysis Method:	8260C	**Analysis Lot:**	657905
Prep Method:	EPA 5030C		

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1912691-03	I:\ACQUDATA\msvoa12\Data\103119\P31457.D\	10/31/19 11:05
1910241000 700-SVS-091	R1910542-001	I:\ACQUDATA\msvoa12\Data\103119\P31463.D\	10/31/19 14:12
1910241020 700-SVS-092	R1910542-004	I:\ACQUDATA\msvoa12\Data\103119\P31464.D\	10/31/19 14:33
1910251000 700-SVS-99	R1910542-007	I:\ACQUDATA\msvoa12\Data\103119\P31465.D\	10/31/19 14:55
1910251030 700-SVS-100	R1910542-010	I:\ACQUDATA\msvoa12\Data\103119\P31466.D\	10/31/19 15:17
1910251030 700-SVS-100MS	RQ1912691-05	I:\ACQUDATA\msvoa12\Data\103119\P31482.D\	10/31/19 21:07
1910251030 700-SVS-100DMS	RQ1912691-06	I:\ACQUDATA\msvoa12\Data\103119\P31483.D\	10/31/19 21:29

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912691-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 12:59	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 12:59	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 12:59	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 12:59	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 12:59	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 12:59	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 12:59	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 12:59	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 12:59	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 12:59	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 12:59	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 12:59	
1,4-Dioxane	ND	U	100	13	1	10/31/19 12:59	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 12:59	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 12:59	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 12:59	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 12:59	
Isobutyl Alcohol	**36**	**J**	100	17	1	10/31/19 12:59	
2-Propanol	**830**		50	3.4	1	10/31/19 12:59	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 12:59	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 12:59	
Acetone	**25**		10	2.1	1	10/31/19 12:59	
Acetonitrile	ND	U	25	5.2	1	10/31/19 12:59	
Acrolein	ND	U	10	0.90	1	10/31/19 12:59	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 12:59	
Benzene	ND	U	1.0	0.20	1	10/31/19 12:59	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 12:59	
Bromoform	ND	U	1.0	0.25	1	10/31/19 12:59	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 12:59	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 12:59	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 12:59	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 12:59	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 12:59	
Chloroform	ND	U	1.0	0.24	1	10/31/19 12:59	
Chloromethane	**0.70**	**J**	2.0	0.28	1	10/31/19 12:59	
Cyclohexane	ND	U	10	0.26	1	10/31/19 12:59	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 12:59	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 12:59	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 12:59	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 12:59	
Dichloromethane	**0.40**	**J**	1.0	0.36	1	10/31/19 12:59	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 12:59	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 12:59	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912691-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	**1.3**	**J**	5.0	1.2	1	10/31/19 12:59	
Methacrylonitrile	ND	U	5.0	0.52	1	10/31/19 12:59	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/31/19 12:59	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/31/19 12:59	
Methylcyclohexane	ND	U	10	0.20	1	10/31/19 12:59	
Propionitrile	ND	U	5.0	1.2	1	10/31/19 12:59	
Styrene	ND	U	1.0	0.20	1	10/31/19 12:59	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/31/19 12:59	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/31/19 12:59	
Toluene	ND	U	1.0	0.20	1	10/31/19 12:59	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/31/19 12:59	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/31/19 12:59	
Vinyl Acetate	ND	U	5.0	1.1	1	10/31/19 12:59	
Vinyl Chloride	ND	U	1.0	0.20	1	10/31/19 12:59	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/31/19 12:59	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/31/19 12:59	
m,p-Xylenes	ND	U	2.0	0.20	1	10/31/19 12:59	
o-Xylene	ND	U	1.0	0.20	1	10/31/19 12:59	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/31/19 12:59	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/31/19 12:59	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/31/19 12:59	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/31/19 12:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	10/31/19 12:59	
Dibromofluoromethane	99	89 - 119	10/31/19 12:59	
Toluene-d8	101	87 - 121	10/31/19 12:59	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/31/19 11:05
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	R-MS-12
Lab Code:	RQ1912691-03	**File ID:**	I:\ACQUDATA\msvoa12\Data\103119\P31457.D\
Analysis Method:	8260C	**Analysis Lot:**	657905
Prep Method:	EPA 5030C		

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1912691-04	I:\ACQUDATA\msvoa12\Data\103119\P31460.D\	10/31/19 12:59
1910241000 700-SVS-091	R1910542-001	I:\ACQUDATA\msvoa12\Data\103119\P31463.D\	10/31/19 14:12
1910241020 700-SVS-092	R1910542-004	I:\ACQUDATA\msvoa12\Data\103119\P31464.D\	10/31/19 14:33
1910251000 700-SVS-99	R1910542-007	I:\ACQUDATA\msvoa12\Data\103119\P31465.D\	10/31/19 14:55
1910251030 700-SVS-100	R1910542-010	I:\ACQUDATA\msvoa12\Data\103119\P31466.D\	10/31/19 15:17
1910251030 700-SVS-100MS	RQ1912691-05	I:\ACQUDATA\msvoa12\Data\103119\P31482.D\	10/31/19 21:07
1910251030 700-SVS-100DMS	RQ1912691-06	I:\ACQUDATA\msvoa12\Data\103119\P31483.D\	10/31/19 21:29

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910542
Date Analyzed: 10/31/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1912691-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	21.2	20.0	106	76-129
1,1,1-Trichloroethane (TCA)	8260C	20.9	20.0	104	70-130
1,1,2,2-Tetrachloroethane	8260C	19.4	20.0	97	78-126
1,1,2-Trichloroethane	8260C	20.6	20.0	103	82-121
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	20.3	20.0	102	70-130
1,1-Dichloroethane (1,1-DCA)	8260C	20.0	20.0	100	80-124
1,1-Dichloroethene (1,1-DCE)	8260C	20.7	20.0	103	70-130
1,2,3-Trichloropropane	8260C	17.7	20.0	89	75-118
1,2-Dibromo-3-chloropropane (DBCP)	8260C	16.4	20.0	82	55-136
1,2-Dibromoethane	8260C	19.4	20.0	97	82-127
1,2-Dichloroethane	8260C	19.5	20.0	98	71-127
1,2-Dichloropropane	8260C	19.7	20.0	99	80-119
1,4-Dioxane	8260C	335	400	84	44-154
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	8260C	19.4	20.0	97	70-130
2-Butanone (MEK)	8260C	18.1	20.0	90	61-137
2-Chloro-1,3-butadiene	8260C	21.7	20.0	108	68-139
2-Hexanone	8260C	18.2	20.0	91	63-124
Isobutyl Alcohol	8260C	339	400	85	51-143
2-Propanol	8260C	844	400	211 *	52-136
Allyl Chloride	8260C	24.2	20.0	121	61-143
4-Methyl-2-pentanone	8260C	18.6	20.0	93	66-124
Acetone	8260C	38.4	20.0	192 *	40-161
Acetonitrile	8260C	103	100	103	46-154
Acrolein	8260C	37.8	40.0	95	13-165
Acrylonitrile	8260C	94.8	100	95	71-130
Benzene	8260C	20.0	20.0	100	79-119
Bromodichloromethane	8260C	20.6	20.0	103	81-123
Bromoform	8260C	20.5	20.0	103	65-146
Bromomethane	8260C	25.6	20.0	128	42-166
Carbon Disulfide	8260C	21.3	20.0	107	66-128
Carbon Tetrachloride	8260C	20.3	20.0	101	70-127
Chlorobenzene	8260C	20.7	20.0	103	81-120
Chloroethane	8260C	18.9	20.0	95	62-131

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910542
Date Analyzed: 10/31/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1912691-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloroform	8260C	20.0	20.0	100	70-130
Chloromethane	8260C	21.2	20.0	106	65-135
Cyclohexane	8260C	19.7	20.0	99	69-120
Dibromochloromethane	8260C	21.5	20.0	108	72-128
Dibromomethane	8260C	20.3	20.0	102	80-118
Dichlorodifluoromethane (CFC 12)	8260C	25.3	20.0	127	59-155
Dichlorofluoromethane (CFC 21)	8260C	19.1	20.0	95	70-130
Dichloromethane	8260C	18.5	20.0	92	73-122
Ethyl Methacrylate	8260C	19.1	20.0	96	68-132
Ethylbenzene	8260C	20.5	20.0	102	76-120
Iodomethane	8260C	16.7	20.0	84	18-160
Methacrylonitrile	8260C	17.9	20.0	89	68-123
Methyl Methacrylate	8260C	19.3	20.0	97	68-129
Methyl tert-Butyl Ether	8260C	19.6	20.0	98	75-118
Methylcyclohexane	8260C	19.8	20.0	99	51-129
Propionitrile	8260C	90.5	100	90	69-126
Styrene	8260C	20.4	20.0	102	80-124
Tetrachloroethene (PCE)	8260C	20.0	20.0	100	70-130
Tetrahydrofuran (THF)	8260C	15.8	20.0	79	65-128
Toluene	8260C	20.7	20.0	104	79-119
Trichloroethene (TCE)	8260C	19.9	20.0	100	70-130
Trichlorofluoromethane (CFC 11)	8260C	22.1	20.0	111	70-130
Vinyl Acetate	8260C	20.7	20.0	104	52-174
Vinyl Chloride	8260C	20.9	20.0	105	74-159
cis-1,2-Dichloroethene	8260C	20.4	20.0	102	80-121
cis-1,3-Dichloropropene	8260C	18.8	20.0	94	77-122
m,p-Xylenes	8260C	41.2	40.0	103	80-126
o-Xylene	8260C	20.6	20.0	103	79-123
trans-1,2-Dichloroethene	8260C	20.4	20.0	102	73-118
trans-1,3-Dichloropropene	8260C	18.6	20.0	93	71-133
trans-1,4-Dichloro-2-butene	8260C	15.3	20.0	77	39-137
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	8260C	17.8	20.0	89	70-130

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QC/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910542
Project: White Sands Test Facility/18EC006B **Date Analyzed:**10/31/19 10:04

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\103119\P31455.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-12 **Analysis Lot:** 657905

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	20.36	33624	Pass
75	95	30	60	48.50	80109	Pass
95	95	100	100	100.00	165179	Pass
96	95	5	9	6.58	10861	Pass
173	174	0	2	0.85	1098	Pass
174	95	50	120	78.03	128896	Pass
175	174	5	9	7.79	10041	Pass
176	174	95	101	97.02	125053	Pass
177	176	5	9	6.30	7884	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1912691-02	I:\ACQUDATA\msvoa12\Data\103119\P31456.D\	10/31/19 10:37	
Lab Control Sample	RQ1912691-03	I:\ACQUDATA\msvoa12\Data\103119\P31457.D\	10/31/19 11:05	
Method Blank	RQ1912691-04	I:\ACQUDATA\msvoa12\Data\103119\P31460.D\	10/31/19 12:59	
1910241000 700-SVS-091	R1910542-001	I:\ACQUDATA\msvoa12\Data\103119\P31463.D\	10/31/19 14:12	
1910241020 700-SVS-092	R1910542-004	I:\ACQUDATA\msvoa12\Data\103119\P31464.D\	10/31/19 14:33	
1910251000 700-SVS-99	R1910542-007	I:\ACQUDATA\msvoa12\Data\103119\P31465.D\	10/31/19 14:55	
1910251030 700-SVS-100	R1910542-010	I:\ACQUDATA\msvoa12\Data\103119\P31466.D\	10/31/19 15:17	
1910251030 700-SVS-100	RQ1912691-05	I:\ACQUDATA\msvoa12\Data\103119\P31482.D\	10/31/19 21:07	
1910251030 700-SVS-100	RQ1912691-06	I:\ACQUDATA\msvoa12\Data\103119\P31483.D\	10/31/19 21:29	

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910542
Project: White Sands Test Facility/18EC006B **Date Analyzed:**10/31/19 10:37

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\103119\P31456.D\ **Lab Code:**RQ1912691-02
Instrument ID: R-MS-12 **Analysis Lot:**657905
Analysis Method: 8260C **Signal ID:**1

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	257,851	11.84	521,673	6.52	468,287	9.80
	Upper Limit ==>	515,702	12.34	1,043,346	7.02	936,574	10.30
	Lower Limit ==>	128,926	11.34	260,837	6.02	234,144	9.30
Associated Analyses							
Lab Control Sample	RQ1912691-03	248289	11.84	520992	6.52	458771	9.80
Method Blank	RQ1912691-04	229946	11.84	488109	6.52	437042	9.80
1910241000 700-SVS-091	R1910542-001	214056	11.84	469234	6.53	420629	9.80
1910241020 700-SVS-092	R1910542-004	231999	11.84	485573	6.53	427782	9.80
1910251000 700-SVS-99	R1910542-007	234173	11.84	496606	6.52	438929	9.80
1910251030 700-SVS-100	R1910542-010	221216	11.84	473982	6.52	414978	9.80
1910251030 700-SVS-100MS	RQ1912691-05	229090	11.84	483329	6.53	429136	9.80
1910251030 700-SVS-100DMS	RQ1912691-06	235586	11.84	483572	6.52	421302	9.80

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility/18EC006B **Date Analyzed:** 10/31/19 10:37

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa12\Data\103119\P31456.D\ **Lab Code:** RQ1912691-02
Instrument ID: R-MS-12 **Analysis Lot:** 657905
Analysis Method: 8260C **Signal ID:** 1

		Pentafluorobenzene	
		Area	**RT**
	Result ==>	329,332	5.44
	Upper Limit ==>	658,664	5.94
	Lower Limit ==>	164,666	4.94
Associated Analyses			
Lab Control Sample	RQ1912691-03	316032	5.44
Method Blank	RQ1912691-04	313020	5.45
1910241000 700-SVS-091	R1910542-001	296007	5.46
1910241020 700-SVS-092	R1910542-004	307715	5.46
1910251000 700-SVS-99	R1910542-007	315329	5.44
1910251030 700-SVS-100	R1910542-010	301026	5.45
1910251030 700-SVS-100MS	RQ1912691-05	305887	5.46
1910251030 700-SVS-100DMS	RQ1912691-06	307140	5.45

Semivolatile Organic Compounds by GC

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Extraction Method: EPA 3510C

Sample Name	Lab Code	o-Terphenyl 30-132
1910241002 700-SVS-091	R1910542-003	99
1910241022 700-SVS-092	R1910542-006	108
1910251002 700-SVS-99	R1910542-009	85
1910251032 700-SVS-100	R1910542-012	90
Method Blank	RQ1912668-01	110
Lab Control Sample	RQ1912668-02	86
Duplicate Lab Control Sample	RQ1912668-03	91

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	11/01/19 16:04
Sample Matrix:	Water	**Date Extracted:**	10/31/19

Method Blank Summary
Diesel and Residual Range Organics by GC

Sample Name:	Method Blank	**Instrument ID:**	R-GC-59
Lab Code:	RQ1912668-01	**File ID:**	I:\ACQUDATA\6890I\DATA\110119\BL729.D\
Analysis Method:	8015C	**Analysis Lot:**	658262
Prep Method:	EPA 3510C	**Extraction Lot:**	347736

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1912668-02	I:\ACQUDATA\6890I\DATA\110119\BL730.D\	11/01/19 16:26
Duplicate Lab Control Sample	RQ1912668-03	I:\ACQUDATA\6890I\DATA\110119\BL731.D\	11/01/19 16:49
1910241002 700-SVS-091	R1910542-003	I:\ACQUDATA\6890I\DATA\110119\BL732.D\	11/01/19 17:11
1910241022 700-SVS-092	R1910542-006	I:\ACQUDATA\6890I\DATA\110119\BL733.D\	11/01/19 17:34
1910251002 700-SVS-99	R1910542-009	I:\ACQUDATA\6890I\DATA\110119\BL734.D\	11/01/19 17:56
1910251032 700-SVS-100	R1910542-012	I:\ACQUDATA\6890I\DATA\110119\BL735.D\	11/01/19 18:18

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1912668-01	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	11/01/19 16:04	10/31/19	
C28 - C40 ORO	ND U	100	75	1	11/01/19 16:04	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	110	30 - 132	11/01/19 16:04	

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	11/01/19 16:26
Sample Matrix:	Water	**Date Extracted:**	10/31/19

Lab Control Sample Summary
Diesel and Residual Range Organics by GC

Sample Name:	Lab Control Sample	**Instrument ID:**	R-GC-59
Lab Code:	RQ1912668-02	**File ID:**	I:\ACQUDATA\6890I\DATA\110119\BL730.D\
Analysis Method:	8015C	**Analysis Lot:**	658262
Prep Method:	EPA 3510C	**Extraction Lot:**	347736

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1912668-01	I:\ACQUDATA\6890I\DATA\110119\BL729.D\	11/01/19 16:04
Duplicate Lab Control Sample	RQ1912668-03	I:\ACQUDATA\6890I\DATA\110119\BL731.D\	11/01/19 16:49
1910241002 700-SVS-091	R1910542-003	I:\ACQUDATA\6890I\DATA\110119\BL732.D\	11/01/19 17:11
1910241022 700-SVS-092	R1910542-006	I:\ACQUDATA\6890I\DATA\110119\BL733.D\	11/01/19 17:34
1910251002 700-SVS-99	R1910542-009	I:\ACQUDATA\6890I\DATA\110119\BL734.D\	11/01/19 17:56
1910251032 700-SVS-100	R1910542-012	I:\ACQUDATA\6890I\DATA\110119\BL735.D\	11/01/19 18:18

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Service Request: R1910542
Date Analyzed: 11/01/19

Duplicate Lab Control Sample Summary
Diesel and Residual Range Organics by GC

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1912668-02			RQ1912668-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Diesel Range Organics (DRO) as C10-C28 Alkanes	8015C	235	500	47	245	500	49	20-126	4	30

Raw Data

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241000 700-SVS-091	**Units:**	ug/L
Lab Code:	R1910542-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 14:12	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 14:12	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 14:12	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 14:12	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 14:12	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 14:12	
1,4-Dioxane	ND	U	100	13	1	10/31/19 14:12	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 14:12	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 14:12	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 14:12	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 14:12	
Isobutyl Alcohol	ND	U	100	17	1	10/31/19 14:12	
2-Propanol	**45**	**BJ**	50	3.4	1	10/31/19 14:12	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 14:12	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 14:12	
Acetone	**6.7**	**BJ**	10	2.1	1	10/31/19 14:12	
Acetonitrile	ND	U	25	5.2	1	10/31/19 14:12	
Acrolein	ND	U	10	0.90	1	10/31/19 14:12	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 14:12	
Benzene	ND	U	1.0	0.20	1	10/31/19 14:12	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 14:12	
Bromoform	ND	U	1.0	0.25	1	10/31/19 14:12	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 14:12	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 14:12	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 14:12	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 14:12	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 14:12	
Chloroform	ND	U	1.0	0.24	1	10/31/19 14:12	
Chloromethane	ND	U	2.0	0.28	1	10/31/19 14:12	
Cyclohexane	ND	U	10	0.26	1	10/31/19 14:12	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 14:12	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 14:12	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 14:12	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 14:12	
Dichloromethane	ND	U	1.0	0.36	1	10/31/19 14:12	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 14:12	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 14:12	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241000 700-SVS-091	**Units:**	ug/L
Lab Code:	R1910542-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/31/19 14:12	
Methacrylonitrile	ND	U	5.0	0.52	1	10/31/19 14:12	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/31/19 14:12	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/31/19 14:12	
Methylcyclohexane	ND	U	10	0.20	1	10/31/19 14:12	
Propionitrile	ND	U	5.0	1.2	1	10/31/19 14:12	
Styrene	ND	U	1.0	0.20	1	10/31/19 14:12	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/31/19 14:12	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/31/19 14:12	
Toluene	ND	U	1.0	0.20	1	10/31/19 14:12	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/31/19 14:12	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/31/19 14:12	
Vinyl Acetate	ND	U	5.0	1.1	1	10/31/19 14:12	
Vinyl Chloride	ND	U	1.0	0.20	1	10/31/19 14:12	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/31/19 14:12	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/31/19 14:12	
m,p-Xylenes	ND	U	2.0	0.20	1	10/31/19 14:12	
o-Xylene	ND	U	1.0	0.20	1	10/31/19 14:12	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/31/19 14:12	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/31/19 14:12	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/31/19 14:12	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/31/19 14:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	10/31/19 14:12	
Dibromofluoromethane	95	89 - 119	10/31/19 14:12	
Toluene-d8	99	87 - 121	10/31/19 14:12	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241020 700-SVS-092	**Units:**	ug/L
Lab Code:	R1910542-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 14:33	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 14:33	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 14:33	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 14:33	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 14:33	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 14:33	
1,4-Dioxane	ND	U	100	13	1	10/31/19 14:33	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 14:33	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 14:33	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 14:33	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 14:33	
Isobutyl Alcohol	ND	U	100	17	1	10/31/19 14:33	
2-Propanol	**75**	**B**	50	3.4	1	10/31/19 14:33	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 14:33	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 14:33	
Acetone	**9.8**	**BJ**	10	2.1	1	10/31/19 14:33	
Acetonitrile	ND	U	25	5.2	1	10/31/19 14:33	
Acrolein	ND	U	10	0.90	1	10/31/19 14:33	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 14:33	
Benzene	ND	U	1.0	0.20	1	10/31/19 14:33	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 14:33	
Bromoform	ND	U	1.0	0.25	1	10/31/19 14:33	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 14:33	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 14:33	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 14:33	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 14:33	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 14:33	
Chloroform	ND	U	1.0	0.24	1	10/31/19 14:33	
Chloromethane	ND	U	2.0	0.28	1	10/31/19 14:33	
Cyclohexane	ND	U	10	0.26	1	10/31/19 14:33	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 14:33	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 14:33	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 14:33	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 14:33	
Dichloromethane	ND	U	1.0	0.36	1	10/31/19 14:33	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 14:33	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 14:33	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241020 700-SVS-092	**Units:**	ug/L
Lab Code:	R1910542-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/31/19 14:33	
Methacrylonitrile	ND U	5.0	0.52	1	10/31/19 14:33	
Methyl Methacrylate	ND U	2.0	0.24	1	10/31/19 14:33	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/31/19 14:33	
Methylcyclohexane	ND U	10	0.20	1	10/31/19 14:33	
Propionitrile	ND U	5.0	1.2	1	10/31/19 14:33	
Styrene	ND U	1.0	0.20	1	10/31/19 14:33	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/31/19 14:33	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/31/19 14:33	
Toluene	ND U	1.0	0.20	1	10/31/19 14:33	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/31/19 14:33	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/31/19 14:33	
Vinyl Acetate	ND U	5.0	1.1	1	10/31/19 14:33	
Vinyl Chloride	ND U	1.0	0.20	1	10/31/19 14:33	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/31/19 14:33	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/31/19 14:33	
m,p-Xylenes	ND U	2.0	0.20	1	10/31/19 14:33	
o-Xylene	ND U	1.0	0.20	1	10/31/19 14:33	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/31/19 14:33	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/31/19 14:33	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/31/19 14:33	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/31/19 14:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	10/31/19 14:33	
Dibromofluoromethane	94	89 - 119	10/31/19 14:33	
Toluene-d8	101	87 - 121	10/31/19 14:33	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251000 700-SVS-99	**Units:**	ug/L
Lab Code:	R1910542-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 14:55	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 14:55	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 14:55	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 14:55	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 14:55	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 14:55	
1,4-Dioxane	ND	U	100	13	1	10/31/19 14:55	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 14:55	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 14:55	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 14:55	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 14:55	
Isobutyl Alcohol	ND	U	100	17	1	10/31/19 14:55	
2-Propanol	**15**	**BJ**	50	3.4	1	10/31/19 14:55	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 14:55	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 14:55	
Acetone	**3.5**	**BJ**	10	2.1	1	10/31/19 14:55	
Acetonitrile	ND	U	25	5.2	1	10/31/19 14:55	
Acrolein	ND	U	10	0.90	1	10/31/19 14:55	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 14:55	
Benzene	ND	U	1.0	0.20	1	10/31/19 14:55	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 14:55	
Bromoform	ND	U	1.0	0.25	1	10/31/19 14:55	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 14:55	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 14:55	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 14:55	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 14:55	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 14:55	
Chloroform	ND	U	1.0	0.24	1	10/31/19 14:55	
Chloromethane	ND	U	2.0	0.28	1	10/31/19 14:55	
Cyclohexane	ND	U	10	0.26	1	10/31/19 14:55	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 14:55	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 14:55	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 14:55	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 14:55	
Dichloromethane	ND	U	1.0	0.36	1	10/31/19 14:55	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 14:55	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 14:55	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251000 700-SVS-99	**Units:**	ug/L
Lab Code:	R1910542-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND U	5.0	1.2	1	10/31/19 14:55	
Methacrylonitrile	ND U	5.0	0.52	1	10/31/19 14:55	
Methyl Methacrylate	ND U	2.0	0.24	1	10/31/19 14:55	
Methyl tert-Butyl Ether	ND U	10	0.20	1	10/31/19 14:55	
Methylcyclohexane	ND U	10	0.20	1	10/31/19 14:55	
Propionitrile	ND U	5.0	1.2	1	10/31/19 14:55	
Styrene	ND U	1.0	0.20	1	10/31/19 14:55	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	10/31/19 14:55	
Tetrahydrofuran (THF)	ND U	5.0	1.3	1	10/31/19 14:55	
Toluene	ND U	1.0	0.20	1	10/31/19 14:55	
Trichloroethene (TCE)	ND U	1.0	0.20	1	10/31/19 14:55	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	10/31/19 14:55	
Vinyl Acetate	ND U	5.0	1.1	1	10/31/19 14:55	
Vinyl Chloride	ND U	1.0	0.20	1	10/31/19 14:55	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	10/31/19 14:55	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	10/31/19 14:55	
m,p-Xylenes	ND U	2.0	0.20	1	10/31/19 14:55	
o-Xylene	ND U	1.0	0.20	1	10/31/19 14:55	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	10/31/19 14:55	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	10/31/19 14:55	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	10/31/19 14:55	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	10/31/19 14:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	10/31/19 14:55	
Dibromofluoromethane	94	89 - 119	10/31/19 14:55	
Toluene-d8	99	87 - 121	10/31/19 14:55	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251030 700-SVS-100	**Units:**	ug/L
Lab Code:	R1910542-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.21	1	10/31/19 15:17	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	10/31/19 15:17	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.25	1	10/31/19 15:17	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	10/31/19 15:17	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	10/31/19 15:17	
1,2-Dibromoethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,2-Dichloroethane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,2-Dichloropropane	ND	U	1.0	0.20	1	10/31/19 15:17	
1,4-Dioxane	ND	U	100	13	1	10/31/19 15:17	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.24	1	10/31/19 15:17	
2-Butanone (MEK)	ND	U	5.0	0.78	1	10/31/19 15:17	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	10/31/19 15:17	
2-Hexanone	ND	U	5.0	0.20	1	10/31/19 15:17	
Isobutyl Alcohol	ND	U	100	17	1	10/31/19 15:17	
2-Propanol	**36**	**BJ**	50	3.4	1	10/31/19 15:17	
Allyl Chloride	ND	U	2.0	0.36	1	10/31/19 15:17	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	10/31/19 15:17	
Acetone	**5.2**	**BJ**	10	2.1	1	10/31/19 15:17	
Acetonitrile	ND	U	25	5.2	1	10/31/19 15:17	
Acrolein	ND	U	10	0.90	1	10/31/19 15:17	
Acrylonitrile	ND	U	5.0	0.90	1	10/31/19 15:17	
Benzene	ND	U	1.0	0.20	1	10/31/19 15:17	
Bromodichloromethane	ND	U	1.0	0.22	1	10/31/19 15:17	
Bromoform	ND	U	1.0	0.25	1	10/31/19 15:17	
Bromomethane	ND	U	2.0	0.70	1	10/31/19 15:17	
Carbon Disulfide	ND	U	1.0	0.25	1	10/31/19 15:17	
Carbon Tetrachloride	ND	U	1.0	0.34	1	10/31/19 15:17	
Chlorobenzene	ND	U	1.0	0.20	1	10/31/19 15:17	
Chloroethane	ND	U	2.0	0.23	1	10/31/19 15:17	
Chloroform	ND	U	1.0	0.24	1	10/31/19 15:17	
Chloromethane	ND	U	2.0	0.28	1	10/31/19 15:17	
Cyclohexane	ND	U	10	0.26	1	10/31/19 15:17	
Dibromochloromethane	ND	U	1.0	0.20	1	10/31/19 15:17	
Dibromomethane	ND	U	1.0	0.20	1	10/31/19 15:17	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	10/31/19 15:17	
Dichlorofluoromethane (CFC 21)	ND	U	1.0	0.20	1	10/31/19 15:17	
Dichloromethane	ND	U	1.0	0.36	1	10/31/19 15:17	
Ethyl Methacrylate	ND	U	2.0	0.20	1	10/31/19 15:17	
Ethylbenzene	ND	U	1.0	0.20	1	10/31/19 15:17	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251030 700-SVS-100	**Units:**	ug/L
Lab Code:	R1910542-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Iodomethane	ND	U	5.0	1.2	1	10/31/19 15:17	
Methacrylonitrile	ND	U	5.0	0.52	1	10/31/19 15:17	
Methyl Methacrylate	ND	U	2.0	0.24	1	10/31/19 15:17	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	10/31/19 15:17	
Methylcyclohexane	ND	U	10	0.20	1	10/31/19 15:17	
Propionitrile	ND	U	5.0	1.2	1	10/31/19 15:17	
Styrene	ND	U	1.0	0.20	1	10/31/19 15:17	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	10/31/19 15:17	
Tetrahydrofuran (THF)	ND	U	5.0	1.3	1	10/31/19 15:17	
Toluene	ND	U	1.0	0.20	1	10/31/19 15:17	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	10/31/19 15:17	
Trichlorofluoromethane (CFC 11)	ND	U	1.0	0.24	1	10/31/19 15:17	
Vinyl Acetate	ND	U	5.0	1.1	1	10/31/19 15:17	
Vinyl Chloride	ND	U	1.0	0.20	1	10/31/19 15:17	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	10/31/19 15:17	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	10/31/19 15:17	
m,p-Xylenes	ND	U	2.0	0.20	1	10/31/19 15:17	
o-Xylene	ND	U	1.0	0.20	1	10/31/19 15:17	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	10/31/19 15:17	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	10/31/19 15:17	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	10/31/19 15:17	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	10/31/19 15:17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	10/31/19 15:17	
Dibromofluoromethane	95	89 - 119	10/31/19 15:17	
Toluene-d8	98	87 - 121	10/31/19 15:17	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

1st 11/04/19
2nd 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31463.D
Acq On : 31 Oct 2019 2:12 pm
Operator : K.Ruest
Sample : R1910542-001|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 04 11:07:03 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

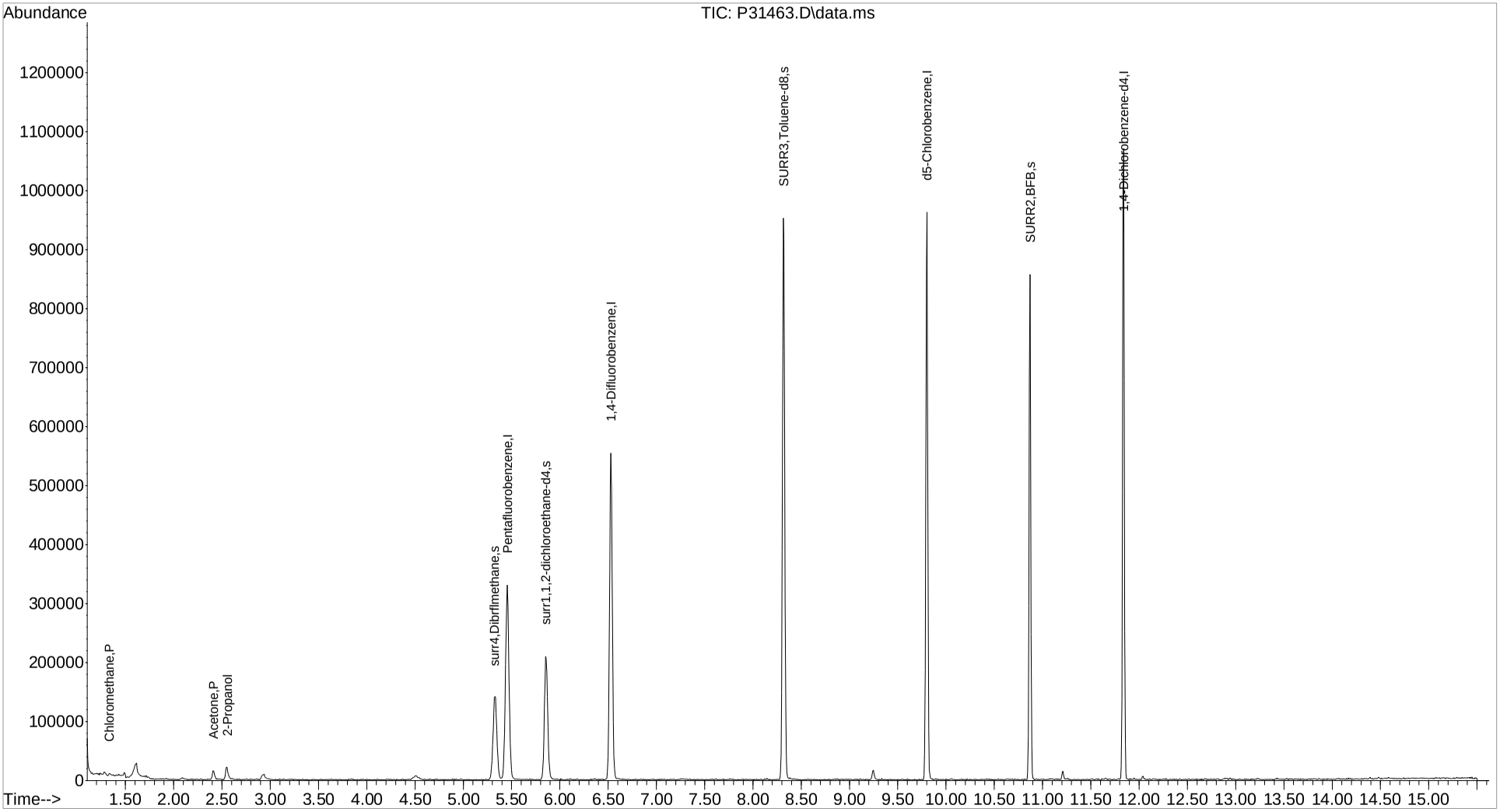
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.456	168	296007	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	469234	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	420629	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	214056	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	118648	47.71	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 95.42%			
48) surr1,1,2-dichloroetha...	5.852	65	174502	50.71	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 101.42%			
65) SURR3,Toluene-d8	8.315	98	579962	49.54	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.08%			
70) SURR2,BFB	10.870	95	222182	48.78	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 97.56%			
Target Compounds						Qvalue
3) Chloromethane	1.335	50	1442	0.26	ppb	95
15) Acetone	2.408	43	16259	6.75	ppb	94
16) 2-Propanol	2.554	45	24657	45.01	ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

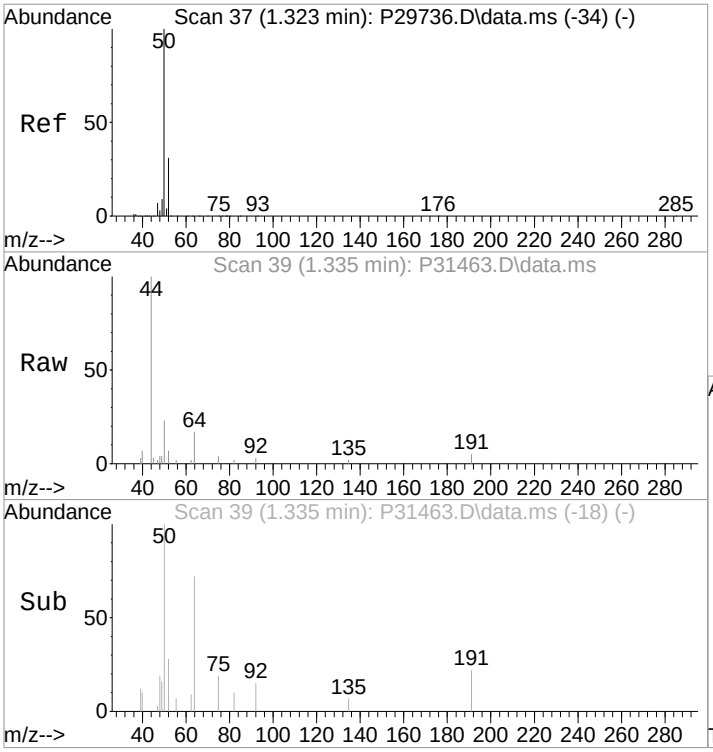
Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31463.D
Acq On : 31 Oct 2019 2:12 pm
Operator : K.Ruest
Sample : R1910542-001|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 04 11:07:03 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



1st 11/04/19
2nd 11/04/19

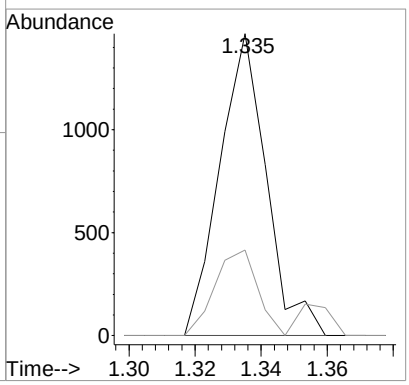
1st 11/04/19
2nd 11/04/19

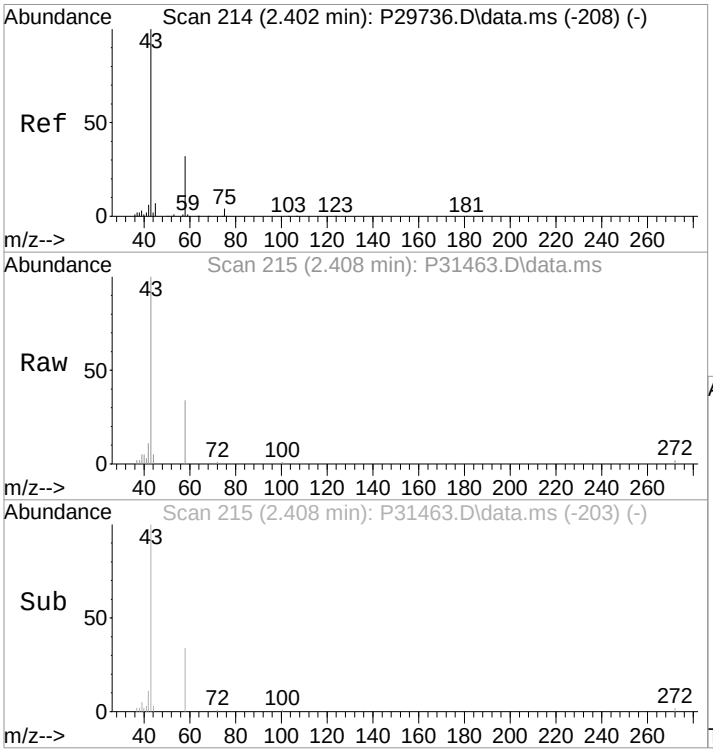


#3
Chloromethane
Concen: 0.26 ppb
RT: 1.335 min Scan# 39
Delta R.T. 0.012 min
Lab File: P31463.D
Acq: 31 Oct 2019 2:12 pm

Tgt Ion: 50 Resp: 1442

Ion	Ratio	Lower	Upper
50	100		
52	28.3	11.2	51.2

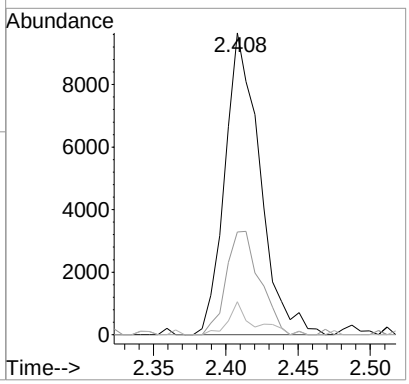


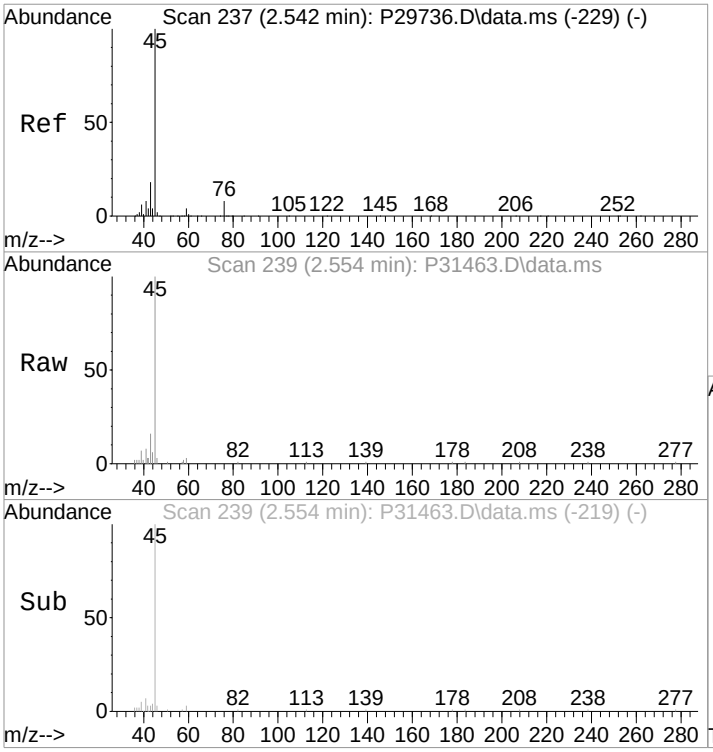


#15
Acetone
Concen: 6.75 ppb
RT: 2.408 min Scan# 215
Delta R.T. -0.000 min
Lab File: P31463.D
Acq: 31 Oct 2019 2:12 pm

Tgt Ion: 43 Resp: 16259

Ion	Ratio	Lower	Upper
43	100		
58	34.0	11.7	51.7
42	10.9	0.0	26.5

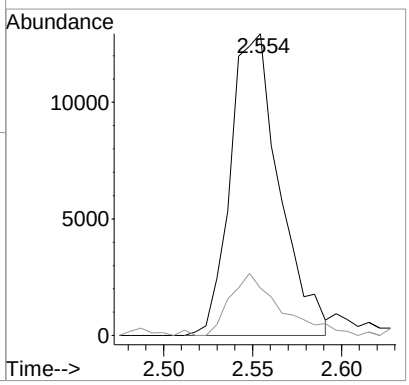




#16
2-Propanol
Concen: 45.01 ppb
RT: 2.554 min Scan# 239
Delta R.T. 0.012 min
Lab File: P31463.D
Acq: 31 Oct 2019 2:12 pm

Tgt Ion: 45 Resp: 24657

Ion	Ratio	Lower	Upper
45	100		
43	15.7	0.0	37.7



1st 11/04/19
2nd 11/04/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31463.D
Acq On : 31 Oct 2019 2:12 pm
Operator : K.Ruest
Sample : R1910542-001|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 3 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31463.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.616	72	85	92	rBV6	24717	71877	4.61%	0.866%
2	2.408	209	215	221	rBV	15029	26331	1.69%	0.317%
3	2.548	233	238	245	rBV2	21704	42010	2.69%	0.506%
4	4.505	551	559	564	rBV3	6864	19135	1.23%	0.230%
5	5.328	684	694	704	rBV2	140985	391542	25.10%	4.716%
6	5.456	706	715	728	rVB	329593	834370	53.48%	10.049%
7	5.852	771	780	795	rBV	208765	495283	31.75%	5.965%
8	6.529	879	891	900	rBV	554527	1101580	70.61%	13.267%
9	8.315	1176	1184	1194	rBV	952190	1560082	100.00%	18.789%
10	9.248	1332	1337	1346	rVB2	16563	26705	1.71%	0.322%
11	9.803	1421	1428	1436	rBV	962275	1323318	84.82%	15.937%
12	10.870	1597	1603	1608	rBV	857280	1038247	66.55%	12.504%
13	11.211	1655	1659	1662	rBV3	14036	17057	1.09%	0.205%
14	11.839	1756	1762	1768	rBV	1069466	1355745	86.90%	16.328%

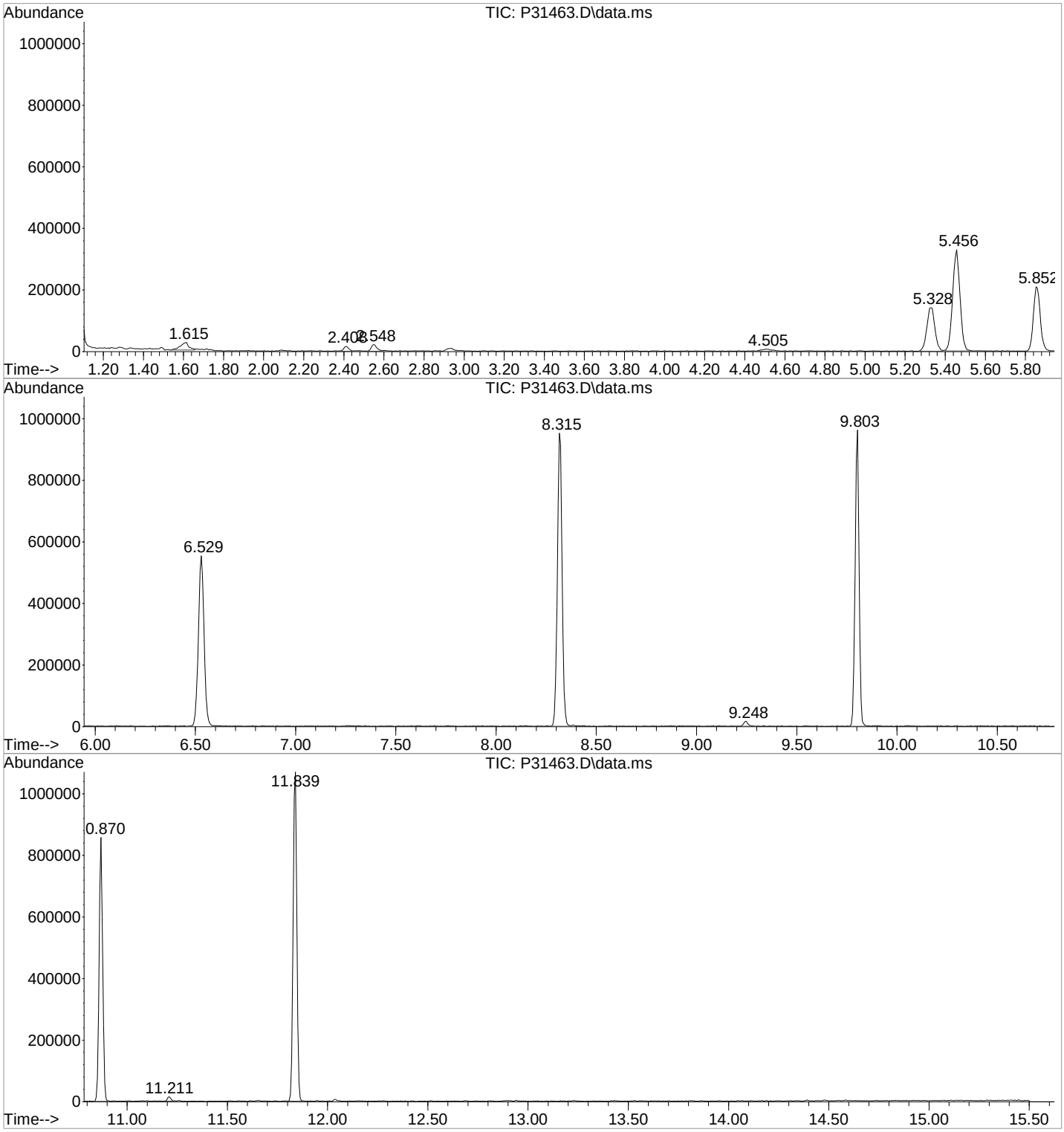
Sum of corrected areas: 8303282

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31463.D
Acq On : 31 Oct 2019 2:12 pm
Operator : K.Ruest
Sample : R1910542-001|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 3 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 11/04/19
2nd 11/04/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\103119\\
Data File : P31463.D
Acq On : 31 Oct 2019 2:12 pmm
Operator : K.Ruestt
Sample : R1910542-001|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 3 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31464.D
Acq On : 31 Oct 2019 2:33 pm
Operator : K.Ruest
Sample : R1910542-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 04 11:12:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

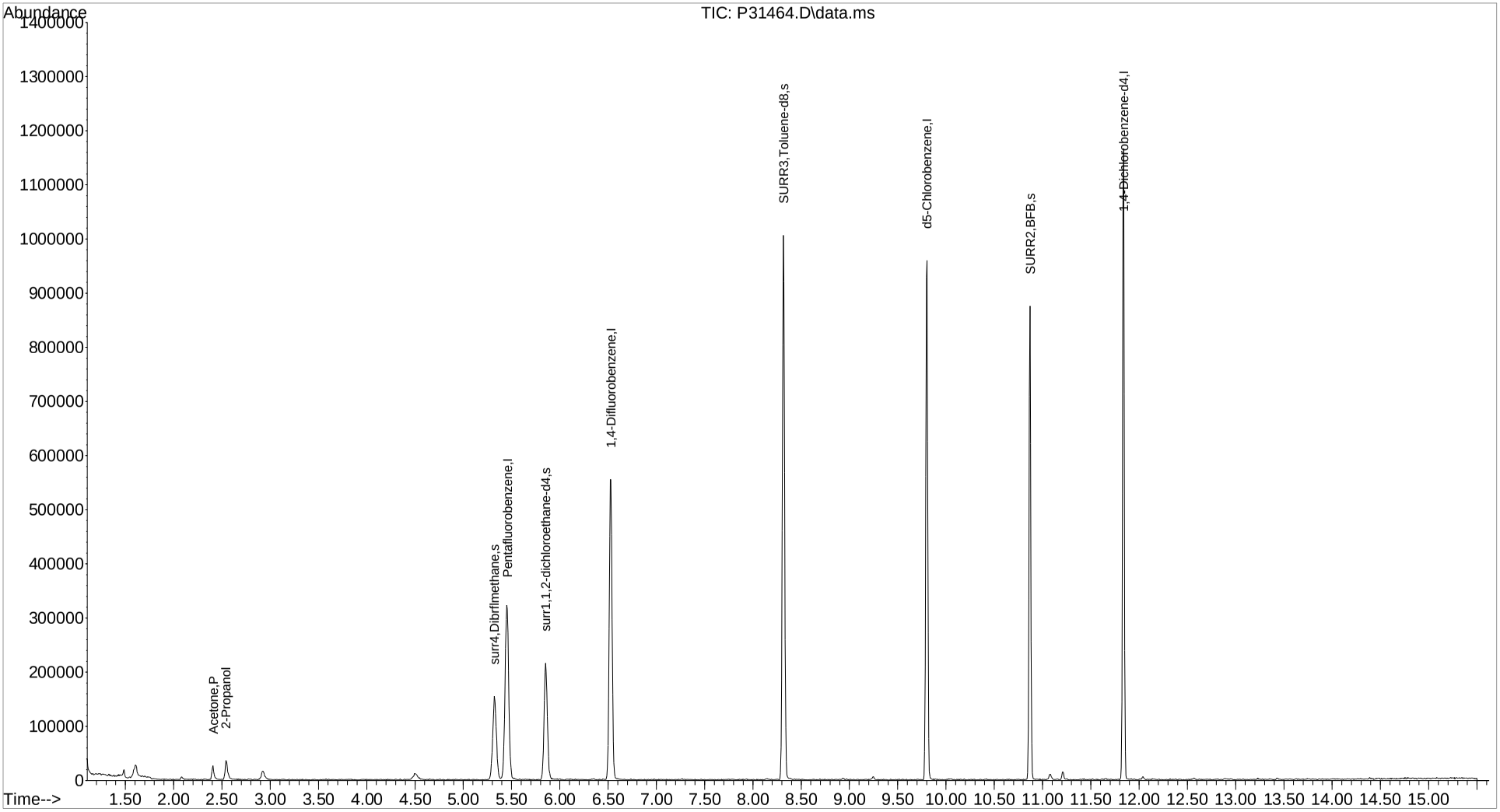
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.456	168	307715	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	485573	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	427782	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	231999	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	121517	47.22	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 94.44%			
48) surr1,1,2-dichloroetha...	5.853	65	177148	49.75	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 99.50%			
65) SURR3,Toluene-d8	8.316	98	613876	50.67	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.34%			
70) SURR2,BFB	10.870	95	228805	48.54	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 97.08%			
Target Compounds						Qvalue
15) Acetone	2.408	43	24575	9.81	ppb	98
16) 2-Propanol	2.542	45	42581	74.77	ppb	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

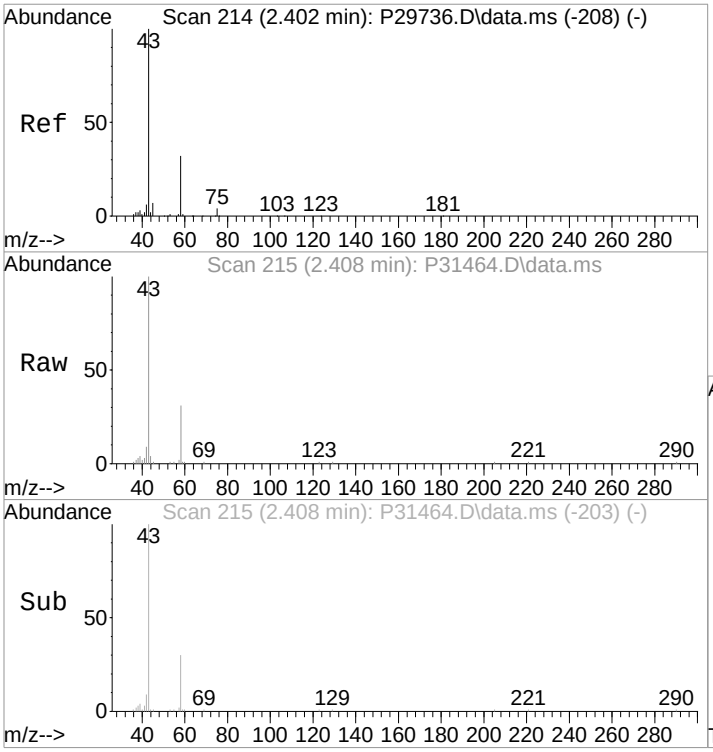
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31464.D
Acq On : 31 Oct 2019 2:33 pm
Operator : K.Ruest
Sample : R1910542-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 04 11:12:37 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



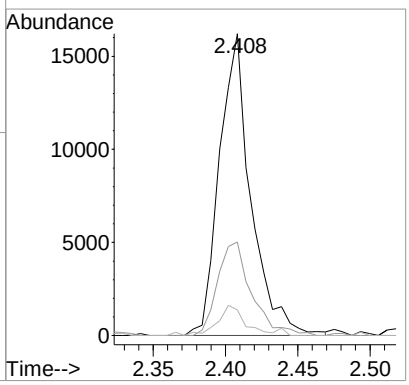
1st 11/04/19
2nd 11/04/19

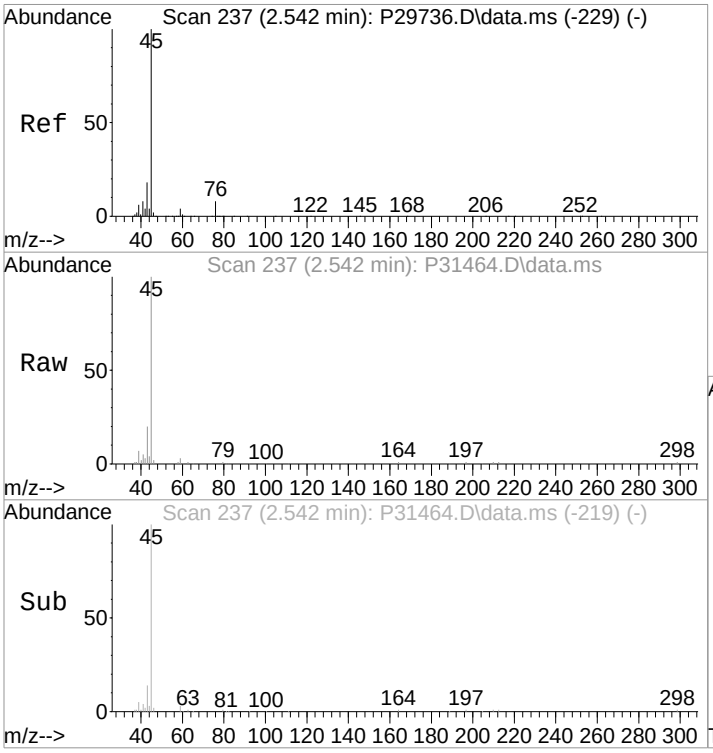


#15
Acetone
Concen: 9.81 ppb
RT: 2.408 min Scan# 215
Delta R.T. 0.000 min
Lab File: P31464.D
Acq: 31 Oct 2019 2:33 pm

Tgt Ion: 43 Resp: 24575

Ion	Ratio	Lower	Upper
43	100		
58	31.0	11.7	51.7
42	8.5	0.0	26.5

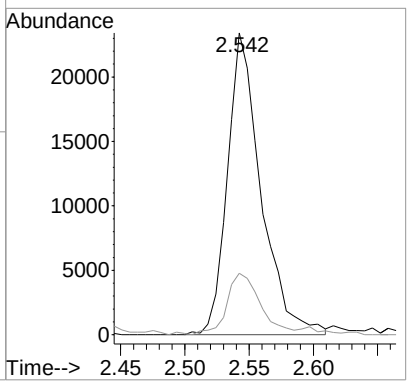




#16
2-Propanol
Concen: 74.77 ppb
RT: 2.542 min Scan# 237
Delta R.T. 0.000 min
Lab File: P31464.D
Acq: 31 Oct 2019 2:33 pm

Tgt Ion: 45 Resp: 42581

Ion	Ratio	Lower	Upper
45	100		
43	20.3	0.0	37.7



1st 11/04/19
2nd 11/04/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31464.D
Acq On : 31 Oct 2019 2:33 pm
Operator : K.Ruest
Sample : R1910542-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31464.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.488	60	64	70	rVB	15265	19954	1.23%	0.229%
2	1.603	75	83	93	rBV3	23859	66182	4.09%	0.760%
3	2.408	210	215	226	rBV	25045	37306	2.31%	0.428%
4	2.542	232	237	249	rBV	35548	67314	4.16%	0.773%
5	2.920	294	299	310	rVB2	15646	37432	2.31%	0.430%
6	4.493	550	557	568	rBV	11159	34793	2.15%	0.400%
7	5.322	682	693	703	rBV	153892	401067	24.78%	4.605%
8	5.450	703	714	726	rVB	320901	852171	52.66%	9.785%
9	5.853	771	780	790	rBV2	215422	508142	31.40%	5.835%
10	6.523	882	890	901	rBV	554323	1138152	70.33%	13.069%
11	8.316	1177	1184	1193	rBV	1005377	1618335	100.00%	18.583%
12	9.803	1422	1428	1438	rBV	958749	1357498	83.88%	15.587%
13	10.870	1597	1603	1609	rBV	874507	1090078	67.36%	12.517%
14	11.083	1631	1638	1644	rBV2	10299	19014	1.17%	0.218%
15	11.205	1654	1658	1663	rBV2	14667	21964	1.36%	0.252%
16	11.839	1756	1762	1767	rBV	1164664	1439490	88.95%	16.529%

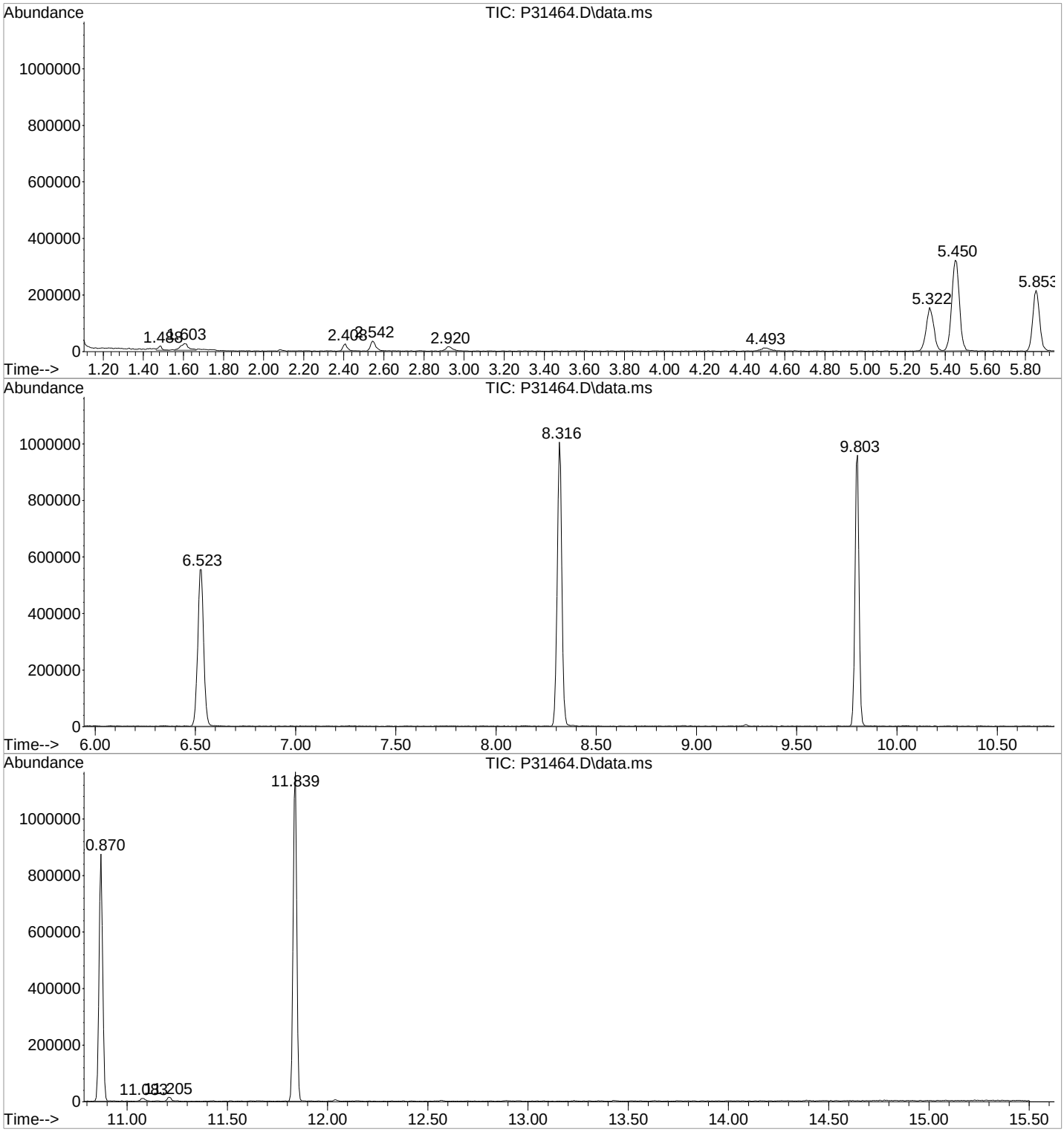
Sum of corrected areas: 8708892

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31464.D
Acq On : 31 Oct 2019 2:33 pm
Operator : K.Ruest
Sample : R1910542-004|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 11/04/19
2nd 11/04/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\103119\\
Data File : P31464.D
Acq On : 31 Oct 2019 2:33 pmm
Operator : K.Ruestt
Sample : R1910542-004|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31465.D
Acq On : 31 Oct 2019 2:55 pm
Operator : K.Ruest
Sample : R1910542-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 04 11:14:35 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

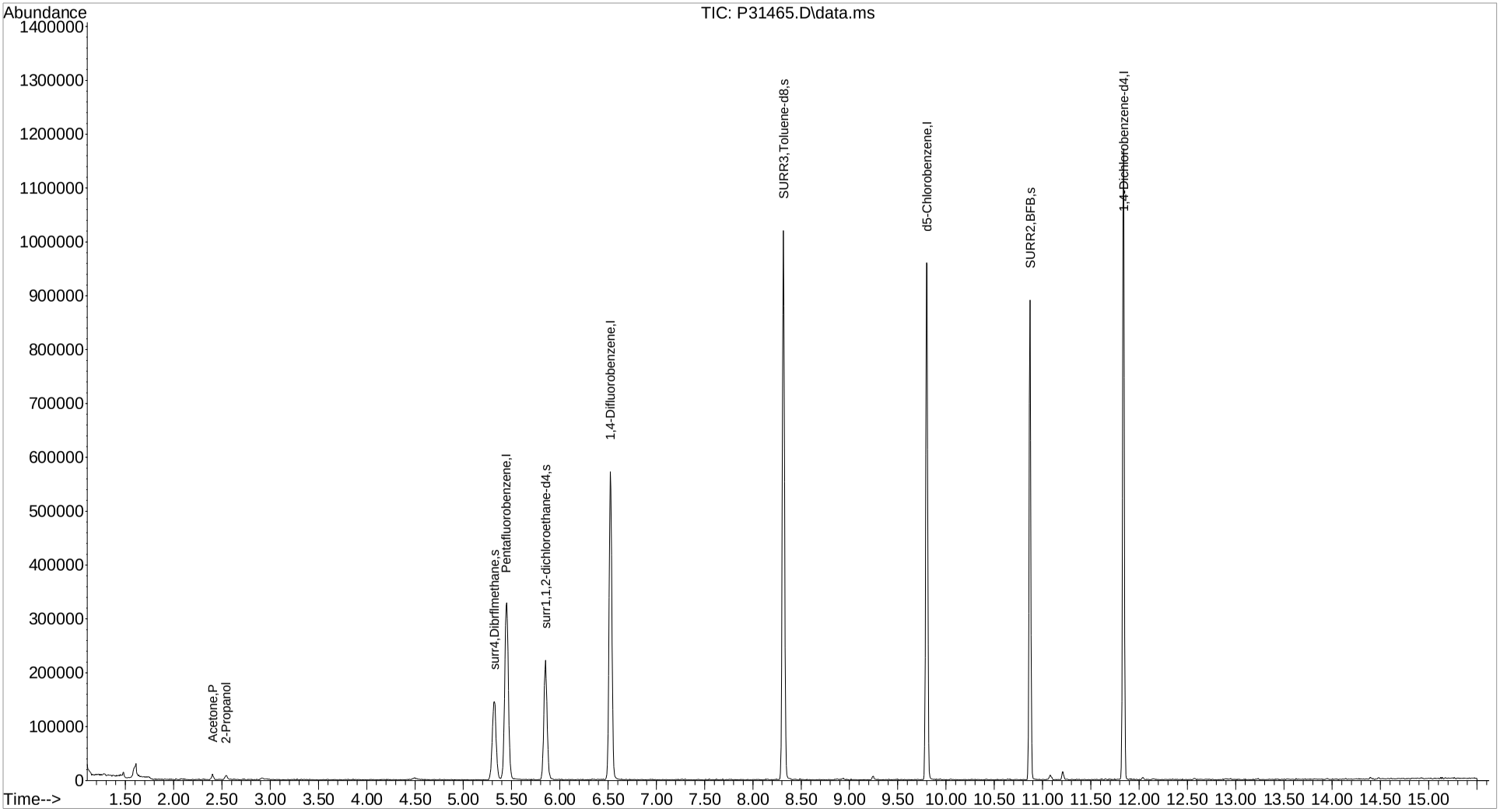
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.444	168	315329	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	496606	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	438929	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	234173	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	123830	47.05	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 94.10%			
48) surr1,1,2-dichloroetha...	5.853	65	181800	49.92	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 99.84%			
65) SURR3,Toluene-d8	8.315	98	613360	49.50	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.00%			
70) SURR2,BFB	10.870	95	231690	48.06	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.12%			
Target Compounds						Qvalue
15) Acetone	2.402	43	9075	3.54	ppb	93
16) 2-Propanol	2.542	45	9042	15.49	ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

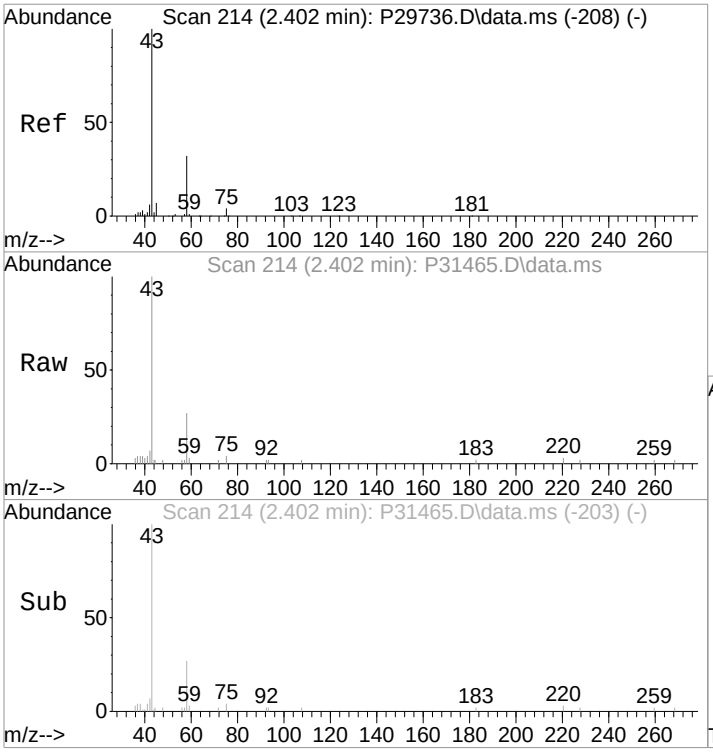
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31465.D
Acq On : 31 Oct 2019 2:55 pm
Operator : K.Ruest
Sample : R1910542-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 04 11:14:35 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



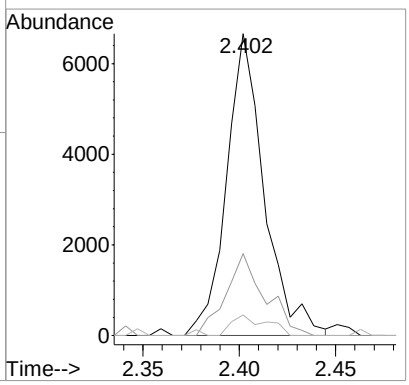
1st 11/04/19
2nd 11/04/19

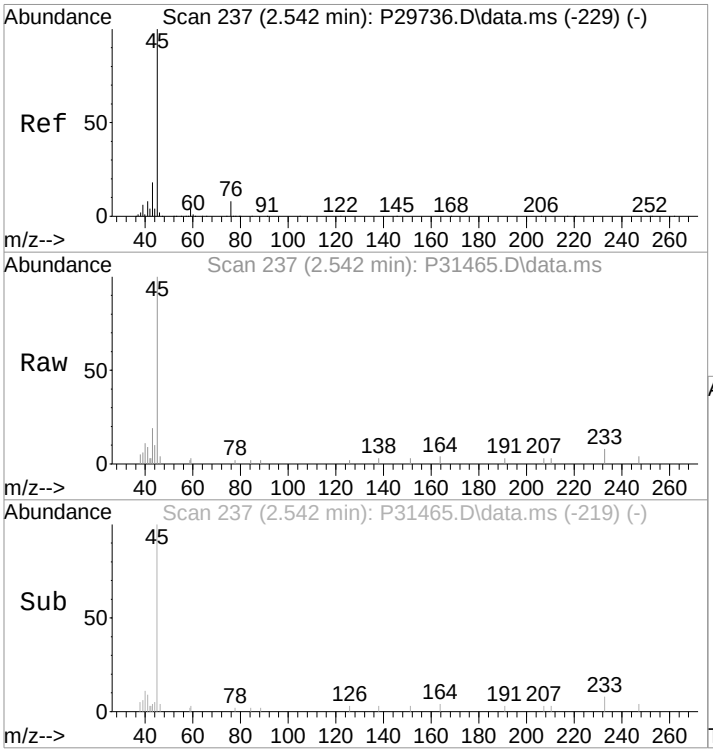


#15
Acetone
Concen: 3.54 ppb
RT: 2.402 min Scan# 214
Delta R.T. -0.006 min
Lab File: P31465.D
Acq: 31 Oct 2019 2:55 pm

Tgt Ion: 43 Resp: 9075

Ion	Ratio	Lower	Upper
43	100		
58	27.1	11.7	51.7
42	6.8	0.0	26.5

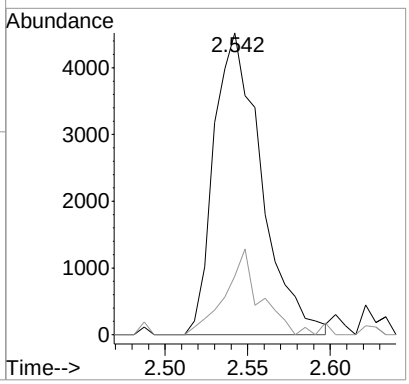




#16
2-Propanol
Concen: 15.49 ppb
RT: 2.542 min Scan# 237
Delta R.T. -0.000 min
Lab File: P31465.D
Acq: 31 Oct 2019 2:55 pm

Tgt Ion: 45 Resp: 9042

Ion	Ratio	Lower	Upper
45	100		
43	19.4	0.0	37.7



1st 11/04/19
2nd 11/04/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31465.D
Acq On : 31 Oct 2019 2:55 pm
Operator : K.Ruest
Sample : R1910542-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31465.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.609	75	84	88	rBV6	25630	51379	3.14%	0.597%
2	5.322	682	693	704	rBV2	145690	408151	24.91%	4.744%
3	5.450	704	714	726	rVB	328022	877754	53.58%	10.203%
4	5.853	771	780	795	rVB	221998	515900	31.49%	5.997%
5	6.523	880	890	908	rVB	571814	1163601	71.02%	13.526%
6	8.315	1176	1184	1194	rBV	1019591	1638303	100.00%	19.044%
7	9.797	1421	1427	1436	rBV	959768	1380810	84.28%	16.051%
8	10.870	1597	1603	1610	rBV	891022	1089253	66.49%	12.662%
9	11.211	1654	1659	1663	rBV	14877	20023	1.22%	0.233%
10	11.839	1755	1762	1768	rBV	1171453	1457603	88.97%	16.943%

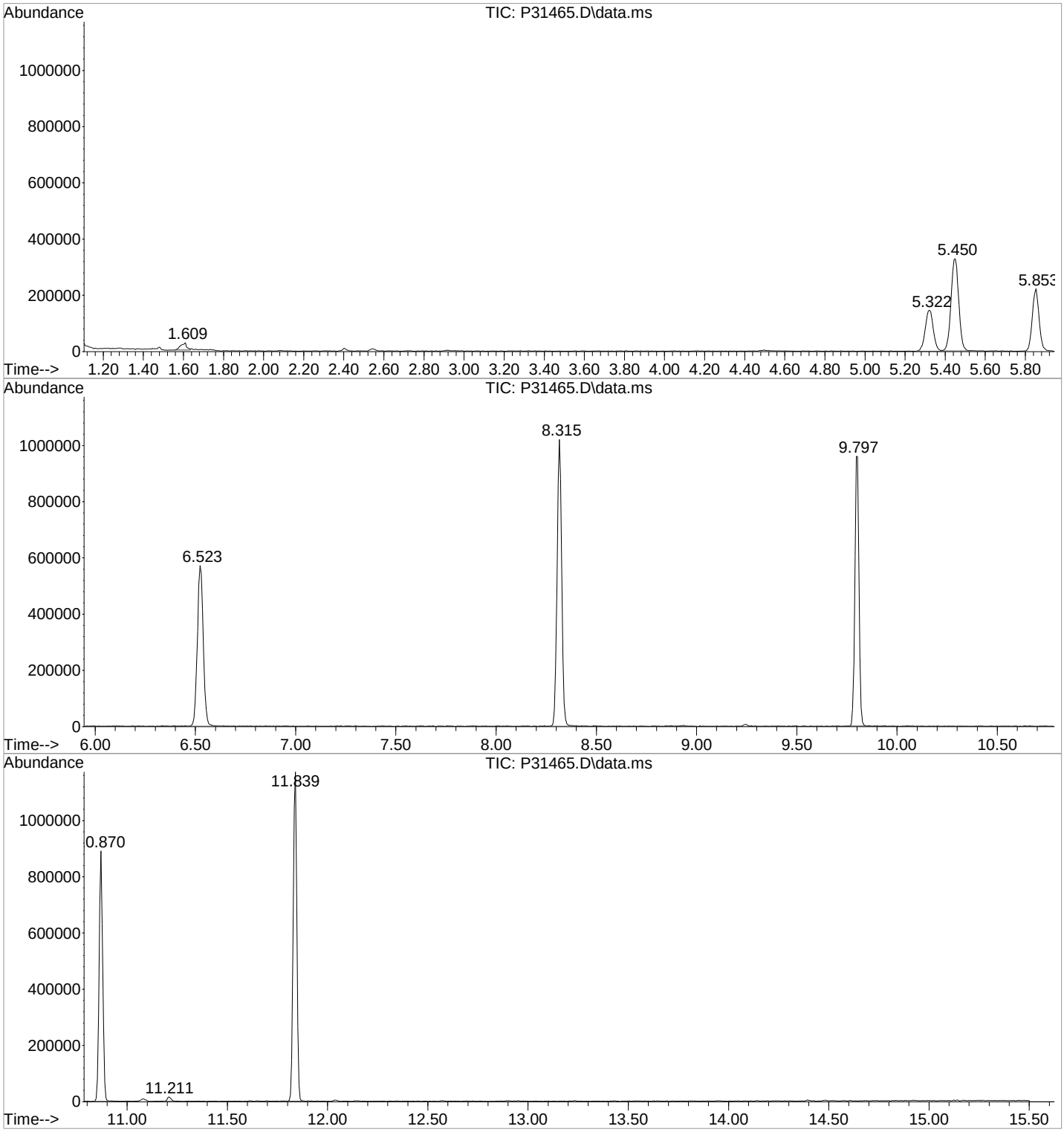
Sum of corrected areas: 8602777

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31465.D
Acq On : 31 Oct 2019 2:55 pm
Operator : K.Ruest
Sample : R1910542-007|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 11/04/19
2nd 11/04/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\103119\\
Data File : P31465.D
Acq On : 31 Oct 2019 2:55 pmm
Operator : K.Ruestt
Sample : R1910542-007|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

1st FJ 11/04/19
2nd FJ 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31466.D
Acq On : 31 Oct 2019 3:17 pm
Operator : K.Ruest
Sample : R1910542-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 04 12:12:09 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

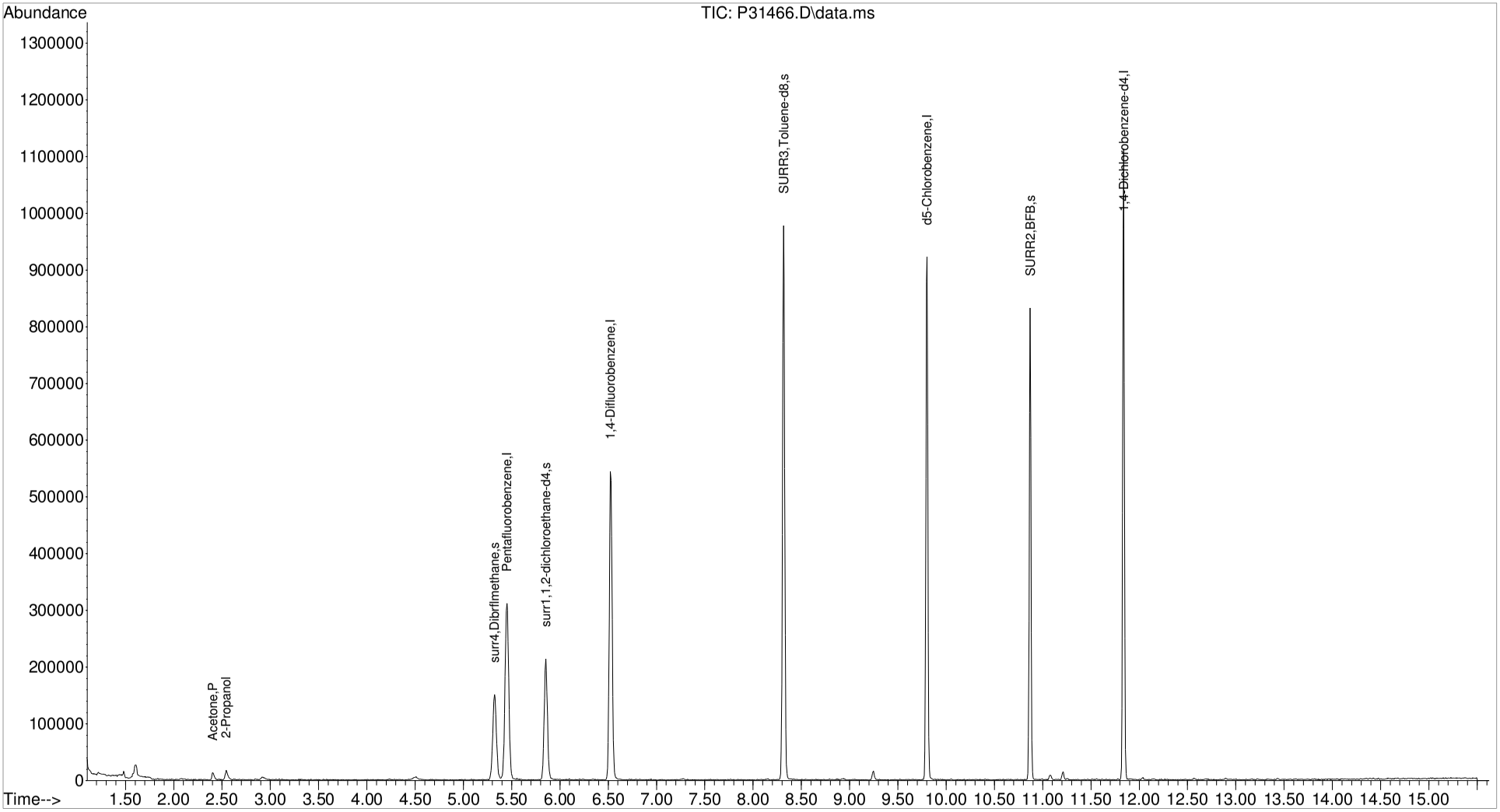
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	301026	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	473982	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	414978	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	221216	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	119395	47.53	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 95.06%			
48) surr1,1,2-dichloroetha...	5.853	65	173204	49.83	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 99.66%			
65) SURR3,Toluene-d8	8.315	98	581989	49.21	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 98.42%			
70) SURR2,BFB	10.870	95	217962	47.37	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 94.74%			
Target Compounds						Qvalue
15) Acetone	2.402	43	12704	5.19	ppb	95
16) 2-Propanol	2.542	45	20049	35.99	ppb	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

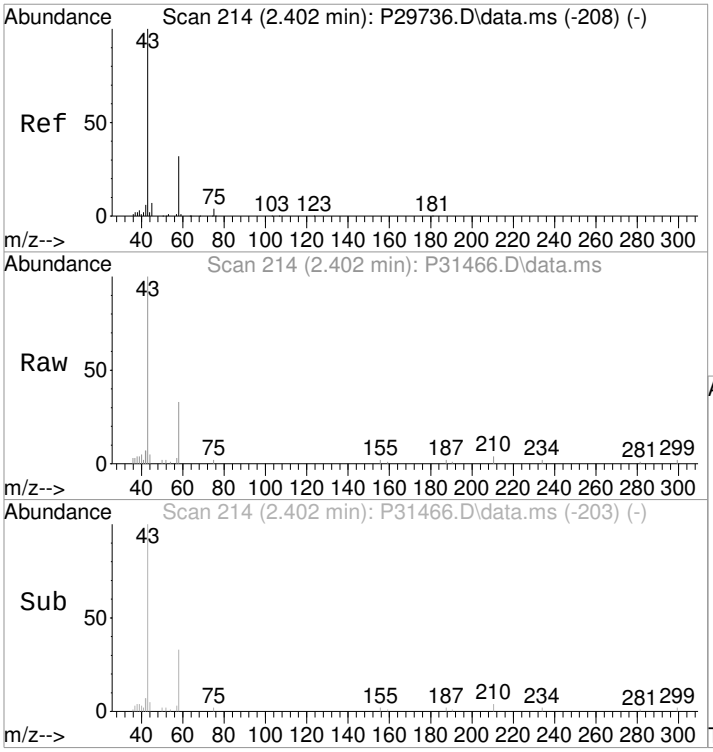
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31466.D
Acq On : 31 Oct 2019 3:17 pm
Operator : K.Ruest
Sample : R1910542-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 04 12:12:09 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



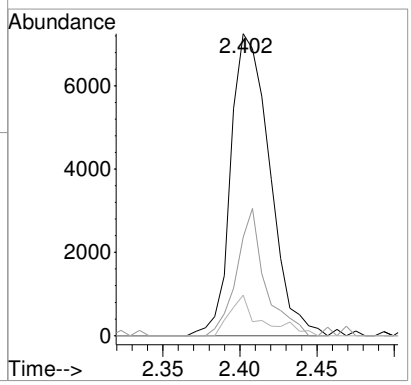
1st FJ 11/04/19
2nd FJ 11/04/19

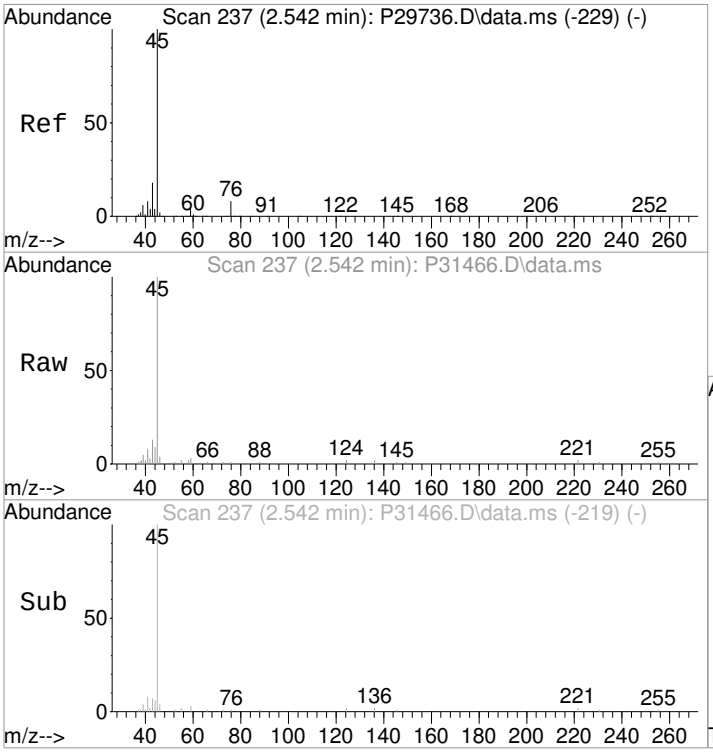


#15
Acetone
Concen: 5.19 ppb
RT: 2.402 min Scan# 214
Delta R.T. -0.006 min
Lab File: P31466.D
Acq: 31 Oct 2019 3:17 pm

Tgt Ion: 43 Resp: 12704

Ion	Ratio	Lower	Upper
43	100		
58	32.6	11.7	51.7
42	13.4	0.0	26.5

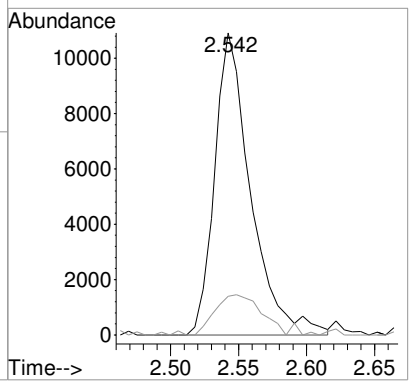




#16
2-Propanol
Concen: 35.99 ppb
RT: 2.542 min Scan# 237
Delta R.T. -0.000 min
Lab File: P31466.D
Acq: 31 Oct 2019 3:17 pm

Tgt Ion: 45 Resp: 20049

Ion	Ratio	Lower	Upper
45	100		
43	12.8	0.0	37.7



1st 11/04/19
2nd 11/04/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31466.D
Acq On : 31 Oct 2019 3:17 pm
Operator : K.Ruest
Sample : R1910542-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31466.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.609	79	84	93	rVB4	20271	39142	2.53%	0.477%
2	2.402	207	214	222	rBV2	13097	23126	1.49%	0.282%
3	2.542	232	237	248	rVB2	16948	32188	2.08%	0.392%
4	5.322	683	693	703	rBV	150772	400361	25.88%	4.874%
5	5.450	703	714	726	rVB	309299	827245	53.47%	10.071%
6	5.853	770	780	789	rBV	212998	486242	31.43%	5.920%
7	6.523	880	890	904	rBV	543911	1109622	71.72%	13.509%
8	8.315	1176	1184	1194	rBV	976899	1547230	100.00%	18.836%
9	9.248	1332	1337	1342	rBV3	15973	24136	1.56%	0.294%
10	9.803	1421	1428	1438	rBV	921788	1307595	84.51%	15.919%
11	10.870	1598	1603	1611	rVB	831162	1021440	66.02%	12.435%
12	11.077	1633	1637	1644	rBV4	8872	16130	1.04%	0.196%
13	11.211	1654	1659	1663	rBV3	14760	21377	1.38%	0.260%
14	11.839	1756	1762	1768	rBV	1111859	1358273	87.79%	16.536%

Sum of corrected areas: 8214107

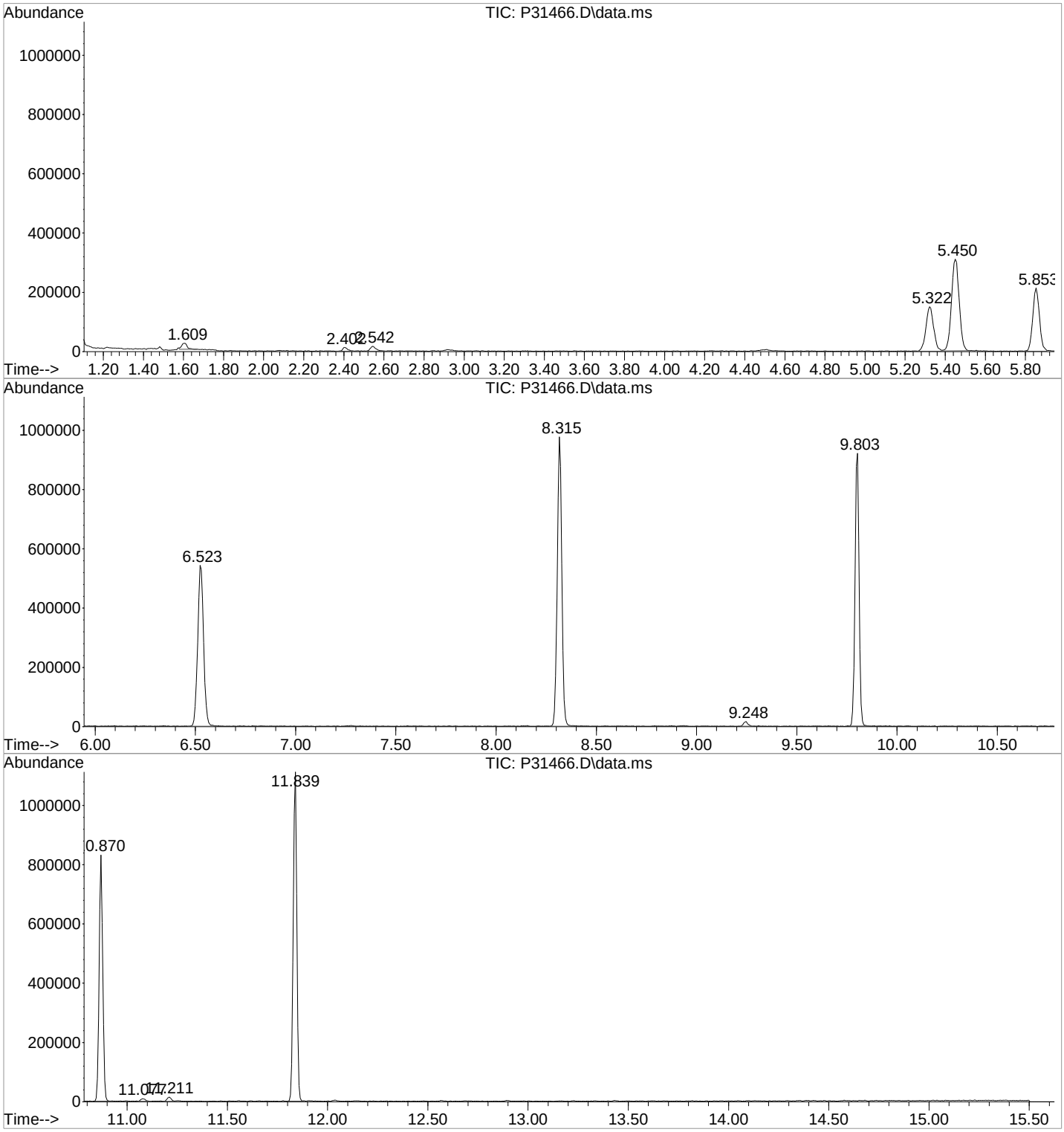
1st 11/04/19
2nd 11/04/19

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31466.D
Acq On : 31 Oct 2019 3:17 pm
Operator : K.Ruest
Sample : R1910542-010|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 11/04/19
2nd 11/04/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\103119\\
Data File : P31466.D
Acq On : 31 Oct 2019 3:17 pmm
Operator : K.Ruestt
Sample : R1910542-010|1.0 Inst : MSVOA-122
Misc : NASA 8260 T44
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

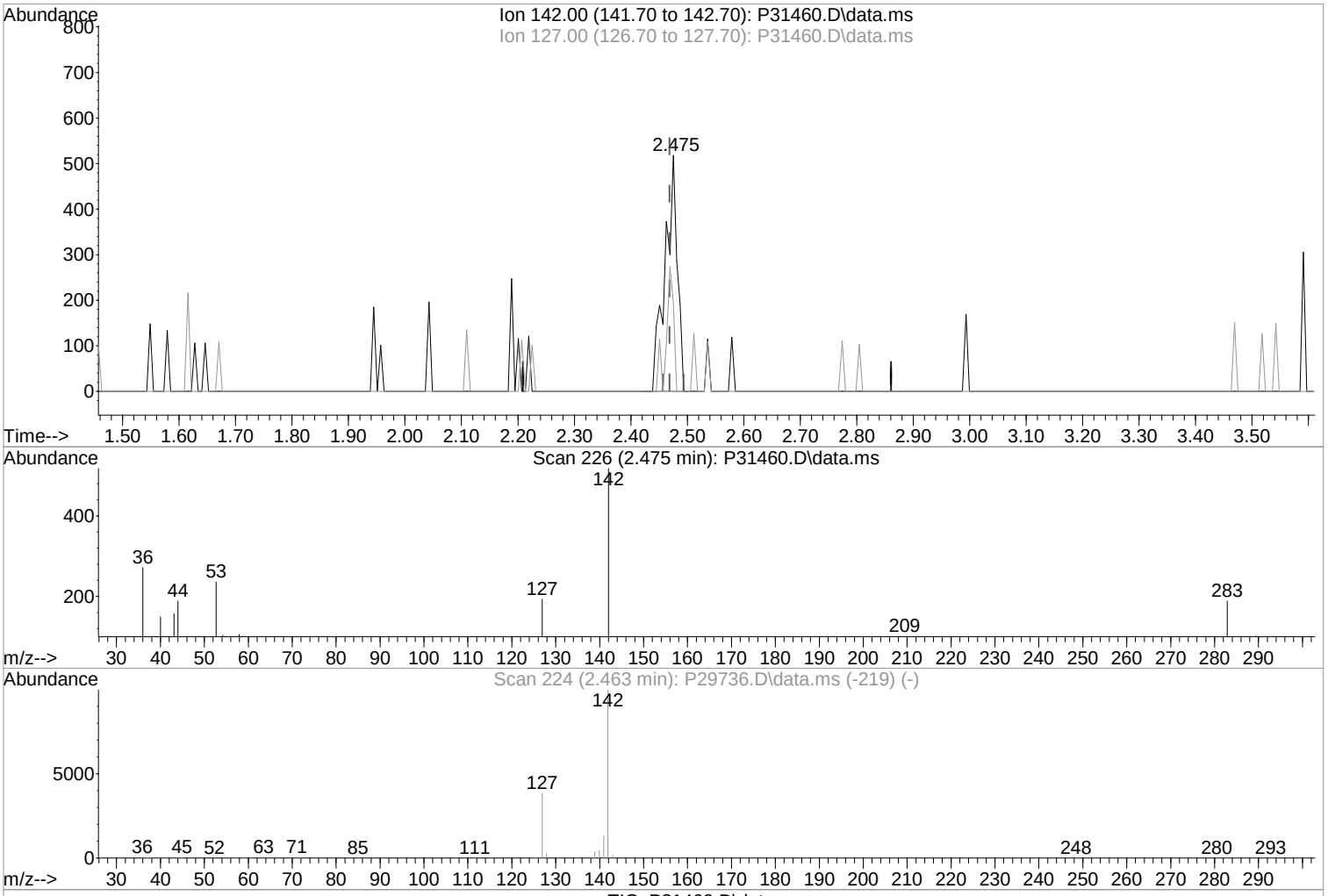
No Library Search Compounds Detected
****

1st 11/04/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31460.D
Acq On : 31 Oct 2019 12:59 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 09:23:47 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31460.D\data.ms

(17) Iodomethane

2.475min (+0.006) 1.32 ppb m

response 785

Ion	Exp%	Act%
142.00	100	100
127.00	38.60	37.26
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

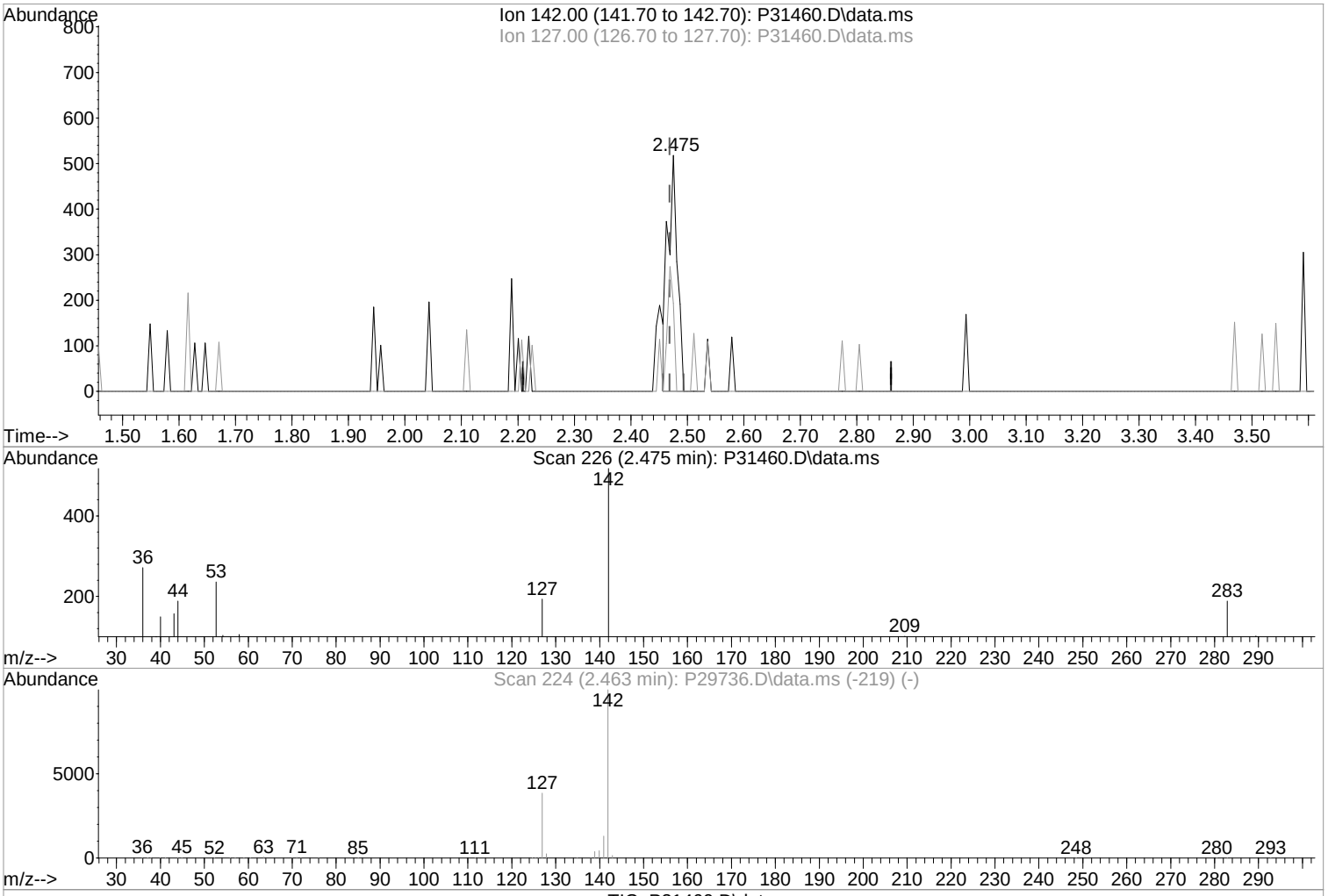
11/04/19

1st 11/04/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31460.D
Acq On : 31 Oct 2019 12:59 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 09:23:47 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31460.D\data.ms

(17) Iodomethane

2.475min (+0.006) 1.28 ppb

response 610

Ion	Exp%	Act%
142.00	100	100
127.00	38.60	37.26
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

11/04/19

1st 11/04/19
2nd 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31460.D
Acq On : 31 Oct 2019 12:59 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 04 10:32:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

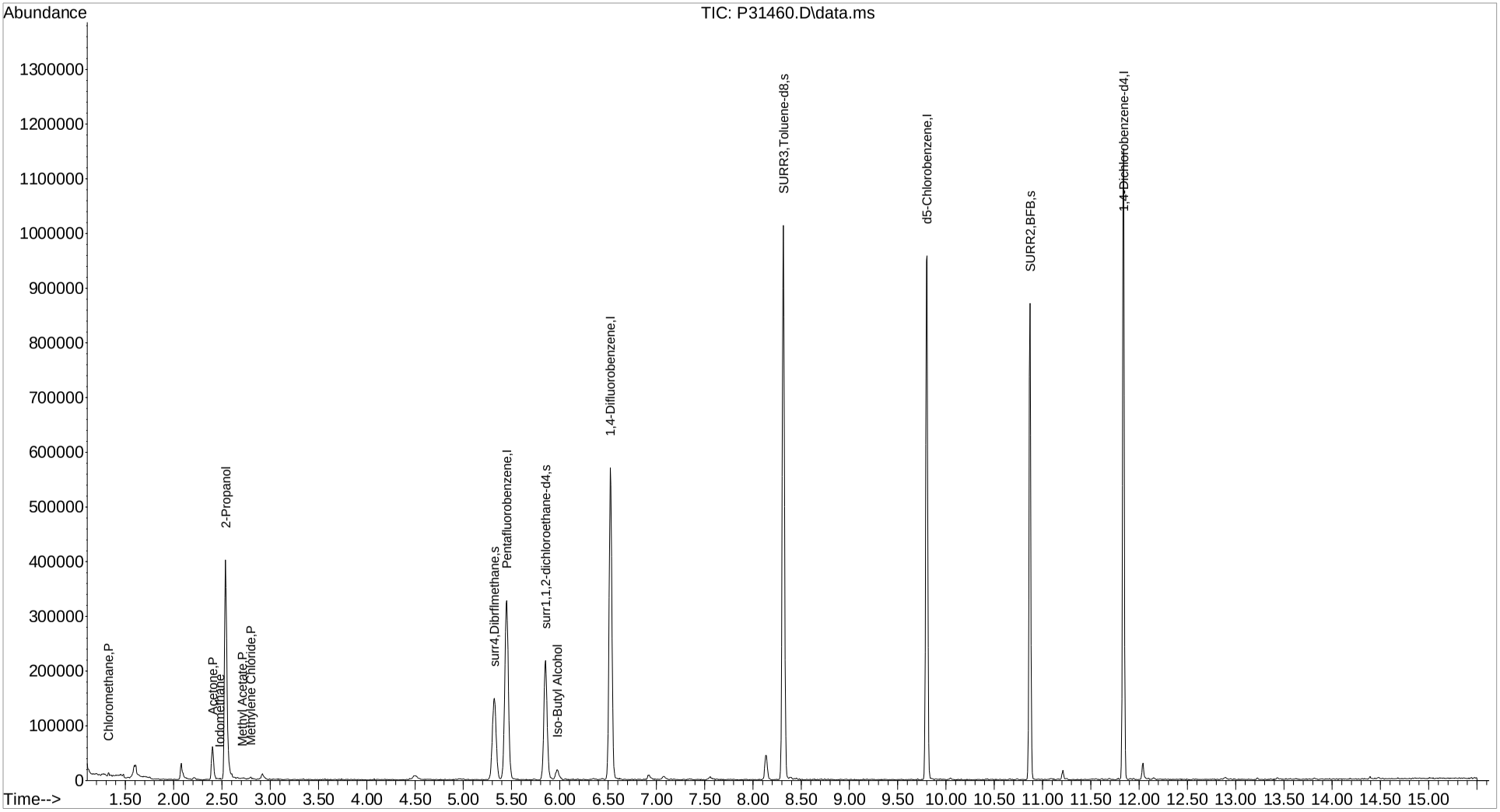
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.450	168	313020	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	488109	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	437042	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	229946	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	128598	49.71	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 99.42%				
48) surr1,1,2-dichloroetha...	5.853	65	183130	51.16	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 102.32%				
65) SURR3,Toluene-d8	8.316	98	612632	50.30	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.60%				
70) SURR2,BFB	10.870	95	228821	48.29	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.58%				
Target Compounds							Qvalue
3) Chloromethane	1.323	50	4140	0.69	ppb		81
15) Acetone	2.402	43	63671	24.99	ppb		98
16) 2-Propanol	2.536	45	479224	827.28	ppb		99
17) Iodomethane	2.475	142	785m	1.32	ppb		
21) Methyl Acetate	2.707	43	2248	0.45	ppb		93
22) Methylene Chloride	2.798	84	1611	0.40	ppb	#	79
51) Iso-Butyl Alcohol	5.975	43	15002	35.91	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

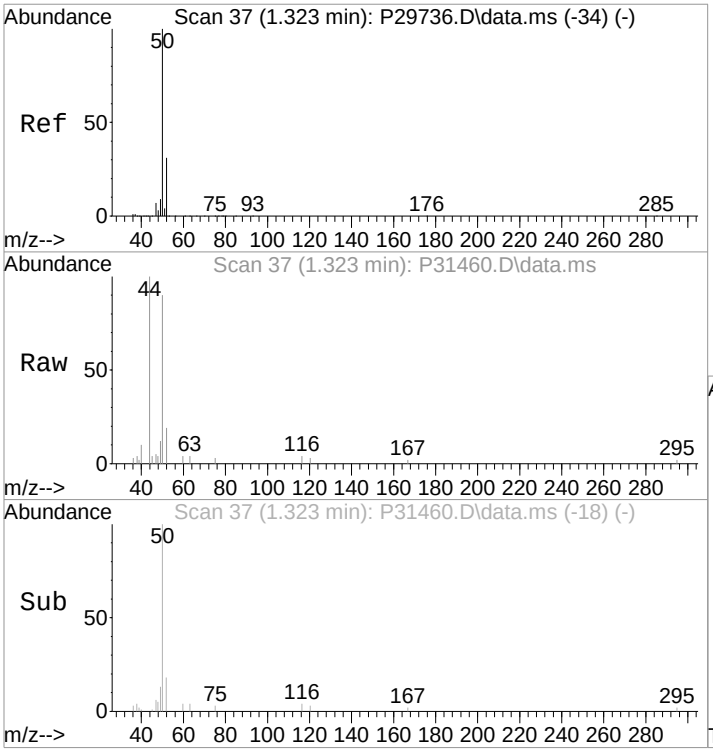
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31460.D
Acq On : 31 Oct 2019 12:59 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 04 10:32:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



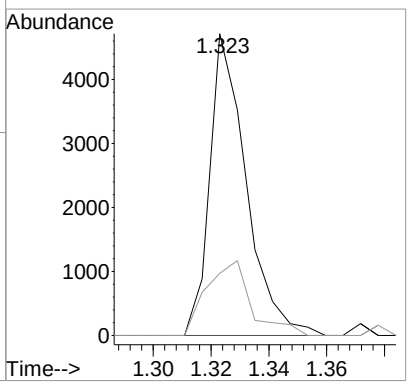
1st 11/04/19
2nd 11/04/19

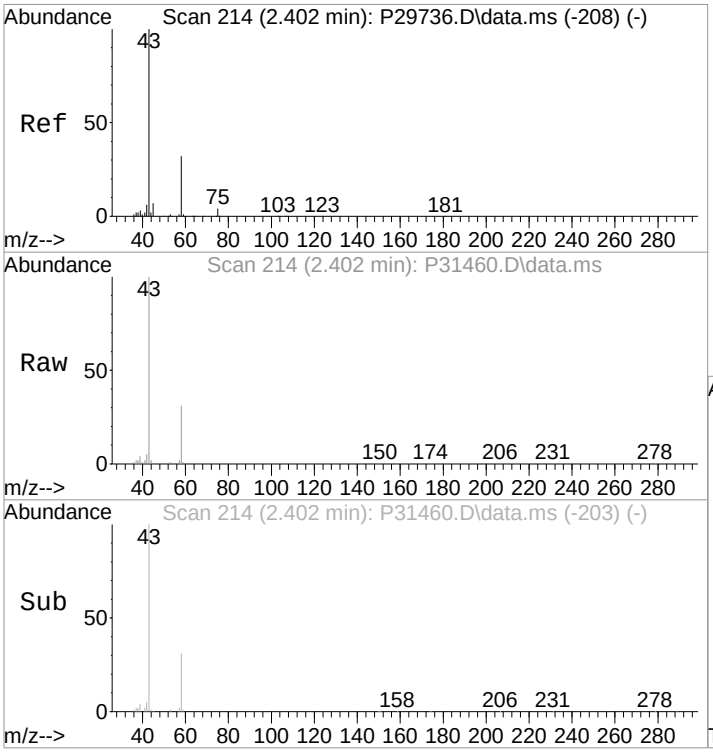


#3
Chloromethane
Concen: 0.69 ppb
RT: 1.323 min Scan# 37
Delta R.T. -0.000 min
Lab File: P31460.D
Acq: 31 Oct 2019 12:59 pm

Tgt Ion: 50 Resp: 4140

Ion	Ratio	Lower	Upper
50	100		
52	20.6	11.2	51.2

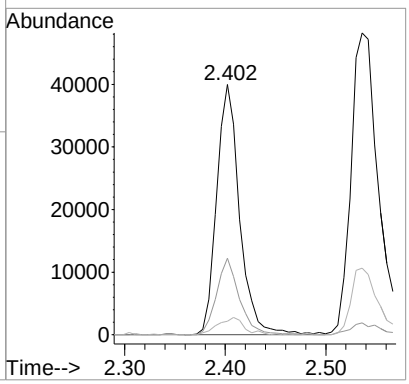


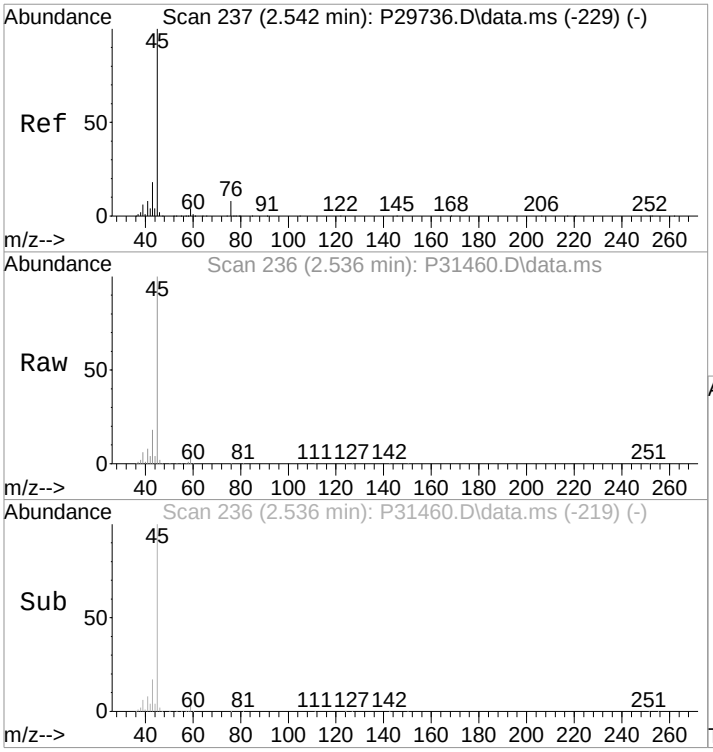


#15
Acetone
Concen: 24.99 ppb
RT: 2.402 min Scan# 214
Delta R.T. -0.006 min
Lab File: P31460.D
Acq: 31 Oct 2019 12:59 pm

Tgt Ion: 43 Resp: 63671

Ion	Ratio	Lower	Upper
43	100		
58	30.6	11.7	51.7
42	5.4	0.0	26.5

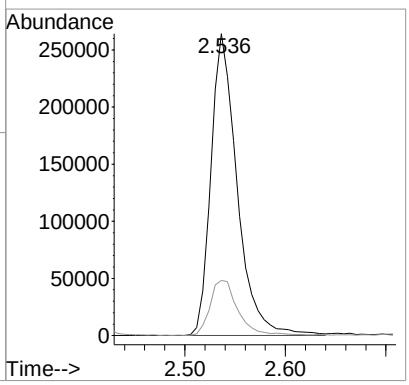


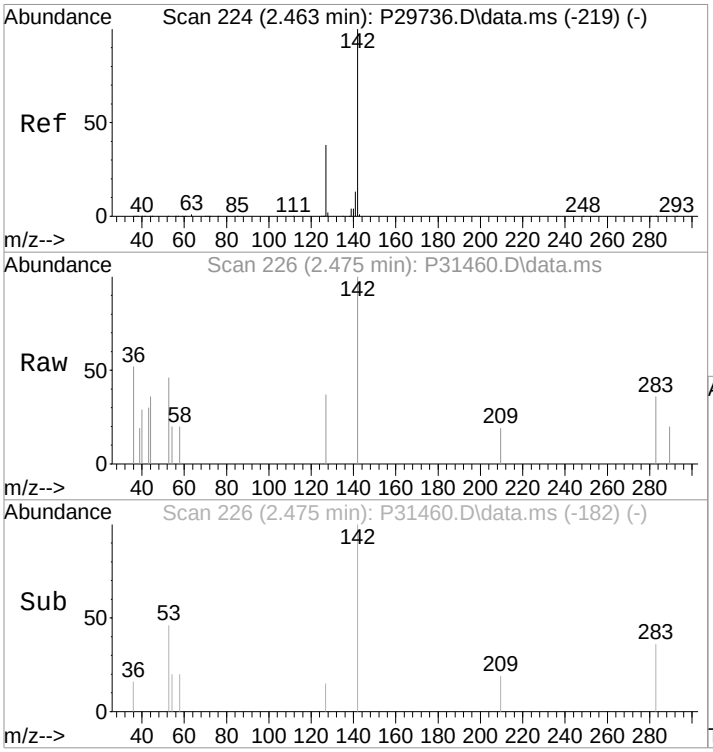


#16
2-Propanol
Concen: 827.28 ppb
RT: 2.536 min Scan# 236
Delta R.T. -0.006 min
Lab File: P31460.D
Acq: 31 Oct 2019 12:59 pm

Tgt Ion: 45 Resp: 479224

Ion	Ratio	Lower	Upper
45	100		
43	18.2	0.0	37.7

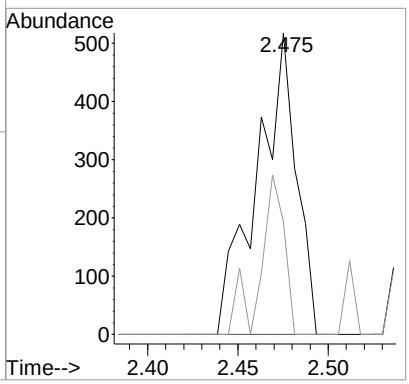


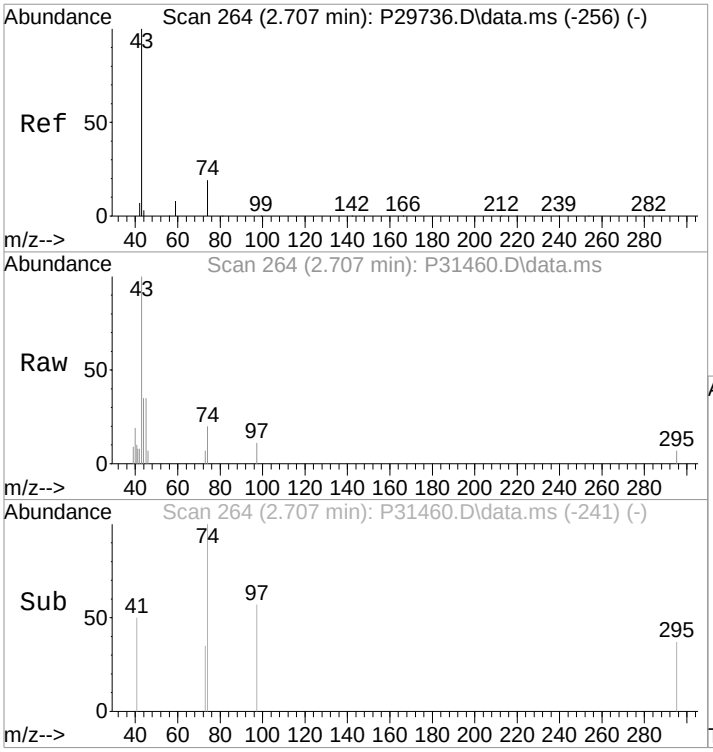


#17
Iodomethane
Concen: 1.32 ppb m
RT: 2.475 min Scan# 226
Delta R.T. 0.006 min
Lab File: P31460.D
Acq: 31 Oct 2019 12:59 pm

Tgt Ion:142 Resp: 785

Ion	Ratio	Lower	Upper
142	100		
127	37.3	18.6	58.6

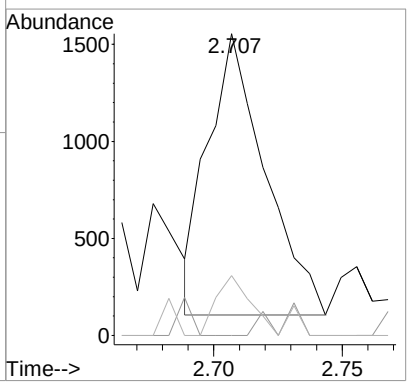


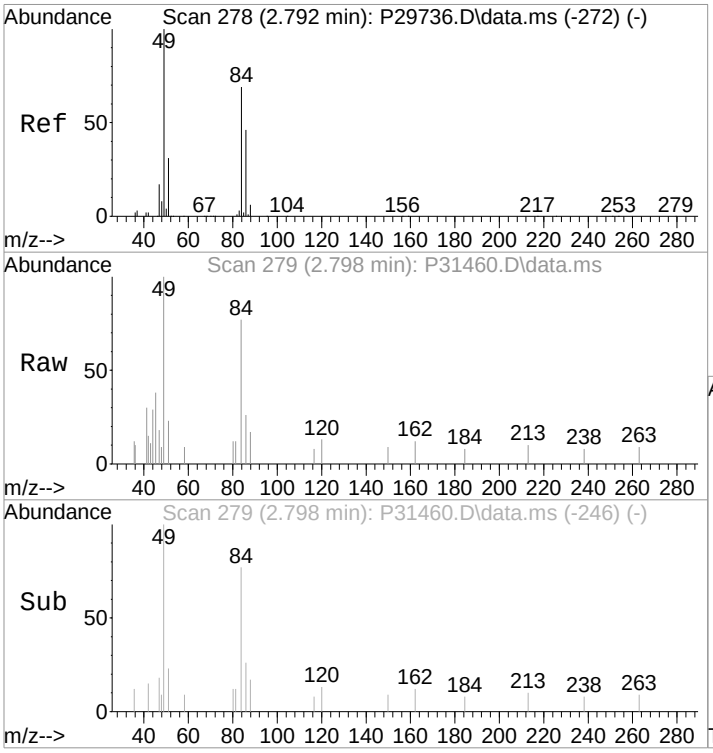


#21
Methyl Acetate
Concen: 0.45 ppb
RT: 2.707 min Scan# 264
Delta R.T. -0.000 min
Lab File: P31460.D
Acq: 31 Oct 2019 12:59 pm

Tgt Ion: 43 Resp: 2248

Ion	Ratio	Lower	Upper
43	100		
59	0.0	0.0	27.7
74	19.9	0.0	39.3

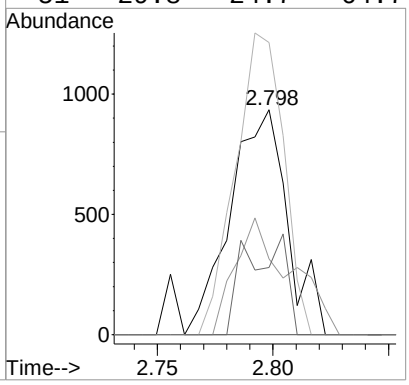


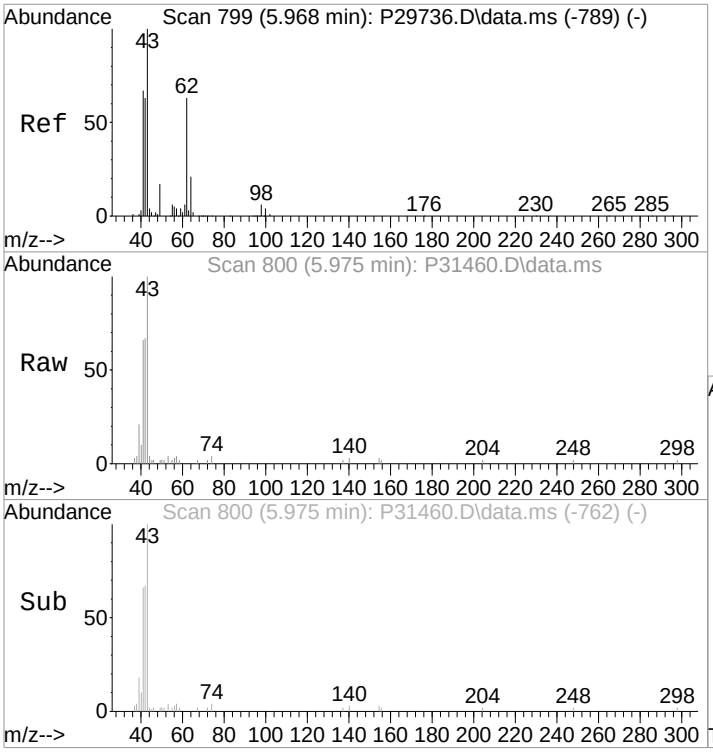


#22
Methylene Chloride
Concen: 0.40 ppb
RT: 2.798 min Scan# 279
Delta R.T. -0.000 min
Lab File: P31460.D
Acq: 31 Oct 2019 12:59 pm

Tgt Ion: 84 Resp: 1611

Ion	Ratio	Lower	Upper
84	100		
86	33.7	46.1	86.1#
49	129.8	124.9	164.9
51	29.8	24.7	64.7

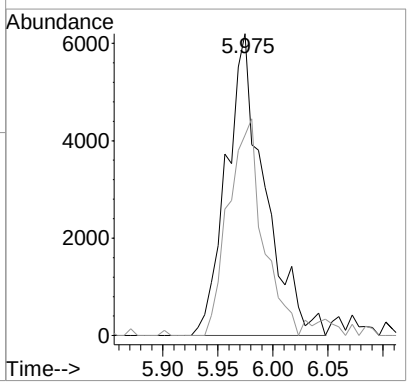




#51
Iso-Butyl Alcohol
Concen: 35.91 ppb
RT: 5.975 min Scan# 800
Delta R.T. -0.006 min
Lab File: P31460.D
Acq: 31 Oct 2019 12:59 pm

Tgt Ion: 43 Resp: 15002

Ion	Ratio	Lower	Upper
43	100		
41	66.4	47.1	87.1



1st 11/04/19
2nd 11/04/19

LSC Area Percent Report

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31460.D
Acq On : 31 Oct 2019 12:59 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration Parameters: INTP90.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 500 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge

Signal : TIC: P31460.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.591	73	81	82	rBV4	23510	33724	2.05%	0.351%
2	2.079	155	161	168	rBV	30318	49031	2.99%	0.510%
3	2.402	209	214	220	rBV	60729	96985	5.91%	1.009%
4	2.536	230	236	246	rBV	400772	723077	44.04%	7.523%
5	2.920	293	299	310	rVB2	10926	23631	1.44%	0.246%
6	5.322	681	693	703	rBV2	148958	416318	25.36%	4.331%
7	5.450	703	714	725	rVB	326234	855706	52.12%	8.903%
8	5.853	769	780	788	rBV	218649	516428	31.46%	5.373%
9	5.975	793	800	809	rVB2	18889	48330	2.94%	0.503%
10	6.523	880	890	900	rBV	570096	1148367	69.95%	11.948%
11	8.133	1147	1154	1164	rVB3	45163	86142	5.25%	0.896%
12	8.316	1176	1184	1193	rBV	1013387	1641767	100.00%	17.081%
13	9.803	1420	1428	1434	rBV	958036	1374559	83.72%	14.301%
14	10.870	1597	1603	1609	rBV	870501	1093039	66.58%	11.372%
15	11.211	1654	1659	1663	rBV2	17287	21951	1.34%	0.228%
16	11.839	1755	1762	1769	rBV	1153928	1442120	87.84%	15.004%
17	12.040	1790	1795	1802	rBV2	30240	40262	2.45%	0.419%

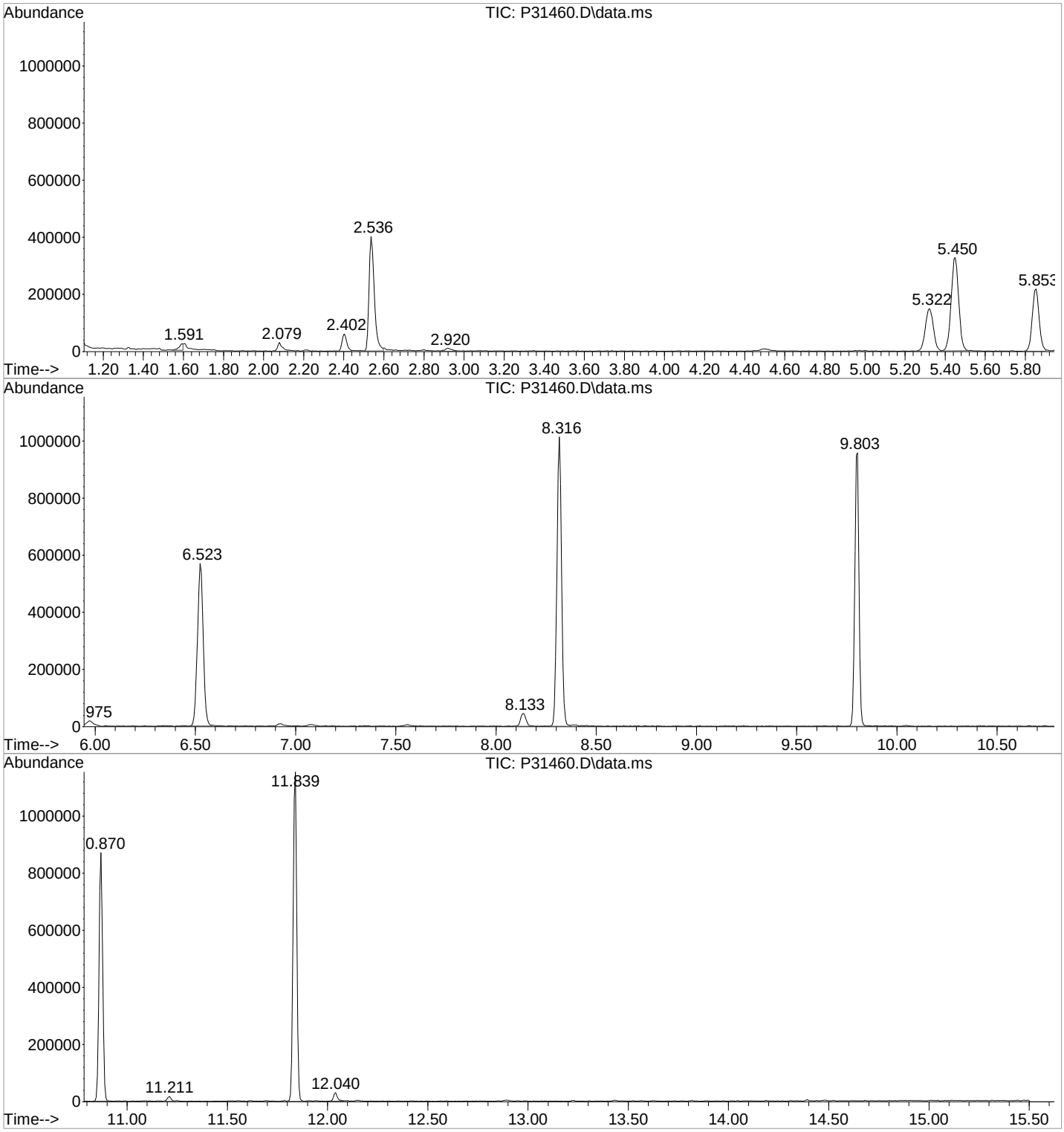
Sum of corrected areas: 9611437

LSC Report - Integrated Chromatogram

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31460.D
Acq On : 31 Oct 2019 12:59 pm
Operator : K.Ruest
Sample : MBLK-FP Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.L
TIC Integration Parameters: LSCINT.P



1st 11/04/19
2nd 11/04/19

Tentatively Identified Compound (LSC) summary

Data Path : I:\ACQUDATA\msvoa12\Data\103119\\
Data File : P31460.D
Acq On : 31 Oct 2019 12:59 pmm
Operator : K.Ruestt
Sample : MBLK-FP Inst : MSVOA-122
Misc :
ALS Vial : 3 Sample Multiplier: 11

Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.MM
Quant Title : MS#12 - 8260B WATERS 10mL Purgee

TIC Library : I:\ACQUDATA\DATABASE\NBS75K.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

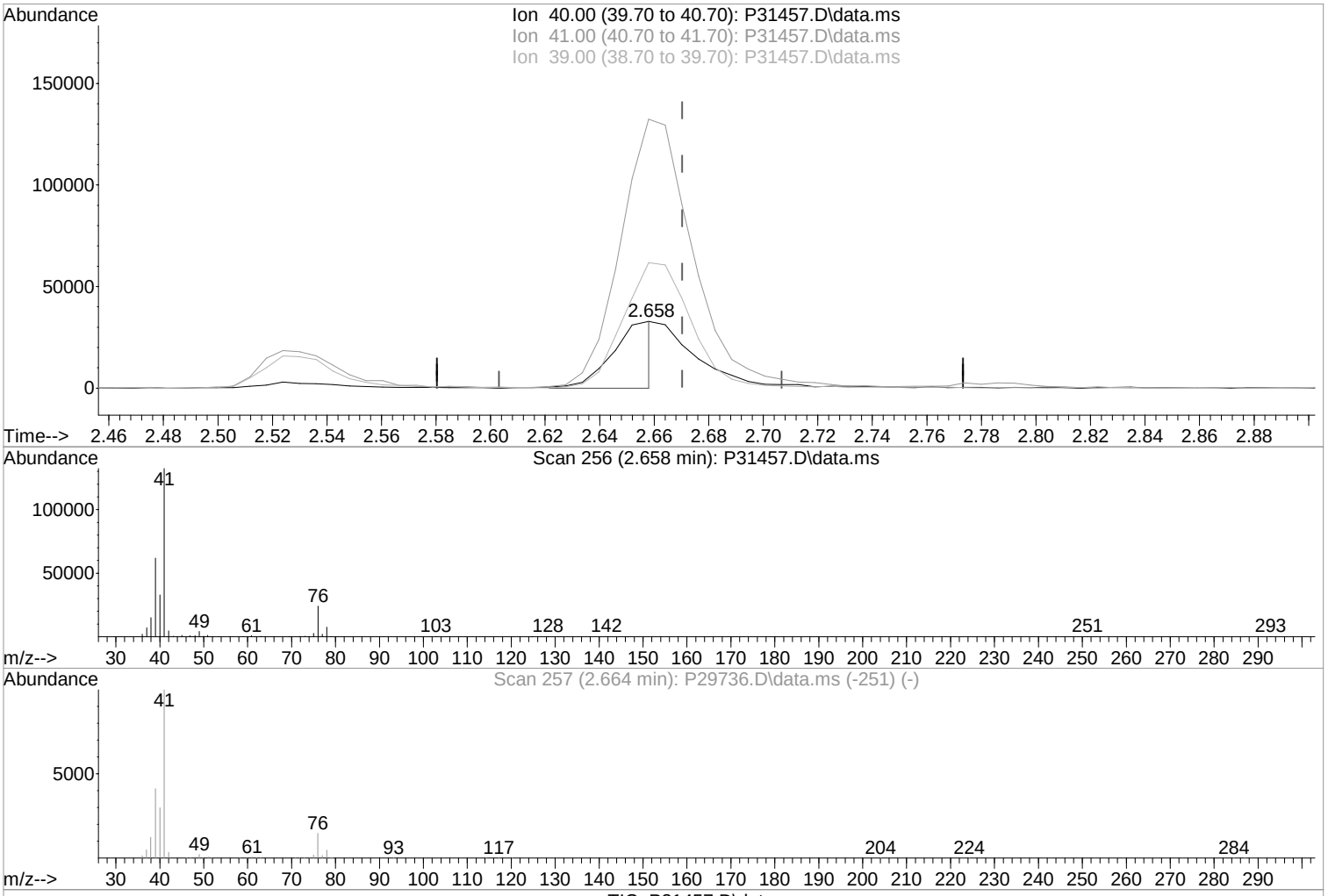
No Library Search Compounds Detected
****

1st 11/03/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31457.D
Acq On : 31 Oct 2019 11:05 am
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:26:49 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31457.D\data.ms

(19) Acetonitrile

2.658min (-0.012) 102.84 ppb m

response 35105

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	403.22#
39.00	137.60	188.01#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

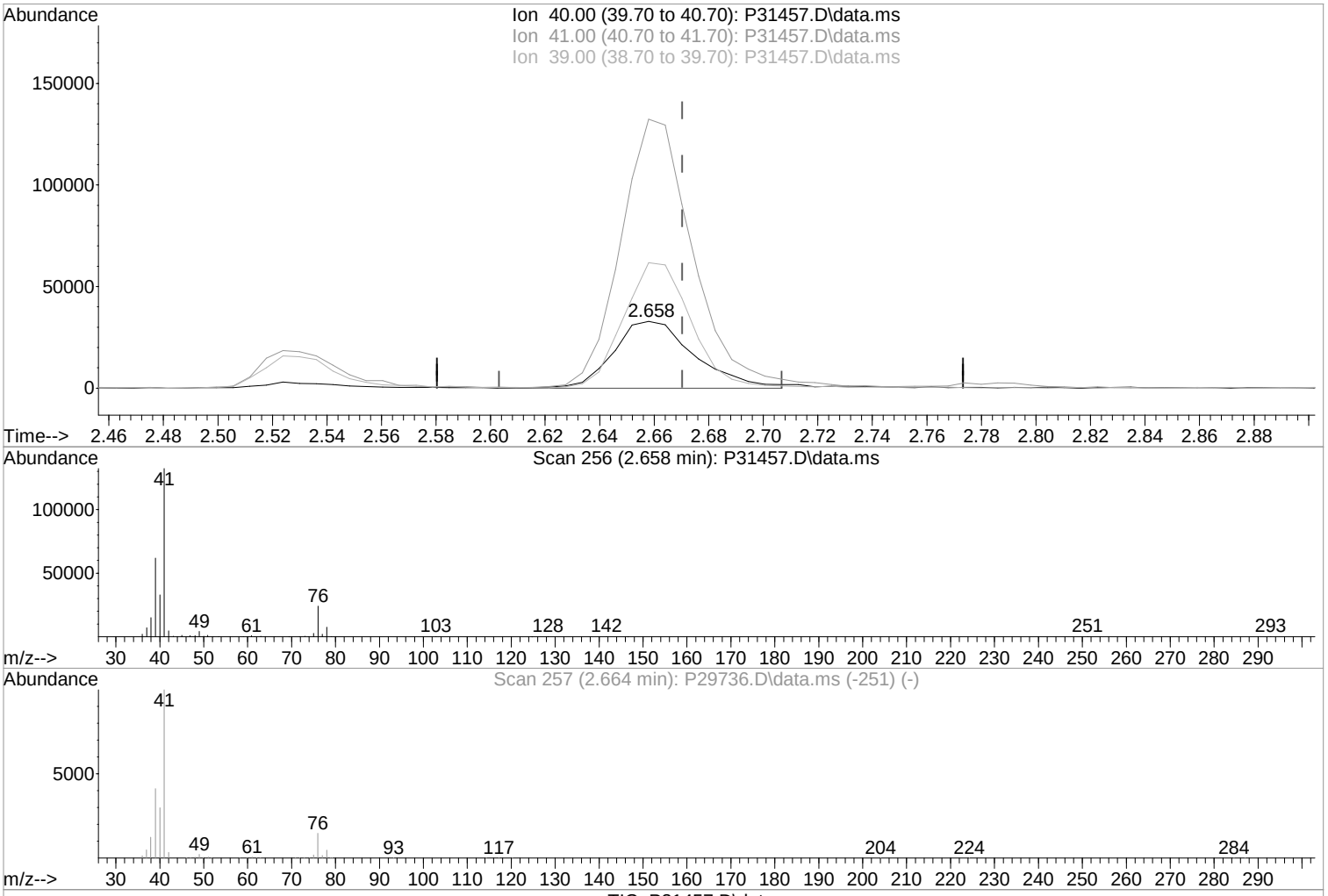
10/31/19

1st 11/03/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31457.D
Acq On : 31 Oct 2019 11:05 am
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:26:49 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31457.D\data.ms

(19) Acetonitrile

2.658min (-0.012) 199.68 ppb

response 68163

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	403.22#
39.00	137.60	188.01#
0.00	0.00	0.00

Manual Integration:

Before

10/31/19

1st 11/03/19
2nd 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31457.D
Acq On : 31 Oct 2019 11:05 am
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:27:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	316032	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.517	114	520992	50.00	ppb		-0.01
71) d5-Chlorobenzene	9.797	117	458771	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	248289	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	134281	48.63	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 97.26%				
48) surr1,1,2-dichloroetha...	5.840	65	192340	50.34	ppb		-0.02
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.68%				
65) SURR3,Toluene-d8	8.315	98	654467	50.35	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.70%				
70) SURR2,BFB	10.870	95	248923	49.22	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 98.44%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	98917	25.32	ppb		97
3) Chloromethane	1.317	50	127797	21.24	ppb		96
4) Vinyl Chloride	1.390	62	117441	20.91	ppb		92
5) Bromomethane	1.615	94	67462	25.57	ppb		100
6) Chloroethane	1.695	64	63954	18.91	ppb		93
7) Freon 21	1.853	67	119472	19.08	ppb		95
8) Trichlorofluoromethane	1.890	101	100747	22.12	ppb		97
9) Diethyl Ether	2.134	59	79391	19.77	ppb		95
10) Freon 123a	2.140	67	77914	17.80	ppb		100
11) Freon 123	2.195	83	93657	19.40	ppb		98
12) Acrolein	2.256	56	42297	37.82	ppb		97
13) 1,1-Diclethene	2.323	96	63996	20.70	ppb	#	87
14) Freon 113	2.323	101	61040	20.31	ppb		91
15) Acetone	2.390	43	98811	38.42	ppb		94
16) 2-Propanol	2.530	45	493793	844.31	ppb		97
17) Iodomethane	2.457	142	59953	16.75	ppb		90
18) Carbon Disulfide	2.512	76	197377	21.31	ppb		99
19) Acetonitrile	2.658	40	35105m	102.84	ppb		
20) Allyl Chloride	2.664	76	42963	24.24	ppb	#	86
21) Methyl Acetate	2.695	43	95226	18.68	ppb		99
22) Methylene Chloride	2.786	84	74416	18.48	ppb		92
23) TBA	2.938	59	280484	323.97	ppb		100
24) Acrylonitrile	3.066	53	250026	94.78	ppb		99
25) Methyl-t-Butyl Ether	3.085	73	255152	19.61	ppb		97
26) trans-1,2-Dichloroethene	3.073	96	68494	20.40	ppb		88
28) 1,1-Diclethane	3.585	63	138999	20.02	ppb		96
29) Vinyl Acetate	3.682	86	17902	20.75	ppb	#	85
30) DIPE	3.694	45	261524	17.30	ppb		98
31) 2-Chloro-1,3-Butadiene	3.700	53	121835	21.67	ppb		95
32) ETBE	4.225	59	227803	16.73	ppb		97
33) 2,2-Dichloropropane	4.420	77	108160	21.24	ppb		93
34) cis-1,2-Dichloroethene	4.438	96	78417	20.35	ppb		88
35) 2-Butanone	4.511	43	64987	18.09	ppb		95
36) Propionitrile	4.633	54	100850	90.49	ppb		96
37) Bromochloromethane	4.847	130	44503	19.52	ppb		89
38) Methacrylonitrile	4.883	67	47109	17.87	ppb		89
39) Tetrahydrofuran	4.950	42	41793	15.76	ppb		97
40) Chloroform	5.017	83	122498	20.01	ppb		97
41) 1,1,1-Trichloroethane	5.286	97	101824	20.87	ppb		96

1st 11/03/19
2nd FW 11/04/19

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31457.D
Acq On : 31 Oct 2019 11:05 am
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:27:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.127	73	216483	17.26	ppb		92
44) Cyclohexane	5.353	41	82044	19.72	ppb		90
46) Carbontetrachloride	5.560	117	71988	20.29	ppb		89
47) 1,1-Dichloropropene	5.578	75	100555	19.95	ppb		94
49) Benzene	5.901	78	313409	20.01	ppb		99
50) 1,2-Dichloroethane	5.962	62	104016	19.54	ppb		97
51) Iso-Butyl Alcohol	5.962	43	151256	339.17	ppb		93
52) n-Heptane	6.346	43	127467	21.75	ppb		92
53) 1-Butanol	6.907	56	199946	782.00	ppb		99
54) Trichloroethene	6.834	130	69369	19.92	ppb		94
55) Methylcyclohexane	7.047	55	111209	19.82	ppb		96
56) 1,2-Diclpropane	7.127	63	85187	19.71	ppb		98
57) Dibromomethane	7.273	93	43533	20.30	ppb		98
58) 1,4-Dioxane	7.340	88	33489	335.04	ppb		97
59) Methyl Methacrylate	7.352	69	77827	19.34	ppb		97
60) Bromodichloromethane	7.498	83	85835	20.64	ppb		95
61) 2-Nitropropane	7.803	41	30324	46.14	ppb		87
63) cis-1,3-Dichloropropene	8.035	75	115969	18.77	ppb		95
64) 4-Methyl-2-pentanone	8.248	43	124398	18.60	ppb		99
66) Toluene	8.389	91	328109	20.71	ppb		98
67) trans-1,3-Dichloropropene	8.669	75	105931	18.63	ppb		97
68) Ethyl Methacrylate	8.797	69	134419	19.10	ppb		99
69) 1,1,2-Trichloroethane	8.858	97	72452	20.60	ppb		98
72) Tetrachloroethene	8.968	164	55438	20.04	ppb		98
73) 2-Hexanone	9.151	43	93135	18.23	ppb		97
74) 1,3-Dichloropropane	9.023	76	130123	18.92	ppb		98
75) Dibromochloromethane	9.248	129	61182	21.53	ppb		96
76) N-Butyl Acetate	9.291	43	171686	17.64	ppb		99
77) 1,2-Dibromoethane	9.346	107	69408	19.36	ppb		94
78) Chlorobenzene	9.827	112	209374	20.69	ppb		98
79) 3-CBTF	9.839	180	103985	19.94	ppb		98
80) 4-CBTF	9.894	180	97327	20.70	ppb		98
81) 1,1,1,2-Tetrachloroethane	9.913	131	63939	21.20	ppb		95
82) Ethylbenzene	9.937	106	112486	20.47	ppb		99
83) (m+p)Xylene	10.053	106	273711	41.23	ppb		93
84) o-Xylene	10.406	106	138841	20.55	ppb		98
85) Styrene	10.425	104	228314	20.41	ppb		97
87) Bromoform	10.583	173	35691	20.51	ppb		93
88) 2-CBTF	10.656	180	101927	19.67	ppb		98
89) Isopropylbenzene	10.736	105	346389	20.44	ppb		99
90) Cyclohexanone	10.827	55	107004	147.76	ppb		96
91) trans-1,4-Dichloro-2-B...	11.065	53	28678	15.34	ppb		99
92) 1,1,2,2-Tetrachloroethane	11.016	83	109250	19.36	ppb		94
93) Bromobenzene	10.992	156	83862	20.09	ppb	#	89
94) 1,2,3-Trichloropropane	11.047	110	32918	17.72	ppb	#	78
95) n-Propylbenzene	11.089	91	438546	21.63	ppb		100
96) 2-Chlorotoluene	11.156	91	257059	20.09	ppb		97
97) 3-Chlorotoluene	11.211	91	241754	18.61	ppb		98
98) 4-Chlorotoluene	11.254	91	288892	20.92	ppb		96
99) 1,3,5-Trimethylbenzene	11.242	105	288069	20.42	ppb		96
100) tert-Butylbenzene	11.516	119	252463	20.33	ppb		99
101) 1,2,4-Trimethylbenzene	11.553	105	289716	20.68	ppb		97
102) 3,4-DCBTF	11.620	214	85526	20.01	ppb		93
103) sec-Butylbenzene	11.693	105	377770	21.02	ppb		98
104) p-Isopropyltoluene	11.815	119	317968	20.67	ppb		97
105) 1,3-Dclbenz	11.784	146	167746	20.17	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31457.D
Acq On : 31 Oct 2019 11:05 am
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:27:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

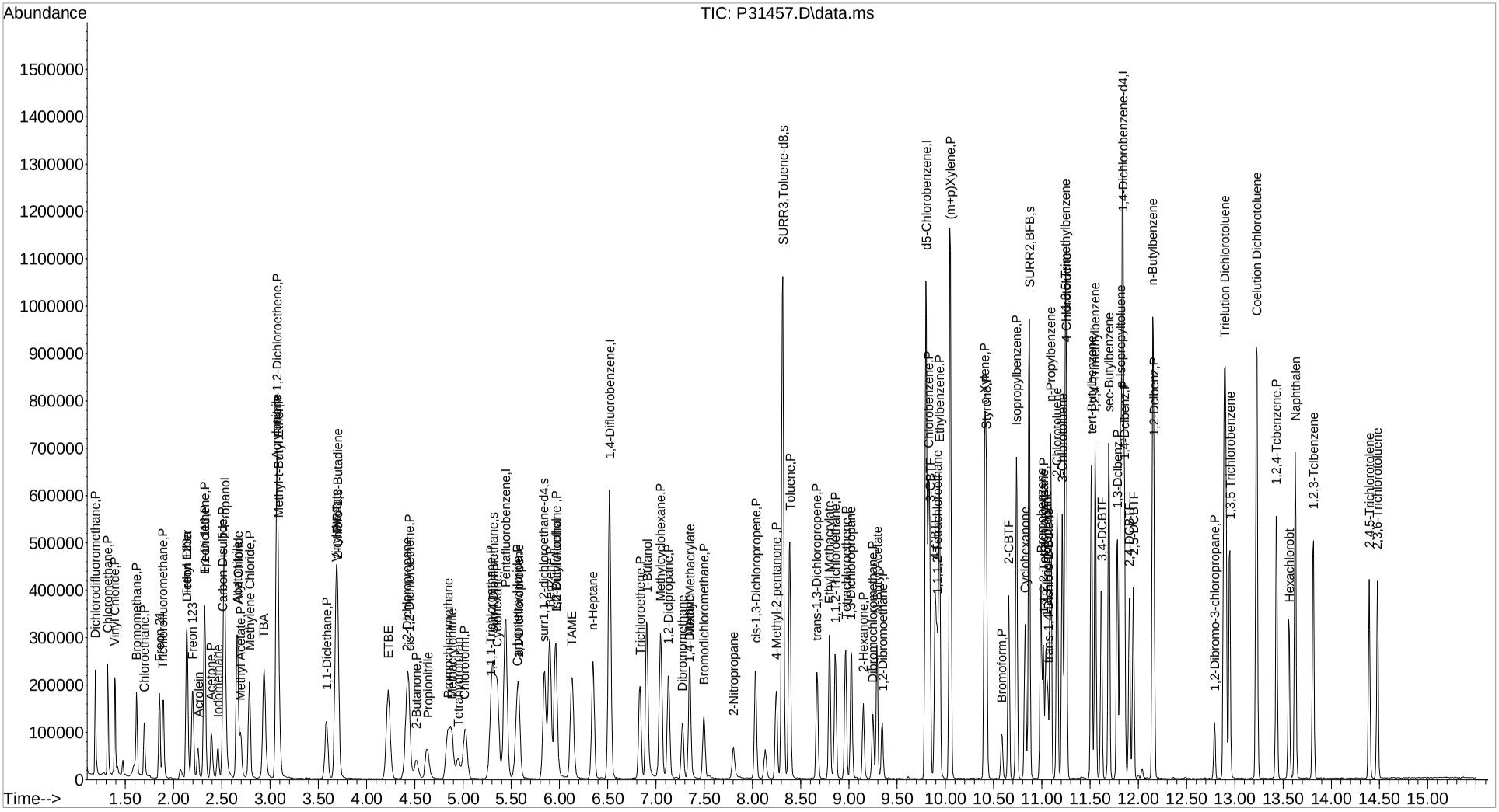
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 1,4-Dclbenz	11.857	146	165848	19.48	ppb	97
107) 2,4-DCBTF	11.906	214	77144	19.78	ppb	99
108) 2,5-DCBTF	11.949	214	81821	18.86	ppb	98
109) n-Butylbenzene	12.150	91	304480	20.24	ppb	99
110) 1,2-Dclbenz	12.162	146	165042	20.06	ppb	97
111) 1,2-Dibromo-3-chloropr...	12.790	157	21400	16.42	ppb	92
112) Trielution Dichlorotol...	12.894	125	421352	56.01	ppb	95
113) 1,3,5 Trichlorobenzene	12.949	180	119853	19.45	ppb	95
114) Coelution Dichlorotoluene	13.223	125	306993	36.43	ppb	98
115) 1,2,4-Tcbenzene	13.430	180	129663	20.47	ppb	97
116) Hexachlorobt	13.564	225	51965	20.48	ppb	91
117) Naphthalen	13.625	128	388150	19.47	ppb	98
118) 1,2,3-Tclbenzene	13.814	180	123192	19.69	ppb	97
119) 2,4,5-Trichlorotolene	14.394	159	82641	17.33	ppb	98
120) 2,3,6-Trichlorotoluene	14.479	159	75203	15.25	ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31457.D
Acq On : 31 Oct 2019 11:05 am
Operator : K.Ruest
Sample : LCS-FP Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:27:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

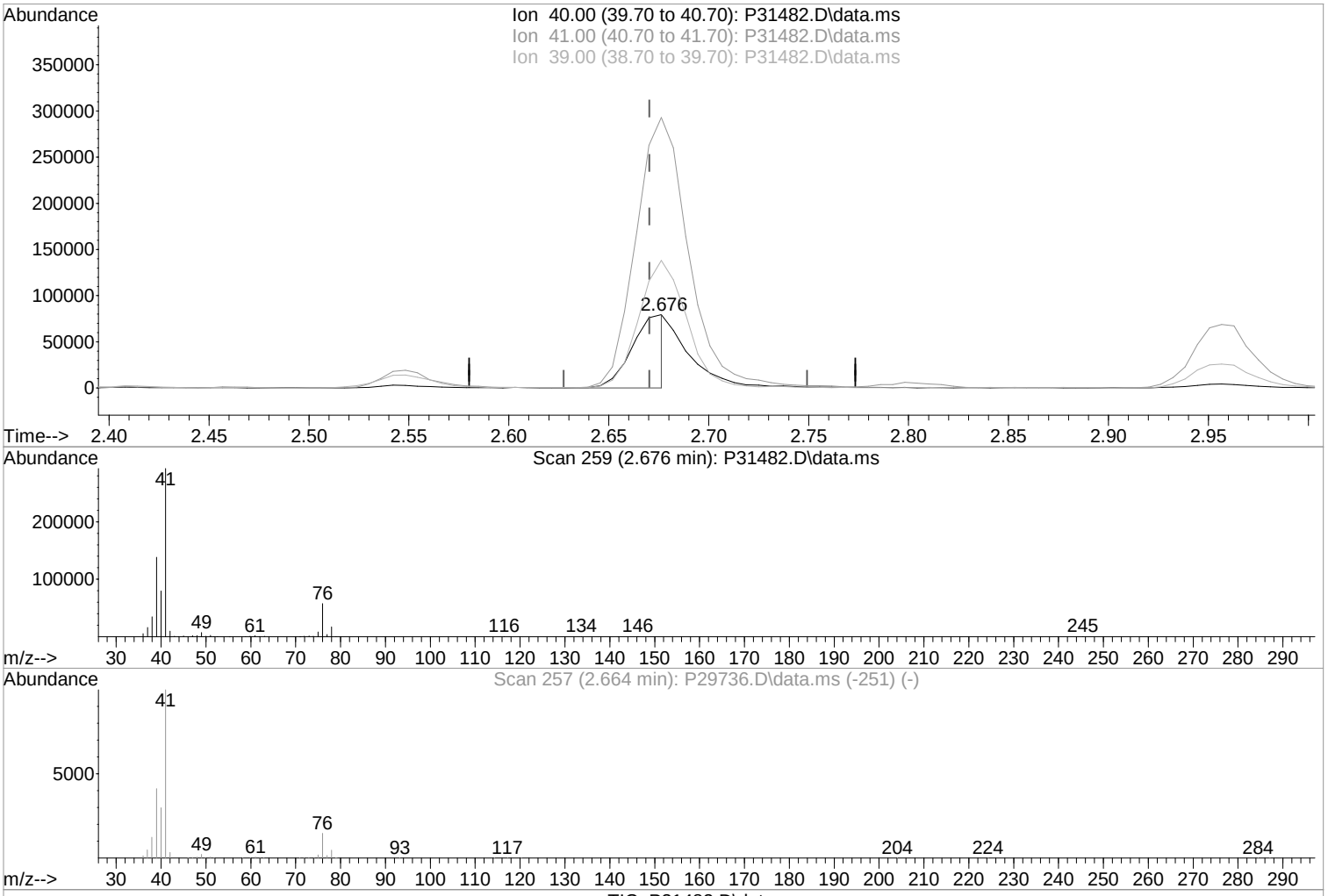


1st 11/04/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31482.D
Acq On : 31 Oct 2019 9:07 pm
Operator : K.Ruest
Sample : R1910542-010MS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 03 09:20:09 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31482.D\data.ms

(19) Acetonitrile

2.676min (+0.006) 278.21 ppb m

response 91921

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	368.38#
39.00	137.60	173.53#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

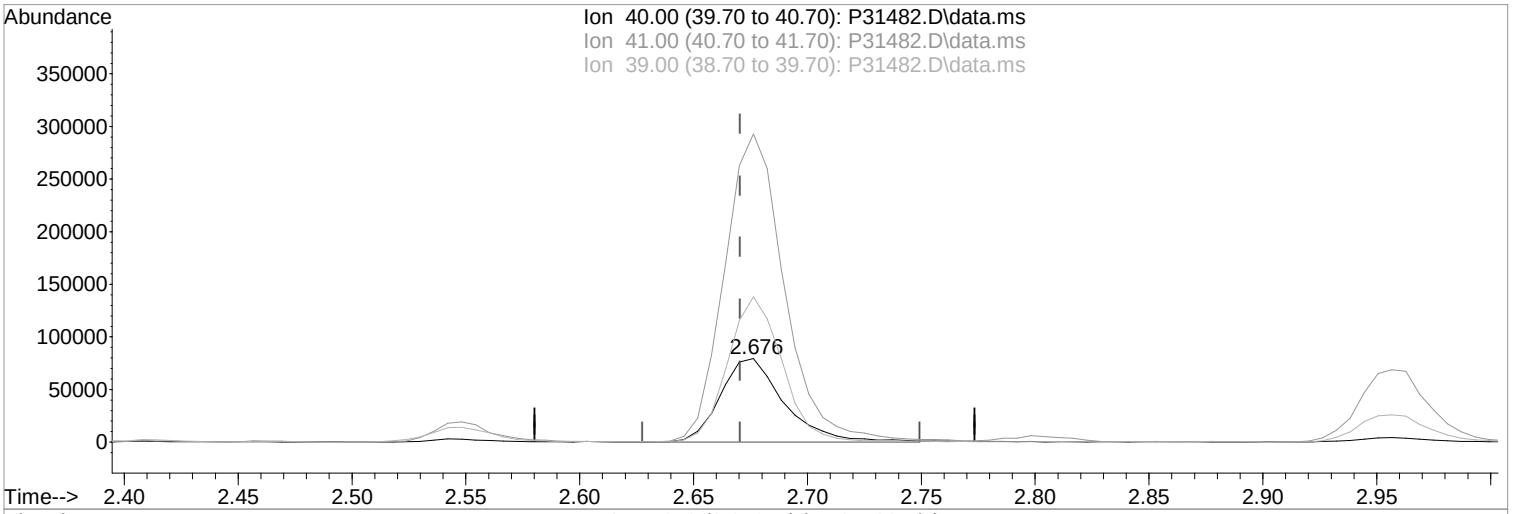
11/04/19

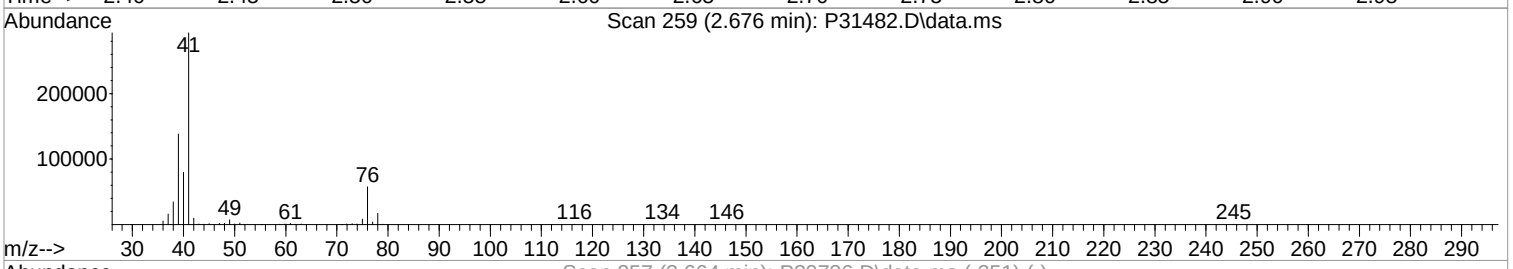
1st 11/04/19
2nd 11/04/19

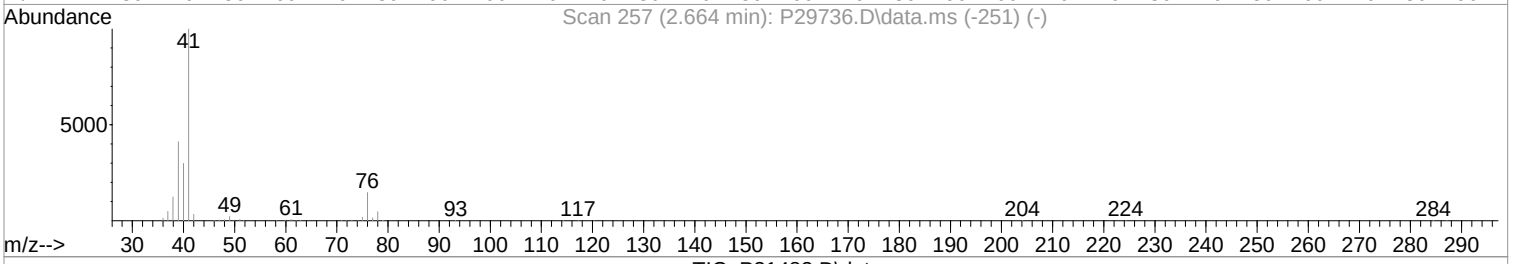
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31482.D
Acq On : 31 Oct 2019 9:07 pm
Operator : K.Ruest
Sample : R1910542-010MS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 03 09:20:09 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31482.D\data.ms

(19) Acetonitrile

2.676min (+0.006) 470.49 ppb

response 155451

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	368.38#
39.00	137.60	173.53#
0.00	0.00	0.00

Manual Integration:

Before

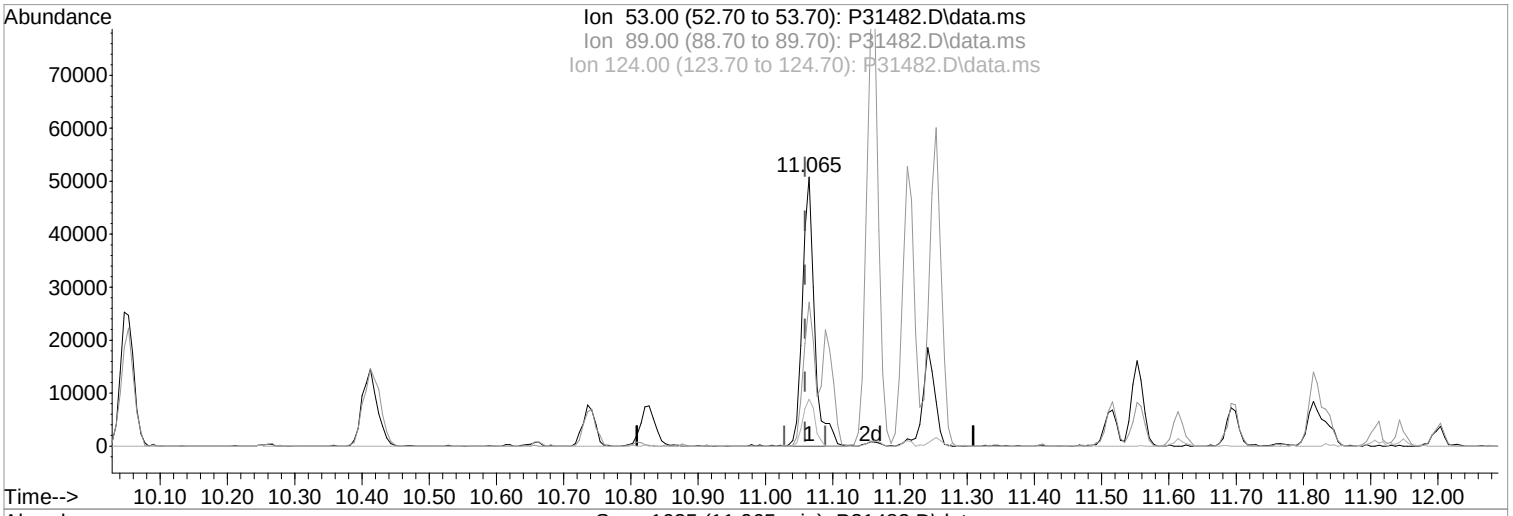
11/04/19

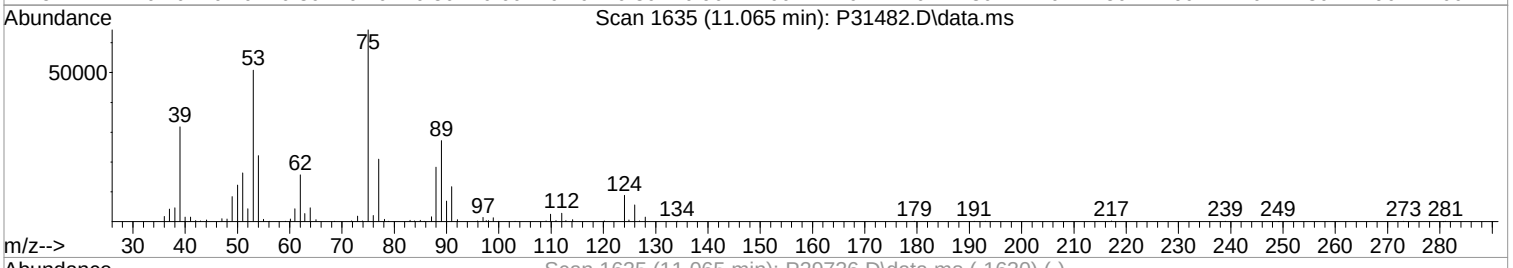
1st 11/04/19
2nd 11/04/19

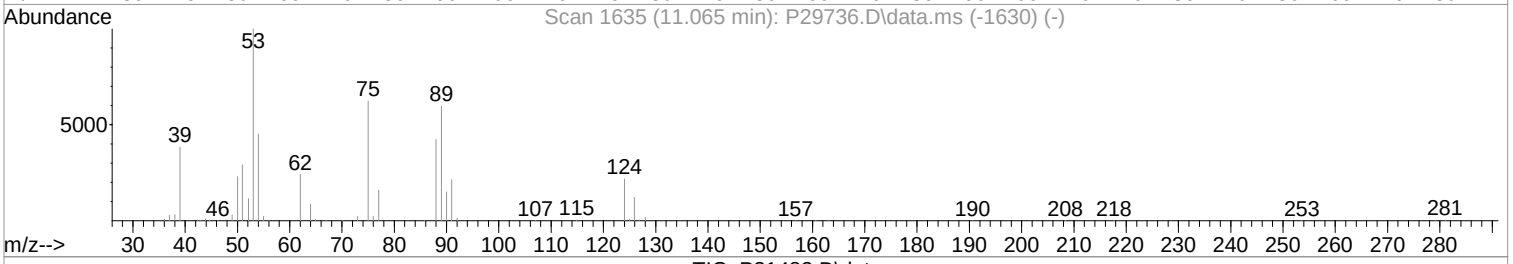
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31482.D
Acq On : 31 Oct 2019 9:07 pm
Operator : K.Ruest
Sample : R1910542-010MS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 03 09:20:09 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31482.D\data.ms

(91) trans-1,4-Dichloro-2-Butene

11.065min (+0.006) 36.79 ppb m

response 63462

Ion	Exp%	Act%
53.00	100	100
89.00	59.70	53.47
124.00	21.90	17.41
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

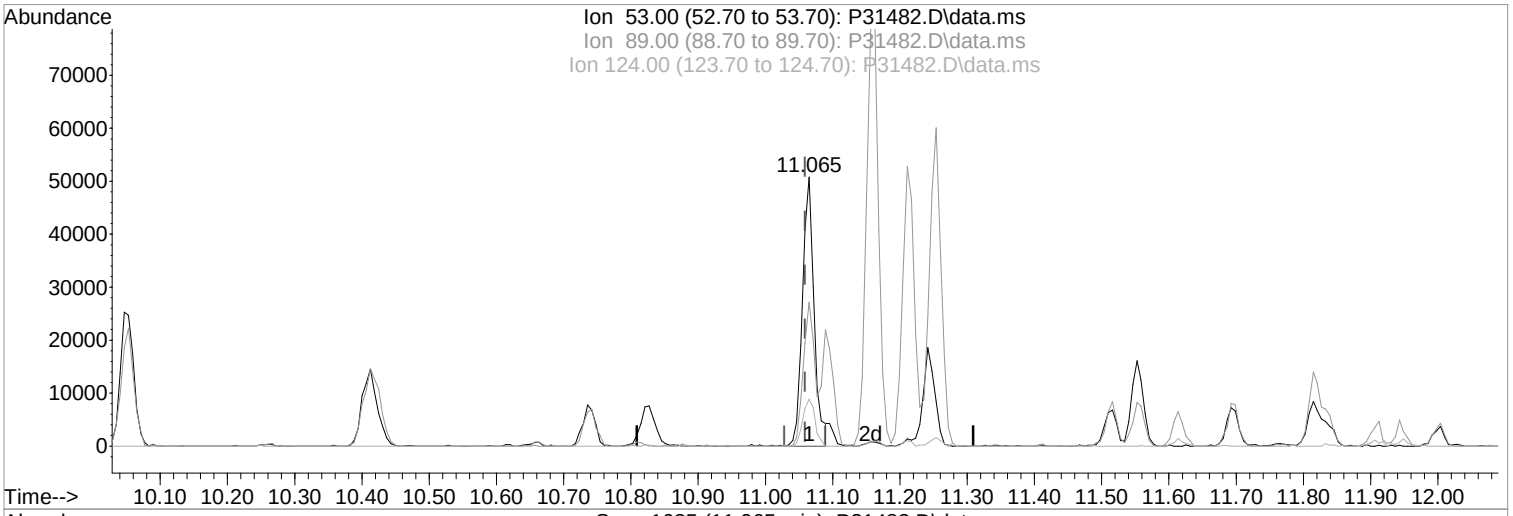
11/04/19

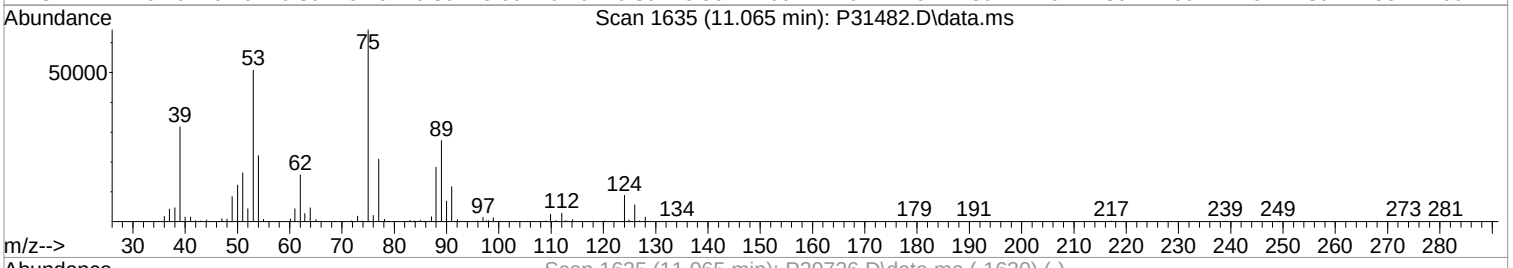
1st 11/04/19
2nd 11/04/19

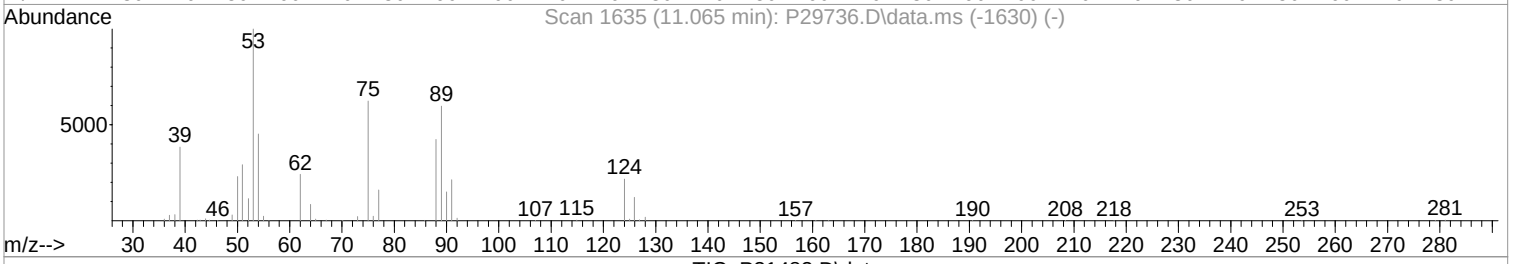
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31482.D
Acq On : 31 Oct 2019 9:07 pm
Operator : K.Ruest
Sample : R1910542-010MS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 03 09:20:09 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31482.D\data.ms

(91) trans-1,4-Dichloro-2-Butene

11.065min (+0.006) 35.24 ppb

response 60781

Ion	Exp%	Act%
53.00	100	100
89.00	59.70	53.47
124.00	21.90	17.41
0.00	0.00	0.00

Manual Integration:

Before

11/04/19

1st 11/04/19
2nd 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31482.D
Acq On : 31 Oct 2019 9:07 pm
Operator : K.Ruest
Sample : R1910542-010MS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 12:53:01 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	305887	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	483329	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	429136	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	229090	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.334	113	126369	49.33	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 98.66%				
48) surr1,1,2-dichloroetha...	5.859	65	174226	49.15	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 98.30%				
65) SURR3,Toluene-d8	8.315	98	603168	50.02	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.04%				
70) SURR2,BFB	10.870	95	231557	49.35	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 98.70%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	218598	57.82	ppb		98
3) Chloromethane	1.335	50	281934	48.41	ppb		99
4) Vinyl Chloride	1.408	62	259801	47.79	ppb		99
5) Bromomethane	1.634	94	155680	61.26	ppb		97
6) Chloroethane	1.707	64	149673	45.72	ppb		96
7) Freon 21	1.865	67	288589	47.62	ppb		97
8) Trichlorofluoromethane	1.908	101	219262	49.74	ppb		95
9) Diethyl Ether	2.152	59	167571	43.12	ppb		96
10) Freon 123a	2.158	67	193374	45.65	ppb		98
11) Freon 123	2.213	83	231779	49.61	ppb		98
12) Acrolein	2.268	56	84740	78.28	ppb		94
13) 1,1-Diclethene	2.335	96	137523	45.96	ppb		99
14) Freon 113	2.335	101	135175	46.46	ppb		93
15) Acetone	2.408	43	99023	39.78	ppb		97
16) 2-Propanol	2.548	45	451529	797.65	ppb		96
17) Iodomethane	2.475	142	158818	42.90	ppb		100
18) Carbon Disulfide	2.530	76	434108	48.41	ppb		98
19) Acetonitrile	2.676	40	91921m	278.21	ppb		
20) Allyl Chloride	2.676	76	88399	51.52	ppb		95
21) Methyl Acetate	2.713	43	213112	43.20	ppb		97
22) Methylene Chloride	2.804	84	163367	41.92	ppb		93
23) TBA	2.957	59	652529	778.70	ppb		100
24) Acrylonitrile	3.085	53	552545	216.40	ppb		99
25) Methyl-t-Butyl Ether	3.103	73	559406	44.42	ppb		99
26) trans-1,2-Dichloroethene	3.091	96	154360	47.51	ppb		92
28) 1,1-Diclethane	3.597	63	308084	45.84	ppb		97
29) Vinyl Acetate	3.700	86	36869	42.59	ppb	#	93
30) DIPE	3.707	45	617881	42.22	ppb		97
31) 2-Chloro-1,3-Butadiene	3.713	53	271795	49.95	ppb		97
32) ETBE	4.243	59	537405	40.79	ppb		96
33) 2,2-Dichloropropane	4.438	77	204906	41.58	ppb		97
34) cis-1,2-Dichloroethene	4.450	96	171772	46.05	ppb		99
35) 2-Butanone	4.530	43	138129	39.73	ppb		92
36) Propionitrile	4.645	54	232284	215.34	ppb		96
37) Bromochloromethane	4.865	130	99361	45.04	ppb		94
38) Methacrylonitrile	4.901	67	104636	41.02	ppb	#	80
39) Tetrahydrofuran	4.962	42	94688	38.81	ppb		94
40) Chloroform	5.042	83	262690	44.34	ppb		99
41) 1,1,1-Trichloroethane	5.304	97	214139	45.34	ppb		97

1st 11/04/19
2nd 11/04/19

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31482.D
Acq On : 31 Oct 2019 9:07 pm
Operator : K.Ruest
Sample : R1910542-010MS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 12:53:01 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) TAME	6.139	73	489192	40.29	ppb	93
44) Cyclohexane	5.365	41	188147	48.75	ppb	96
46) Carbontetrachloride	5.566	117	167755	50.96	ppb	88
47) 1,1-Dichloropropene	5.590	75	220257	47.10	ppb	97
49) Benzene	5.913	78	715396	49.24	ppb	99
50) 1,2-Dichloroethane	5.974	62	217721	44.09	ppb	98
51) Iso-Butyl Alcohol	5.968	43	321470	777.02	ppb	97
52) n-Heptane	6.358	43	242531	44.61	ppb	94
53) 1-Butanol	6.913	56	484064	2040.72	ppb	97
54) Trichloroethene	6.840	130	157433	48.73	ppb	98
55) Methylcyclohexane	7.053	55	247288	47.50	ppb	94
56) 1,2-Diclpropane	7.139	63	188417	46.99	ppb	92
57) Dibromomethane	7.279	93	95886	48.21	ppb	96
58) 1,4-Dioxane	7.352	88	76788	828.09	ppb	93
59) Methyl Methacrylate	7.358	69	169561	45.43	ppb	99
60) Bromodichloromethane	7.505	83	186988	48.46	ppb	96
61) 2-Nitropropane	7.809	41	68936	113.06	ppb	95
63) cis-1,3-Dichloropropene	8.035	75	257095	44.85	ppb	99
64) 4-Methyl-2-pentanone	8.248	43	271581	43.77	ppb	98
66) Toluene	8.389	91	738537	50.25	ppb	99
67) trans-1,3-Dichloropropene	8.675	75	229880	43.58	ppb	98
68) Ethyl Methacrylate	8.803	69	296042	45.35	ppb	99
69) 1,1,2-Trichloroethane	8.864	97	154672	47.40	ppb	99
72) Tetrachloroethene	8.968	164	124287	48.02	ppb	96
73) 2-Hexanone	9.151	43	198650	41.58	ppb	98
74) 1,3-Dichloropropane	9.029	76	287688	44.71	ppb	97
75) Dibromochloromethane	9.254	129	132513	49.85	ppb	99
76) N-Butyl Acetate	9.291	43	387890	42.61	ppb	98
77) 1,2-Dibromoethane	9.346	107	154288	46.02	ppb	95
78) Chlorobenzene	9.827	112	463430	48.95	ppb	99
79) 3-CBTF	9.846	180	241592	49.53	ppb	92
80) 4-CBTF	9.894	180	215964	49.11	ppb	97
81) 1,1,1,2-Tetrachloroethane	9.913	131	145103	51.43	ppb	95
82) Ethylbenzene	9.943	106	251820	48.99	ppb	98
83) (m+p)Xylene	10.053	106	621733	100.12	ppb	96
84) o-Xylene	10.413	106	309606	48.99	ppb	94
85) Styrene	10.425	104	509529	48.69	ppb	97
87) Bromoform	10.583	173	78145	48.67	ppb	95
88) 2-CBTF	10.656	180	236090	49.38	ppb	95
89) Isopropylbenzene	10.736	105	791869	50.65	ppb	100
90) Cyclohexanone	10.827	55	247738	370.78	ppb	100
91) trans-1,4-Dichloro-2-B...	11.065	53	63462m	36.79	ppb	
92) 1,1,2,2-Tetrachloroethane	11.016	83	251439	48.29	ppb	98
93) Bromobenzene	10.992	156	180714	46.92	ppb	93
94) 1,2,3-Trichloropropane	11.047	110	72772	42.46	ppb	95
95) n-Propylbenzene	11.095	91	962717	51.47	ppb	97
96) 2-Chlorotoluene	11.156	91	571650	48.43	ppb	98
97) 3-Chlorotoluene	11.211	91	556876	46.45	ppb	99
98) 4-Chlorotoluene	11.254	91	635319	49.85	ppb	96
99) 1,3,5-Trimethylbenzene	11.242	105	653555	50.20	ppb	100
100) tert-Butylbenzene	11.516	119	576564	50.32	ppb	99
101) 1,2,4-Trimethylbenzene	11.553	105	653934	50.59	ppb	100
102) 3,4-DCBTF	11.620	214	184651	46.83	ppb	97
103) sec-Butylbenzene	11.699	105	835838	50.41	ppb	98
104) p-Isopropyltoluene	11.815	119	703421	49.56	ppb	98
105) 1,3-Dclbenz	11.784	146	363706	47.41	ppb	96

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31482.D
Acq On : 31 Oct 2019 9:07 pm
Operator : K.Ruest
Sample : R1910542-010MS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 12:53:01 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

