REVISED
PHASE II ENVIRONMENTAL SITE ASSESSMENT
FOR
PLACE BRIDGE ELEMENTARY SCHOOL
1400 SOUTH ONEIDA STREET
DENVER, DENVER COUNTY, COLORADO

DRAFT

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
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LIST OF ACRONYMS

ACM	asbestos-containing material
ASTM	ASTM International
bgs	below ground surface
CABI	Certified Asbestos Building Inspector
CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
EM	electromagnetic
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
ft	feet
GPS	global positioning system
mg/kg	milligrams per kilogram
mS/m	milliSeimens per meter
MS/MSD	Matrix Spike/Matrix Spike Duplicate
P.G.	Professional Geologist

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LIST OF ACRONYMS

PID	photoionization detector
PLM	Polarized Light Microscopy
PPE	personal protective equipment
ppt	parts per trillion
PVC	polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
START	Superfund Technical Assessment and Response Team
SOO	Statement of Objectives
SVOC	semi-volatile organic compound
TBA	Targeted Brownfields Assessment
TD	total depth
TDD	Technical Direction Document
THQ	Target Hazard Quotient
TR	Target Cancer Risk
ULC	Urban Land Conservancy
VEC	vapor encroachment condition
VOC	volatile organic compound
WESTON	Weston Solutions, Inc.

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SUMMARY

The United States Environmental Protection Agency (EPA) tasked the Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START) to assist the EPA in conducting a Phase II Environmental Site Assessment (ESA) at the parcel located at 1400 South Oneida Street in Denver, Denver County, Colorado (CO) (Site).

SCOPE OF WORK

This Phase II ESA was conducted in accordance with Technical Direction Document (TDD) 0003/1804-06 and ASTM, International (ASTM) E1903-11– Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. The purpose of a Phase II ESA is to achieve the objectives set forth in the Statement of Objectives (SOO) developed by the EPA, user(s), and the Phase II Assessor. Goals for this Phase II ESA were to acquire and evaluate sufficient information to determine the location and concentration of potential environmental contamination at the Site, if present. The specific SOO for this Phase II ESA were as follows:

- Determine the approximate footprint of the historical landfill on the subject property.
- Assess and evaluate potential impacts to soils, soil gas, and groundwater for contaminants of concern (COC).
- Develop sufficient information to render a reasonable professional opinion whether hazardous substances either are or are not present at the Site with respect to the potential concerns assessed. If present, include concentrations of hazardous substances based on field screening and/or laboratory analysis of samples.
- Gather and provide sufficient data to assist the Targeted Brownfield Assessment (TBA) recipient in making informed decisions with regard to the future use of the property; and
- Obtain sufficient data to support conceptual remediation cost estimating, if necessary.

SITE BACKGROUND

The Site is currently an undeveloped lot north of a solar electric (photovoltaic) array and the Place Bridge School and south of a single family residential neighborhood. As stated in the Phase I ESA report (WESTON, 2018a), historical records indicate that the subject property was undeveloped with a drainage of Cherry Creek until 1961 and was utilized as a landfill until 1968. The property was capped and remains a vacant lot. The Site is approximately 9.62-acres and is located on the east side of Denver, CO (Figure 1). The following list identifies past activities conducted at the Site and adjacent properties along with the current associated environmental risk:

- <u>The presence of a former landfill</u> – Previous excavation, site reconnaissance, interview, and aerial photos indicate the presence of a landfill at the subject property. The presence of the landfill indicates the potential presence of the following COCs:

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  - *Soil* – volatile organic compounds (VOCs), semi-VOCs (SVOCs), Resource Conservation and Recovery Act (RCRA) metals, and asbestos.
  - *Groundwater* – VOCs, SVOCs, and RCRA metals.
- Elevated vapor concentrations represent a vapor encroachment condition (VEC) – Previous air monitoring and soil gas sampling indicate the presence of elevated methane concentrations. The presence of a VEC indicates the potential presence of the following COCs:
  - *Soil Gas* – VOCs, methane.

SUMMARY OF RESULTS AND CONCLUSIONS

Phase II assessment fieldwork was conducted on 31 July 2018 to 2 August 2018. Additional assessment was conducted on 19 December 2018. Results of the Phase II ESA have confirmed the presence of contaminants of concern (COCs) at the Site. The following list is a summary of the results and conclusions regarding COCs and associated media identified by START at the Site:

Landfill Area

Based on electromagnetic (EM) survey finding and soil core observations, the main landfill area extends to the east of the solar electric area (Figure 2 and 3). The remainder of the site also contains disperse debris and fill material.

Soils

Two VOCs, 17 SVOCs, and seven metals were detected in one or more of the 13 soil samples submitted for analysis. With the exception of arsenic, the concentrations of detected COCs were reported below the screening levels.

Upon further investigation into background levels of arsenic in soil in the United States, the mean concentration/background level is 7.2 milligrams per kilogram (mg/kg) and the mean concentration/background level for the middle and western portion of the United States (west of the 96th Meridian) is 7.0 mg/kg (USGS, 1984). Based upon these background levels, the arsenic concentration in samples collected from PB-02, PB-10, and PB-13 are within background levels; however, arsenic in samples collected from PB-04 are above background.

Eleven COCs with detection limits greater than screening levels were not detected in any of the samples collected at the Site. As a result VOCs and SVOCs are not considered COCs for soils at the Site.

Additionally, soils were screened for suspect asbestos containing materials. No suspect materials were identified.

Arsenic is considered a COC for soils at the Site.

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Bed rock at the Site was determined to be 49.5 feet below ground surface based on soil boring advancement.

Groundwater

Three VOCs and four metals were detected in one or more of the six groundwater samples submitted for analysis. With the exception of arsenic, the concentrations of detected COCs were reported below the screening levels. Three additional samples (including a duplicate) were submitted for dissolved metals analysis to determine the nature of the arsenic compounds. Dissolved arsenic in the additional samples, were also reported at concentrations exceeding the screening level.

Thirty-nine compounds with detection limits greater than the screening levels were not detected in any of the samples collected at the Site. As a result VOCs and SVOCs are not considered COCs for groundwater at the Site.

Arsenic is considered a COC for groundwater at the Site.

Soil Gas

Fifty-two VOCs and methane were detected in one or more of the four soil gas samples submitted for analysis. With the exception of sample PB-SG-11 (collected within the landfill footprint), the concentrations of detected COCs were reported below screening levels.

Thirteen COCs with detection limits greater than the screening levels were not detected in any of the samples collected at the Site.

VOCs and methane are considered COCs within the landfill footprint at the Site.

SUMMARY OF RECOMMENDATIONS

Based on the results of the environmental assessment, START recommends the following:

- Consider conducting a background metals study to determine if arsenic concentrations at the site are indicative of contamination or are within site specific background levels.
- Remove and properly dispose of materials within the main landfill foot print.
- Development of a Materials Management Plan during redevelopment is recommended in case additional impacts are encountered (this plan should also address potential asbestos containing materials encountered).
- Install an engineered contaminant migration control, such as a slurry, around any landfill area left in place (i.e beneath the solar electric array).

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This summary is intended to be a general description of the scope of work, results, conclusions, and recommendations identified as a result of the Phase II ESA of the Site; however, this section is not intended to be a "stand alone" document or to include the basis of all conclusions presented. The report should be read and used in its entirety. Information included in this section is subject to the scope of services and limitations noted in the original TDD and in this complete report.

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF WORK

WESTON START conducted a Phase II ESA at the parcel located at 1400 South Oneida Street in Denver, Denver County, CO (Site) (Figure 1). The ESA was conducted in accordance with TDD 0003/1804-06 and ASTM E1903-11 – Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. The purpose of a Phase II ESA is to acquire and evaluate information sufficient to achieve the objectives set forth in the SOO developed by the user(s) and the Phase II Assessor. The scope of a Phase II ESA is related to the activities agreed upon to meet the objectives of the investigation as defined in the SOO which are subject to ongoing evaluation and refinement as the assessment progresses. The SOO developed for this Site is presented in Section 1.2.

This Phase II ESA report contains the results of the data collection activities and associated quality assurance (QA)/quality control (QC) measures conducted specific to the Site and has been revised to include additional investigation results. Information used to conduct this Phase II ESA was based upon reasonably ascertainable, visually and physically observable conditions, and included testing or sampling of materials. The structure of this report is based on the ASTM E1903-11 standard.

1.2 STATEMENT OF OBJECTIVES

The objectives were developed by the Place Bridge Elementary School (TBA recipient and user), START (Assessor), and EPA to obtain sound, scientifically valid data concerning actual property conditions at the Site with respect to the presence or the likely presence of target analytes/substances including, but not limited to, those within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The SOO for the Site was determined as a result of the Phase I ESA conducted by START. The Phase II ESA objectives determined for the Site were as follows:

- Determine the approximate footprint of the historical landfill on the subject property.
- Assess and evaluate potential impacts to soils, soil gas, and groundwater for COC.
- Develop sufficient information to render a reasonable professional opinion whether hazardous substances either are or are not present at the Site with respect to the potential concerns assessed. If present, include concentrations of hazardous substances based on field screening and/or laboratory analysis of samples.
- Gather and provide sufficient data to assist the TBA recipient in making informed decisions with regard to the future use of the property; and
- Obtain sufficient data to support conceptual remediation cost estimating, if necessary.

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2.0 SUMMARY OF BACKGROUND INFORMATION

The property is currently owned by Denver Public Schools, but is being considered for purchase and redevelopment by the Urban Land Conservancy (ULC). ULC requested this Phase II ESA to determine the extent and locations of possible contaminants identified in the Phase I ESA before moving forward with redevelopment.

2.1 PROPERTY DESCRIPTION, LOCATION, AND HISTORY

The Site is currently an undeveloped lot north of a solar electric (photovoltaic) array and the Place Bridge School and south of a single family residential neighborhood. The Site is Located northeast of the intersection of South Oneida Street and Florida Avenue at 39.690045° latitude and -104.905715° longitude. As stated in the Phase I ESA (WESTON, 2018a), historical records indicate that the subject property was undeveloped and contained a drainage of Cherry Creek until 1961 and was utilized as a landfill until 1968. The property was capped and remains a vacant lot. The Site is approximately 9.62-acres and is located on the east side of Denver, CO (Figure 1). The following list identifies past activities conducted at the Site and adjacent properties along with the current associated environmental risk:

- The presence of a former landfill – Previous excavation, site reconnaissance, interview, and aerial photos indicate the presence of a landfill at the subject property. The presence of the landfill indicates the potential presence of the following COCs:
    - *Soil* – VOCs, SVOCs, RCRA metals, and asbestos.
    - *Groundwater* – VOCs, SVOCs, and RCRA metals.
- Elevated vapor concentrations represent a VEC – Previous air monitoring and soil gas sampling indicate the presence of elevated methane concentrations. The presence of a VEC indicates the potential presence of the following COCs:
    - *Soil Gas* – VOCs, methane.

2.2 PREVIOUS ENVIRONMENTAL REPORTS AND RECORDS

Previous environmental reports and/or records, if available, were obtained by START from various sources, including local agencies, and reviewed for information relating to the Site. A summary of records obtained is provided in the "Phase I Environmental Site Assessment for Place Bridge Elementary 1400 South Oneida Street Denver, Denver County, Colorado" (WESTON, 2018a).

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3.0 DESCRIPTION OF WORK PERFORMED AND RATIONALE

This section summarizes the work performed and rationale for the work conducted to meet the SOO developed for the investigation as documented in the approved Sampling and Analysis Plan (SAP) for the Site (WESTON, 2018b). Deviations from the approved SAP for this Phase II ESA are presented in Section 3.5.

Based upon the SOO developed for the Site, potential contamination in soils and groundwater were investigated as part of this Phase II ESA. The investigation of these media included visual inspection, field screening, and/or sample collection for laboratory analysis. Details of the investigation along with rationale are presented in the following sections. Photographs of field activities are included in the Photograph Log presented in Appendix A.

3.1 ELECTROMAGNETIC SURVEY

An electromagnetic (EM) survey was conducted using a Geonics EM-31 and linked to a Tremble GPS unit via a data logger. The survey was conducted in order to determine the extent of buried material at the Site. Results of the survey are illustrated on Figure 2.

3.2 SOIL BORINGS

Soil boring locations were selected based on the results of the EM survey. No borings were installed in areas identified as landfill material. This limitation was intended to prevent forming a preferential pathway for water infiltration into the landfill. Borings were completed using a Geoprobe 7800 drill rig to a depth of drilling refusal or groundwater. Two soil samples were collected from each soil boring (Table 1). Two additional borings were advanced to bedrock. No soil samples were collected from these additional borings. All soil cores were evaluated by a Certified Asbestos Building Inspector (CABI) to ensure asbestos was not released by the drilling process.

3.3 GROUNDWATER SAMPLES

Groundwater samples were collected from completed soil borings. Groundwater was not collected from specific locations due to hole collapse or because of poor groundwater production. Additionally, a monitoring well within the area identified as landfill was observed during sampling activities. One sample was collected from the monitoring well. A total of six samples were originally collected and three follow-up samples were collected for more information about the nature of metals at the Site (Table 1).

3.4 SOIL GAS SAMPLES

Soil vapor ports were installed at 13 locations across the Site. Ports were installed either by hand using a five foot rod with a slide hammer or using the Geoprobe drill rig. The ports were screened

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using a GEM 2000 landfill gas analyzer. Based on screening results four locations were selected for sample collection (Table 1).

3.5 DEVIATIONS FROM THE SAMPLING AND ANALYSIS PLAN

Due to the ongoing evaluation and refinement of the SOO, changes can occur to the approved SAP based upon site conditions encountered. Deviations from the approved SAP for this Phase II ESA are presented below:

Original Scope of Work:

- 13 soil gas sample points were installed instead of the planned 12.
- No samples locations were installed along the southeast perimeter of the site due to the presence of a gas line.
- Drilling refusal was encountered in boreholes PB-02 and PB-10. As a result, groundwater samples were not collected at these locations.
- An opportunity sample was collected from the on-site monitoring well.

Additional Investigation:

- Flowing sands were encountered in boreholes PB-04. As a result, a groundwater sample was not collected at this location.

None of the deviations from the SAP are thought to have a substantial material and/or adverse impact on the findings and conclusions regarding the identification and characterization of contaminants in this Phase II ESA.

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4.0 DESCRIPTION OF METHODS USED

The following sections describe methods utilized during the Site investigation.

4.1 ELECTROMAGNETIC SURVEY

The EM survey was completed by carrying the EM-31 with GPS across the site in north-south trending transects spaced roughly 20 feet apart. The EM-31 registers both conductivity in milliSeimens per meter (mS/m) and in-phase in parts per trillion (ppt). Each conductivity and in-phase result was paired with the GPS location at the time of recording. The data was then mapped and contoured using ESRI ArcGIS (Figure 2).

4.2 SOIL BORINGS

Soil Boring Installation

Boreholes were installed using a direct push method to depths where groundwater was encountered, or boring refusal was reached. Soil cores were continuously collected from each borehole and logged by the field scientist until total depth (TD). In borings advanced to bedrock cores could not be collected below the depth to groundwater due to flowing sands.

Field Screening

Soils from the direct push cores were logged by the field scientist, field screened using visual and olfactory methods, and then collected in approximate one to two-foot intervals and placed in plastic re-sealable freezer bags for semi-quantitative VOC headspace vapor screening using a photoionization detector (PID). Visual screening was conducted by a CABI to determine the presence or absence of suspect material prior to disturbing the soil core.

Sample Collection for Laboratory Analysis

Surface and/or sub-surface soils from direct push borings installed were selected for laboratory analysis based upon the field screening procedures including PID readings, visual and olfactory observations, and/or the best professional judgment of the field scientist. No soil samples were collected from the borings advanced to bedrock. Soil sample intervals selected for laboratory analysis were transferred into laboratory-supplied containers. Disposable gloves were used during sample collection procedures. The soil samples were labeled, placed in a cooler with ice (cooled to 4°C), and stored until delivery for laboratory analysis accompanied by chain-of-custody documentation.

QA/QC Samples

The following QA/QC samples were collected as part of the soil boring investigation:

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- Sample Duplicates – One field duplicate sample (PB-SO-90-05-07 [duplicate of sample PB-SO-10-05-07]) was collected and submitted for laboratory analysis.
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Additional volume for one sample (PB-SO-09-18-20) was submitted for laboratory MS/MSD analysis.

Based on the results of the MS/MSD samples analyzed all results reported are considered acceptable. Results for field duplicate samples were within appropriate relative percent difference.

Laboratory Analytical Methods

Soil samples collected from direct push soil borings were delivered to SGS North America Inc. in Wheat Ridge, CO for laboratory analysis of VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, and Metals by EPA Methods 6010C/7471B.

4.3 GROUNDWATER SAMPLES

Borehole Temporary Well Construction

Groundwater samples were collected from temporary wells installed at select borings as part of the investigation. After TD of a selected boring was encountered, PVC well screen and riser was installed, as applicable, for the conditions encountered. All wells were constructed with screen from TD of the boring to above the top of the saturated zone. Prior to demobilizing from the Site, temporary well screens and risers were removed and the borings abandoned. One additional sample (PB-GW-09 collected 19 December) was collected using a stainless steel Geoprobe well point instead of the PVC system previously described.

Sample Collection for Laboratory Analysis

Before sampling, the static depth to groundwater in each temporary well was measured. Groundwater samples for laboratory analysis were collected using a peristaltic pump and disposable tubing. Prior to collecting groundwater samples, water quality parameter readings for temperature, pH, oxidation-reduction potential, dissolved oxygen, conductivity, and total dissolved solids were collected using a Horiba water quality instrument until stabilization was achieved (i.e., three consecutive readings within ten percent for all parameters). After stabilization, groundwater was transferred directly into laboratory-supplied containers with the preservative appropriate to the analysis requested, as applicable. Additional samples were collected specifically for dissolved metals analysis by pumping the water through a 0.45 micron filter prior to collection (to remove suspended solids from the sample). Disposable gloves were used during sample collection procedures. The groundwater samples were labeled, placed in a cooler with ice (cooled to 4°C), and stored until delivery for laboratory analysis accompanied by chain-of-custody documentation.

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QA/QC Samples

The following QA/QC activities and sampling were collected as part of the groundwater investigation:

- Sample Duplicates – Two duplicate groundwater samples (PB-GW-99 [duplicate of sample PB-GW-09] and PB-GW-91 [duplicate of PB-ME-01]) were collected and submitted for laboratory analysis.
- MS/MSD – Additional volume for one sample (PB-GW-13) was submitted for laboratory MS/MSD analysis.
- Trip Blanks – One trip blank sample accompanying the groundwater sample cooler was submitted for laboratory analysis.

Based on the results of the MS/MSD samples analyzed all results reported are considered acceptable. Results for field duplicate samples were within appropriate relative percent difference. There were no detections in the trip blank.

Laboratory Analytical Methods

Groundwater samples collected were delivered to SGS North America Inc. in Wheat Ridge, CO for laboratory analysis of VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, and Metals by EPA Methods 6010C/7470A.

4.4 SOIL GAS

Sample Collection for Laboratory Analysis

Four grab soil gas samples were collected by connecting the soil vapor port tubing to an evacuated one liter Summa canister. Disposable gloves were used during sample collection procedures. The samples were labeled and stored until shipment for laboratory analysis.

QA/QC Samples

No QA/QC samples were collected as part of the soil gas investigation.

Laboratory Analytical Methods

The sample collected was delivered to SGS North America Inc. in Wheat Ridge, CO for laboratory analysis of VOCs by Method TO-15 and Methane.

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5.0 PRESENTATION OF INFORMATION AND DATA ACQUIRED

5.1 ELECTROMAGNETIC SURVEY

Results of the EM survey show a background value for conductivity between 20 and 60 mS/m and for in-phase between -1 and 4 ppt. Elevated response from the fences around the solar electric area, in the northeast area of the site, and along the west perimeter are apparent. A low conductivity linear feature along the southeast perimeter is indicative of the gas line marked by Xcel Energy. Three unidentified anomalous areas (areas with consistent conductivity or in-phase values outside of background) exist: two in the northeast of the site and one east of the solar electric area (Figure 2).

5.2 SOIL BORINGS

A total of eight soil borings in six location were installed at the Site (Figure 3). Native soils encountered at the site consist of poorly sorted medium to coarse sands. Soils indicative of fill consist of brown sandy clay and contained debris. Generally the clay and debris was observed in soil cores from surface to 1 feet below grade. Soil boring PB-09 was the only soil boring that did not exhibit signs of fill or debris. Based on drilling refusal at location PB-09 and PB-04 bedrock is approximately 49.5 ft. below grade.

Screening of soil cores did not indicate the presence of any suspected asbestos containing material according to the onsite CABI. PID screening did not indicate any elevated VOC concentrations.

Two VOCs were detected in sample PB-SO-04-05-07 (acetone and methyl ethyl ketone). No other VOCs were detected in any of the soil samples analyzed. Seventeen (17) SVOCs were detected in various samples. No SVOCs were detected in samples PB-SO-01-18-20, PB-SO-09-05-07, and PB-SO-09-18-20. Seven metals were detected in various samples.

5.3 GROUNDWATER SAMPLES

Temporary monitoring wells were installed in seven soil borings at the Site; however, only five borings yielded groundwater, and one monitoring well was observed at the. Groundwater was measured at depths between 22.5 and 23.36 feet below grade. No sheens or light non-aqueous phase liquid was observed when purging groundwater or collecting samples from the temporary wells.

Three VOCs (acetone in sample PB-GW-09 and methyl ethyl ketone and toluene in sample PB-GW-13).Four metals (arsenic, barium chromium, and mercury in various samples) were detected in samples analyzed, however when water was filtered only arsenic and barium were detected

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5.4 SOIL GAS

Thirteen (13) soil vapor ports were installed at the Site. Landfill gas screening indicated methane was present at location PB-SG-11. No other methane was identified by field screening. Four soil gas samples were collected: three nearest to existing residences and one from PB-SG-11.

Fifty-two (52) VOCs and methane were detected in various samples.

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6.0 EVALUATION AND INTERPRETATION OF INFORMATION, DATA, AND RESULTS

This section summarizes the evaluation and interpretation of Phase II ESA field screening data and laboratory results obtained to identify the location and/or extent of contamination. Screening level benchmarks used for comparison were:

Soils

- EPA Regional Screening Levels (RSLs) - Generic Tables (May 2018): Target Cancer Risk (TR) = 1E-6 and Target Hazard Quotient (THQ) = 1.0 (EPA, 2018).
- Colorado Department of Public Health and Environment (CDPHE) - Hazardous Materials and Waste Management Division: Groundwater Protection Values Soil Cleanup Table (CDPHE, 2014).

Groundwater

- EPA RSLs - Generic Tables (November 2017): Target Cancer Risk (TR) = 1E-6 and Target Hazard Quotient (THQ) = 1.0 (EPA, 2017).
- CDPHE Regulation NO. 41 – The Basic Standards for Groundwater (CDPHE, 2016).

Soil Gas

- EPA Residential Vapor Intrusion Screening Levels (VISLs) – May 2018 (EPA, 2018).

Visual depictions of sample locations and site features are presented in Figure 3. Laboratory results for the samples collected are summarized in Tables 2 through 4. Photographs of the field activities conducted are presented in Appendix A. Copies of the laboratory reports are presented in Appendix B.

6.1 LANDFILL AREA

Based on EM survey finding and soil core observations, the main landfill area extends to the east of the solar electric area. The two other anomalies were determined not to be associated with the landfill. The remainder of the site also contains disperse debris and fill material.

6.2 SOIL BORINGS

Evaluation of Laboratory Sample Results

Two VOCs, 17 SVOCs, and seven metals were detected in one or more of the 13 soil samples submitted for analysis. With the exception of arsenic, the concentrations of detected COCs were reported below the EPA residential RSLs and CDPHE Groundwater Protection Value.

The reported concentration of arsenic detected in seven soil samples exceeds the EPA RSL of 0.68 milligrams per kilogram (mg/kg). Detected COC concentrations in exceedance of screening levels are summarized as follows:

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Location	Sample Name	Analyte	EPA RSL - Residential (mg/kg)	CDPHE – Groundwater Protection Value (mg/kg)	Result Reported (mg/kg)
PB-02	PB-SO-02-05-07	Arsenic	0.68	--	**4.9**
	PB-SO-02-15-17	Arsenic	0.68	--	**2.9**
PB-10	PB-SO-10-05-07	Arsenic	0.68	--	**2.9**
PB-04	PB-SO-04-05-07	Arsenic	0.68	--	**12.5**
	PB-SO-04-18-20	Arsenic	0.68	--	**7.7**
PB-13	PB-SO-13-05-07	Arsenic	0.68	--	**3.3**
	PB-SO-13-18-20	Arsenic	0.68	--	**3.3**

Notes:
Bold = Result exceeds standard
-- = No value

Additionally, the method detection limit for 11 COCs (1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 2,4-dinitrophenol, pentachlorophenol, benzidine, 2,4-dinitrotoluene, hexachlorobenzene, hexachloroethane, n-nitrosodimethylamine, n-nitroso-di-n-propylamine and silver) exceed one or more screening levels.

Interpretation of Results

Upon further investigation into background levels of arsenic in soil in the United States, the mean concentration/background level is 7.2 milligrams per kilogram (mg/kg) and the mean concentration/background level for the middle and western portion of the United States (west of the 96th Meridian) is 7.0 mg/kg (USGS, 1984). Based upon these background levels, the arsenic concentration in sample collected from PB-02, PB-10, and PB-13 are within background levels; however, arsenic concentrations in samples collected from PB-04 are above background.

The 11 COCs with detection limits were not detected in any of the samples collected at the Site. As a result VOCs and SVOCs are not considered COCs for soils at the Site.

Arsenic is considered a COC for soils at the Site.

6.3 GROUNDWATER SAMPLES

Evaluation of Laboratory Sample Results

Three VOCs and four metals were detected in one or more of the nine groundwater samples submitted for analysis. With the exception of arsenic, the concentrations of detected COCs were reported below the EPA Tapwater RSLs and CDPHE WQCC Reg. 41.

Detected COC concentrations in exceedance of screening levels are summarized as follows:

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Location	Sample Name	Sample Date	Analyte	EPA RSL - Residential	CDPHE – Regulation 41	Result (ug/l)
PB-09	PB-GW-09	8/1/2018	Arsenic	0.052 ug/l	10 ug/l	**30.5**
	PB-GW-09	12/19/2018				**26.7***
PB-13	PB-GW-13	8/1/2018				**32.5**
PB-04	PB-GW-04	8/1/2018				**34.6**
PB-01	PB-GW-01	8/1/2018				**37.8**
PB-MW-01	PB-MW-01	8/1/2018				**40.5**
	PB-MW-01	12/19/2018				**26.8***

Notes: **Bold** = Result exceeds standard. * = Filtered sample (dissolved concentration).

Additionally, results for arsenic, 16 VOCs, and 23 SVOCs, and four metals had method detection limits that exceeded one or more screening levels. These analytes were not detected in the groundwater samples but due to the elevated detection limit some uncertainty remains as to their presence or absence.

Interpretation of Results

The 39 COCs with detection limits were not detected in any of the samples collected at the Site. As a result VOCs and SVOCs are not considered COCs for groundwater at the Site.

Arsenic is considered a COC for groundwater at the Site.

6.4 SOIL GAS

Evaluation of Laboratory Sample Results

Fifty-two (52) VOCs and methane were detected in one or more of the four soil gas samples submitted for analysis. With the exception of sample PB-SG-11, the concentrations of detected COCs were reported below the EPA VISL.

Detected COC concentrations in exceedance of screening levels reported in sample PB-SG-11 are summarized as follows:

Location	Sample ID	Analyte	EPA VISL (ug/m^3)	Result Reported (ug/m^3)
PB-11	PB-SG-11	Benzene	12	**540**
		1,1-Dichloroethane	58	**122**
		Dichlorodifluoromethane	3500	**39500**
		1,4-Dichlorobenzene	8.5	**685**
		Ethylbenzene	37	**1540**
		Naphthalene	2.8	**60.3**
		1,2,4-Trimethylbenzene	240	**1570**
		Trichloroethene	16	**49**
		Vinyl chloride	5.6	**82.3**

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Location	Sample ID	Analyte	EPA VISL (ug/m^3)	Result Reported (ug/m^3)
		Methane	5% *	**18.2**

Notes:
Bold = Result exceeds standard
-- = No value
* 5% methane is 100% of the lower explosive limit.

Additionally, the method detection limit for 13 COCs exceed the screening levels.

Interpretation of Results

The 13 COCs with detection limits were not detected in any of the samples collected at the Site.

VOCs and methane are considered COCs within the landfill footprint at the Site.

6.5 CONCEPTUAL SITE MODEL

Per ASTM E1903-11 (Section 6.4.6), validation of the conceptual site model is conducted by evaluating testing results and other investigation findings to determine whether available information is sufficient to support sound conclusions regarding the presence of the target analytes. The presence of the target analytes investigated as part of this Phase II ESA along with the current exposure pathways, as applicable, for the Site is presented in the following table.

Media	Target Analytes	Contaminants Present Above Screening Benchmarks	Exposure Pathway	Exposure Route	Human Receptors	
					Residential	Workers
Soil	Metals	Yes	Potentially Complete	Dermal	--	X
	ACM	No		Ingestion	--	X
	SVOCs			Inhalation	--	--
	VOCs					
Groundwater	Metals	Yes	Potentially Complete	Dermal	--	X
	SVOCs	No		Ingestion	--	X
	VOCs			Inhalation	--	--
Soil Gas	VOCs	Yes	Potentially Complete	Inhalation	--	X
	Methane	Yes				
Comments: Evaluation of exposure pathway completeness is based upon the current site use as a vacant field and assumes that no people are currently accessing soils below the surface at the Site or will be accessing the soils other than workers during future redevelopment. Once future site-specific activities are determined or if a change in use occurs, exposure pathways should be re-assessed as they may alter the pathway completeness presented in this report and require further evaluation prior to conducting any activities or change in use at the Site. A Materials Management Plan is recommended in case additional impacts are discovered during redevelopment.						

Note:
-- = Receptor not at risk (Currently)
X = Receptor at risk to exposure (Currently or Potentially)

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6.6 DISCLOSURE OF AVAILABLE DATA INSUFFICIENT TO MEET OBJECTIVES

Per ASTM E1903-11 (Section 1.3.2), all Phase II ESA reports must disclose any respect in which available data are insufficient to meet the objectives of the assessment. Listed below are the disclosures in which the available data set for this investigation were insufficient to meet the objectives of this Phase II ESA, if any.

- Due to various method detection limits greater than the screening level some uncertainty exists as to the presence or absence of the respective COCs.
- Based upon the objectives for this Phase II ESA, all objectives were met based upon the available data.

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7.0 CONCLUSIONS OF THE PHASE II ESA

START performed a Phase II ESA in conformance with the scope and limitations of ASTM E1903-11 at the parcel located at 1400 South Oneida Street in Denver, Denver County, CO. Results of this Phase II ESA has confirmed the presence of COCs at the Site. The following is a summary of the conclusions regarding COCs and associated media identified at the Site:

Landfill Area

Based on EM survey finding and soil core observations the main landfill area extends to the east of the solar electric area (Figure 2 and 3). The remainder of the site also contains disperse debris and fill material.

Soils

Two VOCs, 17 SVOCs, and seven metals were detected in one or more of the 13 soil samples submitted for analysis. With the exception of arsenic, the concentrations of detected COCs were reported below the screening levels.

Upon further investigation into background levels of arsenic in soil in the United States, the mean concentration/background level is 7.2 milligrams per kilogram (mg/kg) and the mean concentration/background level for the middle and western portion of the United States (west of the 96th Meridian) is 7.0 mg/kg (USGS, 1984). Based upon these background levels, the arsenic concentration in sample collected from PB-02, PB-10, and PB-13 are within background levels; however, arsenic in samples collected from PB-04 are above background.

Eleven COCs with detection limits greater than screening levels were not detected in any of the samples collected at the Site. As a result VOCs and SVOCs are not considered COCs for soils at the Site.

Arsenic is considered a COC for soils at the Site.

Bed rock at the Site was determined to be 49.5 feet below ground surface based on soil boring advancement.

Groundwater

Three VOCs and four metals were detected in one or more of the six groundwater samples submitted for analysis. With the exception of arsenic, the concentrations of detected COCs were reported below the screening levels. Three additional samples (including a duplicate) were submitted for dissolved metals analysis to determine the nature of the arsenic compounds. Dissolved arsenic in the additional samples, were also reported at concentrations exceeding the screening level.

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Thirty-nine compounds with detection limits greater than the screening levels were not detected in any of the samples collected at the Site. As a result VOCs and SVOCs are not considered COCs for groundwater at the Site.

Arsenic is considered a COC for groundwater at the Site.

Soil Gas

Fifty-two VOCs and methane were detected in one or more of the four soil gas samples submitted for analysis. With the exception of sample PB-SG-11 (collected within the landfill footprint), the concentrations of detected COCs were reported below screening levels.

Thirteen COCs with detection limits greater than the screening levels were not detected in any of the samples collected at the Site.

VOCs and methane are considered COCs within the landfill footprint at the Site.

SUMMARY OF RECOMMENDATIONS

Based on the results of the environmental assessment, START recommends the following:

- Consider conducting a background metals study to determine if arsenic concentrations at the site are indicative of contamination or are within site specific background levels.
- Remove and properly dispose of materials within the main landfill foot print.
- Development of a Materials Management Plan during redevelopment is recommended in case additional impacts are encountered (this plan should also address potential asbestos containing materials encountered).
- Install an engineered contaminant migration control, such as a slurry, around any landfill area left in place (i.e beneath the solar electric array).

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8.0 SIGNATURE OF PHASE II ASSESSOR AND SEAL

This Phase II ESA was completed by the following START personnel and subcontractor(s), if applicable. Qualifications are provided at the end of the report:

- Mr. Roy Weindorf, Professional Geologist (P.G.), Project Manager;
- Mr. Joe Rudi, Scientist;
- Mr. Les Joseph Puvathingal, Asbestos Building Inspector;

Mr. Roy Weindorf, P.G. has undertaken the role of Phase II Assessor for this assessment. The following is the certification statement as defined in ASTM Practice E1903-11 (Section 9.2.1):

We have performed a Phase II environmental site assessment at the property at 1400 South Oneida Street in Denver, Denver, CO in conformance with the scope and limitations of ASTM Practice E1903-11 and for the following objectives:

- *Assess and evaluate suspected contaminants that may be present in soils and groundwater at the Site.*
- *Develop sufficient information to render a reasonable professional opinion whether hazardous substances either are or are not present at the Site with respect to the potential concerns assessed. Include concentrations of hazardous substances based on field screening and/or laboratory analysis of samples, as applicable;*
- *Gather and provide sufficient data to assist the TBA recipient to make informed decisions with regard to the future use of the property; and*
- *Obtain sufficient data to support conceptual remediation cost estimating, if necessary. Determine the approximate foot print of the historical landfill on the subject property.*
- *Assess and evaluate potential impacts to soils, soil gas, and groundwater for contaminants of concern (COC).*
- *Develop sufficient information to render a reasonable professional opinion whether hazardous substances either are or are not present at the Site with respect to the potential concerns assessed. If present, include concentrations of hazardous substances based on field screening and/or laboratory analysis of samples.*
- *Gather and provide sufficient data to assist the Targeted Brownfield Assessment (TBA) recipient in making informed decisions with regard to the future use of the property; and*
- *Obtain sufficient data to support conceptual remediation cost estimating, if necessary.*

Roy Weindorf, P.G.
Certifying Environmental Professional (Print)

Project Manager
Title

Signature

Date

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9.0 SPECIFICATIONS FOR ASTM E1903-11 REPORT USE AND RELIANCE

9.1 SPECIAL TERMS AND CONDITIONS

This document has been prepared by the WESTON START IV team as tasked by the EPA solely for the use and benefit of the EPA and TBA recipient. Any use of this document or information herein by persons or entities other than the EPA or TBA recipient, without the express written consent of START, will be at the sole risk and liability of said person or entity. START will not be liable to the EPA, TBA recipient, or such persons or entities, for any damages resulting therefrom. It is understood that this document may not include all information pertaining to the described site.

9.2 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

ASTM E1903-11 (Section 4.2.1) acknowledges that "No Phase II ESA can eliminate all uncertainty. Furthermore, any sample, either surface or subsurface, taken for chemical testing may or may not be representative of a larger population. Professional judgment and interpretation are inherent in the process, and even when exercised in accordance with objective scientific principles, uncertainty is inevitable. Additional assessment beyond that which was reasonably undertaken may reduce the uncertainty". ASTM E1903-11 (Section 4.2.1.2) acknowledges that "The effectiveness of a Phase II ESA may be compromised by limitations or defects in the information used to define the objectives and scope of the investigation, including inability to obtain information concerning historic site uses or prior site assessment activities despite the efforts of the user and Phase II Assessor to obtain such information in accordance with 5.1.3". Furthermore, the ASTM E1903-11 (Section 4.2.2) states "Phase II ESAs do not generally require an exhaustive assessment of environmental conditions on a property. There is a point at which the cost of information obtained and the time required to obtain it outweigh the benefit of the information and, in the context of private transactions and contractual responsibilities, may become a material detriment to the orderly conduct of business. If the presence of target analytes is confirmed on a property, the extent of further assessment is a function of the degree of confidence required and the degree of uncertainty acceptable in relation to the objectives of the assessment".

9.3 DISCLAIMERS

START has performed this Phase II ESA in general conformance with the scope and limitations of ASTM E1903-11 standards and TDD 0003/1804-06. The Phase II ESA findings and conclusions presented herein are professional opinions based solely on data collected during the assessment and/or interpretation of information and past data provided for review. The information and data collected from the Site by START is based on the conditions existing on the date(s) of START's assessment activities at the property. START does not warrant or guarantee information obtained from third parties used for this assessment are correct, complete, and/or current.

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Though START did collect samples and/or perform testing during this assessment, it is possible that past contamination remains undiscovered or that property conditions will change in the future. START does not warrant or guarantee the property suitable for any particular purpose or certify the property as "clean."

ASTM E1903-11 (Section 1.5) states "This practice is not intended to supersede applicable requirements imposed by regulatory authorities. This practice does not attempt to define a legal standard of care either for the performance of professional services with respect to matters within its scope, or for the performance of any individual *Phase II Environmental Site Assessment"*.

Information, limitations, and disclaimers provided in this general section apply to all of the sections included in this report.

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10.0 REFERENCES

ASTM, 2011. E1903-11, *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process.* West Conshohocken, Pennsylvania.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
ASTM, 2011	Guidance	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

CDPHE, *6 CCR 1007-2 Part 1 – Regulations Pertaining to Solid Waste Sites and Facilities*. February 2018.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
CDPHE, 2018	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

CDPHE, *Regulation NO. 41 – The Basic Standards for Groundwater*. December 2016.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
CDPHE, 2016	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

CDPHE, *Groundwater Protection Values Soil Cleanup Table*. March 2014.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
CDPHE, 2014	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

EPA, *Regional Screening Levels (RSLs) – Generic Tables (May 2018)*. May 2018

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
EPA, 2018	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

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EPA, 2018. *TDD 0003/1804-06 "Place Bridge Elementary School DHA W. Colfax Parcels"* April 2018.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
EPA, 2018	Guidance	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

USGS, *Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States*. 1984.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
USGS, 1984	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

WESTON, 2018a. *Sampling and Analysis Plan for Place Bridge Elementary School 1400 South Oneida Street, Denver, Denver County, Colorado, Targeted Brownfields Assessment.*

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
WESTON, 2018a	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

WESTON, 2018b. *Phase I Environmental Site Assessment for Place Bridge Elementary School 1400 South Oneida Street, Denver, Denver County, Colorado.*

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
WESTON, 2018b	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

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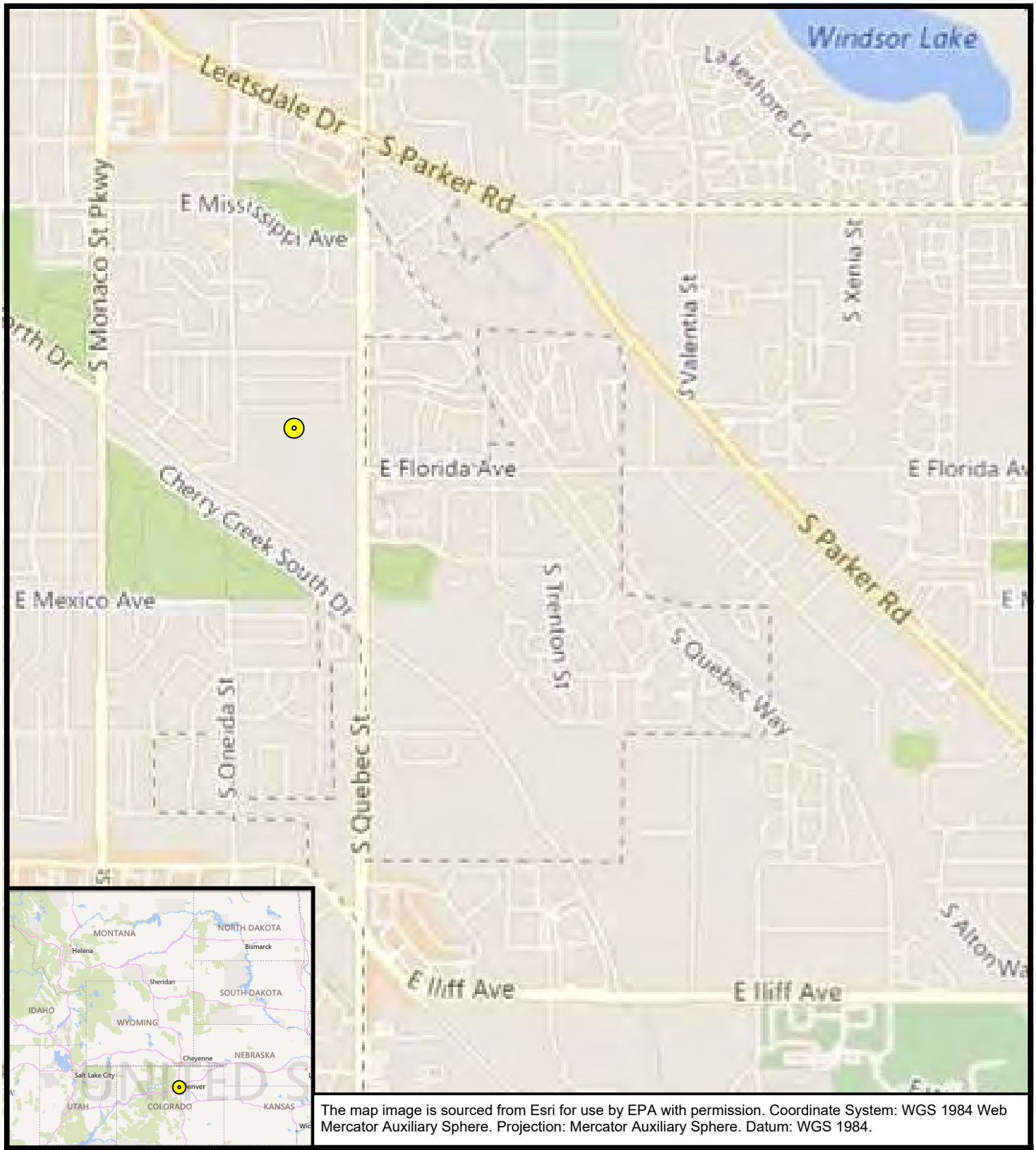
11.0 QUALIFICATIONS

START utilized qualified, professional staff, trained in performing the scope of work required for this Phase II ESA. The START team personnel included a project manager and technical specialist(s). Their roles are described in more detail as follows:

- Project Manager – Mr. Roy Weindorf, P.G. is a professional geologist with over 11 years of experience in the field of environmental sciences. Mr. Weindorf specializes in the developing sample and analysis plans, quality assurance project plans, and health and safety plans; conducting site reconnaissance and inspections; drilling with direct push and auger technologies; overseeing subcontractors; conducting field screening and collecting samples from various environmental media; analysis and interpretation of field data and laboratory analytical data. Mr. Weindorf is also experienced in reporting the findings, conclusions, and recommendation, including remedial cost estimating.
- Scientist – Mr. Joe. Rudi, has 7+ years of experience in the field of environmental sciences including environmental lab work, Phase I/II ESAs, Military Munitions and Response Program investigations, removal actions, and environmental remediation. Mr. Rudi has managed/conducted quality control on projects for the United States Air Force, United States Army Corp of Engineers, and the EPA.
- Scientist – Les Joseph Puvathingal is a contracted certified asbestos building inspector.

FIGURES



The map image is sourced from Esri for use by EPA with permission. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere. Projection: Mercator Auxiliary Sphere. Datum: WGS 1984.

Legend

Site Location

0 650 1,300 feet

N

Prepared for:
U.S. EPA Region 8

Contract No.:
EP-S8-13-01

TDD:
1804-06

TO:
0003

Prepared By:
Weston Solutions, Inc.
START IV

Suite 100
1435 Garrison Street
Lakewood, CO 80215

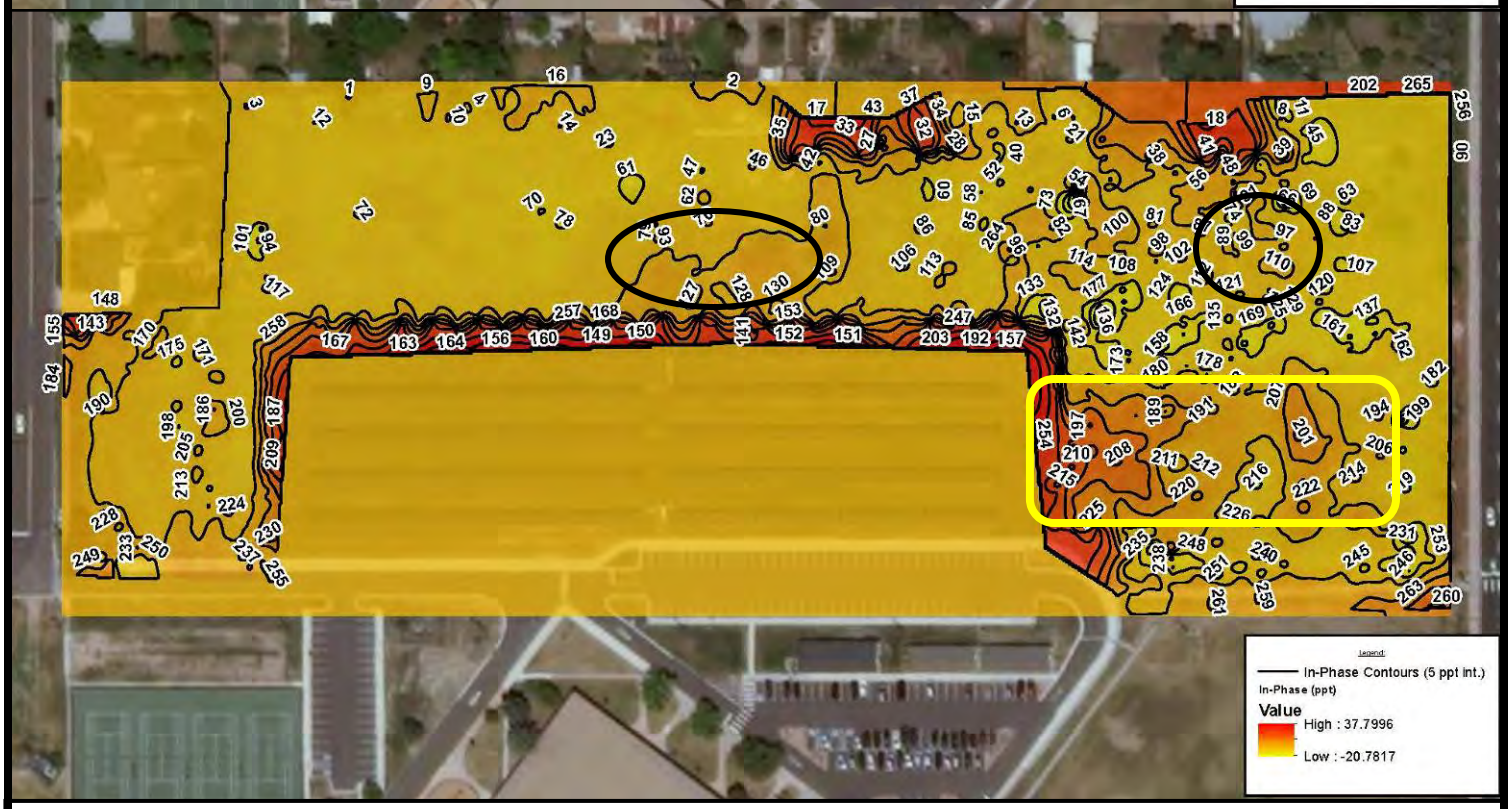
FIGURE 1

SITE LOCATION MAP

PLACE BRIDGE ELEMENTARY

1400 SOUTH ONEIDA STREET
DENVER, DENVER COUNTY, COLORADO

DATE: 5/25/2018



The map image is sourced from Esri for use by EPA with permission. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere. Projection: Mercator Auxiliary Sphere. Datum: WGS 1984.

Legend

- Anomalies
- Landfill Footprint

0 150 300 feet

N

Prepared for:
U.S. EPA Region 8

Contract No.:
EP-S8-13-01

TDD:
1804-06

TO:
0003

Prepared By:
Weston Solutions, Inc.
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Lakewood, CO 80215

FIGURE 2

ELECTROMAGNETIC RESULTS MAP
PLACE BRIDGE ELEMENTARY

1400 SOUTH ONEIDA STREET
DENVER, DENVER COUNTY, COLORADO

DATE: 9/28/2018

The map image is sourced from Esri for use by EPA with permission. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere. Projection: Mercator Auxiliary Sphere. Datum: WGS 1984.

Legend

- Supplemental Sample Locations *
- Geophysical Survey Boundary
- Soil Gas Probe Location
- Soil and/or Groundwater Sample Location
- Landfill Footprint

0 150 300 feet

*Samples collected 12/19

N

Prepared for:
U.S. EPA Region 8

Contract No.:
EP-S8-13-01

TDD:
1804-06

TO:
0003

Prepared By:
Weston Solutions, Inc.
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FIGURE 3

SAMPLE LOCATION MAP

PLACE BRIDGE ELEMENTARY

1400 SOUTH ONEIDA STREET
DENVER, DENVER COUNTY, COLORADO

DATE: 1/8/2019

TABLES

Table 1 : Sample Summary
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Location	Purpose	Sample Name	Media (soil depth in feet)	Maximum Methane Response	Table Reference
PB-01	Characterize area north of anomalies.	PB-SO-01-05-07	Shallow Soil (5-7)	0.0%	2
		PB-SO-01-18-20	Deep Soil (18-20)		
		PB-GW-01	Groundwater		3
		PB-SG-01	Soil Gas		4
PB-02		PB-SO-02-05-07	Shallow Soil (5-7)	0.0%	2
		PB-SO-02-15-17	Deep Soil (15-17)		
PB-03		PB-SG-03	Soil Gas	0.0%	4
PB-04		PB-SO-04-05-07	Shallow Soil (5-7)	0.0%	2
		PB-SO-04-18-20	Deep Soil (18-20)		
		PB-GW-04	Groundwater		3
PB-05	Characterize area within north anomalies.	Not Sampled		0.0%	None
PB-06				0.0%	
PB-07				0.0%	
PB-08				0.0%	
PB-09	Characterize area between north and east anomalies.	PB-SO-09-05-07	Shallow Soil (5-7)	0.0%	2
		PB-SO-09-18-20	Deep Soil (18-20)		
		PB-GW-09*	Groundwater		3
		PB-GW-99			
PB-10		PB-SO-10-05-07	Shallow Soil (5-7)	0.0%	2
		PB-SO-90-05-07			
		PB-SO-10-15-17	Deep Soil (15-17)		
PB-11	Characterize area within east anomalie.	PB-SG-11	Soil Gas	**0.2%**	4
PB-12		Not Sampled		0.0%	None
PB-13		PB-SO-13-05-07	Shallow Soil (5-7)	0.0%	2
		PB-SO-13-18-20	Deep Soil (18-20)		
		PB-GW-13	Groundwater		3
		PB-SG-13	Soil Gas		4
PB-MW-01		PB-MW-01*	Groundwater	Not Screened	3

* - location was resampled on 12/19/18 for dissolved metals analysis.

Location	PB-MW-01	PB-GW-01	PB-GW-04	PB-GW-09	PB-GW-13
Groundwater Elevation Data					
Surface Elevation* (feet)	5413.00	5412.00	5412.00	5412.00	5411.00
Depth to Water (feet bgs)	22.87	23.36	23.26	22.5	22.78
Relative Groundwater Elevation (ft.)	5390.13	5388.64	5388.74	5389.50	5388.2
Groundwater Quality Parameters					
Temperature (^{o}C)	16.88	15.11	16.54	29.74	16.89
pH	6.84	6.44	6.66	7.33	6.80
Oxidation/Reduction Potential (mV)	140	37	66	-9	8
Dissolved O_2 (mg/L)	5.37	10.19	6.45	6.69	11.45
Total Dissolved Solids (g/L)	0.506	0.466	0.421	0.378	0.841
Conductivity (mS/cm)	0.791	0.728	0.661	0.591	1.31

Notes: ^{o}C - degrees Celsius, m - milli, V - volts, g - grams, L - liters, S - Siemens; cm - centimeter

* - Not professionally surveyed. Elevations based on topographic map.

Table 2 : Soil Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA	CDPHE		PB-SO-01-05-07	PB-SO-01-18-20	PB-SO-02-05-07	PB-SO-02-15-17	PB-SO-09-05-07	PB-SO-09-18-20	PB-SO-10-05-07	PB-SO-10-15-17	PB-SO-04-05-07	PB-SO-04-18-20	PB-SO-13-05-07	PB-SO-13-18-20	PB-SO-90-05-07
Date Sampled:	Res. Soil	GW PV		7/31/2018	7/31/2018	7/31/2018	7/31/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018
MS Volatiles (SW846 8260B)																
Acetone	--	32000	ug/kg	ND (24)	ND (23)	ND (25)	ND (25)	ND (24)	ND (24)	ND (24)	ND (23)	**42.4 J**	ND (25)	ND (23)	ND (23)	ND (24)
Acrolein	--	--	ug/kg	ND (16)	ND (16)	ND (17)	ND (17)	ND (16)	ND (17)	ND (16)	ND (16)	ND (17)	ND (17)	ND (16)	ND (16)	ND (16)
Acrylonitrile	--	--	ug/kg	ND (8.7)	ND (8.3)	ND (9.2)	ND (9.2)	ND (8.6)	ND (8.9)	ND (8.7)	ND (8.4)	ND (9.2)	ND (9.2)	ND (8.4)	ND (8.4)	ND (8.6)
Benzene	1200	170	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Bromobenzene	290000	3000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Bromochloromethane	--	--	ug/kg	ND (0.66)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.64)	ND (0.66)	ND (0.65)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.63)	ND (0.63)	ND (0.64)
Bromodichloromethane	290	7	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Bromoform	19000	48	ug/kg	ND (1.3)	ND (1.3)	ND (1.4)	ND (1.4)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.4)	ND (1.4)	ND (1.3)	ND (1.3)	ND (1.3)
n-Butylbenzene	3900000	--	ug/kg	ND (0.66)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.64)	ND (0.66)	ND (0.65)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.63)	ND (0.63)	ND (0.64)
sec-Butylbenzene	7800000	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
tert-Butylbenzene	7800000	--	ug/kg	ND (0.87)	ND (0.83)	ND (0.92)	ND (0.92)	ND (0.86)	ND (0.89)	ND (0.87)	ND (0.84)	ND (0.92)	ND (0.92)	ND (0.84)	ND (0.84)	ND (0.86)
Carbon disulfide	--	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Carbon tetrachloride	650	1704	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Chlorobenzene	280000	5300	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Chloroethane	14000000	--	ug/kg	ND (0.87)	ND (0.83)	ND (0.92)	ND (0.92)	ND (0.86)	ND (0.89)	ND (0.87)	ND (0.84)	ND (0.92)	ND (0.92)	ND (0.84)	ND (0.84)	ND (0.86)
2-Chloroethyl vinyl ether	--	--	ug/kg	ND (1.4)	ND (1.4)	ND (1.5)	ND (1.5)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.5)	ND (1.5)	ND (1.4)	ND (1.4)	ND (1.4)
Chloroform	320	85	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
o-Chlorotoluene	1600000	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
p-Chlorotoluene	1600000	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,2-Dibromo-3-chloropropane	5.3	2	ug/kg	ND (3.8)	ND (3.6)	ND (4.0)	ND (4.0)	ND (3.8)	ND (3.9)	ND (3.8)	ND (3.7)	ND (4.0)	ND (4.0)	ND (3.7)	ND (3.7)	ND (3.8)
Dibromochloromethane	8300	110	ug/kg	ND (0.58)	ND (0.55)	ND (0.61)	ND (0.61)	ND (0.57)	ND (0.59)	ND (0.58)	ND (0.56)	ND (0.61)	ND (0.61)	ND (0.55)	ND (0.56)	ND (0.57)
1,2-Dibromoethane	36	0.18	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
o-Dichlorobenzene	1800000	57000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
m-Dichlorobenzene	1800000	57000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
p-Dichlorobenzene	1800000	57000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Dichlorodifluoromethane	87000	390000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,1-Dichloroethane	3600	1800	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,2-Dichloroethane	460	3.6	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,1-Dichloroethylene	230000	12000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
cis-1,2-Dichloroethylene	160000	261	ug/kg	ND (0.60)	ND (0.57)	ND (0.63)	ND (0.63)	ND (0.59)	ND (0.61)	ND (0.60)	ND (0.58)	ND (0.63)	ND (0.64)	ND (0.58)	ND (0.58)	ND (0.59)
trans-1,2-Dichloroethylene	1600000	5400	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,2-Dichloropropane	2500	8.7	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,3-Dichloropropane	1600000	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
2,2-Dichloropropane	--	--	ug/kg	ND (0.66)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.64)	ND (0.66)	ND (0.65)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.63)	ND (0.63)	ND (0.64)
1,1-Dichloropropene	--	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
cis-1,3-Dichloropropene	--	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
trans-1,3-Dichloropropene	--	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Ethylbenzene	5800	100000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Hexachlorobutadiene	1200	170	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
2-Hexanone	--	--	ug/kg	ND (5.5)	ND (5.2)	ND (5.8)	ND (5.7)	ND (5.4)	ND (5.5)	ND (5.5)	ND (5.2)	ND (5.7)	ND (5.8)	ND (5.2)	ND (5.2)	ND (5.4)
Isopropylbenzene	1900000	700000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
p-Isopropyltoluene	--	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Methyl bromide	--	--	ug/kg	ND (0.66)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.64)	ND (0.66)	ND (0.65)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.63)	ND (0.63)	ND (0.64)
Methyl Tert-Butyl Ether	47000	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Methyl chloride	--	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Methylene bromide	--	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)

Table 2 : Soil Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA	CDPHE		PB-SO-01-05-07	PB-SO-01-18-20	PB-SO-02-05-07	PB-SO-02-15-17	PB-SO-09-05-07	PB-SO-09-18-20	PB-SO-10-05-07	PB-SO-10-15-17	PB-SO-04-05-07	PB-SO-04-18-20	PB-SO-13-05-07	PB-SO-13-18-20	PB-SO-90-05-07
Date Sampled:	Res. Soil	GW PV		7/31/2018	7/31/2018	7/31/2018	7/31/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018
Methylene chloride	57000	60	ug/kg	ND (3.3)	ND (3.1)	ND (3.5)	ND (3.4)	ND (3.2)	ND (3.3)	ND (3.3)	ND (3.1)	ND (3.4)	ND (3.5)	ND (3.1)	ND (3.1)	ND (3.2)
Methyl ethyl ketone	27000000	18000	ug/kg	ND (5.5)	ND (5.2)	ND (5.8)	ND (5.7)	ND (5.4)	ND (5.5)	ND (5.5)	ND (5.2)	**9.7 J**	ND (5.8)	ND (5.2)	ND (5.2)	ND (5.4)
4-Methyl-2-pentanone	33000000	3300	ug/kg	ND (5.5)	ND (5.2)	ND (5.8)	ND (5.7)	ND (5.4)	ND (5.5)	ND (5.5)	ND (5.2)	ND (5.7)	ND (5.8)	ND (5.2)	ND (5.2)	ND (5.4)
Naphthalene	3800	23000	ug/kg	ND (3.3)	ND (3.1)	ND (3.5)	ND (3.4)	ND (3.2)	ND (3.3)	ND (3.3)	ND (3.1)	ND (3.4)	ND (3.5)	ND (3.1)	ND (3.1)	ND (3.2)
n-Propylbenzene	3800000	77000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Styrene	6000000	14000	ug/kg	ND (0.76)	ND (0.73)	ND (0.81)	ND (0.80)	ND (0.75)	ND (0.77)	ND (0.76)	ND (0.73)	ND (0.80)	ND (0.81)	ND (0.73)	ND (0.73)	ND (0.75)
1,1,1,2-Tetrachloroethane	2000	160	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,1,2,2-Tetrachloroethane	600	2.4	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Tetrachloroethylene	24000	1900	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Toluene	4900000	50000	ug/kg	ND (1.1)	ND (1.0)	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.0)	ND (1.1)	ND (1.2)	ND (1.0)	ND (1.0)	ND (1.1)
1,2,3-Trichlorobenzene	63000	--	ug/kg	ND (1.1)	ND (1.0)	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.0)	ND (1.1)	ND (1.2)	ND (1.0)	ND (1.0)	ND (1.1)
1,2,4-Trichlorobenzene	24000	13000	ug/kg	ND (1.1)	ND (1.0)	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.0)	ND (1.1)	ND (1.2)	ND (1.0)	ND (1.0)	ND (1.1)
1,1,1-Trichloroethane	8100000	62000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,1,2-Trichloroethane	1100	38	ug/kg	ND (0.66)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.64)	ND (0.66)	ND (0.65)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.63)	ND (0.63)	ND (0.64)
Trichloroethylene	940	680	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Trichlorofluoromethane	23000000	1000000	ug/kg	ND (1.1)	ND (1.0)	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.0)	ND (1.1)	ND (1.2)	ND (1.0)	ND (1.0)	ND (1.1)
1,2,3-Trichloropropane	5.1	0.48	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,2,4-Trimethylbenzene	300000	--	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
1,3,5-Trimethylbenzene	270000	23000	ug/kg	ND (0.55)	ND (0.52)	ND (0.58)	ND (0.57)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.52)	ND (0.57)	ND (0.58)	ND (0.52)	ND (0.52)	ND (0.54)
Vinyl Acetate	--	--	ug/kg	ND (5.5)	ND (5.2)	ND (5.8)	ND (5.7)	ND (5.4)	ND (5.5)	ND (5.5)	ND (5.2)	ND (5.7)	ND (5.8)	ND (5.2)	ND (5.2)	ND (5.4)
Vinyl chloride	59	110	ug/kg	ND (0.66)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.64)	ND (0.66)	ND (0.65)	ND (0.63)	ND (0.69)	ND (0.69)	ND (0.63)	ND (0.63)	ND (0.64)
Xylene (total)	580000	75000	ug/kg	ND (1.1)	ND (1.0)	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.0)	ND (1.1)	ND (1.2)	ND (1.0)	ND (1.0)	ND (1.1)
MS Semi-volatiles (SW846 8270C)																
Benzoic Acid	--	--	ug/kg	ND (550)	ND (520)	ND (580)	ND (580)	ND (540)	ND (550)	ND (550)	ND (530)	ND (1200)	ND (1200)	ND (1100)	ND (1100)	ND (530)
4-Chloro-3-methyl phenol	6300000	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
2-Chlorophenol	390000	1200	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
2,4-Dichlorophenol	190000	330	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
2,4-Dimethylphenol	1300000	2700	ug/kg	**79.2**	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
4,6-Dinitro-o-cresol	5100	--	ug/kg	ND (280)	ND (260)	ND (290)	ND (290)	ND (270)	ND (280)	ND (270)	ND (270)	ND (580)	ND (580)	ND (530)	ND (530)	ND (270)
2,4-Dinitrophenol	130000	400	ug/kg	ND (280)	ND (260)	ND (290)	ND (290)	ND (270)	ND (280)	ND (270)	ND (270)	ND (580)	ND (580)	ND (530)	ND (530)	ND (270)
2-Methylphenol	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
4-Methylphenol	--	--	ug/kg	**149**	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	**52.6 J**	**43.0 J**	ND (35)	ND (35)	ND (18)
2-Nitrophenol	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
4-Nitrophenol	--	2100	ug/kg	ND (280)	ND (260)	ND (290)	ND (290)	ND (270)	ND (280)	ND (270)	ND (270)	ND (580)	ND (580)	ND (530)	ND (530)	ND (270)
Pentachlorophenol	1000	21	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Phenol	19000000	47000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
2,4,5-Trichlorophenol	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
2,4,6-Trichlorophenol	49000	280	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Acenaphthene	3600000	1000000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Acenaphthylene	--	--	ug/kg	**25.2 J**	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	**43.7 J**	ND (35)	**45.1 J**	ND (18)
Aniline	--	--	ug/kg	ND (73)	ND (70)	ND (77)	ND (77)	ND (72)	ND (74)	ND (73)	ND (71)	ND (150)	ND (160)	ND (140)	ND (140)	ND (71)
Anthracene	18000000	1000000	ug/kg	ND (18)	ND (17)	ND (19)	**38.4 J**	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Benzidine	0.53	--	ug/kg	ND (730)	ND (700)	ND (770)	ND (770)	ND (720)	ND (740)	ND (730)	ND (710)	ND (1500)	ND (1600)	ND (1400)	ND (1400)	ND (710)
Benzo(a)anthracene	1100	1000000	ug/kg	ND (18)	ND (17)	**52.9 J**	**89.4**	ND (18)	ND (18)	ND (18)	ND (18)	**40.9 J**	**47.0 J**	**58.2 J**	**80.9 J**	ND (18)
Benzo(b)fluoranthene	1100	1000000	ug/kg	ND (18)	ND (17)	**73.3 J**	**119**	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	**96.1 J**	**75.6 J**	**99.5 J**	ND (18)
Benzo(k)fluoranthene	11000	1000000	ug/kg	ND (18)	ND (17)	**24.2 J**	**38.3 J**	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	**42.2 J**	ND (18)
Benzo(g,h,i)perylene	--	--	ug/kg	**80**	ND (17)	**40.6 J**	**55.8 J**	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	**71.6 J**	ND (35)	ND (18)

Table 2 : Soil Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA	CDPHE		PB-SO-01-05-07	PB-SO-01-18-20	PB-SO-02-05-07	PB-SO-02-15-17	PB-SO-09-05-07	PB-SO-09-18-20	PB-SO-10-05-07	PB-SO-10-15-17	PB-SO-04-05-07	PB-SO-04-18-20	PB-SO-13-05-07	PB-SO-13-18-20	PB-SO-90-05-07
Date Sampled:	Res. Soil	GW PV		7/31/2018	7/31/2018	7/31/2018	7/31/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018
Benzo(a)pyrene	110	1000000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	**67.0 J**	ND (35)	ND (18)
Benzyl Alcohol	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
4-Bromophenyl phenyl ether	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Butyl benzyl phthalate	--	--	ug/kg	ND (23)	ND (22)	ND (24)	ND (24)	ND (22)	ND (23)	ND (23)	ND (22)	ND (48)	ND (48)	ND (44)	ND (44)	ND (22)
Carbazole	--	--	ug/kg	ND (18)	ND (17)	ND (19)	**20.9 J**	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
4-Chloroaniline	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
bis(2-Chloroethoxy)methane	190000	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
bis(2-Chloroethyl)ether	230	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
2,2'-Oxybis(1-chloropropane)	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
2-Chloronaphthalene	4800000	1000000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
4-Chlorophenyl phenyl ether	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Chrysene	110000	1000000	ug/kg	ND (18)	ND (17)	**52.2 J**	**92.9**	ND (18)	ND (18)	ND (18)	ND (18)	**110 J**	**134 J**	**66.7 J**	**81.9 J**	ND (18)
Dibenzo(a,h)anthracene	110	1000000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Dibenzofuran	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Di-n-butyl phthalate	6300000	1000000	ug/kg	**188**	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	**25.6 J**	ND (39)	ND (39)	ND (35)	ND (35)	**24.8 J**
1,2-Dichlorobenzene	1800000	57000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
1,3-Dichlorobenzene	--	8500	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
1,4-Dichlorobenzene	2600	7800	ug/kg	ND (18)	ND (17)	**162**	**622**	ND (18)	ND (18)	ND (18)	ND (18)	**267**	**150 J**	ND (35)	ND (35)	ND (18)
3,3'-Dichlorobenzidine	1200	41	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Diethyl phthalate	51000000	140000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Dimethyl phthalate	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
2,4-Dinitrotoluene	1700	3.2	ug/kg	ND (37)	ND (35)	ND (38)	ND (38)	ND (36)	ND (37)	ND (37)	ND (35)	ND (77)	ND (78)	ND (71)	ND (71)	ND (36)
2,6-Dinitrotoluene	360	200	ug/kg	ND (37)	ND (35)	ND (38)	ND (38)	ND (36)	ND (37)	ND (37)	ND (35)	ND (77)	ND (78)	ND (71)	ND (71)	ND (36)
Di-n-octyl phthalate	630000	--	ug/kg	ND (37)	ND (35)	ND (38)	ND (38)	ND (36)	ND (37)	ND (37)	ND (35)	ND (77)	ND (78)	ND (71)	ND (71)	ND (36)
1,2-Diphenylhydrazine	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
bis(2-Ethylhexyl)phthalate	39000	1000000	ug/kg	**238**	ND (38)	ND (42)	ND (42)	ND (40)	ND (41)	**155 J**	**71.7 J**	**133 J**	**158 J**	**173 J**	**1470**	**47.2 J**
Fluoranthene	2400000	1000000	ug/kg	**41.6 J**	ND (17)	**90.8**	**182**	ND (18)	ND (18)	ND (18)	ND (18)	**79.3 J**	**102 J**	**105 J**	**152**	ND (18)
Fluorene	2400000	1000000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Hexachlorobenzene	210	9	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Hexachlorobutadiene	1200	170	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Hexachlorocyclopentadiene	1800	1000000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Hexachloroethane	1800	19	ug/kg	ND (51)	ND (49)	ND (54)	ND (54)	ND (50)	ND (52)	ND (51)	ND (50)	ND (110)	ND (110)	ND (99)	ND (99)	ND (50)
Indeno(1,2,3-cd)pyrene	1100	1000000	ug/kg	ND (18)	ND (17)	**44.0 J**	**60.4 J**	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	**44.7 J**	ND (18)
Isophorone	570000	1300	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
1-Methylnaphthalene	--	--	ug/kg	ND (26)	ND (24)	ND (27)	ND (27)	ND (25)	ND (26)	ND (26)	ND (25)	ND (54)	ND (54)	ND (50)	ND (50)	ND (25)
2-Methylnaphthalene	--	--	ug/kg	ND (33)	ND (31)	ND (35)	ND (35)	ND (32)	ND (33)	ND (33)	ND (32)	ND (70)	ND (70)	ND (64)	ND (64)	ND (32)
Naphthalene	3800	23000	ug/kg	**28.1 J**	ND (24)	**45.5 J**	**146**	ND (25)	ND (26)	**41.7 J**	**28.9 J**	**80.4 J**	**68.4 J**	ND (50)	ND (50)	**28.4 J**
2-Nitroaniline	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
3-Nitroaniline	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
4-Nitroaniline	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Nitrobenzene	5100	239	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
N-Nitrosodimethylamine	2	0.005	ug/kg	ND (37)	ND (35)	ND (38)	ND (38)	ND (36)	ND (37)	ND (37)	ND (35)	ND (77)	ND (78)	ND (71)	ND (71)	ND (36)
N-Nitrosodiphenylamine	110000	670	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
N-Nitroso-di-n-propylamine	78	0.00028	ug/kg	ND (21)	ND (20)	ND (22)	ND (22)	ND (21)	ND (21)	ND (21)	ND (21)	ND (45)	ND (45)	ND (41)	ND (41)	ND (21)
Phenanthrene	--	--	ug/kg	**46.9 J**	ND (17)	**67.0 J**	**174**	ND (18)	ND (18)	ND (18)	ND (18)	**83.4 J**	**87.4 J**	**75.5 J**	**97.0 J**	ND (18)
Pyrene	1800000	1000000	ug/kg	**97.6**	ND (17)	**92**	**168**	ND (18)	ND (18)	ND (18)	ND (18)	**125 J**	**156 J**	**103 J**	**148**	ND (18)
Pyridine	--	--	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)

Table 2 : Soil Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA	CDPHE		PB-SO-01-05-07	PB-SO-01-18-20	PB-SO-02-05-07	PB-SO-02-15-17	PB-SO-09-05-07	PB-SO-09-18-20	PB-SO-10-05-07	PB-SO-10-15-17	PB-SO-04-05-07	PB-SO-04-18-20	PB-SO-13-05-07	PB-SO-13-18-20	PB-SO-90-05-07
Date Sampled:	Res. Soil	GW PV		7/31/2018	7/31/2018	7/31/2018	7/31/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018
1,2,4-Trichlorobenzene	24000	13000	ug/kg	ND (18)	ND (17)	ND (19)	ND (19)	ND (18)	ND (18)	ND (18)	ND (18)	ND (39)	ND (39)	ND (35)	ND (35)	ND (18)
Metals Analysis																
Arsenic	0.68	--	mg/kg	<2.7	<2.6	**4.9**	**2.9**	<2.5	<2.7	**2.9**	<2.4	**12.5**	**7.7**	**3.3**	**3.3**	<25
Barium	15000	--	mg/kg	**1770**	**8.3**	**103**	**61.3**	**15.2**	**17.8**	**63.2**	**61**	**231**	**167**	**80.5**	**141**	**61.4**
Cadmium	71	--	mg/kg	**6.2**	<1.0	<1.1	<1.1	<1.0	<1.1	<1.1	<0.98	**8.8**	<1.1	<1.0	<1.0	<1.0
Chromium	120000	--	mg/kg	**12.7**	**1.9**	**11.6**	**9.8**	**1.9**	**1.9**	**18.2**	**16.1**	**30.9**	**15.3**	**11.7**	**14.2**	**22.8**
Lead	400	--	mg/kg	**192**	<5.2	**189**	**34.6**	<5.0	<5.3	**147**	**79.7**	**233**	**81.8**	**172**	**141**	**155**
Mercury	390	--	mg/kg	**0.1**	<0.087	**0.12**	**0.14**	<0.081	<0.092	<0.090	<0.087	<0.093	<0.094	**0.32**	**0.2**	**0.18**
Selenium	390	--	mg/kg	<5.3	<5.2	<5.4	<5.4	<5.0	<5.3	**12.1**	**11.1**	<5.6	<5.7	<5.0	<5.2	**50.5**
Silver	11	--	mg/kg	<3.2	<3.1	<3.2	<3.2	<3.0	<3.2	<32	<29	<3.4	<34	<3.0	<3.1	<30
General Chemistry																
Solids, Percent	--	--	%	**90.8**	**95.6**	**86.5**	**86.5**	**92.2**	**90.2**	**91.3**	**93.8**	**86.3**	**85.5**	**94**	**94**	**93.2**

Notes: mg/kg - milligrams per kilogram.

ug/kg - micrograms per kilogram.
EPA Res. Soil - U.S. Environmental Protection Agency Regional Screening Level for Residential Soil
CDPHE GW PV - Colorado Department of Public Health and Environment Groundwater Protection Value
ND or < - Analyte not detected in sample analyzed at a concentration above the method detection limit (in parenthesis).,
J - Analyte detected below calibration value is estimated.
BOLD - Analyte detected in sample analyzed.

Highlighted	Analyte detection limit exceeds EPA Res. Soil however, analyte was not detected in the samples analyzed.
Highlighted	Analyte detection limit exceeds CDPHE GW PV however, analyte was not detected in the samples analyzed.
Highlighted	Analyte detection limit exceeds EPA and CDPHE screening levels however, analyte was not detected in the samples analyzed.
Highlighted	Concentration of analyte exceeds EPA Res. Soil.

Table 3 : Groundwater Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA	CDPHE		PB-GW-09	PB-GW-99	PB-GW-09	PB-GW-13	PB-GW-04	PB-GW-01	PB-MW-01	PB-MW-01	PB-GW-91
Date Sampled:	Tap. RSL	WQCC Reg. 41		8/1/2018	8/1/2018	12/19/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	12/19/2018	12/19/2018
MS Volatiles (SW846 8260B)												
Acetone	--	--	ug/l	**33.6**	ND (20)	NA	ND (20)	ND (20)	ND (20)	ND (20)	NA	NA
Acrolein	--	--	ug/l	ND (7.0)	ND (7.0)	NA	ND (7.0)	ND (7.0)	ND (7.0)	ND (7.0)	NA	NA
Acrylonitrile	--	0.065	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
Benzene	0.46	5	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Bromobenzene	62	56	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
Bromochloromethane	--	--	ug/l	ND (1.5)	ND (1.5)	NA	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	NA	NA
Bromodichloromethane	0.13	0.56	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
Bromoform	3.3	4	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
n-Butylbenzene	1000	--	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
sec-Butylbenzene	2000	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
tert-Butylbenzene	690	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Carbon disulfide	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Carbon tetrachloride	0.46	0.5	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
Chlorobenzene	78	100	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Chloroethane	21000	--	ug/l	ND (2.0)	ND (2.0)	NA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	NA	NA
2-Chloroethyl vinyl ether	--	--	ug/l	ND (1.5)	ND (1.5)	NA	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	NA	NA
Chloroform	0.22	3.5	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
o-Chlorotoluene	240	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
p-Chlorotoluene	250	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
1,2-Dibromo-3-chloropropane	0.00033	0.2	ug/l	ND (2.0)	ND (2.0)	NA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	NA	NA
Dibromochloromethane	0.87	14	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
1,2-Dibromoethane	0.0075	0.018	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
o-Dichlorobenzene	--	94	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
m-Dichlorobenzene	300	600	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
p-Dichlorobenzene	0.48	75	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
Dichlorodifluoromethane	200	--	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
1,1-Dichloroethane	2.8	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
1,2-Dichloroethane	0.17	0.38	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
1,1-Dichloroethylene	280	7	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
cis-1,2-Dichloroethylene	36	14	ug/l	ND (1.5)	ND (1.5)	NA	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	NA	NA
trans-1,2-Dichloroethylene	360	140	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
1,2-Dichloropropane	0.85	0.52	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
1,3-Dichloropropane	370	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
2,2-Dichloropropane	--	--	ug/l	ND (3.0)	ND (3.0)	NA	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	NA	NA
1,1-Dichloropropene	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
cis-1,3-Dichloropropene	--	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
trans-1,3-Dichloropropene	--	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Ethylbenzene	1.5	700	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Hexachlorobutadiene	0.14	0.45	ug/l	ND (2.0)	ND (2.0)	NA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	NA	NA
2-Hexanone	--	--	ug/l	ND (2.5)	ND (2.5)	NA	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	NA	NA
Isopropylbenzene	450	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
p-Isopropyltoluene	--	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Methyl bromide	7.5	--	ug/l	ND (2.0)	ND (2.0)	NA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	NA	NA
Methyl chloride	190	--	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
Methylene bromide	--	--	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
Methylene chloride	11	5.6	ug/l	ND (2.0)	ND (2.0)	NA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	NA	NA
Methyl ethyl ketone	5600	--	ug/l	ND (5.0)	ND (5.0)	NA	**16.4**	ND (5.0)	ND (5.0)	ND (5.0)	NA	NA
4-Methyl-2-pentanone	6300	--	ug/l	ND (2.5)	ND (2.5)	NA	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	NA	NA
Methyl Tert Butyl Ether	14	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Naphthalene	0.17	140	ug/l	ND (2.0)	ND (2.0)	NA	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	NA	NA
n-Propylbenzene	660	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Styrene	1200	100	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
1,1,1,2-Tetrachloroethane	0.57	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
1,1,2,2-Tetrachloroethane	0.076	0.18	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Tetrachloroethylene	11	17	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
Toluene	1100	560	ug/l	ND (0.50)	ND (0.50)	NA	**0.58 J**	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
1,2,3-Trichlorobenzene	7	--	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
1,2,4-Trichlorobenzene	1.2	70	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
1,1,1-Trichloroethane	8000	14000	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
1,1,2-Trichloroethane	0.28	2.8	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
Trichloroethylene	0.49	5	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
Trichlorofluoromethane	5200	--	ug/l	ND (3.0)	ND (3.0)	NA	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	NA	NA
1,2,3-Trichloropropane	0.00075	0.00037	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
1,2,4-Trimethylbenzene	56	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
1,3,5-Trimethylbenzene	60	--	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
Vinyl Acetate	--	--	ug/l	ND (5.0)	ND (5.0)	NA	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	NA	NA
Vinyl chloride	0.019	0.023	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Xylene (total)	190	1400	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA

Table 3 : Groundwater Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA	CDPHE		PB-GW-09	PB-GW-99	PB-GW-09	PB-GW-13	PB-GW-04	PB-GW-01	PB-MW-01	PB-MW-01	PB-GW-91
Date Sampled:	Tap. RSL	WQCC Reg. 41		8/1/2018	8/1/2018	12/19/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	12/19/2018	12/19/2018
MS Semi-volatiles (SW846 8270C)												
Benzoic Acid	--	--	ug/l	ND (10)	ND (10)	NA	ND (10)	ND (10)	ND (10)	ND (10)	NA	NA
4-Chloro-3-methyl phenol	1400	210	ug/l	ND (0.84)	ND (0.84)	NA	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84)	NA	NA
2-Chlorophenol	91	35	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
2,4-Dichlorophenol	46	21	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
2,4-Dimethylphenol	360	140	ug/l	ND (2.4)	ND (2.4)	NA	ND (2.4)	ND (2.4)	ND (2.4)	ND (2.4)	NA	NA
4,6-Dinitro-o-cresol	1.5	0.27	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
2,4-Dinitrophenol	39	14	ug/l	ND (8.2)	ND (8.2)	NA	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	NA	NA
2-Methylphenol	--	--	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
4-Methylphenol	--	--	ug/l	ND (0.75)	ND (0.75)	NA	ND (0.75)	ND (0.75)	ND (0.75)	ND (0.75)	NA	NA
2-Nitrophenol	--	--	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
4-Nitrophenol	--	56	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
Pentachlorophenol	0.041	0.088	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
Phenol	5800	2100	ug/l	ND (0.50)	ND (0.50)	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA
2,4,5-Trichlorophenol	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
2,4,6-Trichlorophenol	4.1	3.2	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
Acenaphthene	530	420	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Acenaphthylene	--	--	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
Aniline	--	--	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
Anthracene	1800	2100	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Benzidine	0.00011	0.00015	ug/l	ND (75)	ND (75)	NA	ND (75)	ND (75)	ND (75)	ND (75)	NA	NA
Benzo(a)anthracene	0.03	0.0048	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Benzo(b)fluoranthene	0.25	0.0048	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
Benzo(k)fluoranthene	2.5	0.0048	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
Benzo(g,h,i)perylene	--	--	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
Benzo(a)pyrene	0.025	0.0048	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
Benzyl Alcohol	--	--	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
4-Bromophenyl phenyl ether	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Butyl benzyl phthalate	--	--	ug/l	ND (1.3)	ND (1.3)	NA	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	NA	NA
Carbazole	--	--	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
4-Chloroaniline	--	--	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
bis(2-Chloroethoxy)methane	59	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
bis(2-Chloroethyl)ether	0.014	0.032	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
2,2'-Oxybis(1-chloropropane)	--	--	ug/l	ND (1.0)	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
2-Chloronaphthalene	750	560	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
4-Chlorophenyl phenyl ether	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Chrysene	25	0.0048	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Dibenzo(a,h)anthracene	0.025	0.0048	ug/l	ND (1.3)	ND (1.3)	NA	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	NA	NA
Dibenzofuran	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Di-n-butyl phthalate	900	700	ug/l	ND (1.2)	ND (1.2)	NA	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	NA	NA
o-Dichlorobenzene	--	94	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
m-Dichlorobenzene	300	600	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
p-Dichlorobenzene	0.48	75	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
3,3'-Dichlorobenzidine	0.13	0.078	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
Diethyl phthalate	15000	5600	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
Dimethyl phthalate	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
2,4-Dinitrotoluene	0.24	0.11	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
2,6-Dinitrotoluene	0.049	--	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
Di-n-octyl phthalate	200	--	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
1,2-Diphenylhydrazine	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
bis(2-Ethylhexyl)phthalate	5.6	2.5	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Fluoranthene	800	280	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
Fluorene	290	280	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA
Hexachlorobenzene	0.0098	0.022	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Hexachlorobutadiene	0.14	0.45	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
Hexachlorocyclopentadiene	0.41	42	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
Hexachloroethane	0.33	0.88	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
Indeno(1,2,3-cd)pyrene	0.25	0.0048	ug/l	ND (1.4)	ND (1.4)	NA	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	NA	NA
Isophorone	78	140	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
1-Methylnaphthalene	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
2-Methylnaphthalene	--	--	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Naphthalene	0.17	140	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
2-Nitroaniline	--	--	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
3-Nitroaniline	--	--	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
4-Nitroaniline	--	--	ug/l	ND (0.90)	ND (0.90)	NA	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	NA	NA
Nitrobenzene	0.14	14	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
N-Nitrosodimethylamine	0.00011	0.00069	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
N-Nitrosodiphenylamine	12	7.1	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
N-Nitroso-di-n-propylamine	0.011	0.005	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Phenanthrene	--	--	ug/l	ND (0.60)	ND (0.60)	NA	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	NA	NA

Table 3 : Groundwater Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA	CDPHE		PB-GW-09	PB-GW-99	PB-GW-09	PB-GW-13	PB-GW-04	PB-GW-01	PB-MW-01	PB-MW-01	PB-GW-91
Date Sampled:	Tap. RSL	WQCC Reg. 41		8/1/2018	8/1/2018	12/19/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	12/19/2018	12/19/2018
Pyrene	120	210	ug/l	ND (0.70)	ND (0.70)	NA	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NA	NA
Pyridine	--	--	ug/l	ND (4.0)	ND (4.0)	NA	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	NA	NA
1,2,4-Trichlorobenzene	1.2	70	ug/l	ND (0.80)	ND (0.80)	NA	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	NA	NA
Metals Analysis												
Arsenic	0.052	10*	ug/l	**30.5**	ND (25)	**26.7****	**32.5**	**34.6**	**37.8**	**40.5**	ND (25)**	**26.8****
Barium	3800	2000*	ug/l	**140**	**141**	**176****	**158**	**309**	**182**	**182**	**177****	**178****
Cadmium	9.2	5*	ug/l	ND (10	ND (10)	ND (10)**	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)**	ND (10)**
Chromium	22000	100*	ug/l	ND (10)	ND (10)	ND (10)**	**24.5**	**73.7**	ND (10)	ND (10)	ND (10)**	ND (10)**
Lead	15	50*	ug/l	ND (50)	ND (50)	ND (50)**	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)**	ND (50)**
Mercury	100	2*	ug/l	ND (0.10)	ND (0.10)	ND (0.10)**	ND (0.10)	**0.18**	**0.10**	ND (0.10)	ND (0.10)**	ND (0.10)**
Selenium	94	50*	ug/l	ND (500)	ND (500)	ND (250)**	ND (500)	ND (500)	ND (500)	ND (500)	ND (250)**	ND (250)**
Silver	0.63	50*	ug/l	ND (30)	ND (30)	ND (30)**	ND (30)	ND (30)	ND (30)	ND (30)	ND (30)**	ND (30)**

Notes: ug/l - micrograms per liter.
Screening Limit - U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL) for Tapwater
Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission (WQCC) Regulation (Reg.) 41
ND - Analyte not detected in sample analyzed at a concentration above the method detection limit (in parenthesis).
NA - Not analyzed.
a - Analyte extraction occurred outside of hold time.
* - Domestic Water Supply - Human Health Standards
** - Filtered sample. Result indicates dissolved concentration.
BOLD - Analyte detected in sample analyzed.

Highlighted	Analyte detection limit exceeds EPA Res. Soil however, analyte was not detected in the samples analyzed.
Highlighted	Analyte detection limit exceeds CDPHE GW PV however, analyte was not detected in the samples analyzed.
Highlighted	Analyte detection limit exceeds EPA and CDPHE screening levels however, analyte was not detected in the samples analyzed.
Highlighted	Concentration of analyte exceeds EPA and CDPHE screening levels.