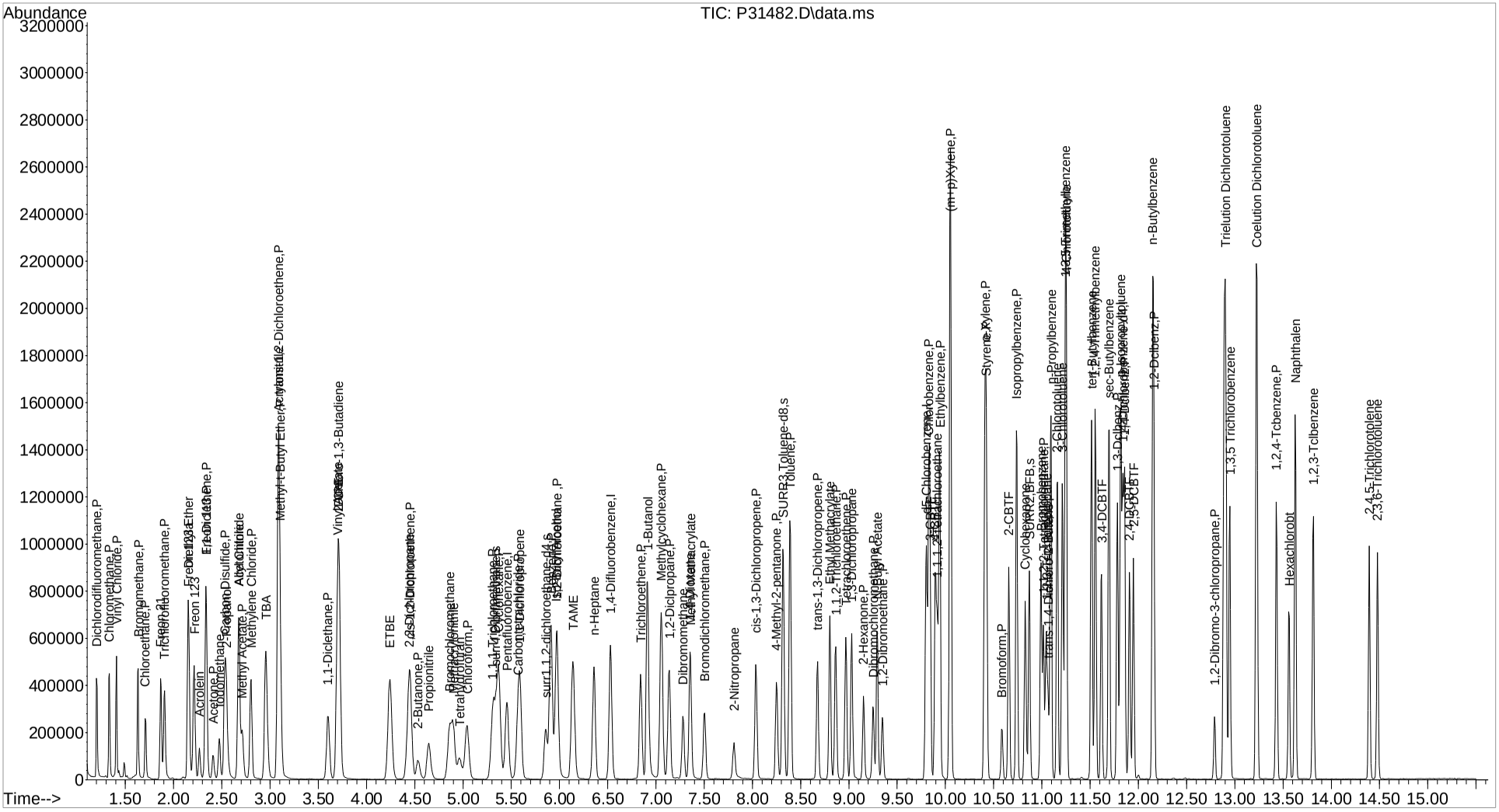
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 1,4-Dclbenz	11.857	146	369704	47.07	ppb	99
107) 2,4-DCBTF	11.906	214	171659	47.71	ppb	99
108) 2,5-DCBTF	11.949	214	192018	47.98	ppb	98
109) n-Butylbenzene	12.150	91	665636	47.95	ppb	98
110) 1,2-Dclbenz	12.162	146	360956	47.55	ppb	97
111) 1,2-Dibromo-3-chloropr...	12.790	157	53334	44.34	ppb	96
112) Trielution Dichlorotol...	12.900	125	998328	143.82	ppb	98
113) 1,3,5 Trichlorobenzene	12.949	180	275309	48.43	ppb	97
114) Coelution Dichlorotoluene	13.229	125	742001	95.42	ppb	95
115) 1,2,4-Tcbenzene	13.430	180	282213	48.28	ppb	98
116) Hexachlorobt	13.564	225	107501	45.91	ppb	98
117) Naphthalen	13.625	128	896821	48.76	ppb	100
118) 1,2,3-Tclbenzene	13.814	180	272767	47.24	ppb	96
119) 2,4,5-Trichlorotolene	14.393	159	196246	44.59	ppb	100
120) 2,3,6-Trichlorotoluene	14.479	159	173749	38.18	ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31482.D
Acq On : 31 Oct 2019 9:07 pm
Operator : K.Ruest
Sample : R1910542-010MS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 12:53:01 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

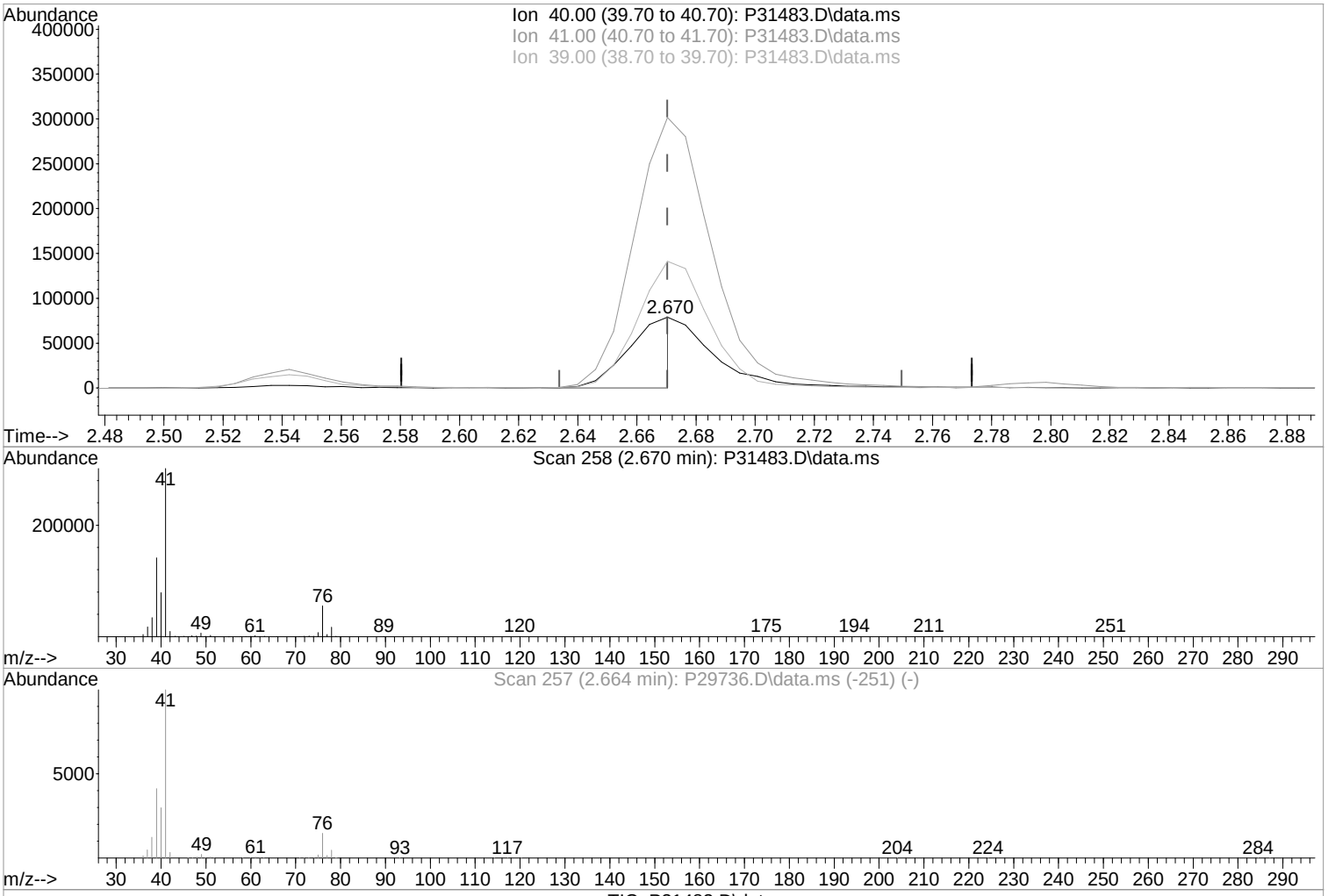


1st 11/04/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31483.D
Acq On : 31 Oct 2019 9:29 pm
Operator : K.Ruest
Sample : R1910542-010DMS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 03 09:20:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31483.D\data.ms

(19) Acetonitrile

2.670min (+0.000) 256.26 ppb m

response 85017

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	381.89#
39.00	137.60	178.88#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

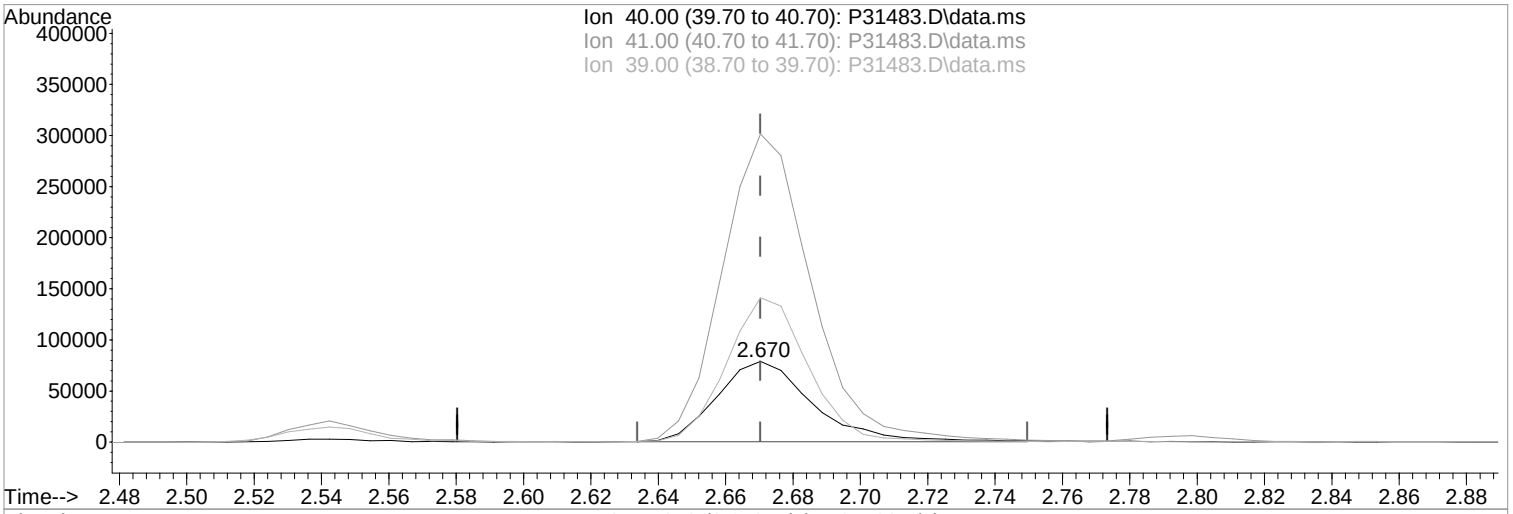
11/04/19

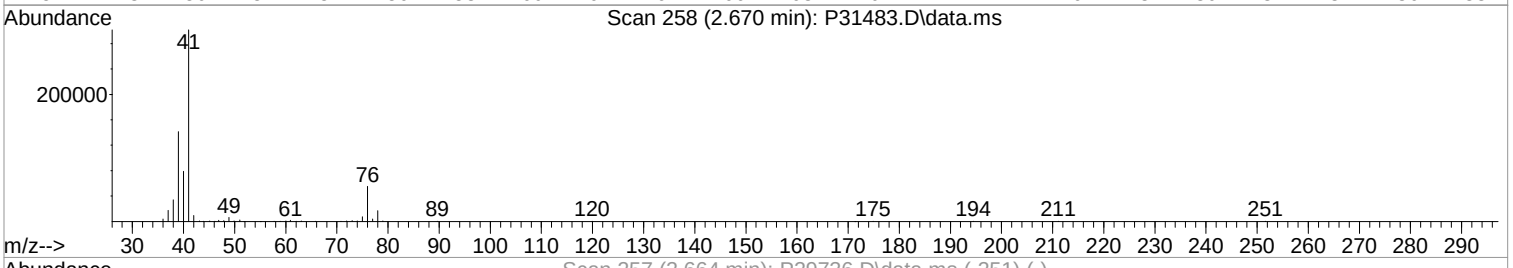
1st 11/04/19
2nd 11/04/19

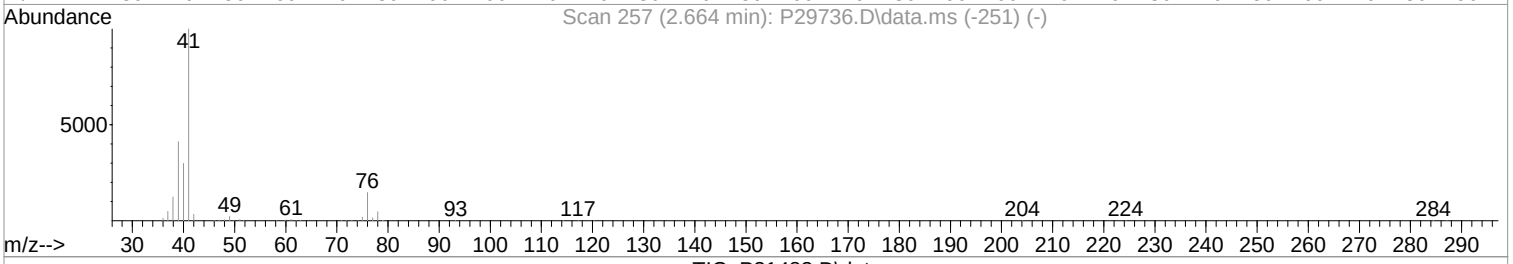
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31483.D
Acq On : 31 Oct 2019 9:29 pm
Operator : K.Ruest
Sample : R1910542-010DMS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 03 09:20:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P31483.D\data.ms

(19) Acetonitrile

2.670min (+0.000) 472.33 ppb

response 156701

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	381.89#
39.00	137.60	178.88#
0.00	0.00	0.00

Manual Integration:

Before

11/04/19

1st 11/04/19
2nd 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31483.D
Acq On : 31 Oct 2019 9:29 pm
Operator : K.Ruest
Sample : R1910542-010DMS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 12:54:18 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	307140	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.523	114	483572	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	421302	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	235586	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.316	113	125654	49.03	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 98.06%			
48) surr1,1,2-dichloroetha...	5.853	65	176630	49.81	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 99.62%			
65) SURR3,Toluene-d8	8.316	98	600698	49.79	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.58%			
70) SURR2,BFB	10.870	95	229504	48.89	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 97.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.201	85	212464	55.97	ppb	97
3) Chloromethane	1.329	50	288095	49.26	ppb	99
4) Vinyl Chloride	1.402	62	267585	49.02	ppb	94
5) Bromomethane	1.628	94	148813	58.32	ppb	93
6) Chloroethane	1.707	64	147581	44.90	ppb	98
7) Freon 21	1.866	67	290979	47.82	ppb	99
8) Trichlorofluoromethane	1.902	101	225809	51.02	ppb	96
9) Diethyl Ether	2.146	59	169650	43.48	ppb	96
10) Freon 123a	2.152	67	189451	44.54	ppb	97
11) Freon 123	2.207	83	232818	49.62	ppb	98
12) Acrolein	2.262	56	84834	78.05	ppb	94
13) 1,1-Diclethene	2.329	96	141518	47.10	ppb	99
14) Freon 113	2.329	101	137074	46.92	ppb	99
15) Acetone	2.402	43	103535	41.42	ppb	97
16) 2-Propanol	2.542	45	447593	787.47	ppb	96
17) Iodomethane	2.469	142	185200	49.37	ppb	99
18) Carbon Disulfide	2.524	76	453996	50.43	ppb	98
19) Acetonitrile	2.670	40	85017m	256.26	ppb	
20) Allyl Chloride	2.676	76	91712	53.24	ppb	94
21) Methyl Acetate	2.707	43	210144	42.42	ppb	99
22) Methylene Chloride	2.798	84	168579	43.08	ppb	97
23) TBA	2.951	59	668739	794.79	ppb	100
24) Acrylonitrile	3.079	53	564003	219.98	ppb	99
25) Methyl-t-Butyl Ether	3.097	73	578118	45.72	ppb	98
26) trans-1,2-Dichloroethene	3.085	96	158132	48.47	ppb	94
28) 1,1-Diclethane	3.597	63	321973	47.71	ppb	98
29) Vinyl Acetate	3.688	86	36557	42.08	ppb	97
30) DIPE	3.701	45	639942	43.55	ppb	94
31) 2-Chloro-1,3-Butadiene	3.713	53	291003	53.26	ppb	97
32) ETBE	4.237	59	550952	41.64	ppb	98
33) 2,2-Dichloropropane	4.432	77	211048	42.65	ppb	94
34) cis-1,2-Dichloroethene	4.444	96	177540	47.41	ppb	96
35) 2-Butanone	4.530	43	145203	41.59	ppb	96
36) Propionitrile	4.640	54	234813	216.80	ppb	98
37) Bromochloromethane	4.853	130	99012	44.69	ppb	94
38) Methacrylonitrile	4.896	67	103317	40.34	ppb	90
39) Tetrahydrofuran	4.957	42	96177	39.26	ppb	91
40) Chloroform	5.036	83	271720	45.68	ppb	96
41) 1,1,1-Trichloroethane	5.298	97	223030	47.03	ppb	99

1st 11/04/19
2nd 11/04/19

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31483.D
Acq On : 31 Oct 2019 9:29 pm
Operator : K.Ruest
Sample : R1910542-010DMS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 12:54:18 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	507450	41.62	ppb		95
44) Cyclohexane	5.359	41	190608	49.36	ppb		94
46) Carbontetrachloride	5.566	117	175210	53.20	ppb		90
47) 1,1-Dichloropropene	5.591	75	225531	48.21	ppb		97
49) Benzene	5.908	78	716197	49.27	ppb		99
50) 1,2-Dichloroethane	5.968	62	223616	45.26	ppb		97
51) Iso-Butyl Alcohol	5.968	43	329802	796.76	ppb		95
52) n-Heptane	6.353	43	238071	43.77	ppb		93
53) 1-Butanol	6.907	56	504852	2127.29	ppb		97
54) Trichloroethene	6.840	130	162331	50.22	ppb		99
55) Methylcyclohexane	7.054	55	255162	48.98	ppb		99
56) 1,2-Diclpropane	7.133	63	191667	47.77	ppb		93
57) Dibromomethane	7.273	93	100902	50.70	ppb		95
58) 1,4-Dioxane	7.340	88	75268	811.29	ppb		95
59) Methyl Methacrylate	7.352	69	175673	47.04	ppb		98
60) Bromodichloromethane	7.499	83	188935	48.94	ppb		97
61) 2-Nitropropane	7.804	41	78056	127.96	ppb		99
63) cis-1,3-Dichloropropene	8.035	75	264266	46.08	ppb		96
64) 4-Methyl-2-pentanone	8.249	43	284303	45.80	ppb		96
66) Toluene	8.389	91	749872	51.00	ppb		97
67) trans-1,3-Dichloropropene	8.675	75	239620	45.41	ppb		95
68) Ethyl Methacrylate	8.803	69	306301	46.90	ppb		96
69) 1,1,2-Trichloroethane	8.864	97	161641	49.51	ppb		96
72) Tetrachloroethene	8.968	164	123298	48.53	ppb		97
73) 2-Hexanone	9.151	43	207491	44.24	ppb		97
74) 1,3-Dichloropropane	9.029	76	300515	47.57	ppb		100
75) Dibromochloromethane	9.248	129	136692	52.38	ppb		96
76) N-Butyl Acetate	9.291	43	384569	43.03	ppb		98
77) 1,2-Dibromoethane	9.346	107	156414	47.52	ppb		100
78) Chlorobenzene	9.828	112	468495	50.40	ppb		99
79) 3-CBTF	9.840	180	243835	50.92	ppb		96
80) 4-CBTF	9.895	180	220845	51.16	ppb		93
81) 1,1,1,2-Tetrachloroethane	9.919	131	150808	54.45	ppb		97
82) Ethylbenzene	9.943	106	259628	51.45	ppb		96
83) (m+p)Xylene	10.053	106	638506	104.73	ppb		94
84) o-Xylene	10.407	106	312195	50.32	ppb		98
85) Styrene	10.425	104	522222	50.83	ppb		95
87) Bromoform	10.590	173	80953	49.03	ppb		97
88) 2-CBTF	10.657	180	244467	49.72	ppb		95
89) Isopropylbenzene	10.736	105	809233	50.34	ppb		98
90) Cyclohexanone	10.827	55	251231	365.64	ppb		97
91) trans-1,4-Dichloro-2-B...	11.065	53	66035	37.23	ppb		98
92) 1,1,2,2-Tetrachloroethane	11.016	83	259851	48.53	ppb		98
93) Bromobenzene	10.992	156	185480	46.83	ppb		91
94) 1,2,3-Trichloropropane	11.047	110	74069	42.02	ppb	#	86
95) n-Propylbenzene	11.089	91	985652	51.24	ppb		100
96) 2-Chlorotoluene	11.157	91	591042	48.69	ppb		99
97) 3-Chlorotoluene	11.211	91	582975	47.29	ppb		97
98) 4-Chlorotoluene	11.254	91	650964	49.67	ppb		96
99) 1,3,5-Trimethylbenzene	11.242	105	670852	50.11	ppb		97
100) tert-Butylbenzene	11.516	119	588534	49.95	ppb		99
101) 1,2,4-Trimethylbenzene	11.553	105	678899	51.08	ppb		99
102) 3,4-DCBTF	11.620	214	188222	46.42	ppb		98
103) sec-Butylbenzene	11.693	105	857415	50.29	ppb		99
104) p-Isopropyltoluene	11.815	119	732548	50.19	ppb		98
105) 1,3-Dclbenz	11.784	146	374479	47.47	ppb		98

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31483.D
Acq On : 31 Oct 2019 9:29 pm
Operator : K.Ruest
Sample : R1910542-010DMS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 12:54:18 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

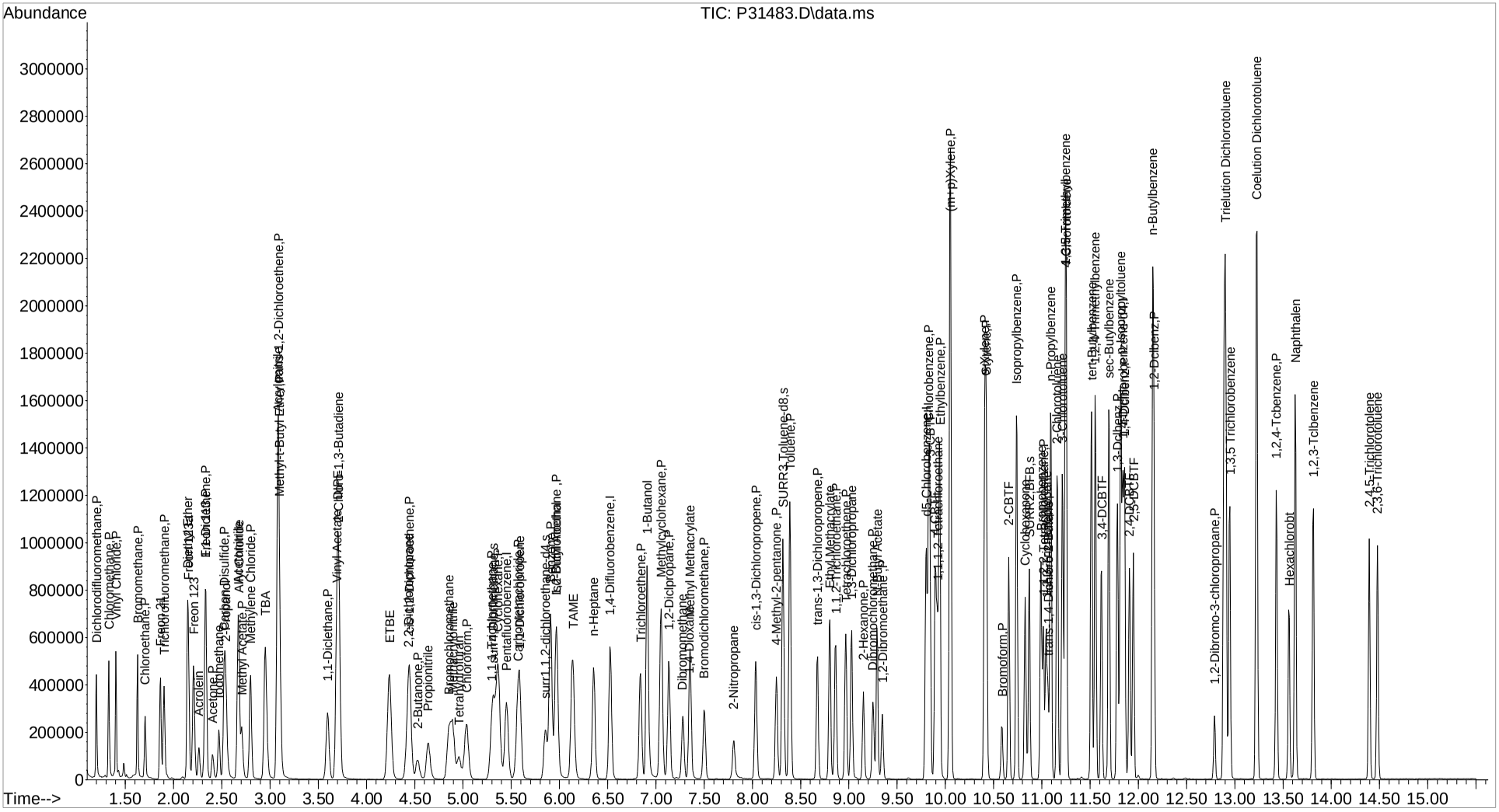
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
106) 1,4-Dclbenz	11.858	146	387882	48.03	ppb	98
107) 2,4-DCBTF	11.906	214	178143	48.14	ppb	100
108) 2,5-DCBTF	11.949	214	195019	47.38	ppb	99
109) n-Butylbenzene	12.150	91	692461	48.51	ppb	97
110) 1,2-Dclbenz	12.162	146	379764	48.65	ppb	96
111) 1,2-Dibromo-3-chloropr...	12.790	157	53545	43.29	ppb	97
112) Trielution Dichlorotol...	12.900	125	1029054	144.16	ppb	97
113) 1,3,5 Trichlorobenzene	12.949	180	291153	49.80	ppb	97
114) Coelution Dichlorotoluene	13.229	125	770378	96.34	ppb	97
115) 1,2,4-Tcbenzene	13.430	180	288545	48.00	ppb	98
116) Hexachlorobt	13.565	225	113198	47.01	ppb	96
117) Naphthalen	13.626	128	937806	49.58	ppb	98
118) 1,2,3-Tclbenzene	13.815	180	283813	47.80	ppb	96
119) 2,4,5-Trichlorotolene	14.394	159	203682	45.00	ppb	99
120) 2,3,6-Trichlorotoluene	14.479	159	179608	38.38	ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31483.D
Acq On : 31 Oct 2019 9:29 pm
Operator : K.Ruest
Sample : R1910542-010DMS|1.0 Inst : MSVOA-12
Misc : NASA 8260 T4
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 12:54:18 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

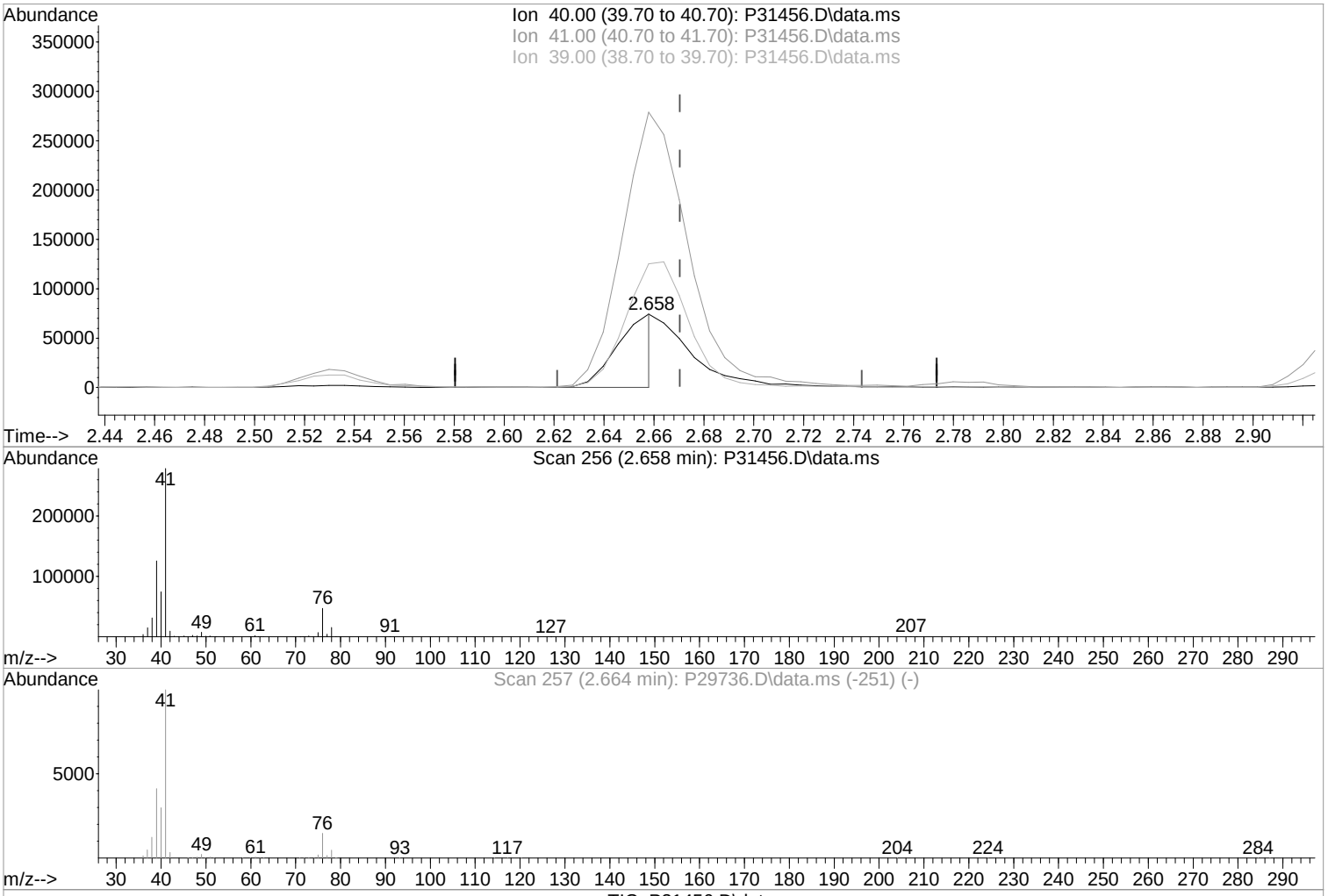


1st 11/03/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:00:25 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31456.D\data.ms

(19) Acetonitrile

2.658min (-0.012) 216.37 ppb m

response 76970

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	374.48#
39.00	137.60	168.35#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

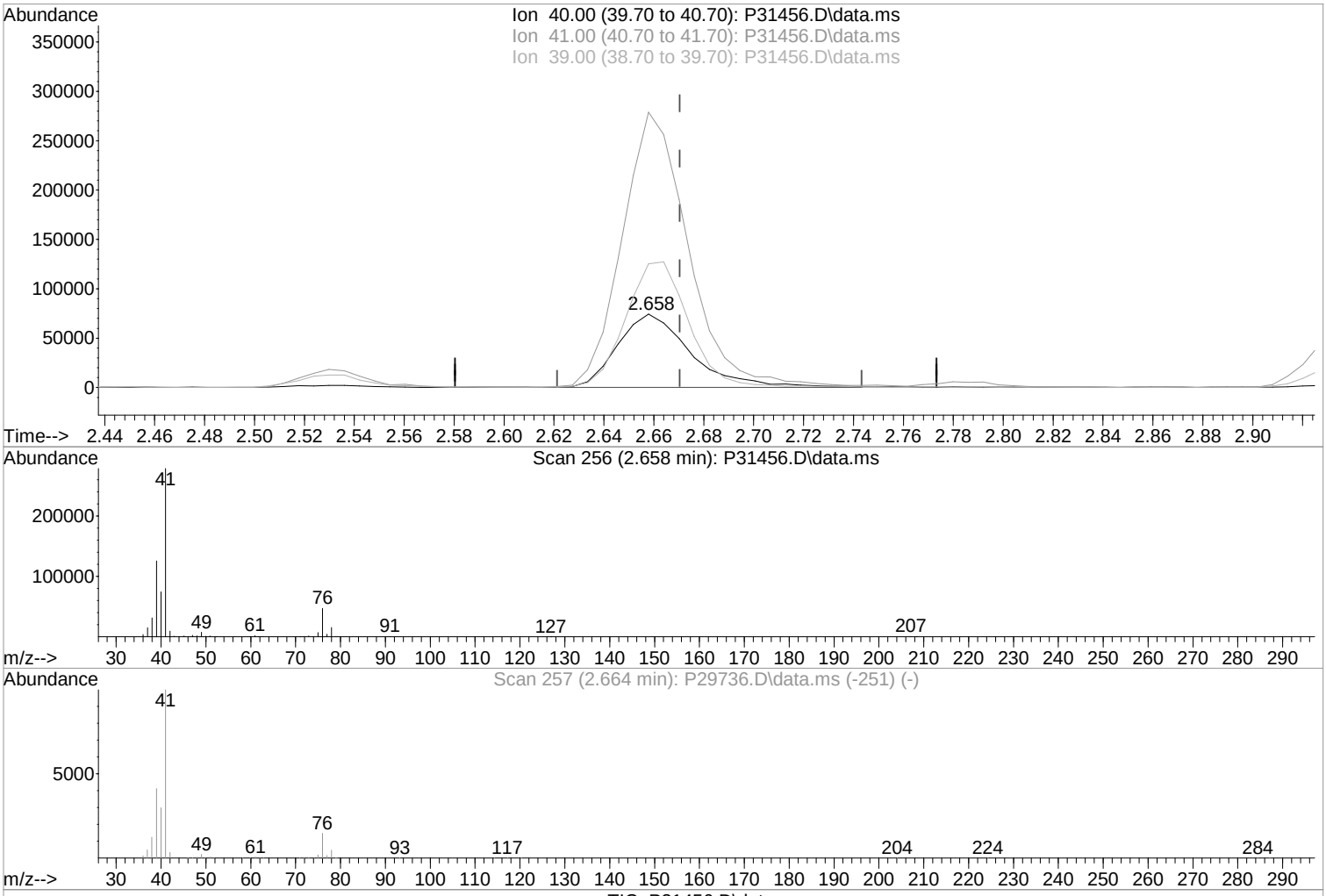
10/31/19

1st 11/03/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:00:25 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



TIC: P31456.D\data.ms

(19) Acetonitrile

2.658min (-0.012) 423.31 ppb

response 150584

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	374.48#
39.00	137.60	168.35#
0.00	0.00	0.00

Manual Integration:

Before

10/31/19

1st 11/03/19
2nd 11/04/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:05:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	50.0000	50.0000	0.0	102	0.00
2	P	Dichlorodifluoromethane	50.0000	55.2702	-10.5	104	-0.01
3	P	Chloromethane	50.0000	45.0133	10.0	93	0.00
4	P	Vinyl Chloride	50.0000	47.0093	6.0	94	-0.01
5	P	Bromomethane	50.0000	50.1148	-0.2	103	0.00
6	P	Chloroethane	50.0000	43.3971	13.2	89	-0.01
7		Freon 21	50.0000	45.2041	9.6	96	-0.01
8	P	Trichlorofluoromethane	50.0000	46.4964	7.0	90	-0.01
9		Diethyl Ether	50.0000	42.7829	14.4	86	-0.01
10		Freon 123a	50.0000	41.1759	17.6	90	-0.01
11		Freon 123	50.0000	42.0179	16.0	92	-0.01
12		Acrolein	250.0000	227.2953	9.1	93	-0.01
13	P	1,1-Diclethene	50.0000	45.6653	8.7	93	0.00
14	P	Freon 113	50.0000	45.6549	8.7	95	-0.01
15	P	Acetone	50.0000	35.4174	29.2#	75	-0.01
16		2-Propanol	1000.0000	695.7805	30.4#	71	-0.01
17		Iodomethane	50.0000	44.1014	11.8	84	-0.01
18	P	Carbon Disulfide	50.0000	47.0064	6.0	94	-0.01
19		Acetonitrile	250.0000	216.3722	13.5	95	-0.01
20		Allyl Chloride	50.0000	44.3720	11.3	95	-0.01
21	P	Methyl Acetate	50.0000	42.5491	14.9	89	-0.01
22	P	Methylene Chloride	50.0000	40.6391	18.7	92	-0.01
23		TBA	1000.0000	698.5825	30.1#	70	-0.02
24		Acrylonitrile	250.0000	207.5452	17.0	82	-0.01
25	P	Methyl-t-Butyl Ether	50.0000	42.6076	14.8	86	-0.02
26	P	trans-1,2-Dichloroethene	50.0000	45.8289	8.3	95	-0.01
27		Halothane	-1.0000	0.0000	0.0	0	-4.22#
28	P	1,1-Diclethane	50.0000	43.7488	12.5	88	-0.01
29		Vinyl Acetate	50.0000	44.6870	10.6	99	-0.02
30		DIPE	50.0000	41.6358	16.7	85	-0.02
31		2-Chloro-1,3-Butadiene	50.0000	49.0489	1.9	96	0.00
32		ETBE	50.0000	40.3303	19.3	83	-0.01
33		2,2-Dichloropropane	50.0000	45.0292	9.9	90	-0.01
34	P	cis-1,2-Dichloroethene	50.0000	44.7730	10.5	91	-0.01
35	P	2-Butanone	50.0000	38.3042	23.4#	80	-0.03
36		Propionitrile	250.0000	202.9607	18.8	80	-0.02
37		Bromochloromethane	50.0000	45.0728	9.9	94	-0.01
38		Methacrylonitrile	50.0000	39.4411	21.1#	80	-0.02
39		Tetrahydrofuran	50.0000	37.6610	24.7#	77	-0.04
40	P	Chloroform	50.0000	43.0713	13.9	90	-0.01
41	P	1,1,1-Trichloroethane	50.0000	44.1008	11.8	92	-0.01
42		TAME	50.0000	40.7759	18.4	82	-0.01
43	I	1,4-Difluorobenzene	50.0000	50.0000	0.0	98	-0.01
44	P	Cyclohexane	50.0000	47.8228	4.4	97	-0.01
45	s	surr4,Dibrflmethane	50.0000	47.8719	4.3	94	-0.01
46	P	Carbontetrachloride	50.0000	47.8138	4.4	92	0.00
47		1,1-Dichloropropene	50.0000	46.0998	7.8	89	-0.01
48	s	surr1,1,2-dichloroethane-d4	50.0000	49.1727	1.7	94	-0.01
49	P	Benzene	50.0000	46.4601	7.1	90	0.00
50	P	1,2-Dichloroethane	50.0000	45.5404	8.9	90	-0.01
51		Iso-Butyl Alcohol	1000.0000	728.1459	27.2#	73	-0.02

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:05:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
52		n-Heptane	50.0000	48.8130	2.4	95	0.00
53		1-Butanol	2500.0000	1824.9920	27.0#	67	-0.02
54	P	Trichloroethene	50.0000	48.5977	2.8	93	0.00
55	P	Methylcyclohexane	50.0000	46.5337	6.9	94	-0.01
56	P	1,2-Diclpropane	50.0000	45.8160	8.4	89	0.00
57		Dibromomethane	50.0000	48.6658	2.7	93	0.00
58		1,4-Dioxane	1000.0000	745.0506	25.5#	76	-0.02
59		Methyl Methacrylate	50.0000	44.8449	10.3	81	0.00
60	P	Bromodichloromethane	50.0000	47.0381	5.9	90	0.00
61		2-Nitropropane	100.0000	115.4253	-15.4	129	0.00
62		2-Chloroethylvinyl Ether	50.0000	41.1304	17.7	75	0.00
63	P	cis-1,3-Dichloropropene	50.0000	47.1211	5.8	88	0.00
64	P	4-Methyl-2-pentanone	50.0000	43.1074	13.8	83	-0.01
65	s	SURR3,Toluene-d8	50.0000	51.6077	-3.2	100	0.00
66	P	Toluene	50.0000	47.9806	4.0	91	0.00
67	P	trans-1,3-Dichloropropene	50.0000	47.0605	5.9	89	0.00
68		Ethyl Methacrylate	50.0000	44.0553	11.9	82	0.00
69	P	1,1,2-Trichloroethane	50.0000	47.0856	5.8	88	0.00
70	s	SURR2,BFB	50.0000	49.6627	0.7	98	0.00
71	I	d5-Chlorobenzene	50.0000	50.0000	0.0	98	0.00
72	P	Tetrachloroethene	50.0000	46.0791	7.8	95	0.00
73	P	2-Hexanone	50.0000	40.6693	18.7	80	0.00
74		1,3-Dichloropropane	50.0000	45.3376	9.3	89	0.00
75	P	Dibromochloromethane	50.0000	47.5961	4.8	94	0.00
76		N-Butyl Acetate	50.0000	43.4662	13.1	81	0.00
77	P	1,2-Dibromoethane	50.0000	45.7487	8.5	90	0.00
78	P	Chlorobenzene	50.0000	46.2737	7.5	91	0.00
79		3-CBTF	50.0000	44.7501	10.5	92	0.00
80		4-CBTF	50.0000	44.5945	10.8	92	0.00
81		1,1,1,2-Tetrachloroethane	50.0000	47.9670	4.1	92	0.00
82	P	Ethylbenzene	50.0000	47.1369	5.7	93	0.00
83	P	(m+p)Xylene	100.0000	94.8486	5.2	90	0.00
84	P	o-Xylene	50.0000	45.6731	8.7	91	0.00
85	P	Styrene	50.0000	47.6567	4.7	89	0.00
86	I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	102	0.00
87	P	Bromoform	50.0000	48.2219	3.6	98	0.00
88		2-CBTF	50.0000	43.1015	13.8	90	0.00
89	P	Isopropylbenzene	50.0000	46.6133	6.8	91	0.00
90		Cyclohexanone	1000.0000	1326.5907	-32.7#	136	0.00
91		trans-1,4-Dichloro-2-Butene	50.0000	34.9113	30.2#	72	0.00
92	P	1,1,2,2-Tetrachloroethane	50.0000	42.7134	14.6	83	0.00
93		Bromobenzene	50.0000	45.1813	9.6	94	0.00
94		1,2,3-Trichloropropane	50.0000	40.0269	19.9	86	0.00
95		n-Propylbenzene	50.0000	47.1463	5.7	91	0.00
96		2-Chlorotoluene	50.0000	45.0871	9.8	91	0.00
97		3-Chlorotoluene	50.0000	40.9439	18.1	83	0.00
98		4-Chlorotoluene	50.0000	46.7931	6.4	92	0.00
99		1,3,5-Trimethylbenzene	50.0000	46.8931	6.2	91	0.00
100		tert-Butylbenzene	50.0000	46.9605	6.1	93	0.00
101		1,2,4-Trimethylbenzene	50.0000	47.2500	5.5	90	0.00

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:05:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
102		3,4-DCBTF	50.0000	44.2828	11.4	95	0.00
103		sec-Butylbenzene	50.0000	46.9212	6.2	91	0.00
104		p-Isopropyltoluene	50.0000	47.8223	4.4	92	0.00
105	P	1,3-Dclbenz	50.0000	45.1521	9.7	94	0.00
106	P	1,4-Dclbenz	50.0000	43.8617	12.3	91	0.00
107		2,4-DCBTF	50.0000	43.2519	13.5	92	0.00
108		2,5-DCBTF	50.0000	43.7525	12.5	93	0.00
109		n-Butylbenzene	50.0000	45.7486	8.5	90	0.00
110	P	1,2-Dclbenz	50.0000	46.1385	7.7	94	0.00
111	P	1,2-Dibromo-3-chloropropane	50.0000	40.1228	19.8	81	0.00
112		Trielution Dichlorotoluene	150.0000	129.5412	13.6	87	0.00
113		1,3,5 Trichlorobenzene	50.0000	43.6153	12.8	92	0.00
114		Coelution Dichlorotoluene	100.0000	86.2957	13.7	87	0.00
115	P	1,2,4-Tcbenzene	50.0000	45.8685	8.3	96	0.00
116		Hexachlorobt	50.0000	45.1239	9.8	94	0.00
117		Naphthalen	50.0000	45.5111	9.0	86	0.00
118		1,2,3-Tclbenzene	50.0000	46.6409	6.7	95	0.00
119		2,4,5-Trichlorotolene	50.0000	41.8656	16.3	86	0.00
120		2,3,6-Trichlorotoluene	50.0000	41.3498	17.3	85	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

1st 11/03/19
2nd 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:05:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	329332	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.517	114	521673	50.00	ppb		-0.01
71) d5-Chlorobenzene	9.797	117	468287	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	257851	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.310	113	132355	47.87	ppb		-0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 95.74%				
48) surr1,1,2-dichloroetha...	5.846	65	188120	49.17	ppb		-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 98.34%				
65) SURR3,Toluene-d8	8.315	98	671720	51.61	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 103.22%				
70) SURR2,BFB	10.870	95	251496	49.66	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.32%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	224975	55.27	ppb		100
3) Chloromethane	1.317	50	282270	45.01	ppb		96
4) Vinyl Chloride	1.390	62	275168	47.01	ppb		96
5) Bromomethane	1.615	94	137132	50.11	ppb		96
6) Chloroethane	1.695	64	152953	43.40	ppb		99
7) Freon 21	1.853	67	294936	45.20	ppb		97
8) Trichlorofluoromethane	1.890	101	220678	46.50	ppb		94
9) Diethyl Ether	2.134	59	179010	42.78	ppb		98
10) Freon 123a	2.140	67	187794	41.18	ppb		98
11) Freon 123	2.195	83	211373	42.02	ppb		100
12) Acrolein	2.249	56	264895	227.30	ppb		95
13) 1,1-Diclethene	2.323	96	147124	45.67	ppb		91
14) Freon 113	2.323	101	143013	45.65	ppb		91
15) Acetone	2.396	43	94924	35.42	ppb		94
16) 2-Propanol	2.530	45	424052	695.78	ppb		99
17) Iodomethane	2.457	142	176079	44.10	ppb		98
18) Carbon Disulfide	2.512	76	453783	47.01	ppb		97
19) Acetonitrile	2.658	40	76970m	216.37	ppb		
20) Allyl Chloride	2.664	76	81966	44.37	ppb	#	90
21) Methyl Acetate	2.694	43	226006	42.55	ppb		100
22) Methylene Chloride	2.786	84	170526	40.64	ppb		97
23) TBA	2.938	59	630262	698.58	ppb		97
24) Acrylonitrile	3.066	53	570565	207.55	ppb		98
25) Methyl-t-Butyl Ether	3.085	73	577679	42.61	ppb		99
26) trans-1,2-Dichloroethene	3.072	96	160325	45.83	ppb		92
28) 1,1-Diclethane	3.585	63	316588	43.75	ppb		97
29) Vinyl Acetate	3.682	86	41714	44.69	ppb	#	95
30) DIPE	3.688	45	656084	41.64	ppb		88
31) 2-Chloro-1,3-Butadiene	3.700	53	287332	49.05	ppb		98
32) ETBE	4.225	59	572119	40.33	ppb		98
33) 2,2-Dichloropropane	4.420	77	238924	45.03	ppb		98
34) cis-1,2-Dichloroethene	4.432	96	179794	44.77	ppb		91
35) 2-Butanone	4.511	43	143394	38.30	ppb		96
36) Propionitrile	4.621	54	235710	202.96	ppb		94
37) Bromochloromethane	4.840	130	107066	45.07	ppb		95
38) Methacrylonitrile	4.883	67	108324	39.44	ppb		94
39) Tetrahydrofuran	4.938	42	99007	37.66	ppb		100
40) Chloroform	5.023	83	274705	43.07	ppb		98
41) 1,1,1-Trichloroethane	5.292	97	224261	44.10	ppb		98

1st 11/03/19
2nd 11/04/19

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:05:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.127	73	533062	40.78	ppb		97
44) Cyclohexane	5.353	41	199213	47.82	ppb		95
46) Carbontetrachloride	5.560	117	169869	47.81	ppb		97
47) 1,1-Dichloropropene	5.578	75	232662	46.10	ppb		95
49) Benzene	5.901	78	728607	46.46	ppb		98
50) 1,2-Dichloroethane	5.962	62	242750	45.54	ppb		98
51) Iso-Butyl Alcohol	5.956	43	325149	728.15	ppb		96
52) n-Heptane	6.346	43	286413	48.81	ppb		96
53) 1-Butanol	6.901	56	467235	1824.99	ppb		98
54) Trichloroethene	6.834	130	169465	48.60	ppb		99
55) Methylcyclohexane	7.047	55	261501	46.53	ppb		96
56) 1,2-Diclpropane	7.133	63	198303	45.82	ppb		96
57) Dibromomethane	7.273	93	104476	48.67	ppb		95
58) 1,4-Dioxane	7.340	88	74569	745.05	ppb		98
59) Methyl Methacrylate	7.352	69	180673	44.84	ppb		98
60) Bromodichloromethane	7.498	83	195904	47.04	ppb		96
61) 2-Nitropropane	7.803	41	75960	115.43	ppb		96
62) 2-Chloroethylvinyl Ether	7.901	63	119656	41.13	ppb		96
63) cis-1,3-Dichloropropene	8.029	75	291539	47.12	ppb		98
64) 4-Methyl-2-pentanone	8.242	43	288680	43.11	ppb		96
66) Toluene	8.389	91	761125	47.98	ppb		99
67) trans-1,3-Dichloropropene	8.669	75	267918	47.06	ppb		98
68) Ethyl Methacrylate	8.797	69	310372	44.06	ppb		98
69) 1,1,2-Trichloroethane	8.858	97	165824	47.09	ppb		99
72) Tetrachloroethene	8.968	164	130133	46.08	ppb		96
73) 2-Hexanone	9.151	43	212027	40.67	ppb		96
74) 1,3-Dichloropropane	9.029	76	318348	45.34	ppb		98
75) Dibromochloromethane	9.248	129	138061	47.60	ppb		92
76) N-Butyl Acetate	9.291	43	431812	43.47	ppb		98
77) 1,2-Dibromoethane	9.346	107	167380	45.75	ppb		95
78) Chlorobenzene	9.827	112	478071	46.27	ppb		98
79) 3-CBTF	9.839	180	238207	44.75	ppb		96
80) 4-CBTF	9.894	180	213991	44.59	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.913	131	147679	47.97	ppb		99
82) Ethylbenzene	9.937	106	264396	47.14	ppb		97
83) (m+p)Xylene	10.047	106	642754	94.85	ppb		95
84) o-Xylene	10.406	106	314951	45.67	ppb		98
85) Styrene	10.425	104	544239	47.66	ppb		99
87) Bromoform	10.583	173	87150	48.22	ppb		99
88) 2-CBTF	10.656	180	231943	43.10	ppb		100
89) Isopropylbenzene	10.736	105	820205	46.61	ppb		99
90) Cyclohexanone	10.827	55	997658	1326.59	ppb		99
91) trans-1,4-Dichloro-2-B...	11.065	53	67774	34.91	ppb		99
92) 1,1,2,2-Tetrachloroethane	11.016	83	250329	42.71	ppb		99
93) Bromobenzene	10.992	156	195854	45.18	ppb		93
94) 1,2,3-Trichloropropane	11.047	110	77222	40.03	ppb	#	80
95) n-Propylbenzene	11.089	91	992573	47.15	ppb		99
96) 2-Chlorotoluene	11.156	91	599010	45.09	ppb		99
97) 3-Chlorotoluene	11.211	91	552466	40.94	ppb		99
98) 4-Chlorotoluene	11.254	91	671165	46.79	ppb		95
99) 1,3,5-Trimethylbenzene	11.242	105	687159	46.89	ppb		97
100) tert-Butylbenzene	11.516	119	605642	46.96	ppb		100
101) 1,2,4-Trimethylbenzene	11.553	105	687399	47.25	ppb		99
102) 3,4-DCBTF	11.620	214	196542	44.28	ppb		97
103) sec-Butylbenzene	11.693	105	875612	46.92	ppb		99
104) p-Isopropyltoluene	11.815	119	764020	47.82	ppb		99

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:05:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

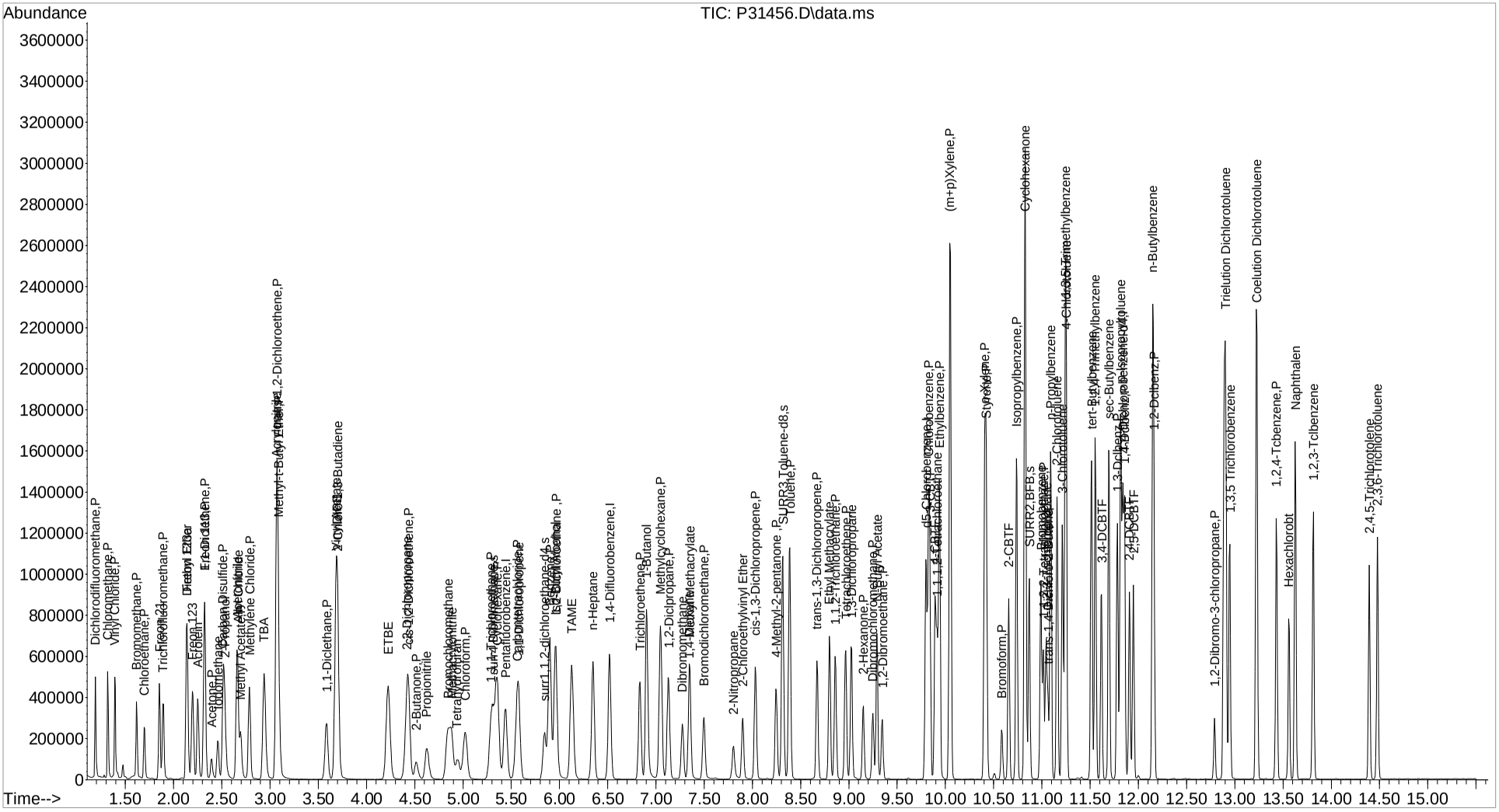
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	389883	45.15	ppb	99
106) 1,4-Dclbenz	11.857	146	387725	43.86	ppb	98
107) 2,4-DCBTF	11.906	214	175172	43.25	ppb	97
108) 2,5-DCBTF	11.949	214	197094	43.75	ppb	98
109) n-Butylbenzene	12.150	91	714736	45.75	ppb	99
110) 1,2-Dclbenz	12.162	146	394184	46.14	ppb	96
111) 1,2-Dibromo-3-chloropr...	12.790	157	54319	40.12	ppb	90
112) Trielution Dichlorotol...	12.900	125	1012072	129.54	ppb	99
113) 1,3,5 Trichlorobenzene	12.949	180	279093	43.62	ppb	96
114) Coelution Dichlorotoluene	13.229	125	755259	86.30	ppb	97
115) 1,2,4-Tcbenzene	13.430	180	301793	45.87	ppb	99
116) Hexachlorobt	13.558	225	118931	45.12	ppb	98
117) Naphthalen	13.625	128	942191	45.51	ppb	99
118) 1,2,3-Tclbenzene	13.814	180	303119	46.64	ppb	97
119) 2,4,5-Trichlorotolene	14.393	159	207387	41.87	ppb	98
120) 2,3,6-Trichlorotoluene	14.479	159	211813	41.35	ppb	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31456.D
Acq On : 31 Oct 2019 10:37 am
Operator : K.Ruest
Sample : CCV Inst : MSVOA-12
Misc :
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:05:06 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

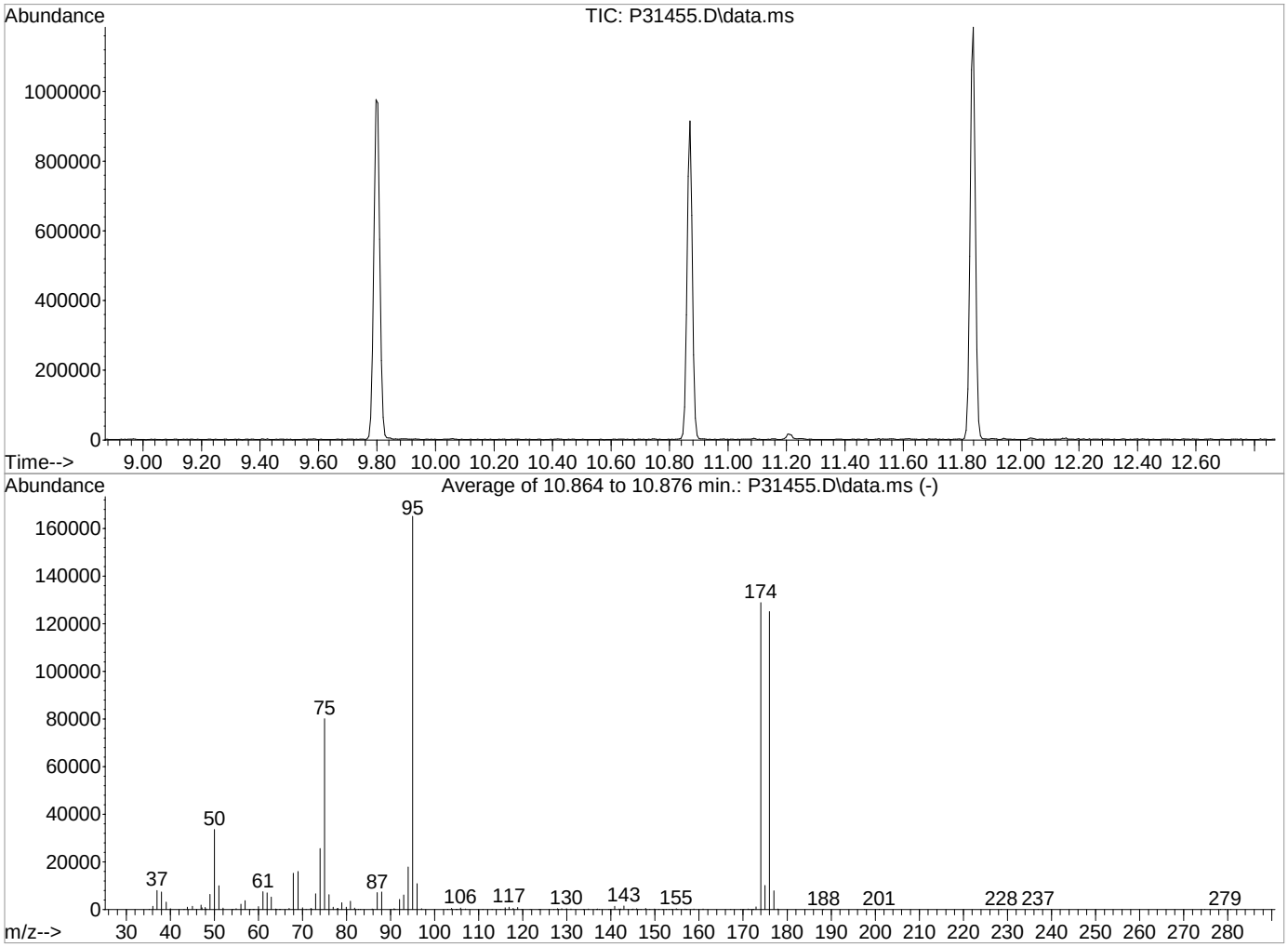


1st 11/03/19
2nd 11/04/19

Data Path : I:\ACQUDATA\msvoa12\Data\103119\
Data File : P31455.D
Acq On : 31 Oct 2019 10:04 am
Operator : K.Ruest
Sample : TUNE Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: INTP90.P

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge
Last Update : Thu Sep 12 10:44:40 2019



AutoFind: Scans 1602, 1603, 1604; Background Corrected with Scan 1595

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.4	33624	PASS
75	95	30	60	48.5	80109	PASS
95	95	100	100	100.0	165179	PASS
96	95	5	9	6.6	10861	PASS
173	174	0.00	2	0.9	1098	PASS
174	95	50	120	78.0	128896	PASS
175	174	5	9	7.8	10041	PASS
176	174	95	101	97.0	125053	PASS
177	176	5	9	6.3	7884	PASS

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	329762	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	550163	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	492719	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.845	152	279593	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	144813	49.67	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 99.34%				
48) surr1,1,2-dichloroetha...	5.846	65	205796	51.01	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 102.02%				
65) SURR3,Toluene-d8	8.315	98	688761	50.18	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.36%				
70) SURR2,BFB	10.870	95	281699	52.75	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 105.50%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	835524	204.97	ppb		95
3) Chloromethane	1.317	50	1189927	189.51	ppb		94
4) Vinyl Chloride	1.390	62	1114747	190.21	ppb		96
5) Bromomethane	1.615	94	556200	174.82	ppb		91
6) Chloroethane	1.682	64	676108	191.57	ppb		100
7) Freon 21	1.847	67	1258200	192.59	ppb		99
8) Trichlorofluoromethane	1.884	101	963519	202.73	ppb		94
9) Diethyl Ether	2.134	59	826357	197.24	ppb		97
10) Freon 123a	2.140	67	859261	188.12	ppb		100
11) Freon 123	2.195	83	950098	188.62	ppb		98
12) Acrolein	2.249	56	1219763	1045.26	ppb		98
13) 1,1-Diclethene	2.316	96	647899	200.84	ppb		93
14) Freon 113	2.316	101	620892	197.95	ppb		99
15) Acetone	2.396	43	511030	190.42	ppb		99
16) 2-Propanol	2.542	45	2479426	4062.93	ppb		93
17) Iodomethane	2.457	142	881495	237.27	ppb		98
18) Carbon Disulfide	2.512	76	1819663	188.25	ppb		96
19) Acetonitrile	2.658	40	346022m	842.06	ppb		
20) Allyl Chloride	2.658	76	348240	189.07	ppb	#	89
21) Methyl Acetate	2.701	43	1086866	204.35	ppb		97
22) Methylene Chloride	2.786	84	752763	179.16	ppb		96
23) TBA	2.950	59	3559823	3940.56	ppb		93
24) Acrylonitrile	3.072	53	2641204	965.26	ppb		96
25) Methyl-t-Butyl Ether	3.085	73	2617151	192.78	ppb		96
26) trans-1,2-Dichloroethene	3.072	96	714986	202.57	ppb		92
28) 1,1-Diclethane	3.584	63	1453717	200.62	ppb		98
29) Vinyl Acetate	3.682	86	186512	235.90	ppb	#	58
30) DIPE	3.694	45	2965387	187.94	ppb		98
31) 2-Chloro-1,3-Butadiene	3.700	53	1182131	201.75	ppb		99
32) ETBE	4.231	59	2718798	191.41	ppb		99
33) 2,2-Dichloropropane	4.420	77	1090649	205.28	ppb		97
34) cis-1,2-Dichloroethene	4.438	96	794974	198.25	ppb		95
35) 2-Butanone	4.523	43	758998	202.48	ppb		95
36) Propionitrile	4.633	54	1234454	1061.55	ppb		100
37) Bromochloromethane	4.846	130	450622	189.46	ppb		92
38) Methacrylonitrile	4.883	67	565431	205.61	ppb		89
39) Tetrahydrofuran	4.944	42	553375	179.23	ppb		95
40) Chloroform	5.029	83	1237089	193.71	ppb		98
41) 1,1,1-Trichloroethane	5.298	97	1045451	205.32	ppb		97

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.133	73	2580844	197.16	ppb		94
44) Cyclohexane	5.352	41	857910	195.28	ppb		98
46) Carbontetrachloride	5.560	117	827968	217.53	ppb		96
47) 1,1-Dichloropropene	5.578	75	1060838	199.31	ppb		99
49) Benzene	5.901	78	3075242	185.94	ppb		96
50) 1,2-Dichloroethane	5.968	62	1084162	192.86	ppb		98
51) Iso-Butyl Alcohol	5.974	43	2076522	4409.40	ppb		98
52) n-Heptane	6.352	43	1239989	200.42	ppb		97
53) 1-Butanol	6.919	56	3001113	11115.14	ppb		95
54) Trichloroethene	6.840	130	745915	202.83	ppb		98
55) Methylcyclohexane	7.053	55	1149121	193.90	ppb		100
56) 1,2-Diclpropane	7.133	63	895109	196.10	ppb		90
57) Dibromomethane	7.279	93	471222	208.15	ppb		97
58) 1,4-Dioxane	7.346	88	441875	4199.75	ppb		95
59) Methyl Methacrylate	7.358	69	921970	216.99	ppb		100
60) Bromodichloromethane	7.498	83	928430	211.38	ppb		97
61) 2-Nitropropane	7.809	41	342453	493.43	ppb		98
62) 2-Chloroethylvinyl Ether	7.901	63	653425	211.11	ppb		98
63) cis-1,3-Dichloropropene	8.035	75	1366795	209.47	ppb		97
64) 4-Methyl-2-pentanone	8.248	43	1436099	203.34	ppb		98
66) Toluene	8.388	91	2878078	172.04	ppb		81
67) trans-1,3-Dichloropropene	8.675	75	1279426	213.10	ppb		96
68) Ethyl Methacrylate	8.803	69	1535017	206.61	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	752692	202.66	ppb		98
72) Tetrachloroethene	8.968	164	568330	191.26	ppb		99
73) 2-Hexanone	9.150	43	1126653	205.39	ppb		98
74) 1,3-Dichloropropane	9.029	76	1425990	193.01	ppb		97
75) Dibromochloromethane	9.254	129	697339	228.48	ppb		96
76) N-Butyl Acetate	9.297	43	2031760	194.38	ppb		88
77) 1,2-Dibromoethane	9.346	107	769267	199.83	ppb		99
78) Chlorobenzene	9.827	112	1986576	182.75	ppb		91
79) 3-CBTF	9.845	180	1095758	195.64	ppb		97
80) 4-CBTF	9.900	180	994219	196.92	ppb		96
81) 1,1,1,2-Tetrachloroethane	9.919	131	723453	223.33	ppb		99
82) Ethylbenzene	9.943	106	1168482	197.99	ppb	#	53
83) (m+p)Xylene	10.053	106	2521151	353.59	ppb	#	65
84) o-Xylene	10.412	106	1413400	194.80	ppb	#	67
85) Styrene	10.431	104	2233412	185.87	ppb		91
87) Bromoform	10.589	173	476596	243.20	ppb		95
88) 2-CBTF	10.662	180	1102486	188.94	ppb		99
89) Isopropylbenzene	10.742	105	2953037	154.77	ppb		75
90) Cyclohexanone	10.833	55	2538023	3112.39	ppb		90
91) trans-1,4-Dichloro-2-B...	11.065	53	447623	212.65	ppb		99
92) 1,1,2,2-Tetrachloroethane	11.022	83	1261943	198.58	ppb		95
93) Bromobenzene	10.992	156	888220	188.97	ppb		95
94) 1,2,3-Trichloropropane	11.046	110	397650	190.09	ppb	#	85
95) n-Propylbenzene	11.095	91	3277692	143.58	ppb		69
96) 2-Chlorotoluene	11.162	91	2371650	164.41	ppb		85
97) 3-Chlorotoluene	11.217	91	2387024	163.14	ppb	#	84
98) 4-Chlorotoluene	11.254	91	2554003	164.22	ppb		80
99) 1,3,5-Trimethylbenzene	11.248	105	2613089	164.46	ppb		78
100) tert-Butylbenzene	11.516	119	2385151	170.56	ppb		86
101) 1,2,4-Trimethylbenzene	11.559	105	2590181	164.20	ppb		76
102) 3,4-DCBTF	11.620	214	915617	190.26	ppb		98
103) sec-Butylbenzene	11.699	105	3017730	149.14	ppb		75
104) p-Isopropyltoluene	11.821	119	2727751	157.46	ppb		70

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	1668057	178.15	ppb		92
106) 1,4-Dclbenz	11.863	146	1698777	177.23	ppb		91
107) 2,4-DCBTF	11.912	214	836695	190.52	ppb		98
108) 2,5-DCBTF	11.955	214	943644	193.19	ppb		97
109) n-Butylbenzene	12.150	91	2661288	157.10	ppb		73
110) 1,2-Dclbenz	12.162	146	1685329	181.92	ppb		94
111) 1,2-Dibromo-3-chloropr...	12.796	157	327261	222.93	ppb		98
112) Trielution Dichlorotol...	12.906	125	4035898	476.41	ppb	#	76
113) 1,3,5 Trichlorobenzene	12.955	180	1289962	185.91	ppb		98
114) Coelution Dichlorotoluene	13.229	125	2860998	301.48	ppb	#	73
115) 1,2,4-Tcbenzene	13.436	180	1308617	183.43	ppb		97
116) Hexachlorobt	13.564	225	550130	192.49	ppb		98
117) Naphthalen	13.631	128	3213060	143.13	ppb		78
118) 1,2,3-Tclbenzene	13.820	180	1300833	184.59	ppb		96
119) 2,4,5-Trichlorotolene	14.399	159	966243	179.89	ppb		99
120) 2,3,6-Trichlorotoluene	14.485	159	1005986	181.12	ppb		93

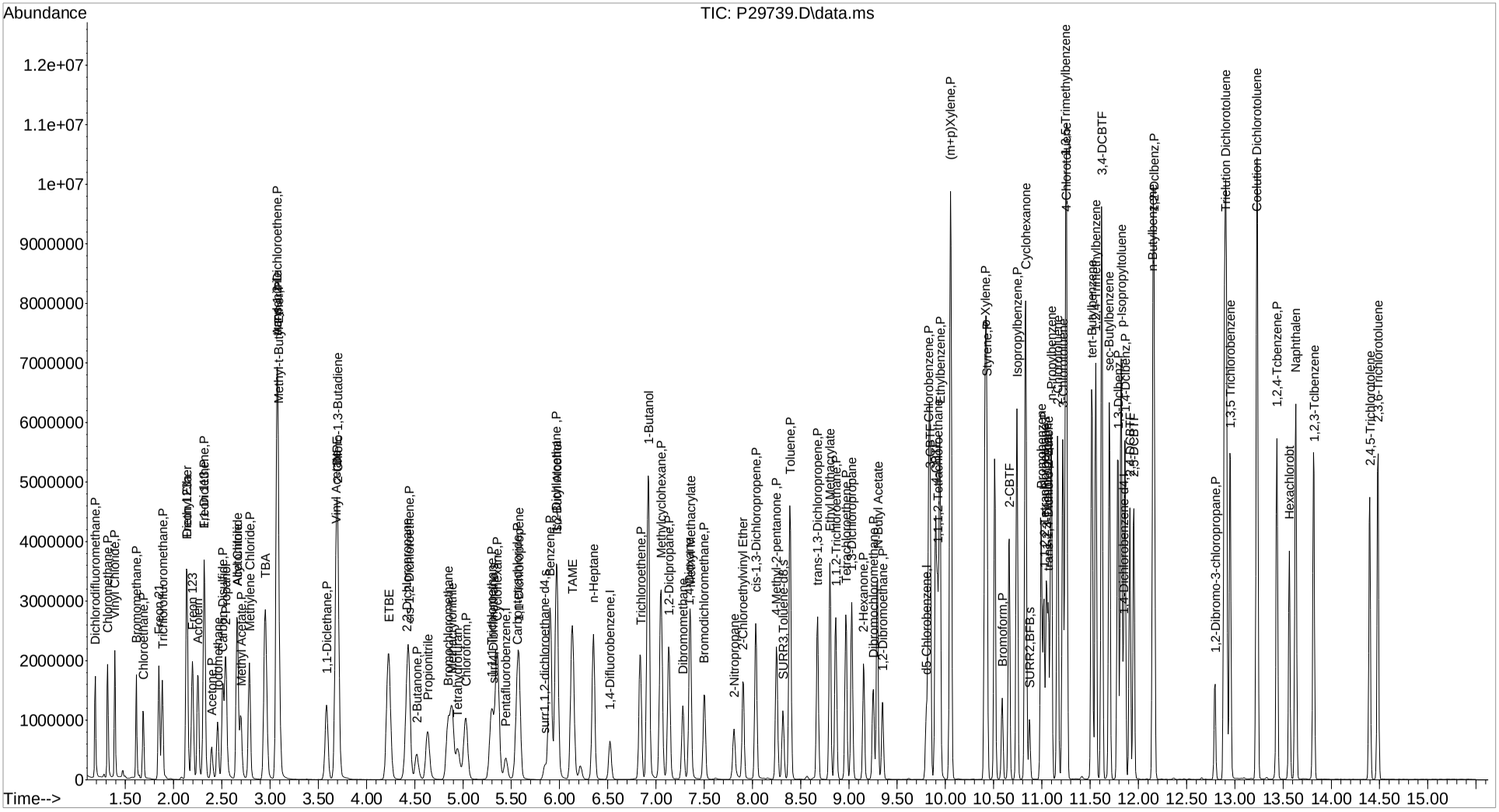
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/12/19 1st 09/12/19 2nd

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:50:34 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

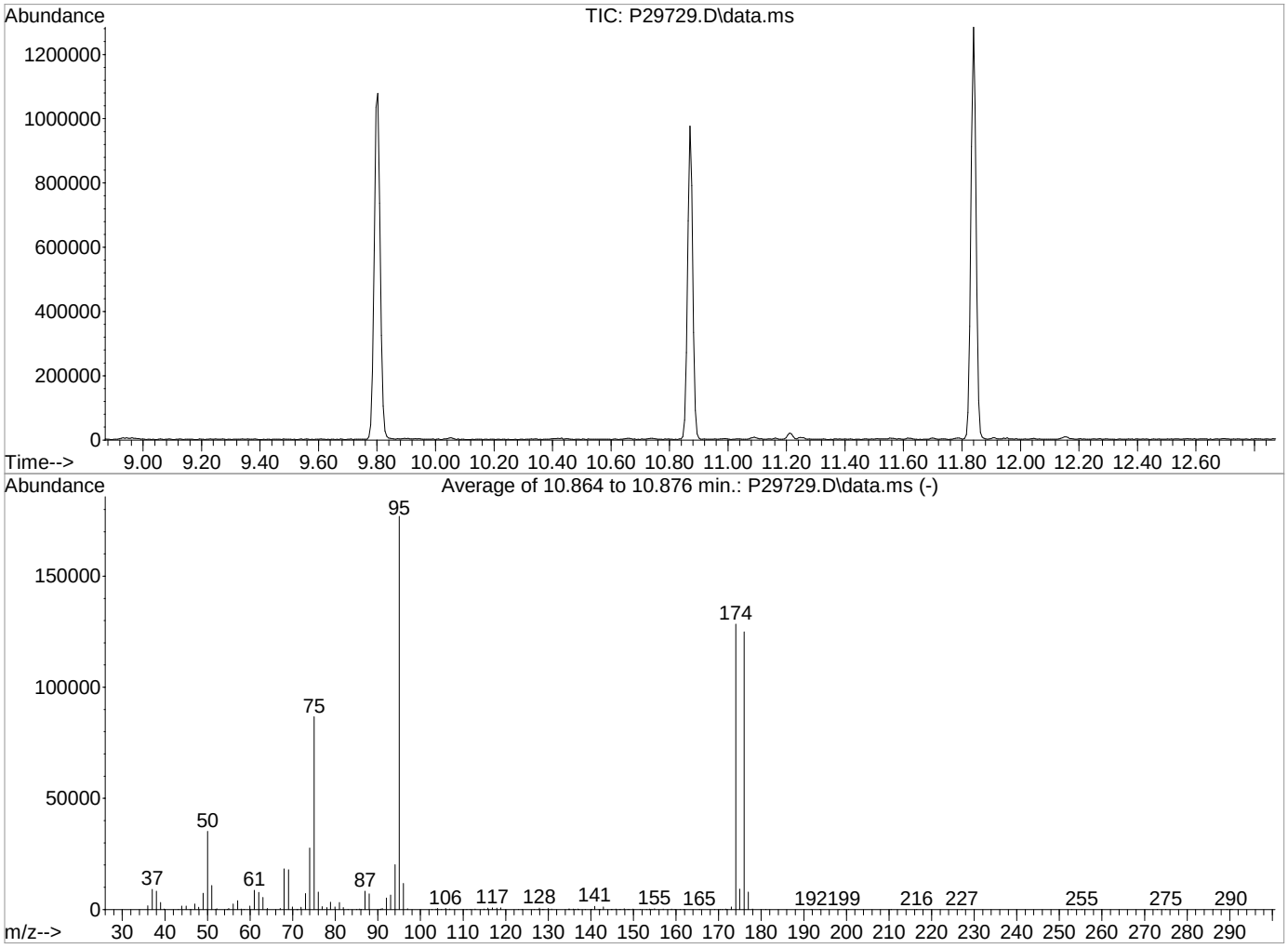


1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29729.D
Acq On : 11 Sep 2019 2:39 pm
Operator : K.Ruest
Sample : TUNE Inst : MSVOA-12
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: INTP90.P

Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Title : MS#12 - 8260B WATERS 10mL Purge
Last Update : Wed Sep 11 14:48:56 2019



AutoFind: Scans 1602, 1603, 1604; Background Corrected with Scan 1595

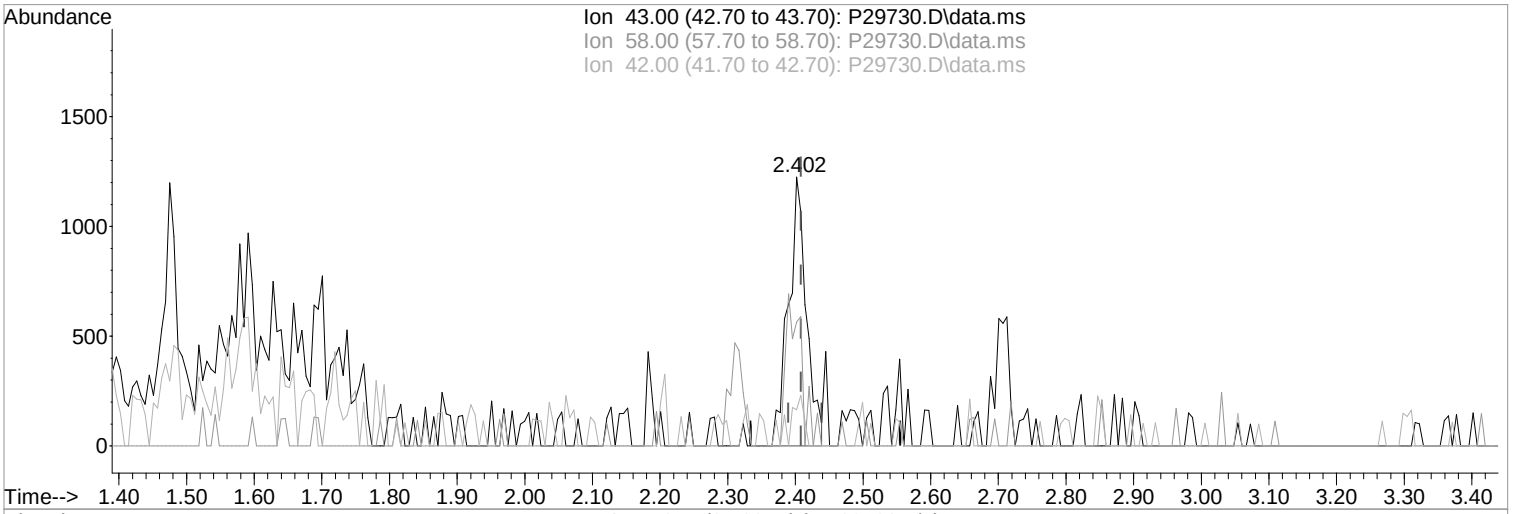
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.8	35115	PASS
75	95	30	60	49.0	86744	PASS
95	95	100	100	100.0	176981	PASS
96	95	5	9	6.6	11701	PASS
173	174	0.00	2	0.9	1122	PASS
174	95	50	120	72.5	128395	PASS
175	174	5	9	7.1	9139	PASS
176	174	95	101	97.3	124885	PASS
177	176	5	9	6.3	7852	PASS

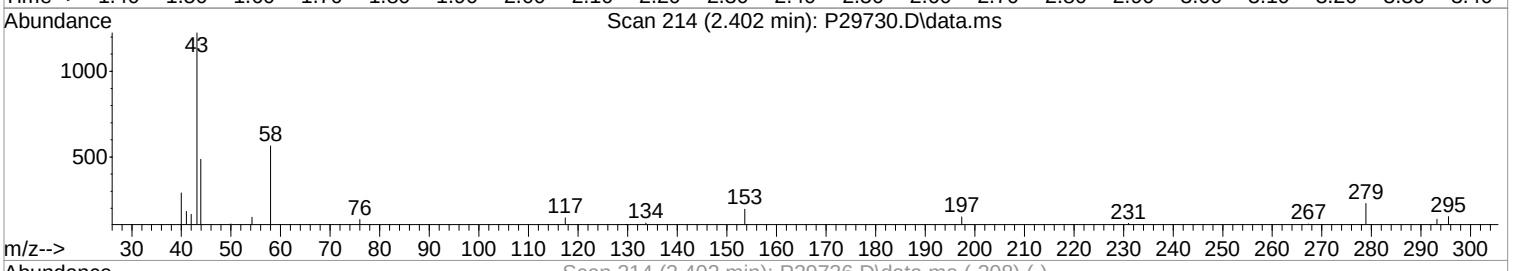
1st 09/12/19
2nd 09/12/19

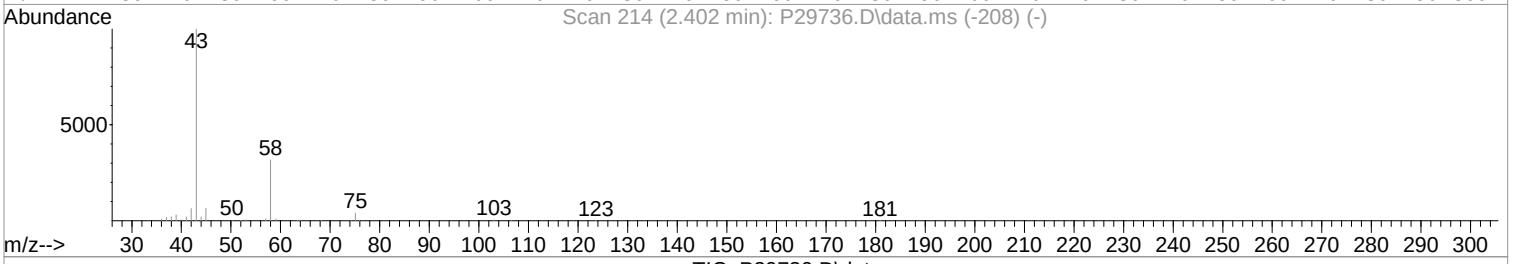
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:58:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29730.D\data.ms

(15) Acetone (P)

2.402min (-0.006) 0.83 ppb m

response 2259

Ion	Exp%	Act%
43.00	100	100
58.00	31.70	46.12
42.00	6.50	13.47
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

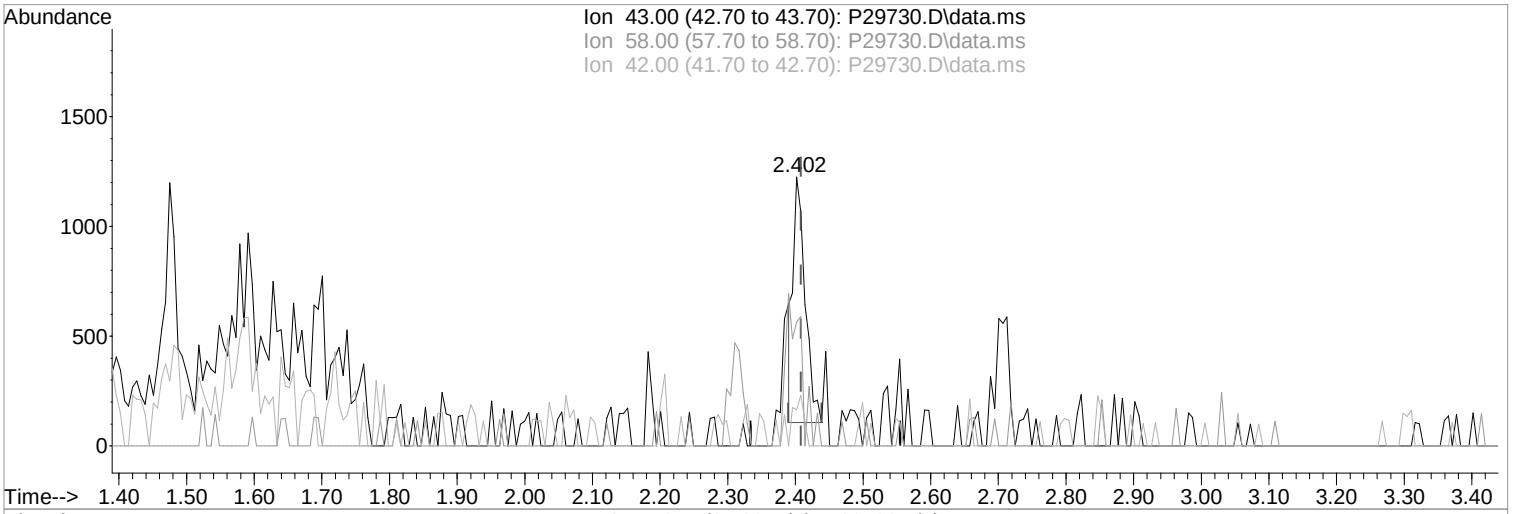
09/12/19

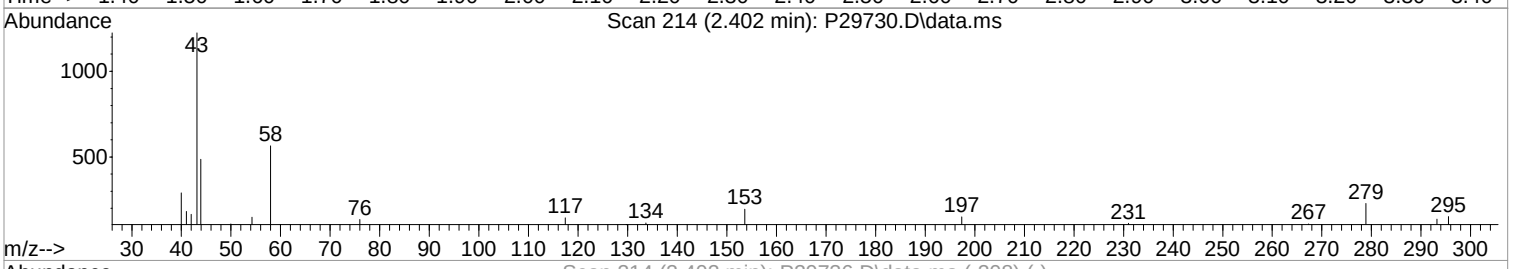
1st 09/12/19
2nd 09/12/19

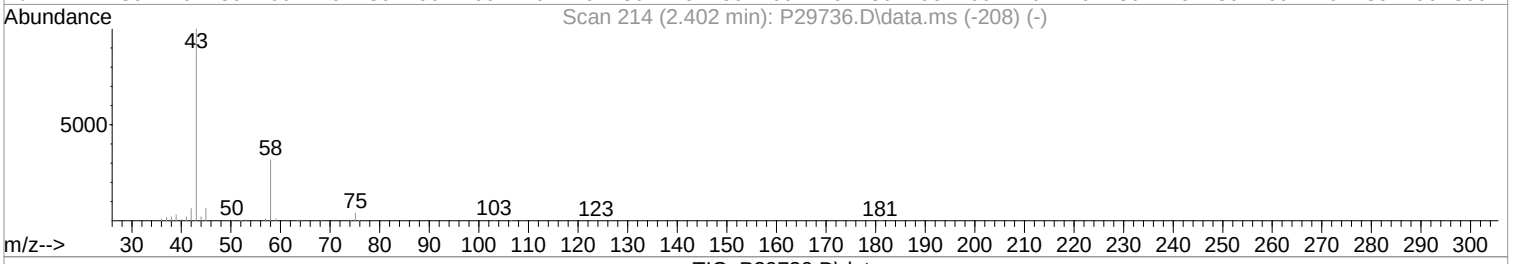
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:58:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29730.D\data.ms

(15) Acetone (P)

2.402min (-0.006) 0.51 ppb

response 1383

Ion	Exp%	Act%
43.00	100	100
58.00	31.70	46.12
42.00	6.50	13.47
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:59:52 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

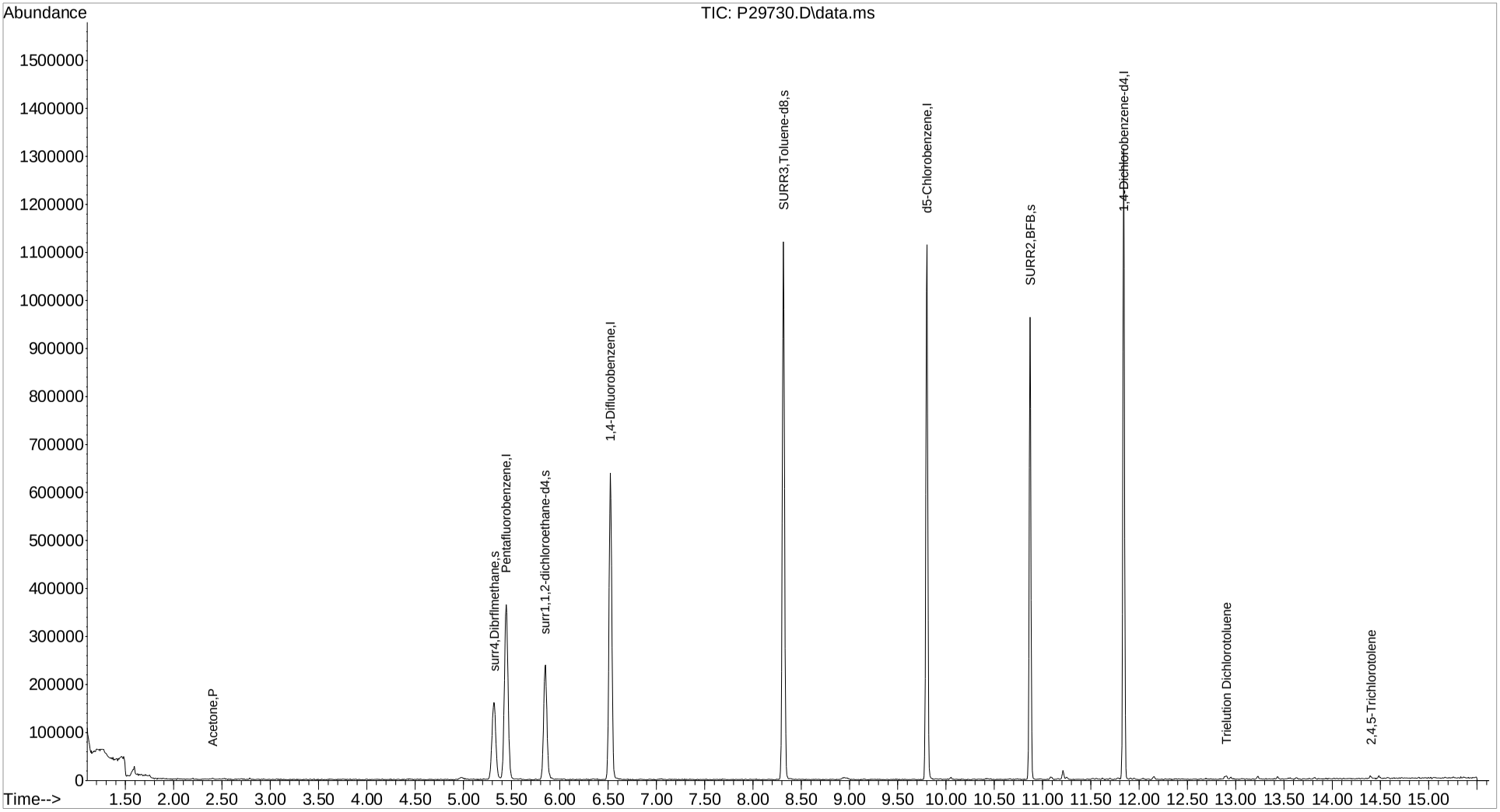
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	332985	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	546934	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	480739	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	251403	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	140192	48.36	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 96.72%				
48) surr1,1,2-dichloroetha...	5.846	65	202785	50.56	ppb		-0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 101.12%				
65) SURR3,Toluene-d8	8.315	98	671599	49.22	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 98.44%				
70) SURR2,BFB	10.870	95	255359	48.10	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.20%				
Target Compounds							Qvalue
15) Acetone	2.402	43	2259m	0.83	ppb		
39) Tetrahydrofuran	4.981	42	4458	Below Cal			78
112) Trielution Dichlorotol...	12.900	125	2846	0.37	ppb	#	73
119) 2,4,5-Trichlorotolene	14.400	159	1006	0.21	ppb	#	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

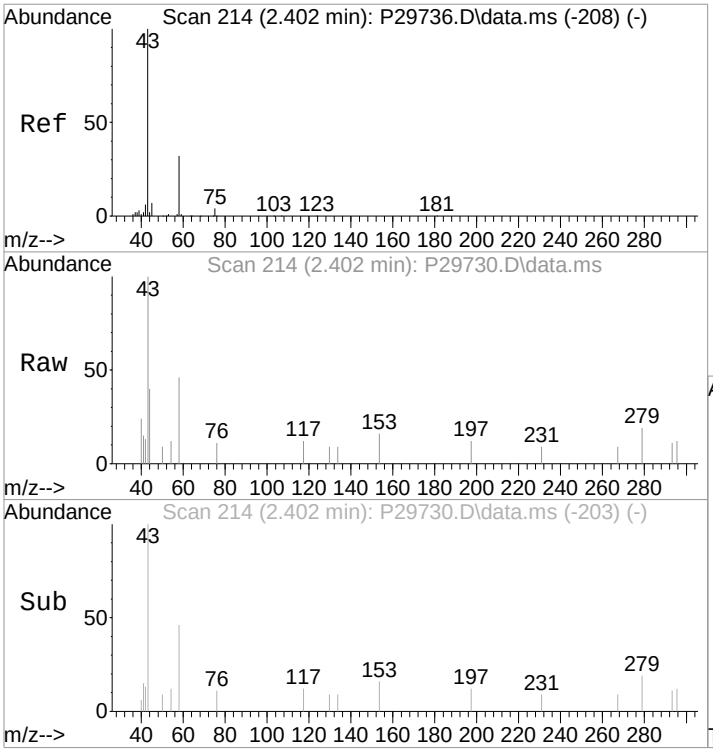
Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29730.D
Acq On : 11 Sep 2019 3:00 pm
Operator : K.Ruest
Sample : IBLK Inst : MSVOA-12
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 11:59:52 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration



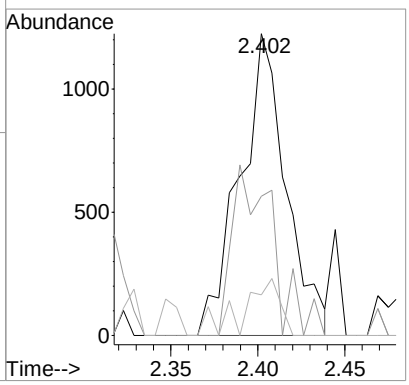
1st 09/12/19
2nd 09/12/19

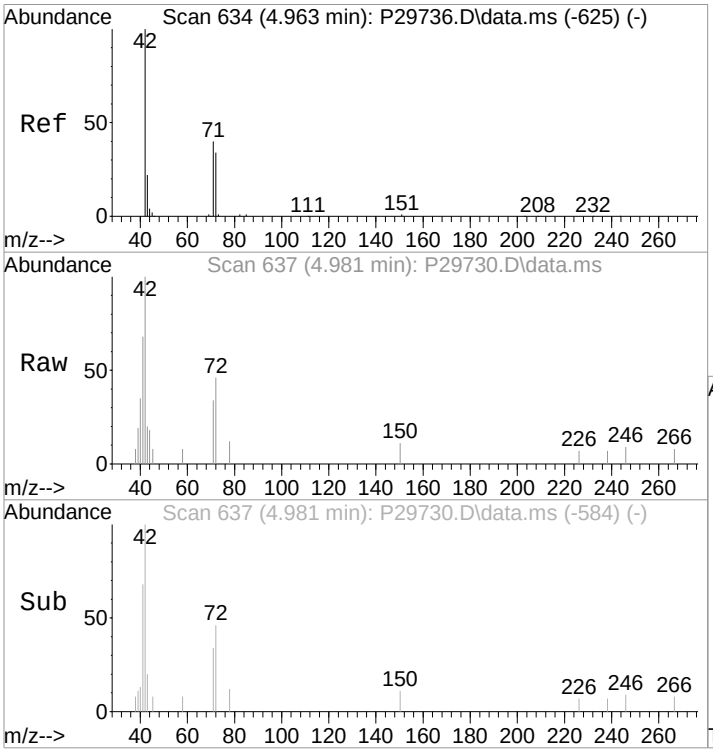


#15
Acetone
Concen: 0.83 ppb m
RT: 2.402 min Scan# 214
Delta R.T. -0.006 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion: 43 Resp: 2259

Ion	Ratio	Lower	Upper
43	100		
58	46.1	11.7	51.7
42	13.5	0.0	26.5

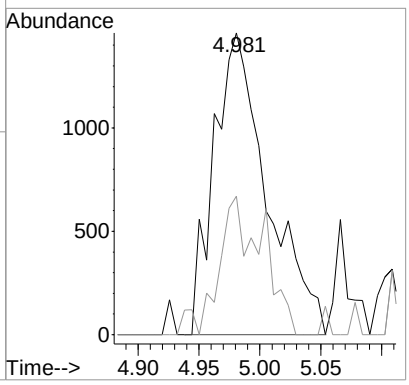


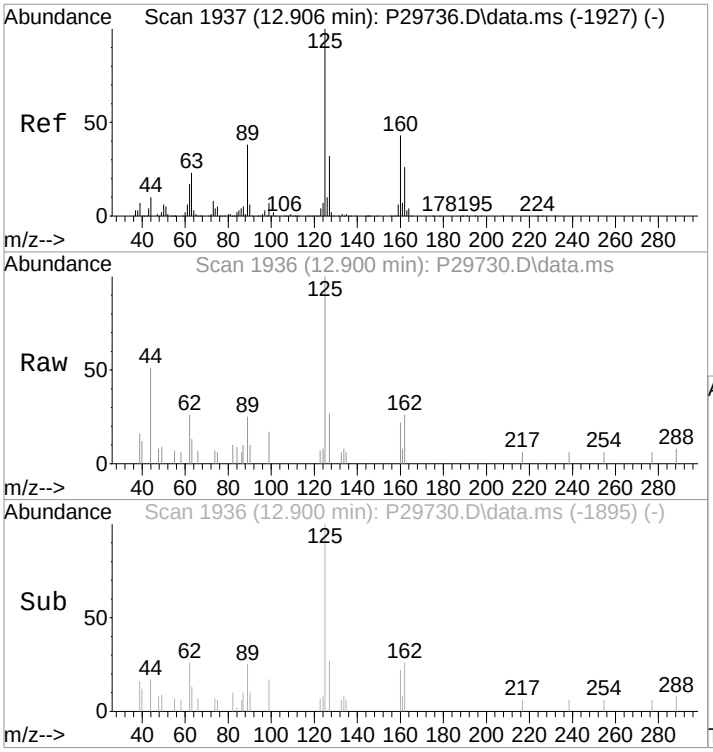


#39
Tetrahydrofuran
Concen: Below Cal
RT: 4.981 min Scan# 637
Delta R.T. 0.007 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion: 42 Resp: 4458

Ion	Ratio	Lower	Upper
42	100		
72	45.9	13.2	53.2

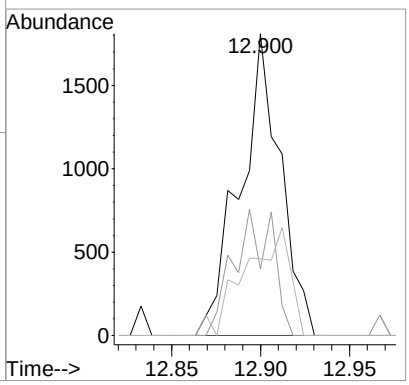


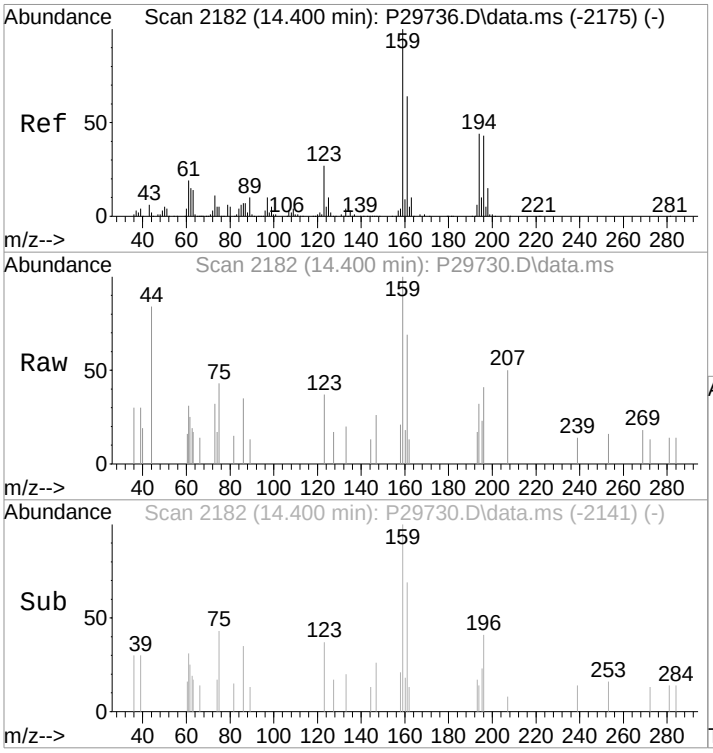


#112
Trielution Dichlorotoluene
Concen: 0.37 ppb
RT: 12.900 min Scan# 1936
Delta R.T. -0.000 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion:125 Resp: 2846

Ion	Ratio	Lower	Upper
125	100		
160	22.1	34.3	51.5#
89	25.5	30.8	46.2#

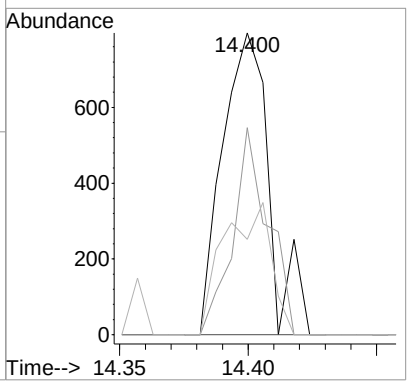




#119
2,4,5-Trichlorotolene
Concen: 0.21 ppb
RT: 14.400 min Scan# 2182
Delta R.T. -0.000 min
Lab File: P29730.D
Acq: 11 Sep 2019 3:00 pm

Tgt Ion:159 Resp: 1006

Ion	Ratio	Lower	Upper
159	100		
161	68.6	50.8	76.2
194	31.6	35.3	52.9#

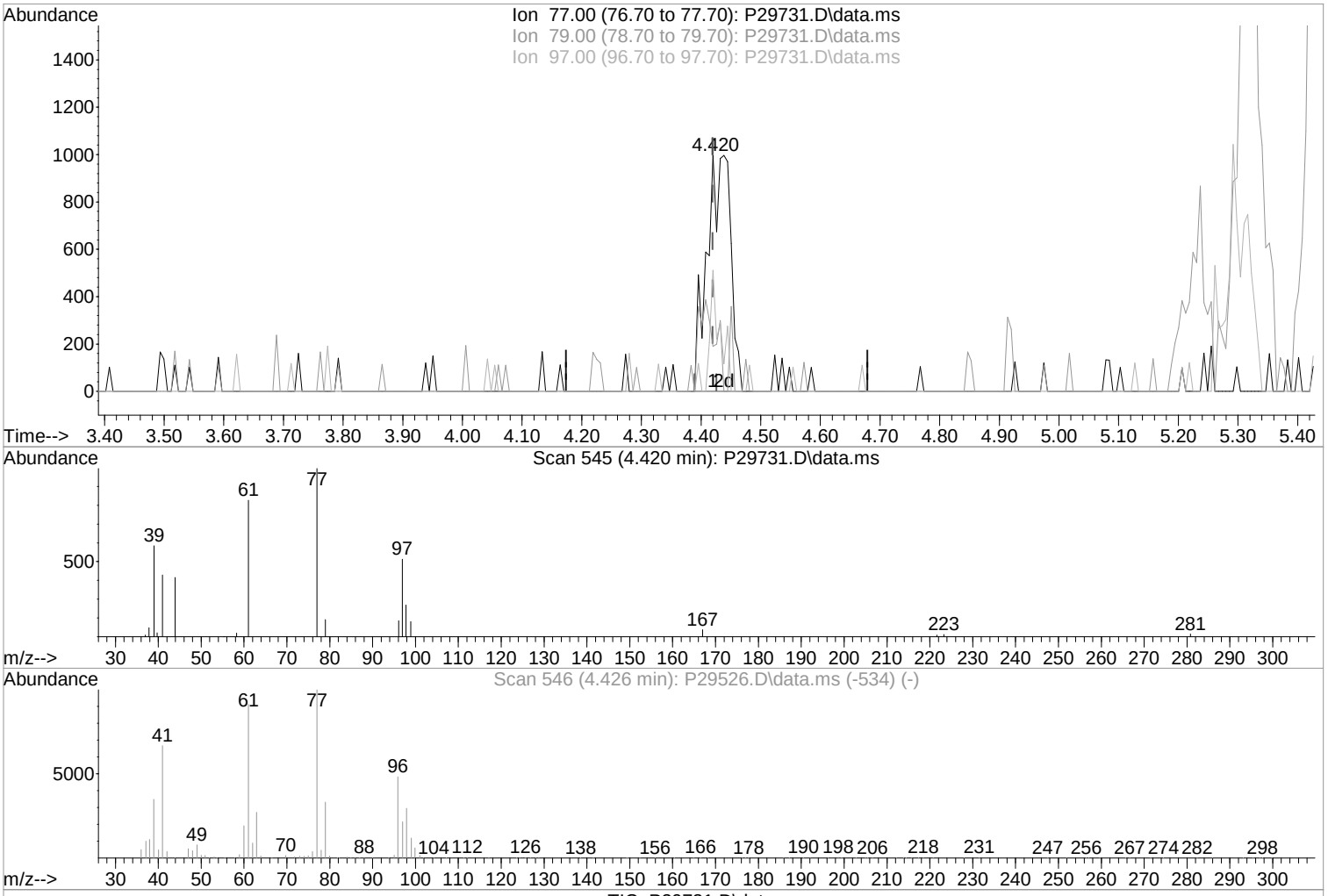


1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(33) 2,2-Dichloropropane

4.420min (+0.000) 0.49 ppb m

response 2749

Ion	Exp%	Act%
77.00	100	100
79.00	34.40	19.06
97.00	19.80	51.35#
0.00	0.00	0.00

Manual Integration:

After

Split Peak

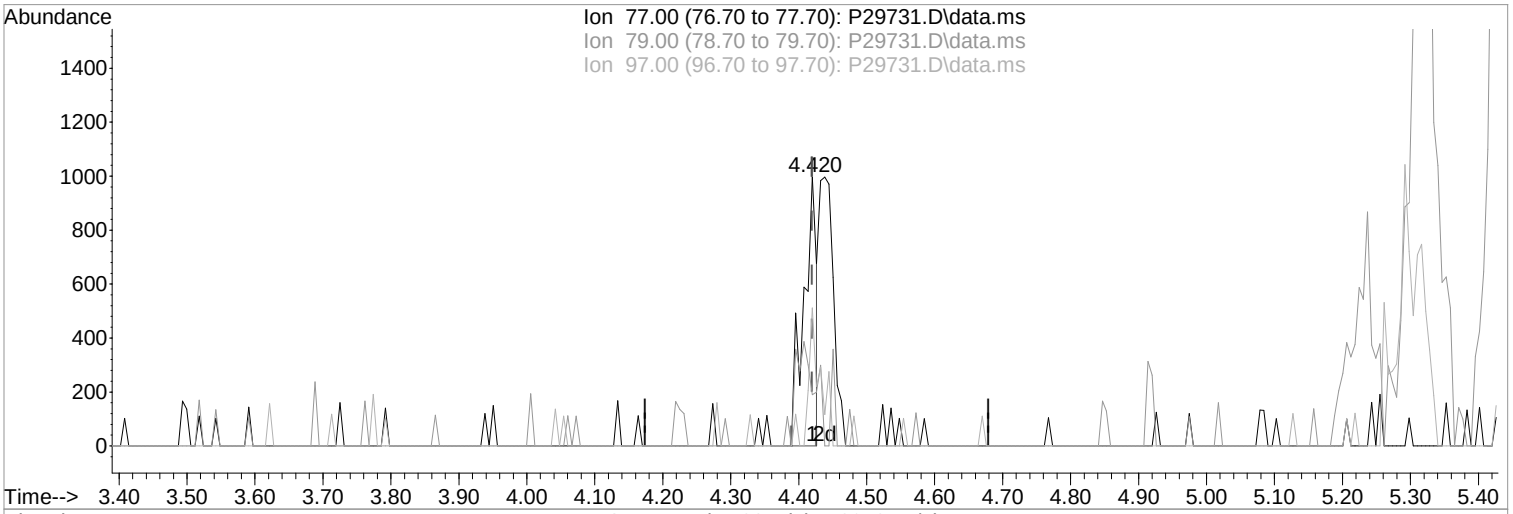
09/12/19

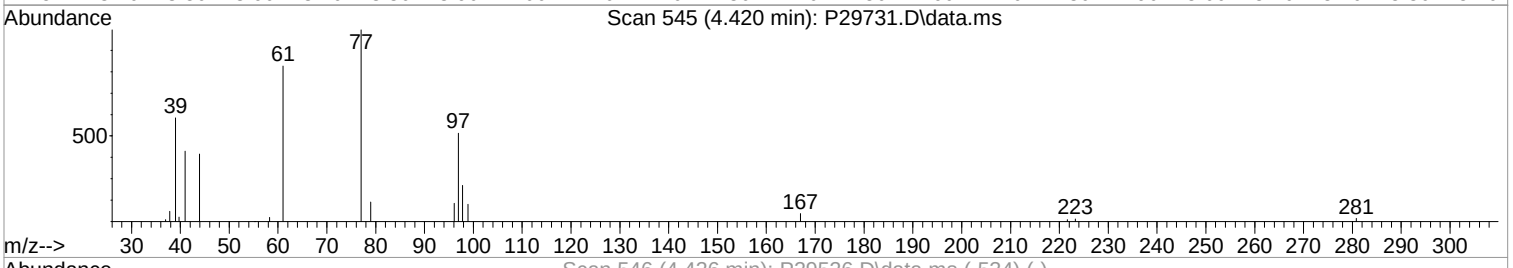
1st 09/12/19
2nd 09/12/19

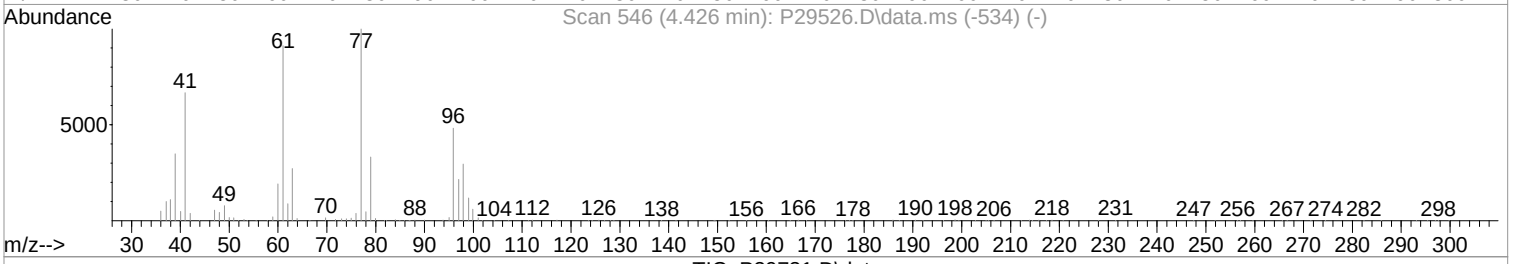
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(33) 2,2-Dichloropropane

4.420min (+0.000) 0.23 ppb

response 1298

Ion	Exp%	Act%
77.00	100	100
79.00	34.40	19.06
97.00	19.80	51.35#
0.00	0.00	0.00

Manual Integration:

Before

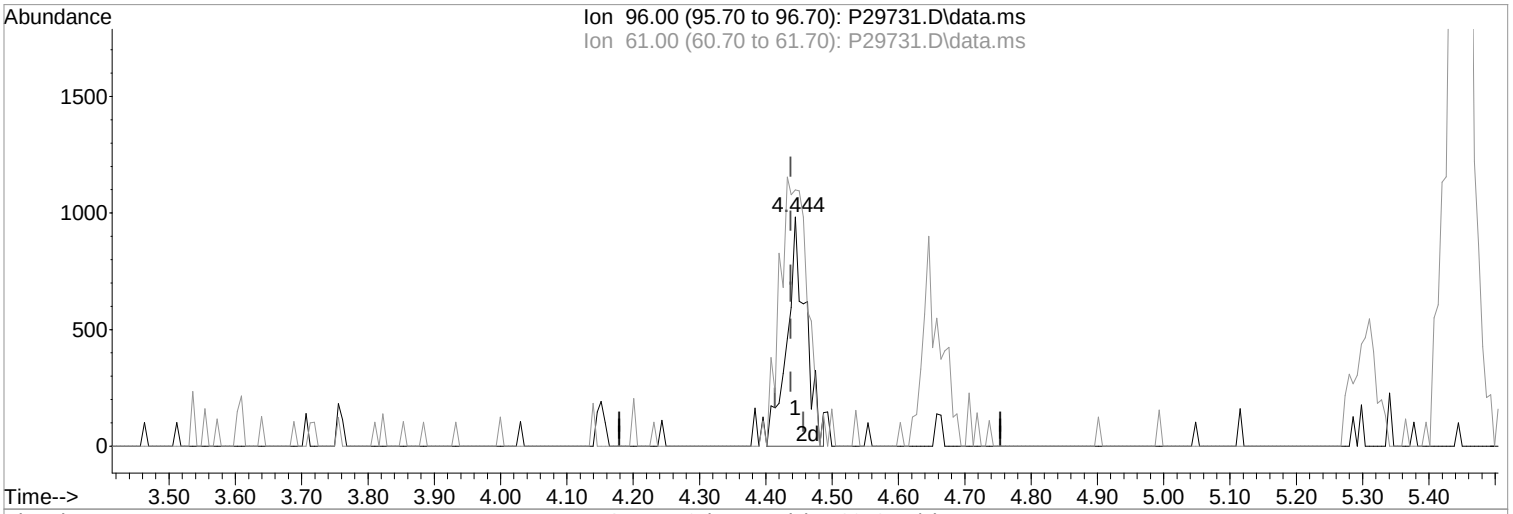
09/12/19

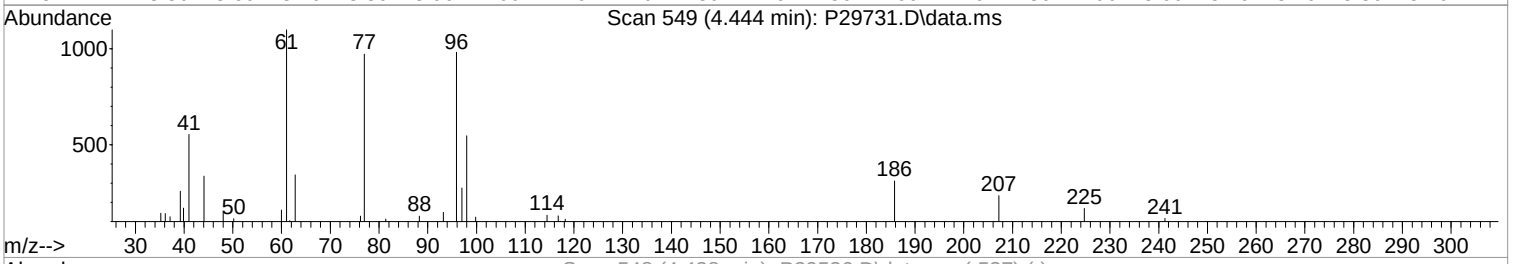
1st 09/12/19
2nd 09/12/19

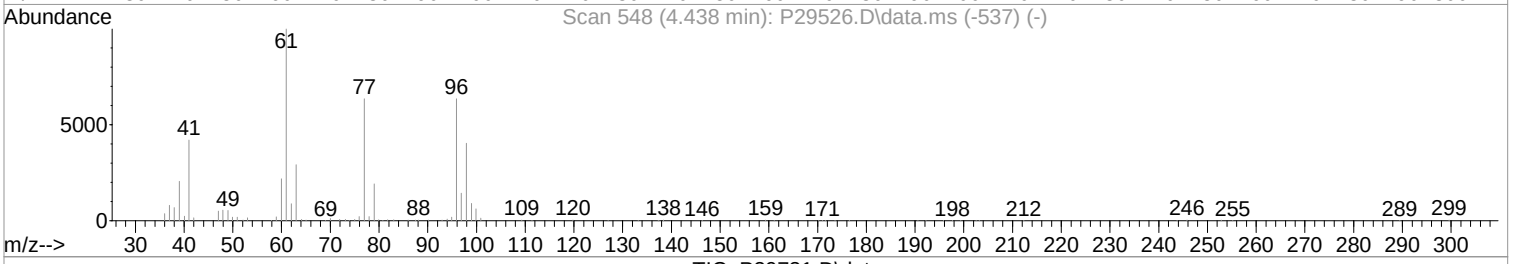
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.47 ppb m

response 1957

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	111.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

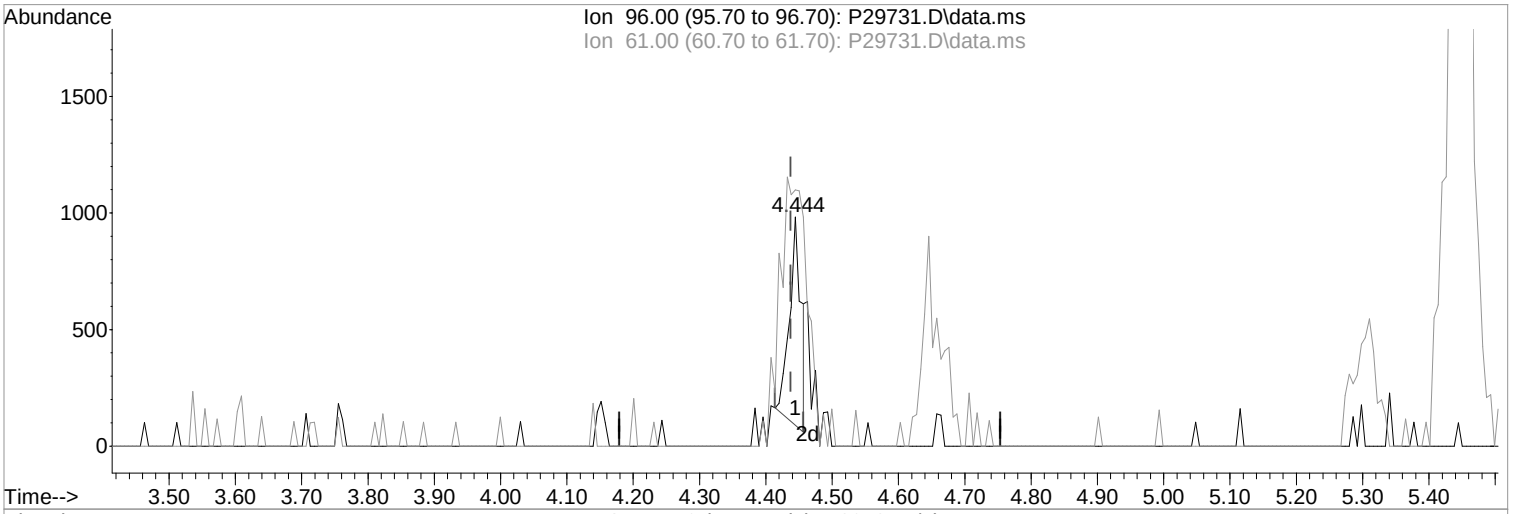
09/12/19

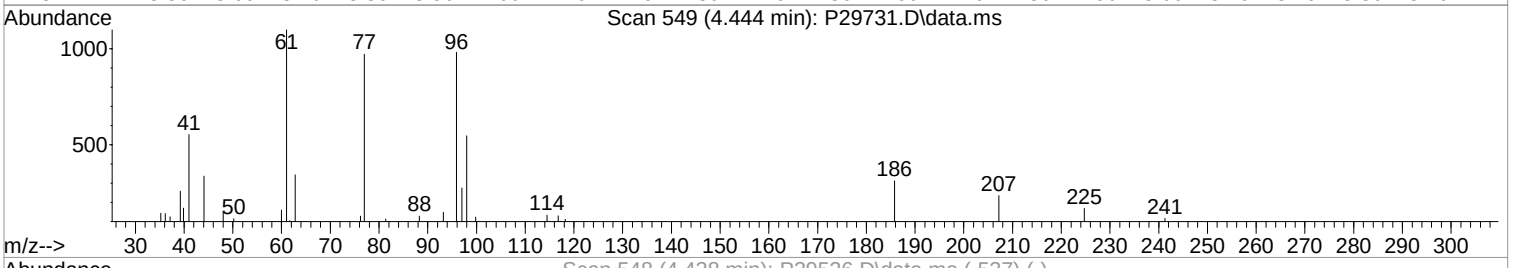
1st 09/12/19
2nd 09/12/19

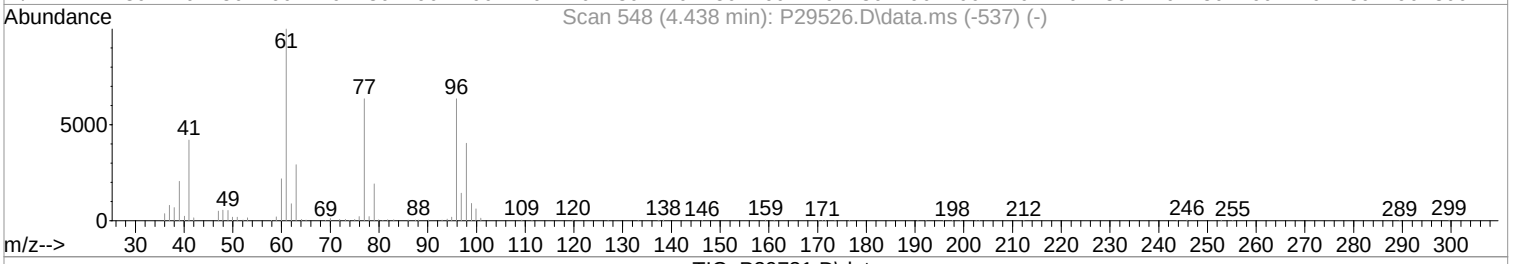
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.26 ppb

response 1089

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	122.61#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

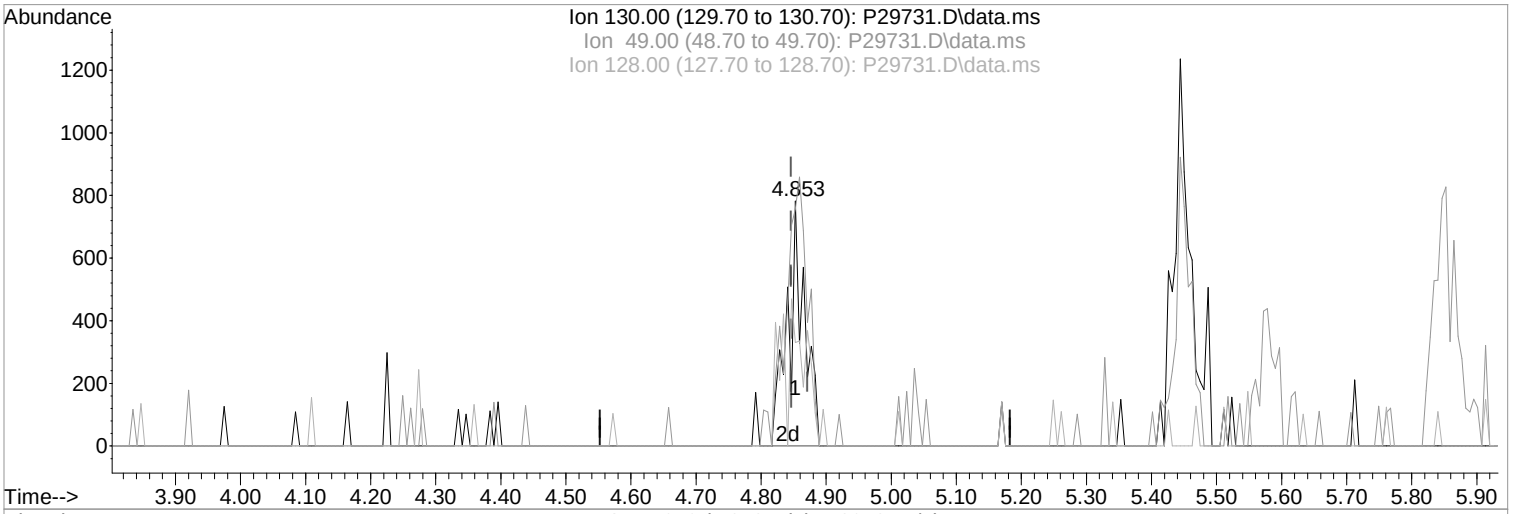
09/12/19

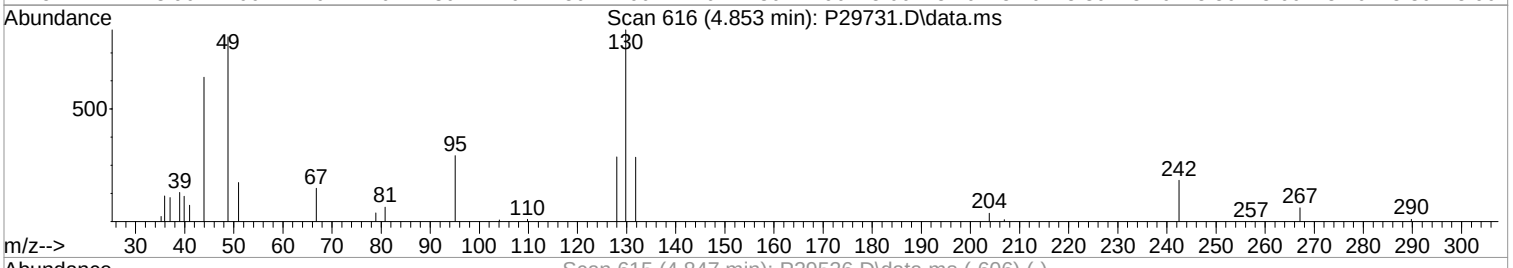
1st 09/12/19
2nd 09/12/19

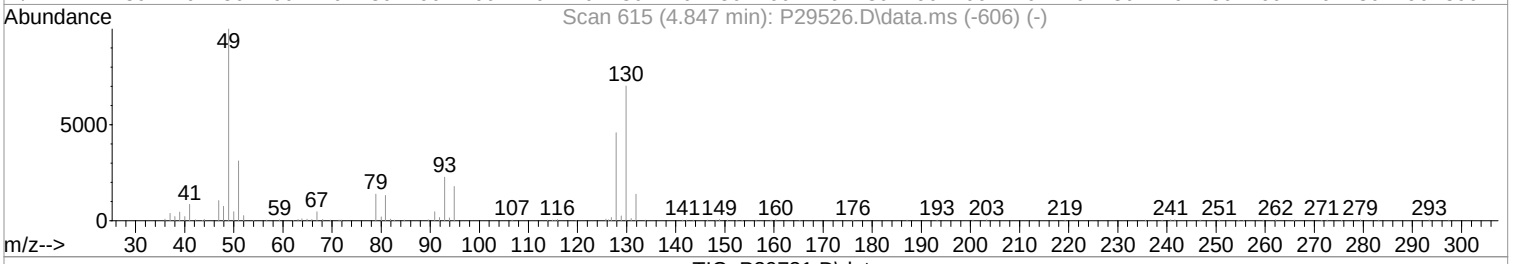
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.56 ppb m

response 1398

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	96.68#
128.00	71.40	42.20#
0.00	0.00	0.00

Manual Integration:

After

Split Peak

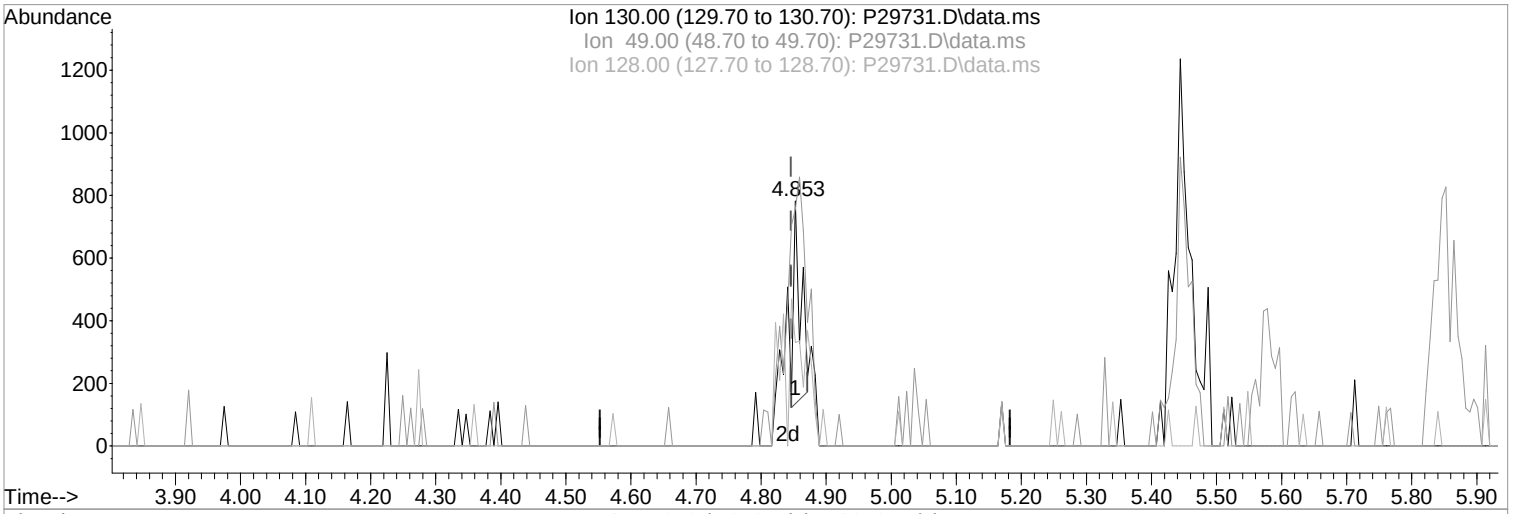
09/12/19

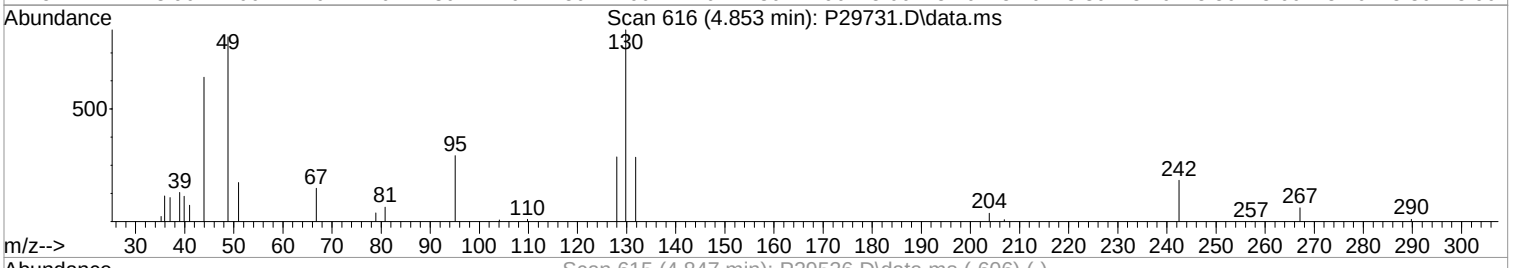
1st 09/12/19
2nd 09/12/19

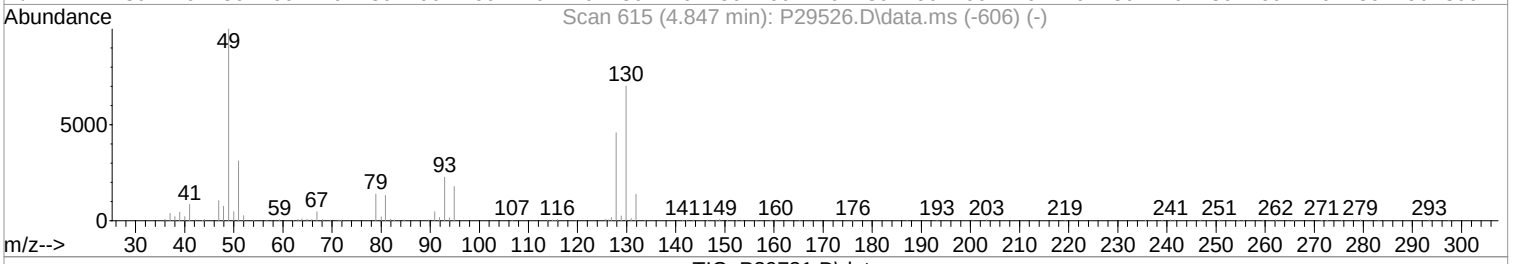
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.19 ppb

response 478

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	96.68#
128.00	71.40	42.20#
0.00	0.00	0.00

Manual Integration:

Before

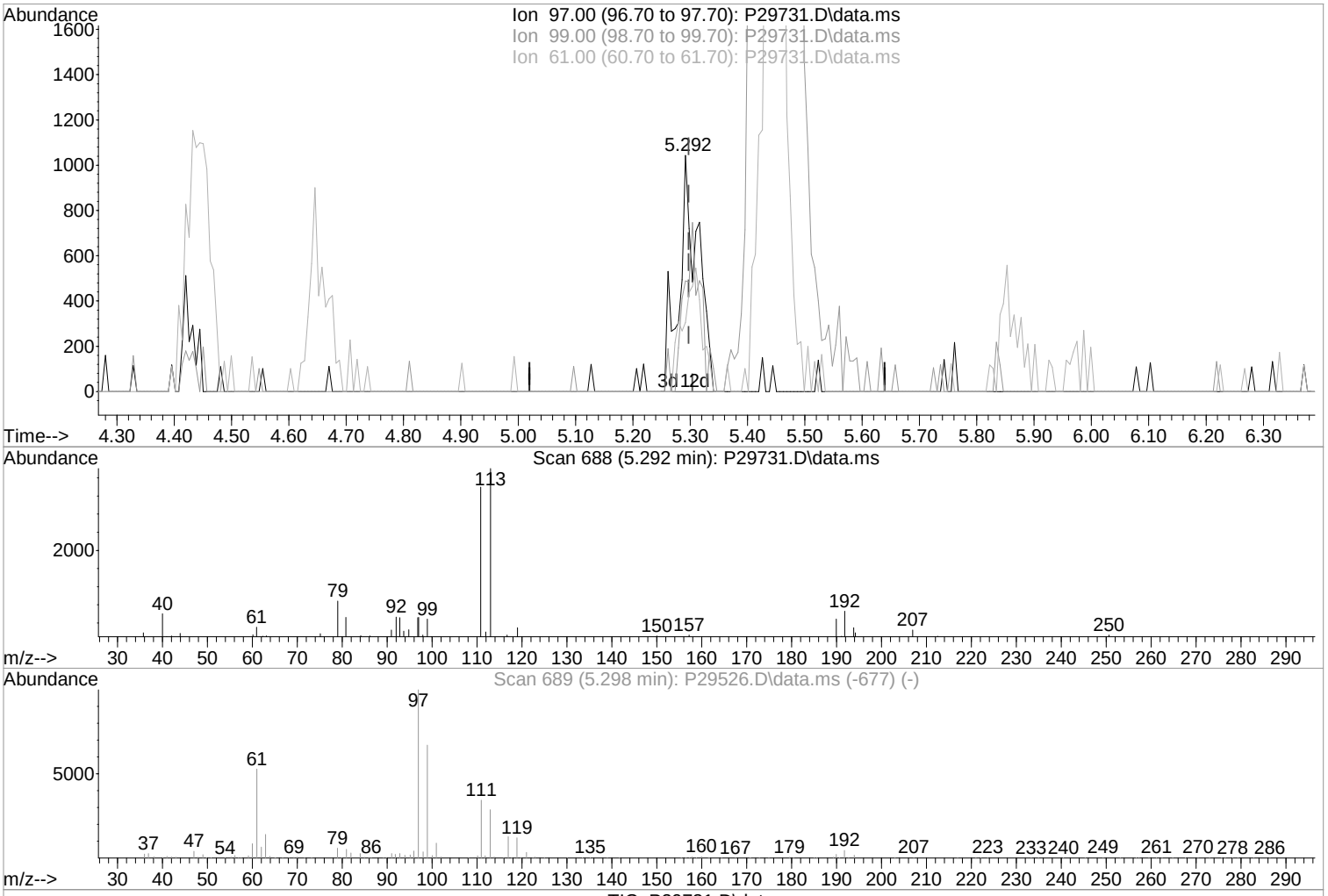
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.292min (-0.006) 0.45 ppb m

response 2421

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	92.60#
61.00	44.60	57.87
0.00	0.00	0.00

Manual Integration:

After

Split Peak

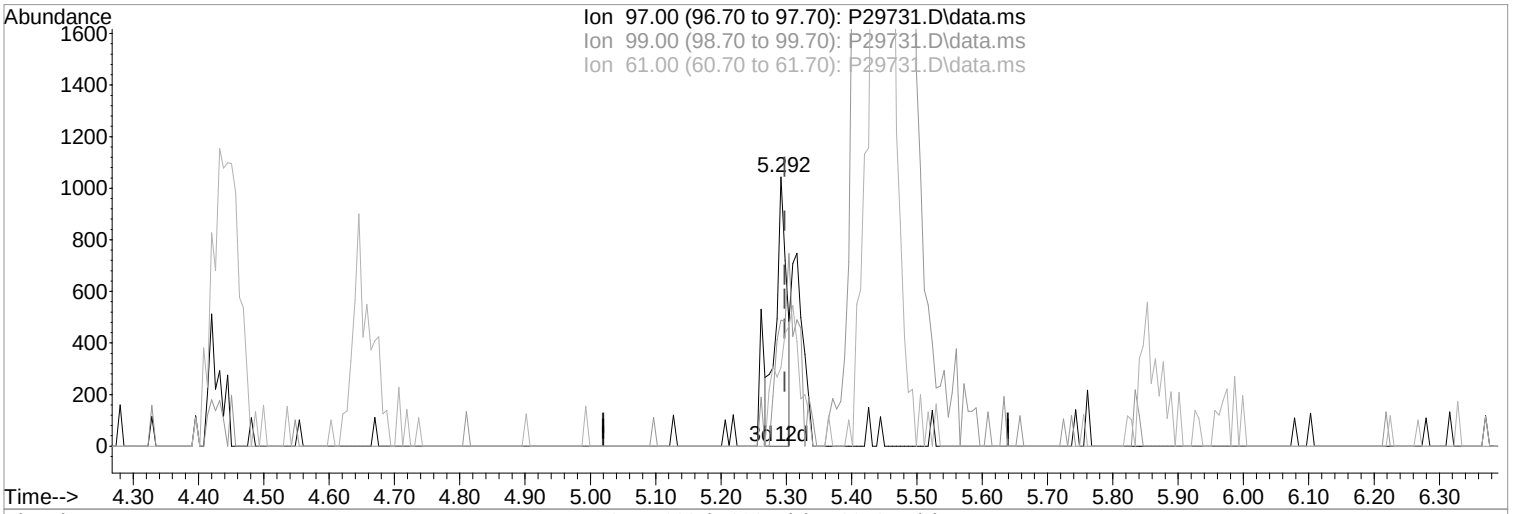
09/12/19

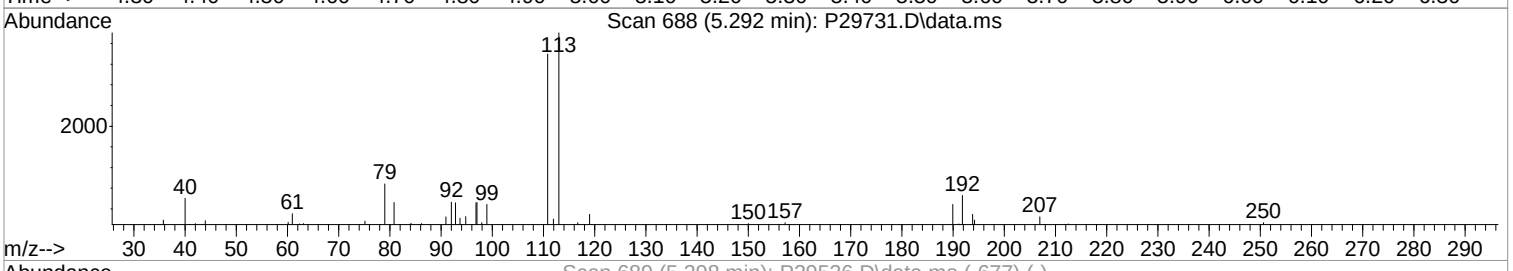
1st 09/12/19
2nd 09/12/19

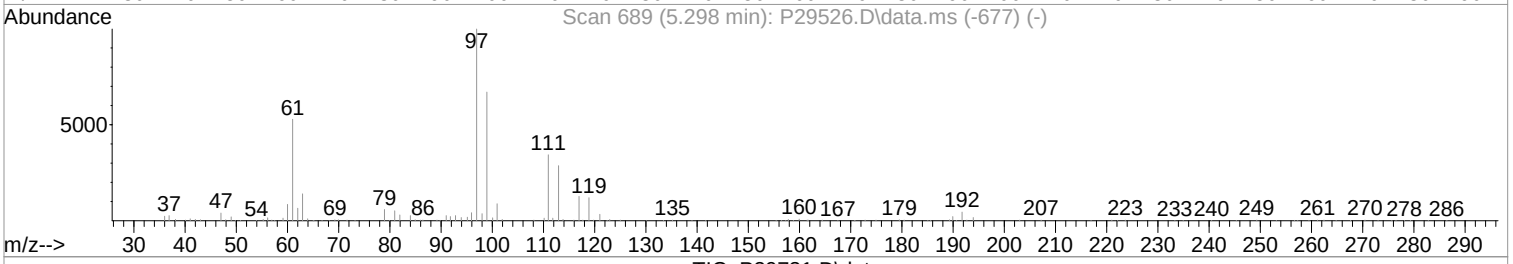
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.292min (-0.006) 0.23 ppb

response 1215

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	46.79
61.00	44.60	29.24
0.00	0.00	0.00

Manual Integration:

Before

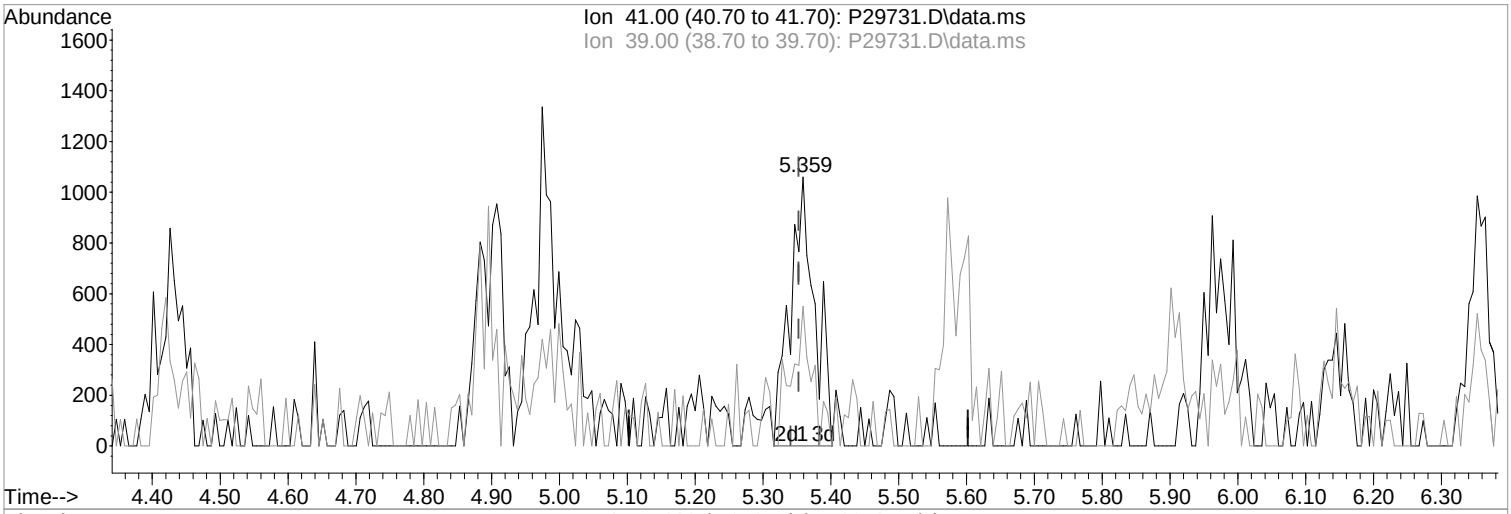
09/12/19

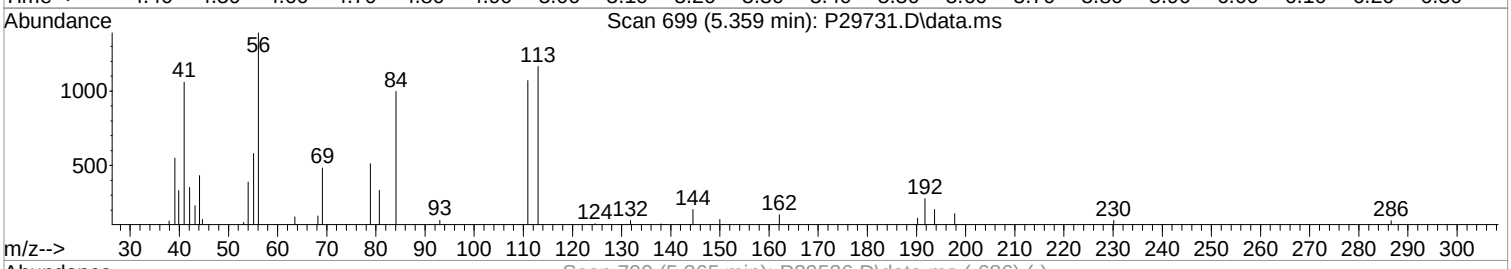
1st 09/12/19
2nd 09/12/19

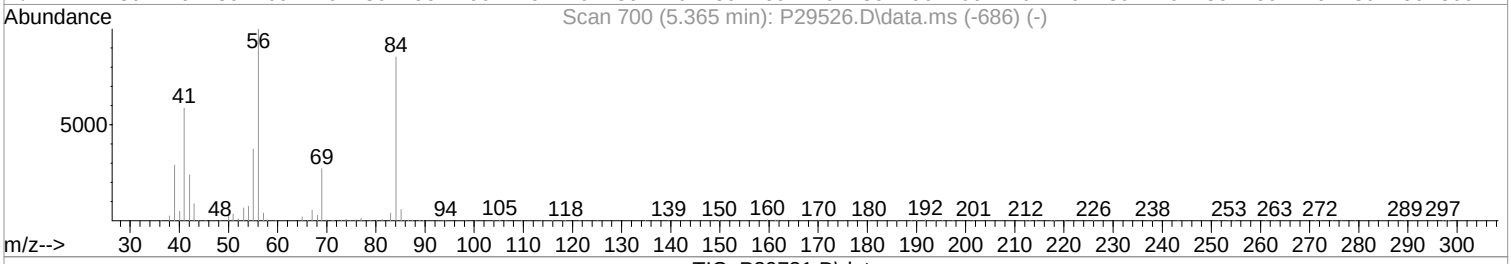
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(44) Cyclohexane (P)

5.359min (+0.006) 0.60 ppb m

response 2693

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	51.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

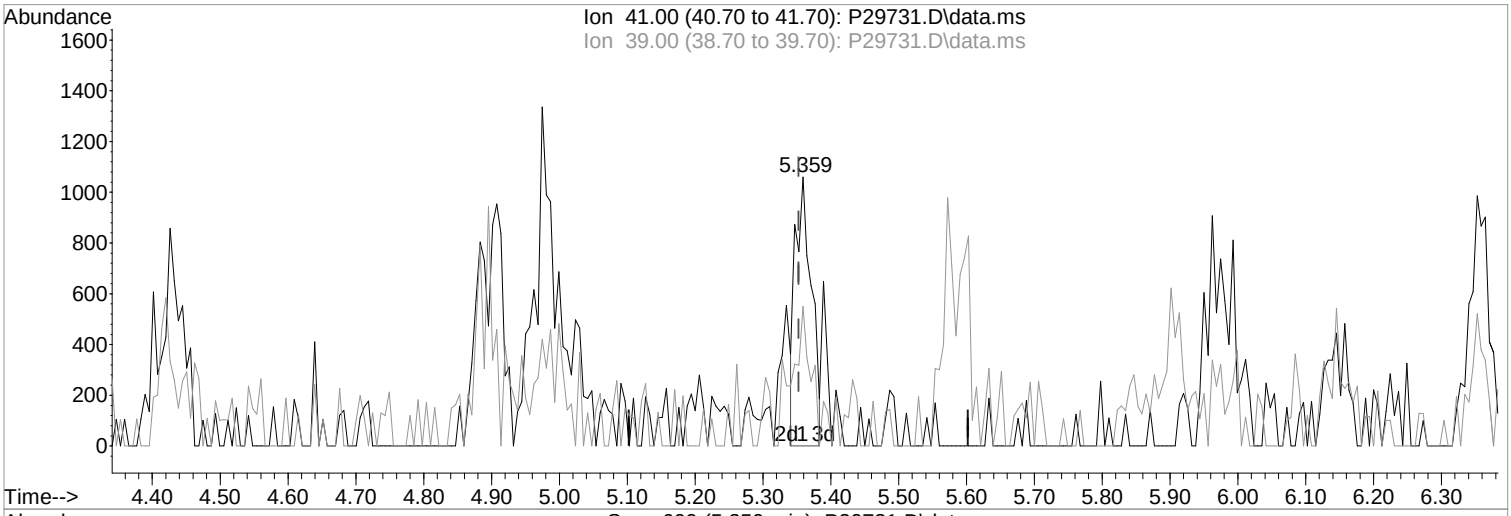
09/12/19

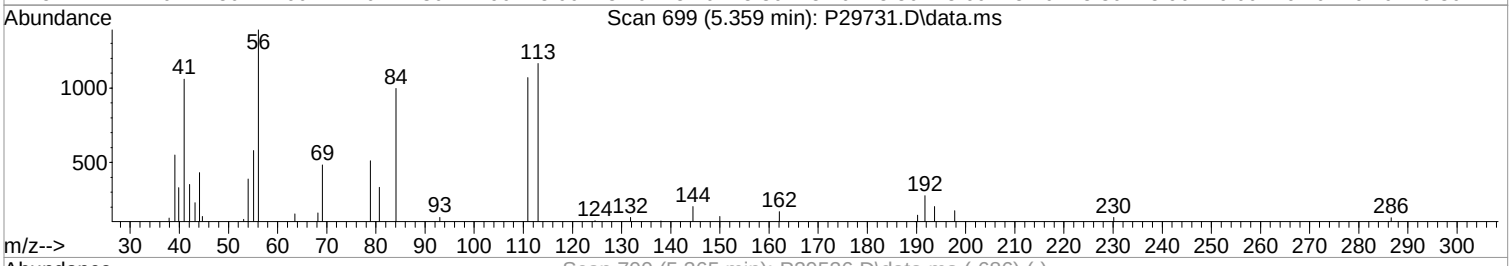
1st 09/12/19
2nd 09/12/19

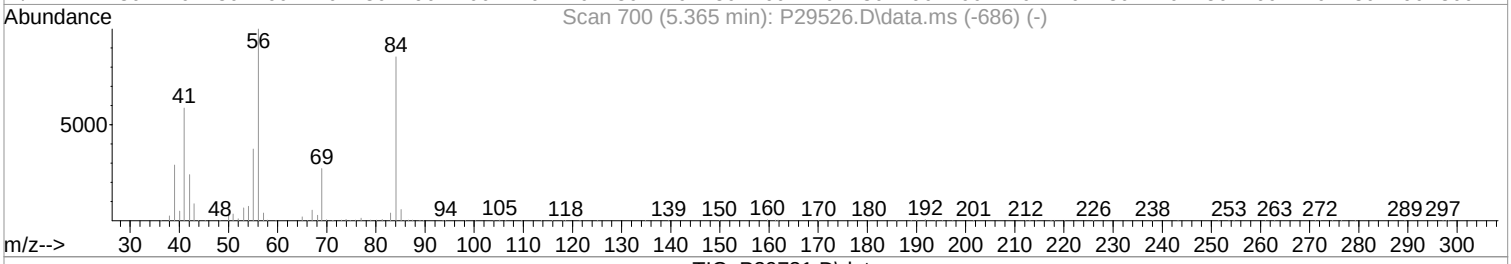
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(44) Cyclohexane (P)

5.359min (+0.006) 0.39 ppb

response 1765

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	51.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

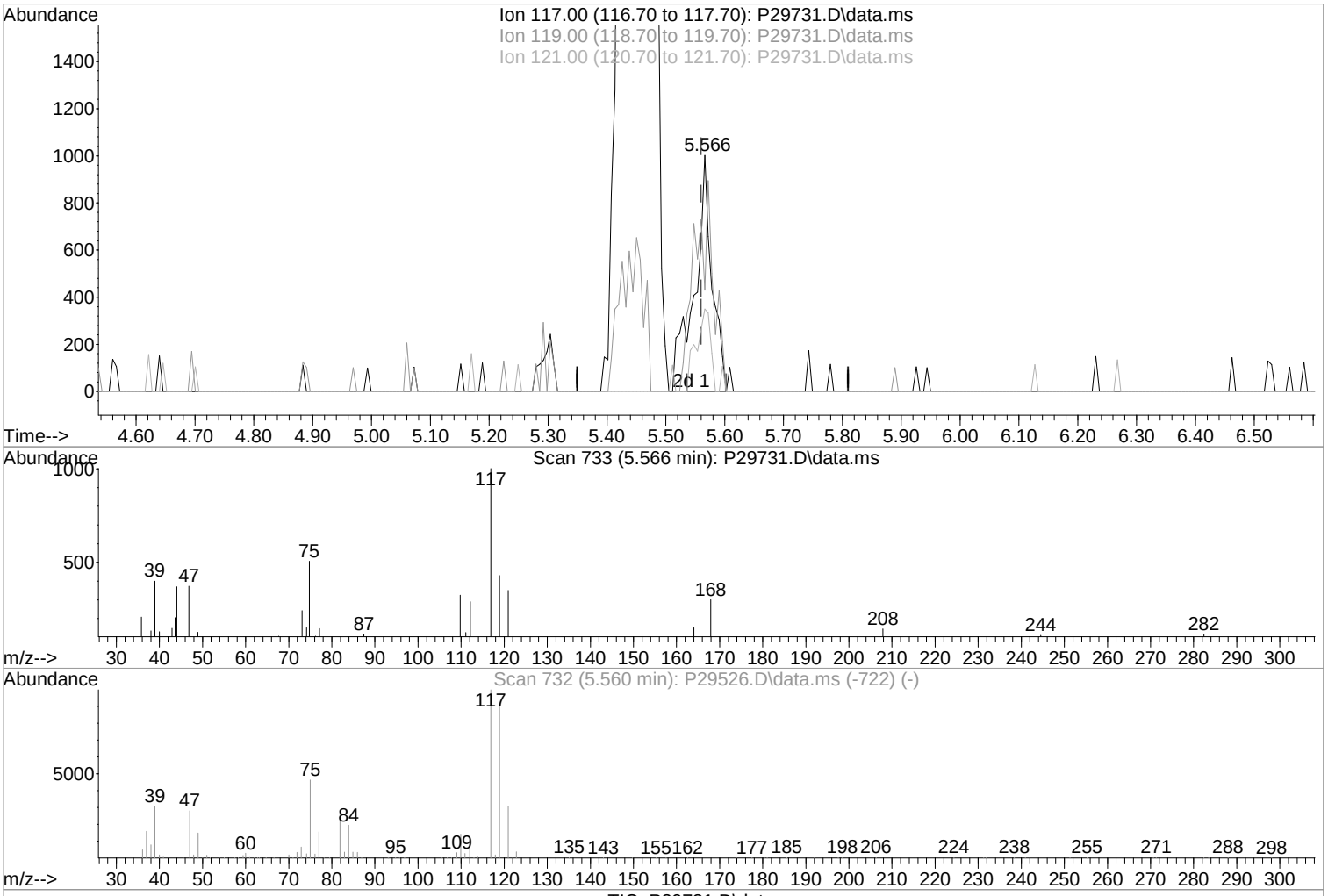
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(46) Carbontetrachloride (P)

5.566min (+0.006) 0.54 ppb m

response 2085

Ion	Exp%	Act%
117.00	100	100
119.00	99.20	42.91#
121.00	31.70	34.93
0.00	0.00	0.00

Manual Integration:

After

Split Peak

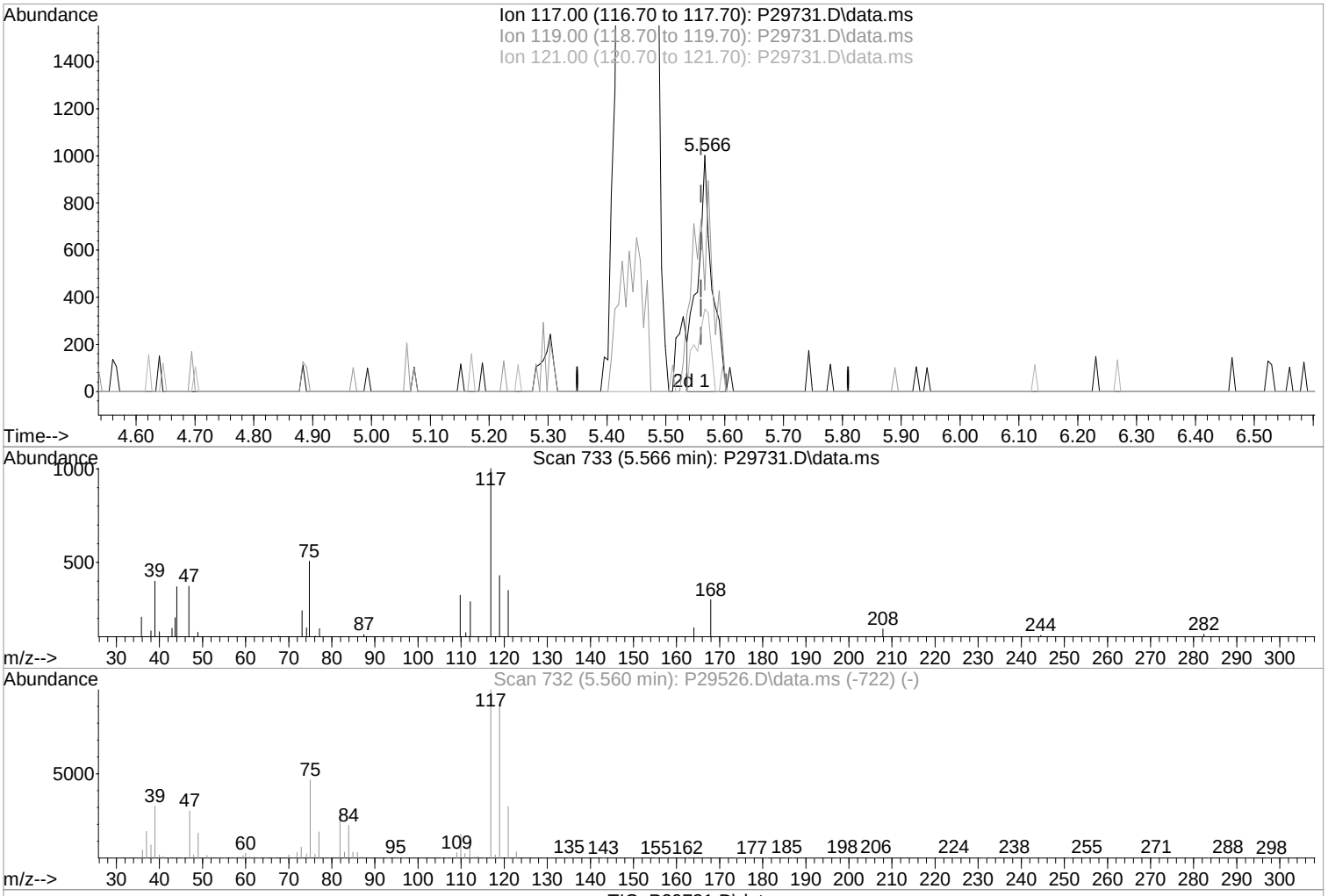
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(46) Carbontetrachloride (P)

5.566min (+0.006) 0.44 ppb

response 1720

Ion	Exp%	Act%
117.00	100	100
119.00	99.20	42.91#
121.00	31.70	34.93
0.00	0.00	0.00

Manual Integration:

Before

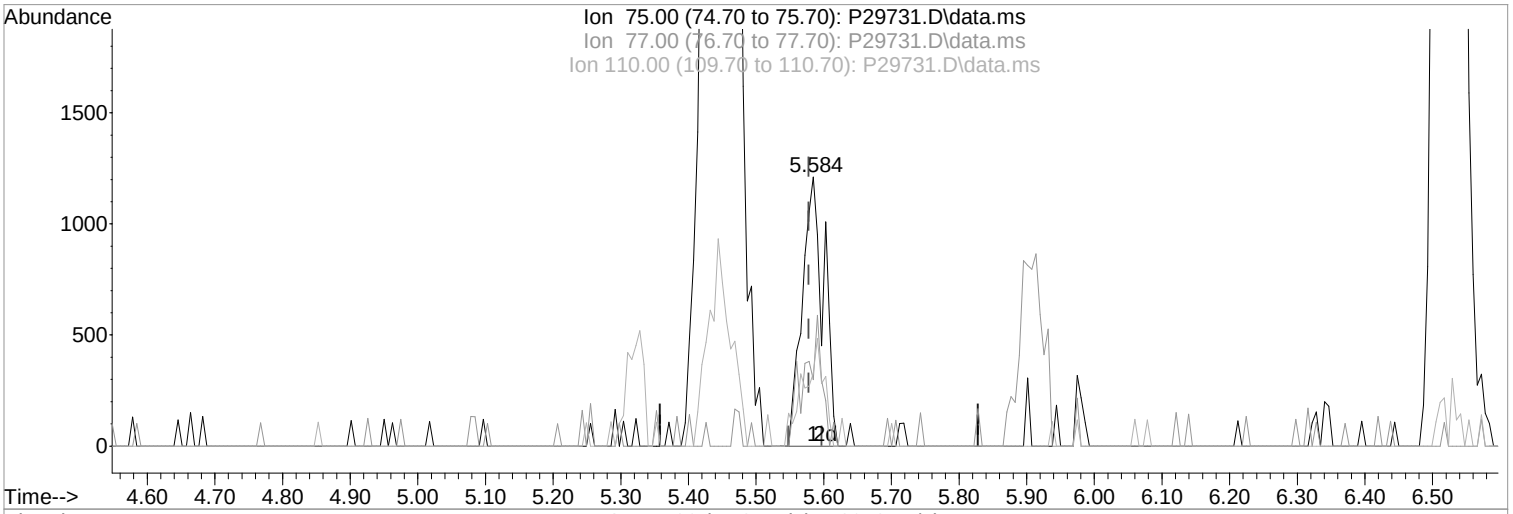
09/12/19

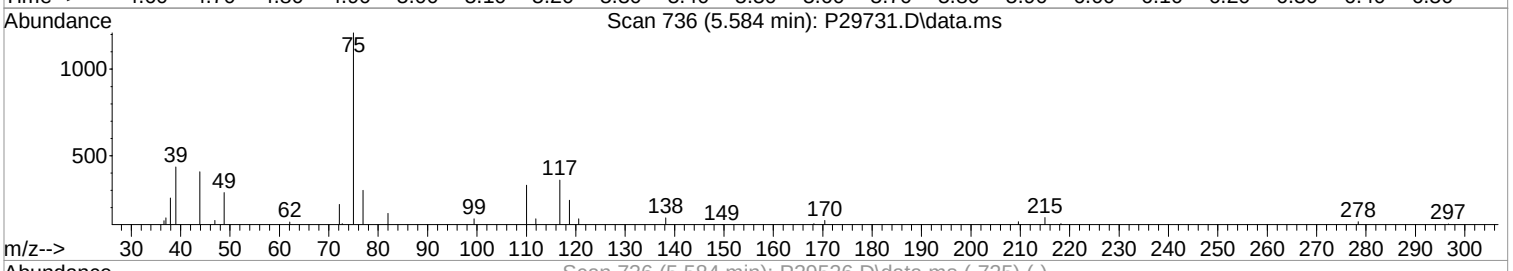
1st 09/12/19
2nd 09/12/19

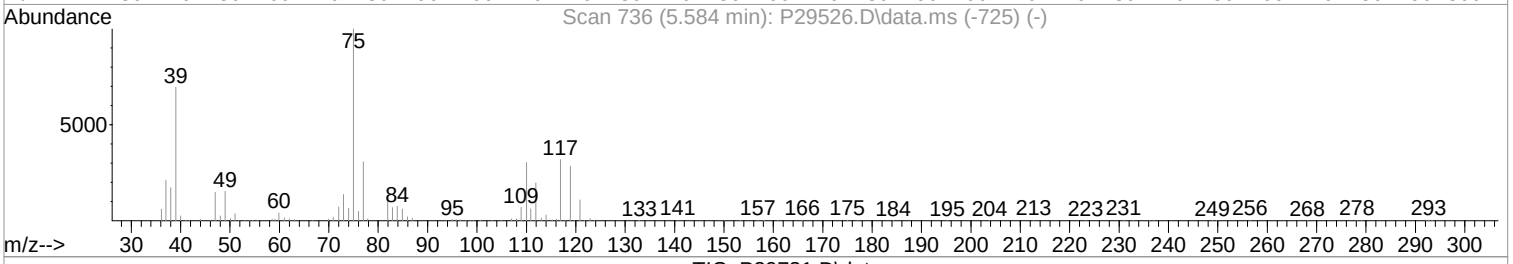
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(47) 1,1-Dichloropropene

5.584min (+0.006) 0.50 ppb m

response 2695

Ion	Exp%	Act%
75.00	100	100
77.00	30.80	24.69
110.00	30.50	27.09
0.00	0.00	0.00

Manual Integration:

After

Split Peak

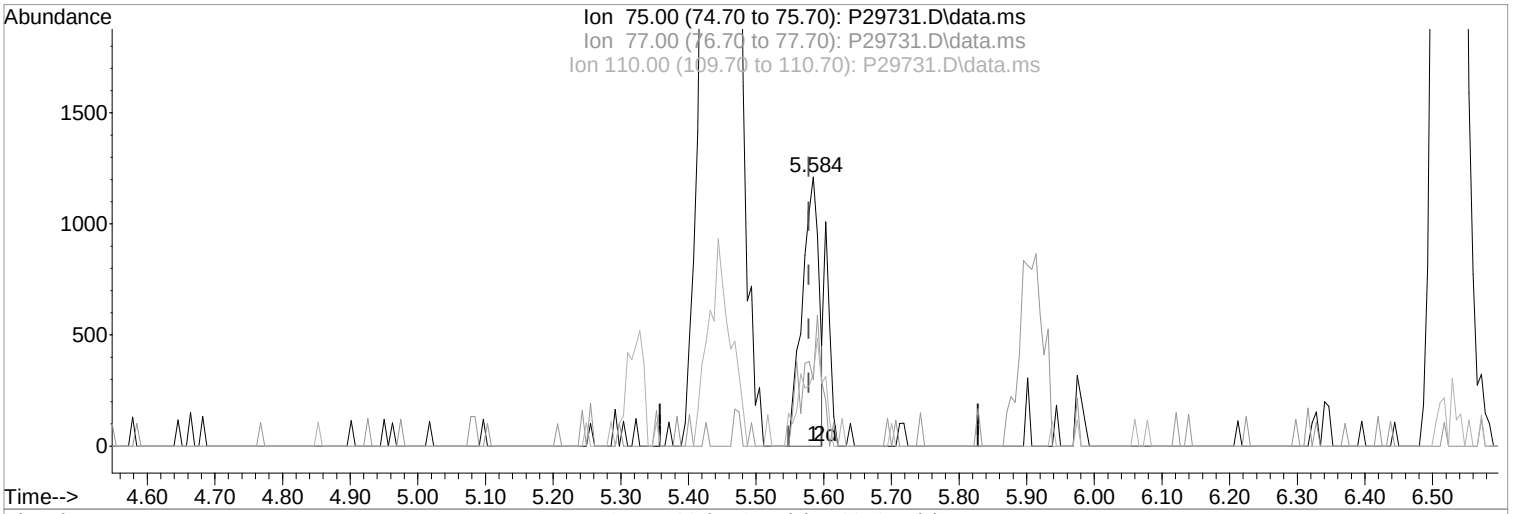
09/12/19

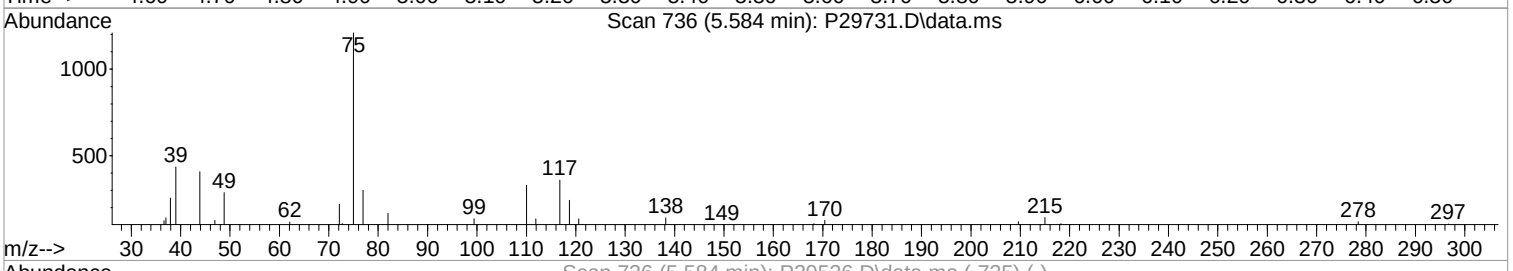
1st 09/12/19
2nd 09/12/19

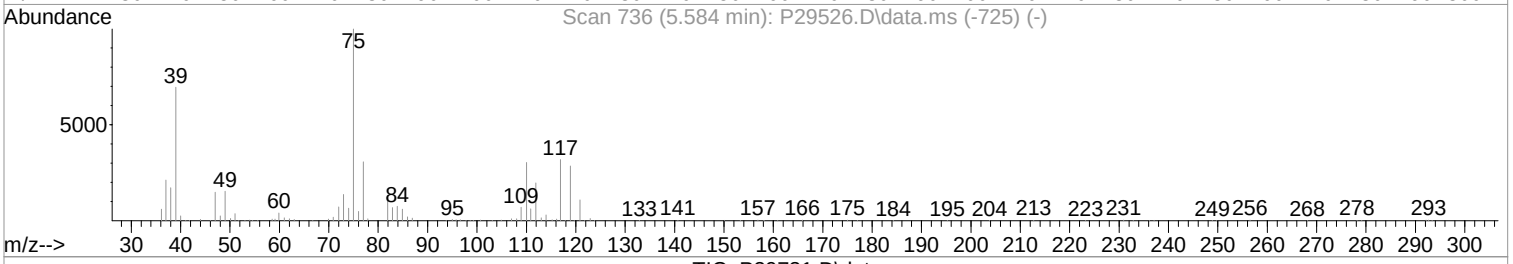
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(47) 1,1-Dichloropropene

5.584min (+0.006) 0.38 ppb

response 2075

Ion	Exp%	Act%
75.00	100	100
77.00	30.80	24.69
110.00	30.50	27.09
0.00	0.00	0.00

Manual Integration:

Before

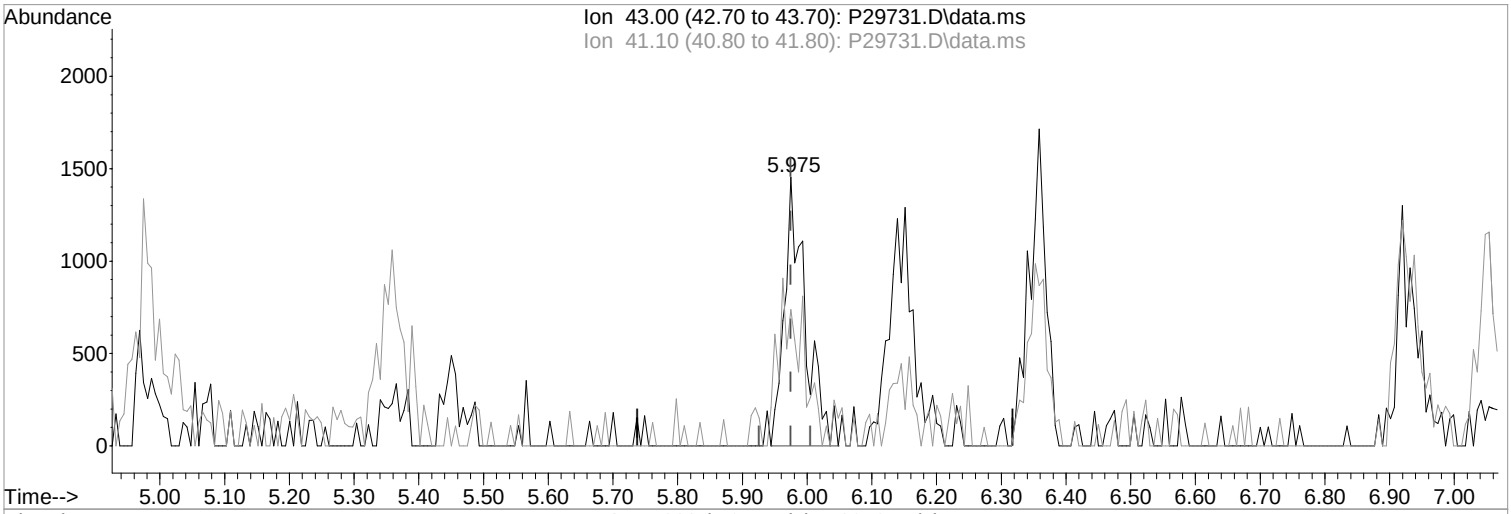
09/12/19

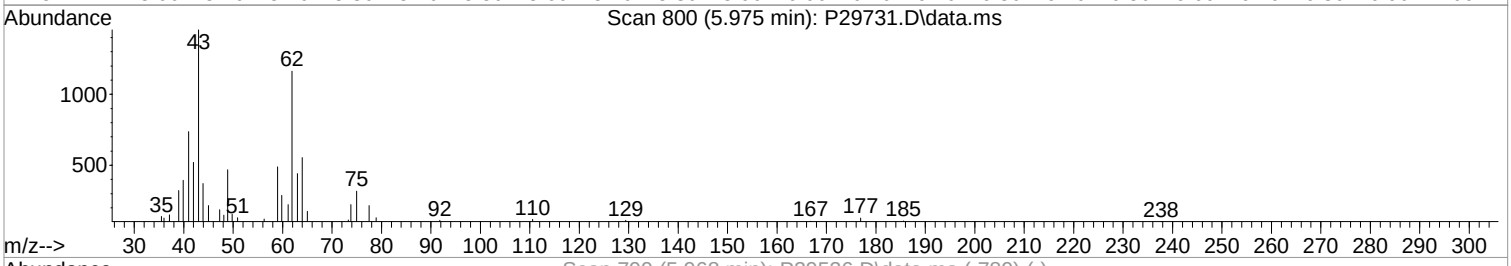
1st 09/12/19
2nd 09/12/19

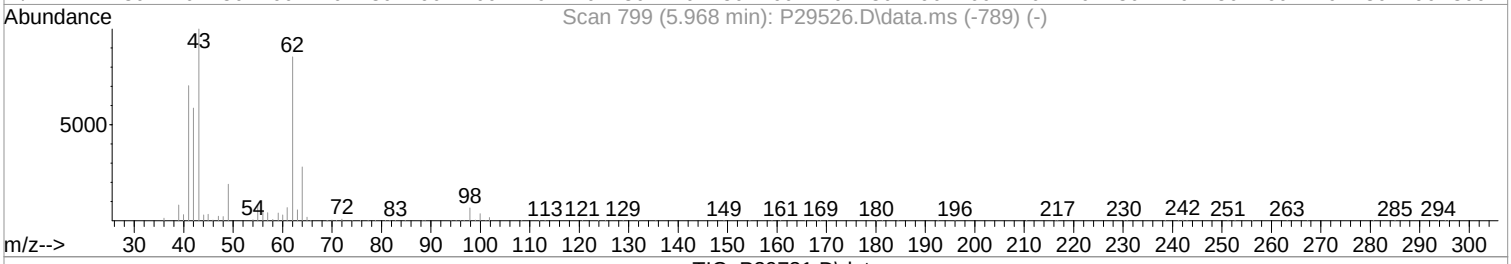
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(51) Iso-Butyl Alcohol

5.975min (+0.000) 6.80 ppb m

response 3274

Ion	Exp%	Act%
43.00	100	100
41.10	67.10	50.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

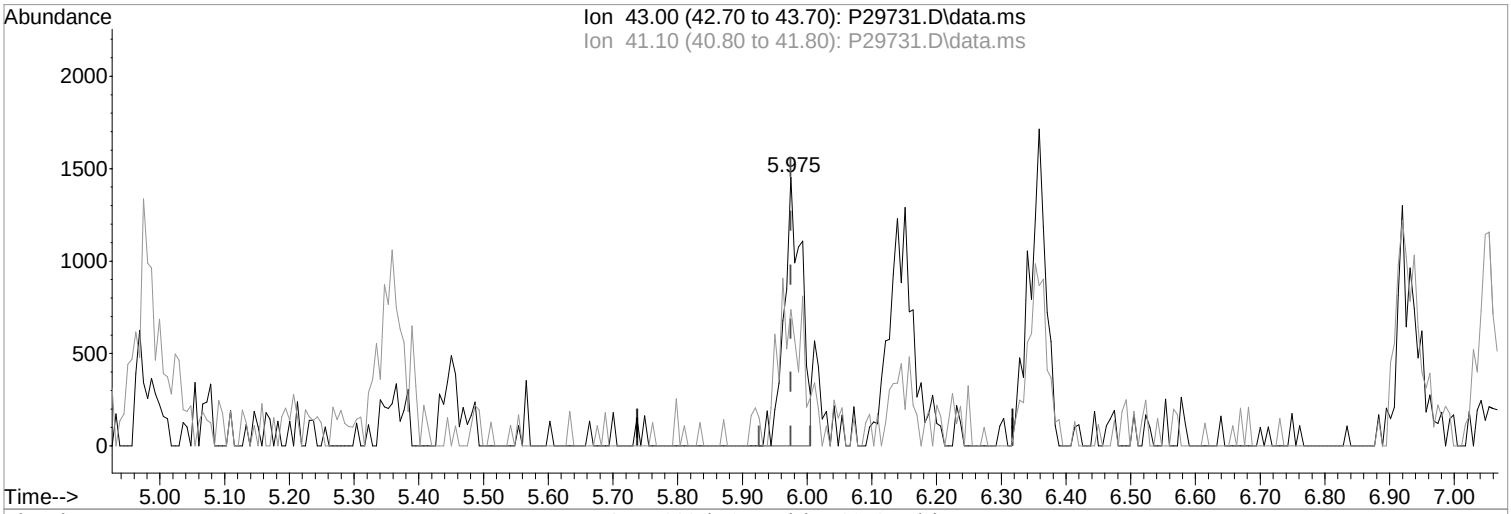
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(51) Iso-Butyl Alcohol

5.975min (+0.000) 5.77 ppb

response 2778

Ion	Exp%	Act%
43.00	100	100
41.10	67.10	50.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

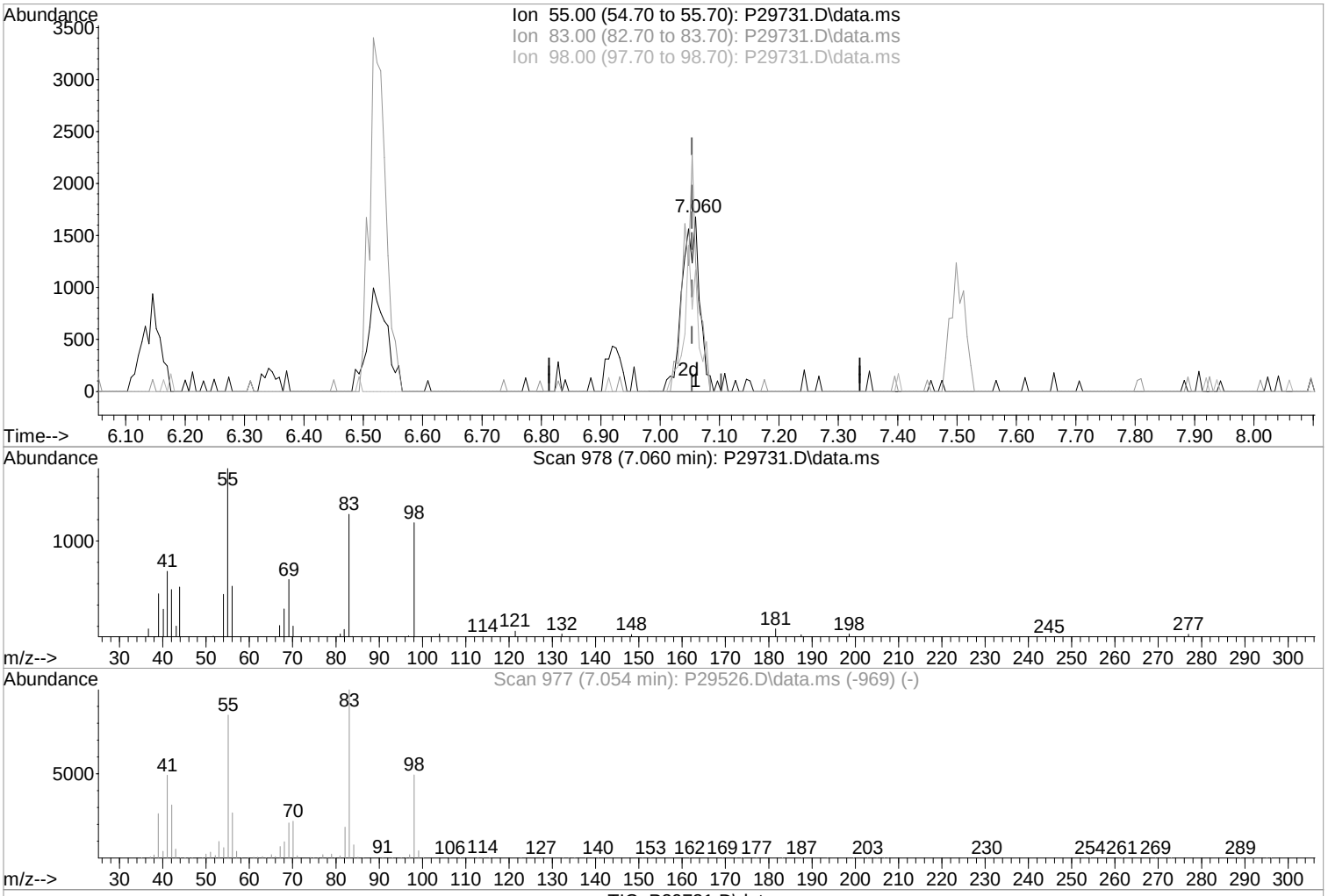
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(55) Methylcyclohexane (P)

7.060min (+0.006) 0.56 ppb m

response 3414

Ion	Exp%	Act%
55.00	100	100
83.00	121.60	74.49#
98.00	57.00	69.73
0.00	0.00	0.00

Manual Integration:

After

Split Peak

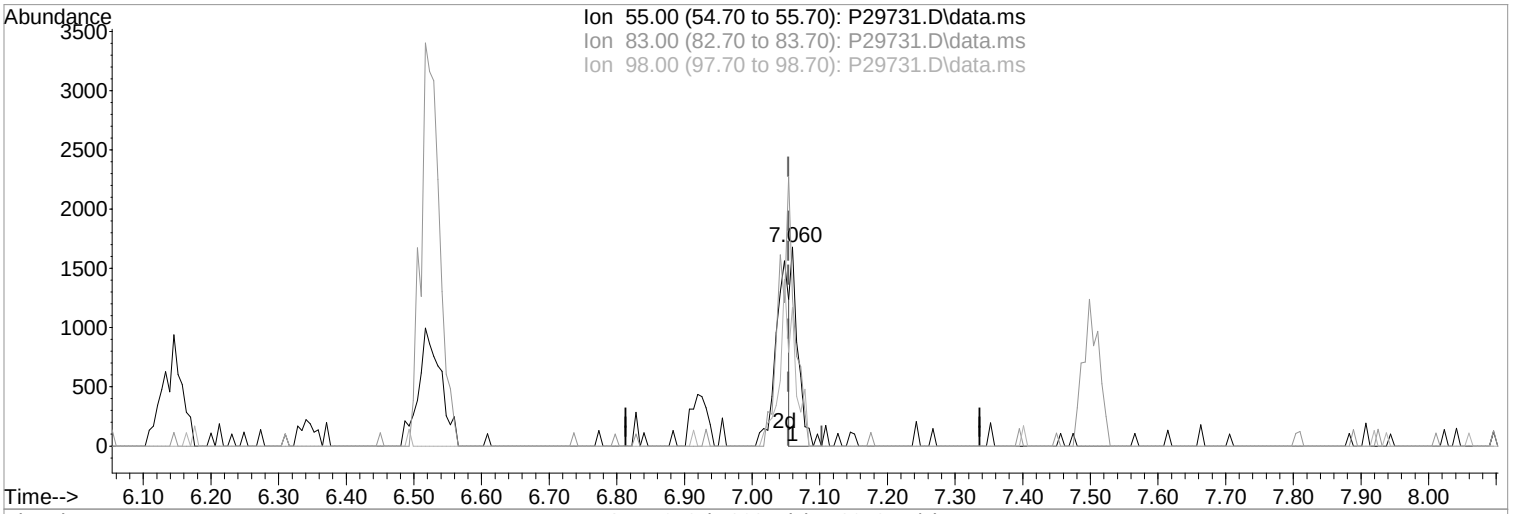
09/12/19

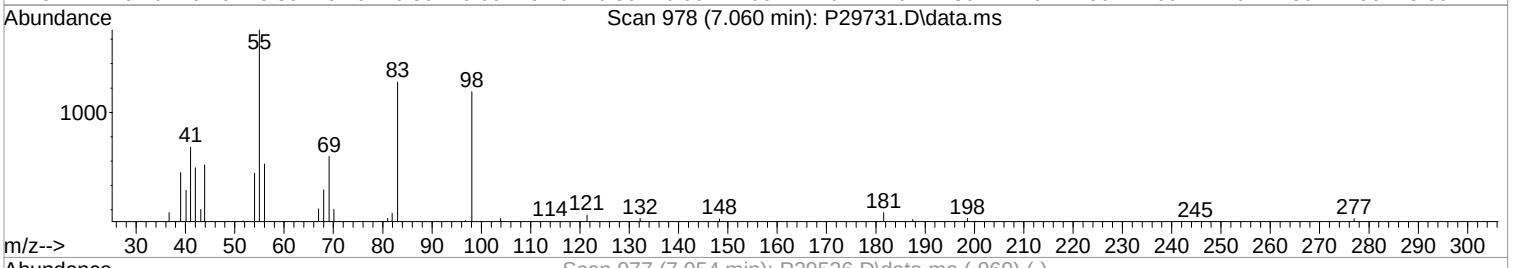
1st 09/12/19
2nd 09/12/19

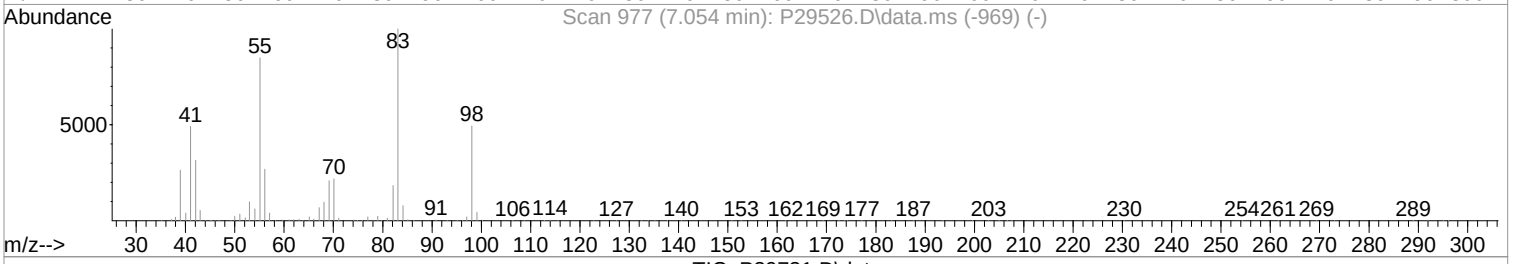
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(55) Methylcyclohexane (P)

7.060min (+0.006) 0.22 ppb

response 1303

Ion	Exp%	Act%
55.00	100	100
83.00	121.60	74.49#
98.00	57.00	69.73
0.00	0.00	0.00

Manual Integration:

Before

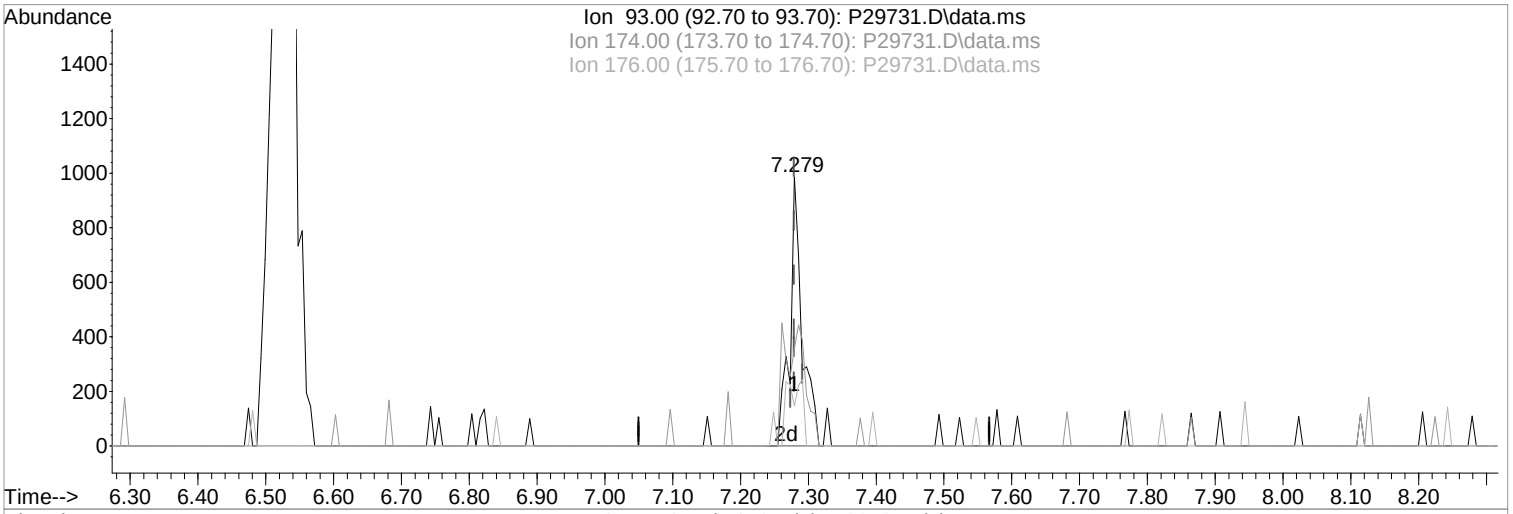
09/12/19

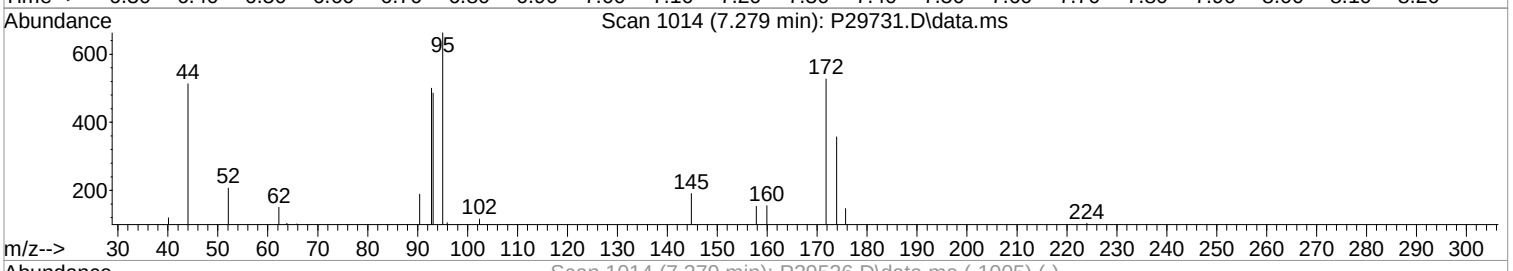
1st 09/12/19
2nd 09/12/19

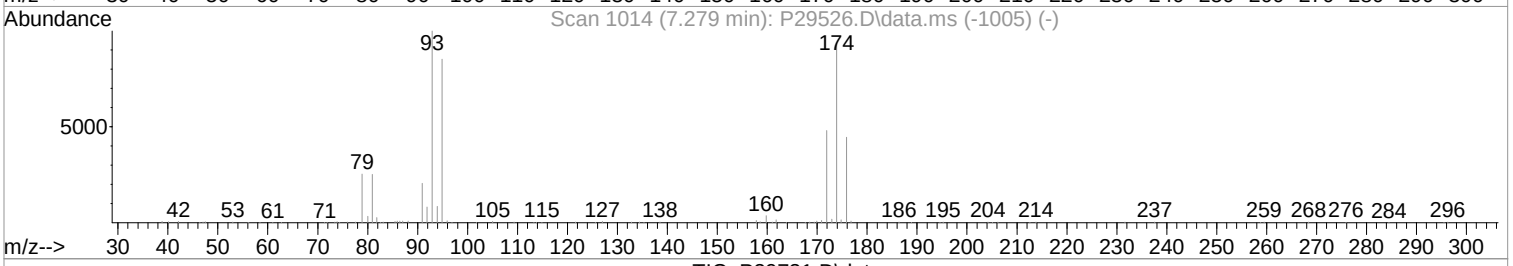
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(57) Dibromomethane

7.279min (+0.000) 0.54 ppb m

response 1246

Ion	Exp%	Act%
93.00	100	100
174.00	97.30	71.40#
176.00	43.60	29.40
0.00	0.00	0.00

Manual Integration:

After

Split Peak

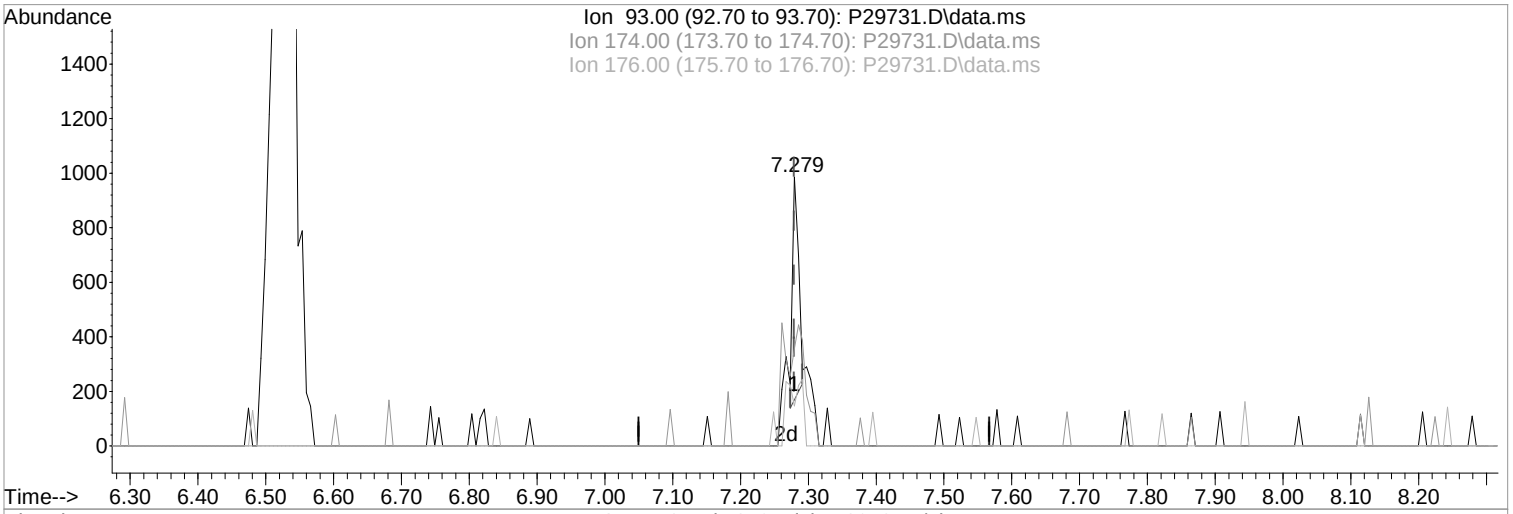
09/12/19

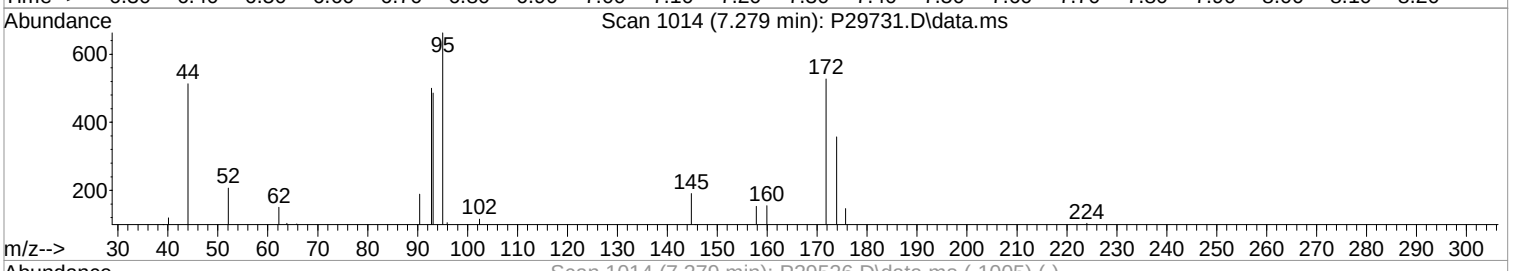
1st 09/12/19
2nd 09/12/19

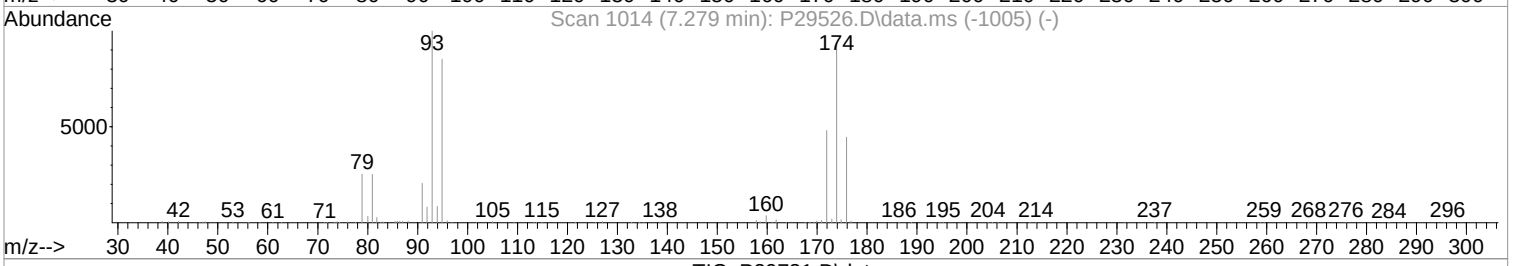
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(57) Dibromomethane

7.279min (+0.000) 0.22 ppb

response 515

Ion	Exp%	Act%
93.00	100	100
174.00	97.30	36.21#
176.00	43.60	14.91#
0.00	0.00	0.00

Manual Integration:

Before

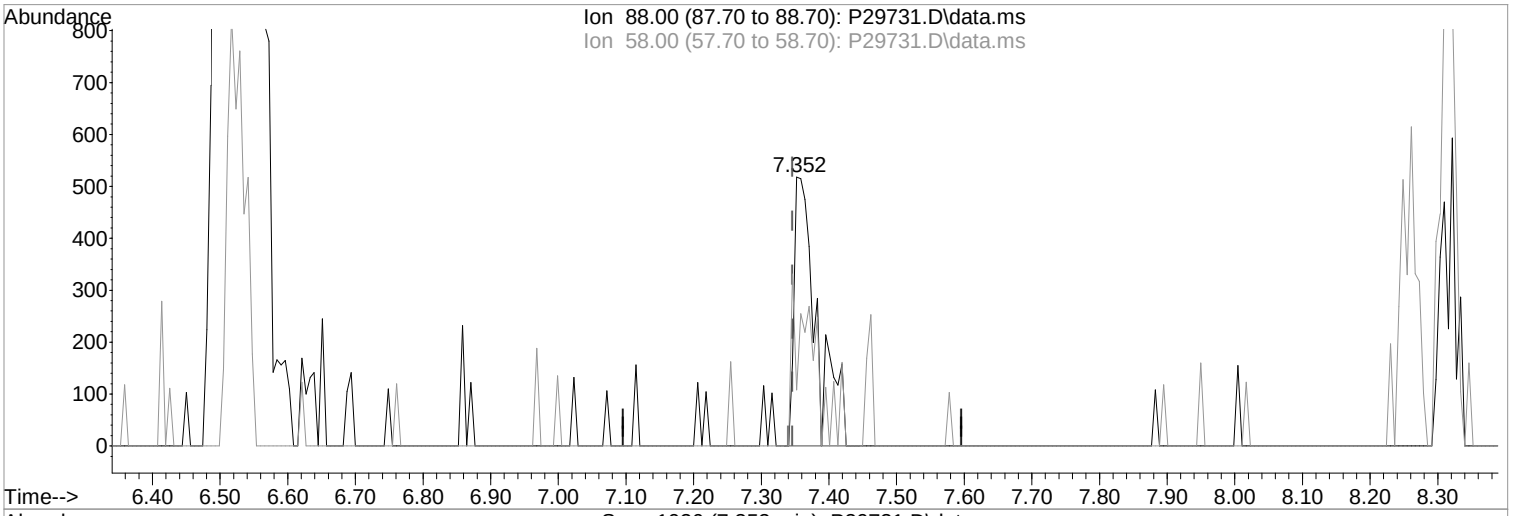
09/12/19

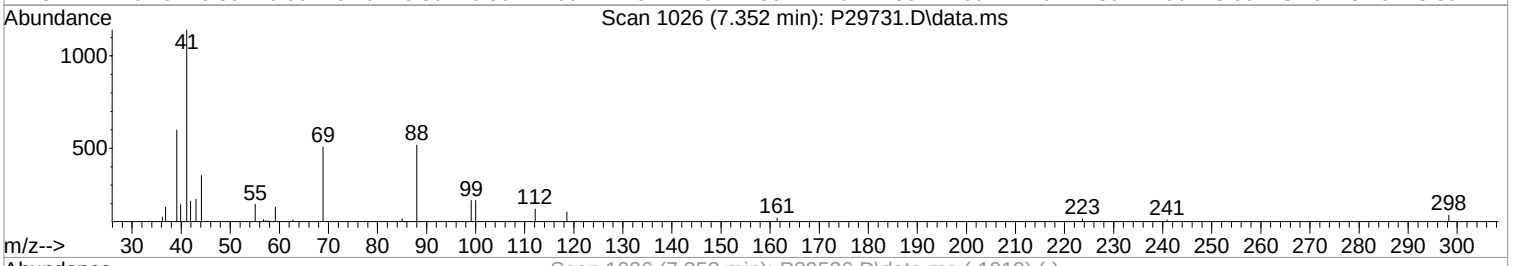
1st 09/12/19
2nd 09/12/19

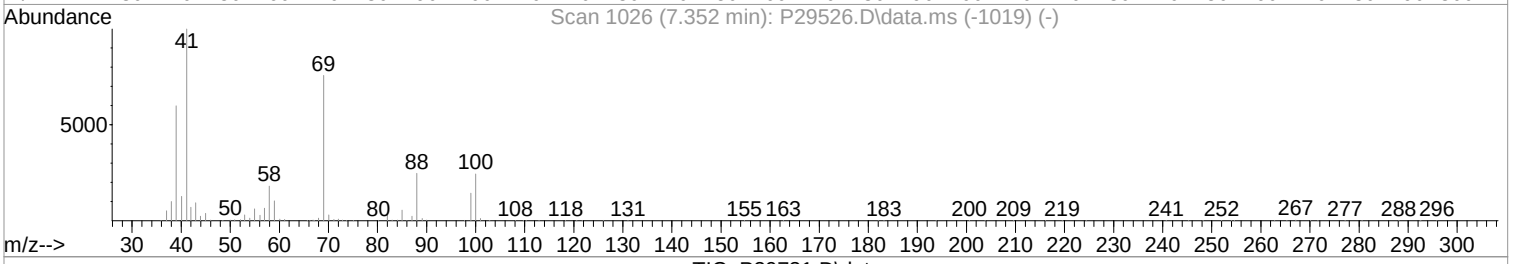
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(58) 1,4-Dioxane

7.352min (+0.006) 11.33 ppb m

response 1219

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	20.85#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

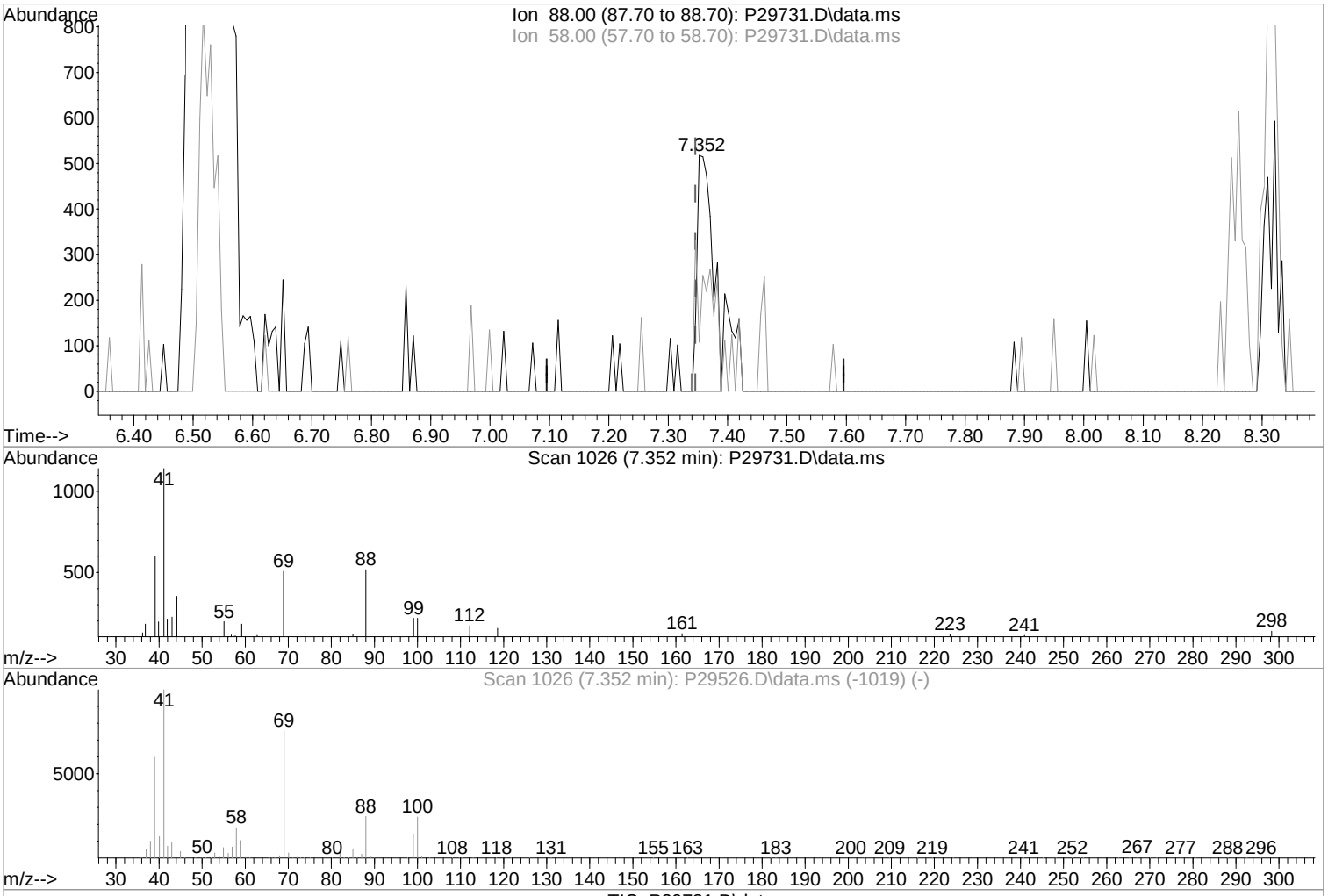
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(58) 1,4-Dioxane

7.352min (+0.006) 8.62 ppb

response 927

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	20.85#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

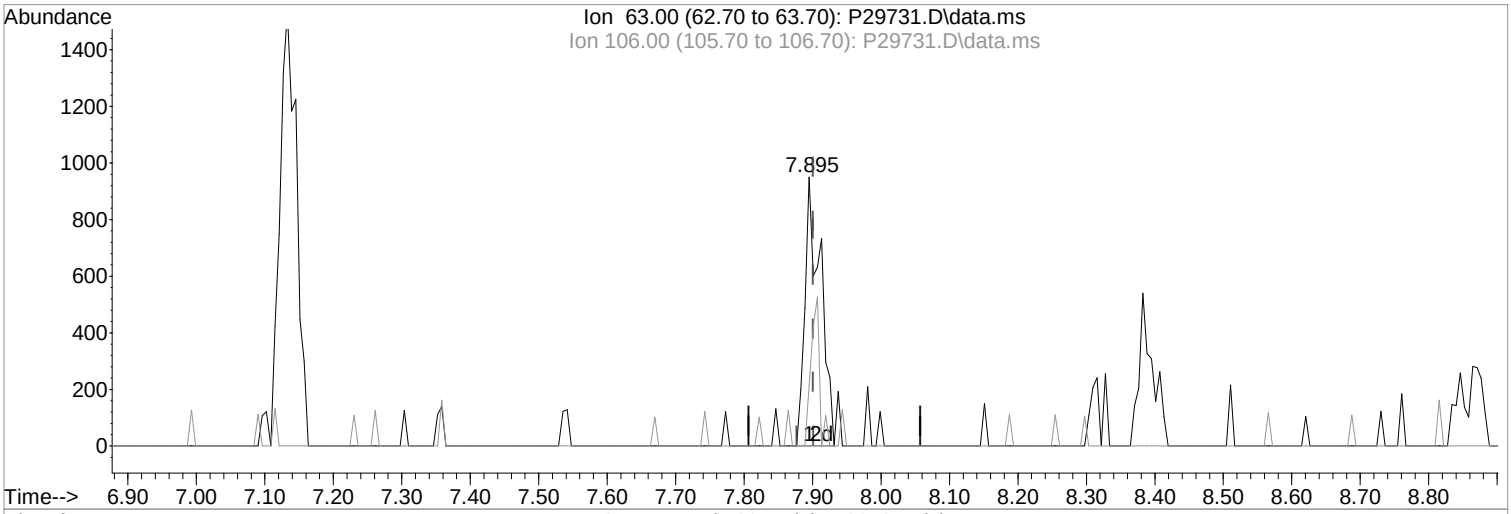
09/12/19

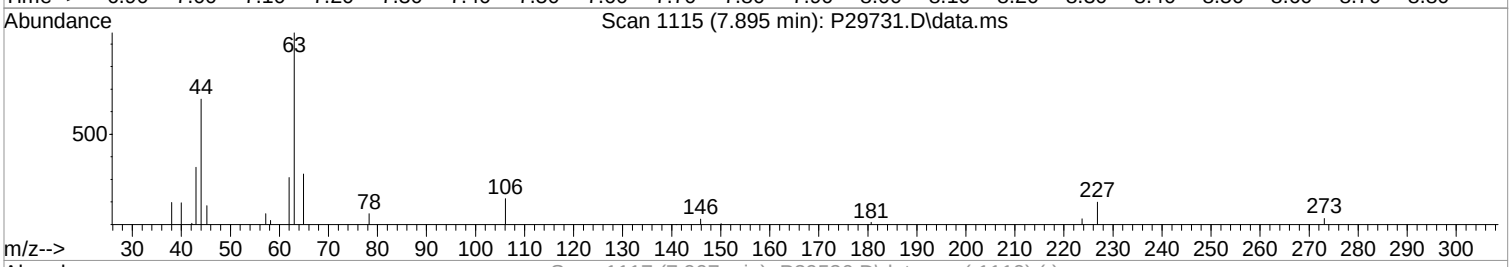
1st 09/12/19
2nd 09/12/19

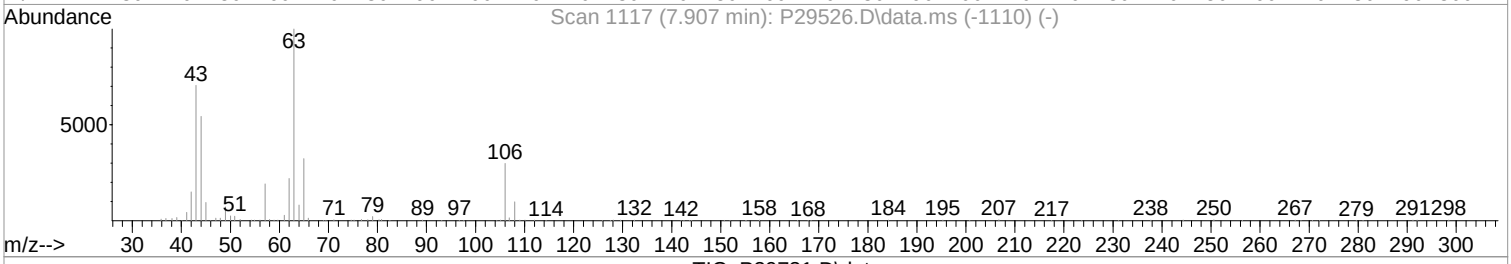
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(62) 2-Chloroethylvinyl Ether

7.895min (-0.006) 0.48 ppb m

response 1514

Ion	Exp%	Act%
63.00	100	100
106.00	25.50	22.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

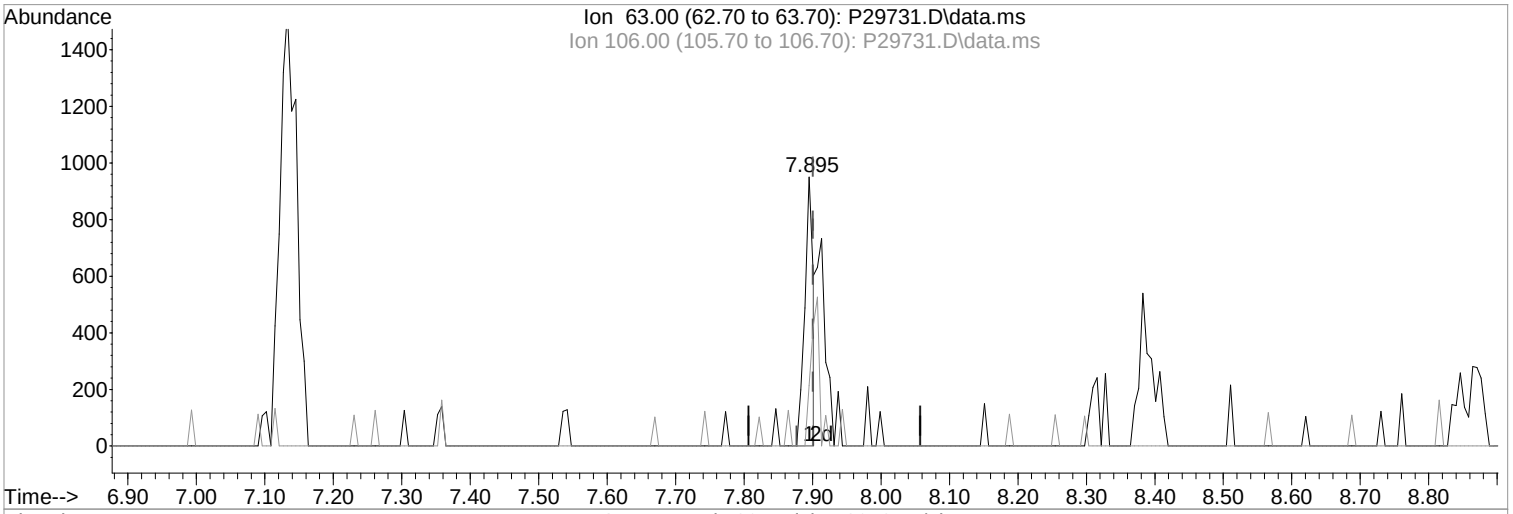
09/12/19

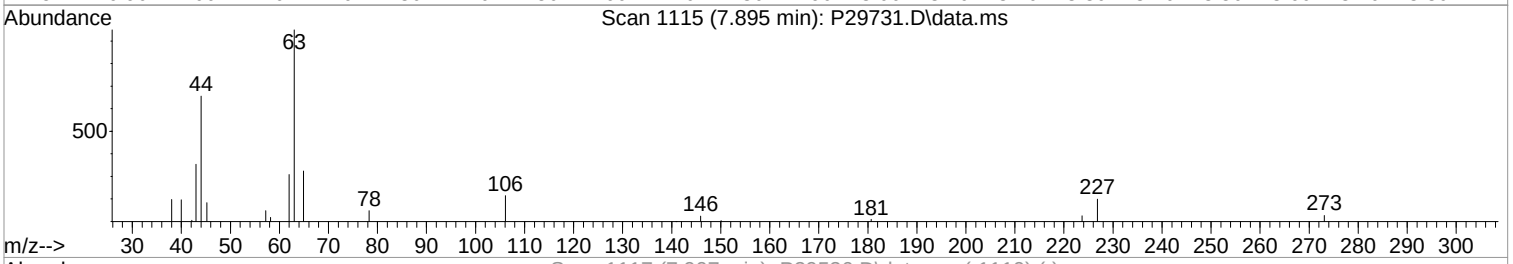
1st 09/12/19
2nd 09/12/19

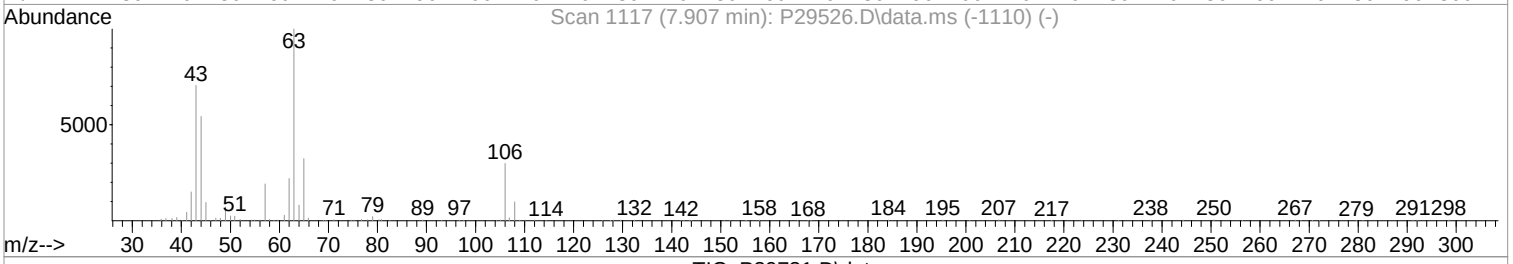
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(62) 2-Chloroethylvinyl Ether

7.895min (-0.006) 0.26 ppb

response 819

Ion	Exp%	Act%
63.00	100	100
106.00	25.50	22.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

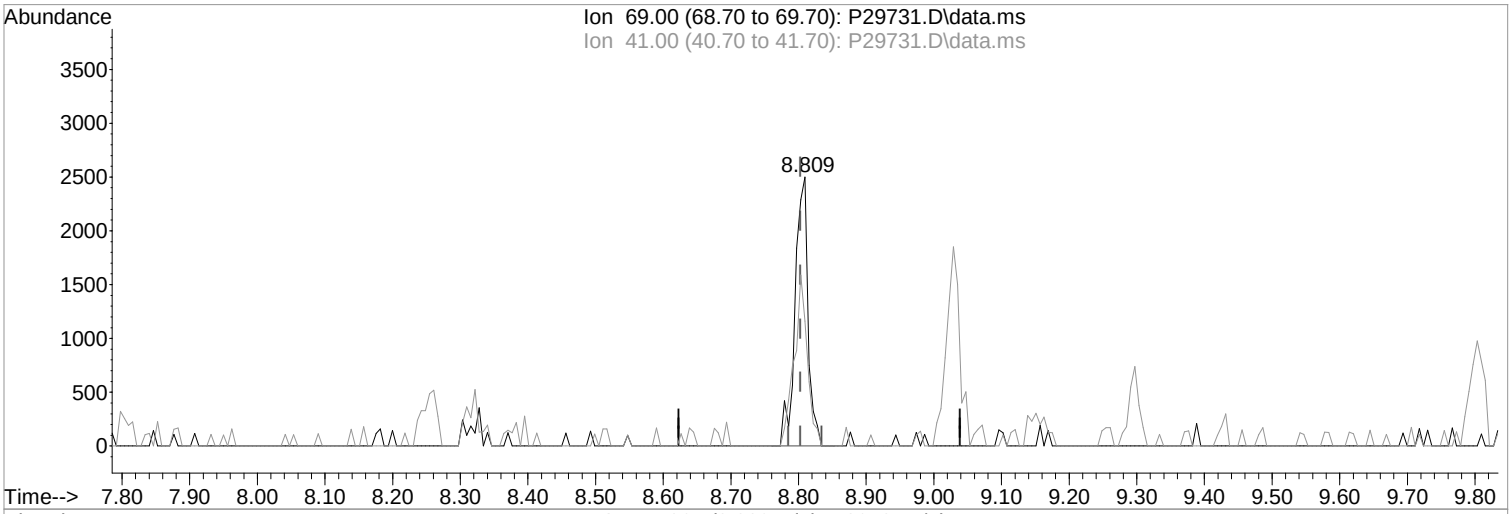
09/12/19

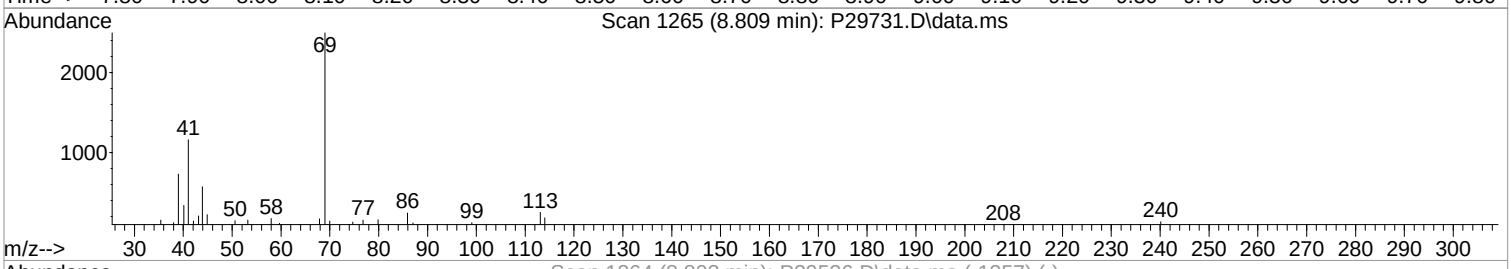
1st 09/12/19
2nd 09/12/19

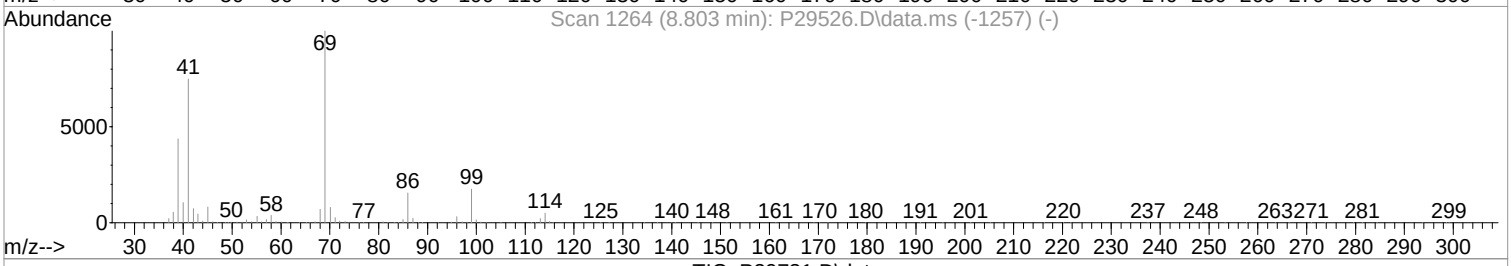
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(68) Ethyl Methacrylate

8.809min (+0.006) 0.44 ppb m

response 3315

Ion	Exp%	Act%
69.00	100	100
41.00	77.10	46.40#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

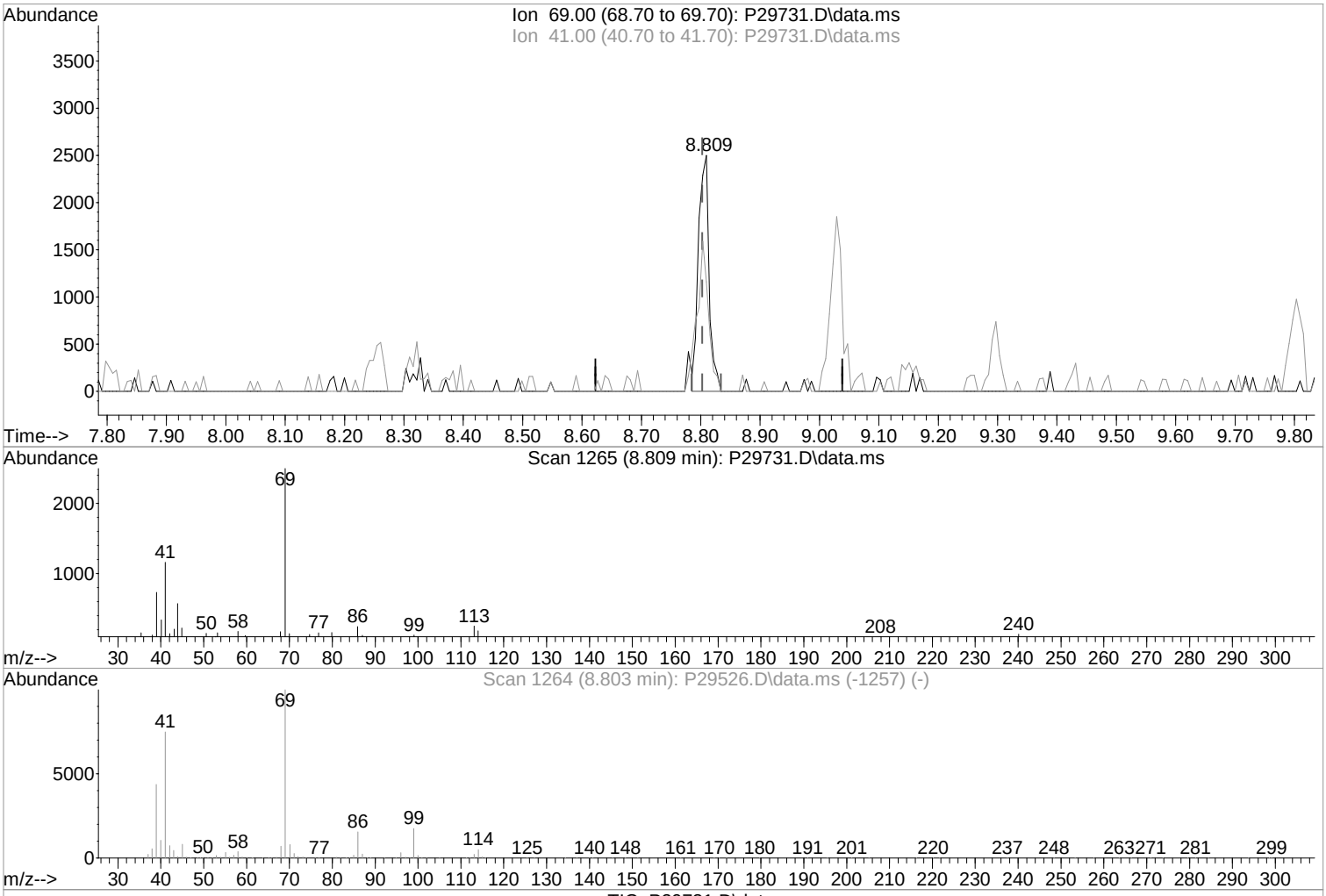
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29731.D\data.ms

(68) Ethyl Methacrylate

8.809min (+0.006) 0.41 ppb

response 3092

Ion	Exp%	Act%
69.00	100	100
41.00	77.10	46.40#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

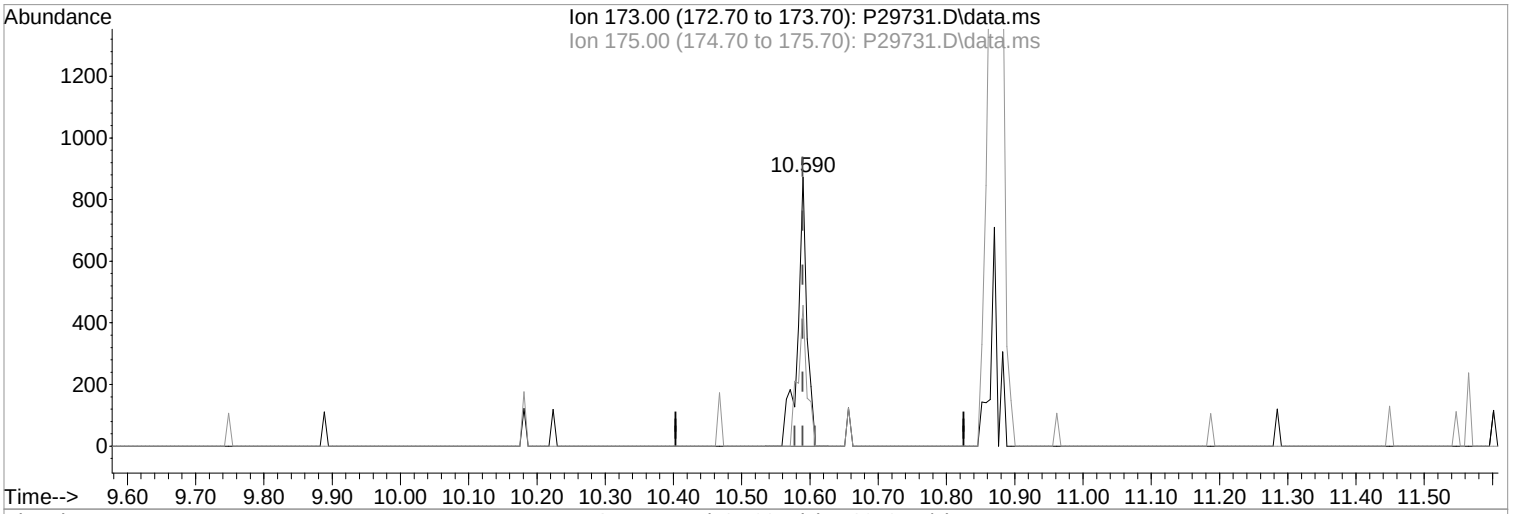
09/12/19

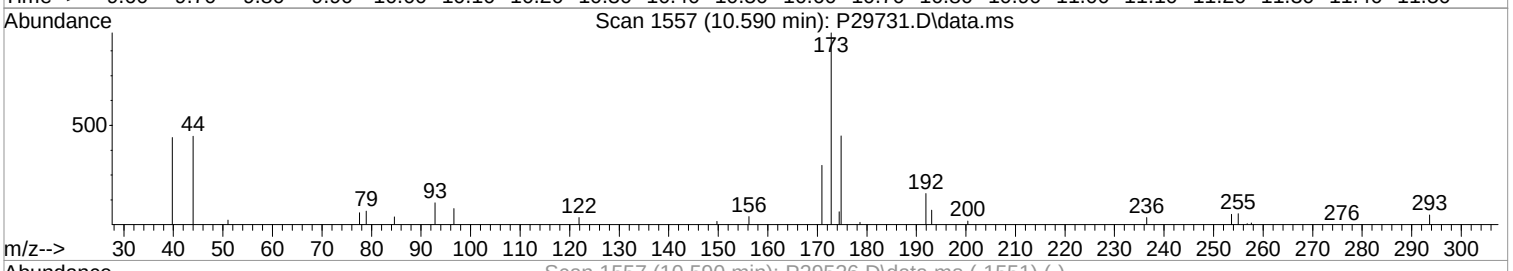
1st 09/12/19
2nd 09/12/19

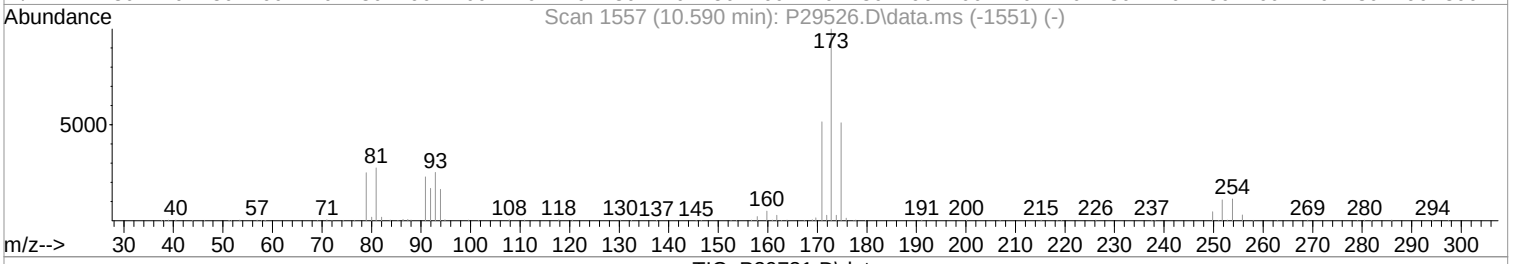
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(87) Bromoform (P)

10.590min (+0.000) 0.46 ppb m

response 829

Ion	Exp%	Act%
173.00	100	100
175.00	52.80	52.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

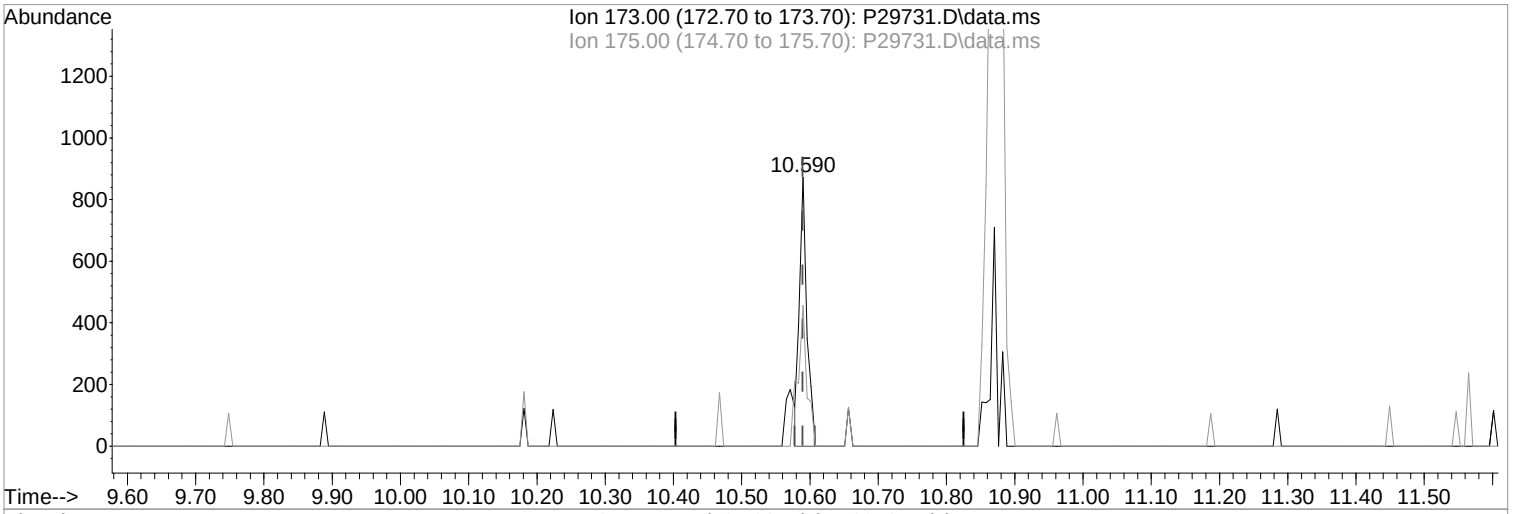
09/12/19

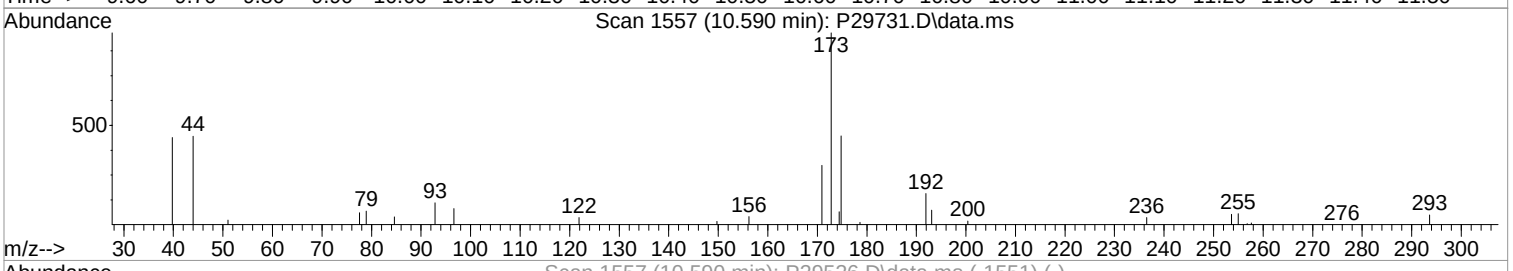
1st 09/12/19
2nd 09/12/19

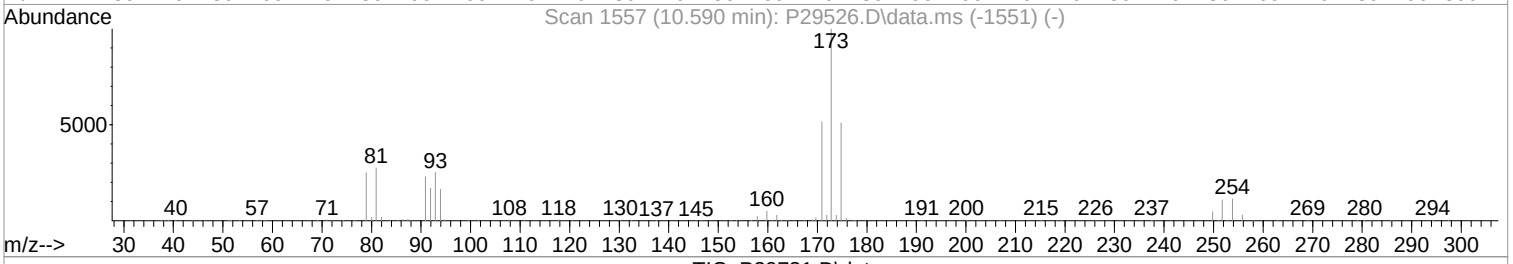
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:22:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29731.D\data.ms

(87) Bromoform (P)

10.590min (+0.000) 0.36 ppb

response 660

Ion	Exp%	Act%
173.00	100	100
175.00	52.80	52.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.450	168	344778	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	562397	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	503688	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	259929	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	32171	10.79	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 21.58%#				
48) surr1,1,2-dichloroetha...	5.853	65	47891	11.61	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 23.22%#				
65) SURR3,Toluene-d8	8.316	98	165601	11.80	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.60%#				
70) SURR2,BFB	10.870	95	64735	11.86	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 23.72%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.195	85	1916	0.45	ppb		79
3) Chloromethane	1.323	50	3982	0.61	ppb		94
4) Vinyl Chloride	1.402	62	3326	0.54	ppb		84
5) Bromomethane	1.634	94	2343	0.70	ppb		89
6) Chloroethane	1.713	64	1905	0.52	ppb		94
7) Freon 21	1.866	67	3493	0.51	ppb		89
8) Trichlorofluoromethane	1.908	101	2503	0.50	ppb		92
9) Diethyl Ether	2.146	59	2265	0.52	ppb		89
10) Freon 123a	2.152	67	2894	0.61	ppb		76
11) Freon 123	2.207	83	2883	0.55	ppb	#	69
12) Acrolein	2.256	56	3099	2.54	ppb	#	50
13) 1,1-Diclethene	2.329	96	1681	0.50	ppb		86
14) Freon 113	2.323	101	1794	0.55	ppb		82
15) Acetone	2.402	43	2673	0.95	ppb		86
16) 2-Propanol	2.542	45	4317	6.77	ppb		82
17) Iodomethane	2.469	142	1059	0.27	ppb		78
18) Carbon Disulfide	2.524	76	6220	0.62	ppb		86
20) Allyl Chloride	2.670	76	900	0.47	ppb	#	83
21) Methyl Acetate	2.707	43	3090	0.56	ppb		73
22) Methylene Chloride	2.798	84	2642	0.60	ppb	#	82
23) TBA	2.951	59	6593	6.98	ppb		96
24) Acrylonitrile	3.079	53	7019	2.45	ppb	#	65
25) Methyl-t-Butyl Ether	3.091	73	5878	0.41	ppb		93
26) trans-1,2-Dichloroethene	3.085	96	1732	0.47	ppb	#	79
28) 1,1-Diclethane	3.597	63	3433	0.45	ppb	#	78
30) DIPE	3.701	45	8467	0.51	ppb		86
31) 2-Chloro-1,3-Butadiene	3.707	53	2817	0.46	ppb		85
32) ETBE	4.237	59	7204	0.49	ppb	#	76
33) 2,2-Dichloropropane	4.420	77	2749m	0.49	ppb		
34) cis-1,2-Dichloroethene	4.444	96	1957m	0.47	ppb		
36) Propionitrile	4.646	54	2187	1.80	ppb		85
37) Bromochloromethane	4.853	130	1398m	0.56	ppb		
38) Methacrylonitrile	4.896	67	1354	0.47	ppb	#	49
39) Tetrahydrofuran	4.981	42	5574	1.73	ppb		91
40) Chloroform	5.030	83	3070	0.46	ppb	#	75
41) 1,1,1-Trichloroethane	5.292	97	2421m	0.45	ppb		
42) TAME	6.145	73	5695	0.42	ppb		95
44) Cyclohexane	5.359	41	2693m	0.60	ppb		
46) Carbontetrachloride	5.566	117	2085m	0.54	ppb		

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
47)	1,1-Dichloropropene	5.584	75	2695m	0.50	ppb		
49)	Benzene	5.901	78	8685	0.51	ppb		98
50)	1,2-Dichloroethane	5.969	62	3084	0.54	ppb		86
51)	Iso-Butyl Alcohol	5.975	43	3274m	6.80	ppb		
52)	n-Heptane	6.359	43	3061	0.48	ppb		85
53)	1-Butanol	6.926	56	3994	14.47	ppb		90
54)	Trichloroethene	6.834	130	2024	0.54	ppb	#	72
55)	Methylcyclohexane	7.060	55	3414m	0.56	ppb		
56)	1,2-Diclpropane	7.133	63	2630	0.56	ppb		81
57)	Dibromomethane	7.279	93	1246m	0.54	ppb		
58)	1,4-Dioxane	7.352	88	1219m	11.33	ppb		
59)	Methyl Methacrylate	7.358	69	1640	0.38	ppb	#	72
60)	Bromodichloromethane	7.499	83	2036	0.45	ppb		82
62)	2-Chloroethylvinyl Ether	7.895	63	1514m	0.48	ppb		
63)	cis-1,3-Dichloropropene	8.035	75	2987	0.45	ppb		94
64)	4-Methyl-2-pentanone	8.261	43	2727	0.38	ppb		96
66)	Toluene	8.389	91	9114	0.53	ppb		97
67)	trans-1,3-Dichloropropene	8.675	75	3298	0.54	ppb		81
68)	Ethyl Methacrylate	8.809	69	3315m	0.44	ppb		
69)	1,1,2-Trichloroethane	8.864	97	1371	0.36	ppb	#	76
72)	Tetrachloroethene	8.974	164	1576	0.52	ppb	#	76
73)	2-Hexanone	9.163	43	1848	0.33	ppb		88
74)	1,3-Dichloropropane	9.029	76	3644	0.48	ppb		83
75)	Dibromochloromethane	9.248	129	1346	0.43	ppb		75
76)	N-Butyl Acetate	9.291	43	4174	0.39	ppb		92
77)	1,2-Dibromoethane	9.346	107	1979	0.50	ppb		89
78)	Chlorobenzene	9.828	112	6227	0.56	ppb		84
79)	3-CBTF	9.846	180	2482	0.43	ppb	#	80
80)	4-CBTF	9.901	180	2571	0.50	ppb		95
81)	1,1,1,2-Tetrachloroethane	9.913	131	1411	0.43	ppb	#	62
82)	Ethylbenzene	9.937	106	3187	0.53	ppb		92
83)	(m+p)Xylene	10.047	106	7241	0.99	ppb		90
84)	o-Xylene	10.413	106	4016	0.54	ppb		92
85)	Styrene	10.431	104	5759	0.47	ppb		94
87)	Bromoform	10.590	173	829m	0.46	ppb		
88)	2-CBTF	10.663	180	2797	0.52	ppb	#	62
89)	Isopropylbenzene	10.742	105	9234	0.52	ppb		97
90)	Cyclohexanone	10.833	55	7032	9.28	ppb	#	74
91)	trans-1,4-Dichloro-2-B...	11.071	53	826	0.42	ppb	#	63
92)	1,1,2,2-Tetrachloroethane	11.016	83	2552	0.43	ppb		94
93)	Bromobenzene	10.992	156	2221	0.51	ppb	#	69
94)	1,2,3-Trichloropropane	11.059	110	905	0.47	ppb	#	50
95)	n-Propylbenzene	11.096	91	11705	0.55	ppb		92
96)	2-Chlorotoluene	11.163	91	7030	0.52	ppb		96
97)	3-Chlorotoluene	11.211	91	7352	0.54	ppb	#	88
98)	4-Chlorotoluene	11.254	91	7420	0.51	ppb		80
99)	1,3,5-Trimethylbenzene	11.248	105	7513	0.51	ppb		83
100)	tert-Butylbenzene	11.516	119	6481	0.50	ppb		87
101)	1,2,4-Trimethylbenzene	11.559	105	7074	0.48	ppb		85
102)	3,4-DCBTF	11.620	214	2762	0.62	ppb	#	69
103)	sec-Butylbenzene	11.699	105	10445	0.56	ppb		88
104)	p-Isopropyltoluene	11.821	119	8759	0.54	ppb		86
105)	1,3-Dclbenz	11.784	146	4743	0.54	ppb		87
106)	1,4-Dclbenz	11.864	146	4885	0.55	ppb	#	73
107)	2,4-DCBTF	11.919	214	2395	0.59	ppb	#	71
108)	2,5-DCBTF	11.949	214	2744	0.60	ppb	#	84

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
109) n-Butylbenzene	12.150	91	9043	0.57	ppb		85
110) 1,2-Dclbenz	12.162	146	4216	0.49	ppb		91
111) 1,2-Dibromo-3-chloropr...	12.796	157	569	0.42	ppb		94
112) Trielution Dichlorotol...	12.900	125	12599	1.60	ppb	#	91
113) 1,3,5 Trichlorobenzene	12.949	180	3551	0.55	ppb	#	81
114) Coelution Dichlorotoluene	13.229	125	10356	1.17	ppb	#	88
115) 1,2,4-Tcbenzene	13.437	180	3403	0.51	ppb		89
116) Hexachlorobt	13.565	225	1438	0.54	ppb	#	77
117) Naphthalen	13.632	128	10022	0.48	ppb		81
118) 1,2,3-Tclbenzene	13.815	180	3694	0.56	ppb		93
119) 2,4,5-Trichlorotolene	14.400	159	2594	0.52	ppb	#	82
120) 2,3,6-Trichlorotoluene	14.479	159	2795	0.54	ppb	#	79

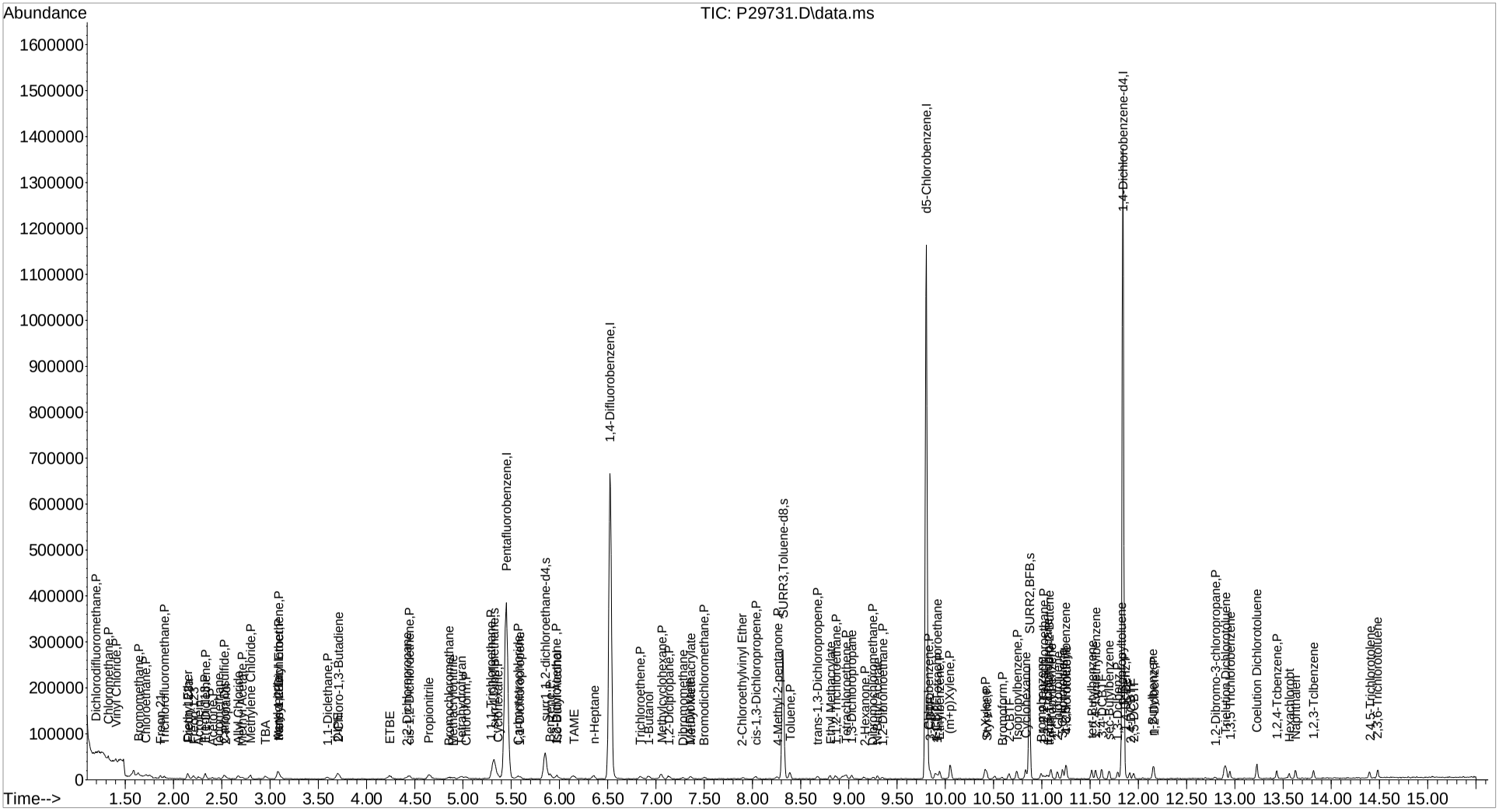
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29731.D
Acq On : 11 Sep 2019 3:34 pm
Operator : K.Ruest
Sample : 0.5ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 1 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:28:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

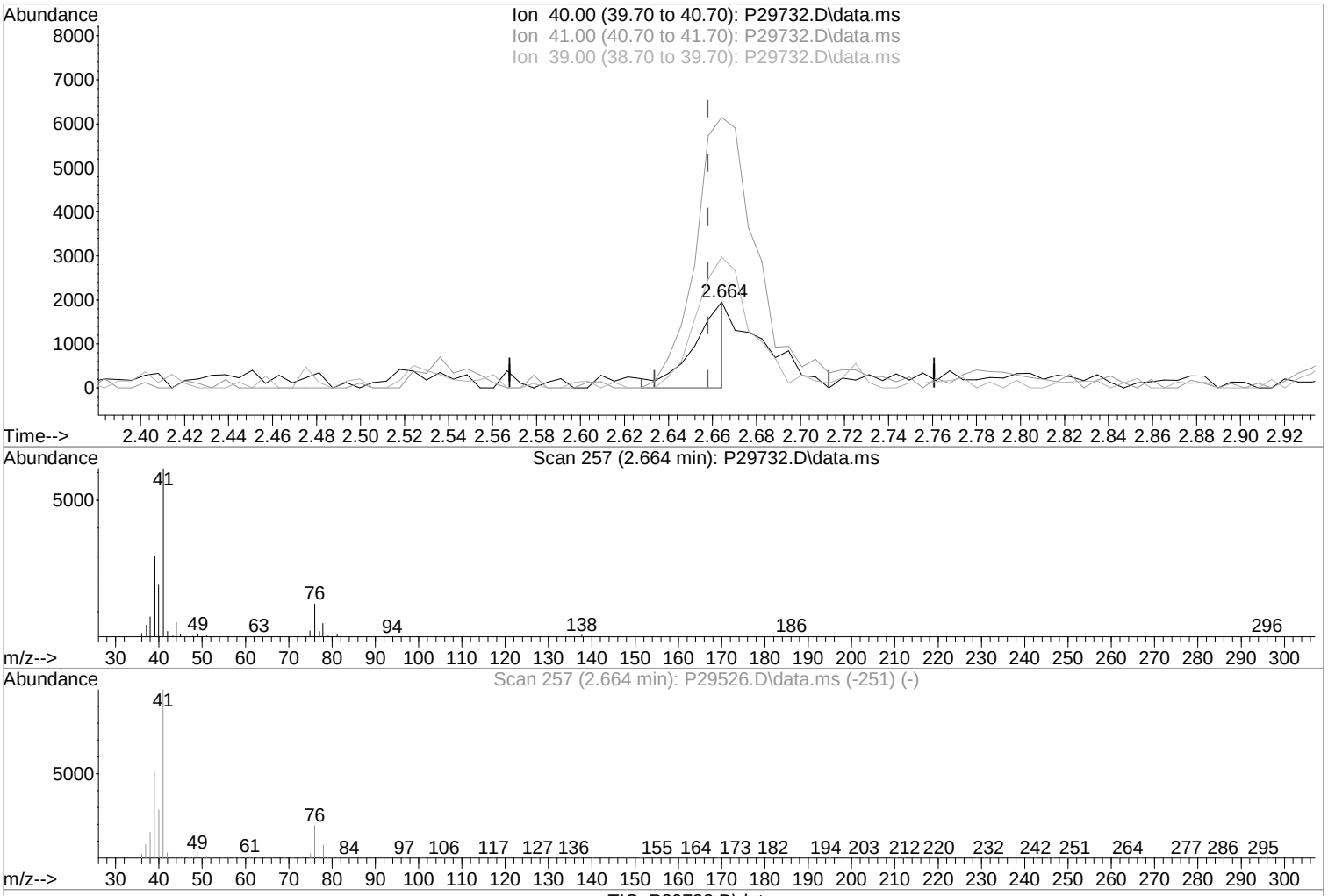


1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 4.76 ppb m

response 2011

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	314.48
39.00	137.60	152.02
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
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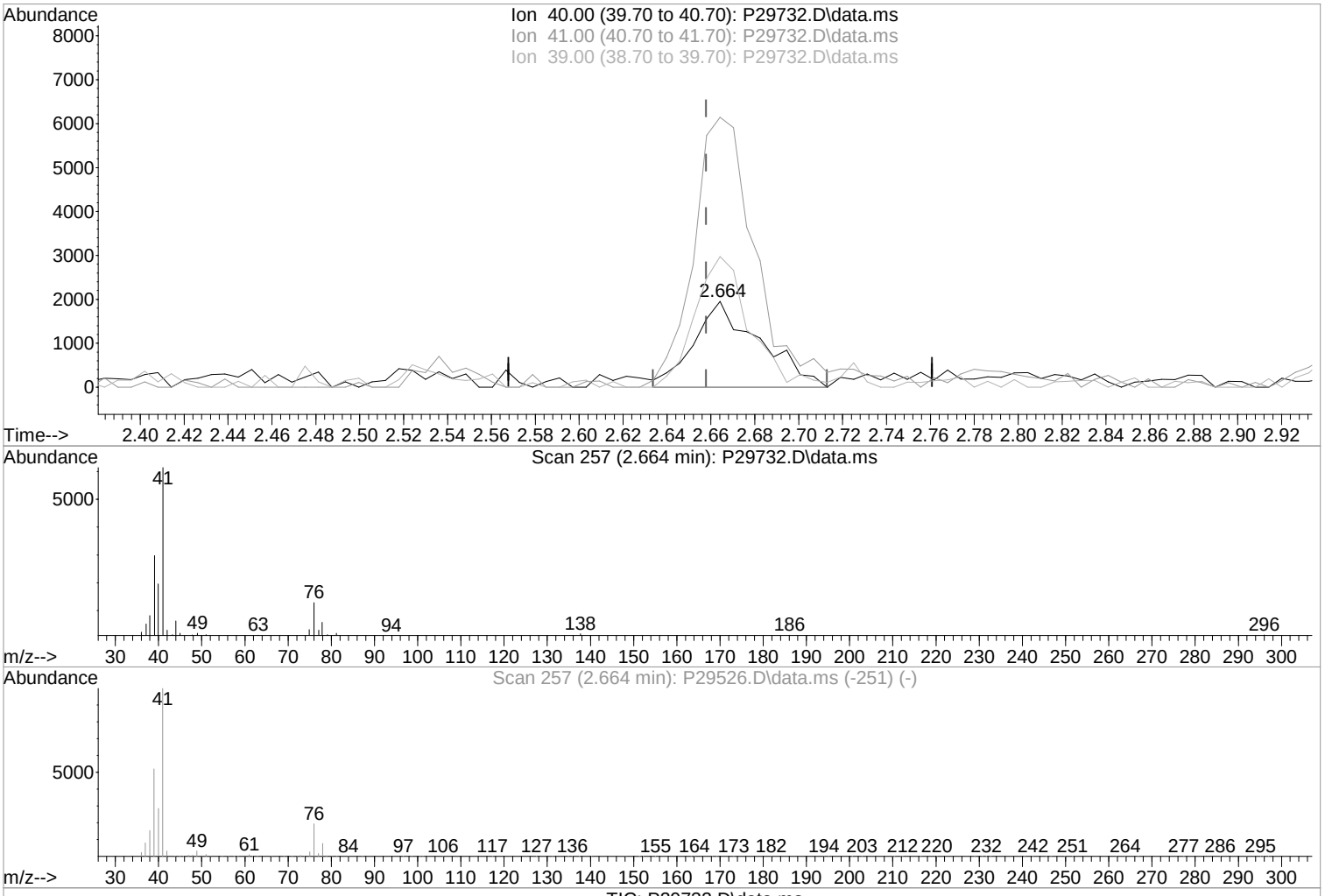


TIC: P29732.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 9.60 ppb

response 4059

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	314.48
39.00	137.60	152.02
0.00	0.00	0.00

Manual Integration:

Before

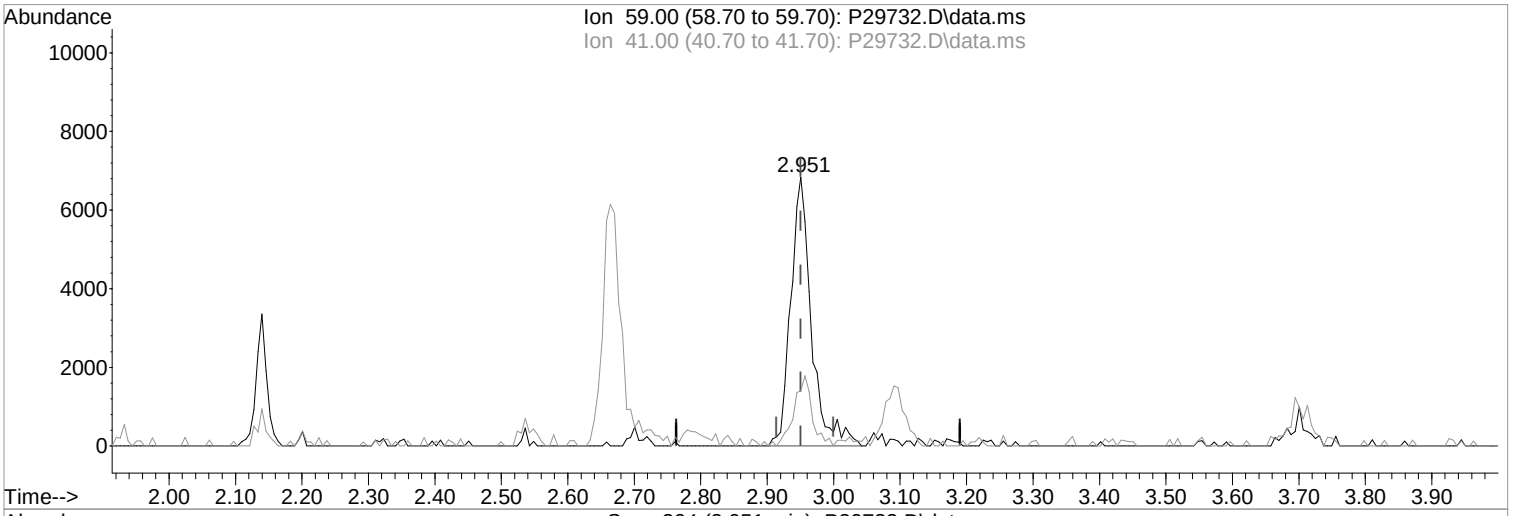
09/12/19

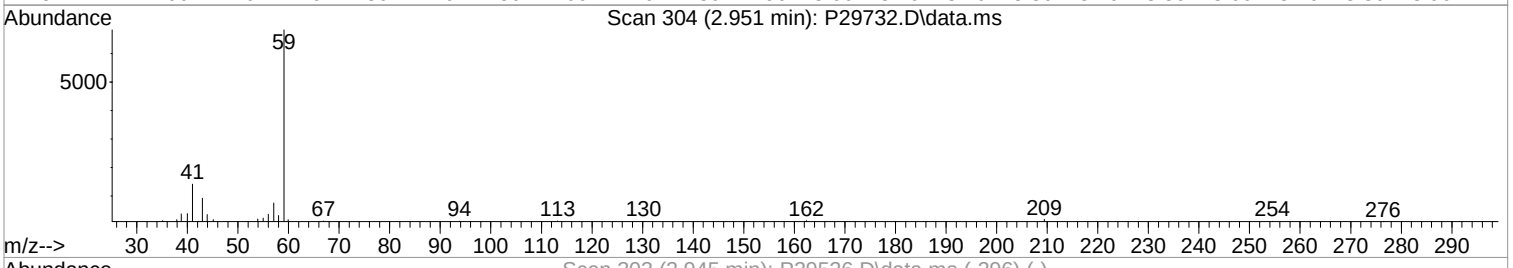
1st 09/12/19
2nd 09/12/19

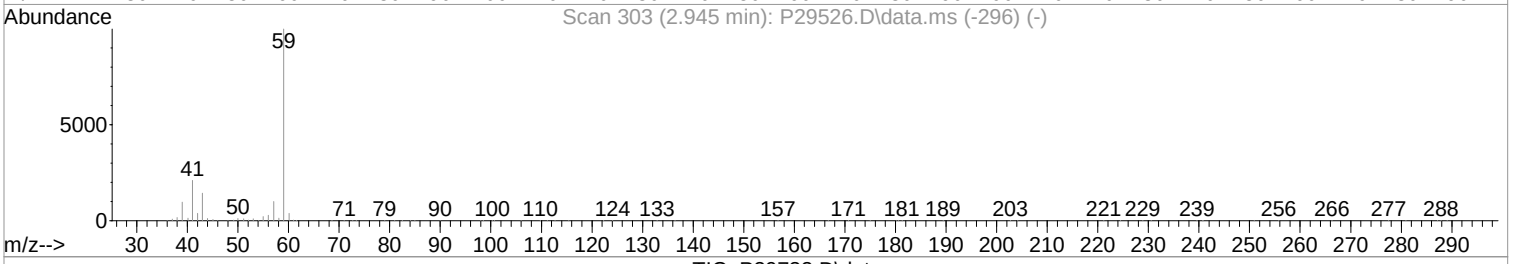
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(23) TBA

2.951min (+0.000) 15.91 ppb m

response 14787

Ion	Exp%	Act%
59.00	100	100
41.00	22.20	20.57
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

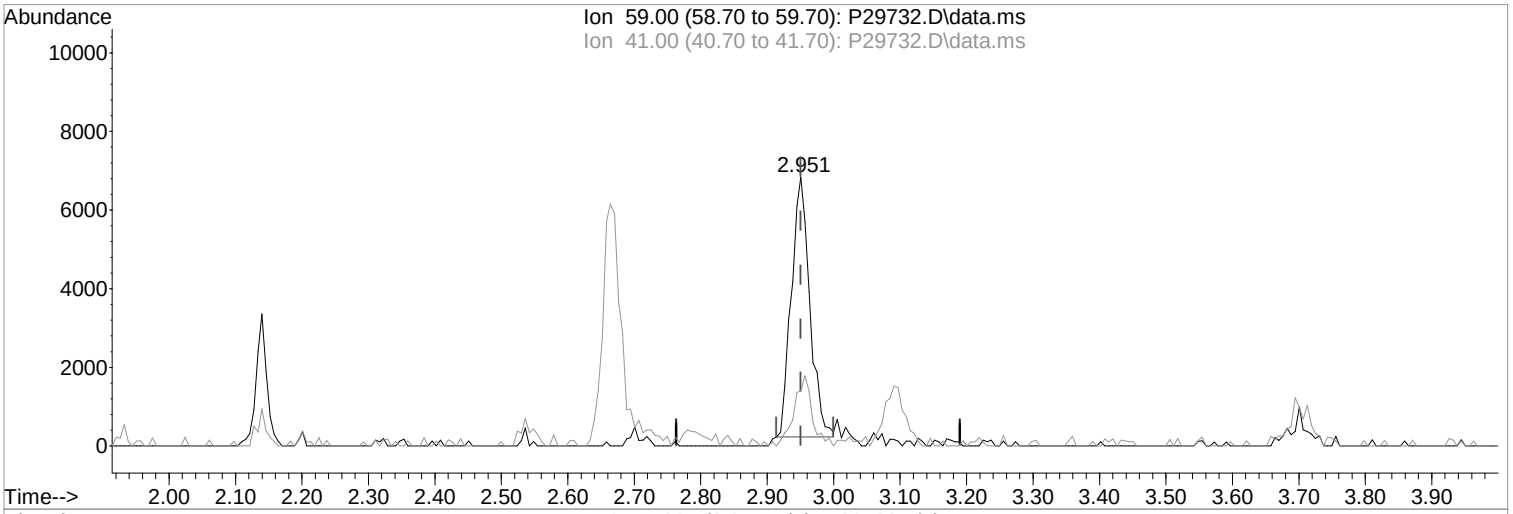
09/12/19

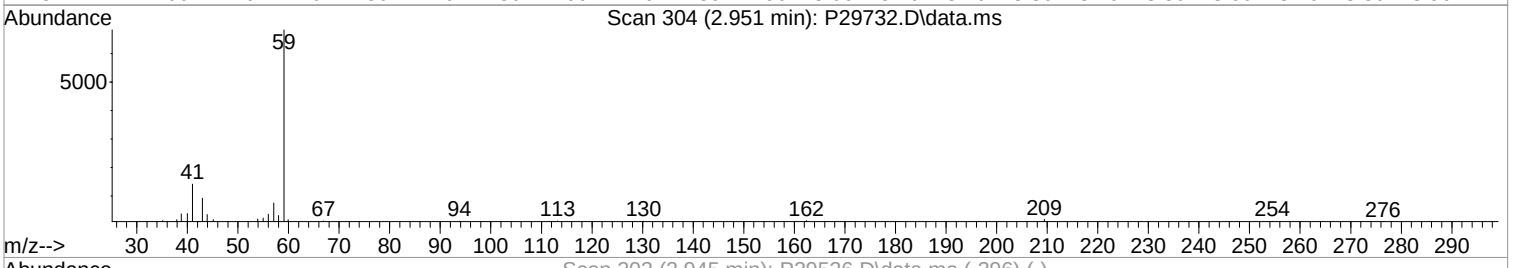
1st 09/12/19
2nd 09/12/19

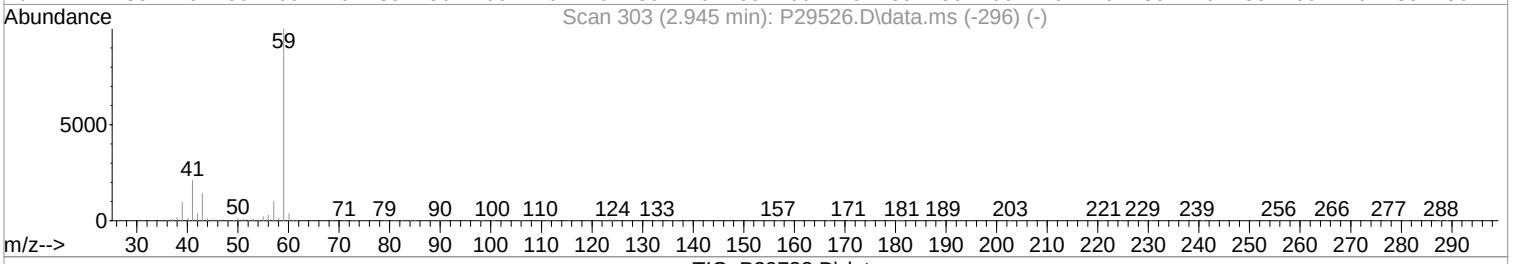
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(23) TBA

2.951min (+0.000) 13.69 ppb

response 12726

Ion	Exp%	Act%
59.00	100	100
41.00	22.20	20.57
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

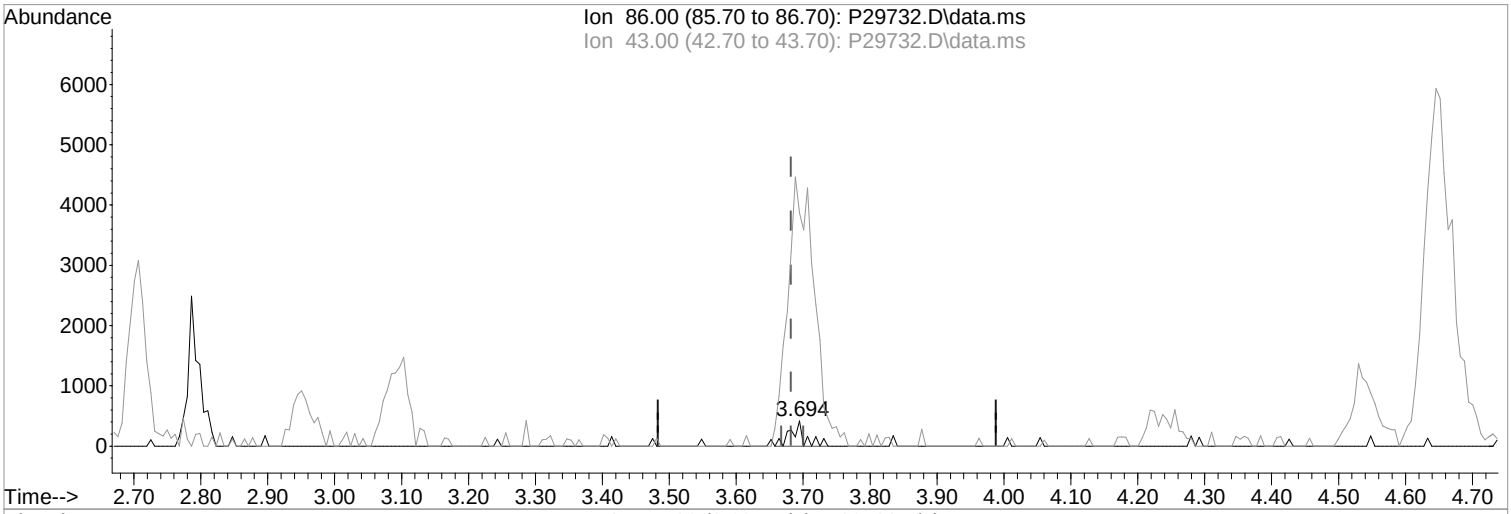
09/12/19

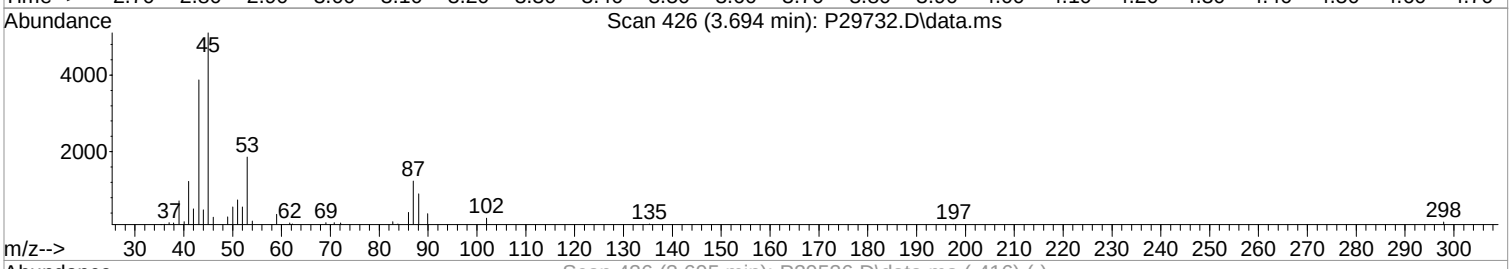
1st 09/12/19
2nd 09/12/19

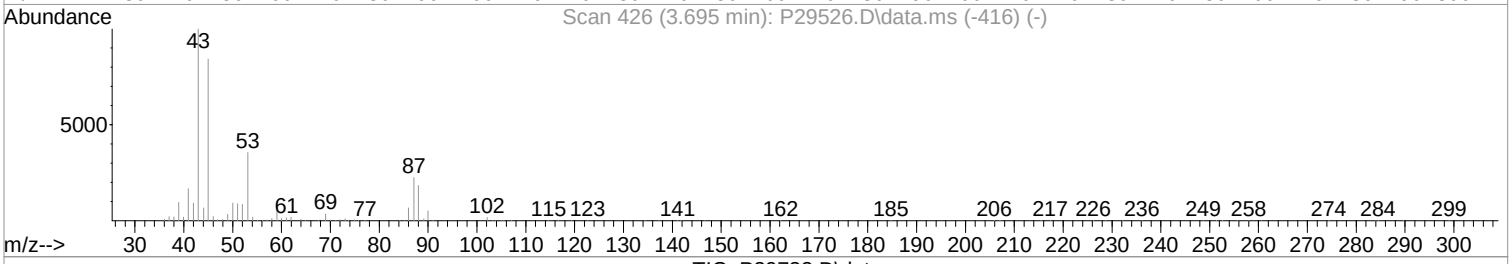
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(29) Vinyl Acetate

3.694min (+0.012) 0.74 ppb m

response 602

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	930.53#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

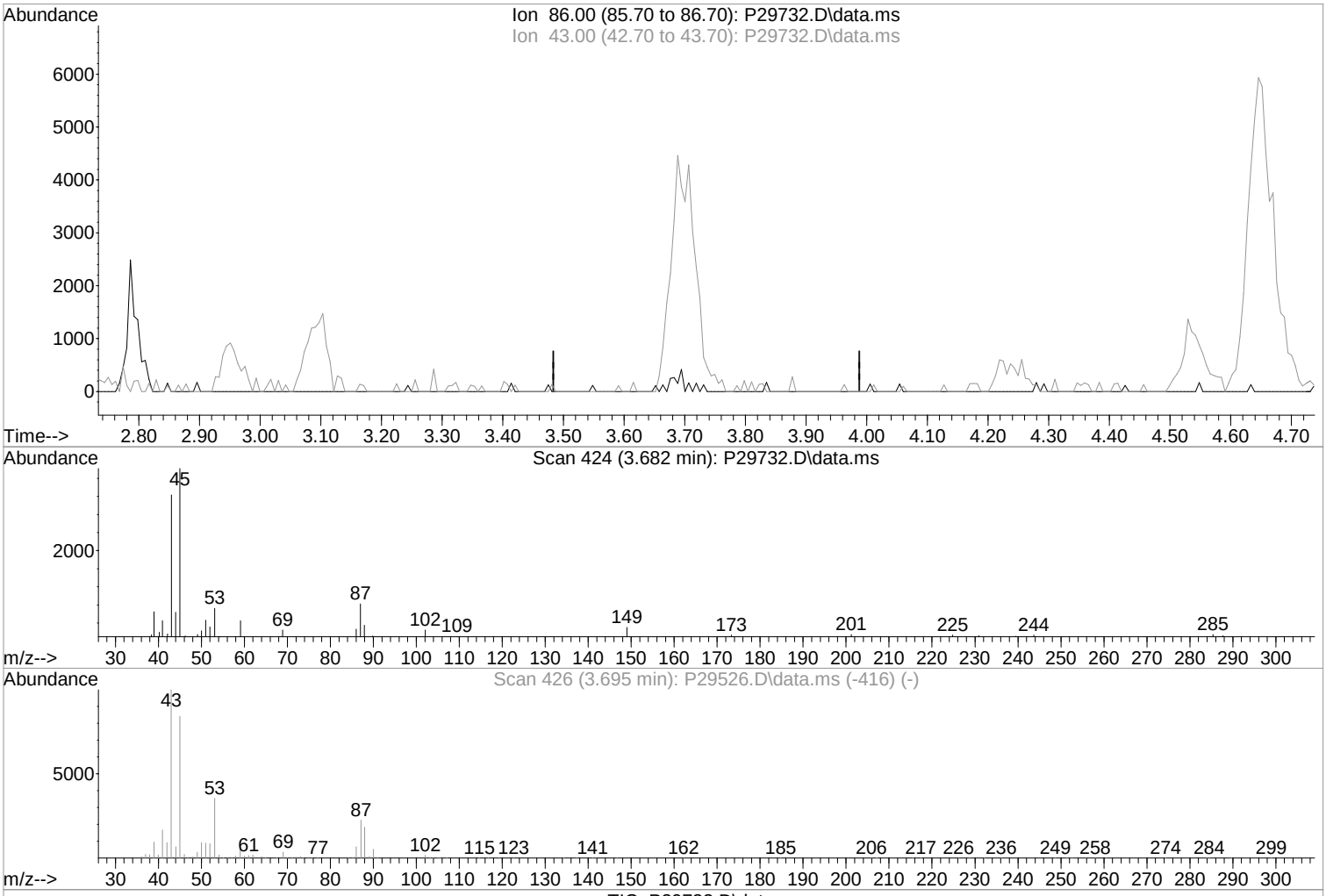
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(29) Vinyl Acetate

3.682min (-3.682) 0.00 ppb

response 0

Ion	Exp%	Act%
86.00	100	0.00
43.00	1567.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

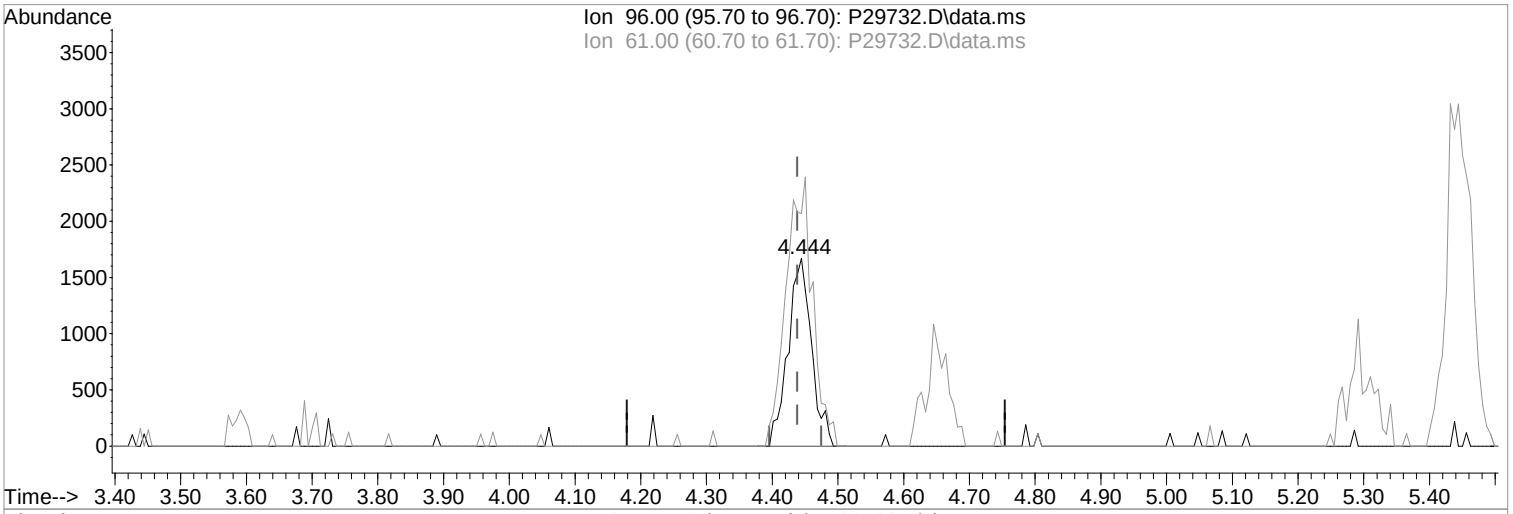
09/12/19

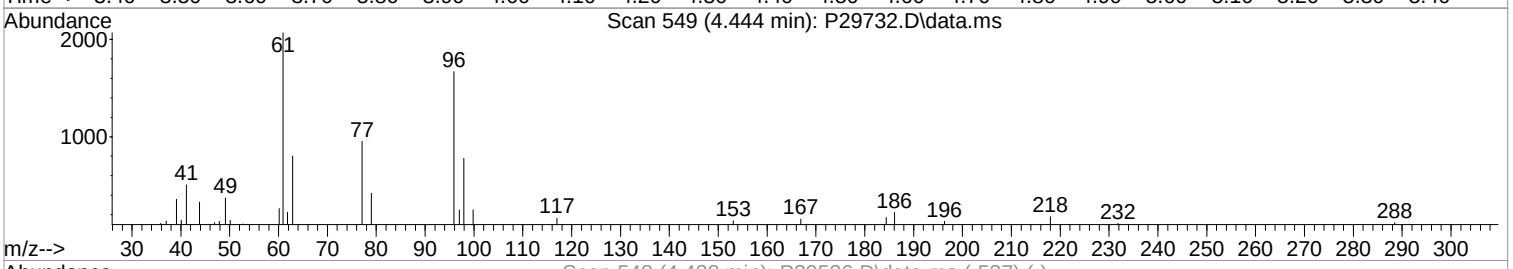
1st 09/12/19
2nd 09/12/19

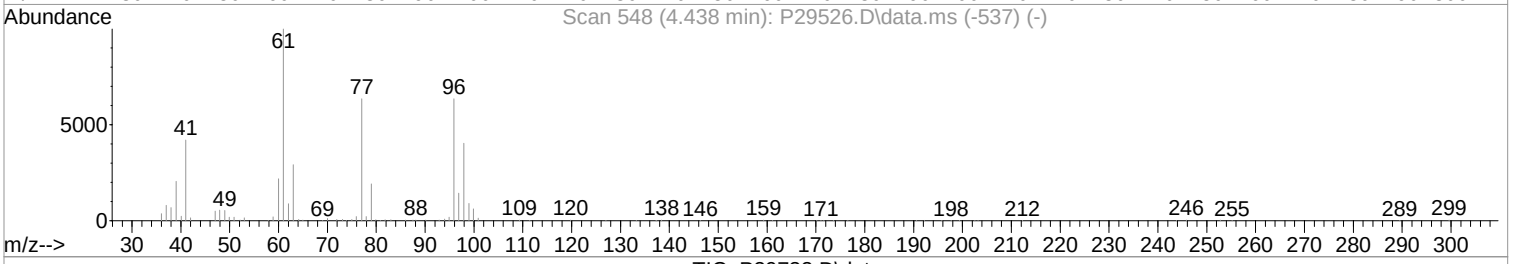
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 1.00 ppb m

response 4145

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	123.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

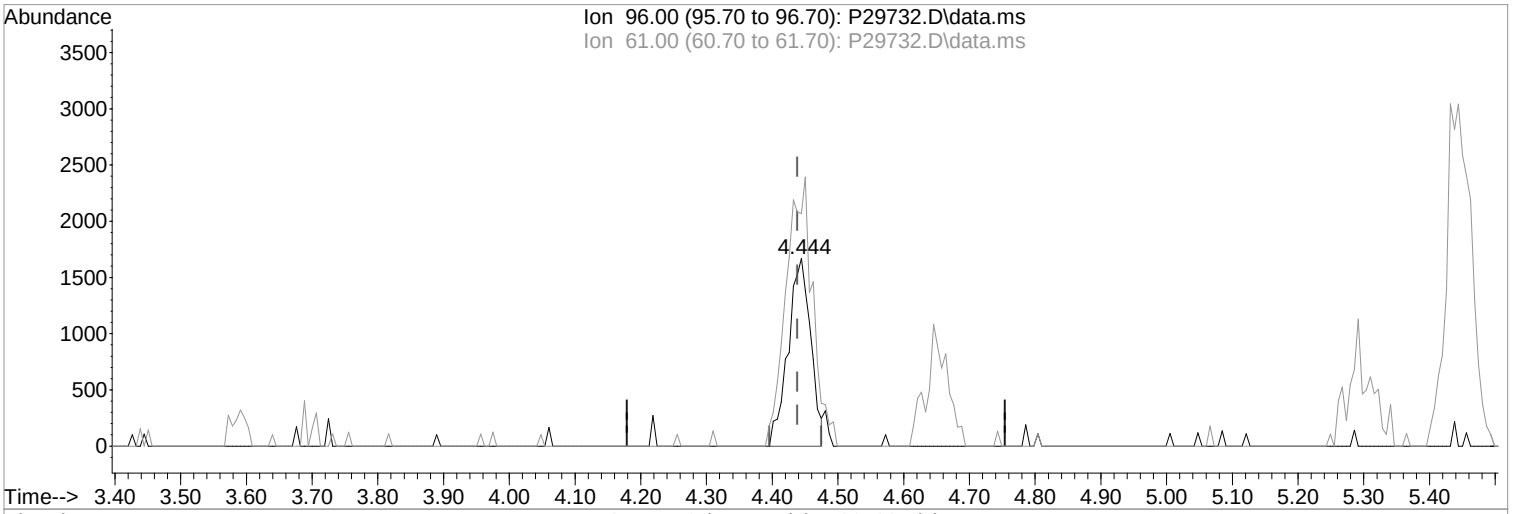
09/12/19

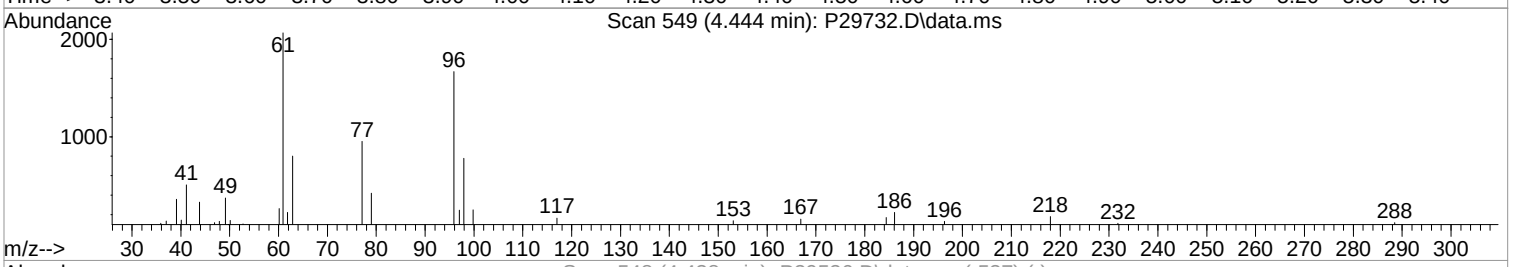
1st 09/12/19
2nd 09/12/19

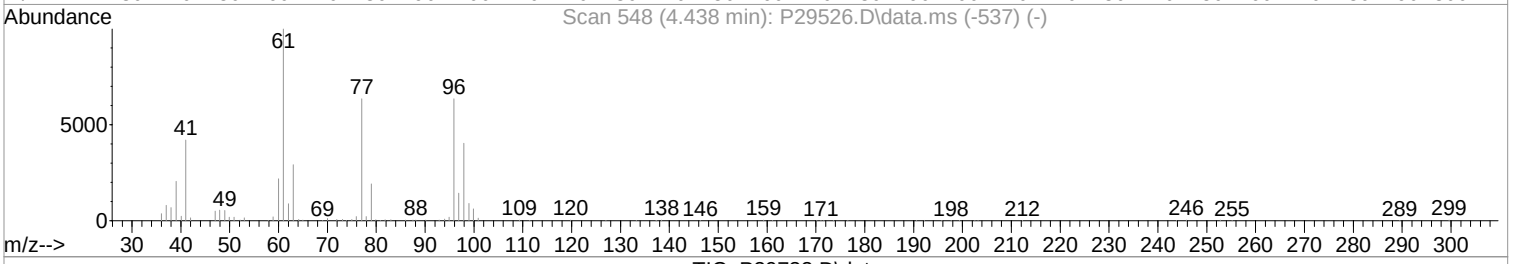
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.444min (+0.006) 0.97 ppb

response 3989

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	123.91#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

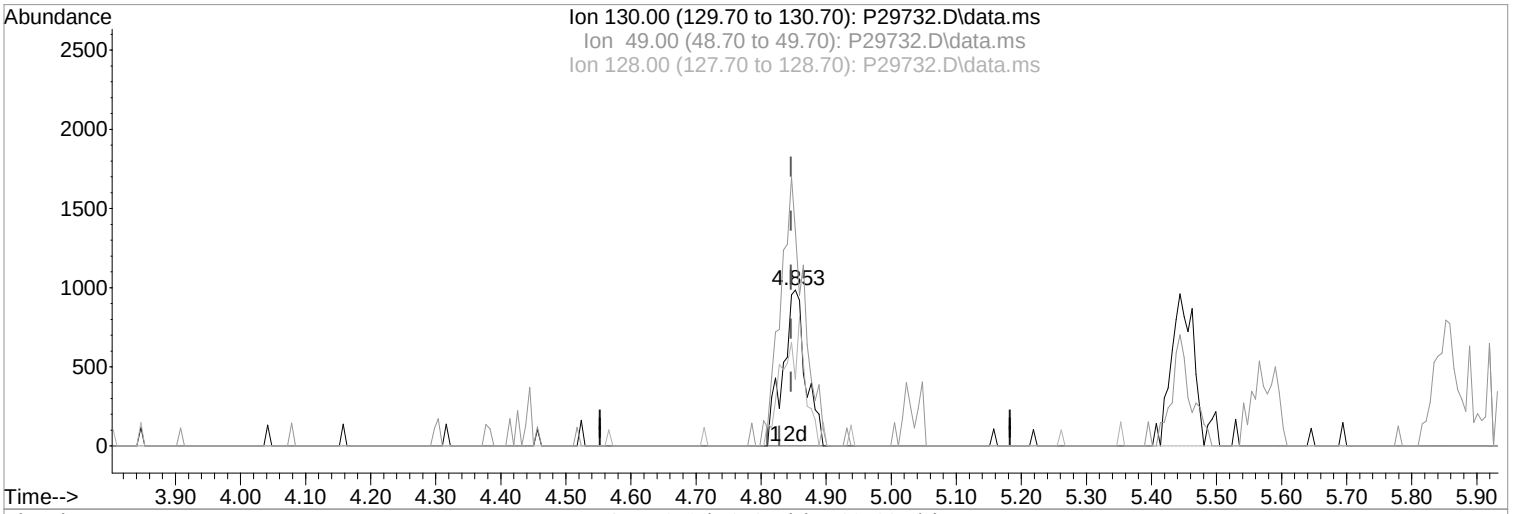
09/12/19

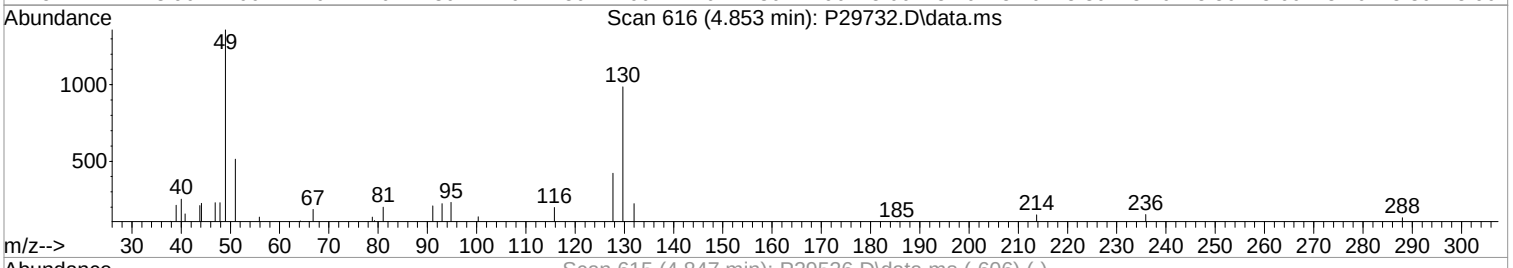
1st 09/12/19
2nd 09/12/19

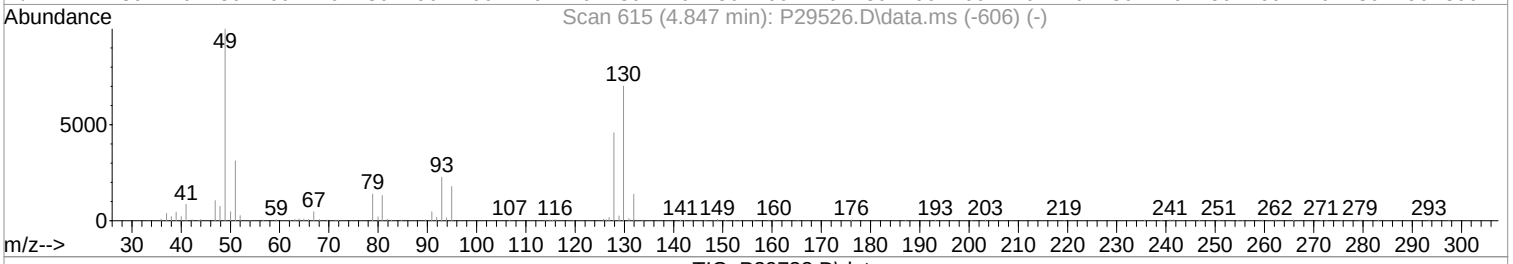
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 0.97 ppb m

response 2384

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	137.83#
128.00	71.40	42.70#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

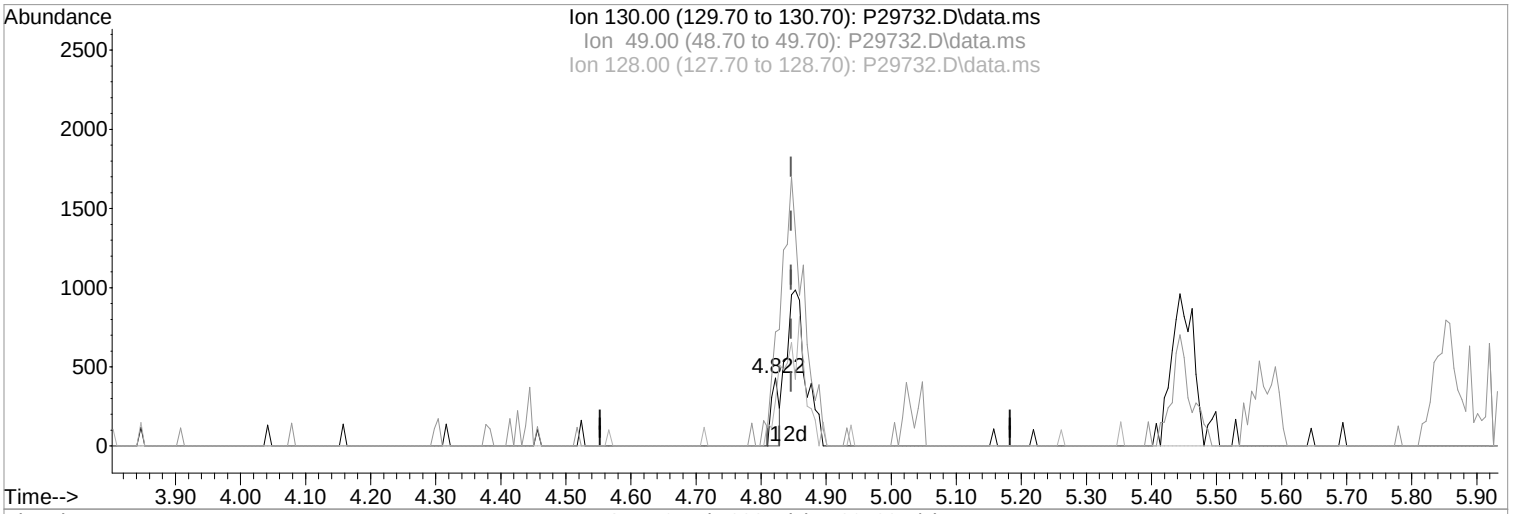
09/12/19

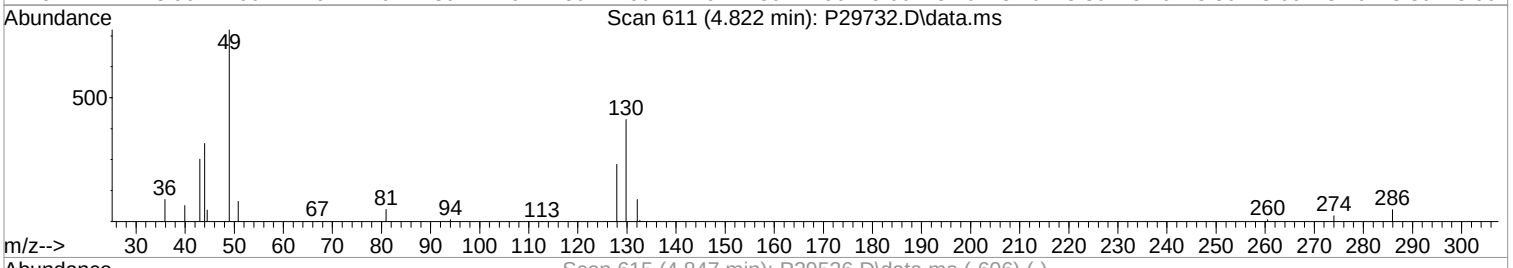
1st 09/12/19
2nd 09/12/19

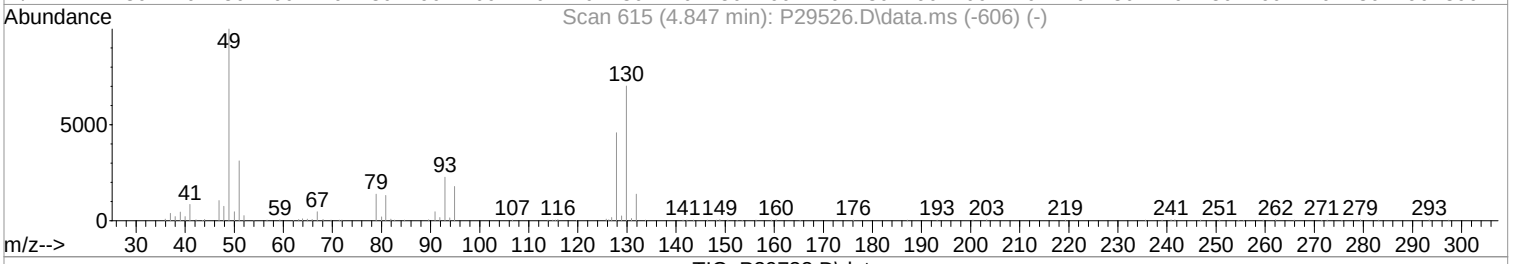
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(37) Bromochloromethane

4.822min (-0.024) 0.15 ppb

response 357

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	167.44
128.00	71.40	66.28
0.00	0.00	0.00

Manual Integration:

Before

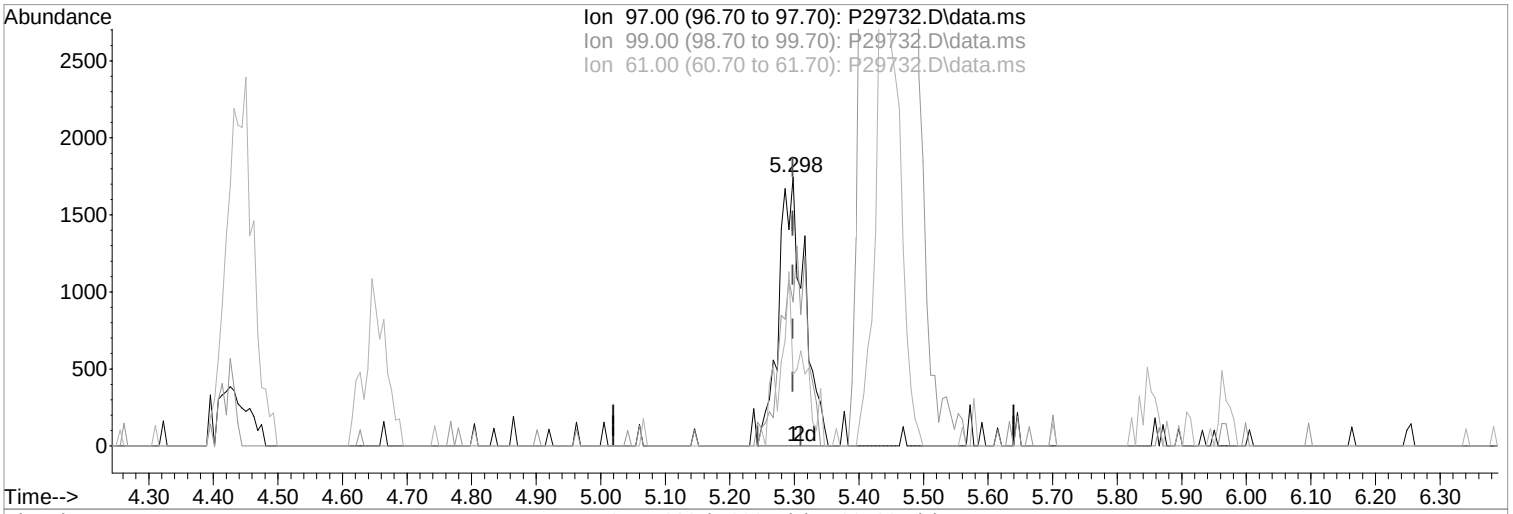
09/12/19

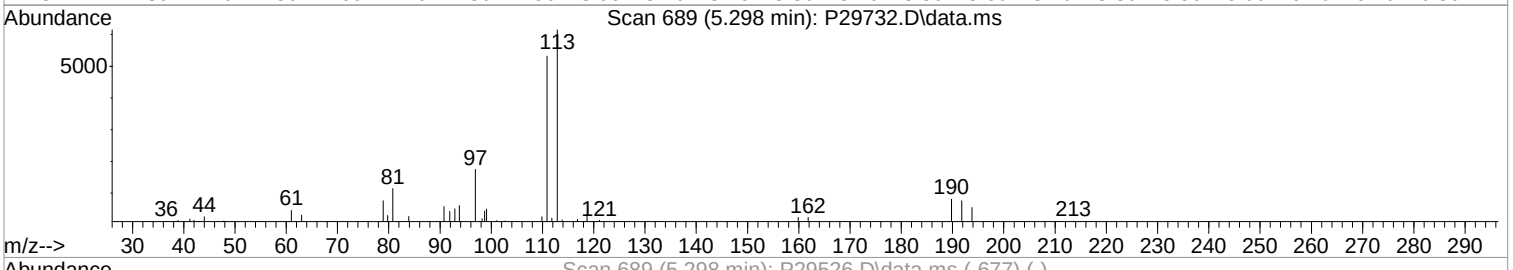
1st 09/12/19
2nd 09/12/19

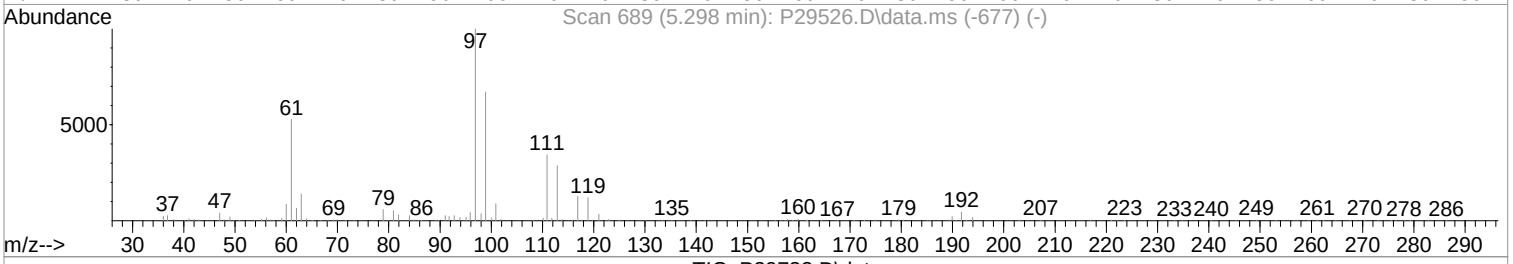
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.298min (+0.000) 0.92 ppb m

response 4828

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	28.47#
61.00	44.60	26.58
0.00	0.00	0.00

Manual Integration:

After

Split Peak

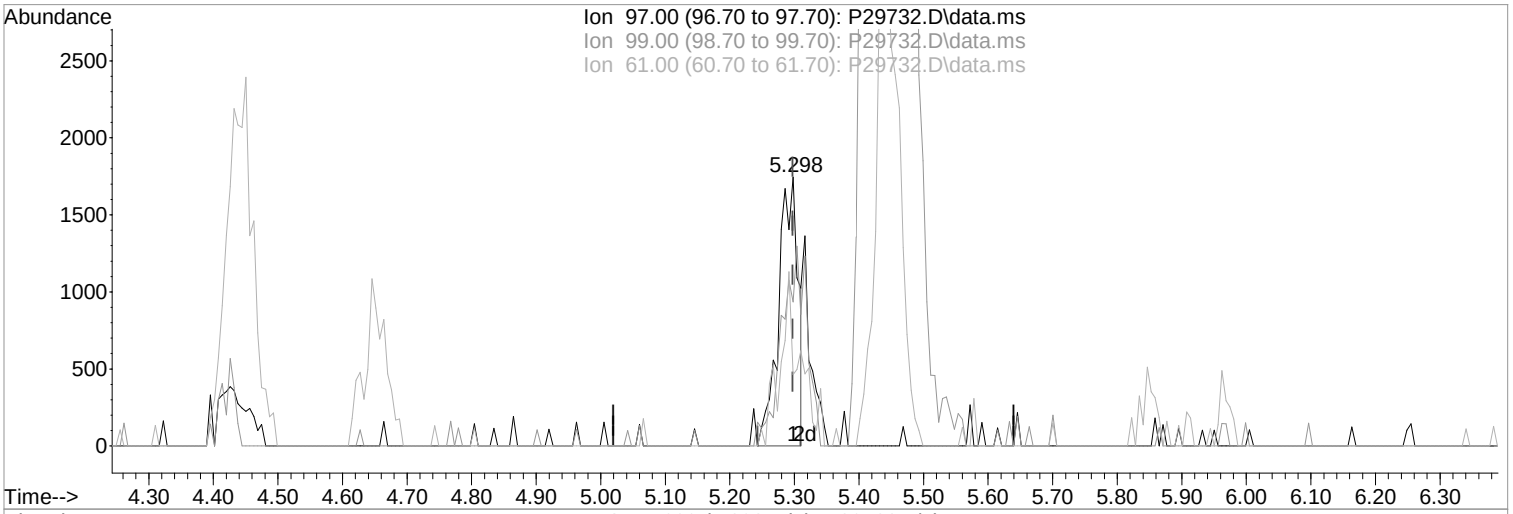
09/12/19

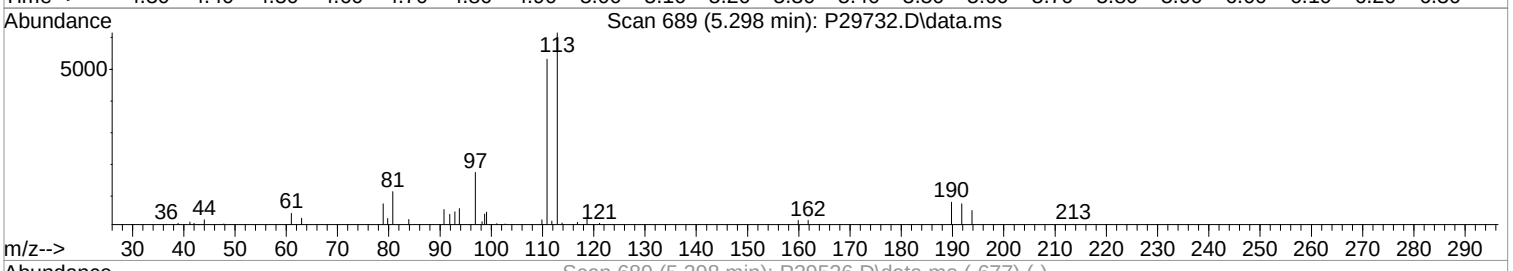
1st 09/12/19
2nd 09/12/19

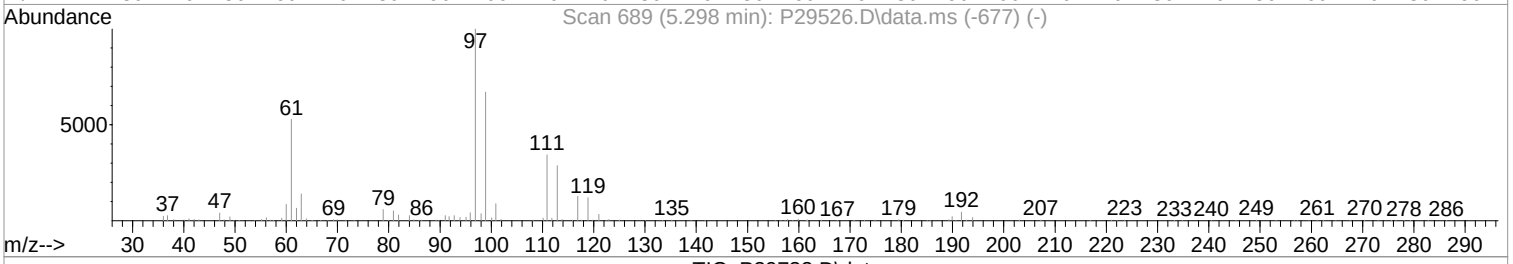
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(41) 1,1,1-Trichloroethane (P)

5.298min (+0.000) 0.70 ppb

response 3672

Ion	Exp%	Act%
97.00	100	100
99.00	62.90	53.55
61.00	44.60	26.58
0.00	0.00	0.00

Manual Integration:

Before

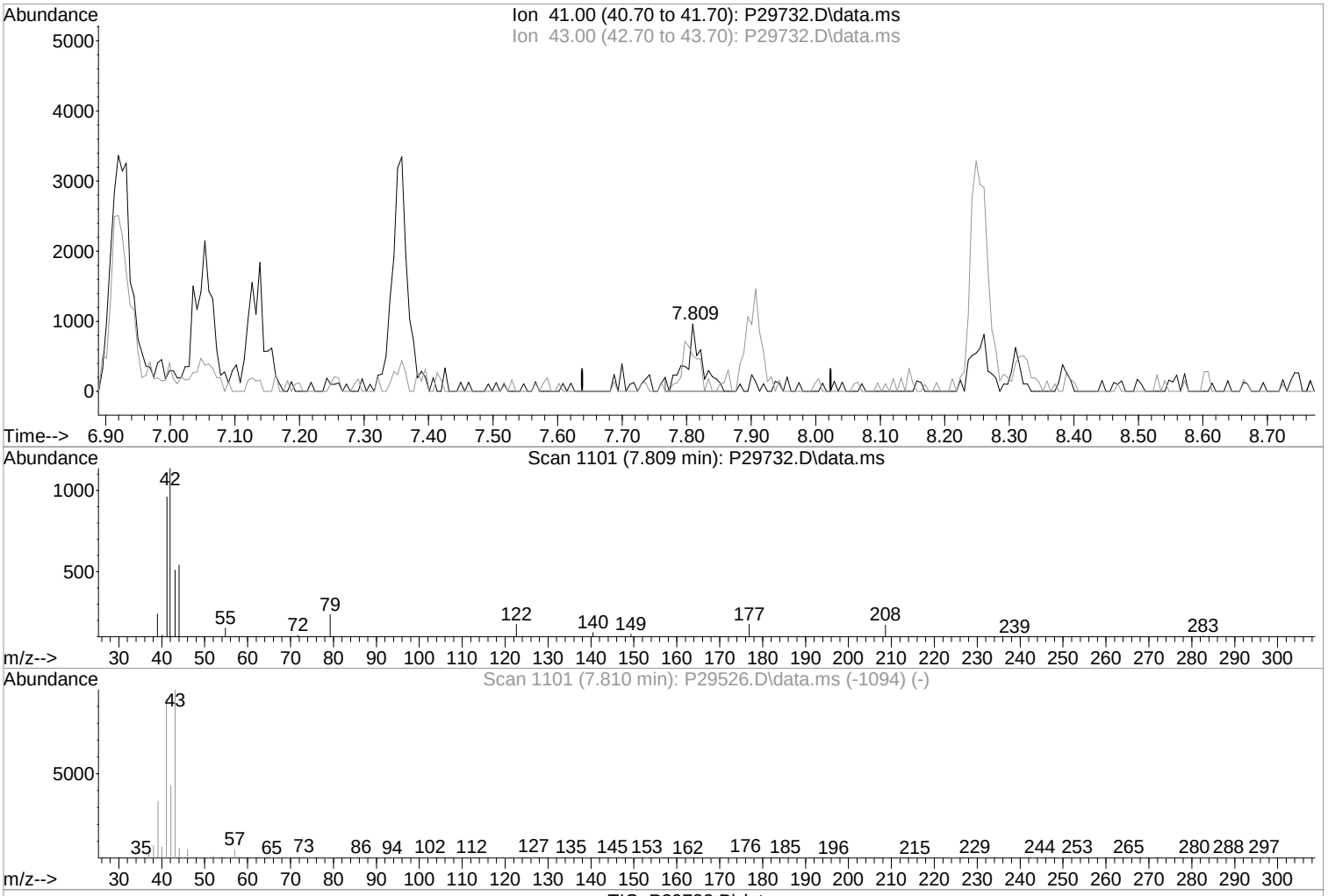
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(61) 2-Nitropropane

7.809min (+0.000) 2.36 ppb m

response 1664

Ion	Exp%	Act%
41.00	100	100
43.00	105.70	52.97#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Peak not found.

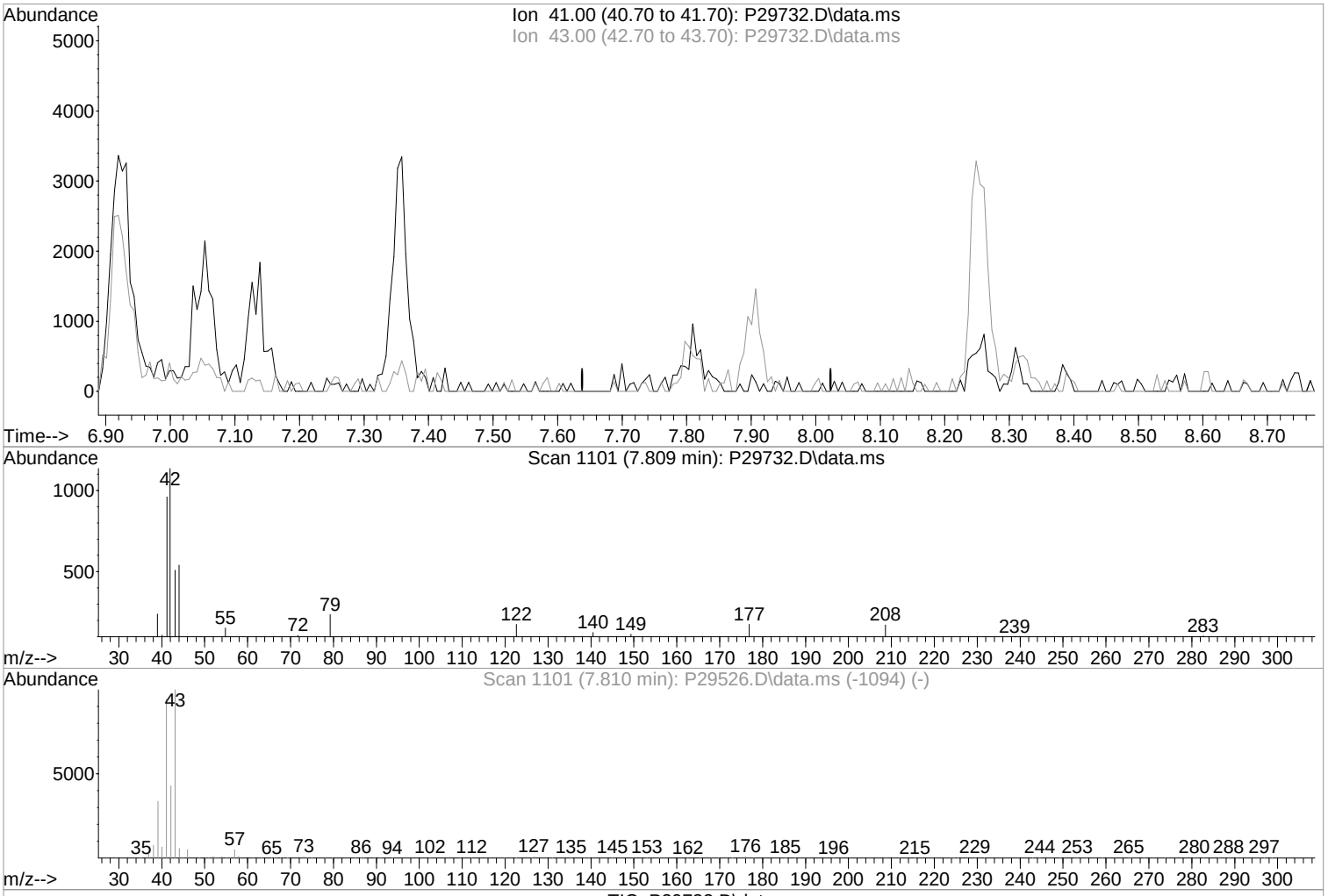
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(61) 2-Nitropropane

7.809min (-7.809) 0.00 ppb

response 0

Ion	Exp%	Act%
41.00	100	0.00
43.00	105.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

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QLast Update : Thu Sep 12 08:53:50 2019
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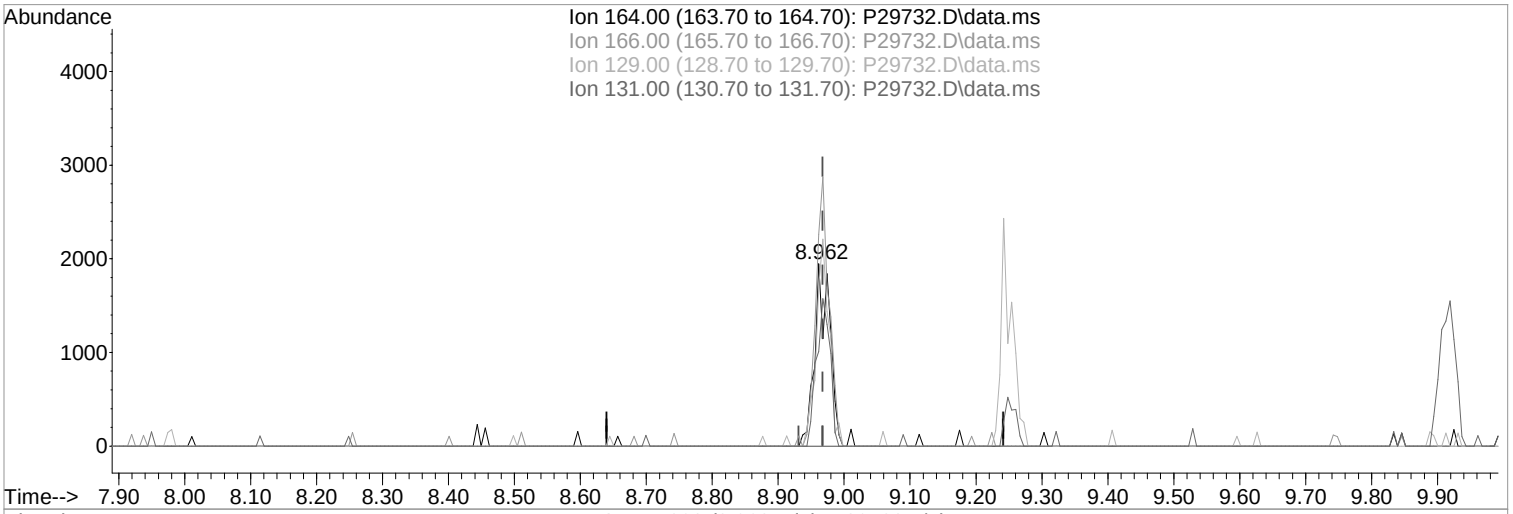

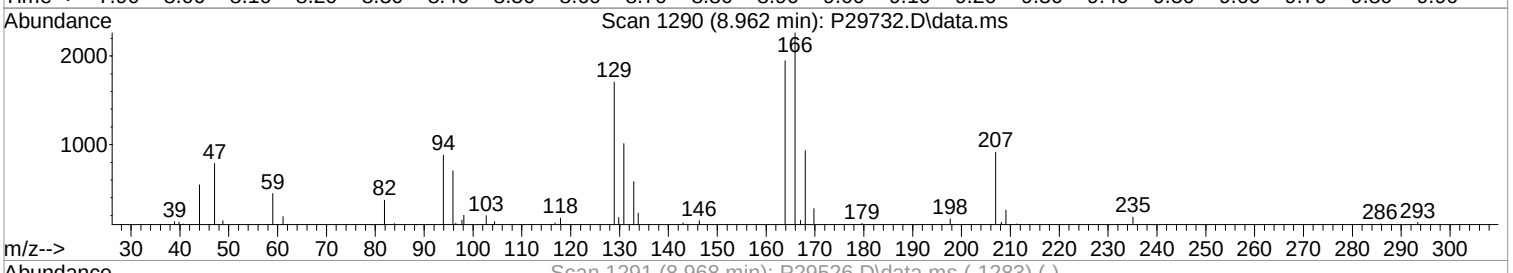

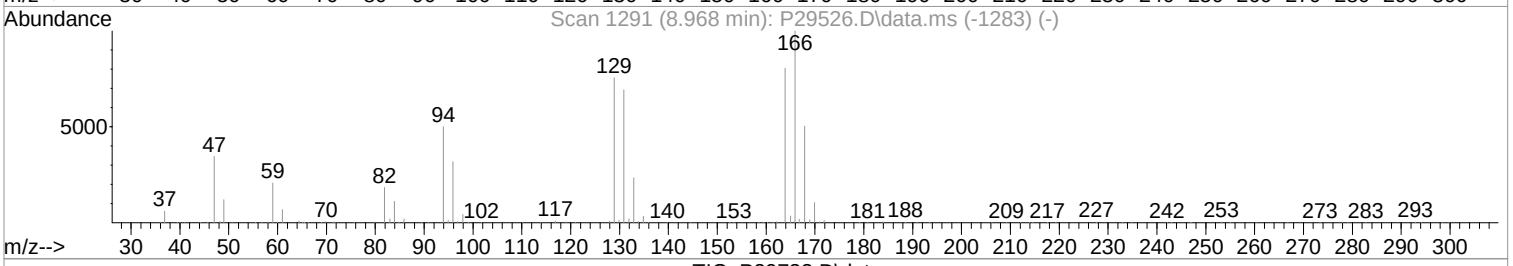

TIC: P29732.D\data.ms

(72) Tetrachloroethene (P)

8.962min (-0.006) 1.08 ppb m

response 3113

Ion	Exp%	Act%
164.00	100	100
166.00	124.80	116.24
129.00	90.60	87.67
131.00	90.10	51.95#

Manual Integration:

After

Split Peak

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

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Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
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Sample : 1.0ppb Inst : MSVOA-12
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Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
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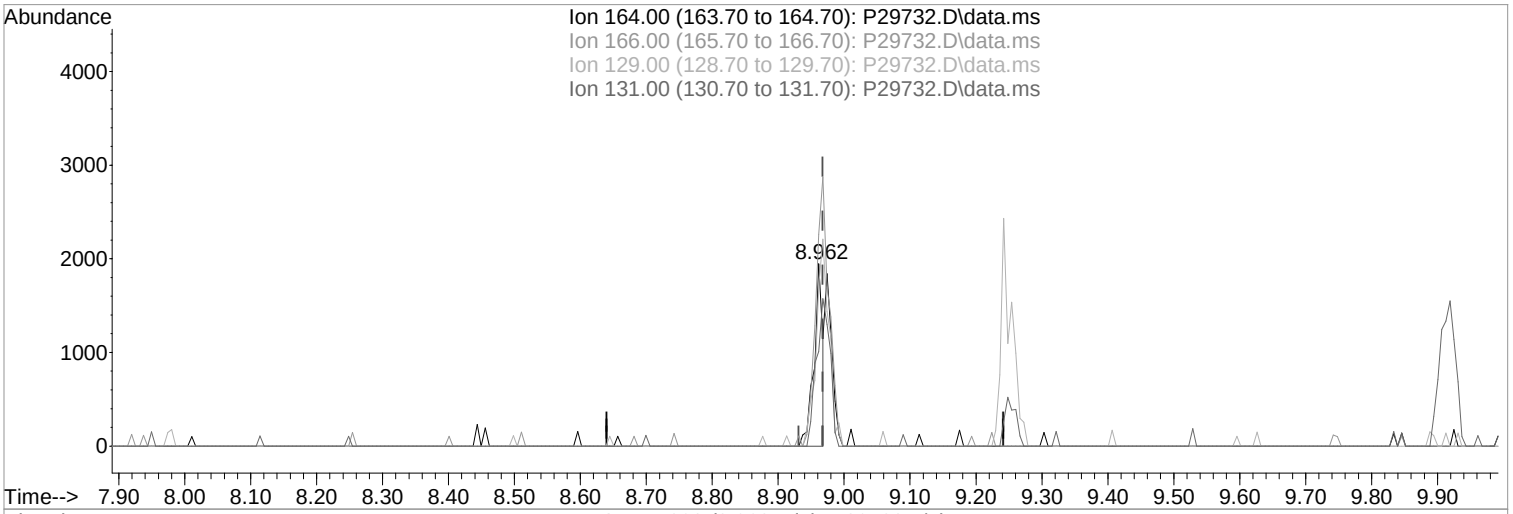
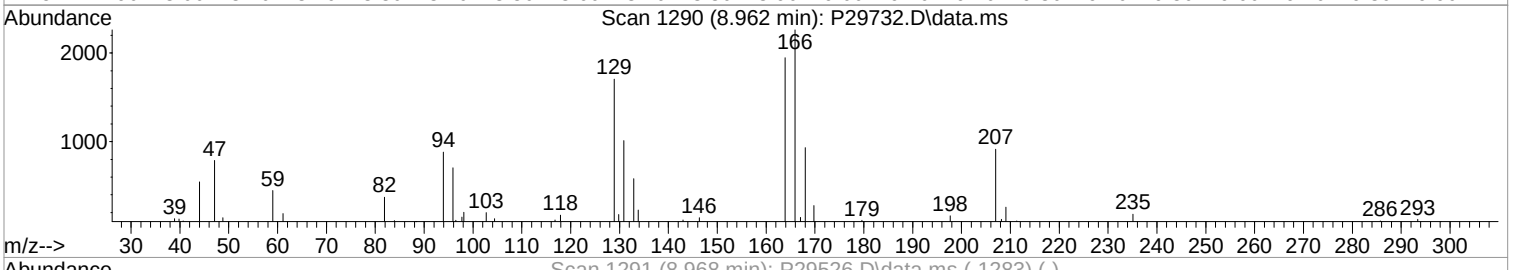
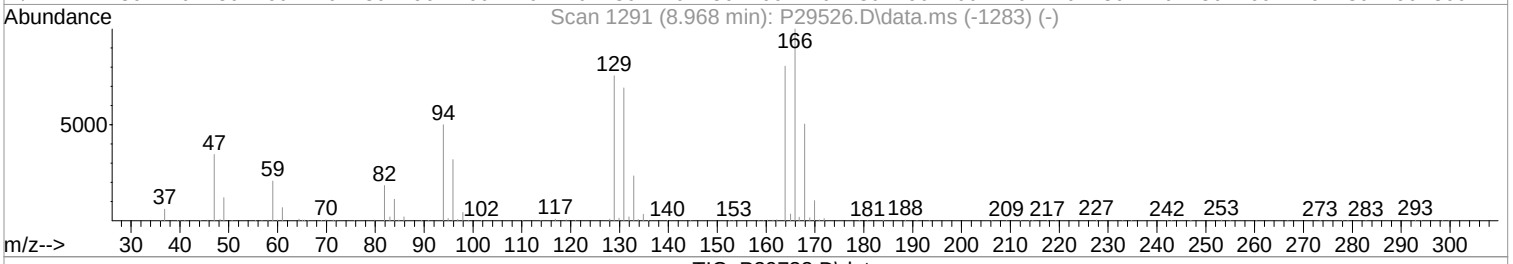






TIC: P29732.D\data.ms

(72) Tetrachloroethene (P)

8.962min (-0.006) 0.62 ppb

response 1772

Ion	Exp%	Act%
164.00	100	100
166.00	124.80	116.24
129.00	90.60	87.67
131.00	90.10	51.95#

Manual Integration:

Before

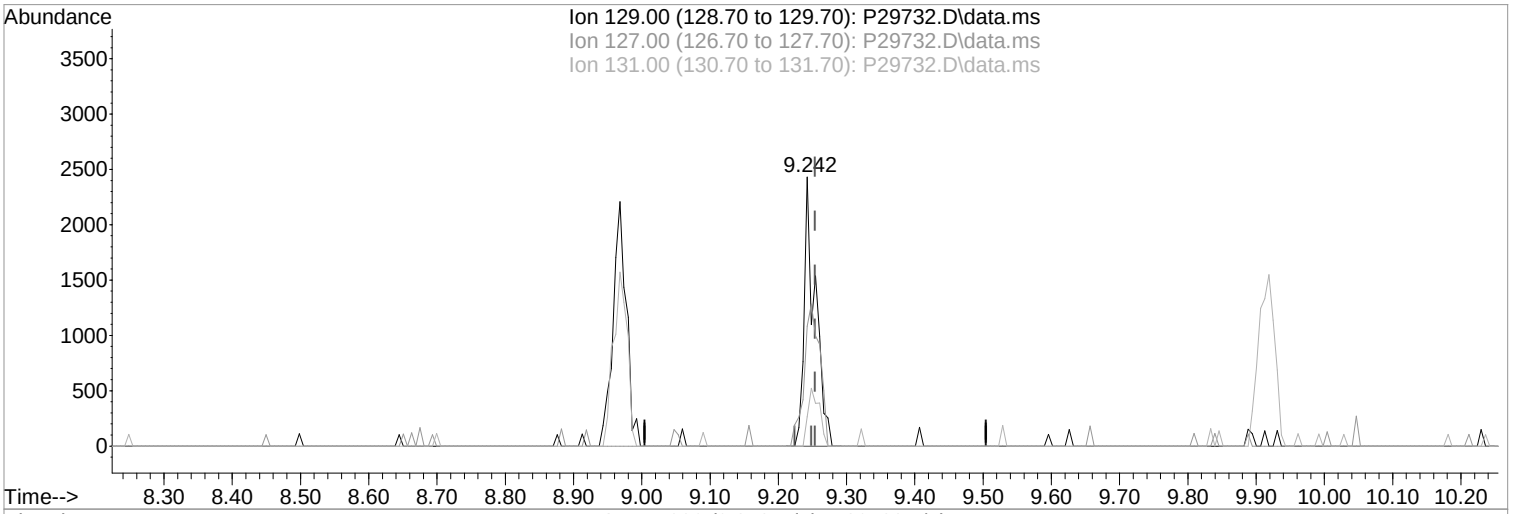
09/12/19

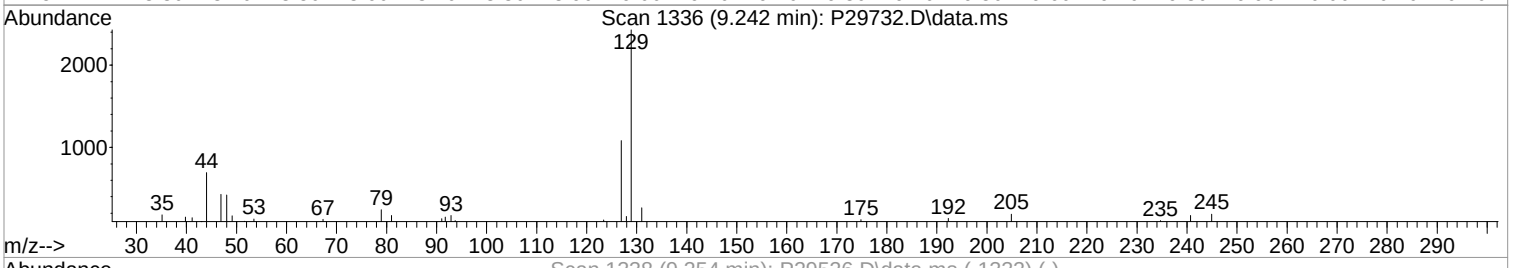
1st 09/12/19
2nd 09/12/19

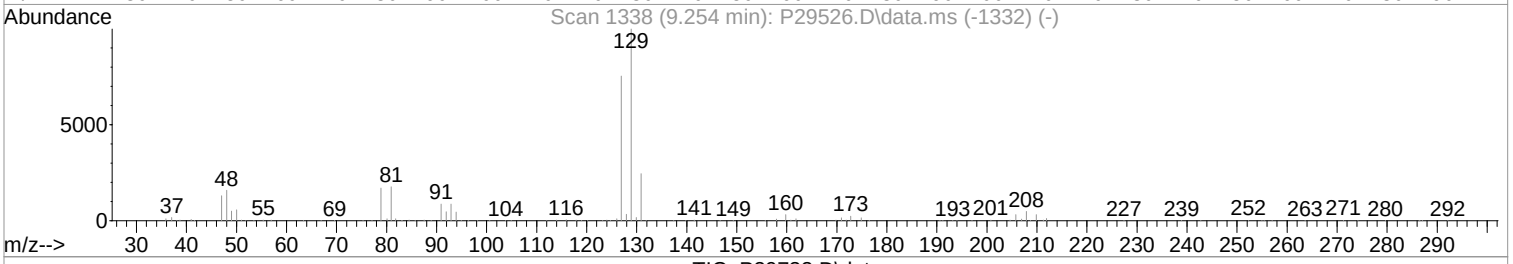
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29732.D\data.ms

(75) Dibromochloromethane (P)

9.242min (-0.012) 0.93 ppb m

response 2756

Ion	Exp%	Act%
129.00	100	100
127.00	74.60	44.51#
131.00	23.20	10.90
0.00	0.00	0.00

Manual Integration:

After

Split Peak

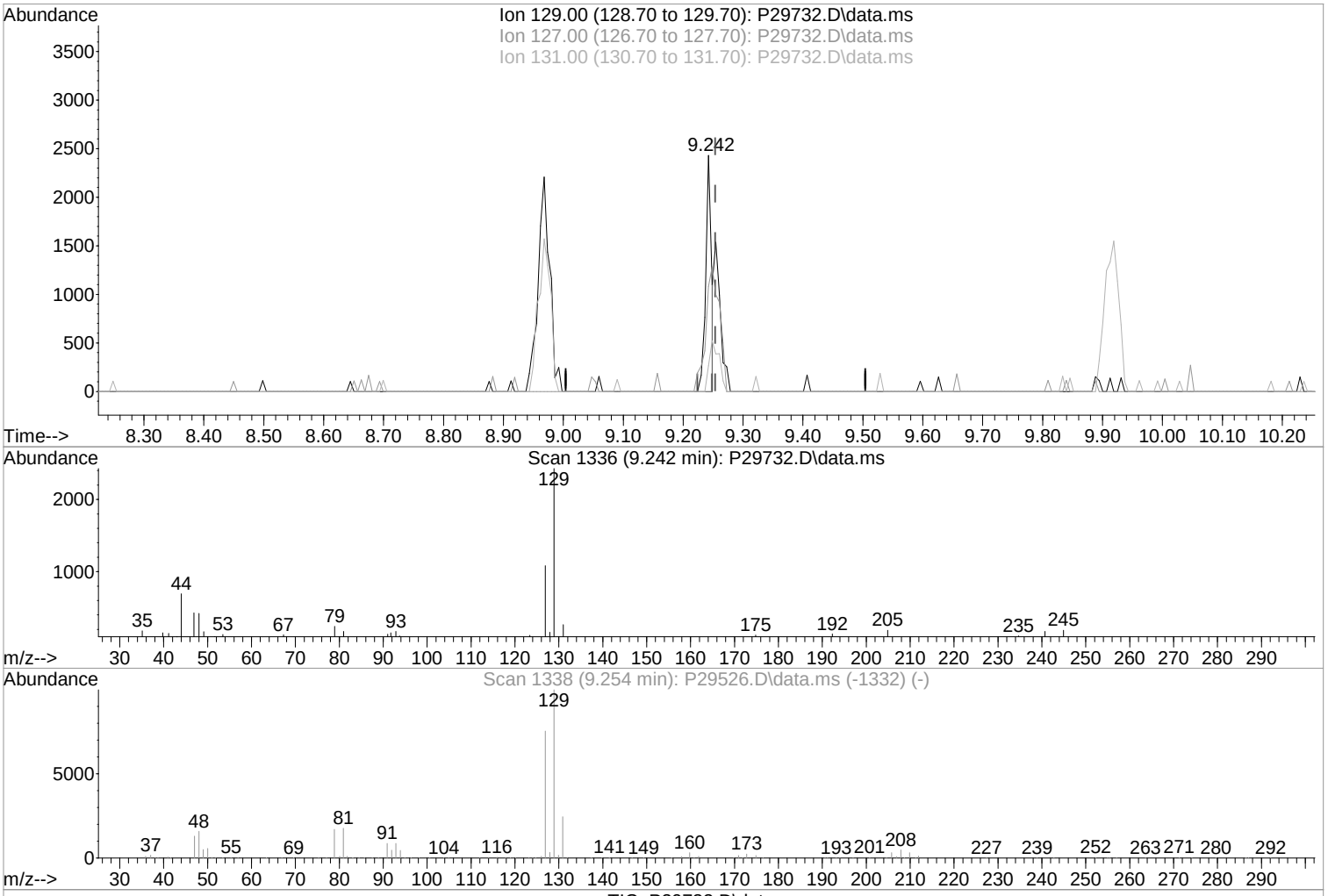
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:22:24 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29732.D\data.ms

(75) Dibromochloromethane (P)

9.242min (-0.012) 0.55 ppb

response 1629

Ion	Exp%	Act%
129.00	100	100
127.00	74.60	44.51#
131.00	23.20	10.90
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	339330	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	558674	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	476949	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	247909	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	31545	10.65	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 21.30%#				
48) surr1,1,2-dichloroetha...	5.853	65	46511	11.35	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 22.70%#				
65) SURR3,Toluene-d8	8.315	98	155659	11.17	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 22.34%#				
70) SURR2,BFB	10.870	95	60957	11.24	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 22.48%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	3941	0.94	ppb		79
3) Chloromethane	1.317	50	6129	0.95	ppb		100
4) Vinyl Chloride	1.396	62	5503	0.91	ppb		87
5) Bromomethane	1.628	94	3847	1.18	ppb		86
6) Chloroethane	1.707	64	3703	1.02	ppb		92
7) Freon 21	1.859	67	6568	0.98	ppb		78
8) Trichlorofluoromethane	1.902	101	4187	0.86	ppb	#	74
9) Diethyl Ether	2.140	59	3787	0.88	ppb		88
10) Freon 123a	2.140	67	4348	0.93	ppb		88
11) Freon 123	2.201	83	5245	1.01	ppb		92
12) Acrolein	2.256	56	5427	4.52	ppb		99
13) 1,1-Diclethene	2.323	96	3176	0.96	ppb	#	65
14) Freon 113	2.323	101	3203	0.99	ppb	#	70
15) Acetone	2.402	43	3689	1.34	ppb		85
16) 2-Propanol	2.542	45	8988	14.31	ppb		97
17) Iodomethane	2.463	142	1999	0.52	ppb		92
18) Carbon Disulfide	2.518	76	9133	0.92	ppb		99
19) Acetonitrile	2.664	40	2011m	4.76	ppb		
20) Allyl Chloride	2.664	76	2281	1.20	ppb	#	89
21) Methyl Acetate	2.707	43	4857	0.89	ppb		87
22) Methylene Chloride	2.792	84	4920	1.14	ppb	#	68
23) TBA	2.951	59	14787m	15.91	ppb		
24) Acrylonitrile	3.073	53	12468	4.43	ppb		92
25) Methyl-t-Butyl Ether	3.097	73	13745	0.98	ppb		86
26) trans-1,2-Dichloroethene	3.073	96	3405	0.94	ppb	#	57
28) 1,1-Diclethane	3.597	63	7200	0.97	ppb		88
29) Vinyl Acetate	3.694	86	602m	0.74	ppb		
30) DIPE	3.701	45	15199	0.94	ppb	#	66
31) 2-Chloro-1,3-Butadiene	3.701	53	5599	0.93	ppb		96
32) ETBE	4.231	59	14361	0.98	ppb		87
33) 2,2-Dichloropropane	4.426	77	5133	0.94	ppb		90
34) cis-1,2-Dichloroethene	4.444	96	4145m	1.00	ppb		
35) 2-Butanone	4.530	43	3173	0.82	ppb		88
36) Propionitrile	4.639	54	6195	5.18	ppb		75
37) Bromochloromethane	4.853	130	2384m	0.97	ppb		
38) Methacrylonitrile	4.889	67	2785	0.98	ppb		98
39) Tetrahydrofuran	4.981	42	6885	2.17	ppb		80
40) Chloroform	5.030	83	7021	1.07	ppb		99
41) 1,1,1-Trichloroethane	5.298	97	4828m	0.92	ppb		

1st 09/12/19
2nd 09/12/19

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Data File : P29732.D
Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	TAME	6.133	73	13055	0.97	ppb		87
44)	Cyclohexane	5.359	41	4224	0.95	ppb		92
46)	Carbontetrachloride	5.560	117	2879	0.74	ppb	#	56
47)	1,1-Dichloropropene	5.578	75	5353	0.99	ppb		93
49)	Benzene	5.901	78	17026	1.01	ppb		92
50)	1,2-Dichloroethane	5.968	62	5569	0.98	ppb		94
51)	Iso-Butyl Alcohol	5.968	43	6723	14.06	ppb	#	70
52)	n-Heptane	6.346	43	5981	0.95	ppb		91
53)	1-Butanol	6.913	56	10513	38.34	ppb		89
54)	Trichloroethene	6.834	130	3142	0.84	ppb	#	85
55)	Methylcyclohexane	7.054	55	6050	1.01	ppb		84
56)	1,2-Diclpropane	7.133	63	4315	0.93	ppb		90
57)	Dibromomethane	7.273	93	1934	0.84	ppb	#	65
58)	1,4-Dioxane	7.352	88	1651	15.45	ppb	#	52
59)	Methyl Methacrylate	7.358	69	3644	0.84	ppb	#	84
60)	Bromodichloromethane	7.505	83	3954	0.89	ppb		90
61)	2-Nitropropane	7.809	41	1664m	2.36	ppb		
62)	2-Chloroethylvinyl Ether	7.907	63	2393	0.76	ppb		66
63)	cis-1,3-Dichloropropene	8.035	75	6097	0.92	ppb		86
64)	4-Methyl-2-pentanone	8.248	43	6173	0.86	ppb		93
66)	Toluene	8.389	91	17439	1.03	ppb		97
67)	trans-1,3-Dichloropropene	8.675	75	4882	0.80	ppb		95
68)	Ethyl Methacrylate	8.803	69	6974	0.92	ppb		97
69)	1,1,2-Trichloroethane	8.864	97	3960	1.05	ppb		98
72)	Tetrachloroethene	8.962	164	3113m	1.08	ppb		
73)	2-Hexanone	9.157	43	4056	0.76	ppb		92
74)	1,3-Dichloropropane	9.029	76	7368	1.03	ppb		88
75)	Dibromochloromethane	9.242	129	2756m	0.93	ppb		
76)	N-Butyl Acetate	9.297	43	9887	0.98	ppb		97
77)	1,2-Dibromoethane	9.346	107	3573	0.96	ppb		93
78)	Chlorobenzene	9.827	112	10733	1.02	ppb		90
79)	3-CBTF	9.840	180	5952	1.10	ppb		92
80)	4-CBTF	9.901	180	5289	1.08	ppb		93
81)	1,1,1,2-Tetrachloroethane	9.919	131	2590	0.83	ppb		88
82)	Ethylbenzene	9.943	106	5328	0.93	ppb		92
83)	(m+p)Xylene	10.053	106	13849	2.01	ppb	#	81
84)	o-Xylene	10.413	106	7122	1.01	ppb	#	70
85)	Styrene	10.425	104	11094	0.95	ppb		96
87)	Bromoform	10.589	173	1421	0.82	ppb		94
88)	2-CBTF	10.656	180	5509	1.06	ppb		88
89)	Isopropylbenzene	10.742	105	17014	1.01	ppb		97
90)	Cyclohexanone	10.833	55	13171	18.22	ppb		94
91)	trans-1,4-Dichloro-2-B...	11.065	53	1750	0.94	ppb	#	54
92)	1,1,2,2-Tetrachloroethane	11.022	83	5232	0.93	ppb		98
93)	Bromobenzene	10.998	156	4405	1.06	ppb	#	78
94)	1,2,3-Trichloropropane	11.047	110	2104	1.13	ppb	#	48
95)	n-Propylbenzene	11.095	91	22742	1.12	ppb		96
96)	2-Chlorotoluene	11.156	91	13609	1.06	ppb		97
97)	3-Chlorotoluene	11.217	91	12818	0.99	ppb		98
98)	4-Chlorotoluene	11.254	91	13956	1.01	ppb		93
99)	1,3,5-Trimethylbenzene	11.248	105	14026	1.00	ppb		86
100)	tert-Butylbenzene	11.516	119	12171	0.98	ppb		95
101)	1,2,4-Trimethylbenzene	11.559	105	13735	0.98	ppb		92
102)	3,4-DCBTF	11.626	214	4459	1.04	ppb	#	90
103)	sec-Butylbenzene	11.699	105	18561	1.03	ppb		93
104)	p-Isopropyltoluene	11.821	119	15115	0.98	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
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Acq On : 11 Sep 2019 3:55 pm
Operator : K.Ruest
Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:32:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	8367	1.01	ppb		96
106) 1,4-Dclbenz	11.857	146	8960	1.05	ppb		87
107) 2,4-DCBTF	11.912	214	4158	1.07	ppb	#	82
108) 2,5-DCBTF	11.949	214	4549	1.05	ppb		94
109) n-Butylbenzene	12.150	91	14570	0.97	ppb		97
110) 1,2-Dclbenz	12.162	146	8042	0.98	ppb		93
111) 1,2-Dibromo-3-chloropr...	12.796	157	1294	0.99	ppb	#	58
112) Trielution Dichlorotol...	12.894	125	24223	3.22	ppb	#	80
113) 1,3,5 Trichlorobenzene	12.949	180	6254	1.02	ppb		88
114) Coelution Dichlorotoluene	13.229	125	18268	2.17	ppb		95
115) 1,2,4-Tcbenzene	13.436	180	6635	1.05	ppb		89
116) Hexachlorobt	13.564	225	2933	1.16	ppb	#	66
117) Naphthalen	13.632	128	21752	1.09	ppb		90
118) 1,2,3-Tclbenzene	13.820	180	6441	1.03	ppb		92
119) 2,4,5-Trichlorotolene	14.394	159	5125	1.08	ppb	#	86
120) 2,3,6-Trichlorotoluene	14.479	159	5042	1.02	ppb		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Sample : 1.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 2 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:32:22 2019
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Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
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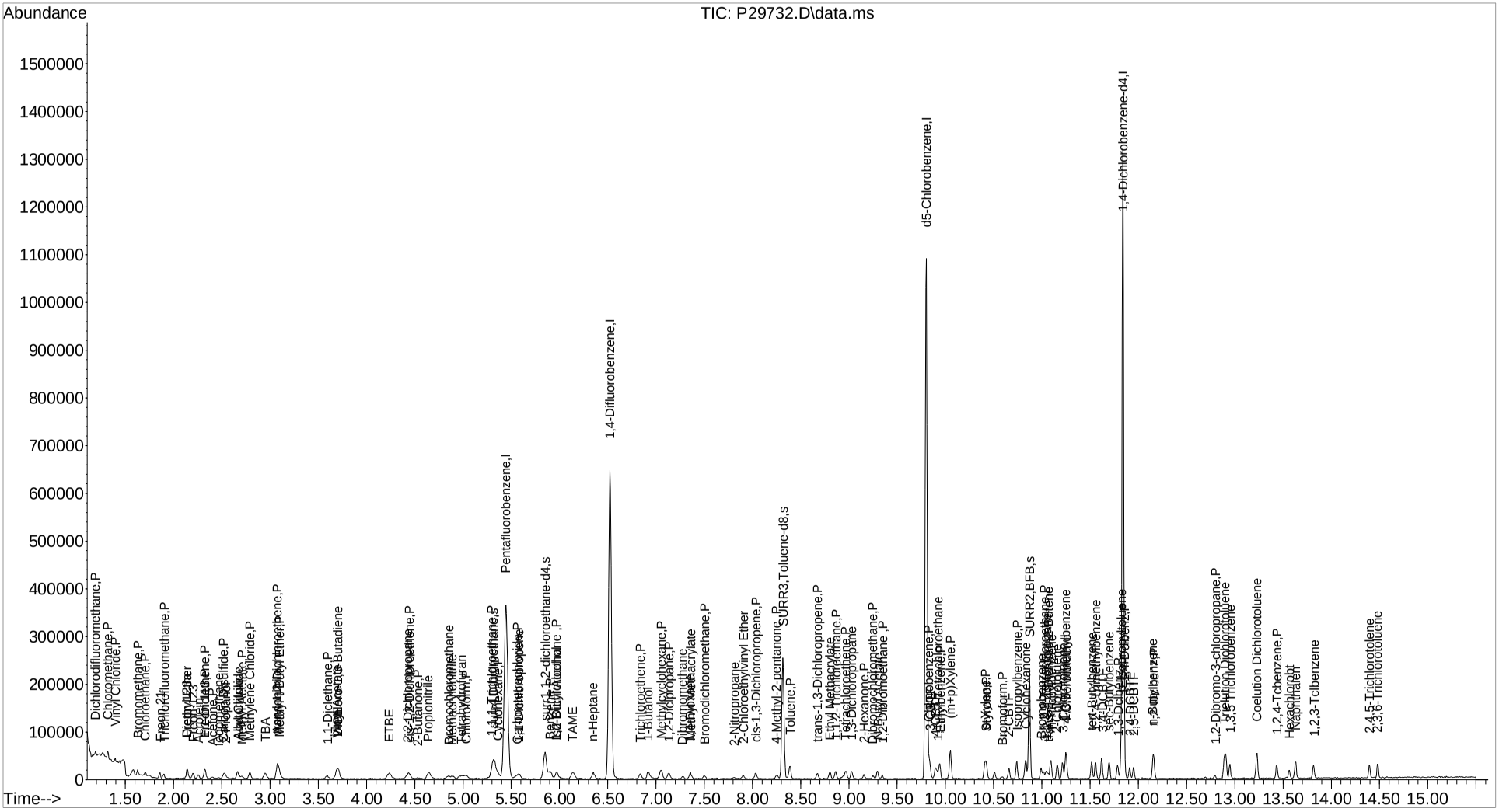
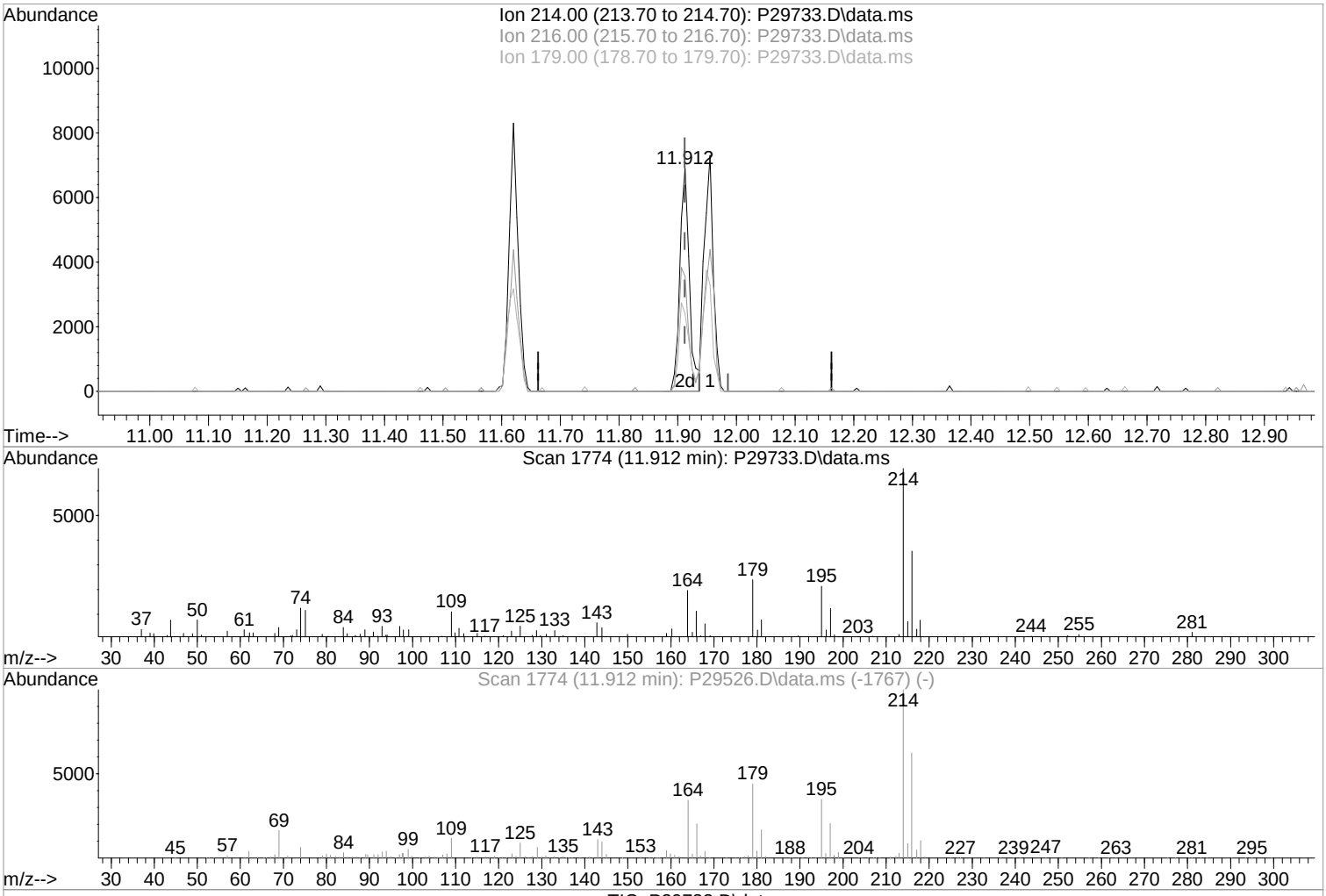


1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(107) 2,4-DCBTF

11.912min (+0.000) 2.16 ppb m

response 7816

Ion	Exp%	Act%
214.00	100	100
216.00	64.60	51.55#
179.00	44.00	34.80#
0.00	0.00	0.00

Manual Integration:

After

Wrong peak selected.