Table 4 : Soil Gas Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA		PB-SG-13	PB-SG-11	PB-SG-01	PB-SG-03
Date Sampled:	VISL		8/2/2018	8/2/2018	8/2/2018	8/2/2018
MS Volatiles (TO-15) - ug/m3						
Acetone	1100000	ug/m3	**36.8**	**496**	**38**	**468**
Acrolein	--	ug/m3	**0.76 J**	ND (19)	**0.82 J**	**0.44 J**
Acrylonitrile	--	ug/m3	**0.16 J**	ND (12)	**0.18 J**	ND (0.15)
Allyl chloride	16	ug/m3	ND (0.38)	ND (30)	ND (0.38)	ND (0.38)
1,3-Butadiene	3.1	ug/m3	ND (0.21)	ND (17)	ND (0.21)	ND (0.21)
Benzene	12	ug/m3	**0.96 J**	**540**	**0.93 J**	**0.17 J**
Benzyl Chloride	1.9	ug/m3	ND (0.10)	ND (8.2)	ND (0.10)	ND (0.10)
Bromodichloromethane	2.5	ug/m3	ND (0.29)	ND (23)	ND (0.29)	ND (0.29)
Bromoform	85	ug/m3	ND (0.54)	ND (43)	ND (0.54)	ND (0.54)
Bromomethane	170	ug/m3	ND (0.15)	ND (12)	ND (0.15)	**0.30 J**
2-Butanone	--	ug/m3	**5**	**147 J**	**5.3**	**22**
n-Butylbenzene	--	ug/m3	ND (0.15)	**106 J**	ND (0.15)	**0.16 J**
sec-Butylbenzene	--	ug/m3	ND (0.20)	**156 J**	ND (0.20)	ND (0.20)
Carbon disulfide	24000	ug/m3	**3.7**	**215 J**	**3.1**	**0.84 J**
Carbon tetrachloride	16	ug/m3	**0.45 J**	ND (23)	**0.48 J**	ND (0.28)
Chlorobenzene	1700	ug/m3	ND (0.18)	**21 J**	ND (0.18)	ND (0.18)
Chloroethane	350000	ug/m3	ND (0.25)	**26 J**	ND (0.25)	ND (0.25)
Chloroform	4.1	ug/m3	ND (0.19)	ND (16)	ND (0.19)	**1.1 J**
Chloromethane	3100	ug/m3	**1.7 J**	ND (15)	**1.7 J**	**0.31 J**
Cyclohexane	210000	ug/m3	**0.45 J**	**210 J**	**0.86 J**	**0.33 J**
Dibromochloromethane	--	ug/m3	ND (0.27)	ND (22)	ND (0.27)	ND (0.27)
1,1-Dichloroethane	58	ug/m3	ND (0.20)	**122 J**	ND (0.20)	ND (0.20)
1,1-Dichloroethene	7000	ug/m3	ND (0.34)	ND (27)	ND (0.34)	ND (0.34)
1,2-Dibromoethane	0.16	ug/m3	ND (0.35)	ND (28)	ND (0.35)	ND (0.35)
1,1-Dibromoethane	--	ug/m3	ND (0.32) [a]	ND (25) [a]	ND (0.32) [a]	ND (0.32) [a]
1,2-Dichloroethane	3.6	ug/m3	ND (0.23)	ND (18)	ND (0.23)	ND (0.23)
1,2-Dichloropropane	9.4	ug/m3	ND (0.23)	ND (18)	ND (0.23)	ND (0.23)
1,4-Dioxane	19	ug/m3	ND (0.19)	ND (15)	ND (0.19)	ND (0.19)
Dichlorodifluoromethane	3500	ug/m3	**1.9 J**	**39500**	**2.1 J**	**47**
trans-1,2-Dichloroethene	--	ug/m3	ND (0.17)	ND (14)	ND (0.17)	ND (0.17)
cis-1,2-Dichloroethene	--	ug/m3	ND (0.15)	**99.1 J**	ND (0.15)	ND (0.15)
cis-1,3-Dichloropropene	--	ug/m3	ND (0.20)	ND (16)	ND (0.20)	ND (0.20)
1,2-Dichlorobenzene	7000	ug/m3	ND (0.20)	ND (16)	ND (0.20)	ND (0.20)
1,3-Dichlorobenzene	--	ug/m3	ND (0.15)	ND (12)	ND (0.15)	ND (0.15)
1,4-Dichlorobenzene	8.5	ug/m3	ND (0.20)	**685**	ND (0.20)	ND (0.20)
trans-1,3-Dichloropropene	--	ug/m3	ND (0.13)	ND (10)	ND (0.13)	ND (0.13)
1,2-Dichlorotetrafluoroethane	--	ug/m3	ND (0.32)	**5790**	ND (0.32)	**69**
Di-Isopropyl ether	--	ug/m3	ND (0.15)	ND (12)	ND (0.15)	ND (0.15)

Table 4 : Soil Gas Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA		PB-SG-13	PB-SG-11	PB-SG-01	PB-SG-03
Date Sampled:	VISL		8/2/2018	8/2/2018	8/2/2018	8/2/2018
Ethanol	--	ug/m3	**256**	**220 J**	**233**	**2.8 J**
Ethylbenzene	37	ug/m3	**0.29 J**	**1540**	**0.43 J**	**0.29 J**
Ethyl Acetate	--	ug/m3	**5**	ND (36)	**5**	**1.5 J**
Ethyl tert-Butyl Ether	--	ug/m3	ND (0.15)	ND (12)	ND (0.15)	ND (0.15)
4-Ethyltoluene	--	ug/m3	ND (0.29)	**193 J**	ND (0.29)	ND (0.29)
Heptane	--	ug/m3	**0.57 J**	**619**	**0.70 J**	**0.94 J**
Hexachloro-1,3-butadiene	4.3	ug/m3	ND (0.27)	ND (21)	ND (0.27)	ND (0.27)
Hexane	24000	ug/m3	**0.74 J**	**500**	**0.88 J**	**0.81 J**
2-Hexanone	--	ug/m3	**0.20 J**	ND (11)	**0.19 J**	**8.6**
Isopropylbenzene	14000	ug/m3	ND (0.25)	**233 J**	ND (0.25)	ND (0.25)
Isopropanol	--	ug/m3	**9.8**	**72.6 J**	**11**	**5.9**
p-Isopropyltoluene	--	ug/m3	ND (0.28) [a]	**723** [a]	ND (0.28) [a]	ND (0.28) [a]
Methylene chloride	3400	ug/m3	**1.7 J**	**212 J**	**1.7 J**	**1.3 J**
4-Methyl-2-pentanone	100000	ug/m3	**0.57 J**	**124 J**	**0.57 J**	**0.32 J**
Methyl Tert-Butyl Ether	360	ug/m3	ND (0.18)	ND (14)	ND (0.18)	ND (0.18)
Methyl methacrylate	24000	ug/m3	ND (0.20)	ND (16)	ND (0.20)	ND (0.20)
Naphthalene	2.8	ug/m3	ND (0.25)	**60.3 J**	**0.27 J**	**0.73 J**
Pentane	--	ug/m3	**2.1 J**	**267**	**2.4 J**	**8.8**
n-Propylbenzene	--	ug/m3	ND (0.27)	**314 J**	ND (0.27)	ND (0.27)
Propene	100000	ug/m3	**0.38 J**	**512**	**0.41 J**	**5.5**
Styrene	35000	ug/m3	**0.85 J**	ND (16)	**0.85 J**	**0.23 J**
1,1,2,2-Tetrachloroethane	1.6	ug/m3	ND (0.24)	ND (19)	ND (0.24)	ND (0.24)
1,1,1-Trichloroethane	170000	ug/m3	ND (0.23)	ND (19)	ND (0.23)	ND (0.23)
1,1,2-Trichloroethane	5.8	ug/m3	ND (0.46)	ND (37)	ND (0.46)	ND (0.46)
1,2,4-Trichlorobenzene	70	ug/m3	ND (0.16)	ND (13)	ND (0.16)	ND (0.16)
1,1,2-Trichlorotrifluoroethane	1000000	ug/m3	**0.57 J**	ND (36)	**0.51 J**	ND (0.45)
1,2,4-Trimethylbenzene	240	ug/m3	**0.47 J**	**1570**	**0.54 J**	**1.5 J**
1,3,5-Trimethylbenzene	--	ug/m3	ND (0.13)	**841**	ND (0.13)	**0.30 J**
2,2,4-Trimethylpentane	--	ug/m3	**0.22 J**	ND (15)	**0.23 J**	ND (0.20)
t-Butyl Alcohol	--	ug/m3	**0.97 J**	**27 J**	**1.1 J**	**3.0 J**
tert Amyl Methyl Ether	--	ug/m3	ND (0.096)	ND (7.5)	ND (0.096)	ND (0.096)
Tetrachloroethene	360	ug/m3	**0.27 J**	**47 J**	**0.41 J**	**4.3 J**
Tetrahydrofuran	70000	ug/m3	**1.7 J**	**54.5 J**	**1.5 J**	ND (0.38)
Toluene	170000	ug/m3	**2.6 J**	**592**	**2.9 J**	**1.3 J**
Trichloroethene	16	ug/m3	ND (0.25)	**49 J**	ND (0.25)	ND (0.25)
Trichlorofluoromethane	--	ug/m3	**1.2 J**	ND (22)	**1.2 J**	**1.3 J**
Vinyl acetate	7000	ug/m3	**0.70 J**	ND (13)	**0.74 J**	**0.98 J**
Vinyl Bromide	2.9	ug/m3	ND (0.26)	ND (21)	ND (0.26)	ND (0.26)
Vinyl chloride	5.6	ug/m3	ND (0.14)	**82.3 J**	ND (0.14)	ND (0.14)

Table 4 : Soil Gas Sample Analytical Results
Place Bridge Elementary School - Denver, CO
Phase II ESA Report

Client Sample ID:	EPA		PB-SG-13	PB-SG-11	PB-SG-01	PB-SG-03
Date Sampled:	VISL		8/2/2018	8/2/2018	8/2/2018	8/2/2018
m,p-Xylene	3500	ug/m3	**0.78 J**	**2150**	**0.96 J**	**1.3 J**
o-Xylene	3500	ug/m3	**0.37 J**	**1240**	**0.52 J**	**0.61 J**
Xylenes,Total	3500	ug/m3	**1.2 J**	**3390**	**1.4 J**	**1.9 J**
GC Volatiles (ASTM D1946)						
Methane	5	mol%	**0.00023 J**	**18.2**	**0.00019 J**	**0.00018 J**

Notes: ug/m^3 - micrograms per meter cubed
EPA VISL - U.S. Environmental Protection Agency Vapor Intrusion Screening Level
ND - Analyte not detected in sample analyzed at a concentration above the method detection limit (in parenthesis)
J - Analyte was detected at a concentration below the calibration and as a result is estimated.
BOLD - Analyte detected in sample analyzed.

Highlighted	Analyte detection limit exceeds EPA VISL
Highlighted	Concentration of analyte exceeds EPA VISL

APPENDIX A
SITE PHOTOGRAPHS

PHOTOGRAPH LOG

Project Name:	**Site Location:**	**TDD No.**
Place Bridge Elementary	1400 S. Oneida St Denver, Denver County, Colorado	0003/1804-06

Photo No.	**Date:**
1	7/31/2018

Direction Photo Taken:
West

Description:
Photo shows soil gas probe installation with slam bar.

Photo No.	**Date:**
2	7/31/2018

Direction Photo Taken:
Down

Description:
Photo shows insertion of soil gas probe into hole.

Photo No.	**Date:**
3	7/31/2018

Direction Photo Taken:
Northwest

Description:
Photo shows soil gas probe installation with drilling rig.

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.
Place Bridge Elementary	1400 S. Oneida St Denver, Denver County, Colorado	0003/1804-06

Photo No.	Date:
4	7/31/2018

Direction Photo Taken:
North

Description:
Photo shows completed soil gas sampling location PB-04.

Photo No.	Date:
5	7/31/2018

Direction Photo Taken:
Northeast

Description:
Photo shows soil boring drilling of PB-01.

Photo No.	Date:
6	7/31/2018

Direction Photo Taken:
Down

Description:
Photo shows soil cuttings from PB-BH-01.

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.
Place Bridge Elementary	1400 S. Oneida St Denver, Denver County, Colorado	0003/1804-06

Photo No.	Date:
7	7/31/2018

Direction Photo Taken:
Down

Description:
Photo shows soil cuttings from PB-BH-02.

Photo No.	Date:
8	7/31/2018

Direction Photo Taken:
West

Description:
Photo shows completed temporary well at PB-02.

Photo No.	Date:
9	8/1/2018

Direction Photo Taken:
Down

Description:
Photo shows soil cuttings from PB-BH-09.

PHOTOGRAPH LOG

Project Name:	Site Location:	TDD No.
Place Bridge Elementary	1400 S. Oneida St Denver, Denver County, Colorado	0003/1804-06

Photo No.	Date:
10	8/1/2018

Direction Photo Taken:
Down

Description:
Photo shows soil cuttings from PB-BH-10.

Photo No.	Date:
11	8/1/2018

Direction Photo Taken:
Down

Description:
Photo shows soil cuttings from PB-BH-04.

Photo No.	Date:
12	8/1/2018

Direction Photo Taken:
Down

Description:
Photo shows soil cuttings from PB-BH-13.

PHOTOGRAPH LOG

Project Name:	Site Location: 1400 S. Oneida St Denver, Denver County, Colorado	TDD No.
Place Bridge Elementary		0003/1804-06

Photo No.	Date:
13	8/1/2018

Direction Photo Taken:
North

Description:
Photo shows preparations for groundwater sampling at location PB-09.

APPENDIX B
LABORATORTY REPORTS

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Weston Solutions, Inc.

Place Bridge

SGS Job Number: DA7701

Sampling Dates: 07/31/18 - 08/02/18

Report to:

Weston Solutions, Inc.
1435 Garrison Street
Lakewood, CO 80215
roy.weindorf@westonsolutions.com

ATTN: Roy Weindorf

Total number of pages in report: 702

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Elizabeth Sutcliffe 303-425-6021

Certifications: CO (CO00049), ID (CO00049), NE (NE-OS-06-04), ND (R-027), NJ (CO007), OK (D9942) UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY (8TMS-L)

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SGS North America Inc.

Sample Summary

Weston Solutions, Inc.

Place Bridge

Job No: DA7701

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
DA7701-1	07/31/18	13:30	RW	08/02/18	SO	Soil	PB-SO-01-05-07
DA7701-2	07/31/18	13:45	RW	08/02/18	SO	Soil	PB-SO-01-18-20
DA7701-3	07/31/18	14:30	RW	08/02/18	SO	Soil	PB-SO-02-05-07
DA7701-4	07/31/18	14:45	RW	08/02/18	SO	Soil	PB-SO-02-15-17
DA7701-5	08/01/18	09:36	RW	08/02/18	SO	Soil	PB-SO-09-05-07
DA7701-6	08/01/18	09:51	RW	08/02/18	SO	Soil	PB-SO-09-18-20
DA7701-6M	08/01/18	09:51	RW	08/02/18	SO	Soil Matrix Spike	PB-SO-09-18-20
DA7701-6S	08/01/18	09:51	RW	08/02/18	SO	Soil Dup/MSD	PB-SO-09-18-20
DA7701-7	08/01/18	11:15	RW	08/02/18	SO	Soil	PB-SO-10-05-07
DA7701-8	08/01/18	11:30	RW	08/02/18	SO	Soil	PB-SO-10-15-17
DA7701-9	08/01/18	12:00	RW	08/02/18	SO	Soil	PB-SO-04-05-07
DA7701-10	08/01/18	12:15	RW	08/02/18	SO	Soil	PB-SO-04-18-20
DA7701-11	08/01/18	12:40	RW	08/02/18	SO	Soil	PB-SO-13-05-07

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SGS North America Inc.

Sample Summary
(continued)

Weston Solutions, Inc.

Place Bridge

Job No: DA7701

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
DA7701-12	08/01/18	12:50	RW	08/02/18	SO	Soil	PB-SO-13-18-20
DA7701-13	08/01/18	11:15	RW	08/02/18	SO	Soil	PB-SO-90-05-07
DA7701-14	08/01/18	14:00	RW	08/02/18	AQ	Ground Water	PB-GW-09
DA7701-15	08/02/18	09:30	RW	08/02/18	AQ	Ground Water	PB-GW-13
DA7701-15M	08/02/18	09:30	RW	08/02/18	AQ	Water Matrix Spike	PB-GW-13
DA7701-15S	08/02/18	09:30	RW	08/02/18	AQ	Water Dup/MSD	PB-GW-13
DA7701-16	08/02/18	10:30	RW	08/02/18	AQ	Ground Water	PB-GW-04
DA7701-17	08/02/18	11:15	RW	08/02/18	AQ	Ground Water	PB-GW-01
DA7701-18	08/02/18	12:10	RW	08/02/18	AQ	Ground Water	PB-MW-01
DA7701-19	08/01/18	14:00	RW	08/02/18	AQ	Ground Water	PB-GW-99

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Weston Solutions, Inc.	**Job No**	DA7701
Site:	Place Bridge	**Report Date**	8/17/2018 3:11:36 PM

On 08/02/2018, 19 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 4.1 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of DA7701 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V7V2798

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA7701-15MS, DA7701-15MSD were used as the QC samples indicated.
- The matrix spike (MS) and matrix spike duplicate (MSD) recovery(s) of 2-Chloroethyl vinyl ether are outside control limits. Probable cause due to matrix interference.

Matrix: SO **Batch ID:** V5V2625

- All samples were analyzed within the recommended method holding time.
- Sample(s) DA7701-6MS, DA7701-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- The matrix spike (MS) recovery(s) of 1,1,1-Trichloroethane are outside control limits. Outside control limits due to possible matrix interference.

MS Semi-volatiles By Method SW846 8270C

Matrix: AQ **Batch ID:** OP16689

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) DA7701-15MS, DA7701-15MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- The matrix spike (MS) and matrix spike duplicate (MSD) recovery(s) of Benzidine, Benzoic Acid are outside control limits. Outside control limits due to possible matrix interference.

Matrix: SO **Batch ID:** OP16681

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA7701-6MS, DA7701-6MSD were used as the QC samples indicated.
- The matrix spike (MS) recovery(s) of Benzoic Acid are outside control limits. Outside control limits due to possible matrix interference.
- The matrix spike duplicate (MSD) recovery(s) of Benzoic Acid, Benzidine are outside control limits. Variability of recovery may be due to sample matrix/nonhomogeneity.
- The RPD(s) for the MS and MSD recoveries of Benzidine are outside control limits for sample OP16681-MSD. Variability of recovery may be due to sample matrix/nonhomogeneity.
- DA7701-1, -4 and -7 through -13: Dilution required due to matrix interference; extract was viscous.

Metals Analysis By Method SW846 6010C

Matrix: AQ	**Batch ID:** MP25761

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA7701-15MS, DA7701-15MSD, DA7701-15SDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) and matrix spike duplicate (MSD) recovery(s) of Selenium are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- The serial dilution RPD(s) for Arsenic, Chromium are outside control limits for sample MP25761-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: SO	**Batch ID:** MP25759

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA7701-6MS, DA7701-6MSD, DA7701-6SDL were used as the QC samples for the metals analysis.
- The serial dilution RPD(s) for Chromium, Lead are outside control limits for sample MP25759-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: SO	**Batch ID:** MP25792

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA7762-14MS, DA7762-14MSD, DA7762-14SDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Lead, Silver are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- The matrix spike duplicate (MSD) recovery(s) of Lead are outside control limits. Probable cause due to matrix interference.
- The serial dilution RPD(s) for Arsenic, Chromium are outside control limits for sample MP25792-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP25792-SD1 for Chromium: Serial dilution indicates possible matrix interference.

Metals Analysis By Method SW846 7470A

Matrix: AQ	**Batch ID:** MP25767

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA7701-15MS, DA7701-15MSD were used as the QC samples for the metals analysis.

Metals Analysis By Method SW846 7471B

Matrix: SO	**Batch ID:** MP25769

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA7701-6MS, DA7701-6MSD were used as the QC samples for the metals analysis.

General Chemistry By Method SM2540G-2011 M

Matrix: SO	**Batch ID:** GN43945

- Sample(s) DA7701-8DUP were used as the QC samples for the Solids, Percent analysis.

Matrix: SO	**Batch ID:** GN43946

- Sample(s) DA7701-13DUP were used as the QC samples for the Solids, Percent analysis.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

Summary of Hits

Job Number: DA7701
Account: Weston Solutions, Inc.
Project: Place Bridge
Collected: 07/31/18 thru 08/02/18

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
DA7701-1	**PB-SO-01-05-07**					
2,4-Dimethylphenol [a]		79.2	73	18	ug/kg	SW846 8270C
4-Methylphenol [a]		149	73	18	ug/kg	SW846 8270C
Acenaphthylene [a]		25.2 J	73	18	ug/kg	SW846 8270C
Benzo(g,h,i)perylene [a]		80.0	73	18	ug/kg	SW846 8270C
Di-n-butyl phthalate [a]		188	73	18	ug/kg	SW846 8270C
bis(2-Ethylhexyl)phthalate [a]		238	180	40	ug/kg	SW846 8270C
Fluoranthene [a]		41.6 J	73	18	ug/kg	SW846 8270C
Naphthalene [a]		28.1 J	73	26	ug/kg	SW846 8270C
Phenanthrene [a]		46.9 J	73	18	ug/kg	SW846 8270C
Pyrene [a]		97.6	73	18	ug/kg	SW846 8270C
Barium		1770	1.1		mg/kg	SW846 6010C
Cadmium		6.2	1.1		mg/kg	SW846 6010C
Chromium		12.7	1.1		mg/kg	SW846 6010C
Lead		192	5.3		mg/kg	SW846 6010C
Mercury		0.10	0.085		mg/kg	SW846 7471B
DA7701-2	**PB-SO-01-18-20**					
Barium		8.3	1.0		mg/kg	SW846 6010C
Chromium		1.9	1.0		mg/kg	SW846 6010C
DA7701-3	**PB-SO-02-05-07**					
Benzo(a)anthracene [a]		52.9 J	77	19	ug/kg	SW846 8270C
Benzo(b)fluoranthene [a]		73.3 J	77	19	ug/kg	SW846 8270C
Benzo(k)fluoranthene [a]		24.2 J	77	19	ug/kg	SW846 8270C
Benzo(g,h,i)perylene [a]		40.6 J	77	19	ug/kg	SW846 8270C
Chrysene [a]		52.2 J	77	19	ug/kg	SW846 8270C
1,4-Dichlorobenzene [a]		162	77	19	ug/kg	SW846 8270C
Fluoranthene [a]		90.8	77	19	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene [a]		44.0 J	77	19	ug/kg	SW846 8270C
Naphthalene [a]		45.5 J	77	27	ug/kg	SW846 8270C
Phenanthrene [a]		67.0 J	77	19	ug/kg	SW846 8270C
Pyrene [a]		92.0	77	19	ug/kg	SW846 8270C
Arsenic		4.9	2.7		mg/kg	SW846 6010C
Barium		103	1.1		mg/kg	SW846 6010C
Chromium		11.6	1.1		mg/kg	SW846 6010C
Lead		189	5.4		mg/kg	SW846 6010C
Mercury		0.12	0.093		mg/kg	SW846 7471B
DA7701-4	**PB-SO-02-15-17**					
Anthracene [a]		38.4 J	77	19	ug/kg	SW846 8270C

Summary of Hits

Job Number: DA7701
Account: Weston Solutions, Inc.
Project: Place Bridge
Collected: 07/31/18 thru 08/02/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Benzo(a)anthracene [a]		89.4	77	19	ug/kg	SW846 8270C
Benzo(b)fluoranthene [a]		119	77	19	ug/kg	SW846 8270C
Benzo(k)fluoranthene [a]		38.3 J	77	19	ug/kg	SW846 8270C
Benzo(g,h,i)perylene [a]		55.8 J	77	19	ug/kg	SW846 8270C
Carbazole [a]		20.9 J	77	19	ug/kg	SW846 8270C
Chrysene [a]		92.9	77	19	ug/kg	SW846 8270C
1,4-Dichlorobenzene [a]		622	77	19	ug/kg	SW846 8270C
Fluoranthene [a]		182	77	19	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene [a]		60.4 J	77	19	ug/kg	SW846 8270C
Naphthalene [a]		146	77	27	ug/kg	SW846 8270C
Phenanthrene [a]		174	77	19	ug/kg	SW846 8270C
Pyrene [a]		168	77	19	ug/kg	SW846 8270C
Arsenic		2.9	2.7		mg/kg	SW846 6010C
Barium		61.3	1.1		mg/kg	SW846 6010C
Chromium		9.8	1.1		mg/kg	SW846 6010C
Lead		34.6	5.4		mg/kg	SW846 6010C
Mercury		0.14	0.096		mg/kg	SW846 7471B
DA7701-5	**PB-SO-09-05-07**					
Barium		15.2	1.0		mg/kg	SW846 6010C
Chromium		1.9	1.0		mg/kg	SW846 6010C
DA7701-6	**PB-SO-09-18-20**					
Barium		17.8	1.1		mg/kg	SW846 6010C
Chromium		1.9	1.1		mg/kg	SW846 6010C
DA7701-7	**PB-SO-10-05-07**					
bis(2-Ethylhexyl)phthalate [a]		155 J	180	40	ug/kg	SW846 8270C
Naphthalene [a]		41.7 J	73	26	ug/kg	SW846 8270C
Arsenic		2.9	2.7		mg/kg	SW846 6010C
Barium		63.2	11		mg/kg	SW846 6010C
Chromium		18.2	1.1		mg/kg	SW846 6010C
Lead		147	5.3		mg/kg	SW846 6010C
Selenium		12.1	5.3		mg/kg	SW846 6010C
DA7701-8	**PB-SO-10-15-17**					
Di-n-butyl phthalate [a]		25.6 J	71	18	ug/kg	SW846 8270C
bis(2-Ethylhexyl)phthalate [a]		71.7 J	180	39	ug/kg	SW846 8270C
Naphthalene [a]		28.9 J	71	25	ug/kg	SW846 8270C
Barium		61.0	9.8		mg/kg	SW846 6010C
Chromium		16.1	0.98		mg/kg	SW846 6010C

Summary of Hits

Job Number: DA7701
Account: Weston Solutions, Inc.
Project: Place Bridge
Collected: 07/31/18 thru 08/02/18

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Lead		79.7	4.9		mg/kg	SW846 6010C
Selenium		11.1	4.9		mg/kg	SW846 6010C
DA7701-9	**PB-SO-04-05-07**					
Acetone		42.4 J	57	25	ug/kg	SW846 8260B
Methyl ethyl ketone		9.7 J	11	5.7	ug/kg	SW846 8260B
4-Methylphenol [a]		52.6 J	150	39	ug/kg	SW846 8270C
Benzo(a)anthracene [a]		40.9 J	150	39	ug/kg	SW846 8270C
Chrysene [a]		110 J	150	39	ug/kg	SW846 8270C
1,4-Dichlorobenzene [a]		267	150	39	ug/kg	SW846 8270C
bis(2-Ethylhexyl)phthalate [a]		133 J	390	85	ug/kg	SW846 8270C
Fluoranthene [a]		79.3 J	150	39	ug/kg	SW846 8270C
Naphthalene [a]		80.4 J	150	54	ug/kg	SW846 8270C
Phenanthrene [a]		83.4 J	150	39	ug/kg	SW846 8270C
Pyrene [a]		125 J	150	39	ug/kg	SW846 8270C
Arsenic		12.5	2.8		mg/kg	SW846 6010C
Barium		231	1.1		mg/kg	SW846 6010C
Cadmium		8.8	1.1		mg/kg	SW846 6010C
Chromium		30.9	1.1		mg/kg	SW846 6010C
Lead		233	5.6		mg/kg	SW846 6010C
DA7701-10	**PB-SO-04-18-20**					
4-Methylphenol [a]		43.0 J	160	39	ug/kg	SW846 8270C
Acenaphthylene [a]		43.7 J	160	39	ug/kg	SW846 8270C
Benzo(a)anthracene [a]		47.0 J	160	39	ug/kg	SW846 8270C
Benzo(b)fluoranthene [a]		96.1 J	160	39	ug/kg	SW846 8270C
Chrysene [a]		134 J	160	39	ug/kg	SW846 8270C
1,4-Dichlorobenzene [a]		150 J	160	39	ug/kg	SW846 8270C
bis(2-Ethylhexyl)phthalate [a]		158 J	390	85	ug/kg	SW846 8270C
Fluoranthene [a]		102 J	160	39	ug/kg	SW846 8270C
Naphthalene [a]		68.4 J	160	54	ug/kg	SW846 8270C
Phenanthrene [a]		87.4 J	160	39	ug/kg	SW846 8270C
Pyrene [a]		156 J	160	39	ug/kg	SW846 8270C
Arsenic		7.7	2.9		mg/kg	SW846 6010C
Barium		167	11		mg/kg	SW846 6010C
Chromium		15.3	1.1		mg/kg	SW846 6010C
Lead		81.8	5.7		mg/kg	SW846 6010C
DA7701-11	**PB-SO-13-05-07**					
Benzo(a)anthracene [a]		58.2 J	140	35	ug/kg	SW846 8270C
Benzo(b)fluoranthene [a]		75.6 J	140	35	ug/kg	SW846 8270C
Benzo(g,h,i)perylene [a]		71.6 J	140	35	ug/kg	SW846 8270C

Summary of Hits

Job Number: DA7701
Account: Weston Solutions, Inc.
Project: Place Bridge
Collected: 07/31/18 thru 08/02/18

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Benzo(a)pyrene [a]	67.0 J	140	35	ug/kg	SW846 8270C
Chrysene [a]	66.7 J	140	35	ug/kg	SW846 8270C
bis(2-Ethylhexyl)phthalate [a]	173 J	350	78	ug/kg	SW846 8270C
Fluoranthene [a]	105 J	140	35	ug/kg	SW846 8270C
Phenanthrene [a]	75.5 J	140	35	ug/kg	SW846 8270C
Pyrene [a]	103 J	140	35	ug/kg	SW846 8270C
Arsenic	3.3	2.5		mg/kg	SW846 6010C
Barium	80.5	1.0		mg/kg	SW846 6010C
Chromium	11.7	1.0		mg/kg	SW846 6010C
Lead	172	5.0		mg/kg	SW846 6010C
Mercury	0.32	0.089		mg/kg	SW846 7471B
DA7701-12 PB-SO-13-18-20					
Acenaphthylene [a]	45.1 J	140	35	ug/kg	SW846 8270C
Benzo(a)anthracene [a]	80.9 J	140	35	ug/kg	SW846 8270C
Benzo(b)fluoranthene [a]	99.5 J	140	35	ug/kg	SW846 8270C
Benzo(k)fluoranthene [a]	42.2 J	140	35	ug/kg	SW846 8270C
Chrysene [a]	81.9 J	140	35	ug/kg	SW846 8270C
bis(2-Ethylhexyl)phthalate [a]	1470	350	78	ug/kg	SW846 8270C
Fluoranthene [a]	152	140	35	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene [a]	44.7 J	140	35	ug/kg	SW846 8270C
Phenanthrene [a]	97.0 J	140	35	ug/kg	SW846 8270C
Pyrene [a]	148	140	35	ug/kg	SW846 8270C
Arsenic	3.3	2.6		mg/kg	SW846 6010C
Barium	141	1.0		mg/kg	SW846 6010C
Chromium	14.2	1.0		mg/kg	SW846 6010C
Lead	141	5.2		mg/kg	SW846 6010C
Mercury	0.20	0.082		mg/kg	SW846 7471B
DA7701-13 PB-SO-90-05-07					
Di-n-butyl phthalate [a]	24.8 J	71	18	ug/kg	SW846 8270C
bis(2-Ethylhexyl)phthalate [a]	47.2 J	180	39	ug/kg	SW846 8270C
Naphthalene [a]	28.4 J	71	25	ug/kg	SW846 8270C
Barium	61.4	10		mg/kg	SW846 6010C
Chromium	22.8	10		mg/kg	SW846 6010C
Lead	155	50		mg/kg	SW846 6010C
Mercury	0.18	0.089		mg/kg	SW846 7471B
Selenium	50.5	50		mg/kg	SW846 6010C
DA7701-14 PB-GW-09					
Acetone	33.6	25	20	ug/l	SW846 8260B
Arsenic	30.5	25		ug/l	SW846 6010C

Summary of Hits

Job Number: DA7701
Account: Weston Solutions, Inc.
Project: Place Bridge
Collected: 07/31/18 thru 08/02/18

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Barium		140	10		ug/l	SW846 6010C
DA7701-15	**PB-GW-13**					
Methyl ethyl ketone		16.4	10	5.0	ug/l	SW846 8260B
Toluene		0.58 J	1.0	0.50	ug/l	SW846 8260B
Arsenic		32.5	25		ug/l	SW846 6010C
Barium		158	10		ug/l	SW846 6010C
Chromium		24.5	10		ug/l	SW846 6010C
DA7701-16	**PB-GW-04**					
Arsenic		34.6	25		ug/l	SW846 6010C
Barium		309	10		ug/l	SW846 6010C
Chromium		73.7	10		ug/l	SW846 6010C
Mercury		0.18	0.10		ug/l	SW846 7470A
DA7701-17	**PB-GW-01**					
Arsenic		37.8	25		ug/l	SW846 6010C
Barium		182	10		ug/l	SW846 6010C
Mercury		0.10	0.10		ug/l	SW846 7470A
DA7701-18	**PB-MW-01**					
Arsenic		40.5	25		ug/l	SW846 6010C
Barium		182	10		ug/l	SW846 6010C
DA7701-19	**PB-GW-99**					
Barium		141	10		ug/l	SW846 6010C

(a) Dilution required due to matrix interference; extract was viscous.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-01-05-07		
Lab Sample ID:	DA7701-1	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	90.8
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49040.D	1	08/03/18 21:24	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.04 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	55	24	ug/kg	
107-02-8	Acrolein	ND	22	16	ug/kg	
107-13-1	Acrylonitrile	ND	11	8.7	ug/kg	
71-43-2	Benzene	ND	1.1	0.55	ug/kg	
108-86-1	Bromobenzene	ND	2.2	0.55	ug/kg	
74-97-5	Bromochloromethane	ND	2.2	0.66	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	0.55	ug/kg	
75-25-2	Bromoform	ND	4.4	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.2	0.66	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.2	0.55	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.7	0.87	ug/kg	
75-15-0	Carbon disulfide	ND	2.2	0.55	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	0.55	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	0.55	ug/kg	
75-00-3	Chloroethane	ND	2.2	0.87	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.4	1.4	ug/kg	
67-66-3	Chloroform	ND	2.2	0.55	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.2	0.55	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.2	0.55	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.4	3.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	0.58	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.2	0.55	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.2	0.55	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.2	0.55	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.2	0.55	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.2	0.55	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	0.55	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.2	0.55	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.2	0.55	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.2	0.60	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.2	0.55	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	0.55	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-01-05-07		
Lab Sample ID:	DA7701-1	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	90.8
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.2	0.55	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.2	0.66	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.2	0.55	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.55	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.55	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	0.55	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.2	0.55	ug/kg	
591-78-6	2-Hexanone	ND	11	5.5	ug/kg	
98-82-8	Isopropylbenzene	ND	2.2	0.55	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.2	0.55	ug/kg	
74-83-9	Methyl bromide	ND	2.2	0.66	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.2	0.55	ug/kg	
74-87-3	Methyl chloride	ND	2.2	0.55	ug/kg	
74-95-3	Methylene bromide	ND	2.2	0.55	ug/kg	
75-09-2	Methylene chloride	ND	4.4	3.3	ug/kg	
78-93-3	Methyl ethyl ketone	ND	11	5.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	11	5.5	ug/kg	
91-20-3	Naphthalene	ND	4.4	3.3	ug/kg	
103-65-1	n-Propylbenzene	ND	2.2	0.55	ug/kg	
100-42-5	Styrene	ND	2.2	0.76	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.2	0.55	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.55	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.2	0.55	ug/kg	
108-88-3	Toluene	ND	2.2	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.2	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.55	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.66	ug/kg	
79-01-6	Trichloroethylene	ND	2.2	0.55	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.2	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.2	0.55	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.55	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.55	ug/kg	
108-05-4	Vinyl Acetate	ND	11	5.5	ug/kg	
75-01-4	Vinyl chloride	ND	2.2	0.66	ug/kg	
1330-20-7	Xylene (total)	ND	2.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-01-05-07		
Lab Sample ID:	DA7701-1	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	90.8
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%
17060-07-0	1,2-Dichloroethane-D4	106%		70-130%

ND = Not detected MDL = Method Detection Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-01-05-07		
Lab Sample ID:	DA7701-1	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	90.8
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37596.D	1	08/07/18 19:59	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	730	550	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	73	18	ug/kg	
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	73	18	ug/kg	
105-67-9	2,4-Dimethylphenol	79.2	73	18	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	370	280	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	370	280	ug/kg	
95-48-7	2-Methylphenol	ND	73	18	ug/kg	
106-44-5	4-Methylphenol	149	73	18	ug/kg	
88-75-5	2-Nitrophenol	ND	73	18	ug/kg	
100-02-7	4-Nitrophenol	ND	370	280	ug/kg	
87-86-5	Pentachlorophenol	ND	73	18	ug/kg	
108-95-2	Phenol	ND	73	18	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	73	18	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	73	18	ug/kg	
83-32-9	Acenaphthene	ND	73	18	ug/kg	
208-96-8	Acenaphthylene	25.2	73	18	ug/kg	J
62-53-3	Aniline	ND	280	73	ug/kg	
120-12-7	Anthracene	ND	73	18	ug/kg	
92-87-5	Benzidine	ND	920	730	ug/kg	
56-55-3	Benzo(a)anthracene	ND	73	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	73	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	73	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	80.0	73	18	ug/kg	
50-32-8	Benzo(a)pyrene	ND	73	18	ug/kg	
100-51-6	Benzyl Alcohol	ND	73	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	18	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	23	ug/kg	
86-74-8	Carbazole	ND	73	18	ug/kg	
106-47-8	4-Chloroaniline	ND	73	18	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	73	18	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	18	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-01-05-07		
Lab Sample ID:	DA7701-1	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	90.8
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	18	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	18	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	18	ug/kg	
218-01-9	Chrysene	ND	73	18	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	73	18	ug/kg	
132-64-9	Dibenzofuran	ND	73	18	ug/kg	
84-74-2	Di-n-butyl phthalate	188	73	18	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	73	18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	73	18	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	73	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	18	ug/kg	
84-66-2	Diethyl phthalate	ND	73	18	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	18	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	73	37	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	73	37	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	180	37	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	73	18	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	238	180	40	ug/kg	
206-44-0	Fluoranthene	41.6	73	18	ug/kg	J
86-73-7	Fluorene	ND	73	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	18	ug/kg	
87-68-3	Hexachlorobutadiene	ND	73	18	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	73	18	ug/kg	
67-72-1	Hexachloroethane	ND	73	51	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	73	18	ug/kg	
78-59-1	Isophorone	ND	73	18	ug/kg	
90-12-0	1-Methylnaphthalene	ND	73	26	ug/kg	
91-57-6	2-Methylnaphthalene	ND	73	33	ug/kg	
91-20-3	Naphthalene	28.1	73	26	ug/kg	J
88-74-4	2-Nitroaniline	ND	73	18	ug/kg	
99-09-2	3-Nitroaniline	ND	73	18	ug/kg	
100-01-6	4-Nitroaniline	ND	73	18	ug/kg	
98-95-3	Nitrobenzene	ND	73	18	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	73	37	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	73	18	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	21	ug/kg	
85-01-8	Phenanthrene	46.9	73	18	ug/kg	J
129-00-0	Pyrene	97.6	73	18	ug/kg	
110-86-1	Pyridine	ND	73	18	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	73	18	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-01-05-07		
Lab Sample ID:	DA7701-1	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	90.8
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	64%		23-130%
367-12-4	2-Fluorophenol	31%		10-130%
4165-60-0	Nitrobenzene-d5	39%		12-131%
4165-62-2	Phenol-d5	41%		17-130%
1718-51-0	Terphenyl-d14	95%		29-141%
118-79-6	2,4,6-Tribromophenol	69%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-01-05-07		
Lab Sample ID:	DA7701-1	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	90.8
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 2.7	2.7	mg/kg	1	08/07/18	08/09/18	JR	SW846 6010C [3]	SW846 3050B [5]
Barium	1770	1.1	mg/kg	1	08/07/18	08/08/18	JR	SW846 6010C [2]	SW846 3050B [5]
Cadmium	6.2	1.1	mg/kg	1	08/07/18	08/09/18	JR	SW846 6010C [3]	SW846 3050B [5]
Chromium	12.7	1.1	mg/kg	1	08/07/18	08/09/18	JR	SW846 6010C [3]	SW846 3050B [5]
Lead	192	5.3	mg/kg	1	08/07/18	08/09/18	JR	SW846 6010C [3]	SW846 3050B [5]
Mercury	0.10	0.085	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [1]	SW846 7471B [4]
Selenium	< 5.3	5.3	mg/kg	1	08/07/18	08/09/18	JR	SW846 6010C [3]	SW846 3050B [5]
Silver	< 3.2	3.2	mg/kg	1	08/07/18	08/08/18	JR	SW846 6010C [2]	SW846 3050B [5]

(1) Instrument QC Batch: MA10271
(2) Instrument QC Batch: MA10277
(3) Instrument QC Batch: MA10278
(4) Prep QC Batch: MP25769
(5) Prep QC Batch: MP25792