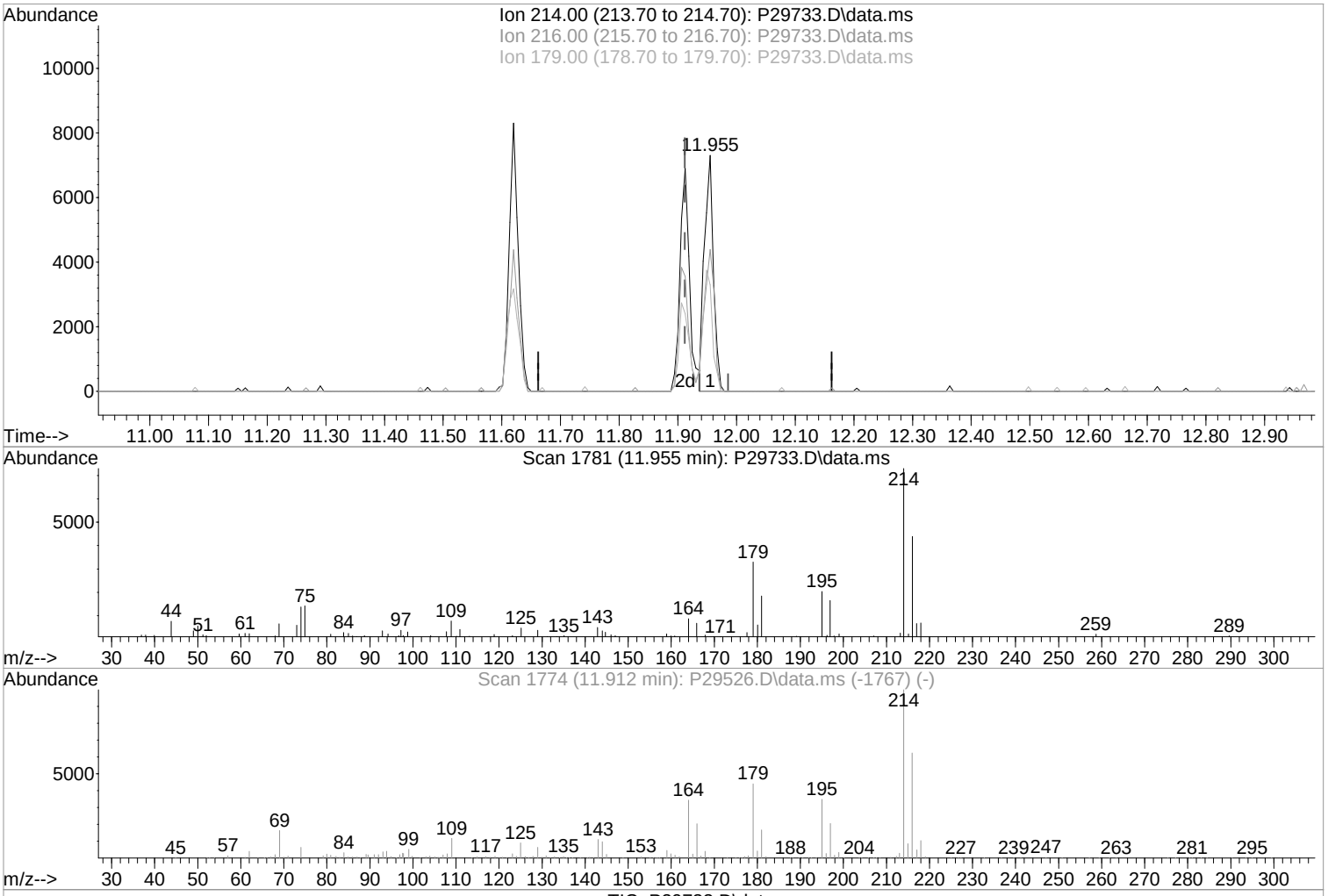
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(107) 2,4-DCBTF

11.955min (+0.043) 2.18 ppb

response 7910

Ion	Exp%	Act%
214.00	100	100
216.00	64.60	60.07
179.00	44.00	45.10
0.00	0.00	0.00

Manual Integration:

Before

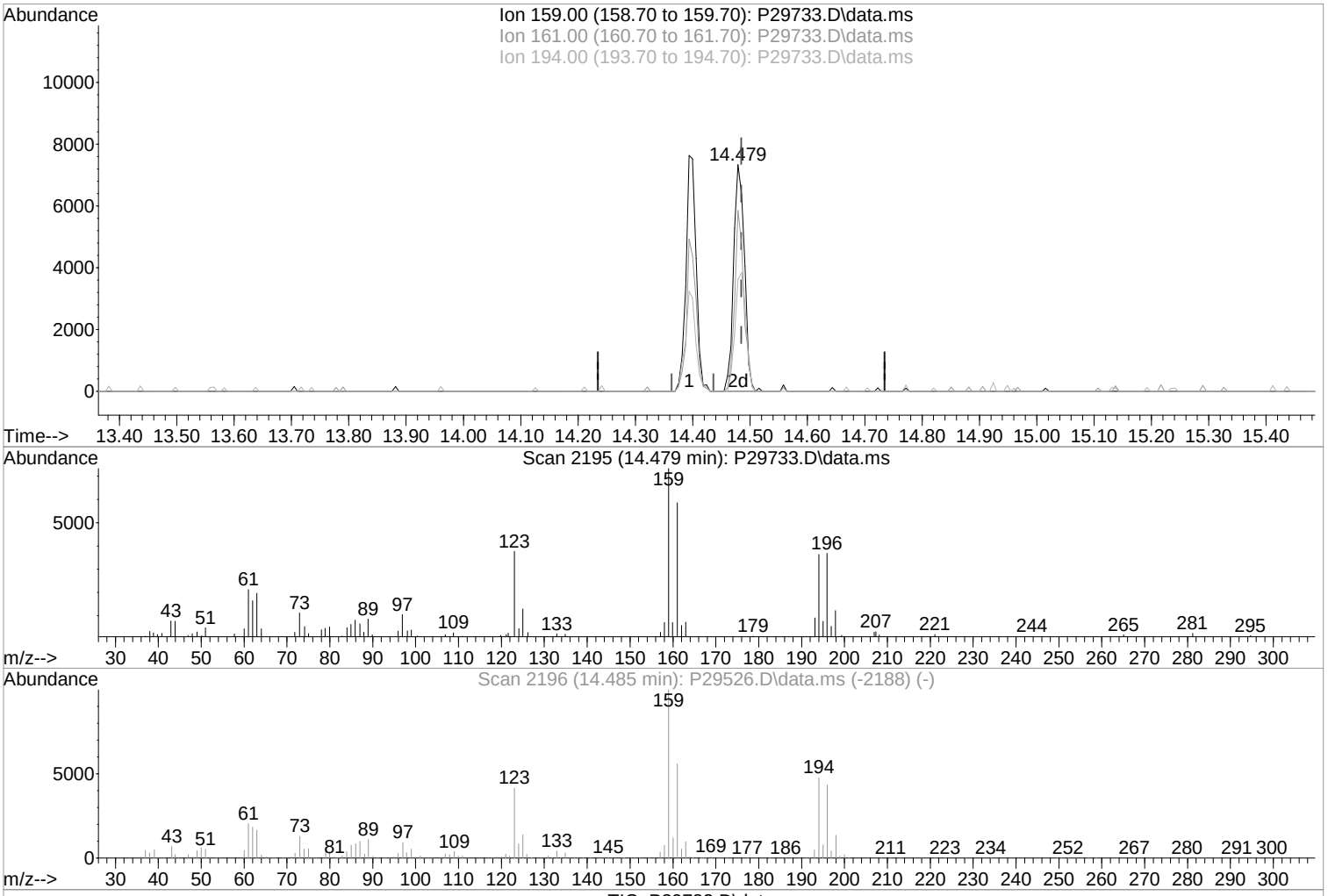
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(120) 2,3,6-Trichlorotoluene

14.479min (-0.006) 2.09 ppb m

response 9583

Ion	Exp%	Act%
159.00	100	100
161.00	59.40	79.85#
194.00	46.10	49.48
0.00	0.00	0.00

Manual Integration:

After

Wrong peak selected.

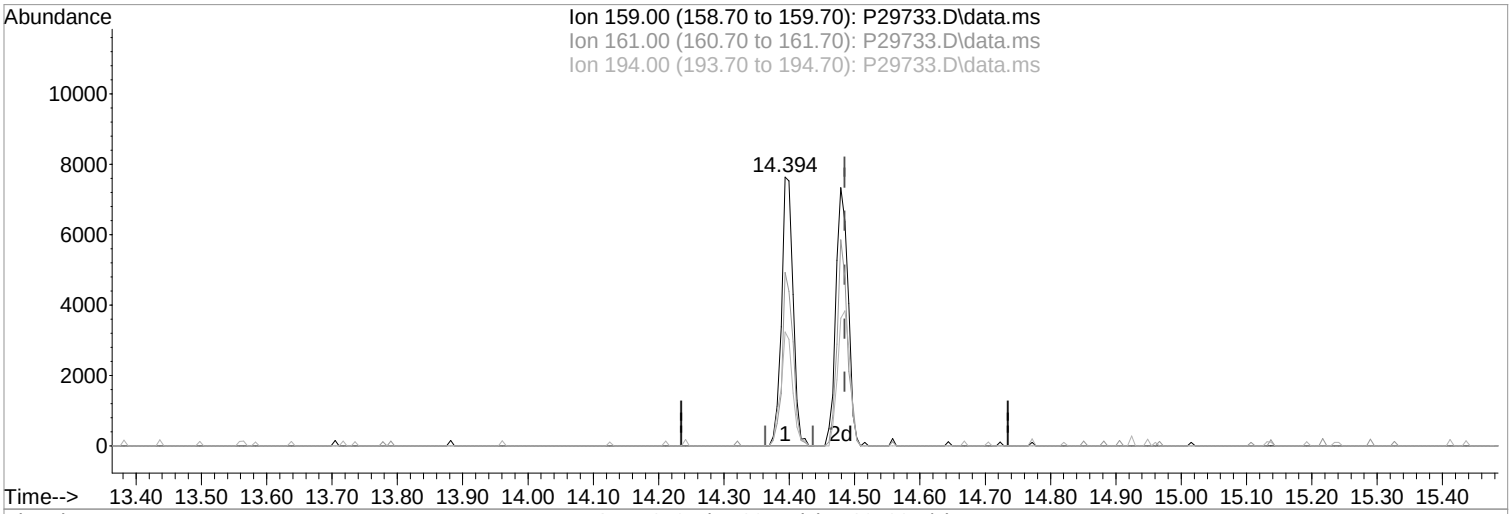
09/12/19

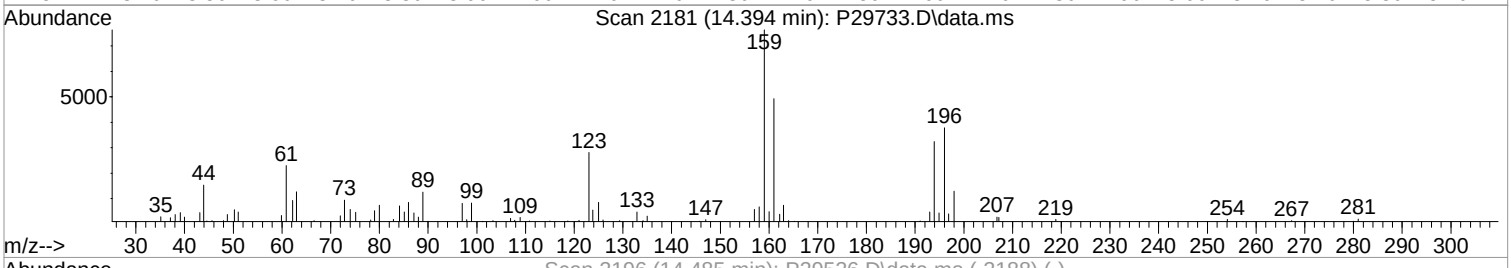
1st 09/12/19
2nd 09/12/19

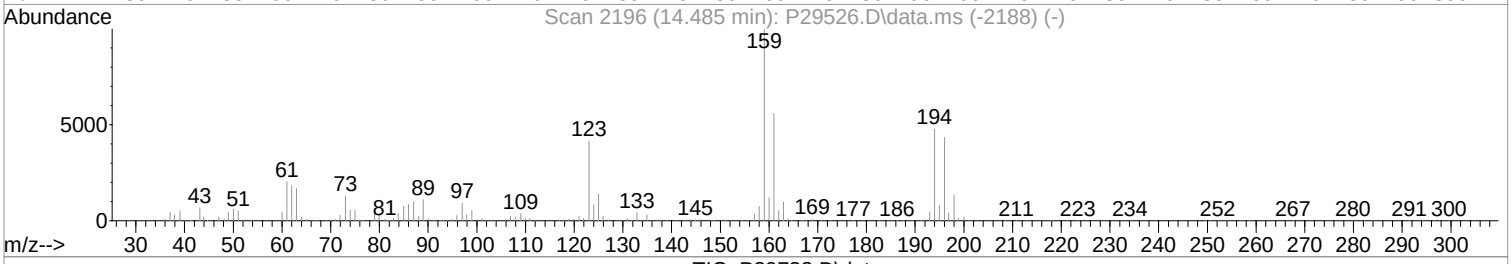
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(120) 2,3,6-Trichlorotoluene

14.394min (-0.091) 2.07 ppb

response 9498

Ion	Exp%	Act%
159.00	100	100
161.00	59.40	64.51
194.00	46.10	42.45
0.00	0.00	0.00

Manual Integration:

Before

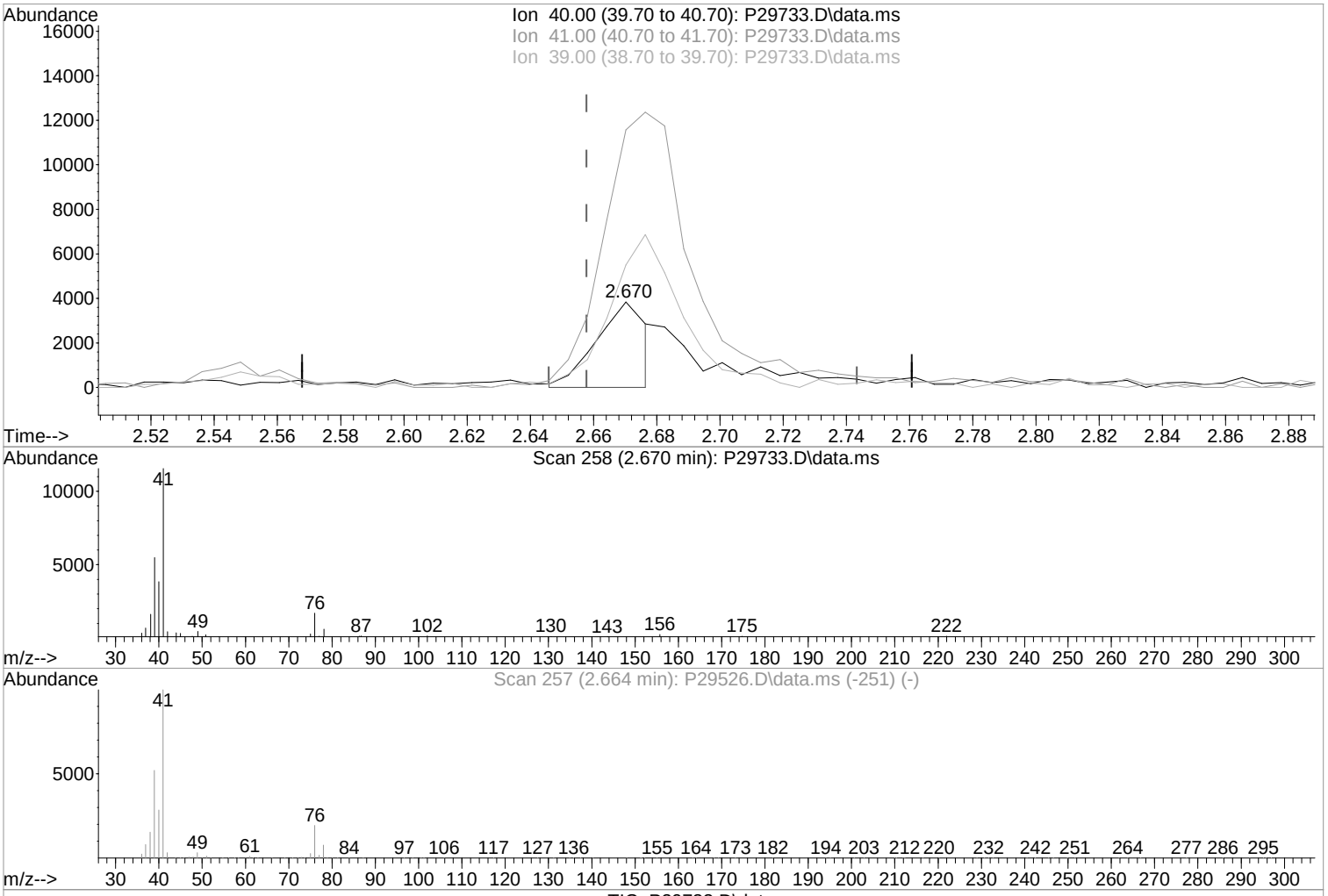
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 10.78 ppb m

response 4219

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	300.81#
39.00	137.60	143.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

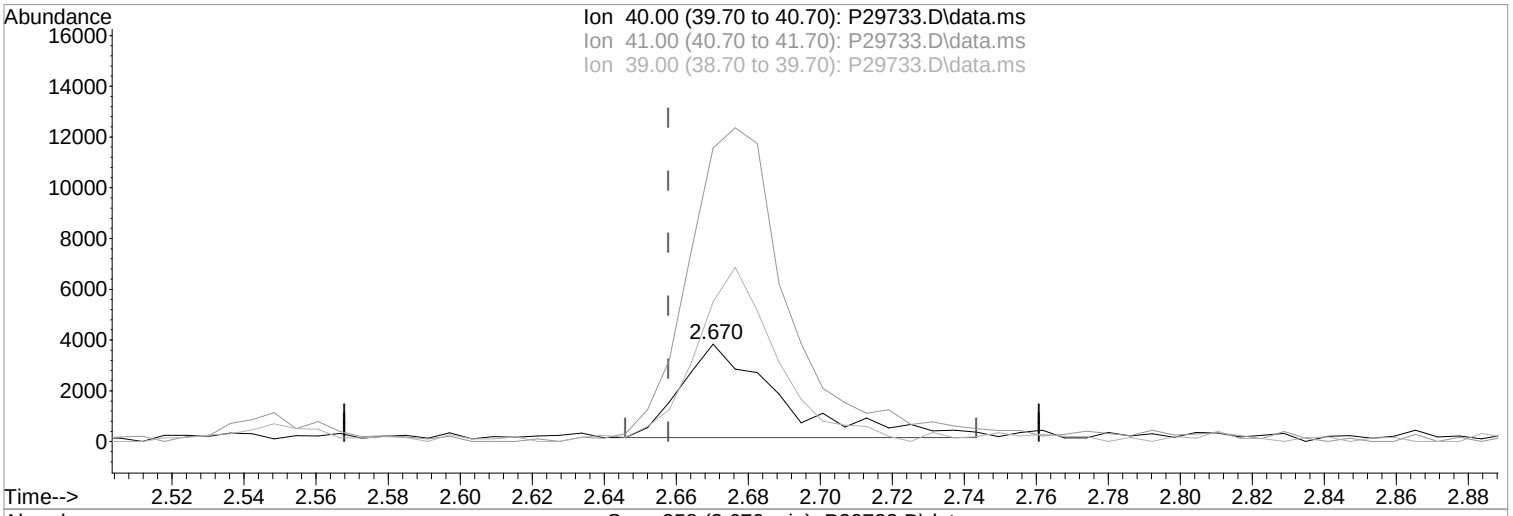
09/12/19

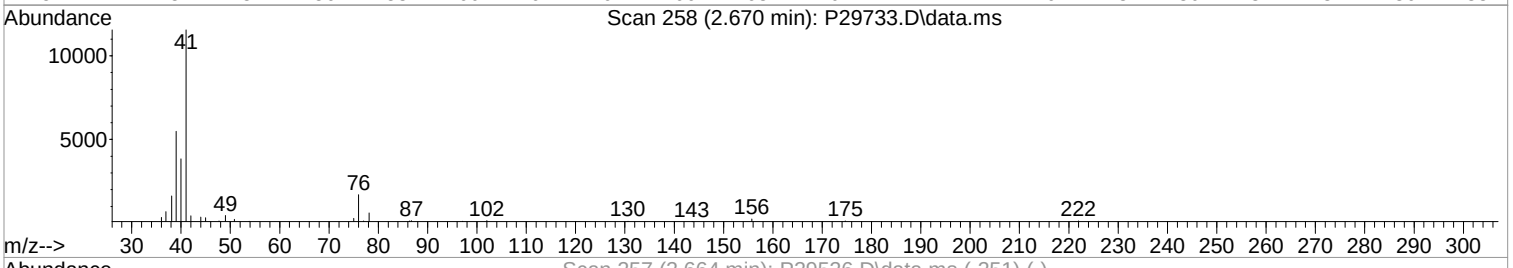
1st 09/12/19
2nd 09/12/19

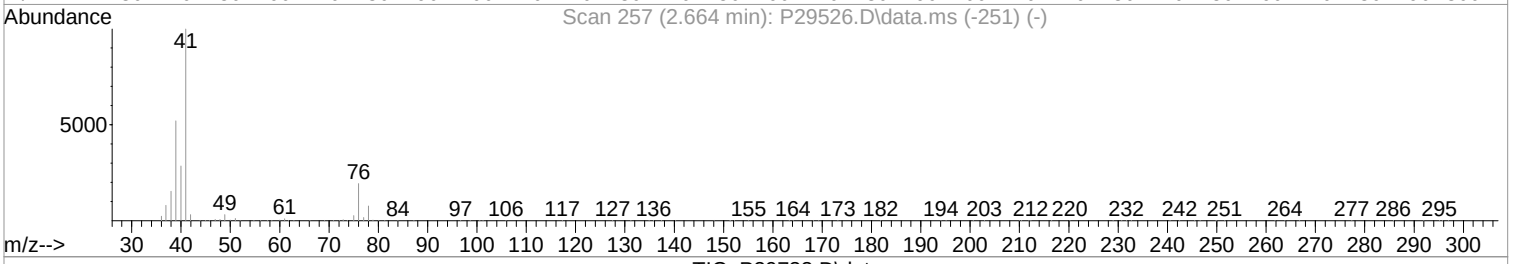
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 18.21 ppb

response 7128

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	300.81#
39.00	137.60	143.00
0.00	0.00	0.00

Manual Integration:

Before

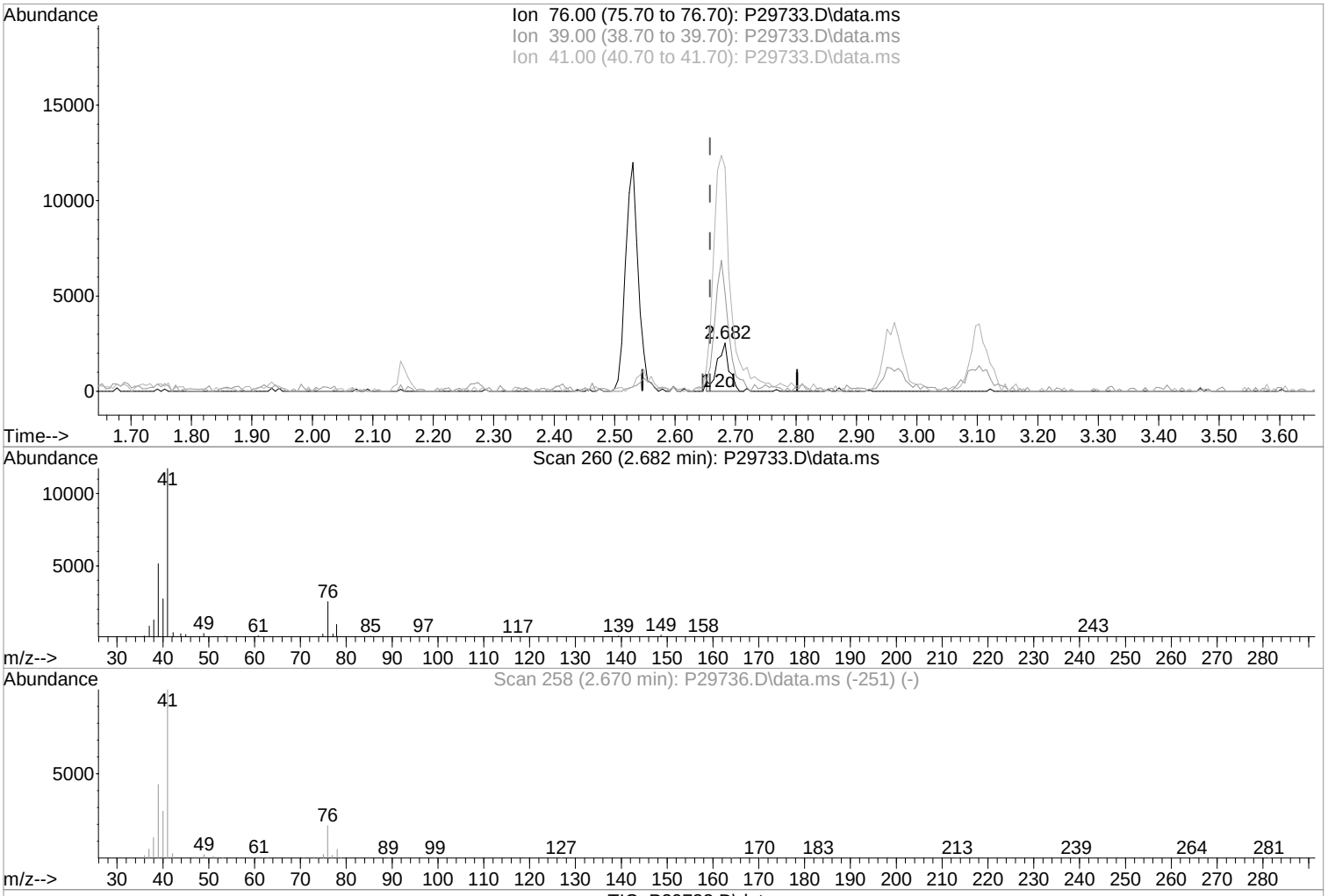
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:35:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(20) Allyl Chloride

2.682min (+0.025) 1.94 ppb m

response 3403

Ion	Exp%	Act%
76.00	100	100
39.00	226.70	203.24#
41.00	519.30	464.12#
0.00	0.00	0.00

Manual Integration:

After

Peak not found.

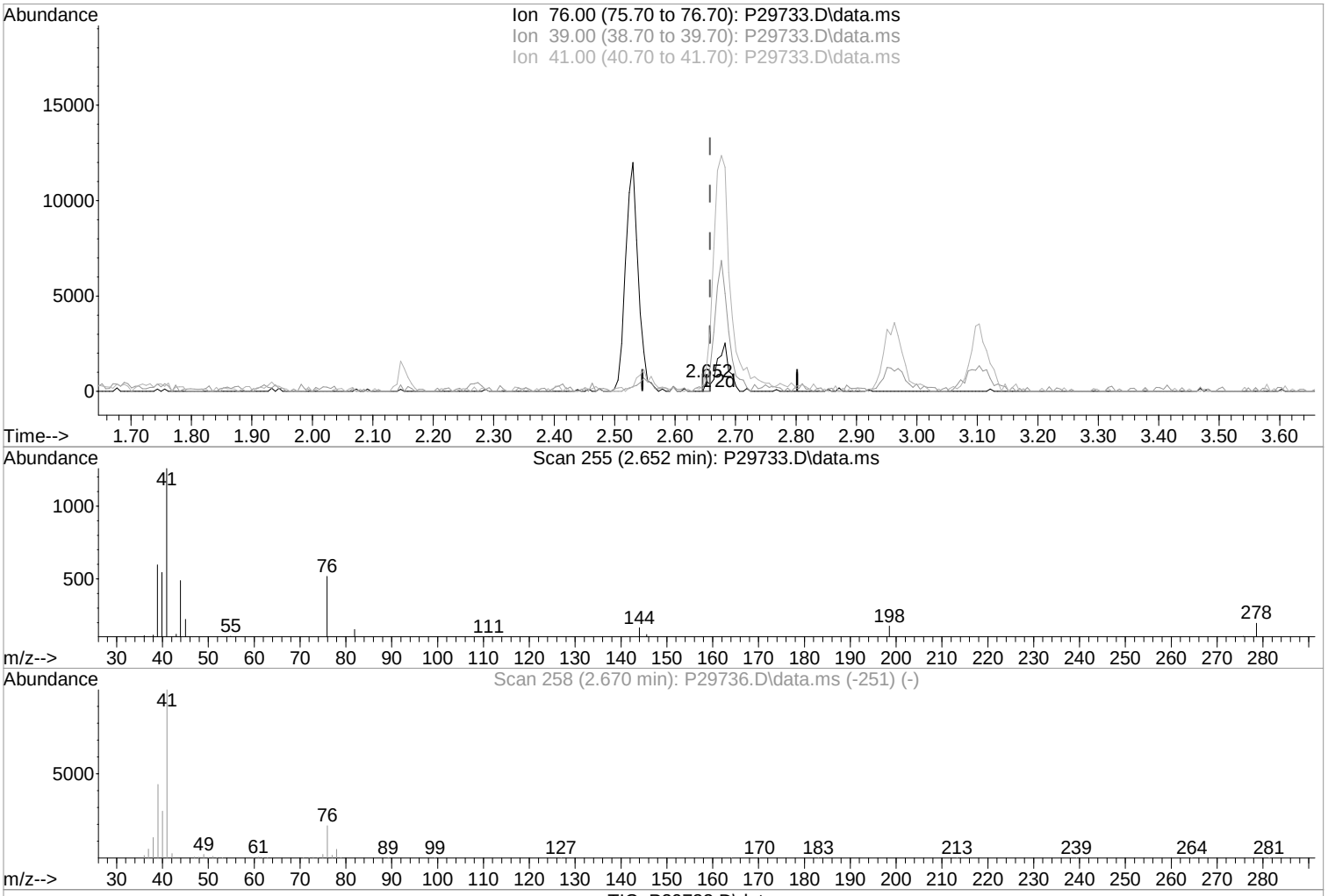
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:35:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(20) Allyl Chloride

2.652min (-0.006) 0.18 ppb

response 324

Ion	Exp%	Act%
76.00	100	100
39.00	226.70	115.25#
41.00	519.30	243.05#
0.00	0.00	0.00

Manual Integration:

Before

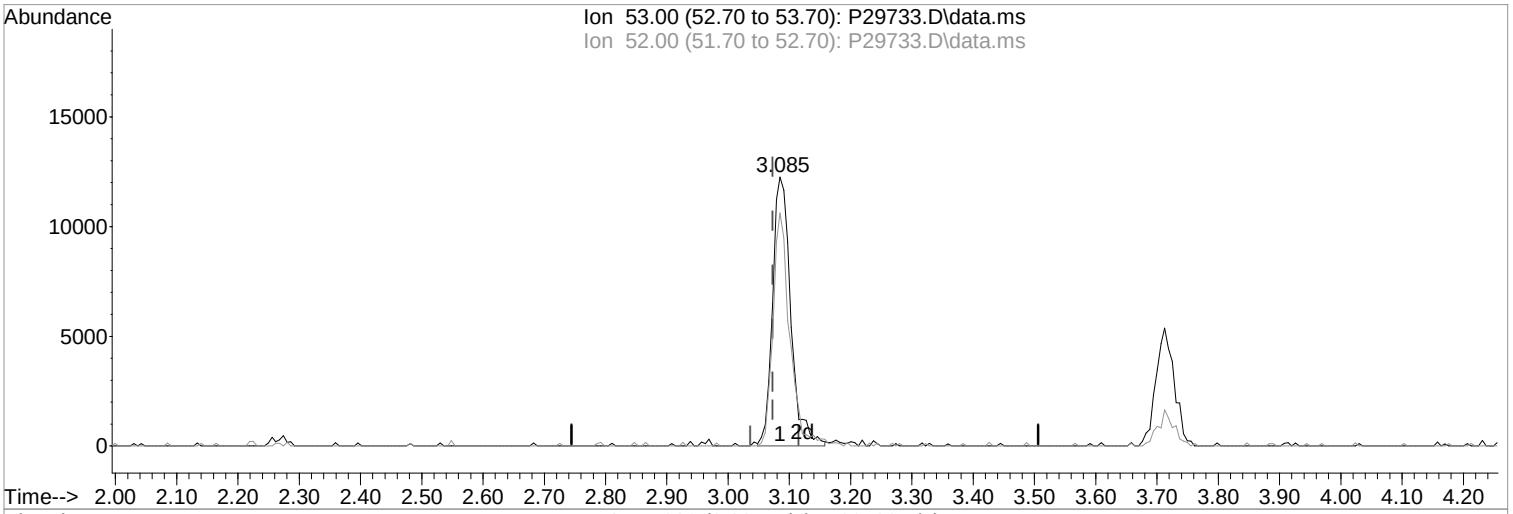
09/12/19

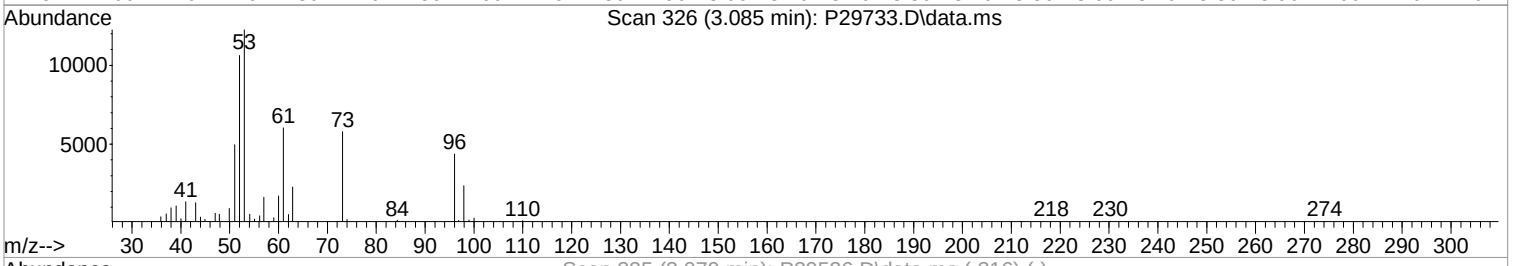
1st 09/12/19
2nd 09/12/19

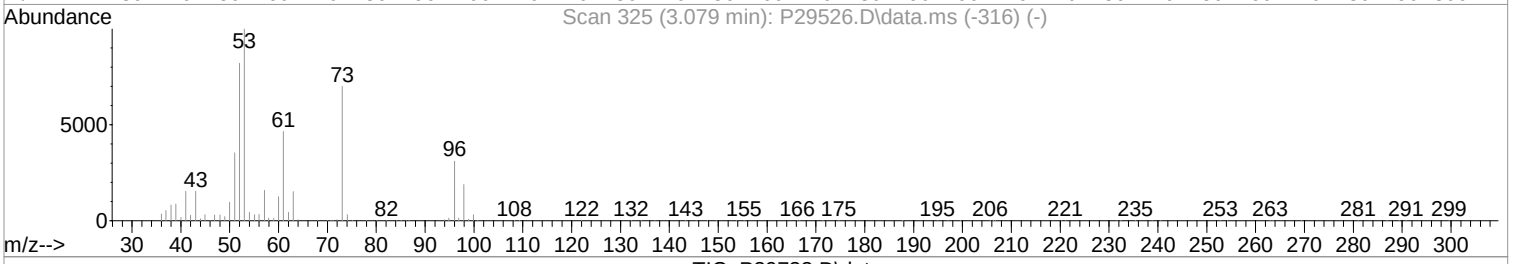
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(24) Acrylonitrile

3.085min (+0.012) 9.71 ppb m

response 25317

Ion	Exp%	Act%
53.00	100	100
52.00	81.80	86.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

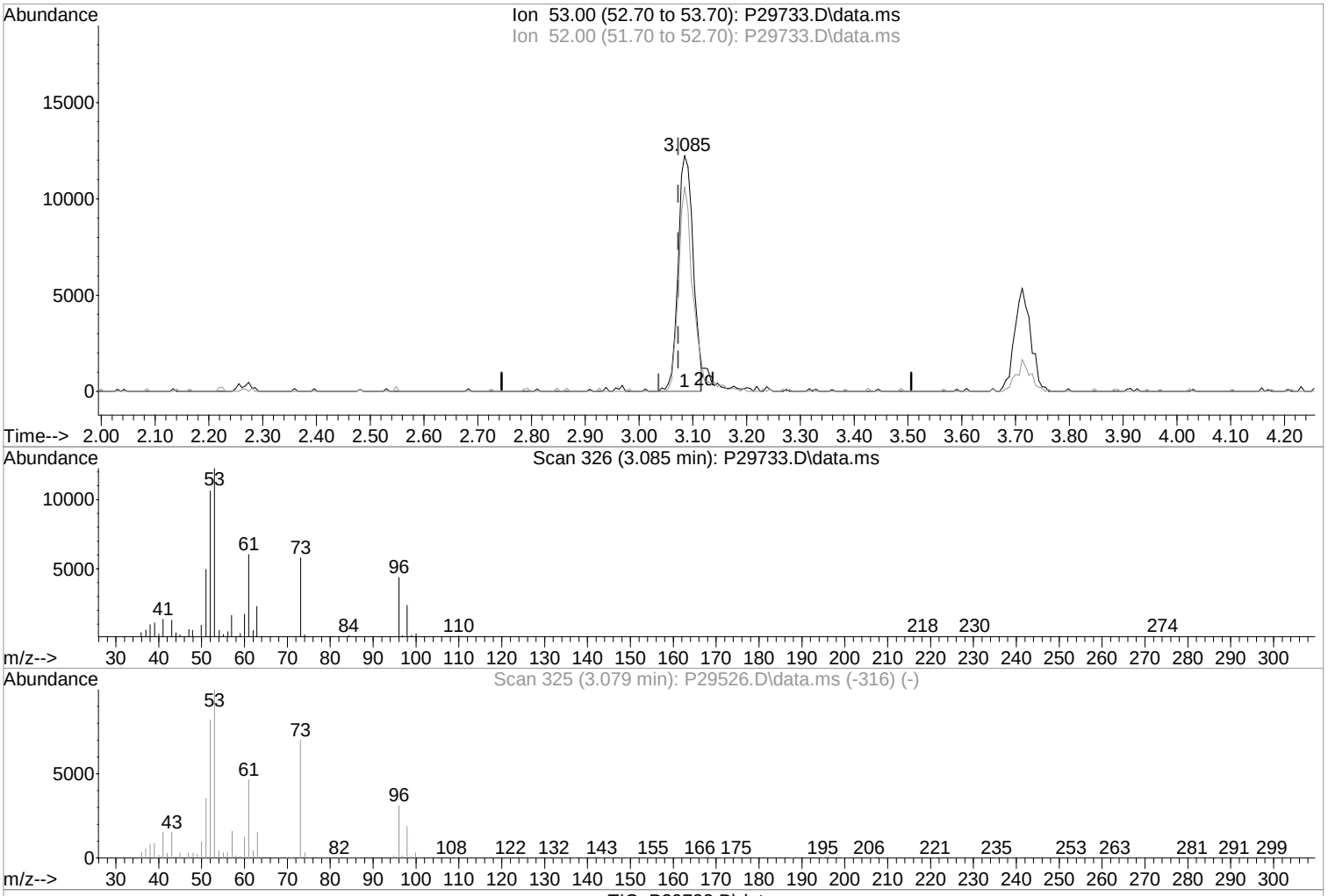
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(24) Acrylonitrile

3.085min (+0.012) 9.17 ppb

response 23909

Ion	Exp%	Act%
53.00	100	100
52.00	81.80	86.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

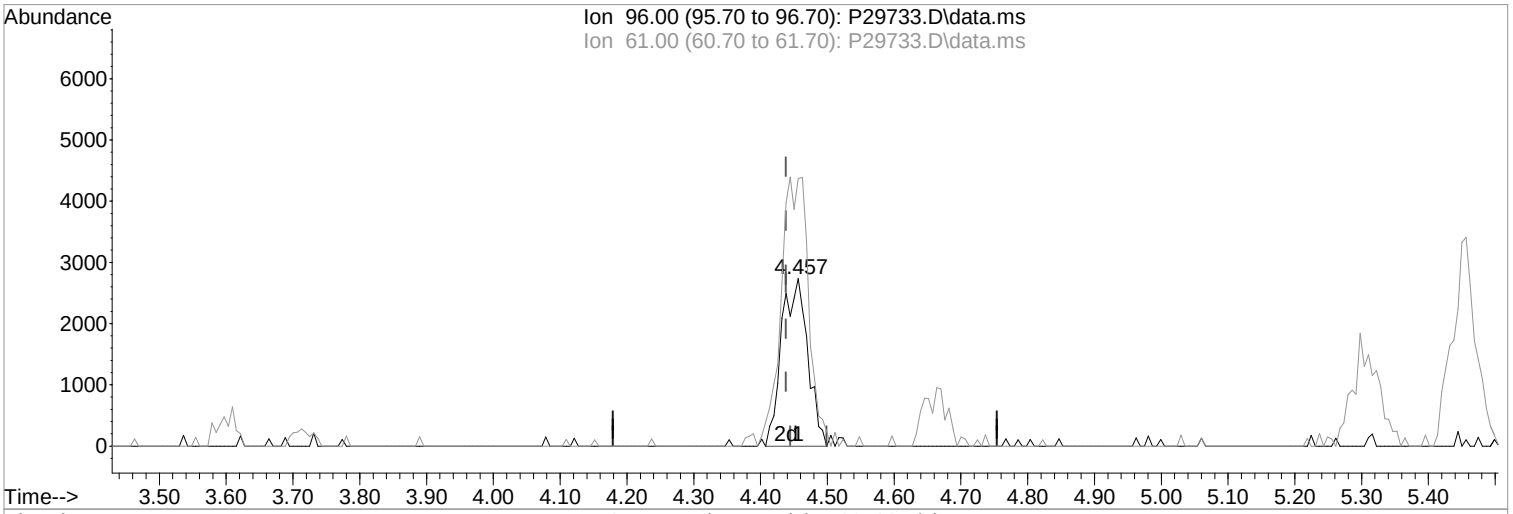
09/12/19

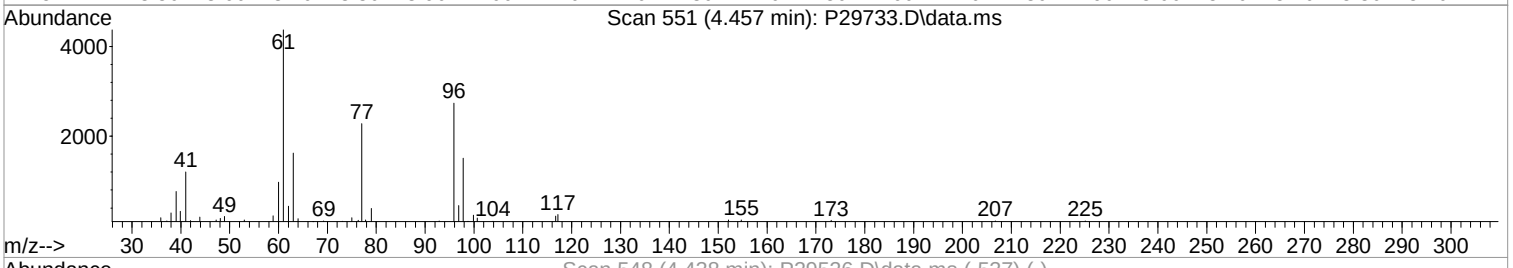
1st 09/12/19
2nd 09/12/19

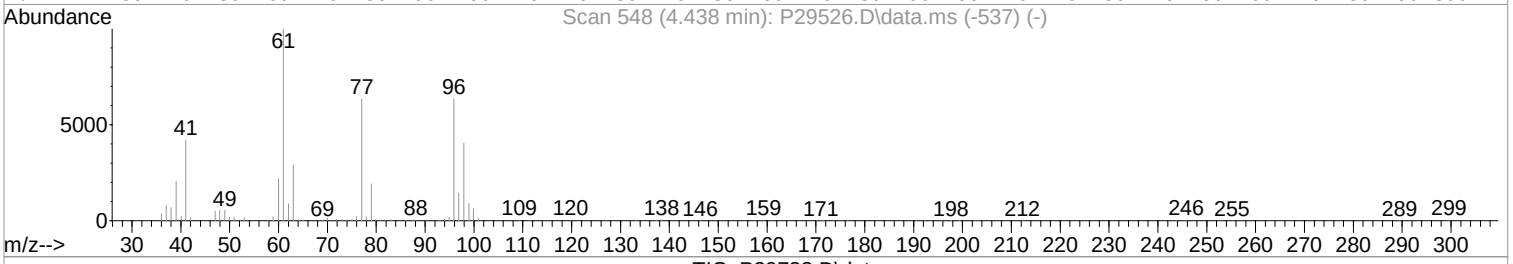
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.457min (+0.019) 1.94 ppb m

response 7392

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	159.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

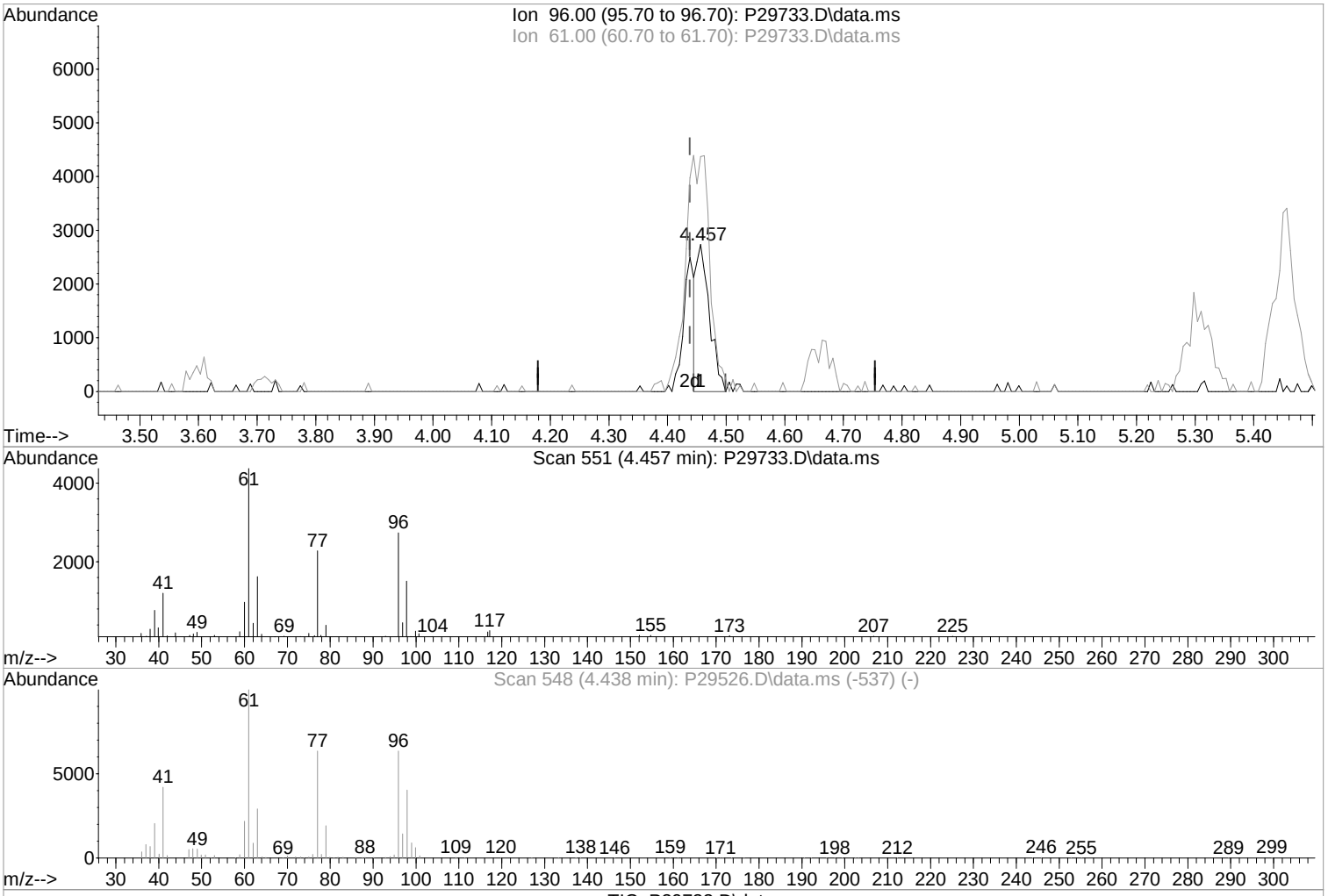
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(34) cis-1,2-Dichloroethene (P)

4.457min (+0.019) 1.12 ppb

response 4265

Ion	Exp%	Act%
96.00	100	100
61.00	157.30	159.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

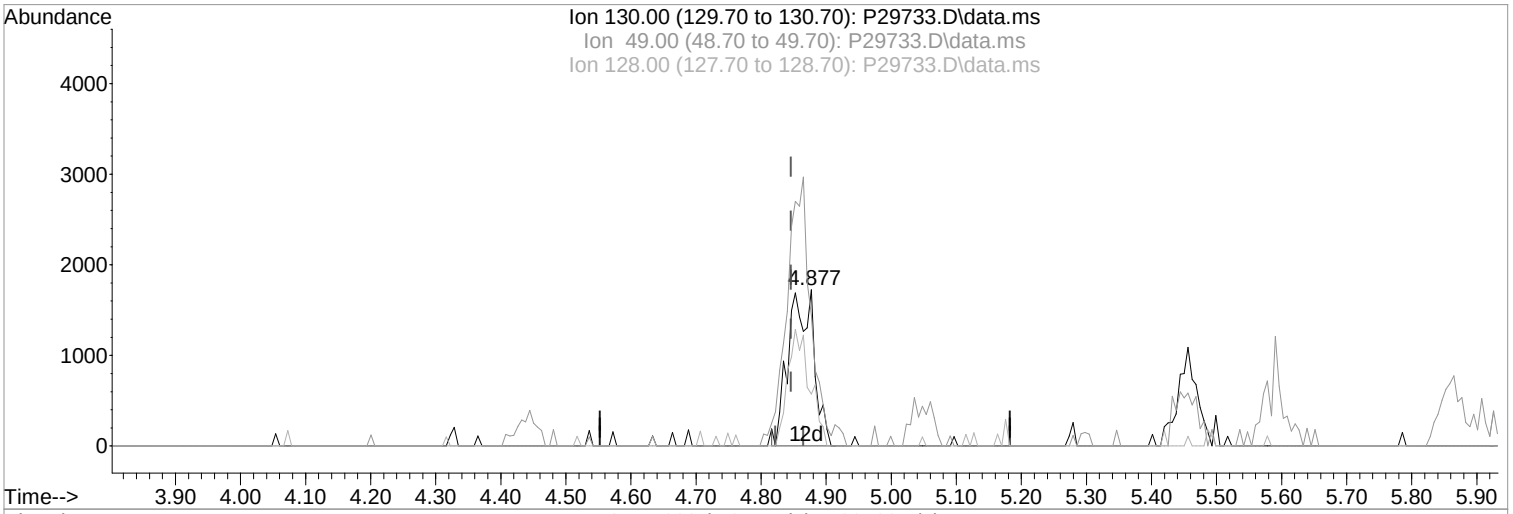
09/12/19

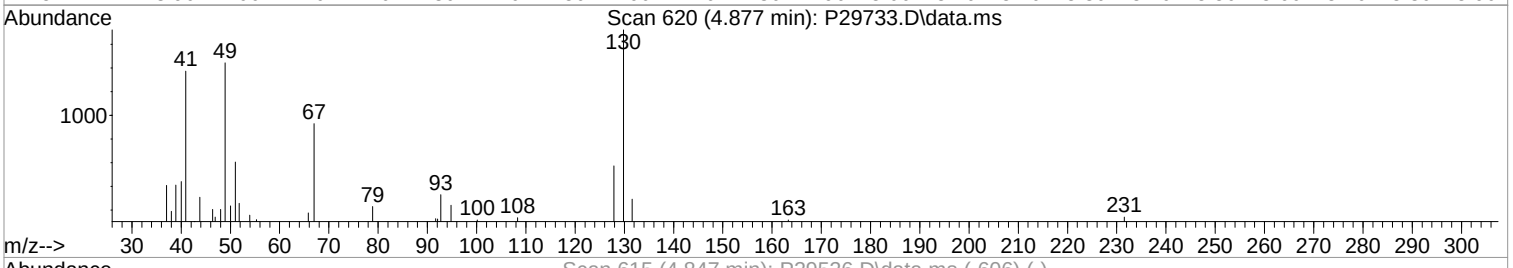
1st 09/12/19
2nd 09/12/19

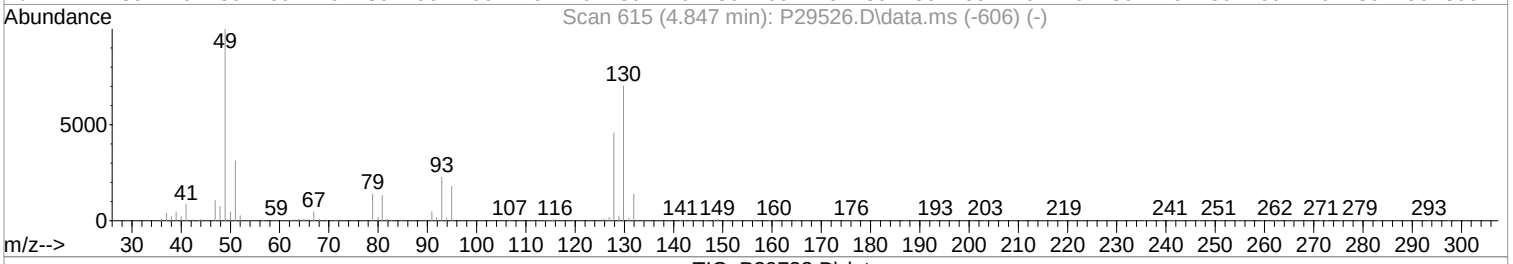
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(37) Bromochloromethane

4.877min (+0.031) 2.04 ppb m

response 4626

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	83.82#
128.00	71.40	33.24#
0.00	0.00	0.00

Manual Integration:

After

Split Peak

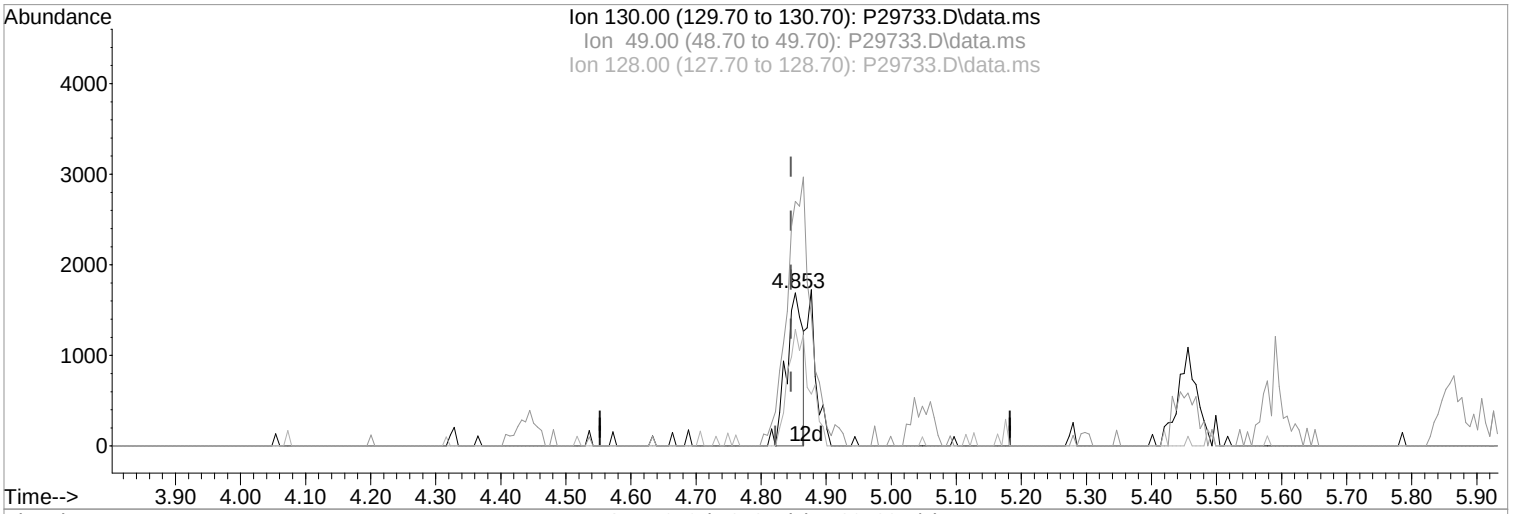
09/12/19

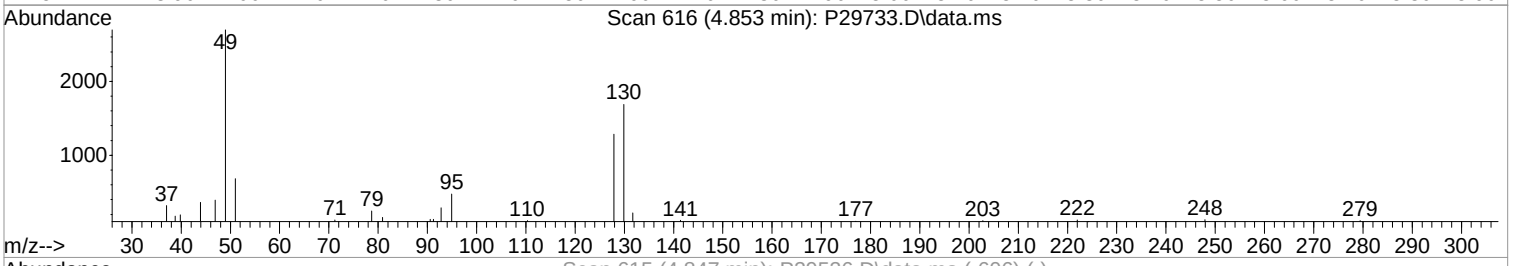
1st 09/12/19
2nd 09/12/19

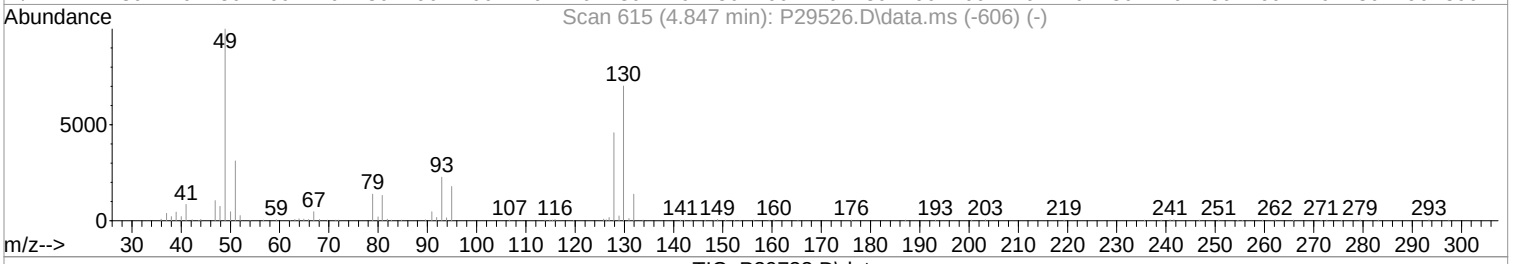
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(37) Bromochloromethane

4.853min (+0.006) 1.27 ppb

response 2883

Ion	Exp%	Act%
130.00	100	100
49.00	158.10	159.70
128.00	71.40	76.15
0.00	0.00	0.00

Manual Integration:

Before

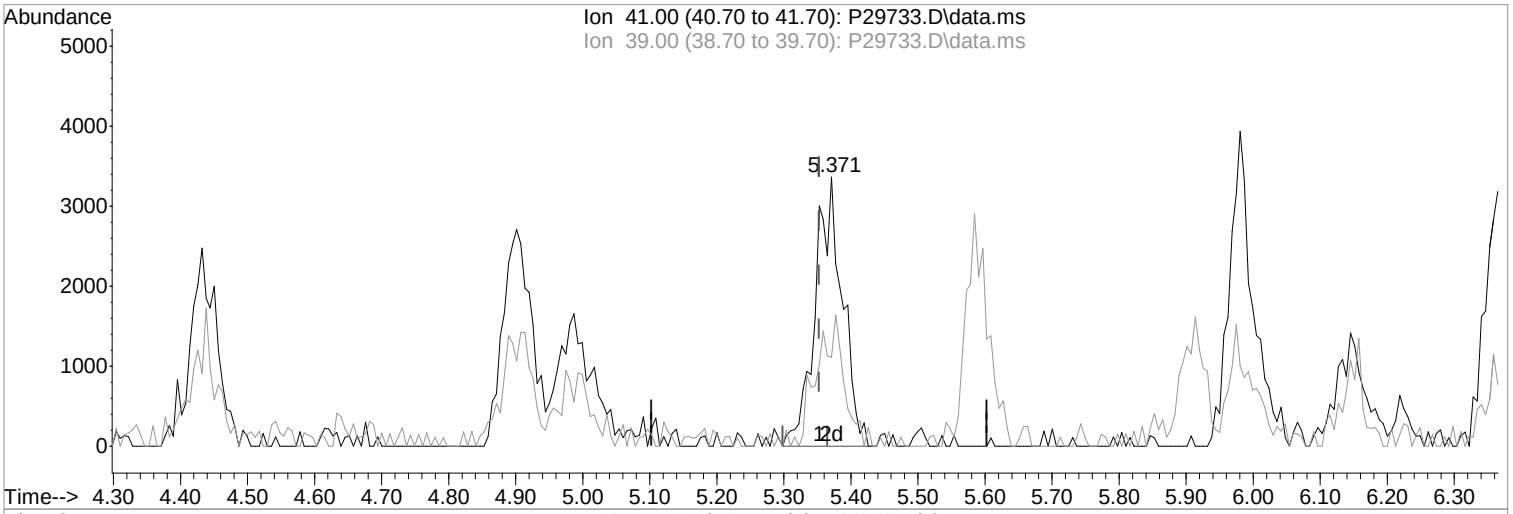
09/12/19

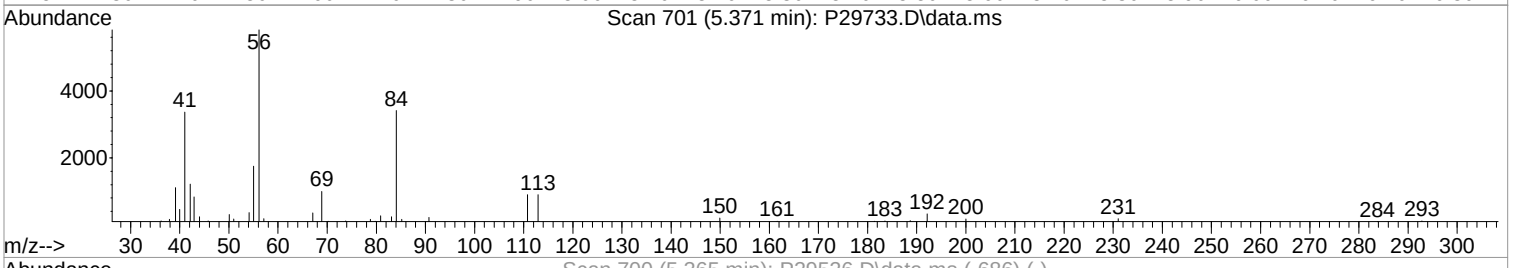
1st 09/12/19
2nd 09/12/19

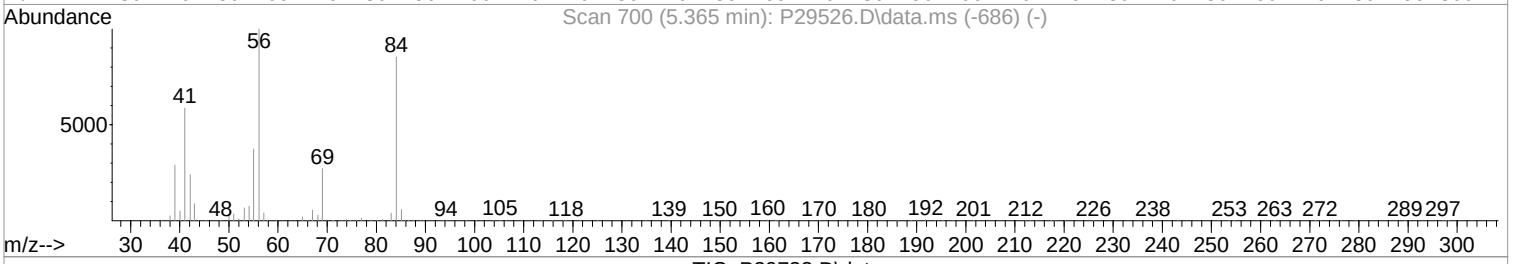
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(44) Cyclohexane (P)

5.371min (+0.019) 2.26 ppb m

response 9499

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	32.97
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Split Peak

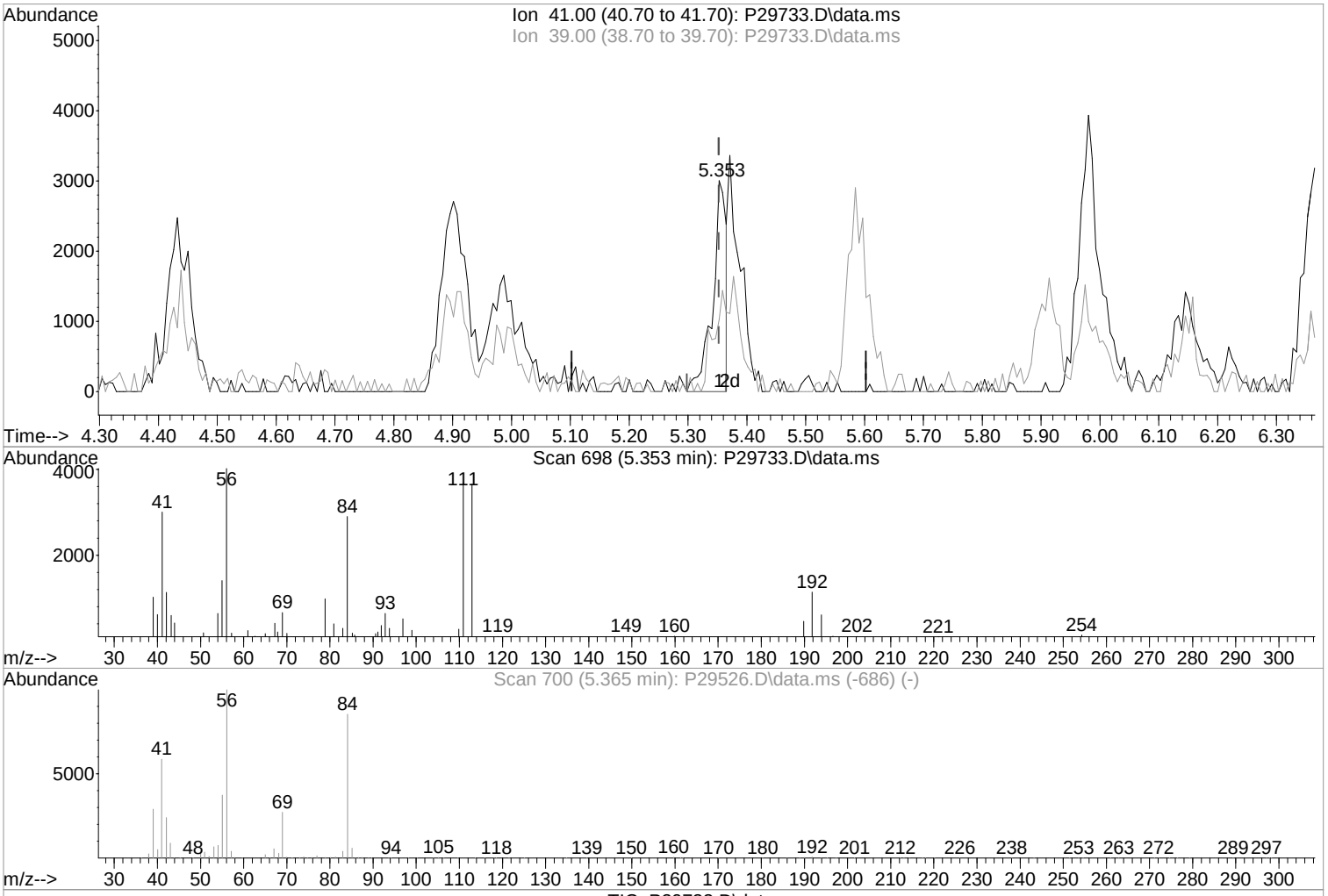
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29733.D\data.ms

(44) Cyclohexane (P)

5.353min (+0.000) 1.15 ppb

response 4820

Ion	Exp%	Act%
41.00	100	100
39.00	44.40	34.09
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

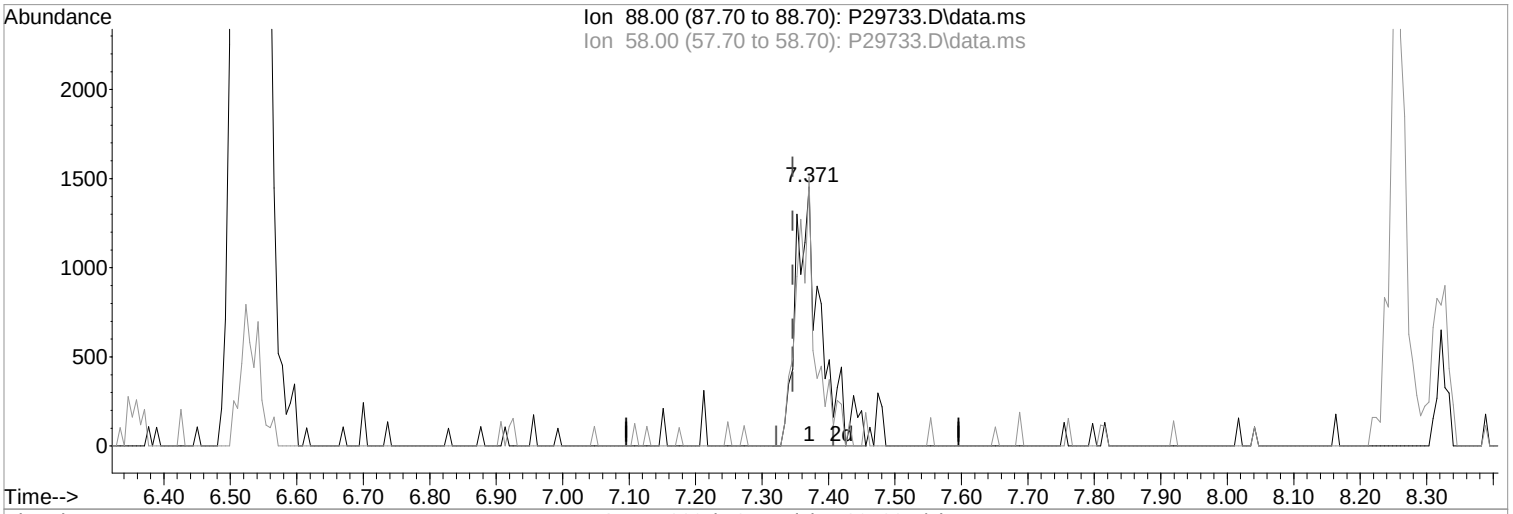
09/12/19

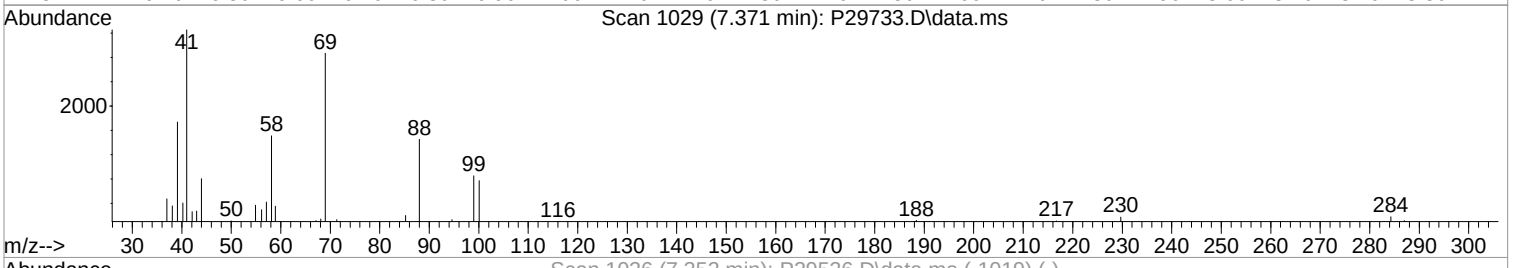
1st 09/12/19
2nd 09/12/19

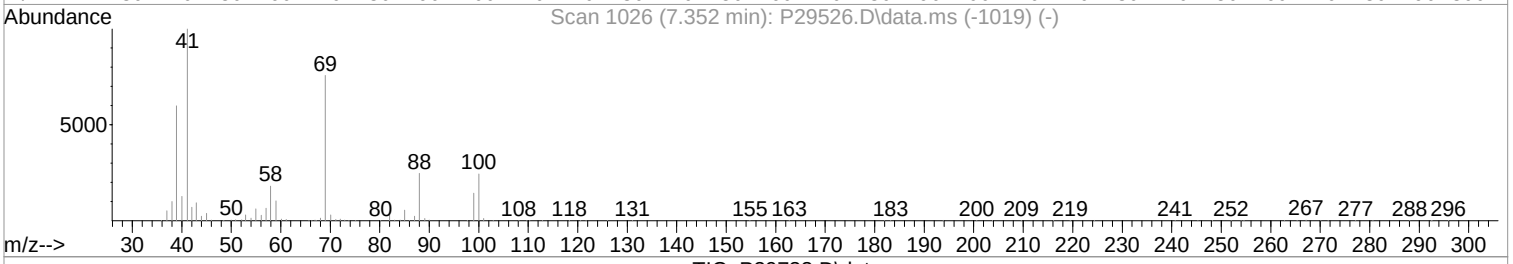
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(58) 1,4-Dioxane

7.371min (+0.025) 38.75 ppb m

response 3897

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	103.78#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

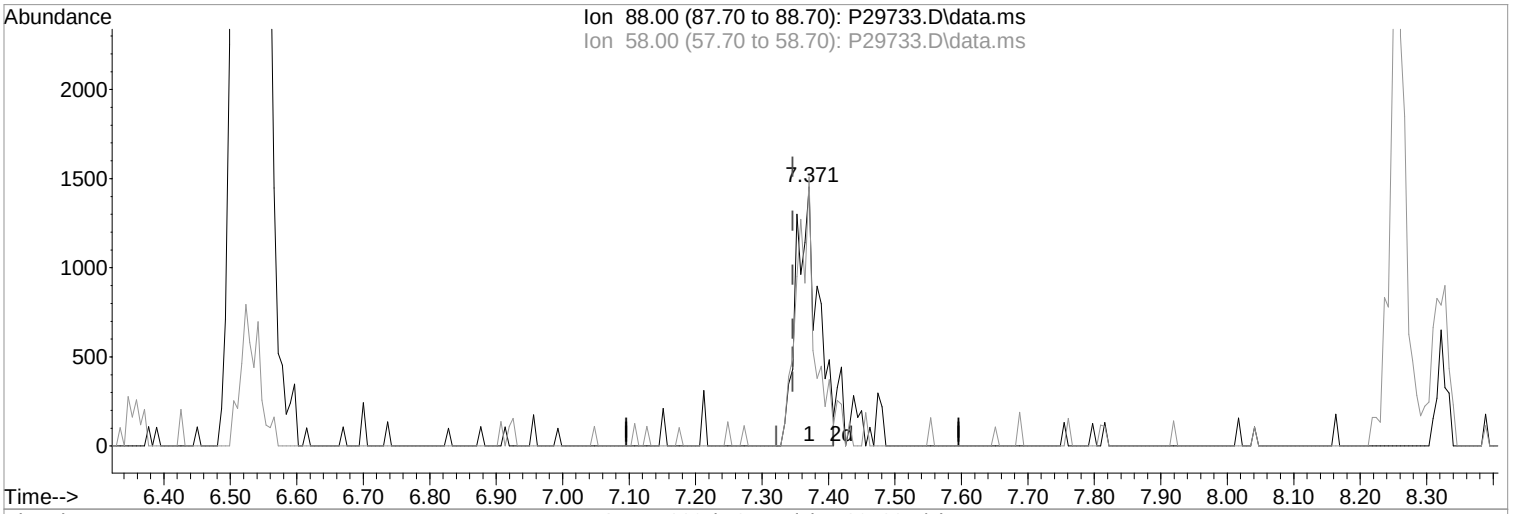
09/12/19

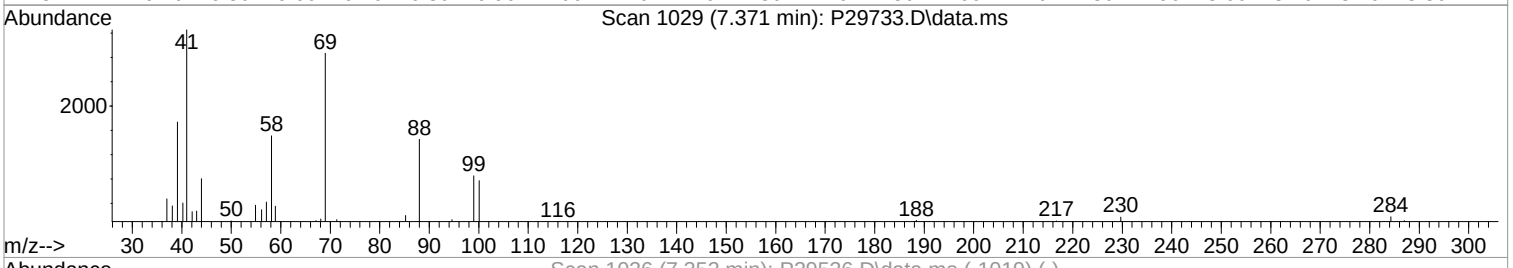
1st 09/12/19
2nd 09/12/19

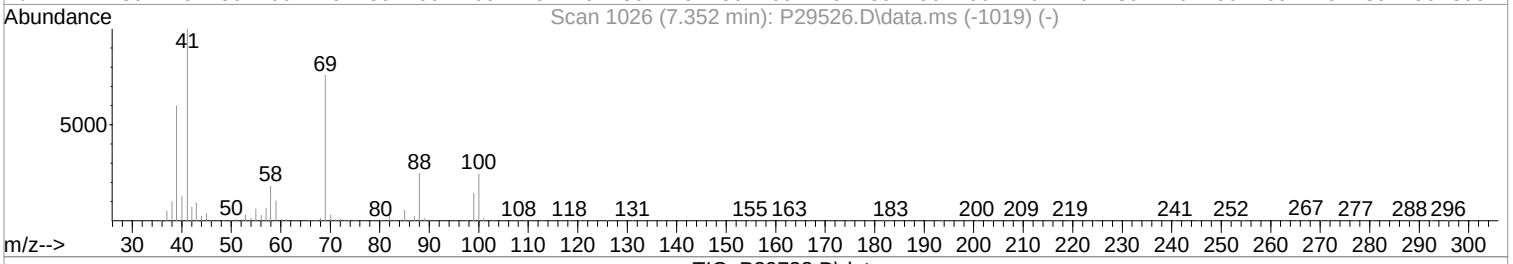
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:22:27 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29733.D\data.ms

(58) 1,4-Dioxane

7.371min (+0.025) 33.22 ppb

response 3341

Ion	Exp%	Act%
88.00	100	100
58.00	75.60	103.78#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	314065	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	525904	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	453358	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	230837	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	27986	10.04	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 20.08%#				
48) surr1,1,2-dichloroetha...	5.859	65	43764	11.35	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 22.70%#				
65) SURR3,Toluene-d8	8.322	98	153879	11.73	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.46%#				
70) SURR2,BFB	10.870	95	58312	11.42	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 22.84%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	7053	1.82	ppb		94
3) Chloromethane	1.329	50	12112	2.03	ppb		89
4) Vinyl Chloride	1.408	62	10588	1.90	ppb		95
5) Bromomethane	1.634	94	6758	2.23	ppb		95
6) Chloroethane	1.713	64	7384	2.20	ppb		96
7) Freon 21	1.866	67	12954	2.08	ppb		88
8) Trichlorofluoromethane	1.908	101	8611	1.90	ppb		97
9) Diethyl Ether	2.152	59	8209	2.06	ppb	#	78
10) Freon 123a	2.158	67	9121	2.10	ppb		88
11) Freon 123	2.213	83	10101	2.11	ppb		95
12) Acrolein	2.268	56	10204	9.18	ppb		95
13) 1,1-Diclethene	2.335	96	6046	1.97	ppb		91
14) Freon 113	2.335	101	5624	1.88	ppb		95
15) Acetone	2.408	43	7392	2.89	ppb		92
16) 2-Propanol	2.548	45	20371	35.05	ppb		94
17) Iodomethane	2.475	142	3749	1.06	ppb		90
18) Carbon Disulfide	2.530	76	17455	1.90	ppb		98
19) Acetonitrile	2.670	40	4219m	10.78	ppb		
20) Allyl Chloride	2.682	76	3403m	1.94	ppb		
21) Methyl Acetate	2.713	43	9886	1.95	ppb		99
22) Methylene Chloride	2.804	84	8425	2.11	ppb		96
23) TBA	2.957	59	30839	35.84	ppb		97
24) Acrylonitrile	3.085	53	25317m	9.71	ppb		
25) Methyl-t-Butyl Ether	3.109	73	27102	2.10	ppb		94
26) trans-1,2-Dichloroethene	3.085	96	6440	1.92	ppb	#	81
28) 1,1-Diclethane	3.603	63	13825	2.00	ppb		82
29) Vinyl Acetate	3.694	86	1040	1.38	ppb	#	1
30) DIPE	3.713	45	30856	2.05	ppb	#	67
31) 2-Chloro-1,3-Butadiene	3.713	53	11211	2.01	ppb		93
32) ETBE	4.243	59	27551	2.04	ppb		91
33) 2,2-Dichloropropane	4.444	77	9871	1.95	ppb		98
34) cis-1,2-Dichloroethene	4.457	96	7392m	1.94	ppb		
35) 2-Butanone	4.554	43	6761	1.89	ppb		79
36) Propionitrile	4.646	54	10399	9.39	ppb		89
37) Bromochloromethane	4.877	130	4626m	2.04	ppb		
38) Methacrylonitrile	4.889	67	5066	1.93	ppb		97
39) Tetrahydrofuran	4.993	42	9111	3.10	ppb		84
40) Chloroform	5.036	83	13238	2.18	ppb		97
41) 1,1,1-Trichloroethane	5.310	97	10060	2.07	ppb		94

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.145	73	25269	2.03	ppb		92
44) Cyclohexane	5.371	41	9499m	2.26	ppb		
46) Carbontetrachloride	5.566	117	6578	1.81	ppb	#	78
47) 1,1-Dichloropropene	5.597	75	10262	2.02	ppb		90
49) Benzene	5.914	78	32447	2.05	ppb		98
50) 1,2-Dichloroethane	5.975	62	10578	1.97	ppb		96
51) Iso-Butyl Alcohol	5.981	43	13703	30.44	ppb		95
52) n-Heptane	6.359	43	12155	2.06	ppb		89
53) 1-Butanol	6.919	56	20367	78.91	ppb		92
54) Trichloroethene	6.846	130	7197	2.05	ppb		84
55) Methylcyclohexane	7.060	55	11777	2.08	ppb		98
56) 1,2-Diclpropane	7.145	63	8271	1.90	ppb		88
57) Dibromomethane	7.279	93	3989	1.84	ppb	#	73
58) 1,4-Dioxane	7.371	88	3897m	38.75	ppb		
59) Methyl Methacrylate	7.358	69	7981	1.97	ppb		87
60) Bromodichloromethane	7.499	83	8278	1.97	ppb		94
61) 2-Nitropropane	7.810	41	2627	3.96	ppb	#	41
62) 2-Chloroethylvinyl Ether	7.907	63	4985	1.68	ppb		93
63) cis-1,3-Dichloropropene	8.035	75	11826	1.90	ppb		96
64) 4-Methyl-2-pentanone	8.248	43	11806	1.75	ppb		87
66) Toluene	8.389	91	32857	2.05	ppb		89
67) trans-1,3-Dichloropropene	8.675	75	10527	1.83	ppb		88
68) Ethyl Methacrylate	8.803	69	13696	1.93	ppb		89
69) 1,1,2-Trichloroethane	8.858	97	7060	1.99	ppb		96
72) Tetrachloroethene	8.968	164	6105	2.23	ppb	#	92
73) 2-Hexanone	9.157	43	9152	1.81	ppb		91
74) 1,3-Dichloropropane	9.029	76	13358	1.97	ppb		93
75) Dibromochloromethane	9.248	129	5263	1.87	ppb	#	79
76) N-Butyl Acetate	9.297	43	18028	1.87	ppb		99
77) 1,2-Dibromoethane	9.352	107	7101	2.00	ppb		92
78) Chlorobenzene	9.827	112	19785	1.98	ppb		98
79) 3-CBTF	9.840	180	10091	1.96	ppb	#	77
80) 4-CBTF	9.901	180	9062	1.95	ppb		93
81) 1,1,1,2-Tetrachloroethane	9.919	131	5762	1.93	ppb		92
82) Ethylbenzene	9.943	106	10680	1.97	ppb		93
83) (m+p)Xylene	10.053	106	27396	4.18	ppb	#	82
84) o-Xylene	10.407	106	12214	1.83	ppb		98
85) Styrene	10.425	104	22252	2.01	ppb		89
87) Bromoform	10.589	173	3004	1.86	ppb		81
88) 2-CBTF	10.657	180	10778	2.24	ppb		95
89) Isopropylbenzene	10.742	105	34745	2.21	ppb		92
90) Cyclohexanone	10.833	55	31514	46.81	ppb		96
91) trans-1,4-Dichloro-2-B...	11.065	53	3193	1.84	ppb		92
92) 1,1,2,2-Tetrachloroethane	11.016	83	10154	1.94	ppb		96
93) Bromobenzene	10.992	156	8388	2.16	ppb	#	67
94) 1,2,3-Trichloropropane	11.047	110	3570	2.07	ppb	#	88
95) n-Propylbenzene	11.095	91	41871	2.22	ppb		98
96) 2-Chlorotoluene	11.156	91	25518	2.14	ppb		95
97) 3-Chlorotoluene	11.217	91	26900	2.23	ppb		93
98) 4-Chlorotoluene	11.254	91	27810	2.17	ppb		93
99) 1,3,5-Trimethylbenzene	11.248	105	28082	2.14	ppb		96
100) tert-Butylbenzene	11.516	119	25012	2.17	ppb		98
101) 1,2,4-Trimethylbenzene	11.559	105	28690	2.20	ppb		95
102) 3,4-DCBTF	11.620	214	8961	2.26	ppb		87
103) sec-Butylbenzene	11.699	105	36777	2.20	ppb		99
104) p-Isopropyltoluene	11.821	119	30649	2.14	ppb		98

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.784	146	16881	2.18	ppb		90
106) 1,4-Dclbenz	11.864	146	16730	2.11	ppb		91
107) 2,4-DCBTF	11.912	214	7816m	2.16	ppb		
108) 2,5-DCBTF	11.955	214	7910	1.96	ppb	#	89
109) n-Butylbenzene	12.150	91	29811	2.13	ppb		98
110) 1,2-Dclbenz	12.162	146	16819	2.20	ppb		89
111) 1,2-Dibromo-3-chloropr...	12.790	157	1981	1.63	ppb		94
112) Trielution Dichlorotol...	12.900	125	45692	6.53	ppb		97
113) 1,3,5 Trichlorobenzene	12.949	180	12615	2.20	ppb	#	92
114) Coelution Dichlorotoluene	13.229	125	32329	4.13	ppb		92
115) 1,2,4-Tcbenzene	13.436	180	13089	2.22	ppb		98
116) Hexachlorobt	13.565	225	4028	1.71	ppb	#	73
117) Naphthalen	13.632	128	41157	2.22	ppb		97
118) 1,2,3-Tclbenzene	13.814	180	12584	2.16	ppb		91
119) 2,4,5-Trichlorotolene	14.394	159	9498	2.14	ppb		98
120) 2,3,6-Trichlorotoluene	14.479	159	9583m	2.09	ppb		

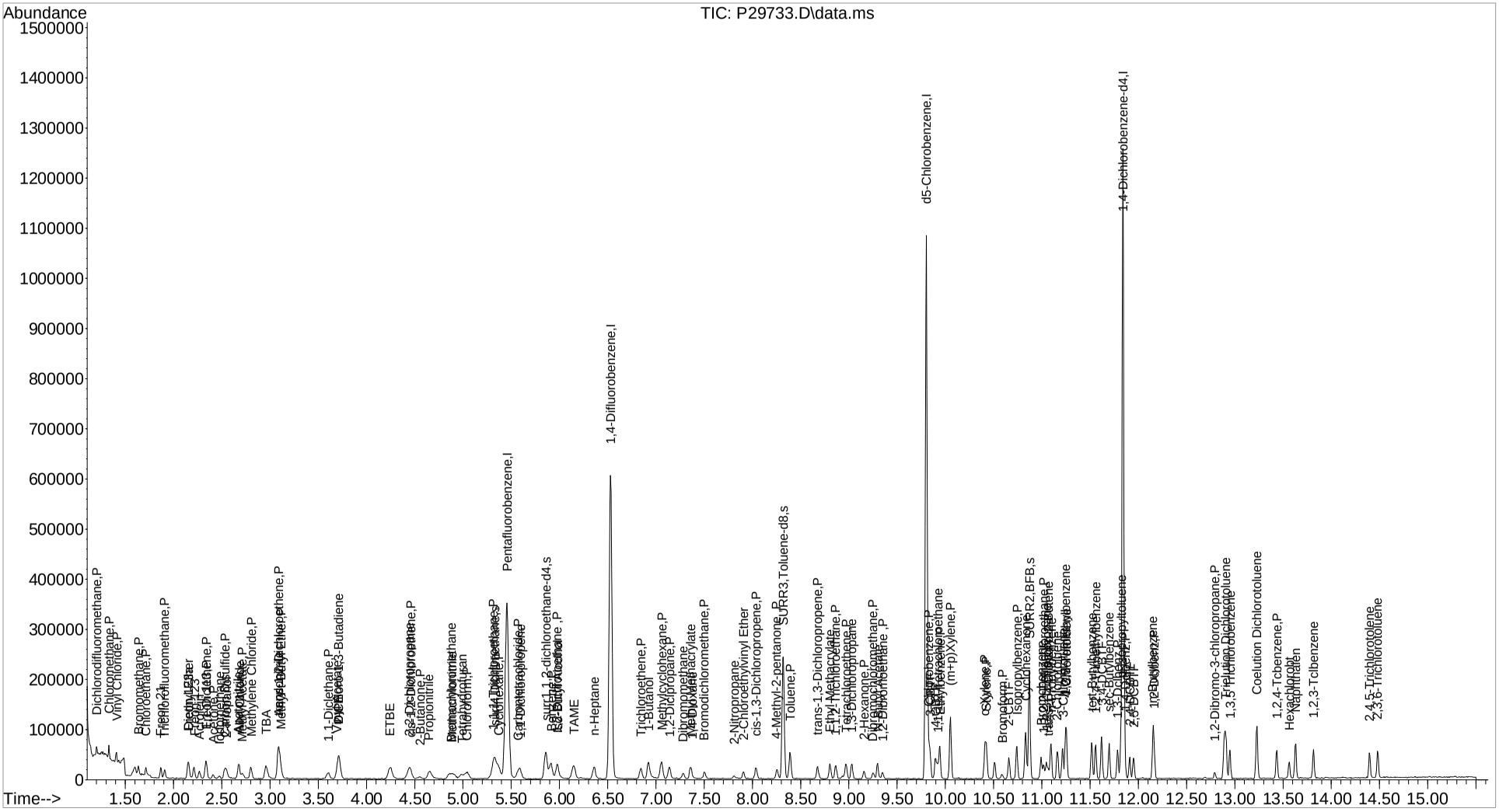
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29733.D
Acq On : 11 Sep 2019 4:17 pm
Operator : K.Ruest
Sample : 2.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 3 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:56:40 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

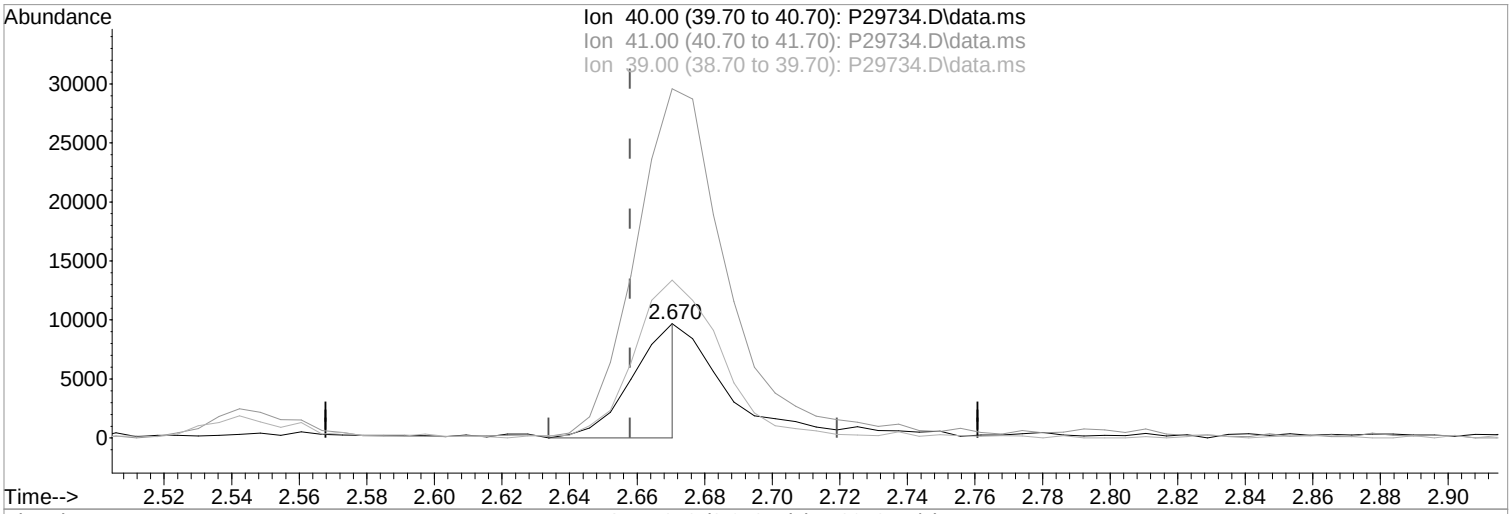


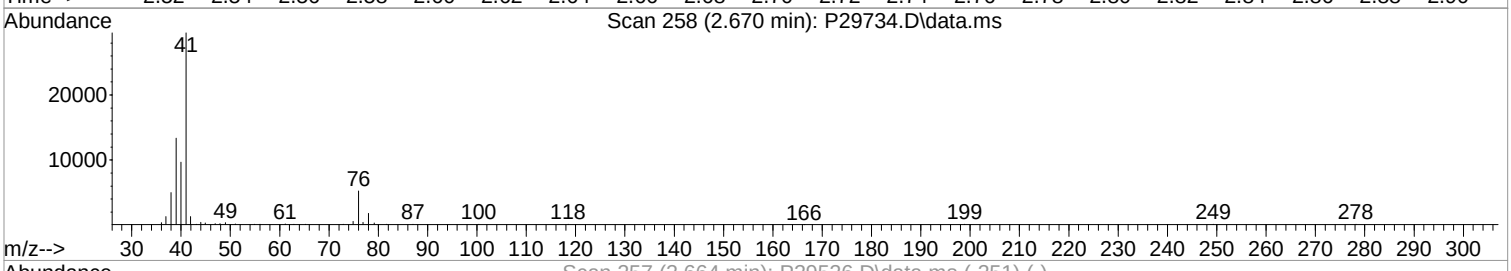
1st 09/12/19
2nd 09/12/19

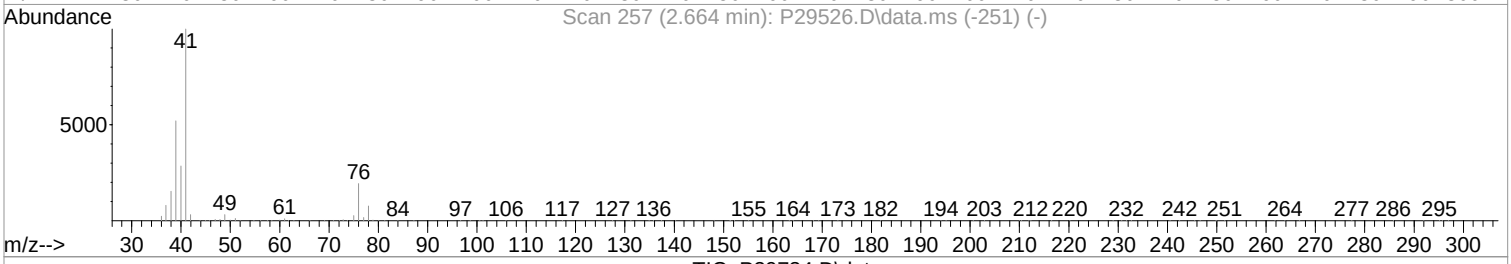
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:22:30 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29734.D\data.ms

(19) Acetonitrile

2.670min (+0.013) 23.94 ppb m

response 9489

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	305.03#
39.00	137.60	137.88
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

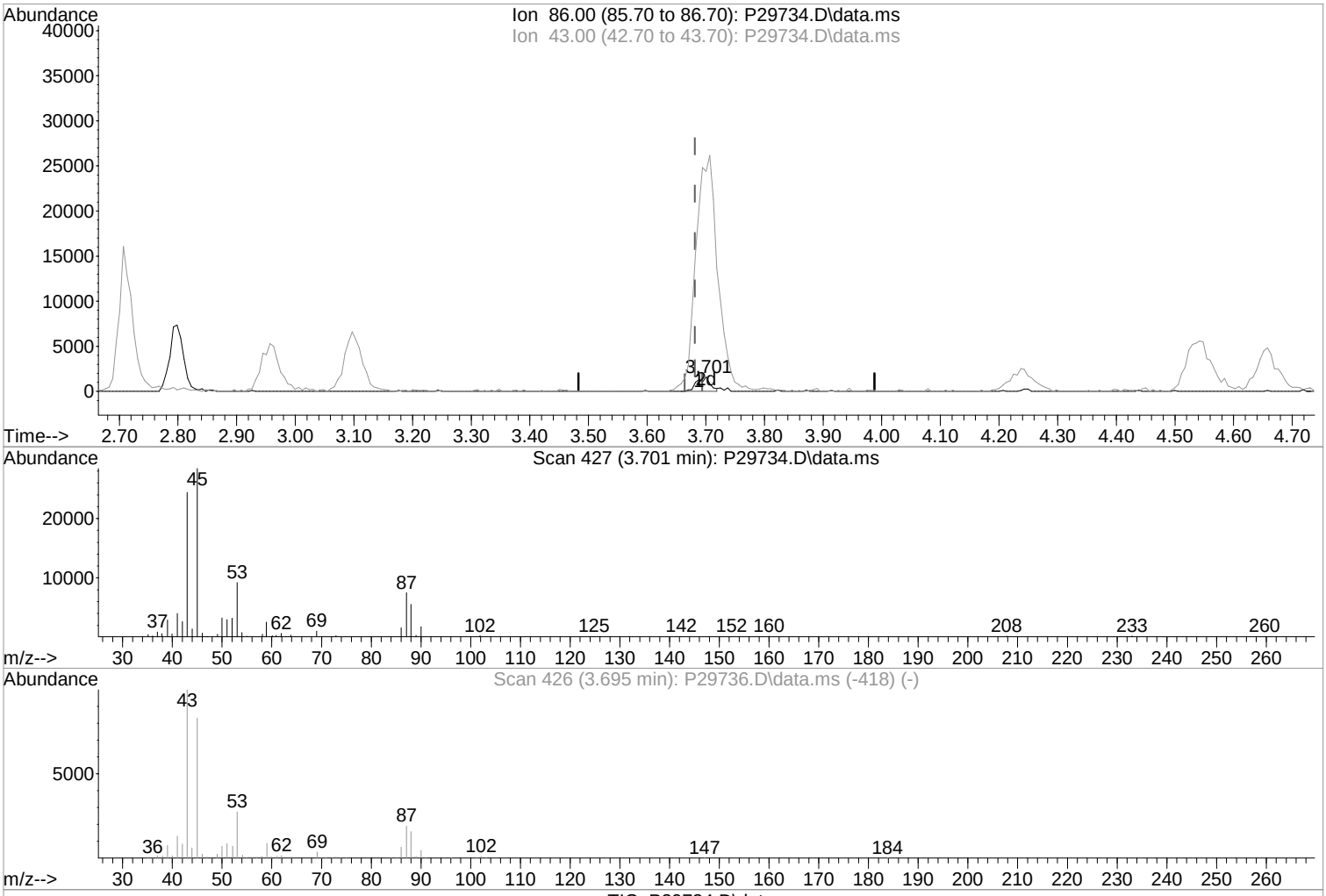
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:39:05 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29734.D\data.ms

(29) Vinyl Acetate

3.701min (+0.019) 3.32 ppb m

response 2535

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	1533.58#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

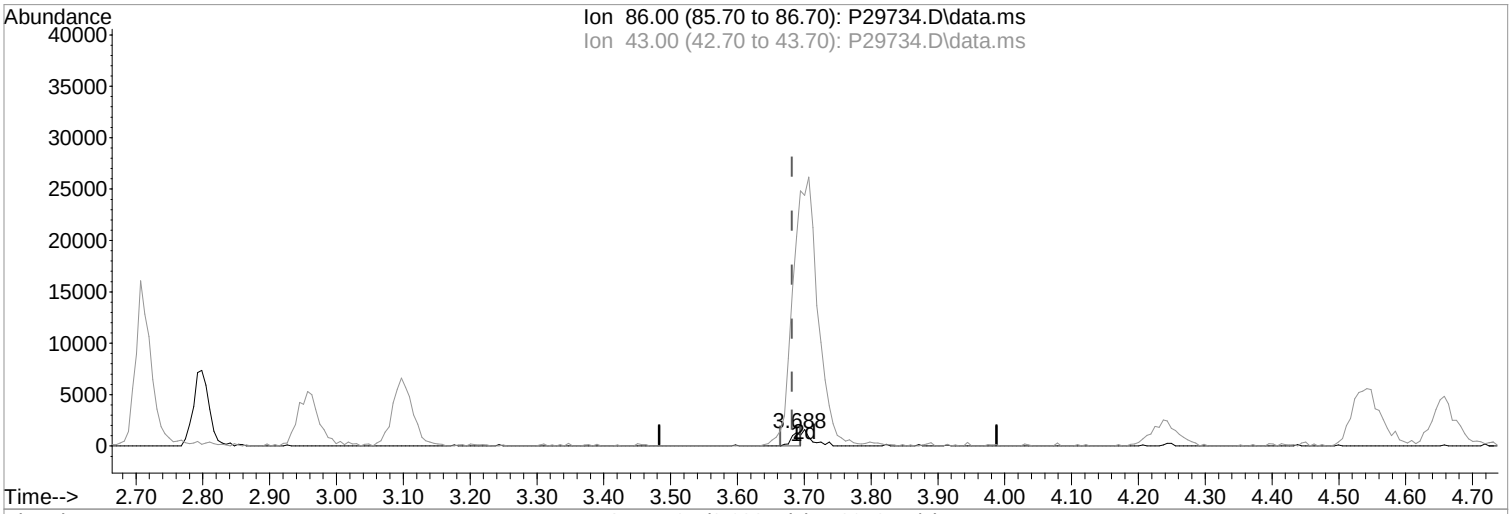
09/12/19

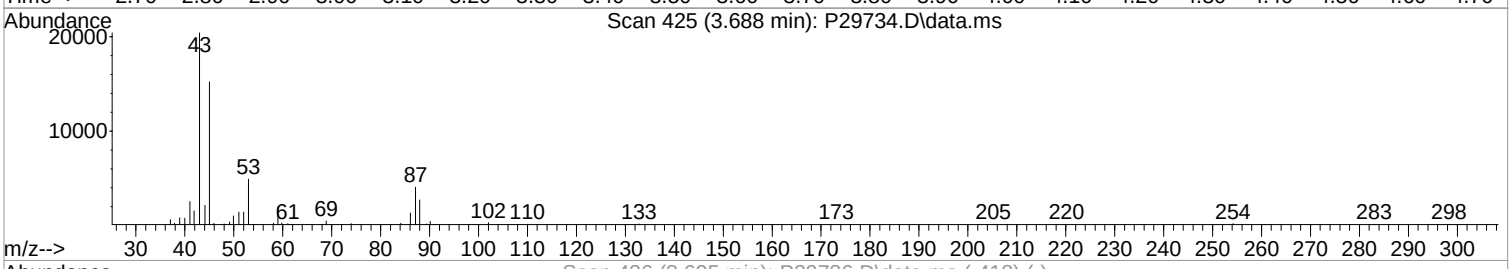
1st 09/12/19
2nd 09/12/19

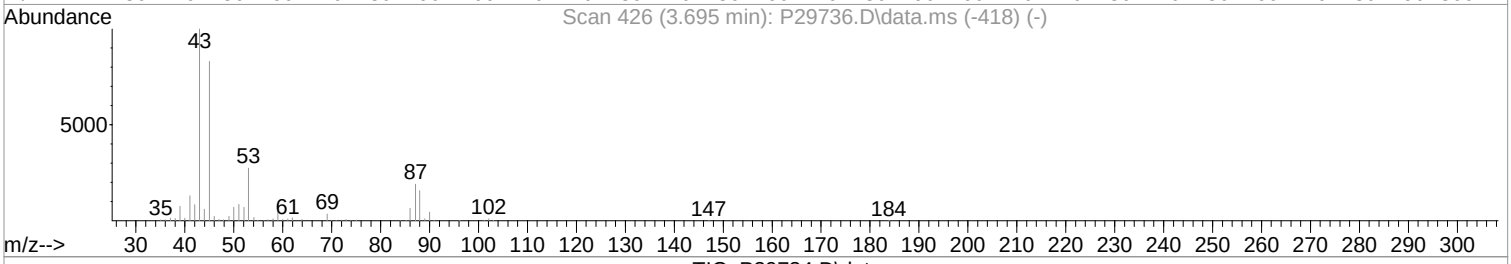
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:39:05 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29734.D\data.ms

(29) Vinyl Acetate

3.688min (+0.006) 1.80 ppb

response 1370

Ion	Exp%	Act%
86.00	100	100
43.00	1567.90	1554.91
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

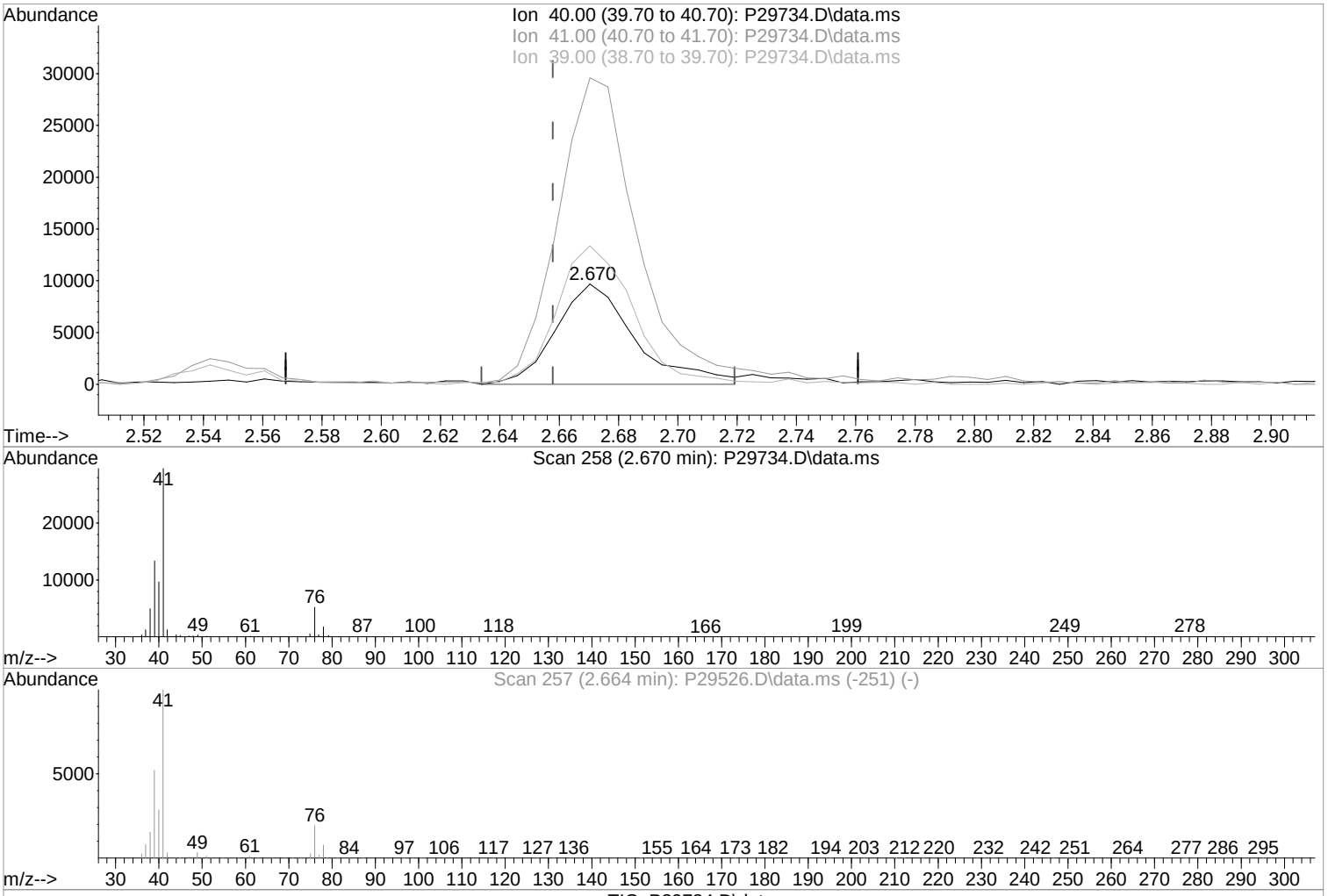
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:22:30 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29734.D\data.ms

(19) Acetonitrile

2.670min (+0.013) 45.71 ppb

response 18120

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	305.03#
39.00	137.60	137.88
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.450	168	318121	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	515646	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	461611	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	240152	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	30688	11.23	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 22.46%#				
48) surr1,1,2-dichloroetha...	5.859	65	41075	10.86	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 21.72%#				
65) SURR3,Toluene-d8	8.316	98	149291	11.60	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 23.20%#				
70) SURR2,BFB	10.870	95	54511	10.89	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 21.78%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	15356	3.91	ppb		98
3) Chloromethane	1.323	50	25770	4.25	ppb		96
4) Vinyl Chloride	1.402	62	25775	4.56	ppb		98
5) Bromomethane	1.622	94	15128	4.93	ppb		97
6) Chloroethane	1.707	64	14892	4.37	ppb		89
7) Freon 21	1.866	67	31323	4.97	ppb		98
8) Trichlorofluoromethane	1.902	101	20569	4.49	ppb		96
9) Diethyl Ether	2.146	59	20126	4.98	ppb		92
10) Freon 123a	2.152	67	21122	4.79	ppb		97
11) Freon 123	2.207	83	23326	4.80	ppb		96
12) Acrolein	2.262	56	26951	23.94	ppb		91
13) 1,1-Diclethene	2.329	96	14784	4.75	ppb	#	81
14) Freon 113	2.335	101	13494	4.46	ppb		85
15) Acetone	2.408	43	13756	5.31	ppb		100
16) 2-Propanol	2.542	45	55759	94.71	ppb		99
17) Iodomethane	2.469	142	12015	3.35	ppb		96
18) Carbon Disulfide	2.524	76	41122	4.41	ppb		98
19) Acetonitrile	2.670	40	9489m	23.94	ppb		
20) Allyl Chloride	2.676	76	8923	5.02	ppb	#	93
21) Methyl Acetate	2.707	43	25213	4.91	ppb		98
22) Methylene Chloride	2.798	84	19640	4.85	ppb		94
23) TBA	2.957	59	79737	91.50	ppb		99
24) Acrylonitrile	3.079	53	67984	25.75	ppb		97
25) Methyl-t-Butyl Ether	3.103	73	66938	5.11	ppb		97
26) trans-1,2-Dichloroethene	3.085	96	16397	4.82	ppb		89
28) 1,1-Diclethane	3.597	63	33558	4.80	ppb		93
29) Vinyl Acetate	3.701	86	2535m	3.32	ppb		
30) DIPE	3.707	45	73173	4.81	ppb		92
31) 2-Chloro-1,3-Butadiene	3.707	53	26452	4.68	ppb		98
32) ETBE	4.237	59	68875	5.03	ppb		95
33) 2,2-Dichloropropane	4.432	77	22052	4.30	ppb		92
34) cis-1,2-Dichloroethene	4.444	96	18741	4.84	ppb	#	81
35) 2-Butanone	4.542	43	17346	4.80	ppb		89
36) Propionitrile	4.639	54	27064	24.13	ppb		99
37) Bromochloromethane	4.853	130	11430	4.98	ppb	#	89
38) Methacrylonitrile	4.902	67	12154	4.58	ppb	#	78
39) Tetrahydrofuran	4.975	42	15732	5.28	ppb	#	55
40) Chloroform	5.036	83	29460	4.78	ppb		91
41) 1,1,1-Trichloroethane	5.304	97	23585	4.80	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29734.D
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	66026	5.23	ppb		95
44) Cyclohexane	5.365	41	18586	4.51	ppb		94
46) Carbontetrachloride	5.566	117	16680	4.68	ppb		92
47) 1,1-Dichloropropene	5.591	75	24371	4.89	ppb		93
49) Benzene	5.908	78	74800	4.83	ppb		94
50) 1,2-Dichloroethane	5.975	62	27114	5.15	ppb		88
51) Iso-Butyl Alcohol	5.981	43	41965	95.08	ppb		89
52) n-Heptane	6.353	43	26345	4.54	ppb		82
53) 1-Butanol	6.920	56	59178	233.85	ppb		97
54) Trichloroethene	6.840	130	16117	4.68	ppb		92
55) Methylcyclohexane	7.060	55	27159	4.89	ppb		93
56) 1,2-Diclpropane	7.133	63	20327	4.75	ppb		83
57) Dibromomethane	7.279	93	10317	4.86	ppb		99
58) 1,4-Dioxane	7.358	88	9266	93.96	ppb		83
59) Methyl Methacrylate	7.358	69	19701	4.95	ppb		96
60) Bromodichloromethane	7.505	83	20432	4.96	ppb		91
61) 2-Nitropropane	7.810	41	5234	8.05	ppb	#	74
62) 2-Chloroethylvinyl Ether	7.907	63	14186	4.89	ppb		97
63) cis-1,3-Dichloropropene	8.035	75	30513	4.99	ppb		95
64) 4-Methyl-2-pentanone	8.255	43	30654	4.63	ppb		96
66) Toluene	8.389	91	78273	4.99	ppb		97
67) trans-1,3-Dichloropropene	8.675	75	27135	4.82	ppb		92
68) Ethyl Methacrylate	8.803	69	32552	4.67	ppb		97
69) 1,1,2-Trichloroethane	8.864	97	18294	5.26	ppb		94
72) Tetrachloroethene	8.968	164	12992	4.67	ppb	#	84
73) 2-Hexanone	9.157	43	24098	4.69	ppb		96
74) 1,3-Dichloropropane	9.029	76	35214	5.09	ppb		94
75) Dibromochloromethane	9.248	129	13675	4.78	ppb		95
76) N-Butyl Acetate	9.297	43	51146	5.22	ppb		98
77) 1,2-Dibromoethane	9.346	107	17839	4.95	ppb		99
78) Chlorobenzene	9.827	112	49884	4.90	ppb		96
79) 3-CBTF	9.846	180	25983	4.95	ppb		89
80) 4-CBTF	9.901	180	22427	4.74	ppb		92
81) 1,1,1,2-Tetrachloroethane	9.919	131	14435	4.76	ppb		93
82) Ethylbenzene	9.943	106	25867	4.68	ppb		98
83) (m+p)Xylene	10.053	106	67991	10.18	ppb		94
84) o-Xylene	10.413	106	32574	4.79	ppb		97
85) Styrene	10.425	104	56257	5.00	ppb		98
87) Bromoform	10.583	173	8059	4.79	ppb		89
88) 2-CBTF	10.663	180	23639	4.72	ppb		96
89) Isopropylbenzene	10.742	105	87280	5.33	ppb		96
90) Cyclohexanone	10.833	55	77728	110.97	ppb		93
91) trans-1,4-Dichloro-2-B...	11.059	53	8817	4.88	ppb	#	74
92) 1,1,2,2-Tetrachloroethane	11.022	83	27544	5.05	ppb		90
93) Bromobenzene	10.992	156	19537	4.84	ppb		91
94) 1,2,3-Trichloropropane	11.047	110	9684	5.39	ppb	#	79
95) n-Propylbenzene	11.096	91	100647	5.13	ppb		98
96) 2-Chlorotoluene	11.156	91	64901	5.24	ppb		98
97) 3-Chlorotoluene	11.217	91	66036	5.25	ppb		98
98) 4-Chlorotoluene	11.254	91	69452	5.20	ppb		99
99) 1,3,5-Trimethylbenzene	11.248	105	69678	5.11	ppb		98
100) tert-Butylbenzene	11.516	119	62672	5.22	ppb		93
101) 1,2,4-Trimethylbenzene	11.559	105	68078	5.02	ppb		99
102) 3,4-DCBTF	11.620	214	18845	4.56	ppb		97
103) sec-Butylbenzene	11.699	105	87677	5.04	ppb		99
104) p-Isopropyltoluene	11.821	119	74736	5.02	ppb		97

Quantitation Report (QT Reviewed)

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Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.784	146	39864	4.96	ppb		95
106) 1,4-Dclbenz	11.858	146	40553	4.93	ppb		95
107) 2,4-DCBTF	11.912	214	18477	4.90	ppb		91
108) 2,5-DCBTF	11.955	214	20656	4.92	ppb		97
109) n-Butylbenzene	12.150	91	75622	5.20	ppb		96
110) 1,2-Dclbenz	12.162	146	40816	5.13	ppb		94
111) 1,2-Dibromo-3-chloropr...	12.796	157	5409	4.29	ppb		89
112) Trielution Dichlorotol...	12.900	125	111013	15.26	ppb		96
113) 1,3,5 Trichlorobenzene	12.949	180	29013	4.87	ppb	#	94
114) Coelution Dichlorotoluene	13.229	125	84438	10.36	ppb		97
115) 1,2,4-Tcbenzene	13.437	180	29801	4.86	ppb		95
116) Hexachlorobt	13.565	225	12514	5.10	ppb		85
117) Naphthalen	13.632	128	106004	5.50	ppb		98
118) 1,2,3-Tclbenzene	13.815	180	29631	4.90	ppb		96
119) 2,4,5-Trichlorotolene	14.400	159	23217	5.03	ppb		92
120) 2,3,6-Trichlorotoluene	14.479	159	25129	5.27	ppb		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
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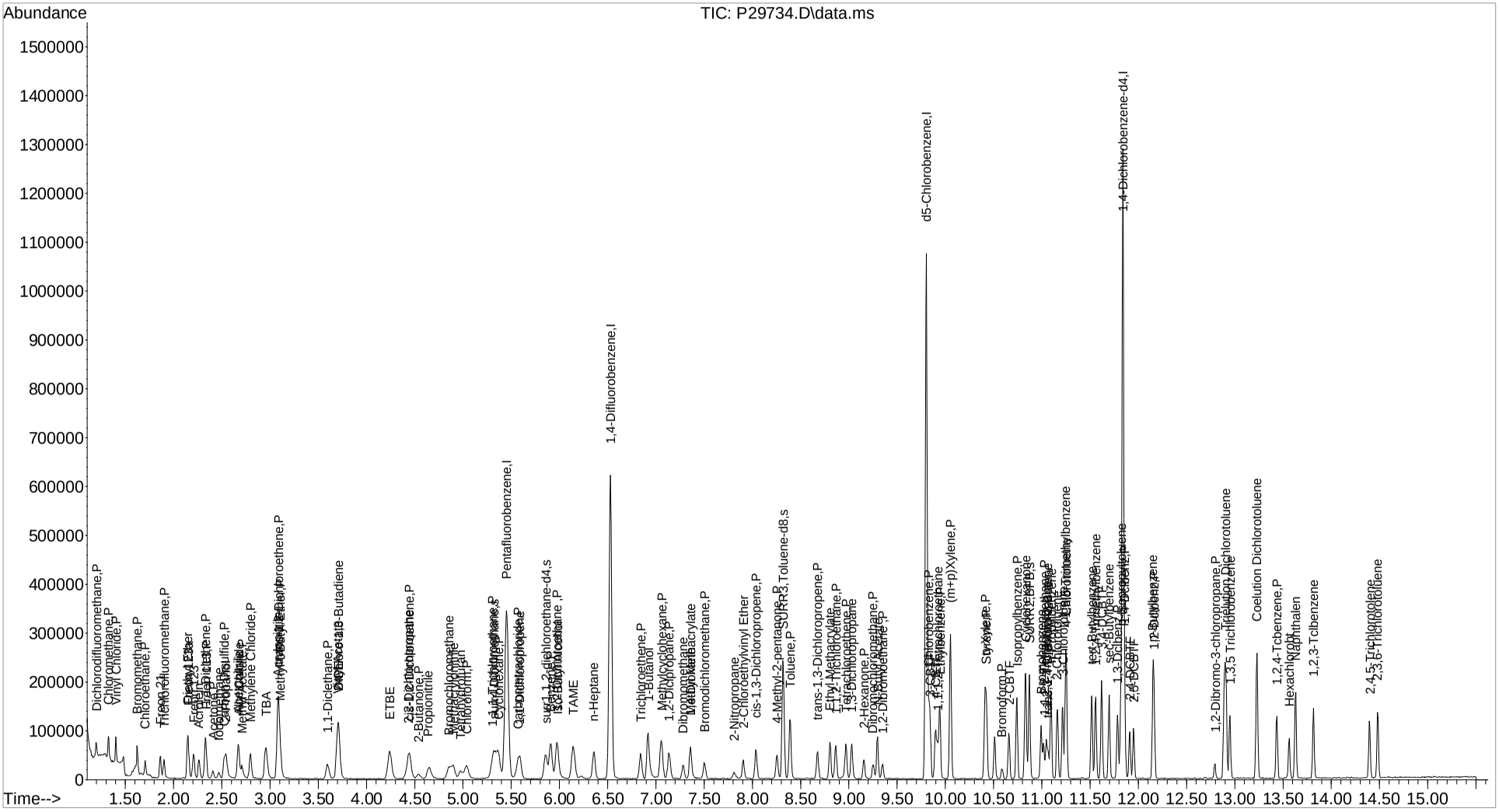
Acq On : 11 Sep 2019 4:39 pm
Operator : K.Ruest
Sample : 5.0ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 4 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 10:18:53 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

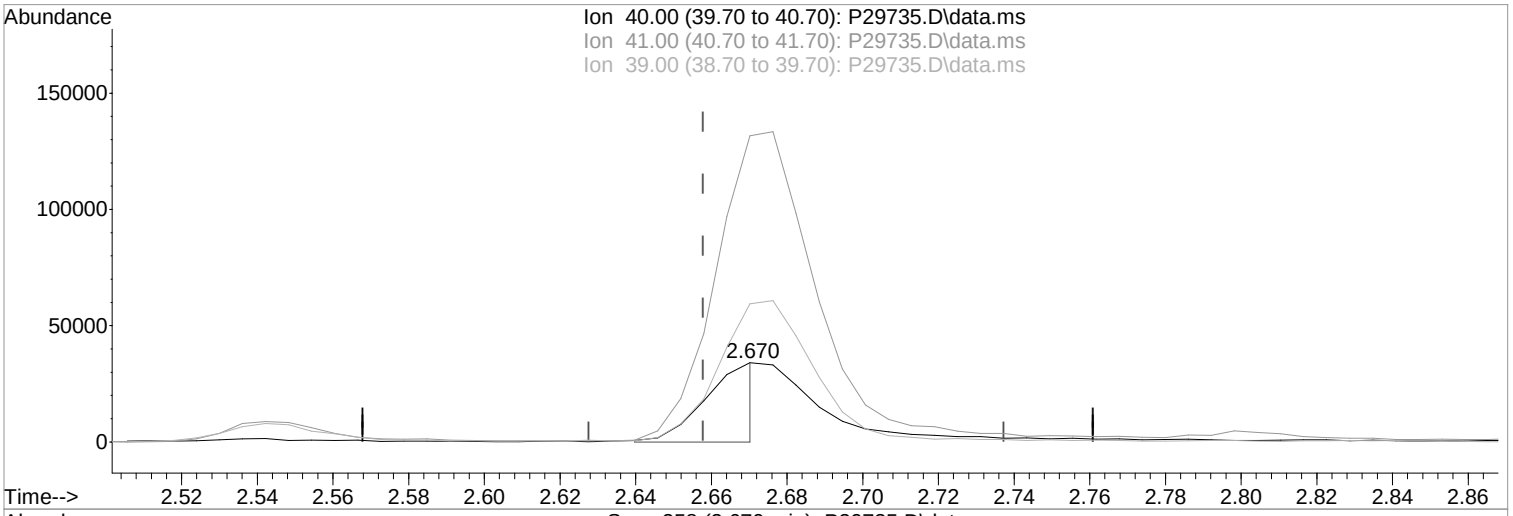


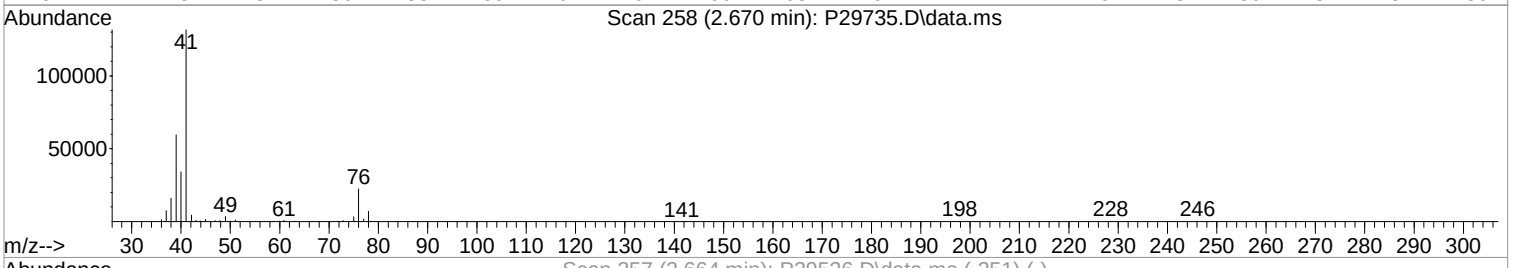
1st 09/12/19
2nd 09/12/19

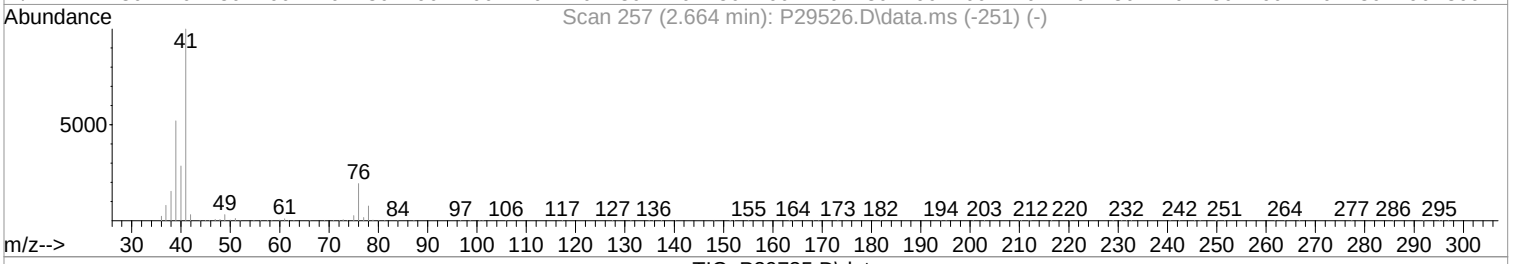
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:22:33 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 83.25 ppb m

response 32923

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	386.47#
39.00	137.60	174.50#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

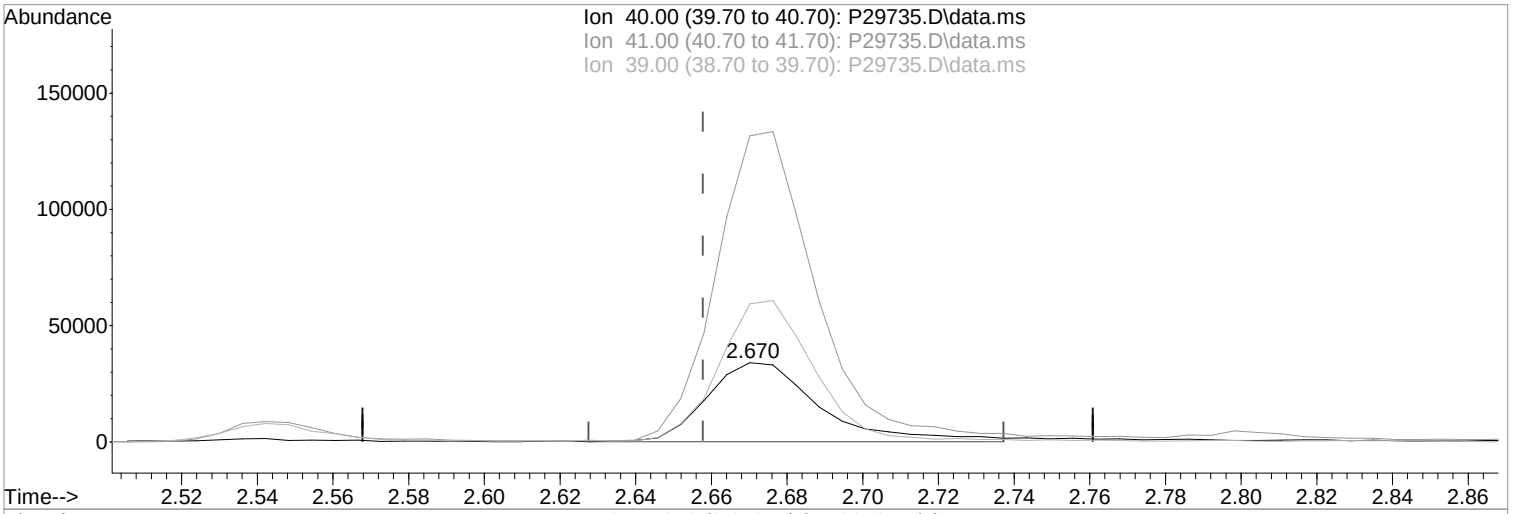
09/12/19

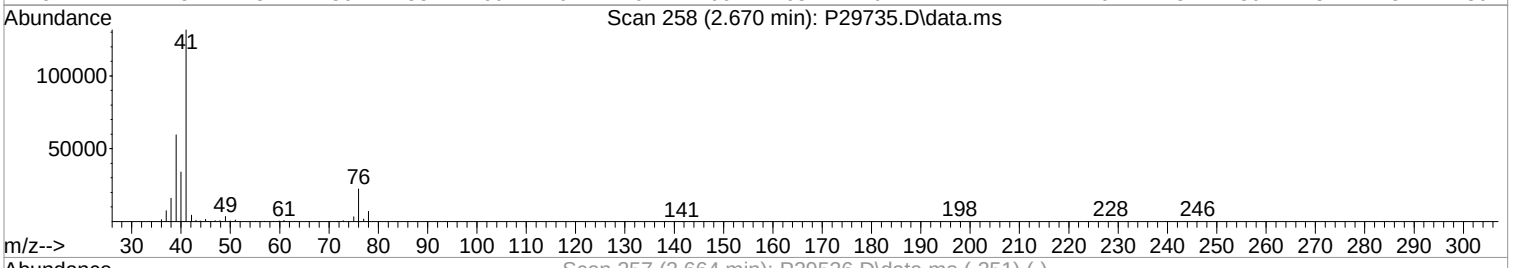
1st 09/12/19
2nd 09/12/19

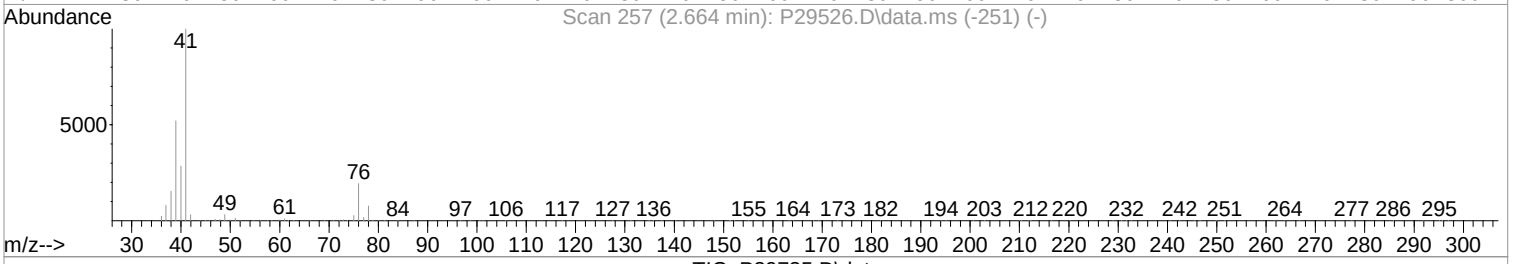
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:22:33 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 177.59 ppb

response 70228

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	386.47#
39.00	137.60	174.50#
0.00	0.00	0.00

Manual Integration:

Before

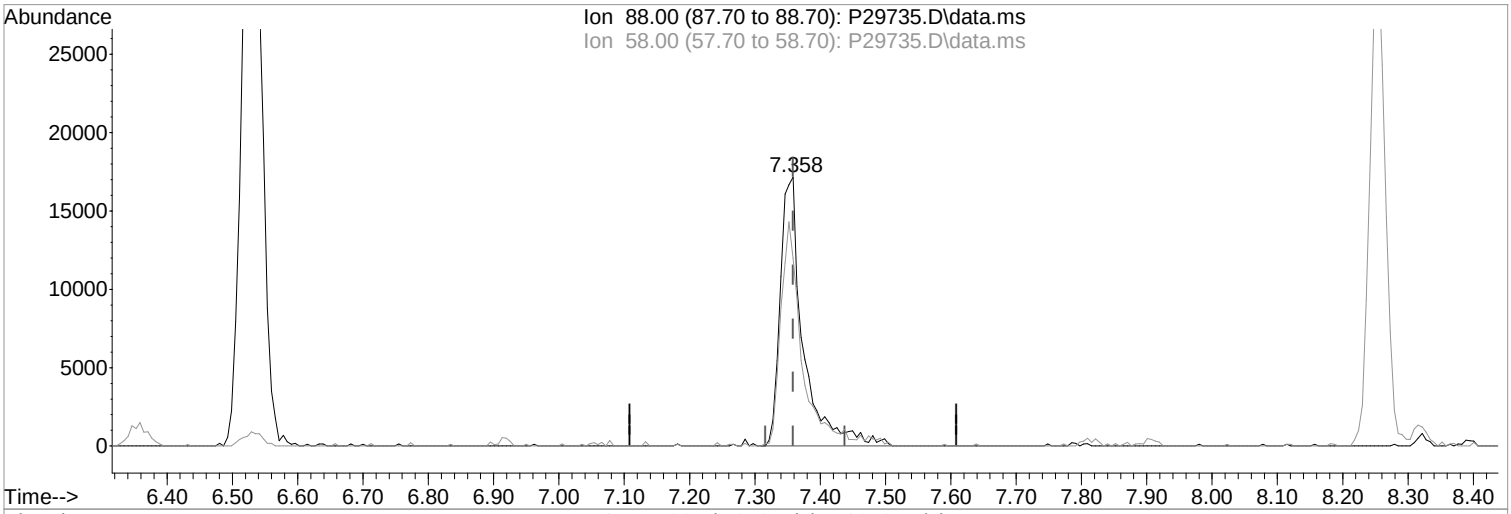
09/12/19

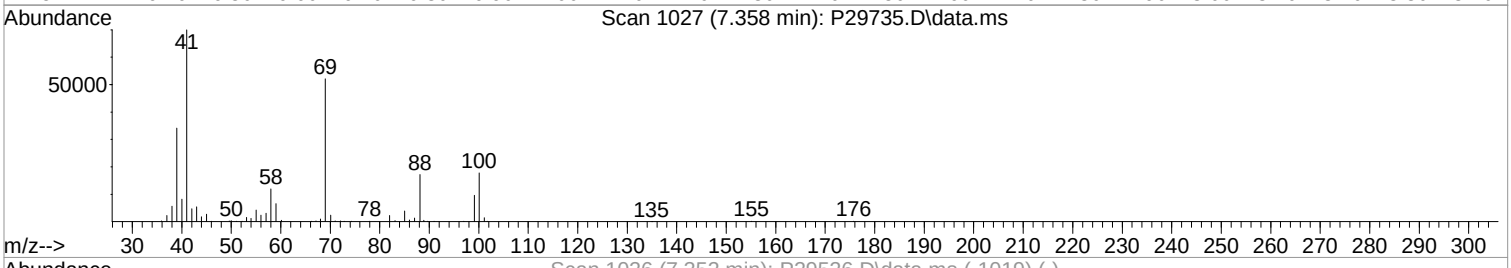
1st 09/12/19
2nd 09/12/19

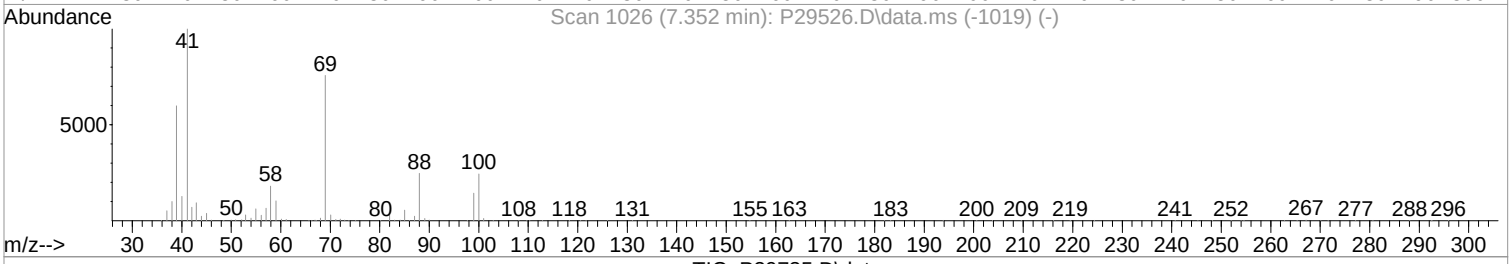
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 17:20:57 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Wed Sep 11 16:56:27 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(58) 1,4-Dioxane

7.358min (+0.000) 443.88 ppb m

response 41982

Ion	Exp%	Act%
88.00	100	100
58.00	72.10	69.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

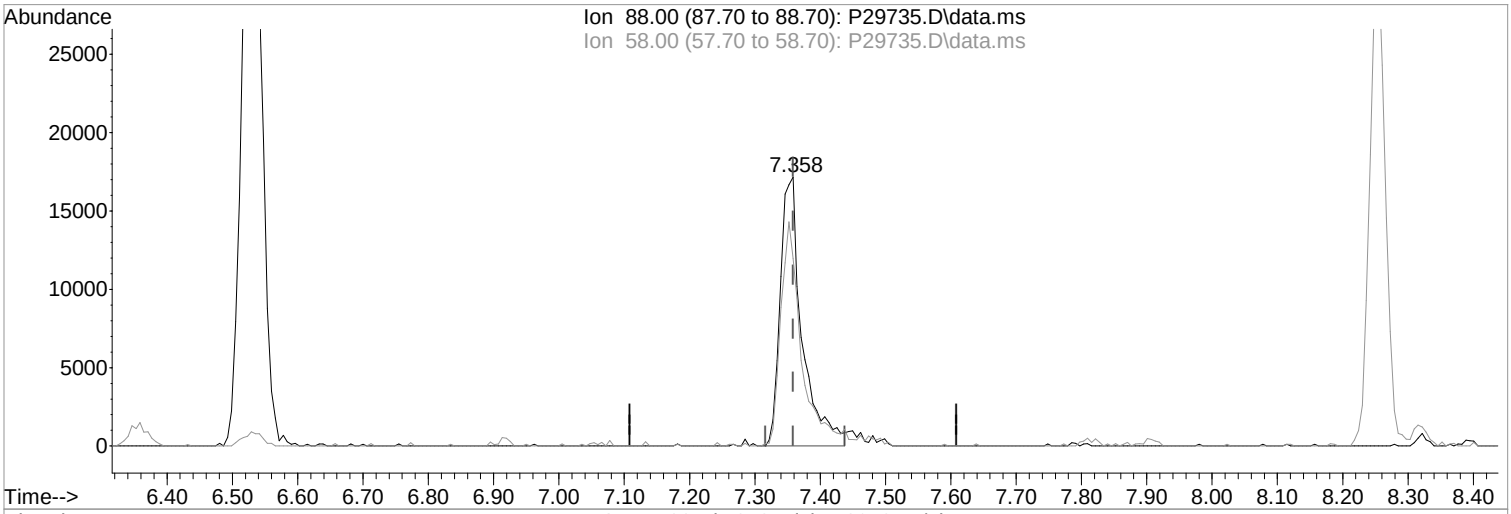
09/11/19

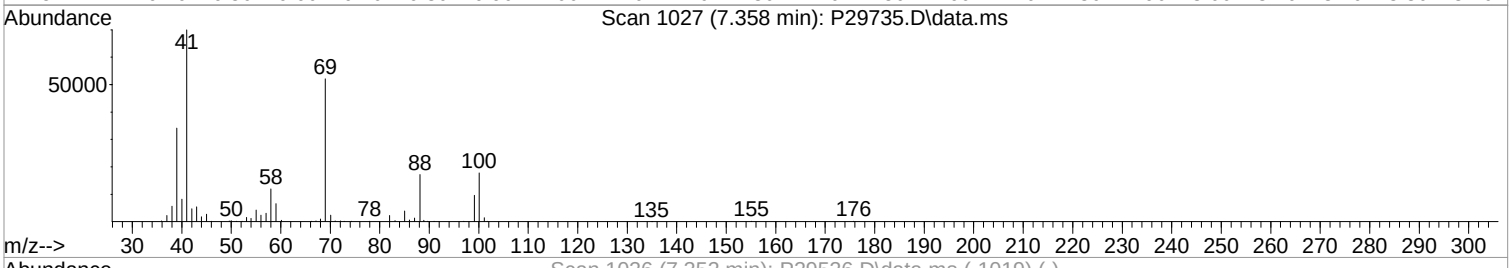
1st 09/12/19
2nd 09/12/19

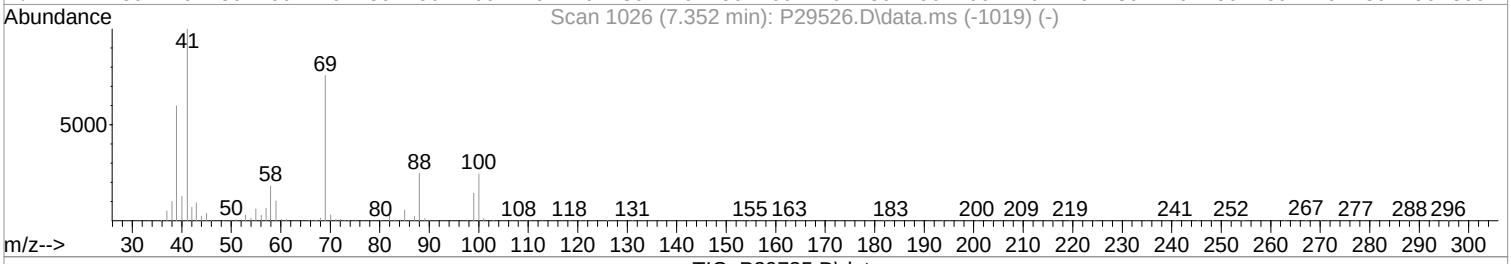
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 17:20:57 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Wed Sep 11 16:56:27 2019
Response via : Initial Calibration







TIC: P29735.D\data.ms

(58) 1,4-Dioxane

7.358min (+0.000) 421.76 ppb

response 39890

Ion	Exp%	Act%
88.00	100	100
58.00	72.10	69.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

09/11/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	317354	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	537506	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	469086	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	248315	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	51567	18.10	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 36.20%#				
48) surr1,1,2-dichloroetha...	5.859	65	70941	18.00	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 36.00%#				
65) SURR3,Toluene-d8	8.322	98	255173	19.03	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 38.06%#				
70) SURR2,BFB	10.870	95	96353	18.47	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 36.94%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	89406	22.79	ppb		98
3) Chloromethane	1.329	50	122906	20.34	ppb		95
4) Vinyl Chloride	1.402	62	120753	21.41	ppb		98
5) Bromomethane	1.634	94	52501	17.15	ppb		100
6) Chloroethane	1.713	64	70559	20.77	ppb		98
7) Freon 21	1.865	67	131742	20.95	ppb		100
8) Trichlorofluoromethane	1.908	101	97211	21.25	ppb		95
9) Diethyl Ether	2.146	59	84878	21.05	ppb		96
10) Freon 123a	2.152	67	89375	20.33	ppb		100
11) Freon 123	2.207	83	98697	20.36	ppb		98
12) Acrolein	2.262	56	114158	101.65	ppb		96
13) 1,1-Diclethene	2.335	96	63876	20.57	ppb		95
14) Freon 113	2.335	101	62246	20.62	ppb		99
15) Acetone	2.408	43	53418	20.68	ppb		95
16) 2-Propanol	2.542	45	230110	391.81	ppb		96
17) Iodomethane	2.469	142	74189	20.75	ppb		100
18) Carbon Disulfide	2.524	76	192186	20.66	ppb		100
19) Acetonitrile	2.670	40	32923m	83.25	ppb		
20) Allyl Chloride	2.676	76	40803	23.02	ppb	#	90
21) Methyl Acetate	2.713	43	108490	21.20	ppb		96
22) Methylene Chloride	2.798	84	80354	19.87	ppb		92
23) TBA	2.957	59	354620	407.90	ppb		98
24) Acrylonitrile	3.085	53	281621	106.95	ppb		99
25) Methyl-t-Butyl Ether	3.097	73	282084	21.59	ppb		97
26) trans-1,2-Dichloroethene	3.085	96	70745	20.83	ppb		89
28) 1,1-Diclethane	3.597	63	149744	21.47	ppb		98
29) Vinyl Acetate	3.694	86	17336	22.78	ppb		97
30) DIPE	3.707	45	327561	21.57	ppb		94
31) 2-Chloro-1,3-Butadiene	3.713	53	119044	21.11	ppb		91
32) ETBE	4.243	59	285452	20.88	ppb		97
33) 2,2-Dichloropropane	4.432	77	105202	20.58	ppb		96
34) cis-1,2-Dichloroethene	4.444	96	81603	21.15	ppb		88
35) 2-Butanone	4.536	43	73905	20.49	ppb		94
36) Propionitrile	4.645	54	116379	103.99	ppb		100
37) Bromochloromethane	4.859	130	45334	19.81	ppb		94
38) Methacrylonitrile	4.901	67	52864	19.97	ppb		96
39) Tetrahydrofuran	4.969	42	54413	18.31	ppb		91
40) Chloroform	5.036	83	122909	20.00	ppb		99
41) 1,1,1-Trichloroethane	5.310	97	102067	20.83	ppb		97

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) TAME	6.139	73	267274	21.22	ppb	94
44) Cyclohexane	5.371	41	90924	21.18	ppb	84
46) Carbontetrachloride	5.572	117	72254	19.43	ppb	91
47) 1,1-Dichloropropene	5.590	75	103006	19.81	ppb	99
49) Benzene	5.913	78	331895	20.54	ppb	97
50) 1,2-Dichloroethane	5.974	62	109411	19.92	ppb	97
51) Iso-Butyl Alcohol	5.968	43	177489	385.76	ppb	96
52) n-Heptane	6.359	43	121430	20.09	ppb	93
53) 1-Butanol	6.913	56	263125	997.48	ppb	97
54) Trichloroethene	6.846	130	72390	20.15	ppb	93
55) Methylcyclohexane	7.060	55	118721	20.50	ppb	93
56) 1,2-Diclpropane	7.139	63	92042	20.64	ppb	93
57) Dibromomethane	7.279	93	44313	20.04	ppb	91
58) 1,4-Dioxane	7.358	88	41207	400.87	ppb	93
59) Methyl Methacrylate	7.358	69	87638	21.11	ppb	99
60) Bromodichloromethane	7.505	83	86910	20.25	ppb	97
61) 2-Nitropropane	7.809	41	21115	31.14	ppb	94
62) 2-Chloroethylvinyl Ether	7.907	63	62335	20.61	ppb	98
63) cis-1,3-Dichloropropene	8.035	75	126927	19.91	ppb	98
64) 4-Methyl-2-pentanone	8.254	43	142152	20.60	ppb	98
66) Toluene	8.389	91	339286	20.76	ppb	98
67) trans-1,3-Dichloropropene	8.675	75	121280	20.68	ppb	94
68) Ethyl Methacrylate	8.803	69	151408	20.86	ppb	94
69) 1,1,2-Trichloroethane	8.864	97	76523	21.09	ppb	95
72) Tetrachloroethene	8.968	164	56102	19.83	ppb	92
73) 2-Hexanone	9.151	43	106930	20.48	ppb	98
74) 1,3-Dichloropropane	9.029	76	144206	20.50	ppb	97
75) Dibromochloromethane	9.254	129	56899	19.58	ppb	95
76) N-Butyl Acetate	9.297	43	219936	22.10	ppb	95
77) 1,2-Dibromoethane	9.346	107	74904	20.44	ppb	93
78) Chlorobenzene	9.827	112	209465	20.24	ppb	96
79) 3-CBTF	9.846	180	107255	20.11	ppb	96
80) 4-CBTF	9.894	180	98961	20.59	ppb	95
81) 1,1,1,2-Tetrachloroethane	9.919	131	63627	20.63	ppb	95
82) Ethylbenzene	9.943	106	116671	20.76	ppb	99
83) (m+p)Xylene	10.053	106	283811	41.81	ppb	91
84) o-Xylene	10.413	106	142100	20.57	ppb	99
85) Styrene	10.425	104	242594	21.21	ppb	98
87) Bromoform	10.589	173	34707	19.94	ppb	87
88) 2-CBTF	10.663	180	104170	20.10	ppb	99
89) Isopropylbenzene	10.742	105	374127	22.08	ppb	98
90) Cyclohexanone	10.833	55	300785	415.31	ppb	97
91) trans-1,4-Dichloro-2-B...	11.065	53	40265	21.54	ppb	90
92) 1,1,2,2-Tetrachloroethane	11.016	83	120615	21.37	ppb	94
93) Bromobenzene	10.992	156	84753	20.30	ppb	97
94) 1,2,3-Trichloropropane	11.047	110	36008	19.38	ppb	95
95) n-Propylbenzene	11.095	91	441498	21.78	ppb	99
96) 2-Chlorotoluene	11.162	91	268492	20.96	ppb	98
97) 3-Chlorotoluene	11.217	91	279003	21.47	ppb	97
98) 4-Chlorotoluene	11.254	91	294671	21.33	ppb	98
99) 1,3,5-Trimethylbenzene	11.248	105	303461	21.50	ppb	95
100) tert-Butylbenzene	11.516	119	263964	21.25	ppb	98
101) 1,2,4-Trimethylbenzene	11.559	105	307794	21.97	ppb	97
102) 3,4-DCBTF	11.620	214	88090	20.61	ppb	100
103) sec-Butylbenzene	11.699	105	395554	22.01	ppb	100
104) p-Isopropyltoluene	11.821	119	334791	21.76	ppb	100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	168242	20.23	ppb	99
106) 1,4-Dclbenz	11.864	146	171462	20.14	ppb	98
107) 2,4-DCBTF	11.912	214	76685	19.66	ppb	98
108) 2,5-DCBTF	11.955	214	87438	20.16	ppb	98
109) n-Butylbenzene	12.150	91	321739	21.38	ppb	99
110) 1,2-Dclbenz	12.162	146	167399	20.35	ppb	98
111) 1,2-Dibromo-3-chloropr...	12.796	157	25610	19.64	ppb	94
112) Trielution Dichlorotol...	12.906	125	475017	63.14	ppb	99
113) 1,3,5 Trichlorobenzene	12.949	180	125844	20.42	ppb	96
114) Coelution Dichlorotoluene	13.229	125	365691	43.39	ppb	96
115) 1,2,4-Tcbenzene	13.436	180	125674	19.83	ppb	97
116) Hexachlorobt	13.564	225	48698	19.19	ppb	94
117) Naphthalen	13.631	128	454677	22.81	ppb	98
118) 1,2,3-Tclbenzene	13.814	180	125404	20.04	ppb	99
119) 2,4,5-Trichlorotolene	14.394	159	95140	19.94	ppb	97
120) 2,3,6-Trichlorotoluene	14.485	159	101485	20.57	ppb	97

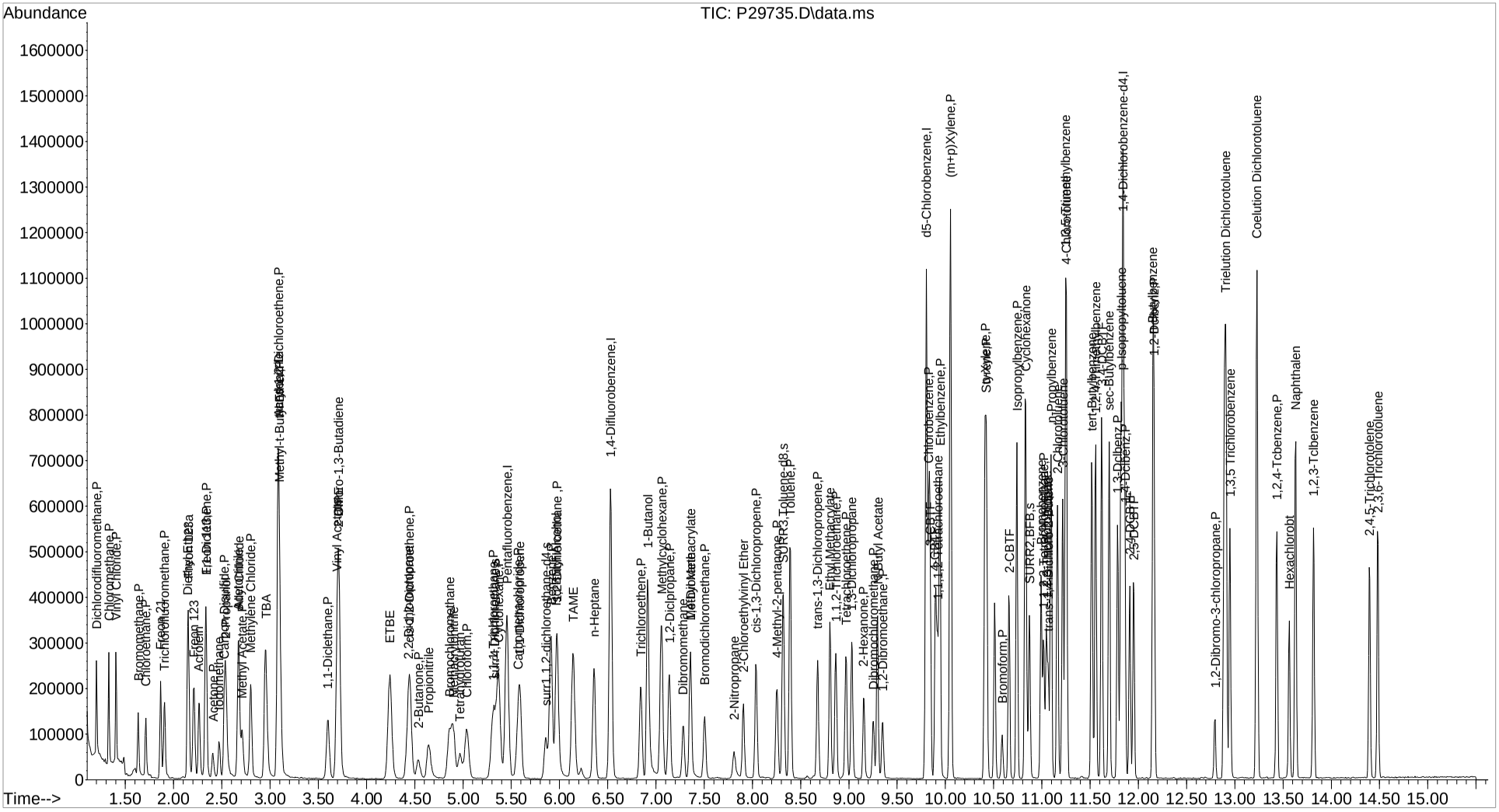
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

09/12/19 1st
09/12/19 2nd

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29735.D
Acq On : 11 Sep 2019 5:00 pm
Operator : K.Ruest
Sample : 20ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 09:44:32 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

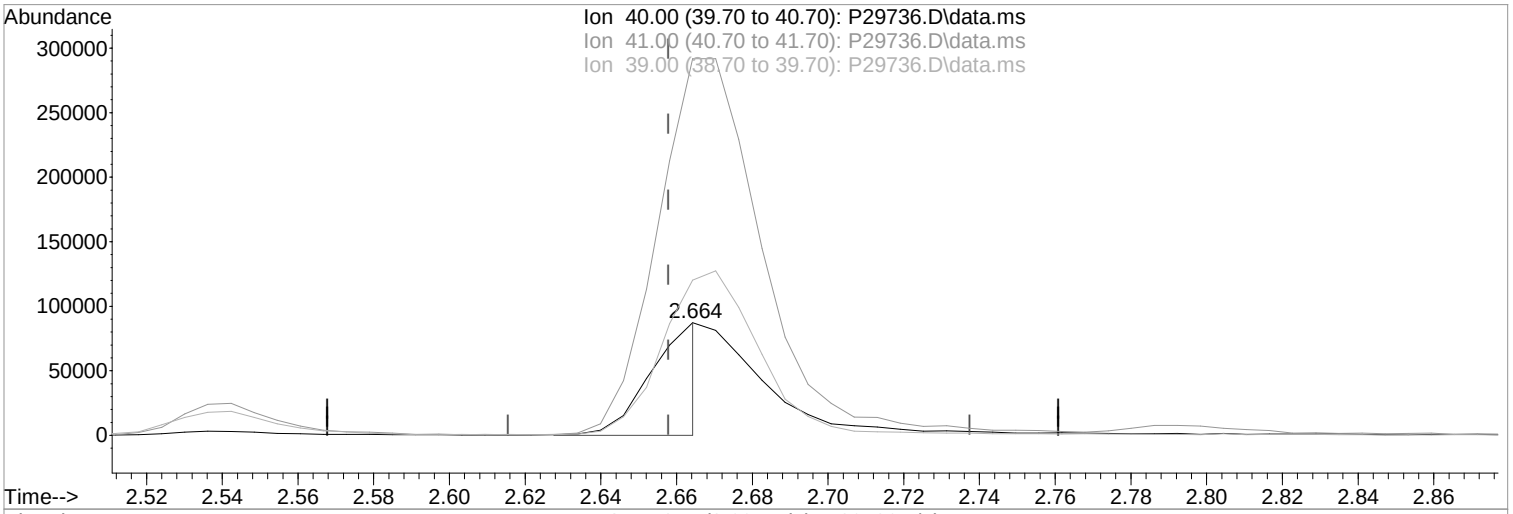


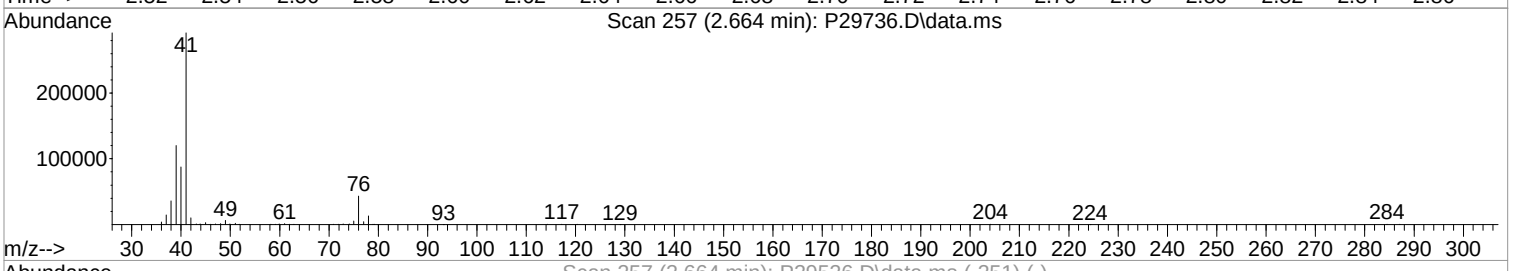
1st 09/12/19
2nd 09/12/19

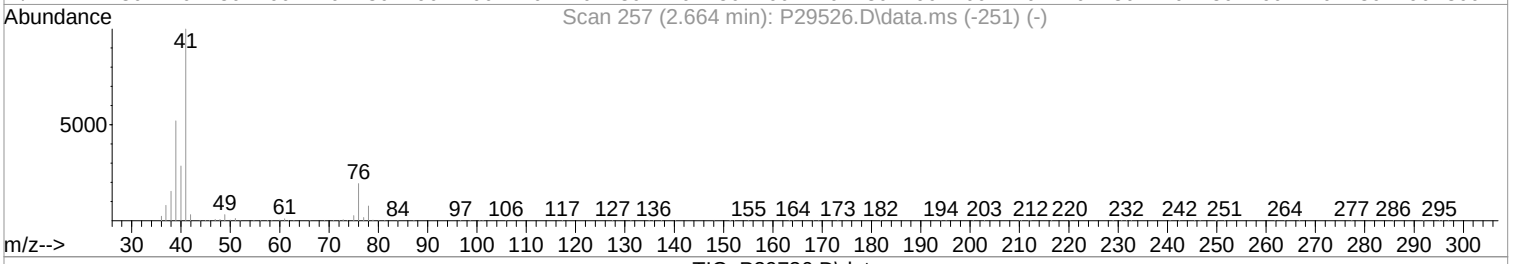
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 200.48 ppb m

response 81057

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

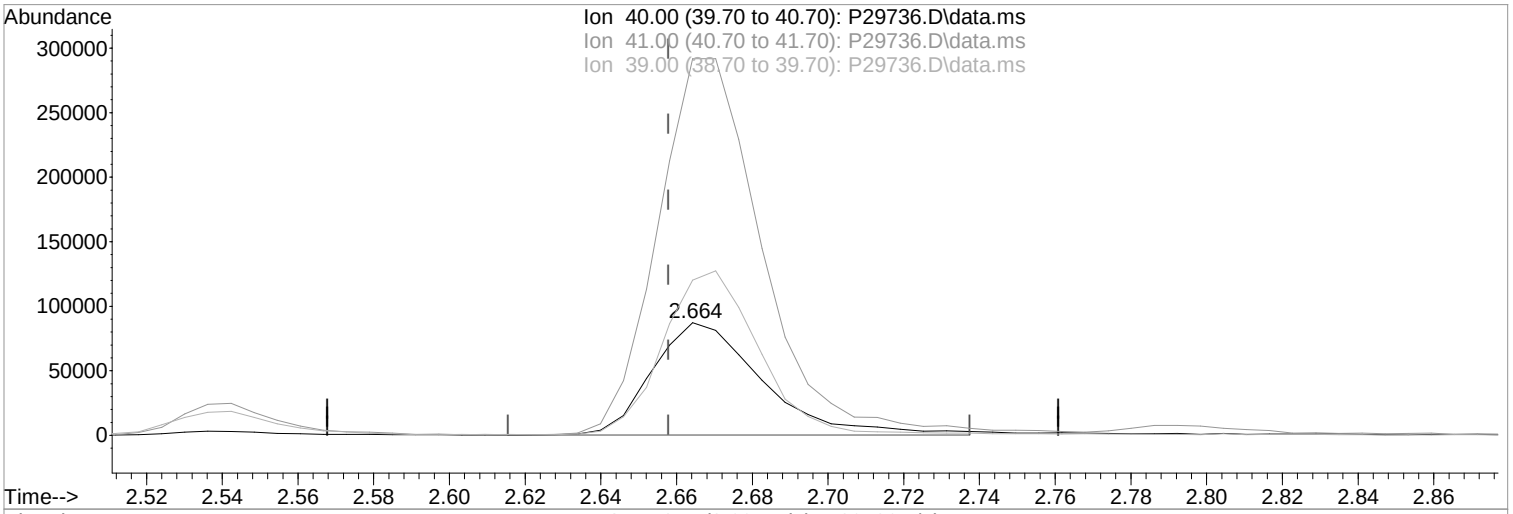
09/12/19

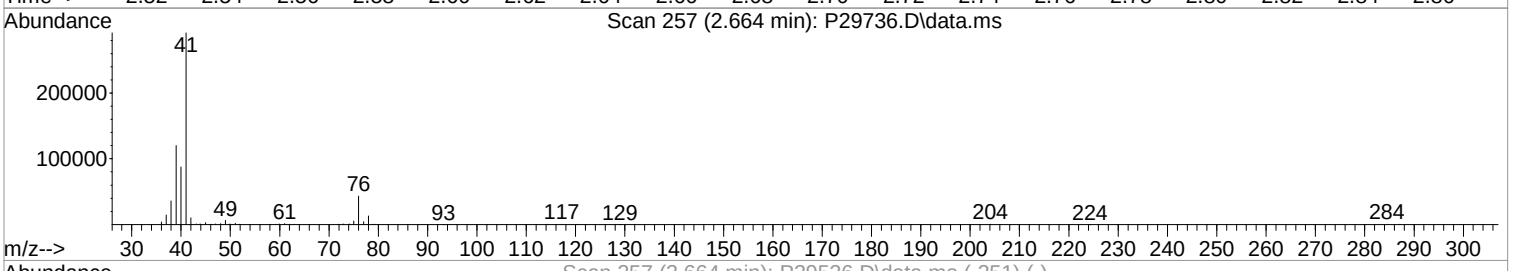
1st 09/12/19
2nd 09/12/19

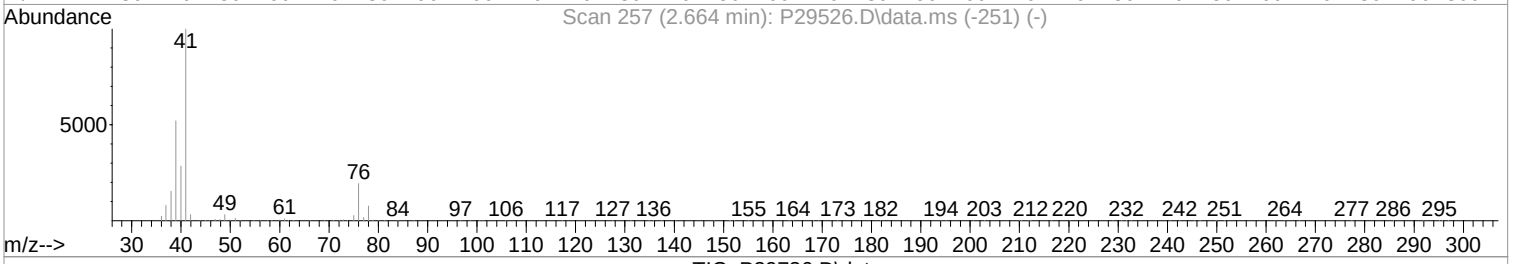
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 437.98 ppb

response 177083

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

Before

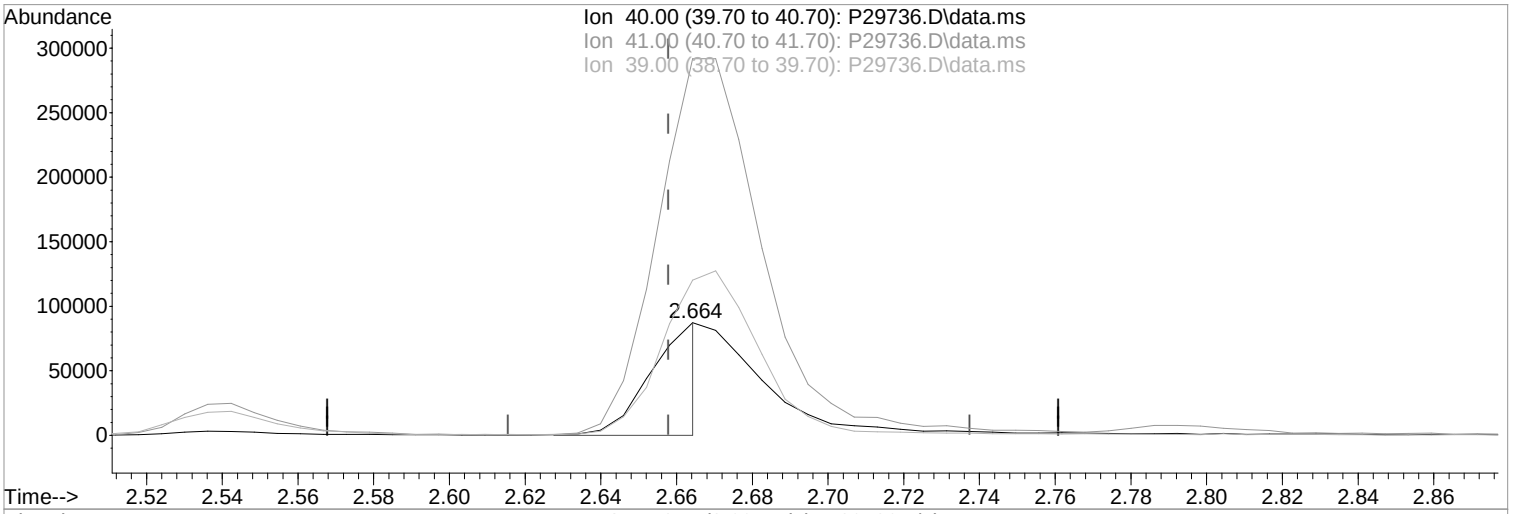
09/12/19

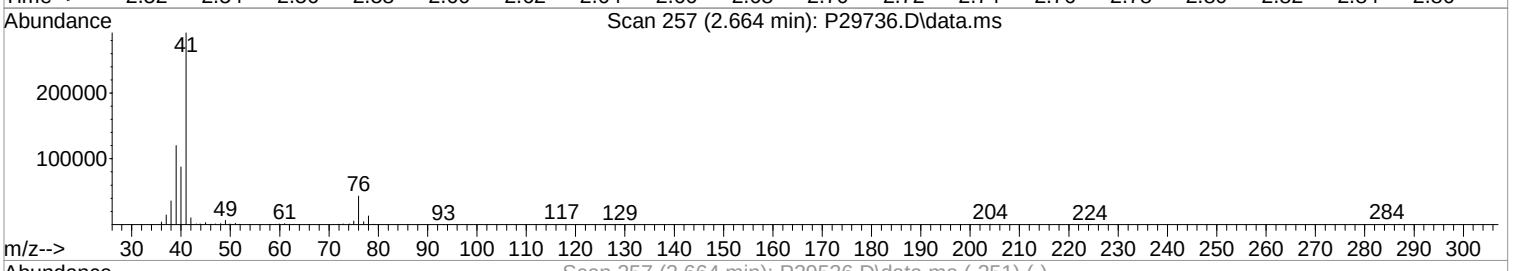
1st 09/12/19
2nd 09/12/19

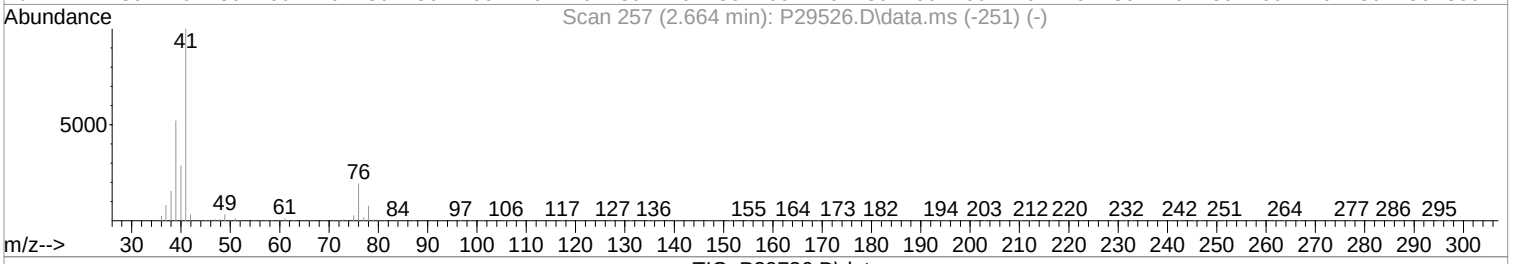
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:22:36 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29736.D\data.ms

(19) Acetonitrile

2.664min (+0.006) 200.48 ppb m

response 81057

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	334.16
39.00	137.60	137.61
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.450	168	324461	50.00	ppb	0.00
43) 1,4-Difluorobenzene	6.529	114	532634	50.00	ppb	0.00
71) d5-Chlorobenzene	9.803	117	479166	50.00	ppb	0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	251706	50.00	ppb	0.00
System Monitoring Compounds						
45) surr4,Dibrflmethane	5.322	113	141350	50.07	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 100.14%			
48) surr1,1,2-dichloroetha...	5.853	65	199899	51.18	ppb	0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 102.36%			
65) SURR3,Toluene-d8	8.316	98	672653	50.62	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.24%			
70) SURR2,BFB	10.870	95	256024	49.52	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.195	85	215531	53.74	ppb	100
3) Chloromethane	1.323	50	302885	49.03	ppb	100
4) Vinyl Chloride	1.396	62	293076	50.83	ppb	100
5) Bromomethane	1.622	94	133731	42.72	ppb	100
6) Chloroethane	1.701	64	171429	49.37	ppb	100
7) Freon 21	1.860	67	307916	47.90	ppb	100
8) Trichlorofluoromethane	1.902	101	244119	52.20	ppb	100
9) Diethyl Ether	2.140	59	207829	50.42	ppb	100
10) Freon 123a	2.152	67	208671	46.43	ppb	100
11) Freon 123	2.207	83	230973	46.60	ppb	100
12) Acrolein	2.262	56	285148	248.35	ppb	100
13) 1,1-Diclethene	2.329	96	158151	49.82	ppb	100
14) Freon 113	2.329	101	151216	49.00	ppb	100
15) Acetone	2.402	43	127403	48.25	ppb	100
16) 2-Propanol	2.542	45	594430	989.98	ppb	100
17) Iodomethane	2.463	142	209156	57.22	ppb	100
18) Carbon Disulfide	2.518	76	480659	50.54	ppb	100
19) Acetonitrile	2.664	40	81057m	200.48	ppb	
20) Allyl Chloride	2.670	76	85919	47.41	ppb	100
21) Methyl Acetate	2.707	43	255363	48.80	ppb	100
22) Methylene Chloride	2.792	84	184592	44.65	ppb	100
23) TBA	2.951	59	897097	1009.27	ppb	100
24) Acrylonitrile	3.079	53	699525	259.83	ppb	100
25) Methyl-t-Butyl Ether	3.091	73	671020	50.24	ppb	100
26) trans-1,2-Dichloroethene	3.079	96	169347	48.76	ppb	100
28) 1,1-Diclethane	3.591	63	358183	50.24	ppb	100
29) Vinyl Acetate	3.695	86	42082	54.09	ppb	100
30) DIPE	3.701	45	774996	49.92	ppb	100
31) 2-Chloro-1,3-Butadiene	3.707	53	297783	51.65	ppb	100
32) ETBE	4.237	59	693264	49.60	ppb	100
33) 2,2-Dichloropropane	4.426	77	266861	51.05	ppb	100
34) cis-1,2-Dichloroethene	4.444	96	197952	50.17	ppb	100
35) 2-Butanone	4.530	43	178893	48.50	ppb	100
36) Propionitrile	4.633	54	293172	256.23	ppb	100
37) Bromochloromethane	4.859	130	113316	48.42	ppb	100
38) Methacrylonitrile	4.889	67	136177	50.33	ppb	100
39) Tetrahydrofuran	4.963	42	128648	42.35	ppb	100
40) Chloroform	5.036	83	306331	48.75	ppb	100
41) 1,1,1-Trichloroethane	5.304	97	244936	48.89	ppb	100

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) TAME	6.139	73	651418	50.58	ppb	100
44) Cyclohexane	5.359	41	205615	48.34	ppb	100
46) Carbontetrachloride	5.566	117	183716	49.86	ppb	100
47) 1,1-Dichloropropene	5.584	75	262035	50.85	ppb	100
49) Benzene	5.908	78	808808	50.51	ppb	100
50) 1,2-Dichloroethane	5.968	62	271114	49.81	ppb	100
51) Iso-Butyl Alcohol	5.968	43	447807	982.19	ppb	100
52) n-Heptane	6.353	43	300090	50.10	ppb	100
53) 1-Butanol	6.913	56	693201	2651.88	ppb	100
54) Trichloroethene	6.840	130	182470	51.25	ppb	100
55) Methylcyclohexane	7.054	55	277166	48.31	ppb	100
56) 1,2-Diclpropane	7.139	63	222619	50.38	ppb	100
57) Dibromomethane	7.279	93	111821	51.02	ppb	100
58) 1,4-Dioxane	7.346	88	97730	959.43	ppb	100
59) Methyl Methacrylate	7.358	69	222587	54.11	ppb	100
60) Bromodichloromethane	7.505	83	217450	51.14	ppb	100
61) 2-Nitropropane	7.803	41	58774	87.47	ppb	100
62) 2-Chloroethylvinyl Ether	7.907	63	160242	53.48	ppb	100
63) cis-1,3-Dichloropropene	8.035	75	331394	52.46	ppb	100
64) 4-Methyl-2-pentanone	8.249	43	347144	50.77	ppb	100
66) Toluene	8.389	91	834948	51.55	ppb	100
67) trans-1,3-Dichloropropene	8.675	75	301624	51.89	ppb	100
68) Ethyl Methacrylate	8.803	69	380128	52.85	ppb	100
69) 1,1,2-Trichloroethane	8.864	97	187474	52.14	ppb	100
72) Tetrachloroethene	8.968	164	136413	47.21	ppb	100
73) 2-Hexanone	9.151	43	266356	49.93	ppb	100
74) 1,3-Dichloropropane	9.029	76	358926	49.96	ppb	100
75) Dibromochloromethane	9.254	129	147171	49.58	ppb	100
76) N-Butyl Acetate	9.291	43	535921	52.72	ppb	100
77) 1,2-Dibromoethane	9.352	107	185929	49.66	ppb	100
78) Chlorobenzene	9.827	112	522906	49.46	ppb	100
79) 3-CBTF	9.846	180	258339	47.43	ppb	100
80) 4-CBTF	9.901	180	232017	47.25	ppb	100
81) 1,1,1,2-Tetrachloroethane	9.919	131	160264	50.87	ppb	100
82) Ethylbenzene	9.943	106	284740	49.61	ppb	100
83) (m+p)Xylene	10.053	106	711205	102.57	ppb	100
84) o-Xylene	10.413	106	347592	49.26	ppb	100
85) Styrene	10.425	104	609331	52.15	ppb	100
87) Bromoform	10.590	173	89121	50.52	ppb	100
88) 2-CBTF	10.663	180	256639	48.85	ppb	100
89) Isopropylbenzene	10.742	105	903066	52.58	ppb	100
90) Cyclohexanone	10.827	55	736250	1002.90	ppb	100
91) trans-1,4-Dichloro-2-B...	11.065	53	94428	49.83	ppb	100
92) 1,1,2,2-Tetrachloroethane	11.016	83	302363	52.85	ppb	100
93) Bromobenzene	10.992	156	207883	49.13	ppb	100
94) 1,2,3-Trichloropropane	11.047	110	90282	47.94	ppb	100
95) n-Propylbenzene	11.096	91	1087035	52.89	ppb	100
96) 2-Chlorotoluene	11.163	91	659211	50.76	ppb	100
97) 3-Chlorotoluene	11.217	91	666507	50.60	ppb	100
98) 4-Chlorotoluene	11.254	91	733306	52.37	ppb	100
99) 1,3,5-Trimethylbenzene	11.248	105	753081	52.65	ppb	100
100) tert-Butylbenzene	11.516	119	651836	51.78	ppb	100
101) 1,2,4-Trimethylbenzene	11.559	105	763613	53.77	ppb	100
102) 3,4-DCBTF	11.620	214	206134	47.58	ppb	100
103) sec-Butylbenzene	11.699	105	959593	52.68	ppb	100
104) p-Isopropyltoluene	11.821	119	826547	53.00	ppb	100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	414182	49.14	ppb	100
106) 1,4-Dclbenz	11.864	146	425018	49.25	ppb	100
107) 2,4-DCBTF	11.912	214	189727	47.99	ppb	100
108) 2,5-DCBTF	11.955	214	213021	48.44	ppb	100
109) n-Butylbenzene	12.150	91	793099	52.00	ppb	100
110) 1,2-Dclbenz	12.162	146	417731	50.09	ppb	100
111) 1,2-Dibromo-3-chloropr...	12.796	157	67083	50.76	ppb	100
112) Trielution Dichlorotol...	12.906	125	1164285	152.66	ppb	100
113) 1,3,5 Trichlorobenzene	12.949	180	304519	48.75	ppb	100
114) Coelution Dichlorotoluene	13.229	125	867272	101.51	ppb	100
115) 1,2,4-Tcbenzene	13.437	180	314722	49.00	ppb	100
116) Hexachlorobt	13.565	225	126686	49.24	ppb	100
117) Naphthalen	13.632	128	1099005	54.38	ppb	100
118) 1,2,3-Tclbenzene	13.815	180	318665	50.23	ppb	100
119) 2,4,5-Trichlorotolene	14.400	159	240524	49.74	ppb	100
120) 2,3,6-Trichlorotoluene	14.479	159	249068	49.81	ppb	100

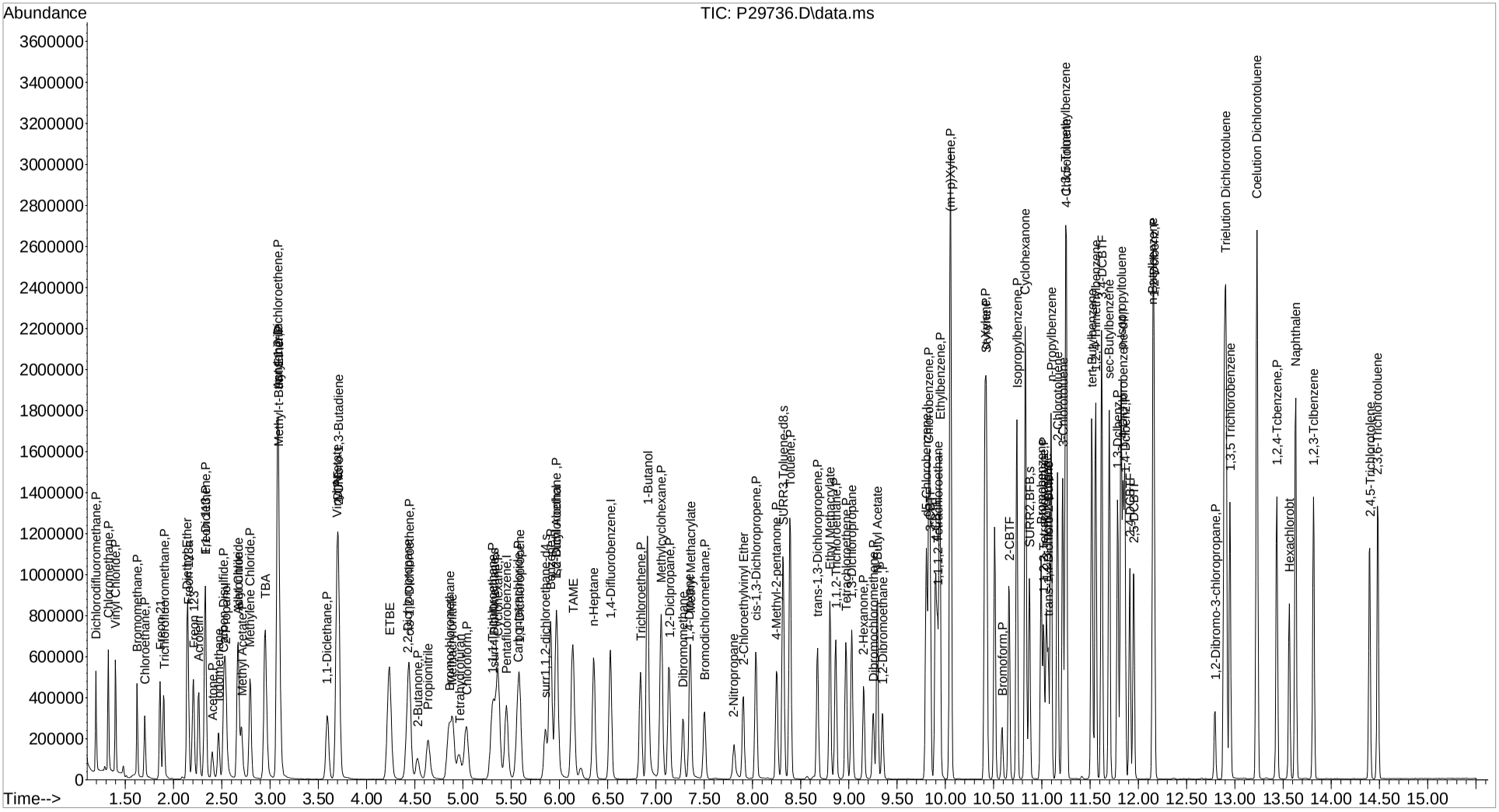
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29736.D
Acq On : 11 Sep 2019 5:22 pm
Operator : K.Ruest
Sample : 50ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 6 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:46:22 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

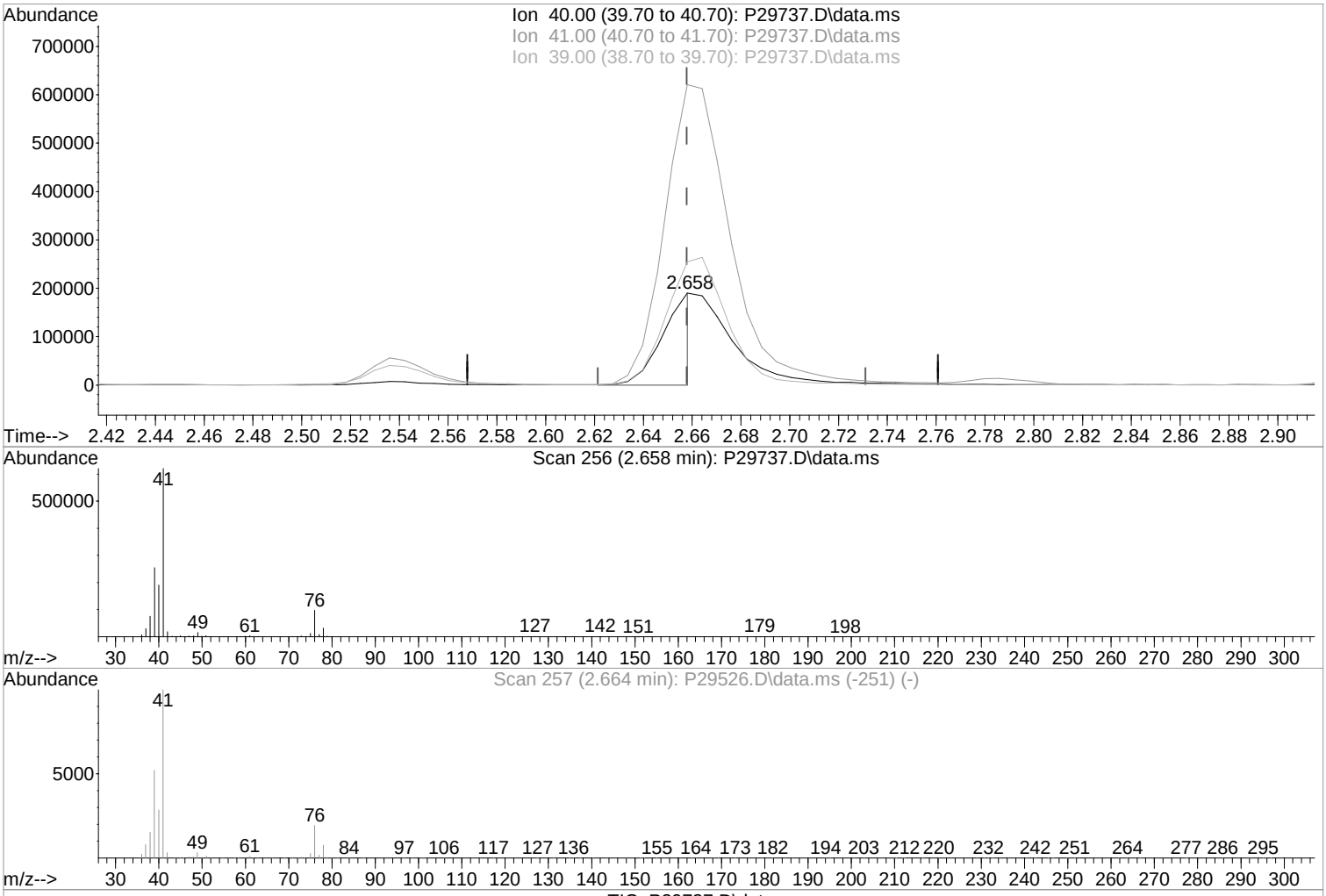


1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:22:39 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29737.D\data.ms

(19) Acetonitrile

2.658min (+0.000) 405.52 ppb m

response 166334

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	326.51
39.00	137.60	133.88
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

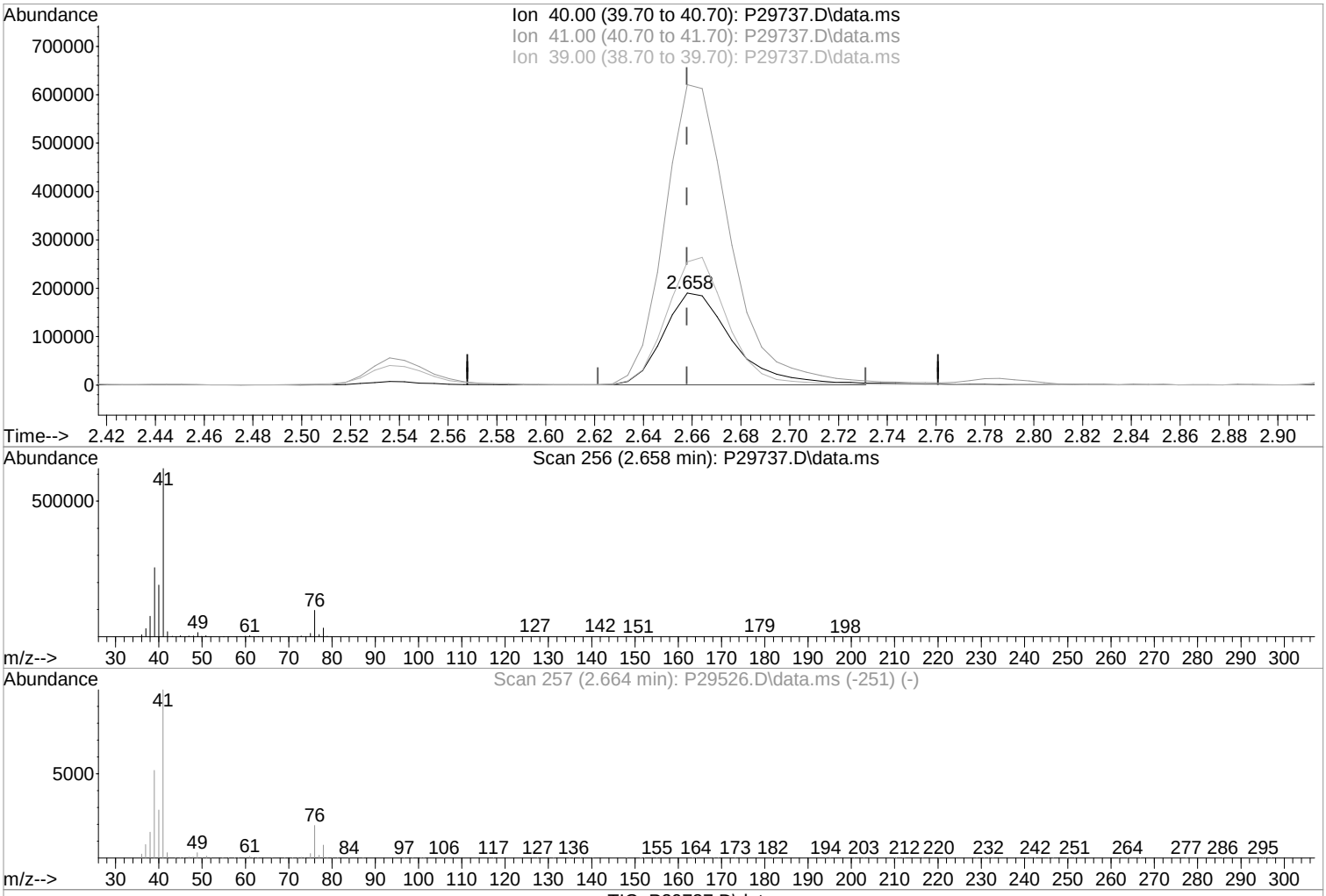
09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:22:39 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration



TIC: P29737.D\data.ms

(19) Acetonitrile

2.658min (+0.000) 914.14 ppb

response 374958

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	326.51
39.00	137.60	133.88
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.444	168	329161	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.523	114	545283	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	487330	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	266768	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.316	113	292427	101.19	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 202.38%#				
48) surr1,1,2-dichloroetha...	5.852	65	408205	102.08	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 204.16%#				
65) SURR3,Toluene-d8	8.315	98	1356520	99.71	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 199.42%#				
70) SURR2,BFB	10.870	95	533681	100.82	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 201.64%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.189	85	452520	111.22	ppb		99
3) Chloromethane	1.317	50	623073	99.41	ppb		97
4) Vinyl Chloride	1.390	62	612902	104.77	ppb		98
5) Bromomethane	1.615	94	275242	86.67	ppb		98
6) Chloroethane	1.689	64	346969	98.49	ppb		98
7) Freon 21	1.847	67	640094	98.16	ppb		96
8) Trichlorofluoromethane	1.884	101	514502	108.45	ppb		95
9) Diethyl Ether	2.134	59	420480	100.55	ppb		96
10) Freon 123a	2.140	67	443876	97.36	ppb		96
11) Freon 123	2.195	83	495186	98.49	ppb		99
12) Acrolein	2.256	56	613604	526.78	ppb		96
13) 1,1-Diclethene	2.323	96	331212	102.86	ppb		95
14) Freon 113	2.317	101	324971	103.80	ppb		93
15) Acetone	2.396	43	260170	97.12	ppb		96
16) 2-Propanol	2.536	45	1270476	2085.68	ppb		98
17) Iodomethane	2.457	142	446695	120.45	ppb		97
18) Carbon Disulfide	2.512	76	976250	101.18	ppb		99
19) Acetonitrile	2.658	40	166334m	405.52	ppb		
20) Allyl Chloride	2.664	76	171097	93.06	ppb	#	90
21) Methyl Acetate	2.701	43	536285	101.02	ppb		97
22) Methylene Chloride	2.786	84	383768	91.51	ppb		97
23) TBA	2.951	59	1881738	2086.80	ppb		100
24) Acrylonitrile	3.073	53	1428006	522.83	ppb		100
25) Methyl-t-Butyl Ether	3.085	73	1376869	101.61	ppb		97
26) trans-1,2-Dichloroethene	3.073	96	365353	103.70	ppb		94
28) 1,1-Diclethane	3.591	63	739785	102.28	ppb		99
29) Vinyl Acetate	3.688	86	97381	123.39	ppb		99
30) DIPE	3.694	45	1581816	100.44	ppb		97
31) 2-Chloro-1,3-Butadiene	3.700	53	613998	104.98	ppb		100
32) ETBE	4.231	59	1410465	99.48	ppb		97
33) 2,2-Dichloropropane	4.420	77	569458	107.38	ppb		97
34) cis-1,2-Dichloroethene	4.438	96	415421	103.79	ppb		95
35) 2-Butanone	4.517	43	376158	100.53	ppb		97
36) Propionitrile	4.633	54	621076	535.06	ppb		97
37) Bromochloromethane	4.847	130	230264	96.99	ppb		92
38) Methacrylonitrile	4.889	67	280839	102.31	ppb		90
39) Tetrahydrofuran	4.944	42	257313	83.49	ppb		96
40) Chloroform	5.029	83	636000	99.77	ppb		99
41) 1,1,1-Trichloroethane	5.298	97	529122	104.10	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.133	73	1332348	101.97	ppb		96
44) Cyclohexane	5.353	41	439195	100.87	ppb		93
46) Carbontetrachloride	5.560	117	398420	105.61	ppb		96
47) 1,1-Dichloropropene	5.584	75	534392	101.30	ppb		99
49) Benzene	5.901	78	1666039	101.64	ppb		100
50) 1,2-Dichloroethane	5.968	62	554369	99.50	ppb		98
51) Iso-Butyl Alcohol	5.968	43	989597	2120.17	ppb		97
52) n-Heptane	6.352	43	652745	106.45	ppb		99
53) 1-Butanol	6.913	56	1502287	5613.77	ppb		99
54) Trichloroethene	6.834	130	381748	104.73	ppb		97
55) Methylcyclohexane	7.053	55	597670	101.75	ppb		98
56) 1,2-Diclpropane	7.133	63	460968	101.89	ppb		93
57) Dibromomethane	7.279	93	238396	106.25	ppb		93
58) 1,4-Dioxane	7.346	88	208150	1996.04	ppb		97
59) Methyl Methacrylate	7.352	69	460048	109.24	ppb		95
60) Bromodichloromethane	7.498	83	460048	105.68	ppb		98
61) 2-Nitropropane	7.809	41	136717	198.75	ppb		99
62) 2-Chloroethylvinyl Ether	7.901	63	334971	109.19	ppb		100
63) cis-1,3-Dichloropropene	8.035	75	691322	106.90	ppb		99
64) 4-Methyl-2-pentanone	8.248	43	737543	105.37	ppb		98
66) Toluene	8.389	91	1664348	100.38	ppb		91
67) trans-1,3-Dichloropropene	8.675	75	636615	106.98	ppb		97
68) Ethyl Methacrylate	8.803	69	788023	107.01	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	376781	102.35	ppb		97
72) Tetrachloroethene	8.968	164	288794	98.26	ppb		97
73) 2-Hexanone	9.151	43	559599	103.14	ppb		95
74) 1,3-Dichloropropane	9.029	76	746319	102.13	ppb		99
75) Dibromochloromethane	9.254	129	325296	107.76	ppb		96
76) N-Butyl Acetate	9.291	43	1102688	106.66	ppb		96
77) 1,2-Dibromoethane	9.346	107	384836	101.07	ppb		100
78) Chlorobenzene	9.827	112	1082960	100.73	ppb		98
79) 3-CBTF	9.846	180	551969	99.64	ppb		97
80) 4-CBTF	9.900	180	507664	101.66	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	357875	111.70	ppb		96
82) Ethylbenzene	9.943	106	610146	104.53	ppb	#	83
83) (m+p)Xylene	10.053	106	1445477	204.97	ppb	#	83
84) o-Xylene	10.413	106	741828	103.37	ppb	#	85
85) Styrene	10.425	104	1259773	106.00	ppb		98
87) Bromoform	10.589	173	209434	112.01	ppb		95
88) 2-CBTF	10.663	180	550854	98.94	ppb		98
89) Isopropylbenzene	10.742	105	1813030	99.59	ppb		94
90) Cyclohexanone	10.827	55	1468858	1887.86	ppb		96
91) trans-1,4-Dichloro-2-B...	11.065	53	219688	109.38	ppb		97
92) 1,1,2,2-Tetrachloroethane	11.016	83	642070	105.89	ppb		99
93) Bromobenzene	10.992	156	441190	98.38	ppb		97
94) 1,2,3-Trichloropropane	11.047	110	195327	97.86	ppb	#	91
95) n-Propylbenzene	11.095	91	2083963	95.68	ppb		90
96) 2-Chlorotoluene	11.162	91	1354362	98.40	ppb		95
97) 3-Chlorotoluene	11.217	91	1369032	98.07	ppb		96
98) 4-Chlorotoluene	11.254	91	1494188	100.69	ppb		94
99) 1,3,5-Trimethylbenzene	11.248	105	1565641	103.27	ppb		96
100) tert-Butylbenzene	11.516	119	1363067	102.16	ppb		96
101) 1,2,4-Trimethylbenzene	11.559	105	1557637	103.49	ppb		94
102) 3,4-DCBTF	11.620	214	460289	100.24	ppb		98
103) sec-Butylbenzene	11.699	105	1926730	99.80	ppb		93
104) p-Isopropyltoluene	11.821	119	1699982	102.85	ppb		91

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	881082	98.63	ppb	98
106) 1,4-Dclbenz	11.864	146	901060	98.53	ppb	97
107) 2,4-DCBTF	11.912	214	416250	99.34	ppb	98
108) 2,5-DCBTF	11.955	214	479746	102.94	ppb	98
109) n-Butylbenzene	12.150	91	1617781	100.09	ppb	91
110) 1,2-Dclbenz	12.162	146	892513	100.98	ppb	99
111) 1,2-Dibromo-3-chloropr...	12.796	157	154090	110.01	ppb	96
112) Trielution Dichlorotol...	12.906	125	2385254	295.10	ppb	94
113) 1,3,5 Trichlorobenzene	12.949	180	665346	100.50	ppb	98
114) Coelution Dichlorotoluene	13.229	125	1741970	192.38	ppb	94
115) 1,2,4-Tcbenzene	13.436	180	673289	98.91	ppb	98
116) Hexachlorobt	13.564	225	272895	100.08	ppb	98
117) Naphthalen	13.631	128	2068743	96.59	ppb	94
118) 1,2,3-Tclbenzene	13.814	180	675311	100.44	ppb	96
119) 2,4,5-Trichlorotolene	14.400	159	507239	98.97	ppb	99
120) 2,3,6-Trichlorotoluene	14.485	159	525459	99.15	ppb	95

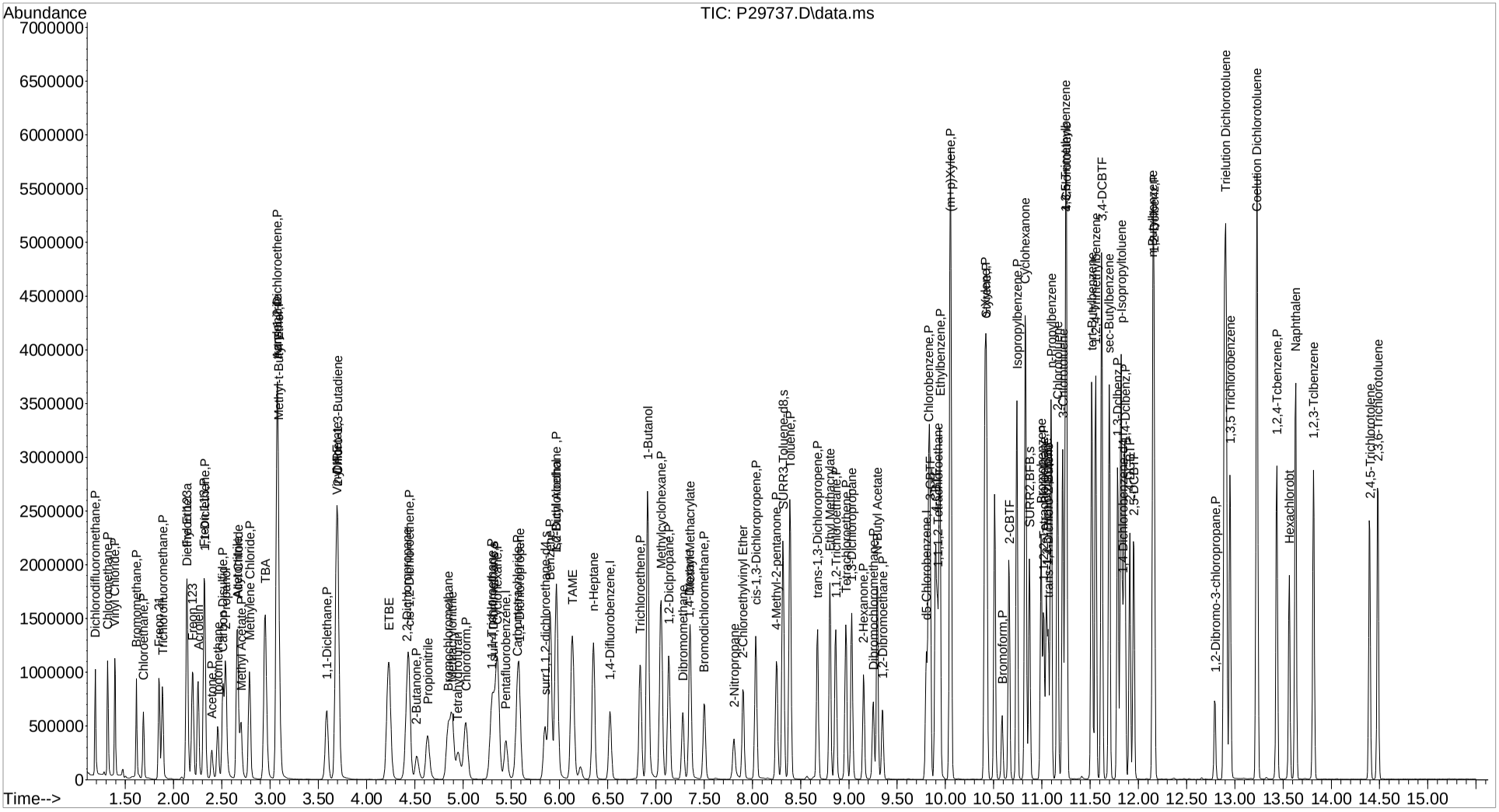
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29737.D
Acq On : 11 Sep 2019 5:44 pm
Operator : K.Ruest
Sample : 100ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 7 Sample Multiplier: 1

09/12/19 1st
09/12/19 2nd

Quant Time: Sep 12 09:47:54 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

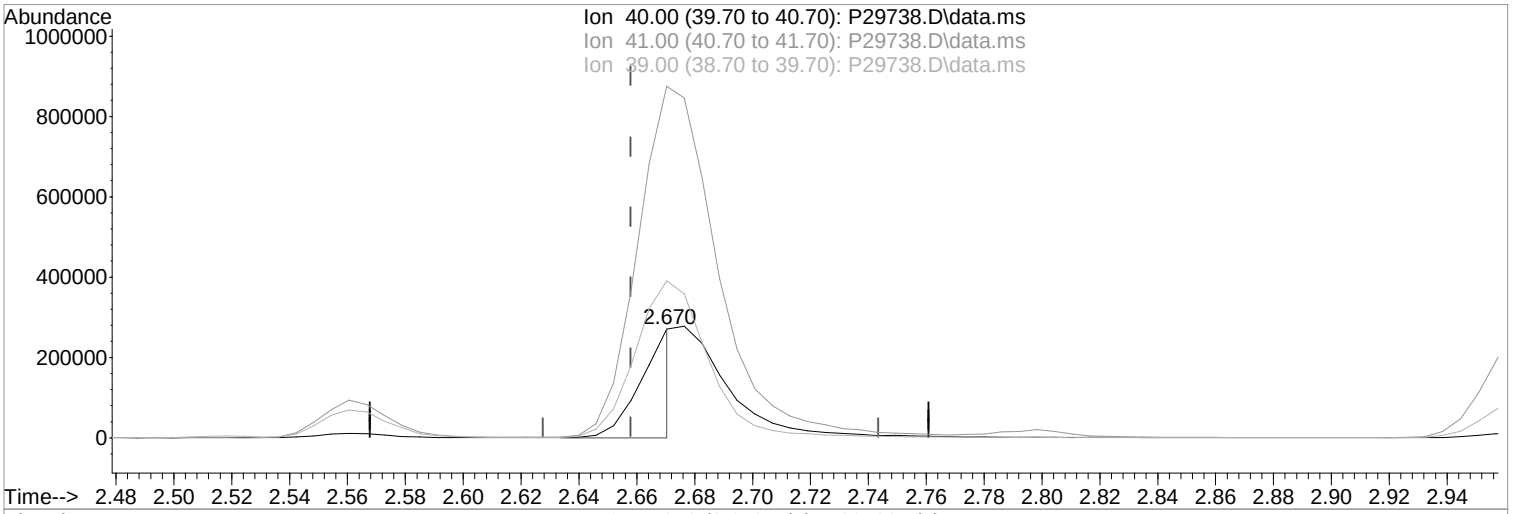


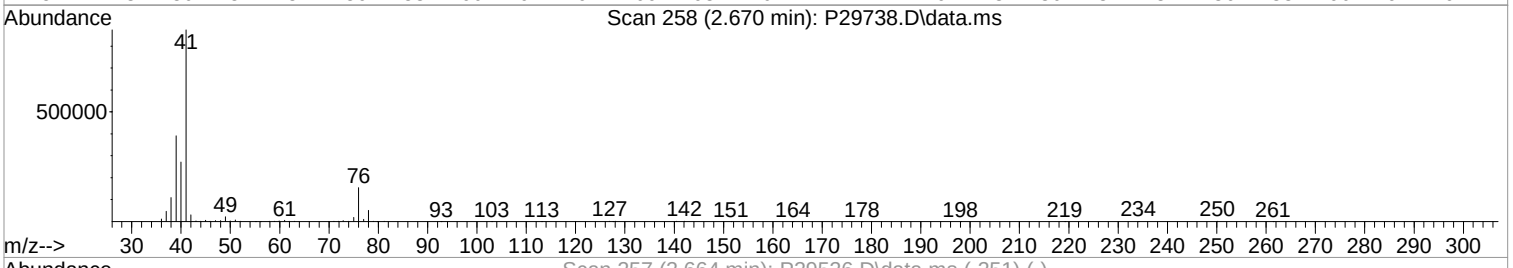
1st 09/12/19
2nd 09/12/19

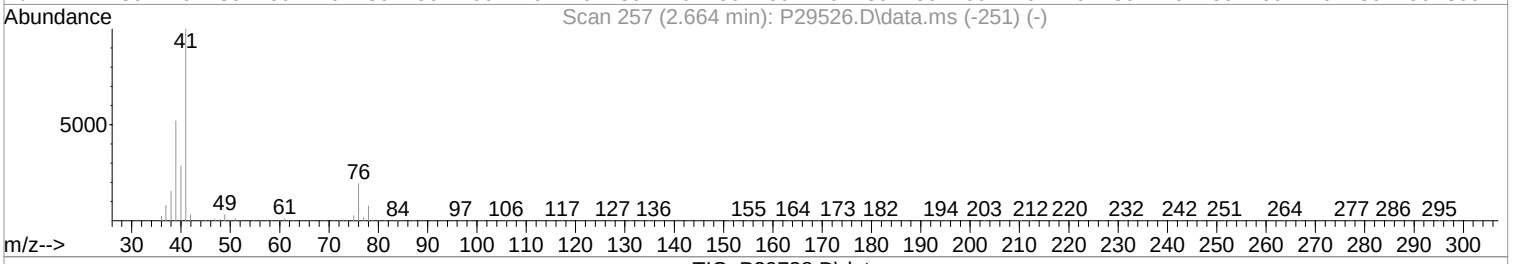
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:22:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29738.D\data.ms

(19) Acetonitrile

2.670min (+0.012) 558.49 ppb m

response 213385

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	323.42
39.00	137.60	144.56
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

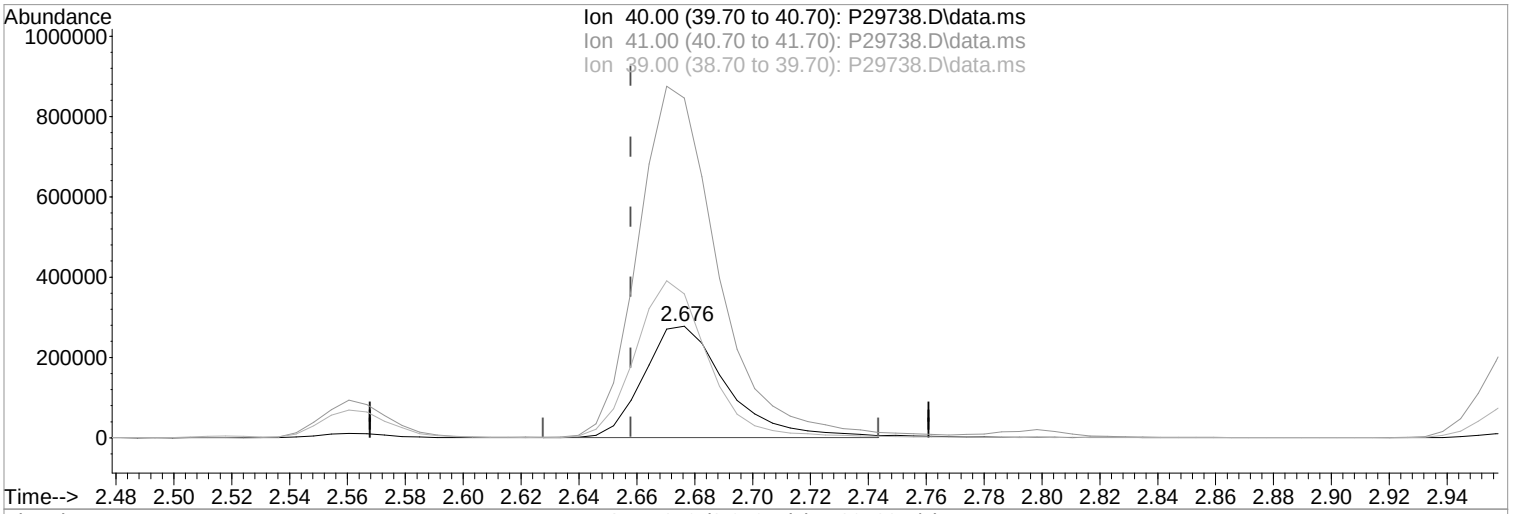
09/12/19

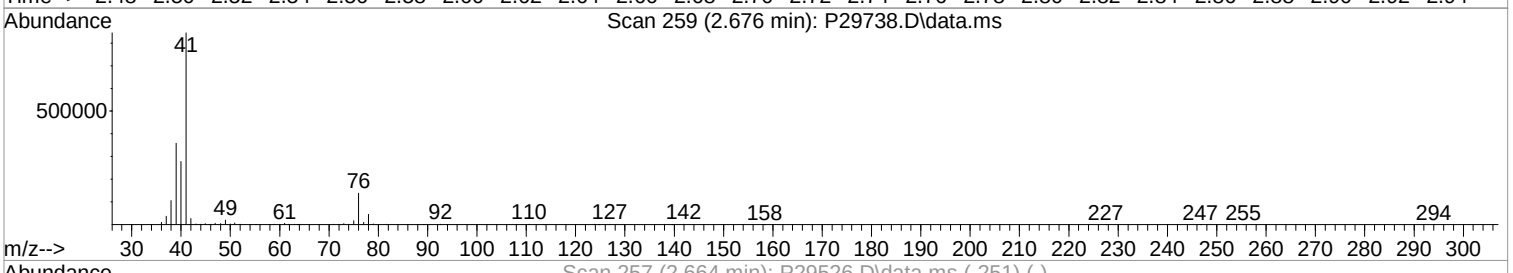
1st 09/12/19
2nd 09/12/19

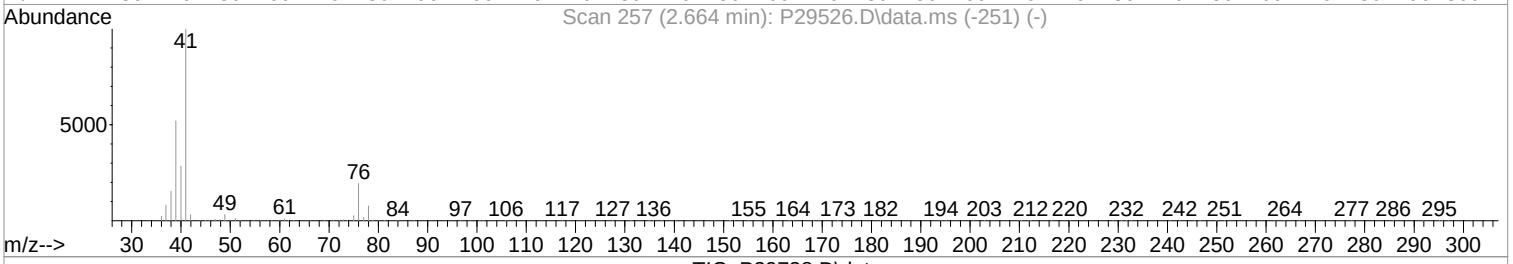
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:22:42 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29738.D\data.ms

(19) Acetonitrile

2.676min (+0.019) 1452.04 ppb

response 554783

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	304.77#
39.00	137.60	129.04
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	306609	50.00	ppb		0.01
43) 1,4-Difluorobenzene	6.529	114	529627	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	480064	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	276240	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.328	113	538146	191.72	ppb		0.01
Spiked Amount 50.000	Range 89 - 119		Recovery = 383.44%#				
48) surr1,1,2-dichloroetha...	5.859	65	753193	193.92	ppb		0.01
Spiked Amount 50.000	Range 73 - 125		Recovery = 387.84%#				
65) SURR3,Toluene-d8	8.322	98	2322663	175.77	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 351.54%#				
70) SURR2,BFB	10.870	95	1017080	197.83	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 395.66%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	636454	167.93	ppb		98
3) Chloromethane	1.329	50	906875	155.34	ppb		96
4) Vinyl Chloride	1.402	62	863704	158.51	ppb		97
5) Bromomethane	1.628	94	382930	129.44	ppb		97
6) Chloroethane	1.689	64	494874	150.81	ppb		99
7) Freon 21	1.859	67	924846	152.25	ppb		98
8) Trichlorofluoromethane	1.890	101	717467	162.36	ppb		92
9) Diethyl Ether	2.146	59	610303	156.67	ppb		99
10) Freon 123a	2.152	67	633690	149.21	ppb		96
11) Freon 123	2.207	83	704186	150.36	ppb		99
12) Acrolein	2.268	56	904603	833.73	ppb		99
13) 1,1-Diclethene	2.329	96	474447	158.18	ppb		95
14) Freon 113	2.329	101	455613	156.23	ppb		100
15) Acetone	2.414	43	379830	152.22	ppb		97
16) 2-Propanol	2.561	45	1955124	3445.71	ppb		94
17) Iodomethane	2.469	142	635822	184.06	ppb		96
18) Carbon Disulfide	2.518	76	1380685	153.62	ppb		98
19) Acetonitrile	2.670	40	213385m	558.49	ppb		
20) Allyl Chloride	2.670	76	244143	142.56	ppb	#	83
21) Methyl Acetate	2.713	43	805736	162.93	ppb		98
22) Methylene Chloride	2.798	84	550744	140.98	ppb		98
23) TBA	2.969	59	2850981	3394.22	ppb		97
24) Acrylonitrile	3.085	53	2033469	799.27	ppb		99
25) Methyl-t-Butyl Ether	3.097	73	1994444	158.01	ppb		99
26) trans-1,2-Dichloroethene	3.085	96	525894	160.25	ppb		92
28) 1,1-Diclethane	3.597	63	1073044	159.27	ppb		99
29) Vinyl Acetate	3.694	86	143645	195.40	ppb	#	73
30) DIPE	3.707	45	2262565	154.23	ppb		95
31) 2-Chloro-1,3-Butadiene	3.713	53	877587	161.08	ppb		99
32) ETBE	4.243	59	2051944	155.37	ppb		100
33) 2,2-Dichloropropane	4.432	77	804314	162.82	ppb		97
34) cis-1,2-Dichloroethene	4.450	96	592809	159.00	ppb		99
35) 2-Butanone	4.536	43	565407	162.23	ppb		96
36) Propionitrile	4.646	54	928192	858.46	ppb		99
37) Bromochloromethane	4.859	130	334532	151.27	ppb		89
38) Methacrylonitrile	4.902	67	412742	161.42	ppb		90
39) Tetrahydrofuran	4.963	42	387896	135.12	ppb		96
40) Chloroform	5.042	83	914020	153.93	ppb		98
41) 1,1,1-Trichloroethane	5.304	97	770240	162.69	ppb		96

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	1937998	159.23	ppb		95
44) Cyclohexane	5.365	41	639582	151.23	ppb		93
46) Carbontetrachloride	5.566	117	599776	163.69	ppb		96
47) 1,1-Dichloropropene	5.590	75	781189	152.46	ppb		99
49) Benzene	5.914	78	2350564	147.63	ppb		99
50) 1,2-Dichloroethane	5.975	62	800400	147.90	ppb		97
51) Iso-Butyl Alcohol	5.987	43	1603786	3537.62	ppb		97
52) n-Heptane	6.359	43	929220	156.02	ppb		96
53) 1-Butanol	6.926	56	2370737	9120.89	ppb		97
54) Trichloroethene	6.840	130	546510	154.37	ppb		98
55) Methylcyclohexane	7.054	55	855039	149.87	ppb		97
56) 1,2-Diclpropane	7.139	63	662389	150.74	ppb		92
57) Dibromomethane	7.285	93	347546	159.47	ppb		94
58) 1,4-Dioxane	7.352	88	335634	3313.69	ppb		96
59) Methyl Methacrylate	7.358	69	682916	166.96	ppb		97
60) Bromodichloromethane	7.505	83	684370	161.85	ppb		97
61) 2-Nitropropane	7.810	41	229365	343.30	ppb		94
62) 2-Chloroethylvinyl Ether	7.907	63	491849	165.07	ppb		100
63) cis-1,3-Dichloropropene	8.041	75	1014892	161.57	ppb		96
64) 4-Methyl-2-pentanone	8.255	43	1105061	162.54	ppb		100
66) Toluene	8.395	91	2292640	142.36	ppb		87
67) trans-1,3-Dichloropropene	8.675	75	955084	165.24	ppb		99
68) Ethyl Methacrylate	8.803	69	1180822	165.10	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	562315	157.27	ppb		98
72) Tetrachloroethene	8.974	164	414989	143.34	ppb		97
73) 2-Hexanone	9.157	43	861634	161.22	ppb		99
74) 1,3-Dichloropropane	9.029	76	1073401	149.12	ppb		98
75) Dibromochloromethane	9.254	129	499501	167.98	ppb		98
76) N-Butyl Acetate	9.297	43	1622150	159.28	ppb		92
77) 1,2-Dibromoethane	9.352	107	573090	152.80	ppb		96
78) Chlorobenzene	9.827	112	1538264	145.24	ppb		95
79) 3-CBTF	9.846	180	821586	150.56	ppb		98
80) 4-CBTF	9.901	180	751625	152.79	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	530877	168.20	ppb		99
82) Ethylbenzene	9.943	106	885089	153.92	ppb	#	70
83) (m+p)Xylene	10.053	106	2004516	288.54	ppb	#	72
84) o-Xylene	10.413	106	1069150	151.24	ppb	#	77
85) Styrene	10.431	104	1773726	151.51	ppb		98
87) Bromoform	10.589	173	339436	175.31	ppb		93
88) 2-CBTF	10.663	180	827587	143.55	ppb		97
89) Isopropylbenzene	10.742	105	2431415	128.98	ppb		85
90) Cyclohexanone	10.833	55	1992030	2472.48	ppb		95
91) trans-1,4-Dichloro-2-B...	11.065	53	341237	164.07	ppb		98
92) 1,1,2,2-Tetrachloroethane	11.022	83	991927	157.98	ppb		96
93) Bromobenzene	10.992	156	662965	142.76	ppb		99
94) 1,2,3-Trichloropropane	11.047	110	299712	145.01	ppb	#	88
95) n-Propylbenzene	11.095	91	2756105	122.20	ppb		81
96) 2-Chlorotoluene	11.163	91	1897210	133.12	ppb		91
97) 3-Chlorotoluene	11.217	91	1917916	132.67	ppb	#	90
98) 4-Chlorotoluene	11.254	91	2067046	134.52	ppb		88
99) 1,3,5-Trimethylbenzene	11.248	105	2149284	136.91	ppb		88
100) tert-Butylbenzene	11.516	119	1911170	138.32	ppb		92
101) 1,2,4-Trimethylbenzene	11.559	105	2144377	137.59	ppb		85
102) 3,4-DCBTF	11.620	214	698900	146.99	ppb		98
103) sec-Butylbenzene	11.699	105	2542096	127.15	ppb		84
104) p-Isopropyltoluene	11.821	119	2280865	133.26	ppb		81

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
105) 1,3-Dclbenz	11.790	146	1315084	142.16	ppb		96
106) 1,4-Dclbenz	11.864	146	1340377	141.54	ppb		93
107) 2,4-DCBTF	11.912	214	641554	147.86	ppb		98
108) 2,5-DCBTF	11.955	214	732845	151.85	ppb		99
109) n-Butylbenzene	12.150	91	2211322	132.12	ppb		82
110) 1,2-Dclbenz	12.162	146	1342751	146.70	ppb		98
111) 1,2-Dibromo-3-chloropr...	12.796	157	243323	167.77	ppb		98
112) Trielution Dichlorotol...	12.906	125	3408696	407.26	ppb	#	86
113) 1,3,5 Trichlorobenzene	12.955	180	1005778	146.71	ppb		99
114) Coelution Dichlorotoluene	13.229	125	2412820	257.34	ppb	#	83
115) 1,2,4-Tcbenzene	13.436	180	1018500	144.49	ppb		99
116) Hexachlorobt	13.565	225	414898	146.94	ppb		96
117) Naphthalen	13.632	128	2752498	124.10	ppb		85
118) 1,2,3-Tclbenzene	13.821	180	1018141	146.23	ppb		97
119) 2,4,5-Trichlorotolene	14.400	159	768495	144.81	ppb		99
120) 2,3,6-Trichlorotoluene	14.485	159	786988	143.41	ppb		93

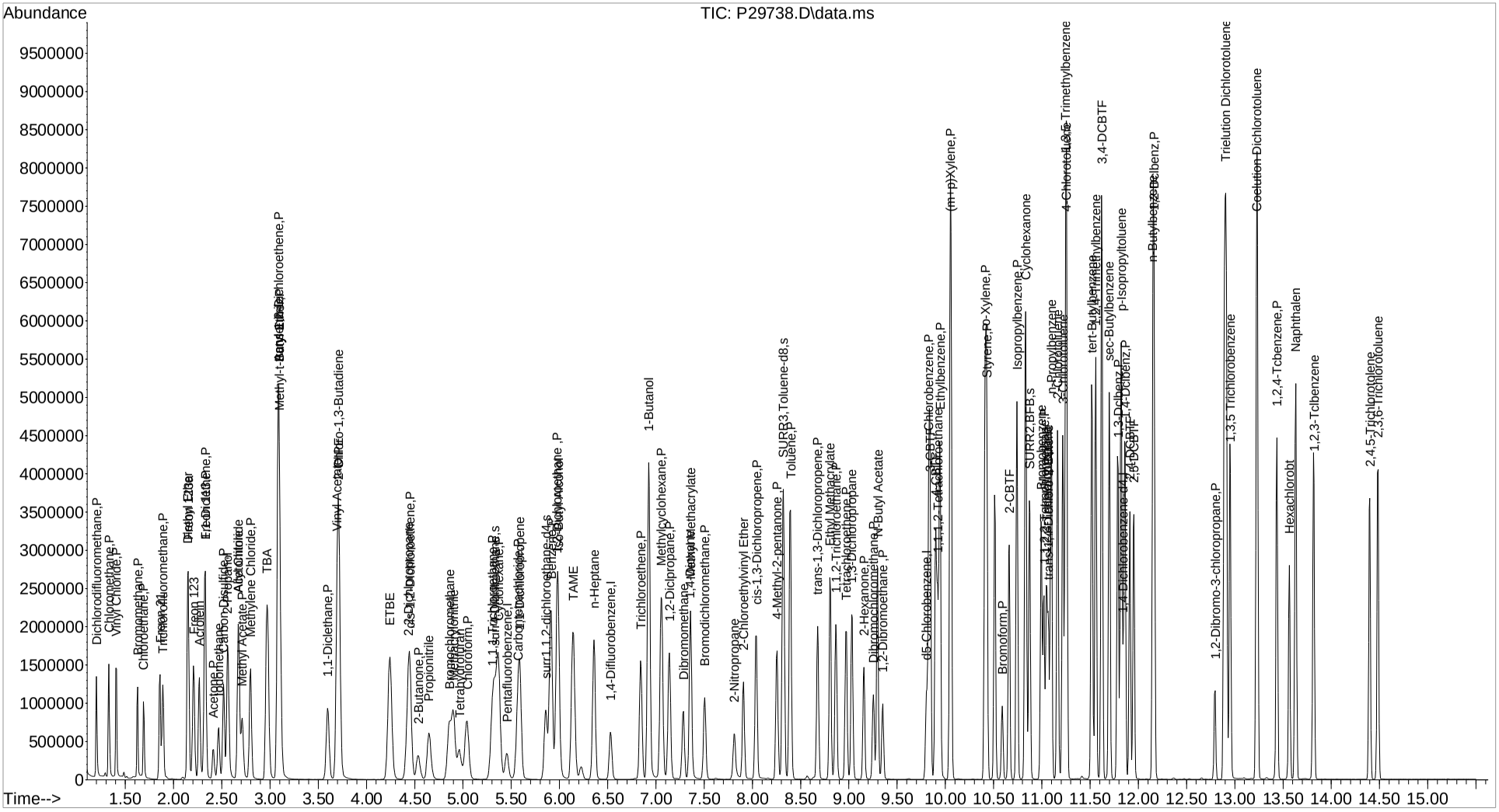
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/12/19 1st
09/12/19 2nd

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29738.D
Acq On : 11 Sep 2019 6:06 pm
Operator : K.Ruest
Sample : 150ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 09:49:19 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration

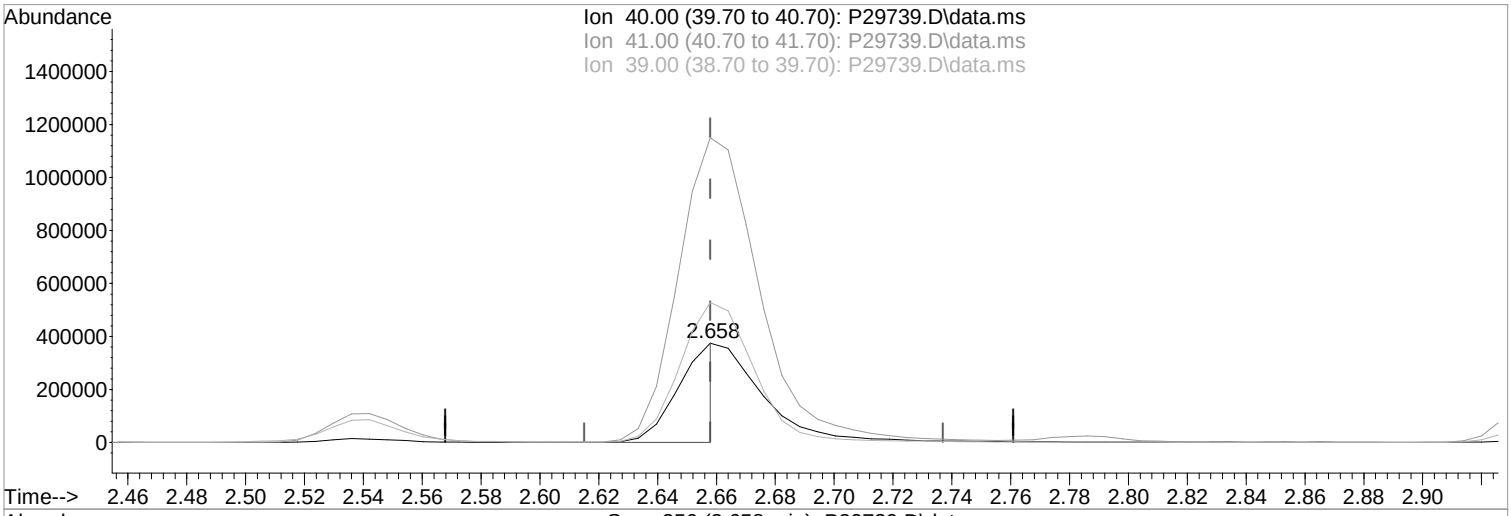


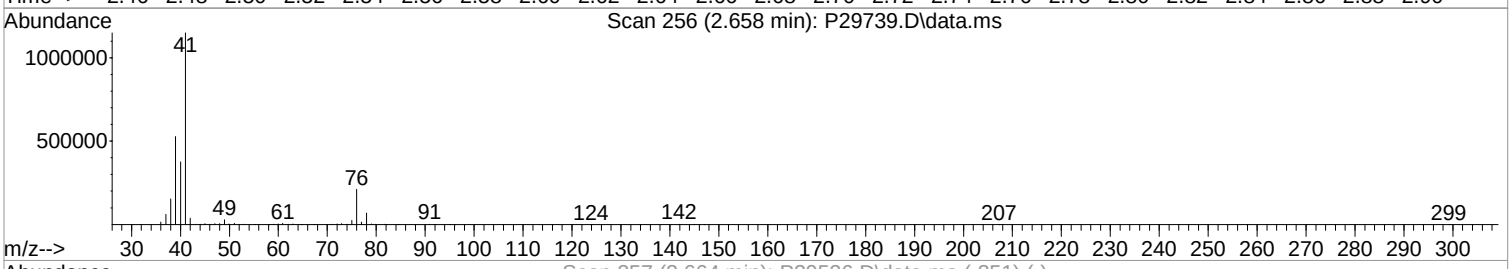
1st 09/12/19
2nd 09/12/19

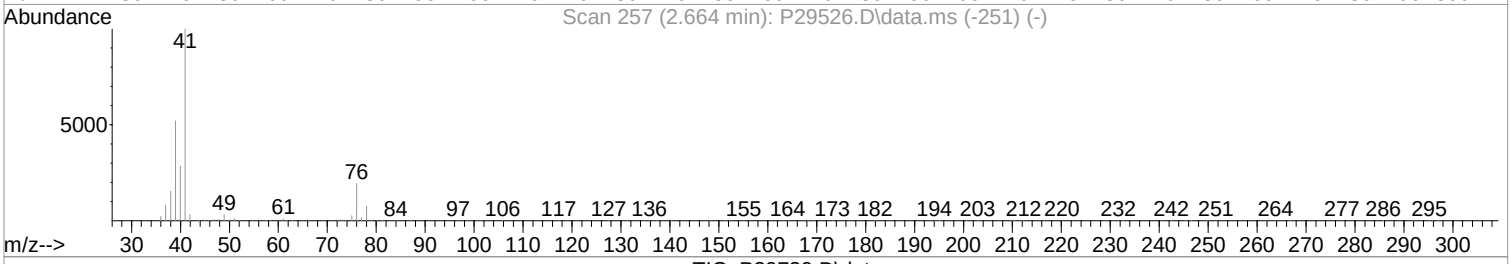
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:22:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29739.D\data.ms

(19) Acetonitrile

2.658min (0.000) 842.06 ppb m

response 346022

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	306.99#
39.00	137.60	140.82
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

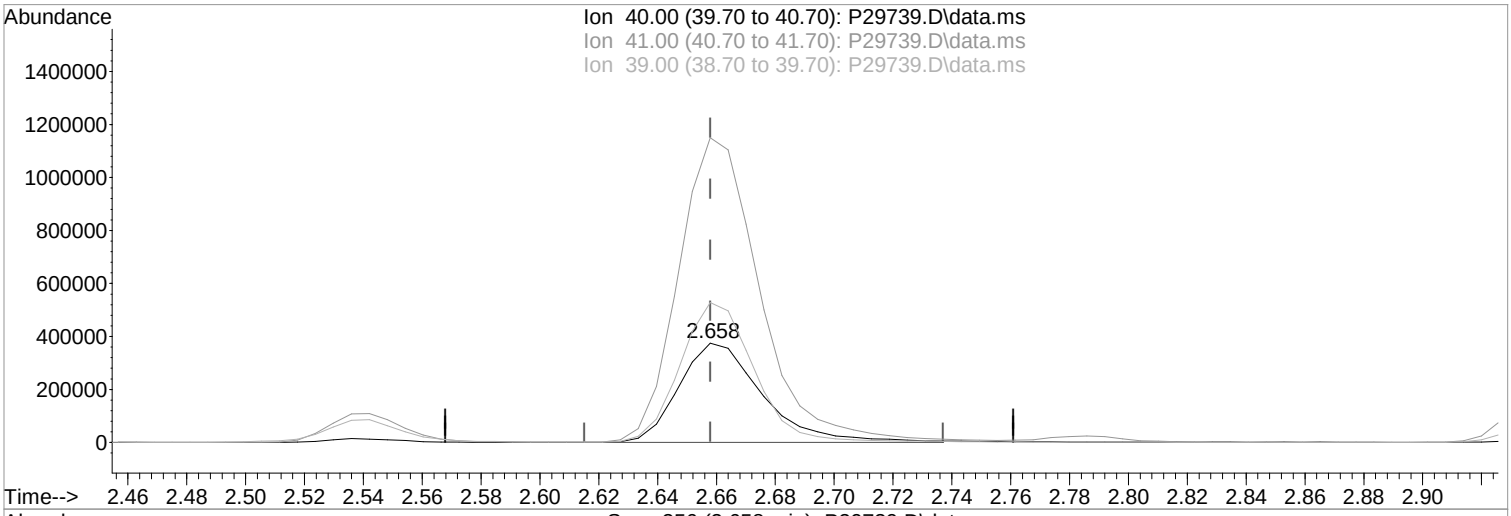
09/12/19

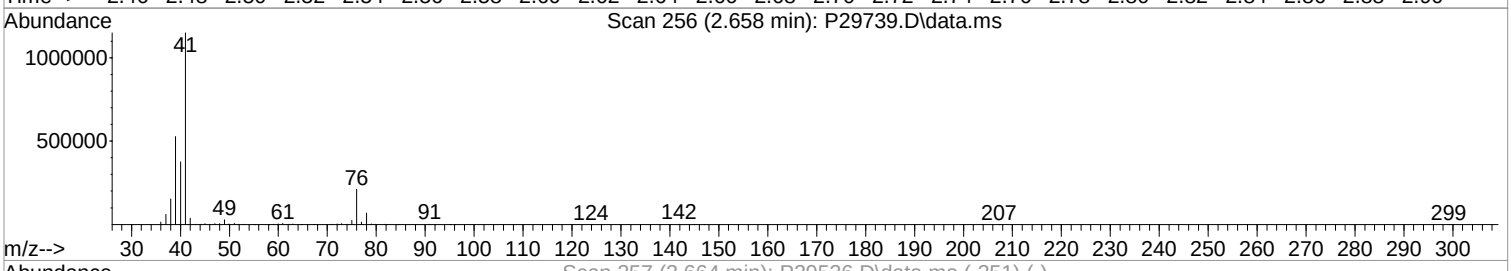
1st 09/12/19
2nd 09/12/19

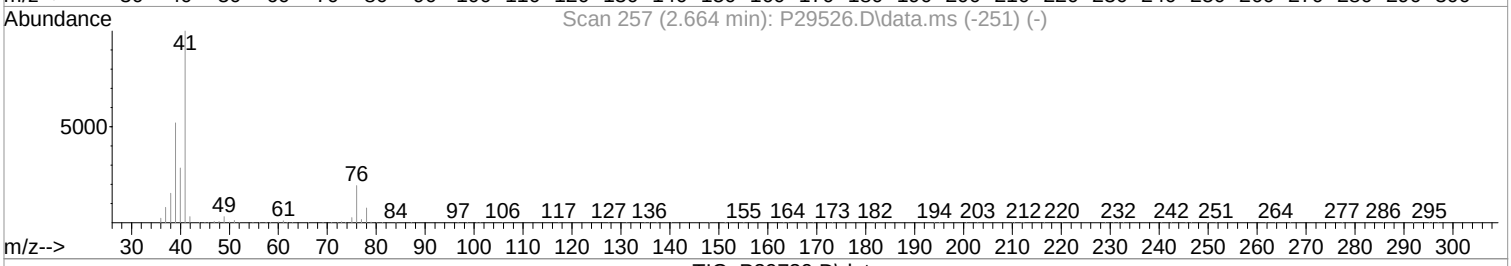
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091119\
Data File : P29739.D
Acq On : 11 Sep 2019 6:28 pm
Operator : K.Ruest
Sample : 200ppb Inst : MSVOA-12
Misc : WATER ICAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 09:22:45 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 08:53:50 2019
Response via : Initial Calibration







TIC: P29739.D\data.ms

(19) Acetonitrile

2.658min (0.000) 1795.51 ppb

response 737815

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	306.99#
39.00	137.60	140.82
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

1st 09/12/19
2nd 09/12/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene	5.456	168	334332	50.00	ppb		0.00
43) 1,4-Difluorobenzene	6.529	114	555220	50.00	ppb		0.00
71) d5-Chlorobenzene	9.803	117	488208	50.00	ppb		0.00
86) 1,4-Dichlorobenzene-d4	11.839	152	267427	50.00	ppb		0.00
System Monitoring Compounds							
45) surr4,Dibrflmethane	5.322	113	143351	48.72	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 97.44%				
48) surr1,1,2-dichloroetha...	5.853	65	204265	50.17	ppb		0.00
Spiked Amount 50.000	Range 73 - 125		Recovery = 100.34%				
65) SURR3,Toluene-d8	8.315	98	703409	50.78	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 101.56%				
70) SURR2,BFB	10.870	95	267579	49.65	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.30%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.201	85	163442	39.55	ppb		99
3) Chloromethane	1.329	50	242908	38.16	ppb		95
4) Vinyl Chloride	1.408	62	242131	40.75	ppb		97
5) Bromomethane	1.628	94	131262	47.25	ppb		95
6) Chloroethane	1.707	64	140521	39.27	ppb		98
7) Freon 21	1.865	67	288960	43.63	ppb		97
8) Trichlorofluoromethane	1.908	101	224641	46.62	ppb		96
9) Diethyl Ether	2.146	59	178759	42.08	ppb		98
10) Freon 123a	2.158	67	195295	42.18	ppb		96
11) Freon 123	2.207	83	232925	45.61	ppb		98
12) Acrolein	2.268	56	74378	62.87	ppb		98
13) 1,1-Diclethene	2.335	96	139973	42.80	ppb		95
14) Freon 113	2.335	101	139802	43.96	ppb		100
15) Acetone	2.402	43	109388	40.20	ppb		92
16) 2-Propanol	2.542	45	460965	745.04	ppb		99
17) Iodomethane	2.475	142	159206	39.56	ppb		99
18) Carbon Disulfide	2.524	76	460505	46.99	ppb		100
19) Acetonitrile	2.670	40	75280m	208.46	ppb		
20) Allyl Chloride	2.676	76	90407	48.21	ppb		94
21) Methyl Acetate	2.713	43	214922	39.86	ppb		96
22) Methylene Chloride	2.798	84	170831	40.10	ppb		98
23) TBA	2.951	59	675582	737.62	ppb		99
24) Acrylonitrile	3.085	53	573227	205.40	ppb		96
25) Methyl-t-Butyl Ether	3.097	73	596702	43.35	ppb		98
26) trans-1,2-Dichloroethene	3.085	96	157537	44.36	ppb		90
28) 1,1-Diclethane	3.597	63	326655	44.46	ppb		99
29) Vinyl Acetate	3.694	86	47805	50.25	ppb	#	85
30) DIPE	3.707	45	698823	43.68	ppb		96
31) 2-Chloro-1,3-Butadiene	3.713	53	280996	47.25	ppb		95
32) ETBE	4.243	59	564474	39.20	ppb		98
33) 2,2-Dichloropropane	4.432	77	255044	47.35	ppb		94
34) cis-1,2-Dichloroethene	4.444	96	178584	43.81	ppb		97
35) 2-Butanone	4.530	43	158206	41.63	ppb		97
36) Propionitrile	4.639	54	234253	198.69	ppb		99
37) Bromochloromethane	4.859	130	98326	40.77	ppb		97
38) Methacrylonitrile	4.901	67	107879	38.69	ppb		91
39) Tetrahydrofuran	4.962	42	103391	38.77	ppb		93
40) Chloroform	5.042	83	279487	43.17	ppb		99
41) 1,1,1-Trichloroethane	5.304	97	232385	45.01	ppb		98

1st 09/12/19
2nd 09/12/19

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) TAME	6.139	73	564482	42.53	ppb		94
44) Cyclohexane	5.365	41	196747	44.38	ppb		96
46) Carbontetrachloride	5.566	117	176954	46.80	ppb		95
47) 1,1-Dichloropropene	5.590	75	241297	44.92	ppb		97
49) Benzene	5.913	78	730478	43.77	ppb		98
50) 1,2-Dichloroethane	5.968	62	230393	40.61	ppb		97
51) Iso-Butyl Alcohol	5.968	43	328146	690.46	ppb		94
52) n-Heptane	6.352	43	301079	48.21	ppb		97
53) 1-Butanol	6.907	56	494086	1813.27	ppb		99
54) Trichloroethene	6.840	130	157505	42.44	ppb		96
55) Methylcyclohexane	7.053	55	271895	45.46	ppb		99
56) 1,2-Diclpropane	7.133	63	196693	42.70	ppb		88
57) Dibromomethane	7.279	93	102506	44.86	ppb		96
58) 1,4-Dioxane	7.346	88	79750	748.67	ppb		98
59) Methyl Methacrylate	7.358	69	180919	42.19	ppb		96
60) Bromodichloromethane	7.505	83	201247	45.40	ppb		97
61) 2-Nitropropane	7.809	41	52535	75.01	ppb		96
62) 2-Chloroethylvinyl Ether	7.907	63	122162	39.45	ppb		100
63) cis-1,3-Dichloropropene	8.035	75	294696	44.75	ppb		99
64) 4-Methyl-2-pentanone	8.248	43	298594	41.89	ppb		99
66) Toluene	8.389	91	769502	45.58	ppb		98
67) trans-1,3-Dichloropropene	8.675	75	264681	43.68	ppb		99
68) Ethyl Methacrylate	8.803	69	320105	42.69	ppb		99
69) 1,1,2-Trichloroethane	8.864	97	166210	44.34	ppb		97
72) Tetrachloroethene	8.968	164	126691	43.03	ppb		96
73) 2-Hexanone	9.151	43	230240	42.36	ppb		96
74) 1,3-Dichloropropane	9.029	76	315496	43.10	ppb		97
75) Dibromochloromethane	9.254	129	143607	47.49	ppb		95
76) N-Butyl Acetate	9.291	43	448990	43.35	ppb		99
77) 1,2-Dibromoethane	9.346	107	161491	42.34	ppb		100
78) Chlorobenzene	9.827	112	479595	44.53	ppb		98
79) 3-CBTF	9.840	180	244888	44.13	ppb		99
80) 4-CBTF	9.894	180	218979	43.77	ppb		97
81) 1,1,1,2-Tetrachloroethane	9.919	131	154644	48.18	ppb		97
82) Ethylbenzene	9.943	106	271546	46.44	ppb		98
83) (m+p)Xylene	10.053	106	674429	95.46	ppb		98
84) o-Xylene	10.413	106	329833	45.88	ppb		96
85) Styrene	10.425	104	545204	45.79	ppb		97
87) Bromoform	10.589	173	84694	45.18	ppb		90
88) 2-CBTF	10.663	180	233642	41.86	ppb		99
89) Isopropylbenzene	10.742	105	859991	47.12	ppb		99
90) Cyclohexanone	10.827	55	727904	933.24	ppb		100
91) trans-1,4-Dichloro-2-B...	11.065	53	85181	42.31	ppb		95
92) 1,1,2,2-Tetrachloroethane	11.016	83	272520	44.83	ppb		98
93) Bromobenzene	10.992	156	188397	41.90	ppb		99
94) 1,2,3-Trichloropropane	11.047	110	76360	38.16	ppb	#	87
95) n-Propylbenzene	11.095	91	1069113	48.96	ppb		98
96) 2-Chlorotoluene	11.162	91	623457	45.25	ppb		98
97) 3-Chlorotoluene	11.217	91	603572	43.13	ppb		100
98) 4-Chlorotoluene	11.254	91	687926	46.24	ppb		97
99) 1,3,5-Trimethylbenzene	11.248	105	734098	48.30	ppb		99
100) tert-Butylbenzene	11.516	119	631458	47.21	ppb		100
101) 1,2,4-Trimethylbenzene	11.559	105	735637	48.76	ppb		99
102) 3,4-DCBTF	11.620	214	195770	42.53	ppb		99
103) sec-Butylbenzene	11.699	105	952544	49.22	ppb		98
104) p-Isopropyltoluene	11.821	119	803704	48.50	ppb		100

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,3-Dclbenz	11.784	146	397907	44.43	ppb	99
106) 1,4-Dclbenz	11.857	146	403596	44.02	ppb	99
107) 2,4-DCBTF	11.912	214	178086	42.40	ppb	99
108) 2,5-DCBTF	11.955	214	199902	42.79	ppb	99
109) n-Butylbenzene	12.150	91	781785	48.25	ppb	99
110) 1,2-Dclbenz	12.162	146	391170	44.15	ppb	99
111) 1,2-Dibromo-3-chloropr...	12.796	157	56444	40.20	ppb	97
112) Trielution Dichlorotol...	12.900	125	1078619	133.12	ppb	98
113) 1,3,5 Trichlorobenzene	12.949	180	286721	43.20	ppb	99
114) Coelution Dichlorotoluene	13.229	125	793743	87.45	ppb	99
115) 1,2,4-Tcbenzene	13.436	180	306597	44.93	ppb	98
116) Hexachlorobt	13.564	225	127818	46.76	ppb	99
117) Naphthalen	13.631	128	992049	46.20	ppb	99
118) 1,2,3-Tclbenzene	13.814	180	300094	44.52	ppb	99
119) 2,4,5-Trichlorotolene	14.400	159	225546	43.90	ppb	98
120) 2,3,6-Trichlorotoluene	14.479	159	201494	37.93	ppb	94

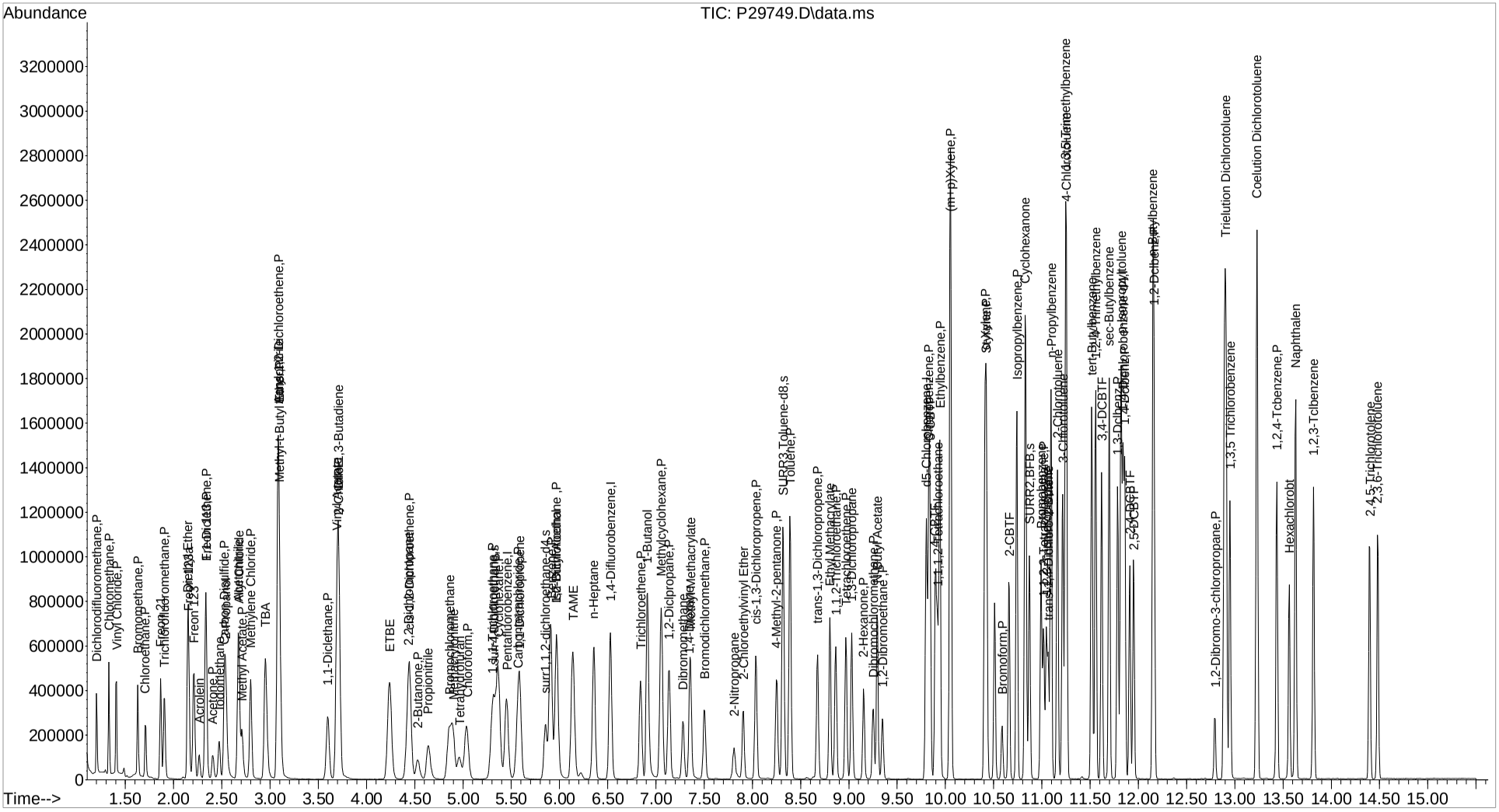
(#) = qualifier out of range (m) = manual integration (+) = signals summed

09/12/19 1st
09/12/19 2nd

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:46:20 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration

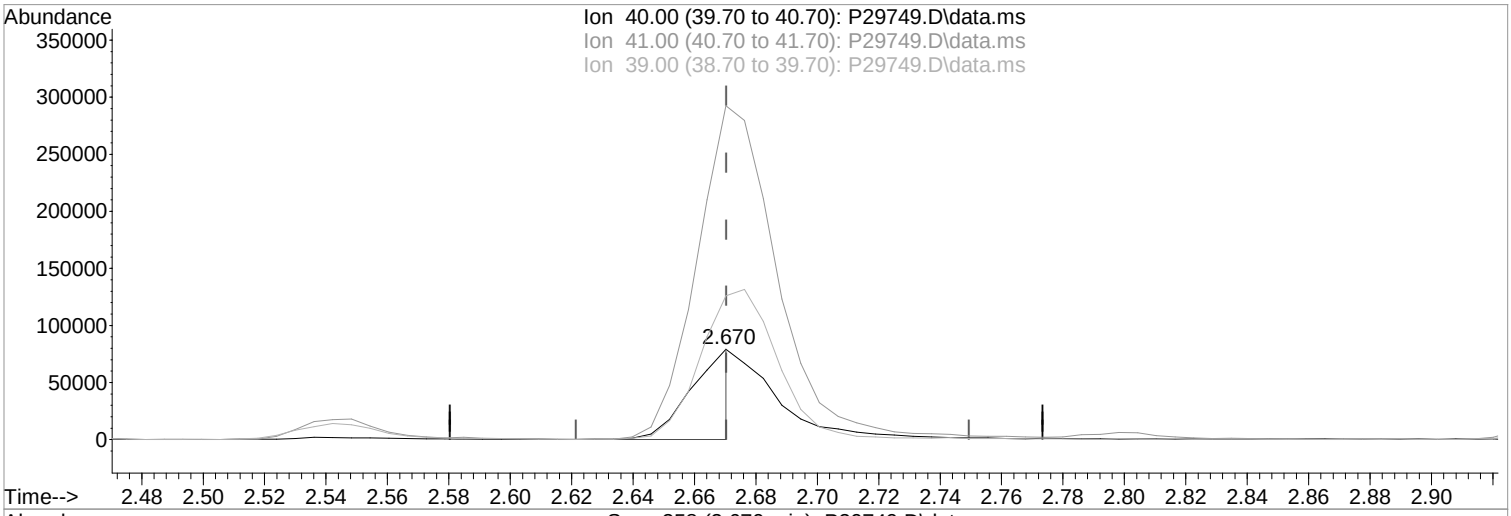


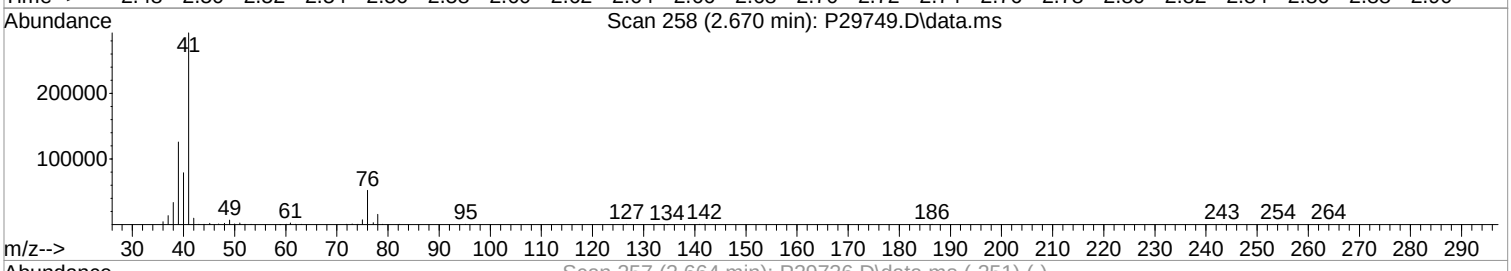
1st 09/12/19
2nd 09/12/19

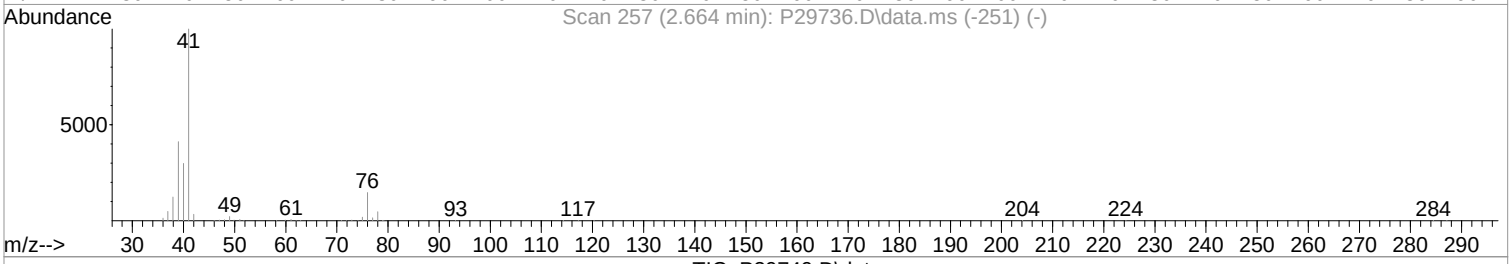
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:44:56 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29749.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 208.46 ppb m

response 75280

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	369.77#
39.00	137.60	159.29#
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

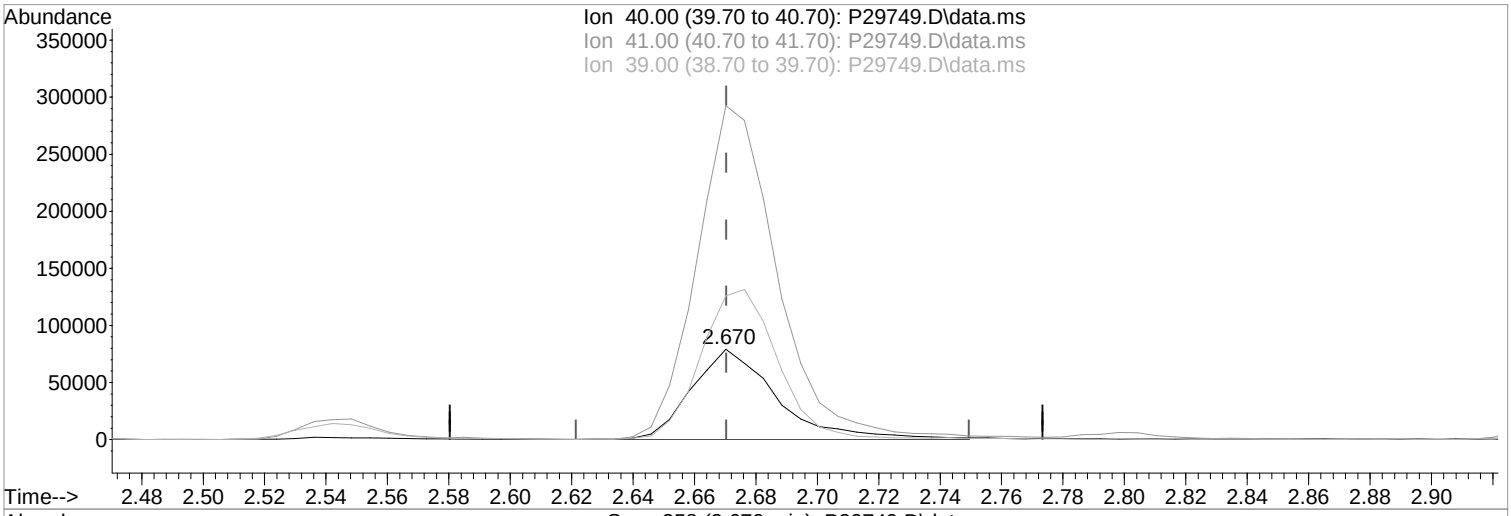
09/12/19

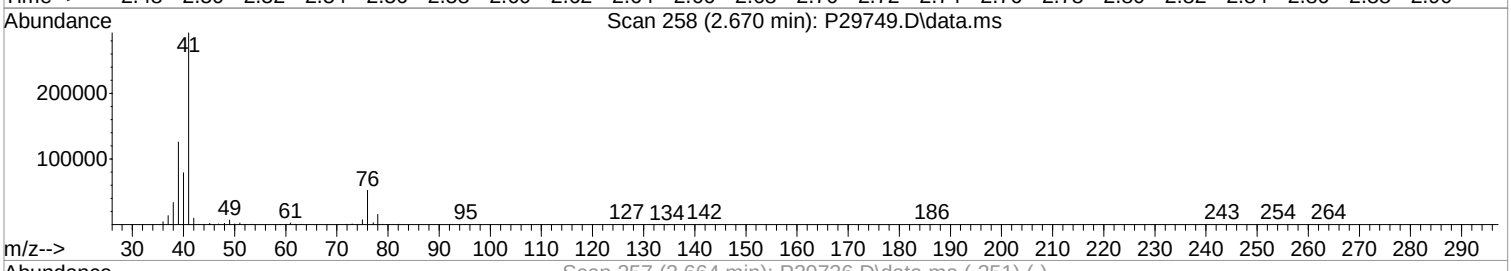
1st 09/12/19
2nd 09/12/19

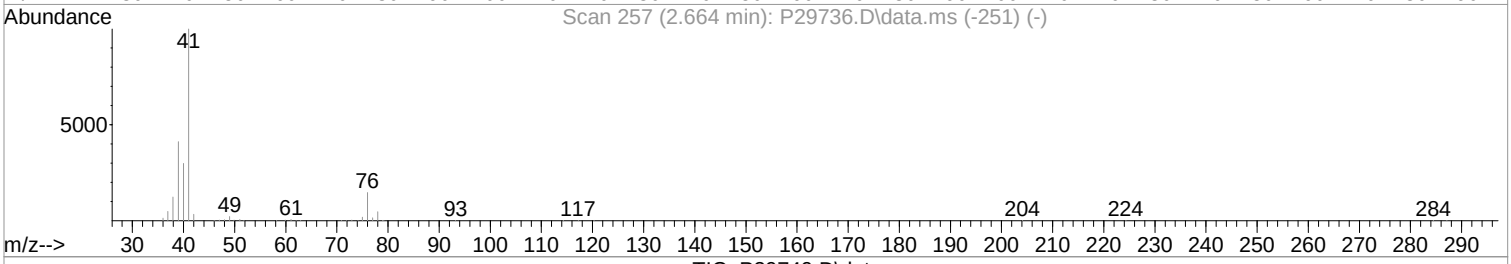
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\msvoa12\Data\091219\
Data File : P29749.D
Acq On : 12 Sep 2019 10:23 am
Operator : K.Ruest
Sample : ICV/LCS 50 Inst : MSVOA-12
Misc : UNP
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 10:44:56 2019
Quant Method : I:\ACQUDATA\msvoa12\Methods\W091119.M
Quant Title : MS#12 - 8260B WATERS 10mL Purge
QLast Update : Thu Sep 12 10:44:40 2019
Response via : Initial Calibration







TIC: P29749.D\data.ms

(19) Acetonitrile

2.670min (-0.000) 424.41 ppb

response 153268

Ion	Exp%	Act%
40.00	100	100
41.00	334.20	369.77#
39.00	137.60	159.29#
0.00	0.00	0.00

Manual Integration:

Before

09/12/19

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

#	Lab Code	Sample Name	File Location	Acquisition Date
01	RC1900101-01	0.5ppb	I:\ACQUDATA\msvoa12\Data\091119\P29731.D	09/11/2019 15:34
02	RC1900101-02	1.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29732.D	09/11/2019 15:55
03	RC1900101-03	2.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29733.D	09/11/2019 16:17
04	RC1900101-04	5.0ppb	I:\ACQUDATA\msvoa12\Data\091119\P29734.D	09/11/2019 16:39
05	RC1900101-05	20ppb	I:\ACQUDATA\msvoa12\Data\091119\P29735.D	09/11/2019 17:00
06	RC1900101-06	50ppb	I:\ACQUDATA\msvoa12\Data\091119\P29736.D	09/11/2019 17:22
07	RC1900101-07	100ppb	I:\ACQUDATA\msvoa12\Data\091119\P29737.D	09/11/2019 17:44
08	RC1900101-08	150ppb	I:\ACQUDATA\msvoa12\Data\091119\P29738.D	09/11/2019 18:06
09	RC1900101-09	200ppb	I:\ACQUDATA\msvoa12\Data\091119\P29739.D	09/11/2019 18:28

Analyte

1,1,1,2-Tetrachloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2801	02	1.000	0.2715	03	2.000	0.3177	04	5.000	0.3127
05	20.000	0.3391	06	50.000	0.3345	07	100.000	0.3672	08	150.000	0.3686
09	200.000	0.3671									

1,1,1-Trichloroethane (TCA)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7022	02	1.000	0.7114	03	2.000	0.8008	04	5.000	0.7414
05	20.000	0.804	06	50.000	0.7549	07	100.000	0.8037	08	150.000	0.8374
09	200.000	0.7926									

1,1,2,2-Tetrachloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9818	02	1.000	1.055	03	2.000	1.1	04	5.000	1.147
05	20.000	1.214	06	50.000	1.201	07	100.000	1.203	08	150.000	1.197
09	200.000	1.128									

1,1,2-Trichloro-1,2,2-trifluoroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5203	02	1.000	0.472	03	2.000	0.4477	04	5.000	0.4242
05	20.000	0.4904	06	50.000	0.4661	07	100.000	0.4936	08	150.000	0.4953
09	200.000	0.4707									

1,1,2-Trichloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2438	02	1.000	0.3544	03	2.000	0.3356	04	5.000	0.3548
05	20.000	0.3559	06	50.000	0.352	07	100.000	0.3455	08	150.000	0.3539
09	200.000	0.342									

1,1-Dichloroethane (1,1-DCA)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9957	02	1.000	1.061	03	2.000	1.1	04	5.000	1.055
05	20.000	1.18	06	50.000	1.104	07	100.000	1.124	08	150.000	1.167
09	200.000	1.102									

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

1,1-Dichloroethene (1,1-DCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.4876	02	1.000	0.468	03	2.000	0.4813	04	5.000	0.4647
05	20.000	0.5032	06	50.000	0.4874	07	100.000	0.5031	08	150.000	0.5158
09	200.000	0.4912									

1,2,3-Trichloropropane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3482	02	1.000	0.4243	03	2.000	0.3866	04	5.000	0.4032
05	20.000	0.3625	06	50.000	0.3587	07	100.000	0.3661	08	150.000	0.3617
09	200.000	0.3556									

1,2-Dibromo-3-chloropropane (DBCP)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.261	03	2.000	0.2145	04	5.000	0.2252	05	20.000	0.2578
06	50.000	0.2665	07	100.000	0.2888	08	150.000	0.2936	09	200.000	0.2926

1,2-Dibromoethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3929	02	1.000	0.3746	03	2.000	0.3916	04	5.000	0.3865
05	20.000	0.3992	06	50.000	0.388	07	100.000	0.3948	08	150.000	0.3979
09	200.000	0.3903									

1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8394	02	1.000	0.6407	03	2.000	0.726	04	5.000	0.664
05	20.000	0.7041	06	50.000	0.6431	07	100.000	0.6743	08	150.000	0.6889
09	200.000	0.6514									

1,2-Dichloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5484	02	1.000	0.4984	03	2.000	0.5028	04	5.000	0.5258
05	20.000	0.5089	06	50.000	0.509	07	100.000	0.5083	08	150.000	0.5038
09	200.000	0.4927									

1,2-Dichloropropane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.4676	02	1.000	0.3862	03	2.000	0.3932	04	5.000	0.3942
05	20.000	0.4281	06	50.000	0.418	07	100.000	0.4227	08	150.000	0.4169
09	200.000	0.4067									

1,4-Dioxane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.009263	04	100.000	0.008985	05	400.000	0.009583	06	1000.000	0.009174
07	2000.000	0.009543	08	3000.000	0.01056	09	4000.000	0.01004			

2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8362	02	1.000	0.7728	03	2.000	0.8041	04	5.000	0.7332

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	20.000	0.7775	06	50.000	0.7119	07	100.000	0.7522	08	150.000	0.7656
09	200.000	0.7203									

2-Butanone (MEK)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5382	04	5.000	0.5453	05	20.000	0.5822	06	50.000	0.5514
07	100.000	0.5714	08	150.000	0.6147	09	200.000	0.5754			

2-Chloro-1,3-butadiene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.817	02	1.000	0.825	03	2.000	0.8924	04	5.000	0.8315
05	20.000	0.9378	06	50.000	0.9178	07	100.000	0.9327	08	150.000	0.9541
09	200.000	0.8962									

2-Hexanone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5047	04	5.000	0.522	05	20.000	0.5699	06	50.000	0.5559
07	100.000	0.5741	08	150.000	0.5983	09	200.000	0.5717			

2-Propanol

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.08108	04	100.000	0.08764	05	400.000	0.09064	06	1000.000	0.0916
07	2000.000	0.09649	08	3000.000	0.1063	09	4000.000	0.09399			

4-Bromofluorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	0.5286	05	20.000	0.4481	06	50.000	0.4807	07	100.000	0.4894
08	200.000	0.4801									

4-Methyl-2-pentanone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.5612	04	5.000	0.5945	05	20.000	0.6612	06	50.000	0.6517
07	100.000	0.6763	08	150.000	0.6955	09	200.000	0.6526			

Acetone

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	5.000	0.4324	05	20.000	0.4208	06	50.000	0.3927	07	100.000	0.3952
08	150.000	0.4129	09	200.000	0.3874						

Acetonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	10.000	0.06717	04	25.000	0.05966	05	100.000	0.05187	06	250.000	0.04996
07	500.000	0.05053	08	750.000	0.0464	09	1000.000	0.05247			

Acrolein

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	5.000	0.1599	03	10.000	0.1625	04	25.000	0.1694	05	100.000	0.1799

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

Acrolein

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
06	250.000	0.1758	07	500.000	0.1864	08	750.000	0.1967	09	1000.000	0.1849

Acrylonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.500	0.4072	02	5.000	0.3674	03	10.000	0.4031	04	25.000	0.4274
05	100.000	0.4437	06	250.000	0.4312	07	500.000	0.4338	08	750.000	0.4421
09	1000.000	0.4005									

Allyl Chloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.261	02	1.000	0.3361	03	2.000	0.2709	04	5.000	0.2805
05	20.000	0.3214	06	50.000	0.2648	07	100.000	0.2599	08	150.000	0.2654
09	200.000	0.264									

Benzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.544	02	1.000	1.524	03	2.000	1.542	04	5.000	1.451
05	20.000	1.544	06	50.000	1.519	07	100.000	1.528	08	150.000	1.479
09	200.000	1.397									

Bromodichloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.362	02	1.000	0.3539	03	2.000	0.3935	04	5.000	0.3962
05	20.000	0.4042	06	50.000	0.4083	07	100.000	0.4218	08	150.000	0.4307
09	200.000	0.4219									

Bromoform

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.2866	03	2.000	0.3253	04	5.000	0.3356	05	20.000	0.3494
06	50.000	0.3541	07	100.000	0.3925	08	150.000	0.4096			

Bromomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.6796	02	1.000	0.5669	03	2.000	0.5379	04	5.000	0.4755
05	20.000	0.4136	06	50.000	0.4122	07	100.000	0.4181	08	150.000	0.4163
09	200.000	0.4217									

Carbon Disulfide

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.804	02	1.000	1.346	03	2.000	1.389	04	5.000	1.293
05	20.000	1.514	06	50.000	1.481	07	100.000	1.483	08	150.000	1.501
09	200.000	1.38									

Carbon Tetrachloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3707	02	1.000	0.2577	03	2.000	0.3127	04	5.000	0.3235
05	20.000	0.3361	06	50.000	0.3449	07	100.000	0.3653	08	150.000	0.3775

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

Carbon Tetrachloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	200.000	0.3762									

Chlorobenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.236	02	1.000	1.125	03	2.000	1.091	04	5.000	1.081
05	20.000	1.116	06	50.000	1.091	07	100.000	1.111	08	150.000	1.068
09	200.000	1.008									

Chloroethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5525	02	1.000	0.5456	03	2.000	0.5878	04	5.000	0.4681
05	20.000	0.5558	06	50.000	0.5284	07	100.000	0.5271	08	150.000	0.538
09	200.000	0.5126									

Chloroform

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.8904	02	1.000	1.035	03	2.000	1.054	04	5.000	0.9261
05	20.000	0.9682	06	50.000	0.9441	07	100.000	0.9661	08	150.000	0.9937
09	200.000	0.9379									

Chloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.155	02	1.000	0.9031	03	2.000	0.9641	04	5.000	0.8101
05	20.000	0.9682	06	50.000	0.9335	07	100.000	0.9465	08	150.000	0.9859
09	200.000	0.9021									

Cyclohexane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.378	03	2.000	0.4516	04	5.000	0.3604	05	20.000	0.4229
06	50.000	0.386	07	100.000	0.4027	08	150.000	0.4025	09	200.000	0.3898

Dibromochloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2672	02	1.000	0.2889	03	2.000	0.2902	04	5.000	0.2962
05	20.000	0.3032	06	50.000	0.3071	07	100.000	0.3338	08	150.000	0.3468
09	200.000	0.3538									

Dibromofluoromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	0.2976	05	20.000	0.2398	06	50.000	0.2654	07	100.000	0.2681
08	200.000	0.254									

Dibromomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2216	02	1.000	0.1731	03	2.000	0.1896	04	5.000	0.2001
05	20.000	0.2061	06	50.000	0.2099	07	100.000	0.2186	08	150.000	0.2187
09	200.000	0.2141									

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

Dichlorodifluoromethane (CFC 12)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5557	02	1.000	0.5807	03	2.000	0.5614	04	5.000	0.4827
05	20.000	0.7043	06	50.000	0.6643	07	100.000	0.6874	08	150.000	0.6919
09	200.000	0.6334									

Dichlorofluoromethane (CFC 21)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.013	02	1.000	0.9678	03	2.000	1.031	04	5.000	0.9846
05	20.000	1.038	06	50.000	0.949	07	100.000	0.9723	08	150.000	1.005
09	200.000	0.9539									

Dichloromethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7663	02	1.000	0.725	03	2.000	0.6706	04	5.000	0.6174
05	20.000	0.633	06	50.000	0.5689	07	100.000	0.5829	08	150.000	0.5987
09	200.000	0.5707									

Ethyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5894	02	1.000	0.6242	03	2.000	0.6511	04	5.000	0.6313
05	20.000	0.7042	06	50.000	0.7137	07	100.000	0.7226	08	150.000	0.7432
09	200.000	0.6975									

Ethylbenzene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.6327	02	1.000	0.5586	03	2.000	0.5889	04	5.000	0.5604
05	20.000	0.6218	06	50.000	0.5942	07	100.000	0.626	08	150.000	0.6146
09	200.000	0.5929									

Iodomethane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.2984	04	5.000	0.3777	05	20.000	0.5844	06	50.000	0.6446
07	100.000	0.6785	08	150.000	0.6912	09	200.000	0.6683			

Isobutyl Alcohol

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	40.000	0.03257	04	100.000	0.04069	05	400.000	0.04128	06	1000.000	0.04204
07	2000.000	0.04537	08	3000.000	0.05047	09	4000.000	0.04718			

Methacrylonitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.4104	03	2.000	0.4033	04	5.000	0.3821	05	20.000	0.4164
06	50.000	0.4197	07	100.000	0.4266	08	150.000	0.4487	09	200.000	0.4287

Methyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2916	02	1.000	0.3261	03	2.000	0.3794	04	5.000	0.3821
05	20.000	0.4076	06	50.000	0.4179	07	100.000	0.4218	08	150.000	0.4298

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

Methyl Methacrylate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	200.000	0.419									

Methyl tert-Butyl Ether

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.705	02	1.000	2.025	03	2.000	2.157	04	5.000	2.104
05	20.000	2.222	06	50.000	2.068	07	100.000	2.091	08	150.000	2.168
09	200.000	1.984									

Methylcyclohexane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1.000	0.5415	03	2.000	0.5598	04	5.000	0.5267	05	20.000	0.5522
06	50.000	0.5204	07	100.000	0.548	08	150.000	0.5381	09	200.000	0.5222

Propionitrile

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.500	0.1269	02	5.000	0.1826	03	10.000	0.1656	04	25.000	0.1701
05	100.000	0.1834	06	250.000	0.1807	07	500.000	0.1887	08	750.000	0.2018
09	1000.000	0.1872									

Styrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.143	02	1.000	1.163	03	2.000	1.227	04	5.000	1.219
05	20.000	1.293	06	50.000	1.272	07	100.000	1.293	08	150.000	1.232
09	200.000	1.133									

Tetrachloroethene (PCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3129	02	1.000	0.3263	03	2.000	0.3367	04	5.000	0.2814
05	20.000	0.299	06	50.000	0.2847	07	100.000	0.2963	08	150.000	0.2881
09	200.000	0.2884									

Tetrahydrofuran (THF)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.7252	04	5.000	0.4945	05	20.000	0.4286	06	50.000	0.3965
07	100.000	0.3909	08	150.000	0.4217	09	200.000	0.4195			

Toluene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.621	02	1.000	1.561	03	2.000	1.562	04	5.000	1.518
05	20.000	1.578	06	50.000	1.568	07	100.000	1.526	08	150.000	1.443
09	200.000	1.308									

Toluene-d8

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
04	10.000	1.448	05	20.000	1.187	06	50.000	1.263	07	100.000	1.244
08	200.000	1.096									

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

Trichloroethene (TCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3599	02	1.000	0.2812	03	2.000	0.3421	04	5.000	0.3126
05	20.000	0.3367	06	50.000	0.3426	07	100.000	0.35	08	150.000	0.344
09	200.000	0.339									

Trichlorofluoromethane (CFC 11)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.726	02	1.000	0.617	03	2.000	0.6854	04	5.000	0.6466
05	20.000	0.7658	06	50.000	0.7524	07	100.000	0.7815	08	150.000	0.78
09	200.000	0.7305									

Vinyl Acetate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	2.000	0.08279	04	5.000	0.07969	05	20.000	0.1366	06	50.000	0.1297
07	100.000	0.1479	08	150.000	0.1562	09	200.000	0.1414			

Vinyl Chloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9647	02	1.000	0.8109	03	2.000	0.8428	04	5.000	0.8102
05	20.000	0.9512	06	50.000	0.9033	07	100.000	0.931	08	150.000	0.939
09	200.000	0.8451									

cis-1,2-Dichloroethene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5676	02	1.000	0.6108	03	2.000	0.5884	04	5.000	0.5891
05	20.000	0.6428	06	50.000	0.6101	07	100.000	0.631	08	150.000	0.6445
09	200.000	0.6027									

cis-1,3-Dichloropropene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5311	02	1.000	0.5457	03	2.000	0.5622	04	5.000	0.5917
05	20.000	0.5904	06	50.000	0.6222	07	100.000	0.6339	08	150.000	0.6387
09	200.000	0.6211									

m,p-Xylenes

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	1.000	0.7188	02	2.000	0.7259	03	4.000	0.7554	04	10.000	0.7365
05	40.000	0.7563	06	100.000	0.7421	07	200.000	0.7415	08	300.000	0.6959
09	400.000	0.6396									

o-Xylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7973	02	1.000	0.7466	03	2.000	0.6735	04	5.000	0.7057
05	20.000	0.7573	06	50.000	0.7254	07	100.000	0.7611	08	150.000	0.7424
09	200.000	0.7171									

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte

trans-1,2-Dichloroethene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5024	02	1.000	0.5017	03	2.000	0.5126	04	5.000	0.5154
05	20.000	0.5573	06	50.000	0.5219	07	100.000	0.555	08	150.000	0.5717
09	200.000	0.542									

trans-1,3-Dichloropropene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.5864	02	1.000	0.4369	03	2.000	0.5004	04	5.000	0.5262
05	20.000	0.5641	06	50.000	0.5663	07	100.000	0.5837	08	150.000	0.6011

trans-1,4-Dichloro-2-butene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3178	02	1.000	0.353	03	2.000	0.3458	04	5.000	0.3671
05	20.000	0.4054	06	50.000	0.3752	07	100.000	0.4118	08	150.000	0.4118
09	200.000	0.4002									

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
1,1,1,2-Tetrachloroethane	TRG	Average RF	% RSD	11.1	≤20	0.3287	
1,1,1-Trichloroethane (TCA)	TRG	Average RF	% RSD	6.0	≤20	0.772	0.100
1,1,2,2-Tetrachloroethane	TRG	Average RF	% RSD	7.0	≤20	1.136	0.300
1,1,2-Trichloro-1,2,2-trifluoroethane	TRG	Average RF	% RSD	6.0	≤20	0.4756	0.100
1,1,2-Trichloroethane	TRG	Average RF	% RSD	10.6	≤20	0.3375	0.100
1,1-Dichloroethane (1,1-DCA)	TRG	Average RF	% RSD	5.2	≤20	1.099	0.200
1,1-Dichloroethene (1,1-DCE)	TRG	Average RF	% RSD	3.4	≤20	0.4891	0.100
1,2,3-Trichloropropane	TRG	Average RF	% RSD	6.8	≤20	0.3741	
1,2-Dibromo-3-chloropropane (DBCP)	TRG	Average RF	% RSD	11.4	≤20	0.2625	0.050
1,2-Dibromoethane	TRG	Average RF	% RSD	1.9	≤20	0.3906	0.100
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	TRG	Average RF	% RSD	9.0	≤20	0.6924	
1,2-Dichloroethane	TRG	Average RF	% RSD	3.3	≤20	0.5109	0.100
1,2-Dichloropropane	TRG	Average RF	% RSD	5.9	≤20	0.4148	0.100
1,4-Dioxane	TRG	Average RF	% RSD	5.7	≤20	0.009593	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	TRG	Average RF	% RSD	5.2	≤20	0.7637	
2-Butanone (MEK)	TRG	Average RF	% RSD	4.6	≤20	0.5684	0.05
2-Chloro-1,3-butadiene	TRG	Average RF	% RSD	5.9	≤20	0.8894	
2-Hexanone	TRG	Average RF	% RSD	5.8	≤20	0.5567	0.05
2-Propanol	TRG	Average RF	% RSD	8.4	≤20	0.09253	
4-Bromofluorobenzene	SURR	Average RF	% RSD	5.9	≤20	0.4854	
4-Methyl-2-pentanone	TRG	Average RF	% RSD	7.4	≤20	0.6419	0.05
Acetone	TRG	Average RF	% RSD	4.4	≤20	0.4069	0.05
Acetonitrile	TRG	Average RF	% RSD	13.1	≤20	0.05401	
Acrolein	TRG	Average RF	% RSD	7.1	≤20	0.1769	
Acrylonitrile	TRG	Average RF	% RSD	6.0	≤20	0.4174	
Allyl Chloride	TRG	Average RF	% RSD	10.1	≤20	0.2805	
Benzene	TRG	Average RF	% RSD	3.4	≤20	1.503	0.500
Bromodichloromethane	TRG	Average RF	% RSD	6.6	≤20	0.3992	0.200
Bromoform	TRG	Average RF	% RSD	11.8	≤20	0.3504	0.100
Bromomethane	TRG	Quadratic	COD	1.0000	≥0.99	0.4824	0.100
Carbon Disulfide	TRG	Average RF	% RSD	10.1	≤20	1.466	0.100
Carbon Tetrachloride	TRG	Average RF	% RSD	11.4	≤20	0.3405	0.05
Chlorobenzene	TRG	Average RF	% RSD	5.5	≤20	1.103	0.500

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Chloroethane	TRG	Average RF	% RSD	6.2	≤20	0.5351	0.100
Chloroform	TRG	Average RF	% RSD	5.4	≤20	0.9683	0.200
Chloromethane	TRG	Average RF	% RSD	9.7	≤20	0.952	0.100
Cyclohexane	TRG	Average RF	% RSD	7.0	≤20	0.3993	0.100
Dibromochloromethane	TRG	Average RF	% RSD	9.4	≤20	0.3097	0.100
Dibromofluoromethane	SURR	Average RF	% RSD	8.1	≤20	0.265	
Dibromomethane	TRG	Average RF	% RSD	7.7	≤20	0.2058	
Dichlorodifluoromethane (CFC 12)	TRG	Average RF	% RSD	12.4	≤20	0.618	0.100
Dichlorofluoromethane (CFC 21)	TRG	Average RF	% RSD	3.3	≤20	0.9906	
Dichloromethane	TRG	Average RF	% RSD	11.0	≤20	0.6371	0.100
Ethyl Methacrylate	TRG	Average RF	% RSD	7.8	≤20	0.6752	
Ethylbenzene	TRG	Average RF	% RSD	4.5	≤20	0.5989	0.100
Iodomethane	TRG	Quadratic	COD	0.9949	≥0.99	0.5633	
Isobutyl Alcohol	TRG	Average RF	% RSD	13.4	≤20	0.0428	
Methacrylonitrile	TRG	Average RF	% RSD	4.7	≤20	0.417	
Methyl Methacrylate	TRG	Average RF	% RSD	12.4	≤20	0.3861	
Methyl tert-Butyl Ether	TRG	Average RF	% RSD	7.4	≤20	2.058	0.100
Methylcyclohexane	TRG	Average RF	% RSD	2.7	≤20	0.5386	0.100
Propionitrile	TRG	Average RF	% RSD	12.1	≤20	0.1763	
Styrene	TRG	Average RF	% RSD	5.0	≤20	1.219	0.300
Tetrachloroethene (PCE)	TRG	Average RF	% RSD	6.5	≤20	0.3015	0.200
Tetrahydrofuran (THF)	TRG	Quadratic	COD	0.9992	≥0.99	0.4681	
Toluene	TRG	Average RF	% RSD	6.2	≤20	1.52	0.400
Toluene-d8	SURR	Average RF	% RSD	10.4	≤20	1.248	
Trichloroethene (TCE)	TRG	Average RF	% RSD	7.1	≤20	0.3342	0.200
Trichlorofluoromethane (CFC 11)	TRG	Average RF	% RSD	8.2	≤20	0.7206	0.100
Vinyl Acetate	TRG	Quadratic	COD	0.9938	≥0.99	0.1249	
Vinyl Chloride	TRG	Average RF	% RSD	6.9	≤20	0.8887	0.100
cis-1,2-Dichloroethene	TRG	Average RF	% RSD	4.3	≤20	0.6097	0.100
cis-1,3-Dichloropropene	TRG	Average RF	% RSD	6.6	≤20	0.593	0.200
m,p-Xylenes	TRG	Average RF	% RSD	5.1	≤20	0.7236	0.100
o-Xylene	TRG	Average RF	% RSD	4.9	≤20	0.7363	0.300
trans-1,2-Dichloroethene	TRG	Average RF	% RSD	4.9	≤20	0.5311	0.100
trans-1,3-Dichloropropene	TRG	Average RF	% RSD	10.1	≤20	0.5457	0.100
trans-1,4-Dichloro-2-butene	TRG	Average RF	% RSD	8.9	≤20	0.3764	

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

#	Lab Code	Sample Name	File Location	Acquisition Date
10	RC1900101-10	ICV/LCS 50	I:\ACQUDATA\msvoa12\Data\091219\P29749.D	09/12/2019 10:23

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	48.2	3.287E-1	3.168E-1	-3.641	±30	Average RF
1,1,1-Trichloroethane (TCA)	50.0	45.0	7.72E-1	6.951E-1	-9.970	±30	Average RF
1,1,2,2-Tetrachloroethane	50.0	44.8	1.136E0	1.019E0	-10.330	±30	Average RF
1,1,2-Trichloroethane	50.0	44.3	3.375E-1	2.994E-1	-11.313	±30	Average RF
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	44.0	4.756E-1	4.182E-1	-12.075	±30	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	44.5	1.099E0	9.77E-1	-11.070	±30	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	42.8	4.891E-1	4.187E-1	-14.408	±30	Average RF
1,2,3-Trichloropropane	50.0	38.2	3.741E-1	2.855E-1	-23.674	±30	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	40.2	2.625E-1	2.111E-1	-19.601	±30	Average RF
1,2-Dibromoethane	50.0	42.3	3.906E-1	3.308E-1	-15.324	±30	Average RF
1,2-Dichloroethane	50.0	40.6	5.109E-1	4.15E-1	-18.779	±30	Average RF
1,2-Dichloropropane	50.0	42.7	4.148E-1	3.543E-1	-14.604	±30	Average RF
1,4-Dioxane	1000	749	9.593E-3	7.182E-3	-25.133	±30	Average RF
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	50.0	45.6	7.637E-1	6.967E-1	-8.781	±30	Average RF
2-Butanone (MEK)	50.0	41.6	5.684E-1	4.732E-1	-16.742	±30	Average RF
2-Chloro-1,3-butadiene	50.0	47.2	8.894E-1	8.405E-1	-5.500	±30	Average RF
2-Hexanone	50.0	42.4	5.567E-1	4.716E-1	-15.279	±30	Average RF
Isobutyl Alcohol	1000	690	4.28E-2	2.955E-2	-30.954*	±30	Average RF
2-Propanol	1000	745	9.253E-2	6.894E-2	-25.496	±30	Average RF
Allyl Chloride	50.0	48.2	2.805E-1	2.704E-1	-3.581	±30	Average RF
4-Methyl-2-pentanone	50.0	41.9	6.419E-1	5.378E-1	-16.213	±30	Average RF
Acetone	50.0	40.2	4.069E-1	3.272E-1	-19.593	±30	Average RF
Acetonitrile	250	208	5.401E-2	4.503E-2	-16.617	±30	Average RF
Acrolein	100	62.9	1.769E-1	1.112E-1	-37.134*	±30	Average RF
Acrylonitrile	250	205	4.174E-1	3.429E-1	-17.842	±30	Average RF
Benzene	50.0	43.8	1.503E0	1.316E0	-12.470	±30	Average RF
Bromodichloromethane	50.0	45.4	3.992E-1	3.625E-1	-9.197	±30	Average RF
Bromoform	50.0	45.2	3.504E-1	3.167E-1	-9.630	±30	Average RF
Bromomethane	50.0	47.2	4.824E-1	3.926E-1	-5.508	±30	Quadratic
Carbon Disulfide	50.0	47.0	1.466E0	1.377E0	-6.021	±30	Average RF
Carbon Tetrachloride	50.0	46.8	3.405E-1	3.187E-1	-6.403	±30	Average RF
Chlorobenzene	50.0	44.5	1.103E0	9.824E-1	-10.946	±30	Average RF
Chloroethane	50.0	39.3	5.351E-1	4.203E-1	-21.453	±30	Average RF

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Chloroform	50.0	43.2	9.683E-1	8.36E-1	-13.669	±30	Average RF
Chloromethane	50.0	38.2	9.52E-1	7.265E-1	-23.686	±30	Average RF
Cyclohexane	50.0	44.4	3.993E-1	3.544E-1	-11.246	±30	Average RF
Dibromochloromethane	50.0	47.5	3.097E-1	2.942E-1	-5.024	±30	Average RF
Dibromomethane	50.0	44.9	2.058E-1	1.846E-1	-10.274	±30	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	39.6	6.18E-1	4.889E-1	-20.895	±30	Average RF
Dichlorofluoromethane (CFC 21)	50.0	43.6	9.906E-1	8.643E-1	-12.748	±30	Average RF
Dichloromethane	50.0	40.1	6.371E-1	5.11E-1	-19.794	±30	Average RF
Ethyl Methacrylate	50.0	42.7	6.752E-1	5.765E-1	-14.617	±30	Average RF
Ethylbenzene	50.0	46.4	5.989E-1	5.562E-1	-7.128	±30	Average RF
Iodomethane	50.0	39.6	5.633E-1	4.762E-1	-20.888	±30	Quadratic
Methacrylonitrile	50.0	38.7	4.17E-1	3.227E-1	-22.617	±30	Average RF
Methyl Methacrylate	50.0	42.2	3.861E-1	3.259E-1	-15.615	±30	Average RF
Methyl tert-Butyl Ether	50.0	43.4	2.058E0	1.785E0	-13.295	±30	Average RF
Methylcyclohexane	50.0	45.5	5.386E-1	4.897E-1	-9.080	±30	Average RF
Propionitrile	250	199	1.763E-1	1.401E-1	-20.524	±30	Average RF
Styrene	50.0	45.8	1.219E0	1.117E0	-8.414	±30	Average RF
Tetrachloroethene (PCE)	50.0	43.0	3.015E-1	2.595E-1	-13.940	±30	Average RF
Tetrahydrofuran (THF)	50.0	38.8	4.681E-1	3.092E-1	-22.467	±30	Quadratic
Toluene	50.0	45.6	1.52E0	1.386E0	-8.845	±30	Average RF
Trichloroethene (TCE)	50.0	42.4	3.342E-1	2.837E-1	-15.122	±30	Average RF
Trichlorofluoromethane (CFC 11)	50.0	46.6	7.206E-1	6.719E-1	-6.753	±30	Average RF
Vinyl Acetate	50.0	50.3	1.249E-1	1.43E-1	0.507	±30	Quadratic
Vinyl Chloride	50.0	40.7	8.887E-1	7.242E-1	-18.507	±30	Average RF
cis-1,2-Dichloroethene	50.0	43.8	6.097E-1	5.342E-1	-12.387	±30	Average RF
cis-1,3-Dichloropropene	50.0	44.8	5.93E-1	5.308E-1	-10.493	±30	Average RF
m,p-Xylenes	100	95.5	7.236E-1	6.907E-1	-4.538	±30	Average RF
o-Xylene	50.0	45.9	7.363E-1	6.756E-1	-8.241	±30	Average RF
trans-1,2-Dichloroethene	50.0	44.4	5.311E-1	4.712E-1	-11.283	±30	Average RF
trans-1,3-Dichloropropene	50.0	43.7	5.457E-1	4.767E-1	-12.634	±30	Average RF
trans-1,4-Dichloro-2-butene	50.0	42.3	3.764E-1	3.185E-1	-15.387	±30	Average RF
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	50.0	42.2	6.924E-1	5.841E-1	-15.640	±30	Average RF

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 9/11/2019

Initial Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1900101 **Signal ID:** 1
Instrument ID: R-MS-12

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
4-Bromofluorobenzene	50.0	49.6	4.854E-1	4.819E-1	-0.708	±30	Average RF
Dibromofluoromethane	50.0	48.7	2.65E-1	2.582E-1	-2.567	±30	Average RF
Toluene-d8	50.0	50.8	1.248E0	1.267E0	1.55	±30	Average RF

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QA/QC Report

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/18EC006B
Service Request: R1910542
Date Analyzed: 10/31/19 10:37

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
File ID: I:\ACQUDATA\msvoa12\Data\103119\P31456.D\
Signal ID: 1
Calibration Date: 9/11/2019
Calibration ID: RC1900101
Analysis Lot: 657905
Units: ppb

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	48.0	0.3287	0.3154	-4.1	NA	±20	Average RF
1,1,1-Trichloroethane (TCA)	50.0	44.1	0.772	0.681	-11.8	NA	±20	Average RF
1,1,2,2-Tetrachloroethane	50.0	42.7	1.1364	0.9708	-14.6	NA	±20	Average RF
1,1,2-Trichloroethane	50.0	47.1	0.3375	0.3179	-5.8	NA	±20	Average RF
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	45.7	0.4756	0.4343	-8.7	NA	±20	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	43.7	1.0987	0.9613	-12.5	NA	±20	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	45.7	0.4891	0.4467	-8.7	NA	±20	Average RF
1,2,3-Trichloropropane	50.0	40.0	0.3741	0.2995	-19.9	NA	±20	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	40.1	0.2625	0.2107	-19.8	NA	±20	Average RF
1,2-Dibromoethane	50.0	45.7	0.3906	0.3574	-8.5	NA	±20	Average RF
1,2-Dichloroethane	50.0	45.5	0.5109	0.4653	-8.9	NA	±20	Average RF
1,2-Dichloropropane	50.0	45.8	0.4148	0.3801	-8.4	NA	±20	Average RF
1,4-Dioxane	1000	745	0.0096	0.0071	-25.5*	NA	±20	Average RF
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	50.0	42.0	0.7637	0.6418	-16.0	NA	±20	Average RF
2-Butanone (MEK)	50.0	38.3	0.5684	0.4354	-23.4*	NA	±20	Average RF
2-Chloro-1,3-butadiene	50.0	49.0	0.8894	0.8725	-1.9	NA	±20	Average RF
2-Hexanone	50.0	40.7	0.5567	0.4528	-18.7	NA	±20	Average RF
Isobutyl Alcohol	1000	728	0.0428	0.0312	-27.2*	NA	±20	Average RF
2-Propanol	1000	696	0.0925	0.0644	-30.4*	NA	±20	Average RF
Allyl Chloride	50.0	44.4	0.2805	0.2489	-11.3	NA	±20	Average RF
4-Methyl-2-pentanone	50.0	43.1	0.6419	0.5534	-13.8	NA	±20	Average RF
Acetone	50.0	35.4	0.4069	0.2882	-29.2*	NA	±20	Average RF
Acetonitrile	250	216	0.054	0.0467	-13.5	NA	±20	Average RF
Acrolein	250	227	0.1769	0.1609	-9.1	NA	±20	Average RF
Acrylonitrile	250	208	0.4174	0.3465	-17.0	NA	±20	Average RF
Benzene	50.0	46.5	1.5031	1.3967	-7.1	NA	±20	Average RF
Bromodichloromethane	50.0	47.0	0.3992	0.3755	-5.9	NA	±20	Average RF
Bromoform	50.0	48.2	0.3504	0.338	-3.6	NA	±20	Average RF
Bromomethane	50.0	50.1	0.4824	0.4164	NA	0.2	±20	Quadratic
Carbon Disulfide	50.0	47.0	1.4656	1.3779	-6.0	NA	±20	Average RF
Carbon Tetrachloride	50.0	47.8	0.3405	0.3256	-4.4	NA	±20	Average RF
Chlorobenzene	50.0	46.3	1.1031	1.0209	-7.5	NA	±20	Average RF
Chloroethane	50.0	43.4	0.5351	0.4644	-13.2	NA	±20	Average RF
Chloroform	50.0	43.1	0.9683	0.8341	-13.9	NA	±20	Average RF
Chloromethane	50.0	45.0	0.952	0.8571	-10.0	NA	±20	Average RF
Cyclohexane	50.0	47.8	0.3993	0.3819	-4.4	NA	±20	Average RF
Dibromochloromethane	50.0	47.6	0.3097	0.2948	-4.8	NA	±20	Average RF
Dibromomethane	50.0	48.7	0.2058	0.2003	-2.7	NA	±20	Average RF

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QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	10/31/19 10:37

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Calibration Date:**	9/11/2019
File ID:	I:\ACQUDATA\msvoa12\Data\103119\P31456.D\	**Calibration ID:**	RC1900101
Signal ID:	1	**Analysis Lot:**	657905
		Units:	ppb

Dichlorodifluoromethane (CFC 12)	50.0	55.3	0.618	0.6831	10.5	NA	±20	Average RF
Dichlorofluoromethane (CFC 21)	50.0	45.2	0.9906	0.8956	-9.6	NA	±20	Average RF
Dichloromethane	50.0	40.6	0.6371	0.5178	-18.7	NA	±20	Average RF
Ethyl Methacrylate	50.0	44.1	0.6752	0.595	-11.9	NA	±20	Average RF
Ethylbenzene	50.0	47.1	0.5989	0.5646	-5.7	NA	±20	Average RF
Iodomethane	50.0	44.1	0.5633	0.5347	NA	-11.8	±20	Quadratic
Methacrylonitrile	50.0	39.4	0.417	0.3289	-21.1*	NA	±20	Average RF
Methyl Methacrylate	50.0	44.8	0.3861	0.3463	-10.3	NA	±20	Average RF
Methyl tert-Butyl Ether	50.0	42.6	2.0584	1.7541	-14.8	NA	±20	Average RF
Methylcyclohexane	50.0	46.5	0.5386	0.5013	-6.9	NA	±20	Average RF
Propionitrile	250	203	0.1763	0.1431	-18.8	NA	±20	Average RF
Styrene	50.0	47.7	1.2193	1.1622	-4.7	NA	±20	Average RF
Tetrachloroethene (PCE)	50.0	46.1	0.3015	0.2779	-7.8	NA	±20	Average RF
Tetrahydrofuran (THF)	50.0	37.7	0.4681	0.3006	NA	-24.7*	±20	Quadratic
Toluene	50.0	48.0	1.5204	1.459	-4.0	NA	±20	Average RF
Trichloroethene (TCE)	50.0	48.6	0.3342	0.3248	-2.8	NA	±20	Average RF
Trichlorofluoromethane (CFC 11)	50.0	46.5	0.7206	0.6701	-7.0	NA	±20	Average RF
Vinyl Acetate	50.0	44.7	0.1249	0.1267	NA	-10.6	±20	Quadratic
Vinyl Chloride	50.0	47.0	0.8887	0.8355	-6.0	NA	±20	Average RF
cis-1,2-Dichloroethene	50.0	44.8	0.6097	0.5459	-10.5	NA	±20	Average RF
cis-1,3-Dichloropropene	50.0	47.1	0.593	0.5589	-5.8	NA	±20	Average RF
m,p-Xylenes	100	94.8	0.7236	0.6863	-5.2	NA	±20	Average RF
o-Xylene	50.0	45.7	0.7363	0.6726	-8.7	NA	±20	Average RF
trans-1,2-Dichloroethene	50.0	45.8	0.5311	0.4868	-8.3	NA	±20	Average RF
trans-1,3-Dichloropropene	50.0	47.1	0.5457	0.5136	-5.9	NA	±20	Average RF
trans-1,4-Dichloro-2-butene	50.0	34.9	0.3764	0.2628	-30.2*	NA	±20	Average RF
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	50.0	41.2	0.6924	0.5702	-17.6	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
4-Bromofluorobenzene	50.0	49.7	0.4854	0.4821	-0.7	NA	±20	Average RF
Dibromofluoromethane	50.0	47.9	0.265	0.2537	-4.3	NA	±20	Average RF
Toluene-d8	50.0	51.6	1.2475	1.2876	3.2	NA	±20	Average RF

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910542
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**657905
Instrument ID:R-MS-12

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\msvoa12\Data\103119\P31455.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	10:04:00	
I:\ACQUDATA\msvoa12\Data\103119\P31456.D\	Continuing Calibration Verification	RQ1912691-02	10/31/2019	10:37:00	
I:\ACQUDATA\msvoa12\Data\103119\P31457.D\	Lab Control Sample	RQ1912691-03	10/31/2019	11:05:00	
I:\ACQUDATA\msvoa12\Data\103119\P31460.D\	Method Blank	RQ1912691-04	10/31/2019	12:59:00	
I:\ACQUDATA\msvoa12\Data\103119\P31461.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	13:28:00	
I:\ACQUDATA\msvoa12\Data\103119\P31462.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	13:50:00	
I:\ACQUDATA\msvoa12\Data\103119\P31463.D\	1910241000 700-SVS-091	R1910542-001	10/31/2019	14:12:00	
I:\ACQUDATA\msvoa12\Data\103119\P31464.D\	1910241020 700-SVS-092	R1910542-004	10/31/2019	14:33:00	
I:\ACQUDATA\msvoa12\Data\103119\P31465.D\	1910251000 700-SVS-99	R1910542-007	10/31/2019	14:55:00	
I:\ACQUDATA\msvoa12\Data\103119\P31466.D\	1910251030 700-SVS-100	R1910542-010	10/31/2019	15:17:00	
I:\ACQUDATA\msvoa12\Data\103119\P31468.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	16:01:00	
I:\ACQUDATA\msvoa12\Data\103119\P31469.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	16:23:00	
I:\ACQUDATA\msvoa12\Data\103119\P31470.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	16:45:00	
I:\ACQUDATA\msvoa12\Data\103119\P31471.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	17:07:00	
I:\ACQUDATA\msvoa12\Data\103119\P31472.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	17:28:00	
I:\ACQUDATA\msvoa12\Data\103119\P31473.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	17:50:00	
I:\ACQUDATA\msvoa12\Data\103119\P31474.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	18:12:00	
I:\ACQUDATA\msvoa12\Data\103119\P31475.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	18:34:00	
I:\ACQUDATA\msvoa12\Data\103119\P31476.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	18:56:00	
I:\ACQUDATA\msvoa12\Data\103119\P31477.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	19:18:00	
I:\ACQUDATA\msvoa12\Data\103119\P31478.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	19:40:00	
I:\ACQUDATA\msvoa12\Data\103119\P31480.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	20:23:00	
I:\ACQUDATA\msvoa12\Data\103119\P31481.D\	ZZZZZZZ	ZZZZZZZ	10/31/2019	20:45:00	

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910542
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method:

Analysis Lot:657905
Instrument ID:R-MS-12

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\msvoa12\Data\103119\P31482.D\	1910251030 700-SVS-100 MS	RQ1912691-05	10/31/2019	21:07:00	
I:\ACQUDATA\msvoa12\Data\103119\P31483.D\	1910251030 700-SVS-100 DMS	RQ1912691-06	10/31/2019	21:29:00	

Analysis: 8260D waters | Analyst: K. Ruest | pH strips: 207519 | Tune Method: WOM1119

Date: 10/31/19 | Balance ID: N/A | ResCl strips: N/A | Run Method: ↓

Instr. 12 | 50 mL Class A used for dilution FV | Syringes: 070919E | LIMS Run#: 657905

Data Path: j:\acqudata\msvoa(InstID)\(Date)

Pos.	Sample	Diln.	Diln. Prep./	RL	Tier	Vial	pH	File#	OK?	Comments
1	BLK							P31453		
2	↓							P31454		
3	TUNE		RQ1912691.01					P31455	YT	(auto) 10:04
1	CCV		02					P31456	YC	
1	LCS. FP		03					P31457	YQ	Ace/pnop ↑ (Acid)
1	BLK		—					P31458	(N)	not c/o
2	MBLK. LMP		—					P31459	YB	
3	MBLK. FP		↓ 04					P31460	YB	(↑ Ace/pnop - Acid)
1	R1910604.001	1.0		14878	2	1	LL	P31461	Y	
2	↓ 002	1.0		↓	↓	1	LL	P31462	Y	
3	R1910542.001	1.0		66556	4	1	LL	P31463	Y	
4	↓ 004	1.0				1	LL	P31464	Y	
5	007	1.0				1	LL	P31465	Y	
6	↓ 010	1.0		↓	↓	1	LL	P31466	Y	
7	BLK					—	—	P31467	—	
8	R1910544.001	1.0	(LL)	66556	4	1	LL	P31468	Y	
9	002	1.0				1	LL	P31469	Y	
10	003	1.0				1	LL	P31470	Y	
11	004	1.0				1	LL	P31471	Y	
12	↓ 005	1.0	↓	↓	↓	1	LL	P31472	Y	
13	R1910543.002	1.0		66556	4	2	LL	P31473	Y	
14	006	1.0				2	LL	P31474	Y	
15	008	1.0				2	LL	P31475	Y	
16	005	5.0	10/5DMB			2	LL	P31476	(Y)	(DL) F113, ICPM
17	007	5.0				2	LL	P31477	(Y)	F113
18	↓ 009	5.0	↓	↓	↓	2	LL	P31478	(Y)	↓ F113
19	BLK					—	—	P31479	—	
20	R1910525.001	1.0		21581	2	1	LL	P31480	Y	
21	↓ 003	1.0		↓	↓	1	LL	P31481	Y	
22	R1910542.010	1.0	MS	66556	4	2	LL	P31482	YQ	RunQL
23	↓ 010	1.0	MSD	↓	↓	3	LL	P31483	YQ	↓
24	BLK					—	—	P31484	—	

All samples = 5 mL + 5 uL combined IS/Surr. 5 mL purged

500 Primary Oct: 202638
Primary Fr+: 203440 — 5ml → 50mlb = CCV
Primary T6: 204037
Primary HSL: 204107
Primary

200 Secondary Fr+: 204079 · 5ml
500 Secondary Oct: 203345
Secondary HSL: 204109 — 2ml
Secondary T6: 203500
Secondary

50mlb = LCS — 10.6mL — 4.2mL — 42mlvial = MS/D

Combined IS/Surr
Surrogate 50: 203911
Internal Std 50: 203912
Reagents:

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241002 700-SVS-091	**Units:**	ug/L
Lab Code:	R1910542-003	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	11/01/19 17:11	10/31/19	
C28 - C40 ORO	ND U	100	75	1	11/01/19 17:11	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	99	30 - 132	11/01/19 17:11	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/24/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910241022 700-SVS-092	**Units:**	ug/L
Lab Code:	R1910542-006	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND	U	100	75	1	11/01/19 17:34	10/31/19	
C28 - C40 ORO	ND	U	100	75	1	11/01/19 17:34	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	108	30 - 132	11/01/19 17:34	

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Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251002 700-SVS-99	**Units:**	ug/L
Lab Code:	R1910542-009	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND	U	100	75	1	11/01/19 17:56	10/31/19	
C28 - C40 ORO	ND	U	100	75	1	11/01/19 17:56	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	85	30 - 132	11/01/19 17:56	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Collected:**	10/25/19
Sample Matrix:	Water	**Date Received:**	10/29/19 07:55
Sample Name:	1910251032 700-SVS-100	**Units:**	ug/L
Lab Code:	R1910542-012	**Basis:**	NA

Diesel and Residual Range Organics by GC

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (DRO) as C10-C28 Alkanes	ND U	100	75	1	11/01/19 18:18	10/31/19	
C28 - C40 ORO	ND U	100	75	1	11/01/19 18:18	10/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	90	30 - 132	11/01/19 18:18	

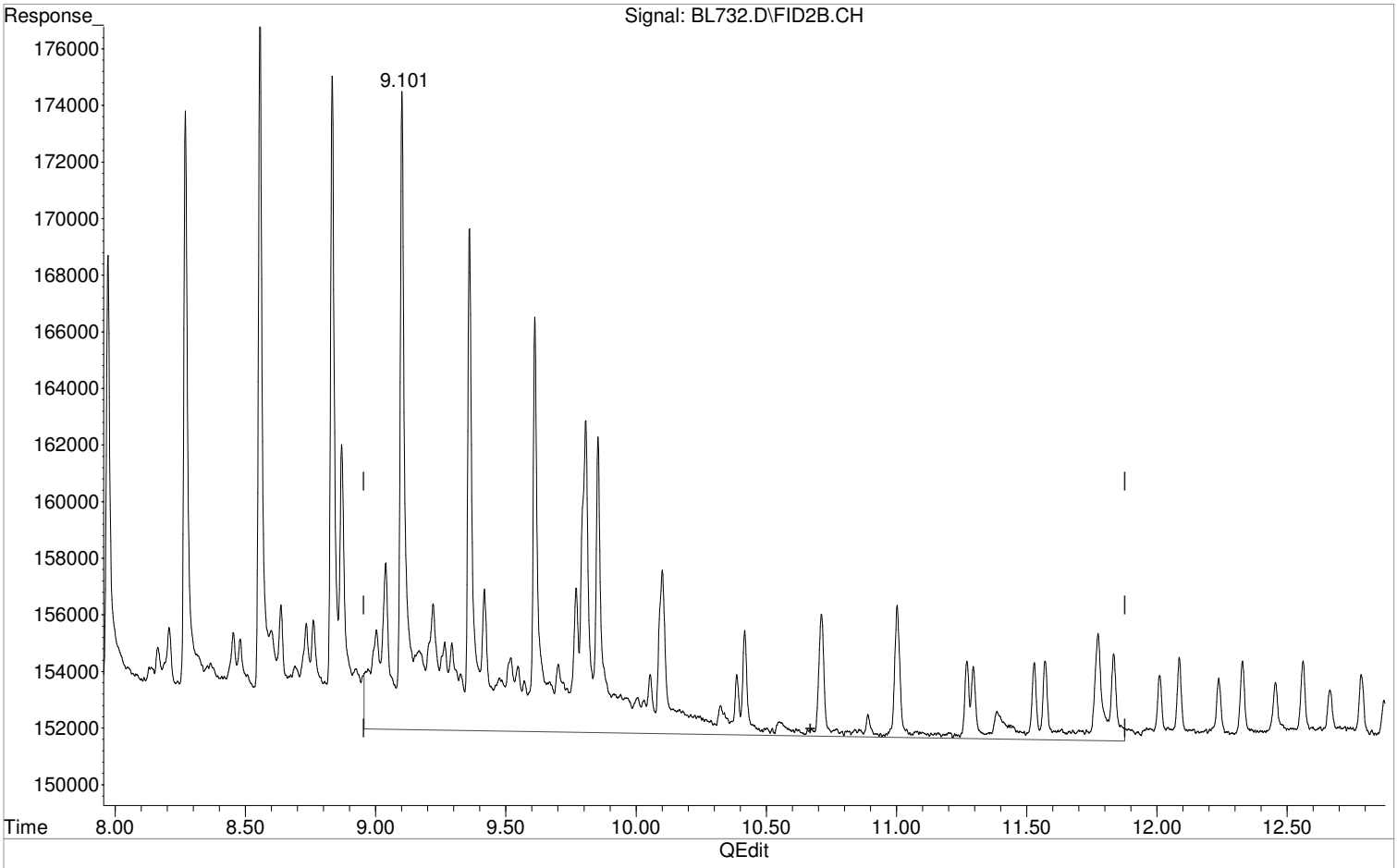
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL732.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:11 pm
Operator : JMisiurewicz
Sample : R1910542-003
Misc : 347736 8015 DRO
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 13.284 mg/l m

response 2840244

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

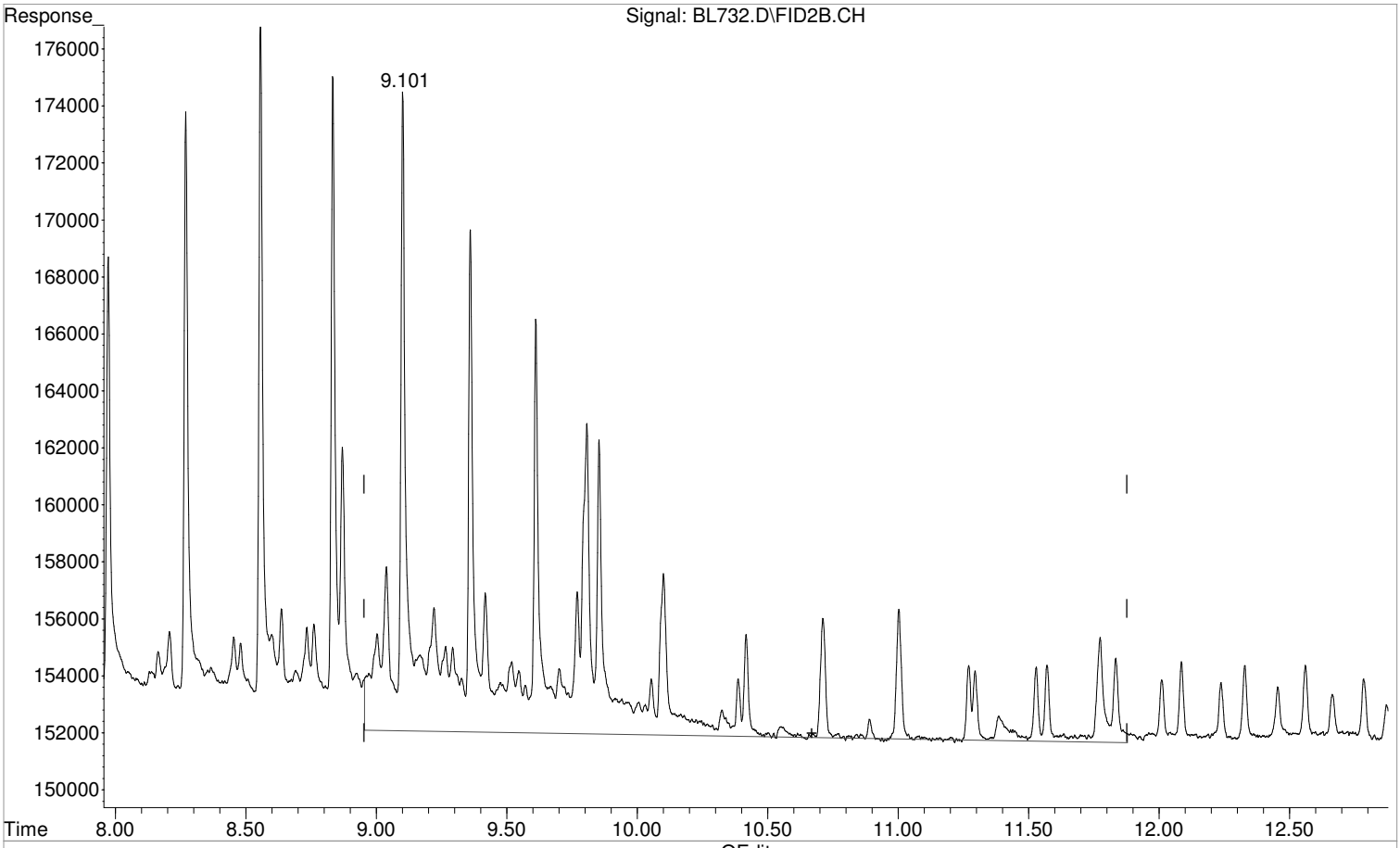
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL732.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:11 pm
Operator : JMisiurewicz
Sample : R1910542-003
Misc : 347736 8015 DRO
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 12.334 mg/l

response 2637130

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

1st AF 11/04/19
2nd DM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL732.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:11 pm
Operator : JMisiurewicz
Sample : R1910542-003
Misc : 347736 8015 DRO
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.071	29168391	98.294 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	98.29%
Target Compounds			
2) HC Diesel Range Organics	8.922	15199515	50.348 mg/l
3) HC Oil Range Organics	10.670	2840244	13.284 mg/l m

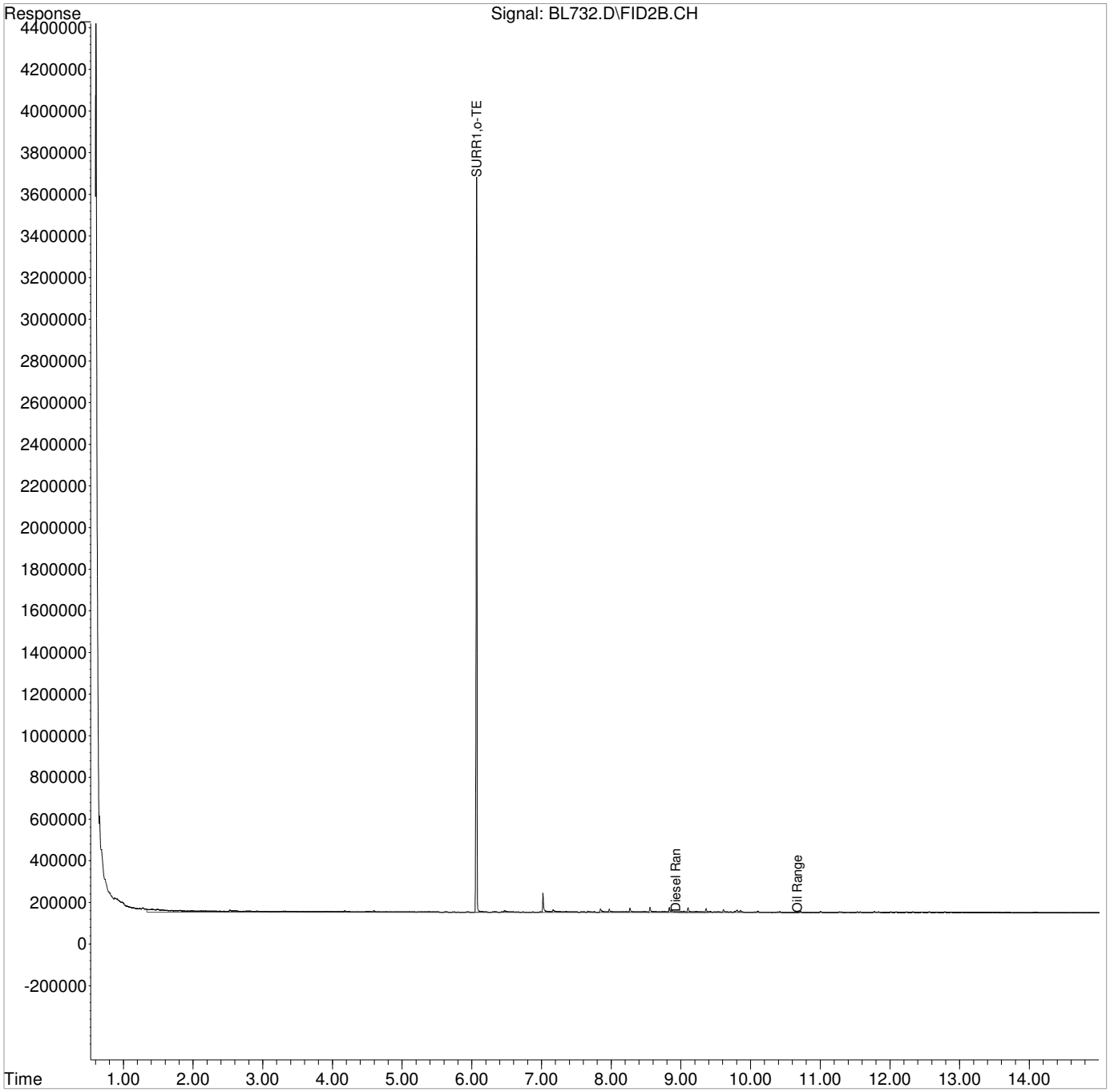
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL732.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:11 pm
Operator : JMisiurewicz
Sample : R1910542-003
Misc : 347736 8015 DRO
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:21 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



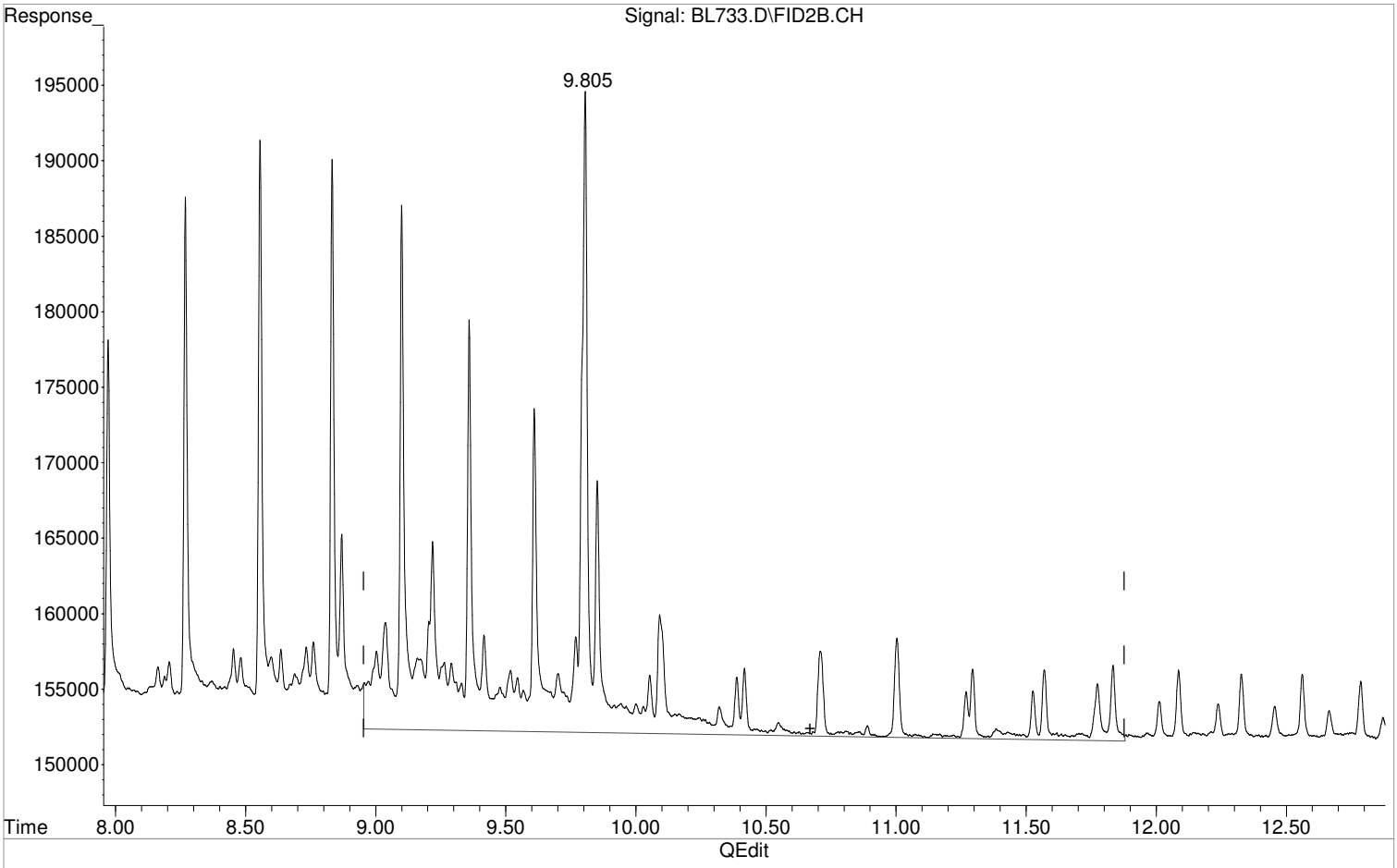
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL733.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:34 pm
Operator : JMisiurewicz
Sample : R1910542-006
Misc : 347736 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 20.775 mg/l m

response 4442095

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

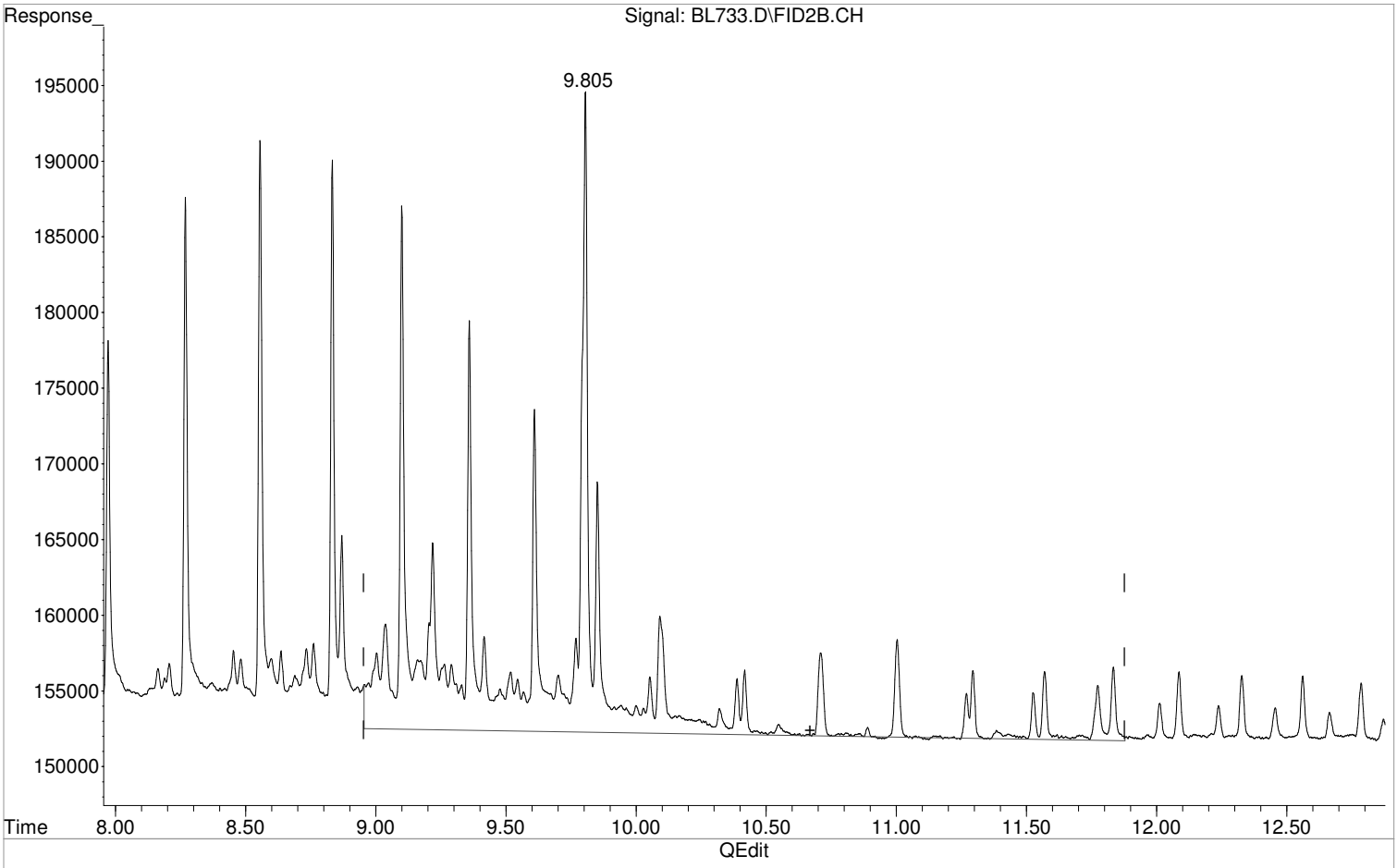
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL733.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:34 pm
Operator : JMisiurewicz
Sample : R1910542-006
Misc : 347736 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 19.664 mg/l

response 4204493

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

1st AF 11/04/19
2nd DM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL733.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:34 pm
Operator : JMisiurewicz
Sample : R1910542-006
Misc : 347736 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.071	32068951	108.068 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 108.07%	
Target Compounds			
2) HC Diesel Range Organics	8.922	16408977	54.354 mg/l
3) HC Oil Range Organics	10.670	4442095	20.775 mg/l m

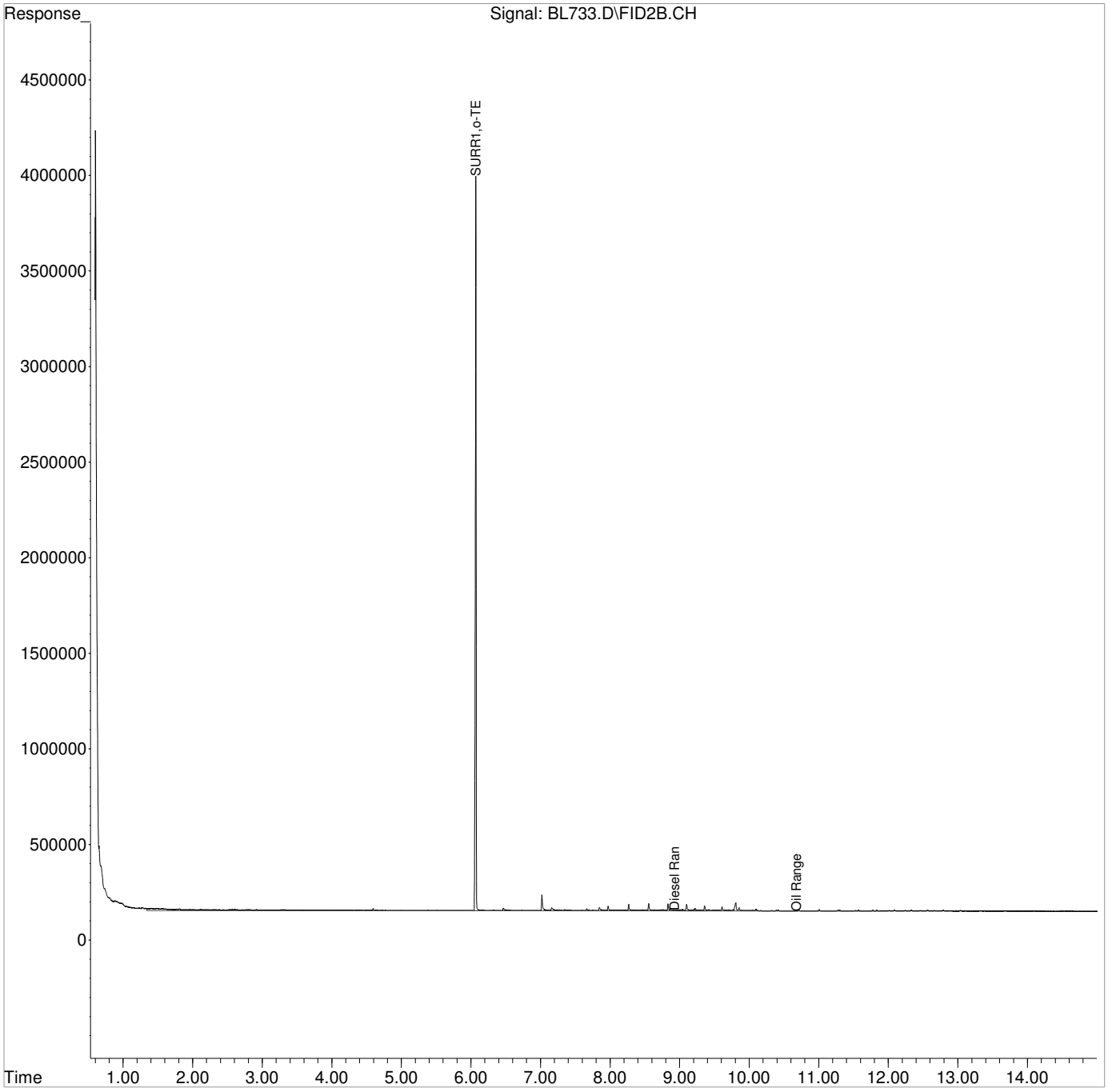
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 11/04/19
2nd JM 11/04/19

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL733.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:34 pm
Operator : JMisiurewicz
Sample : R1910542-006
Misc : 347736 8015 DRO
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:23 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL734.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:56 pm
Operator : JMisiurewicz
Sample : R1910542-009
Misc : 347736 8015 DRO
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.069	25018505	84.309 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	84.31%
Target Compounds			
2) HC Diesel Range Organics	8.922	15406807	51.034 mg/l
3) HC Oil Range Organics	10.670	2266115	10.598 mg/l

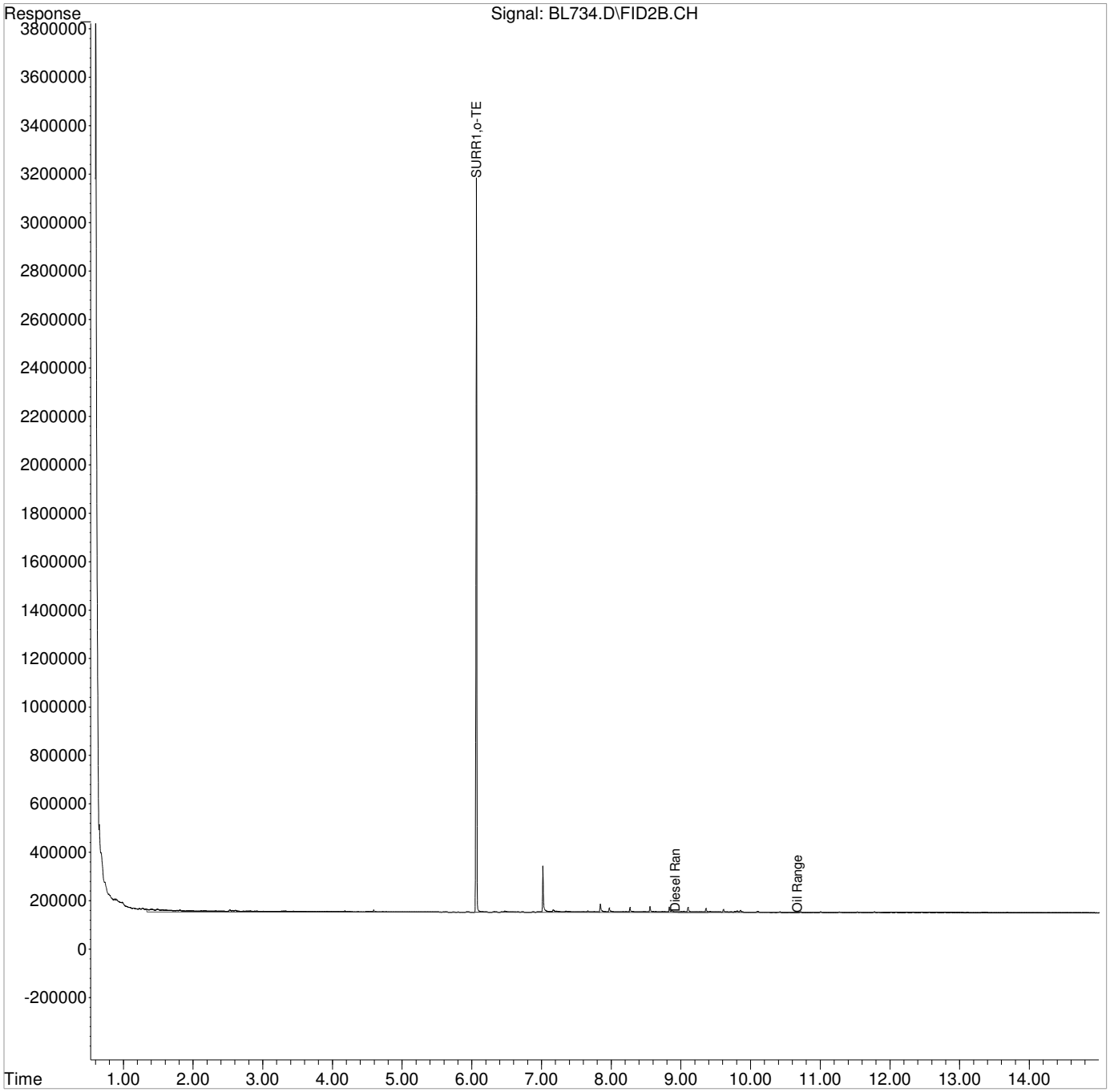
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 11/04/19
2nd DM 11/04/19

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL734.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 5:56 pm
Operator : JMisiurewicz
Sample : R1910542-009
Misc : 347736 8015 DRO
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL735.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 6:18 pm
Operator : JMisiurewicz
Sample : R1910542-012
Misc : 347736 8015 DRO
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.069	26614979	89.689 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	89.69%
Target Compounds			
2) HC Diesel Range Organics	8.922	14829051	49.121 mg/l
3) HC Oil Range Organics	10.670	1629157	7.619 mg/l

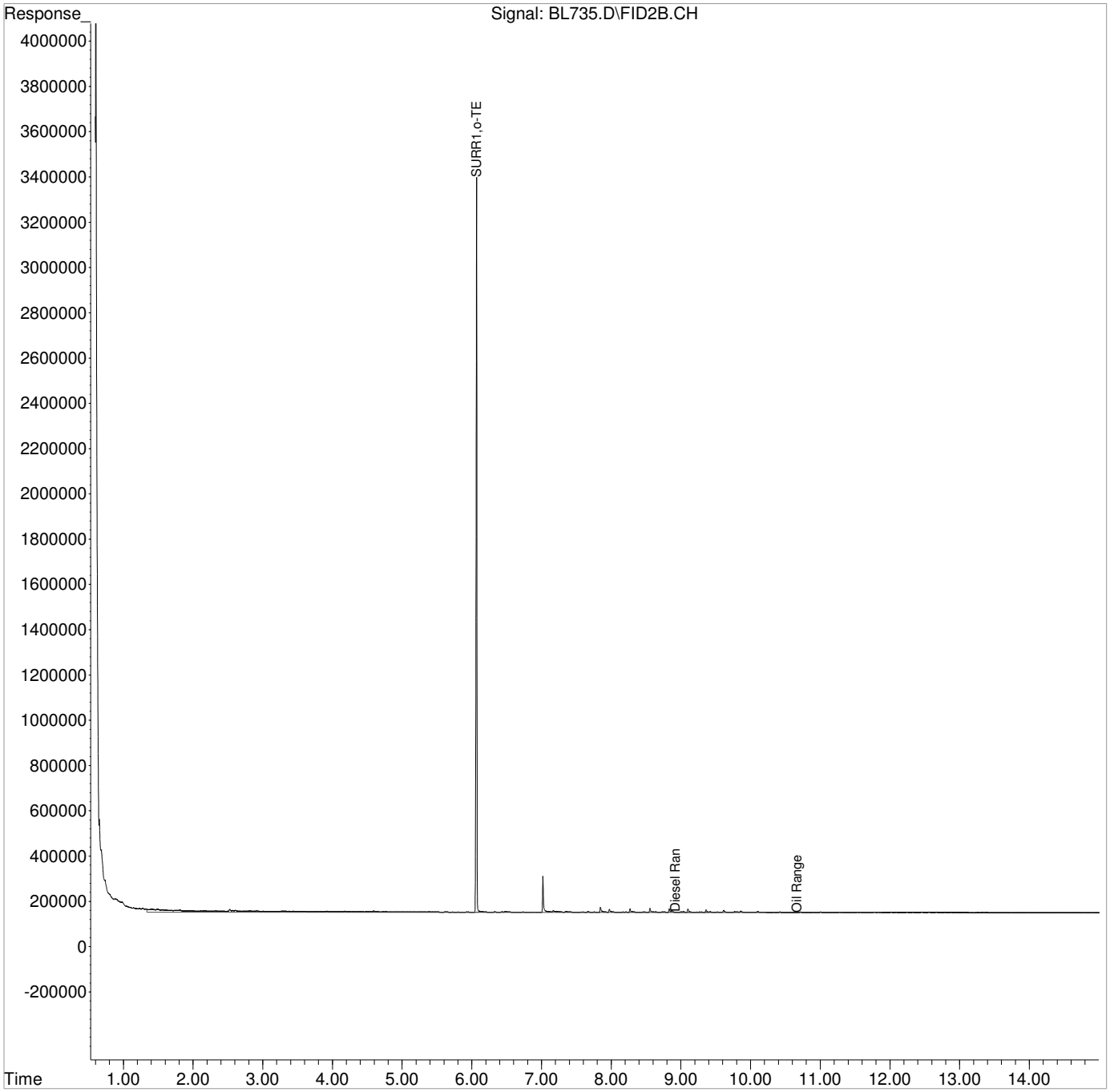
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 11/04/19
2nd JM 11/04/19

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL735.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 6:18 pm
Operator : JMisiurewicz
Sample : R1910542-012
Misc : 347736 8015 DRO
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



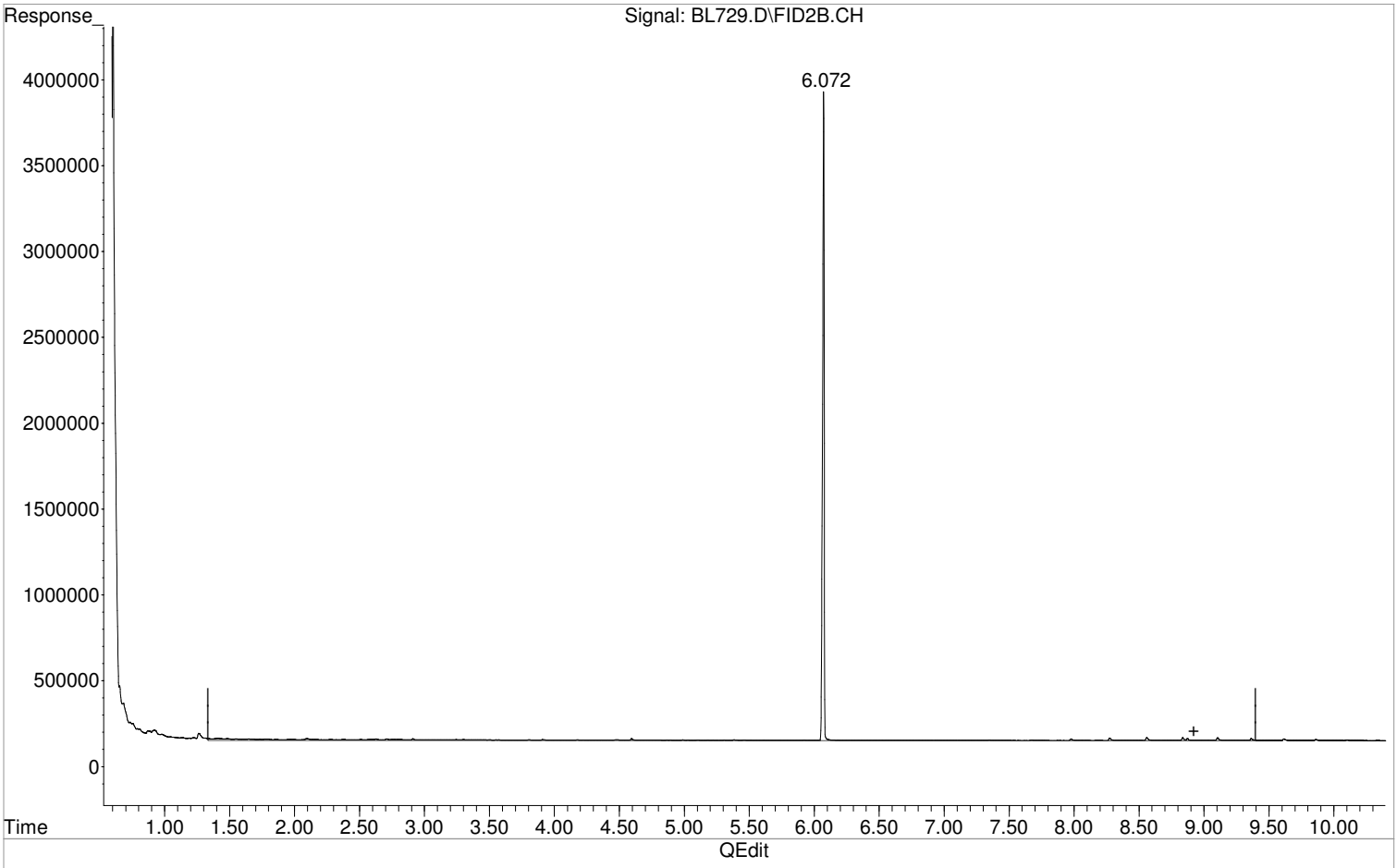
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL729.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:04 pm
Operator : JMisiurewicz
Sample : METH BLK
Misc : 347736 8015 DRO
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 41.125 mg/l m

response 12415202

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

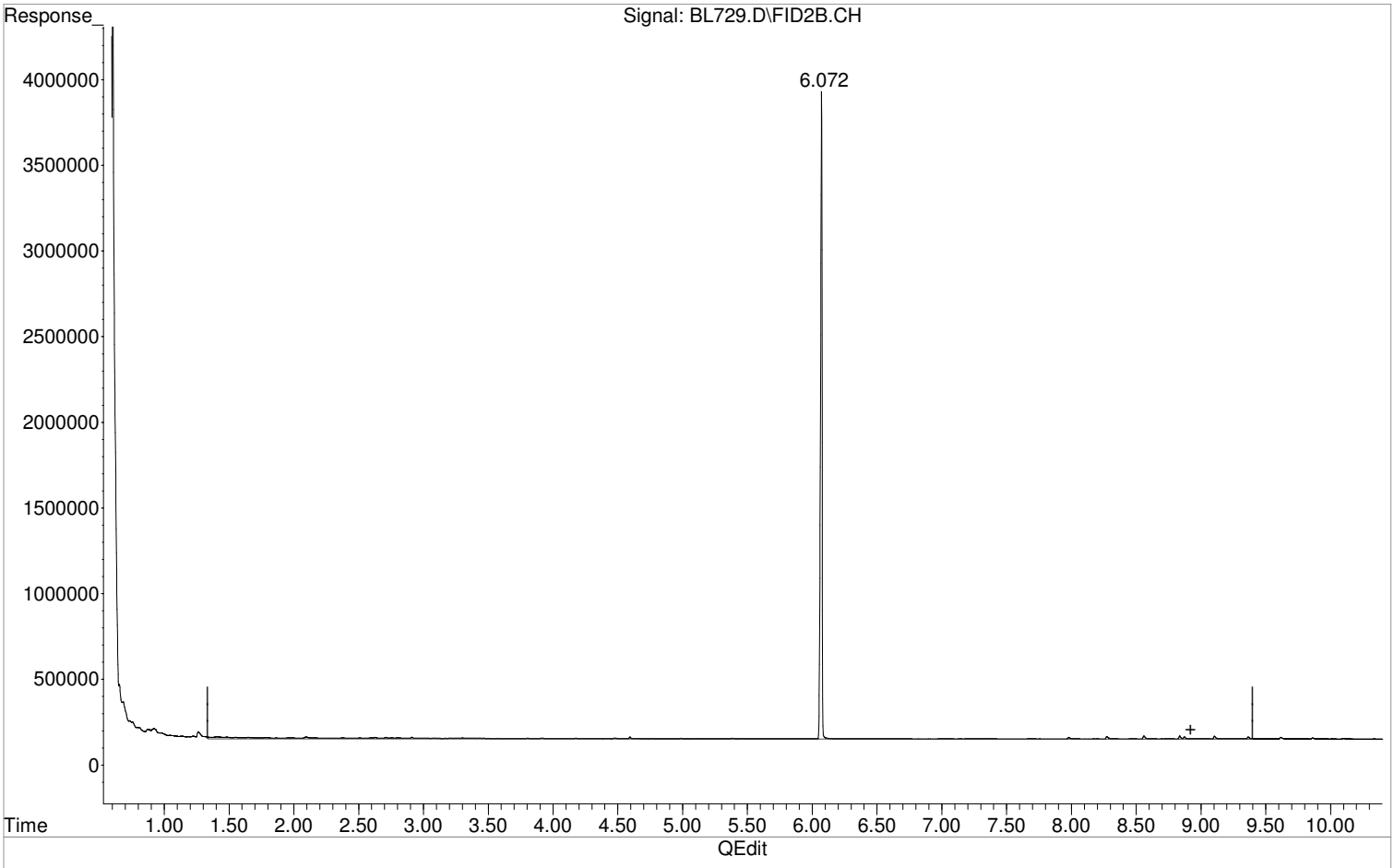
1st AF 11/04/19
2nd 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL729.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:04 pm
Operator : JMisiurewicz
Sample : METH BLK
Misc : 347736 8015 DRO
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 36.892 mg/l

response 11137188

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

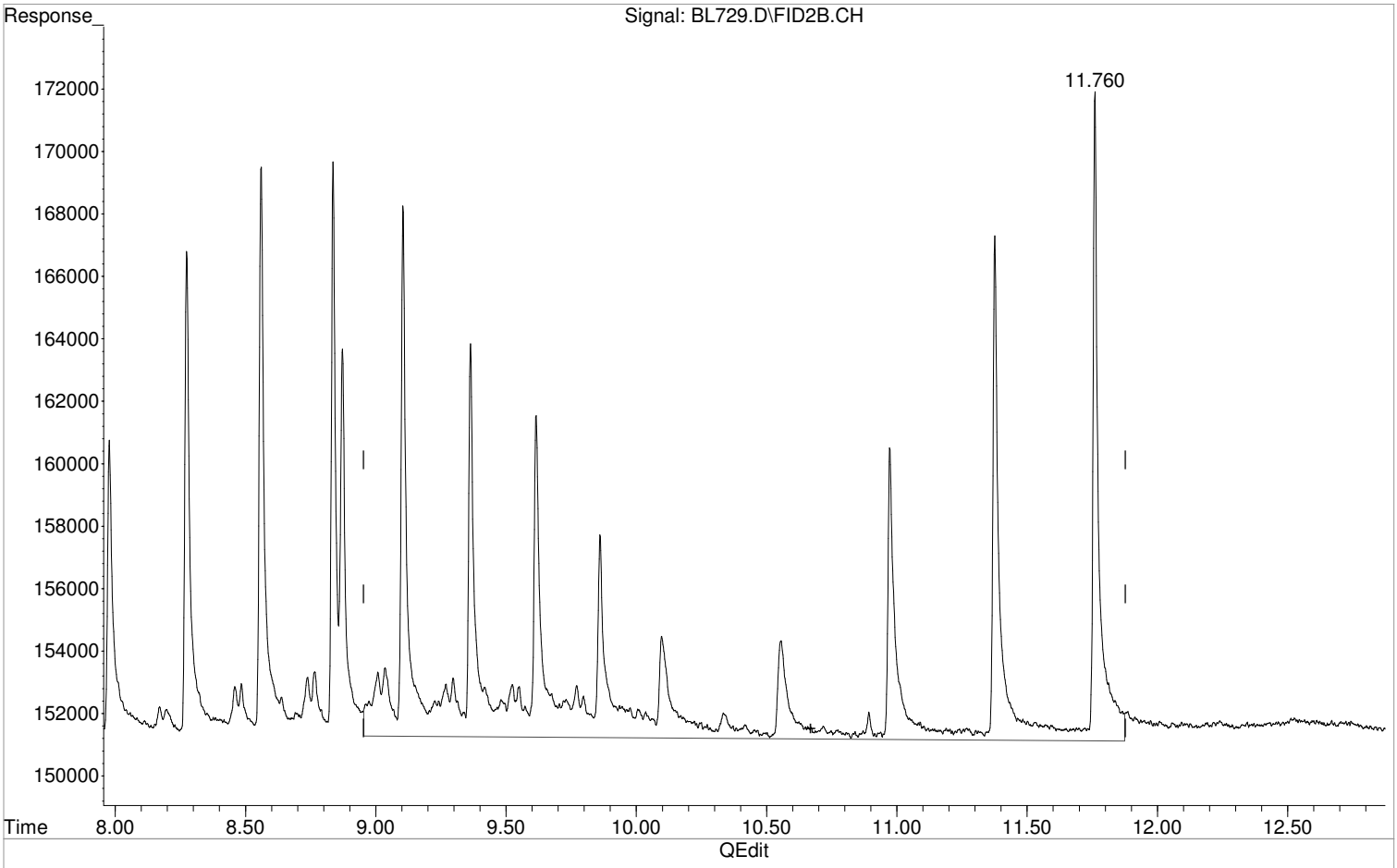
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL729.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:04 pm
Operator : JMisiurewicz
Sample : METH BLK
Misc : 347736 8015 DRO
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 11.170 mg/l m

response 2388296

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

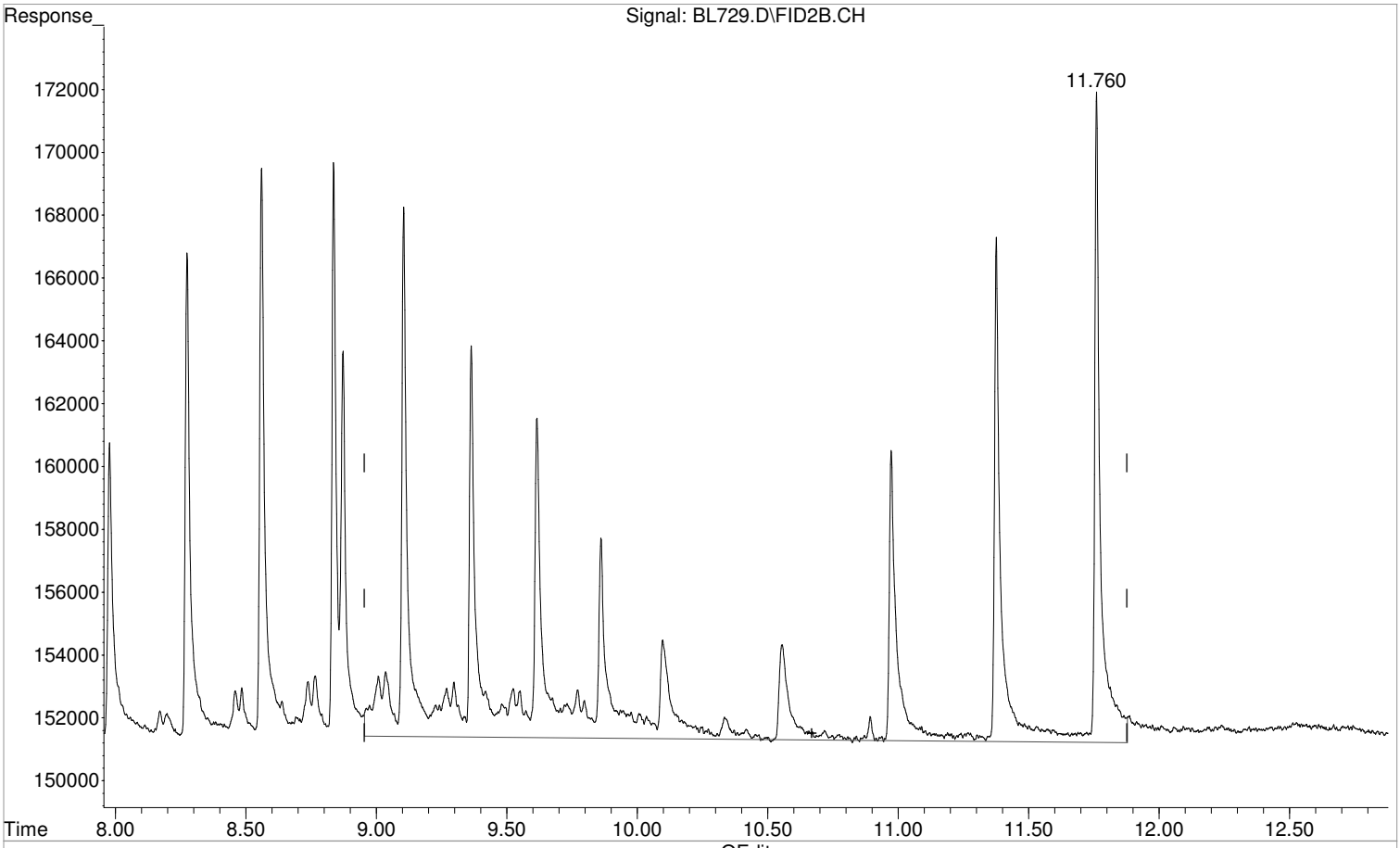
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL729.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:04 pm
Operator : JMisiurewicz
Sample : METH BLK
Misc : 347736 8015 DRO
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 10.227 mg/l

response 2186774

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

1st AF 11/04/19
2nd DM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL729.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:04 pm
Operator : JMisiurewicz
Sample : METH BLK
Misc : 347736 8015 DRO
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.073f	32411943	109.224 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 109.22%	
Target Compounds			
2) HC Diesel Range Organics	8.922	12415202	41.125 mg/l m
3) HC Oil Range Organics	10.670	2388296	11.170 mg/l m

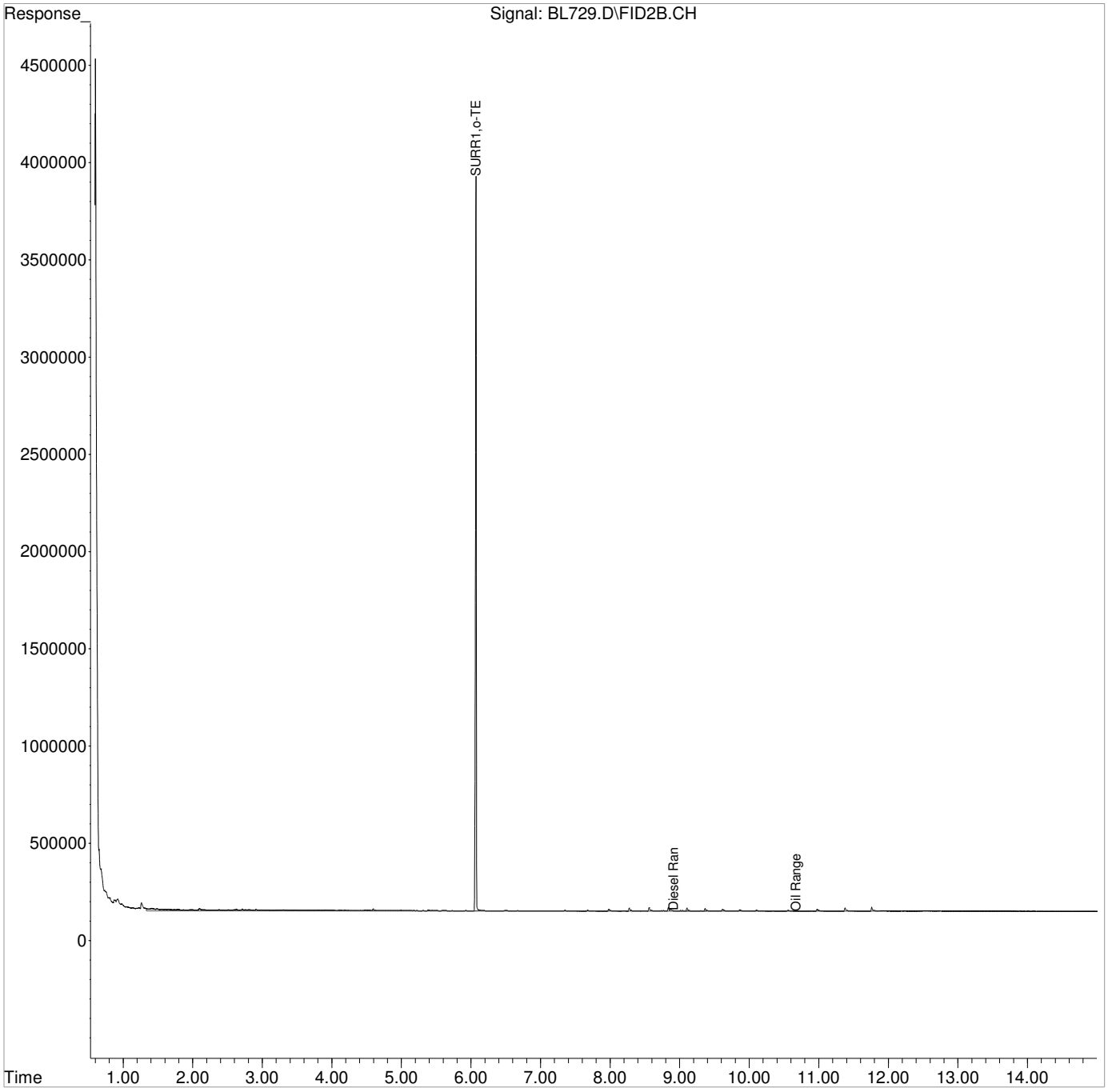
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 11/04/19
2nd JM 11/04/19

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL729.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:04 pm
Operator : JMisiurewicz
Sample : METH BLK
Misc : 347736 8015 DRO
ALS Vial : 3 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:15 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