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-01-18-20		
Lab Sample ID:	DA7701-2	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	95.6
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49041.D	1	08/03/18 21:49	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.02 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	52	23	ug/kg	
107-02-8	Acrolein	ND	21	16	ug/kg	
107-13-1	Acrylonitrile	ND	10	8.3	ug/kg	
71-43-2	Benzene	ND	1.0	0.52	ug/kg	
108-86-1	Bromobenzene	ND	2.1	0.52	ug/kg	
74-97-5	Bromochloromethane	ND	2.1	0.63	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.52	ug/kg	
75-25-2	Bromoform	ND	4.2	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.63	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.52	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.6	0.83	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.52	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.52	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.52	ug/kg	
75-00-3	Chloroethane	ND	2.1	0.83	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.2	1.4	ug/kg	
67-66-3	Chloroform	ND	2.1	0.52	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.52	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.52	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.2	3.6	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.55	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	0.52	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.1	0.52	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.1	0.52	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.1	0.52	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.1	0.52	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	0.52	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	0.52	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.1	0.52	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.1	0.57	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.1	0.52	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.52	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-01-18-20		
Lab Sample ID:	DA7701-2	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	95.6
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.52	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.63	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.52	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.52	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.52	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	0.52	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.1	0.52	ug/kg	
591-78-6	2-Hexanone	ND	10	5.2	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	0.52	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.52	ug/kg	
74-83-9	Methyl bromide	ND	2.1	0.63	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	0.52	ug/kg	
74-87-3	Methyl chloride	ND	2.1	0.52	ug/kg	
74-95-3	Methylene bromide	ND	2.1	0.52	ug/kg	
75-09-2	Methylene chloride	ND	4.2	3.1	ug/kg	
78-93-3	Methyl ethyl ketone	ND	10	5.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	10	5.2	ug/kg	
91-20-3	Naphthalene	ND	4.2	3.1	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.52	ug/kg	
100-42-5	Styrene	ND	2.1	0.73	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.52	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.52	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.1	0.52	ug/kg	
108-88-3	Toluene	ND	2.1	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.1	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.52	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.63	ug/kg	
79-01-6	Trichloroethylene	ND	2.1	0.52	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.1	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.1	0.52	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.52	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.52	ug/kg	
108-05-4	Vinyl Acetate	ND	10	5.2	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.63	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-01-18-20		
Lab Sample ID:	DA7701-2	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	95.6
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%
17060-07-0	1,2-Dichloroethane-D4	104%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-01-18-20		
Lab Sample ID:	DA7701-2	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	95.6
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37557.D	1	08/06/18 18:17	DC	08/06/18	OP16681	E3G1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	700	520	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	70	17	ug/kg	
95-57-8	2-Chlorophenol	ND	70	17	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	70	17	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	70	17	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	350	260	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	350	260	ug/kg	
95-48-7	2-Methylphenol	ND	70	17	ug/kg	
106-44-5	4-Methylphenol	ND	70	17	ug/kg	
88-75-5	2-Nitrophenol	ND	70	17	ug/kg	
100-02-7	4-Nitrophenol	ND	350	260	ug/kg	
87-86-5	Pentachlorophenol	ND	70	17	ug/kg	
108-95-2	Phenol	ND	70	17	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	70	17	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	70	17	ug/kg	
83-32-9	Acenaphthene	ND	70	17	ug/kg	
208-96-8	Acenaphthylene	ND	70	17	ug/kg	
62-53-3	Aniline	ND	260	70	ug/kg	
120-12-7	Anthracene	ND	70	17	ug/kg	
92-87-5	Benzidine	ND	870	700	ug/kg	
56-55-3	Benzo(a)anthracene	ND	70	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	70	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	70	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	70	17	ug/kg	
50-32-8	Benzo(a)pyrene	ND	70	17	ug/kg	
100-51-6	Benzyl Alcohol	ND	70	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	70	17	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	70	22	ug/kg	
86-74-8	Carbazole	ND	70	17	ug/kg	
106-47-8	4-Chloroaniline	ND	70	17	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	70	17	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	70	17	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-01-18-20		
Lab Sample ID:	DA7701-2	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	95.6
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	70	17	ug/kg	
91-58-7	2-Chloronaphthalene	ND	70	17	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	70	17	ug/kg	
218-01-9	Chrysene	ND	70	17	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	70	17	ug/kg	
132-64-9	Dibenzofuran	ND	70	17	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	70	17	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	70	17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	70	17	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	70	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	70	17	ug/kg	
84-66-2	Diethyl phthalate	ND	70	17	ug/kg	
131-11-3	Dimethyl phthalate	ND	70	17	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	70	35	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	70	35	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	170	35	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	70	17	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	170	38	ug/kg	
206-44-0	Fluoranthene	ND	70	17	ug/kg	
86-73-7	Fluorene	ND	70	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	70	17	ug/kg	
87-68-3	Hexachlorobutadiene	ND	70	17	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	70	17	ug/kg	
67-72-1	Hexachloroethane	ND	70	49	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	70	17	ug/kg	
78-59-1	Isophorone	ND	70	17	ug/kg	
90-12-0	1-Methylnaphthalene	ND	70	24	ug/kg	
91-57-6	2-Methylnaphthalene	ND	70	31	ug/kg	
91-20-3	Naphthalene	ND	70	24	ug/kg	
88-74-4	2-Nitroaniline	ND	70	17	ug/kg	
99-09-2	3-Nitroaniline	ND	70	17	ug/kg	
100-01-6	4-Nitroaniline	ND	70	17	ug/kg	
98-95-3	Nitrobenzene	ND	70	17	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	70	35	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	70	17	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	70	20	ug/kg	
85-01-8	Phenanthrene	ND	70	17	ug/kg	
129-00-0	Pyrene	ND	70	17	ug/kg	
110-86-1	Pyridine	ND	70	17	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	70	17	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-01-18-20		
Lab Sample ID:	DA7701-2	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	95.6
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	57%		23-130%
367-12-4	2-Fluorophenol	52%		10-130%
4165-60-0	Nitrobenzene-d5	41%		12-131%
4165-62-2	Phenol-d5	66%		17-130%
1718-51-0	Terphenyl-d14	93%		29-141%
118-79-6	2,4,6-Tribromophenol	93%		25-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-01-18-20		
Lab Sample ID:	DA7701-2	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	95.6
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 2.6	2.6	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	8.3	1.0	mg/kg	1	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.0	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	1.9	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	< 5.2	5.2	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	< 0.087	0.087	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.2	5.2	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.1	3.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-02-05-07		
Lab Sample ID:	DA7701-3	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.5
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49042.D	1	08/03/18 22:14	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.01 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	58	25	ug/kg	
107-02-8	Acrolein	ND	23	17	ug/kg	
107-13-1	Acrylonitrile	ND	12	9.2	ug/kg	
71-43-2	Benzene	ND	1.2	0.58	ug/kg	
108-86-1	Bromobenzene	ND	2.3	0.58	ug/kg	
74-97-5	Bromochloromethane	ND	2.3	0.69	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	0.58	ug/kg	
75-25-2	Bromoform	ND	4.6	1.4	ug/kg	
104-51-8	n-Butylbenzene	ND	2.3	0.69	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.3	0.58	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.9	0.92	ug/kg	
75-15-0	Carbon disulfide	ND	2.3	0.58	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	0.58	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	0.58	ug/kg	
75-00-3	Chloroethane	ND	2.3	0.92	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.6	1.5	ug/kg	
67-66-3	Chloroform	ND	2.3	0.58	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	0.58	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.3	0.58	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.6	4.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	0.61	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.3	0.58	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.3	0.58	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.3	0.58	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.3	0.58	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.3	0.58	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	0.58	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	0.58	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.3	0.58	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.3	0.63	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.3	0.58	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	0.58	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-05-07		
Lab Sample ID:	DA7701-3	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.5
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.3	0.58	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.3	0.69	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.3	0.58	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.58	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.58	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	0.58	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.3	0.58	ug/kg	
591-78-6	2-Hexanone	ND	12	5.8	ug/kg	
98-82-8	Isopropylbenzene	ND	2.3	0.58	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.3	0.58	ug/kg	
74-83-9	Methyl bromide	ND	2.3	0.69	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.3	0.58	ug/kg	
74-87-3	Methyl chloride	ND	2.3	0.58	ug/kg	
74-95-3	Methylene bromide	ND	2.3	0.58	ug/kg	
75-09-2	Methylene chloride	ND	4.6	3.5	ug/kg	
78-93-3	Methyl ethyl ketone	ND	12	5.8	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	12	5.8	ug/kg	
91-20-3	Naphthalene	ND	4.6	3.5	ug/kg	
103-65-1	n-Propylbenzene	ND	2.3	0.58	ug/kg	
100-42-5	Styrene	ND	2.3	0.81	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.3	0.58	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.58	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.3	0.58	ug/kg	
108-88-3	Toluene	ND	2.3	1.2	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.3	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.58	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.69	ug/kg	
79-01-6	Trichloroethylene	ND	2.3	0.58	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.3	1.2	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.3	0.58	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.58	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.58	ug/kg	
108-05-4	Vinyl Acetate	ND	12	5.8	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	0.69	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-05-07		
Lab Sample ID:	DA7701-3	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.5
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	106%		70-130%
17060-07-0	1,2-Dichloroethane-D4	106%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-02-05-07		
Lab Sample ID:	DA7701-3	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.5
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37597.D	1	08/07/18 20:27	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	770	580	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	77	19	ug/kg	
95-57-8	2-Chlorophenol	ND	77	19	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	77	19	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	77	19	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	380	290	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	380	290	ug/kg	
95-48-7	2-Methylphenol	ND	77	19	ug/kg	
106-44-5	4-Methylphenol	ND	77	19	ug/kg	
88-75-5	2-Nitrophenol	ND	77	19	ug/kg	
100-02-7	4-Nitrophenol	ND	380	290	ug/kg	
87-86-5	Pentachlorophenol	ND	77	19	ug/kg	
108-95-2	Phenol	ND	77	19	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	77	19	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	77	19	ug/kg	
83-32-9	Acenaphthene	ND	77	19	ug/kg	
208-96-8	Acenaphthylene	ND	77	19	ug/kg	
62-53-3	Aniline	ND	290	77	ug/kg	
120-12-7	Anthracene	ND	77	19	ug/kg	
92-87-5	Benzidine	ND	960	770	ug/kg	
56-55-3	Benzo(a)anthracene	52.9	77	19	ug/kg	J
205-99-2	Benzo(b)fluoranthene	73.3	77	19	ug/kg	J
207-08-9	Benzo(k)fluoranthene	24.2	77	19	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	40.6	77	19	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	77	19	ug/kg	
100-51-6	Benzyl Alcohol	ND	77	19	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	77	19	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	77	24	ug/kg	
86-74-8	Carbazole	ND	77	19	ug/kg	
106-47-8	4-Chloroaniline	ND	77	19	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	77	19	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	77	19	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-05-07		
Lab Sample ID:	DA7701-3	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.5
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	77	19	ug/kg	
91-58-7	2-Chloronaphthalene	ND	77	19	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	77	19	ug/kg	
218-01-9	Chrysene	52.2	77	19	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	77	19	ug/kg	
132-64-9	Dibenzofuran	ND	77	19	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	77	19	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	77	19	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	77	19	ug/kg	
106-46-7	1,4-Dichlorobenzene	162	77	19	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	77	19	ug/kg	
84-66-2	Diethyl phthalate	ND	77	19	ug/kg	
131-11-3	Dimethyl phthalate	ND	77	19	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	77	38	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	77	38	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	190	38	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	77	19	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	190	42	ug/kg	
206-44-0	Fluoranthene	90.8	77	19	ug/kg	
86-73-7	Fluorene	ND	77	19	ug/kg	
118-74-1	Hexachlorobenzene	ND	77	19	ug/kg	
87-68-3	Hexachlorobutadiene	ND	77	19	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	77	19	ug/kg	
67-72-1	Hexachloroethane	ND	77	54	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	44.0	77	19	ug/kg	J
78-59-1	Isophorone	ND	77	19	ug/kg	
90-12-0	1-Methylnaphthalene	ND	77	27	ug/kg	
91-57-6	2-Methylnaphthalene	ND	77	35	ug/kg	
91-20-3	Naphthalene	45.5	77	27	ug/kg	J
88-74-4	2-Nitroaniline	ND	77	19	ug/kg	
99-09-2	3-Nitroaniline	ND	77	19	ug/kg	
100-01-6	4-Nitroaniline	ND	77	19	ug/kg	
98-95-3	Nitrobenzene	ND	77	19	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	77	38	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	77	19	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	77	22	ug/kg	
85-01-8	Phenanthrene	67.0	77	19	ug/kg	J
129-00-0	Pyrene	92.0	77	19	ug/kg	
110-86-1	Pyridine	ND	77	19	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	77	19	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-05-07		
Lab Sample ID:	DA7701-3	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.5
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	77%		23-130%
367-12-4	2-Fluorophenol	51%		10-130%
4165-60-0	Nitrobenzene-d5	51%		12-131%
4165-62-2	Phenol-d5	61%		17-130%
1718-51-0	Terphenyl-d14	83%		29-141%
118-79-6	2,4,6-Tribromophenol	81%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-02-05-07		
Lab Sample ID:	DA7701-3	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	86.5
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	4.9	2.7	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	103	1.1	mg/kg	1	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.1	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	11.6	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	189	5.4	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	0.12	0.093	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.4	5.4	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.2	3.2	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-02-15-17		
Lab Sample ID:	DA7701-4	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.5
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49043.D	1	08/03/18 22:39	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.03 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	57	25	ug/kg	
107-02-8	Acrolein	ND	23	17	ug/kg	
107-13-1	Acrylonitrile	ND	11	9.2	ug/kg	
71-43-2	Benzene	ND	1.1	0.57	ug/kg	
108-86-1	Bromobenzene	ND	2.3	0.57	ug/kg	
74-97-5	Bromochloromethane	ND	2.3	0.69	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	0.57	ug/kg	
75-25-2	Bromoform	ND	4.6	1.4	ug/kg	
104-51-8	n-Butylbenzene	ND	2.3	0.69	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.3	0.57	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.9	0.92	ug/kg	
75-15-0	Carbon disulfide	ND	2.3	0.57	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	0.57	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	0.57	ug/kg	
75-00-3	Chloroethane	ND	2.3	0.92	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.6	1.5	ug/kg	
67-66-3	Chloroform	ND	2.3	0.57	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	0.57	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.3	0.57	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.6	4.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	0.61	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.3	0.57	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.3	0.57	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.3	0.57	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.3	0.57	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.3	0.57	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	0.57	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	0.57	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.3	0.57	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.3	0.63	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.3	0.57	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	0.57	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-15-17		
Lab Sample ID:	DA7701-4	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.5
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.3	0.57	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.3	0.69	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.3	0.57	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.57	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.57	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	0.57	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.3	0.57	ug/kg	
591-78-6	2-Hexanone	ND	11	5.7	ug/kg	
98-82-8	Isopropylbenzene	ND	2.3	0.57	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.3	0.57	ug/kg	
74-83-9	Methyl bromide	ND	2.3	0.69	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.3	0.57	ug/kg	
74-87-3	Methyl chloride	ND	2.3	0.57	ug/kg	
74-95-3	Methylene bromide	ND	2.3	0.57	ug/kg	
75-09-2	Methylene chloride	ND	4.6	3.4	ug/kg	
78-93-3	Methyl ethyl ketone	ND	11	5.7	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	11	5.7	ug/kg	
91-20-3	Naphthalene	ND	4.6	3.4	ug/kg	
103-65-1	n-Propylbenzene	ND	2.3	0.57	ug/kg	
100-42-5	Styrene	ND	2.3	0.80	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.3	0.57	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.57	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.3	0.57	ug/kg	
108-88-3	Toluene	ND	2.3	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.3	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.57	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.69	ug/kg	
79-01-6	Trichloroethylene	ND	2.3	0.57	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.3	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.3	0.57	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.57	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.57	ug/kg	
108-05-4	Vinyl Acetate	ND	11	5.7	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	0.69	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-15-17		
Lab Sample ID:	DA7701-4	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.5
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	103%		70-130%
17060-07-0	1,2-Dichloroethane-D4	104%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-02-15-17		
Lab Sample ID:	DA7701-4	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.5
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37598.D	1	08/07/18 20:54	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	770	580	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	77	19	ug/kg	
95-57-8	2-Chlorophenol	ND	77	19	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	77	19	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	77	19	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	380	290	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	380	290	ug/kg	
95-48-7	2-Methylphenol	ND	77	19	ug/kg	
106-44-5	4-Methylphenol	ND	77	19	ug/kg	
88-75-5	2-Nitrophenol	ND	77	19	ug/kg	
100-02-7	4-Nitrophenol	ND	380	290	ug/kg	
87-86-5	Pentachlorophenol	ND	77	19	ug/kg	
108-95-2	Phenol	ND	77	19	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	77	19	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	77	19	ug/kg	
83-32-9	Acenaphthene	ND	77	19	ug/kg	
208-96-8	Acenaphthylene	ND	77	19	ug/kg	
62-53-3	Aniline	ND	290	77	ug/kg	
120-12-7	Anthracene	38.4	77	19	ug/kg	J
92-87-5	Benzidine	ND	960	770	ug/kg	
56-55-3	Benzo(a)anthracene	89.4	77	19	ug/kg	
205-99-2	Benzo(b)fluoranthene	119	77	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	38.3	77	19	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	55.8	77	19	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	77	19	ug/kg	
100-51-6	Benzyl Alcohol	ND	77	19	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	77	19	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	77	24	ug/kg	
86-74-8	Carbazole	20.9	77	19	ug/kg	J
106-47-8	4-Chloroaniline	ND	77	19	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	77	19	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	77	19	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-15-17		
Lab Sample ID:	DA7701-4	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.5
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	77	19	ug/kg	
91-58-7	2-Chloronaphthalene	ND	77	19	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	77	19	ug/kg	
218-01-9	Chrysene	92.9	77	19	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	77	19	ug/kg	
132-64-9	Dibenzofuran	ND	77	19	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	77	19	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	77	19	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	77	19	ug/kg	
106-46-7	1,4-Dichlorobenzene	622	77	19	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	77	19	ug/kg	
84-66-2	Diethyl phthalate	ND	77	19	ug/kg	
131-11-3	Dimethyl phthalate	ND	77	19	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	77	38	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	77	38	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	190	38	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	77	19	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	190	42	ug/kg	
206-44-0	Fluoranthene	182	77	19	ug/kg	
86-73-7	Fluorene	ND	77	19	ug/kg	
118-74-1	Hexachlorobenzene	ND	77	19	ug/kg	
87-68-3	Hexachlorobutadiene	ND	77	19	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	77	19	ug/kg	
67-72-1	Hexachloroethane	ND	77	54	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	60.4	77	19	ug/kg	J
78-59-1	Isophorone	ND	77	19	ug/kg	
90-12-0	1-Methylnaphthalene	ND	77	27	ug/kg	
91-57-6	2-Methylnaphthalene	ND	77	35	ug/kg	
91-20-3	Naphthalene	146	77	27	ug/kg	
88-74-4	2-Nitroaniline	ND	77	19	ug/kg	
99-09-2	3-Nitroaniline	ND	77	19	ug/kg	
100-01-6	4-Nitroaniline	ND	77	19	ug/kg	
98-95-3	Nitrobenzene	ND	77	19	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	77	38	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	77	19	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	77	22	ug/kg	
85-01-8	Phenanthrene	174	77	19	ug/kg	
129-00-0	Pyrene	168	77	19	ug/kg	
110-86-1	Pyridine	ND	77	19	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	77	19	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-15-17		
Lab Sample ID:	DA7701-4	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.5
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	80%		23-130%
367-12-4	2-Fluorophenol	49%		10-130%
4165-60-0	Nitrobenzene-d5	51%		12-131%
4165-62-2	Phenol-d5	60%		17-130%
1718-51-0	Terphenyl-d14	83%		29-141%
118-79-6	2,4,6-Tribromophenol	81%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-02-15-17		
Lab Sample ID:	DA7701-4	**Date Sampled:**	07/31/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	86.5
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9	2.7	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	61.3	1.1	mg/kg	1	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.1	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	9.8	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	34.6	5.4	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	0.14	0.096	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.4	5.4	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.2	3.2	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-09-05-07		
Lab Sample ID:	DA7701-5	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	92.2
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49044.D	1	08/03/18 23:04	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.05 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	54	24	ug/kg	
107-02-8	Acrolein	ND	21	16	ug/kg	
107-13-1	Acrylonitrile	ND	11	8.6	ug/kg	
71-43-2	Benzene	ND	1.1	0.54	ug/kg	
108-86-1	Bromobenzene	ND	2.1	0.54	ug/kg	
74-97-5	Bromochloromethane	ND	2.1	0.64	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.54	ug/kg	
75-25-2	Bromoform	ND	4.3	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.64	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.54	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.7	0.86	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.54	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.54	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.54	ug/kg	
75-00-3	Chloroethane	ND	2.1	0.86	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.3	1.4	ug/kg	
67-66-3	Chloroform	ND	2.1	0.54	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.54	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.54	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.3	3.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.57	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	0.54	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.1	0.54	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.1	0.54	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.1	0.54	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.1	0.54	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	0.54	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	0.54	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.1	0.54	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.1	0.59	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.1	0.54	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.54	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-05-07		
Lab Sample ID:	DA7701-5	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	92.2
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.54	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.64	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.54	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.54	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.54	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	0.54	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.1	0.54	ug/kg	
591-78-6	2-Hexanone	ND	11	5.4	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	0.54	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.54	ug/kg	
74-83-9	Methyl bromide	ND	2.1	0.64	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	0.54	ug/kg	
74-87-3	Methyl chloride	ND	2.1	0.54	ug/kg	
74-95-3	Methylene bromide	ND	2.1	0.54	ug/kg	
75-09-2	Methylene chloride	ND	4.3	3.2	ug/kg	
78-93-3	Methyl ethyl ketone	ND	11	5.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	11	5.4	ug/kg	
91-20-3	Naphthalene	ND	4.3	3.2	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.54	ug/kg	
100-42-5	Styrene	ND	2.1	0.75	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.54	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.54	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.1	0.54	ug/kg	
108-88-3	Toluene	ND	2.1	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.1	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.54	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.64	ug/kg	
79-01-6	Trichloroethylene	ND	2.1	0.54	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.1	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.1	0.54	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.54	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.54	ug/kg	
108-05-4	Vinyl Acetate	ND	11	5.4	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.64	ug/kg	
1330-20-7	Xylene (total)	ND	2.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-131%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-05-07		
Lab Sample ID:	DA7701-5	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	92.2
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%
17060-07-0	1,2-Dichloroethane-D4	102%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-09-05-07		
Lab Sample ID:	DA7701-5	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	92.2
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37558.D	1	08/06/18 18:45	DC	08/06/18	OP16681	E3G1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	720	540	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	72	18	ug/kg	
95-57-8	2-Chlorophenol	ND	72	18	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	72	18	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	72	18	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	360	270	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	360	270	ug/kg	
95-48-7	2-Methylphenol	ND	72	18	ug/kg	
106-44-5	4-Methylphenol	ND	72	18	ug/kg	
88-75-5	2-Nitrophenol	ND	72	18	ug/kg	
100-02-7	4-Nitrophenol	ND	360	270	ug/kg	
87-86-5	Pentachlorophenol	ND	72	18	ug/kg	
108-95-2	Phenol	ND	72	18	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	72	18	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	72	18	ug/kg	
83-32-9	Acenaphthene	ND	72	18	ug/kg	
208-96-8	Acenaphthylene	ND	72	18	ug/kg	
62-53-3	Aniline	ND	270	72	ug/kg	
120-12-7	Anthracene	ND	72	18	ug/kg	
92-87-5	Benzidine	ND	900	720	ug/kg	
56-55-3	Benzo(a)anthracene	ND	72	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	72	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	72	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	72	18	ug/kg	
50-32-8	Benzo(a)pyrene	ND	72	18	ug/kg	
100-51-6	Benzyl Alcohol	ND	72	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	72	18	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	72	22	ug/kg	
86-74-8	Carbazole	ND	72	18	ug/kg	
106-47-8	4-Chloroaniline	ND	72	18	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	72	18	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	72	18	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-05-07		
Lab Sample ID:	DA7701-5	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	92.2
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	72	18	ug/kg	
91-58-7	2-Chloronaphthalene	ND	72	18	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	72	18	ug/kg	
218-01-9	Chrysene	ND	72	18	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	72	18	ug/kg	
132-64-9	Dibenzofuran	ND	72	18	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	72	18	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	72	18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	72	18	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	72	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	72	18	ug/kg	
84-66-2	Diethyl phthalate	ND	72	18	ug/kg	
131-11-3	Dimethyl phthalate	ND	72	18	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	72	36	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	72	36	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	180	36	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	72	18	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	180	40	ug/kg	
206-44-0	Fluoranthene	ND	72	18	ug/kg	
86-73-7	Fluorene	ND	72	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	72	18	ug/kg	
87-68-3	Hexachlorobutadiene	ND	72	18	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	72	18	ug/kg	
67-72-1	Hexachloroethane	ND	72	50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	72	18	ug/kg	
78-59-1	Isophorone	ND	72	18	ug/kg	
90-12-0	1-Methylnaphthalene	ND	72	25	ug/kg	
91-57-6	2-Methylnaphthalene	ND	72	32	ug/kg	
91-20-3	Naphthalene	ND	72	25	ug/kg	
88-74-4	2-Nitroaniline	ND	72	18	ug/kg	
99-09-2	3-Nitroaniline	ND	72	18	ug/kg	
100-01-6	4-Nitroaniline	ND	72	18	ug/kg	
98-95-3	Nitrobenzene	ND	72	18	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	72	36	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	72	18	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	72	21	ug/kg	
85-01-8	Phenanthrene	ND	72	18	ug/kg	
129-00-0	Pyrene	ND	72	18	ug/kg	
110-86-1	Pyridine	ND	72	18	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	72	18	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-05-07		
Lab Sample ID:	DA7701-5	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	92.2
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	44%		23-130%
367-12-4	2-Fluorophenol	41%		10-130%
4165-60-0	Nitrobenzene-d5	24%		12-131%
4165-62-2	Phenol-d5	66%		17-130%
1718-51-0	Terphenyl-d14	88%		29-141%
118-79-6	2,4,6-Tribromophenol	98%		25-130%

ND = Not detected MDL = Method Detection Limit
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J = Indicates an estimated value
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SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-09-05-07		
Lab Sample ID:	DA7701-5	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	92.2
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 2.5	2.5	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	15.2	1.0	mg/kg	1	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.0	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	1.9	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	< 5.0	5.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	< 0.081	0.081	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.0	5.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.0	3.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-09-18-20		
Lab Sample ID:	DA7701-6	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	90.2
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49045.D	1	08/03/18 23:29	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.01 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	55	24	ug/kg	
107-02-8	Acrolein	ND	22	17	ug/kg	
107-13-1	Acrylonitrile	ND	11	8.9	ug/kg	
71-43-2	Benzene	ND	1.1	0.55	ug/kg	
108-86-1	Bromobenzene	ND	2.2	0.55	ug/kg	
74-97-5	Bromochloromethane	ND	2.2	0.66	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	0.55	ug/kg	
75-25-2	Bromoform	ND	4.4	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.2	0.66	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.2	0.55	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.8	0.89	ug/kg	
75-15-0	Carbon disulfide	ND	2.2	0.55	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	0.55	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	0.55	ug/kg	
75-00-3	Chloroethane	ND	2.2	0.89	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.4	1.4	ug/kg	
67-66-3	Chloroform	ND	2.2	0.55	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.2	0.55	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.2	0.55	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.4	3.9	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	0.59	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.2	0.55	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.2	0.55	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.2	0.55	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.2	0.55	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.2	0.55	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	0.55	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.2	0.55	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.2	0.55	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.2	0.61	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.2	0.55	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	0.55	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-18-20		
Lab Sample ID:	DA7701-6	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	90.2
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.2	0.55	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.2	0.66	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.2	0.55	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.55	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.55	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	0.55	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.2	0.55	ug/kg	
591-78-6	2-Hexanone	ND	11	5.5	ug/kg	
98-82-8	Isopropylbenzene	ND	2.2	0.55	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.2	0.55	ug/kg	
74-83-9	Methyl bromide	ND	2.2	0.66	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.2	0.55	ug/kg	
74-87-3	Methyl chloride	ND	2.2	0.55	ug/kg	
74-95-3	Methylene bromide	ND	2.2	0.55	ug/kg	
75-09-2	Methylene chloride	ND	4.4	3.3	ug/kg	
78-93-3	Methyl ethyl ketone	ND	11	5.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	11	5.5	ug/kg	
91-20-3	Naphthalene	ND	4.4	3.3	ug/kg	
103-65-1	n-Propylbenzene	ND	2.2	0.55	ug/kg	
100-42-5	Styrene	ND	2.2	0.77	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.2	0.55	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.55	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.2	0.55	ug/kg	
108-88-3	Toluene	ND	2.2	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.2	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.55	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.66	ug/kg	
79-01-6	Trichloroethylene	ND	2.2	0.55	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.2	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.2	0.55	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.55	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.55	ug/kg	
108-05-4	Vinyl Acetate	ND	11	5.5	ug/kg	
75-01-4	Vinyl chloride	ND	2.2	0.66	ug/kg	
1330-20-7	Xylene (total)	ND	2.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-18-20		
Lab Sample ID:	DA7701-6	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	90.2
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%
17060-07-0	1,2-Dichloroethane-D4	101%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-09-18-20		
Lab Sample ID:	DA7701-6	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	90.2
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37554.D	1	08/06/18 16:55	DC	08/06/18	OP16681	E3G1869
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	740	550	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	74	18	ug/kg	
95-57-8	2-Chlorophenol	ND	74	18	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	74	18	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	74	18	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	370	280	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	370	280	ug/kg	
95-48-7	2-Methylphenol	ND	74	18	ug/kg	
106-44-5	4-Methylphenol	ND	74	18	ug/kg	
88-75-5	2-Nitrophenol	ND	74	18	ug/kg	
100-02-7	4-Nitrophenol	ND	370	280	ug/kg	
87-86-5	Pentachlorophenol	ND	74	18	ug/kg	
108-95-2	Phenol	ND	74	18	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	74	18	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	74	18	ug/kg	
83-32-9	Acenaphthene	ND	74	18	ug/kg	
208-96-8	Acenaphthylene	ND	74	18	ug/kg	
62-53-3	Aniline	ND	280	74	ug/kg	
120-12-7	Anthracene	ND	74	18	ug/kg	
92-87-5	Benzidine	ND	920	740	ug/kg	
56-55-3	Benzo(a)anthracene	ND	74	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	74	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	74	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	74	18	ug/kg	
50-32-8	Benzo(a)pyrene	ND	74	18	ug/kg	
100-51-6	Benzyl Alcohol	ND	74	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	74	18	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	74	23	ug/kg	
86-74-8	Carbazole	ND	74	18	ug/kg	
106-47-8	4-Chloroaniline	ND	74	18	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	74	18	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	74	18	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-18-20		
Lab Sample ID:	DA7701-6	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	90.2
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	74	18	ug/kg	
91-58-7	2-Chloronaphthalene	ND	74	18	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	74	18	ug/kg	
218-01-9	Chrysene	ND	74	18	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	74	18	ug/kg	
132-64-9	Dibenzofuran	ND	74	18	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	74	18	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	74	18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	74	18	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	74	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	74	18	ug/kg	
84-66-2	Diethyl phthalate	ND	74	18	ug/kg	
131-11-3	Dimethyl phthalate	ND	74	18	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	74	37	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	74	37	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	180	37	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	74	18	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	180	41	ug/kg	
206-44-0	Fluoranthene	ND	74	18	ug/kg	
86-73-7	Fluorene	ND	74	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	74	18	ug/kg	
87-68-3	Hexachlorobutadiene	ND	74	18	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	74	18	ug/kg	
67-72-1	Hexachloroethane	ND	74	52	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	74	18	ug/kg	
78-59-1	Isophorone	ND	74	18	ug/kg	
90-12-0	1-Methylnaphthalene	ND	74	26	ug/kg	
91-57-6	2-Methylnaphthalene	ND	74	33	ug/kg	
91-20-3	Naphthalene	ND	74	26	ug/kg	
88-74-4	2-Nitroaniline	ND	74	18	ug/kg	
99-09-2	3-Nitroaniline	ND	74	18	ug/kg	
100-01-6	4-Nitroaniline	ND	74	18	ug/kg	
98-95-3	Nitrobenzene	ND	74	18	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	74	37	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	74	18	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	74	21	ug/kg	
85-01-8	Phenanthrene	ND	74	18	ug/kg	
129-00-0	Pyrene	ND	74	18	ug/kg	
110-86-1	Pyridine	ND	74	18	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	74	18	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-18-20		
Lab Sample ID:	DA7701-6	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	90.2
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	49%		23-130%
367-12-4	2-Fluorophenol	40%		10-130%
4165-60-0	Nitrobenzene-d5	28%		12-131%
4165-62-2	Phenol-d5	65%		17-130%
1718-51-0	Terphenyl-d14	90%		29-141%
118-79-6	2,4,6-Tribromophenol	91%		25-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-09-18-20		
Lab Sample ID:	DA7701-6	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	90.2
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 2.7	2.7	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	17.8	1.1	mg/kg	1	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.1	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	1.9	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	< 5.3	5.3	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	< 0.092	0.092	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.3	5.3	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.2	3.2	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-10-05-07		
Lab Sample ID:	DA7701-7	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	91.3
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49046.D	1	08/03/18 23:54	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.02 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	55	24	ug/kg	
107-02-8	Acrolein	ND	22	16	ug/kg	
107-13-1	Acrylonitrile	ND	11	8.7	ug/kg	
71-43-2	Benzene	ND	1.1	0.55	ug/kg	
108-86-1	Bromobenzene	ND	2.2	0.55	ug/kg	
74-97-5	Bromochloromethane	ND	2.2	0.65	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	0.55	ug/kg	
75-25-2	Bromoform	ND	4.4	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.2	0.65	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.2	0.55	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.7	0.87	ug/kg	
75-15-0	Carbon disulfide	ND	2.2	0.55	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	0.55	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	0.55	ug/kg	
75-00-3	Chloroethane	ND	2.2	0.87	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.4	1.4	ug/kg	
67-66-3	Chloroform	ND	2.2	0.55	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.2	0.55	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.2	0.55	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.4	3.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	0.58	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.2	0.55	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.2	0.55	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.2	0.55	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.2	0.55	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.2	0.55	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	0.55	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.2	0.55	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.2	0.55	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.2	0.60	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.2	0.55	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	0.55	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-10-05-07		
Lab Sample ID:	DA7701-7	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	91.3
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.2	0.55	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.2	0.65	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.2	0.55	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.55	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.55	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	0.55	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.2	0.55	ug/kg	
591-78-6	2-Hexanone	ND	11	5.5	ug/kg	
98-82-8	Isopropylbenzene	ND	2.2	0.55	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.2	0.55	ug/kg	
74-83-9	Methyl bromide	ND	2.2	0.65	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.2	0.55	ug/kg	
74-87-3	Methyl chloride	ND	2.2	0.55	ug/kg	
74-95-3	Methylene bromide	ND	2.2	0.55	ug/kg	
75-09-2	Methylene chloride	ND	4.4	3.3	ug/kg	
78-93-3	Methyl ethyl ketone	ND	11	5.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	11	5.5	ug/kg	
91-20-3	Naphthalene	ND	4.4	3.3	ug/kg	
103-65-1	n-Propylbenzene	ND	2.2	0.55	ug/kg	
100-42-5	Styrene	ND	2.2	0.76	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.2	0.55	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.55	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.2	0.55	ug/kg	
108-88-3	Toluene	ND	2.2	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.2	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.55	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.65	ug/kg	
79-01-6	Trichloroethylene	ND	2.2	0.55	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.2	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.2	0.55	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.55	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.55	ug/kg	
108-05-4	Vinyl Acetate	ND	11	5.5	ug/kg	
75-01-4	Vinyl chloride	ND	2.2	0.65	ug/kg	
1330-20-7	Xylene (total)	ND	2.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-10-05-07		
Lab Sample ID:	DA7701-7	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	91.3
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%
17060-07-0	1,2-Dichloroethane-D4	105%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-10-05-07		
Lab Sample ID:	DA7701-7	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	91.3
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37599.D	1	08/07/18 21:21	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	730	550	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	73	18	ug/kg	
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	73	18	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	73	18	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	370	270	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	370	270	ug/kg	
95-48-7	2-Methylphenol	ND	73	18	ug/kg	
106-44-5	4-Methylphenol	ND	73	18	ug/kg	
88-75-5	2-Nitrophenol	ND	73	18	ug/kg	
100-02-7	4-Nitrophenol	ND	370	270	ug/kg	
87-86-5	Pentachlorophenol	ND	73	18	ug/kg	
108-95-2	Phenol	ND	73	18	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	73	18	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	73	18	ug/kg	
83-32-9	Acenaphthene	ND	73	18	ug/kg	
208-96-8	Acenaphthylene	ND	73	18	ug/kg	
62-53-3	Aniline	ND	270	73	ug/kg	
120-12-7	Anthracene	ND	73	18	ug/kg	
92-87-5	Benzidine	ND	910	730	ug/kg	
56-55-3	Benzo(a)anthracene	ND	73	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	73	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	73	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	73	18	ug/kg	
50-32-8	Benzo(a)pyrene	ND	73	18	ug/kg	
100-51-6	Benzyl Alcohol	ND	73	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	18	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	23	ug/kg	
86-74-8	Carbazole	ND	73	18	ug/kg	
106-47-8	4-Chloroaniline	ND	73	18	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	73	18	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	18	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-10-05-07		
Lab Sample ID:	DA7701-7	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	91.3
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	18	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	18	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	18	ug/kg	
218-01-9	Chrysene	ND	73	18	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	73	18	ug/kg	
132-64-9	Dibenzofuran	ND	73	18	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	18	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	73	18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	73	18	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	73	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	18	ug/kg	
84-66-2	Diethyl phthalate	ND	73	18	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	18	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	73	37	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	73	37	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	180	37	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	73	18	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	155	180	40	ug/kg	J
206-44-0	Fluoranthene	ND	73	18	ug/kg	
86-73-7	Fluorene	ND	73	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	18	ug/kg	
87-68-3	Hexachlorobutadiene	ND	73	18	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	73	18	ug/kg	
67-72-1	Hexachloroethane	ND	73	51	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	73	18	ug/kg	
78-59-1	Isophorone	ND	73	18	ug/kg	
90-12-0	1-Methylnaphthalene	ND	73	26	ug/kg	
91-57-6	2-Methylnaphthalene	ND	73	33	ug/kg	
91-20-3	Naphthalene	41.7	73	26	ug/kg	J
88-74-4	2-Nitroaniline	ND	73	18	ug/kg	
99-09-2	3-Nitroaniline	ND	73	18	ug/kg	
100-01-6	4-Nitroaniline	ND	73	18	ug/kg	
98-95-3	Nitrobenzene	ND	73	18	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	73	37	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	73	18	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	21	ug/kg	
85-01-8	Phenanthrene	ND	73	18	ug/kg	
129-00-0	Pyrene	ND	73	18	ug/kg	
110-86-1	Pyridine	ND	73	18	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	73	18	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-10-05-07		
Lab Sample ID:	DA7701-7	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	91.3
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	86%		23-130%
367-12-4	2-Fluorophenol	54%		10-130%
4165-60-0	Nitrobenzene-d5	55%		12-131%
4165-62-2	Phenol-d5	61%		17-130%
1718-51-0	Terphenyl-d14	85%		29-141%
118-79-6	2,4,6-Tribromophenol	87%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-10-05-07		
Lab Sample ID:	DA7701-7	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	91.3
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.9	2.7	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	63.2	11	mg/kg	10	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.1	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	18.2	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	147	5.3	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	< 0.090	0.090	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	12.1	5.3	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 32	32	mg/kg	10	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-10-15-17		
Lab Sample ID:	DA7701-8	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	93.8
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49047.D	1	08/04/18 00:19	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.09 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	52	23	ug/kg	
107-02-8	Acrolein	ND	21	16	ug/kg	
107-13-1	Acrylonitrile	ND	10	8.4	ug/kg	
71-43-2	Benzene	ND	1.0	0.52	ug/kg	
108-86-1	Bromobenzene	ND	2.1	0.52	ug/kg	
74-97-5	Bromochloromethane	ND	2.1	0.63	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.52	ug/kg	
75-25-2	Bromoform	ND	4.2	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.63	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.52	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.6	0.84	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.52	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.52	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.52	ug/kg	
75-00-3	Chloroethane	ND	2.1	0.84	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.2	1.4	ug/kg	
67-66-3	Chloroform	ND	2.1	0.52	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.52	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.52	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.2	3.7	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.56	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	0.52	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.1	0.52	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.1	0.52	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.1	0.52	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.1	0.52	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	0.52	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	0.52	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.1	0.52	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.1	0.58	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.1	0.52	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.52	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-10-15-17		
Lab Sample ID:	DA7701-8	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	93.8
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.52	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.63	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.52	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.52	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.52	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	0.52	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.1	0.52	ug/kg	
591-78-6	2-Hexanone	ND	10	5.2	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	0.52	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.52	ug/kg	
74-83-9	Methyl bromide	ND	2.1	0.63	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	0.52	ug/kg	
74-87-3	Methyl chloride	ND	2.1	0.52	ug/kg	
74-95-3	Methylene bromide	ND	2.1	0.52	ug/kg	
75-09-2	Methylene chloride	ND	4.2	3.1	ug/kg	
78-93-3	Methyl ethyl ketone	ND	10	5.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	10	5.2	ug/kg	
91-20-3	Naphthalene	ND	4.2	3.1	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.52	ug/kg	
100-42-5	Styrene	ND	2.1	0.73	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.52	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.52	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.1	0.52	ug/kg	
108-88-3	Toluene	ND	2.1	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.1	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.52	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.63	ug/kg	
79-01-6	Trichloroethylene	ND	2.1	0.52	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.1	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.1	0.52	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.52	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.52	ug/kg	
108-05-4	Vinyl Acetate	ND	10	5.2	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.63	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		70-131%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-10-15-17		
Lab Sample ID:	DA7701-8	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	93.8
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	109%		70-130%
17060-07-0	1,2-Dichloroethane-D4	103%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-10-15-17		
Lab Sample ID:	DA7701-8	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	93.8
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37600.D	1	08/07/18 21:48	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	710	530	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	71	18	ug/kg	
95-57-8	2-Chlorophenol	ND	71	18	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	71	18	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	71	18	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	350	270	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	350	270	ug/kg	
95-48-7	2-Methylphenol	ND	71	18	ug/kg	
106-44-5	4-Methylphenol	ND	71	18	ug/kg	
88-75-5	2-Nitrophenol	ND	71	18	ug/kg	
100-02-7	4-Nitrophenol	ND	350	270	ug/kg	
87-86-5	Pentachlorophenol	ND	71	18	ug/kg	
108-95-2	Phenol	ND	71	18	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	71	18	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	71	18	ug/kg	
83-32-9	Acenaphthene	ND	71	18	ug/kg	
208-96-8	Acenaphthylene	ND	71	18	ug/kg	
62-53-3	Aniline	ND	270	71	ug/kg	
120-12-7	Anthracene	ND	71	18	ug/kg	
92-87-5	Benzidine	ND	890	710	ug/kg	
56-55-3	Benzo(a)anthracene	ND	71	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	71	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	71	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	71	18	ug/kg	
50-32-8	Benzo(a)pyrene	ND	71	18	ug/kg	
100-51-6	Benzyl Alcohol	ND	71	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	71	18	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	71	22	ug/kg	
86-74-8	Carbazole	ND	71	18	ug/kg	
106-47-8	4-Chloroaniline	ND	71	18	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	71	18	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	71	18	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-10-15-17		
Lab Sample ID:	DA7701-8	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	93.8
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	71	18	ug/kg	
91-58-7	2-Chloronaphthalene	ND	71	18	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	71	18	ug/kg	
218-01-9	Chrysene	ND	71	18	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	71	18	ug/kg	
132-64-9	Dibenzofuran	ND	71	18	ug/kg	
84-74-2	Di-n-butyl phthalate	25.6	71	18	ug/kg	J
95-50-1	1,2-Dichlorobenzene	ND	71	18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	71	18	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	71	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	71	18	ug/kg	
84-66-2	Diethyl phthalate	ND	71	18	ug/kg	
131-11-3	Dimethyl phthalate	ND	71	18	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	71	35	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	71	35	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	180	35	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	71	18	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	71.7	180	39	ug/kg	J
206-44-0	Fluoranthene	ND	71	18	ug/kg	
86-73-7	Fluorene	ND	71	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	71	18	ug/kg	
87-68-3	Hexachlorobutadiene	ND	71	18	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	71	18	ug/kg	
67-72-1	Hexachloroethane	ND	71	50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	71	18	ug/kg	
78-59-1	Isophorone	ND	71	18	ug/kg	
90-12-0	1-Methylnaphthalene	ND	71	25	ug/kg	
91-57-6	2-Methylnaphthalene	ND	71	32	ug/kg	
91-20-3	Naphthalene	28.9	71	25	ug/kg	J
88-74-4	2-Nitroaniline	ND	71	18	ug/kg	
99-09-2	3-Nitroaniline	ND	71	18	ug/kg	
100-01-6	4-Nitroaniline	ND	71	18	ug/kg	
98-95-3	Nitrobenzene	ND	71	18	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	71	35	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	71	18	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	71	21	ug/kg	
85-01-8	Phenanthrene	ND	71	18	ug/kg	
129-00-0	Pyrene	ND	71	18	ug/kg	
110-86-1	Pyridine	ND	71	18	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	71	18	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-10-15-17		
Lab Sample ID:	DA7701-8	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	93.8
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	80%		23-130%
367-12-4	2-Fluorophenol	45%		10-130%
4165-60-0	Nitrobenzene-d5	48%		12-131%
4165-62-2	Phenol-d5	56%		17-130%
1718-51-0	Terphenyl-d14	86%		29-141%
118-79-6	2,4,6-Tribromophenol	82%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-10-15-17		
Lab Sample ID:	DA7701-8	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	93.8
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 2.4	2.4	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	61.0	9.8	mg/kg	10	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 0.98	0.98	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	16.1	0.98	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	79.7	4.9	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	< 0.087	0.087	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	11.1	4.9	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 29	29	mg/kg	10	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-04-05-07		
Lab Sample ID:	DA7701-9	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.3
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49048.D	1	08/04/18 00:44	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.05 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	42.4	57	25	ug/kg	J
107-02-8	Acrolein	ND	23	17	ug/kg	
107-13-1	Acrylonitrile	ND	11	9.2	ug/kg	
71-43-2	Benzene	ND	1.1	0.57	ug/kg	
108-86-1	Bromobenzene	ND	2.3	0.57	ug/kg	
74-97-5	Bromochloromethane	ND	2.3	0.69	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	0.57	ug/kg	
75-25-2	Bromoform	ND	4.6	1.4	ug/kg	
104-51-8	n-Butylbenzene	ND	2.3	0.69	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.3	0.57	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.9	0.92	ug/kg	
75-15-0	Carbon disulfide	ND	2.3	0.57	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	0.57	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	0.57	ug/kg	
75-00-3	Chloroethane	ND	2.3	0.92	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.6	1.5	ug/kg	
67-66-3	Chloroform	ND	2.3	0.57	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	0.57	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.3	0.57	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.6	4.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	0.61	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.3	0.57	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.3	0.57	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.3	0.57	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.3	0.57	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.3	0.57	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	0.57	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	0.57	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.3	0.57	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.3	0.63	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.3	0.57	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	0.57	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-05-07		
Lab Sample ID:	DA7701-9	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.3
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.3	0.57	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.3	0.69	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.3	0.57	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.57	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.57	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	0.57	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.3	0.57	ug/kg	
591-78-6	2-Hexanone	ND	11	5.7	ug/kg	
98-82-8	Isopropylbenzene	ND	2.3	0.57	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.3	0.57	ug/kg	
74-83-9	Methyl bromide	ND	2.3	0.69	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.3	0.57	ug/kg	
74-87-3	Methyl chloride	ND	2.3	0.57	ug/kg	
74-95-3	Methylene bromide	ND	2.3	0.57	ug/kg	
75-09-2	Methylene chloride	ND	4.6	3.4	ug/kg	
78-93-3	Methyl ethyl ketone	9.7	11	5.7	ug/kg	J
108-10-1	4-Methyl-2-pentanone	ND	11	5.7	ug/kg	
91-20-3	Naphthalene	ND	4.6	3.4	ug/kg	
103-65-1	n-Propylbenzene	ND	2.3	0.57	ug/kg	
100-42-5	Styrene	ND	2.3	0.80	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.3	0.57	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.57	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.3	0.57	ug/kg	
108-88-3	Toluene	ND	2.3	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.3	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.57	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.69	ug/kg	
79-01-6	Trichloroethylene	ND	2.3	0.57	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.3	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.3	0.57	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.57	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.57	ug/kg	
108-05-4	Vinyl Acetate	ND	11	5.7	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	0.69	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-05-07		
Lab Sample ID:	DA7701-9	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	86.3
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	116%		70-130%
17060-07-0	1,2-Dichloroethane-D4	107%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-04-05-07		
Lab Sample ID:	DA7701-9	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.3
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37603.D	2	08/07/18 23:10	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	1500	1200	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	150	39	ug/kg	
95-57-8	2-Chlorophenol	ND	150	39	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	150	39	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	150	39	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	770	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	770	580	ug/kg	
95-48-7	2-Methylphenol	ND	150	39	ug/kg	
106-44-5	4-Methylphenol	52.6	150	39	ug/kg	J
88-75-5	2-Nitrophenol	ND	150	39	ug/kg	
100-02-7	4-Nitrophenol	ND	770	580	ug/kg	
87-86-5	Pentachlorophenol	ND	150	39	ug/kg	
108-95-2	Phenol	ND	150	39	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	150	39	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	150	39	ug/kg	
83-32-9	Acenaphthene	ND	150	39	ug/kg	
208-96-8	Acenaphthylene	ND	150	39	ug/kg	
62-53-3	Aniline	ND	580	150	ug/kg	
120-12-7	Anthracene	ND	150	39	ug/kg	
92-87-5	Benzidine	ND	1900	1500	ug/kg	
56-55-3	Benzo(a)anthracene	40.9	150	39	ug/kg	J
205-99-2	Benzo(b)fluoranthene	ND	150	39	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	150	39	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	150	39	ug/kg	
50-32-8	Benzo(a)pyrene	ND	150	39	ug/kg	
100-51-6	Benzyl Alcohol	ND	150	39	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	150	39	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	150	48	ug/kg	
86-74-8	Carbazole	ND	150	39	ug/kg	
106-47-8	4-Chloroaniline	ND	150	39	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	150	39	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	150	39	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-05-07		
Lab Sample ID:	DA7701-9	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.3
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	150	39	ug/kg	
91-58-7	2-Chloronaphthalene	ND	150	39	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	150	39	ug/kg	
218-01-9	Chrysene	110	150	39	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	150	39	ug/kg	
132-64-9	Dibenzofuran	ND	150	39	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	150	39	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	150	39	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	150	39	ug/kg	
106-46-7	1,4-Dichlorobenzene	267	150	39	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	150	39	ug/kg	
84-66-2	Diethyl phthalate	ND	150	39	ug/kg	
131-11-3	Dimethyl phthalate	ND	150	39	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	150	77	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	150	77	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	390	77	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	150	39	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	133	390	85	ug/kg	J
206-44-0	Fluoranthene	79.3	150	39	ug/kg	J
86-73-7	Fluorene	ND	150	39	ug/kg	
118-74-1	Hexachlorobenzene	ND	150	39	ug/kg	
87-68-3	Hexachlorobutadiene	ND	150	39	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	150	39	ug/kg	
67-72-1	Hexachloroethane	ND	150	110	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	150	39	ug/kg	
78-59-1	Isophorone	ND	150	39	ug/kg	
90-12-0	1-Methylnaphthalene	ND	150	54	ug/kg	
91-57-6	2-Methylnaphthalene	ND	150	70	ug/kg	
91-20-3	Naphthalene	80.4	150	54	ug/kg	J
88-74-4	2-Nitroaniline	ND	150	39	ug/kg	
99-09-2	3-Nitroaniline	ND	150	39	ug/kg	
100-01-6	4-Nitroaniline	ND	150	39	ug/kg	
98-95-3	Nitrobenzene	ND	150	39	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	150	77	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	150	39	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	150	45	ug/kg	
85-01-8	Phenanthrene	83.4	150	39	ug/kg	J
129-00-0	Pyrene	125	150	39	ug/kg	J
110-86-1	Pyridine	ND	150	39	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	150	39	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-05-07		
Lab Sample ID:	DA7701-9	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	86.3
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	96%		23-130%
367-12-4	2-Fluorophenol	48%		10-130%
4165-60-0	Nitrobenzene-d5	62%		12-131%
4165-62-2	Phenol-d5	66%		17-130%
1718-51-0	Terphenyl-d14	95%		29-141%
118-79-6	2,4,6-Tribromophenol	28%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-04-05-07		
Lab Sample ID:	DA7701-9	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	86.3
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	12.5	2.8	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	231	1.1	mg/kg	1	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	8.8	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	30.9	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	233	5.6	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	< 0.093	0.093	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.6	5.6	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.4	3.4	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-04-18-20		
Lab Sample ID:	DA7701-10	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	85.5
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49049.D	1	08/04/18 01:09	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.06 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	58	25	ug/kg	
107-02-8	Acrolein	ND	23	17	ug/kg	
107-13-1	Acrylonitrile	ND	12	9.2	ug/kg	
71-43-2	Benzene	ND	1.2	0.58	ug/kg	
108-86-1	Bromobenzene	ND	2.3	0.58	ug/kg	
74-97-5	Bromochloromethane	ND	2.3	0.69	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	0.58	ug/kg	
75-25-2	Bromoform	ND	4.6	1.4	ug/kg	
104-51-8	n-Butylbenzene	ND	2.3	0.69	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.3	0.58	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.9	0.92	ug/kg	
75-15-0	Carbon disulfide	ND	2.3	0.58	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	0.58	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	0.58	ug/kg	
75-00-3	Chloroethane	ND	2.3	0.92	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.6	1.5	ug/kg	
67-66-3	Chloroform	ND	2.3	0.58	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.3	0.58	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.3	0.58	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.6	4.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	0.61	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.3	0.58	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.3	0.58	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.3	0.58	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.3	0.58	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.3	0.58	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	0.58	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	0.58	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.3	0.58	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.3	0.64	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.3	0.58	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	0.58	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-18-20		
Lab Sample ID:	DA7701-10	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	85.5
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.3	0.58	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.3	0.69	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.3	0.58	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.58	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.58	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	0.58	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.3	0.58	ug/kg	
591-78-6	2-Hexanone	ND	12	5.8	ug/kg	
98-82-8	Isopropylbenzene	ND	2.3	0.58	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.3	0.58	ug/kg	
74-83-9	Methyl bromide	ND	2.3	0.69	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.3	0.58	ug/kg	
74-87-3	Methyl chloride	ND	2.3	0.58	ug/kg	
74-95-3	Methylene bromide	ND	2.3	0.58	ug/kg	
75-09-2	Methylene chloride	ND	4.6	3.5	ug/kg	
78-93-3	Methyl ethyl ketone	ND	12	5.8	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	12	5.8	ug/kg	
91-20-3	Naphthalene	ND	4.6	3.5	ug/kg	
103-65-1	n-Propylbenzene	ND	2.3	0.58	ug/kg	
100-42-5	Styrene	ND	2.3	0.81	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.3	0.58	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.58	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.3	0.58	ug/kg	
108-88-3	Toluene	ND	2.3	1.2	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.3	1.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.58	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.69	ug/kg	
79-01-6	Trichloroethylene	ND	2.3	0.58	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.3	1.2	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.3	0.58	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.58	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.58	ug/kg	
108-05-4	Vinyl Acetate	ND	12	5.8	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	0.69	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-18-20		
Lab Sample ID:	DA7701-10	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	85.5
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	112%		70-130%
17060-07-0	1,2-Dichloroethane-D4	103%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-04-18-20		
Lab Sample ID:	DA7701-10	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	85.5
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37604.D	2	08/07/18 23:38	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	1600	1200	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	160	39	ug/kg	
95-57-8	2-Chlorophenol	ND	160	39	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	160	39	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	160	39	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	780	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	780	580	ug/kg	
95-48-7	2-Methylphenol	ND	160	39	ug/kg	
106-44-5	4-Methylphenol	43.0	160	39	ug/kg	J
88-75-5	2-Nitrophenol	ND	160	39	ug/kg	
100-02-7	4-Nitrophenol	ND	780	580	ug/kg	
87-86-5	Pentachlorophenol	ND	160	39	ug/kg	
108-95-2	Phenol	ND	160	39	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	160	39	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	160	39	ug/kg	
83-32-9	Acenaphthene	ND	160	39	ug/kg	
208-96-8	Acenaphthylene	43.7	160	39	ug/kg	J
62-53-3	Aniline	ND	580	160	ug/kg	
120-12-7	Anthracene	ND	160	39	ug/kg	
92-87-5	Benzidine	ND	1900	1600	ug/kg	
56-55-3	Benzo(a)anthracene	47.0	160	39	ug/kg	J
205-99-2	Benzo(b)fluoranthene	96.1	160	39	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	160	39	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	160	39	ug/kg	
50-32-8	Benzo(a)pyrene	ND	160	39	ug/kg	
100-51-6	Benzyl Alcohol	ND	160	39	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	160	39	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	160	48	ug/kg	
86-74-8	Carbazole	ND	160	39	ug/kg	
106-47-8	4-Chloroaniline	ND	160	39	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	160	39	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	160	39	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-18-20		
Lab Sample ID:	DA7701-10	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	85.5
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	160	39	ug/kg	
91-58-7	2-Chloronaphthalene	ND	160	39	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	160	39	ug/kg	
218-01-9	Chrysene	134	160	39	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	160	39	ug/kg	
132-64-9	Dibenzofuran	ND	160	39	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	160	39	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	160	39	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	160	39	ug/kg	
106-46-7	1,4-Dichlorobenzene	150	160	39	ug/kg	J
91-94-1	3,3'-Dichlorobenzidine	ND	160	39	ug/kg	
84-66-2	Diethyl phthalate	ND	160	39	ug/kg	
131-11-3	Dimethyl phthalate	ND	160	39	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	160	78	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	160	78	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	390	78	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	160	39	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	158	390	85	ug/kg	J
206-44-0	Fluoranthene	102	160	39	ug/kg	J
86-73-7	Fluorene	ND	160	39	ug/kg	
118-74-1	Hexachlorobenzene	ND	160	39	ug/kg	
87-68-3	Hexachlorobutadiene	ND	160	39	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	160	39	ug/kg	
67-72-1	Hexachloroethane	ND	160	110	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	160	39	ug/kg	
78-59-1	Isophorone	ND	160	39	ug/kg	
90-12-0	1-Methylnaphthalene	ND	160	54	ug/kg	
91-57-6	2-Methylnaphthalene	ND	160	70	ug/kg	
91-20-3	Naphthalene	68.4	160	54	ug/kg	J
88-74-4	2-Nitroaniline	ND	160	39	ug/kg	
99-09-2	3-Nitroaniline	ND	160	39	ug/kg	
100-01-6	4-Nitroaniline	ND	160	39	ug/kg	
98-95-3	Nitrobenzene	ND	160	39	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	160	78	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	160	39	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	160	45	ug/kg	
85-01-8	Phenanthrene	87.4	160	39	ug/kg	J
129-00-0	Pyrene	156	160	39	ug/kg	J
110-86-1	Pyridine	ND	160	39	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	160	39	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-18-20		
Lab Sample ID:	DA7701-10	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	85.5
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	79%		23-130%
367-12-4	2-Fluorophenol	41%		10-130%
4165-60-0	Nitrobenzene-d5	46%		12-131%
4165-62-2	Phenol-d5	55%		17-130%
1718-51-0	Terphenyl-d14	84%		29-141%
118-79-6	2,4,6-Tribromophenol	66%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-04-18-20		
Lab Sample ID:	DA7701-10	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	85.5
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	7.7	2.9	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	167	11	mg/kg	10	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.1	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	15.3	1.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	81.8	5.7	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	< 0.094	0.094	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.7	5.7	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 34	34	mg/kg	10	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-13-05-07		
Lab Sample ID:	DA7701-11	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	94.0
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49050.D	1	08/04/18 01:34	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	52	23	ug/kg	
107-02-8	Acrolein	ND	21	16	ug/kg	
107-13-1	Acrylonitrile	ND	10	8.4	ug/kg	
71-43-2	Benzene	ND	1.0	0.52	ug/kg	
108-86-1	Bromobenzene	ND	2.1	0.52	ug/kg	
74-97-5	Bromochloromethane	ND	2.1	0.63	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.52	ug/kg	
75-25-2	Bromoform	ND	4.2	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.63	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.52	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.6	0.84	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.52	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.52	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.52	ug/kg	
75-00-3	Chloroethane	ND	2.1	0.84	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.2	1.4	ug/kg	
67-66-3	Chloroform	ND	2.1	0.52	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.52	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.52	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.2	3.7	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.55	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	0.52	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.1	0.52	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.1	0.52	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.1	0.52	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.1	0.52	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	0.52	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	0.52	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.1	0.52	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.1	0.58	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.1	0.52	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.52	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-05-07		
Lab Sample ID:	DA7701-11	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	94.0
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.52	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.63	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.52	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.52	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.52	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	0.52	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.1	0.52	ug/kg	
591-78-6	2-Hexanone	ND	10	5.2	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	0.52	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.52	ug/kg	
74-83-9	Methyl bromide	ND	2.1	0.63	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	0.52	ug/kg	
74-87-3	Methyl chloride	ND	2.1	0.52	ug/kg	
74-95-3	Methylene bromide	ND	2.1	0.52	ug/kg	
75-09-2	Methylene chloride	ND	4.2	3.1	ug/kg	
78-93-3	Methyl ethyl ketone	ND	10	5.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	10	5.2	ug/kg	
91-20-3	Naphthalene	ND	4.2	3.1	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.52	ug/kg	
100-42-5	Styrene	ND	2.1	0.73	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.52	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.52	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.1	0.52	ug/kg	
108-88-3	Toluene	ND	2.1	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.1	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.52	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.63	ug/kg	
79-01-6	Trichloroethylene	ND	2.1	0.52	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.1	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.1	0.52	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.52	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.52	ug/kg	
108-05-4	Vinyl Acetate	ND	10	5.2	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.63	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-05-07		
Lab Sample ID:	DA7701-11	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	94.0
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	106%		70-130%
17060-07-0	1,2-Dichloroethane-D4	105%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-13-05-07		
Lab Sample ID:	DA7701-11	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	94.0
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37605.D	2	08/08/18 00:05	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	1400	1100	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	140	35	ug/kg	
95-57-8	2-Chlorophenol	ND	140	35	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	140	35	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	140	35	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	710	530	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	710	530	ug/kg	
95-48-7	2-Methylphenol	ND	140	35	ug/kg	
106-44-5	4-Methylphenol	ND	140	35	ug/kg	
88-75-5	2-Nitrophenol	ND	140	35	ug/kg	
100-02-7	4-Nitrophenol	ND	710	530	ug/kg	
87-86-5	Pentachlorophenol	ND	140	35	ug/kg	
108-95-2	Phenol	ND	140	35	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	140	35	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	140	35	ug/kg	
83-32-9	Acenaphthene	ND	140	35	ug/kg	
208-96-8	Acenaphthylene	ND	140	35	ug/kg	
62-53-3	Aniline	ND	530	140	ug/kg	
120-12-7	Anthracene	ND	140	35	ug/kg	
92-87-5	Benzidine	ND	1800	1400	ug/kg	
56-55-3	Benzo(a)anthracene	58.2	140	35	ug/kg	J
205-99-2	Benzo(b)fluoranthene	75.6	140	35	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	140	35	ug/kg	
191-24-2	Benzo(g,h,i)perylene	71.6	140	35	ug/kg	J
50-32-8	Benzo(a)pyrene	67.0	140	35	ug/kg	J
100-51-6	Benzyl Alcohol	ND	140	35	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	140	35	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	140	44	ug/kg	
86-74-8	Carbazole	ND	140	35	ug/kg	
106-47-8	4-Chloroaniline	ND	140	35	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	140	35	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	140	35	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-05-07		
Lab Sample ID:	DA7701-11	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	94.0
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	140	35	ug/kg	
91-58-7	2-Chloronaphthalene	ND	140	35	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	140	35	ug/kg	
218-01-9	Chrysene	66.7	140	35	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	140	35	ug/kg	
132-64-9	Dibenzofuran	ND	140	35	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	140	35	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	140	35	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	140	35	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	140	35	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	140	35	ug/kg	
84-66-2	Diethyl phthalate	ND	140	35	ug/kg	
131-11-3	Dimethyl phthalate	ND	140	35	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	140	71	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	140	71	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	350	71	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	140	35	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	173	350	78	ug/kg	J
206-44-0	Fluoranthene	105	140	35	ug/kg	J
86-73-7	Fluorene	ND	140	35	ug/kg	
118-74-1	Hexachlorobenzene	ND	140	35	ug/kg	
87-68-3	Hexachlorobutadiene	ND	140	35	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	140	35	ug/kg	
67-72-1	Hexachloroethane	ND	140	99	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	140	35	ug/kg	
78-59-1	Isophorone	ND	140	35	ug/kg	
90-12-0	1-Methylnaphthalene	ND	140	50	ug/kg	
91-57-6	2-Methylnaphthalene	ND	140	64	ug/kg	
91-20-3	Naphthalene	ND	140	50	ug/kg	
88-74-4	2-Nitroaniline	ND	140	35	ug/kg	
99-09-2	3-Nitroaniline	ND	140	35	ug/kg	
100-01-6	4-Nitroaniline	ND	140	35	ug/kg	
98-95-3	Nitrobenzene	ND	140	35	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	140	71	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	140	35	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	140	41	ug/kg	
85-01-8	Phenanthrene	75.5	140	35	ug/kg	J
129-00-0	Pyrene	103	140	35	ug/kg	J
110-86-1	Pyridine	ND	140	35	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	140	35	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-05-07		
Lab Sample ID:	DA7701-11	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	94.0
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	95%		23-130%
367-12-4	2-Fluorophenol	62%		10-130%
4165-60-0	Nitrobenzene-d5	60%		12-131%
4165-62-2	Phenol-d5	70%		17-130%
1718-51-0	Terphenyl-d14	92%		29-141%
118-79-6	2,4,6-Tribromophenol	91%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-05-07		
Lab Sample ID:	DA7701-11	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	94.0
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	3.3	2.5	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	80.5	1.0	mg/kg	1	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.0	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	11.7	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	172	5.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	0.32	0.089	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.0	5.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.0	3.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-13-18-20		
Lab Sample ID:	DA7701-12	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	94.0
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49051.D	1	08/04/18 02:00	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.07 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	52	23	ug/kg	
107-02-8	Acrolein	ND	21	16	ug/kg	
107-13-1	Acrylonitrile	ND	10	8.4	ug/kg	
71-43-2	Benzene	ND	1.0	0.52	ug/kg	
108-86-1	Bromobenzene	ND	2.1	0.52	ug/kg	
74-97-5	Bromochloromethane	ND	2.1	0.63	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.52	ug/kg	
75-25-2	Bromoform	ND	4.2	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.63	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.52	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.6	0.84	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.52	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.52	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.52	ug/kg	
75-00-3	Chloroethane	ND	2.1	0.84	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.2	1.4	ug/kg	
67-66-3	Chloroform	ND	2.1	0.52	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.52	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.52	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.2	3.7	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.56	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	0.52	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.1	0.52	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.1	0.52	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.1	0.52	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.1	0.52	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	0.52	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	0.52	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.1	0.52	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.1	0.58	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.1	0.52	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.52	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-18-20		
Lab Sample ID:	DA7701-12	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	94.0
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.52	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.63	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.52	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.52	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.52	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	0.52	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.1	0.52	ug/kg	
591-78-6	2-Hexanone	ND	10	5.2	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	0.52	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.52	ug/kg	
74-83-9	Methyl bromide	ND	2.1	0.63	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	0.52	ug/kg	
74-87-3	Methyl chloride	ND	2.1	0.52	ug/kg	
74-95-3	Methylene bromide	ND	2.1	0.52	ug/kg	
75-09-2	Methylene chloride	ND	4.2	3.1	ug/kg	
78-93-3	Methyl ethyl ketone	ND	10	5.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	10	5.2	ug/kg	
91-20-3	Naphthalene	ND	4.2	3.1	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.52	ug/kg	
100-42-5	Styrene	ND	2.1	0.73	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.52	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.52	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.1	0.52	ug/kg	
108-88-3	Toluene	ND	2.1	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.1	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.52	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.63	ug/kg	
79-01-6	Trichloroethylene	ND	2.1	0.52	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.1	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.1	0.52	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.52	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.52	ug/kg	
108-05-4	Vinyl Acetate	ND	10	5.2	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.63	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%		70-131%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-18-20		
Lab Sample ID:	DA7701-12	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	94.0
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	104%		70-130%
17060-07-0	1,2-Dichloroethane-D4	106%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-13-18-20		
Lab Sample ID:	DA7701-12	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	94.0
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37606.D	2	08/08/18 00:32	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	1400	1100	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	140	35	ug/kg	
95-57-8	2-Chlorophenol	ND	140	35	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	140	35	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	140	35	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	710	530	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	710	530	ug/kg	
95-48-7	2-Methylphenol	ND	140	35	ug/kg	
106-44-5	4-Methylphenol	ND	140	35	ug/kg	
88-75-5	2-Nitrophenol	ND	140	35	ug/kg	
100-02-7	4-Nitrophenol	ND	710	530	ug/kg	
87-86-5	Pentachlorophenol	ND	140	35	ug/kg	
108-95-2	Phenol	ND	140	35	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	140	35	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	140	35	ug/kg	
83-32-9	Acenaphthene	ND	140	35	ug/kg	
208-96-8	Acenaphthylene	45.1	140	35	ug/kg	J
62-53-3	Aniline	ND	530	140	ug/kg	
120-12-7	Anthracene	ND	140	35	ug/kg	
92-87-5	Benzidine	ND	1800	1400	ug/kg	
56-55-3	Benzo(a)anthracene	80.9	140	35	ug/kg	J
205-99-2	Benzo(b)fluoranthene	99.5	140	35	ug/kg	J
207-08-9	Benzo(k)fluoranthene	42.2	140	35	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	ND	140	35	ug/kg	
50-32-8	Benzo(a)pyrene	ND	140	35	ug/kg	
100-51-6	Benzyl Alcohol	ND	140	35	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	140	35	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	140	44	ug/kg	
86-74-8	Carbazole	ND	140	35	ug/kg	
106-47-8	4-Chloroaniline	ND	140	35	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	140	35	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	140	35	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-18-20		
Lab Sample ID:	DA7701-12	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	94.0
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	140	35	ug/kg	
91-58-7	2-Chloronaphthalene	ND	140	35	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	140	35	ug/kg	
218-01-9	Chrysene	81.9	140	35	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	140	35	ug/kg	
132-64-9	Dibenzofuran	ND	140	35	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	140	35	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	140	35	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	140	35	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	140	35	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	140	35	ug/kg	
84-66-2	Diethyl phthalate	ND	140	35	ug/kg	
131-11-3	Dimethyl phthalate	ND	140	35	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	140	71	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	140	71	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	350	71	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	140	35	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	1470	350	78	ug/kg	
206-44-0	Fluoranthene	152	140	35	ug/kg	
86-73-7	Fluorene	ND	140	35	ug/kg	
118-74-1	Hexachlorobenzene	ND	140	35	ug/kg	
87-68-3	Hexachlorobutadiene	ND	140	35	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	140	35	ug/kg	
67-72-1	Hexachloroethane	ND	140	99	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	44.7	140	35	ug/kg	J
78-59-1	Isophorone	ND	140	35	ug/kg	
90-12-0	1-Methylnaphthalene	ND	140	50	ug/kg	
91-57-6	2-Methylnaphthalene	ND	140	64	ug/kg	
91-20-3	Naphthalene	ND	140	50	ug/kg	
88-74-4	2-Nitroaniline	ND	140	35	ug/kg	
99-09-2	3-Nitroaniline	ND	140	35	ug/kg	
100-01-6	4-Nitroaniline	ND	140	35	ug/kg	
98-95-3	Nitrobenzene	ND	140	35	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	140	71	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	140	35	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	140	41	ug/kg	
85-01-8	Phenanthrene	97.0	140	35	ug/kg	J
129-00-0	Pyrene	148	140	35	ug/kg	
110-86-1	Pyridine	ND	140	35	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	140	35	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-13-18-20		
Lab Sample ID:	DA7701-12	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	94.0
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	98%		23-130%
367-12-4	2-Fluorophenol	62%		10-130%
4165-60-0	Nitrobenzene-d5	63%		12-131%
4165-62-2	Phenol-d5	73%		17-130%
1718-51-0	Terphenyl-d14	100%		29-141%
118-79-6	2,4,6-Tribromophenol	100%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-13-18-20		
Lab Sample ID:	DA7701-12	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	94.0
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	3.3	2.6	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Barium	141	1.0	mg/kg	1	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 1.0	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Chromium	14.2	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Lead	141	5.2	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Mercury	0.20	0.082	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [5]
Selenium	< 5.2	5.2	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.1	3.1	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Prep QC Batch: MP25759
(5) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-90-05-07		
Lab Sample ID:	DA7701-13	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	93.2
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V49052.D	1	08/04/18 02:24	GO	n/a	n/a	V5V2625
Run #2							