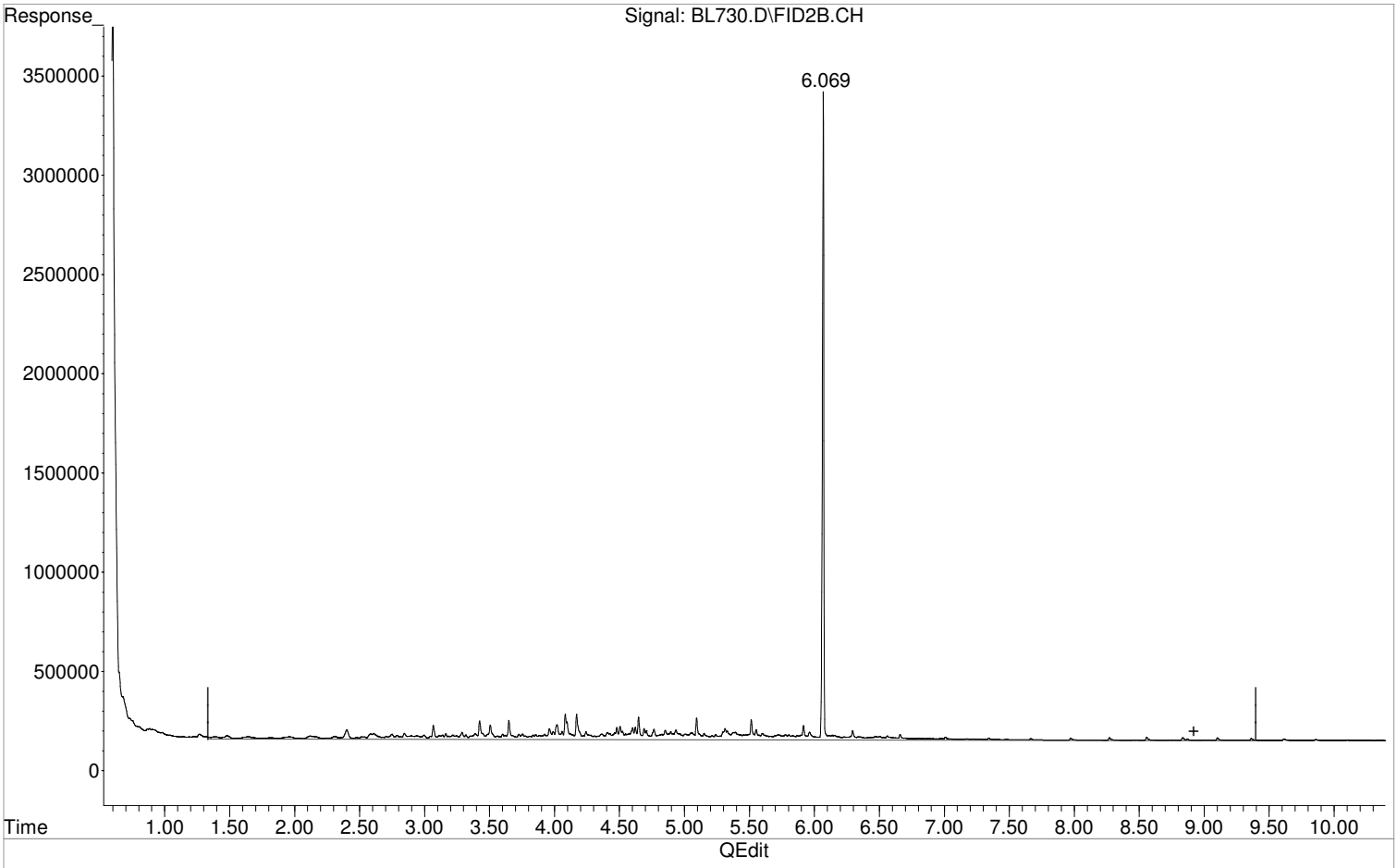
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL730.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:26 pm
Operator : JMisiurewicz
Sample : LCS
Misc : 347736 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 234.824 mg/l m

response 70891175

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

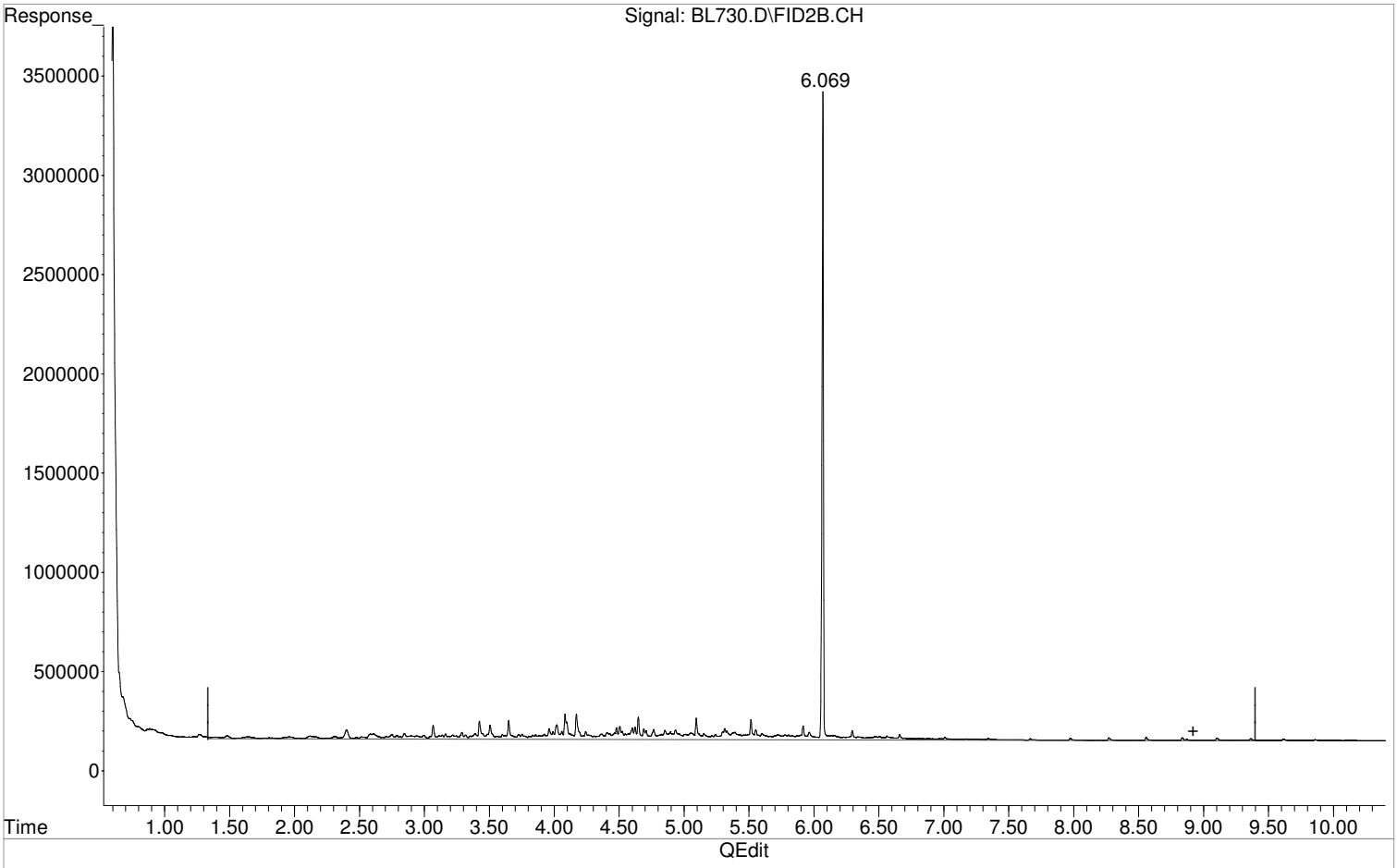
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL730.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:26 pm
Operator : JMisiurewicz
Sample : LCS
Misc : 347736 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 227.042 mg/l

response 68541819

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

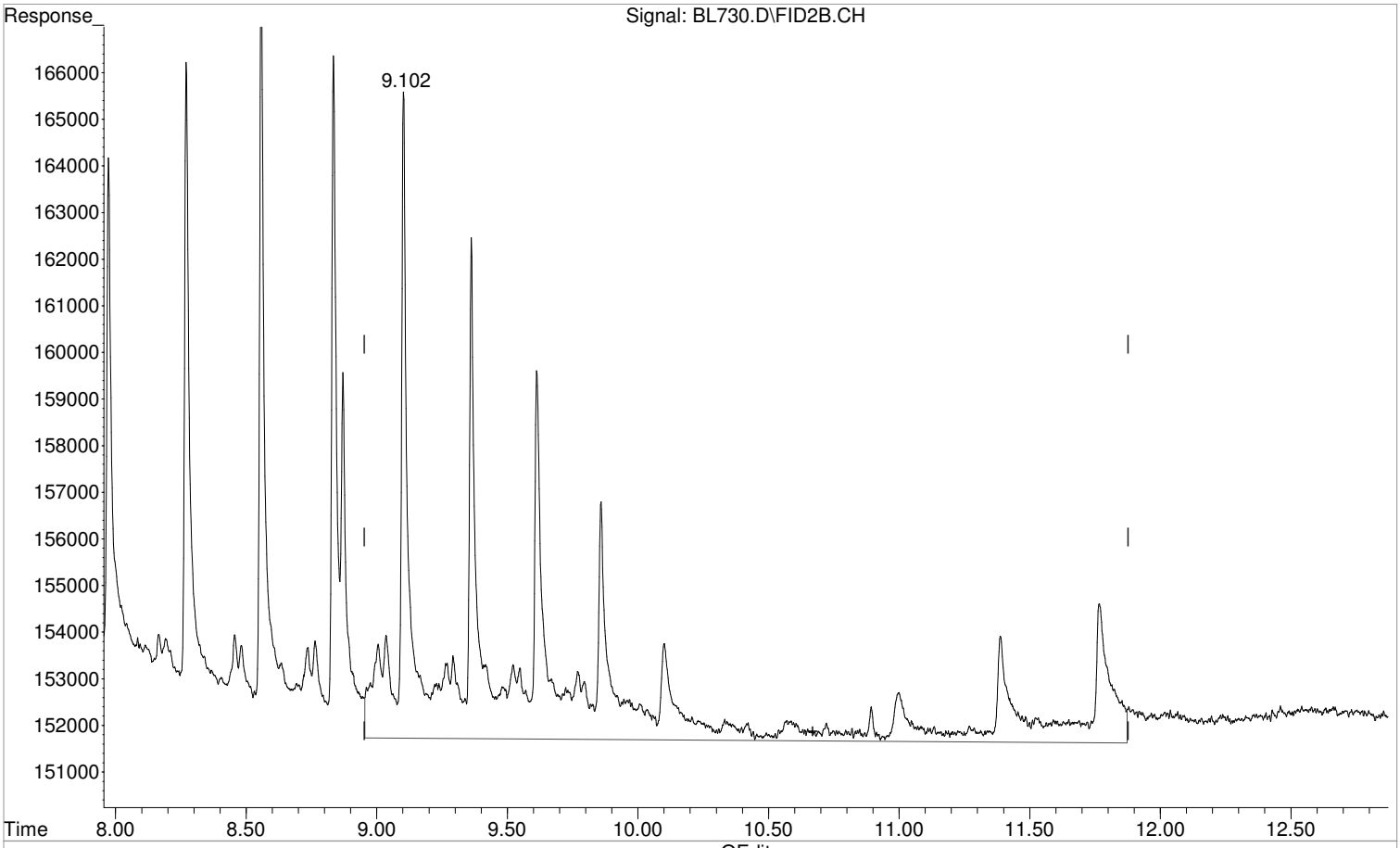
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL730.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:26 pm
Operator : JMisiurewicz
Sample : LCS
Misc : 347736 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 7.513 mg/l m

response 1606308

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

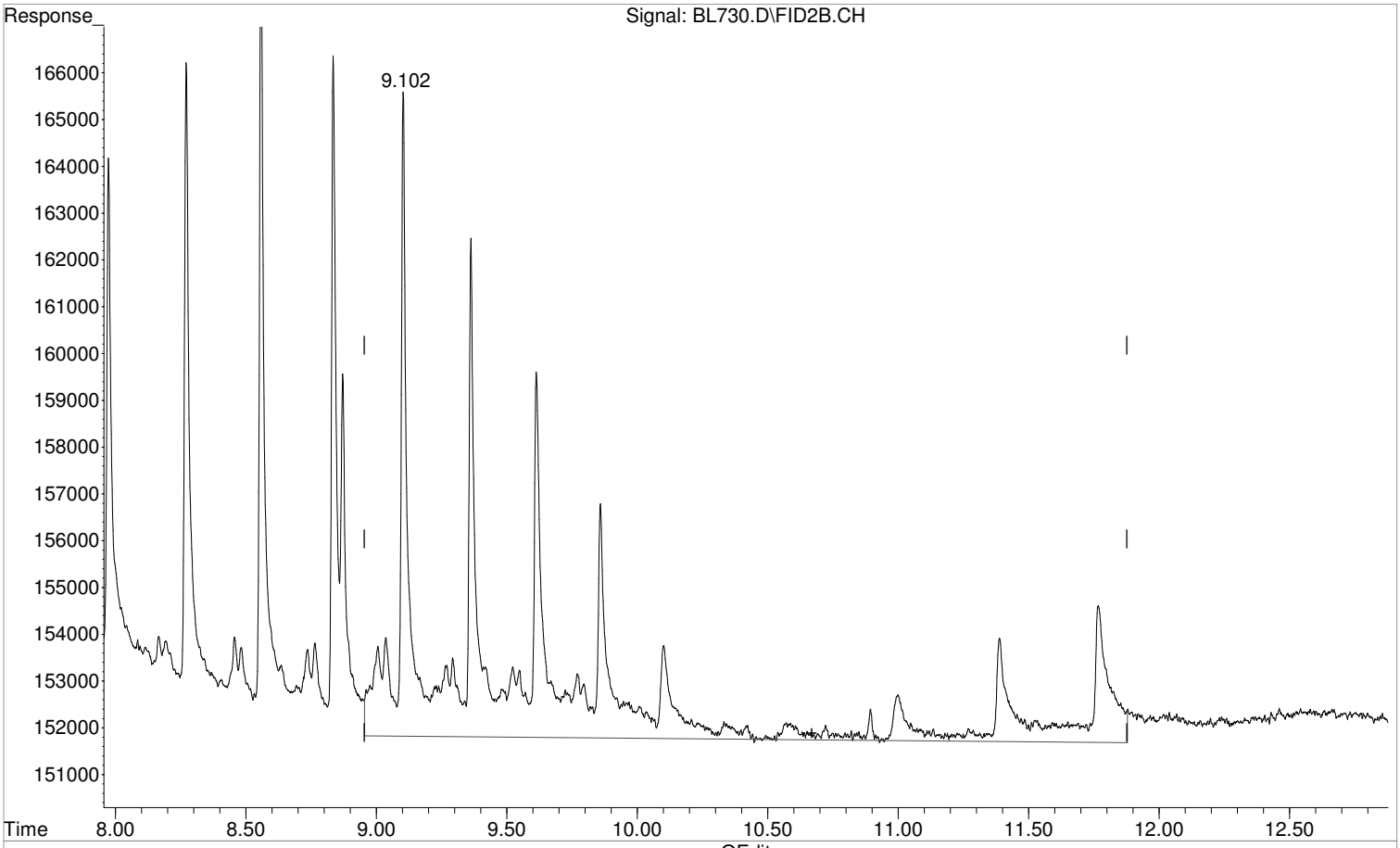
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL730.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:26 pm
Operator : JMisiurewicz
Sample : LCS
Misc : 347736 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 6.885 mg/l

response 1472174

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL730.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:26 pm
Operator : JMisiurewicz
Sample : LCS
Misc : 347736 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.069	25407862	85.621 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	85.62%
Target Compounds			
2) HC Diesel Range Organics	8.922	70891175	234.824 mg/l m
3) HC Oil Range Organics	10.670	1606308	7.513 mg/l m

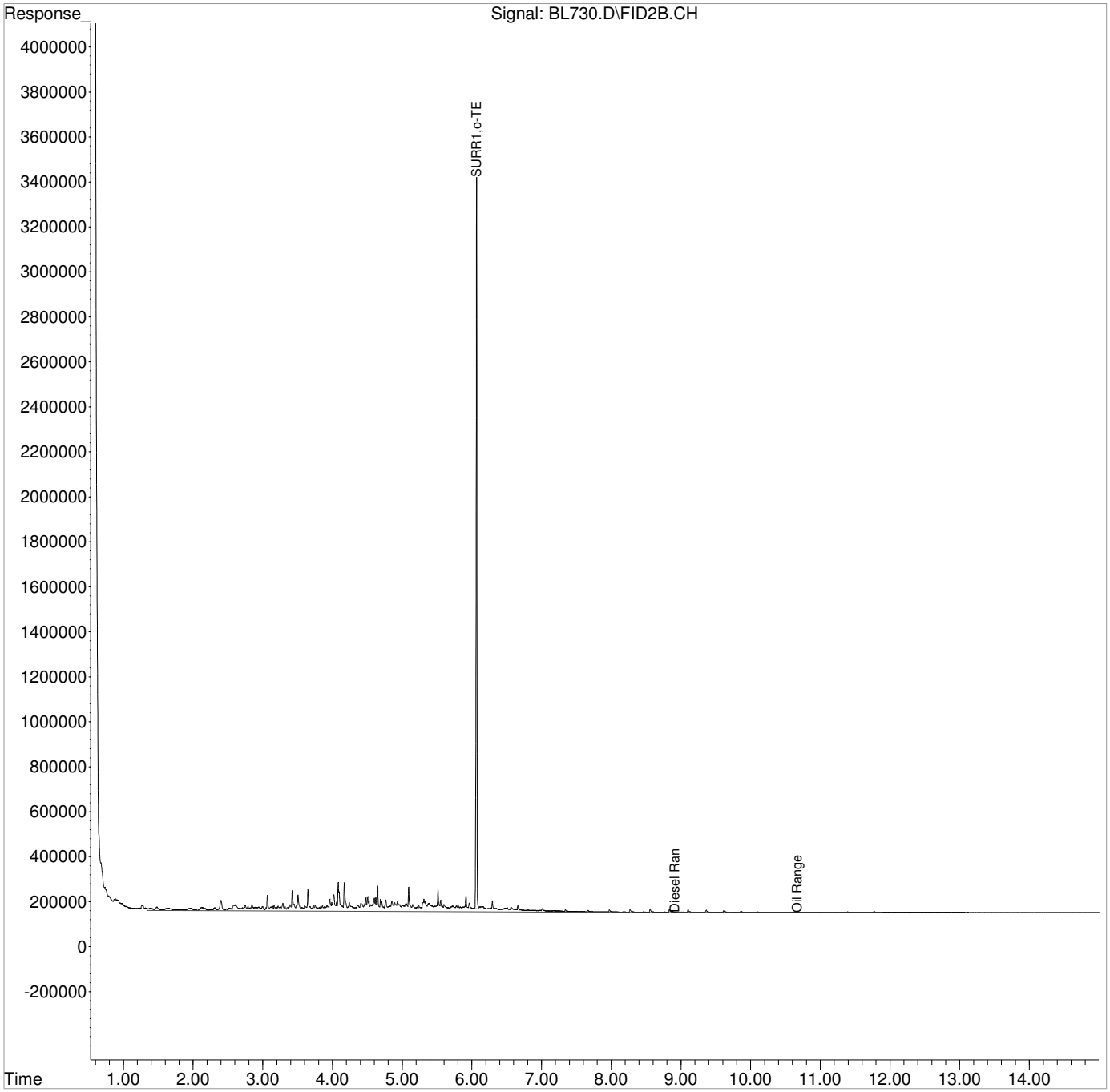
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL730.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:26 pm
Operator : JMisiurewicz
Sample : LCS
Misc : 347736 8015 DRO
ALS Vial : 4 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:17 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



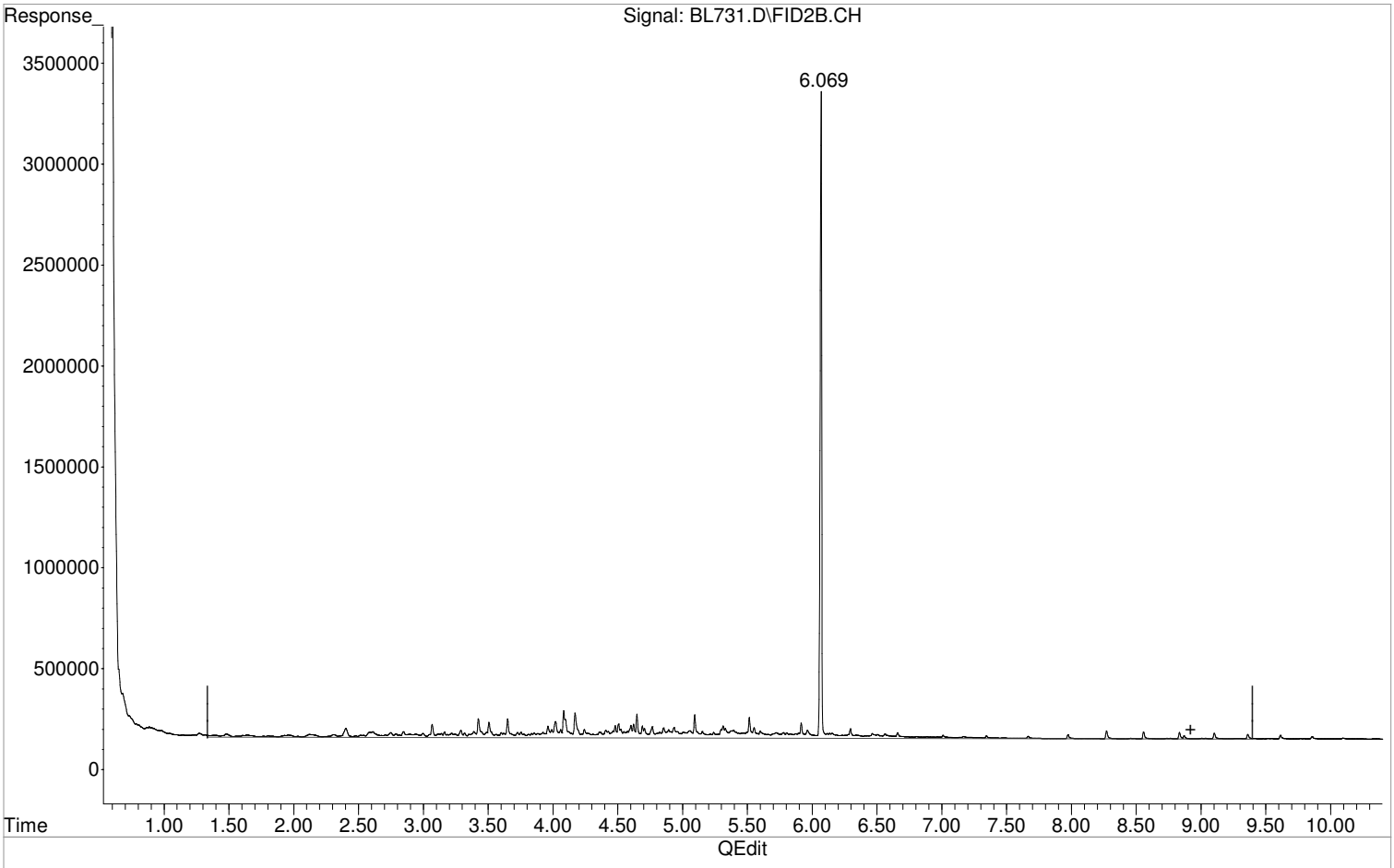
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL731.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:49 pm
Operator : JMisiurewicz
Sample : DLCS
Misc : 347736 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 245.331 mg/l m

response 74062976

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

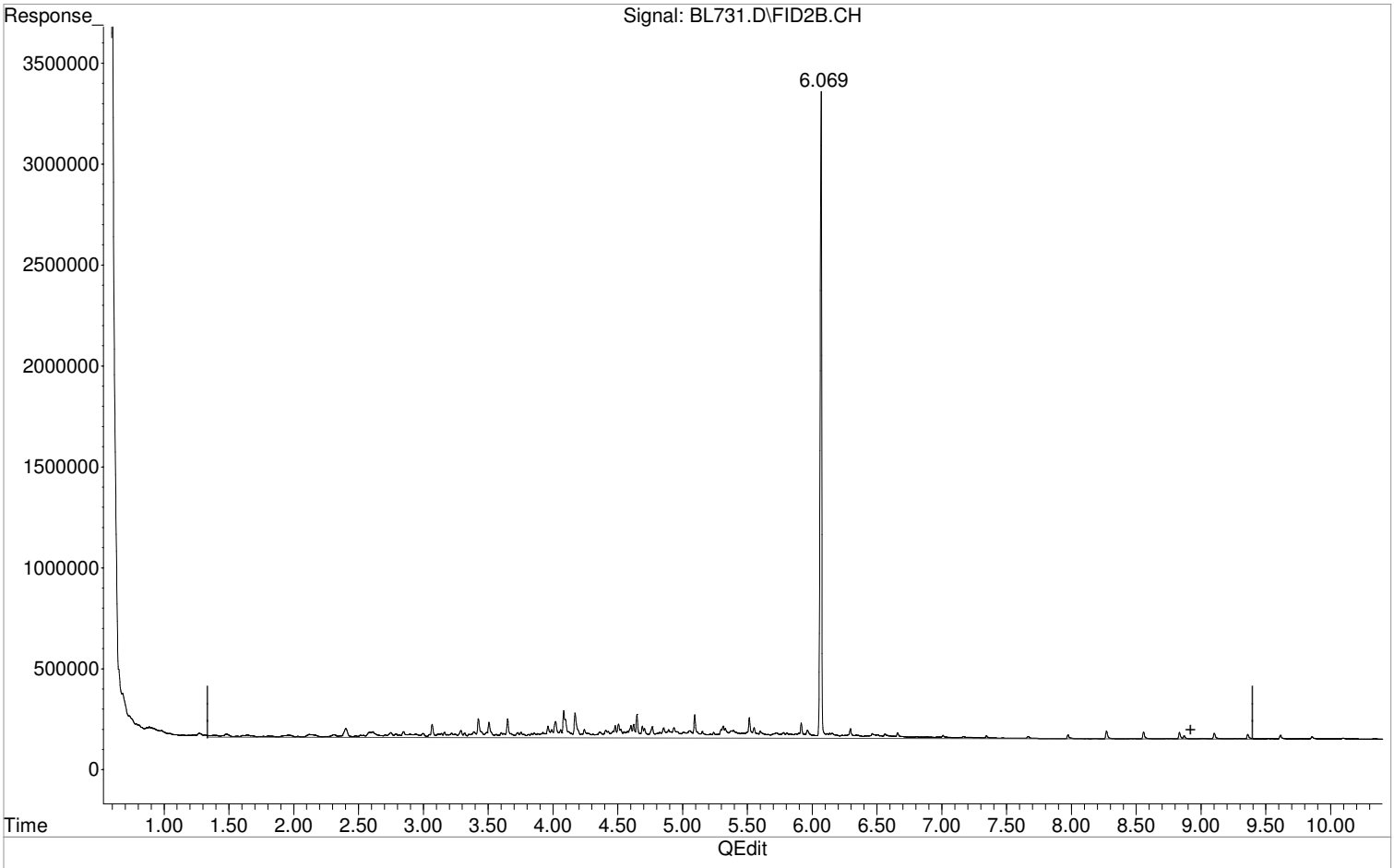
1st AF 11/04/19
2nd DM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL731.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:49 pm
Operator : JMisiurewicz
Sample : DLCS
Misc : 347736 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 239.628 mg/l

response 72341331

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

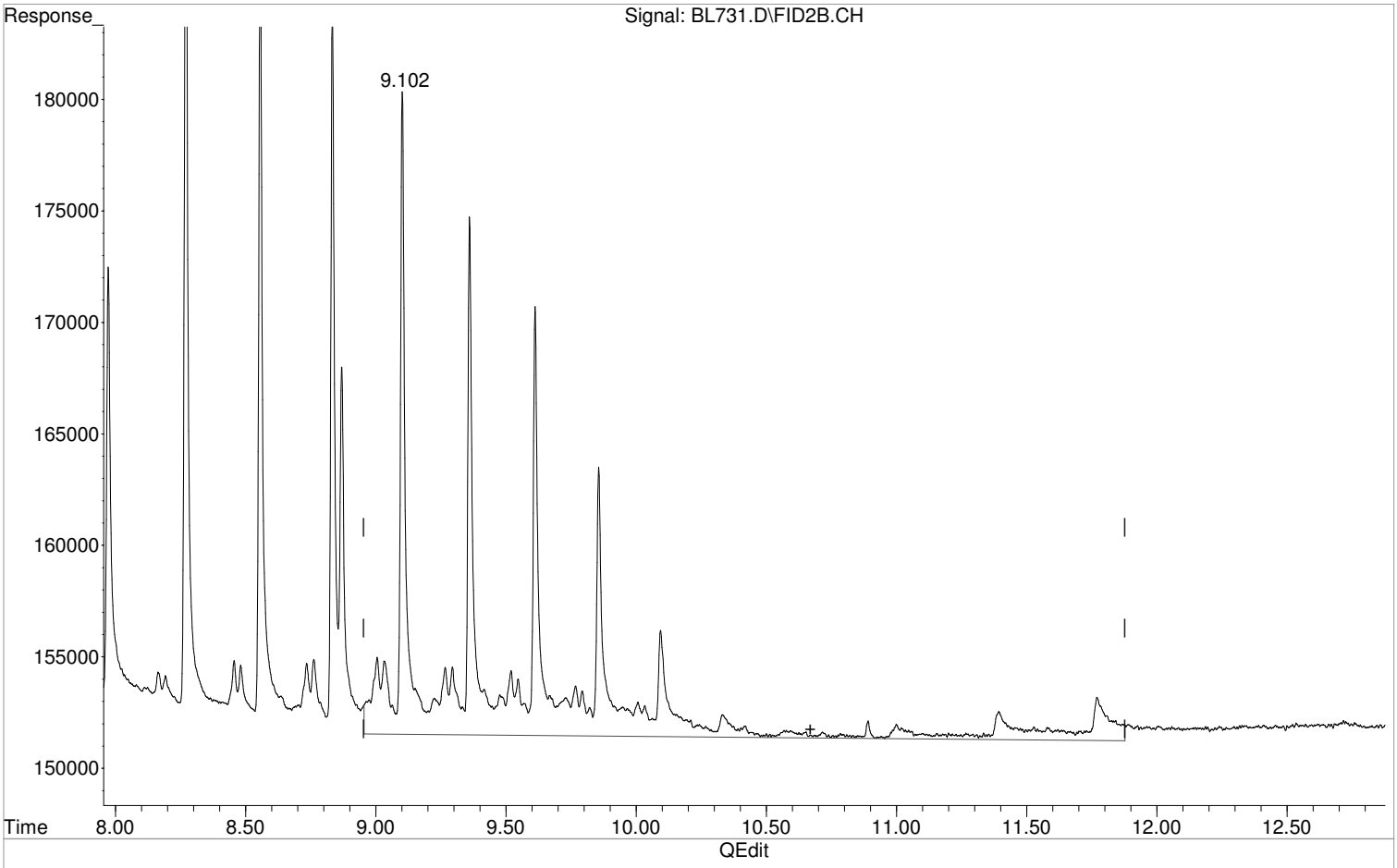
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL731.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:49 pm
Operator : JMisiurewicz
Sample : DLCS
Misc : 347736 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 11.094 mg/l m

response 2372035

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

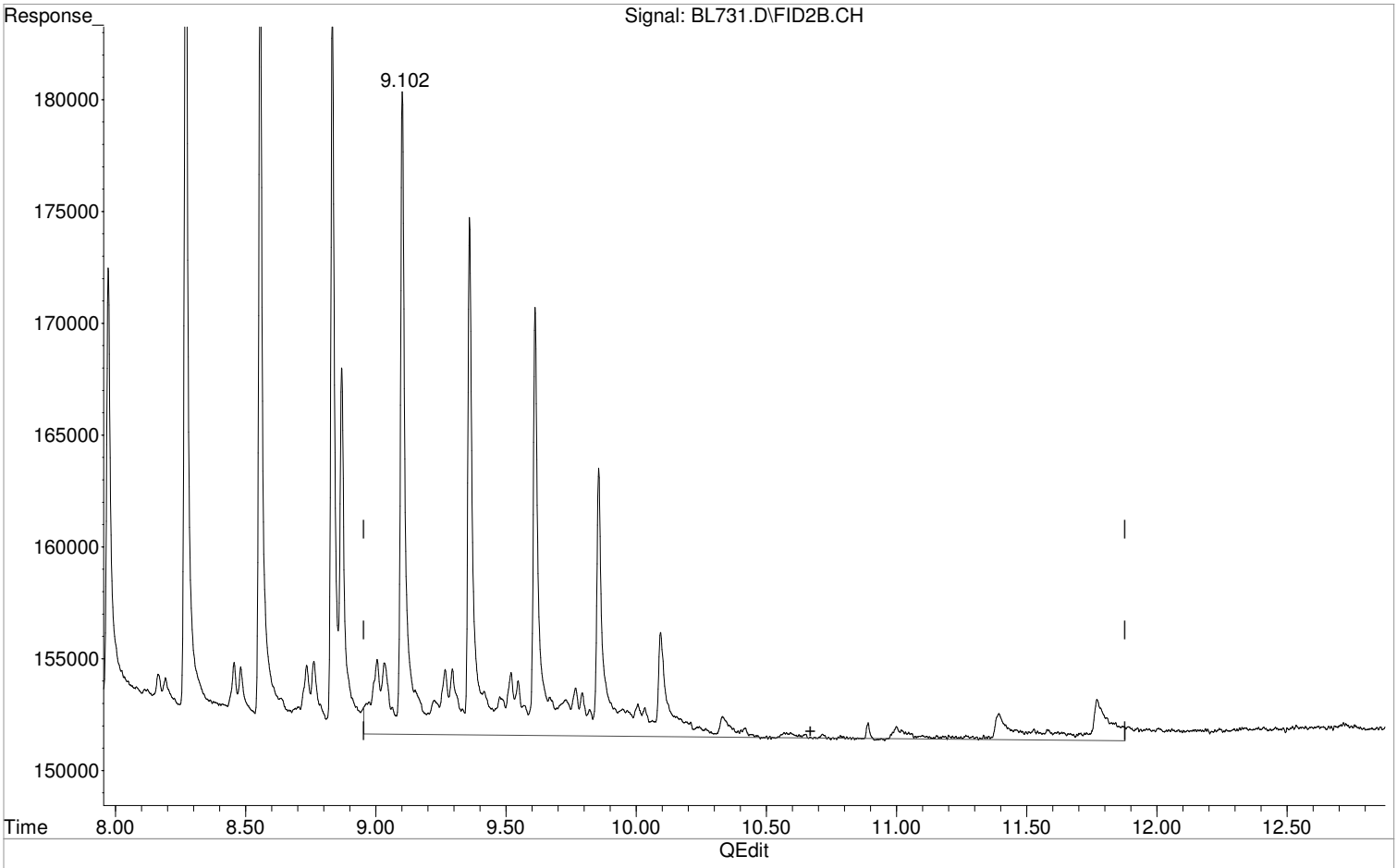
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL731.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:49 pm
Operator : JMisiurewicz
Sample : DLCS
Misc : 347736 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 10.325 mg/l

response 2207654

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

1st AF 11/04/19
2nd DM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL731.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:49 pm
Operator : JMisiurewicz
Sample : DLCS
Misc : 347736 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.069	26783928	90.258 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 90.26%	
Target Compounds			
2) HC Diesel Range Organics	8.922	74062976	245.331 mg/l m
3) HC Oil Range Organics	10.670	2372035	11.094 mg/l m

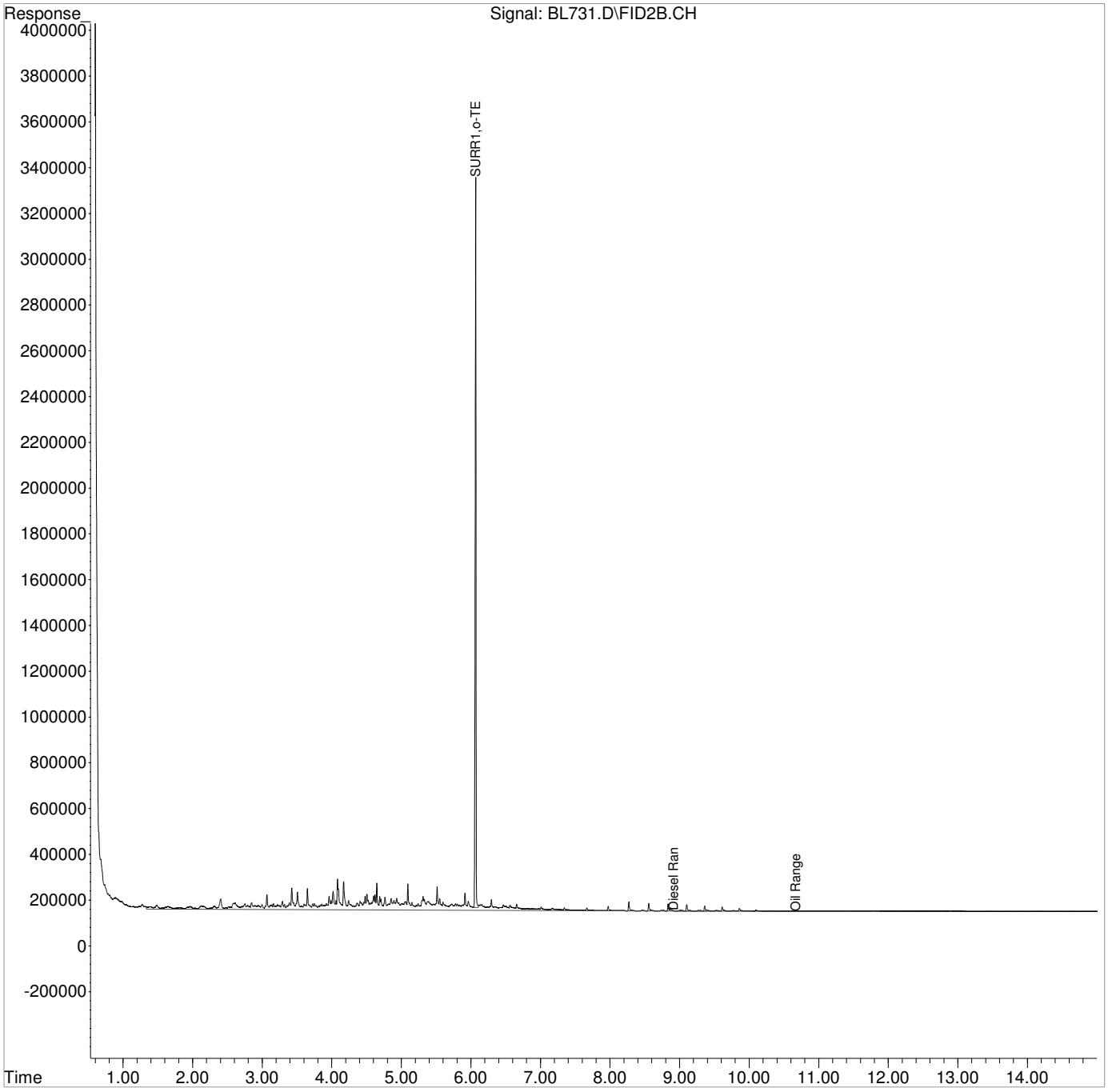
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 11/04/19
2nd JM 11/04/19

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL731.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 4:49 pm
Operator : JMisiurewicz
Sample : DLCS
Misc : 347736 8015 DRO
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:19 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



1st AF 11/04/19
2nd JM 11/04/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL728.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 3:32 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO
ALS Vial : 2 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 01 15:59:56 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 S	SURR1,o-TERPHENYL	40.000	43.848	-9.6	101	0.05
2 HC	Diesel Range Organics	1000.000	1007.723	-0.8	99	0.00
3 HC	Oil Range Organics	700.000	631.537	9.8	86	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

1st AF 11/04/19
2nd DM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL728.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 3:32 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO
ALS Vial : 2 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 01 15:59:56 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.067	13011660	43.848 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 43.85%	
Target Compounds			
2) HC Diesel Range Organics	8.922	304221723	1007.723 mg/l
3) HC Oil Range Organics	10.670	135032558	631.537 mg/l

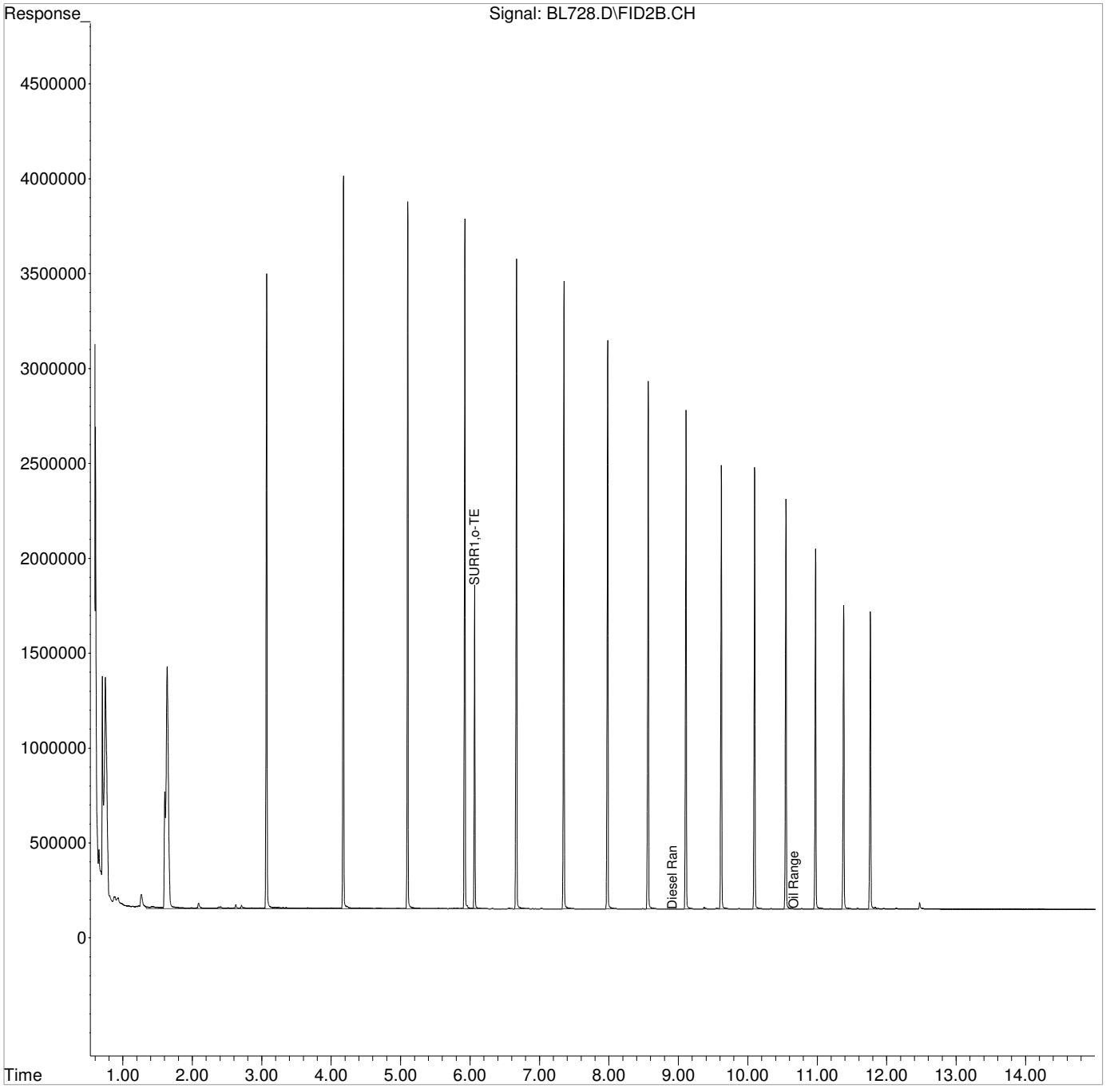
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL728.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 3:32 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO
ALS Vial : 2 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 01 15:59:56 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



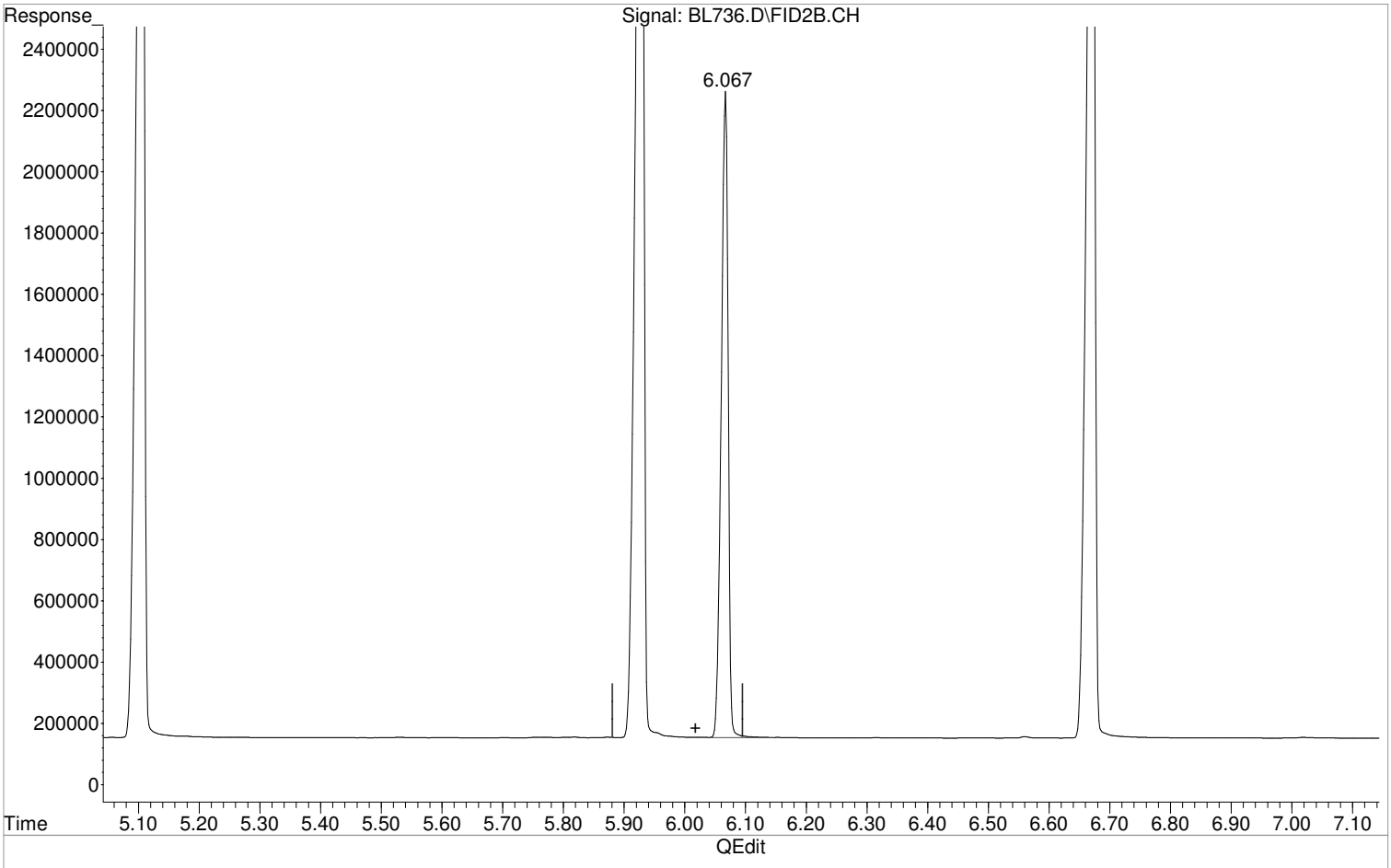
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL736.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 6:41 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO
ALS Vial : 2 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(1) SURR1,o-TERPHENYL (S)

6.067min 56.156 mg/l m

response 16664033

Manual Integration:

After

Poor integration.

11/04/19

(+) = Expected Retention Time

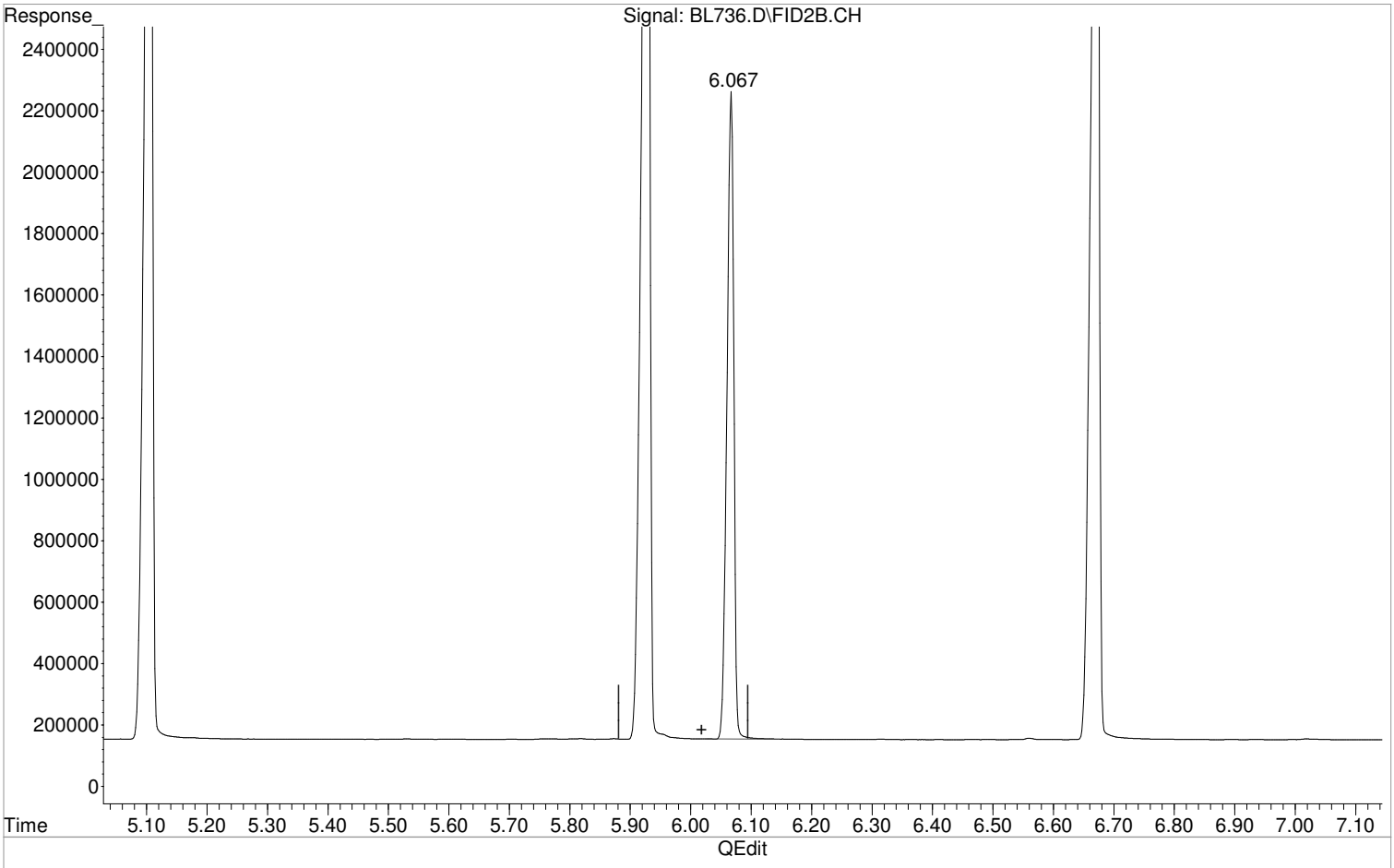
1st AF 11/04/19
2nd JM 11/04/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL736.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 6:41 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO
ALS Vial : 2 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(1) SURR1,o-TERPHENYL (S)

6.067min 56.118 mg/l

response 16652861

Manual Integration:

Before

11/04/19

(+) = Expected Retention Time

1st AF 11/04/19
2nd JM 11/04/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL736.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 6:41 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO
ALS Vial : 2 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 S	SURR1,o-TERPHENYL	40.000	56.156	-40.4#	130	0.05
2 HC	Diesel Range Organics	1000.000	1240.044	-24.0#	121	0.00
3 HC	Oil Range Organics	700.000	652.410	6.8	89	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 1

1st AF 11/04/19
2nd DM 11/04/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL736.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 6:41 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO
ALS Vial : 2 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.067	16652861	56.118 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 56.12%	
Target Compounds			
2) HC Diesel Range Organics	8.922	374368294	1240.081 mg/l
3) HC Oil Range Organics	10.670	139495686	652.410 mg/l

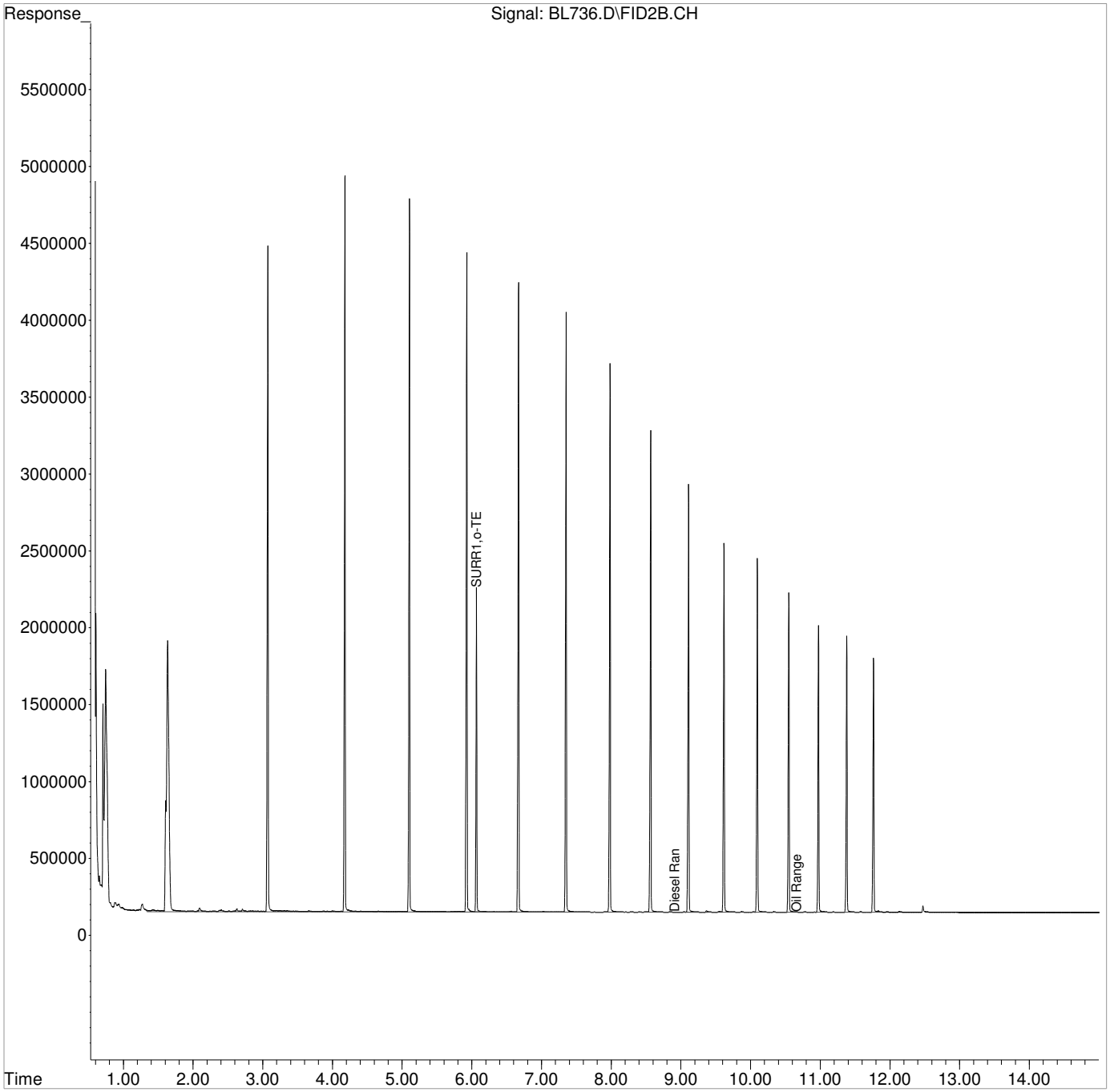
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 11/04/19
2nd JM 11/04/19

Data Path : I:\ACQUDATA\6890I\DATA\110119\
Data File : BL736.D
Signal(s) : FID2B.CH
Acq On : 01 Nov 2019 6:41 pm
Operator : JMisiurewicz
Sample : CCV
Misc : 8015 DRO
ALS Vial : 2 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Nov 04 09:56:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	0.000	0	N.D. mg/l d
Spiked Amount 100.000	Range 40 - 133	Recovery =	0.00%#
Target Compounds			
2) HC Diesel Range Organics	8.922	162795401	539.254 mg/l
3) HC Oil Range Organics	0.000	0	N.D. mg/l d

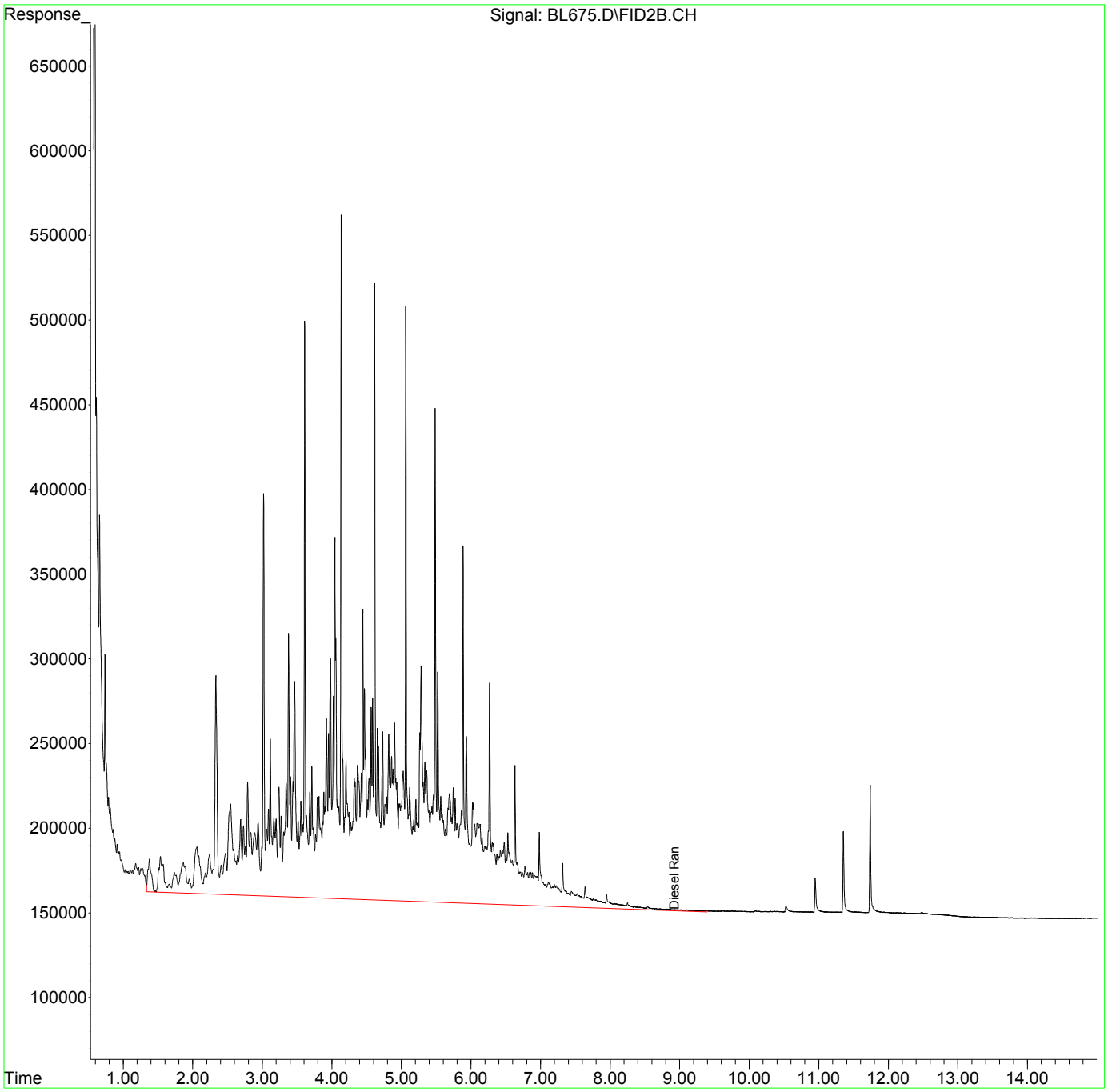
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



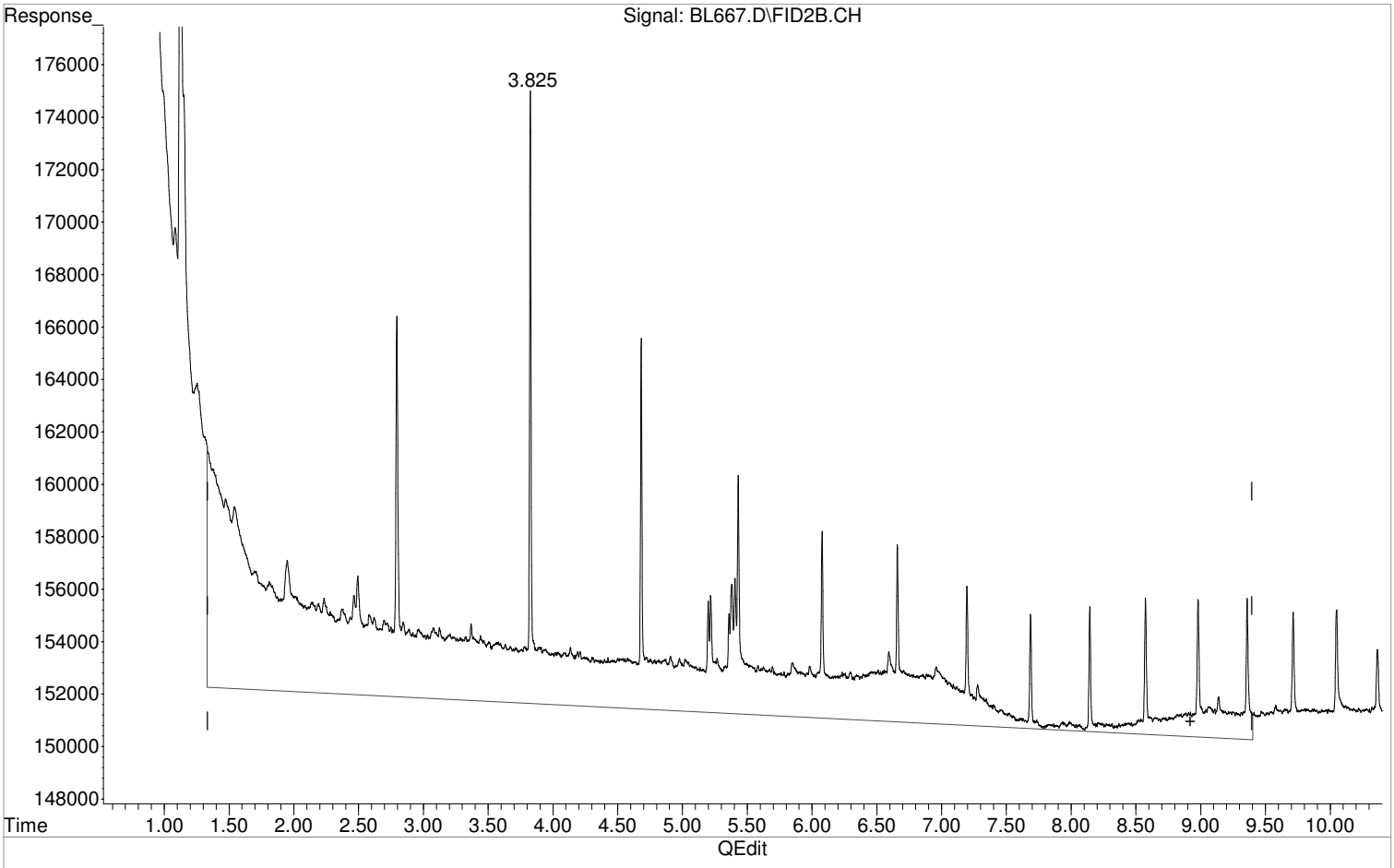
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 34.051 mg/l m

response 10279784

Manual Integration:

After

Poor integration.

10/28/19

(+) = Expected Retention Time

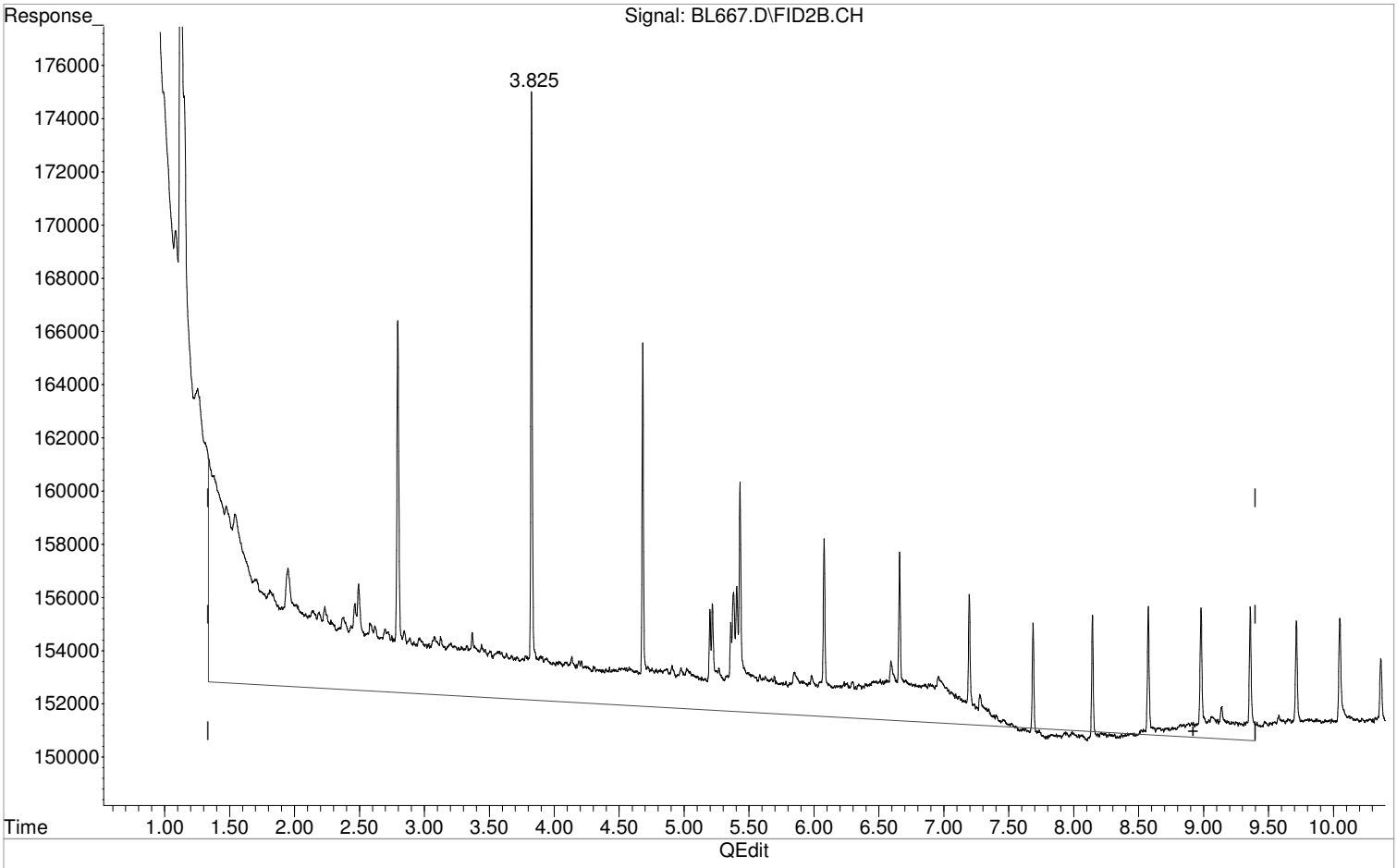
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(2) Diesel Range Organics (HC)

8.922min 26.667 mg/l

response 8050388

Manual Integration:

Before

10/28/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S SURR1,o-TERPHENYL	0.000	0	N.D.	mg/l	d
Spiked Amount 100.000	Range 40 - 133	Recovery =	0.00%#		
Target Compounds					
2) HC Diesel Range Organics	8.922	10331817	34.224	mg/l	m
3) HC Oil Range Organics	0.000	0	N.D.	mg/l	d

(f)=RT Delta > 1/2 Window (m)=manual int.

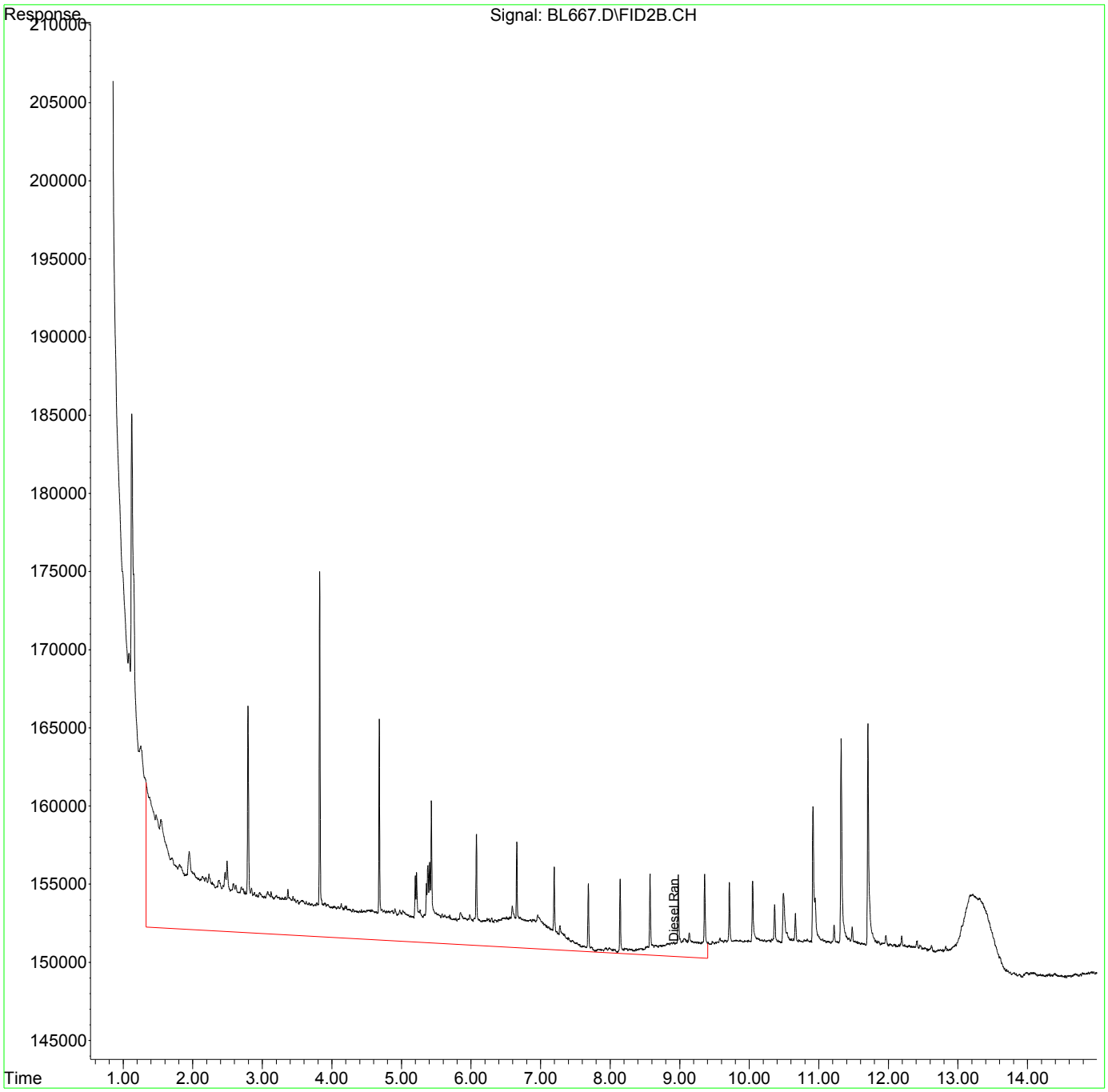
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL667.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 12:33 pm
Operator : JMisiurewicz
Sample : BLK
Misc : 8015 DRO CAL
ALS Vial : 1 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 28 08:47:18 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



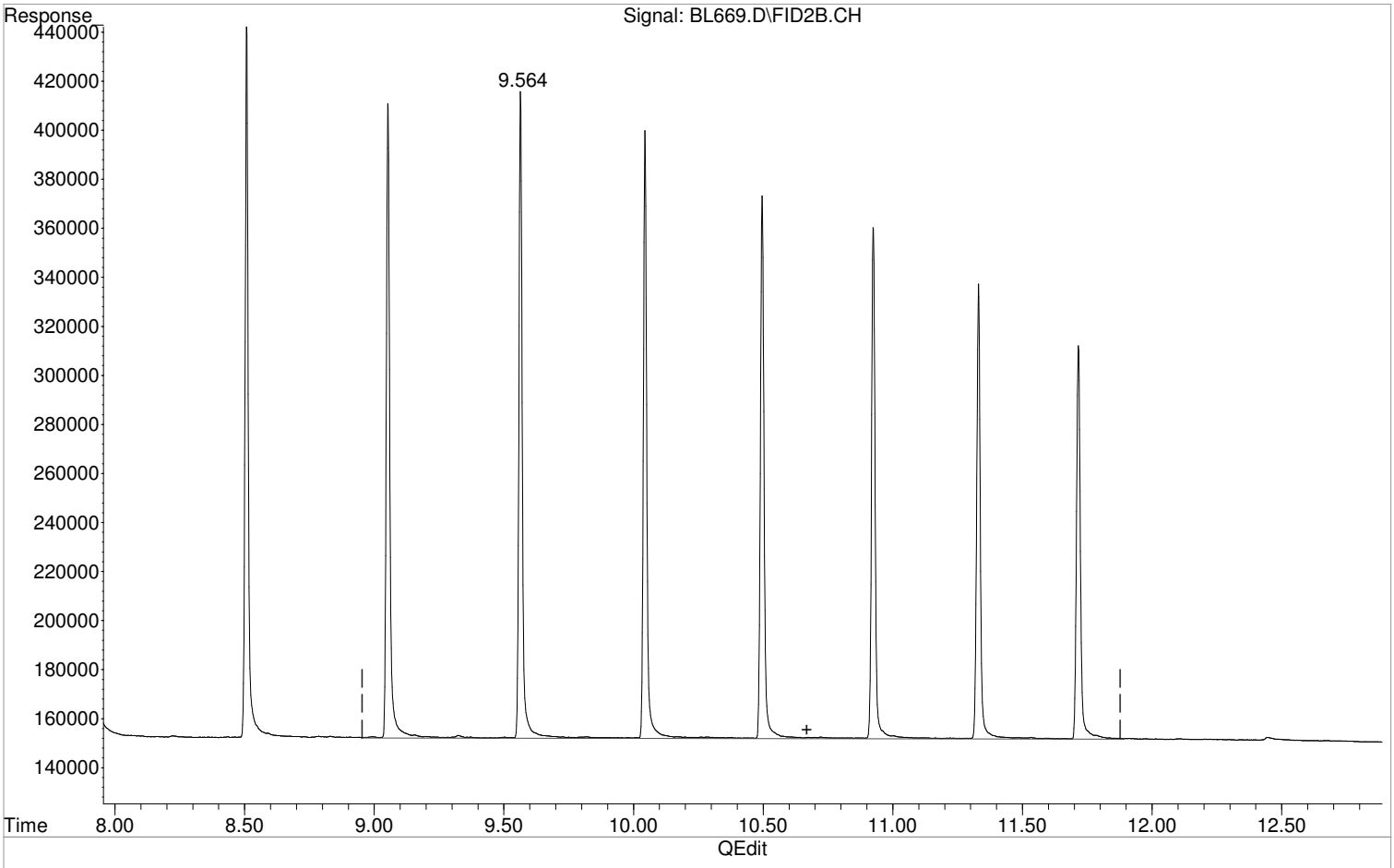
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 77.404 mg/l m

response 15468045

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

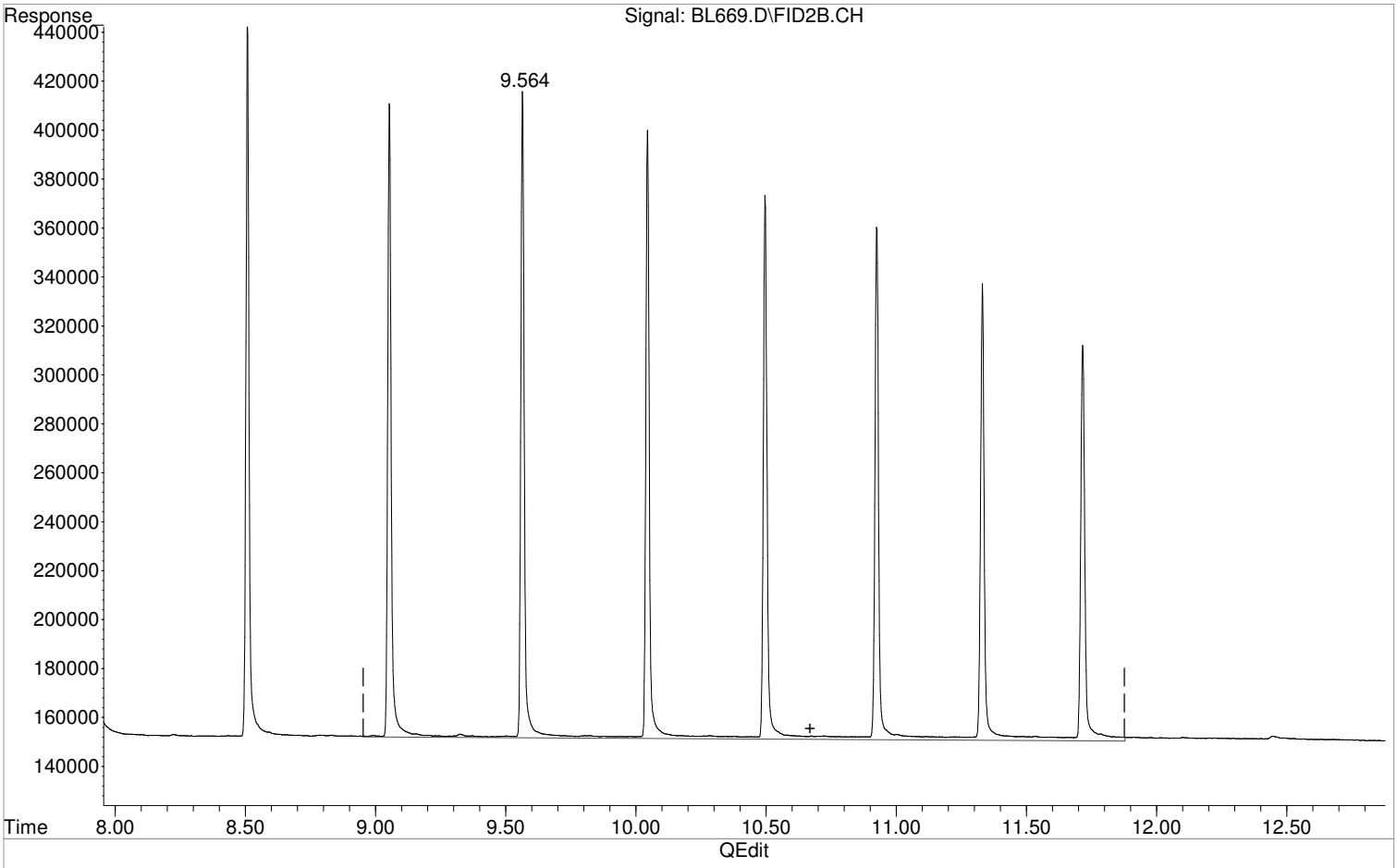
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 83.173 mg/l

response 16620884

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	5.999f	1200808	2.660 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	2.66%#
Target Compounds			
2) HC Diesel Range Organics	8.922	34483937	82.698 mg/l
3) HC Oil Range Organics	10.670	15468045	77.404 mg/l m

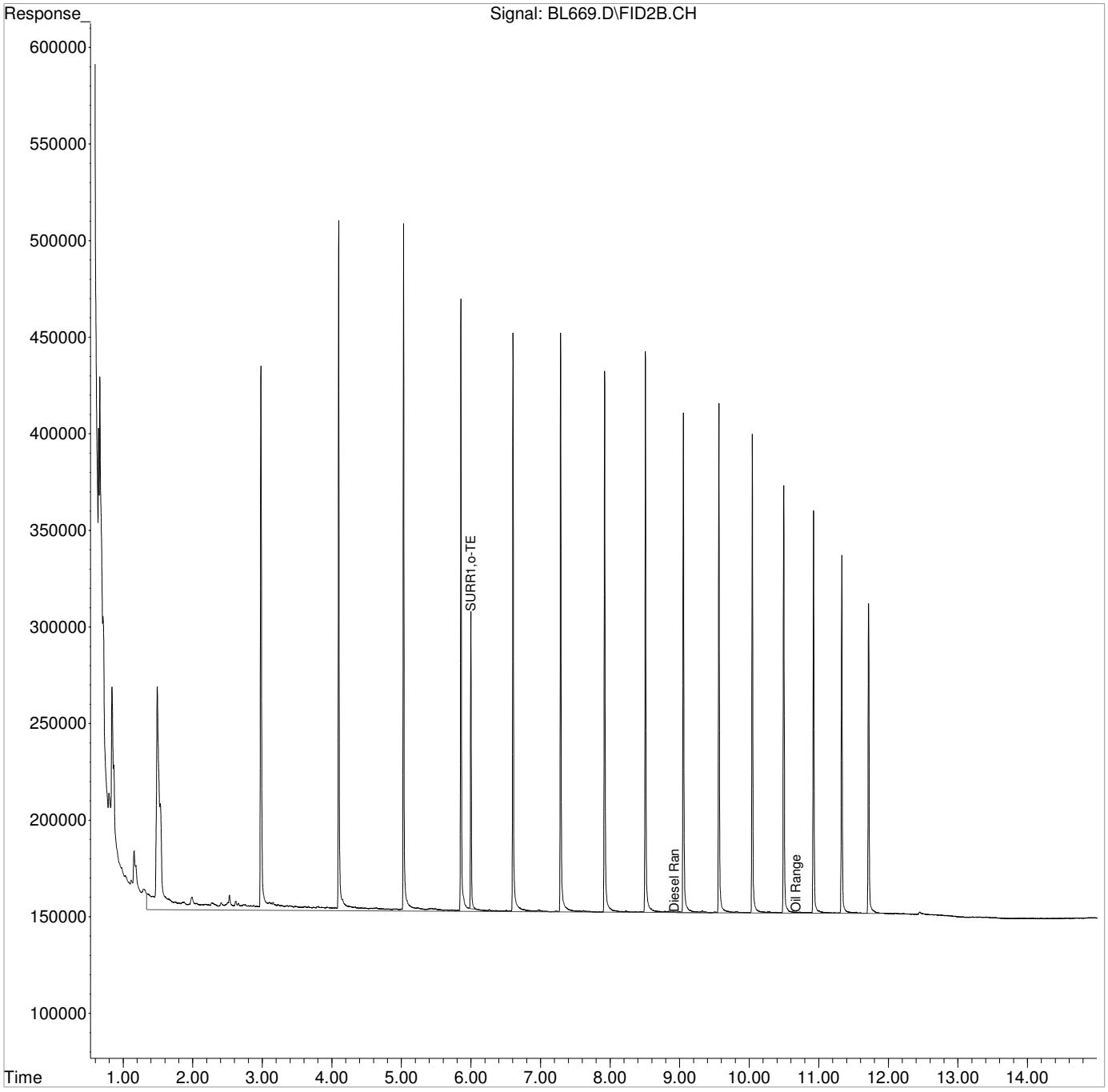
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL669.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:19 pm
Operator : JMisiurewicz
Sample : STD 1
Misc : 8015 DRO CAL LOW
ALS Vial : 5 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:25 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



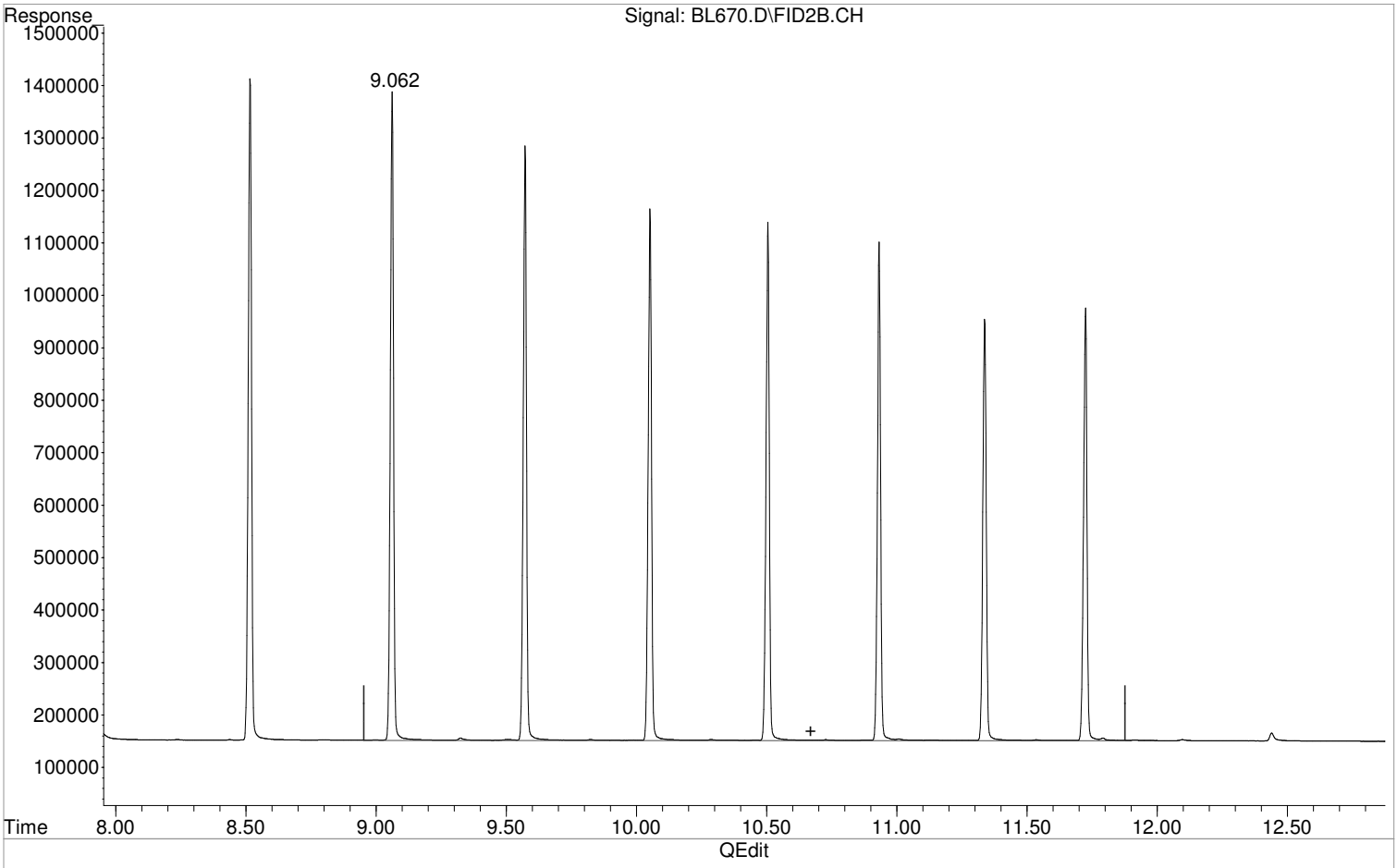
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 313.456 mg/l m

response 62639860

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

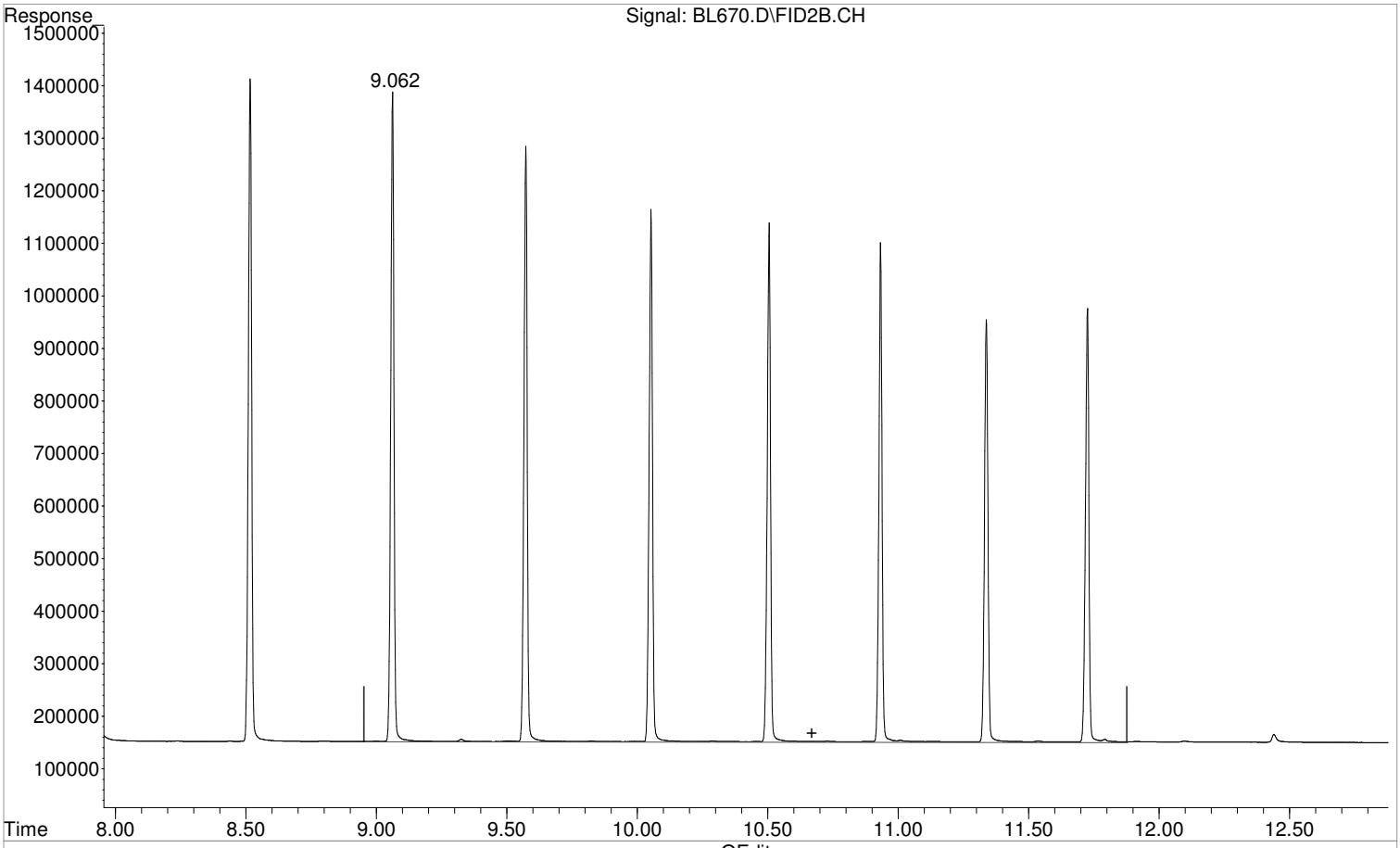
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 319.145 mg/l

response 63776554

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.008f	5688695	12.600 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	12.60%#
Target Compounds			
2) HC Diesel Range Organics	8.922	142199911	341.018 mg/l
3) HC Oil Range Organics	10.670	62639860	313.456 mg/l m

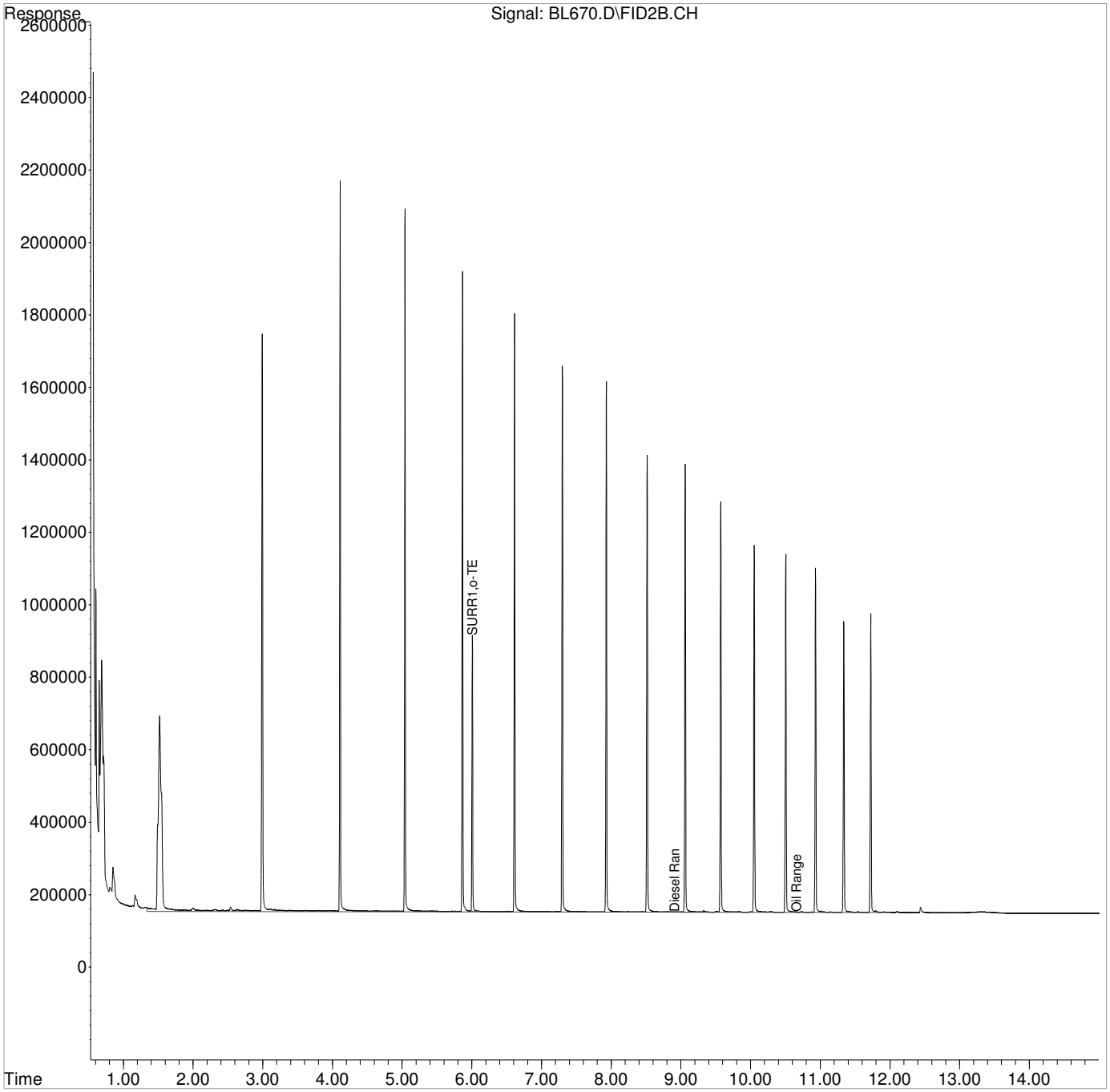
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL670.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 1:42 pm
Operator : JMisiurewicz
Sample : STD 2
Misc : 8015 DRO CAL MLOW
ALS Vial : 6 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:27 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



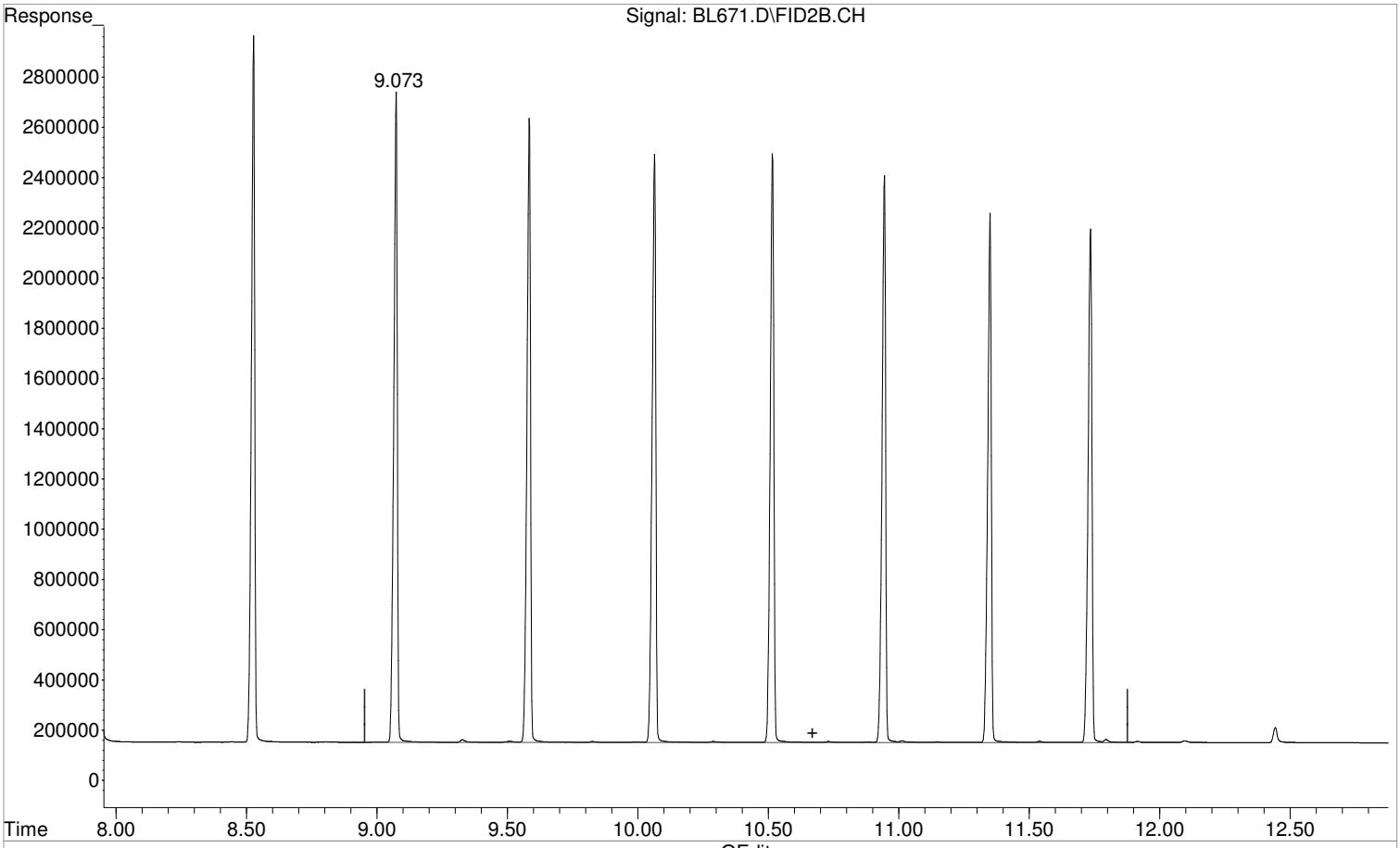
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 787.866 mg/l m

response 157443972

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

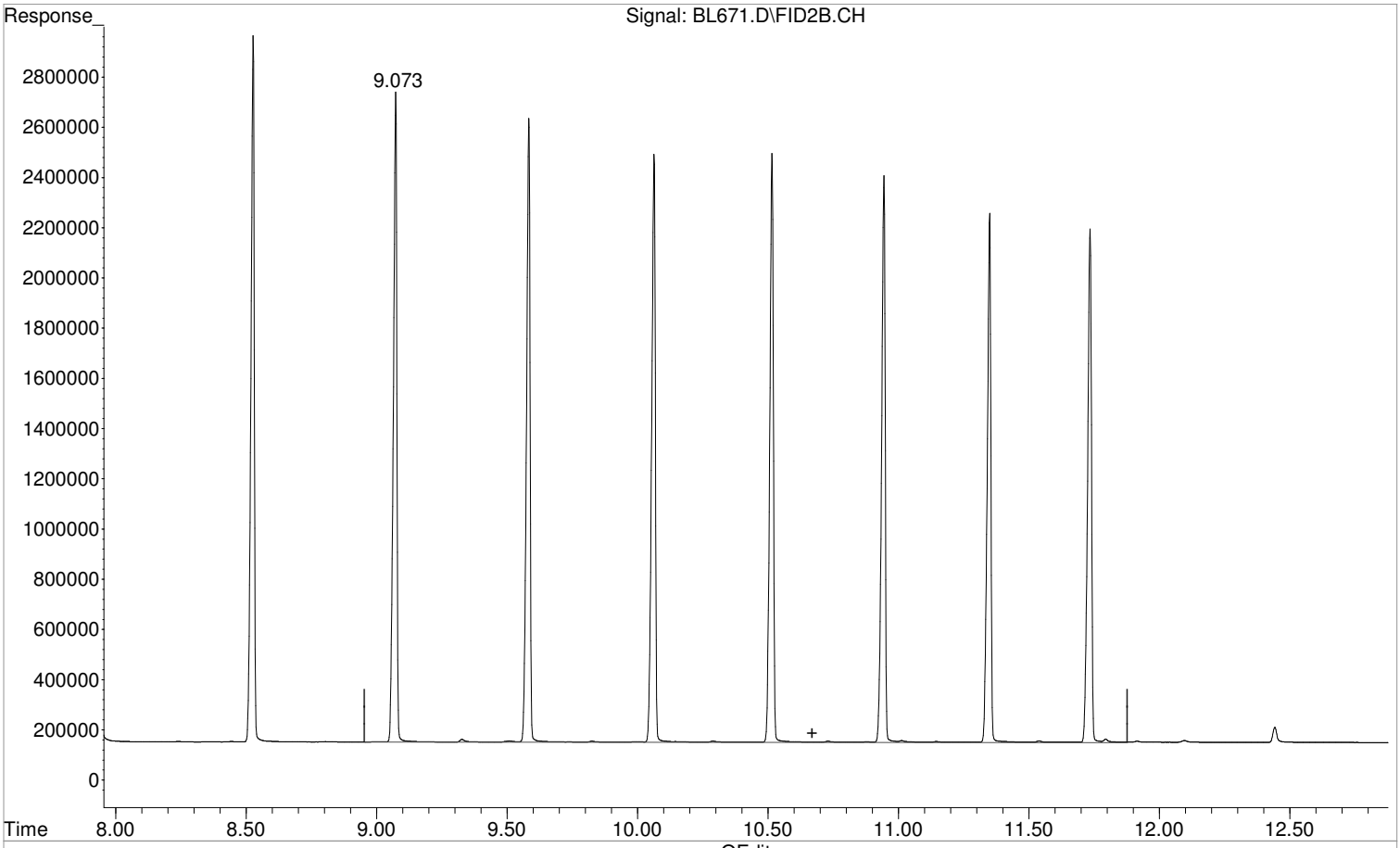
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 793.928 mg/l

response 158655408

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.016f	12830088	28.417 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery =	28.42%#
Target Compounds			
2) HC Diesel Range Organics	8.922	308718950	740.357 mg/l
3) HC Oil Range Organics	10.670	157443972	787.866 mg/l m

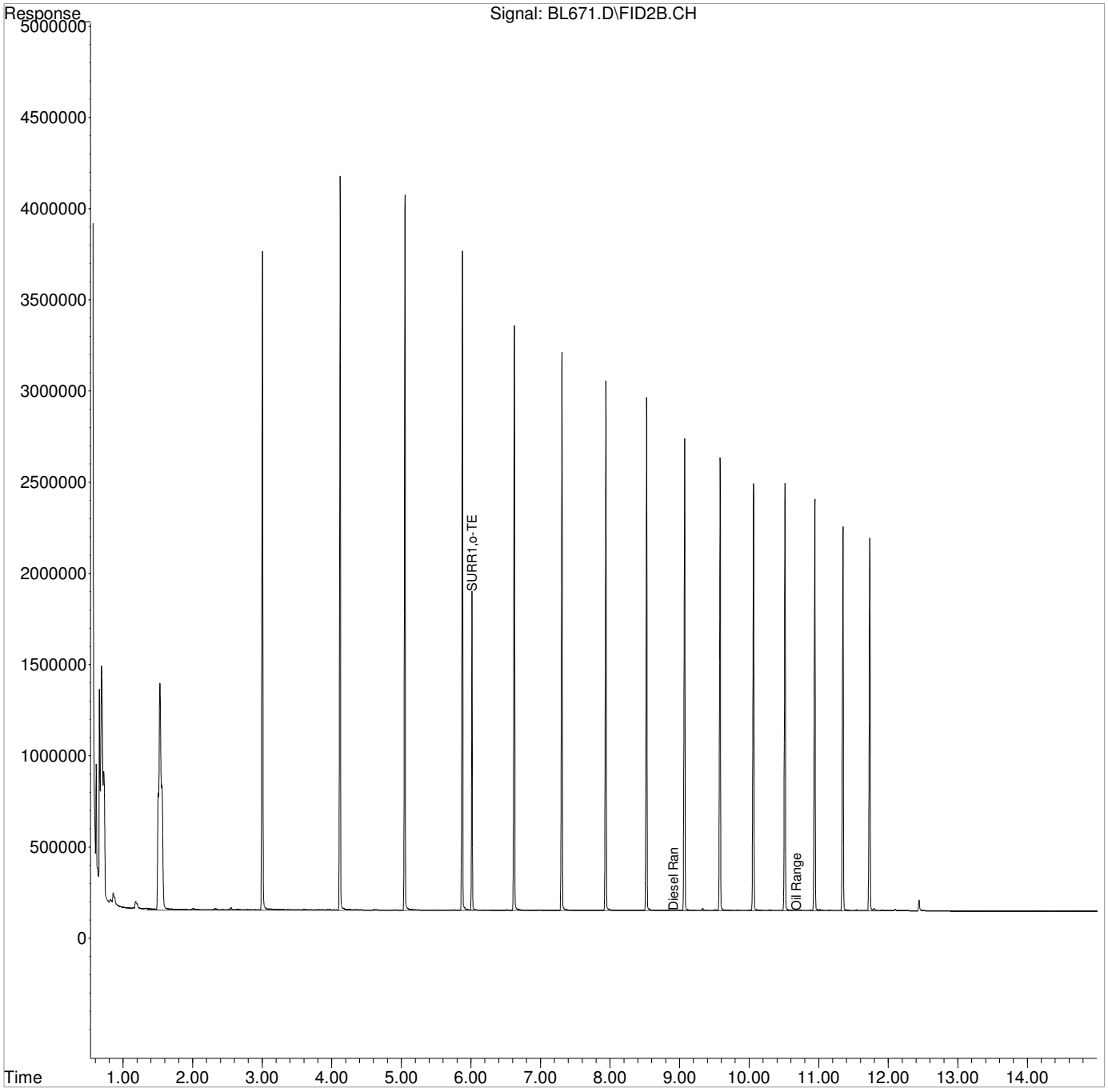
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL671.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:04 pm
Operator : JMisiurewicz
Sample : STD 3
Misc : 8015 DRO CAL MED
ALS Vial : 7 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:29 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



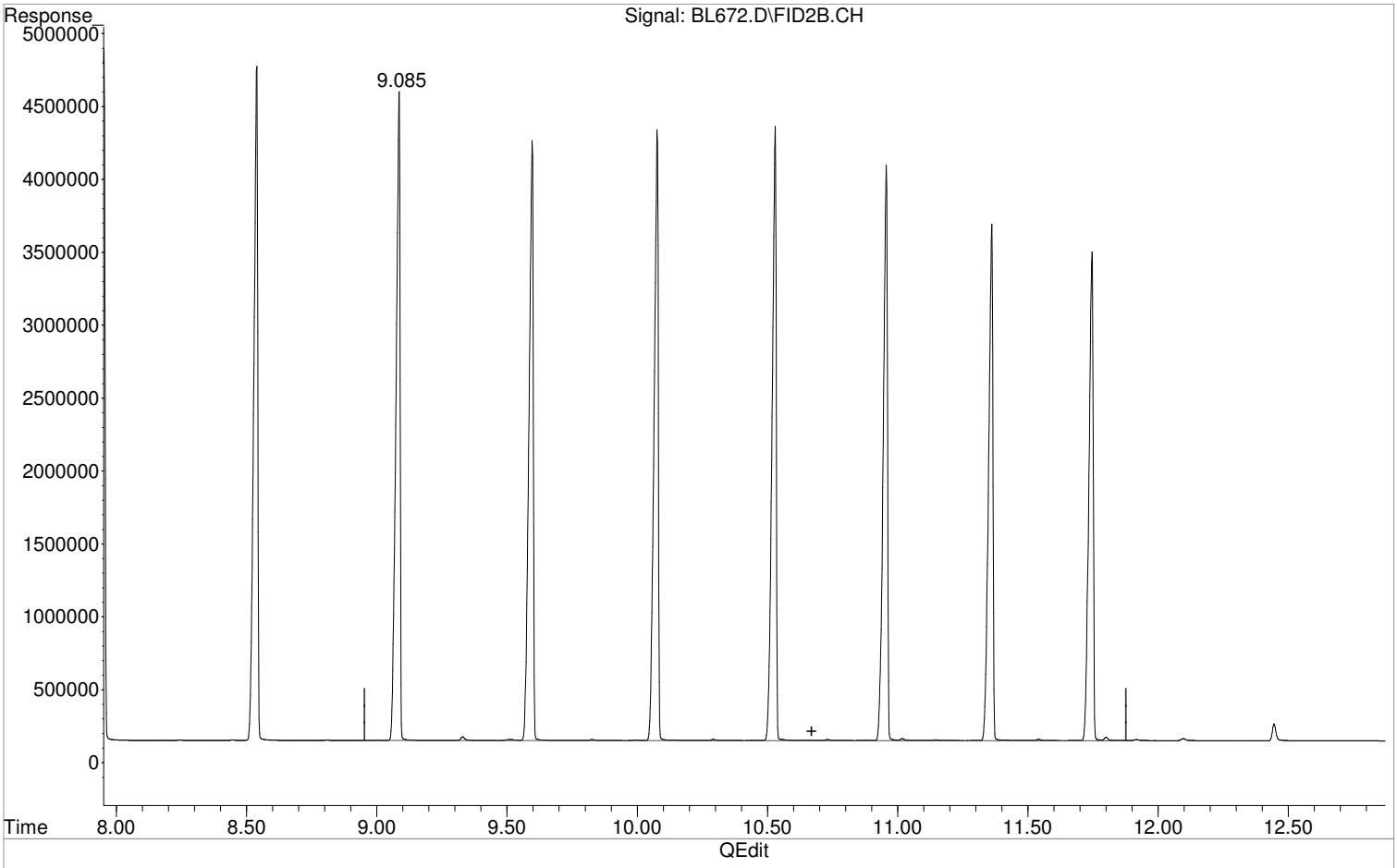
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 1562.093 mg/l m

response 312162250

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

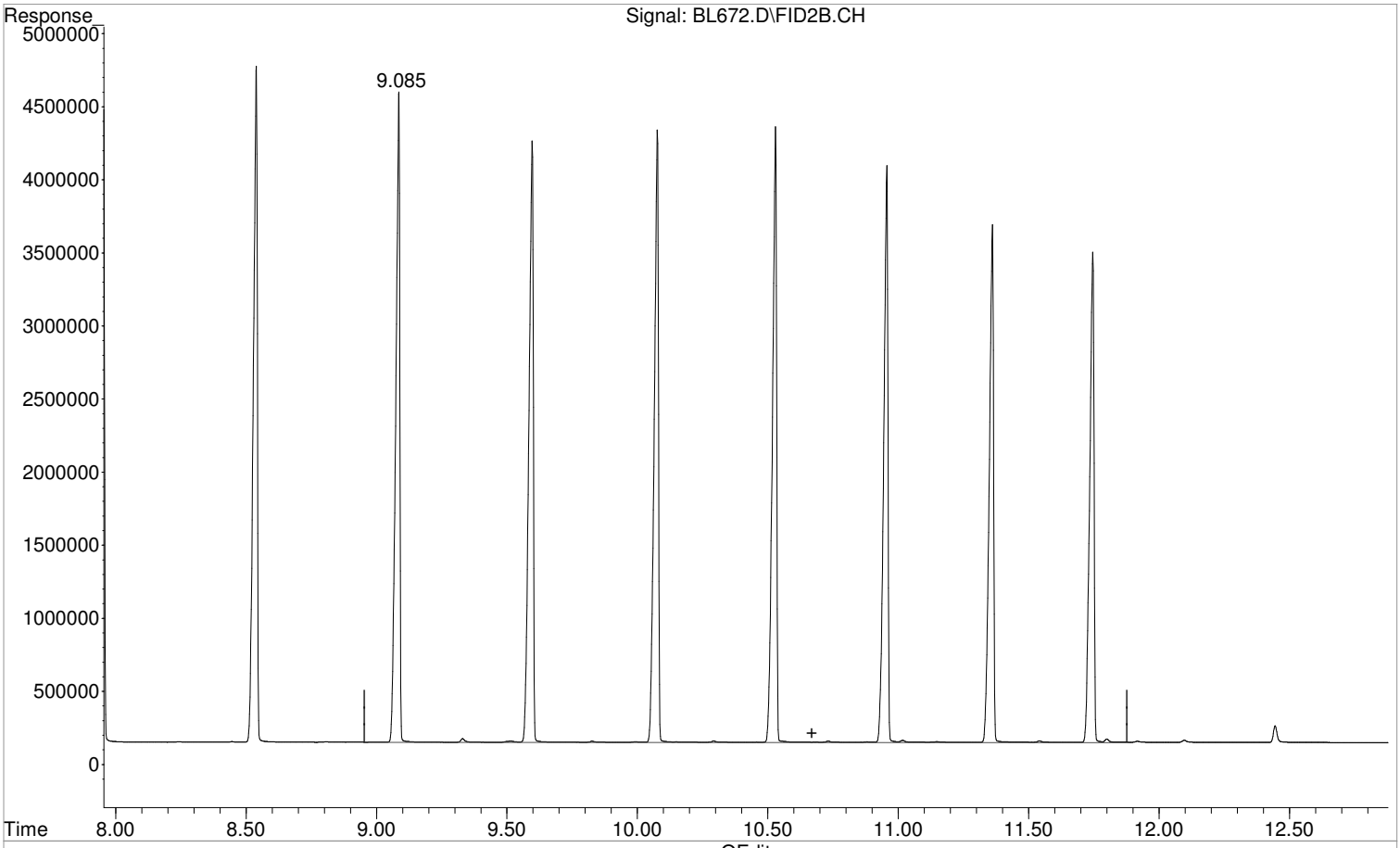
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 1570.029 mg/l

response 313748183

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.027f	22929286	50.785 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 50.78%	
Target Compounds			
2) HC Diesel Range Organics	8.922	564133736	1352.882 mg/l
3) HC Oil Range Organics	10.670	312162250	1562.093 mg/l m

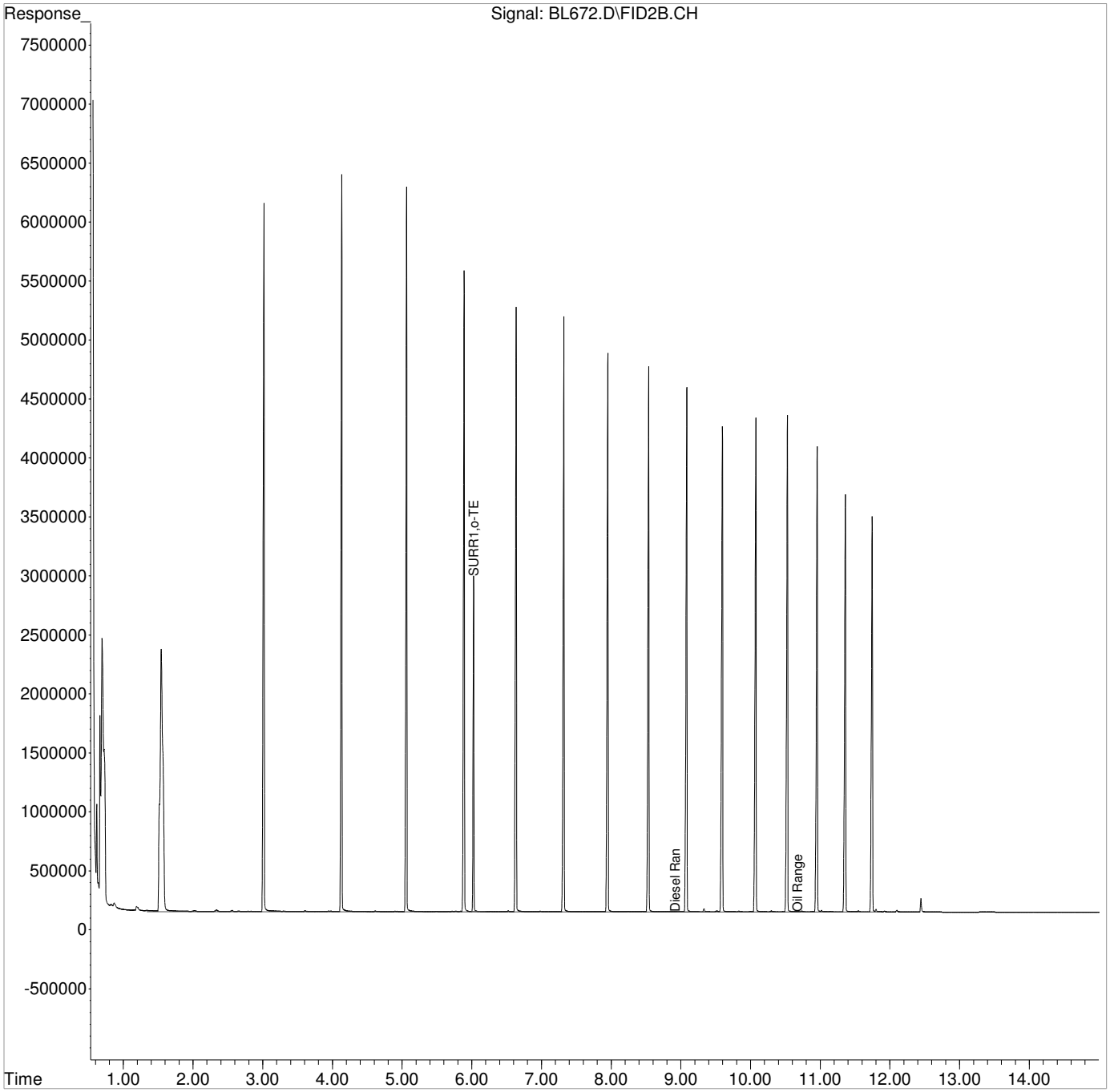
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL672.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:27 pm
Operator : JMisiurewicz
Sample : STD 4
Misc : 8015 DRO CAL MHIGH
ALS Vial : 8 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:31 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



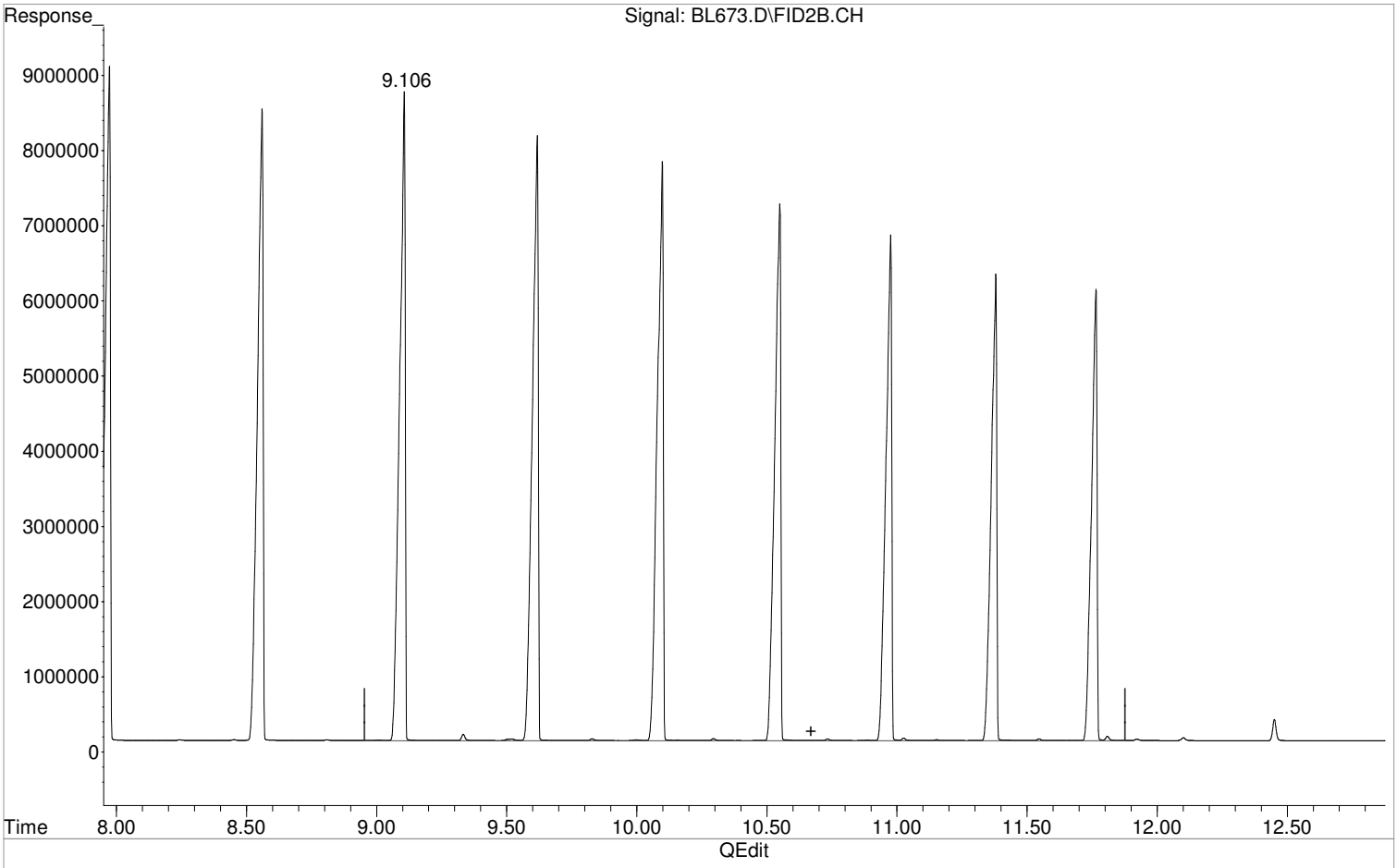
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 3874.934 mg/l m

response 774351022

Manual Integration:

After

Poor integration.

10/25/19

(+) = Expected Retention Time

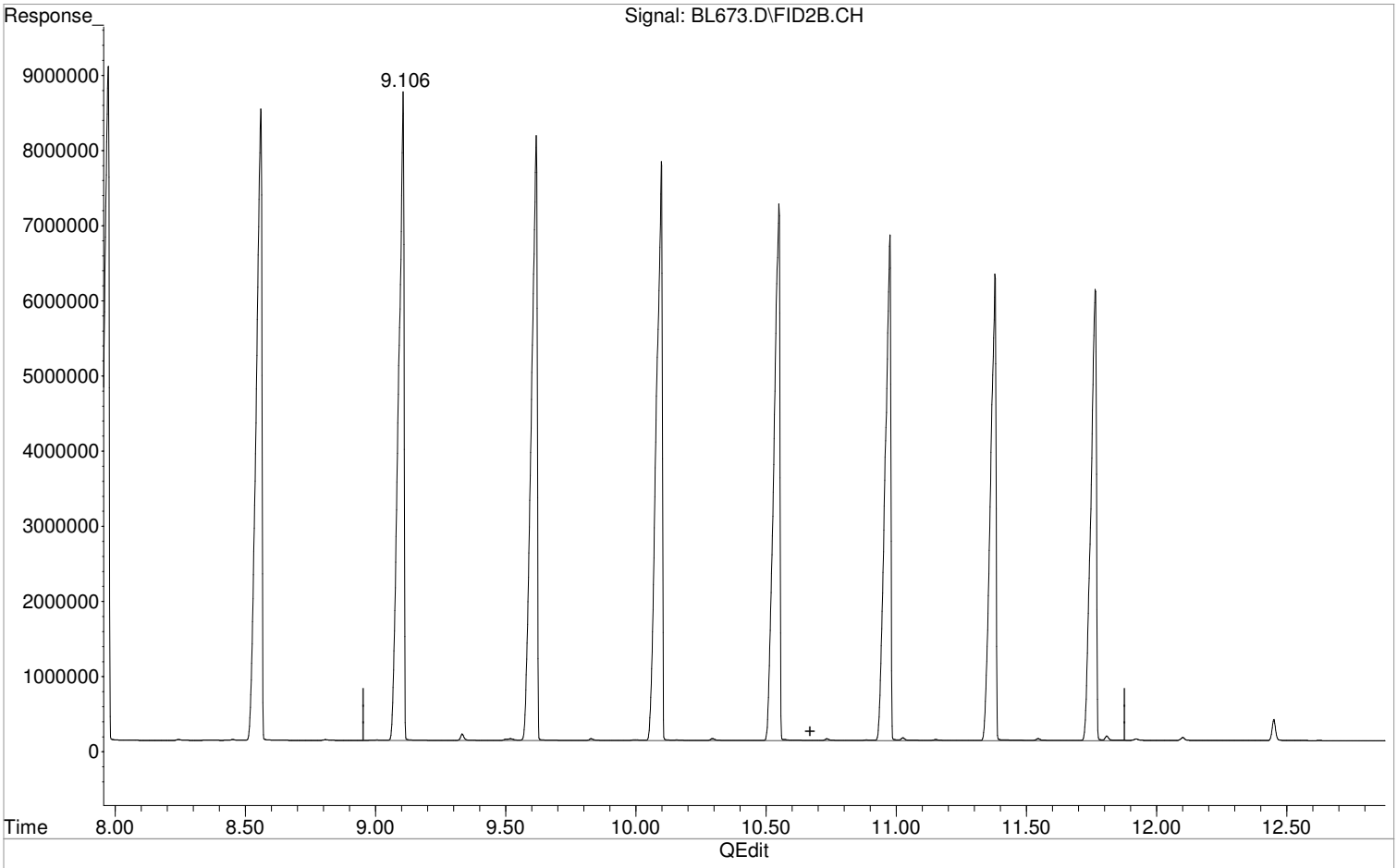
1st AF 10/28/19
2nd JM 10/28/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



(3) Oil Range Organics (HC)

10.670min 3887.349 mg/l

response 776831945

Manual Integration:

Before

10/25/19

(+) = Expected Retention Time

1st AF 10/28/19
2nd DM 10/28/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S SURR1,o-TERPHENYL	6.043f	58346880	129.229 mg/l
Spiked Amount 100.000	Range 40 - 133	Recovery = 129.23%	
Target Compounds			
2) HC Diesel Range Organics	8.922	1447130845	3470.449 mg/l
3) HC Oil Range Organics	10.670	774351022	3874.934 mg/l m

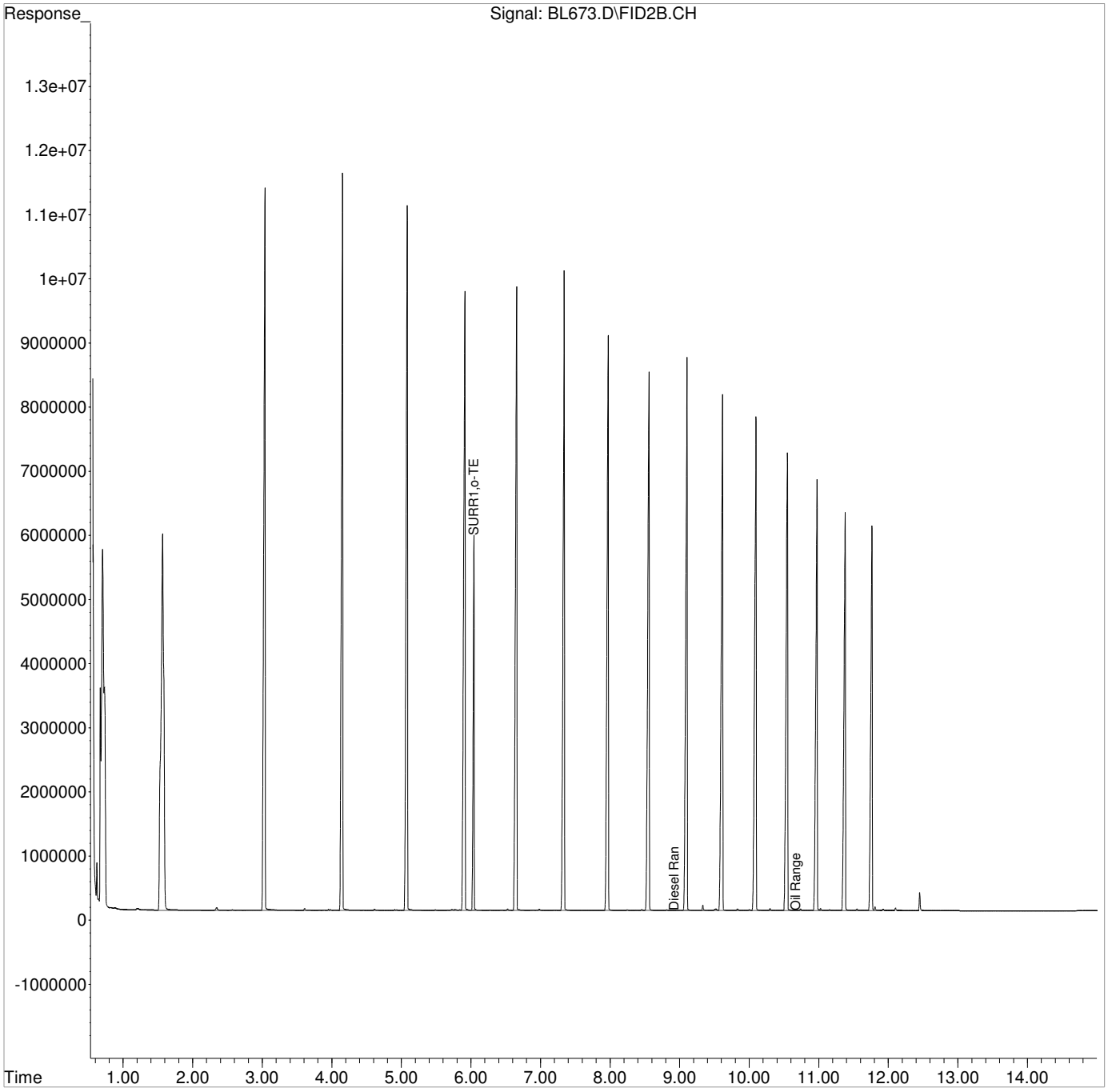
(f)=RT Delta > 1/2 Window (m)=manual int.

1st AF 10/28/19
2nd JM 10/28/19

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL673.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 2:49 pm
Operator : JMisiurewicz
Sample : STD 5
Misc : 8015 DRO CAL HIGH
ALS Vial : 9 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 15:21:33 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 11 14:20:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um



1st AF 10/28/19
2nd JM 10/28/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\6890I\DATA\102519\
Data File : BL675.D
Signal(s) : FID2B.CH
Acq On : 25 Oct 2019 3:41 pm
Operator : JMisiurewicz
Sample : ICV
Misc : 8015 DRO CAL ICV
ALS Vial : 11 Sample Multiplier: 1

Integration File: surreven.e
Quant Time: Oct 25 16:01:57 2019
Quant Method : I:\ACQUDATA\6890I\methods\DRO102519.M
Quant Title : EPA Method 8015B Deisel and Oil Range Organics
QLast Update : Fri Oct 25 15:30:46 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal Phase : Phenomenex ZB-5
Signal Info : 30m x .32mm x 0.50um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
2 HC	Diesel Range Organics	500.000	539.254	-7.9	114	0.00

Evaluate Continuing Calibration Report - Not Founds

1 S	SURR1,o-TERPHENYL	20.000	0.000	100.0#	0	-6.02#
3 HC	Oil Range Organics	350.000	0.000	100.0#	0	-10.67#

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Analysis: 8015 DRO	Analyst: AFelker	Run Method: DRO-FUEL3.M	
Date: 10/25/19	Instr. 6890J	Quant Method: DRO 102519.M	
Syringes:		LIMS Run#:	657295

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
2	Mid Std Check		204084	BL660	Y	ORDT
2	↓		↓	61	Y	↓
1	BLK			62	—	
1	↓			63	—	
2	Mid Std Check		204084	64	Y	ORDT
2	↓		↓	65	Y	↓
3	CCV		204084	66	Y	
1	BLK			67	~~Y~~	
4	STD 6 25 ppm			68	N	
5	STD 1		201920	69	Y	
6	2		201921	70	Y	
7	3		204084	71	Y	
8	4		201922	72	Y	
9	5		201879	73	Y	
10	3		204084	74	Y	Accidentally repeated, not used
11	ICV		200472	75	Y	
12	CCV		204084	76	Y	
13	RQ1912217-01			77	Y	
14	-02			78	Y	
15	-03			79	Y	
16	R1910325-001			80	Y	
17	-006			81	Y	
18	-009			82	Y	
19	-012			83	Y	
20	-015			84	Y	
21	-018			85	Y	
12	CCV		204084	86	Y	

AFelker 10/28/19

All samples = _____mL + _____uL Combined IS/Surr.;

Primary : 204084 exp: 1/21/20 Secondary :_____ exp:

Primary:_____ exp: Secondary :_____ exp:

Reagents:

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

#	Lab Code	Sample Name	File Location	Acquisition Date
01	RC1900130-01	STD 1	I:\ACQUDATA\6890I\DATA\102519\BL669.D	10/25/2019 13:19
02	RC1900130-02	STD 2	I:\ACQUDATA\6890I\DATA\102519\BL670.D	10/25/2019 13:42
03	RC1900130-03	STD 3	I:\ACQUDATA\6890I\DATA\102519\BL671.D	10/25/2019 14:04
04	RC1900130-04	STD 4	I:\ACQUDATA\6890I\DATA\102519\BL672.D	10/25/2019 14:27
05	RC1900130-05	STD 5	I:\ACQUDATA\6890I\DATA\102519\BL673.D	10/25/2019 14:49

Analyte

C28 - C40 ORO

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	70.000	2.21E5	02	350.000	1.79E5	03	700.000	2.249E5	04	1400.000	2.23E5
05	3500.000	2.212E5									

Diesel Range Organics (DRO) as C10-C28 Alkanes

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	100.000	3.448E5	02	500.000	2.844E5	03	1000.000	3.087E5	04	2000.000	2.821E5
05	5000.000	2.894E5									

o-Terphenyl

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	3.002E5	02	20.000	2.844E5	03	40.000	3.208E5	04	80.000	2.866E5
05	200.000	2.917E5									

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
C28 - C40 ORO	TRG	Average RF	% RSD	9.1	≤20	2.138E5	
Diesel Range Organics (DRO) as C10 -C28 Alkanes	TRG	Average RF	% RSD	8.7	≤20	3.019E5	
o-Terphenyl	SURR	Average RF	% RSD	5.0	≤20	2.967E5	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:** R1910542
Project: White Sands Test Facility **Calibration Date:** 10/25/2019

Initial Calibration Verification Summary
Diesel and Residual Range Organics by GC

Calibration ID: RC1900130 **Signal ID:** Phenomenex ZB-5
Instrument ID: R-GC-59

#	Lab Code	Sample Name	File Location	Acquisition Date
06	RC1900130-06	ICV	I:\ACQUDATA\6890I\DATA\102519\BL675.D	10/25/2019 15:41

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	500	539	3.019E5	3.256E5	7.85	±30	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	11/01/19 15:32

Continuing Calibration Verification (CCV) Summary
Diesel and Residual Range Organics by GC

Analysis Method:	8015C	**Calibration Date:**	10/25/2019
File ID:	I:\ACQUDATA\6890I\DATA\110119\BL728.D\	**Calibration ID:**	RC1900130
Signal ID:	Phenomenex ZB-5	**Analysis Lot:**	658262
		Units:	mg/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	1000	1010	3.019E5	3.042E5	0.8	NA	±20	Average RF
C28 - C40 ORO	700	632	2.138E5	1.929E5	-9.8	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
o-Terphenyl	39.9	43.8	2.967E5	3.263E5	9.9	NA	±20	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R1910542
Project:	White Sands Test Facility/18EC006B	**Date Analyzed:**	11/01/19 18:41

Continuing Calibration Verification (CCV) Summary
Diesel and Residual Range Organics by GC

Analysis Method:	8015C	**Calibration Date:**	10/25/2019
File ID:	I:\ACQUDATA\6890I\DATA\110119\BL736.D\	**Calibration ID:**	RC1900130
Signal ID:	Phenomenex ZB-5	**Analysis Lot:**	658262
		Units:	mg/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Diesel Range Organics (DRO) as C10-C28 Alkanes	1000	1240	3.019E5	3.744E5	24.0*	NA	±20	Average RF
C28 - C40 ORO	700	652	2.138E5	1.993E5	-6.8	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
o-Terphenyl	39.9	56.2	2.967E5	4.179E5	40.8*	NA	±20	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R1910542
Project: White Sands Test Facility/18EC006B

Analysis Run Log
Diesel and Residual Range Organics by GC

Analysis Method: 8015C **Analysis Lot:**658262
Instrument ID:R-GC-59

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\6890I\DATA\110119 \BL728.D\	Continuing Calibration Verification	RQ1912829-01	11/1/2019	15:32:00	
I:\ACQUDATA\6890I\DATA\110119 \BL729.D\	Method Blank	RQ1912668-01	11/1/2019	16:04:00	
I:\ACQUDATA\6890I\DATA\110119 \BL730.D\	Lab Control Sample	RQ1912668-02	11/1/2019	16:26:00	
I:\ACQUDATA\6890I\DATA\110119 \BL731.D\	Duplicate Lab Control Sample	RQ1912668-03	11/1/2019	16:49:00	
I:\ACQUDATA\6890I\DATA\110119 \BL732.D\	1910241002 700-SVS-091	R1910542-003	11/1/2019	17:11:00	
I:\ACQUDATA\6890I\DATA\110119 \BL733.D\	1910241022 700-SVS-092	R1910542-006	11/1/2019	17:34:00	
I:\ACQUDATA\6890I\DATA\110119 \BL734.D\	1910251002 700-SVS-99	R1910542-009	11/1/2019	17:56:00	
I:\ACQUDATA\6890I\DATA\110119 \BL735.D\	1910251032 700-SVS-100	R1910542-012	11/1/2019	18:18:00	
I:\ACQUDATA\6890I\DATA\110119 \BL736.D\	Continuing Calibration Verification	RQ1912829-02	11/1/2019	18:41:00	

Analysis: 8015 DRO	Analyst: A. Fisher	Run Method: DRO-Fuels.M			
Date: 11/1/19	Instr. 6890I	Quant Method: DRO102519.M			
Syringes:	LIMS Run#: 658262				

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	BLK			BL725	—	
1	DLK			26	—	
2	CCV		204084	27	N	DRO↓
2	CCV		L	28	Y	
3	R.1912668-01			29	Y	
4	↓ -02			30	Y	
5	↓ -03			31	Y	
6	R.1910542-003			32	Y	
7	↓ -006			33	Y	
8	-009			34	Y	
9	↓ -012			35	Y	
2	CCV		204084	36	Y	SURR↑, DRO↑

A. Fisher 11/4/19

All samples = _____mL + _____uL Combined IS/Surr.;

Primary : 204084 exp: 10/24/19 Secondary :_____ exp:

Primary:_____ exp: Secondary :_____ exp:

Reagents:

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: NASA/WSTF/Navarro **Service Request:**R1910542
Project: White Sands Test Facility/18EC006B
Sample Matrix: Water

Diesel and Residual Range Organics by GC

Prep Method: EPA 3510C **Extraction Lot:** 347736
Analytical Method: 8015C **Extraction Date:** 10/31/19 07:34

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
1910241002 700-SVS-091	R1910542-003	10/24/19	10/29/19	1070.0000	1 mL	
1910241022 700-SVS-092	R1910542-006	10/24/19	10/29/19	1070.0000	1 mL	
1910251002 700-SVS-99	R1910542-009	10/25/19	10/29/19	1070.0000	1 mL	
1910251032 700-SVS-100	R1910542-012	10/25/19	10/29/19	1070.0000	1 mL	
Method Blank	RQ1912668-01MB	NA	NA	1000 mL	1 mL	
Lab Control Sample	RQ1912668-02LCS	NA	NA	1000 mL	1 mL	
Duplicate Lab Control Sample	RQ1912668-03DLCS	NA	NA	1000 mL	1 mL	

Preparation Information Benchsheet

Prep Run#: 347736
Team: Semivoa GC/VSTAUFFER

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3510C

Status: Prepped
Prep Date/Time: 10/31/19 07:34

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ1912668-01	MB		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
2	RQ1912668-02	LCS		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/200472; 1.0000 mL/201407	
3	RQ1912668-03	DLCS		1000mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/200472; 1.0000 mL/201407	
4	R1910542-003	1910241002 700-SVS-091	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
5	R1910542-006	1910241022 700-SVS-092	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
6	R1910542-009	1910251002 700-SVS-99	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	
7	R1910542-012	1910251032 700-SVS-100	.01	1070mL	8015C/DRO RRO	7	x		1.00mL	clear/colorless	1.0000 mL/201407	

Spiking Solutions

Name: Fuel Oil #2 Water Spike 500 ug/mL Inventory ID 200472 Logbook Ref: Expires On: 12/21/2019

Name: o-Terphenyl Water Surrogate 100 ug/mL Inventory ID 201407 Logbook Ref: Expires On: 01/21/2020

Preparation Materials

Eppendorf Pipette Repeater EXT #19 (200588)

Sulfuric Acid, 50% H2SO4 (203972)

Dichloromethane (Methylene Chloride) 99.9% MeCl2 canister (203029)

pH Paper 0-14 (204002)

Prepared Sodium Sulfate Na2SO4 (204263)

Preparation Steps

Step: Extraction
Started: 10/31/19 07:34
Finished: 10/31/19 15:54
By: VSTAUFFER
Comments

Step: Concentration
Started: 11/1/19 12:37
Finished: 11/1/19 13:27
By: KSERCU
Comments

Step: Final Volume
Started: 11/1/19 13:27
Finished: 11/1/19 13:27
By: KSERCU
Comments

Comments:

Reviewed By: [signature] Date: 11/1/19 Spike Witness: KSERCU Date:

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

Subcontracted Analytical Parameters

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental
301 Fulling Mill Road
Middletown, PA 17057
T: +1 717 944 5541
F: +1 717 944 1430
www.alsglobal.com

November 21, 2019

Work Order: 3067358
SDG: AER386

Ms. Janice Jaeger
ALS Environmental-Rochester NY
1565 Jefferson Road, Bldg. 300
Suite 360
Rochester, NY 14623

Laboratory Results for Custom EDD, MDL, QC

Dear Ms. Janice Jaeger:

Enclosed are the analytical results for samples received by the laboratory starting on November 01, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP. Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads. This laboratory report may not be reproduced, except infull, without the written approval of ALS Environmental. Any events, such as QC failures, are explained in the report narrative.

If you have any questions regarding this certificate of analysis, please contact Ms. Jennifer M Stanhope Lamoreux (Reporting Manager) at (717) 944-5541. You may also contact me via email at jennifer.lamoreux@ALSglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Jennifer M Stanhope Lamoreux
Reporting Manager

Table of Contents

Chain of Custody Records

B607812

ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Janice Jaeger

Project Number: R1910542
Project Manager: Janice Jaeger
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	VOC GRO 8015C
R1910542-002	1910241001 700-SVS-091	3	Water	10/24/19		Middletown ALS	X
R1910542-005	1910241021 700-SVS-092		Water	10/24/19		Middletown ALS	X
R1910542-008	1910251001 700-SVS-99		Water	10/25/19		Middletown ALS	X
R1910542-011	1910251031 700-SVS-100		Water	10/25/19		Middletown ALS	X

G. 40mL HCL

DN 11/1/19

Folder Comments:
ND U, DESELECT - Form 1s, Raw Data, ICal Summary, ICV Summary.

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
H - Test is On Hold P - Test is Authorized for Prep Only	____RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 Y STANDARD Requested FAX Date: _____ Requested Report Date: 11/08/19	___ I. Results Only ___ II. Results + QC Summaries ___ III. Results + QC and Calibration Summaries X IV. Data Validation Report with Raw Data PQL/MDL/J Y EDD Y Honeywell WSTF	PO# 58R1910542 Bill to

Relinquished By: Fedex Received By: Fedex Airbill Number:

Fedex Not #1 11/1/19 936

30467358

R1910542

____ **Ship To: Middletown ALS**
ALS Environmental - Middletown
301 Fulling Mill Rd.
Middletown, PA 17057

PC _____ Date _____

SMO _____ Date _____

Instructions:

Ice _____

Dry Ice _____

No Ice _____

Shipping:

Overnight _____

2nd Day _____

Ground _____

Bill to Client Account _____

Comments:

301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client: ALS Roch. Work Order #: 3067358 Initials: DN Date: 11/1/19

1. Were airbills / tracking numbers present and recorded?	NONE	(YES)	NO
Tracking number: 4846 1604 6920			
2. Are Custody Seals on shipping containers intact?	NONE	(YES)	NO
3. Are Custody Seals on sample containers intact?	NONE	(YES)	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples? No times		(YES)	(NO)
5c. Does the COC contain sample collectors name? B-1 Client		YES	(NO)
5d. Does the COC note the type(s) of preservation for all bottles? Not Listed		YES	(NO)
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab? NC C/G		YES	(NO)
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	(N/A)	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?		(YES)	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	(N/A)	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		(YES)	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	(NO)
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	N/A	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	N/A	YES	NO

Cooler #:								
Temperature (°C):	4							
Thermometer ID:	4C2							
Radiological (µCi):								

COMMENTS (Required for all NO responses above and any sample non-conformance):

Rev. 4/29/2019

ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

Internal Chain of Custody

Work Order: 3067358

3067358001-A	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358001-B	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358001-C	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358001-D	COC - Chain of Custody		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358002-A	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358002-B	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358002-C	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358002-D	COC - Chain of Custody		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358003-A	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358003-B	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

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Internal Chain of Custody

Work Order: 3067358

3067358003-C	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358003-D	COC - Chain of Custody		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358004-A	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358004-B	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358004-C	G - CLEAR GLASS		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

3067358004-D	COC - Chain of Custody		
Transfer Date	To Location	Transfer Reason	Transferred To
11-01-19 17:00	RECEIVING	LOGIN	Welk, Ms. Stacey I.
11-01-19 09:36	*Sample Received At Lab*		

Certificate of Analysis

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

November 5, 2019

Ms. Janice Jaeger
ALS Environmental-Rochester NY
1565 Jefferson Road, Bldg. 300
Suite 360
Rochester, NY 14623

Certificate of Analysis

Project Name:	**Custom EDD, MDL, QC**	Workorder:	**3067358**
Purchase Order:	**58R1910542**	Workorder ID:	**AER386|R1910542**

Dear Ms. Jaeger:

Enclosed are the analytical results for samples received by the laboratory on Friday, November 1, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Sarah S Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Michael Chevalier , Mr. Brady Kalkman , Reports and Invoices

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3067358 AER386|R1910542

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3067358001	1910241001 700-SVS-091	Water	10/24/2019 00:00	11/1/2019 09:36	Collected by Client
3067358002	1910241021 700-SVS-092	Water	10/24/2019 00:00	11/1/2019 09:36	Collected by Client
3067358003	1910251001 700-SVS-99	Water	10/25/2019 00:00	11/1/2019 09:36	Collected by Client
3067358004	1910251031 700-SVS-100	Water	10/25/2019 00:00	11/1/2019 09:36	Collected by Client

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SAMPLE SUMMARY

Workorder: 3067358 AER386|R1910542

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3067358 AER386|R1910542

Lab ID: **3067358001** Date Collected: 10/24/2019 00:00 Matrix: Water

Sample ID: **1910241001 700-SVS-091** Date Received: 11/1/2019 09:36

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			11/4/19 11:40	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	126		%	90 - 129		SW846 8015D			11/4/19 11:40	CHS	A

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3067358 AER386|R1910542

Lab ID: **3067358002** Date Collected: 10/24/2019 00:00 Matrix: Water

Sample ID: **1910241021 700-SVS-092** Date Received: 11/1/2019 09:36

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			11/4/19 12:07	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	128		%	90 - 129		SW846 8015D			11/4/19 12:07	CHS	A

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3067358 AER386|R1910542

Lab ID: **3067358003** Date Collected: 10/25/2019 00:00 Matrix: Water

Sample ID: **1910251001 700-SVS-99** Date Received: 11/1/2019 09:36

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			11/4/19 12:34	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	113		%	90 - 129		SW846 8015D			11/4/19 12:34	CHS	A

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3067358 AER386|R1910542

Lab ID: **3067358004** Date Collected: 10/25/2019 00:00 Matrix: Water

Sample ID: **1910251031 700-SVS-100** Date Received: 11/1/2019 09:36

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
GASOLINE RANGE ORGANICS											
Gasoline Range Organics	ND		ug/L	100	29.0	SW846 8015D			11/4/19 13:01	CHS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
a,a,a-Trifluorotoluene (S)	128		%	90 - 129		SW846 8015D			11/4/19 13:01	CHS	A

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3067358 AER386|R1910542

Lab ID	Sample ID	Analysis Method	Prep Method
3067358001	1910241001 700-SVS-091	SW846 8015D	
3067358002	1910241021 700-SVS-092	SW846 8015D	
3067358003	1910251001 700-SVS-99	SW846 8015D	
3067358004	1910251031 700-SVS-100	SW846 8015D	

Case Narrative

ALS-Middletown
Analytical Narrative
ALS-Rochester
AER-386

Sample Management

This report contains the results of the analysis of four (4) water samples collected on October 24-25, 2019. Analytical results and quality control information are summarized in this data package.

Sample Receipt

The samples arrived at ALS - Middletown via courier on November 1, 2019. Upon receipt, the samples were inspected and compared to the Chain of Custody. Sample temperature was documented on the enclosed Chain of Custody. The samples were received intact and properly preserved, unless noted on the enclosed Certificate of Analysis and/or Chain of Custody.

Gasoline Range Organics (GRO) by SW-846 Method 8015

Sample Handling. Four (4) water samples were analyzed for gasoline range organics by SW-846 Method 8015. All analyses were performed within the holding time.

Initial Calibrations. An initial calibration was properly analyzed and met method criteria for gasoline range organics.

Continuing Calibration Checks. Continuing calibration check standards were properly analyzed and met method criteria for gasoline range organics.

Blanks. Gasoline range organics were not detected in the method blank, except as follows:

- In 3038966 MB, Gasoline range organics were detected at 29.4J µg/L.

Surrogates. All surrogate recoveries were within control limits.

Spiked Blanks. Gasoline range organics were recovered within control limits.

Internal Standards. All internal standard results met method criteria.

Gasoline Range Organics by Method 8015 Summary Forms

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA CASE No.: SAS No.: SDG NO.: AER-386

	Sample NO.	SMC1 (TFT) #	SMC2	SMC3	SMC4	TOT OUT
01	3038967(LCS)	113				0
02	3038966(MB)	110				0
03	1910241001 700-SVS-091	126				0
04	1910241021 700-SVS-092	128				0
05	1910251001 700-SVS-99	113				0
06	1910251031 700-SVS-100	128				0

	QC LIMITS
SMC1 (TFT) = a,a,a-Trifluorotoluene	(90-129)

Column to be used to flag recovery values
* Values outside of contract required QC Limits
D Surrogate Diluted Out

3A

WATER VOLATILE LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-386

Laboratory Control Spike - Sample No: 3038967

COMPOUND	SPIKE ADDED (ug/L)		LCS CONCENTRATION (ug/L)	LCS % REC#	QC LIMIT REC
GASOLINE RANGE ORGANICS	1000		865	86.5	(77-125)

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

Comments:

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

3038966

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG NO.: AER-386

Lab File ID: 8K4A006.D Lab Sample ID: 3038966

Date Analyzed: 11/4/2019 Time Analyzed: 10:45

GC Column: DB VRX E ID: 0.45 (mm) Heated Purge: (Y/N) N

Instrument ID: gc08.i

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
3038967(LCS)	3038967	8K4A002.D	08:55
1910241001 700-SVS-09	3067358001	8K4A008.D	11:40
1910241021 700-SVS-09	3067358002	8K4A009.D	12:07
1910251001 700-SVS-99	3067358003	8K4A010.D	12:34
1910251031 700-SVS-10	3067358004	8K4A011.D	13:01

COMMENTS:

8Az

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-386

Lab File ID: 8K4A001.D Date Analyzed: 11/4/2019

Instrument ID: gc08.i Time Analyzed: 08:27

GC Column: DB VRX E ID: 0.4 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT#	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	284888	6.189				
UPPER LIMIT	569776	6.689				
LOWER LIMIT	142444	5.689				
SAMPLE NO.						
CCAL	284888	6.189				
3038967(LCS)	295746	6.195				
3038966(MB)	307718	6.208				
1910241001 700-SV	281164	6.203				
1910241021 700-SV	272944	6.203				
1910251001 700-SV	313387	6.201				
1910251031 700-SV	288382	6.200				

IS1 = 1-Chloro-4-fluorobenzene
IS2 =
IS3 =

AREA UPPER LIMIT = +2% of internal standard area
AREA LOWER LIMIT = -1% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Gasoline Range Organics by Method 8015 Raw Data

Sample Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910241001 700-SVS-091

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-386

Matrix (soil/water): WATER Lab Sample ID: 3067358001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8K4A008.D

Level (low/med): Date Received: 11/1/19

% Moisture: not dec. 100.0 Date Analyzed: 11/4/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A008.D
Lab Smp Id: 3067358001 Client Smp ID: 1910241001 700-SVS-
Inj Date : 04-NOV-2019 11:40
Operator : CHS Inst ID: gc08.i
Smp Info : 3067358001
Misc Info : ZZ VOGC 10306 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909.
Meth Date : 05-Nov-2019 06:14 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.928	3.921	(0.633)	903284	37.6601	37.6601
S	1 GASOLINE RANGE ORGANICS	1.717-8.756			281675	15.9393	15.9393(a)
*	6 1-Chloro-4-fluorobenzene	6.203	6.175	(1.000)	281164	10.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8K4A008.D
Lab Smp Id: 3067358001
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 04-NOV-2019
Calibration Time: 08:27
Client Smp ID: 1910241001 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	284888	142444	427332	281164	-1.31

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.22

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: AER386
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3067358001 Client Smp ID: 1910241001 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	37.6601	125.53	90-129

ALS Environmental Services

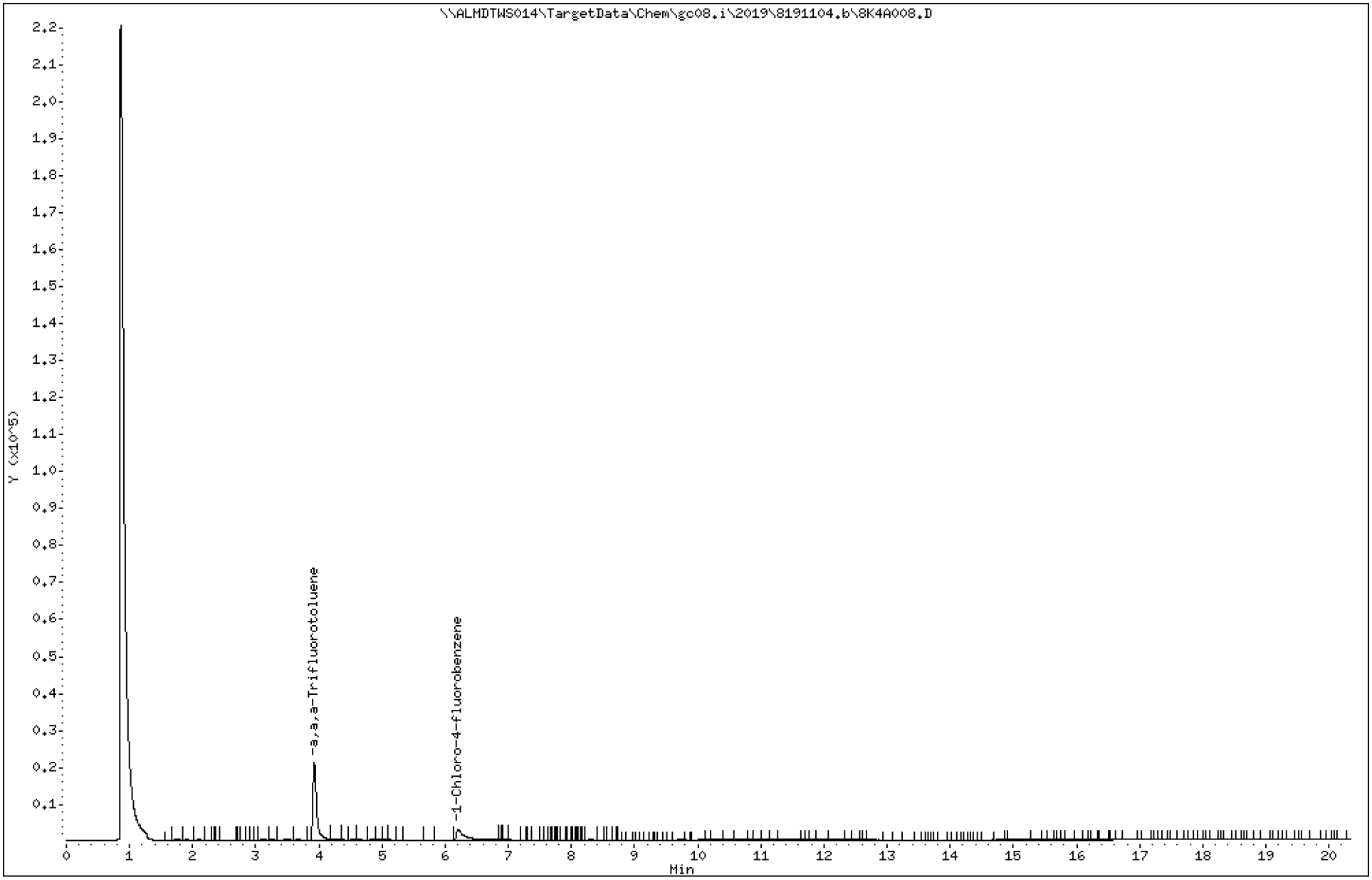
TARGET COMPOUNDS

Client Name: ALS Environmental-Rochester Client SDG: AER386
Lab Smp Id: 3067358001 Client Smp ID: 1910241001 700-SVS-
Sample Location: Sample Point:
Sample Date: 24-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10306 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	15.9393	J
98-08-8	a,a,a-Trifluorotoluene	37.6601	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A008.D
Date : 04-NOV-2019 11:40
Client ID: 1910241001 700-SVS-
Sample Info: 3067358001

Instrument: gc08.i
Operator: CHS
Column phase: DB-VRX
Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3067358001 Client ID: 1910241001 700-SVS-
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A008.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A008.D
Injection Date: 04-NOV-2019 11:40 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3067358001 Client ID: 1910241001 700-SVS-
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A008.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A008.D
Injection Date: 04-NOV-2019 11:40 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910241021 700-SVS-092

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-386

Matrix (soil/water): WATER Lab Sample ID: 3067358002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8K4A009.D

Level (low/med): Date Received: 11/1/19

% Moisture: not dec. 100.0 Date Analyzed: 11/4/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A009.D
Lab Smp Id: 3067358002 Client Smp ID: 1910241021 700-SVS-
Inj Date : 04-NOV-2019 12:07
Operator : CHS Inst ID: gc08.i
Smp Info : 3067358002
Misc Info : ZZ VOGC 10306 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909.
Meth Date : 05-Nov-2019 06:14 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.921	3.921	(0.632)	893723	38.3837	38.3837
S	1 GASOLINE RANGE ORGANICS	1.717-8.756			321673	18.7509	18.7509(a)
*	6 1-Chloro-4-fluorobenzene	6.203	6.175	(1.000)	272944	10.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8K4A009.D
Lab Smp Id: 3067358002
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 04-NOV-2019
Calibration Time: 08:27
Client Smp ID: 1910241021 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	284888	142444	427332	272944	-4.19

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.23

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: AER386
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3067358002 Client Smp ID: 1910241021 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	38.3837	127.95	90-129

ALS Environmental Services

TARGET COMPOUNDS

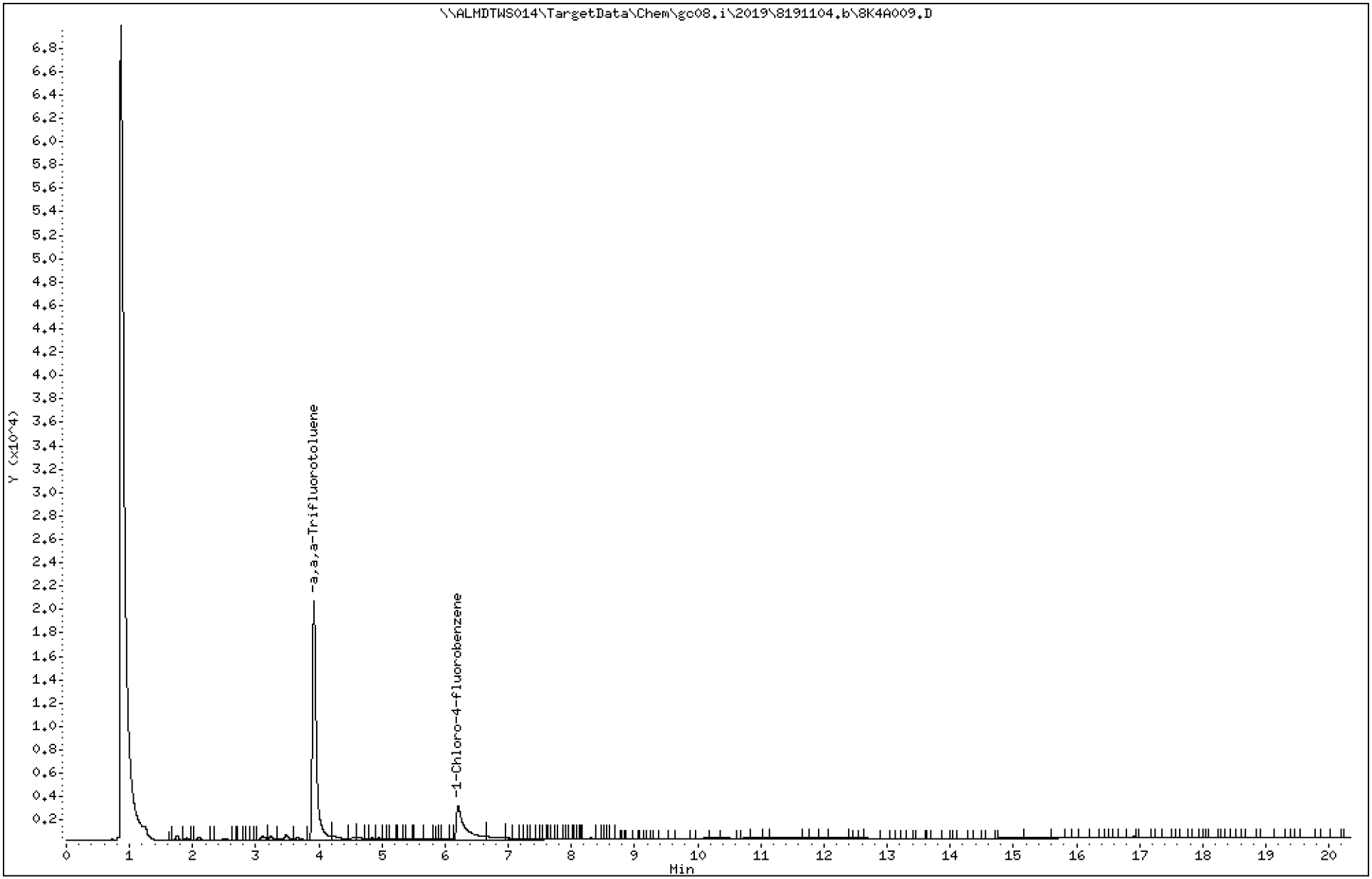
Client Name: ALS Environmental-Rochester Client SDG: AER386
Lab Smp Id: 3067358002 Client Smp ID: 1910241021 700-SVS-
Sample Location: Sample Point:
Sample Date: 24-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10306 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	18.7509	J
98-08-8	a,a,a-Trifluorotoluene	38.3837	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A009.D
Date : 04-NOV-2019 12:07
Client ID: 1910241021 700-SVS-
Sample Info: 3067358002

Instrument: gc08.i
Operator: CHS
Column diameter: 0.45

Column phase: DB-VRX



MANUAL INTEGRATION REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3067358002 Client ID: 1910241021 700-SVS-
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A009.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A009.D
Injection Date: 04-NOV-2019 12:07 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3067358002 Client ID: 1910241021 700-SVS-
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A009.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A009.D
Injection Date: 04-NOV-2019 12:07 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910251001 700-SVS-99

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-386

Matrix (soil/water): WATER Lab Sample ID: 3067358003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8K4A010.D

Level (low/med): Date Received: 11/1/19

% Moisture: not dec. 100.0 Date Analyzed: 11/4/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A010.D
Lab Smp Id: 3067358003 Client Smp ID: 1910251001 700-SVS-
Inj Date : 04-NOV-2019 12:34
Operator : CHS Inst ID: gc08.i
Smp Info : 3067358003
Misc Info : ZZ VOGC 10306 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909.
Meth Date : 05-Nov-2019 06:14 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
$	5 a,a,a-Trifluorotoluene	3.918	3.921	(0.632)	905936	33.8870	33.8870
S	1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
*	6 1-Chloro-4-fluorobenzene	6.201	6.175	(1.000)	313387	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8K4A010.D
Lab Smp Id: 3067358003
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 04-NOV-2019
Calibration Time: 08:27
Client Smp ID: 1910251001 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	284888	142444	427332	313387	10.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.19

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: AER386
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3067358003 Client Smp ID: 1910251001 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	33.8870	112.96	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: ALS Environmental-Rochester Client SDG: AER386
Lab Smp Id: 3067358003 Client Smp ID: 1910251001 700-SVS-
Sample Location: Sample Point:
Sample Date: 25-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10306 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	33.8870	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A010.D

Date : 04-NOV-2019 12:34

Client ID: 1910251001 700-SVS-

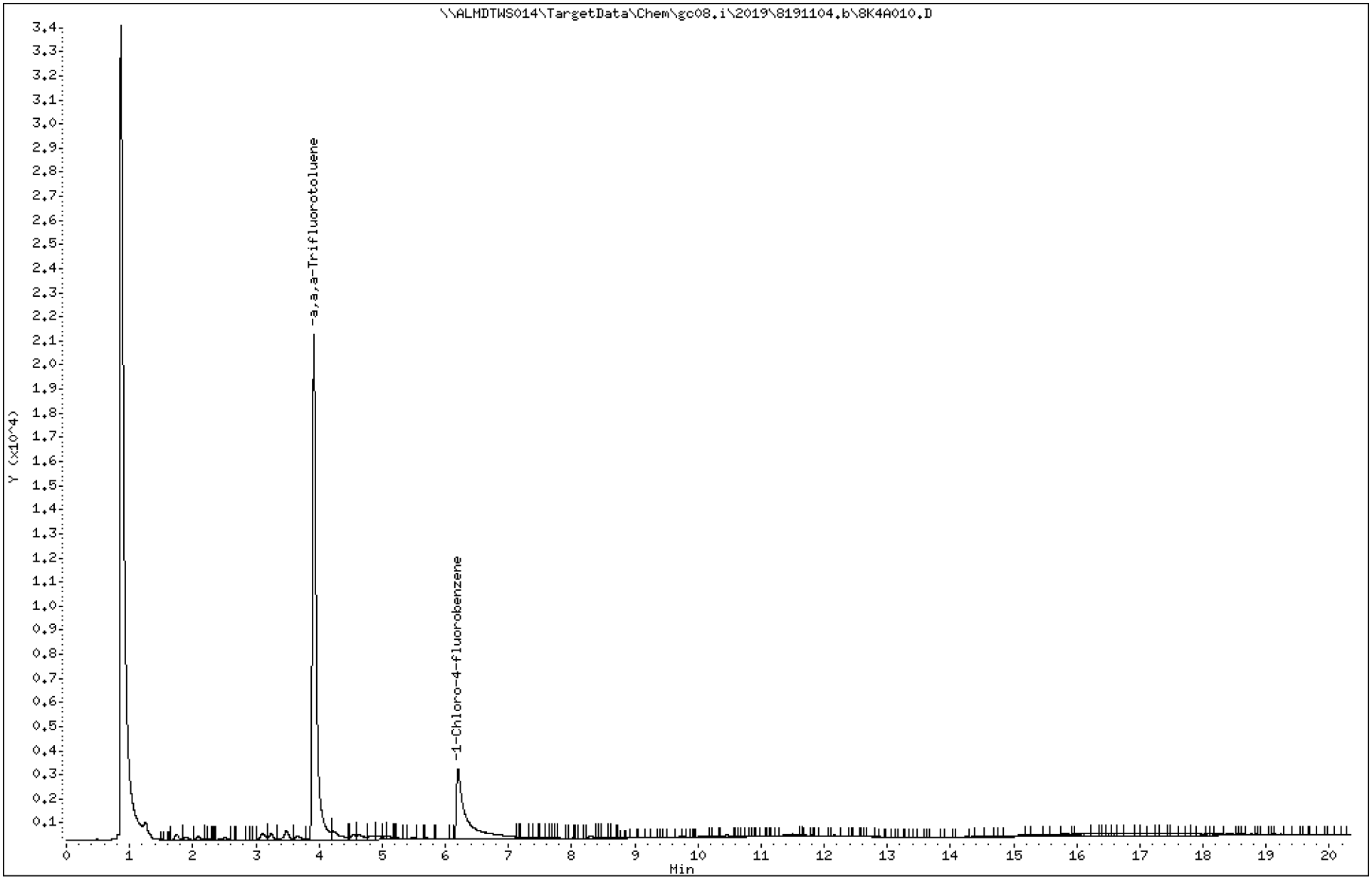
Sample Info: 3067358003

Instrument: gc08.i

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3067358003 Client ID: 1910251001 700-SVS-
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A010.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A010.D
Injection Date: 04-NOV-2019 12:34 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3067358003 Client ID: 1910251001 700-SVS-
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A010.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A010.D
Injection Date: 04-NOV-2019 12:34 Operator: CHS

There were no Unassigned peaks in this sample!

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

1910251031 700-SVS-100

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-386

Matrix (soil/water): WATER Lab Sample ID: 3067358004

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8K4A011.D

Level (low/med): Date Received: 11/1/19

% Moisture: not dec. 100.0 Date Analyzed: 11/4/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	100	U

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A011.D
Lab Smp Id: 3067358004 Client Smp ID: 1910251031 700-SVS-
Inj Date : 04-NOV-2019 13:01
Operator : CHS Inst ID: gc08.i
Smp Info : 3067358004
Misc Info : ZZ VOGC 10306 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909.
Meth Date : 05-Nov-2019 06:14 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
$	5 a,a,a-Trifluorotoluene	3.920	3.921	(0.632)	941144	38.2565	38.2565
S	1 GASOLINE RANGE ORGANICS	Compound Not Detected.					
*	6 1-Chloro-4-fluorobenzene	6.200	6.175	(1.000)	288382	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8K4A011.D
Lab Smp Id: 3067358004
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 04-NOV-2019
Calibration Time: 08:27
Client Smp ID: 1910251031 700-
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	284888	142444	427332	288382	1.23

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.17

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: ALS Environmental-Rochester Client SDG: AER386
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3067358004 Client Smp ID: 1910251031 700-SVS-
Level: MED Operator: CHS
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	38.2565	127.52	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: ALS Environmental-Rochester Client SDG: AER386
Lab Smp Id: 3067358004 Client Smp ID: 1910251031 700-SVS-
Sample Location: Sample Point:
Sample Date: 25-OCT-2019 Date Received: chester
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: CHS
Misc Info: ZZ VOGC 10306 8015GROW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
98-08-8	a,a,a-Trifluorotoluene	38.2565	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A011.D

Date : 04-NOV-2019 13:01

Client ID: 1910251031 700-SVS-

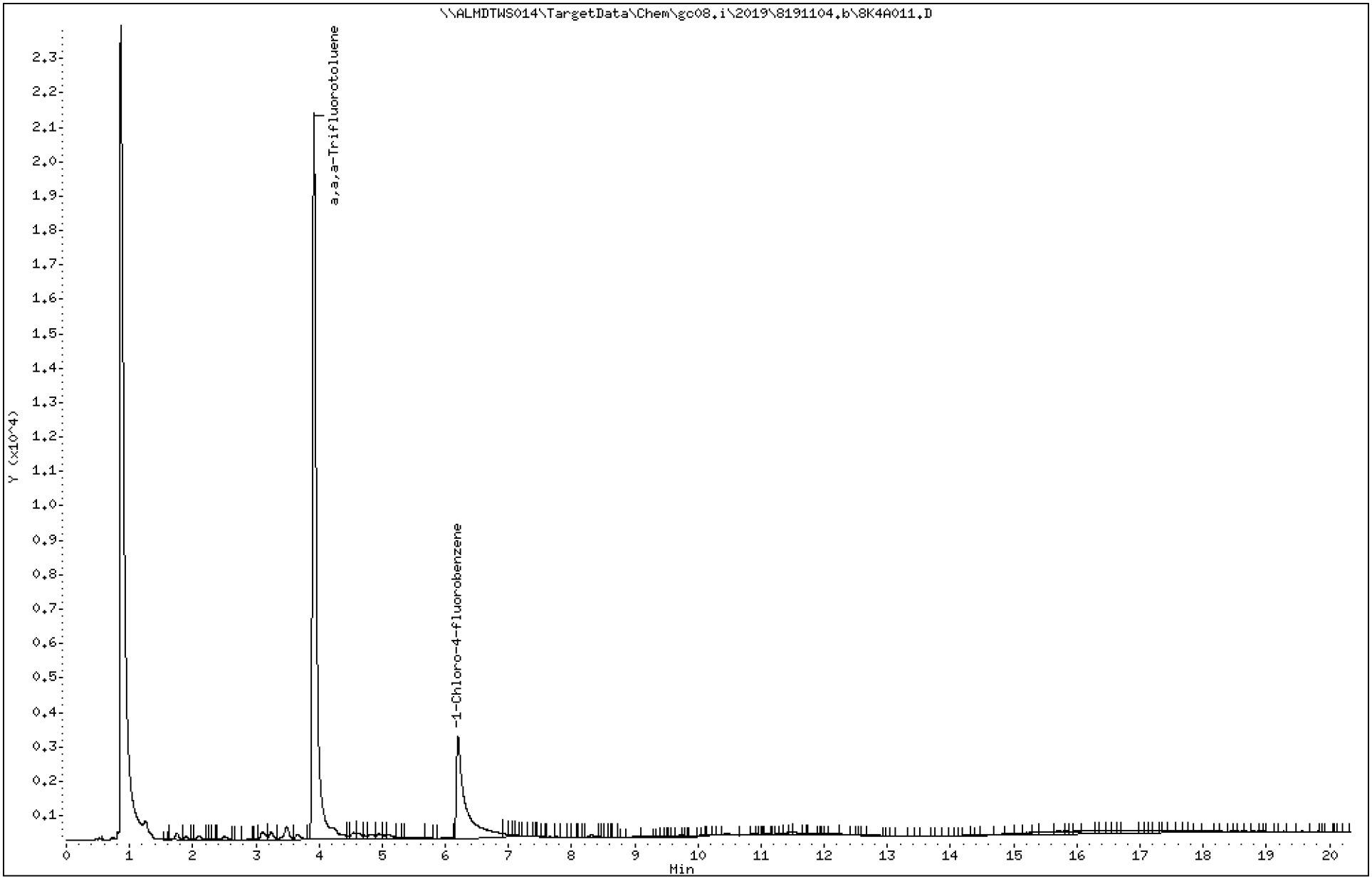
Instrument: gc08.i

Sample Info: 3067358004

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3067358004 Client ID: 1910251031 700-SVS-
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A011.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A011.D
Injection Date: 04-NOV-2019 13:01 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3067358004 Client ID: 1910251031 700-SVS-
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A011.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A011.D
Injection Date: 04-NOV-2019 13:01 Operator: CHS

There were no Unassigned peaks in this sample!

Standards Raw Data

Initial Calibrations

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ALS Global SDG No.: AER-386

Instrument ID: gc08.i Calibration Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Calibration Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

LAB FILE ID: RRF100 = 8L6A002.D RRF250 = 8L6A003.D RRF500 = 8L6A004.D RRF1000 = 8L6A005.D

RRF2500 = 8L6A006.D RRF5000 = 8L6A007.D

COMPOUND	RRF100	RRF250	RRF500	RRF1000	RRF2500	CT
GASOLINE RANGE ORGANICS	0.69284	0.68342	0.72961	0.62264	0.54761	A
a,a,a-Trifluorotoluene	0.87356	0.86178	0.92772	0.82054	0.84516	A

CT Column contains the Calibration Type. A - Average Response Factor, L - Linear Regression, and Q - Quadratic.
SPCC Compounds (*) with required minimum RRF.
CCC Compounds (**) with required maximum %RSD.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ALS Global SDG No.: AER-386

Instrument ID: gc08.i Calibration Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Calibration Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

LAB FILE ID: RRF100 = 8L6A002.D RRF250 = 8L6A003.D RRF500 = 8L6A004.D RRF1000 = 8L6A005.D

RRF2500 = 8L6A006.D RRF5000 = 8L6A007.D

COMPOUND	RRF5000			CT	b	m1	m2	% RSD or R^2
GASOLINE RANGE ORGANICS	0.49500			A		0.628520		14.54370
a,a,a-Trifluorotoluene	0.78964			A		0.853070		5.55122

CT Column contains the Calibration Type. A - Average Response Factor, L - Linear Regression, and Q - Quadratic.
SPCC Compounds (*) with required minimum RRF.
CCC Compounds (**) with required maximum %RSD.