	Initial Weight	Final Volume
Run #1	5.00 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	54	24	ug/kg	
107-02-8	Acrolein	ND	21	16	ug/kg	
107-13-1	Acrylonitrile	ND	11	8.6	ug/kg	
71-43-2	Benzene	ND	1.1	0.54	ug/kg	
108-86-1	Bromobenzene	ND	2.1	0.54	ug/kg	
74-97-5	Bromochloromethane	ND	2.1	0.64	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.54	ug/kg	
75-25-2	Bromoform	ND	4.3	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.64	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.54	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.7	0.86	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.54	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.54	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.54	ug/kg	
75-00-3	Chloroethane	ND	2.1	0.86	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.3	1.4	ug/kg	
67-66-3	Chloroform	ND	2.1	0.54	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.54	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.54	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.3	3.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.57	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	0.54	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.1	0.54	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.1	0.54	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.1	0.54	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.1	0.54	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	0.54	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	0.54	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.1	0.54	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.1	0.59	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.1	0.54	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.54	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-90-05-07		
Lab Sample ID:	DA7701-13	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	93.2
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.54	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.64	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.54	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.54	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.54	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	0.54	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.1	0.54	ug/kg	
591-78-6	2-Hexanone	ND	11	5.4	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	0.54	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.54	ug/kg	
74-83-9	Methyl bromide	ND	2.1	0.64	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	0.54	ug/kg	
74-87-3	Methyl chloride	ND	2.1	0.54	ug/kg	
74-95-3	Methylene bromide	ND	2.1	0.54	ug/kg	
75-09-2	Methylene chloride	ND	4.3	3.2	ug/kg	
78-93-3	Methyl ethyl ketone	ND	11	5.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	11	5.4	ug/kg	
91-20-3	Naphthalene	ND	4.3	3.2	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.54	ug/kg	
100-42-5	Styrene	ND	2.1	0.75	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.54	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.54	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.1	0.54	ug/kg	
108-88-3	Toluene	ND	2.1	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.1	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.54	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.64	ug/kg	
79-01-6	Trichloroethylene	ND	2.1	0.54	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.1	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.1	0.54	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.54	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.54	ug/kg	
108-05-4	Vinyl Acetate	ND	11	5.4	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.64	ug/kg	
1330-20-7	Xylene (total)	ND	2.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	126%		70-131%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-90-05-07		
Lab Sample ID:	DA7701-13	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	93.2
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%
17060-07-0	1,2-Dichloroethane-D4	105%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-90-05-07		
Lab Sample ID:	DA7701-13	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	93.2
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3G37601.D	1	08/07/18 22:16	DC	08/06/18	OP16681	E3G1870
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	710	530	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	71	18	ug/kg	
95-57-8	2-Chlorophenol	ND	71	18	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	71	18	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	71	18	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	360	270	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	360	270	ug/kg	
95-48-7	2-Methylphenol	ND	71	18	ug/kg	
106-44-5	4-Methylphenol	ND	71	18	ug/kg	
88-75-5	2-Nitrophenol	ND	71	18	ug/kg	
100-02-7	4-Nitrophenol	ND	360	270	ug/kg	
87-86-5	Pentachlorophenol	ND	71	18	ug/kg	
108-95-2	Phenol	ND	71	18	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	71	18	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	71	18	ug/kg	
83-32-9	Acenaphthene	ND	71	18	ug/kg	
208-96-8	Acenaphthylene	ND	71	18	ug/kg	
62-53-3	Aniline	ND	270	71	ug/kg	
120-12-7	Anthracene	ND	71	18	ug/kg	
92-87-5	Benzidine	ND	890	710	ug/kg	
56-55-3	Benzo(a)anthracene	ND	71	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	71	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	71	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	71	18	ug/kg	
50-32-8	Benzo(a)pyrene	ND	71	18	ug/kg	
100-51-6	Benzyl Alcohol	ND	71	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	71	18	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	71	22	ug/kg	
86-74-8	Carbazole	ND	71	18	ug/kg	
106-47-8	4-Chloroaniline	ND	71	18	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	71	18	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	71	18	ug/kg	

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E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-90-05-07		
Lab Sample ID:	DA7701-13	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	93.2
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	71	18	ug/kg	
91-58-7	2-Chloronaphthalene	ND	71	18	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	71	18	ug/kg	
218-01-9	Chrysene	ND	71	18	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	71	18	ug/kg	
132-64-9	Dibenzofuran	ND	71	18	ug/kg	
84-74-2	Di-n-butyl phthalate	24.8	71	18	ug/kg	J
95-50-1	1,2-Dichlorobenzene	ND	71	18	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	71	18	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	71	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	71	18	ug/kg	
84-66-2	Diethyl phthalate	ND	71	18	ug/kg	
131-11-3	Dimethyl phthalate	ND	71	18	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	71	36	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	71	36	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	180	36	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	71	18	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	47.2	180	39	ug/kg	J
206-44-0	Fluoranthene	ND	71	18	ug/kg	
86-73-7	Fluorene	ND	71	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	71	18	ug/kg	
87-68-3	Hexachlorobutadiene	ND	71	18	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	71	18	ug/kg	
67-72-1	Hexachloroethane	ND	71	50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	71	18	ug/kg	
78-59-1	Isophorone	ND	71	18	ug/kg	
90-12-0	1-Methylnaphthalene	ND	71	25	ug/kg	
91-57-6	2-Methylnaphthalene	ND	71	32	ug/kg	
91-20-3	Naphthalene	28.4	71	25	ug/kg	J
88-74-4	2-Nitroaniline	ND	71	18	ug/kg	
99-09-2	3-Nitroaniline	ND	71	18	ug/kg	
100-01-6	4-Nitroaniline	ND	71	18	ug/kg	
98-95-3	Nitrobenzene	ND	71	18	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	71	36	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	71	18	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	71	21	ug/kg	
85-01-8	Phenanthrene	ND	71	18	ug/kg	
129-00-0	Pyrene	ND	71	18	ug/kg	
110-86-1	Pyridine	ND	71	18	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	71	18	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SO-90-05-07		
Lab Sample ID:	DA7701-13	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3546	**Percent Solids:**	93.2
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	79%		23-130%
367-12-4	2-Fluorophenol	45%		10-130%
4165-60-0	Nitrobenzene-d5	50%		12-131%
4165-62-2	Phenol-d5	57%		17-130%
1718-51-0	Terphenyl-d14	82%		29-141%
118-79-6	2,4,6-Tribromophenol	81%		25-130%

(a) Dilution required due to matrix interference; extract was viscous.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SO-90-05-07		
Lab Sample ID:	DA7701-13	**Date Sampled:**	08/01/18
Matrix:	SO - Soil	**Date Received:**	08/02/18
		Percent Solids:	93.2
Project:	Place Bridge		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 25	25	mg/kg	10	08/03/18	08/09/18	JR	SW846 6010C [4]	SW846 3050B [5]
Barium	61.4	10	mg/kg	10	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [5]
Cadmium	< 1.0	1.0	mg/kg	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3050B [5]
Chromium	22.8	10	mg/kg	10	08/03/18	08/09/18	JR	SW846 6010C [4]	SW846 3050B [5]
Lead	155	50	mg/kg	10	08/03/18	08/09/18	JR	SW846 6010C [4]	SW846 3050B [5]
Mercury	0.18	0.089	mg/kg	1	08/07/18	08/07/18	JM	SW846 7471B [2]	SW846 7471B [6]
Selenium	50.5	50	mg/kg	10	08/03/18	08/09/18	JR	SW846 6010C [4]	SW846 3050B [5]
Silver	< 30	30	mg/kg	10	08/03/18	08/08/18	JR	SW846 6010C [3]	SW846 3050B [5]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10271
(3) Instrument QC Batch: MA10277
(4) Instrument QC Batch: MA10278
(5) Prep QC Batch: MP25759
(6) Prep QC Batch: MP25769

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-09		
Lab Sample ID:	DA7701-14	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7V54302.D	1	08/03/18 16:11	MB	n/a	n/a	V7V2798
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	33.6	25	20	ug/l	
107-02-8	Acrolein	ND	10	7.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.60	ug/l	
74-97-5	Bromochloromethane	ND	2.0	1.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.60	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.60	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.70	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.80	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	4.0	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	2.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.60	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.60	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.80	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.60	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
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E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-09		
Lab Sample ID:	DA7701-14	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.0	0.70	ug/l	
594-20-7	2,2-Dichloropropane	ND	4.0	3.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.70	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	4.0	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-95-3	Methylene bromide	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	4.0	2.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.60	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.70	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.60	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.60	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	3.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.70	ug/l	
1330-20-7	Xylene (total)	ND	1.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-09		
Lab Sample ID:	DA7701-14	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-09		
Lab Sample ID:	DA7701-14	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37620.D	1	08/08/18 16:34	DC	08/07/18	OP16689	E3G1871
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	10	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	2.0	0.84	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	4.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	8.2	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.90	ug/l	
106-44-5	4-Methylphenol	ND	2.0	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	2.0	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	5.0	4.0	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	4.0	ug/l	
108-95-2	Phenol	ND	2.0	0.50	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	0.70	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.0	ug/l	
83-32-9	Acenaphthene	ND	2.0	0.70	ug/l	
208-96-8	Acenaphthylene	ND	2.0	0.60	ug/l	
62-53-3	Aniline	ND	5.0	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	0.70	ug/l	
92-87-5	Benzidine	ND	100	75	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	0.70	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	0.90	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	0.90	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	2.0	0.90	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.70	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.3	ug/l	
86-74-8	Carbazole	ND	2.0	0.80	ug/l	
106-47-8	4-Chloroaniline	ND	2.0	0.80	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.70	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.70	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-09		
Lab Sample ID:	DA7701-14	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	2.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.70	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.70	ug/l	
218-01-9	Chrysene	ND	2.0	0.70	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.3	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.70	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.2	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.80	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.80	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.90	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	4.0	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.80	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.80	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.80	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.80	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	2.0	0.70	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.70	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.90	ug/l	
86-73-7	Fluorene	ND	2.0	0.60	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.70	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.90	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	4.0	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.90	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.4	ug/l	
78-59-1	Isophorone	ND	2.0	0.70	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-20-3	Naphthalene	ND	2.0	0.80	ug/l	
88-74-4	2-Nitroaniline	ND	2.0	0.90	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	4.0	ug/l	
100-01-6	4-Nitroaniline	ND	2.0	0.90	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.80	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	4.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	2.0	0.70	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.70	ug/l	
85-01-8	Phenanthrene	ND	2.0	0.60	ug/l	
129-00-0	Pyrene	ND	2.0	0.70	ug/l	
110-86-1	Pyridine	ND	5.0	4.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.80	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-09		
Lab Sample ID:	DA7701-14	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	20%		10-130%
4165-62-2	Phenol-d5	18%		10-130%
118-79-6	2,4,6-Tribromophenol	47%		10-135%
4165-60-0	Nitrobenzene-d5	64%		19-130%
321-60-8	2-Fluorobiphenyl	87%		20-130%
1718-51-0	Terphenyl-d14	88%		13-149%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-09		
Lab Sample ID:	DA7701-14	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	30.5	25	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Barium	140	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Cadmium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Chromium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Lead	< 50	50	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Mercury	< 0.10	0.10	ug/l	1	08/06/18	08/06/18	JM	SW846 7470A [2]	SW846 7470A [5]
Selenium	< 500	500	ug/l	10	08/03/18	08/07/18	JR	SW846 6010C [3]	SW846 3010A [4]
Silver	< 30	30	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10265
(3) Instrument QC Batch: MA10270
(4) Prep QC Batch: MP25761
(5) Prep QC Batch: MP25767

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-13		
Lab Sample ID:	DA7701-15	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7V54293.D	1	08/03/18 12:40	MB	n/a	n/a	V7V2798
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	20	ug/l	
107-02-8	Acrolein	ND	10	7.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.60	ug/l	
74-97-5	Bromochloromethane	ND	2.0	1.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.60	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.60	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.70	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.80	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	4.0	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	2.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.60	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.60	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.80	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.60	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-13		
Lab Sample ID:	DA7701-15	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.0	0.70	ug/l	
594-20-7	2,2-Dichloropropane	ND	4.0	3.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.70	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	4.0	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-95-3	Methylene bromide	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
78-93-3	Methyl ethyl ketone	16.4	10	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	4.0	2.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.60	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.70	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.60	ug/l	
108-88-3	Toluene	0.58	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.60	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	3.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.70	ug/l	
1330-20-7	Xylene (total)	ND	1.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%

ND = Not detected MDL = Method Detection Limit
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E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-13		
Lab Sample ID:	DA7701-15	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-13		
Lab Sample ID:	DA7701-15	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37617.D	1	08/08/18 15:11	DC	08/07/18	OP16689	E3G1871
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	10	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	2.0	0.84	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	4.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	8.2	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.90	ug/l	
106-44-5	4-Methylphenol	ND	2.0	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	2.0	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	5.0	4.0	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	4.0	ug/l	
108-95-2	Phenol	ND	2.0	0.50	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	0.70	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.0	ug/l	
83-32-9	Acenaphthene	ND	2.0	0.70	ug/l	
208-96-8	Acenaphthylene	ND	2.0	0.60	ug/l	
62-53-3	Aniline	ND	5.0	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	0.70	ug/l	
92-87-5	Benzidine	ND	100	75	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	0.70	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	0.90	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	0.90	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	2.0	0.90	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.70	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.3	ug/l	
86-74-8	Carbazole	ND	2.0	0.80	ug/l	
106-47-8	4-Chloroaniline	ND	2.0	0.80	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.70	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.70	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-13		
Lab Sample ID:	DA7701-15	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	2.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.70	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.70	ug/l	
218-01-9	Chrysene	ND	2.0	0.70	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.3	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.70	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.2	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.80	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.80	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.90	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	4.0	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.80	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.80	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.80	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.80	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	2.0	0.70	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.70	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.90	ug/l	
86-73-7	Fluorene	ND	2.0	0.60	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.70	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.90	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	4.0	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.90	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.4	ug/l	
78-59-1	Isophorone	ND	2.0	0.70	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-20-3	Naphthalene	ND	2.0	0.80	ug/l	
88-74-4	2-Nitroaniline	ND	2.0	0.90	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	4.0	ug/l	
100-01-6	4-Nitroaniline	ND	2.0	0.90	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.80	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	4.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	2.0	0.70	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.70	ug/l	
85-01-8	Phenanthrene	ND	2.0	0.60	ug/l	
129-00-0	Pyrene	ND	2.0	0.70	ug/l	
110-86-1	Pyridine	ND	5.0	4.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.80	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-13		
Lab Sample ID:	DA7701-15	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		10-130%
4165-62-2	Phenol-d5	25%		10-130%
118-79-6	2,4,6-Tribromophenol	86%		10-135%
4165-60-0	Nitrobenzene-d5	65%		19-130%
321-60-8	2-Fluorobiphenyl	82%		20-130%
1718-51-0	Terphenyl-d14	91%		13-149%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-13		
Lab Sample ID:	DA7701-15	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	32.5	25	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Barium	158	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Cadmium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Chromium	24.5	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Lead	< 50	50	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Mercury	< 0.10	0.10	ug/l	1	08/06/18	08/06/18	JM	SW846 7470A [2]	SW846 7470A [5]
Selenium	< 500	500	ug/l	10	08/03/18	08/07/18	JR	SW846 6010C [3]	SW846 3010A [4]
Silver	< 30	30	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10265
(3) Instrument QC Batch: MA10270
(4) Prep QC Batch: MP25761
(5) Prep QC Batch: MP25767

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-04		
Lab Sample ID:	DA7701-16	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7V54303.D	1	08/03/18 16:34	MB	n/a	n/a	V7V2798
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	20	ug/l	
107-02-8	Acrolein	ND	10	7.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.60	ug/l	
74-97-5	Bromochloromethane	ND	2.0	1.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.60	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.60	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.70	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.80	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	4.0	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	2.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.60	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.60	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.80	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.60	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-04		
Lab Sample ID:	DA7701-16	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.0	0.70	ug/l	
594-20-7	2,2-Dichloropropane	ND	4.0	3.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.70	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	4.0	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-95-3	Methylene bromide	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	4.0	2.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.60	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.70	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.60	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.60	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	3.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.70	ug/l	
1330-20-7	Xylene (total)	ND	1.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-04		
Lab Sample ID:	DA7701-16	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-04		
Lab Sample ID:	DA7701-16	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37621.D	1	08/08/18 17:02	DC	08/07/18	OP16689	E3G1871
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	10	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	2.0	0.84	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	4.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	8.2	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.90	ug/l	
106-44-5	4-Methylphenol	ND	2.0	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	2.0	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	5.0	4.0	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	4.0	ug/l	
108-95-2	Phenol	ND	2.0	0.50	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	0.70	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.0	ug/l	
83-32-9	Acenaphthene	ND	2.0	0.70	ug/l	
208-96-8	Acenaphthylene	ND	2.0	0.60	ug/l	
62-53-3	Aniline	ND	5.0	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	0.70	ug/l	
92-87-5	Benzidine	ND	100	75	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	0.70	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	0.90	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	0.90	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	2.0	0.90	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.70	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.3	ug/l	
86-74-8	Carbazole	ND	2.0	0.80	ug/l	
106-47-8	4-Chloroaniline	ND	2.0	0.80	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.70	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.70	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-04		
Lab Sample ID:	DA7701-16	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	2.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.70	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.70	ug/l	
218-01-9	Chrysene	ND	2.0	0.70	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.3	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.70	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.2	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.80	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.80	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.90	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	4.0	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.80	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.80	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.80	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.80	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	2.0	0.70	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.70	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.90	ug/l	
86-73-7	Fluorene	ND	2.0	0.60	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.70	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.90	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	4.0	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.90	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.4	ug/l	
78-59-1	Isophorone	ND	2.0	0.70	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-20-3	Naphthalene	ND	2.0	0.80	ug/l	
88-74-4	2-Nitroaniline	ND	2.0	0.90	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	4.0	ug/l	
100-01-6	4-Nitroaniline	ND	2.0	0.90	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.80	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	4.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	2.0	0.70	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.70	ug/l	
85-01-8	Phenanthrene	ND	2.0	0.60	ug/l	
129-00-0	Pyrene	ND	2.0	0.70	ug/l	
110-86-1	Pyridine	ND	5.0	4.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.80	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-04		
Lab Sample ID:	DA7701-16	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	39%		10-130%
4165-62-2	Phenol-d5	26%		10-130%
118-79-6	2,4,6-Tribromophenol	101%		10-135%
4165-60-0	Nitrobenzene-d5	66%		19-130%
321-60-8	2-Fluorobiphenyl	86%		20-130%
1718-51-0	Terphenyl-d14	101%		13-149%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-04		
Lab Sample ID:	DA7701-16	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	34.6	25	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Barium	309	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Cadmium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Chromium	73.7	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Lead	< 50	50	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Mercury	0.18	0.10	ug/l	1	08/06/18	08/06/18	JM	SW846 7470A [2]	SW846 7470A [5]
Selenium	< 500	500	ug/l	10	08/03/18	08/07/18	JR	SW846 6010C [3]	SW846 3010A [4]
Silver	< 30	30	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10265
(3) Instrument QC Batch: MA10270
(4) Prep QC Batch: MP25761
(5) Prep QC Batch: MP25767

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-01		
Lab Sample ID:	DA7701-17	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7V54304.D	1	08/03/18 16:57	MB	n/a	n/a	V7V2798
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	20	ug/l	
107-02-8	Acrolein	ND	10	7.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.60	ug/l	
74-97-5	Bromochloromethane	ND	2.0	1.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.60	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.60	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.70	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.80	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	4.0	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	2.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.60	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.60	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.80	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.60	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-01		
Lab Sample ID:	DA7701-17	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.0	0.70	ug/l	
594-20-7	2,2-Dichloropropane	ND	4.0	3.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.70	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	4.0	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-95-3	Methylene bromide	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	4.0	2.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.60	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.70	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.60	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.60	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	3.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.70	ug/l	
1330-20-7	Xylene (total)	ND	1.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-01		
Lab Sample ID:	DA7701-17	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-01		
Lab Sample ID:	DA7701-17	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37622.D	1	08/08/18 17:29	DC	08/07/18	OP16689	E3G1871
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	10	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	2.0	0.84	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	4.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	8.2	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.90	ug/l	
106-44-5	4-Methylphenol	ND	2.0	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	2.0	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	5.0	4.0	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	4.0	ug/l	
108-95-2	Phenol	ND	2.0	0.50	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	0.70	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.0	ug/l	
83-32-9	Acenaphthene	ND	2.0	0.70	ug/l	
208-96-8	Acenaphthylene	ND	2.0	0.60	ug/l	
62-53-3	Aniline	ND	5.0	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	0.70	ug/l	
92-87-5	Benzidine	ND	100	75	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	0.70	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	0.90	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	0.90	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	2.0	0.90	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.70	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.3	ug/l	
86-74-8	Carbazole	ND	2.0	0.80	ug/l	
106-47-8	4-Chloroaniline	ND	2.0	0.80	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.70	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.70	ug/l	

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E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-01		
Lab Sample ID:	DA7701-17	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	2.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.70	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.70	ug/l	
218-01-9	Chrysene	ND	2.0	0.70	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.3	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.70	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.2	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.80	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.80	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.90	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	4.0	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.80	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.80	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.80	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.80	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	2.0	0.70	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.70	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.90	ug/l	
86-73-7	Fluorene	ND	2.0	0.60	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.70	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.90	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	4.0	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.90	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.4	ug/l	
78-59-1	Isophorone	ND	2.0	0.70	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-20-3	Naphthalene	ND	2.0	0.80	ug/l	
88-74-4	2-Nitroaniline	ND	2.0	0.90	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	4.0	ug/l	
100-01-6	4-Nitroaniline	ND	2.0	0.90	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.80	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	4.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	2.0	0.70	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.70	ug/l	
85-01-8	Phenanthrene	ND	2.0	0.60	ug/l	
129-00-0	Pyrene	ND	2.0	0.70	ug/l	
110-86-1	Pyridine	ND	5.0	4.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.80	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-01		
Lab Sample ID:	DA7701-17	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		10-130%
4165-62-2	Phenol-d5	28%		10-130%
118-79-6	2,4,6-Tribromophenol	100%		10-135%
4165-60-0	Nitrobenzene-d5	70%		19-130%
321-60-8	2-Fluorobiphenyl	95%		20-130%
1718-51-0	Terphenyl-d14	99%		13-149%

ND = Not detected MDL = Method Detection Limit
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E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-01		
Lab Sample ID:	DA7701-17	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	37.8	25	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Barium	182	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Cadmium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Chromium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Lead	< 50	50	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Mercury	0.10	0.10	ug/l	1	08/06/18	08/06/18	JM	SW846 7470A [2]	SW846 7470A [5]
Selenium	< 500	500	ug/l	10	08/03/18	08/07/18	JR	SW846 6010C [3]	SW846 3010A [4]
Silver	< 30	30	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10265
(3) Instrument QC Batch: MA10270
(4) Prep QC Batch: MP25761
(5) Prep QC Batch: MP25767

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-MW-01		
Lab Sample ID:	DA7701-18	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7V54305.D	1	08/03/18 17:21	MB	n/a	n/a	V7V2798
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	20	ug/l	
107-02-8	Acrolein	ND	10	7.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.60	ug/l	
74-97-5	Bromochloromethane	ND	2.0	1.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.60	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.60	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.70	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.80	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	4.0	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	2.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.60	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.60	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.80	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.60	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-MW-01		
Lab Sample ID:	DA7701-18	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.0	0.70	ug/l	
594-20-7	2,2-Dichloropropane	ND	4.0	3.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.70	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	4.0	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-95-3	Methylene bromide	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	4.0	2.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.60	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.70	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.60	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.60	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	3.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.70	ug/l	
1330-20-7	Xylene (total)	ND	1.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-MW-01		
Lab Sample ID:	DA7701-18	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-MW-01		
Lab Sample ID:	DA7701-18	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37623.D	1	08/08/18 17:57	DC	08/07/18	OP16689	E3G1871
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	10	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	2.0	0.84	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	4.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	8.2	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.90	ug/l	
106-44-5	4-Methylphenol	ND	2.0	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	2.0	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	5.0	4.0	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	4.0	ug/l	
108-95-2	Phenol	ND	2.0	0.50	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	0.70	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.0	ug/l	
83-32-9	Acenaphthene	ND	2.0	0.70	ug/l	
208-96-8	Acenaphthylene	ND	2.0	0.60	ug/l	
62-53-3	Aniline	ND	5.0	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	0.70	ug/l	
92-87-5	Benzidine	ND	100	75	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	0.70	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	0.90	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	0.90	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	2.0	0.90	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.70	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.3	ug/l	
86-74-8	Carbazole	ND	2.0	0.80	ug/l	
106-47-8	4-Chloroaniline	ND	2.0	0.80	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.70	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.70	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-MW-01		
Lab Sample ID:	DA7701-18	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	2.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.70	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.70	ug/l	
218-01-9	Chrysene	ND	2.0	0.70	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.3	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.70	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.2	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.80	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.80	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.90	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	4.0	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.80	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.80	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.80	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.80	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	2.0	0.70	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.70	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.90	ug/l	
86-73-7	Fluorene	ND	2.0	0.60	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.70	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.90	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	4.0	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.90	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.4	ug/l	
78-59-1	Isophorone	ND	2.0	0.70	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-20-3	Naphthalene	ND	2.0	0.80	ug/l	
88-74-4	2-Nitroaniline	ND	2.0	0.90	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	4.0	ug/l	
100-01-6	4-Nitroaniline	ND	2.0	0.90	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.80	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	4.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	2.0	0.70	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.70	ug/l	
85-01-8	Phenanthrene	ND	2.0	0.60	ug/l	
129-00-0	Pyrene	ND	2.0	0.70	ug/l	
110-86-1	Pyridine	ND	5.0	4.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.80	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-MW-01		
Lab Sample ID:	DA7701-18	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	35%		10-130%
4165-62-2	Phenol-d5	24%		10-130%
118-79-6	2,4,6-Tribromophenol	76%		10-135%
4165-60-0	Nitrobenzene-d5	49%		19-130%
321-60-8	2-Fluorobiphenyl	60%		20-130%
1718-51-0	Terphenyl-d14	59%		13-149%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-MW-01		
Lab Sample ID:	DA7701-18	**Date Sampled:**	08/02/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	40.5	25	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Barium	182	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Cadmium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Chromium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Lead	< 50	50	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Mercury	< 0.10	0.10	ug/l	1	08/06/18	08/06/18	JM	SW846 7470A [2]	SW846 7470A [5]
Selenium	< 500	500	ug/l	10	08/03/18	08/07/18	JR	SW846 6010C [3]	SW846 3010A [4]
Silver	< 30	30	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10265
(3) Instrument QC Batch: MA10270
(4) Prep QC Batch: MP25761
(5) Prep QC Batch: MP25767

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-99		
Lab Sample ID:	DA7701-19	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7V54306.D	1	08/03/18 17:44	MB	n/a	n/a	V7V2798
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	20	ug/l	
107-02-8	Acrolein	ND	10	7.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.60	ug/l	
74-97-5	Bromochloromethane	ND	2.0	1.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.60	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.60	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.70	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.80	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	4.0	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	2.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.60	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.60	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.80	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.60	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-99		
Lab Sample ID:	DA7701-19	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.0	0.70	ug/l	
594-20-7	2,2-Dichloropropane	ND	4.0	3.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.70	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	4.0	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-95-3	Methylene bromide	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	4.0	2.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.60	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.70	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.60	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.60	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	3.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.70	ug/l	
1330-20-7	Xylene (total)	ND	1.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-99		
Lab Sample ID:	DA7701-19	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Place Bridge		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-99		
Lab Sample ID:	DA7701-19	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G37624.D	1	08/08/18 18:25	DC	08/07/18	OP16689	E3G1871
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	10	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	2.0	0.84	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	4.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	8.2	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.90	ug/l	
106-44-5	4-Methylphenol	ND	2.0	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	2.0	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	5.0	4.0	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	4.0	ug/l	
108-95-2	Phenol	ND	2.0	0.50	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	0.70	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.0	ug/l	
83-32-9	Acenaphthene	ND	2.0	0.70	ug/l	
208-96-8	Acenaphthylene	ND	2.0	0.60	ug/l	
62-53-3	Aniline	ND	5.0	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	0.70	ug/l	
92-87-5	Benzidine	ND	100	75	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	0.70	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	0.90	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	0.90	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	2.0	0.90	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.70	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.3	ug/l	
86-74-8	Carbazole	ND	2.0	0.80	ug/l	
106-47-8	4-Chloroaniline	ND	2.0	0.80	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.70	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.70	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-99		
Lab Sample ID:	DA7701-19	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	2.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.70	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.70	ug/l	
218-01-9	Chrysene	ND	2.0	0.70	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.3	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.70	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.2	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.80	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.80	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.90	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	4.0	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.80	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.80	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.80	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.80	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	2.0	0.70	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.70	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.90	ug/l	
86-73-7	Fluorene	ND	2.0	0.60	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.70	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.90	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	4.0	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.90	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.4	ug/l	
78-59-1	Isophorone	ND	2.0	0.70	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-20-3	Naphthalene	ND	2.0	0.80	ug/l	
88-74-4	2-Nitroaniline	ND	2.0	0.90	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	4.0	ug/l	
100-01-6	4-Nitroaniline	ND	2.0	0.90	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.80	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	4.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	2.0	0.70	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.70	ug/l	
85-01-8	Phenanthrene	ND	2.0	0.60	ug/l	
129-00-0	Pyrene	ND	2.0	0.70	ug/l	
110-86-1	Pyridine	ND	5.0	4.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.80	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-GW-99		
Lab Sample ID:	DA7701-19	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Place Bridge		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		10-130%
4165-62-2	Phenol-d5	29%		10-130%
118-79-6	2,4,6-Tribromophenol	89%		10-135%
4165-60-0	Nitrobenzene-d5	68%		19-130%
321-60-8	2-Fluorobiphenyl	88%		20-130%
1718-51-0	Terphenyl-d14	94%		13-149%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-99		
Lab Sample ID:	DA7701-19	**Date Sampled:**	08/01/18
Matrix:	AQ - Ground Water	**Date Received:**	08/02/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 25	25	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Barium	141	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Cadmium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Chromium	< 10	10	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Lead	< 50	50	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]
Mercury	< 0.10	0.10	ug/l	1	08/06/18	08/06/18	JM	SW846 7470A [2]	SW846 7470A [5]
Selenium	< 500	500	ug/l	10	08/03/18	08/07/18	JR	SW846 6010C [3]	SW846 3010A [4]
Silver	< 30	30	ug/l	1	08/03/18	08/06/18	JR	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA10262
(2) Instrument QC Batch: MA10265
(3) Instrument QC Batch: MA10270
(4) Prep QC Batch: MP25761
(5) Prep QC Batch: MP25767

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS

CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.accutest.com

Page 1 of 2

Bottle Order Control #: JJ-7/26/2018-6
FED-EX Tracking #:
SGS Quote #:
SGS Job #: DA7701

Client / Reporting Information

Company: Weston Solutions, Inc.
Street: 1435 Garrison St. #130
City, State: Lakewood CO
Project Contact: Ray Weindorf
Phone: 303-729-6146
Email: ray.weindorf@westonsolutions.com
Sampler(s) Name(s): Same

Project Information

Project Name: Place Bridge
Street: 1400 S Oneida
City, State: Denver CO
Project #:
Client Purchase Order #:
Project Manager: Same

Billing Information (if different from Report to)

Company:
Street Address:
City, State ZIP:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Field ID / Point of Collection	Collection Date	Time	Sampled by	Matrix	# of bottles	Preservation: NONE	HCl	NaOH	HNO3	H2SO4	DI Water	MEOH	ENCORE	Na2S2O3	Na2SO3	VOC 8260	SVOC 8270	RCRA Metals 6010/20	LAB USE ONLY
PB-SO-01-05-07	7/31	1330	RW	SO	2	2										X	X	X	01
PB-SO-01-18-20		1345														X	X	X	02
PB-SO-02-05-07		1430														X	X	X	03
PB-SO-02-15-17		1445														X	X	X	04
PB-SO-09-05-07	8/1	0936														X	X	X	05
PB-SO-09-18-20		0951			4	4										X	X	X	06 MS/MSD
PB-SO-10-05-07		1115			2	2										X	X	X	07
PB-SO-10-15-17		1130														X	X	X	08
PB-SO-04-05-07		1200														X	X	X	09
PB-SO-04-18-20		1215														X	X	X	10
PB-SO-13-05-07		1240														X	X	X	11
PB-SO-13-18-20		1250														X	X	X	12

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day Emergency
- [ ] 2 Day Emergency
- [ ] 1 Day Emergency

Emergency & Rush T/A data available VIA LabLink. RUSH TAT approval needed.

Special Reporting Instructions

- [ ] Report in PPB
- [ ] Report in PPM
- [ ] Report MDLs

Data Deliverable Information

- [ ] Commercial "A" (Level 1, Results Only)
- [x] Commercial "B" (Level 2, Results + QC Summary)
- [ ] COMMBN (Results/QC/Narrative)
- [ ] COMMBN+ [Results/QC/Narrative (+ chromatograms)]
- [ ] REDT2
- [ ] FULT1
- [x] EDD Format Scribe

Comments / Special Instructions

PB-SO-09-18-20 is MS/MSD AB 8-2-18

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date/Time:	Received By:	Relinquished By:	Date/Time:	Received By:
1	8/2 1450	1	2		2
Relinquished by Sampler: 3	Date/Time:	Received By: 3	Relinquished By: 4	Date/Time:	Received By: 4

Custody Seal # Intact ☐ Not intact ☐ Absent ☐
Preserved where applicable ☐ Cooler Temp. °C: 4.1 Therm. ID: T080 On Ice ☒
Form MSOA 064-01, RV 6/19/17
http://www.sgs.com/terms-and-conditions

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DA7701: Chain of Custody
Page 1 of 3

SGS

CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.accutest.com

Bottle Order Control #:
FED-EX Tracking #:
SGS Quote #:
SGS Job #: DA7701

Client / Reporting Information

Company: See Page 1
Street:
City, State:
Project Contact:
Phone:
Email:
Sampler(s) Name(s):

Project Information

Project Name:
Street:
City, State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company:
Street Address:
City, State ZIP:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; Oil - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Field ID / Point of Collection	Collection Date	Time	Sampled by	Matrix	# of bottles	NONE	HCl	NaOH	HNO3	H2SO4	DI Water	MEOH	ENCORE	Na2S2O3	Na2SO3	VOCs 8260	SVOCs 8270	Metals (RCRA) 6010/6020	LAB USE ONLY
PB-SO-90-05-07	8/1	1115	RW	SO	2	2										X	X	X	13
~~PB-SO-94-05-07~~	↓	~~1200~~	↓	↓	↓	↓													↑
PB-GW-09-	↓	1400		GW	6	23		1								X	X	X	14
PB-GW-13	8/2	0930			12	4	6	2								X	X	X	15 MS/MSD
PB-GW-04		1630			6	2	3	1								X	X	X	16
PB-GW-01		1115														X	X	X	17
PB-MW-01	↓	1210														X	X	X	18
PB-GW-99	8/1	1400	↓	↓	↓	↓	↓	↓								X	X	X	19
																			20=TB
																			MB
																			8-2-18

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☐ 5 Day RUSH
- ☐ 3 Day Emergency
- ☐ 2 Day Emergency
- ☐ 1 Day Emergency

Emergency & Rush T/A data available VIA LabLink. RUSH TAT approval needed.

Special Reporting Instructions

- ☐ Report in PPB
- ☐ Report in PPM
- ☐ Report MDLs

Data Deliverable Information

- ☐ Commercial "A" (Level 1, Results Only)
- ☐ Commercial "B" (Level 2, Results + QC Summary)
- ☐ COMMBN (Results/QC/Narrative)
- ☐ COMMBN+ [Results/QC/Narrative (+ chromatograms)]
- ☐ REDT2
- ☐ FULT1
- ☐ EDD Format _____

Comments / Special Instructions

PB-GW-13 is MS/MSD

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date/Time:	Received By:	Relinquished By:	Date/Time:	Received By:
1 RW	8/2 1450	1	2		2
Relinquished by Sampler: 3	Date/Time:	Received By: 3	Relinquished By: 4	Date/Time:	Received By: 4

Custody Seal # Intact ☐ Not intact ☐ Absent ☐ | Preserved where applicable ☐ | Cooler Temp. °C: 4 | Therm. ID: TOB | On Ice ☒

Form MSQA 064-01, RV 6/19/17
http://www.sgs.com/terms-and-conditions

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DA7701: Chain of Custody
Page 2 of 3

SGS Accutest Sample Receipt Summary

Job Number: DA7701 **Client:** WESTON **Project:** PLACE BRIDGE

Date / Time Received: 8/2/2018 2:50:00 PM **Delivery Method:** **Airbill #'s:** HD

Cooler Temps (Initial/Adjusted): #1: (4.1/4.1);

Cooler Security	Y or N		Y or N
1. Custody Seals Present:	☑ ☐	3. COC Present:	☑ ☐
2. Custody Seals Intact:	☑ ☐	4. Smpl Dates/Time OK	☑ ☐

Cooler Temperature	Y or N
1. Temp criteria achieved:	☑ ☐
2. Cooler temp verification:	IR Gun;
3. Cooler media:	Ice (Bag)
4. No. Coolers:	1

Quality Control Preservation	Y or N	N/A
1. Trip Blank present / cooler:	☑ ☐	☐
2. Trip Blank listed on COC:	☑ ☐	☐
3. Samples preserved properly:	☑ ☐	
4. VOCs headspace free:	☑ ☐	☐

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

Sample Integrity - Condition	Y or N
1. Sample recvd within HT:	☑ ☐
2. All containers accounted for:	☑ ☐
3. Condition of sample:	Intact

Sample Integrity - Instructions	Y or N	N/A
1. Analysis requested is clear:	☑ ☐	
2. Bottles received for unspecified tests	☐ ☑	
3. Sufficient volume recvd for analysis:	☑ ☐	
4. Compositing instructions clear:	☐ ☐	☑
5. Filtering instructions clear:	☐ ☐	☑

Comments

DA7701: Chain of Custody
Page 3 of 3

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V7V2798-MB	7V54290.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	20	ug/l	
107-02-8	Acrolein	ND	10	7.0	ug/l	
107-13-1	Acrylonitrile	ND	5.0	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.60	ug/l	
74-97-5	Bromochloromethane	ND	2.0	1.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.60	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.60	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.70	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.80	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	4.0	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	2.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.60	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.60	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.80	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.60	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.0	0.70	ug/l	
594-20-7	2,2-Dichloropropane	ND	4.0	3.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	0.70	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/l	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V7V2798-MB	7V54290.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	4.0	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-95-3	Methylene bromide	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	4.0	2.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.60	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.70	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.60	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.60	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	3.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.70	ug/l	
1330-20-7	Xylene (total)	ND	1.0	1.0	ug/l	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V7V2798-MB	7V54290.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	70-130%
17060-07-0	1,2-Dichloroethane-D4	98%	70-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	95%	70-130%

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2625-MB	5V49030.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	22	ug/kg	
107-02-8	Acrolein	ND	20	15	ug/kg	
107-13-1	Acrylonitrile	ND	10	8.0	ug/kg	
71-43-2	Benzene	ND	1.0	0.50	ug/kg	
108-86-1	Bromobenzene	ND	2.0	0.50	ug/kg	
74-97-5	Bromochloromethane	ND	2.0	0.60	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.50	ug/kg	
75-25-2	Bromoform	ND	4.0	1.2	ug/kg	
104-51-8	n-Butylbenzene	ND	2.0	0.60	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.50	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.5	0.80	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.50	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.50	ug/kg	
75-00-3	Chloroethane	ND	2.0	0.80	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	4.0	1.3	ug/kg	
67-66-3	Chloroform	ND	2.0	0.50	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.0	0.50	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	0.50	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	3.5	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.53	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.0	0.50	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.0	0.50	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.0	0.50	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.0	0.50	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.55	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.0	0.50	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	0.60	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.0	0.50	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.50	ug/kg	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2625-MB	5V49030.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/kg	
591-78-6	2-Hexanone	ND	10	5.0	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.50	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.0	0.50	ug/kg	
74-83-9	Methyl bromide	ND	2.0	0.60	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.50	ug/kg	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/kg	
74-95-3	Methylene bromide	ND	2.0	0.50	ug/kg	
75-09-2	Methylene chloride	ND	4.0	3.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	10	5.0	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	10	5.0	ug/kg	
91-20-3	Naphthalene	ND	4.0	3.0	ug/kg	
103-65-1	n-Propylbenzene	ND	2.0	0.50	ug/kg	
100-42-5	Styrene	ND	2.0	0.70	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	0.50	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.50	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/kg	
108-88-3	Toluene	ND	2.0	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.50	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.60	ug/kg	
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	1.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.50	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.50	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.50	ug/kg	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.60	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	1.0	ug/kg	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2625-MB	5V49030.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	109%	70-131%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	100%	70-130%
17060-07-0	1,2-Dichloroethane-D4	103%	70-130%

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V7V2798-BS	7V54288.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	250	268	107	70-130
107-02-8	Acrolein	250	237	95	10-281
107-13-1	Acrylonitrile	125	137	110	58-136
71-43-2	Benzene	50	51.9	104	70-130
108-86-1	Bromobenzene	50	52.9	106	70-130
74-97-5	Bromochloromethane	50	53.1	106	70-130
75-27-4	Bromodichloromethane	50	54.1	108	70-130
75-25-2	Bromoform	50	57.7	115	61-130
104-51-8	n-Butylbenzene	50	47.4	95	69-130
135-98-8	sec-Butylbenzene	50	48.7	97	70-130
98-06-6	tert-Butylbenzene	50	49.2	98	70-130
75-15-0	Carbon disulfide	50	50.5	101	67-130
56-23-5	Carbon tetrachloride	50	54.4	109	70-130
108-90-7	Chlorobenzene	50	51.1	102	70-130
75-00-3	Chloroethane	50	51.3	103	64-138
110-75-8	2-Chloroethyl vinyl ether	50	59.2	118	68-130
67-66-3	Chloroform	50	51.5	103	70-130
95-49-8	o-Chlorotoluene	50	51.5	103	70-130
106-43-4	p-Chlorotoluene	50	51.9	104	70-130
96-12-8	1,2-Dibromo-3-chloropropane	50	46.2	92	65-130
124-48-1	Dibromochloromethane	50	55.7	111	65-130
106-93-4	1,2-Dibromoethane	50	53.5	107	70-130
95-50-1	o-Dichlorobenzene	50	49.7	99	63-130
541-73-1	m-Dichlorobenzene	50	51.4	103	65-130
106-46-7	p-Dichlorobenzene	50	50.6	101	68-130
75-71-8	Dichlorodifluoromethane	50	53.6	107	10-200
75-34-3	1,1-Dichloroethane	50	51.7	103	70-130
107-06-2	1,2-Dichloroethane	50	53.4	107	67-131
75-35-4	1,1-Dichloroethylene	50	51.0	102	70-130
156-59-2	cis-1,2-Dichloroethylene	50	51.4	103	70-130
156-60-5	trans-1,2-Dichloroethylene	50	51.6	103	70-130
78-87-5	1,2-Dichloropropane	50	52.7	105	70-130
142-28-9	1,3-Dichloropropane	50	52.1	104	70-130
594-20-7	2,2-Dichloropropane	50	52.5	105	32-148
563-58-6	1,1-Dichloropropene	50	52.6	105	70-130
10061-01-5	cis-1,3-Dichloropropene	50	55.2	110	68-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V7V2798-BS	7V54288.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	54.0	108	64-130
100-41-4	Ethylbenzene	50	51.5	103	69-130
87-68-3	Hexachlorobutadiene	50	43.8	88	51-134
591-78-6	2-Hexanone	250	285	114	69-130
98-82-8	Isopropylbenzene	50	50.9	102	70-130
99-87-6	p-Isopropyltoluene	50	49.3	99	70-130
74-83-9	Methyl bromide	50	56.9	114	56-136
74-87-3	Methyl chloride	50	55.4	111	48-147
74-95-3	Methylene bromide	50	53.1	106	70-130
75-09-2	Methylene chloride	50	48.2	96	70-130
108-10-1	4-Methyl-2-pentanone	250	292	117	70-130
78-93-3	Methyl ethyl ketone	250	295	118	69-130
1634-04-4	Methyl Tert Butyl Ether	50	52.8	106	70-130
91-20-3	Naphthalene	50	42.8	86	61-130
103-65-1	n-Propylbenzene	50	51.4	103	70-130
100-42-5	Styrene	50	53.0	106	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	52.9	106	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	51.1	102	60-130
127-18-4	Tetrachloroethylene	50	52.8	106	70-130
108-88-3	Toluene	50	51.3	103	70-130
87-61-6	1,2,3-Trichlorobenzene	50	43.0	86	55-130
120-82-1	1,2,4-Trichlorobenzene	50	44.7	89	65-130
71-55-6	1,1,1-Trichloroethane	50	52.3	105	70-130
79-00-5	1,1,2-Trichloroethane	50	51.5	103	68-130
79-01-6	Trichloroethylene	50	52.0	104	70-130
75-69-4	Trichlorofluoromethane	50	51.2	102	68-146
96-18-4	1,2,3-Trichloropropane	50	61.7	123	70-130
95-63-6	1,2,4-Trimethylbenzene	50	49.9	100	70-130
108-67-8	1,3,5-Trimethylbenzene	50	50.3	101	70-130
108-05-4	Vinyl Acetate	250	311	124	49-131
75-01-4	Vinyl chloride	50	54.7	109	57-144
1330-20-7	Xylene (total)	150	156	104	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V7V2798-BS	7V54288.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	70-130%
17060-07-0	1,2-Dichloroethane-D4	96%	70-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	99%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2625-BS	5V49032.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	249	306	123	30-198
107-02-8	Acrolein	249	242	97	66-137
107-13-1	Acrylonitrile	124	123	99	70-130
71-43-2	Benzene	49.7	46.2	93	68-130
108-86-1	Bromobenzene	49.7	46.2	93	70-130
74-97-5	Bromochloromethane	49.7	50.1	101	70-130
75-27-4	Bromodichloromethane	49.7	52.5	106	70-130
75-25-2	Bromoform	49.7	44.8	90	68-130
104-51-8	n-Butylbenzene	49.7	48.9	98	68-130
135-98-8	sec-Butylbenzene	49.7	48.9	98	69-130
98-06-6	tert-Butylbenzene	49.7	48.1	97	70-130
75-15-0	Carbon disulfide	49.7	51.9	104	67-130
56-23-5	Carbon tetrachloride	49.7	59.9	121	67-130
108-90-7	Chlorobenzene	49.7	47.5	96	70-130
75-00-3	Chloroethane	49.7	51.6	104	69-130
110-75-8	2-Chloroethyl vinyl ether	49.7	42.9	86	68-130
67-66-3	Chloroform	49.7	52.7	106	70-130
95-49-8	o-Chlorotoluene	49.7	47.1	95	67-130
106-43-4	p-Chlorotoluene	49.7	48.0	97	68-130
96-12-8	1,2-Dibromo-3-chloropropane	49.7	43.3	87	68-130
124-48-1	Dibromochloromethane	49.7	47.4	95	70-130
106-93-4	1,2-Dibromoethane	49.7	47.6	96	70-130
95-50-1	o-Dichlorobenzene	49.7	42.1	85	70-130
541-73-1	m-Dichlorobenzene	49.7	46.2	93	69-130
106-46-7	p-Dichlorobenzene	49.7	45.5	92	69-130
75-71-8	Dichlorodifluoromethane	49.7	49.7	100	33-173
75-34-3	1,1-Dichloroethane	49.7	50.6	102	70-130
107-06-2	1,2-Dichloroethane	49.7	53.6	108	70-130
75-35-4	1,1-Dichloroethylene	49.7	51.4	103	70-130
156-59-2	cis-1,2-Dichloroethylene	49.7	49.0	99	70-130
156-60-5	trans-1,2-Dichloroethylene	49.7	51.6	104	69-130
78-87-5	1,2-Dichloropropane	49.7	47.1	95	70-130
142-28-9	1,3-Dichloropropane	49.7	48.0	97	70-130
594-20-7	2,2-Dichloropropane	49.7	56.8	114	67-130
563-58-6	1,1-Dichloropropene	49.7	55.3	111	70-130
10061-01-5	cis-1,3-Dichloropropene	49.7	45.2	91	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2625-BS	5V49032.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	49.7	47.0	95	68-130
100-41-4	Ethylbenzene	49.7	49.6	100	69-130
87-68-3	Hexachlorobutadiene	49.7	42.4	85	67-130
591-78-6	2-Hexanone	249	234	94	58-130
98-82-8	Isopropylbenzene	49.7	51.1	103	70-130
99-87-6	p-Isopropyltoluene	49.7	48.8	98	70-130
74-83-9	Methyl bromide	49.7	47.5	96	57-130
1634-04-4	Methyl Tert Butyl Ether	49.7	49.7	100	70-130
74-87-3	Methyl chloride	49.7	50.2	101	51-137
74-95-3	Methylene bromide	49.7	49.5	100	70-130
75-09-2	Methylene chloride	49.7	47.4	95	69-130
78-93-3	Methyl ethyl ketone	249	271	109	61-136
108-10-1	4-Methyl-2-pentanone	249	223	90	69-130
91-20-3	Naphthalene	49.7	37.5	75	70-130
103-65-1	n-Propylbenzene	49.7	49.9	100	68-130
100-42-5	Styrene	49.7	47.8	96	70-130
630-20-6	1,1,1,2-Tetrachloroethane	49.7	47.0	95	70-130
79-34-5	1,1,2,2-Tetrachloroethane	49.7	39.8	80	68-130
127-18-4	Tetrachloroethylene	49.7	52.6	106	68-130
108-88-3	Toluene	49.7	47.5	96	65-130
87-61-6	1,2,3-Trichlorobenzene	49.7	38.7	78	70-130
120-82-1	1,2,4-Trichlorobenzene	49.7	41.1	83	70-130
71-55-6	1,1,1-Trichloroethane	49.7	57.6	116	68-130
79-00-5	1,1,2-Trichloroethane	49.7	46.4	93	70-130
79-01-6	Trichloroethylene	49.7	51.6	104	70-130
75-69-4	Trichlorofluoromethane	49.7	56.3	113	70-130
96-18-4	1,2,3-Trichloropropane	49.7	44.7	90	68-130
95-63-6	1,2,4-Trimethylbenzene	49.7	48.1	97	66-130
108-67-8	1,3,5-Trimethylbenzene	49.7	49.2	99	68-130
108-05-4	Vinyl Acetate	249	270	109	70-130
75-01-4	Vinyl chloride	49.7	53.3	107	65-130
1330-20-7	Xylene (total)	149	148	99	69-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2625-BS	5V49032.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	70-131%
2037-26-5	Toluene-D8	99%	70-130%
460-00-4	4-Bromofluorobenzene	105%	70-130%
17060-07-0	1,2-Dichloroethane-D4	100%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
DA7701-15MS	7V54294.D	1	08/03/18	MB	n/a	n/a	V7V2798
DA7701-15MSD	7V54295.D	1	08/03/18	MB	n/a	n/a	V7V2798
DA7701-15	7V54293.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	DA7701-15 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	239	96	250	228	91	5	60-133/30
107-02-8	Acrolein	ND		250	244	98	250	236	94	3	10-281/30
107-13-1	Acrylonitrile	ND		125	136	109	125	131	105	4	47-151/30
71-43-2	Benzene	ND		50	52.7	105	50	51.2	102	3	67-130/30
108-86-1	Bromobenzene	ND		50	52.1	104	50	52.0	104	0	70-130/30
74-97-5	Bromochloromethane	ND		50	53.4	107	50	51.2	102	4	70-130/30
75-27-4	Bromodichloromethane	ND		50	53.5	107	50	52.3	105	2	70-130/30
75-25-2	Bromoform	ND		50	51.8	104	50	52.1	104	1	60-130/30
104-51-8	n-Butylbenzene	ND		50	47.5	95	50	47.0	94	1	51-143/30
135-98-8	sec-Butylbenzene	ND		50	48.3	97	50	48.0	96	1	69-130/30
98-06-6	tert-Butylbenzene	ND		50	49.3	99	50	49.0	98	1	47-158/30
75-15-0	Carbon disulfide	ND		50	49.6	99	50	47.0	94	5	64-130/30
56-23-5	Carbon tetrachloride	ND		50	54.5	109	50	52.7	105	3	70-130/30
108-90-7	Chlorobenzene	ND		50	51.6	103	50	50.4	101	2	70-130/30
75-00-3	Chloroethane	ND		50	54.2	108	50	49.9	100	8	58-139/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	ND	0* [a]	50	ND	0* [a]	nc	10-174/30
67-66-3	Chloroform	ND		50	52.5	105	50	50.3	101	4	70-130/30
95-49-8	o-Chlorotoluene	ND		50	51.0	102	50	50.6	101	1	70-130/30
106-43-4	p-Chlorotoluene	ND		50	51.7	103	50	51.5	103	0	70-130/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		50	45.3	91	50	45.6	91	1	62-130/30
124-48-1	Dibromochloromethane	ND		50	52.8	106	50	51.9	104	2	65-130/30
106-93-4	1,2-Dibromoethane	ND		50	53.0	106	50	52.4	105	1	70-130/30
95-50-1	o-Dichlorobenzene	ND		50	49.8	100	50	49.4	99	1	63-130/30
541-73-1	m-Dichlorobenzene	ND		50	50.7	101	50	50.6	101	0	65-130/30
106-46-7	p-Dichlorobenzene	ND		50	50.9	102	50	50.4	101	1	66-130/30
75-71-8	Dichlorodifluoromethane	ND		50	54.0	108	50	51.1	102	6	10-200/30
75-34-3	1,1-Dichloroethane	ND		50	52.4	105	50	50.2	100	4	61-130/30
107-06-2	1,2-Dichloroethane	ND		50	53.9	108	50	52.3	105	3	63-135/30
75-35-4	1,1-Dichloroethylene	ND		50	52.7	105	50	49.4	99	6	67-130/30
156-59-2	cis-1,2-Dichloroethylene	ND		50	52.4	105	50	50.2	100	4	70-130/30
156-60-5	trans-1,2-Dichloroethylene	ND		50	52.7	105	50	49.7	99	6	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	53.2	106	50	52.3	105	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	52.1	104	50	51.1	102	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	53.6	107	50	50.6	101	6	32-153/30
563-58-6	1,1-Dichloropropene	ND		50	53.3	107	50	51.3	103	4	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		50	54.0	108	50	53.5	107	1	68-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
DA7701-15MS	7V54294.D	1	08/03/18	MB	n/a	n/a	V7V2798
DA7701-15MSD	7V54295.D	1	08/03/18	MB	n/a	n/a	V7V2798
DA7701-15	7V54293.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	DA7701-15 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		50	52.5	105	50	51.9	104	1	64-130/30
100-41-4	Ethylbenzene	ND		50	51.9	104	50	51.2	102	1	69-130/30
87-68-3	Hexachlorobutadiene	ND		50	43.4	87	50	44.8	90	3	41-140/30
591-78-6	2-Hexanone	ND		250	278	111	250	273	109	2	69-130/30
98-82-8	Isopropylbenzene	ND		50	51.3	103	50	50.6	101	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	48.8	98	50	48.6	97	0	70-130/30
74-83-9	Methyl bromide	ND		50	60.1	120	50	56.1	112	7	47-147/30
74-87-3	Methyl chloride	ND		50	59.5	119	50	55.5	111	7	48-147/30
74-95-3	Methylene bromide	ND		50	53.3	107	50	52.4	105	2	70-130/30
75-09-2	Methylene chloride	ND		50	49.5	99	50	47.1	94	5	70-130/30
108-10-1	4-Methyl-2-pentanone	ND		250	295	118	250	287	115	3	70-130/30
78-93-3	Methyl ethyl ketone	16.4		250	302	114	250	291	110	4	69-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	52.6	105	50	50.8	102	3	69-130/30
91-20-3	Naphthalene	ND		50	42.8	86	50	42.6	85	0	55-130/30
103-65-1	n-Propylbenzene	ND		50	50.9	102	50	50.2	100	1	62-132/30
100-42-5	Styrene	ND		50	48.5	97	50	47.5	95	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	52.4	105	50	52.0	104	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	50.9	102	50	50.8	102	0	60-130/30
127-18-4	Tetrachloroethylene	ND		50	53.2	106	50	52.1	104	2	67-130/30
108-88-3	Toluene	0.58	J	50	52.0	103	50	50.8	100	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	42.8	86	50	42.9	86	0	52-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	44.3	89	50	44.3	89	0	60-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	52.7	105	50	50.8	102	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	51.4	103	50	50.5	101	2	68-130/30
79-01-6	Trichloroethylene	ND		50	52.4	105	50	51.5	103	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	53.3	107	50	50.7	101	5	54-157/30
96-18-4	1,2,3-Trichloropropane	ND		50	58.2	116	50	58.1	116	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	47.2	94	50	47.5	95	1	65-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	49.1	98	50	48.7	97	1	44-155/30
108-05-4	Vinyl Acetate	ND		250	302	121	250	287	115	5	47-133/30
75-01-4	Vinyl chloride	ND		50	61.0	122	50	56.0	112	9	55-144/30
1330-20-7	Xylene (total)	ND		150	156	104	150	153	102	2	67-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
DA7701-15MS	7V54294.D	1	08/03/18	MB	n/a	n/a	V7V2798
DA7701-15MSD	7V54295.D	1	08/03/18	MB	n/a	n/a	V7V2798
DA7701-15	7V54293.D	1	08/03/18	MB	n/a	n/a	V7V2798

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Surrogate Recoveries	MS	MSD	DA7701-15	Limits
1868-53-7	Dibromofluoromethane	100%	97%	100%	70-130%
17060-07-0	1,2-Dichloroethane-D4	99%	95%	98%	70-130%
2037-26-5	Toluene-D8	97%	97%	98%	70-130%
460-00-4	4-Bromofluorobenzene	98%	99%	99%	70-130%

(a) Recovery of 2-chloroethyl vinyl ether is affected by sample preservation.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
DA7701-6MS	5V49033.D	1	08/03/18	GO	n/a	n/a	V5V2625
DA7701-6MSD	5V49034.D	1	08/03/18	GO	n/a	n/a	V5V2625
DA7701-6	5V49045.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	DA7701-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		277	376	136	277	331	119	13	5-239/30
107-02-8	Acrolein	ND		277	282	102	277	254	92	10	5-183/30
107-13-1	Acrylonitrile	ND		139	147	106	139	132	95	11	37-162/30
71-43-2	Benzene	ND		55.4	58.2	105	55.4	53.5	97	8	48-130/30
108-86-1	Bromobenzene	ND		55.4	55.6	100	55.4	52.0	94	7	27-136/30
74-97-5	Bromochloromethane	ND		55.4	61.2	110	55.4	56.5	102	8	58-130/30
75-27-4	Bromodichloromethane	ND		55.4	64.2	116	55.4	59.6	108	7	47-130/30
75-25-2	Bromoform	ND		55.4	53.6	97	55.4	50.1	90	7	33-130/30
104-51-8	n-Butylbenzene	ND		55.4	58.2	105	55.4	49.9	90	15	5-168/30
135-98-8	sec-Butylbenzene	ND		55.4	60.8	110	55.4	52.5	95	15	12-149/30
98-06-6	tert-Butylbenzene	ND		55.4	59.7	108	55.4	53.2	96	12	20-147/30
75-15-0	Carbon disulfide	ND		55.4	65.8	119	55.4	59.3	107	10	37-143/30
56-23-5	Carbon tetrachloride	ND		55.4	74.8	135	55.4	67.5	122	10	37-136/30
108-90-7	Chlorobenzene	ND		55.4	57.1	103	55.4	54.3	98	5	26-130/30
75-00-3	Chloroethane	ND		55.4	63.9	115	55.4	62.5	113	2	43-148/30
110-75-8	2-Chloroethyl vinyl ether	ND		55.4	42.9	77	55.4	46.8	84	9	56-134/30
67-66-3	Chloroform	ND		55.4	65.9	119	55.4	60.5	109	9	56-130/30
95-49-8	o-Chlorotoluene	ND		55.4	58.8	106	55.4	52.8	95	11	5-202/30
106-43-4	p-Chlorotoluene	ND		55.4	56.5	102	55.4	51.8	93	9	5-227/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		55.4	52.8	95	55.4	47.0	85	12	7-187/30
124-48-1	Dibromochloromethane	ND		55.4	56.1	101	55.4	54.0	97	4	41-130/30
106-93-4	1,2-Dibromoethane	ND		55.4	53.9	97	55.4	52.8	95	2	51-132/30
95-50-1	o-Dichlorobenzene	ND		55.4	50.7	91	55.4	44.9	81	12	12-139/30
541-73-1	m-Dichlorobenzene	ND		55.4	54.9	99	55.4	49.2	89	11	13-139/30
106-46-7	p-Dichlorobenzene	ND		55.4	52.9	95	55.4	48.2	87	9	13-136/30
75-71-8	Dichlorodifluoromethane	ND		55.4	61.7	111	55.4	57.9	104	6	26-173/30
75-34-3	1,1-Dichloroethane	ND		55.4	62.8	113	55.4	58.6	106	7	58-130/30
107-06-2	1,2-Dichloroethane	ND		55.4	66.9	121	55.4	59.5	107	12	59-130/30
75-35-4	1,1-Dichloroethylene	ND		55.4	65.9	119	55.4	60.6	109	8	55-130/30
156-59-2	cis-1,2-Dichloroethylene	ND		55.4	62.2	112	55.4	57.3	103	8	55-130/30
156-60-5	trans-1,2-Dichloroethylene	ND		55.4	65.3	118	55.4	59.0	106	10	49-130/30
78-87-5	1,2-Dichloropropane	ND		55.4	58.5	106	55.4	55.1	99	6	59-130/30
142-28-9	1,3-Dichloropropane	ND		55.4	55.7	100	55.4	53.6	97	4	55-130/30
594-20-7	2,2-Dichloropropane	ND		55.4	73.9	133	55.4	66.7	120	10	43-136/30
563-58-6	1,1-Dichloropropene	ND		55.4	65.6	118	55.4	62.2	112	5	42-132/30
10061-01-5	cis-1,3-Dichloropropene	ND		55.4	53.4	96	55.4	51.5	93	4	40-133/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
DA7701-6MS	5V49033.D	1	08/03/18	GO	n/a	n/a	V5V2625
DA7701-6MSD	5V49034.D	1	08/03/18	GO	n/a	n/a	V5V2625
DA7701-6	5V49045.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	DA7701-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		55.4	53.5	97	55.4	52.5	95	2	40-130/30
100-41-4	Ethylbenzene	ND		55.4	60.9	110	55.4	55.9	101	9	25-144/30
87-68-3	Hexachlorobutadiene	ND		55.4	45.4	82	55.4	36.9	67	21	5-153/30
591-78-6	2-Hexanone	ND		277	262	95	277	253	91	3	43-149/30
98-82-8	Isopropylbenzene	ND		55.4	63.0	114	55.4	56.8	102	10	21-143/30
99-87-6	p-Isopropyltoluene	ND		55.4	60.4	109	55.4	52.2	94	15	12-151/30
74-83-9	Methyl bromide	ND		55.4	61.7	111	55.4	60.8	110	1	5-167/30
1634-04-4	Methyl Tert Butyl Ether	ND		55.4	62.1	112	55.4	56.0	101	10	66-130/30
74-87-3	Methyl chloride	ND		55.4	59.9	108	55.4	59.3	107	1	34-162/30
74-95-3	Methylene bromide	ND		55.4	60.1	108	55.4	56.1	101	7	55-130/30
75-09-2	Methylene chloride	ND		55.4	61.3	111	55.4	55.3	100	10	58-130/30
78-93-3	Methyl ethyl ketone	ND		277	308	111	277	285	103	8	41-169/30
108-10-1	4-Methyl-2-pentanone	ND		277	268	97	277	243	88	10	54-147/30
91-20-3	Naphthalene	ND		55.4	45.2	82	55.4	37.3	67	19	5-164/30
103-65-1	n-Propylbenzene	ND		55.4	61.4	111	55.4	55.4	100	10	21-144/30
100-42-5	Styrene	ND		55.4	56.1	101	55.4	52.9	95	6	12-159/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		55.4	61.5	111	55.4	55.3	100	11	38-131/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		55.4	48.7	88	55.4	44.4	80	9	33-149/30
127-18-4	Tetrachloroethylene	ND		55.4	64.4	116	55.4	59.4	107	8	27-134/30
108-88-3	Toluene	ND		55.4	58.2	105	55.4	54.2	98	7	34-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		55.4	45.6	82	55.4	35.9	65	24	5-157/30
120-82-1	1,2,4-Trichlorobenzene	ND		55.4	47.4	86	55.4	38.4	69	21	5-164/30
71-55-6	1,1,1-Trichloroethane	ND		55.4	73.0	132* [a]	55.4	65.4	118	11	45-130/30
79-00-5	1,1,2-Trichloroethane	ND		55.4	55.4	100	55.4	52.6	95	5	30-152/30
79-01-6	Trichloroethylene	ND		55.4	64.3	116	55.4	58.4	105	10	31-147/30
75-69-4	Trichlorofluoromethane	ND		55.4	69.9	126	55.4	66.5	120	5	55-133/30
96-18-4	1,2,3-Trichloropropane	ND		55.4	47.7	86	55.4	49.2	89	3	51-134/30
95-63-6	1,2,4-Trimethylbenzene	ND		55.4	59.7	108	55.4	52.3	94	13	5-174/30
108-67-8	1,3,5-Trimethylbenzene	ND		55.4	62.0	112	55.4	54.8	99	12	26-138/30
108-05-4	Vinyl Acetate	ND		277	232	84	277	204	74	13	5-158/30
75-01-4	Vinyl chloride	ND		55.4	65.6	118	55.4	63.8	115	3	55-138/30
1330-20-7	Xylene (total)	ND		166	182	109	166	167	100	9	24-143/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
DA7701-6MS	5V49033.D	1	08/03/18	GO	n/a	n/a	V5V2625
DA7701-6MSD	5V49034.D	1	08/03/18	GO	n/a	n/a	V5V2625
DA7701-6	5V49045.D	1	08/03/18	GO	n/a	n/a	V5V2625

The QC reported here applies to the following samples: **Method:** SW846 8260B

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Surrogate Recoveries	MS	MSD	DA7701-6	Limits
1868-53-7	Dibromofluoromethane	108%	106%	108%	70-131%
2037-26-5	Toluene-D8	100%	101%	96%	70-130%
460-00-4	4-Bromofluorobenzene	102%	102%	102%	70-130%
17060-07-0	1,2-Dichloroethane-D4	103%	100%	101%	70-130%

(a) Outside control limits due to possible matrix interference.

* = Outside of Control Limits.