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A002.D
Lab Smp Id: LEVEL1
Inj Date : 06-DEC-2018 15:20
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL1
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 15:20 Cal File: 8L6A002.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$ 5 a,a,a-Trifluorotoluene	3.995	3.973	(0.642)	27695	1.00000	1.02403(M)
S 1 GASOLINE RANGE ORGANICS	1.754-8.780			2196558	100.000	115.565(M)
* 6 1-Chloro-4-fluorobenzene	6.226	6.208	(1.000)	317035	10.0000	

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A002.D
Lab Smp Id: LEVEL1
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	317035	-1.76

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.23	0.16

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL1
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

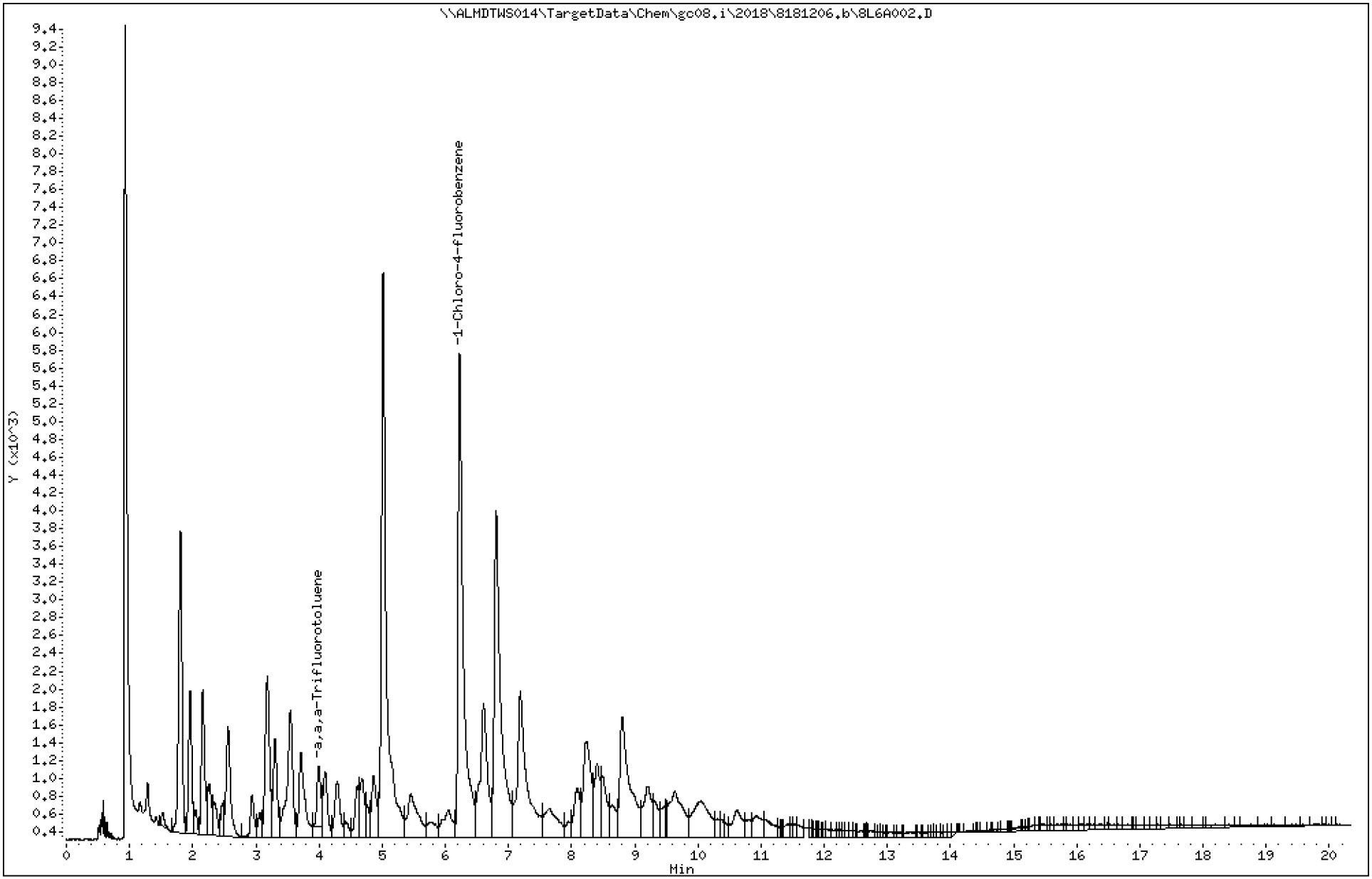
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	115.565	
98-08-8	a,a,a-Trifluorotoluene	1.02403	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A002.D
Date : 06-DEC-2018 15:20
Client ID:
Sample Info: LEVEL1

Column phase: DB-VRX

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

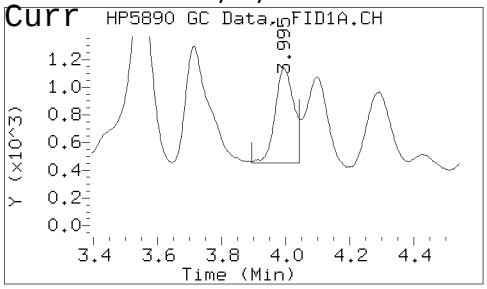


MANUAL INTEGRATION REPORT

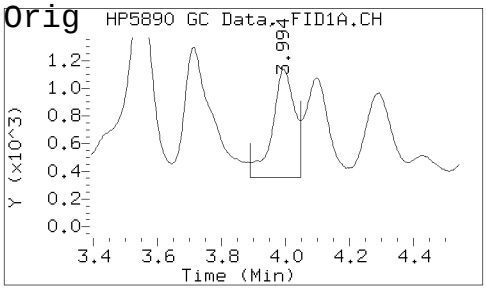
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL1 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A002.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A002.D
Injection Date: 06-DEC-2018 15:20 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

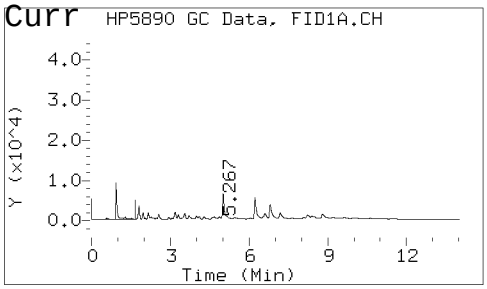


Curr. Area: 27695
Orig. Area: 37350

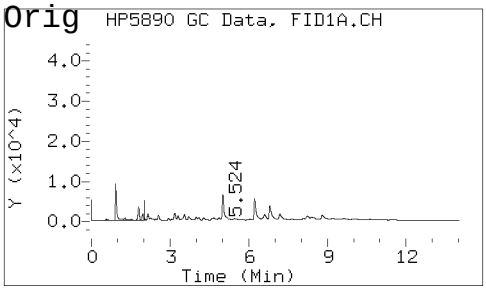
Curr. ON-COL: 1.02403
Orig. ON-COL: 0.896257

GASOLINE RANGE ORGANICS

Curr



Orig



Curr. Area: 2196558
Orig. Area: 2004671

Curr. ON-COL: 115.565
Orig. ON-COL: 106.596

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL1 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A002.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A002.D
Injection Date: 06-DEC-2018 15:20 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A003.D
Lab Smp Id: LEVEL2
Inj Date : 06-DEC-2018 15:47
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL2
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 15:47 Cal File: 8L6A003.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	68087	2.50000	2.52553(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			5399527	250.000	280.398(M)
*	6 1-Chloro-4-fluorobenzene	6.218	6.208	(1.000)	316031	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A003.D
Lab Smp Id: LEVEL2
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	316031	-2.07

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.03

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL2
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

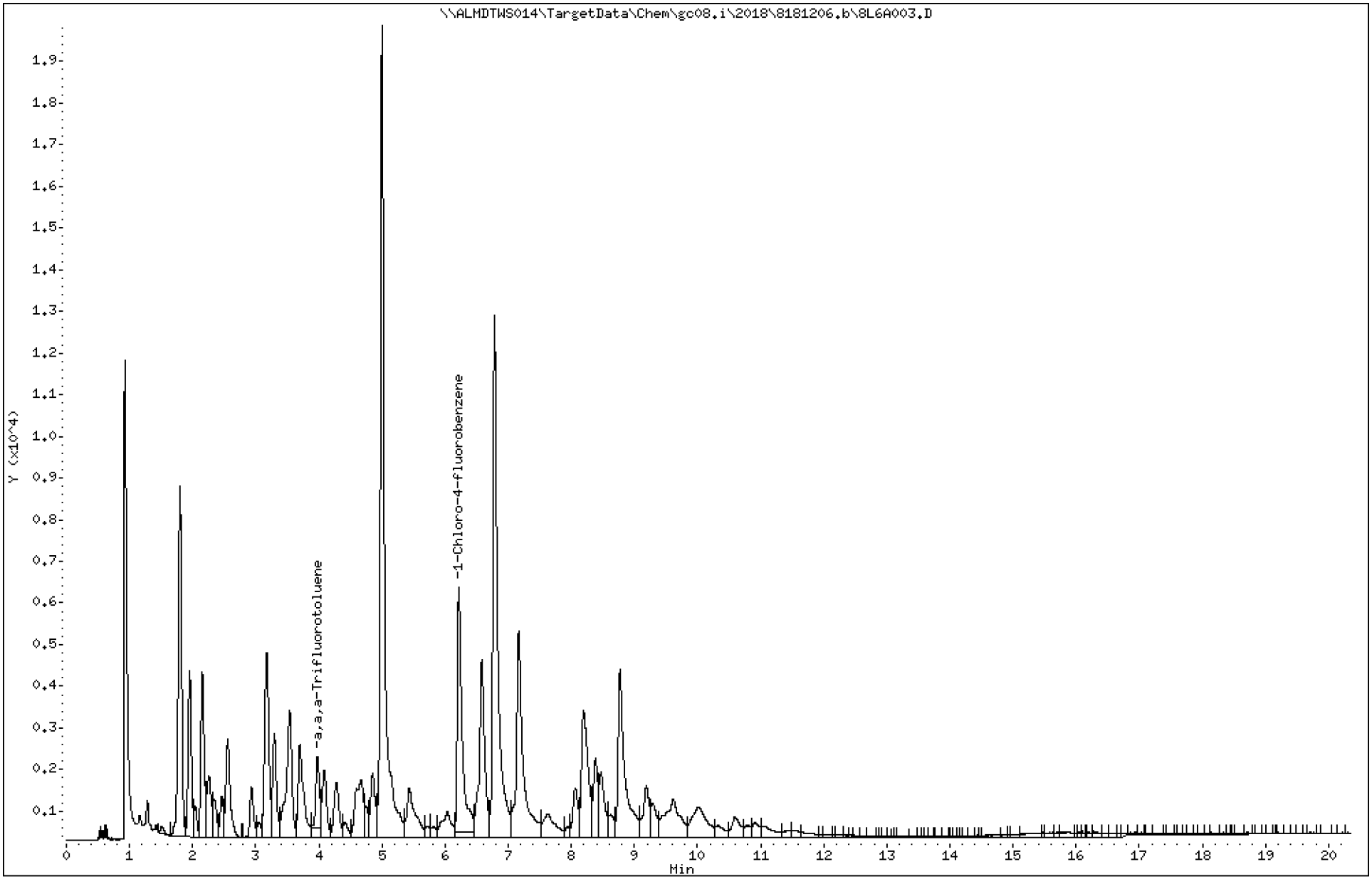
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	280.398	
98-08-8	a,a,a-Trifluorotoluene	2.52553	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A003.D
Date : 06-DEC-2018 15:47
Client ID:
Sample Info: LEVEL2

Column phase: DB-VRX

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

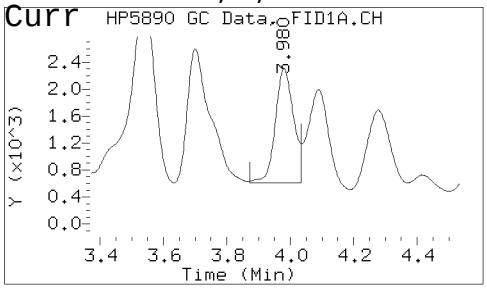


MANUAL INTEGRATION REPORT

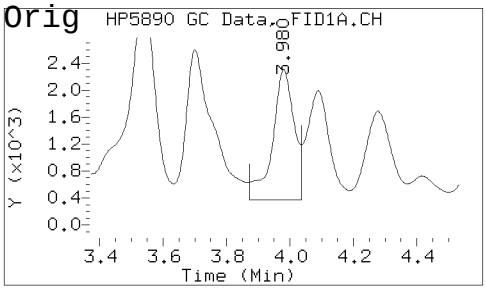
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL2 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A003.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A003.D
Injection Date: 06-DEC-2018 15:47 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

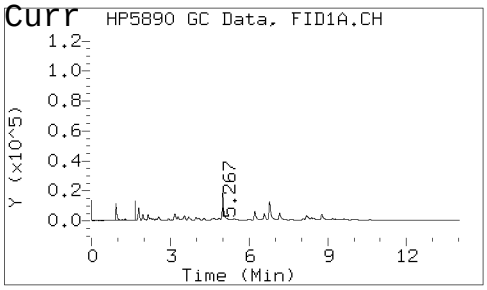


Curr. Area: 68087
Orig. Area: 92630

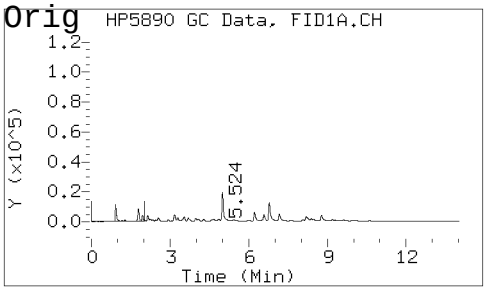
Curr. ON-COL: 2.52553
Orig. ON-COL: 3.02634

GASOLINE RANGE ORGANICS

Curr



Orig

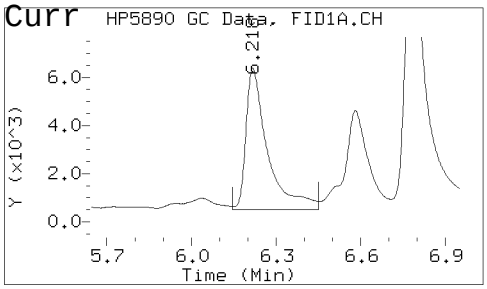


Curr. Area: 5399527
Orig. Area: 4848761

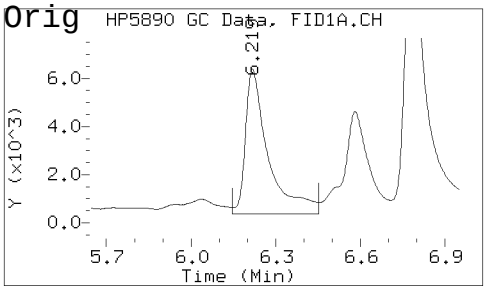
Curr. ON-COL: 280.398
Orig. ON-COL: 234.291

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 316031
Orig. Area: 339546

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL2 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A003.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A003.D
Injection Date: 06-DEC-2018 15:47 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A004.D
Lab Smp Id: LEVEL3
Inj Date : 06-DEC-2018 16:14
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL3
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 16:14 Cal File: 8L6A004.D
Als bottle: 4 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.976	3.973	(0.640)	146779	5.00000	5.43757(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			11543509	500.000	588.652(M)
*	6 1-Chloro-4-fluorobenzene	6.216	6.208	(1.000)	316429	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A004.D
Lab Smp Id: LEVEL3
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	316429	-1.94

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.00

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL3
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

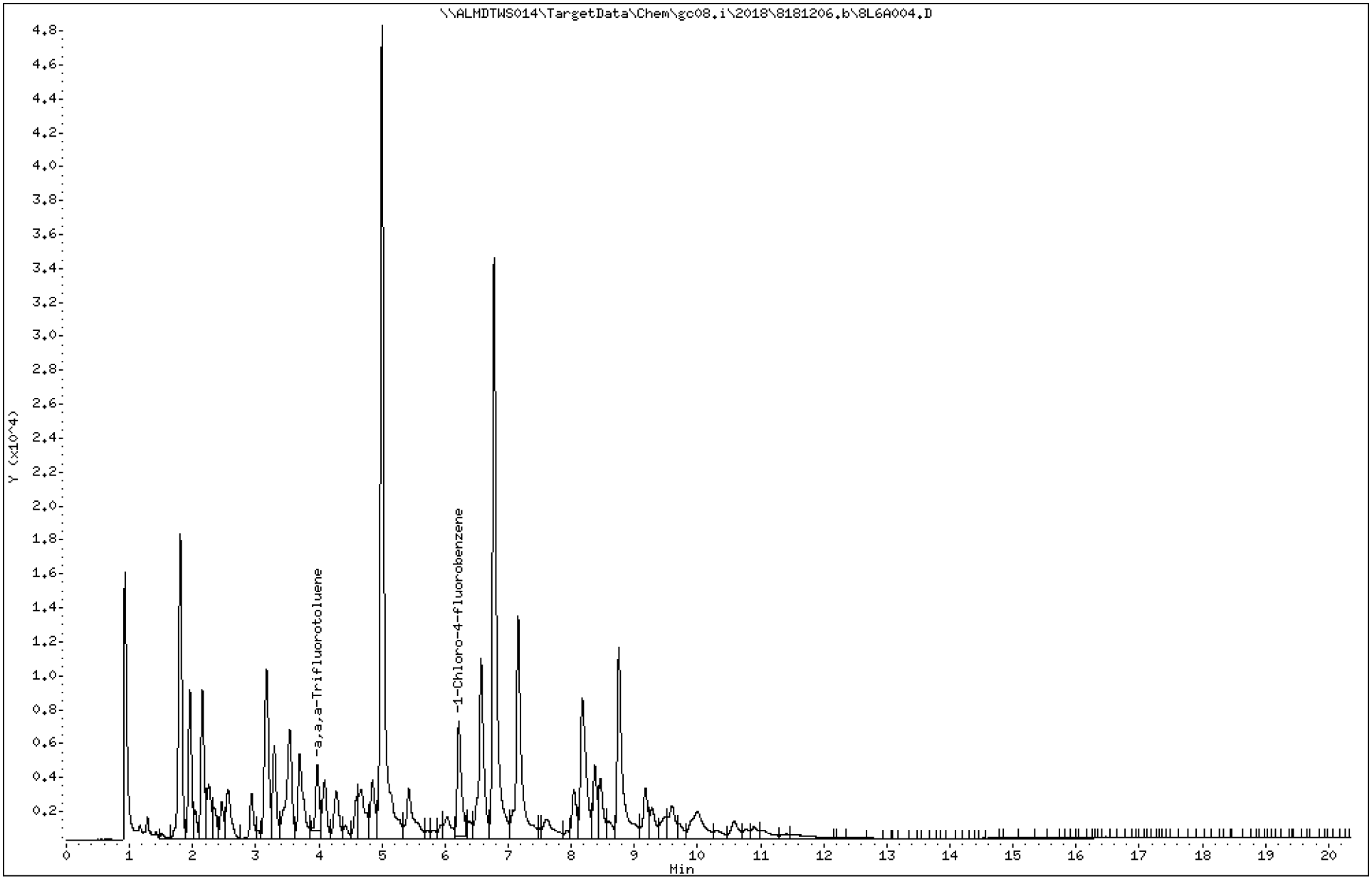
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	588.652	
98-08-8	a,a,a-Trifluorotoluene	5.43757	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A004.D
Date : 06-DEC-2018 16:14
Client ID:
Sample Info: LEVEL3

Column phase: DB-VRX

Instrument: gc08.i

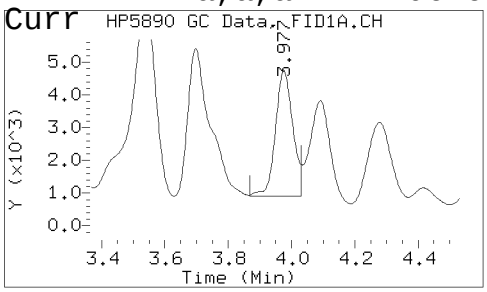
Operator: DD
Column diameter: 0.45

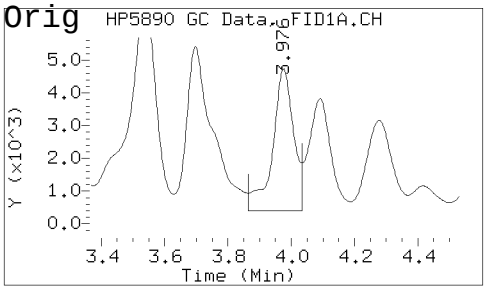


MANUAL INTEGRATION REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL3 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A004.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A004.D
Injection Date: 06-DEC-2018 16:14 Operator: DD

a,a,a-Trifluorotoluene

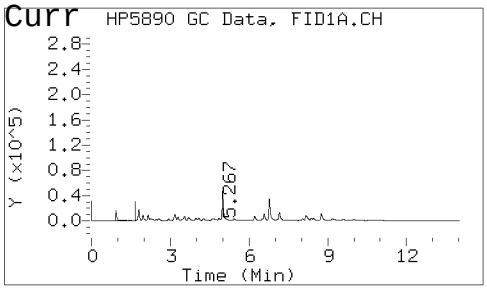


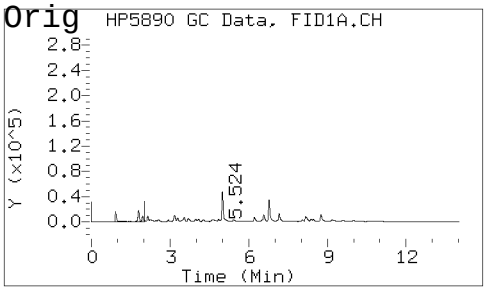


Curr. Area: 146779
Orig. Area: 200647

Curr. ON-COL: 5.43757
Orig. ON-COL: 7.54827

GASOLINE RANGE ORGANICS

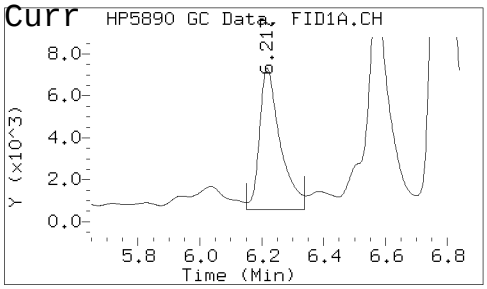


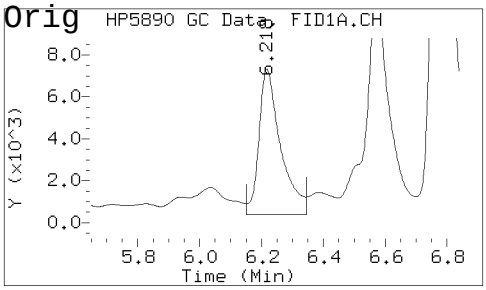


Curr. Area: 11543509
Orig. Area: 10479670

Curr. ON-COL: 588.652
Orig. ON-COL: 509.834

1-Chloro-4-fluorobenzene





Curr. Area: 316429
Orig. Area: 337242

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL3 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A004.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A004.D
Injection Date: 06-DEC-2018 16:14 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A005.D
Lab Smp Id: LEVEL4
Inj Date : 06-DEC-2018 16:41
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL4
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 16:41 Cal File: 8L6A005.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	264789	10.0000	9.61871(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			20092712	1000.00	1042.25(M)
*	6 1-Chloro-4-fluorobenzene	6.216	6.208	(1.000)	322701	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A005.D
Lab Smp Id: LEVEL4
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	322701	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.00

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL4
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

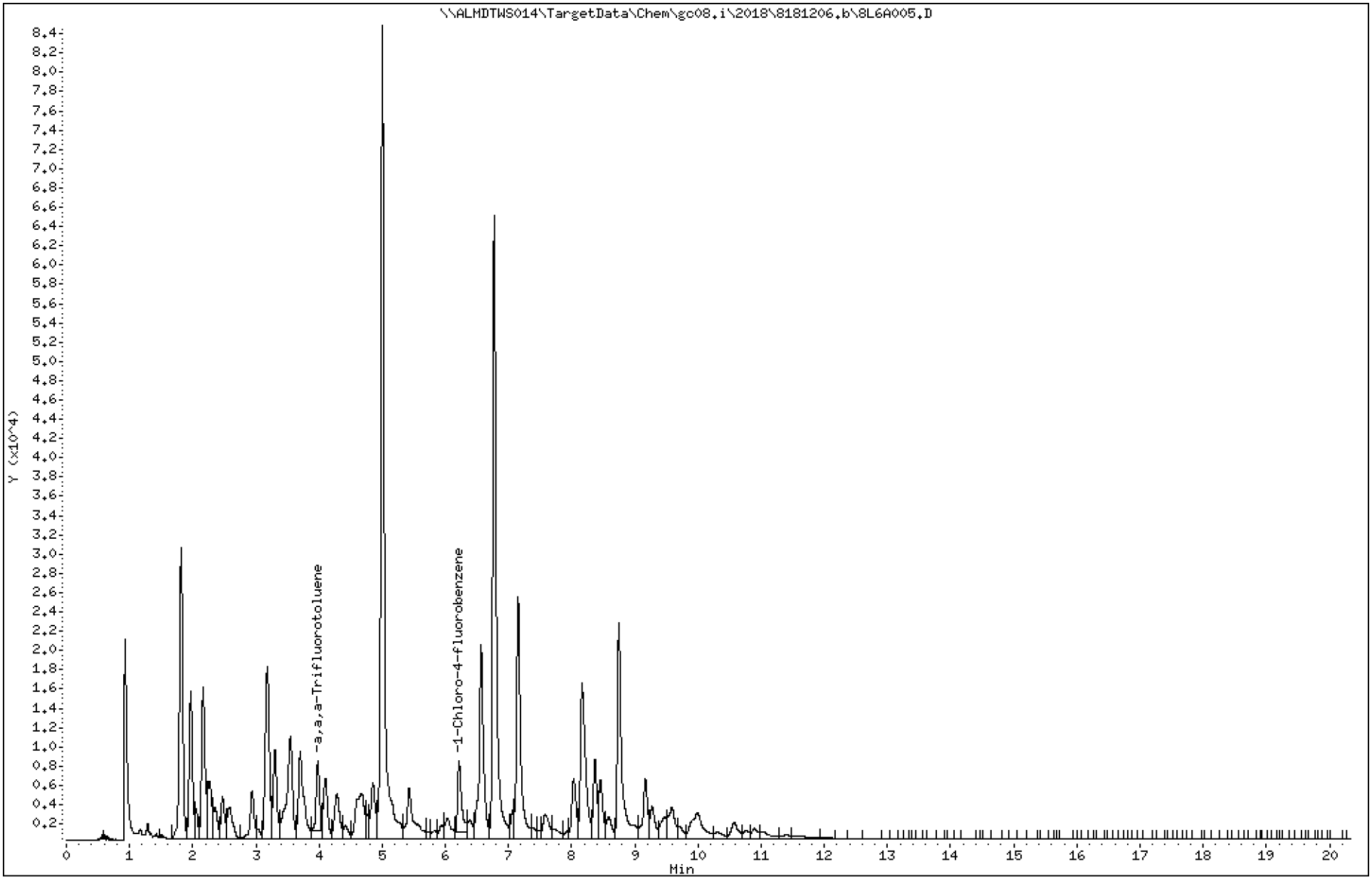
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	1042.25	
98-08-8	a,a,a-Trifluorotoluene	9.61871	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A005.D
Date : 06-DEC-2018 16:41
Client ID:
Sample Info: LEVEL4

Column phase: DB-VRX

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

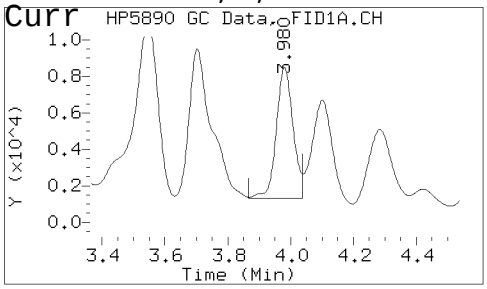


MANUAL INTEGRATION REPORT

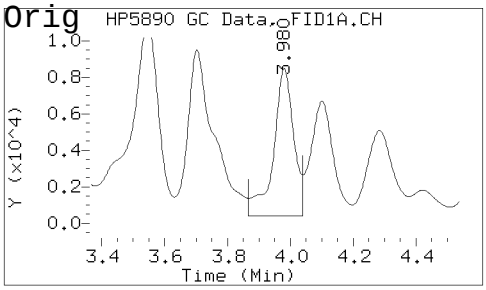
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL4 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A005.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A005.D
Injection Date: 06-DEC-2018 16:41 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

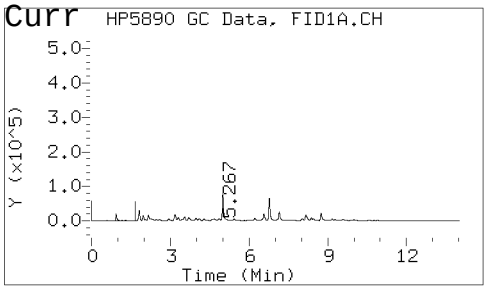


Curr. Area: 264789
Orig. Area: 361891

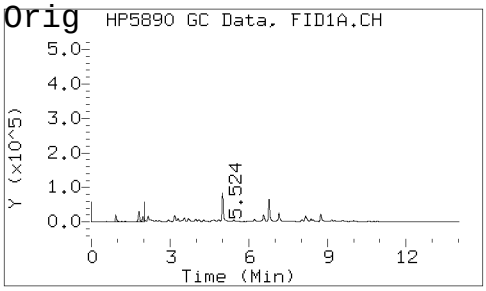
Curr. ON-COL: 9.61871
Orig. ON-COL: 11.6145

GASOLINE RANGE ORGANICS

Curr



Orig

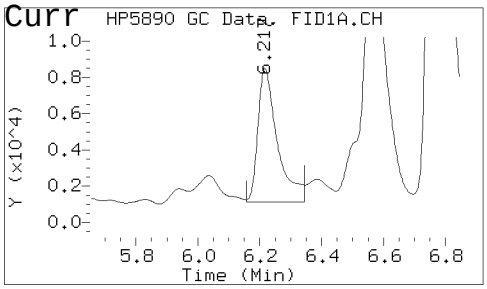


Curr. Area: 20092712
Orig. Area: 18235644

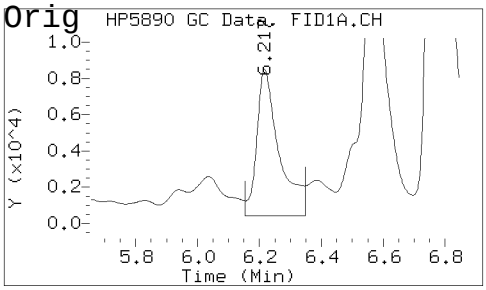
Curr. ON-COL: 1042.25
Orig. ON-COL: 731.378

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 322701
Orig. Area: 409074

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL4 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A005.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A005.D
Injection Date: 06-DEC-2018 16:41 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A006.D
Lab Smp Id: LEVEL5
Inj Date : 06-DEC-2018 17:08
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL5
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 17:08 Cal File: 8L6A006.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.980	3.973	(0.640)	693697	25.0000	24.7682(M)
S	1 GASOLINE RANGE ORGANICS	1.754-8.780			44946908	2500.00	2188.28(M)
*	6 1-Chloro-4-fluorobenzene	6.220	6.208	(1.000)	328316	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A006.D
Lab Smp Id: LEVEL5
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	328316	1.74

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.22	0.05

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL5
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	2188.28	
98-08-8	a,a,a-Trifluorotoluene	24.7682	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A006.D

Date : 06-DEC-2018 17:08

Client ID:

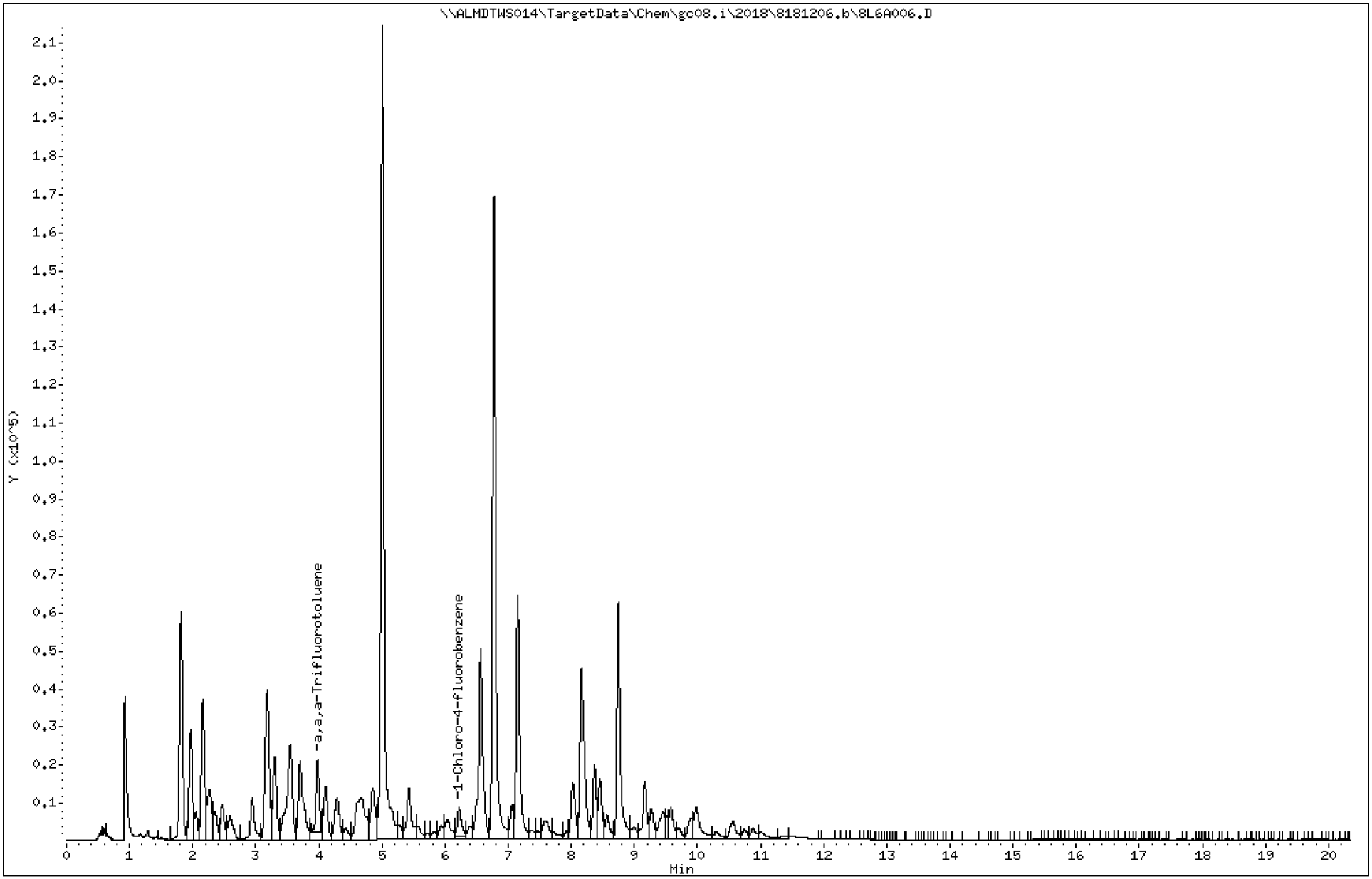
Instrument: gc08.i

Sample Info: LEVEL5

Operator: DD

Column phase: DB-VRX

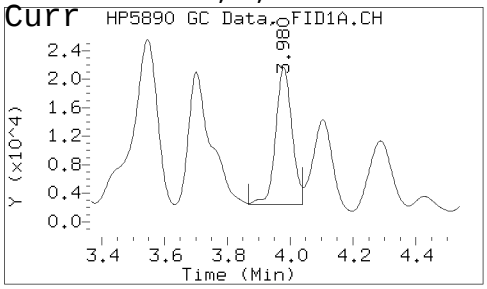
Column diameter: 0.45

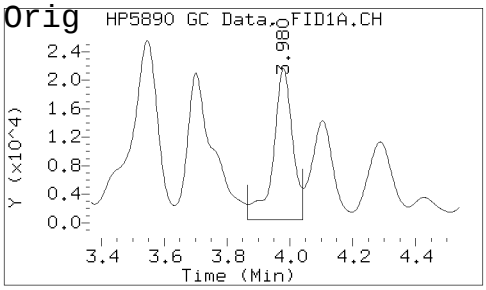


MANUAL INTEGRATION REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL5 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A006.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A006.D
Injection Date: 06-DEC-2018 17:08 Operator: DD

a,a,a-Trifluorotoluene

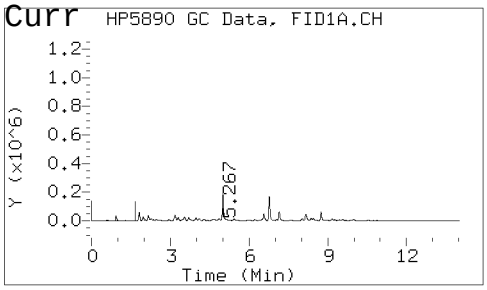


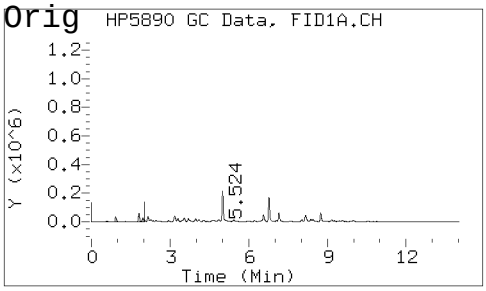


Curr. Area: 693697
Orig. Area: 909522

Curr. ON-COL: 24.7682
Orig. ON-COL: 29.8918

GASOLINE RANGE ORGANICS

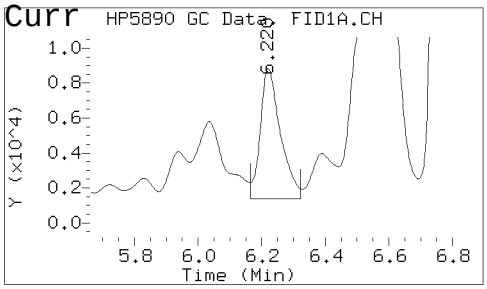


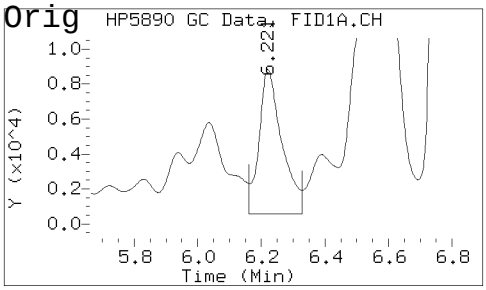


Curr. Area: 44946908
Orig. Area: 41746090

Curr. ON-COL: 2188.28
Orig. ON-COL: 1646.77

1-Chloro-4-fluorobenzene





Curr. Area: 328316
Orig. Area: 415915

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL5 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A006.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A006.D
Injection Date: 06-DEC-2018 17:08 Operator: DD

There were no Unassigned peaks in this sample!

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A007.D
Lab Smp Id: LEVEL6
Inj Date : 06-DEC-2018 17:35
Operator : DD Inst ID: gc08.i
Smp Info : LEVEL6
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 10-Dec-2018 11:37 chris Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$ 5 a,a,a-Trifluorotoluene	3.973	3.973	(0.640)	1402089	50.0000	46.2825(M)
S 1 GASOLINE RANGE ORGANICS	1.754-8.780			87893085	5000.00	3937.85(M)
* 6 1-Chloro-4-fluorobenzene	6.208	6.208	(1.000)	355121	10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A007.D
Lab Smp Id: LEVEL6
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	355121	10.05

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.21	-0.13

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LEVEL6
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	3937.85	
98-08-8	a,a,a-Trifluorotoluene	46.2825	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A007.D

Date : 06-DEC-2018 17:35

Client ID:

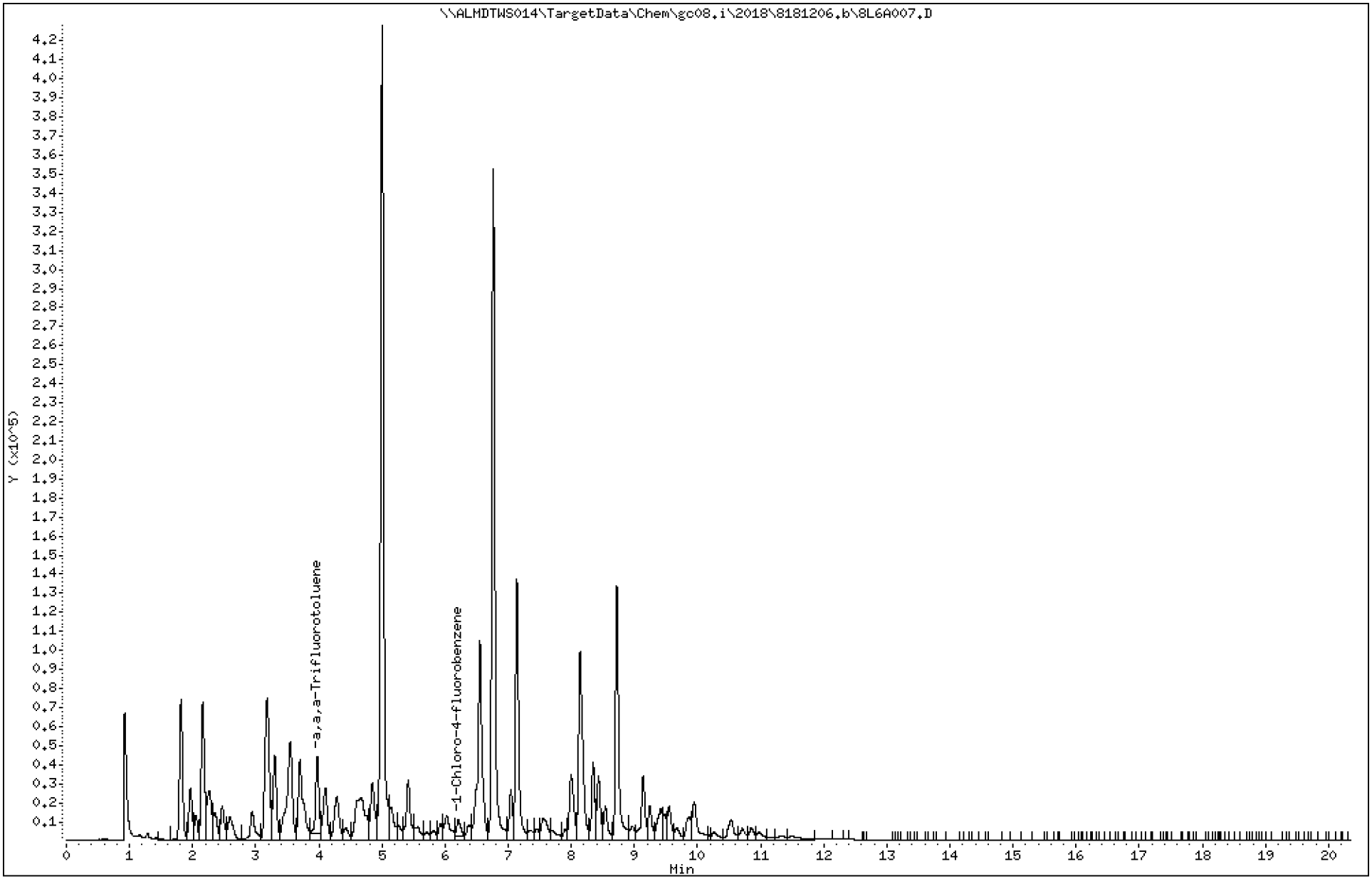
Instrument: gc08.i

Sample Info: LEVEL6

Operator: DD

Column phase: DB-VRX

Column diameter: 0.45

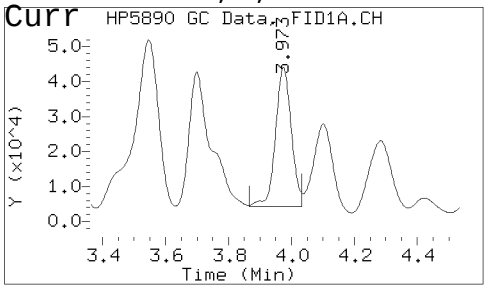


MANUAL INTEGRATION REPORT

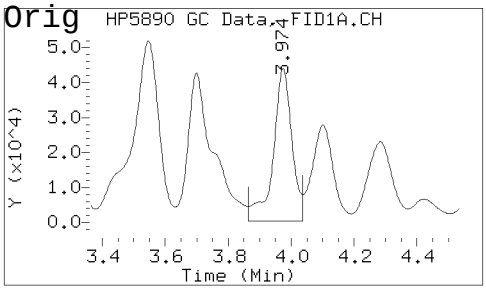
Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL6 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A007.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A007.D
Injection Date: 06-DEC-2018 17:35 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

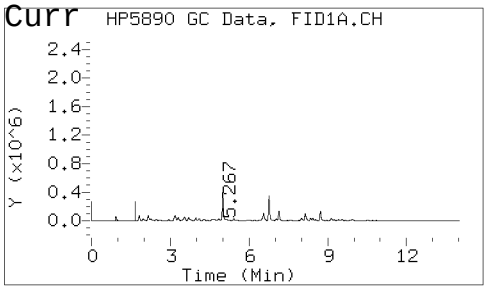


Curr. Area: 1402089
Orig. Area: 1802472

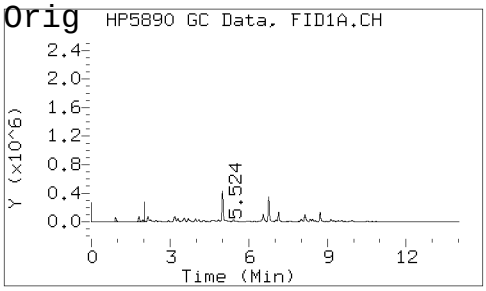
Curr. ON-COL: 46.2825
Orig. ON-COL: 69.1773

GASOLINE RANGE ORGANICS

Curr



Orig

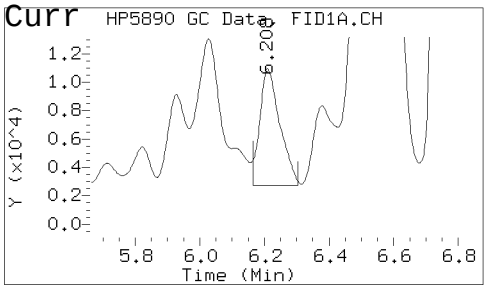


Curr. Area: 87893085
Orig. Area: 84385737

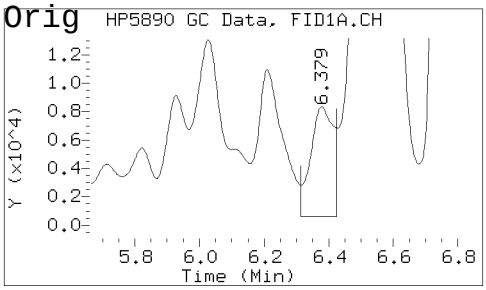
Curr. ON-COL: 3937.85
Orig. ON-COL: 3829.53

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 355121
Orig. Area: 361532

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/31/2018 13:28
Lab Sample ID: LEVEL6 Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A007.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A007.D
Injection Date: 06-DEC-2018 17:35 Operator: DD

There were no Unassigned peaks in this sample!

Initial Calibration Verifications

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A011.D
Lab Smp Id: LCS
Inj Date : 06-DEC-2018 19:23
Operator : DD Inst ID: gc08.i
Smp Info : LCS
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909.
Meth Date : 07-Dec-2018 10:34 don Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 11 QC Sample: LCS
Dil Factor: 0.25000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7062

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds	RT	EXP RT	REL RT	RESPONSE		(ng)	(ug/L)
$ 5 a,a,a-Trifluorotoluene	3.946	3.973	(0.639)	955373		31.4832	7.87079(M)
S 1 GASOLINE RANGE ORGANICS	1.754-8.780			81733967		3655.70	913.926(M)
* 6 1-Chloro-4-fluorobenzene	6.180	6.208	(1.000)	355723		10.0000	(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8L6A011.D
Lab Smp Id: LCS
Analysis Type: VOA
Quant Type: ISTD
Operator: DD
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

Calibration Date: 06-DEC-2018
Calibration Time: 16:41
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	322701	161351	484052	355723	10.23

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.22	5.72	6.72	6.18	-0.59

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: Client SDG: 8181206.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: LCS
Level: MED Operator: DD
Data Type: GC DATA SampleType: LCS
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8_GRO_102909
Misc Info:

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
S 1 GASOLINE RANGE ORG	1000.00	913.926	91.39	77-125

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	7.50000	7.87079	104.94	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: Client SDG: 8181206.b
Lab Smp Id: LCS
Sample Location: Sample Point:
Sample Date: Date Received:
Sample Matrix: WATER Quant Type: ISTD
Analysis Type: VOA Level: MED
Data Type: GC DATA Operator: DD
Misc Info:

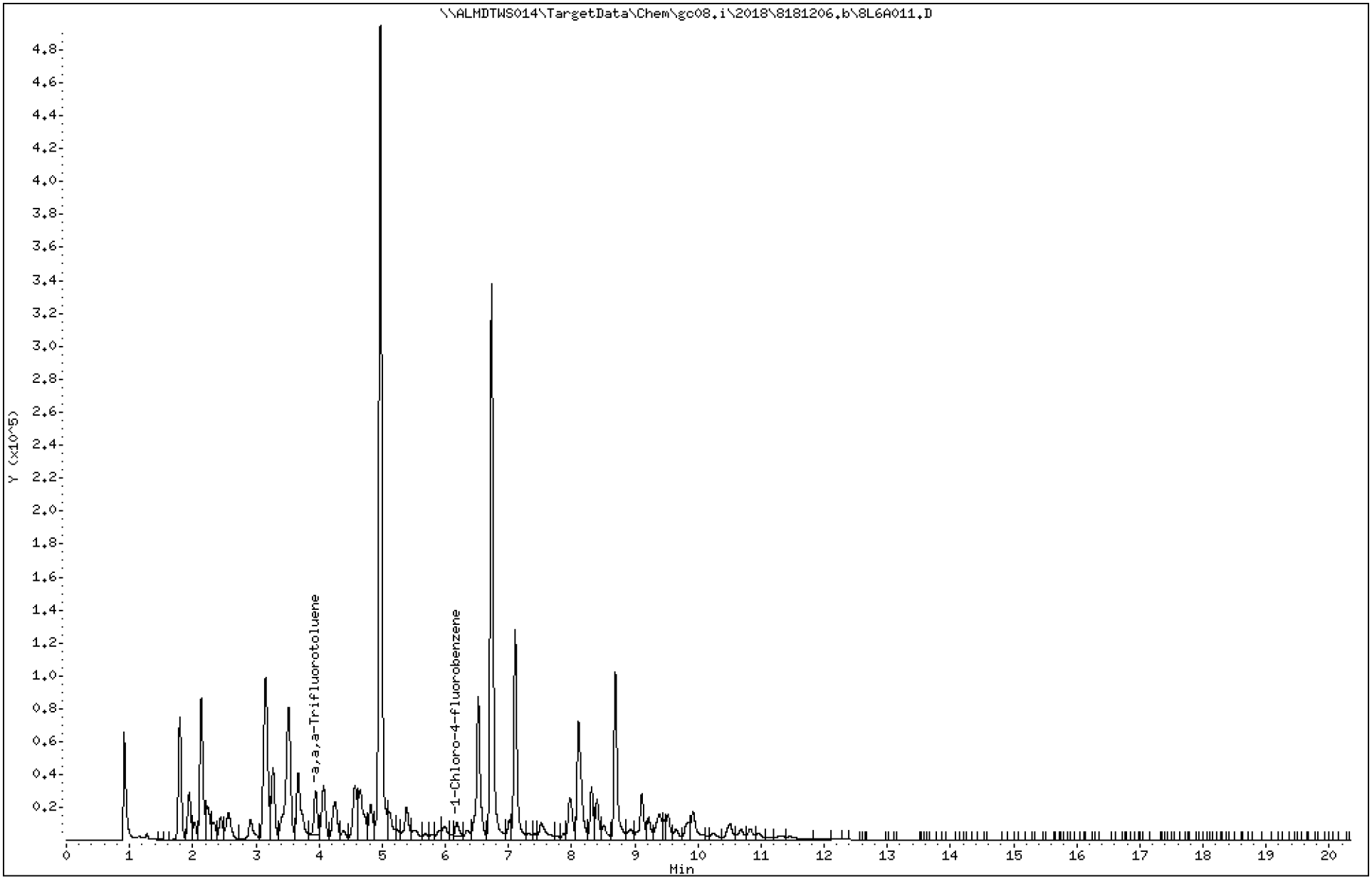
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	913.926	
98-08-8	a,a,a-Trifluorotoluene	7.87079	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2018\8181206.b\8L6A011.D
Date : 06-DEC-2018 19:23
Client ID:
Sample Info: LCS

Instrument: gc08.i

Operator: DD
Column diameter: 0.45

Column phase: DB-VRX

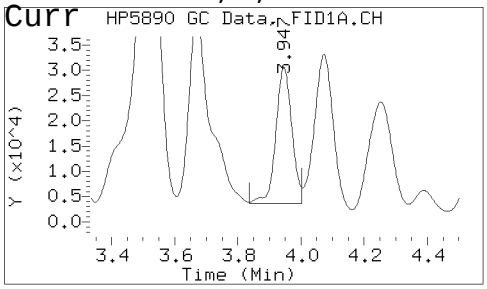


MANUAL INTEGRATION REPORT

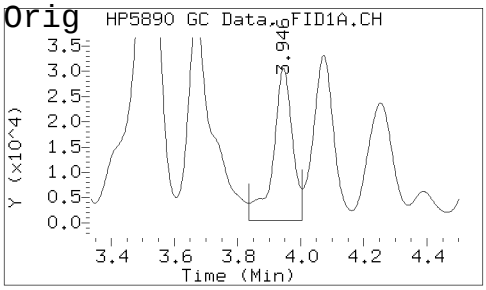
Report Date: 12/07/2018 10:36
Lab Sample ID: LCS Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A011.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A011.D
Injection Date: 06-DEC-2018 19:23 Operator: DD

a,a,a-Trifluorotoluene

Curr



Orig

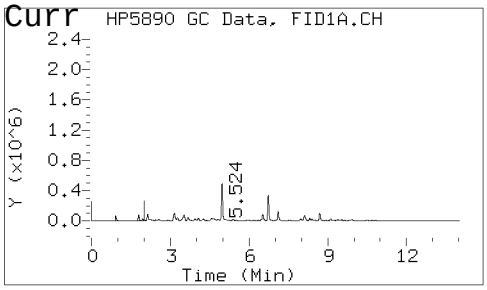


Curr. Area: 955373
Orig. Area: 1286806

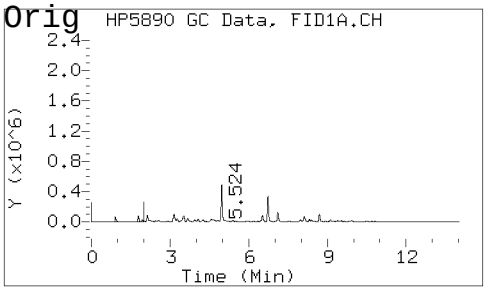
Curr. ON-COL: 31.4832
Orig. ON-COL: 22.6877

GASOLINE RANGE ORGANICS

Curr



Orig

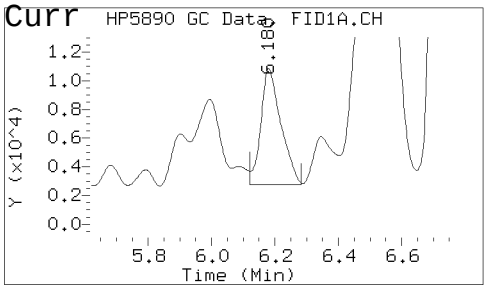


Curr. Area: 81733967
Orig. Area: 81175820

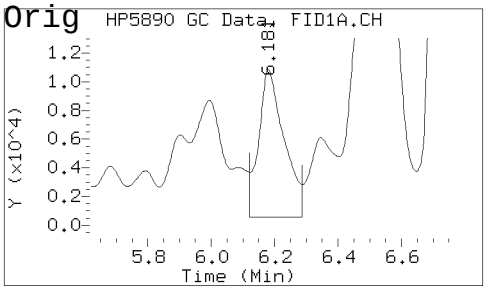
Curr. ON-COL: 3655.70
Orig. ON-COL: 2371.64

1-Chloro-4-fluorobenzene

Curr



Orig



Curr. Area: 355723
Orig. Area: 582527

Curr. ON-COL: 10.0000
Orig. ON-COL: 10.0000

UNASSIGNED PEAK REPORT

Report Date: 12/07/2018 10:36
Lab Sample ID: LCS Client ID:
DataFile:/Chem/gc08.i/2018/8181206.b/8L6A011.D
RawFile:/Chem/gc08.i/2018/8181206.b/RawData/8L6A011.D
Injection Date: 06-DEC-2018 19:23 Operator: DD

There were no Unassigned peaks in this sample!

Continuing Calibrations

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ALS Global SDG No.: AER-386

Instrument ID: gc08.i Calibration Date/Time: 11/4/2019 08:27

Lab File ID: 8K4A001.D Init. Calib. Date(s): 12/6/2018 12/6/2018

Heated Purge: (Y/N) N Init. Calib. Time(s): 15:20 17:35

GC Column: DB VRX E ID: 0.45 (mm)

COMPOUND	RRF	RRF050	Conc. CC std	MIN RRF	%D	MAX%D	CT
GASOLINE RANGE ORGANICS	0.6285	0.6070		0.010	-3.4	20.0	A
a,a,a-Trifluorotoluene	0.8531	0.9783		0.010	14.7	20.0	A

Calibration Type: A=Average Response Factor, L=Linear Regression, Q=Quadratic Regression
Compounds with "Calibration Type" other than "A" are calculated as % Drift due to alternate calibration type.

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A001.D
Lab Smp Id: CCAL
Inj Date : 04-NOV-2019 08:27
Operator : CHS Inst ID: gc08.i
Smp Info : CCAL
Misc Info :
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909.
Meth Date : 04-Nov-2019 07:51 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	REL RT	RESPONSE	(ng)	(ng)
$	5 a,a,a-Trifluorotoluene	3.914	3.921	(0.632)	836135	30.0000	34.4048
S	1 GASOLINE RANGE ORGANICS	1.717-8.756			17291615	1000.00	965.699
*	6 1-Chloro-4-fluorobenzene	6.189	6.175	(1.000)	284888	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8K4A001.D
Lab Smp Id: CCAL
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info:

Calibration Date: 04-NOV-2019
Calibration Time: 07:36
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	271062	135531	406593	284888	5.10

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.19	0.03

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gc08.i Injection Date: 04-NOV-2019 08:27
Lab File ID: 8K4A001.D Init. Cal. Date(s): 06-DEC-2018 06-DEC-2018
Analysis Type: WATER Init. Cal. Times: 15:20 17:35
Lab Sample ID: CCAL Quant Type: ISTD
Method: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909.m

COMPOUND	RRF / AMOUNT	RF1000	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 5 a,a,a-Trifluorotoluene	0.85307	0.97832	0.010	14.68277	20.00000	Averaged
S 1 GASOLINE RANGE ORGANICS	0.62852	0.60696	0.010	-3.43008	20.00000	Averaged

Average %D / Drift Results.	
Calculated Average %D/Drift =	9.05642
Maximun Average %D/Drift =	15.00000
* Passed Average %D/Drift Test.	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A001.D

Date : 04-NOV-2019 08:27

Client ID:

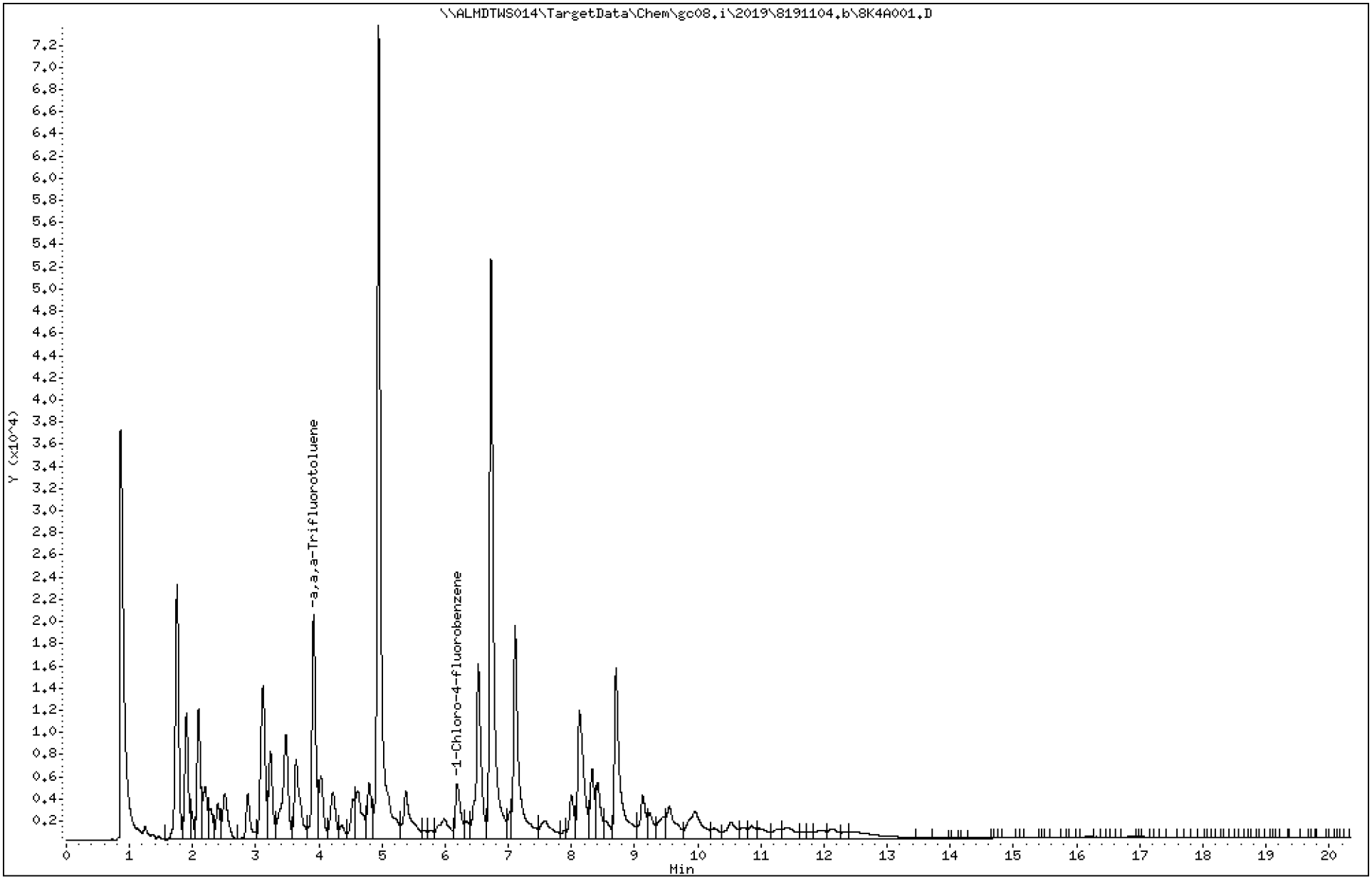
Instrument: gc08.i

Sample Info: CCAL

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/05/2019 06:13
Lab Sample ID: CCAL Client ID:
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A001.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A001.D
Injection Date: 04-NOV-2019 08:27 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/05/2019 06:13
Lab Sample ID: CCAL Client ID:
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A001.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A001.D
Injection Date: 04-NOV-2019 08:27 Operator: CHS

There were no Unassigned peaks in this sample!

QC Raw Data

Blank Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

3038966(MB)

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-386

Matrix (soil/water): WATER Lab Sample ID: 3038966

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8K4A006.D

Level (low/med): Date Received: 11/4/19

% Moisture: not dec. 100.0 Date Analyzed: 11/4/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	29.4	J

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A006.D
Lab Smp Id: 3038966 Client Smp ID: MB for HBN 555076 [
Inj Date : 04-NOV-2019 10:45
Operator : CHS Inst ID: gc08.i
Smp Info : 3038966
Misc Info : ZZ VOGC 10306 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909.
Meth Date : 05-Nov-2019 06:14 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds		RT	EXP RT	REL RT	RESPONSE	(ng)	(ug/L)
$	5 a,a,a-Trifluorotoluene	3.930	3.921	(0.633)	865125	32.9567	32.9567
S	1 GASOLINE RANGE ORGANICS	1.717-8.756			568610	29.3996	29.3996(a)
*	6 1-Chloro-4-fluorobenzene	6.208	6.175	(1.000)	307718	10.0000	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8K4A006.D
Lab Smp Id: 3038966
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Calibration Date: 04-NOV-2019
Calibration Time: 08:27
Client Smp ID: MB for HBN 5550
Level: MED
Sample Type: WATER
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	284888	142444	427332	307718	8.01

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.21	0.30

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: In-house QC Account Client SDG: 8191104.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3038966 Client Smp ID: MB for HBN 555076 [
Level: MED Operator: CHS
Data Type: GC DATA SampleType: BLANK
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	32.9567	109.86	90-129

ALS Environmental Services

TARGET COMPOUNDS

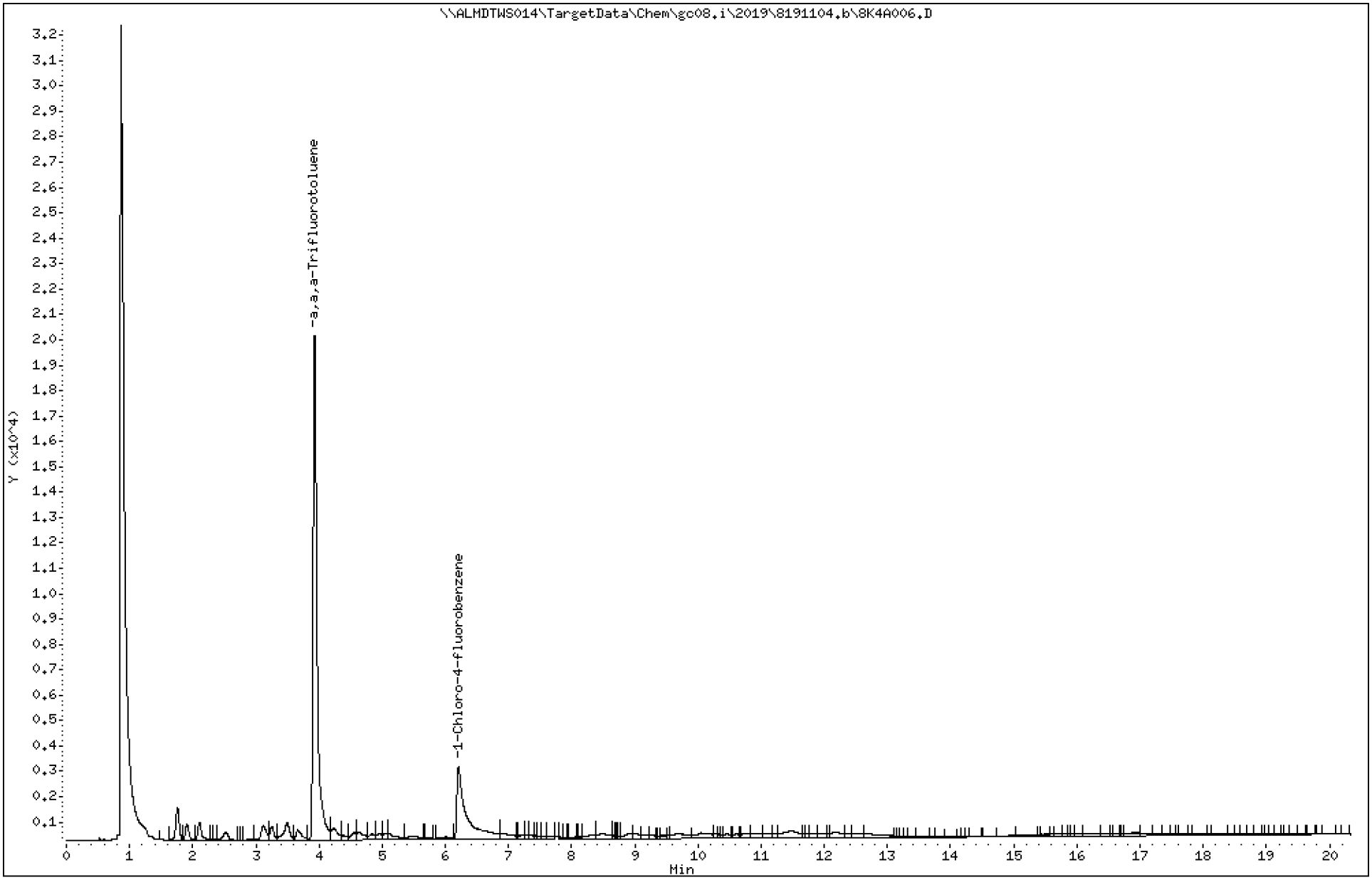
Client Name: In-house QC Account
Lab Smp Id: 3038966
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: GC DATA
Misc Info: ZZ VOGC 10306 8015GROW

Client SDG: 8191104.b
Client Smp ID: MB for HBN 555076 [
Sample Point:
Date Received: 04-NOV-2019
Quant Type: ISTD
Level: MED
Operator: CHS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	29.3996	J
98-08-8	a,a,a-Trifluorotoluene	32.9567	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A006.D
Date : 04-NOV-2019 10:45
Client ID: MB for HBN 555076 [
Sample Info: 3038966

Instrument: gc08.i
Operator: CHS
Column phase: DB-VRX
Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3038966 Client ID: MB for HBN 555076 [
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A006.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A006.D
Injection Date: 04-NOV-2019 10:45 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/05/2019 06:15
Lab Sample ID: 3038966 Client ID: MB for HBN 555076 [
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A006.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A006.D
Injection Date: 04-NOV-2019 10:45 Operator: CHS

There were no Unassigned peaks in this sample!

LCS Raw Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

3038967(LCS)

Lab Name: ALS Global Contract: VOGC

Lab Code: VOA Case No.: SAS No.: SDG No.: AER-386

Matrix (soil/water): WATER Lab Sample ID: 3038967

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 8K4A002.D

Level (low/med): Date Received: 11/4/19

% Moisture: not dec. 100.0 Date Analyzed: 11/4/19

GC Column: DB VRX E ID: 0.45 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	865	

ALS Environmental Services

TPHGRO BY METHOD 8015

Data file : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A002.D
Lab Smp Id: 3038967 Client Smp ID: LCS for HBN 555076
Inj Date : 04-NOV-2019 08:55
Operator : CHS Inst ID: gc08.i
Smp Info : 3038967
Misc Info : ZZ VOGC 10306 8015GROW
Comment : DB-VRX E
Method : \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909.
Meth Date : 04-Nov-2019 07:51 carl Quant Type: ISTD
Cal Date : 06-DEC-2018 17:35 Cal File: 8L6A007.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 4.14
Processing Host: ALMDTW7047

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
$	5 a,a,a-Trifluorotoluene	3.920	3.921	(0.633)	854031	33.8510	33.8510
S	1 GASOLINE RANGE ORGANICS	1.717-8.756			16073098	864.692	864.692
*	6 1-Chloro-4-fluorobenzene	6.195	6.175	(1.000)	295746	10.0000	

ALS Environmental Services

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: gc08.i
Lab File ID: 8K4A002.D
Lab Smp Id: 3038967
Analysis Type: VOA
Quant Type: ISTD
Operator: CHS
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

Calibration Date: 04-NOV-2019
Calibration Time: 08:27
Client Smp ID: LCS for HBN 555
Level: MED
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	284888	142444	427332	295746	3.81

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
6 1-Chloro-4-fluoro	6.19	5.69	6.69	6.20	0.08

AREA UPPER LIMIT = + 50% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

ALS Environmental Services

RECOVERY REPORT

Client Name: In-house QC Account Client SDG: 8191104.b
Sample Matrix: LIQUID Fraction: VOA
Lab Smp Id: 3038967 Client Smp ID: LCS for HBN 555076
Level: MED Operator: CHS
Data Type: GC DATA SampleType: LCS
SpikeList File: GROWATER.spk Quant Type: ISTD
Sublist File: all.sub
Method File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8_GRO_102909
Misc Info: ZZ VOGC 10306 8015GROW

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
S 1 GASOLINE RANGE ORG	1000.00	864.692	86.47	77-125

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 a,a,a-Trifluorotol	30.0000	33.8510	112.84	90-129

ALS Environmental Services

TARGET COMPOUNDS

Client Name: In-house QC Account
Lab Smp Id: 3038967
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: GC DATA
Misc Info: ZZ VOGC 10306 8015GROW

Client SDG: 8191104.b
Client Smp ID: LCS for HBN 555076
Sample Point:
Date Received: 04-NOV-2019
Quant Type: ISTD
Level: MED
Operator: CHS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
TPHGRO	GASOLINE RANGE ORGANICS	864.692	
98-08-8	a,a,a-Trifluorotoluene	33.8510	

Data File: \\ALMDTWS014\TargetData\Chem\gc08.i\2019\8191104.b\8K4A002.D

Date : 04-NOV-2019 08:55

Client ID: LCS for HBN 555076

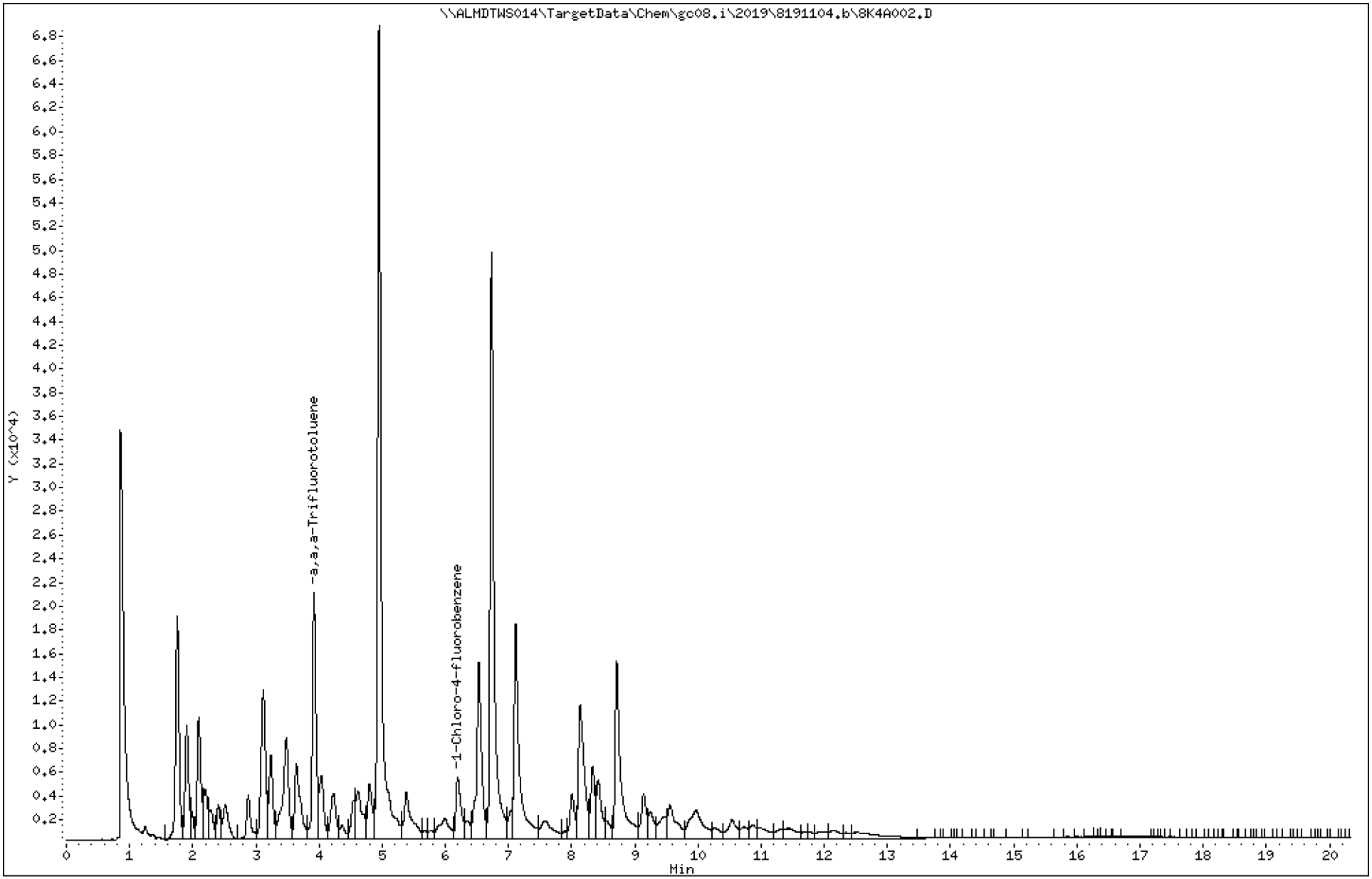
Instrument: gc08.i

Sample Info: 3038967

Operator: CHS

Column phase: DB-VRX

Column diameter: 0.45



MANUAL INTEGRATION REPORT

Report Date: 11/05/2019 06:13
Lab Sample ID: 3038967 Client ID: LCS for HBN 555076
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A002.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A002.D
Injection Date: 04-NOV-2019 08:55 Operator: CHS
There were no manual integrations performed on this sample!

UNASSIGNED PEAK REPORT

Report Date: 11/05/2019 06:13
Lab Sample ID: 3038967 Client ID: LCS for HBN 555076
DataFile:/Chem/gc08.i/2019/8191104.b/8K4A002.D
RawFile:/Chem/gc08.i/2019/8191104.b/RawData/8K4A002.D
Injection Date: 04-NOV-2019 08:55 Operator: CHS

There were no Unassigned peaks in this sample!

Analytical Logbook

Data File: \\GC01\TargetData\Chem\gc08.i\2018\8181206.b

GC ANALYSIS - VOLATILE ORGANICS

DATE(S):	12/6/2018	Analyst:	DD				
DATA FILE:	8L6Axxx.d	ICAL INJ :	12/6/18 15:20	INSTRUMENT: GC08	METHOD(S)	GROW	DGROS	GROS
BATCH:	8181206.b	12-HOUR ENDING:	12/7/18 3:20	ICAL DATE: 12/6/2018	LIMS BATCH:			

Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment	Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment
1	01	WP	1	8015GRO	-	-	-		33	34							
2	02	Level 1	1	8015GRO	-	-	-		34	35							
3	03	Level 2	1	8015GRO	-	-	-		35	36							
4	04	Level 3	1	8015GRO	-	-	-		36	37							
5	05	Level 4	1	8015GRO	-	-	-		37	38							
6	06	Level 5	1	8015GRO	-	-	-		38	39							
7	07	Level 6	1	8015GRO	-	-	-		39	40							
8	08	WP	1	8015GRO	-	-	-		40	41							
9	09	WP	1	8015GRO	-	-	-		41	42							
10	10	WP	1	8015GRO	-	-	-		42	43							
11	11	IODC	1	8015GRO	-	-	-	RR diluted wrong	42	44							
12	12	IODC	1	8015GRO	-	-	-	RR should have been 200 in 400	43	45							
13	13	IODC	1	8015GRO	-	-	-	RR not 400 in 200	46	46							
14	14	IODC	1	8015GRO	-	-	-	RR	47	47							
15	15	WP	1	8015GRO	-	-	-		48	48							
16	16	WP	1	8015GRO	-	-	-		49	49							
17	17	MDL1	1	8015GRO	-	-	-		50	50							
18	18	MDL1	1	8015GRO	-	-	-		51	51							
19	19	MDL1	1	8015GRO	-	-	-		52	52							
20	20	MDL1	1	8015GRO	-	-	-		53	53							
21	21								54	54							
22	22								55	55							
23	23								56	56							
24	24								57	57							
25	25								58	58							
26	26								59	59							
27	27								60	60							
28	28								61	61							
29	29								62	62							
30	30								63	63							
31	31								64	64							
32	32								65	65							
33	33								66	66							

IS:	GC3425	GRO Cal:	GC3426
SS:	GC3421	LCS:	GC3427
IS/SS	GC3424	int. S	GC3423

ABBREVIATIONS

CO:	Suspect Carryover	SS:	Surrogate Failure
LS:	Library Search	IS:	ISTD Failure
RR:	Rerun same dilution	DNR:	Do not Report
DFx:	Rerun @ less diln x	NU:	Not Used
DLx:	Rerun @ diln x	AF:	Antifoam was used

10ul :	HS801
25ul :	HS804
100ul :	HS771
0.5 mL :	HS772
5 mL :	HS779
10 mL :	HS780

GRO		GRO	
Prev		Prev	
Current		Current	
Total		Total	
Needs QC?		Needs QC?	

Data File: \\GC01\TargetData\Chem\gc08.i\2019\8191104.b

GC ANALYSIS - VOLATILE ORGANICS

DATE(S):	11/4/2019	Analyst:	CHS					
DATA FILE:	8K4Axxx.d	ICAL INJ :	11/4/18 8:27	INSTRUMENT: GC08	METHOD(S)	GROW	GROS	DGROS DGROW
BATCH:	8191104.b	12-HOUR ENDING:	11/4/18 20:27	ICAL DATE: 12/6/2018	LIMS BATCH:	10306	10308	

Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment	Pos #	Run #	ALS Sample ID (w/ Container ID)	Dilution	Test	pH	HDSP / Wt.	CL-	Comment
1	01	CCAL	1	8015GRO	-	-	-		33	34							
2	02	3038967	1	8015GRO	-	-	-		34	35							
3	03	3038991	100	8015GRO	-	-	-		35	36							
4	04	WP	1	8015GRO	-	-	-		36	37							
5	05	WP	1	8015GRO	-	-	-		37	38							
6	06	3038966	1	8015GRO	-	-	-		38	39							
7	07	3038990	100	8015GRO	-	-	-		39	40							
8	08	3067358001	1	8015GRO	<2	N	N		40	41							
9	09	3067358002	1	8015GRO	<2	N	N		41	42							
10	10	3067358003	1	8015GRO	<2	N	N		42	43							
10	11	3067358004	1	8015GRO	<2	N	N		42	44							
11	12	3067346001	1	8015GRO	<2	N	N		43	45							
12	13	3067258006	1	8015GRO	<2	N	N		46	46							
13	14	3067258002	1	8015GRO	<2	N	N		47	47							
14	15	3067258004	1	8015GRO	<2	N	N		48	48							
15	16	3067258003	1	8015GRO	<2	N	N	MS/D	49	49							
16	17	3067258001	1	8015GRO	<2	N	N		50	50							
17	18	3067071001	100	8015GRO	-	1.73	-	8260	51	51							
18	19	3038968	1	8015GRO	<2	N	N		52	52							
19	20	3038969	1	8015GRO	<2	N	N		53	53							
20	21								54	54							
21	22								55	55							
23	23								56	56							
23	24								57	57							
24	25								58	58							
25	26								59	59							
26	27								60	60							
27	28								61	61							
28	29								62	62							
29	30								63	63							
30	31								64	64							
31	32								65	65							
32	33								66	66							

IS:	GC3434	GRO Cal:	GC3429
SS:	GC3433	LCS:	GC3437
IS/SS	GC3435	int. S	

ABBREVIATIONS

CO:	Suspect Carryover	SS:	Surrogate Failure
LS:	Library Search	IS:	ISTD Failure
RR:	Rerun same dilution	DNR:	Do not Report
DFx:	Rerun @ less diln x	NU:	Not Used
DLx:	Rerun @ diln x	AF:	Antifoam was used

10ul :	HS801
25ul :	HS804
100ul :	HS771
0.5 mL :	HS772
5 mL :	HS779
10 mL :	HS780

	GRO	GRO
Prev		Prev
Current		Current
Total		Total
Needs QC?		Needs QC?

Appendix D
Phase IA Shallow Soil Vapor Survey Analytical Results

LabNumber	0004990-01	0004990-02	0004990-03	0004990-04	0004990-05
SampleName	Trip 1	Trip 2	Trip 3	Trip 4	Trip 5
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Air	Air	Air	Air	Air
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	<0.58	<0.58	<0.58	<0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,4-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.88	<0.88	<0.88	<0.88	<0.88
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.29	<2.29	<2.29	<2.29	<2.29
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.8	<57.8	<57.8	<57.8	<57.8
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.38	<3.38	<3.38	<3.38	<3.38
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<419	<419	<419	<419	<419
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-06	0004990-07	0004990-08	0004990-09	0004990-10
SampleName	700-SVS-001	700-SVS-002	700-SVS-003	700-SVS-004	700-SVS-005
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	13.4	42.4	35	12.4	23.4
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	1.62	<1.53	<1.53	<1.53	3.03
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	1.57
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	66	63.6
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	1.26
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	396	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-11	0004990-12	0004990-13	0004990-14	0004990-15
SampleName	700-SVS-006	700-SVS-007	700-SVS-008	700-SVS-009	700-SVS-010
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	40	50.7	15.7	38.4	62.4
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	1.65	<1.53	2.71	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	1.95	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.73	<3.74	<3.74	<3.74
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	62.8	89	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	1.34
Toluene	3.06	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-16	0004990-17	0004990-18	0004990-19	0004990-20
SampleName	700-SVS-011	700-SVS-012	700-SVS-013	700-SVS-014	700-SVS-015
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	0.73	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	7.99	24.7	53.8	37.1	22.5
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	2.33	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	7.48	4.09	1.73	2.74	6.95
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	3.83	3.61	<1.53	<1.53	4.51
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	2.45	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	75.6	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	1.32	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-21	0004990-22	0004990-23	0004990-24
SampleName	700-SVS-016	700-SVS-017	700-SVS-018	700-SVS-018 Dup
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	13.2	49.2	45.7	29.9
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	1.75	2.1
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	153
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	1.44	<1.21	1.25
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-25	0004990-26	0004990-27	0004990-28	0004990-29
SampleName	700-SVS-019	700-SVS-020	700-SVS-021	700-SVS-022	700-SVS-023
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	5	13.5	15.9	23.3	26.7
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	3.74	2.12	<1.53	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	2.36	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.74	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	1.45	1.47	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-30	0004990-31	0004990-32	0004990-33	0004990-34
SampleName	700-SVS-024	700-SVS-025	700-SVS-026	700-SVS-027	700-SVS-028
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	35.1	32.7	28.1	6.14	17.2
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	3.44	3.71	1.99	<1.53	2.54
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	2.1	2.06	<1.53	<1.53	1.72
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.74	<3.74	<3.74
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	65.6	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	1.77	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-35	0004990-36	0004990-37	0004990-38
SampleName	700-SVS-029	700-SVS-030	700-SVS-031	700-SVS-032
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	5.09	11.8	41.2	9.38
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	1.82	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	2	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	2.52	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.74	<3.74	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	59.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	3.51
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-39	0004990-40	0004990-41	0004990-42
SampleName	700-SVS-032 Dup	700-SVS-033	700-SVS-034	700-SVS-035
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	13.5	25	21.2	3.45
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	3.13	<1.53	3.14
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	2.2	<1.53	2.84
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	59.5	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	3.12	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-43	0004990-44	0004990-45	0004990-46	0004990-47
SampleName	700-SVS-036	700-SVS-037	700-SVS-038	700-SVS-039	700-SVS-040
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	2.41	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	6.62	1.83	3.06	4.83	5.78
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	2.37	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-48	0004990-49	0004990-50	0004990-51	0004990-52
SampleName	700-SVS-041	700-SVS-042	700-SVS-043	700-SVS-044	700-SVS-045
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	17.9	5.27	9.79	2.68	0.87
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	3.45
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	1.99
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.74	<3.74	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	1.81	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-53	0004990-54	0004990-55	0004990-56
SampleName	700-SVS-046	700-SVS-047	700-SVS-048	700-SVS-048 Dup
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	0.51	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	2.14	2.85	5.16	0.91
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	135	<57.9	58.4
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	1.82	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-57	0004990-58	0004990-59	0004990-60	0004990-61
SampleName	700-SVS-049	700-SVS-050	700-SVS-051	700-SVS-052	700-SVS-053
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	3.54	11.4	1.08	3.52	1.54
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	3.32	1.79	2.3	1.95	4.28
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	1.87	<1.53	<1.53	<1.53	2.64
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	2.68	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	81.1	<57.9	71.3
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-62	0004990-63	0004990-64	0004990-65	0004990-66
SampleName	700-SVS-054	700-SVS-055	700-SVS-056	700-SVS-057	700-SVS-058
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	1.82	<0.58	1.05	4.83	3.41
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	10.8	1.92	3.06	1.85	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	8.47	<1.53	2.27	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	1.19
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	1.42
Chloromethane	<57.9	<57.9	<57.9	<57.9	95
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	17.1
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-67	0004990-68	0004990-69	0004990-70	0004990-71
SampleName	700-SVS-059	700-SVS-060	700-SVS-061	700-SVS-062	700-SVS-063
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	0.6	<0.49	1.03
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	0.61	<0.58	1.44	1.02	0.95
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	2.71	6.62	2.67	<1.53	2.42
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	1.8	4.41	1.54	<1.53	1.62
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	3.48	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	91.6	<57.9	<57.9	107	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-72	0004990-73	0004990-74	0004990-75
SampleName	700-SVS-064	700-SVS-064 Dup	700-SVS-065	700-SVS-066
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	<0.58	1.57	2.71
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	<1.53	2.32
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	139	<57.9	83.3
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-76	0004990-77	0004990-78	0004990-79	0004990-80
SampleName	700-SVS-067	700-SVS-068	700-SVS-069	700-SVS-070	700-SVS-071
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	42.7	6.98
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	<0.58	0.82	3.21	0.9
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	14.8	25.1
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	2.33	3.15	1.67	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	1.83	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	2.82	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.74	<3.74	<3.74
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	1.8	<1.39	<1.39
Chloromethane	68.1	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-81	0004990-82	0004990-83	0004990-84	0004990-85
SampleName	700-SVS-072	700-SVS-073	700-SVS-074	700-SVS-075	700-SVS-076
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	23.5	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	3.47	<0.58	1.91	<0.58	0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	8.37	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	1.92	<1.53	5.53	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	3.38	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.74	<3.74	<3.74
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-86	0004990-87	0004990-88	0004990-89
SampleName	700-SVS-077	700-SVS-078	700-SVS-079	700-SVS-080
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	7	3.96	<0.49	0.64
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	1.26	<0.58	<0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	13.1	5.2	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	3.43	2.24	5.02	4.29
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	1.88	<1.53	3.45	2.44
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.74	<3.74
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	60.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	1.28	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-90	0004990-91	0004990-92	0004990-93
SampleName	700-SVS-080 Dup	700-SVS-081	700-SVS-082	700-SVS-083
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	0.7	<0.58	<0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.26
1,2,4-Trimethylbenzene	3.98	2.67	3.77	1.8
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.88
1,3,5-Trimethylbenzene	2.32	1.96	2.2	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	2.3	<2.29
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.74	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	<57.8
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.38
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<419
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-94	0004990-95	0004990-96	0004990-97	0004990-98
SampleName	700-SVS-084	700-SVS-085	700-SVS-086	700-SVS-087	700-SVS-088
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	0.82	1.88	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	1.62	2.93	<0.58	<0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	2.32	4.65	4.42	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,4-Trimethylbenzene	<1.53	5.96	3.01	1.83	7.21
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.88	<0.88	<0.88	<0.88	<0.88
1,3,5-Trimethylbenzene	<1.53	4.16	<1.53	<1.53	4.08
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.29	<2.29	<2.29	<2.29	2.4
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	90	<57.8	71	<57.8	58.4
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.38	<3.38	<3.38	<3.38	<3.38
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	7.69	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<419	<419	<419	<419	<419
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-99	0004990-AA	0004990-AB	0004990-AC	0004990-AD
SampleName	700-SVS-089	700-SVS-090	700-SVS-091	700-SVS-092	700-SVS-093
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	0.6	2.47
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	<0.58	<0.58	0.58	0.78
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	2.86	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,4-Trimethylbenzene	1.74	<1.53	<1.53	4.49	3.25
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.88	<0.88	<0.88	<0.88	<0.88
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	2.47	2.1
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.29	<2.29	<2.29	<2.29	<2.29
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	62.8	85.8	<57.8	<57.8	<57.8
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.38	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<419	<419	<419	<419	<419
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-AE	0004990-AF	0004990-AG	0004990-AH
SampleName	700-SVS-094	700-SVS-095	700-SVS-096	700-SVS-096 Dup
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	1.17	6.93	0.85	0.7
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	2.85	0.81	0.79	0.72
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	12.9	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	0.84	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26
1,2,4-Trimethylbenzene	2.68	<1.53	6.1	6.13
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.88	<0.88	<0.88	<0.88
1,3,5-Trimethylbenzene	1.56	<1.53	4.14	4.15
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.29	<2.29	<2.29	<2.29
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.8	<57.8	<57.8	<57.8
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<419	<419	<419	<419
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-AI	0004990-AJ	0004990-AK	0004990-AL	0004990-AM
SampleName	700-SVS-097	700-SVS-098	700-SVS-099	700-SVS-100	700-SVS-101
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	2.01	11.7	<0.49	<0.49	13.3
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	1.61	1.68	<0.58	<0.58	2.95
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	8.63	1.87	<1.50	<1.50	11.5
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	9.06	4.54	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	5.33	2.94	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.29	<2.29	3.05	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	1.63
Chloromethane	<57.8	<57.8	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<419	<419	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-AN	0004990-AO	0004990-AP	0004990-AQ	0004990-AR
SampleName	700-SVS-102	700-SVS-103	700-SVS-104	700-SVS-105	700-SVS-106
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	0.85	0.83	2.76	0.72
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	0.7	18.8	6.52	5.42
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	5.75	1.97	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	4.35	<1.53	5.18	1.62	4.17
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	2.43	<1.53	2.91	<1.53	2.3
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	2.5	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	76.6	<57.9	79.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-AS	0004990-AT	0004990-AU	0004990-AV	0004990-AW
SampleName	700-SVS-107	700-SVS-108	700-SVS-109	700-SVS-110	700-SVS-111
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	0.49	4.97	1.02	0.68
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	0.86	3.83	1.76	1.23
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	5.16	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	3.3	2.42	<1.53	2.82	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	2.37	1.79	<1.53	1.67	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	80.8	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-AX	0004990-AY	0004990-AZ	0004990-BA
SampleName	700-SVS-112	700-SVS-112 Dup	700-SVS-113	700-SVS-114
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	0.52	0.5	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	41.1	38.7	6.72	6.62
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	2.76	2.19	2.34	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	1.58	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	3.22	2.86	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.74	<3.74
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	1.82	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-BB	0004990-BC	0004990-BD	0004990-BE	0004990-BF
SampleName	700-SVS-115	700-SVS-116	700-SVS-117	700-SVS-118	700-SVS-119
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	1.41
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	0.63	<0.58	3.34	<0.58	2.91
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	4.85	<1.50	7.25
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	1.67	5.66	3.45	4.65	1.76
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	3.53	1.78	2.84	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	2.51	<2.30	2.86	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.74	<3.74	<3.74	<3.74	<3.74
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	1.47
Chloromethane	<57.9	74.7	164	59.1	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	3.16	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-BG	0004990-BH	0004990-BI	0004990-BJ	0004990-BK
SampleName	700-SVS-120	700-SVS-121	700-SVS-122	700-SVS-123	700-SVS-124
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	1.46	1.09	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	1.9	13.5	1.8	<0.58	0.91
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	5.6	5.66	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	2.29	2.67	<1.53	<1.53	3.4
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	1.89
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	76.6	<57.9	129	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-BL	0004990-BM	0004990-BN	0004990-BO
SampleName	700-SVS-125	700-SVS-126	700-SVS-127	700-SVS-128
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	0.5	<0.49	0.5	2.36
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	<0.58	<0.58	0.95
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26
1,2,4-Trimethylbenzene	<1.53	<1.53	2.53	1.93
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.8	<57.8	<57.8	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<419	<419	<419	<419
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-BP	0004990-BQ	0004990-BR	0004990-BS
SampleName	700-SVS-128 Dup	700-SVS-129	700-SVS-130	700-SVS-132
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	1.01	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	7.64	3.12	<0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26
1,2,4-Trimethylbenzene	1.87	4.35	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	2.12	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.29
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	68.2	<57.9	137	145
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<419	<419	<419	<419
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-BT	0004990-BU	0004990-BV	0004990-BW	0004990-BX
SampleName	700-SVS-133	700-SVS-134	700-SVS-135	700-SVS-136	700-SVS-137
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	0.6	0.8	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	0.63	0.66	1.03	0.85
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,4-Trimethylbenzene	5.97	1.92	3.97	4.28	4.56
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	3.29	<1.53	2.42	2.48	2.63
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.29	<2.30	3.4	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.8	60.4	<57.8	<57.8	<57.8
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	3.32	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<419	<419	<419	<419	<419
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-BY	0004990-BZ	0004990-CA	0004990-CB	0004990-CC
SampleName	700-SVS-138	700-SVS-131	700-SVS-157	700-SVS-150	700-SVS-156
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	0.59	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	0.79	<0.58	<0.58	<0.58	<0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.26	<1.26
1,2,4-Trimethylbenzene	2.44	<1.53	1.94	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	3.21	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	113	125	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<419	<419	<420	<419	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-CD	0004990-CE	0004990-CF	0004990-CG
SampleName	700-SVS-156 Dup	700-SVS-155	700-SVS-155 Dup	700-SVS-158
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	0.68	0.66	<0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.26	<1.26	<1.26	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.26	<1.26	<1.26	<1.27
1,2,4-Trimethylbenzene	1.79	2.49	2.58	4.11
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	1.74	1.7	2.74
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	3.19
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	82.1
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-CH	0004990-CI	0004990-CJ	0004990-CK
SampleName	700-SVS-158 Dup	700-SVS-159	700-SVS-159 Dup	700-SVS-149
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	<0.58	0.58	<0.58	<0.58
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	3.83	<1.53	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	2.51	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	2.84	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-CL	0004990-CM	0004990-CN	0004990-CO
SampleName	700-SVS-152	700-SVS-152 Dup	700-SVS-153	700-SVS-153 Dup
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	14	4.06	7.86	7.96
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	82.4	<57.9	67.3
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	<1.21
Toluene	<3.02	4.52	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-CP	0004990-CQ	0004990-CR	0004990-CS
SampleName	700-SVS-151	700-SVS-154	700-SVS-154 Dup	700-SVS-139
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	221	0.94	1.97	69.2
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	2.15	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.26	<1.26	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.26	<1.26	<1.27
1,2,4-Trimethylbenzene	<1.53	1.67	1.82	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	4.33	4.88	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39
Chloromethane	<57.9	71.1	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	2.52
Toluene	<3.02	3.79	5.33	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	6.08	<1.46	<1.46	7.77
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-CT	0004990-CU	0004990-CV	0004990-CW	0004990-CX
SampleName	700-SVS-140	700-SVS-141	700-SVS-142	700-SVS-143	700-SVS-144
JobNumber	0004990	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	<0.49	<0.49	<0.49	<0.49	1.69
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	79.2	8.26	3.9	15.6	1.88
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	1.58	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.73	<3.73	<3.73
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59	<0.59
Chloroform	<1.39	<1.39	<1.39	<1.39	2.95
Chloromethane	<57.9	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.40	<1.40	<1.40	<1.40	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	2.23	<1.21	1.59	<1.21	<1.21
Toluene	<3.02	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13	<1.13
Trichloroethene	3.45	1.79	2.63	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-CY	0004990-CZ	0004990-DA	0004990-DB
SampleName	700-SVS-144 Dup	700-SVS-145	700-SVS-146	700-SVS-147
JobNumber	0004990	0004990	0004990	0004990
Received	12/13/2019	12/13/2019	12/13/2019	12/13/2019
Matrix	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units	µg/m³	µg/m³	µg/m³	µg/m³
1,1,1,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,1-Trichloroethane	1.14	1.8	<0.49	<0.49
1,1,2,2-Tetrachloroethane	<1.22	<1.22	<1.22	<1.22
1,1,2-Trichloroethane	<1.47	<1.47	<1.47	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	1.19	0.8	1.4	6.19
1,1-Dichloroethane	<0.59	<0.59	<0.59	<0.59
1,1-Dichloroethene	<1.50	<1.50	<1.50	<1.50
1,2,3-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,3-Trichloropropane	<0.68	<0.68	<0.68	<0.68
1,2,4-Trichlorobenzene	<1.27	<1.27	<1.27	<1.27
1,2,4-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,2-Dibromoethane (EDB)	<3.22	<3.22	<3.22	<3.22
1,2-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,2-Dichloroethane	<0.89	<0.89	<0.89	<0.89
1,3,5-Trimethylbenzene	<1.53	<1.53	<1.53	<1.53
1,3-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dichlorobenzene	<0.68	<0.68	<0.68	<0.68
1,4-Dioxane	<2.96	<2.96	<2.96	<2.96
2-Methylnaphthalene	<1.67	<1.67	<1.67	<1.67
Benzene	<2.30	<2.30	<2.30	<2.30
Bromodichloromethane	<3.01	<3.01	<3.01	<3.01
Bromoform	<3.73	<3.73	<3.74	<3.74
Carbon Tetrachloride	<1.16	<1.16	<1.16	<1.16
Chlorobenzene	<0.59	<0.59	<0.59	<0.59
Chloroform	1.6	<1.39	<1.39	<1.39
Chloromethane	<57.9	<57.9	<57.9	<57.9
cis-1,2-Dichloroethene	<0.92	<0.92	<0.92	<0.92
Dibromochloromethane	<3.39	<3.39	<3.39	<3.39
Ethylbenzene	<1.49	<1.49	<1.49	<1.49
Isopropylbenzene	<1.53	<1.53	<1.53	<1.53
Methylene Chloride	<1.41	<1.41	<1.41	<1.41
Methyl-t-butyl ether	<2.44	<2.44	<2.44	<2.44
Naphthalene	<1.58	<1.58	<1.58	<1.58
o-Xylene	<1.44	<1.44	<1.44	<1.44
p & m-Xylene	<1.44	<1.44	<1.44	<1.44
Tetrachloroethene	<1.21	<1.21	<1.21	2.5
Toluene	<3.02	<3.02	<3.02	<3.02
TPH C10-C15	<370	<370	<370	<370
TPH C4-C9	<420	<420	<420	<420
trans-1,2-Dichloroethene	<1.13	<1.13	<1.13	<1.13
Trichloroethene	<1.46	<1.46	<1.46	<1.46
Vinyl Chloride	<0.64	<0.64	<0.64	<0.64

LabNumber	0004990-DC
SampleName	700-SVS-148
JobNumber	0004990
Received	12/13/2019
Matrix	Soil Gas
Units	µg/m³
1,1,1,2-Tetrachloroethane	<1.22
1,1,1-Trichloroethane	<0.49
1,1,2,2-Tetrachloroethane	<1.22
1,1,2-Trichloroethane	<1.47
1,1,2-Trichlorotrifluoroethane (Fr_113)	11.6
1,1-Dichloroethane	<0.59
1,1-Dichloroethene	<1.50
1,2,3-Trichlorobenzene	<1.27
1,2,3-Trichloropropane	<0.68
1,2,4-Trichlorobenzene	<1.27
1,2,4-Trimethylbenzene	<1.53
1,2-Dibromoethane (EDB)	<3.22
1,2-Dichlorobenzene	<0.68
1,2-Dichloroethane	<0.89
1,3,5-Trimethylbenzene	<1.53
1,3-Dichlorobenzene	<0.68
1,4-Dichlorobenzene	<0.68
1,4-Dioxane	<2.96
2-Methylnaphthalene	<1.67
Benzene	<2.30
Bromodichloromethane	<3.01
Bromoform	<3.74
Carbon Tetrachloride	<1.16
Chlorobenzene	<0.59
Chloroform	<1.39
Chloromethane	<57.9
cis-1,2-Dichloroethene	<0.92
Dibromochloromethane	<3.39
Ethylbenzene	<1.49
Isopropylbenzene	<1.53
Methylene Chloride	<1.41
Methyl-t-butyl ether	<2.44
Naphthalene	<1.58
o-Xylene	<1.44
p & m-Xylene	<1.44
Tetrachloroethene	3.7
Toluene	4.88
TPH C10-C15	<370
TPH C4-C9	<420
trans-1,2-Dichloroethene	<1.13
Trichloroethene	2.9
Vinyl Chloride	<0.64

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CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 191101R02

Beacon Project No.: 0004990

Project Description:

Project Site: 700 Area Landfill Investigation
NASA White Sands Test Facility, NM

Client PO No.: 19EC033B

Prepared for:

Geoff Giles
Navarro Research and Engineering
12600 NASA Road
Las Cruces, NM 88012

Ryan W. Schneider
Senior Project Manager

January 29, 2020

All data meet requirements as specified in the Beacon Environmental Services, Inc. Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2005 requirements, except samples were analyzed within a 24-hour tune window, TPH is not included in BEACON's scope of accreditation, and 1,2-Dichlorotrifluoroethane, 2,2-Dichloro-1,1,1-trifluoroethane, 2-Butanone, 2-Hexanone, Acetone, Dichlorofluoromethane, Isopropanol were targeted with a one-point calibration. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley
Laboratory Director

Peter B. Kelly
Interim Quality Manager

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-01 — **Trip 1** — Air — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**26**		NA	S19121606.D

Lab Sample ID: 0004990-06 — **700-SVS-001** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**233**		10	S19121611.D
Acetone	67-64-1	**231**		NA	S19121611.D
1,2,4-Trimethylbenzene	95-63-6	**26**		25	S19121611.D
TPH C10-C15		**5,340**		5000	S19121611.D

Lab Sample ID: 0004990-07 — **700-SVS-002** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**737**		10	S19121612.D

Lab Sample ID: 0004990-08 — **700-SVS-003** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**608**		10	S19121613.D
Acetone	67-64-1	**1,650**		NA	S19121613.D
2-Butanone	78-93-3	**88**		NA	S19121613.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-09 — **700-SVS-004** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,140**		1000	S19121614.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**216**		10	S19121614.D
Acetone	67-64-1	**403**		NA	S19121614.D

Lab Sample ID: 0004990-10 — **700-SVS-005** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,100**		1000	S19122413.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**406**		10	S19122413.D
Acetone	67-64-1	**600**		NA	S19122413.D
Tetrachloroethene	127-18-4	**10**		10	S19122413.D
1,3,5-Trimethylbenzene	108-67-8	**26**		25	S19122413.D
1,2,4-Trimethylbenzene	95-63-6	**49**		25	S19122413.D

Lab Sample ID: 0004990-11 — **700-SVS-006** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**694**		10	S19121616.D
Acetone	67-64-1	**304**		NA	S19121616.D
Toluene	108-88-3	**25**		25	S19121616.D
1,2,4-Trimethylbenzene	95-63-6	**27**		25	S19121616.D

Lab Sample ID: 0004990-12 — **700-SVS-007** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**881**		10	S19121617.D
Acetone	67-64-1	**523**		NA	S19121617.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-13 — **700-SVS-008** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,090**		1000	S19121618.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**272**		10	S19121618.D
Acetone	67-64-1	**103**		NA	S19121618.D
1,3,5-Trimethylbenzene	108-67-8	**32**		25	S19121618.D
1,2,4-Trimethylbenzene	95-63-6	**44**		25	S19121618.D

Lab Sample ID: 0004990-14 — **700-SVS-009** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,540**		1000	S19122414.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**667**		10	S19122414.D
Acetone	67-64-1	**294**		NA	S19122414.D

Lab Sample ID: 0004990-15 — **700-SVS-010** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**1,080**		10	S19122415.D
Acetone	67-64-1	**31**		NA	S19122415.D
Tetrachloroethene	127-18-4	**11**		10	S19122415.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-16 — **700-SVS-011** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**139**		10	S19121621.D
Acetone	67-64-1	**1,620**		NA	S19121621.D
2-Butanone	78-93-3	**55**		NA	S19121621.D
1,3,5-Trimethylbenzene	108-67-8	**62**		25	S19121621.D
1,2,4-Trimethylbenzene	95-63-6	**122**		25	S19121621.D

Lab Sample ID: 0004990-17 — **700-SVS-012** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**428**		10	S19121622.D
Acetone	67-64-1	**2,210**		NA	S19121622.D
Benzene	71-43-2	**27**		25	S19121622.D
2-Butanone	78-93-3	**68**		NA	S19121622.D
Tetrachloroethene	127-18-4	**11**		10	S19121622.D
1,3,5-Trimethylbenzene	108-67-8	**59**		25	S19121622.D
1,2,4-Trimethylbenzene	95-63-6	**67**		25	S19121622.D

Lab Sample ID: 0004990-18 — **700-SVS-013** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,310**		1000	S19121623.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**934**		10	S19121623.D
Acetone	67-64-1	**80**		NA	S19121623.D
1,2,4-Trimethylbenzene	95-63-6	**28**		25	S19121623.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-19 | **700-SVS-014** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**16**		10	S19121624.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**643**		10	S19121624.D
1,1,1-Trichloroethane	71-55-6	**15**		10	S19121624.D
Acetone	67-64-1	**671**		NA	S19121624.D
1,2,4-Trimethylbenzene	95-63-6	**45**		25	S19121624.D

Lab Sample ID: 0004990-20 | **700-SVS-015** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**391**		10	S19121625.D
Acetone	67-64-1	**2,110**		NA	S19121625.D
2-Butanone	78-93-3	**102**		NA	S19121625.D
1,3,5-Trimethylbenzene	108-67-8	**74**		25	S19121625.D
1,2,4-Trimethylbenzene	95-63-6	**113**		25	S19121625.D

Lab Sample ID: 0004990-21 | **700-SVS-016** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**230**		10	S19122416.D
Acetone	67-64-1	**149**		NA	S19122416.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-22 — **700-SVS-017** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**854**		10	S19121646.D
Acetone	67-64-1	**382**		NA	S19121646.D
1,2-Dichlorotrifluoroethane	354-23-4	**110**		NA	S19121646.D
Tetrachloroethene	127-18-4	**12**		10	S19121646.D

Lab Sample ID: 0004990-23 — **700-SVS-018** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**793**		10	S19121628.D
Acetone	67-64-1	**1,660**		NA	S19121628.D
2-Butanone	78-93-3	**95**		NA	S19121628.D
1,2,4-Trimethylbenzene	95-63-6	**29**		25	S19121628.D

Lab Sample ID: 0004990-24 — **700-SVS-018 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**2,650**		1000	S19121629.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**520**		10	S19121629.D
Acetone	67-64-1	**737**		NA	S19121629.D
Tetrachloroethene	127-18-4	**10**		10	S19121629.D
1,2,4-Trimethylbenzene	95-63-6	**34**		25	S19121629.D

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12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-25 — **700-SVS-019** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**87**		10	S19121630.D
Acetone	67-64-1	**149**		NA	S19121630.D
Tetrachloroethene	127-18-4	**12**		10	S19121630.D
1,3,5-Trimethylbenzene	108-67-8	**38**		25	S19121630.D
1,2,4-Trimethylbenzene	95-63-6	**61**		25	S19121630.D

Lab Sample ID: 0004990-26 — **700-SVS-020** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**234**		10	S19121631.D
Acetone	67-64-1	**1,010**		NA	S19121631.D
2-Butanone	78-93-3	**86**		NA	S19121631.D
Tetrachloroethene	127-18-4	**12**		10	S19121631.D
1,2,4-Trimethylbenzene	95-63-6	**35**		25	S19121631.D

Lab Sample ID: 0004990-27 — **700-SVS-021** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**276**		10	S19121632.D
Acetone	67-64-1	**46**		NA	S19121632.D

Lab Sample ID: 0004990-28 — **700-SVS-022** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**404**		10	S19121633.D
Acetone	67-64-1	**168**		NA	S19121633.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-29 — **700-SVS-023** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**464**		10	S19121634.D
Acetone	67-64-1	**122**		NA	S19121634.D

Lab Sample ID: 0004990-30 — **700-SVS-024** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**608**		10	S19121635.D
Acetone	67-64-1	**1,100**		NA	S19121635.D
1,3,5-Trimethylbenzene	108-67-8	**34**		25	S19121635.D
1,2,4-Trimethylbenzene	95-63-6	**56**		25	S19121635.D

Lab Sample ID: 0004990-31 — **700-SVS-025** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**567**		10	S19121636.D
Acetone	67-64-1	**943**		NA	S19121636.D
1,3,5-Trimethylbenzene	108-67-8	**34**		25	S19121636.D
1,2,4-Trimethylbenzene	95-63-6	**60**		25	S19121636.D

Lab Sample ID: 0004990-32 — **700-SVS-026** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**488**		10	S19121637.D
Acetone	67-64-1	**1,010**		NA	S19121637.D
1,2,4-Trimethylbenzene	95-63-6	**32**		25	S19121637.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-33 — **700-SVS-027** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,130**		1000	S19121638.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**107**		10	S19121638.D
Acetone	67-64-1	**655**		NA	S19121638.D
Tetrachloroethene	127-18-4	**15**		10	S19121638.D

Lab Sample ID: 0004990-34 — **700-SVS-028** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**299**		10	S19121639.D
Acetone	67-64-1	**801**		NA	S19121639.D
2-Butanone	78-93-3	**93**		NA	S19121639.D
1,3,5-Trimethylbenzene	108-67-8	**28**		25	S19121639.D
1,2,4-Trimethylbenzene	95-63-6	**41**		25	S19121639.D

Lab Sample ID: 0004990-35 — **700-SVS-029** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**88**		10	S19121640.D
Acetone	67-64-1	**2,390**		NA	S19121640.D
2-Butanone	78-93-3	**74**		NA	S19121640.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-36 — **700-SVS-030** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,030**		1000	S19121647.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**205**		10	S19121647.D
Acetone	67-64-1	**1,120**		NA	S19121647.D
Benzene	71-43-2	**27**		25	S19121647.D
2-Butanone	78-93-3	**73**		NA	S19121647.D
1,2,4-Trimethylbenzene	95-63-6	**33**		25	S19121647.D

Lab Sample ID: 0004990-37 — **700-SVS-031** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**12**		10	S19122417.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**715**		10	S19122417.D
Acetone	67-64-1	**99**		NA	S19122417.D
1,2-Dichlorotrifluoroethane	354-23-4	**118**		NA	S19122417.D

Lab Sample ID: 0004990-38 — **700-SVS-032** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**163**		10	S19121643.D
Acetone	67-64-1	**280**		NA	S19121643.D
Toluene	108-88-3	**29**		25	S19121643.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-39 — **700-SVS-032 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**235**		10	S19121649.D
Acetone	67-64-1	**894**		NA	S19121649.D
2-Butanone	78-93-3	**52**		NA	S19121649.D
Toluene	108-88-3	**26**		25	S19121649.D

Lab Sample ID: 0004990-40 — **700-SVS-033** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**433**		10	S19121645.D
Acetone	67-64-1	**1,670**		NA	S19121645.D
2-Butanone	78-93-3	**90**		NA	S19121645.D
1,3,5-Trimethylbenzene	108-67-8	**36**		25	S19121645.D
1,2,4-Trimethylbenzene	95-63-6	**51**		25	S19121645.D

Lab Sample ID: 0004990-41 — **700-SVS-034** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,030**		1000	S19121706.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**368**		10	S19121706.D
Acetone	67-64-1	**1,250**		NA	S19121706.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-42 — **700-SVS-035** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**60**		10	S19121707.D
Acetone	67-64-1	**1,410**		NA	S19121707.D
1,3,5-Trimethylbenzene	108-67-8	**46**		25	S19121707.D
1,2,4-Trimethylbenzene	95-63-6	**51**		25	S19121707.D

Lab Sample ID: 0004990-43 — **700-SVS-036** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**115**		10	S19121708.D
Acetone	67-64-1	**308**		NA	S19121708.D

Lab Sample ID: 0004990-44 — **700-SVS-037** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**32**		10	S19121709.D
Acetone	67-64-1	**462**		NA	S19121709.D

Lab Sample ID: 0004990-45 — **700-SVS-038** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**53**		10	S19121710.D
Acetone	67-64-1	**1,010**		NA	S19121710.D
2-Butanone	78-93-3	**52**		NA	S19121710.D
1,2,4-Trimethylbenzene	95-63-6	**39**		25	S19121710.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-46 — **700-SVS-039** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**84**		10	S19121711.D
Acetone	67-64-1	**675**		NA	S19121711.D
1,1,1-Trichloroethane	71-55-6	**50**		10	S19121711.D
2-Butanone	78-93-3	**57**		NA	S19121711.D

Lab Sample ID: 0004990-47 — **700-SVS-040** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**100**		10	S19121712.D
Acetone	67-64-1	**1,290**		NA	S19121712.D
2-Butanone	78-93-3	**52**		NA	S19121712.D
Isopropanol	67-63-0	**63**		NA	S19121712.D

Lab Sample ID: 0004990-48 — **700-SVS-041** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**311**		10	S19121713.D
Acetone	67-64-1	**367**		NA	S19121713.D

Lab Sample ID: 0004990-49 — **700-SVS-042** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**91**		10	S19121714.D
Acetone	67-64-1	**921**		NA	S19121714.D

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12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-50 — **700-SVS-043** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**170**		10	S19121715.D
Acetone	67-64-1	**284**		NA	S19121715.D
Tetrachloroethene	127-18-4	**15**		10	S19121715.D

Lab Sample ID: 0004990-51 — **700-SVS-044** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**47**		10	S19121716.D
Acetone	67-64-1	**346**		NA	S19121716.D

Lab Sample ID: 0004990-52 — **700-SVS-045** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**15**		10	S19121717.D
Acetone	67-64-1	**2,190**		NA	S19121717.D
2-Butanone	78-93-3	**78**		NA	S19121717.D
1,3,5-Trimethylbenzene	108-67-8	**32**		25	S19121717.D
1,2,4-Trimethylbenzene	95-63-6	**56**		25	S19121717.D

Lab Sample ID: 0004990-53 — **700-SVS-046** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**37**		10	S19121718.D
Acetone	67-64-1	**1,650**		NA	S19121718.D
2-Butanone	78-93-3	**97**		NA	S19121718.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-54 — **700-SVS-047** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**2,330**		1000	S19121719.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**50**		10	S19121719.D
Acetone	67-64-1	**28**		NA	S19121719.D
Tetrachloroethene	127-18-4	**15**		10	S19121719.D

Lab Sample ID: 0004990-55 — **700-SVS-048** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**90**		10	S19121720.D
1,1,1-Trichloroethane	71-55-6	**11**		10	S19121720.D
Acetone	67-64-1	**1,330**		NA	S19121720.D
2-Butanone	78-93-3	**120**		NA	S19121720.D

Lab Sample ID: 0004990-56 — **700-SVS-048 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,010**		1000	S19121721.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**16**		10	S19121721.D
Acetone	67-64-1	**283**		NA	S19121721.D

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-57 — **700-SVS-049** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**62**		10	S19121722.D
Acetone	67-64-1	**2,450**		NA	S19121722.D
Benzene	71-43-2	**29**		25	S19121722.D
2-Butanone	78-93-3	**150**		NA	S19121722.D
1,3,5-Trimethylbenzene	108-67-8	**30**		25	S19121722.D
1,2,4-Trimethylbenzene	95-63-6	**54**		25	S19121722.D

Lab Sample ID: 0004990-58 — **700-SVS-050** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**198**		10	S19121723.D
Acetone	67-64-1	**1,330**		NA	S19121723.D
2-Butanone	78-93-3	**69**		NA	S19121723.D
1,2,4-Trimethylbenzene	95-63-6	**29**		25	S19121723.D

Lab Sample ID: 0004990-59 — **700-SVS-051** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,400**		1000	S19121724.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**19**		10	S19121724.D
Acetone	67-64-1	**496**		NA	S19121724.D
1,2,4-Trimethylbenzene	95-63-6	**38**		25	S19121724.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-60 — **700-SVS-052** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**61**		10	S19121725.D
Acetone	67-64-1	**1,020**		NA	S19121725.D
1,2,4-Trimethylbenzene	95-63-6	**32**		25	S19121725.D

Lab Sample ID: 0004990-61 — **700-SVS-053** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,230**		1000	S19121726.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**27**		10	S19121726.D
Acetone	67-64-1	**442**		NA	S19121726.D
1,3,5-Trimethylbenzene	108-67-8	**43**		25	S19121726.D
1,2,4-Trimethylbenzene	95-63-6	**70**		25	S19121726.D

Lab Sample ID: 0004990-62 — **700-SVS-054** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**32**		10	S19121727.D
Acetone	67-64-1	**1,980**		NA	S19121727.D
2-Butanone	78-93-3	**130**		NA	S19121727.D
1,3,5-Trimethylbenzene	108-67-8	**138**		25	S19121727.D
1,2,4-Trimethylbenzene	95-63-6	**176**		25	S19121727.D

Lab Sample ID: 0004990-63 — **700-SVS-055** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**760**		NA	S19121728.D
1,2,4-Trimethylbenzene	95-63-6	**31**		25	S19121728.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-64 — **700-SVS-056** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**18**		10	S19121729.D
Acetone	67-64-1	**2,130**		NA	S19121729.D
2-Butanone	78-93-3	**71**		NA	S19121729.D
1,3,5-Trimethylbenzene	108-67-8	**37**		25	S19121729.D
1,2,4-Trimethylbenzene	95-63-6	**50**		25	S19121729.D

Lab Sample ID: 0004990-65 — **700-SVS-057** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**84**		10	S19121730.D
Acetone	67-64-1	**1,940**		NA	S19121730.D
2-Butanone	78-93-3	**132**		NA	S19121730.D
1,2,4-Trimethylbenzene	95-63-6	**30**		25	S19121730.D

Lab Sample ID: 0004990-66 — **700-SVS-058** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,640**		1000	S19121731.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**59**		10	S19121731.D
Chloroform	67-66-3	**10**		10	S19121731.D
Acetone	67-64-1	**593**		NA	S19121731.D
Carbon Tetrachloride	56-23-5	**10**		10	S19121731.D
Trichloroethene	79-01-6	**117**		10	S19121731.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-67 — **700-SVS-059** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,580**		1000	S19121732.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**11**		10	S19121732.D
Acetone	67-64-1	**1,060**		NA	S19121732.D
1,3,5-Trimethylbenzene	108-67-8	**29**		25	S19121732.D
1,2,4-Trimethylbenzene	95-63-6	**44**		25	S19121732.D

Lab Sample ID: 0004990-68 — **700-SVS-060** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**483**		NA	S19121733.D
Benzene	71-43-2	**38**		25	S19121733.D
1,3,5-Trimethylbenzene	108-67-8	**72**		25	S19121733.D
1,2,4-Trimethylbenzene	95-63-6	**108**		25	S19121733.D

Lab Sample ID: 0004990-69 — **700-SVS-061** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**25**		10	S19121734.D
Acetone	67-64-1	**1,630**		NA	S19121734.D
1,1,1-Trichloroethane	71-55-6	**12**		10	S19121734.D
2-Butanone	78-93-3	**98**		NA	S19121734.D
1,3,5-Trimethylbenzene	108-67-8	**25**		25	S19121734.D
1,2,4-Trimethylbenzene	95-63-6	**43**		25	S19121734.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-70 — **700-SVS-062** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,850**		1000	S19121735.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**18**		10	S19121735.D
Acetone	67-64-1	**242**		NA	S19121735.D

Lab Sample ID: 0004990-71 — **700-SVS-063** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**16**		10	S19121736.D
Acetone	67-64-1	**1,090**		NA	S19121736.D
1,1,1-Trichloroethane	71-55-6	**21**		10	S19121736.D
2-Butanone	78-93-3	**51**		NA	S19121736.D
1,3,5-Trimethylbenzene	108-67-8	**26**		25	S19121736.D
1,2,4-Trimethylbenzene	95-63-6	**39**		25	S19121736.D

Lab Sample ID: 0004990-72 — **700-SVS-064** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**49**		NA	S19121737.D

Lab Sample ID: 0004990-73 — **700-SVS-064 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**2,410**		1000	S19121738.D
Acetone	67-64-1	**31**		NA	S19121738.D

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Map Report

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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-74 — **700-SVS-065** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**27**		10	S19121739.D
Acetone	67-64-1	**456**		NA	S19121739.D

Lab Sample ID: 0004990-75 — **700-SVS-066** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,440**		1000	S19121806.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**47**		10	S19121806.D
Acetone	67-64-1	**1,120**		NA	S19121806.D
1,2,4-Trimethylbenzene	95-63-6	**38**		25	S19121806.D

Lab Sample ID: 0004990-76 — **700-SVS-067** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,180**		1000	S19121807.D
Acetone	67-64-1	**898**		NA	S19121807.D
2-Butanone	78-93-3	**60**		NA	S19121807.D
1,2,4-Trimethylbenzene	95-63-6	**38**		25	S19121807.D

Lab Sample ID: 0004990-77 — **700-SVS-068** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**828**		NA	S19122418.D
Benzene	71-43-2	**31**		25	S19122418.D
1,3,5-Trimethylbenzene	108-67-8	**30**		25	S19122418.D
1,2,4-Trimethylbenzene	95-63-6	**51**		25	S19122418.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-78 — **700-SVS-069** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**14**		10	S19122419.D
Chloroform	67-66-3	**13**		10	S19122419.D
Acetone	67-64-1	**158**		NA	S19122419.D
1,2,4-Trimethylbenzene	95-63-6	**27**		25	S19122419.D

Lab Sample ID: 0004990-79 — **700-SVS-070** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**99**		10	S19121810.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**56**		10	S19121810.D
Acetone	67-64-1	**100**		NA	S19121810.D
1,1,1-Trichloroethane	71-55-6	**877**	D	55	S19122006.D

Lab Sample ID: 0004990-80 — **700-SVS-071** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**167**		10	S19121811.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**16**		10	S19121811.D
Acetone	67-64-1	**241**		NA	S19121811.D
1,1,1-Trichloroethane	71-55-6	**144**		10	S19121811.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-81 — **700-SVS-072** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**56**		10	S19121812.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**60**		10	S19121812.D
Acetone	67-64-1	**515**		NA	S19121812.D
1,1,1-Trichloroethane	71-55-6	**482**		10	S19121812.D
1,2,4-Trimethylbenzene	95-63-6	**31**		25	S19121812.D

Lab Sample ID: 0004990-82 — **700-SVS-073** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**237**		NA	S19121813.D

Lab Sample ID: 0004990-83 — **700-SVS-074** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**33**		10	S19121814.D
Acetone	67-64-1	**1,890**		NA	S19121814.D
2-Butanone	78-93-3	**92**		NA	S19121814.D
1,3,5-Trimethylbenzene	108-67-8	**55**		25	S19121814.D
1,2,4-Trimethylbenzene	95-63-6	**90**		25	S19121814.D

Lab Sample ID: 0004990-84 — **700-SVS-075** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**781**		NA	S19121815.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-85 | **700-SVS-076** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**10**		10	S19121816.D
Acetone	67-64-1	**342**		NA	S19121816.D

Lab Sample ID: 0004990-86 | **700-SVS-077** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**87**		10	S19121817.D
Acetone	67-64-1	**786**		NA	S19121817.D
1,1,1-Trichloroethane	71-55-6	**144**		10	S19121817.D
1,3,5-Trimethylbenzene	108-67-8	**31**		25	S19121817.D
1,2,4-Trimethylbenzene	95-63-6	**56**		25	S19121817.D

Lab Sample ID: 0004990-87 | **700-SVS-078** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**35**		10	S19121818.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**22**		10	S19121818.D
1,1,1-Trichloroethane	71-55-6	**81**		10	S19121818.D
Acetone	67-64-1	**1,630**		NA	S19121818.D
Tetrachloroethene	127-18-4	**11**		10	S19121818.D
1,2,4-Trimethylbenzene	95-63-6	**37**		25	S19121818.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-88 — **700-SVS-079** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,050**		1000	S19121819.D
Acetone	67-64-1	**379**		NA	S19121819.D
1,3,5-Trimethylbenzene	108-67-8	**56**		25	S19121819.D
1,2,4-Trimethylbenzene	95-63-6	**82**		25	S19121819.D

Lab Sample ID: 0004990-89 — **700-SVS-080** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**296**		NA	S19121820.D
1,1,1-Trichloroethane	71-55-6	**13**		10	S19121820.D
1,3,5-Trimethylbenzene	108-67-8	**40**		25	S19121820.D
1,2,4-Trimethylbenzene	95-63-6	**70**		25	S19121820.D

Lab Sample ID: 0004990-90 — **700-SVS-080 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**166**		NA	S19121821.D
1,3,5-Trimethylbenzene	108-67-8	**38**		25	S19121821.D
1,2,4-Trimethylbenzene	95-63-6	**65**		25	S19121821.D

Lab Sample ID: 0004990-91 — **700-SVS-081** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**12**		10	S19121822.D
Acetone	67-64-1	**479**		NA	S19121822.D
1,3,5-Trimethylbenzene	108-67-8	**32**		25	S19121822.D
1,2,4-Trimethylbenzene	95-63-6	**44**		25	S19121822.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-92 — **700-SVS-082** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**400**		NA	S19121823.D
Benzene	71-43-2	**25**		25	S19121823.D
1,3,5-Trimethylbenzene	108-67-8	**36**		25	S19121823.D
1,2,4-Trimethylbenzene	95-63-6	**61**		25	S19121823.D

Lab Sample ID: 0004990-93 — **700-SVS-083** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**328**		NA	S19121824.D
1,2,4-Trimethylbenzene	95-63-6	**29**		25	S19121824.D

Lab Sample ID: 0004990-94 — **700-SVS-084** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,560**		1000	S19121825.D
1,1-Dichloroethene	75-35-4	**15**		10	S19121825.D
Acetone	67-64-1	**400**		NA	S19121825.D

Lab Sample ID: 0004990-95 — **700-SVS-085** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**31**		10	S19121906.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**28**		10	S19121906.D
1,1,1-Trichloroethane	71-55-6	**17**		10	S19121906.D
Acetone	67-64-1	**1,180**		NA	S19121906.D
1,3,5-Trimethylbenzene	108-67-8	**68**		25	S19121906.D
1,2,4-Trimethylbenzene	95-63-6	**97**		25	S19121906.D

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Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-96 — **700-SVS-086** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,230**		1000	S19121907.D
1,1-Dichloroethene	75-35-4	**29**		10	S19121907.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**51**		10	S19121907.D
Acetone	67-64-1	**720**		NA	S19121907.D
1,1,1-Trichloroethane	71-55-6	**39**		10	S19121907.D
Tetrachloroethene	127-18-4	**64**		10	S19121907.D
1,2,4-Trimethylbenzene	95-63-6	**49**		25	S19121907.D

Lab Sample ID: 0004990-97 — **700-SVS-087** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**209**		NA	S19121908.D
1,2,4-Trimethylbenzene	95-63-6	**30**		25	S19121908.D

Lab Sample ID: 0004990-98 — **700-SVS-088** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,010**		1000	S19121909.D
Acetone	67-64-1	**1,920**		NA	S19121909.D
Benzene	71-43-2	**26**		25	S19121909.D
2-Butanone	78-93-3	**51**		NA	S19121909.D
1,3,5-Trimethylbenzene	108-67-8	**67**		25	S19121909.D
1,2,4-Trimethylbenzene	95-63-6	**118**		25	S19121909.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-99 — **700-SVS-089** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,090**		1000	S19121910.D
Acetone	67-64-1	**1,020**		NA	S19121910.D
1,2,4-Trimethylbenzene	95-63-6	**28**		25	S19121910.D

Lab Sample ID: 0004990-AA — **700-SVS-090** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,480**		1000	S19121911.D
Acetone	67-64-1	**365**		NA	S19121911.D

Lab Sample ID: 0004990-AB — **700-SVS-091** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**402**		NA	S19121912.D

Lab Sample ID: 0004990-AC — **700-SVS-092** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**19**		10	S19121913.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**10**		10	S19121913.D
1,1,1-Trichloroethane	71-55-6	**12**		10	S19121913.D
Acetone	67-64-1	**1,340**		NA	S19121913.D
1,3,5-Trimethylbenzene	108-67-8	**40**		25	S19121913.D
1,2,4-Trimethylbenzene	95-63-6	**73**		25	S19121913.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-AD — **700-SVS-093** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**14**		10	S19121914.D
Acetone	67-64-1	**229**		NA	S19121914.D
1,1,1-Trichloroethane	71-55-6	**51**		10	S19121914.D
1,3,5-Trimethylbenzene	108-67-8	**34**		25	S19121914.D
1,2,4-Trimethylbenzene	95-63-6	**53**		25	S19121914.D

Lab Sample ID: 0004990-AE — **700-SVS-094** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**50**		10	S19121915.D
1,1,1-Trichloroethane	71-55-6	**24**		10	S19121915.D
Acetone	67-64-1	**133**		NA	S19121915.D
1,3,5-Trimethylbenzene	108-67-8	**25**		25	S19121915.D
1,2,4-Trimethylbenzene	95-63-6	**44**		25	S19121915.D

Lab Sample ID: 0004990-AF — **700-SVS-095** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**86**		10	S19121916.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**14**		10	S19121916.D
1,1,1-Trichloroethane	71-55-6	**143**		10	S19121916.D
Acetone	67-64-1	**45**		NA	S19121916.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-AG | **700-SVS-096** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**14**		10	S19121917.D
Acetone	67-64-1	**1,330**		NA	S19121917.D
1,1,1-Trichloroethane	71-55-6	**17**		10	S19121917.D
2-Butanone	78-93-3	**74**		NA	S19121917.D
1,2,3-Trichloropropane	96-18-4	**12**		10	S19121917.D
1,3,5-Trimethylbenzene	108-67-8	**67**		25	S19121917.D
1,2,4-Trimethylbenzene	95-63-6	**99**		25	S19121917.D

Lab Sample ID: 0004990-AH | **700-SVS-096 Dup** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**12**		10	S19121918.D
1,1,1-Trichloroethane	71-55-6	**15**		10	S19121918.D
Acetone	67-64-1	**1,570**		NA	S19121918.D
2-Butanone	78-93-3	**57**		NA	S19121918.D
1,3,5-Trimethylbenzene	108-67-8	**68**		25	S19121918.D
1,2,4-Trimethylbenzene	95-63-6	**100**		25	S19121918.D

Lab Sample ID: 0004990-AI | **700-SVS-097** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**57**		10	S19121919.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**28**		10	S19121919.D
1,1,1-Trichloroethane	71-55-6	**41**		10	S19121919.D
Acetone	67-64-1	**58**		NA	S19121919.D
Dichlorofluoromethane	75-43-4	**118**		NA	S19121919.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-AJ — **700-SVS-098** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**12**		10	S19121920.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**29**		10	S19121920.D
1,1,1-Trichloroethane	71-55-6	**241**		10	S19121920.D
Acetone	67-64-1	**605**		NA	S19121920.D

Lab Sample ID: 0004990-AK — **700-SVS-099** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**2,030**		NA	S19121921.D
Benzene	71-43-2	**33**		25	S19121921.D
2-Butanone	78-93-3	**86**		NA	S19121921.D
1,3,5-Trimethylbenzene	108-67-8	**87**		25	S19121921.D
1,2,4-Trimethylbenzene	95-63-6	**148**		25	S19121921.D

Lab Sample ID: 0004990-AL — **700-SVS-100** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**1,650**		NA	S19121922.D
1,3,5-Trimethylbenzene	108-67-8	**48**		25	S19121922.D
1,2,4-Trimethylbenzene	95-63-6	**74**		25	S19121922.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-AM — **700-SVS-101** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**76**		10	S19121923.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**51**		10	S19121923.D
Chloroform	67-66-3	**12**		10	S19121923.D
Acetone	67-64-1	**68**		NA	S19121923.D
1,1,1-Trichloroethane	71-55-6	**273**		10	S19121923.D

Lab Sample ID: 0004990-AN — **700-SVS-102** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,320**		1000	S19121924.D
Acetone	67-64-1	**1,610**		NA	S19121924.D
Benzene	71-43-2	**27**		25	S19121924.D
2-Butanone	78-93-3	**59**		NA	S19121924.D
1,3,5-Trimethylbenzene	108-67-8	**40**		25	S19121924.D
1,2,4-Trimethylbenzene	95-63-6	**71**		25	S19121924.D

Lab Sample ID: 0004990-AO — **700-SVS-103** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**38**		10	S19121925.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**12**		10	S19121925.D
1,1,1-Trichloroethane	71-55-6	**17**		10	S19121925.D
Acetone	67-64-1	**67**		NA	S19121925.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-AP | **700-SVS-104** Soil Gas | Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,380**		1000	S19121926.D
1,1-Dichloroethene	75-35-4	**13**		10	S19121926.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**327**		10	S19121926.D
Acetone	67-64-1	**1,580**		NA	S19121926.D
1,1,1-Trichloroethane	71-55-6	**17**		10	S19121926.D
1,3,5-Trimethylbenzene	108-67-8	**47**		25	S19121926.D
1,2,4-Trimethylbenzene	95-63-6	**84**		25	S19121926.D

Lab Sample ID: 0004990-AQ | **700-SVS-105** Soil Gas | Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**113**		10	S19121927.D
1,1,1-Trichloroethane	71-55-6	**57**		10	S19121927.D
Acetone	67-64-1	**953**		NA	S19121927.D
2-Butanone	78-93-3	**59**		NA	S19121927.D
1,2,4-Trimethylbenzene	95-63-6	**26**		25	S19121927.D

Lab Sample ID: 0004990-AR | **700-SVS-106** Soil Gas | Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**94**		10	S19121928.D
Acetone	67-64-1	**2,030**		NA	S19121928.D
1,1,1-Trichloroethane	71-55-6	**15**		10	S19121928.D
2-Butanone	78-93-3	**129**		NA	S19121928.D
1,3,5-Trimethylbenzene	108-67-8	**38**		25	S19121928.D
1,2,4-Trimethylbenzene	95-63-6	**68**		25	S19121928.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-AS — **700-SVS-107** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**356**		NA	S19121929.D
1,3,5-Trimethylbenzene	108-67-8	**39**		25	S19121929.D
1,2,4-Trimethylbenzene	95-63-6	**54**		25	S19121929.D

Lab Sample ID: 0004990-AT — **700-SVS-108** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**15**		10	S19121930.D
Acetone	67-64-1	**748**		NA	S19121930.D
1,1,1-Trichloroethane	71-55-6	**10**		10	S19121930.D
1,3,5-Trimethylbenzene	108-67-8	**29**		25	S19121930.D
1,2,4-Trimethylbenzene	95-63-6	**39**		25	S19121930.D

Lab Sample ID: 0004990-AU — **700-SVS-109** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**66**		10	S19121931.D
1,1,1-Trichloroethane	71-55-6	**102**		10	S19121931.D
Acetone	67-64-1	**1,860**		NA	S19121931.D
2-Butanone	78-93-3	**134**		NA	S19121931.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-AV — **700-SVS-110** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,400**		1000	S19121932.D
1,1-Dichloroethene	75-35-4	**34**		10	S19121932.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**31**		10	S19121932.D
1,1,1-Trichloroethane	71-55-6	**21**		10	S19121932.D
Acetone	67-64-1	**290**		NA	S19121932.D
1,3,5-Trimethylbenzene	108-67-8	**27**		25	S19121932.D
1,2,4-Trimethylbenzene	95-63-6	**46**		25	S19121932.D

Lab Sample ID: 0004990-AW — **700-SVS-111** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**21**		10	S19121933.D
1,1,1-Trichloroethane	71-55-6	**14**		10	S19121933.D
Acetone	67-64-1	**63**		NA	S19121933.D

Lab Sample ID: 0004990-AX — **700-SVS-112** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**713**		10	S19121934.D
Acetone	67-64-1	**4,810**		NA	S19121934.D
1,1,1-Trichloroethane	71-55-6	**11**		10	S19121934.D
Benzene	71-43-2	**35**		25	S19121934.D
2-Butanone	78-93-3	**322**		NA	S19121934.D
1,3,5-Trimethylbenzene	108-67-8	**26**		25	S19121934.D
1,2,4-Trimethylbenzene	95-63-6	**45**		25	S19121934.D
Naphthalene	91-20-3	**29**		25	S19121934.D

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Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-AY — **700-SVS-112 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**672**		10	S19121935.D
Acetone	67-64-1	**2,670**		NA	S19121935.D
1,1,1-Trichloroethane	71-55-6	**10**		10	S19121935.D
Benzene	71-43-2	**31**		25	S19121935.D
2-Butanone	78-93-3	**236**		NA	S19121935.D
1,2,4-Trimethylbenzene	95-63-6	**36**		25	S19121935.D

Lab Sample ID: 0004990-AZ — **700-SVS-113** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**117**		10	S19121936.D
Acetone	67-64-1	**360**		NA	S19121936.D
1,2,4-Trimethylbenzene	95-63-6	**38**		25	S19121936.D

Lab Sample ID: 0004990-BA — **700-SVS-114** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**115**		10	S19121937.D
Acetone	67-64-1	**450**		NA	S19121937.D
2-Butanone	78-93-3	**53**		NA	S19121937.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-BB — **700-SVS-115** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**11**		10	S19121938.D
Acetone	67-64-1	**2,980**		NA	S19121938.D
2-Butanone	78-93-3	**213**		NA	S19121938.D
1,2,4-Trimethylbenzene	95-63-6	**27**		25	S19121938.D

Lab Sample ID: 0004990-BC — **700-SVS-116** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,290**		1000	S19121939.D
Acetone	67-64-1	**2,240**		NA	S19121939.D
Benzene	71-43-2	**27**		25	S19121939.D
2-Butanone	78-93-3	**67**		NA	S19121939.D
1,2,3-Trichloropropane	96-18-4	**10**		10	S19121939.D
1,3,5-Trimethylbenzene	108-67-8	**58**		25	S19121939.D
1,2,4-Trimethylbenzene	95-63-6	**92**		25	S19121939.D

Lab Sample ID: 0004990-BD — **700-SVS-117** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**2,830**		1000	S19121940.D
1,1-Dichloroethene	75-35-4	**32**		10	S19121940.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**58**		10	S19121940.D
Acetone	67-64-1	**567**		NA	S19121940.D
1,3,5-Trimethylbenzene	108-67-8	**29**		25	S19121940.D
1,2,4-Trimethylbenzene	95-63-6	**56**		25	S19121940.D

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Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-BE | **700-SVS-118** | Method: EPA 8260C

Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,020**		1000	S19121941.D
Acetone	67-64-1	**3,090**		NA	S19121941.D
Benzene	71-43-2	**31**		25	S19121941.D
2-Butanone	78-93-3	**91**		NA	S19121941.D
Isopropanol	67-63-0	**52**		NA	S19121941.D
Toluene	108-88-3	**26**		25	S19121941.D
1,3,5-Trimethylbenzene	108-67-8	**46**		25	S19121941.D
1,2,4-Trimethylbenzene	95-63-6	**76**		25	S19121941.D

Lab Sample ID: 0004990-BF | **700-SVS-119** | Method: EPA 8260C

Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**48**		10	S19121942.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**51**		10	S19121942.D
Chloroform	67-66-3	**11**		10	S19121942.D
1,1,1-Trichloroethane	71-55-6	**29**		10	S19121942.D
Acetone	67-64-1	**179**		NA	S19121942.D
Dichlorofluoromethane	75-43-4	**91**		NA	S19121942.D
1,2,4-Trimethylbenzene	95-63-6	**29**		25	S19121942.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-BG — **700-SVS-120** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,320**		1000	S19121943.D
1,1-Dichloroethene	75-35-4	**37**		10	S19121943.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**33**		10	S19121943.D
Acetone	67-64-1	**1,150**		NA	S19121943.D
1,1,1-Trichloroethane	71-55-6	**30**		10	S19121943.D
1,2,4-Trimethylbenzene	95-63-6	**37**		25	S19121943.D

Lab Sample ID: 0004990-BH — **700-SVS-121** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**38**		10	S19121944.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**234**		10	S19121944.D
1,1,1-Trichloroethane	71-55-6	**22**		10	S19121944.D
Acetone	67-64-1	**252**		NA	S19121944.D
1,2,4-Trimethylbenzene	95-63-6	**44**		25	S19121944.D

Lab Sample ID: 0004990-BI — **700-SVS-122** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**2,220**		1000	S19121945.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**31**		10	S19121945.D
Acetone	67-64-1	**361**		NA	S19121945.D

Lab Sample ID: 0004990-BJ — **700-SVS-123** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**358**		NA	S19122007.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-BK — **700-SVS-124** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**16**		10	S19122008.D
Acetone	67-64-1	**177**		NA	S19122008.D
1,3,5-Trimethylbenzene	108-67-8	**31**		25	S19122008.D
1,2,4-Trimethylbenzene	95-63-6	**55**		25	S19122008.D

Lab Sample ID: 0004990-BL — **700-SVS-125** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,1-Trichloroethane	71-55-6	**10**		10	S19122009.D
Acetone	67-64-1	**49**		NA	S19122009.D

Lab Sample ID: 0004990-BM — **700-SVS-126** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**1,280**		NA	S19122010.D

Lab Sample ID: 0004990-BN — **700-SVS-127** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**317**		NA	S19122011.D
1,1,1-Trichloroethane	71-55-6	**10**		10	S19122011.D
1,2,4-Trimethylbenzene	95-63-6	**41**		25	S19122011.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-BO — **700-SVS-128** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**17**		10	S19122012.D
Acetone	67-64-1	**1,050**		NA	S19122012.D
1,1,1-Trichloroethane	71-55-6	**48**		10	S19122012.D
2-Butanone	78-93-3	**91**		NA	S19122012.D
Isopropanol	67-63-0	**53**		NA	S19122012.D
1,2,4-Trimethylbenzene	95-63-6	**31**		25	S19122012.D

Lab Sample ID: 0004990-BP — **700-SVS-128 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,180**		1000	S19122013.D
Acetone	67-64-1	**150**		NA	S19122013.D
1,2,4-Trimethylbenzene	95-63-6	**30**		25	S19122013.D

Lab Sample ID: 0004990-BQ — **700-SVS-129** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**133**		10	S19122014.D
1,1,1-Trichloroethane	71-55-6	**21**		10	S19122014.D
Acetone	67-64-1	**1,540**		NA	S19122014.D
2-Butanone	78-93-3	**59**		NA	S19122014.D
1,3,5-Trimethylbenzene	108-67-8	**35**		25	S19122014.D
1,2,4-Trimethylbenzene	95-63-6	**71**		25	S19122014.D

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Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-BR — **700-SVS-130** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**2,360**		1000	S19122015.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**54**		10	S19122015.D
Acetone	67-64-1	**118**		NA	S19122015.D

Lab Sample ID: 0004990-BS — **700-SVS-132** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**2,510**		1000	S19122016.D
Acetone	67-64-1	**1,470**		NA	S19122016.D
2-Butanone	78-93-3	**60**		NA	S19122016.D

Lab Sample ID: 0004990-BT — **700-SVS-133** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,1-Trichloroethane	71-55-6	**12**		10	S19122017.D
Acetone	67-64-1	**2,810**		NA	S19122017.D
2-Butanone	78-93-3	**112**		NA	S19122017.D
1,3,5-Trimethylbenzene	108-67-8	**54**		25	S19122017.D
1,2,4-Trimethylbenzene	95-63-6	**97**		25	S19122017.D

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Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-BU | **700-SVS-134** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,040**		1000	S19122018.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**11**		10	S19122018.D
Acetone	67-64-1	**44**		NA	S19122018.D
1,1,1-Trichloroethane	71-55-6	**16**		10	S19122018.D
1,2,4-Trimethylbenzene	95-63-6	**31**		25	S19122018.D

Lab Sample ID: 0004990-BV | **700-SVS-135** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**11**		10	S19122019.D
Acetone	67-64-1	**846**		NA	S19122019.D
Benzene	71-43-2	**37**		25	S19122019.D
Toluene	108-88-3	**27**		25	S19122019.D
1,3,5-Trimethylbenzene	108-67-8	**40**		25	S19122019.D
1,2,4-Trimethylbenzene	95-63-6	**65**		25	S19122019.D

Lab Sample ID: 0004990-BW | **700-SVS-136** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**18**		10	S19122020.D
Acetone	67-64-1	**2,520**		NA	S19122020.D
2-Butanone	78-93-3	**79**		NA	S19122020.D
1,3,5-Trimethylbenzene	108-67-8	**40**		25	S19122020.D
1,2,4-Trimethylbenzene	95-63-6	**70**		25	S19122020.D

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Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
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Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-BX — **700-SVS-137** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**15**		10	S19122306.D
Acetone	67-64-1	**1,340**		NA	S19122306.D
2-Butanone	78-93-3	**71**		NA	S19122306.D
1,3,5-Trimethylbenzene	108-67-8	**43**		25	S19122306.D
1,2,4-Trimethylbenzene	95-63-6	**74**		25	S19122306.D

Lab Sample ID: 0004990-BY — **700-SVS-138** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**14**		10	S19122307.D
Acetone	67-64-1	**799**		NA	S19122307.D
2-Butanone	78-93-3	**97**		NA	S19122307.D
1,2,4-Trimethylbenzene	95-63-6	**40**		25	S19122307.D

Lab Sample ID: 0004990-BZ — **700-SVS-131** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,950**		1000	S19122308.D
Acetone	67-64-1	**1,230**		NA	S19122308.D
1,1,1-Trichloroethane	71-55-6	**12**		10	S19122308.D
2-Butanone	78-93-3	**62**		NA	S19122308.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-CA — **700-SVS-157** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**2,160**		1000	S19122309.D
Acetone	67-64-1	**1,010**		NA	S19122309.D
Benzene	71-43-2	**35**		25	S19122309.D
1,2,4-Trimethylbenzene	95-63-6	**32**		25	S19122309.D

Lab Sample ID: 0004990-CB — **700-SVS-150** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**26**		NA	S19122310.D

Lab Sample ID: 0004990-CC — **700-SVS-156** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**883**		NA	S19122311.D
2-Butanone	78-93-3	**74**		NA	S19122311.D

Lab Sample ID: 0004990-CD — **700-SVS-156 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**713**		NA	S19122312.D
1,2,4-Trimethylbenzene	95-63-6	**29**		25	S19122312.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-CE — **700-SVS-155** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**12**		10	S19122313.D
Acetone	67-64-1	**465**		NA	S19122313.D
1,3,5-Trimethylbenzene	108-67-8	**28**		25	S19122313.D
1,2,4-Trimethylbenzene	95-63-6	**41**		25	S19122313.D

Lab Sample ID: 0004990-CF — **700-SVS-155 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**12**		10	S19122314.D
Acetone	67-64-1	**409**		NA	S19122314.D
1,3,5-Trimethylbenzene	108-67-8	**28**		25	S19122314.D
1,2,4-Trimethylbenzene	95-63-6	**42**		25	S19122314.D

Lab Sample ID: 0004990-CG — **700-SVS-158** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,420**		1000	S19122315.D
Acetone	67-64-1	**395**		NA	S19122315.D
Benzene	71-43-2	**35**		25	S19122315.D
1,3,5-Trimethylbenzene	108-67-8	**45**		25	S19122315.D
1,2,4-Trimethylbenzene	95-63-6	**67**		25	S19122315.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-CH — **700-SVS-158 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**833**		NA	S19122316.D
Benzene	71-43-2	**31**		25	S19122316.D
2-Butanone	78-93-3	**82**		NA	S19122316.D
1,3,5-Trimethylbenzene	108-67-8	**41**		25	S19122316.D
1,2,4-Trimethylbenzene	95-63-6	**62**		25	S19122316.D

Lab Sample ID: 0004990-CI — **700-SVS-159** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**10**		10	S19122317.D
Acetone	67-64-1	**129**		NA	S19122317.D

Lab Sample ID: 0004990-CJ — **700-SVS-159 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**59**		NA	S19122318.D

Lab Sample ID: 0004990-CK — **700-SVS-149** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Acetone	67-64-1	**26**		NA	S19122319.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-CL — **700-SVS-152** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**242**		10	S19122320.D
Acetone	67-64-1	**690**		NA	S19122320.D
2-Butanone	78-93-3	**92**		NA	S19122320.D

Lab Sample ID: 0004990-CM — **700-SVS-152 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,420**		1000	S19122321.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**70**		10	S19122321.D
Acetone	67-64-1	**178**		NA	S19122321.D
Toluene	108-88-3	**37**		25	S19122321.D

Lab Sample ID: 0004990-CN — **700-SVS-153** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**136**		10	S19122322.D
Acetone	67-64-1	**41**		NA	S19122322.D

Lab Sample ID: 0004990-CO — **700-SVS-153 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,160**		1000	S19122323.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**138**		10	S19122323.D
Acetone	67-64-1	**34**		NA	S19122323.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-CP — **700-SVS-151** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**14**		10	S19122324.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**3,840**		10	S19122324.D
Acetone	67-64-1	**90**		NA	S19122324.D
1,2-Dichlorotrifluoroethane	354-23-4	**78**		NA	S19122324.D
Trichloroethene	79-01-6	**42**		10	S19122324.D

Lab Sample ID: 0004990-CQ — **700-SVS-154** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
Chloromethane	74-87-3	**1,230**		1000	S19122325.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**16**		10	S19122325.D
Acetone	67-64-1	**41**		NA	S19122325.D
Benzene	71-43-2	**47**		25	S19122325.D
Toluene	108-88-3	**31**		25	S19122325.D
1,2,4-Trimethylbenzene	95-63-6	**27**		25	S19122325.D

Lab Sample ID: 0004990-CR — **700-SVS-154 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**34**		10	S19122326.D
Acetone	67-64-1	**47**		NA	S19122326.D
Benzene	71-43-2	**53**		25	S19122326.D
Toluene	108-88-3	**44**		25	S19122326.D
1,2,4-Trimethylbenzene	95-63-6	**30**		25	S19122326.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-CS — **700-SVS-139** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**1,200**		10	S19122327.D
1,2-Dichlorotrifluoroethane	354-23-4	**112**		NA	S19122327.D
Trichloroethene	79-01-6	**53**		10	S19122327.D
Tetrachloroethene	127-18-4	**21**		10	S19122327.D

Lab Sample ID: 0004990-CT — **700-SVS-140** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1-Dichloroethene	75-35-4	**11**		10	S19122328.D
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**1,370**	D	45	S19122423.D
Acetone	67-64-1	**52**		NA	S19122328.D
1,2-Dichlorotrifluoroethane	354-23-4	**70**		NA	S19122328.D
Trichloroethene	79-01-6	**24**		10	S19122328.D
Tetrachloroethene	127-18-4	**18**		10	S19122328.D

Lab Sample ID: 0004990-CU — **700-SVS-141** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**143**		10	S19122420.D
Acetone	67-64-1	**29**		NA	S19122420.D
Trichloroethene	79-01-6	**12**		10	S19122420.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-CV — **700-SVS-142** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**68**		10	S19122330.D
Acetone	67-64-1	**54**		NA	S19122330.D
Trichloroethene	79-01-6	**18**		10	S19122330.D
Tetrachloroethene	127-18-4	**13**		10	S19122330.D

Lab Sample ID: 0004990-CW — **700-SVS-143** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**270**		10	S19122406.D
Acetone	67-64-1	**51**		NA	S19122406.D

Lab Sample ID: 0004990-CX — **700-SVS-144** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**33**		10	S19122407.D
Chloroform	67-66-3	**21**		10	S19122407.D
Acetone	67-64-1	**59**		NA	S19122407.D
1,1,1-Trichloroethane	71-55-6	**35**		10	S19122407.D

Lab Sample ID: 0004990-CY — **700-SVS-144 Dup** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**21**		10	S19122408.D
Chloroform	67-66-3	**12**		10	S19122408.D
1,1,1-Trichloroethane	71-55-6	**23**		10	S19122408.D
Acetone	67-64-1	**43**		NA	S19122408.D

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Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Summary of Compound Detections- Mass

Lab Sample ID: 0004990-CZ | **700-SVS-145** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**14**		10	S19122409.D
1,1,1-Trichloroethane	71-55-6	**37**		10	S19122409.D
Acetone	67-64-1	**54**		NA	S19122409.D

Lab Sample ID: 0004990-DA | **700-SVS-146** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**24**		10	S19122410.D
Acetone	67-64-1	**57**		NA	S19122410.D

Lab Sample ID: 0004990-DB | **700-SVS-147** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**107**		10	S19122411.D
Acetone	67-64-1	**40**		NA	S19122411.D
Tetrachloroethene	127-18-4	**21**		10	S19122411.D

Lab Sample ID: 0004990-DC | **700-SVS-148** | Method: EPA 8260C
Soil Gas

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	File ID
1,1,2-Trichlorotrifluoroethane (Fr.113)	76-13-1	**202**		10	S19122412.D
Acetone	67-64-1	**51**		NA	S19122412.D
Trichloroethene	79-01-6	**20**		10	S19122412.D
Toluene	108-88-3	**40**		25	S19122412.D
Tetrachloroethene	127-18-4	**31**		10	S19122412.D

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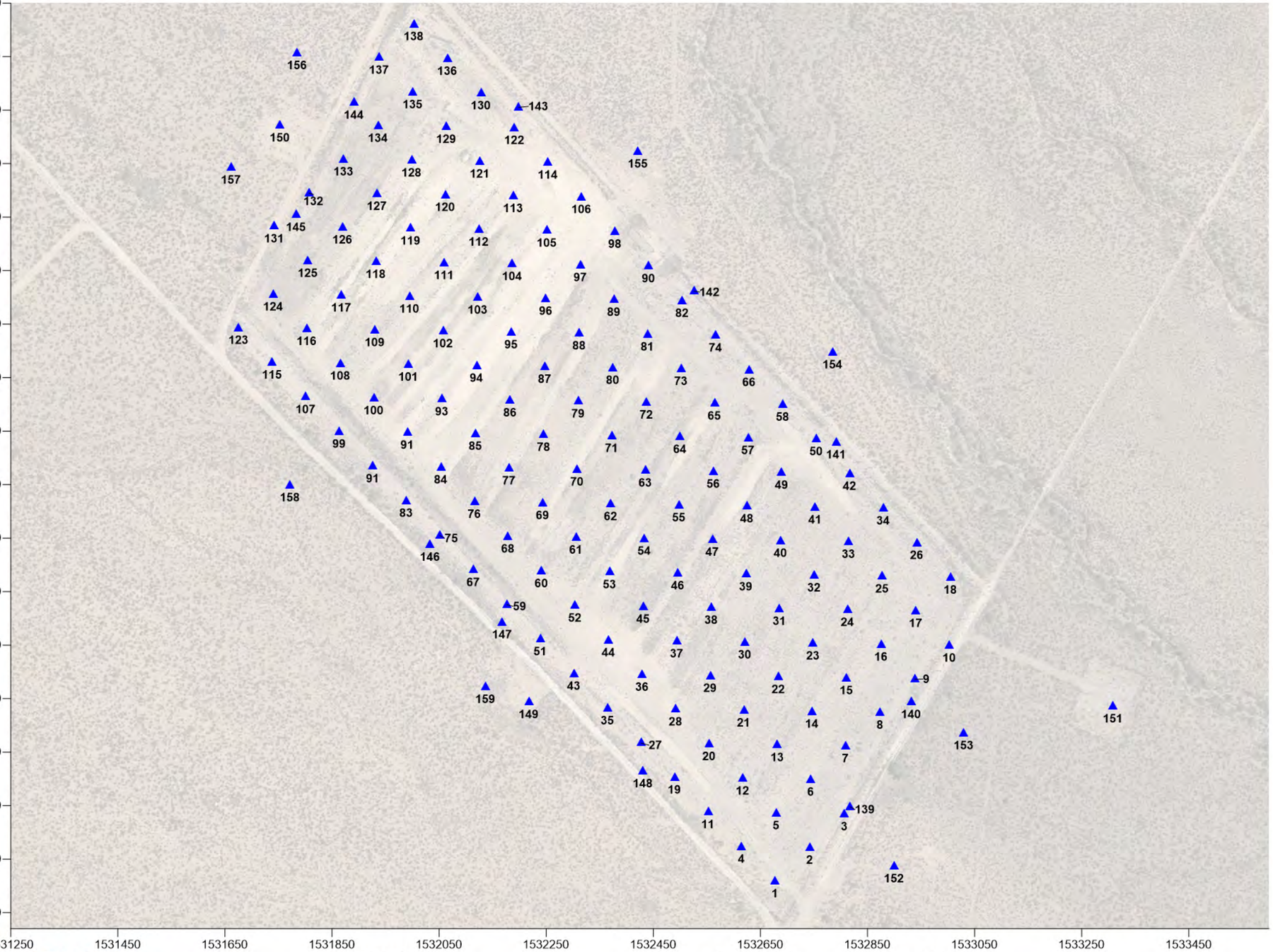
Map Report

Navarro Research and Engineering	**Project Site:** 700 Area Landfill Investigation	**Beacon Proposal:** 191101R02
12600 NASA Road	**Project Location:** NASA White Sands Test Facility, NM	**Beacon Project No.:** 0004990
Las Cruces, NM 88012	**Project Manager:** Geoff Giles	**Reported:** 01/29/2020

Map Data Summary Table

Sample locations are shown on **Figure 1**. The following table lists frequency of detections from the current survey based on the number of field samples analyzed, the reporting limit, and the maximum value for each mapped compound. The table also includes the transformation and interpolation method for the compound distribution maps provided.

Figure No.	Compound	Frequency	LOQ (ng)	Max Value (ng)	Transformation Method	Interpolation Method
2	Chloromethane	37	1,000	2,830	Log	Kriging
3	1,1,2-Trichlorotrifluoroethane (Fr.113)	123	10	3,840	Log	Kriging
4	Trichloroethene	7	10	117	Log	Kriging
5	Tetrachloroethene	16	10	64	Log	Kriging
6	1,3,5-Trimethylbenzene	53	25	138	Log	Kriging
7	1,2,4-Trimethylbenzene	88	25	176	Log	Kriging



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LEGEND

1,000 NANOGRAMS/SAMPLER

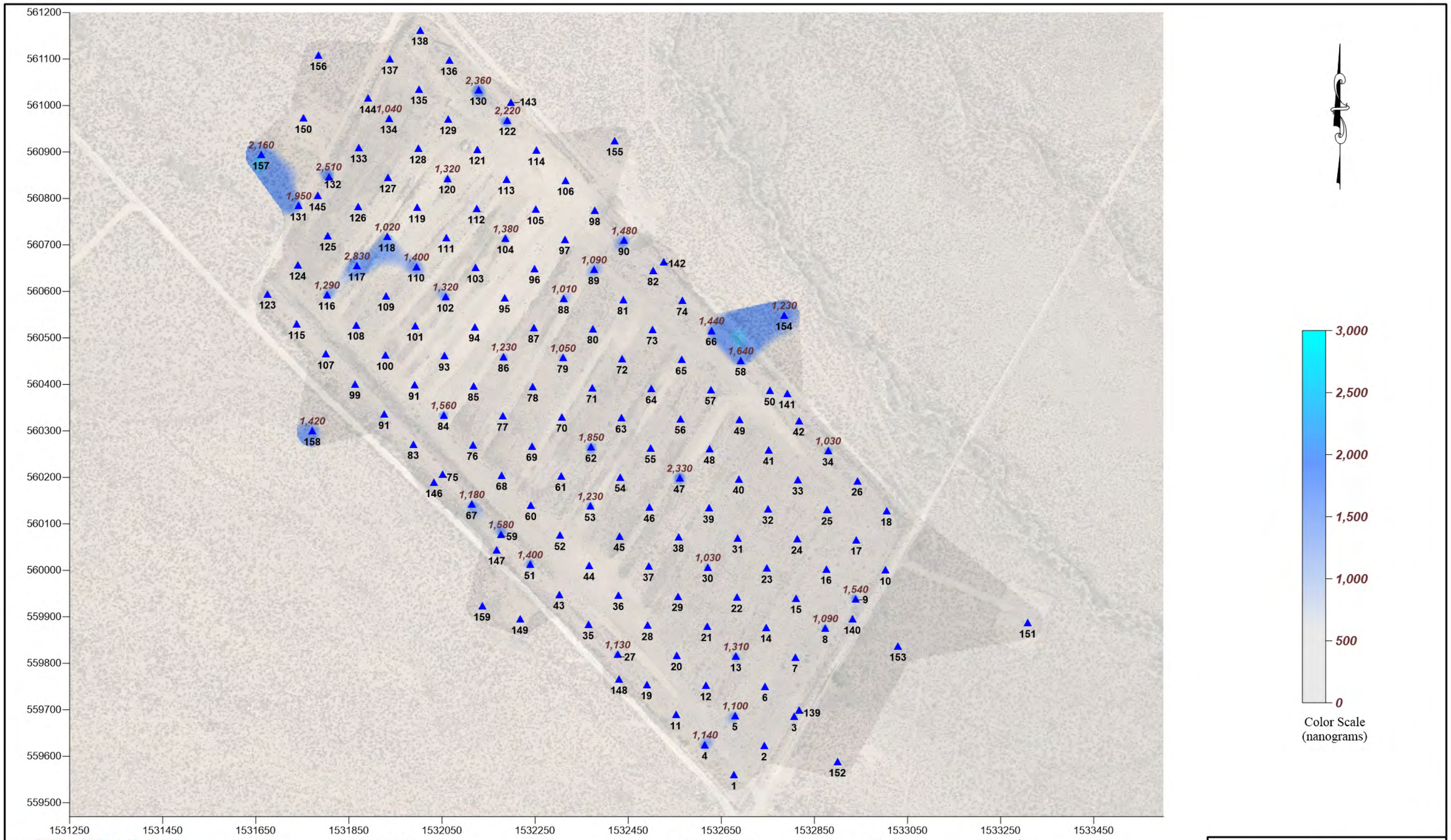
▲ 50 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet
0 200 400

System:	State Plane
Zone:	New Mexico Central FIPS 3002
Datum:	NAD 1983
Coordinate Units:	Feet

Figure 1
Passive Soil-Gas Survey
Sample Locations

700 Area Landfill Investigation
NASA White Sands Test Facility, NM



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LEGEND

1,000 NANOGRAMS/SAMPLER

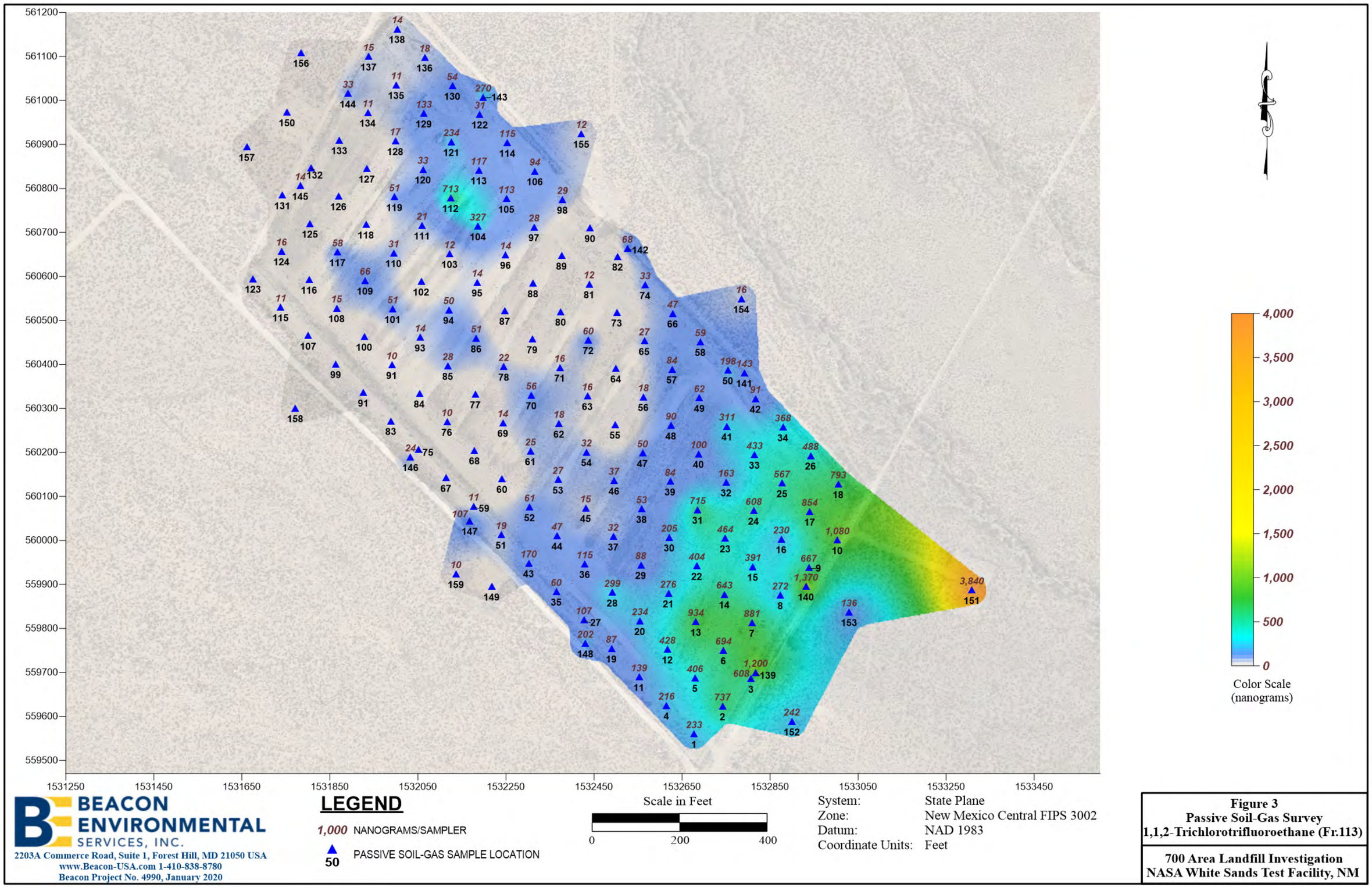
50 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet: 0, 200, 400

System: State Plane
Zone: New Mexico Central FIPS 3002
Datum: NAD 1983
Coordinate Units: Feet

Figure 2
Passive Soil-Gas Survey
Chloromethane

700 Area Landfill Investigation
NASA White Sands Test Facility, NM



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Beacon Project No. 4990, January 2020

LEGEND

1,000 NANOGRAMS/SAMPLER

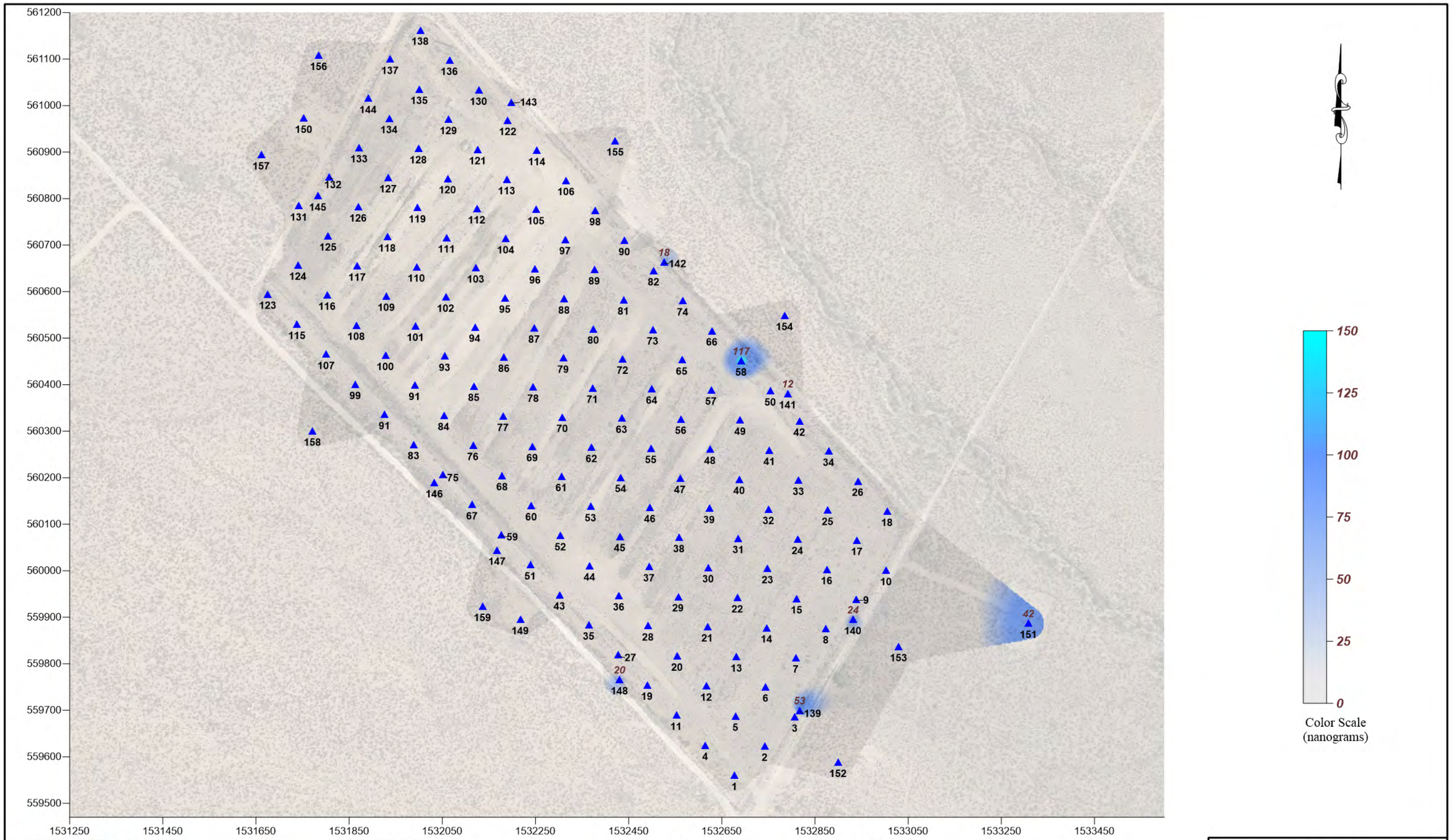
▲ 50 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet
0 200 400

System: State Plane
Zone: New Mexico Central FIPS 3002
Datum: NAD 1983
Coordinate Units: Feet

Figure 3
Passive Soil-Gas Survey
1,1,2-Trichlorotrifluoroethane (Fr.113)

700 Area Landfill Investigation
NASA White Sands Test Facility, NM



LEGEND

1,000 NANOGRAMS/SAMPLER

▲ 50 PASSIVE SOIL-GAS SAMPLE LOCATION

System: State Plane
Zone: New Mexico Central FIPS 3002
Datum: NAD 1983
Coordinate Units: Feet

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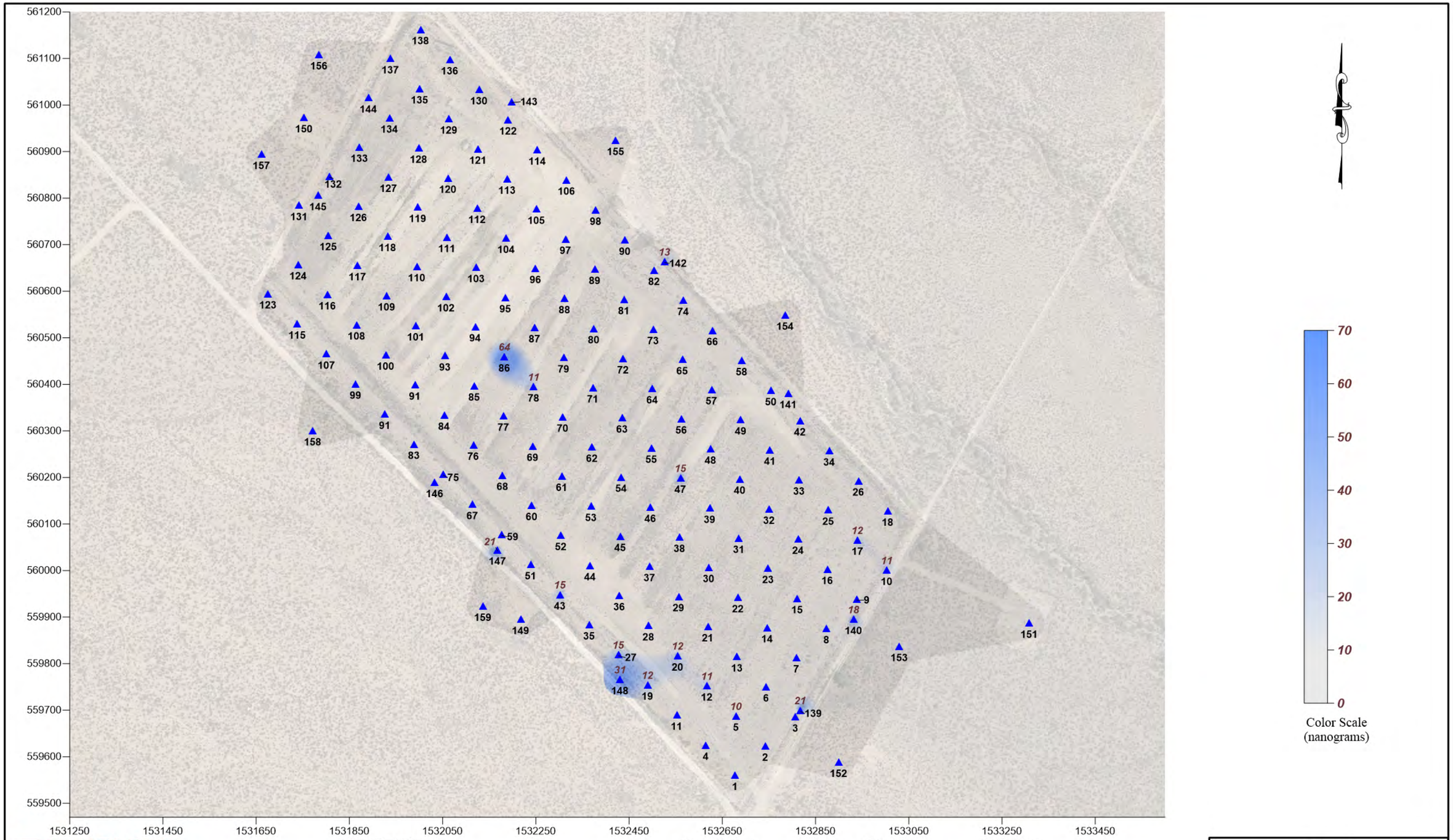
Figure 4
Passive Soil-Gas Survey
Trichloroethene

700 Area Landfill Investigation
NASA White Sands Test Facility, NM



LEGEND

1,000 NANOGRAMS/SAMPLER

50 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet

0 200 400

System: State Plane
Zone: New Mexico Central FIPS 3002
Datum: NAD 1983
Coordinate Units: Feet

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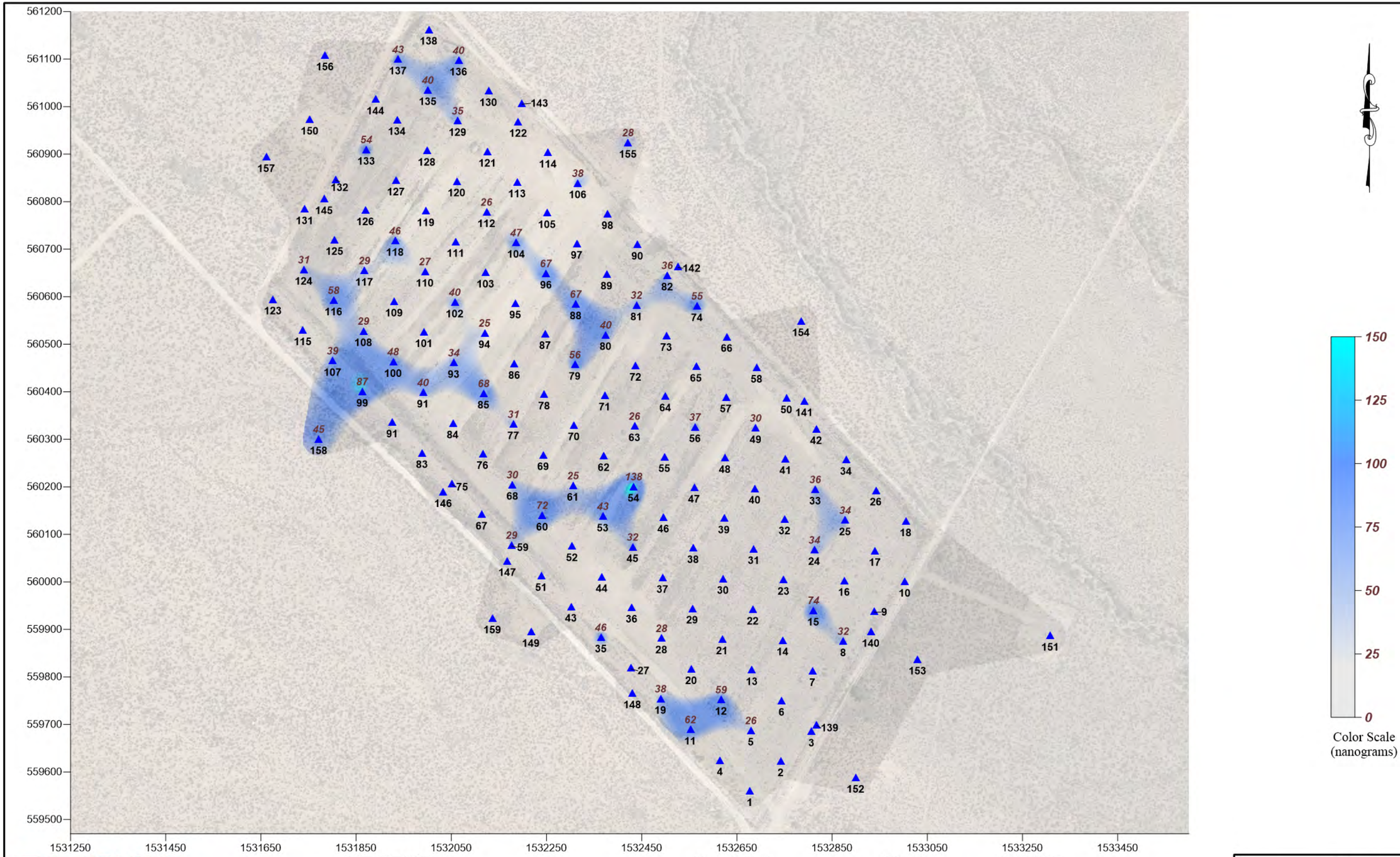
Beacon Project No. 4990, January 2020

Figure 5
Passive Soil-Gas Survey
Tetrachloroethene

700 Area Landfill Investigation
NASA White Sands Test Facility, NM



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LEGEND

1,000 NANOGRAMS/SAMPLER

50 PASSIVE SOIL-GAS SAMPLE LOCATION

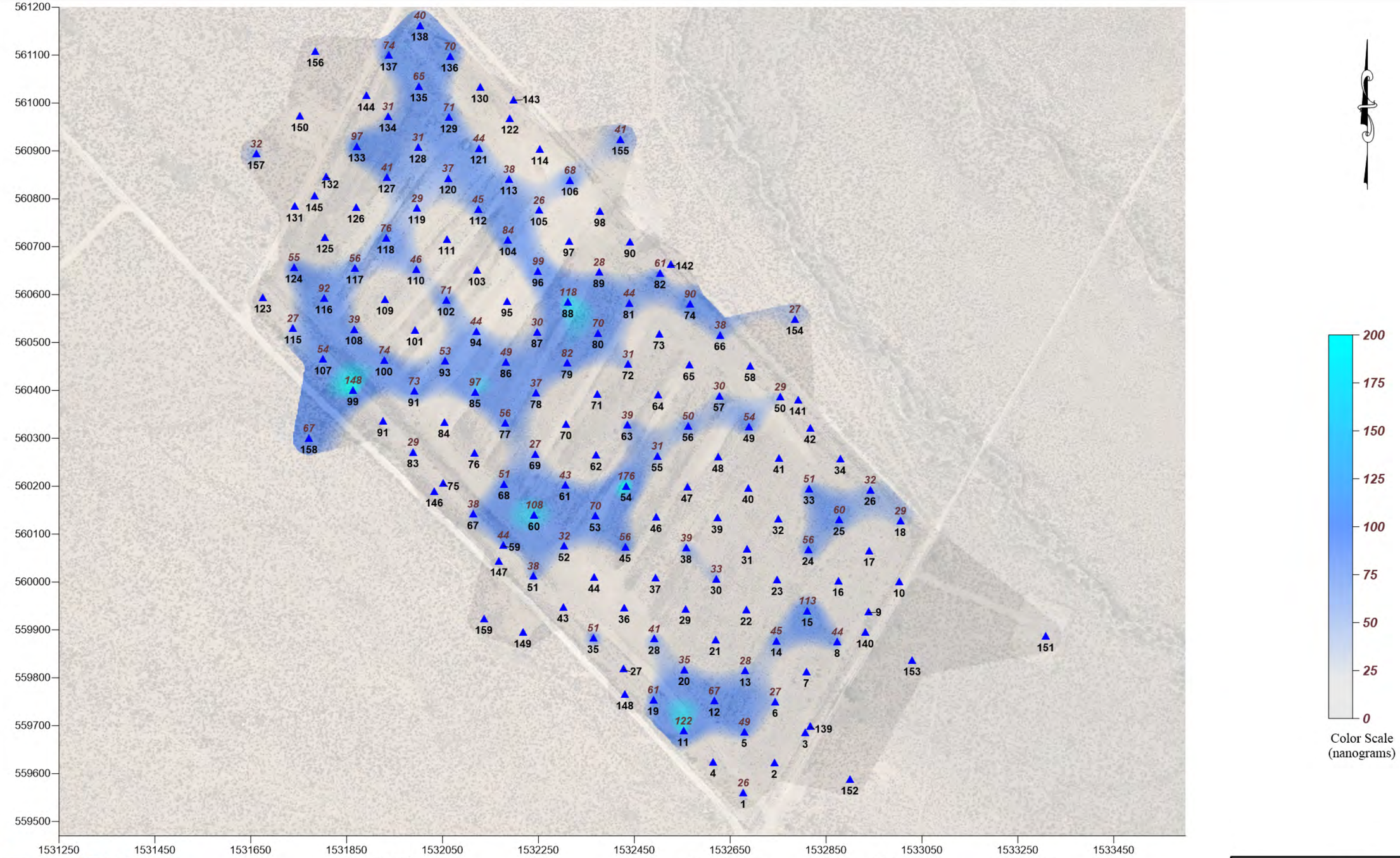
Scale in Feet

0 200 400

System:	State Plane
Zone:	New Mexico Central FIPS 3002
Datum:	NAD 1983
Coordinate Units:	Feet

Figure 6
Passive Soil-Gas Survey
1,3,5-Trimethylbenzene

700 Area Landfill Investigation
NASA White Sands Test Facility, NM



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Beacon Project No. 4990, January 2020

LEGEND

1,000 NANOGRAMS/SAMPLER

▲ 50 PASSIVE SOIL-GAS SAMPLE LOCATION

Scale in Feet
0 200 400

System:	State Plane
Zone:	New Mexico Central FIPS 3002
Datum:	NAD 1983
Coordinate Units:	Feet

Figure 7
Passive Soil-Gas Survey
1,2,4-Trimethylbenzene

700 Area Landfill Investigation
NASA White Sands Test Facility, NM

BEACON ENVIRONMENTAL SERVICES, INC.