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49040.D
Acq On : 3 Aug 2018 9:24 pm
Operator : gabrielo
Sample : da7701-1
Misc : MS11266,V5V2625,5.04,,,5,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 06 12:09:12 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	324785	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.119	114	539743	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	441839	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	211947	50.00	ppb	0.00

System Monitoring Compounds						
35) Dibromofluoromethane	5.267	113	194028	55.27	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 110.54%			
41) 1,2-Dichloroethane-d4	5.632	102	36318	52.99	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.98%			
56) Toluene-d8	7.676	98	552446	52.31	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 104.62%			
76) 4-Bromofluorobenzene	10.225	95	184574	53.99	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 107.98%			

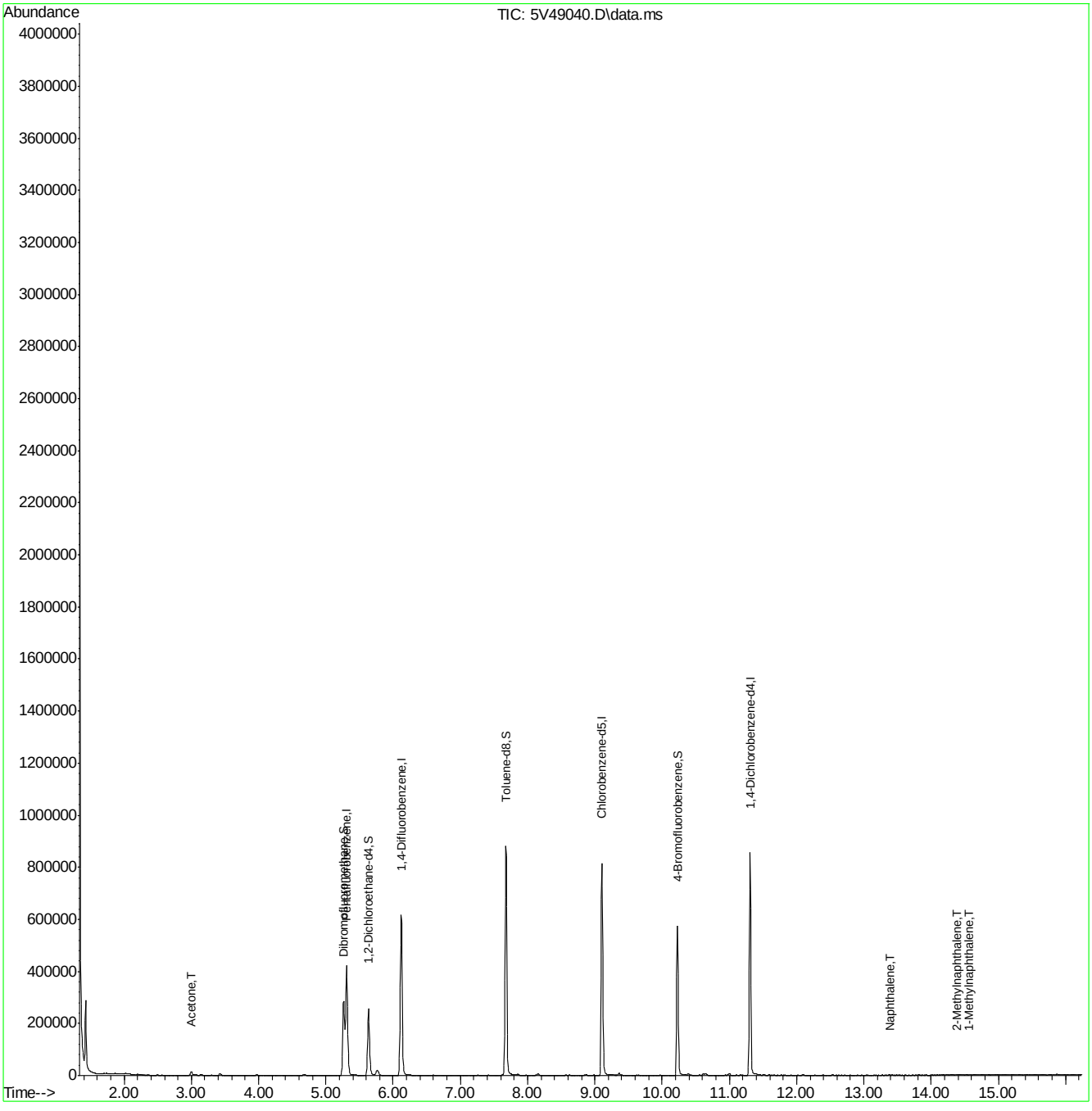
Target Compounds						Qvalue
14) Acetone	2.998	43	23159	13.04	ppb	80
19) Tert-Butyl Alcohol	3.527	59	119	Below Cal	#	51
62) 2-Hexanone	8.327	43	368	Below Cal	#	37
71) Amyl Acetate	9.921	43	118	Below Cal	#	19
95) Naphthalene	13.389	128	1137	1.00	ppb #	72
98) 2-Methylnaphthalene	14.386	142	636	1.18	ppb	90
99) 1-Methylnaphthalene	14.569	142	499	0.76	ppb #	78

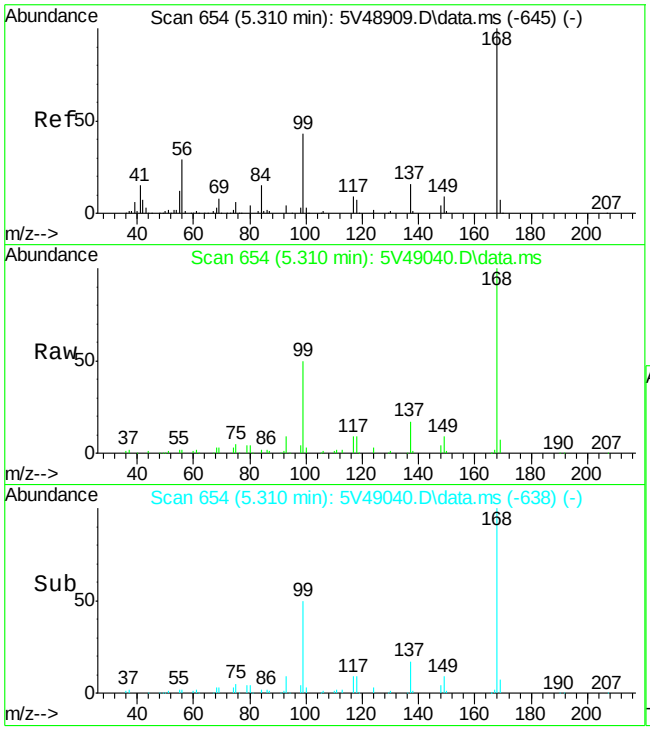
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49040.D
Acq On : 3 Aug 2018 9:24 pm
Operator : gabrielo
Sample : da7701-1
Misc : MS11266,V5V2625,5.04,,,5,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 06 12:09:12 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

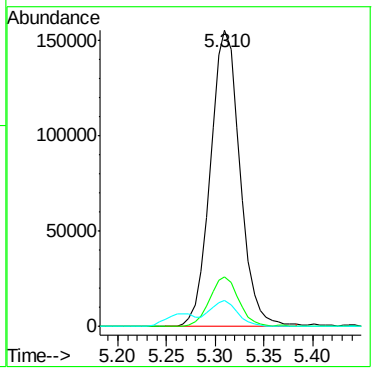


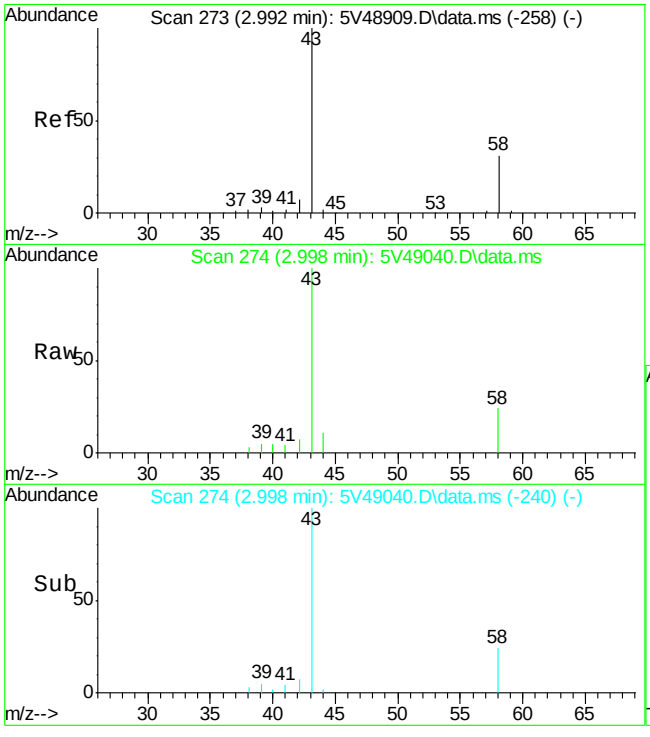


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:168 Resp: 324785

Ion	Ratio	Lower	Upper
168	100		
137	16.2	0.0	35.6
93	8.6	0.0	27.3

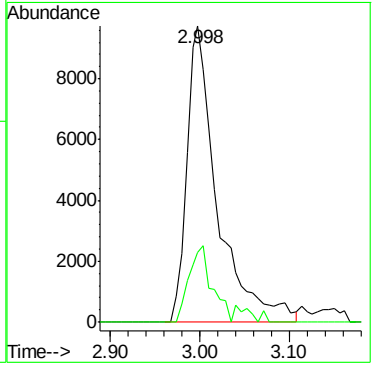


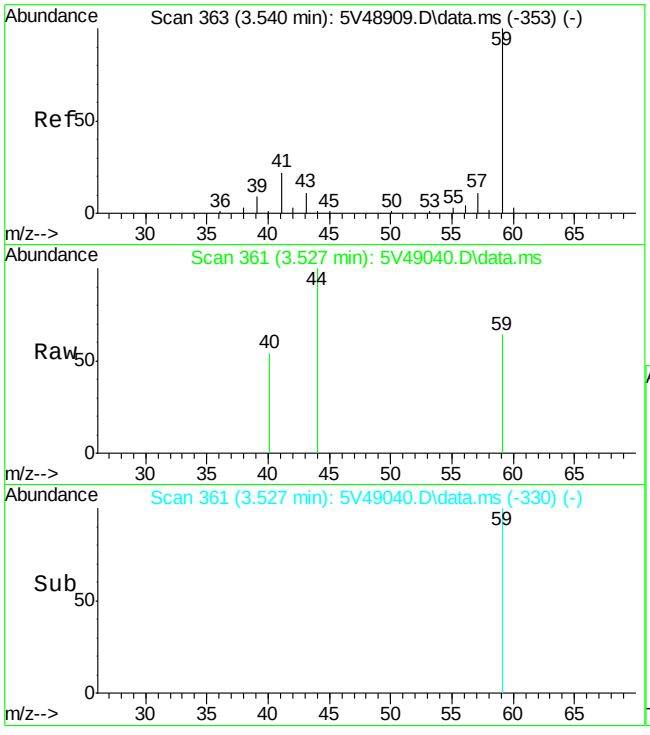


#14
Acetone
Concen: 13.04 ppb
RT: 2.998 min Scan# 274
Delta R.T. 0.006 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion: 43 Resp: 23159

Ion	Ratio	Lower	Upper
43	100		
58	19.3	10.3	50.3

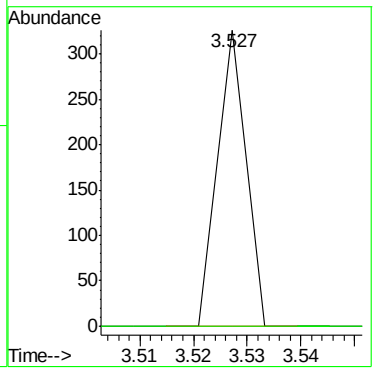


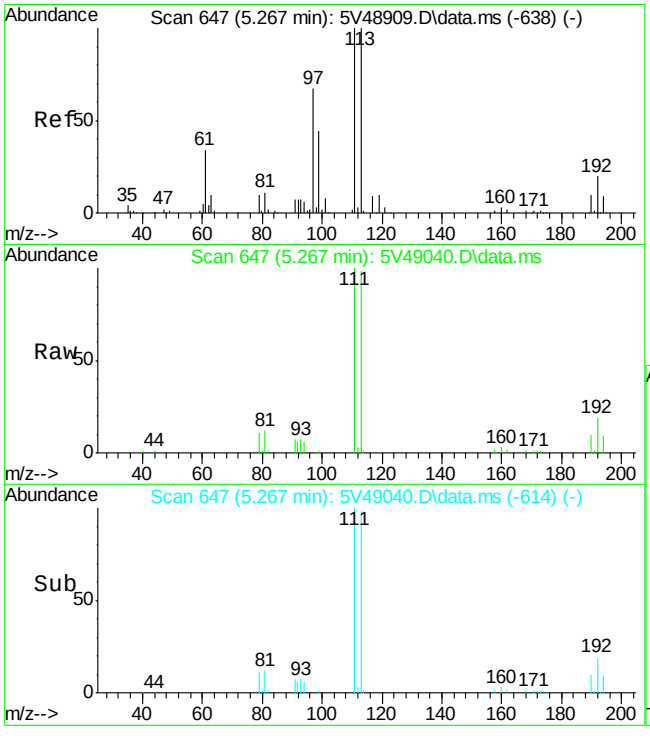


#19
Tert-Butyl Alcohol
Concen: Below Cal
RT: 3.527 min Scan# 361
Delta R.T. -0.012 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion: 59 Resp: 119

Ion	Ratio	Lower	Upper
59	100		
41	0.0	3.9	43.9#

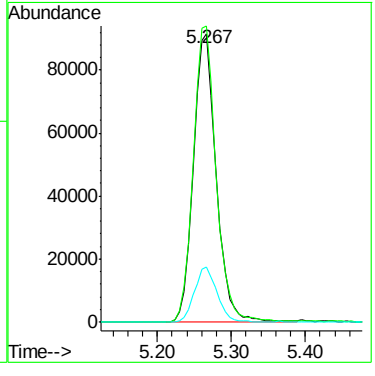


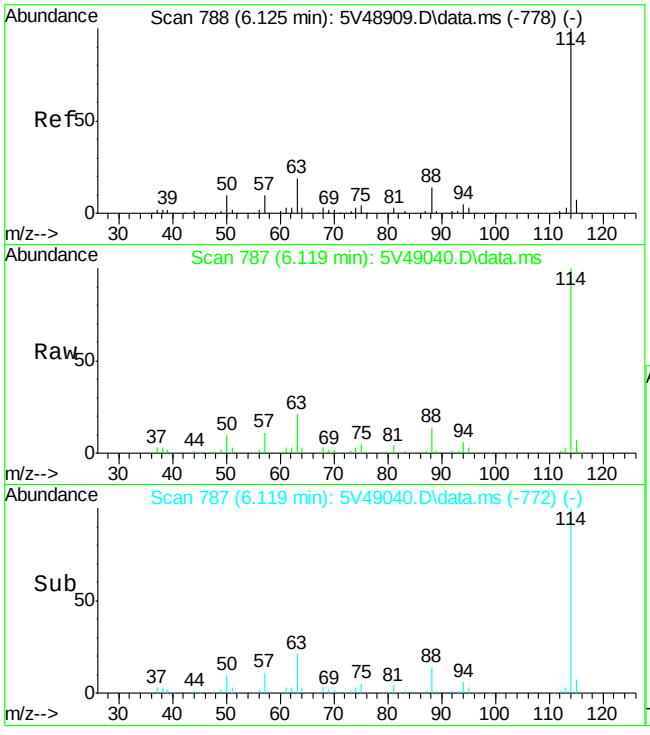


#35
Dibromofluoromethane
Concen: 55.27 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:113 Resp: 194028

Ion	Ratio	Lower	Upper
113	100		
111	103.6	83.2	123.2
192	18.7	0.0	39.4

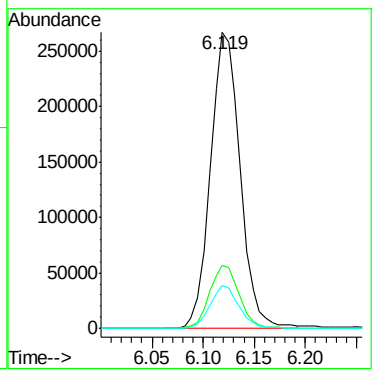


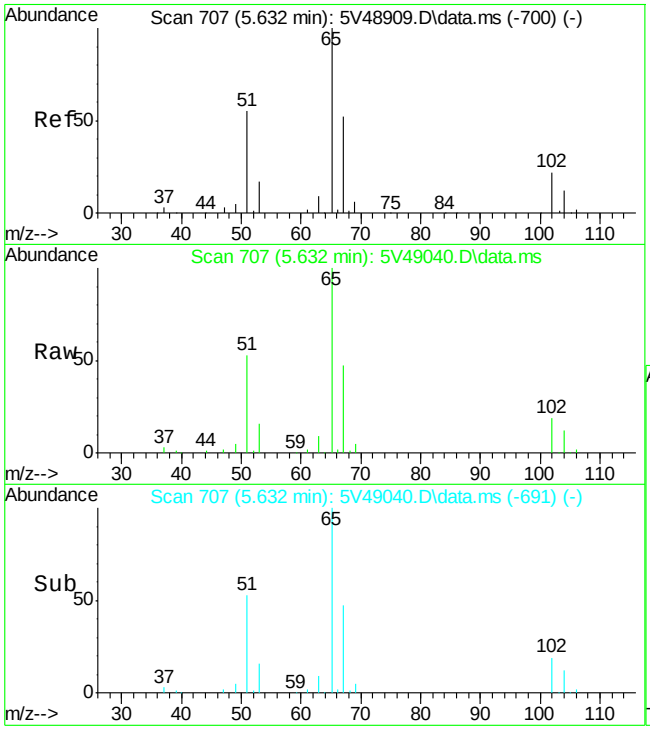


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.119 min Scan# 787
Delta R.T. -0.006 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:114 Resp: 539743

Ion	Ratio	Lower	Upper
114	100		
63	21.1	0.2	40.2
88	14.0	0.0	34.0

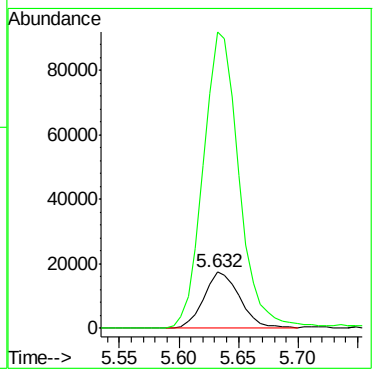


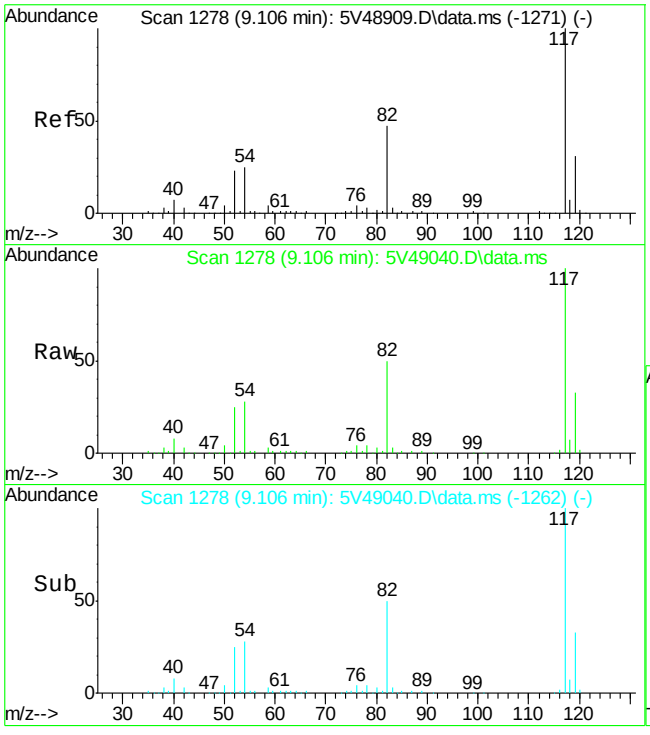


#41
1,2-Dichloroethane-d4
Concen: 52.99 ppb
RT: 5.632 min Scan# 707
Delta R.T. -0.000 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:102 Resp: 36318

Ion	Ratio	Lower	Upper
102	100		
65	525.7	459.5	499.5#

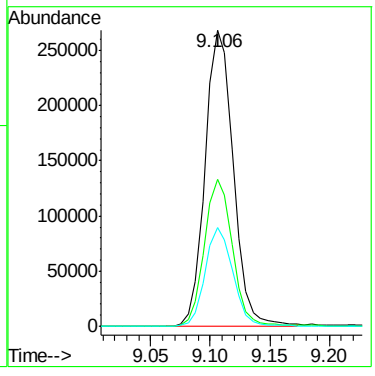


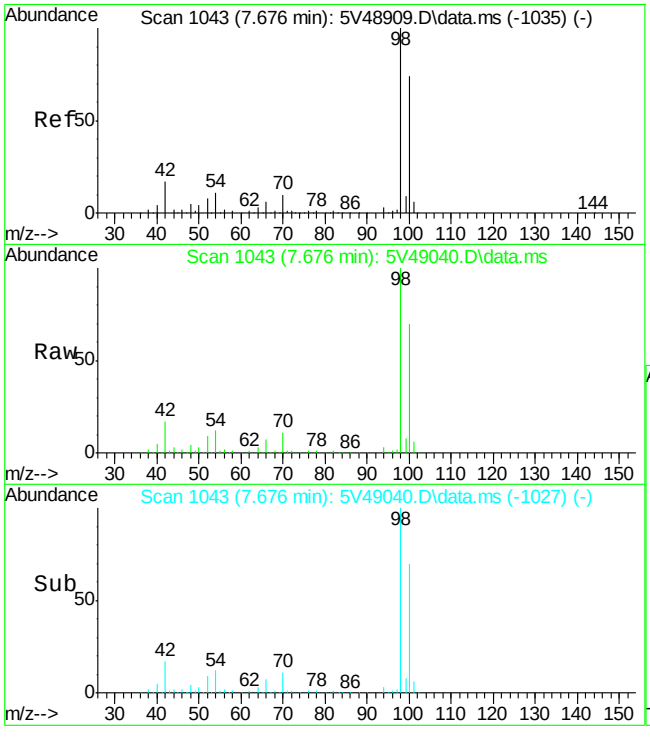


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:117 Resp: 441839

Ion	Ratio	Lower	Upper
117	100		
82	49.4	28.0	68.0
119	32.8	11.5	51.5

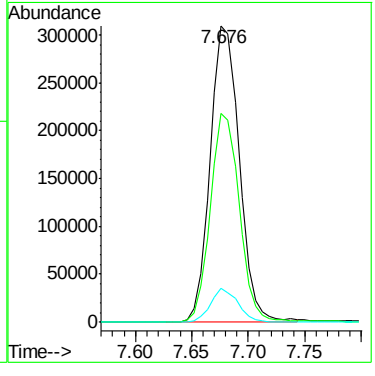


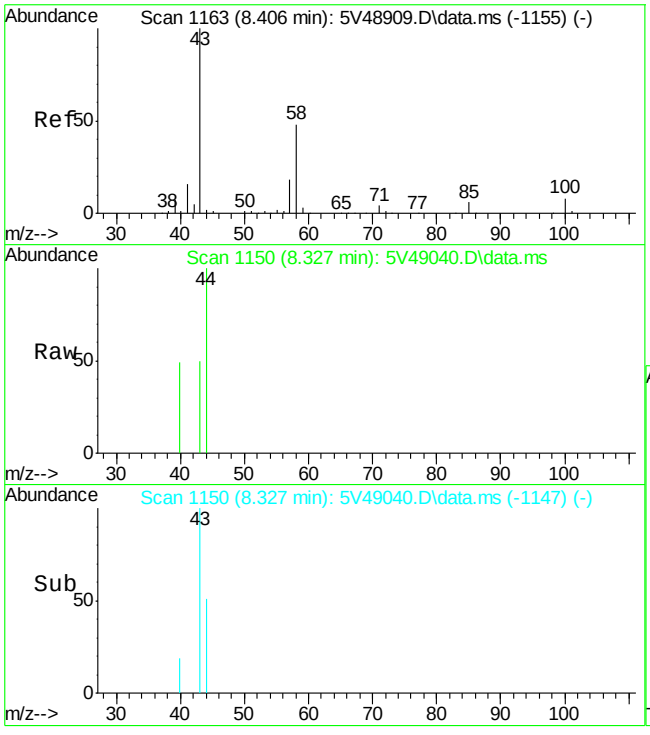


#56
Toluene-d8
Concen: 52.31 ppb
RT: 7.676 min Scan# 1043
Delta R.T. -0.000 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion: 98 Resp: 552446

Ion	Ratio	Lower	Upper
98	100		
100	70.1	51.5	91.5
70	10.6	0.0	30.2

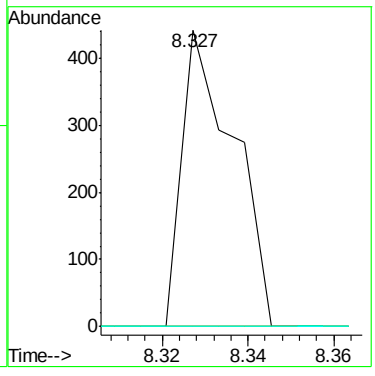


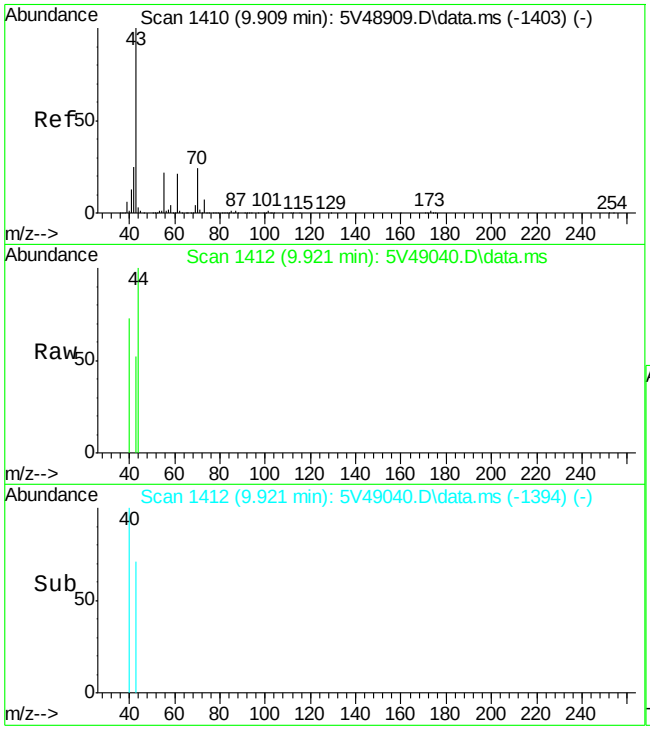


#62
2-Hexanone
Concen: Below Cal
RT: 8.327 min Scan# 1150
Delta R.T. -0.079 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion: 43 Resp: 368

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	0.0	0.0	37.3

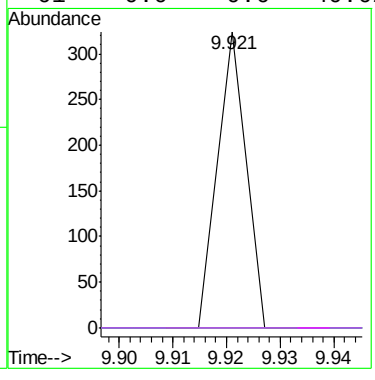


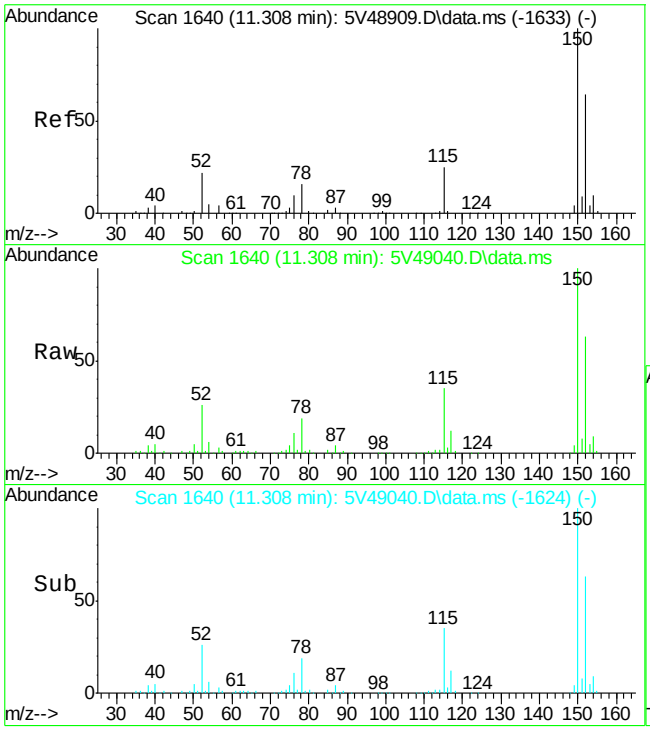


#71
Amyl Acetate
Concen: Below Cal
RT: 9.921 min Scan# 1412
Delta R.T. 0.012 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion: 43 Resp: 118

Ion	Ratio	Lower	Upper
43	100		
70	0.0	3.9	43.9#
55	93.2	2.0	42.0#
61	0.0	0.6	40.6#

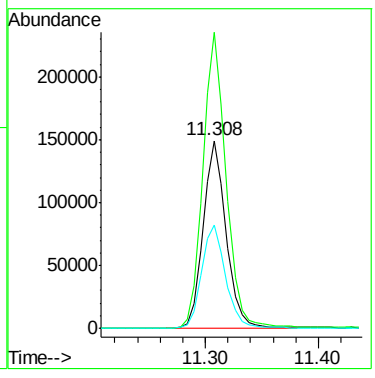


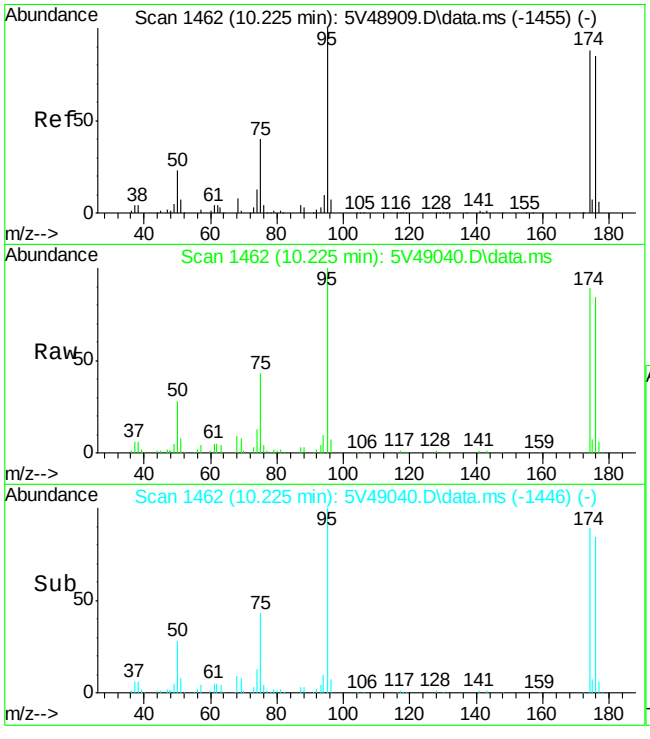


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:152 Resp: 211947

Ion	Ratio	Lower	Upper
152	100		
150	159.0	148.8	188.8
115	57.4	34.9	74.9

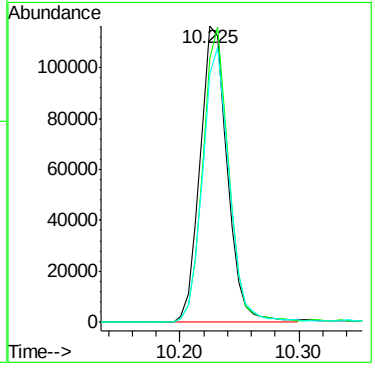


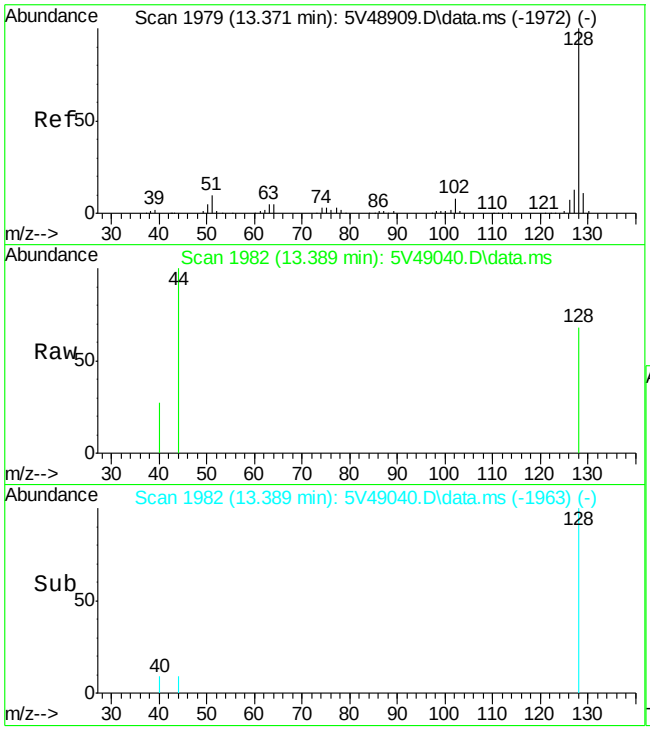


#76
4-Bromofluorobenzene
Concen: 53.99 ppb
RT: 10.225 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion: 95 Resp: 184574

Ion	Ratio	Lower	Upper
95	100		
174	94.7	74.4	114.4
176	90.6	71.3	111.3

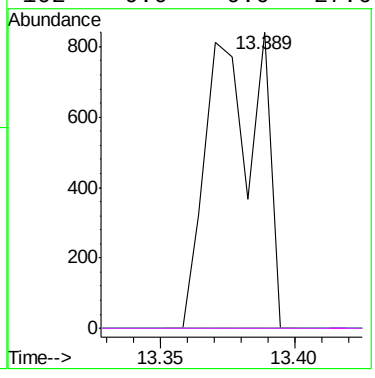


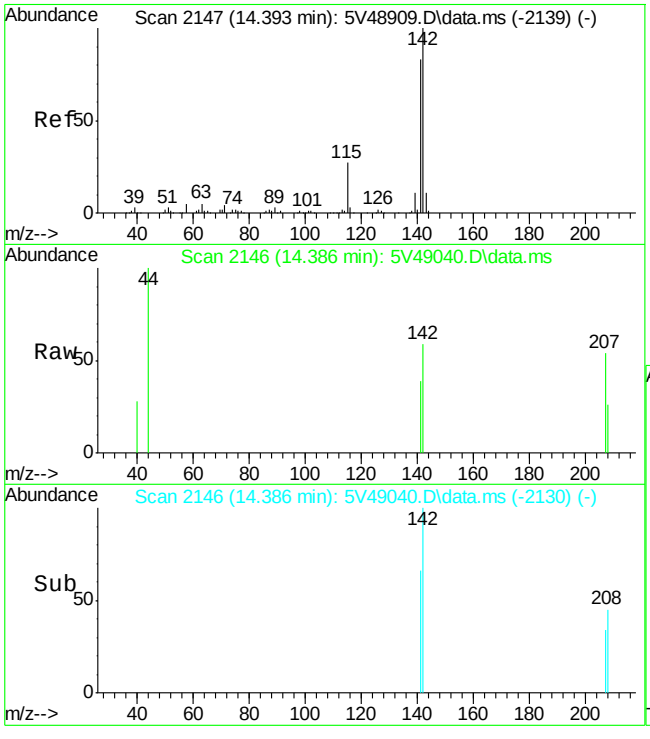


#95
Naphthalene
Concen: 1.00 ppb
RT: 13.389 min Scan# 1982
Delta R.T. 0.019 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:128 Resp: 1137

Ion	Ratio	Lower	Upper
128	100		
127	0.0	0.0	32.5
129	0.0	0.0	30.9
102	0.0	0.0	27.6

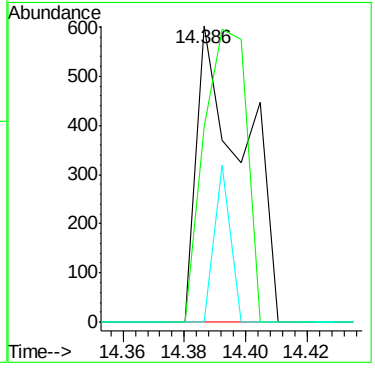


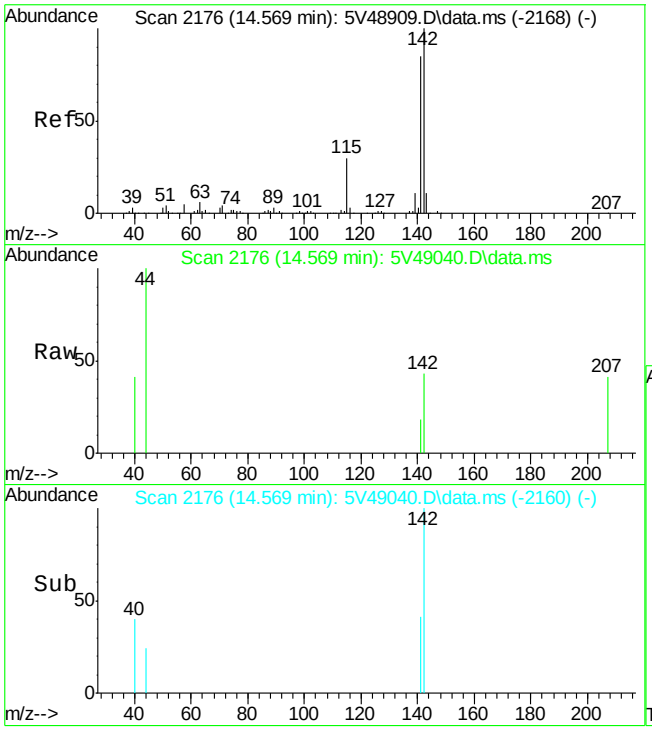


#98
2-Methylnaphthalene
Concen: 1.18 ppb
RT: 14.386 min Scan# 2146
Delta R.T. -0.006 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:142 Resp: 636

Ion	Ratio	Lower	Upper
142	100		
141	89.9	64.1	104.1
115	18.2	9.1	49.1

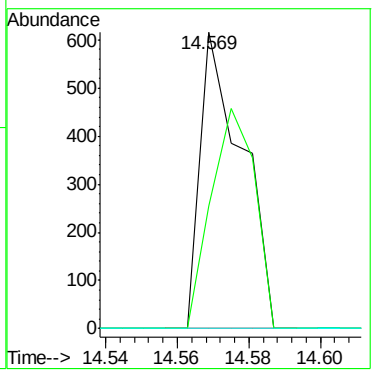




#99
1-Methylnaphthalene
Concen: 0.76 ppb
RT: 14.569 min Scan# 2176
Delta R.T. -0.000 min
Lab File: 5V49040.D
Acq: 3 Aug 2018 9:24 pm

Tgt Ion:142 Resp: 499

Ion	Ratio	Lower	Upper
142	100		
141	78.0	67.8	107.8
115	0.0	10.5	50.5#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49041.D
Acq On : 3 Aug 2018 9:49 pm
Operator : gabrielo
Sample : da7701-2
Misc : MS11266,V5V2625,5.02,,,5,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 06 12:10:04 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	324936	50.00 ppb	0.00
40) 1,4-Difluorobenzene	6.119	114	524854	50.00 ppb	0.00
55) Chlorobenzene-d5	9.106	117	465535	50.00 ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	263798	50.00 ppb	0.00

System Monitoring Compounds

35) Dibromofluoromethane	5.267	113	191671	54.57 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 109.14%		
41) 1,2-Dichloroethane-d4	5.632	102	34794	52.21 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 104.42%		
56) Toluene-d8	7.682	98	551655	49.57 ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 99.14%		
76) 4-Bromofluorobenzene	10.231	95	209947	49.34 ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 98.68%		

Target Compounds

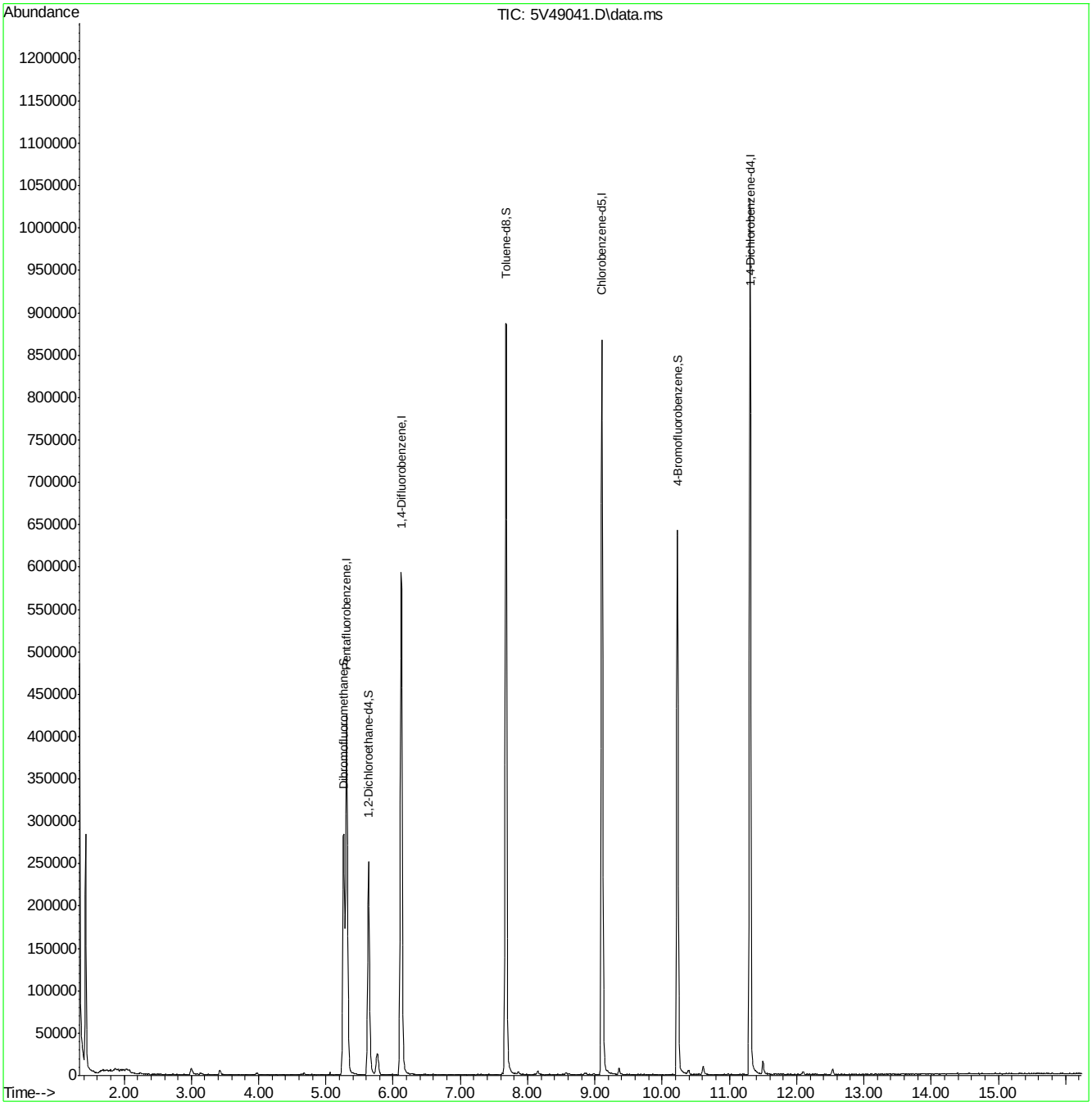
					Qvalue
9) Ethyl Alcohol	2.657	45	100	Below Cal #	44
19) Tert-Butyl Alcohol	3.533	59	114	Below Cal #	51
62) 2-Hexanone	8.449	43	96	Below Cal #	1

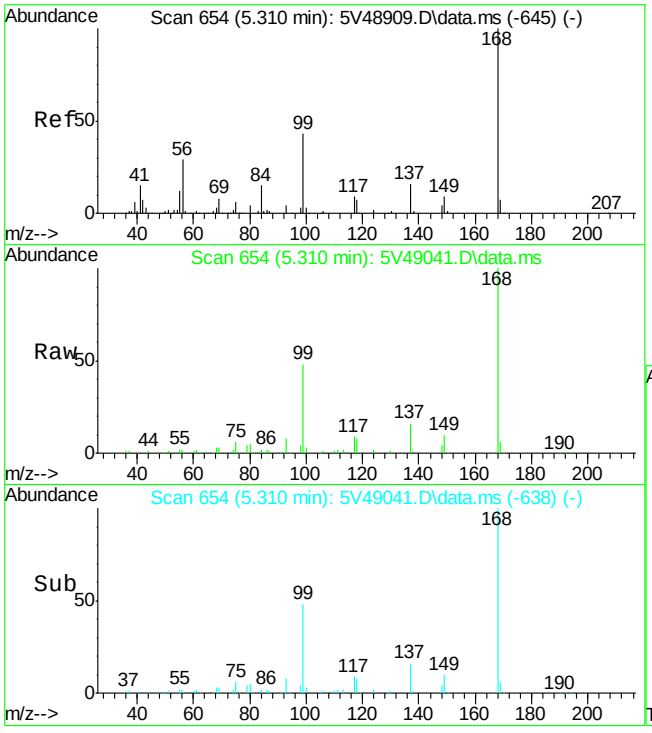
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49041.D
Acq On : 3 Aug 2018 9:49 pm
Operator : gabrielo
Sample : da7701-2
Misc : MS11266,V5V2625,5.02,,,5,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 06 12:10:04 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

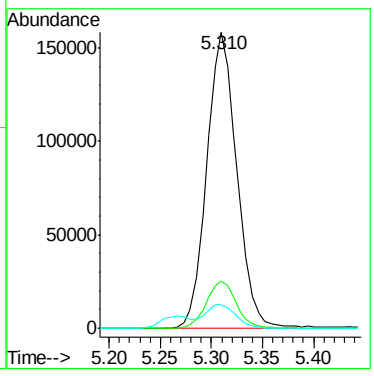


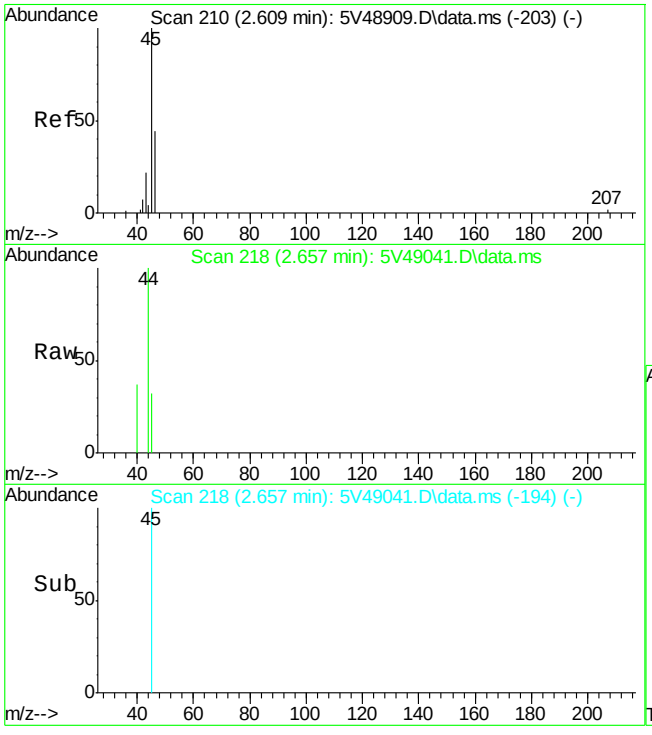


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion:168 Resp: 324936

Ion	Ratio	Lower	Upper
168	100		
137	15.8	0.0	35.6
93	7.8	0.0	27.3

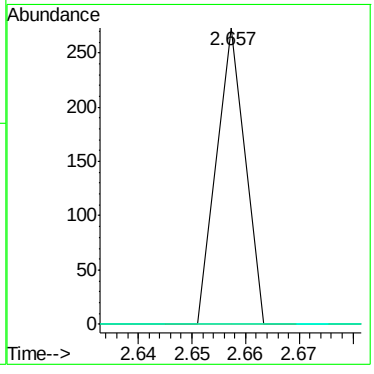


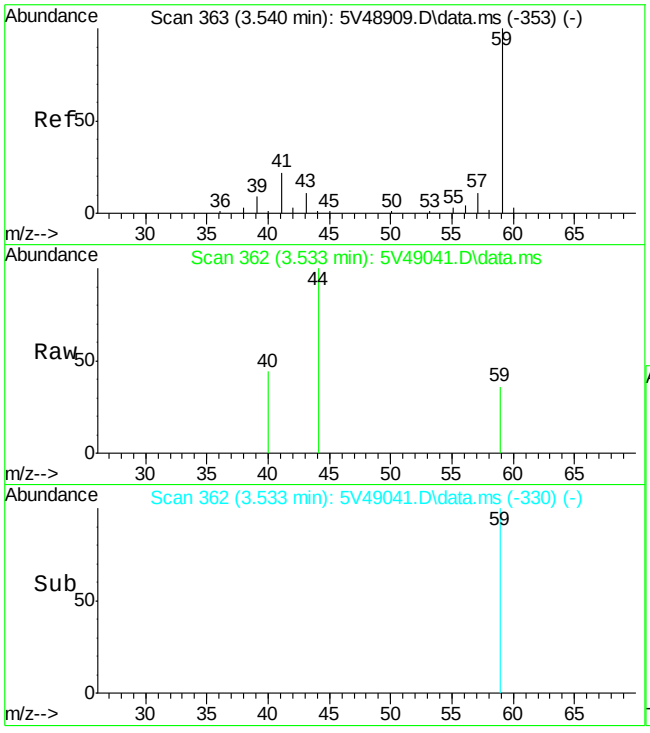


#9
Ethyl Alcohol
Concen: Below Cal
RT: 2.657 min Scan# 218
Delta R.T. 0.048 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion: 45 Resp: 100