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
P: 1-410-838-8780 | F: 1-410-838-8740

Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	Expedited Turnaround Time
		Samples Submitted By:	GEOFF GILES	☐ Rush (Specify):____Days
		Contact Phone No.:	575-524-5352	

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
	11/25/19	12/9/19			
✓700-SVS-001	0900	0900	29"	SOIL: SILTY GRAVEL	(T1)
✓700-SVS-002	0905	0905	29"	" " "	(T1)
✓700-SVS-003	0907	0908	25"	" " "	(T1)
700-SVS-004	0915	0916	25"	" " "	(T1)
✓700-SVS-005	0917	0918	25"	" " "	(T1)
✓700-SVS-006	0919	0919	25"	" " "	(T1)
✓700-SVS-007	0920	0921	25"	" " "	(T1)
700-SVS-008	0925	0925	25"	" " "	(T1)
✓700-SVS-009	0927	0927	25"	" " "	(T1)
✓700-SVS-010	0929	0929	27"	" " "	(T1)
✓700-SVS-011	0935	0936	25"	" " "	(T1)
✓700-SVS-012	0938	0939	26"	" " "	(T1)
✓700-SVS-013	0940	0942	27"	" " "	(T1)
✓700-SVS-014	0942	0945	25"	" " "	(T1)
✓700-SVS-015	0945	0948	26"	" " "	(T1)

Special Notes/Instructions:
DUPLICATES IDENTIFIED WITH "D"

Shipment of Field Kit to Laboratory - Custody Seal # Intact? Y N

Relinquished By:	Date/Time	Courier	Received By:	Date/Time
GEOFF GILES				

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

BEACON ENVIRONMENTAL SERVICES, INC.

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

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Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19ECO33B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	Expedited Turnaround Time
		Samples Submitted By:	GEOFF GILES	☐ Rush (Specify):____Days
		Contact Phone No.:	575-524-5352	

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
	11/25/19	12/9/19			
✓700-SVS-016	0947	0950	27"	SOIL: SILTY GRAVEL	T1
✓700-SVS-017	0949	0952	25"	" " "	T1
✓700-SVS-018	0951	0953	28"	" " "	T1
✓700-SVS-018D	0951	0953	28"	" " "	T1
✓700-SVS-019	1007	1008	26"	" " "	T1
✓700-SVS-020	1010	1010	28"	" " "	T1
✓700-SVS-021	1014	1015	29"	" " "	T1
✓700-SVS-022	1016	1017	26"	" " "	T1
✓700-SVS-023	1018	1019	27"	" " "	T1
✓700-SVS-024	1020	1020	28"	" " "	T1
✓700-SVS-025	1022	1022	25"	" " "	T1
✓700-SVS-026	1026	1026	25"	" " "	T1
✓700-SVS-027	1036	1036	26"	" " "	T1
✓700-SVS-028	1038	1038	27"	" " "	T1
✓700-SVS-029	1040	1041	25"	" " "	T1
✓700-SVS-030	1043	1043	26"	" " "	T1
✓700-SVS-031	1045	1045	29"	" " "	T2
✓700-SVS-032	1047	1048	25"	" " "	T2
✓700-SVS-032D	1047	1048	25"	" " "	T2
✓700-SVS-033	1049	1050	25"	" " "	T2

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

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PASSIVE SOIL-GAS SAMPLES

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Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	
		Samples Submitted By:	GEOFF GILES	Expedited Turnaround Time
		Contact Phone No.:	575-524-5352	☐ Rush (Specify):____Days

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
	11/25/19	12/9/19			
✓700-SVS-034	1051	1053	25"	SOIL: SILTY GRAVEL	T2
✓700-SVS-035	1300	1301	26"	" " "	T2
✓700-SVS-036	1302	1303	25"	" " "	T2
✓700-SVS-037	1304	1305	26"	" " "	T2
✓700-SVS-038	1305	1306	25"	" " "	T2
✓700-SVS-039	1307	1308	26"	" " "	T2
✓700-SVS-040	1308	1309	27"	" " "	T2
✓700-SVS-041	1310	1310	27"	" " "	T2
✓700-SVS-042	1312	1312	26"	" " "	T2
✓700-SVS-043	1317	1317	28"	" " "	T2
✓700-SVS-044	1320	1320	29"	" " "	T2
✓700-SVS-045	1322	1323	29"	" " "	T2
700-SVS-046	1323	1325	28"	" " "	T2
✓700-SVS-047	1325	1327	30"	" " "	T2
✓700-SVS-048	1327	1329	30"	" " "	T2
✓700-SVS-048D	1327	1329	30"	" " "	T2
✓700-SVS-049	1329	1331	29"	" " "	T2
✓700-SVS-050	1331	1333	26"	" " "	T2
✓700-SVS-051	1338	1339	26"	" " "	T2
✓700-SVS-052	1340	1341	28"	" " "	T2

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

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Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	Expedited Turnaround Time
		Samples Submitted By:	GEOFF GILES	☐ Rush (Specify):____Days
		Contact Phone No.:	575-524-5352	

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
✓700-SVS-053	11/25/19 1342	12/9/19 1343	26"	SOIL: SILTY GRAVEL	T2
✓700-SVS-054	1343	1344	27"	" " "	T2
✓700-SVS-055	1345	1346	27"	" " "	T2
✓700-SVS-056	1347	1348	29"	" " "	T2
✓700-SVS-057	1349	1350	28"	" " "	T2
✓700-SVS-058	1351	1352	29"	" " "	T2
✓700-SVS-059	1355	1357	28"	" " "	T2
✓700-SVS-060	1357	1358	25"	" " "	T2
✓700-SVS-061	1359	1400	26"	" " "	T3
✓700-SVS-062	1401	1402	27"	" " "	T3
✓700-SVS-063	1403	1404	25"	" " "	T3
✓700-SVS-064	1405	1406	28"	" " "	T3
✓700-SVS-064D	1405	1406	28"	" " "	T3
✓700-SVS-065	1407	1408	28"	" " "	T3
✓700-SVS-066	1409	1410	27"	" " "	T3
✓700-SVS-067	1432	1432	27"	" " "	T3
✓700-SVS-068	1434	1434	26"	" " "	T3
✓700-SVS-069	1436	1436	28"	" " "	T3
✓700-SVS-070	1438	1438	25"	" " "	T3
✓700-SVS-071	1440	1440	26"	" " "	T3

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

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Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	Expedited Turnaround Time
		Samples Submitted By:	GEOFF GILES	☐ Rush (Specify):____Days
		Contact Phone No.:	575-524-5352	

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
	11/25/19	12/9/19			
✓700-SVS-072	1442	1442	27"	SOIL: SILTY GRAVEL	(F3)
✓700-SVS-073	1444	1444	25"	" " "	(F3)
✓700-SVS-074	1447	1447	26"	" " "	(F3)
✓700-SVS-075	1449	1449	26"	" " "	(F3)
✓700-SVS-076	1451	1451	27"	" " "	(F3)
✓700-SVS-077	1454	1454	25"	" " "	(F3)
✓700-SVS-078	1456	1456	28"	" " "	(F3)
✓700-SVS-079	1458	1458	28"	" " "	(F3)
✓700-SVS-080	1500	1500	26"	" " "	(F3)
✓700-SVS-080D	1500	1500	26"	" " "	(F3)
✓700-SVS-081	1502	1502	25"	" " "	(F3)
✓700-SVS-082	1504	1504	28"	" " "	(F3)

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

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Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	Expedited Turnaround Time
		Samples Submitted By:	GEOFF GILES	☐ Rush (Specify):____Days
		Contact Phone No.:	575-524-5352	

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
	11/26/19	12/10/19			
✓700-SVS-083	0750	0815	27"	SOIL: SILTY GRAVEL	T3
✓700-SVS-084	0753	0817	27"	" " "	T3
✓700-SVS-085	0756	0819	27"	" " "	T3
✓700-SVS-086	0758	0821	26"	" " "	T3
✓700-SVS-087	0800	0822	29"	" " "	T3
✓700-SVS-088	0802	0823	28"	" " "	T3
✓700-SVS-089	0804	0824	29"	" " "	T3
✓700-SVS-090	0807	0826	28"	" " "	T3
✓700-SVS-091	0809	0828	28"	" " "	T4
✓700-SVS-092	0811	0830	28"	" " "	T4
✓700-SVS-093	0814	0832	28"	" " "	T4
✓700-SVS-094	0816	0834	27"	" " "	T4
✓700-SVS-095	0818	0836	27"	" " "	T4
✓700-SVS-096	0820	0838	27"	" " "	T4
✓700-SVS-096D	0820	0838	27"	" " "	T4
✓700-SVS-097	0824	0840	29"	" " "	T4
✓700-SVS-098	0826	0842	25"	" " "	T4
✓700-SVS-099	0840	0844	26"	" " "	T4
✓700-SVS-100	0842	0846	26"	" " "	T4
✓700-SVS-101	0844	0848	28"	" " "	T4

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

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PASSIVE SOIL-GAS SAMPLES

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Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	
		Samples Submitted By:	GEOFF GILES	Expedited Turnaround Time
		Contact Phone No.:	575-524-5352	☐ Rush (Specify):____Days

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
700-SVS-102	11/26/19 0847	12/10/19 0850	26"	SOIL: SILTY GRAVEL	T4
√700-SVS-103	0849	0852	27"	" " "	T4
√700-SVS-104	0852	0854	26"	" " "	T4
√700-SVS-105	0854	0856	25"	" " "	T4
√700-SVS-106	0856	0858	28"	" " "	T4
√700-SVS-107	0858	0900	27"	" " "	T4
√700-SVS-108	0900	0902	26"	" " "	T4
√700-SVS-109	0903	0904	26"	" " "	T4
√700-SVS-110	0905	0906	28"	" " "	T4
√700-SVS-111	0907	0908	27"	" " "	T4
√700-SVS-112	0909	0909	27"	" " "	T4
√700-SVS-112D	0909	0909	27"	" " "	T4
√700-SVS-113	0912	0912	25"	" " "	T4
√700-SVS-114	0914	0914	28"	" " "	T4
√700-SVS-115	0917	0917	28"	" " "	T4
√700-SVS-116	0919	0919	27"	" " "	T4
700-SVS-117	0921	0921	28"	" " "	T4
√700-SVS-118	0924	0924	26"	" " "	T4
√700-SVS-119	0926	0926	28"	" " "	T4
√700-SVS-120	1255	1257	26"	" " "	T4

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

BEACON ENVIRONMENTAL SERVICES, INC.

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Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	
		Samples Submitted By:	GEOFF GILES	Expedited Turnaround Time
		Contact Phone No.:	575-524-5352	☐ Rush (Specify):____Days

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
✓700-SVS-121	11/26/19 1257	12/10/19 1300	26"	SOIL: SILTY GRAVEL	TS
✓700-SVS-122	1300	1303	27"	" " "	TS
✓700-SVS-123	1302	1306	27"	" " "	TS
✓700-SVS-124	1304	1308	27"	" " "	TS
✓700-SVS-125	1306	1317	26"	" " "	TS
✓700-SVS-126	1309	1320	25"	" " "	TS
✓700-SVS-127	1311	1322	26"	" " "	TS
✓700-SVS-128	1314	1324	27"	" " "	TS
✓700-SVS-128D	1314	1324	27"	" " "	TS
✓700-SVS-129	1317	1327	27"	" " "	TS
✓700-SVS-130	1319	1329	28"	" " "	TS
✓700-SVS-132	1321	1334	25"	" " "	TS
✓700-SVS-133	1323	1336	28"	" " "	TS
✓700-SVS-134	1325	1337	26"	" " "	TS
✓700-SVS-135	1327	1339	26"	" " "	TS
✓700-SVS-136	1329	1341	26"	" " "	TS
✓700-SVS-137	1331	1342	26"	" " "	TS
✓700-SVS-138	1334	1343	27"	" " "	TS
✓700-SVS-131	1345	1353	26"	" " "	TS
✓700-SVS-157	1347	1354	29"	" " "	TS

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

BEACON ENVIRONMENTAL SERVICES, INC.

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Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	
		Samples Submitted By:	GEOFF GILES	Expedited Turnaround Time
		Contact Phone No.:	575-524-5352	☐ Rush (Specify):____Days

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
✓700-SVS-150	11/26/19 1350	12/10/19 1358	–	FRACTURED LIMESTONE	*WELL 700-D-186 (202' DEPTH)
✓700-SVS-156	1353	1400	28"	SOIL: SILTY GRAVEL	FS
✓700-SVS-156D	1353	1400	28"	〃	FS
✓700-SVS-155	1356	1403	27"	〃	FS
✓700-SVS-155D	1356	1403	27"	〃	FS
✓700-SVS-158	1402	1407	27"	〃	FS
✓700-SVS-158D	1402	1407	27"	〃	FS
✓700-SVS-159	1405	1411	27"	〃	FS
✓700-SVS-159D	1405	1411	27"	〃	FS
✓700-SVS-149	1408	1412	–	FRACTURED LIMESTONE	*WELL 700-A-253 (269' DEPTH)
✓700-SVS-152	1411	1414	26"	SOIL: SILTY GRAVEL	FS
✓700-SVS-152D	1411	1414	26"	〃	FS
✓700-SVS-153	1414	1417	27"	〃	FS
✓700-SVS-153D	1414	1417	27"	〃	FS
✓700-SVS-151	1417	1421	–	FRACTURED LIMESTONE	*WELL 700-J-200 (230' DEPTH)
✓700-SVS-154	1422	1429	27"	SOIL: SILTY GRAVEL	FS
✓700-SVS-154D	1422	1429	27"	〃	FS
✓700-SVS-139	1428	1433	–	SOIL: SANDY GRAVEL	*WELL MW-1 (6' DEPTH, 30" SCREEN)
✓700-SVS-140	1430	1434	–	〃	*WELL MW-2 (6' DEPTH, 30" SCREEN)
✓700-SVS-141	1432	1436	–	〃	*WELL MW-3 (6' DEPTH, 30" SCREEN)

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

BEACON ENVIRONMENTAL SERVICES, INC.

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
P: 1-410-838-8780 | F: 1-410-838-8740

Project Information		Client Information		
Site Name:	700 AREA LANDFILL	Company Name:	NAVARRO R&E	Client PO No.: 19EC033B
Site Location:	NASA WSTF, NM	Office Location:	NASA WSTF, NM	
		Samples Submitted By:	GEOFF GILES	Expedited Turnaround Time
		Contact Phone No.:	575-524-5352	☐ Rush (Specify):____Days

Field Sample ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	Sampling Hole Depth (Inches)	Type of Surface (Soil/Asphalt/ Concrete/Gravel)	Optional Sample Information (e.g., Description of Sample Location, Sample Condition, PID/FID Readings)
	11/26/19	12/10/19			
✓700-SVS-142	1434	1438	-	SOIL: SANDY GRAVEL	TS WELL MW-4 (6' DEPTH, 30" SCREEN)
✓700-SVS-143	1436	1439	-	" " "	TS WELL MW-5 (6' DEPTH, 30" SCREEN)
✓700-SVS-144	1438	1440	-	" " "	TS WELL MW-6 (6' DEPTH, 30" SCREEN)
✓700-SVS-144D	1438	1440	-	" " "	TS WELL MW-6 (6' DEPTH, 30" SCREEN)
✓700-SVS-145	1441	1442	-	" " "	TS WELL MW-7 (6' DEPTH, 30" SCREEN)
✓700-SVS-146	1443	1443	-	" " "	TS WELL MW-8 (6' DEPTH, 30" SCREEN)
✓700-SVS-147	1445	1444	-	" " "	TS WELL MW-9 (6' DEPTH, 30" SCREEN)
✓700-SVS-148	1447	1447	-	" " "	TS WELL MW-10 (6' DEPTH, 30" SCREEN)

Special Notes/Instructions: DUPLICATES IDENTIFIED WITH "D"

LAB USE ONLY		
Beacon Project:	Beacon Proposal: 191101R02	Analytical Method: U.S. EPA Method 8260C

Please, remember:

- ☑ Remove all wire from the sampler vials
- ☑ Label, seal, and individually bag Soil-Gas Samplers in 3"x4" bags provided, with all the samples in the larger bag marked "Return Shipment" with approximately 30 Samplers plus a Trip Blank in each bag
- ☑ Include the signed and dated Chain-of-Custody Form
- ☑ Return all tools (including wooden blocks and all containers)
- ☑ Return any unused pipe
- ☐ Use the blue numbered tug tight custody seal on the front of the Kit
- ☑ Only use approved packaging materials (*i.e.*, no Styrofoam peanuts, etc.)
- ☐ E-mail a CAD version of the Site Map showing soil-gas sample locations to Ryan Schneider at BEACON (ryan.schneider@beacon-usa.com)
- ☐ Notify BEACON's laboratory that samples are being returned

---

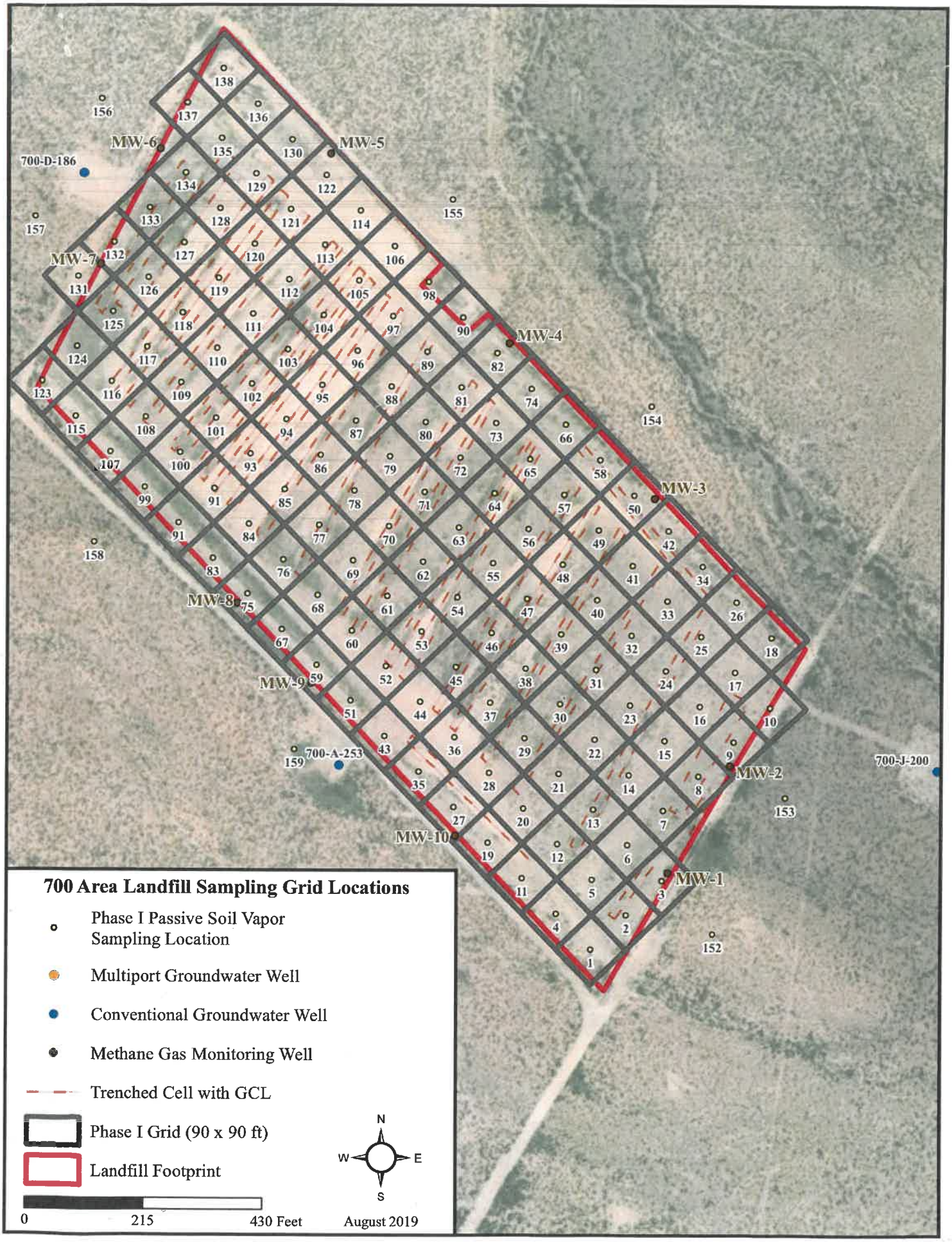
THE FOLLOWING TOOLS WERE INCLUDED WITH YOUR FIELD KIT(S).

PLEASE CHECK-OFF (√) IN THE COLUMN BELOW TO VERIFY THAT THE TOTAL NUMBER OF EACH TOOL HAS BEEN PACKAGED IN THE KIT(S) FOR RETURN SHIPMENT.

Tool	Number	Returned
TAPPING DOWELS / SCREWDRIVER	1	✓
WIRE CUTTERS	1	✓
PIPE CUTTER	1	✓
VISE GRIPS	1	✓

Please return any unused pipes included in the Field Kit; however, do not return any of the used pipes.

THANK YOU!


MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
700-D-186
700-A-253
700-J-200
700 Area Landfill Sampling Grid Locations
Phase I Passive Soil Vapor Sampling Location
Multiport Groundwater Well
Conventional Groundwater Well
Methane Gas Monitoring Well
Trenched Cell with GCL
Phase I Grid (90 x 90 ft)
Landfill Footprint
N
W
E
S
0
215
430 Feet
August 2019

Appendix E
Collier Geophysics Electromagnetic Induction/Magnetic Gradient Survey Report

COLLIER GEOPHYSICS
Surface • Marine • Borehole

7711 W. 6th Ave., Ste G | Lakewood, CO 80214 | (720) 487-9200

A Service-Disabled Veteran-Owned Small Business (SDVOSB)

March 24, 2020

To: Geoffrey Giles
Navarro Research and Engineering
WSTF/JSC
12600 NASA Road
Las Cruces, NM 88012
VIA Email: geoffrey.c.giles@nasa.gov

RE: Geophysical Letter Report | Project #20-020
WSTF Area 700 Landfill Geophysical Investigation
Las Cruces, NM

Collier Geophysics, LLC (Collier) conducted a geophysical investigation on behalf of Navarro Research and Engineering (Navarro), at a historical landfill site located within Area 700 of the White Sands Test Facility (WSTF) approximately 18 miles northeast of Las Cruces, NM (Figure 1).

The objectives of the investigation were to: detect and map locations and dimensions of landfill trenches; map distribution and type of buried metallic objects; and, map changes in soil properties across the defined project site. electromagnetic induction (EMI) ground conductivity imaging and vertical magnetic gradiometry (VMG) were used to achieve the objectives.

The investigation was performed on from February 25th to 28th, 2020, by Collier geophysicists Miriam Moller and Trever Ensele. The following subsections summarize the site conditions, methodologies and data acquisition, and present the results from the geophysical investigation. For further information regarding the details of the EMI and VMG methods, Collier can submit method addenda to this report upon request.

Figure 1. Location of WSTF, indicated by red star, near Las Cruces, NM (Google Earth Images).

Site Conditions

The site is located within a secured area within the White Sands Test Facility. The investigation area is comprised of approximately 25 acres of landfill enclosed by fence. The surface is primarily desert pediment composed of poorly sorted sand and cobbles. A 90-foot square grid had been established with soil vapor borings placed at the grid centroids (Figure 2). All grid lines had been mowed, and vegetation is generally sparse over the majority of the site except for some small bushes. The site is flat with little topographic relief. A single trench, approximately 6 feet deep and 10 to 12 feet wide and about 500 feet long, runs parallel to the northwest-southeast grid orientation near the northwestern portion of the investigation area.

Conditions were dry, mild with wind gusts, and sunny with temperatures 30 to 70 degrees F (Photo 1). February 25th was windy with gusty winds up to 30 mph, the remainder of the days were calm.

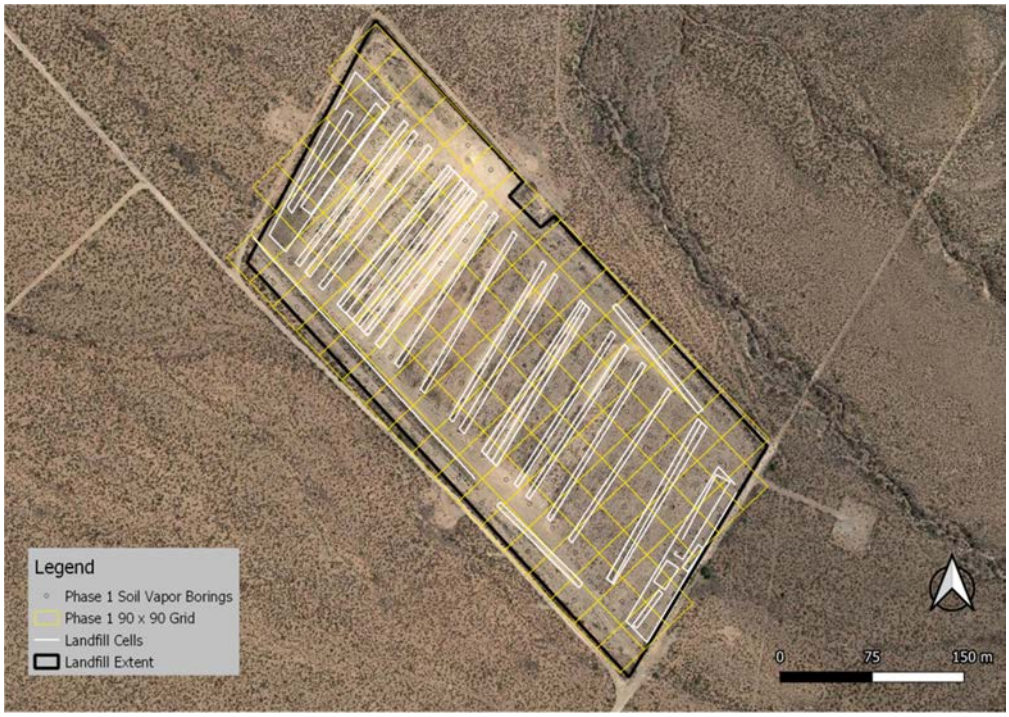


Figure 2. Detail of the Area 700 Landfill, in black rectangle, at approximately 25 acres. Also shown are the 90 x 90 foot grid (yellow lines), soil vapor borings (black circles), and approximate extent of landfill trench cells (white) (aerial photography courtesy of Google Earth Images).

Photo 1. Site conditions found during the geophysical investigation.

Data Acquisition

Electromagnetic Induction

A frequency-domain electromagnetic induction (FDEM) instrument consists of at least one pair of transmitting and receiving coils. A primary magnetic field of a constant frequency is generated using an alternating current in the transmitter coil, and a secondary magnetic field is detected in the receiving coil as a result of the interaction of the primary field with the subsurface. The FDEM instrument allows for simultaneous measurements of both the in-phase and quadrature (orthogonal phase) components of the secondary magnetic field. The in-phase response is primarily sensitive to magnetic susceptibility, generally due to the presence of metallic or ferromagnetic material in the subsurface. The quadrature component (90-degrees out of phase with the primary signal) is primarily sensitive to electrical conductivity, due to changes in lithology, moisture, and/or fines (clay) content. Note that these are the primary sensitivities, but that both components can be affected by buried metal or geologic features.

Photo 2. GF Instruments CMD-Explorer

FDEM data were acquired using a CMD-Explorer, by GF Instruments (see Photo 2, left). The CMD-Explorer consists of a boom with three sets of FDEM coil pairs, at three separations, 1.48 m (4.86 ft), 2.82 m (9.25 ft), and 4.49 m (14.73 ft). The separations are referred to as Coils 1, 2, and 3, respectively.

The effective depth of sensitivity of the FDEM method is a function of the antenna spacing between the transmitter and receiver, the antenna orientation, the frequency of the primary field, and the bulk electromagnetic properties of the subsurface. Data were acquired at the site using a vertical magnetic dipole orientation, which results in the greatest depth of investigation. Therefore the depth sensitivity range of Coils 1, 2, and 3, correspond to depths up to 2.2 m (7.2 ft), 4.2 m (13.8 ft), and 6.7 m (22.0 ft), respectively. Actual depths of investigation vary significantly with subsurface electromagnetic properties, therefore the relative depth of range of each coil pair may only be used qualitatively.

FDEM data were collected at a sample rate of 5Hz, using a primary field frequency of 10 kHz at all three antenna separations simultaneously. GPS positions were inserted in the data stream at a rate of 1Hz using a Trimble Geo7x handheld GPS unit, capable of sub-foot precisions, for accurate positioning of the data. Data were acquired

continuously in northwest-southeast transects, aligned to the long axis of the 90 by 90 foot soil vapor sampling grid. A nominal line spacing of approximately 10 feet was maintained. Data were downloaded for quality checks in the field and gaps exceeding 16 feet between adjacent transects were identified and re-acquired.

Vertical Gradient Magnetometry

Photo 3. Geometrics G-858, in vertical magnetic gradiometry mode in a backpack configuration.

Magnetometry data were acquired using a Geometrics G-858 magnetometry system. The magnetometer was configured with two sensors, one above the other using a 109 cm separation, on a frame backpack configuration (Photo 3). Each magnetometer measures the strength of Earth's magnetic field in nanoteslas (nT), called the Total Field Intensity (TFI), simultaneously. The presence of ferrous materials causes distortions in the magnetic field that are detected by the sensors. The vertical gradient (VG) of the magnetic field is the difference of the magnetic field values measured by the two independent sensors over the distance between them.

Data were collected at a sample frequency of 10 Hz. Data were acquired similarly to the EMI data along northwest-southeast transects parallel to the long axis of the soil-vapor sampling grid. Transect line spacing was nominally maintained at approximately 8 feet. Data were checked in the field for transect gaps of over 16 feet, which were then re-acquired.

Data Processing

Electromagnetic Induction

Raw EMI data were exported in tabular format using CMD Data Transfer, version 1.6.1, by GF Instruments. Positions for each measurement are interpolated for each record from GPS positions using the data transfer software. The data were then processed using Aarhus Workbench, version 6.1.0, by Aarhus Geosoftware. The data were imported and filtered along each line path, storing an average value every 0.5 meter to reduce any high-frequency noise due to RF interference, instrument spikes, or interference from small metallic debris on the surface). Any GPS or instrument drop-

outs were removed. The processed data were exported in tabular format and gridded using Oasis Montaj, version 9.3, a processing and data visualization software suite used for analysis of geophysical data sets. Data were adjusted for latency to align the instrument response with the GPS positions. The CMD-Explorer records two orthogonal phase outputs for each coil separation, resulting in six datasets. After processing and filtering each dataset was gridded using a minimum curvature method.

Vertical Gradient Magnetometry

The VGM raw data were converted to tabular data files using MAGMAP 2000 (version 5.04), by Geometrics Inc. All further data processing and gridding of the MAG data was performed using Geosoft. There are three primary steps required for MAG data processing. The first step is to remove data dropouts that may have occurred during data acquisition. These data dropouts can occur when the magnetometers are aligned at a particular angle with respect to the Earth's magnetic field, or are very close to a large metal object. These occurrences are typically less than one second in duration, and can be easily removed from the data with no detrimental effects on the final results. After removal of data dropouts, data were corrected for instrument latency by applying a small time lag to the sensor data to align the timing of the GPS information. After corrections, a low-pass filter was applied, to remove noise due to the operator's walking pace and higher frequency noise due to RF interference and surface clutter. Following these corrections, Geosoft was used to grid the data using the minimum curvature method. VGM data were gridded using the TFI for the top and bottom sensors, as well as the vertical magnetic gradient between the sensors. In addition, an analytic signal (AS) filter is applied to the TFI grids, producing an output which preserves the absolute magnitude of the magnetic signal, which assists in locating and identifying buried ferromagnetic objects which produce both positive and negative magnetic field responses making them difficult to identify from raw TFI data alone.

While all of the instrument outputs are used to analyze the results, not all of the gridded outputs are presented in this report. The top channel TFI is less affected by surface clutter and variability of magnetic properties of the surface geology and was chosen to better represent subsurface anomalies. The analytic signal filter of the top-channel is presented as well, best indicating the locations and distribution of ferromagnetic anomalies. In addition, the vertical magnetic gradient grid is presented, best indicating the distribution of the landfill trenches.

Results and Discussion

The results of the geophysical investigation are appended to this letter as a series of nine plates. Each plate is presented as an 11 x 17 inch document, landscape format. The first six plates present the results of the EMI survey. Plates 1, 2, and 3 correspond to the conductivity response of Coils 1, 2, and 3, respectively. Plates 4, 5, and 6 correspond to the in-phase response of Coils 1, 2, and 3, respectively. As described above, Coil 1 is sensitive up to a depth of approximately 2.2 m (7.2 ft), Coil 2 up to about 4.2 m (13.8 ft), and Coil 3 up to about 6.7 m (22.0 ft). The results are displayed as color heat maps of electrical conductivity in millisiemens per meter (mS/m) or in-phase amplitude in parts per thousand (ppt). Each set of results is overlain on aerial imagery of the site. The results are displayed with hot colors (reds, pinks, yellows) representing high values and cool colors (blues) representing low (or negative) values. The color scales were chosen to represent the range of responses at the site, and are the same from plate to plate. Plates 7, 8, and 9 present the results of the magnetometry survey. Plate 7 presents the magnetic total field intensity (TFI) from the top sensor, Plate 8 presents the analytic signal (AS) filter of the top sensor field intensity, and Plate 9 presents the vertical magnetic gradient. As mentioned above, the vertical magnetic gradient best imaged the distribution (orientation and length) of trenches which are outlined on Plate 9; as such, the geophysical anomalies identified by the magnetic survey results are outlined on the TFI and AS figures (Plates 7 & 8) where they are best identified and most easily marked.

Polygon areas representing geophysical anomalies interpreted from the distribution of conductivity, in-phase amplitude, and magnetic gradient are overlain on the results. Along the fenced edge of the area of investigation, each system detected the above-ground metallic fence. However, landfill trenches are expected to exhibit elevated values of electrical conductivity (over background conductivity) due to buried landfill contents, excavated or disturbed subsurface material, and the presence of geosynthetic clay liners (GCL). Elevated values of in-phase amplitude are due to the presence of buried metallic and ferromagnetic material. Elevated magnetic field gradient anomalies are due to the presence of buried ferromagnetic material and objects. Anomalies were assigned an alphabetic denominator in an arbitrary order. The anomalies are classified according to the magnitude of response of each instrument, in order to differentiate the properties and potential material content of each trench. Each instrument response (Conductivity, In-Phase, and Magnetic) was assigned a classification value according to the following scheme:

1: Low instrument response (amplitude) from background levels, with localized peaks.

2: Moderate instrument response (amplitude) from background levels, with high amplitude peaks

3: High instrument response (amplitude) above background, with high amplitude peaks covering most of the area

These values are considered the “Interpreted Instrument Response Factor” and are reported with the anomalies listed in the table in Appendix A. In addition, a column reporting the area of each polygon, and a column reporting the nearest coincident landfill trench designation are also included in the table. These factors are interpreted subjectively based on the character of each instrument response over the whole anomaly area. They are intended to assist in the classification and characterization of the subsurface properties of each area with respect to the individual instrument responses, and not to identify individual objects or specific contents or components of the landfill material. The anomalies, along with their interpreted attributes will be provided as a digital ESRI Shapefile for use in GIS software systems as part of the deliverable.

In general, the identified anomalies, from different geophysical instrument responses, coincide well with reported landfill cells. Exceptions include anomalies J, K, T, U, X, and Y which exceed the areas defined as landfill cells in the shapefiles provided by Navarro. Anomaly W includes both the area defined as Cell 25, and a landfill cell defined as the “Dead Animal Pit”. Anomalies V, Z, AA, and AB are not associated with any previously defined landfill cells. Cells 24 and 26 did not exhibit anomalous geophysical responses and are not associated with geophysical anomalies as identified in this investigation.

For final interpretation of magnetic results, the analytic signal data were used to define the location of large masses of buried ferromagnetic material or objects in the subsurface. High analytic signal amplitudes are associated with the total mass of ferromagnetic material in the subsurface, with the amplitude and extent of each maxima proportional to the buried ferromagnetic mass; commonly referred to as metallic-mass. Due to the high concentration of high amplitude anomalies in the results, it is not possible to differentiate whether a high amplitude anomaly represents many individual objects or one large metallic mass. Therefore, a subjective threshold value of 70 nT/m of the top sensor analytic signal was used to define and differentiate the magnetic anomalies. Anomalies were interpreted from both the top and bottom sensors, but the top sensor was used to perform the threshold method of anomaly identification to remove the influence of small magnetic debris on and near the surface. The threshold value was interpreted from the characteristics of the site to differentiate an anomaly

from background. Note that this threshold method of anomaly identification and classification may also exclude small amplitude anomalies which may still be of interest to the survey. The magnetic anomalies are overlain on Plate 7; that is, the total field intensity results from the top sensor, and Plate 8, the analytic signal of the top sensor. The magnetic anomalies are provided as an ESRI Shapefile as part of this deliverable.

Lateral extents and surface areas of the landfill cells distribution were well-defined using the EMI and VMG results. In addition, the distribution of magnetic anomalies was well defined using the analytic signal filtering method. Vertical distribution of the landfill trenches and materials was also an objective of the investigation, however as discussed above it is not possible to define the depth response of multi-separation EMI measurements objectively. Inversion modeling may be used to fit a subsurface resistivity model to the EMI data by considering each measurement of three coil separations as a depth sounding and importing into software which calculates the inversion routine. A test volume of data was processed and inverted using Aarhus Workbench, version 6.1.0. This inversion technique results in a two-layer model, from the three-value sounding, distributed over the data volume. A successful model from this site was expected to show a conductive layer over a resistive layer at the base of each trench. Due to the high electrical conductivity of the buried trench materials, the depth of investigation below the trenches was limited and the inversion modelling technique failed to resolve a quantitative base-depth measurement for the landfill trenches.

However, a subjective interpretation of the ***relative*** depth of results is possible, based on the variations in the responses from the three FDEM instrument coil separations. As defined above the depth sensitivity to map bulk conductivity, of each successively wider coil pair (i.e., transmitter-receiver), increases proportional with the coil separation. Therefore, using the anomalous areas defined from the FDEM results, one can compare the relative amplitude of the conductivity and in-phase response from the three coil separations. Based on this relative depth concept: Coil 1 corresponds to the least depth of investigation; Coil 2 to the intermediate depth of investigation; and, Coil 3 corresponds to the greatest depth of investigation. For example, Anomalies A and B exhibit high conductivity values on all three coil separations, whereas Anomaly E exhibits moderately high conductivity values with local peaks at the Coil 1 separation. This would lead to a qualitative interpretation that the material generating the anomaly at areas A and B are buried to greater depths than the materials at Anomaly E, for example. While the absolute depth of burial is unknown, the relative depths of other identified anomalies may be interpreted in this way.

Closure

The quality of both the EMI and VMG data acquired during this investigation was very good. Background noise levels were low, and there was limited cultural interference, except the fence surrounding the 700 Landfill Area. Correlation with GIS map data of the landfill trenches, provided by Navarro, is very good with the geophysical results. Therefore, the quality of the data and good correlation yields a high degree of confidence in the results obtained, interpreted and presented in this report.

The geophysical methods and field procedures defined in this report were applicable to the project objectives and have been successfully applied by Collier geophysicists to investigations of similar size and nature. However, sometimes field or subsurface conditions are different from those anticipated and the resultant data may not achieve the investigation objectives. Collier warrants that our services were performed within the limits prescribed for this project, with the usual thoroughness and competence of the geophysical profession. Collier conducted this project using the current standards of the geophysical industry and utilized in house quality control standards to produce a precise geophysical survey.

If you have any questions regarding the field procedures, data analyses, or the interpretive results presented herein, please do not hesitate to contact us. We appreciate working with you and look forward to providing Navarro with geophysical services in the future.

Respectfully Submitted,

Trever Ensele
Senior Geophysicist

Miriam Moller
Geophysicist

Senior Geophysicist / Operations Manager - Colorado

(1 copy e-mailed PDF format)

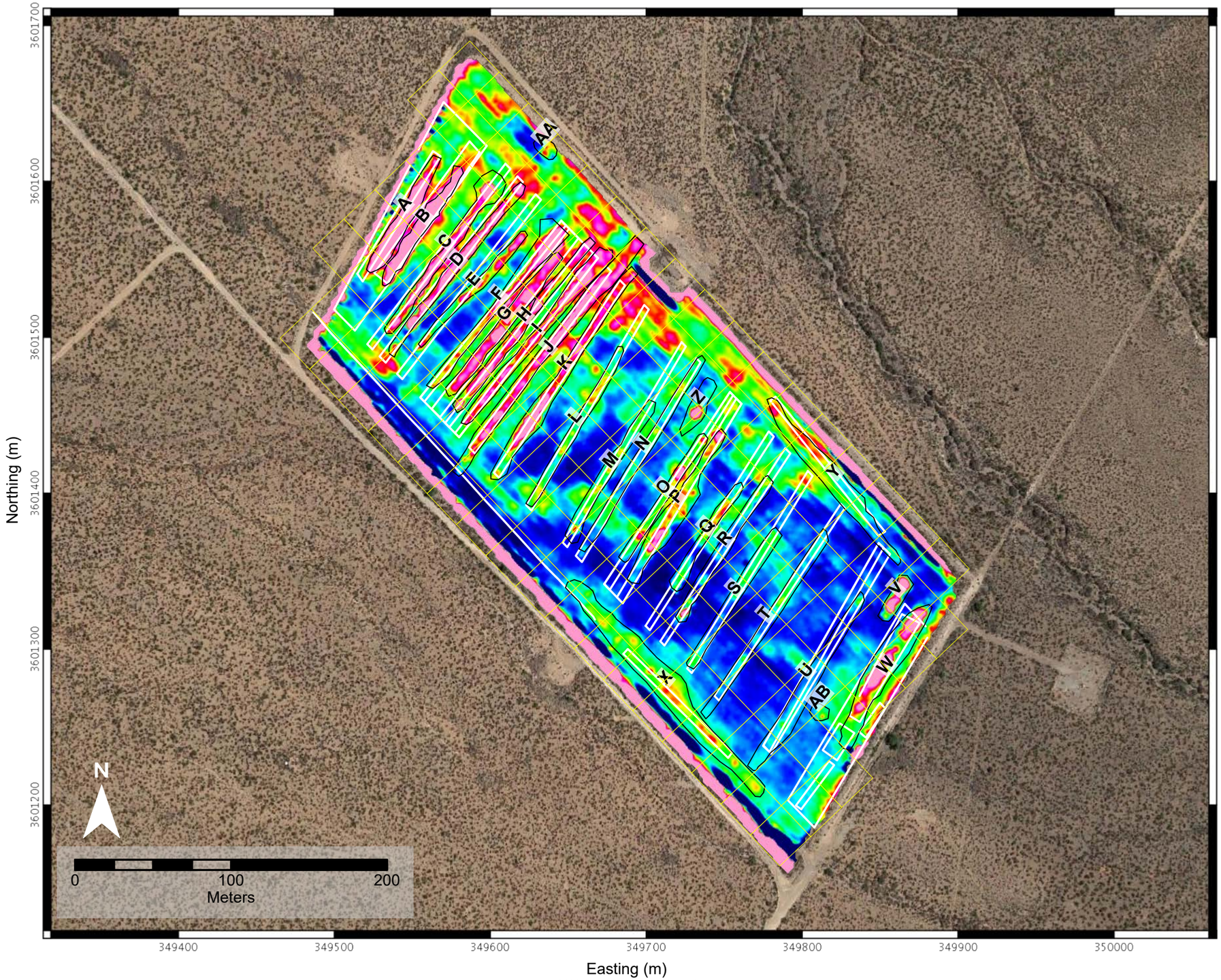
Appendix A

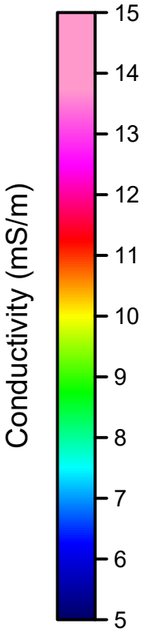
Geophysical Anomaly Table

Anomaly areas are interpreted from conductivity, in-phase, and vertical magnetic gradient results. Each anomaly is assigned an instrument response factor based on the following classification scheme:

1: Low instrument response from background levels, with localized peaks.
2: Moderate instrument response from background levels, with high amplitude peaks
3: High instrument response above background, with high amplitude peaks covering most of the area

	Interpreted Instrument Response Factor					
Anomaly Name	Conductivity Factor	In-Phase (Metallic Response) Factor	Magnetic Factor	Area (sq ft)	Cell	Notes
A	3	3	2	8345	5	
B	3	3	2	7017	4	
C	2	3	2	10565	3	
D	2	3	3	9337	2	
E	2	3	2	5748	1	Very high amplitude Mag anomaly at southwestern extent of anomaly.
F	2	3	2	11450	6	Very high amplitude Mag anomaly at southwestern extent of anomaly.
G	2	3	1	9742	7	
H	2	3	2	9164	8	
I	2	3	2	12440	8A	
J	2	3	2	17039	9	area exceeds provided extent of cell 9
K	2	3	2	13820	10	Large high amplitude Mag anomaly towards southwest, area exceeds cell 10
L	1	2	1	7400	11	
M	1	2	1	8161	13	Localized high amplitude mag anomaly at southwest
N	1	1	1	9359	14	Localized high amplitude mag anomaly northeast of center of anomaly
O	2	1	1	6248	15	
P	2	2	2	11329	16	Large high amplitude mag anomalies toward middle and southwest extents.
Q	1	2	1	5630	17	
R	1	1	1	8199	18	conductivity anomaly barely perceptible except for localized peaks
S	1	1	1	8101	19	
T	1	1	1	9624	20	barely perceptible in-phase, except for two localized peaks, exceeds cell 20
U	1	0	2	12662	21	exceeds cell 21
V	3	2	3	3183	0	no associated landfill cell
W	1	2	3	15000	25, "Dead Animal Pit"	area includes cell 25 and part of "dead animal pit"
X	2	1	1	25277	23	greatly exceeds cell 23
Y	1	2	2	14264	22	exceeds cell 22
Z	1	1	2	3868		no associated landfill cell
AA	1	2	3	1505		no associated landfill cell
AB	2	2	2	1104		no associated landfill cell





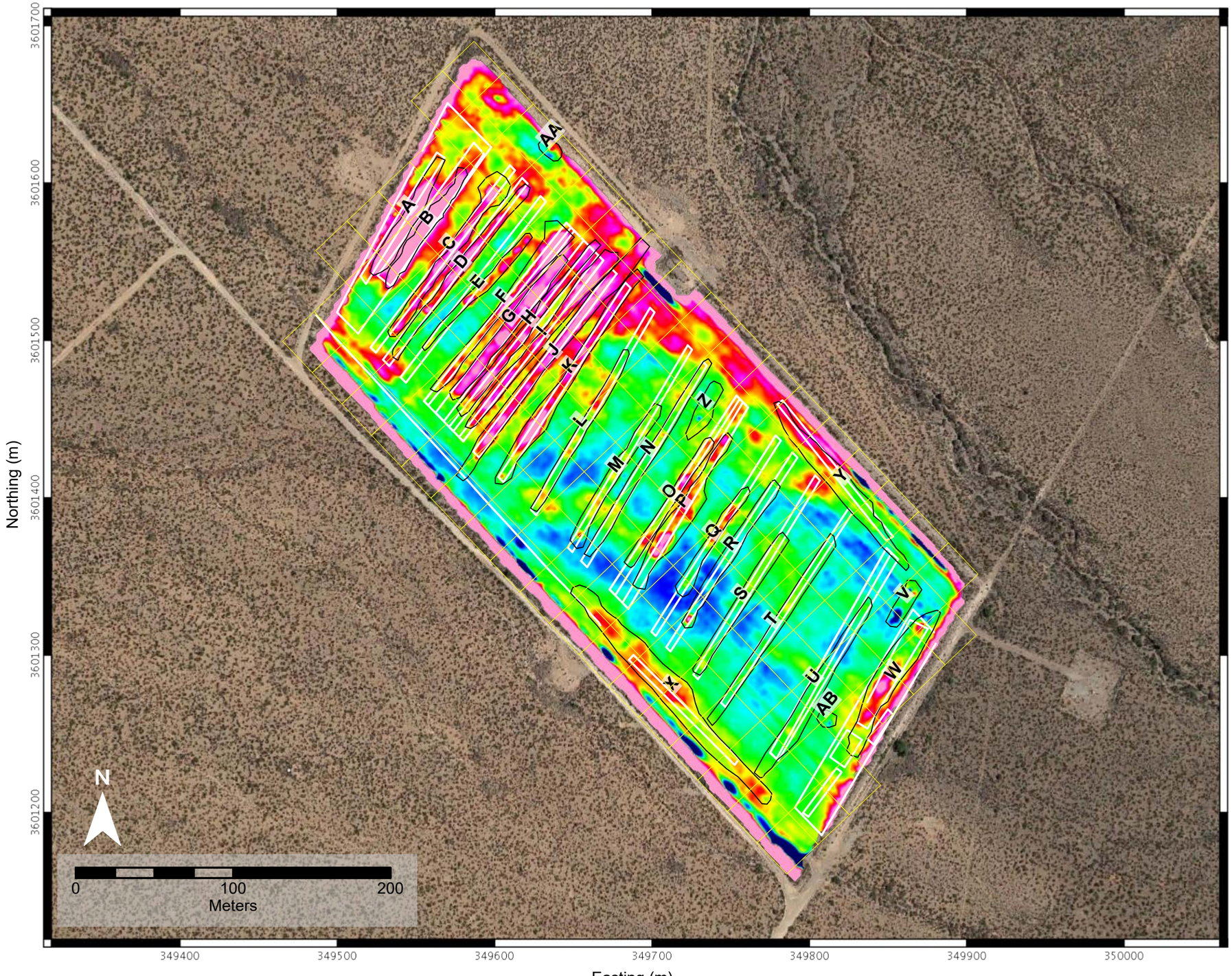
Key

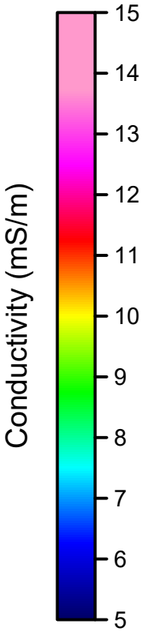
- Geophysical Anomaly (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Coil 1 - Least Depth - Antenna separation 1.48 m (4.86 ft)

EMI Conductivity - Least Depth
Area 700 Landfill
WSTF

Navarro Research & Engineering, Inc.		COLLIER GEOPHYSICS
Project #: 20-020	March 2020	
Drafted by: T. Ensele	Checked by: N. Pendrigh	**PLATE 1**



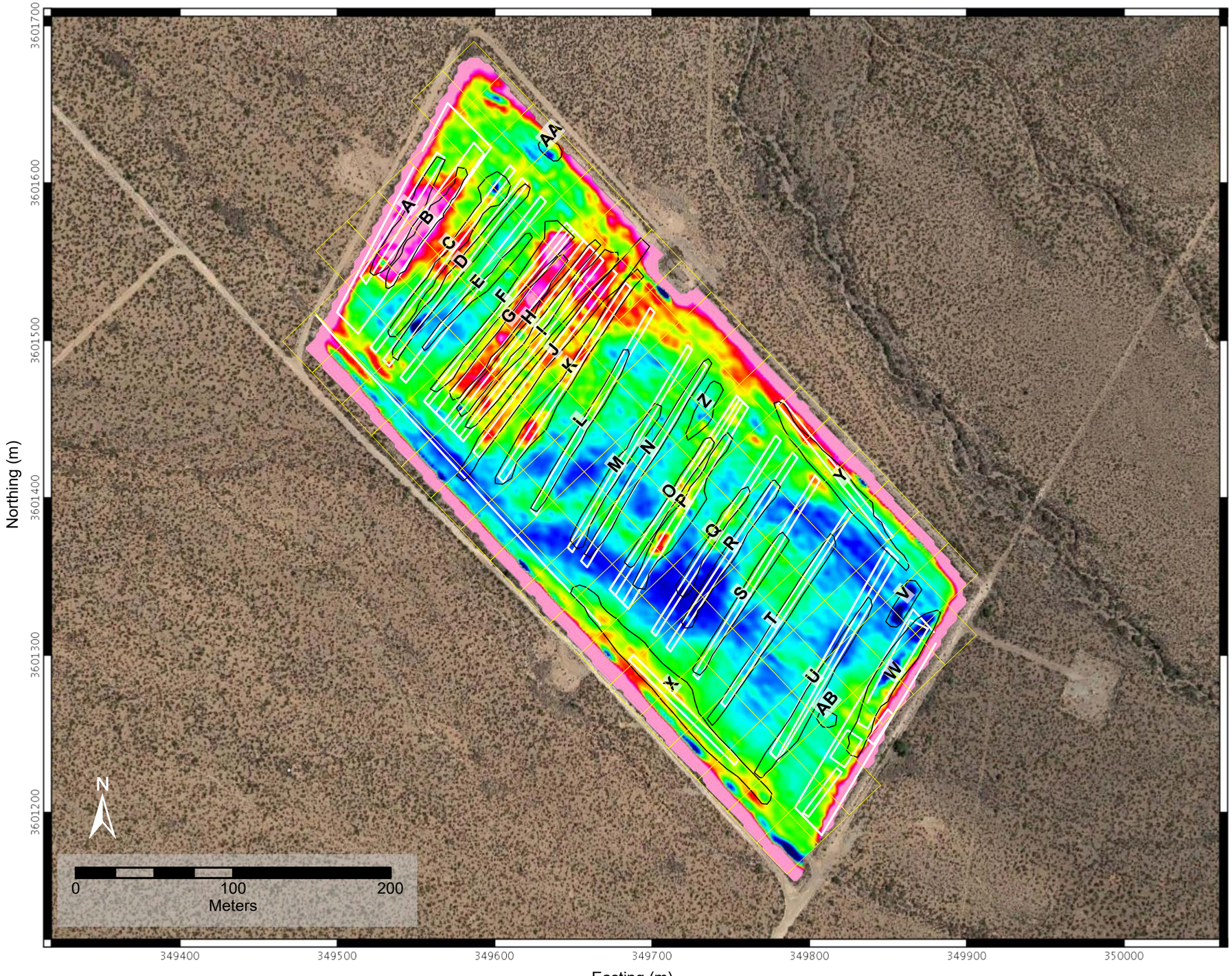


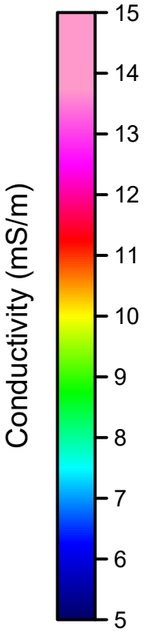
Key

- Geophysical Anomaly (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Coil 2 - Intermediate Depth - Antenna separation 2.82 m (9.25 ft)

EMI Conductivity - Int. Depth Area 700 Landfill *WSTF*		
Navarro Research & Engineering, Inc.		COLLIER GEOPHYSICS
Project #: 20-020	March 2020	
Drafted by: T. Ensele	Checked by: N. Pendrigh	**PLATE 2**





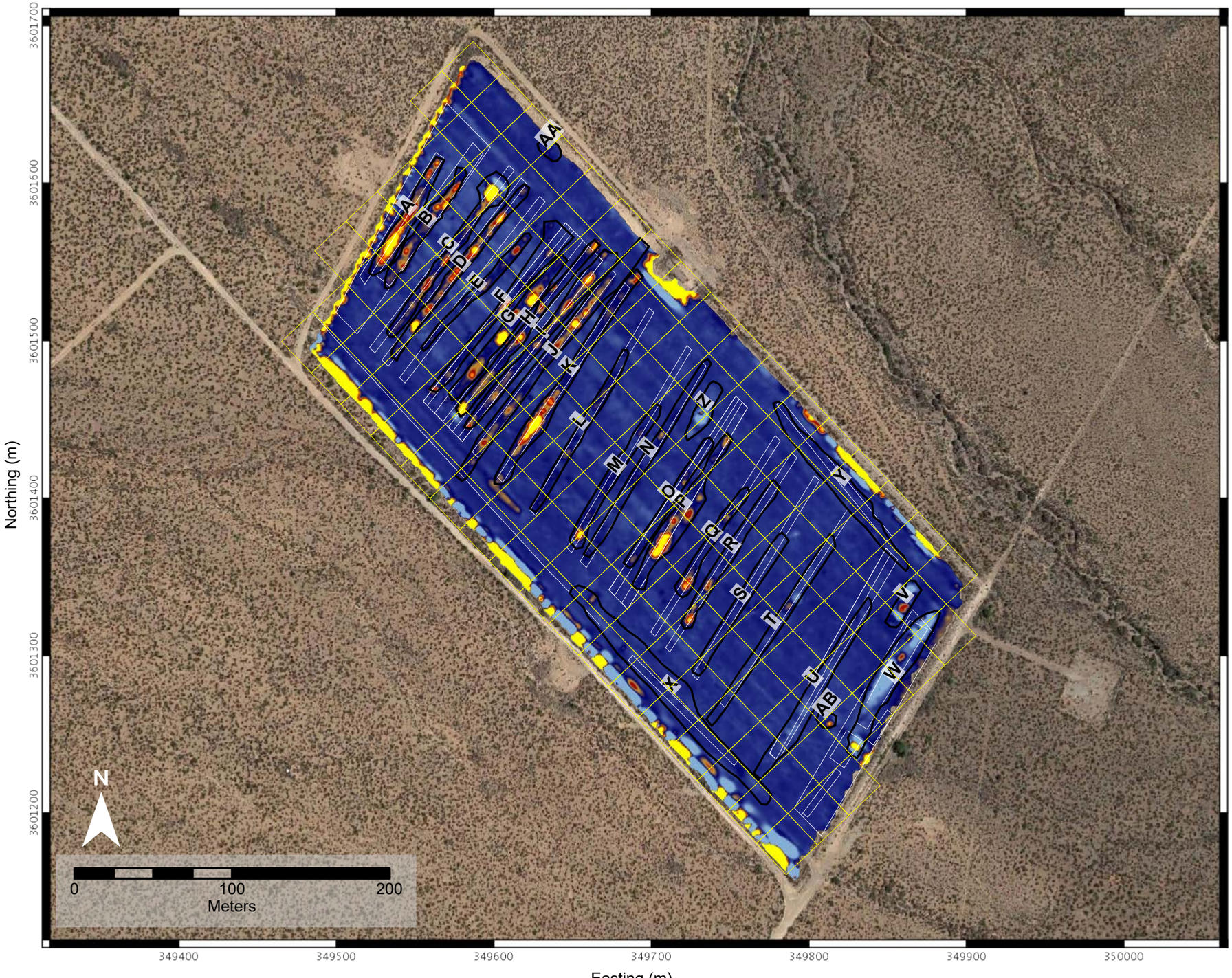
Key

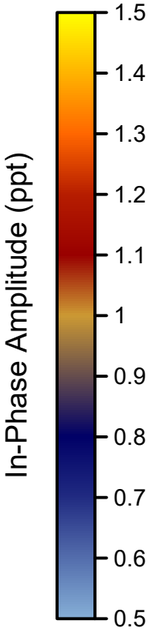
- Geophysical Anomaly (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Coil 3 - Most Depth - Antenna separation 4.49 m (14.73 ft)

EMI Conductivity - Most Depth
Area 700 Landfill
WSTF

Navarro Research & Engineering, Inc.		COLLIER GEOPHYSICS
Project #: 20-020	March 2020	
Drafted by: T. Ensele	Checked by: N. Pendrigh	**PLATE 3**





Key

- Geophysical Anomaly (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Coil 1 - Least Depth - Antenna separation 1.48 m (4.86 ft)

EMI In-Phase - Least Depth
Area 700 Landfill
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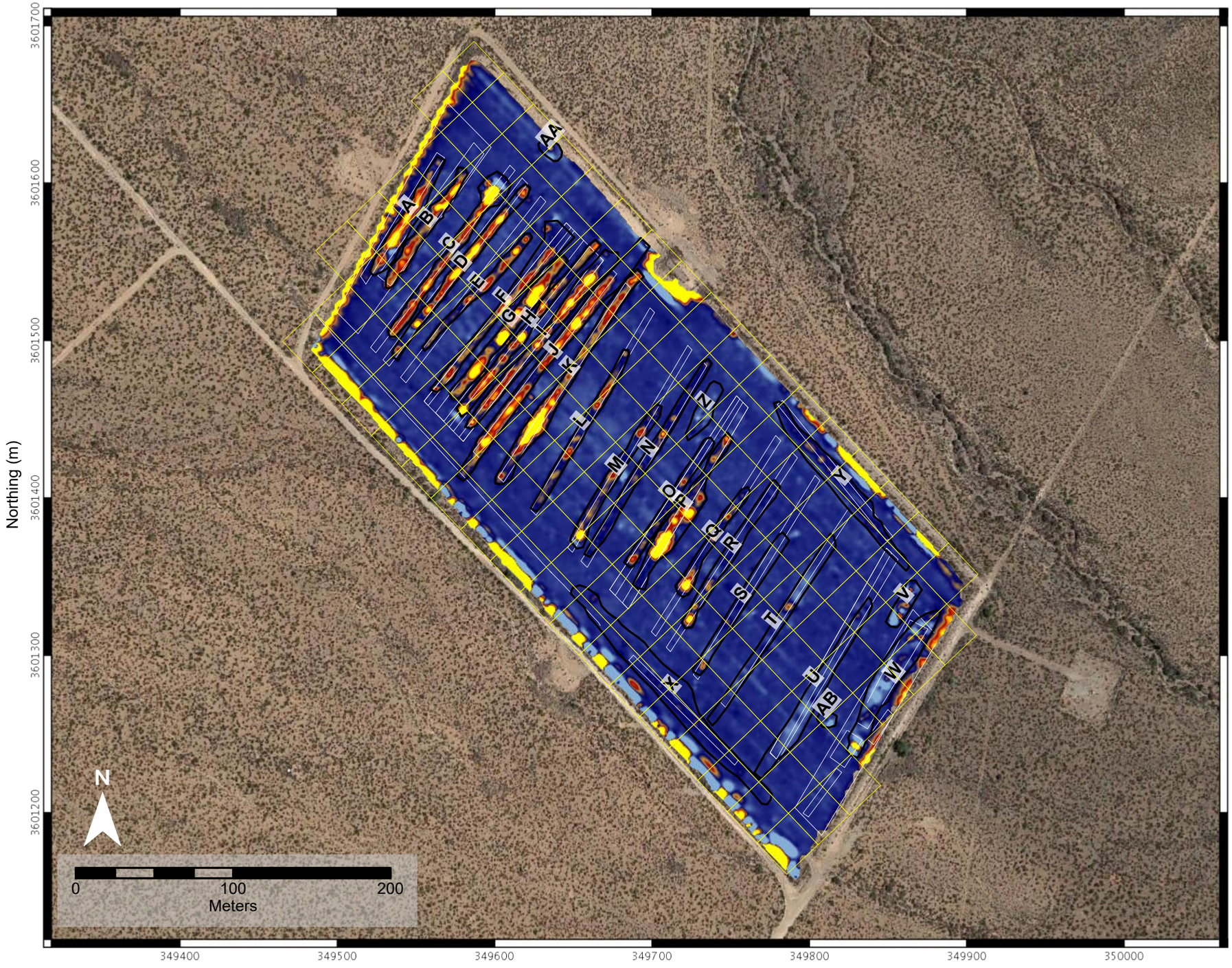
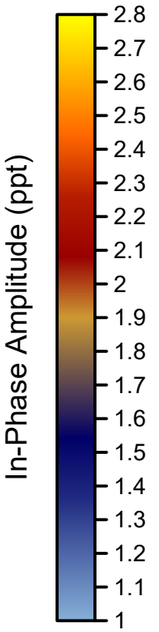
Project #: 20-020	March 2020	
Drafted by: T. Ensele	Checked by: N. Pendrigh	**PLATE 4**





Key

- Geophysical Anomaly (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Coil 1 - Intermediate Depth - Antenna separation 2.82 m (9.25 ft)

EMI In-Phase - Int. Depth
Area 700 Landfill
WSTF

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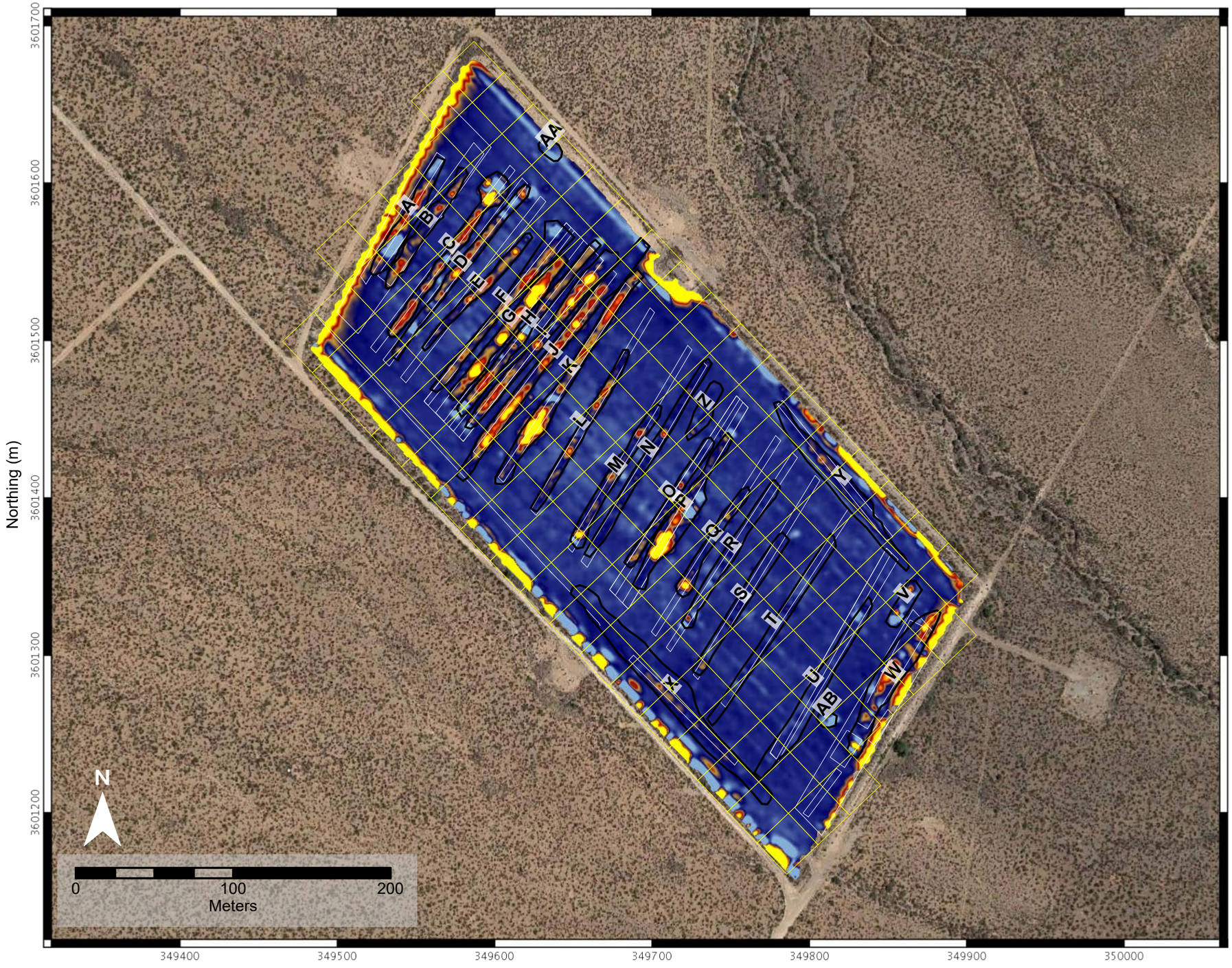
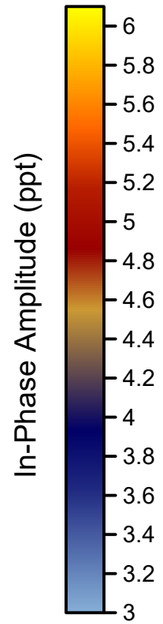
Project #: 20-020	March 2020	
Drafted by: T. Ensele	Checked by: N. Pendrigh	**PLATE 5**





Key

- Geophysical Anomaly (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Coil 3 - Most Depth - Antenna separation 4.49 m (14.73 ft)

EMI In-Phase - Most Depth
Area 700 Landfill
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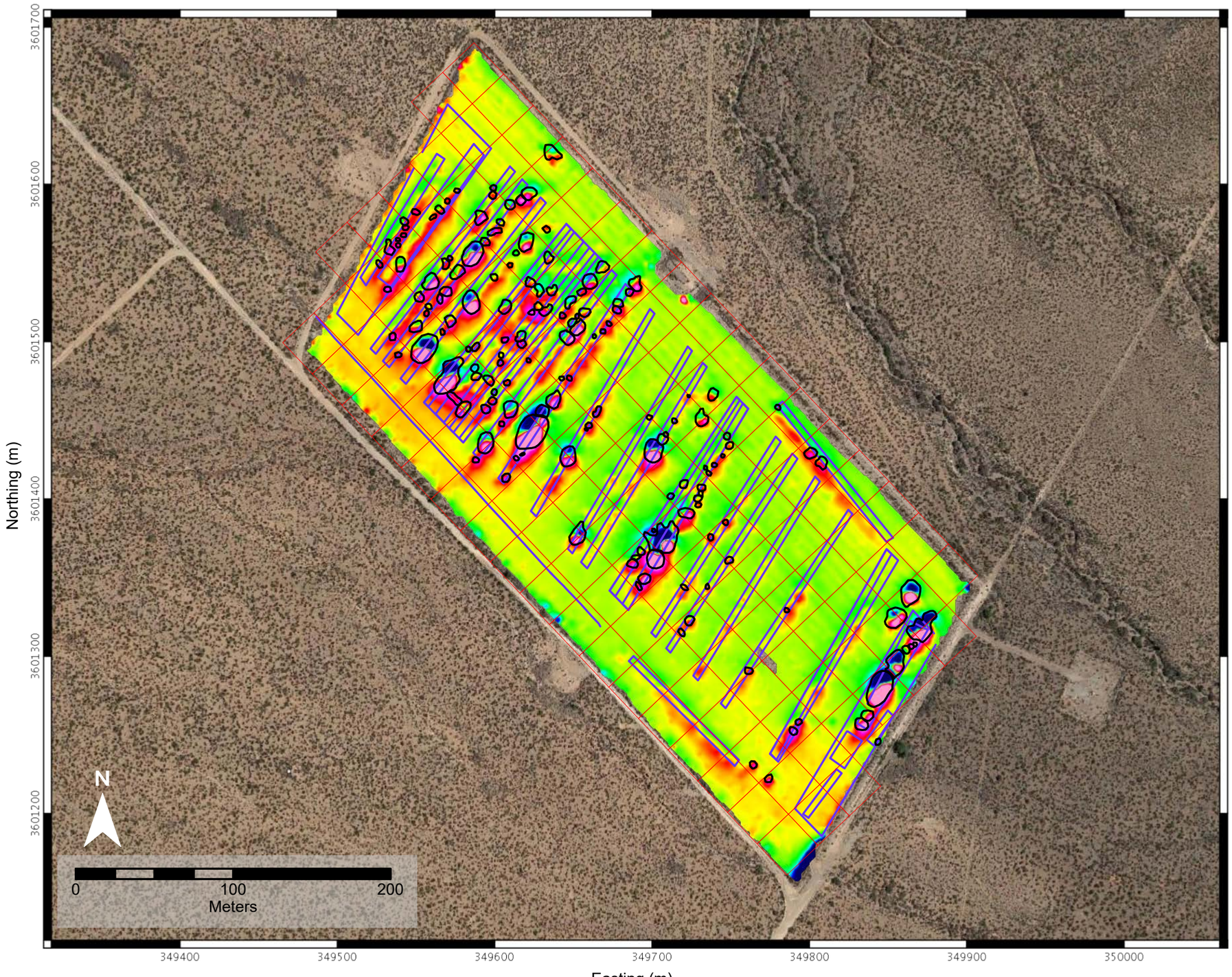
Project #: 20-020	March 2020	
Drafted by: T. Ensele	Checked by: N. Pendrigh	**PLATE 6**



Top Sensor

Total Field Intensity (nT)

47600
47550
47500
47450
47400
47350
47300
47250
47200
47150
47100
47050
47000
46950
46900
46850
46800
46750

Key

- Magnetic Anomaly (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Magnetic Total Field Intensity
Area 700 Landfill
WSTF

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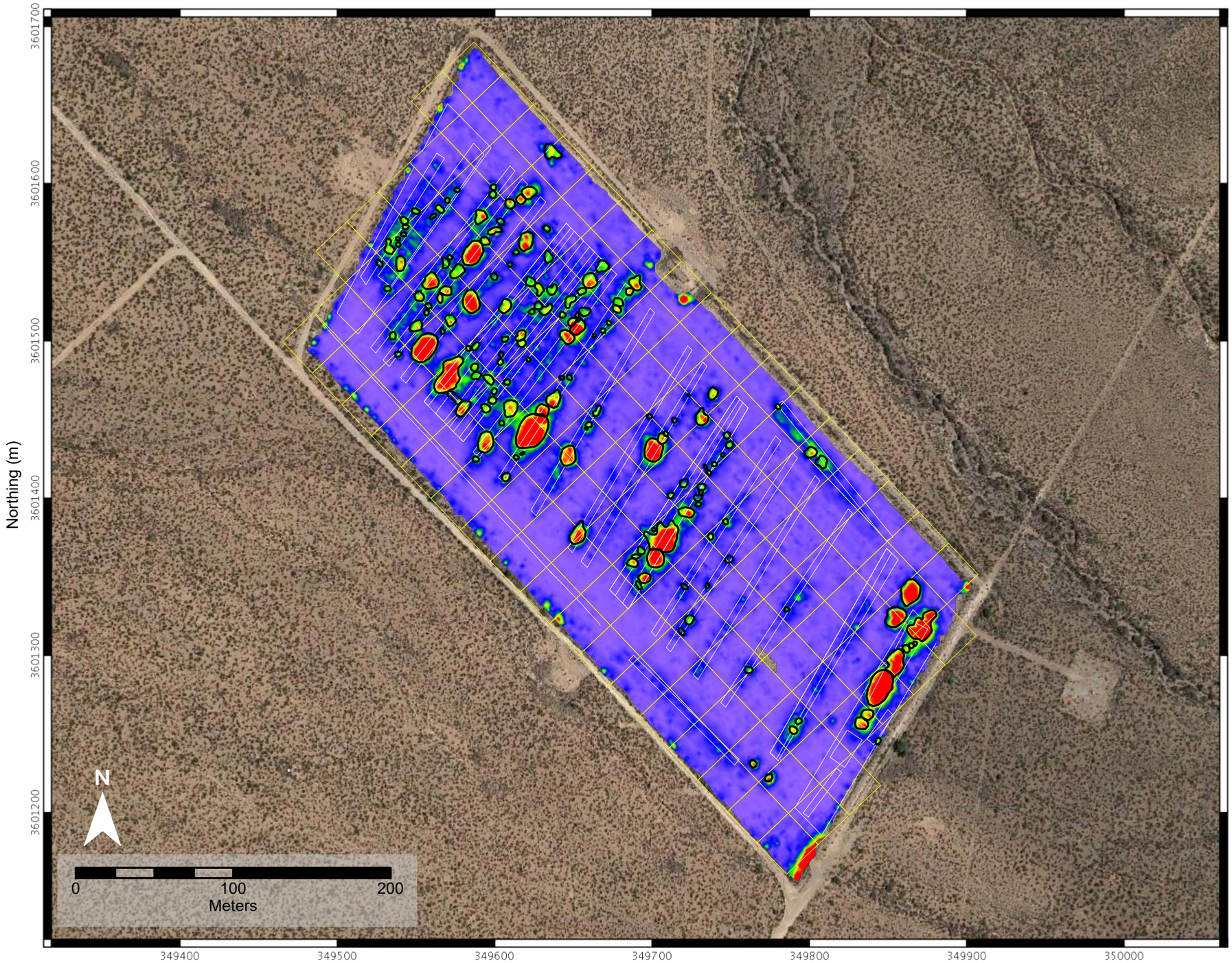
Project #: 20-020	March 2020	
Drafted by: N. Pendrigh	Checked by: T. Ensele	**PLATE 7**



Analytic Signal (nT/m)

200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10

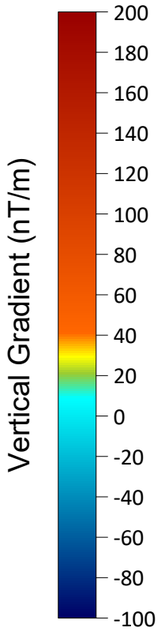
Key

- Magnetic Anomalies (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Top Sensor

Magnetic Analytic Signal
Area 700 Landfill
WSTF

Navarro Research & Engineering, Inc.		COLLIER GEOPHYSICS
Project #: 20-020	March 2020	
Drafted by: N. Pendrigh	Checked by: T. Ensele	**PLATE 8**



Key

- Geophysical Anomaly (interpreted)
- SVS Grid
- Trench locations (provided to Collier by Navarro)

Magnetic Vertical Gradient
Area 700 Landfill
WSTF

Navarro Research & Engineering, Inc.		COLLIER GEOPHYSICS
Project #: 20-020	March 2020	
Drafted by: N. Pendrigh	Checked by: T. Ensele	**PLATE 9**

Appendix F
Collier Geophysics Active Multichannel Analyses of Surface Waves and Passive Seismic Survey Reports

COLLIER GEOPHYSICS
Surface • Marine • Borehole

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A Service-Disabled Veteran-Owned Small Business (SDVOSB)

August 23, 2021

To: Geoffrey Giles
Navarro Research and Engineering
WSTF/JSC
12600 NASA Road
Las Cruces, NM 88012
VIA Email: geoffrey.c.giles@nasa.gov

RE: Geophysical Letter Report | Project #20-167
WSTF Area 700 Landfill Geophysical Investigation
Las Cruces, NM

Collier Geophysics, LLC (Collier) conducted a geophysical investigation on behalf of Navarro Research and Engineering (Navarro), at a historical landfill site located within the 700 Area Landfill of the White Sands Test Facility (WSTF) approximately 18 miles northeast of Las Cruces, NM (Figure 1).

The objectives of the investigation were to: 1) refine the location and dimensions (including depth) of landfill trenches (*as documented in previous studies*), and 2) provide additional information relative to the nature of the alluvial-bedrock interface below the 700 Area Landfill. In order to achieve the first objective, two geophysical methods were tested: ground penetrating radar (GPR) and active multi-channel analysis of surface waves (AMASW). In order to achieve the second objective, a passive seismic surveying method (PSS) was tested. One day of testing was allocated for each proposed method. Following evaluation of each test dataset, PSS and AMASW were determined to be the two methods best suited to achieving the survey objectives. Production data collection using PSS and AMASW immediately followed the testing.

Geophysical method testing and production data collection occurred from May 25th to June 1st, 2021, led by Collier senior geophysicist Jim Pfeiffer. AMASW data were collected over 16 of the 27 geophysical anomalies (based on the EMI and MAG survey results conducted in February 2020 by Collier Geophysics, project #20-020) associated with trenches, where ground surface conditions were accessible for using a towed land streamer. On June 2nd, the endpoints of the remaining 11 geophysical anomalies were flagged and labeled in the field using a GPS stakeout survey to mark the line paths for

brush clearing. These line paths required ground surface pre-treatment by mowing prior to seismic data collection to provide adequate ground surface access for coupling of the land streamer receivers to the surface. Following completion of mowing operations, a field crew was mobilized, led by Collier geophysicist Roy Bowling to acquire AMASW data over the 11 remaining geophysical anomalies / trench locations. The 11 AMASW lines were acquired June 8th and June 9th, 2021. The following subsections summarize the site conditions, methodologies and data acquisition; and present the results from the geophysical investigation. For further information regarding the details of the GPR, PSS and AMASW methods, Collier can submit method addenda to this report upon request.

Figure 1. Location of WSTF, indicated by red star, near Las Cruces, NM (Google Earth Images).

Site Conditions

The site is located within a secured area within the White Sands Test Facility. The investigation area is comprised of approximately 25 acres of the 700 Area landfill enclosed by metal fencing. The surface is primarily desert pediment composed of poorly sorted clay, sand and cobbles. Over most of the landfill, a shallow hard pan has formed just below the ground surface. A grid comprised of 90 ft. gridlines had been established with soil vapor borings placed at the grid centers (Figure 2). Low vegetation covered most of the site with some bare ground areas over the trench locations. Vegetation consisted of dry bunch grasses, small sagebrush, small mesquite bushes, rabbit brush

and various cacti. The site is flat with little topographic relief. A single surface drainage ditch, several feet deep and 10 to 12 feet wide and about 500 feet long, runs parallel to the northwest-southeast grid orientation near the northwestern portion of the investigation area.

Conditions were dry, hot and sunny with wind gusts and high temperatures in the upper 80's and low 90's degrees Fahrenheit (Photo 1).

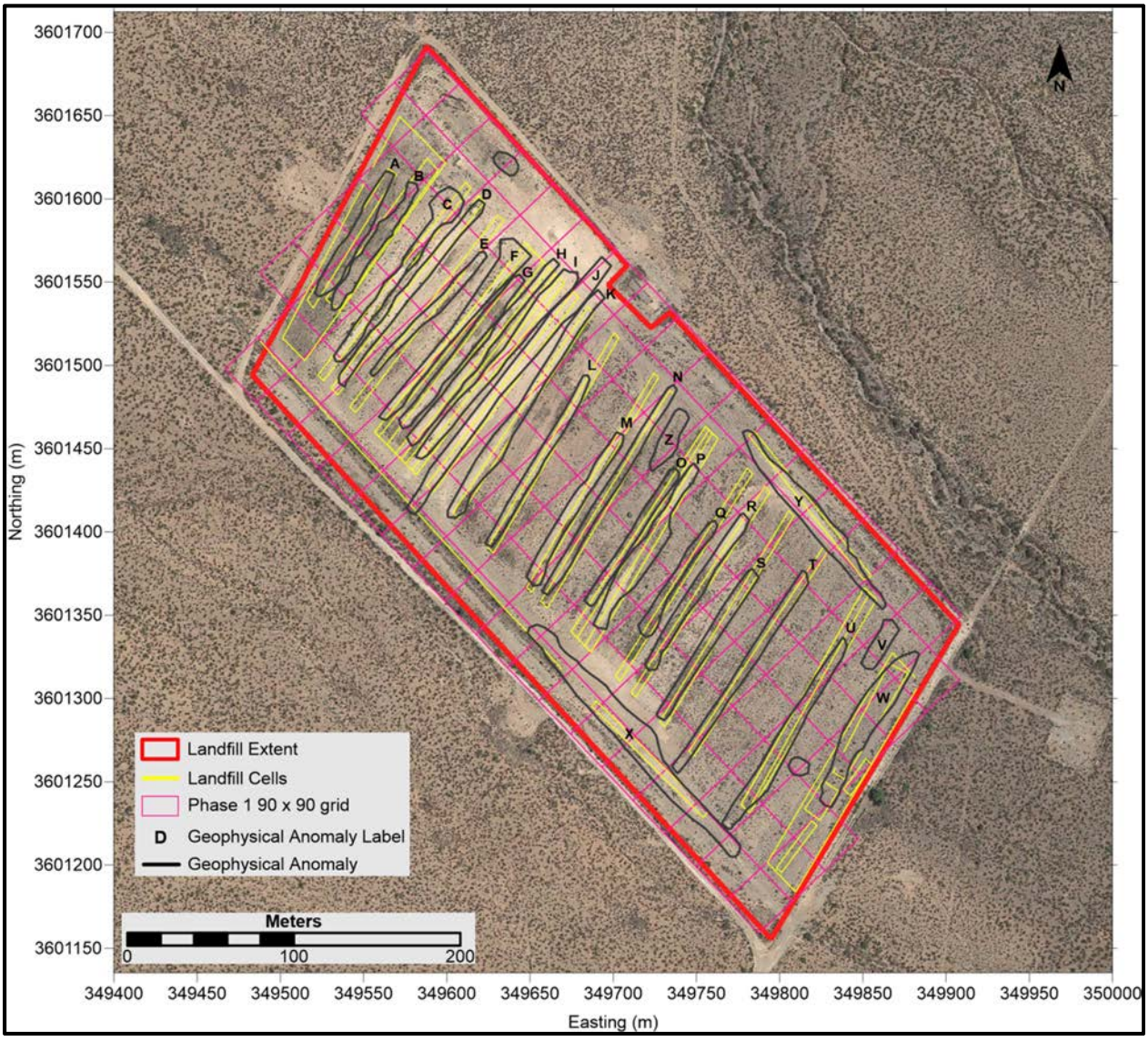


Figure 2. Detail of the Area 700 Landfill with cell boundaries (yellow outlines), 90 x 90 foot gridlines (pink), and geophysical anomaly outlines (black) (Google Earth imagery).

Photo 1. Site conditions found during the geophysical investigation.

Data Acquisition

Ground Penetrating Radar (GPR)

A GPR method test was conducted over seven test lines, using both 100 MHz and 400 MHz antennas and a GSSI Inc. SIR4000 console. Data positioning was accomplished using a Trimble Geo7x differential grade GPS receiver. The Geo7x streams an ascii NMEA string directly into a serial port input on the SIR4000 and is recorded simultaneously with the GPR data. Data acquisition parameters for the 100 MHz included:

- GPR Console: GSSI, Inc. SIR4000
- GPR Antenna: GSSI, Inc. 100 MHz monostatic
- Samples/Trace: 1024
- Scans/Sec: 93
- Scans/Meter: 39.37
- Time Range: 300 nsec
- Positioning: Trimble Geo7x GPS and calibrated wheel counter

Data acquisition parameters for the 400 MHz included:

- GPR Console: GSSI, Inc. SIR4000
- GPR Antenna: GSSI, Inc. 400 MHz monostatic
- Samples/Trace: 1024
- Scans/Sec: 93
- Scans/Meter: 78.74
- Time Range: 80 nsec
- Positioning: Trimble Geo7x GPS and calibrated wheel counter

Active Multi-channel Analysis of Surface Waves (AMASW)

An AMASW survey was conducted along 26 profile lines along the long dimension of previously selected geophysical anomalies, and one line over a background area with no geophysical anomaly or suspected burial trench (Figure 3), for a total of 27 lines. The nominal data acquisition parameters included:

- Seismograph: Geometrics Inc.,24 channel Geode system
- Geophones: 24 Channel Gimballed Land Streamer
- Geophone Spacing: 1 meter (3.28 ft.)
- Seismic Array: Pull spread with constant 5 meter source offset
- Seismic Source: 16 lb. Sledgehammer and HDPE strike plate
- Source Spacing: 4 meters
- Sample Rate: 0.5 msec
- Record Length: 1 second

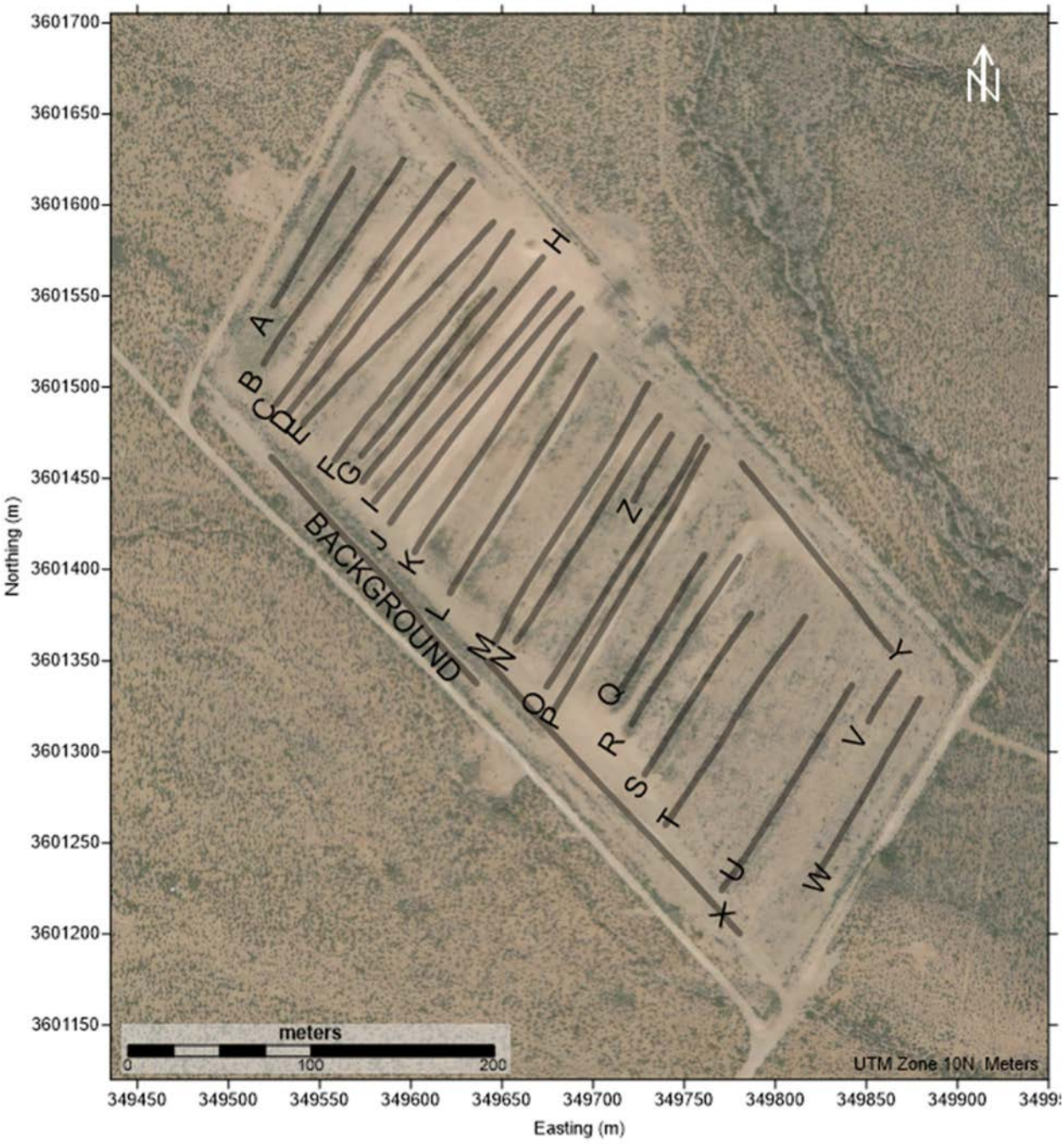


Figure 3: Active MASW Line Locations. Line letter designations note the zero point for each line.

Passive Seismic Survey (PSS)

A PSS survey was conducted along eight profile lines oriented in an orthogonal grid pattern (Figure 4). The nominal data acquisition parameters included:

- Seismograph: Geometrics Inc.,72 channel Geode system
- Geophones: RTC 4.5 Hz single vertical element
- Geophone Spacing: 20 ft.
- Seismic Array: Static Array with full line active (up to 72 channels live)
- Passive Energy Sources: Backhoe with Accelerated Weight Drop (AWD) fill-in
- Sample Rate: 2 msec
- Record Length: 30 seconds

The backhoe, which was supplied and operated by Denco, Inc., was positioned along the perimeter road. in-line with the geophone array. Data were recorded for 10 to 20 minutes (30 second consecutive seismic records) with the backhoe operator hitting the ground with the back side of the bucket. The backhoe source was located off both ends of each line for PSS data acquisition, with the exception of source locations on the northeast side of the landfill. On that northeast side, the PSS array was extended beyond the landfill boundary into the surrounding desert to ensure sufficient array length to image to the desired depth of investigation.

On this northeast side of the landfill the backhoe could not access the end of the seismic array. For all the PSS lines, additional seismic energy was generated using an AWD source mounted to an RTV (*inset image right*). During PSS data recording the RTV was driven up and down the active array and the AWD impacted the ground at random locations. Based on the recorded files, using the RTV/AWD in this fashion added additional surface wave frequency content that improved the higher frequency fundamental mode dispersion curve amplitude.

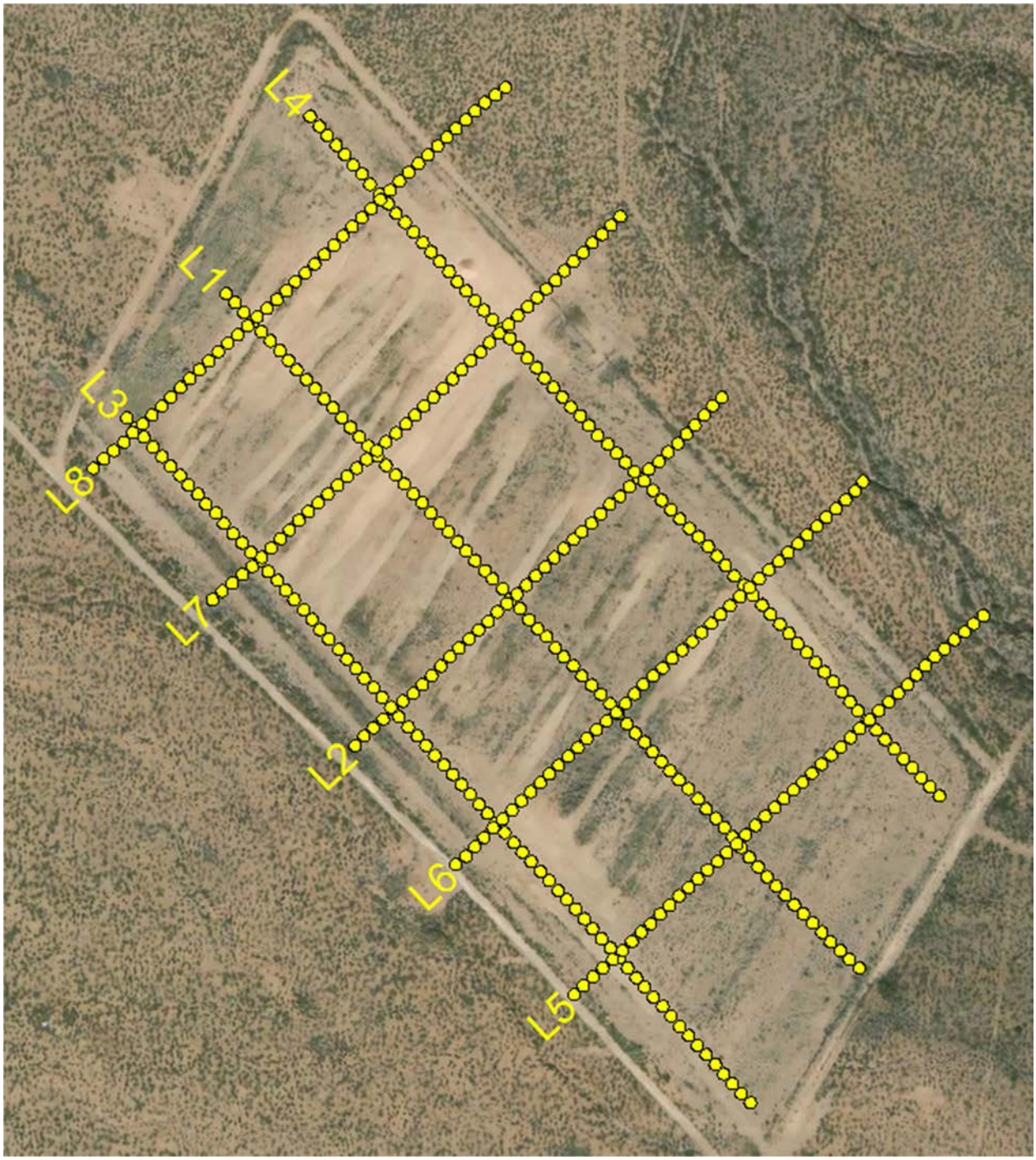


Figure 4: PSS Line Layout

Data Processing

Ground Penetrating Radar (GPR)

GPR data were processed using GPR Mapper, which includes a set of internally developed processing routines. The GPR data processing flow included:

- Time-zero clipping
- Moving average subtraction (DC and low frequency offset removal)
- Window-limited time-squared gain function
- Average-trace background subtraction
- Bandpass filtering (400 MHz antenna: 120-600 MHz, 100 MHz antenna: 20-200MHz)

Multi-channel Analysis of Surface Waves

MASW analysis consists of generating a frequency-velocity transform from the surface waves, picking the transformed data to derive a dispersion curve, and inverting this dispersion curve to create a layered shear-wave velocity (Vs) model. These steps result in one-dimensional (1D) Vs sounding models centered at each group of active geophones. The 1D Vs soundings are combined to generate a 2D Vs profile of the line. The program ParkSeis©, version 3.0, by Park Seismic, was used to accomplish these steps, for both the active and passive MASW work, AMASW and PSS, respectively.

For the AMASW, all 24 channels of the landstreamer were used for each sounding. Therefore, a 1D sounding is generated for each streamer location, and it is located at the midpoint of the 24-channel array. The entire landstreamer was moved along each line by 4 meters at a time; this means that a 1D AMASW sounding is generated every 4 meters. These 1D soundings are then used to generate the 2D profiles, which in turn are then used to interpret the bottom of each trench. See Figure 5 for an example dispersion curve from the AMASW method used at 700 Area; the usable frequencies ranged between 10 and 150 Hz, with good high-frequency content. This helps image the shallow layers; that is, the landfill materials for this project.

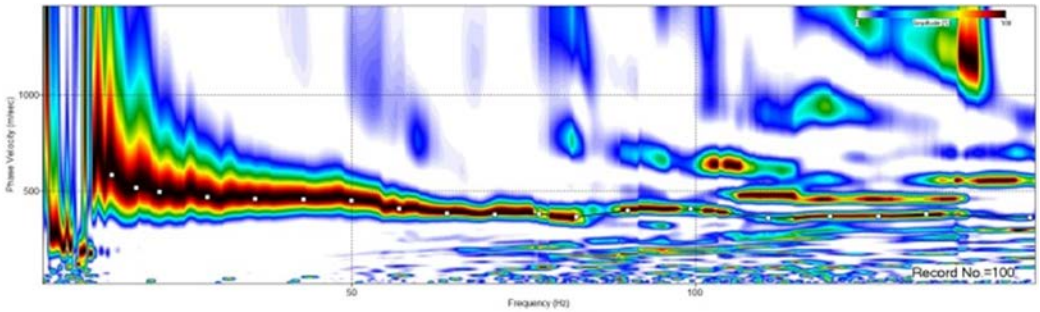


Figure 5: Example AMASW dispersion curve, taken from Line B.

For the PSS survey, each static spread, consisting of 64 or 72 channels, was cut up into records using 20-24 channels at time, with the active channels moved by 120 feet (36.6 meters) down each line (See Figure 6). In this way a moving array, similar to that used

in the AMASW collected using a moving landstreamer array, is extracted from the static PSS array. This record 'cutting' approach is completed for each file collected, so that the overtone records from multiple files are stacked together before picking the dispersion curve. This greatly improves the signal to noise and allows for more robust dispersion curve picks. See Figure 7 for an example passive dispersion curve produced from this PSS record cutting method. Each dispersion curve was then inverted to generate 1D Vs models every 120 feet down the seismic line. These soundings were then used to generate 2D profiles for each PSS line, which in turn were used to estimate depth to rock.

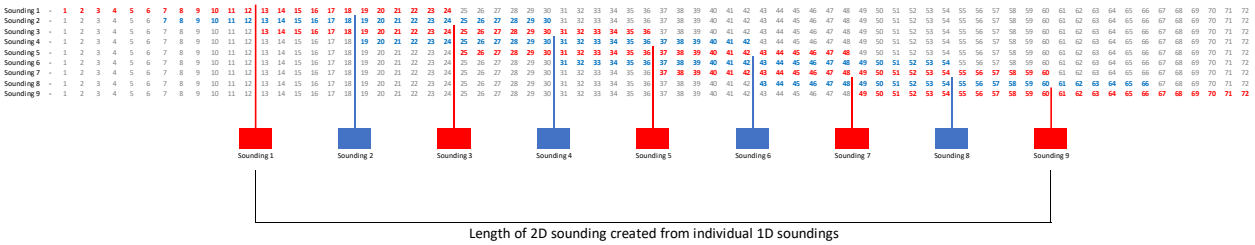


Figure 6: Demonstration of where 1D Vs soundings are generated to create a 2D Vs profile from the static passive seismic array used at 700 Area.

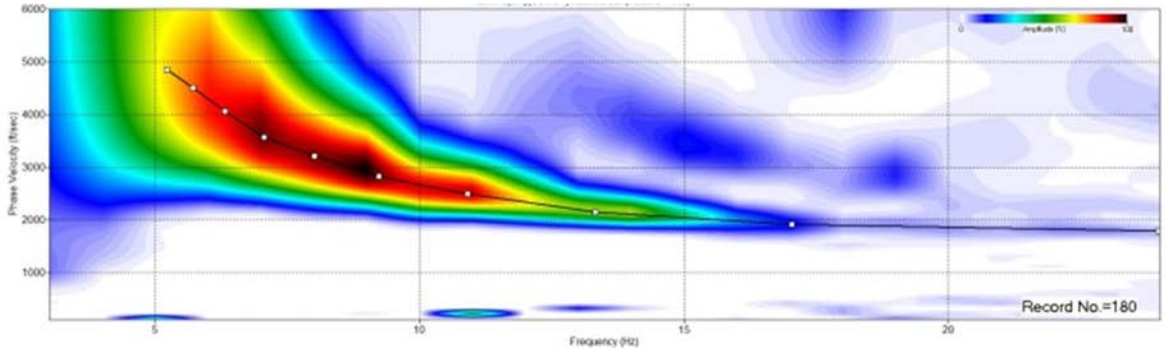


Figure 7: Example passive dispersion curve, taken from passive Line 1

Results and Discussion

The results of the geophysical investigation are appended to this report as a series of nine figures in the attached Appendix A. Each figure is presented as an 11 x 17 inch document. Figures A1 and A2 present results from the GPR test survey. Figures A3-A7 present results from the AMASW survey for mapping the bottom of the landfill trenches. Figures A8 and A9 present results from the PSS survey for mapping the top of rock below the landfill.

Ground Penetrating Radar

Figures A1 and A2 show sample results from the GPR using the 400 MHz and 100 MHz antennae, respectively. Both results show a very limited depth of penetration, and do

not image deep enough to see the trench bottoms. These tests showed that GPR would not be an effective tool to meet the project objectives.

Active Multi-channel Analysis of Surface Waves (AMASW)

The results from the AMASW survey are shown in two ways. First, Figures A3-A6 show the 2D depth profiles for each AMASW line, with the interpreted trench bottom shown. The velocity profiles generally show a low velocity zone (generally less than 300 m/s)) that appears to be related to the landfill trench materials. A background line that was collected in an area without any known trenches does not show a low velocity zone like those seen when collected over trenches identified with the electromagnetics and magnetics surveys. This reinforces the conclusion that the low velocity zones indicate the vertical extent of the trenches and the materials contained within them. It should be noted that it is possible that the actual shape of the trenches varies somewhat from the AMASW interpretations, due to both resolution limitations of the method and the possibility that the trenches could contain objects that could have high velocity values which would skew the seismic results and thus the interpretation(s). Figure A7 shows a plan view map of the interpreted depth to trench bottoms, as defined by the interpretations shown on each AMASW profile. It should be noted that the trench location designated as Trench Z does not show any evidence of a trench in the AMASW results. It is likely that the magnetic anomalies at this location are caused by some metal object not located within a trench.

In addition to the estimated trench thickness as determined from AMASW, Figure A7 also shows updated trench outlines that are based on interpretations of the Frequency Domain Electromagnetics (FDEM) and Magnetics (MAG) data that were collected in February of 2020 as part of Collier Project 20-020, along with the AMASW results from this project. Trench outlines are based on areas where the AMASW results show a low velocity zone, or where either the FDEM and/or the MAG results indicate elevated response(s). Additionally, the MAG results are shown in grayscale beneath the trench depth estimates from AMASW. Attempts were made to use the depth information gained from AMASW combined with the FDEM and MAG results to better refine the depth estimates, but it was determined that the variability of the debris materials within the trenches made this approach unreliable.

Passive Seismic Survey (PSS)

The PSS results are shown in Figures A8 and A9. Figure A8 shows the 2D velocity profiles with the interpreted top of rock shown in blue. The top of rock interpretations are based on the 1,100 m/s contour line. The depth to rock varies between about 40 m and 70 m below ground surface. Figure A9 shows the plan view map of the interpreted depth to rock under the landfill area based on the 8 PSS sections. The map shows that rock is significantly deeper to the northwest. There are previously inferred faults within the area, shown as purple dashed lines on Figure A9. The strike of these faults generally line up with the change in depth to rock observed in the interpreted PSS results. The PSS method is not capable of detecting the fault itself due to the broad spacings of the 1D sounding approach of the method, but the results are consistent with the general position of the northern fault traversing the 700 Area landfill.

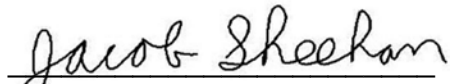
Closure

The quality of both the PSS and AMASW data acquired during this investigation was very good. For the PSS survey, the backhoe provided high amplitude useable surface wave energy down to 5 Hz. For the AMASW data, the sledgehammer provided good fundamental mode surface wave energy from about 15 to over 100 Hz. Therefore, the quality of the data and good correlation yields a high degree of confidence in the seismic data results acquired, with the interpretations presented in this report. GPR data had limited depth penetration on all of the test lines collected at the site, both over and between the trench locations. With the limited depth penetration, GPR would not meet the survey objectives; therefore, production GPR data were not collected. Instead, AMASW production data were collected over all of the FDEM and MAG geophysical anomalies associated with trenches.

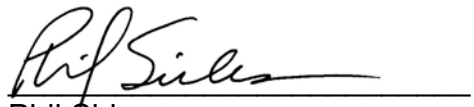
The geophysical methods and field procedures defined in this report were applicable to the project objectives and have been successfully applied by Collier geophysicists to investigations of similar size and nature. However, sometimes field or subsurface conditions are different from those anticipated and the resultant data may not achieve the investigation objectives. Collier warrants that our services were performed within the limits prescribed for this project, with the usual thoroughness and competence of the geophysical profession. Collier conducted this project using the current standards of the geophysical industry and utilized in house quality control standards to produce a precise geophysical survey.

If you have any questions regarding the field procedures, data analyses, or the interpretive results presented herein, please do not hesitate to contact us. We appreciate working with you and look forward to providing Navarro with geophysical services in the future.

Respectfully Submitted,



Jacob Sheehan
Senior Geophysicist



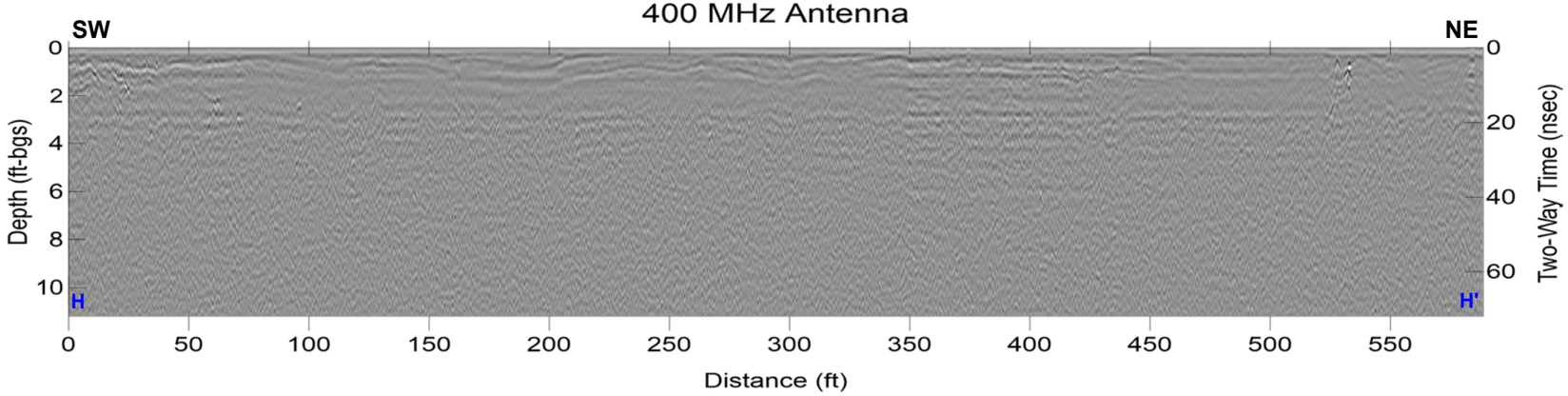
Phil Sirles
Senior Geophysicist / Operations Manager – Colorado

(1 copy e-mailed PDF format)

Appendix A – Geophysical Results and Interpretation Figures

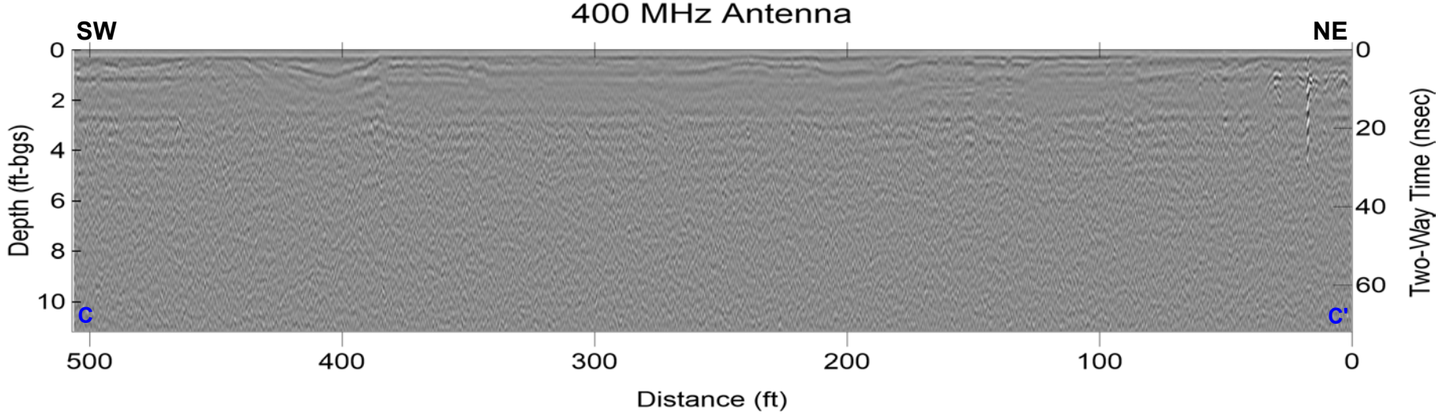
Trench H

400 MHz Antenna

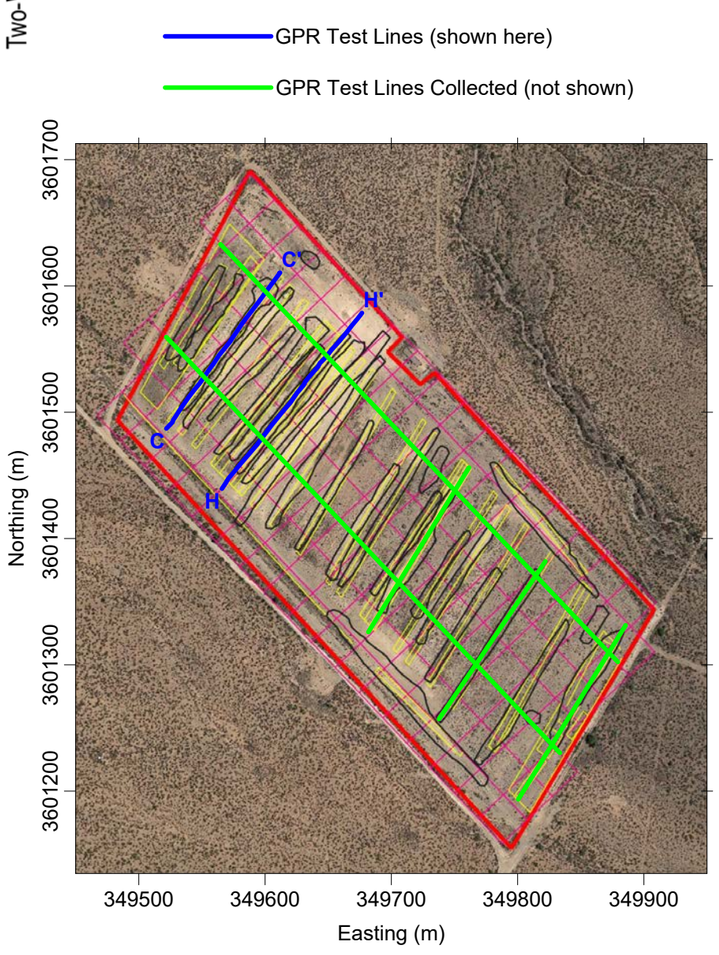


Trench C

400 MHz Antenna



10:1 Vertical Exaggeration



GPR Test Results - 400 MHz
700 Area Landfill

WSTF

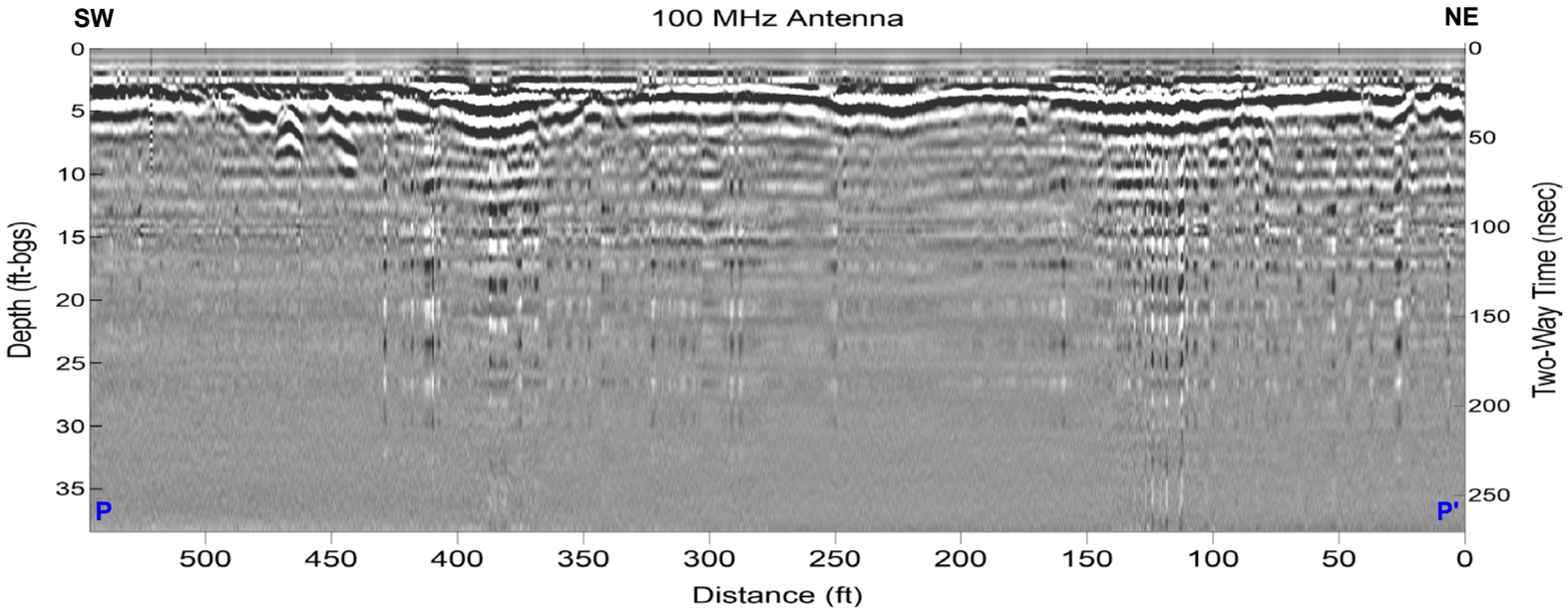
COLLIER GEOPHYSICS

Navarro Research & Engineering, Inc.

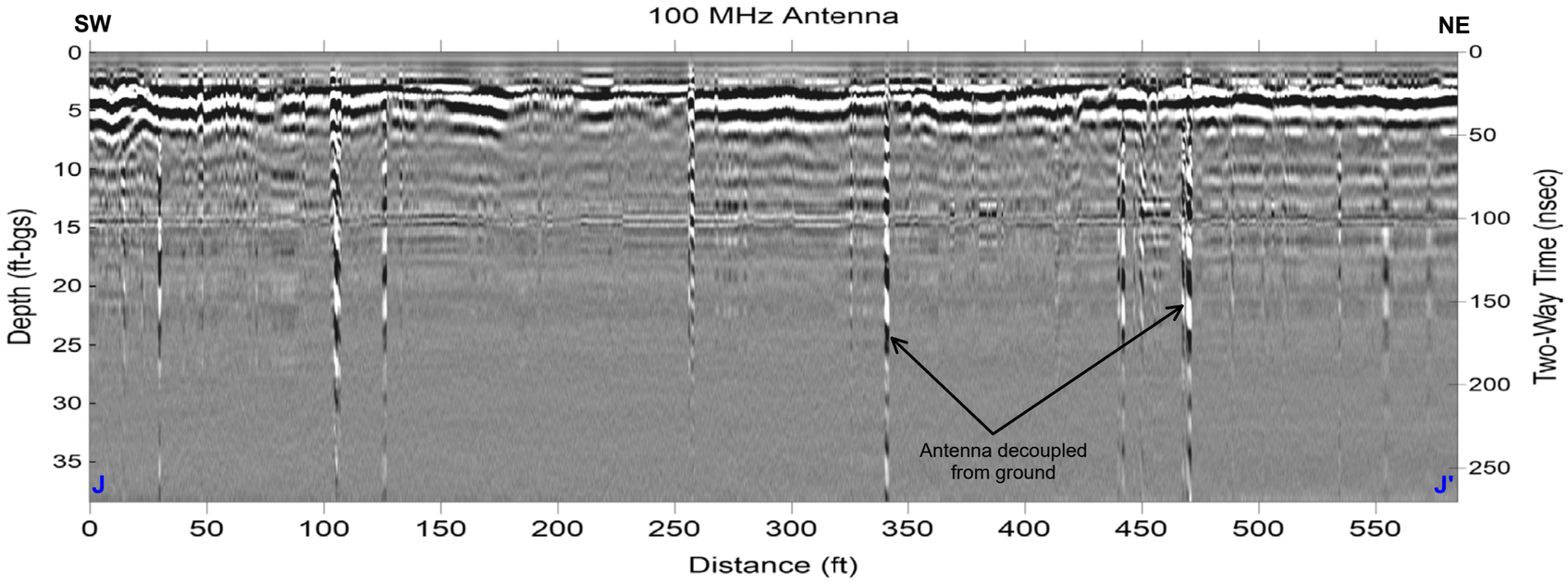
Project #: 20-167 **FIGURE A1**

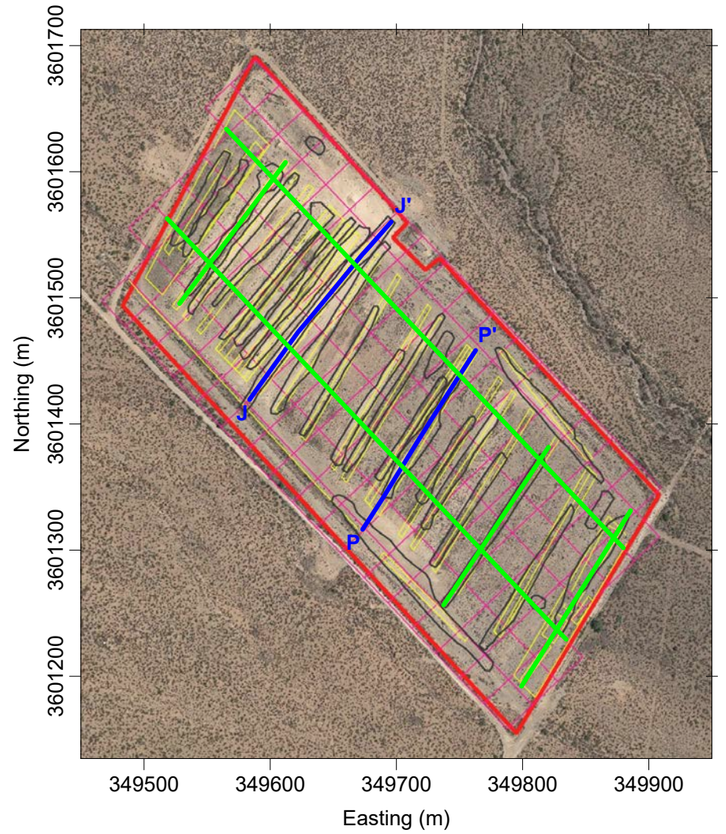
Drafted by: J. Pfeiffer Checked by: J. Sheehan **June 2021**

Trench P



Trench J





GPR Test Lines (shown here)

GPR Test Lines Collected (not shown)

5:1 Vertical Exaggeration

GPR Test Results - 100 MHz
700 Area Landfill
WSTF

COLLIER GEOPHYSICS

Navarro Research & Engineering, Inc.

Project #: 20-167 **FIGURE A2**

Drafted by: J. Pfeiffer Checked by: J. Sheehan **June 2021**

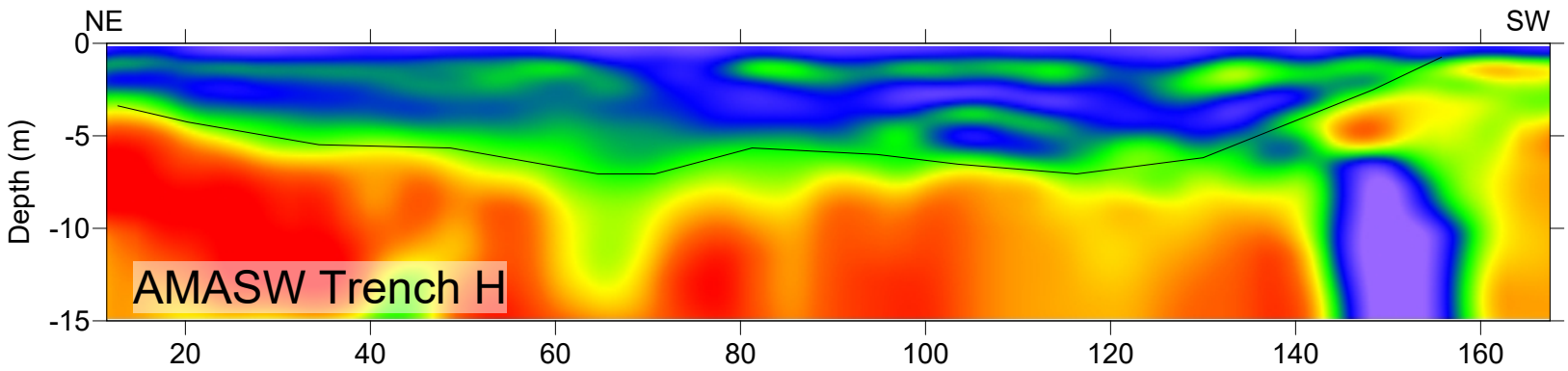
Seismic AMASW Results
700 Area Landfill
WSTF

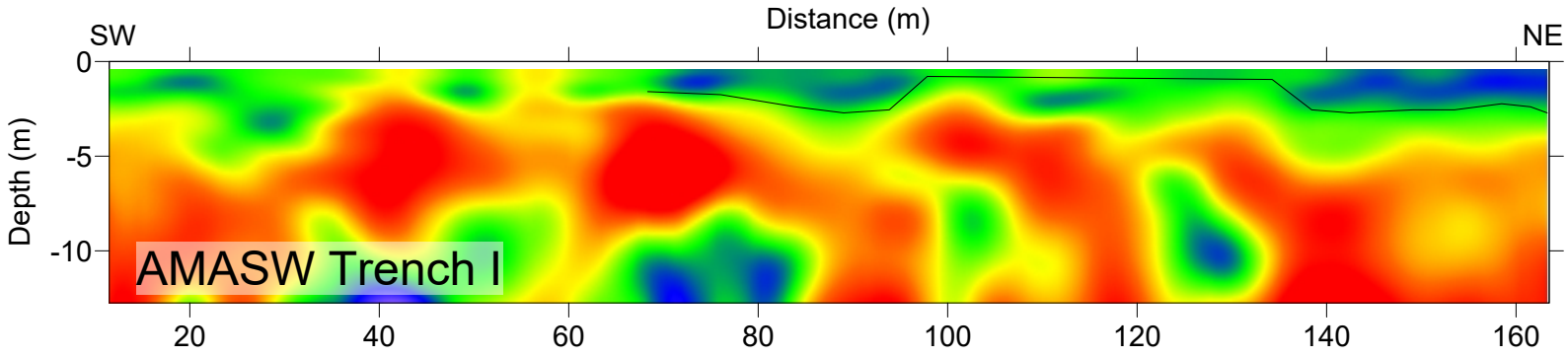
COLLIER GEOPHYSICS

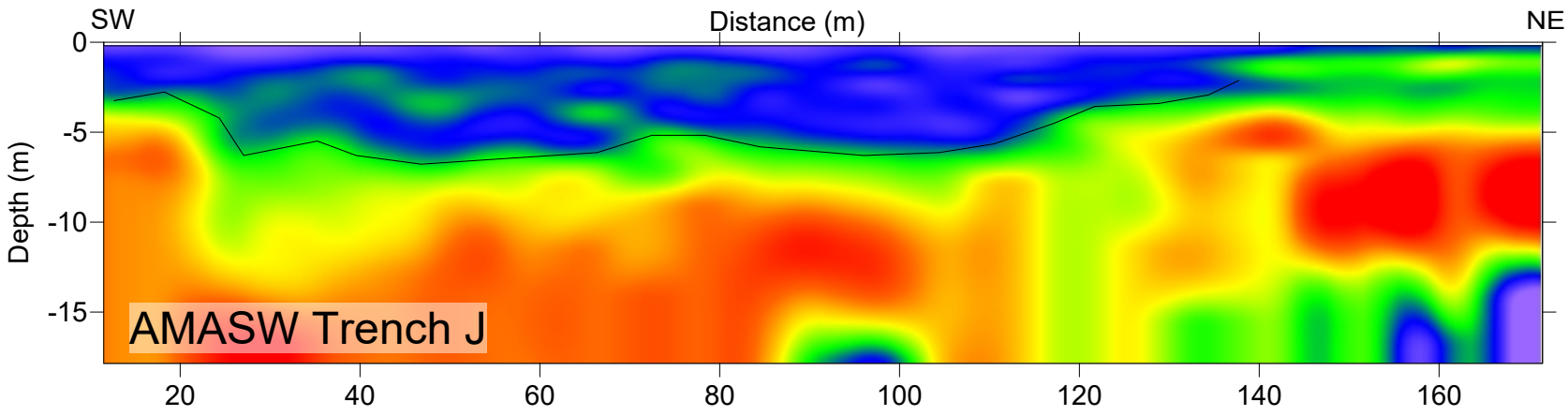
Navarro Research & Engineering, Inc.

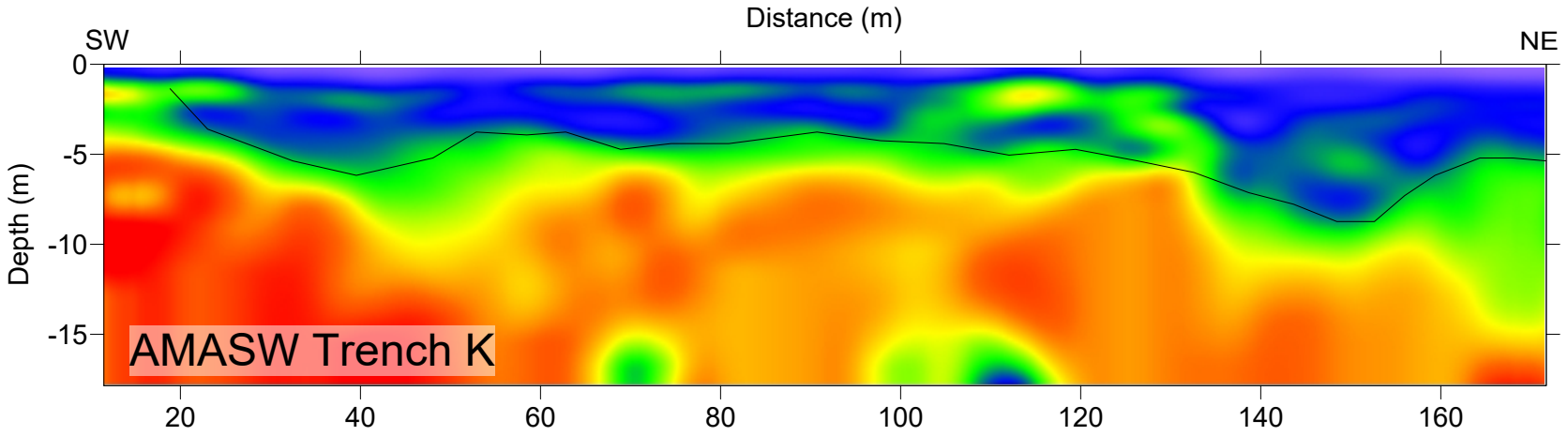
Project #: 20-167 **FIGURE A3**

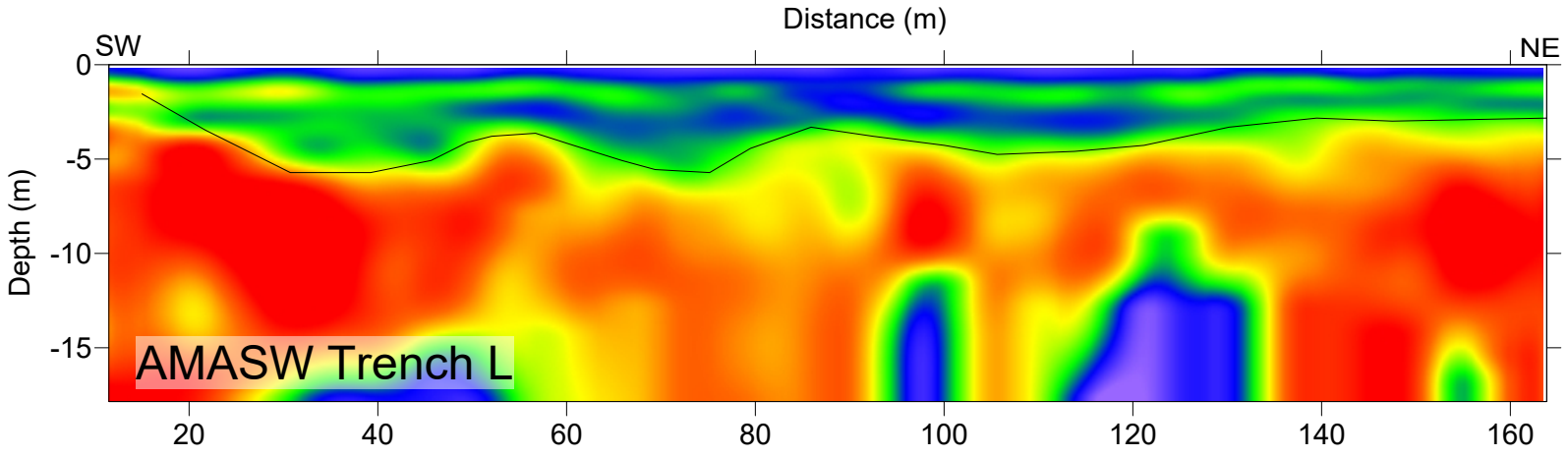
Drafted by: J. Pfeiffer Checked by: J. Sheehan **August 2021**

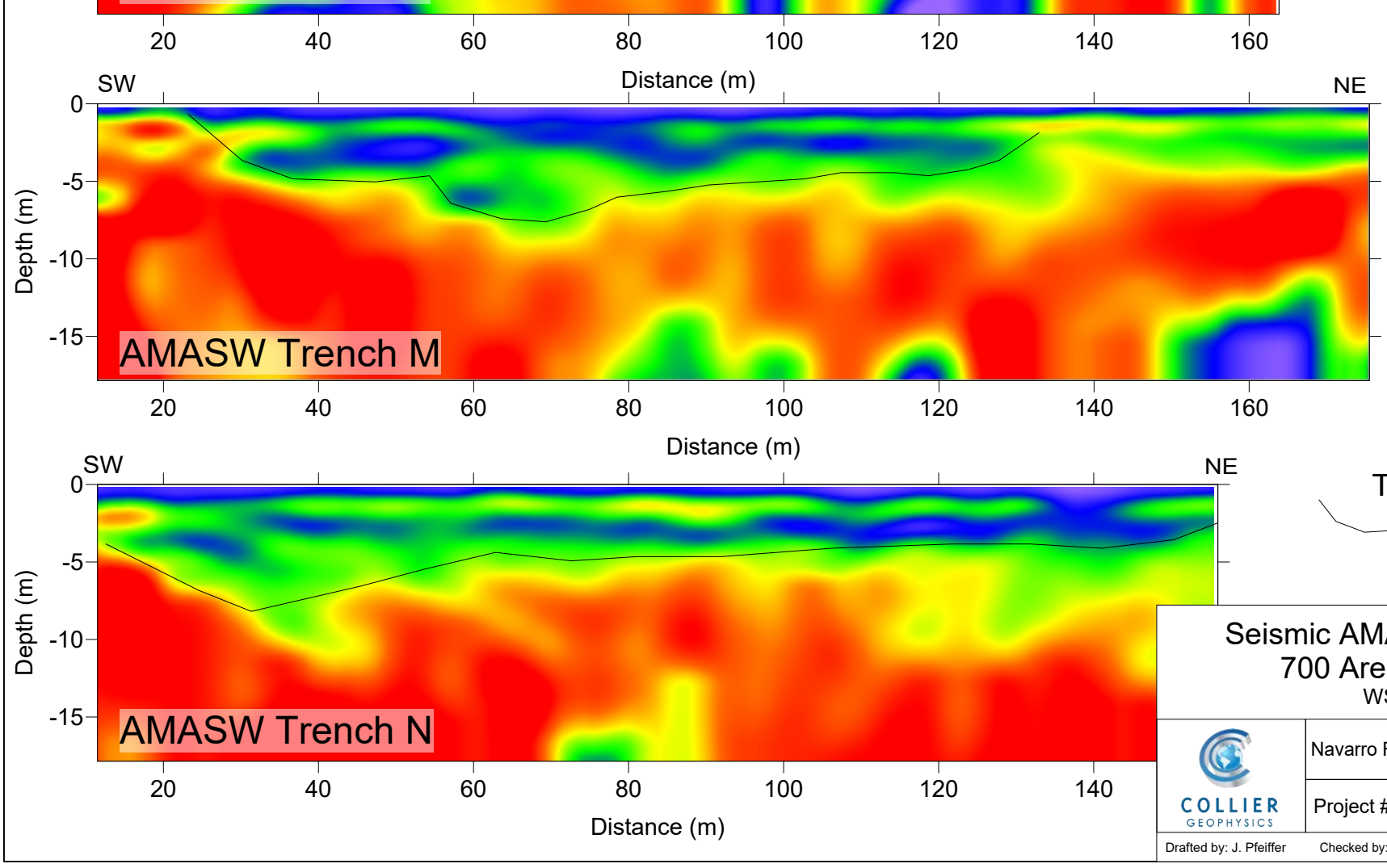


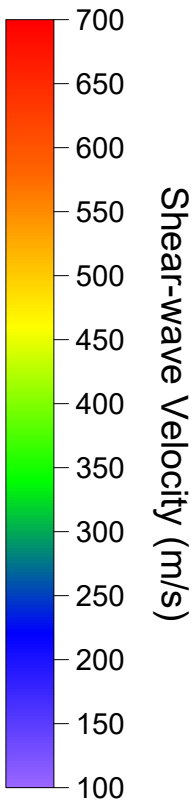












Interpreted Trench Bottom

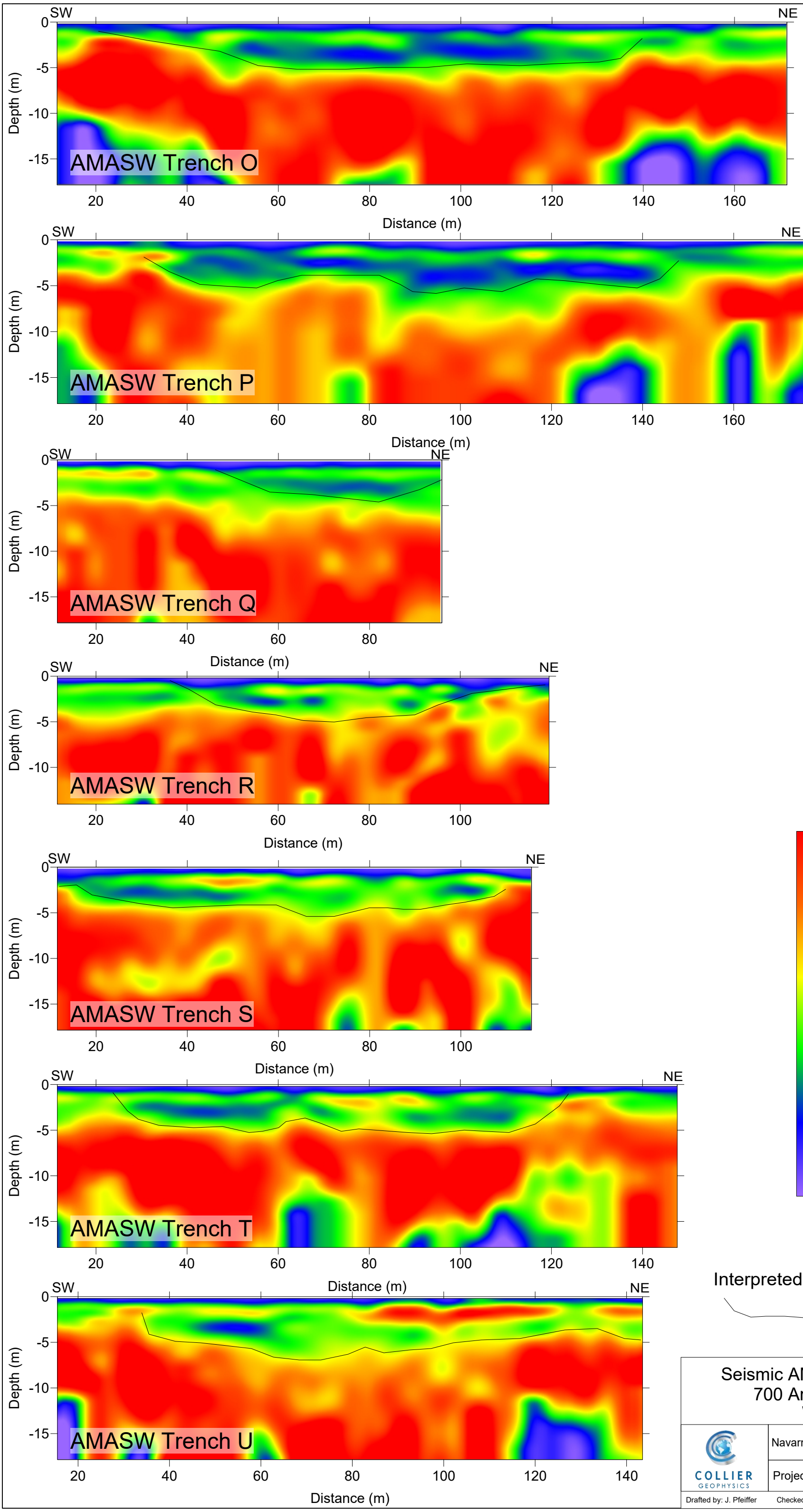
Seismic AMASW Results
700 Area Landfill
WSTF

COLLIER GEOPHYSICS

Navarro Research & Engineering, Inc.

Project #: 20-167 **FIGURE A4**

Drafted by: J. Pfeiffer Checked by: J. Sheehan **June 2021**



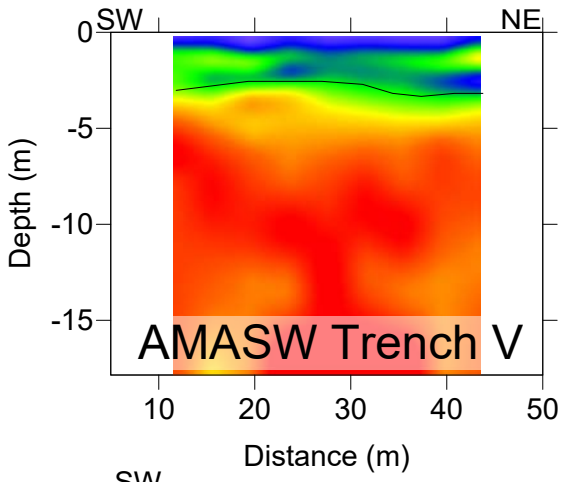
Seismic AMASW Results
700 Area Landfill
WSTF

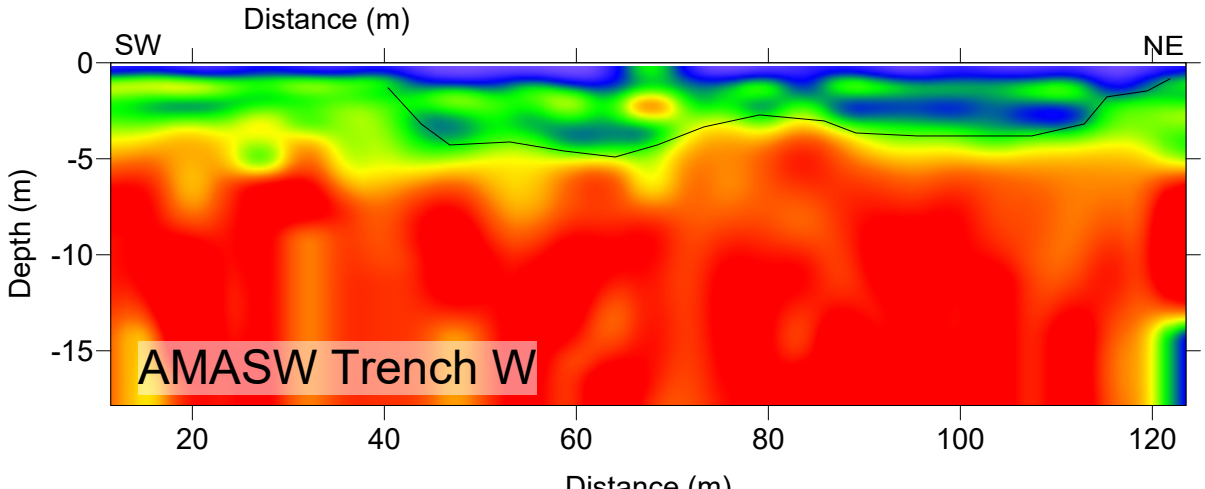
COLLIER GEOPHYSICS

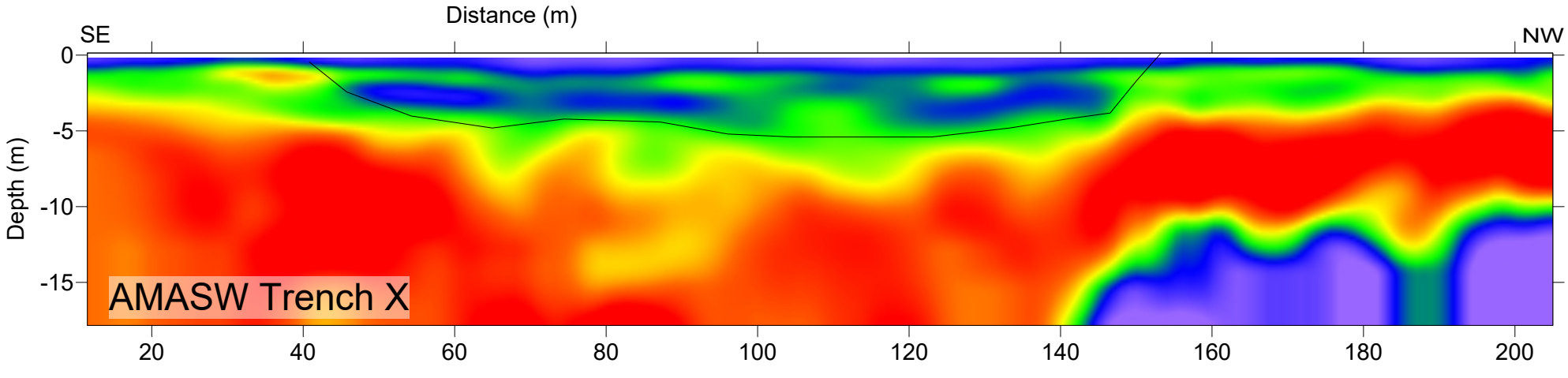
Navarro Research & Engineering, Inc.

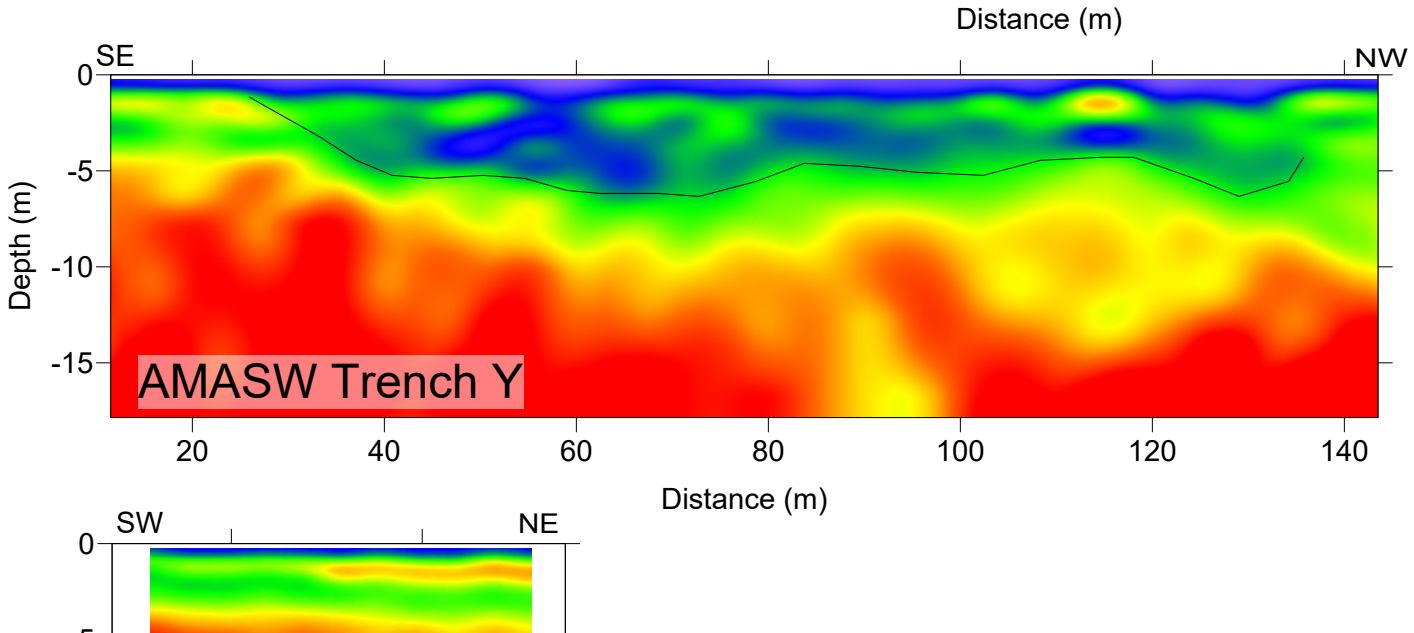
Project #: 20-167 **FIGURE A5**

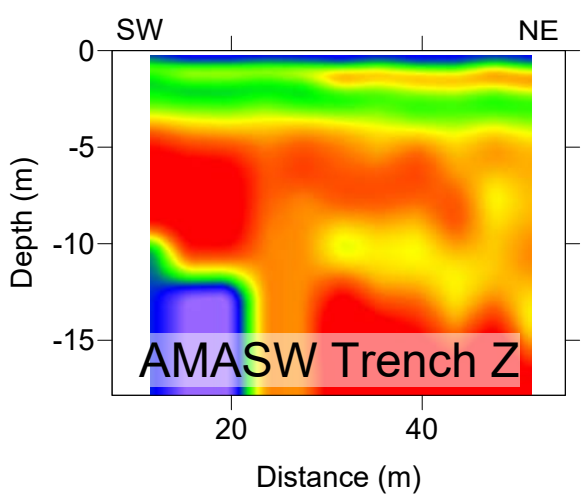
Drafted by: J. Pfeiffer Checked by: J. Sheehan **June 2021**

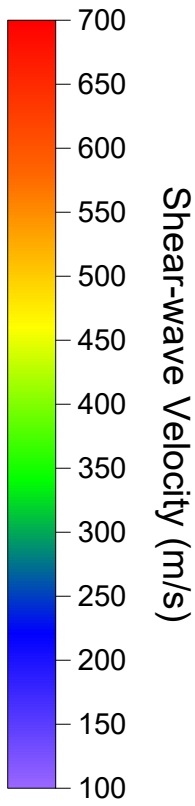


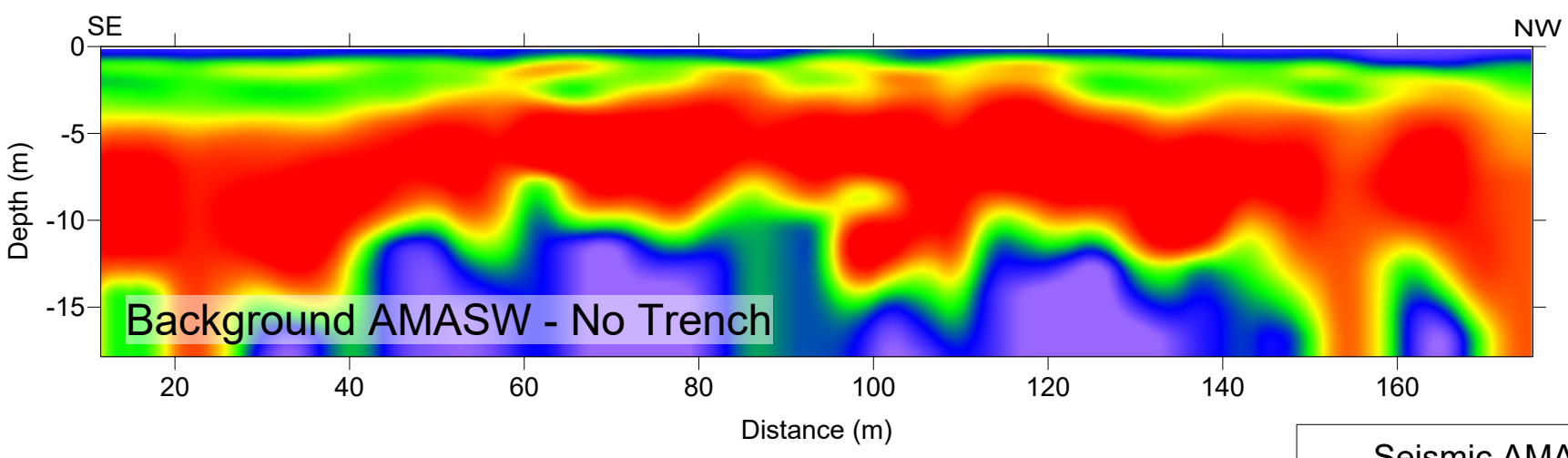












Interpreted Trench Bottom

Seismic AMASW Results
700 Area Landfill
WSTF

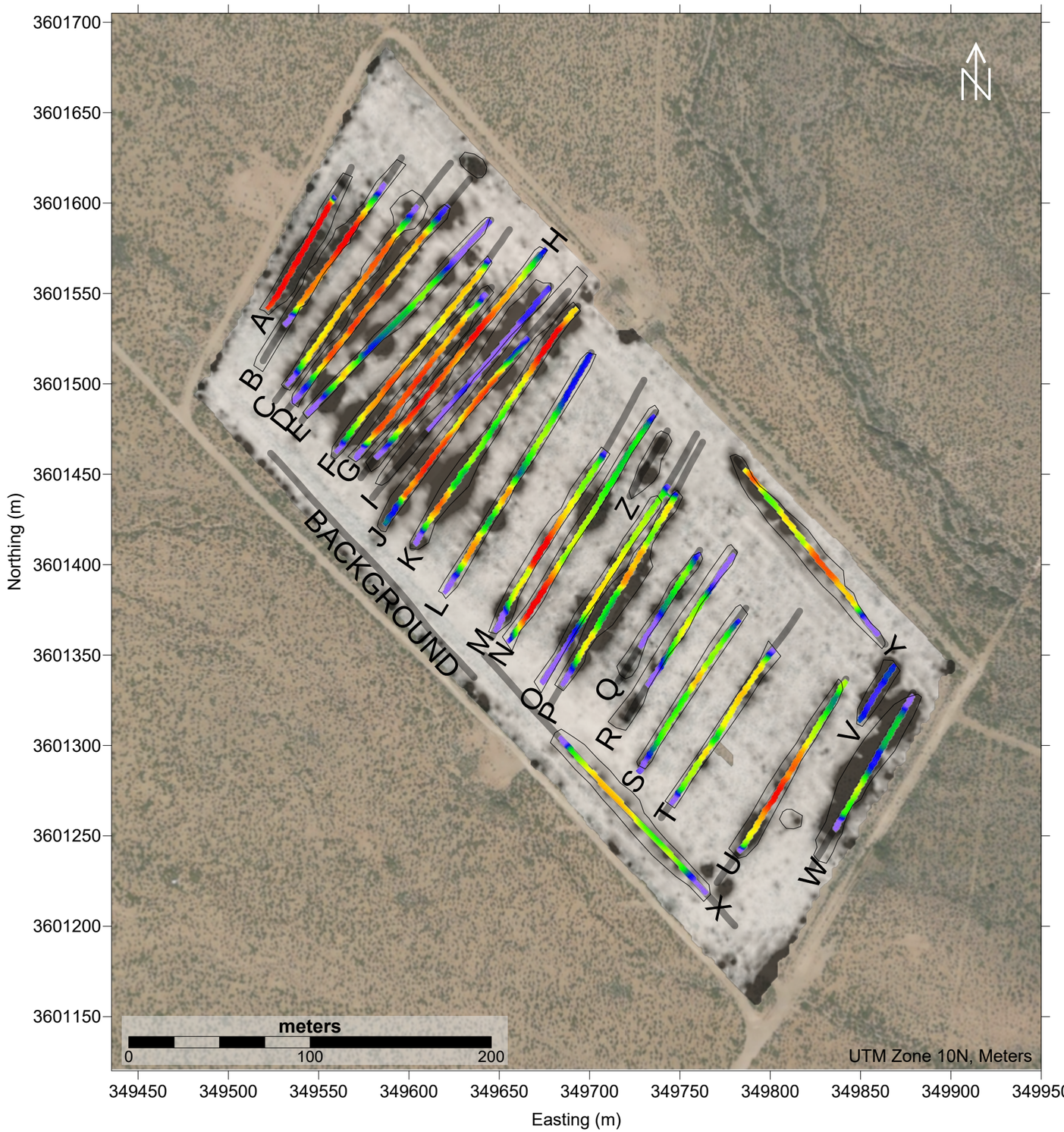
COLLIER GEOPHYSICS

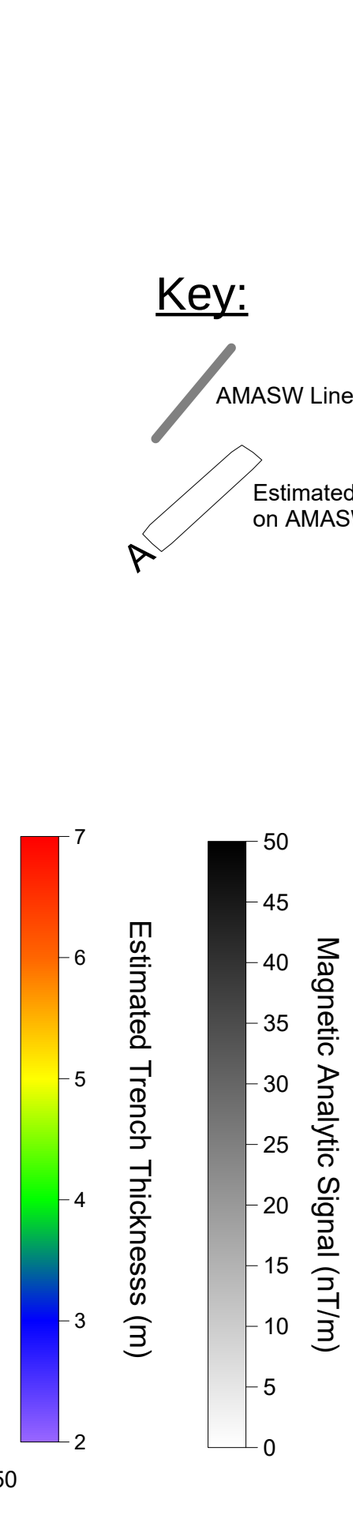
Navarro Research & Engineering, Inc.

Project #: 20-167 **FIGURE A6**

Drafted by: J. Pfeiffer Checked by: J. Sheehan **June 2021**

Interpreted Trench Thickness





Key:

AMASW Line

A

Estimated Trench Outline - based on AMASW, FDEM and Magnetics

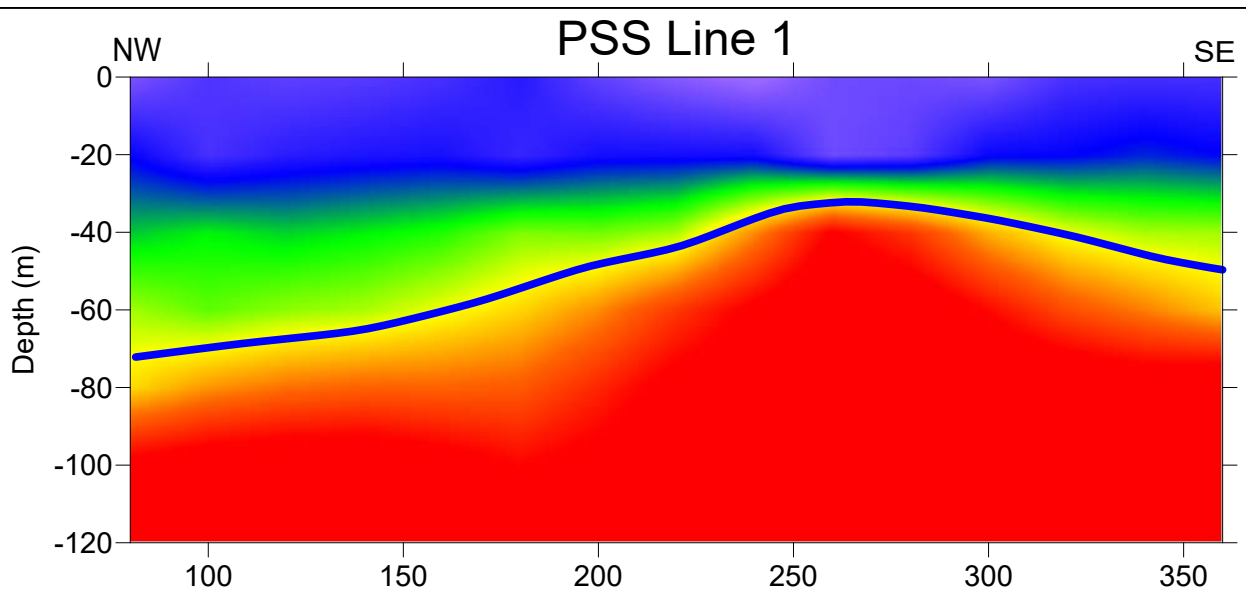
Seismic AMASW Results
700 Area Landfill
WSTF

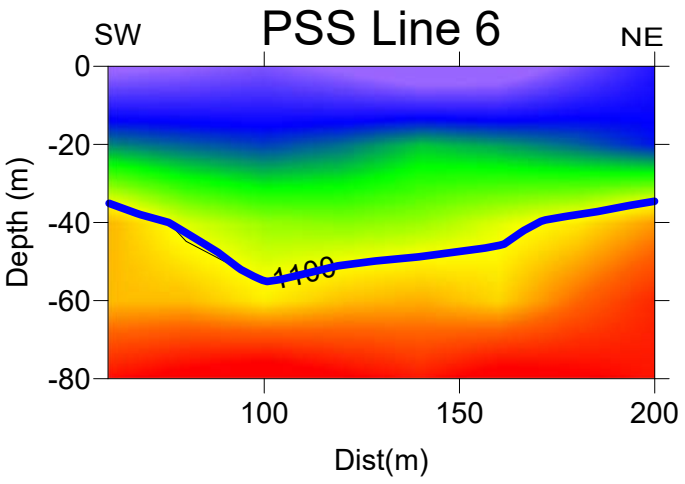
COLLIER GEOPHYSICS

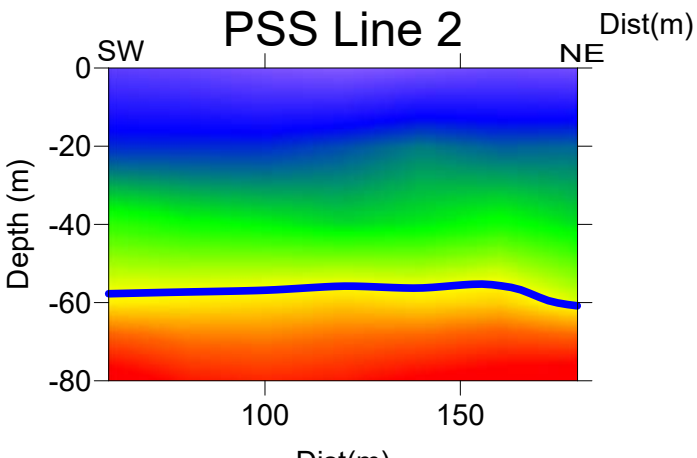
Navarro Research & Engineering, Inc.

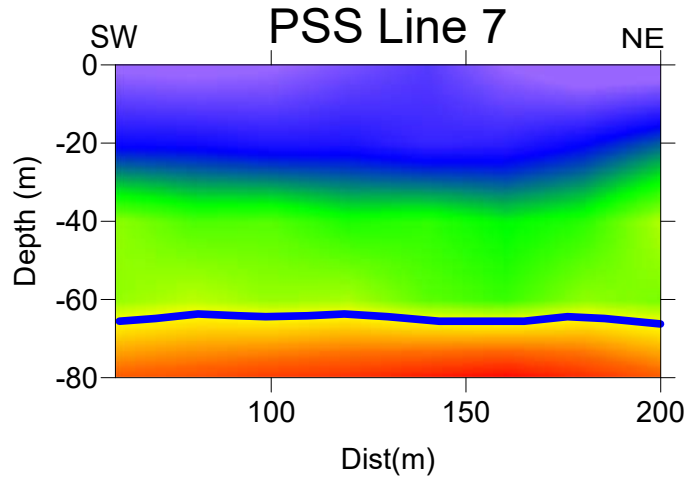
Project #: 20-167 **FIGURE A7**

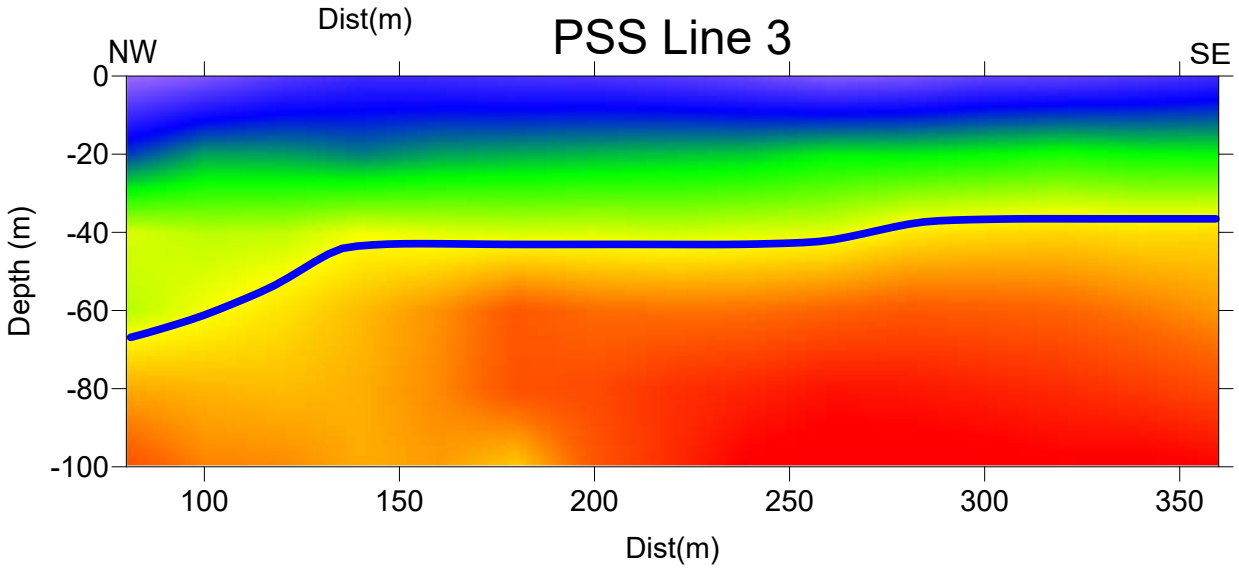
Drafted by: J. Pfeiffer Checked by: J. Sheehan **August 2021**

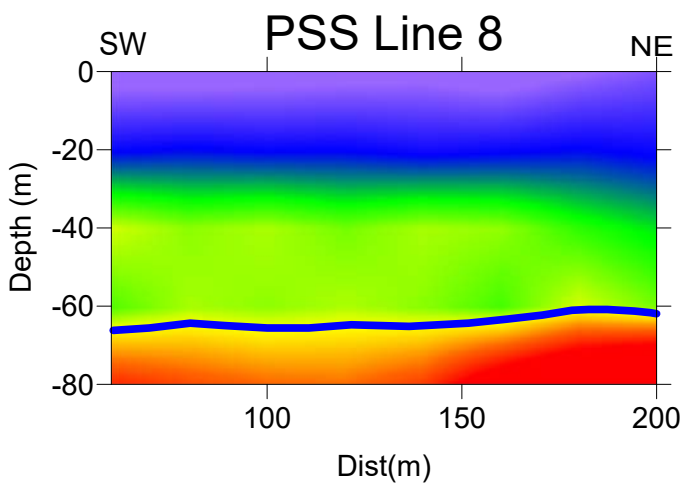


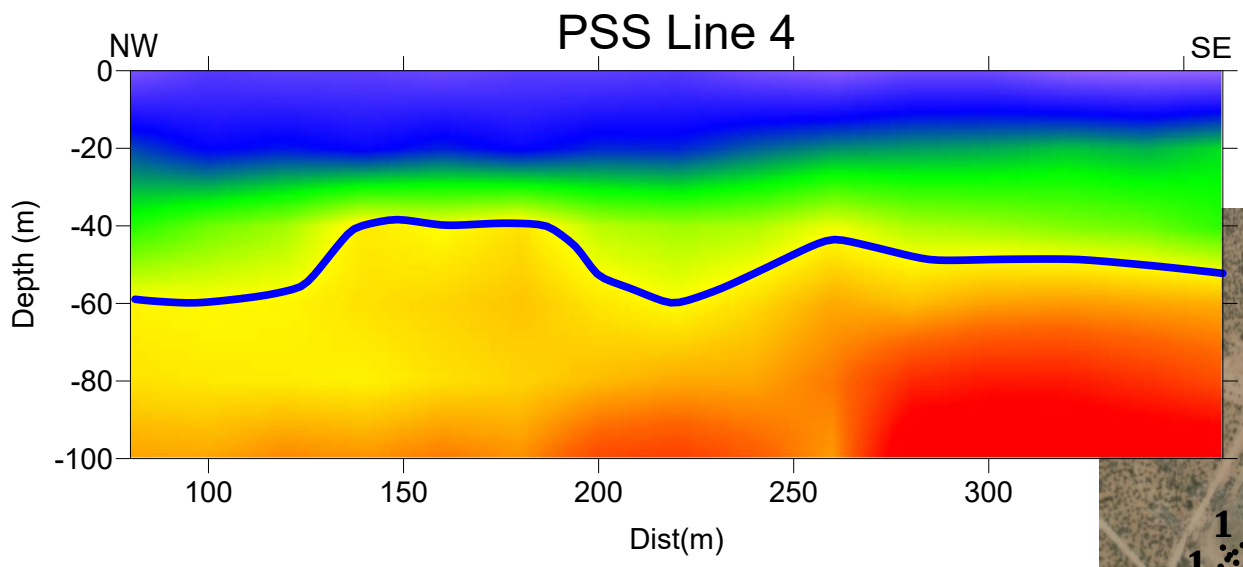


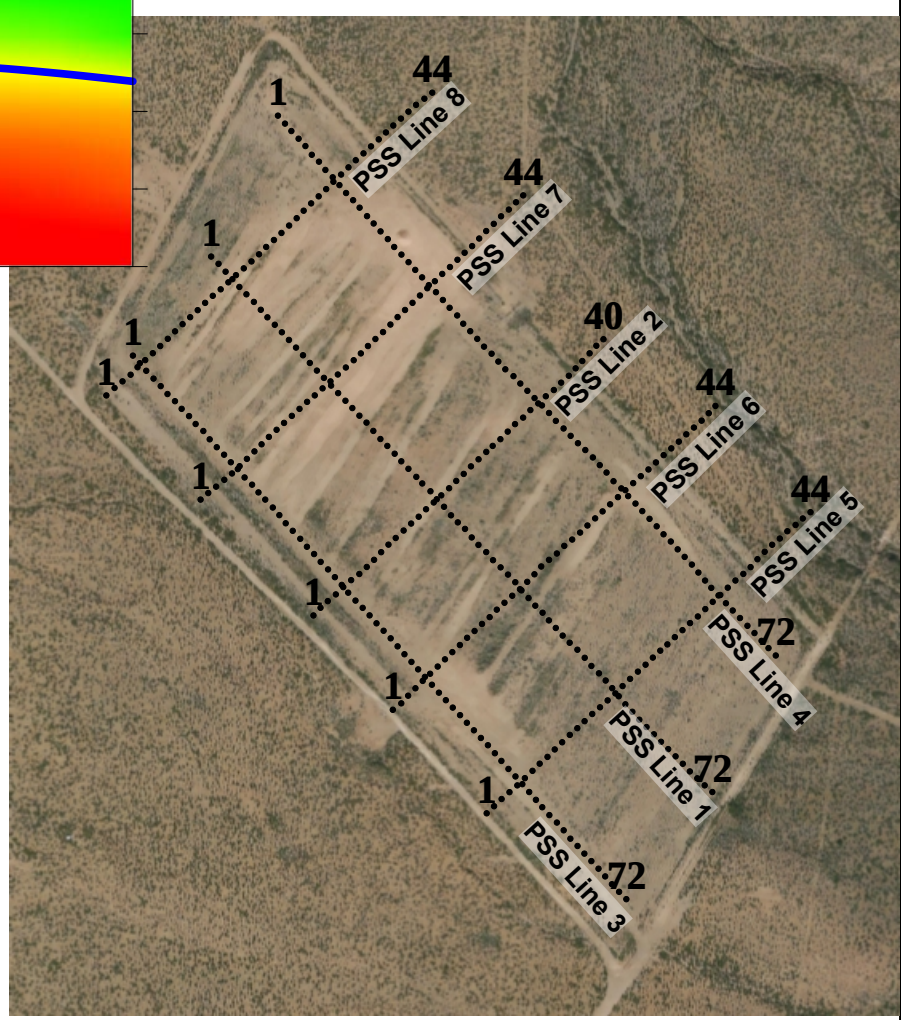


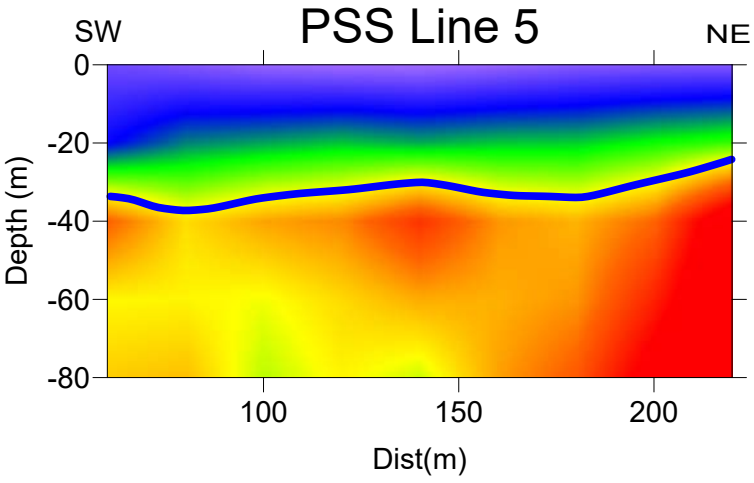


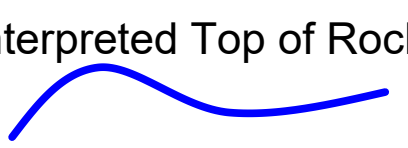


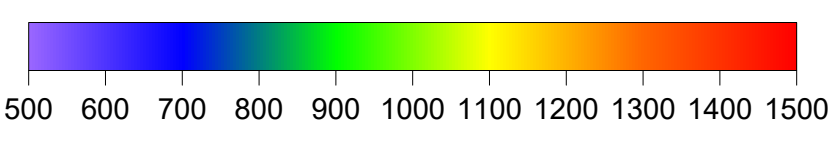












Passive Seismic Survey Results
700 Area Landfill
WSTF

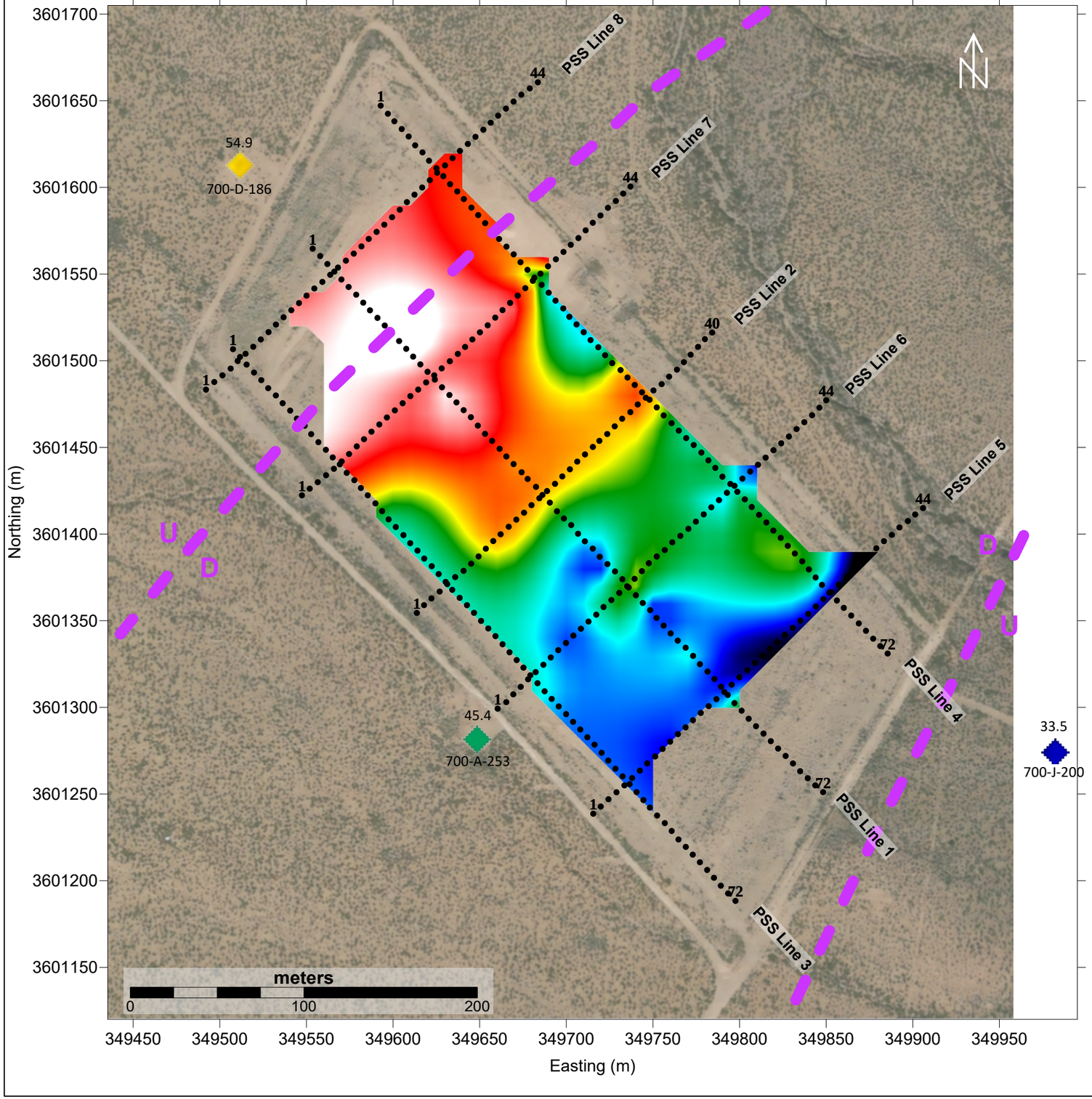
COLLIER GEOPHYSICS

Navarro Research & Engineering, Inc.

Project #: 20-167 **FIGURE A8**

Drafted by: J. Pfeiffer Checked by: J. Sheehan **June 2021**

Interpreted Depth to Bedrock



Previously Inferred Fault Locations

● Geophone Location

Borehole Information Key:

33.5 - BR Depth (m)

- Color Coded Depth

700-J-200 - BH ID

Seismic PSS Results
700 Area Landfill
WSTF

COLLIER GEOPHYSICS

Navarro Research & Engineering, Inc.

Project #: 20-167 **FIGURE A9**

Drafted by: J. Pfeiffer Checked by: J. Sheehan **June 2021**