Ion	Ratio	Lower	Upper
45	100		
46	0.0	17.2	57.2#
43	0.0	0.0	39.6

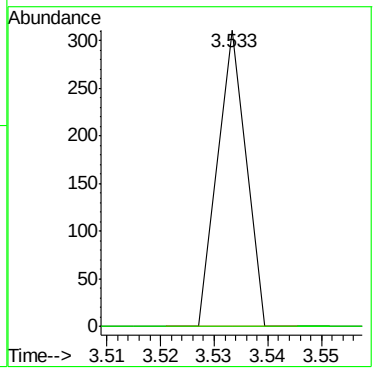


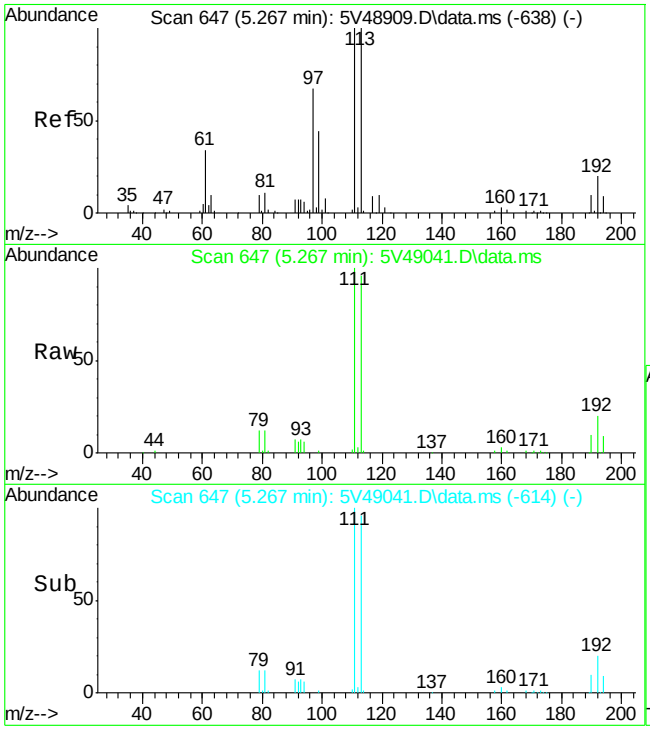


#19
Tert-Butyl Alcohol
Concen: Below Cal
RT: 3.533 min Scan# 362
Delta R.T. -0.006 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion: 59 Resp: 114

Ion	Ratio	Lower	Upper
59	100		
41	0.0	3.9	43.9#

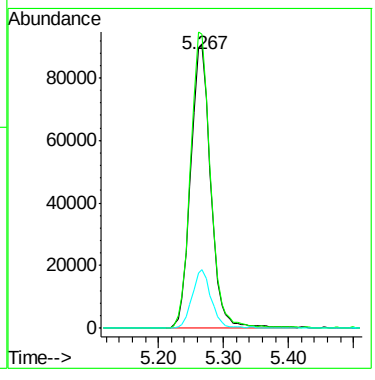


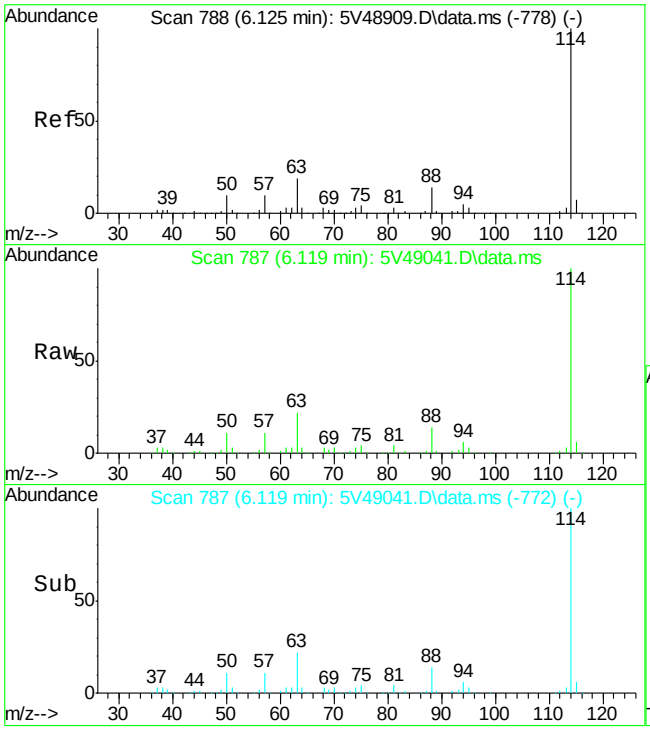


#35
Dibromofluoromethane
Concen: 54.57 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion:113 Resp: 191671

Ion	Ratio	Lower	Upper
113	100		
111	104.3	83.2	123.2
192	19.5	0.0	39.4

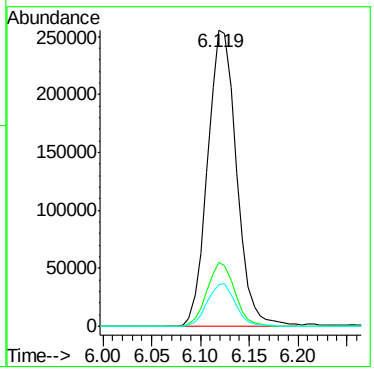


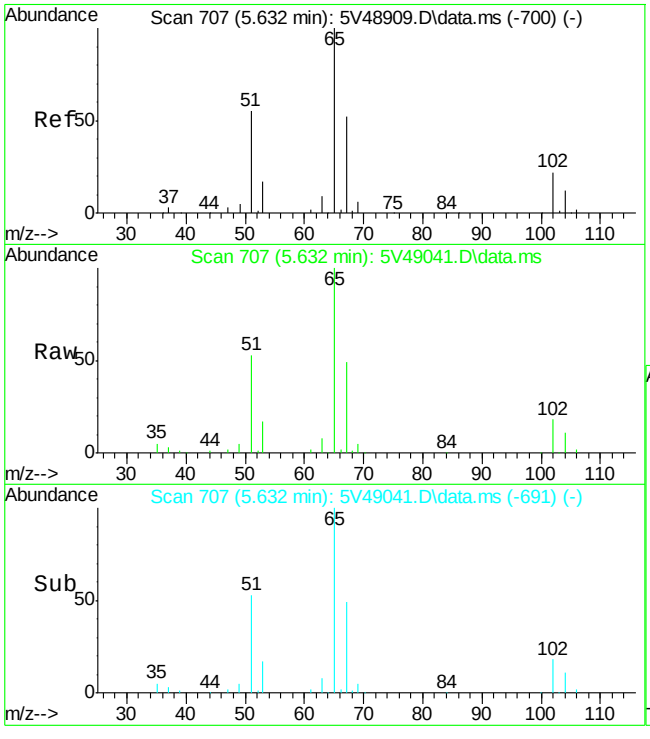


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.119 min Scan# 787
Delta R.T. -0.006 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion:114 Resp: 524854

Ion	Ratio	Lower	Upper
114	100		
63	20.9	0.2	40.2
88	13.9	0.0	34.0

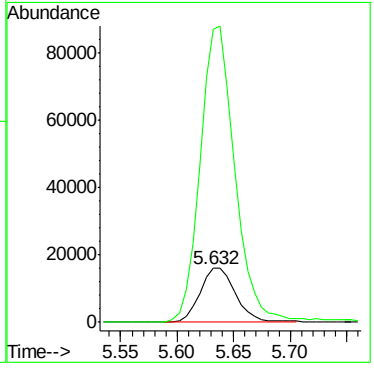


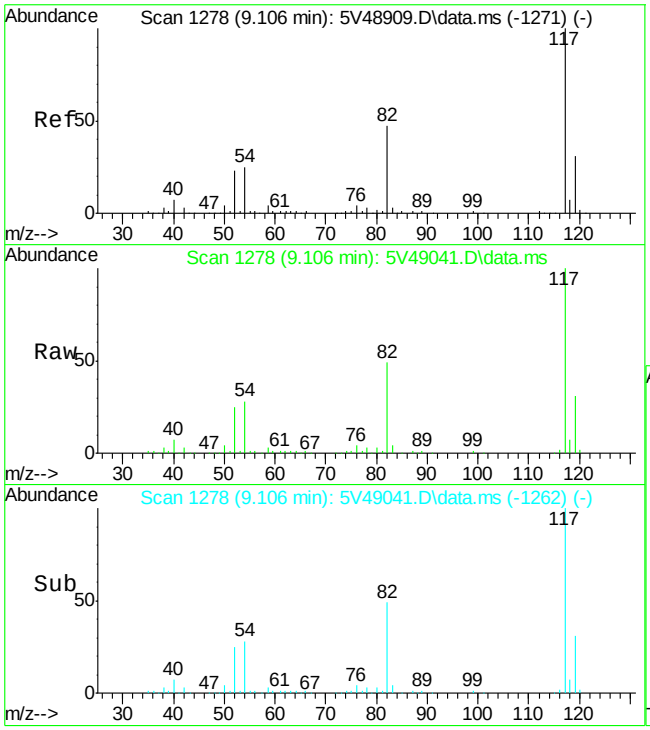


#41
1,2-Dichloroethane-d4
Concen: 52.21 ppb
RT: 5.632 min Scan# 707
Delta R.T. -0.000 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion:102 Resp: 34794

Ion	Ratio	Lower	Upper
102	100		
65	535.0	459.5	499.5#

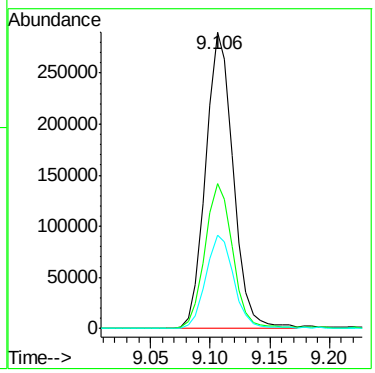


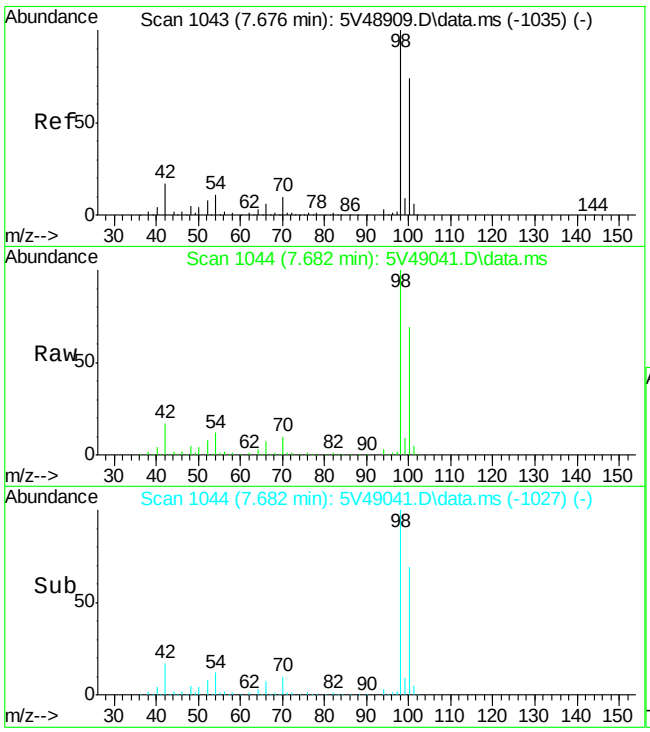


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion:117 Resp: 465535

Ion	Ratio	Lower	Upper
117	100		
82	49.3	28.0	68.0
119	31.7	11.5	51.5

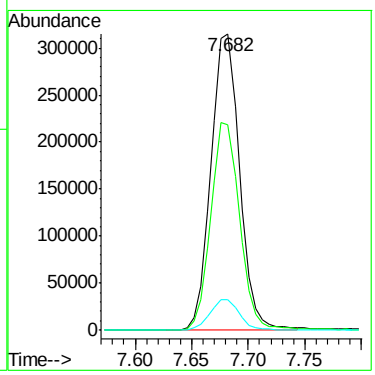


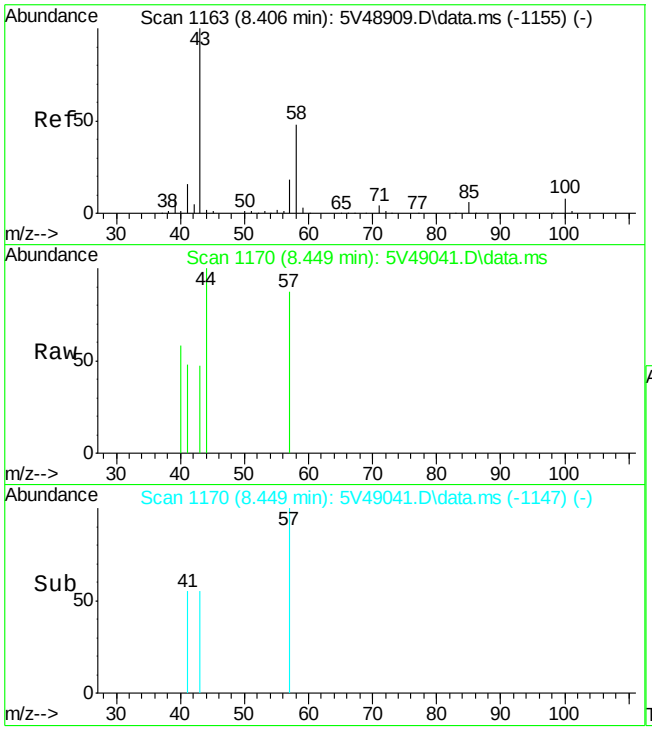


#56
Toluene-d8
Concen: 49.57 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion: 98 Resp: 551655

Ion	Ratio	Lower	Upper
98	100		
100	70.6	51.5	91.5
70	10.5	0.0	30.2

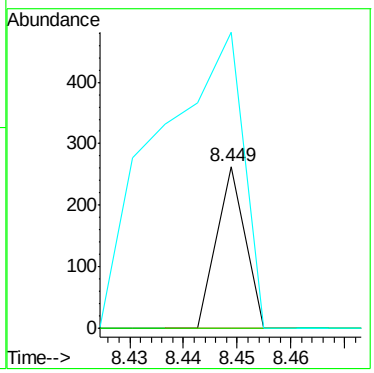


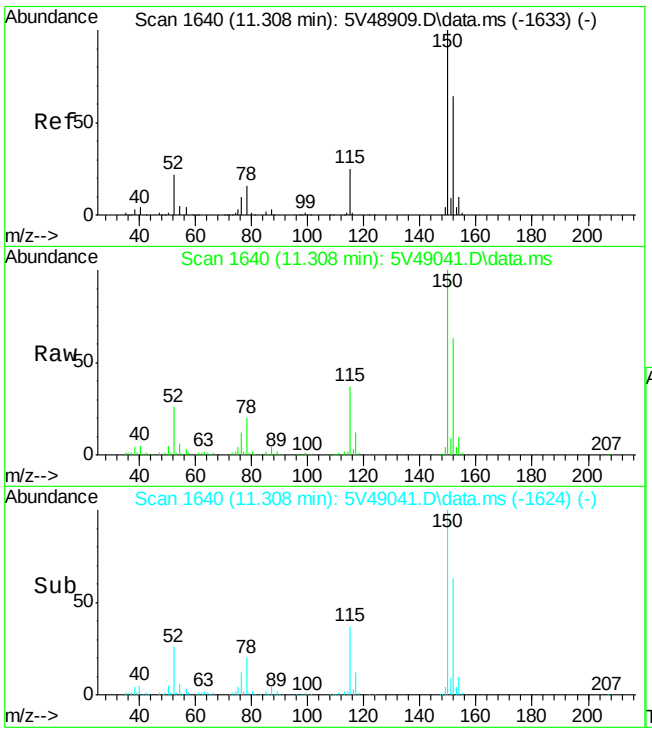


#62
2-Hexanone
Concen: Below Cal
RT: 8.449 min Scan# 1170
Delta R.T. 0.042 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion: 43 Resp: 96

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	554.2	0.0	37.3#

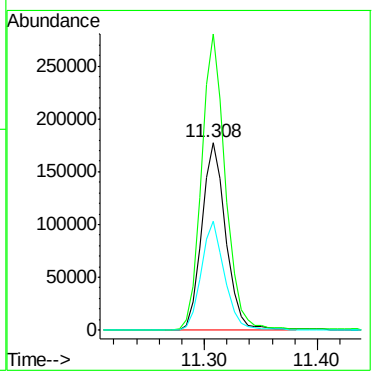


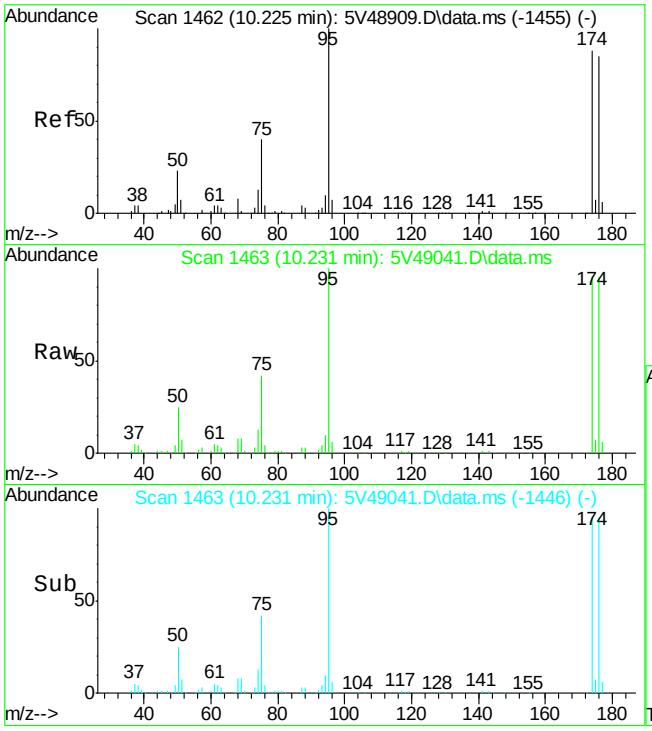


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion:152 Resp: 263798

Ion	Ratio	Lower	Upper
152	100		
150	156.9	148.8	188.8
115	56.7	34.9	74.9

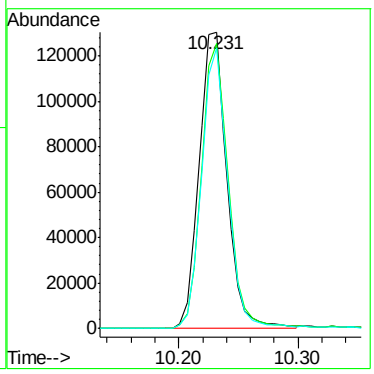




#76
4-Bromofluorobenzene
Concen: 49.34 ppb
RT: 10.231 min Scan# 1463
Delta R.T. 0.006 min
Lab File: 5V49041.D
Acq: 3 Aug 2018 9:49 pm

Tgt Ion: 95 Resp: 209947

Ion	Ratio	Lower	Upper
95	100		
174	92.7	74.4	114.4
176	89.5	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49042.D
Acq On : 3 Aug 2018 10:14 pm
Operator : gabrielo
Sample : da7701-3
Misc : MS11266,V5V2625,5.01,,,5,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 06 12:10:35 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	321502	50.00 ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	537420	50.00 ppb	0.00
55) Chlorobenzene-d5	9.106	117	460993	50.00 ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	232797	50.00 ppb	0.00

System Monitoring Compounds

35) Dibromofluoromethane 5.267 113 199023 57.27 ppb 0.00
Spiked Amount 50.000 Range 70 - 130 Recovery = 114.54%
41) 1,2-Dichloroethane-d4 5.632 102 36209 53.06 ppb 0.00
Spiked Amount 50.000 Range 70 - 130 Recovery = 106.12%
56) Toluene-d8 7.682 98 557228 50.57 ppb 0.00
Spiked Amount 50.000 Range 64 - 130 Recovery = 101.14%
76) 4-Bromofluorobenzene 10.231 95 198335 52.82 ppb 0.00
Spiked Amount 50.000 Range 62 - 131 Recovery = 105.64%

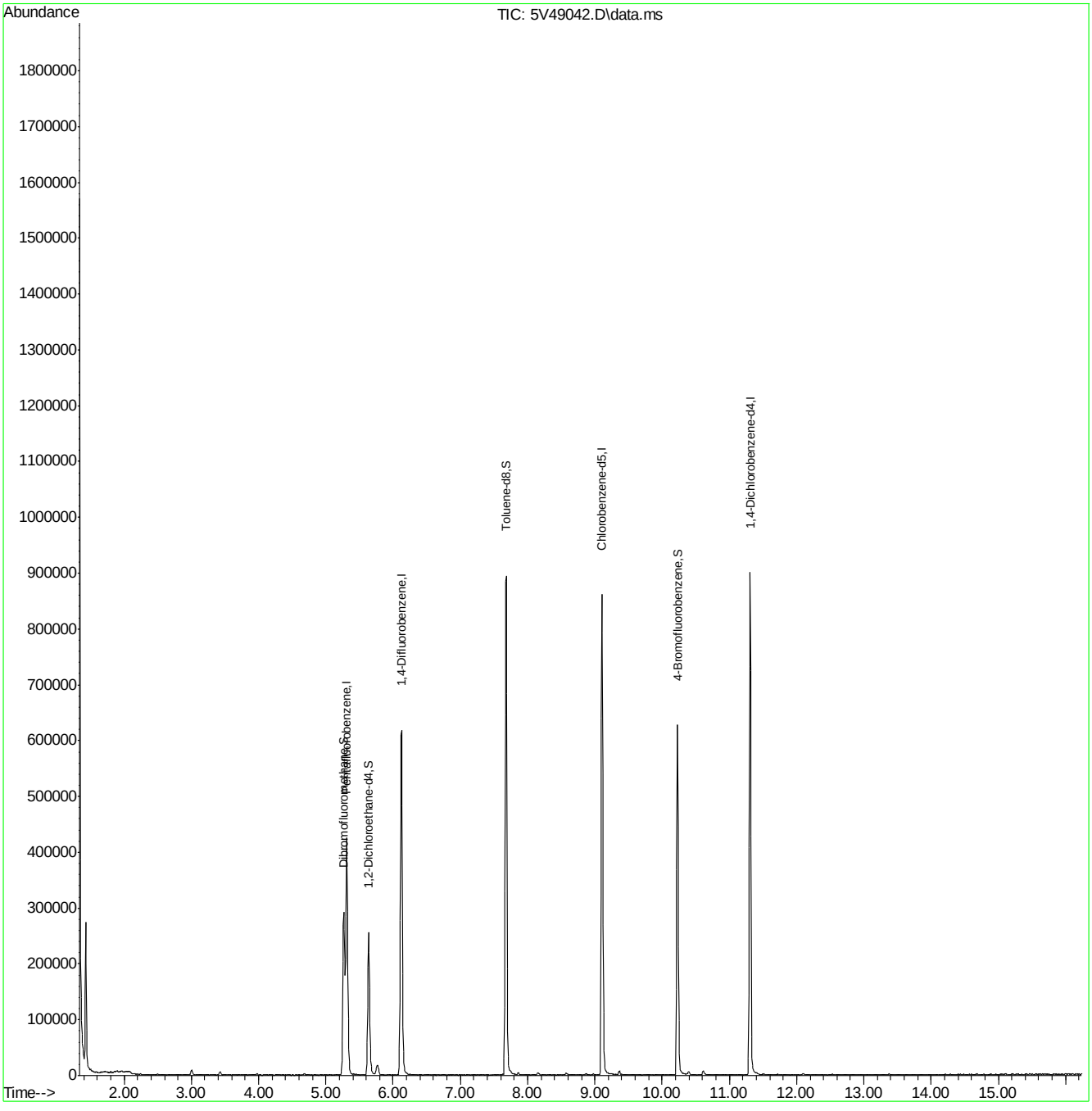
Target Compounds					Qvalue
62) 2-Hexanone	8.333	43	406	Below Cal #	37

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

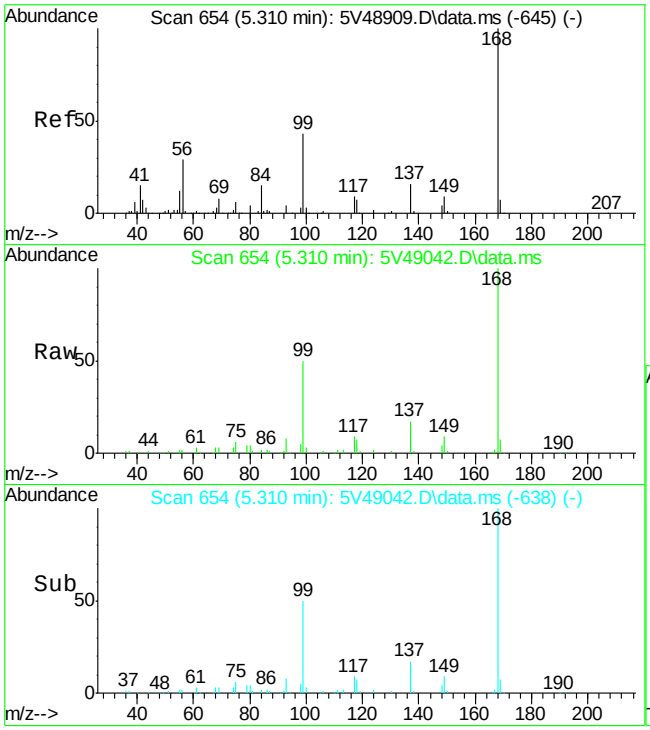
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49042.D
Acq On : 3 Aug 2018 10:14 pm
Operator : gabrielo
Sample : da7701-3
Misc : MS11266,V5V2625,5.01,,,5,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 06 12:10:35 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration



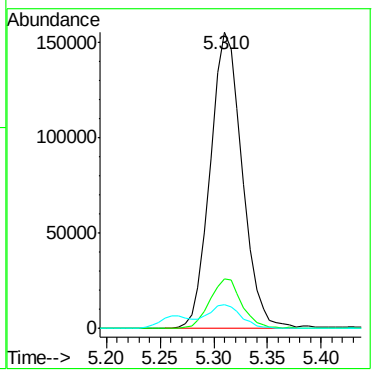
V5V2619soil.M Mon Aug 06 12:27:05 2018 VOA5 Page: 2

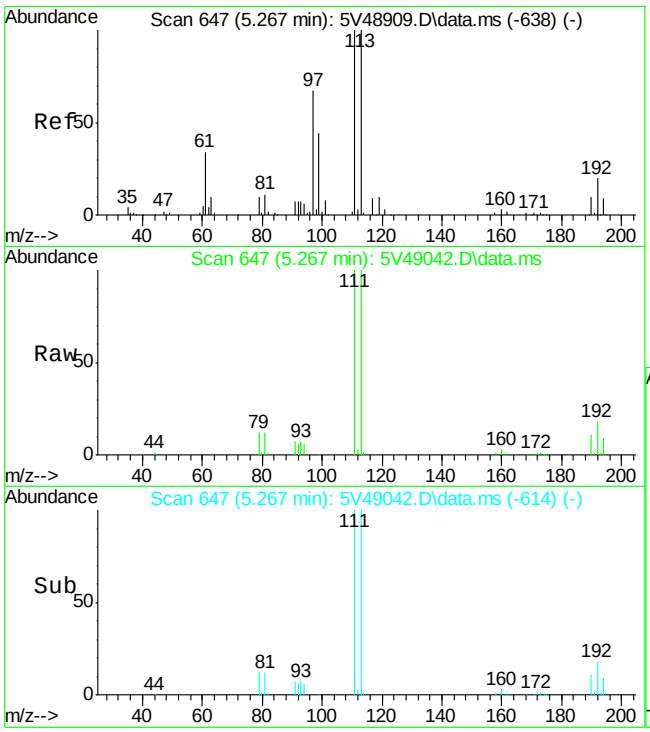


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion:168 Resp: 321502

Ion	Ratio	Lower	Upper
168	100		
137	16.6	0.0	35.6
93	8.6	0.0	27.3

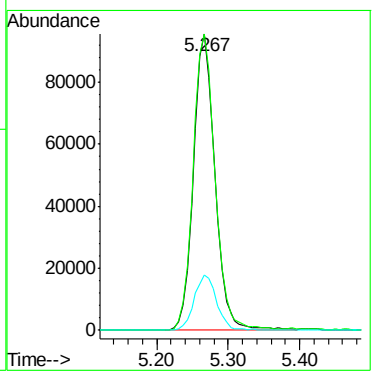


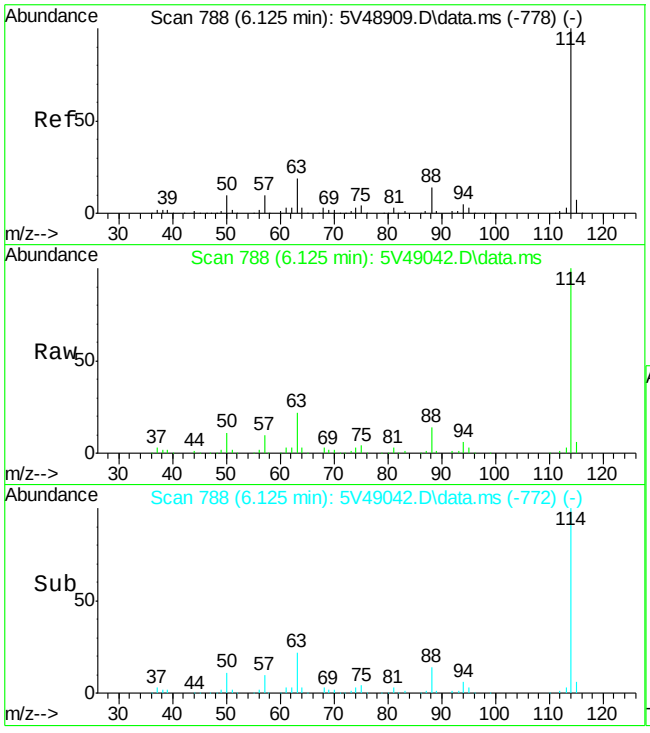


#35
Dibromofluoromethane
Concen: 57.27 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion:113 Resp: 199023

Ion	Ratio	Lower	Upper
113	100		
111	102.9	83.2	123.2
192	19.1	0.0	39.4

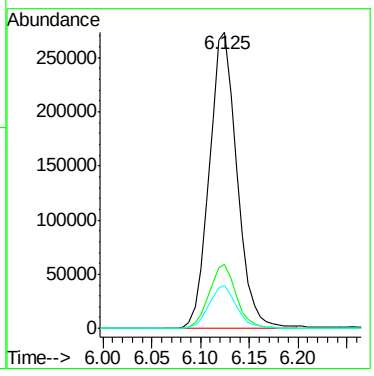


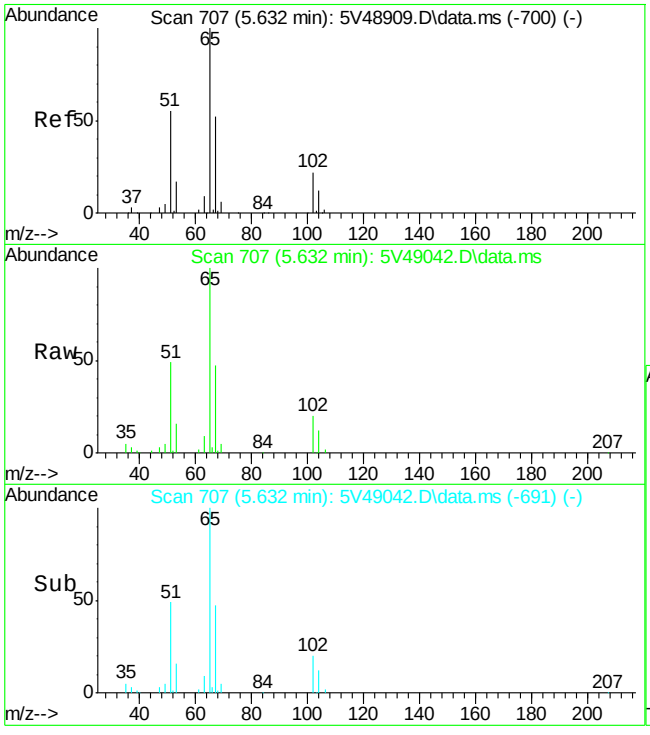


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion:114 Resp: 537420

Ion	Ratio	Lower	Upper
114	100		
63	21.2	0.2	40.2
88	14.2	0.0	34.0

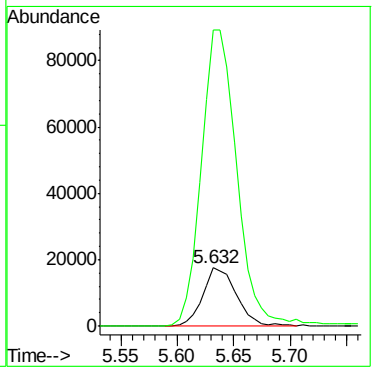


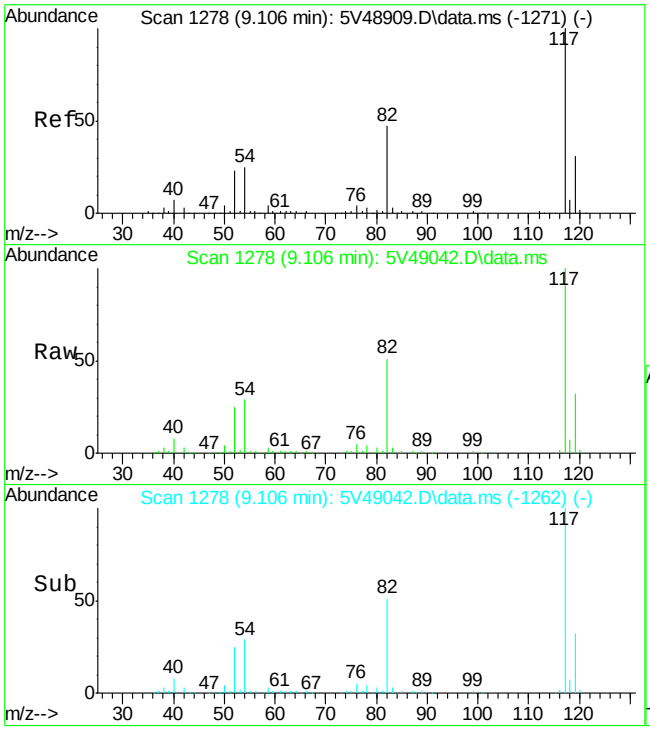


#41
1,2-Dichloroethane-d4
Concen: 53.06 ppb
RT: 5.632 min Scan# 707
Delta R.T. -0.000 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion:102 Resp: 36209

Ion	Ratio	Lower	Upper
102	100		
65	532.3	459.5	499.5#

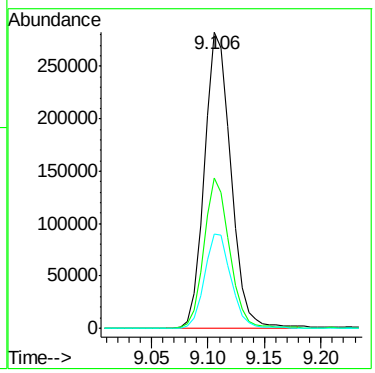


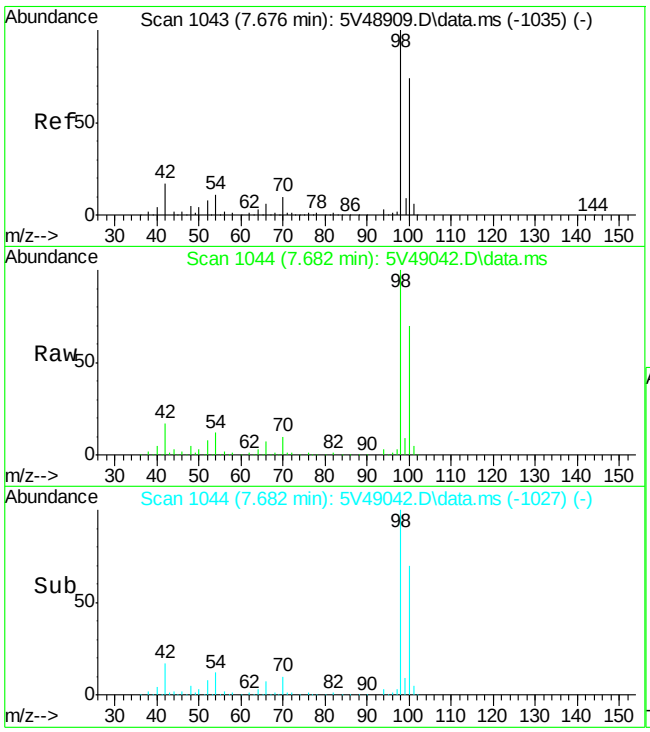


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion:117 Resp: 460993

Ion	Ratio	Lower	Upper
117	100		
82	49.3	28.0	68.0
119	32.1	11.5	51.5

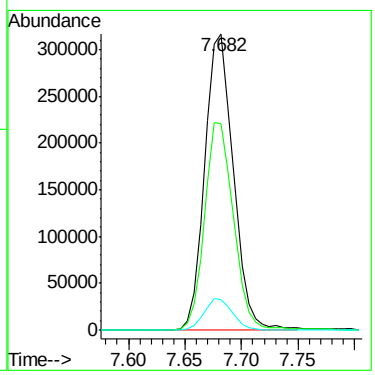


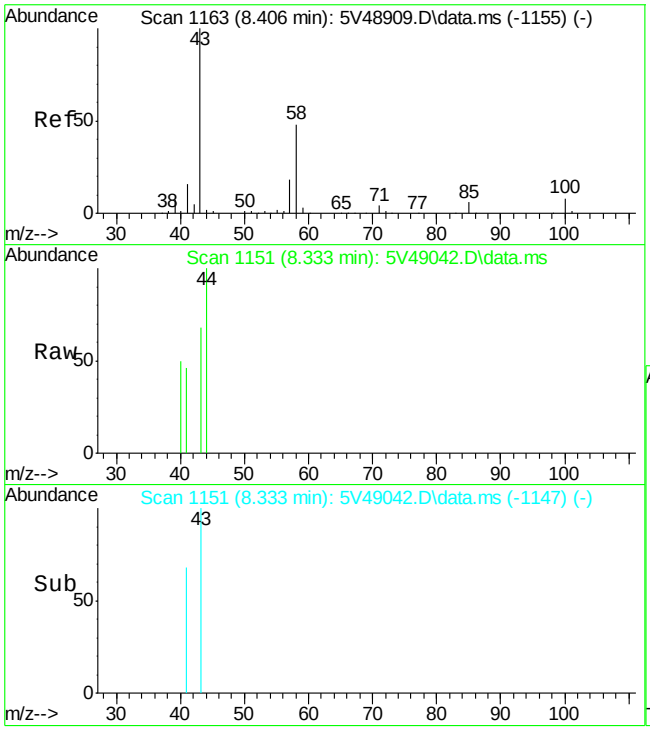


#56
Toluene-d8
Concen: 50.57 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion: 98 Resp: 557228

Ion	Ratio	Lower	Upper
98	100		
100	70.6	51.5	91.5
70	10.6	0.0	30.2

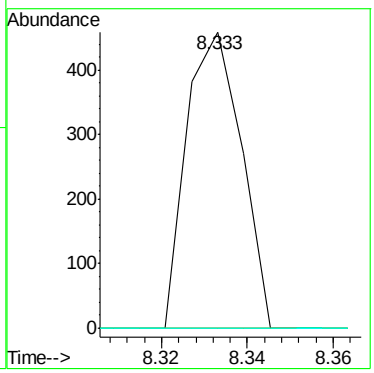


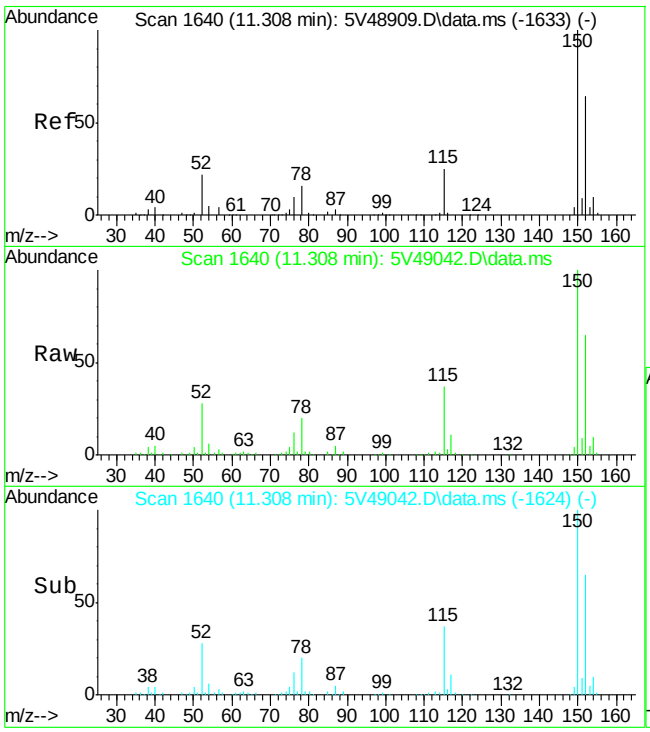


#62
2-Hexanone
Concen: Below Cal
RT: 8.333 min Scan# 1151
Delta R.T. -0.073 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion: 43 Resp: 406

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	0.0	0.0	37.3

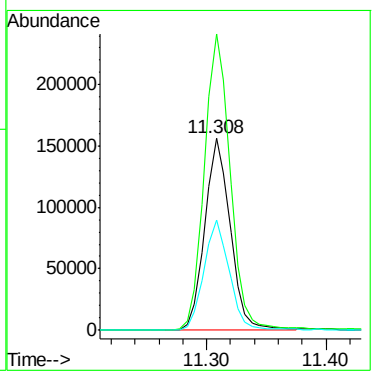


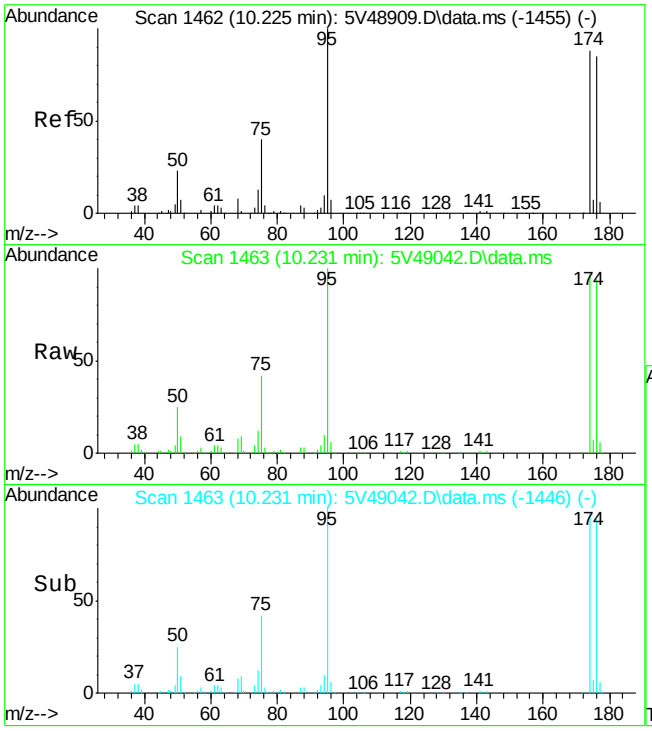


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion:152 Resp: 232797

Ion	Ratio	Lower	Upper
152	100		
150	156.4	148.8	188.8
115	56.8	34.9	74.9

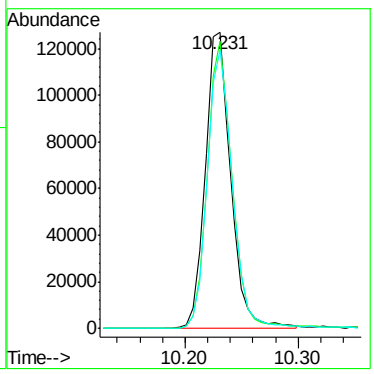




#76
4-Bromofluorobenzene
Concen: 52.82 ppb
RT: 10.231 min Scan# 1463
Delta R.T. 0.006 min
Lab File: 5V49042.D
Acq: 3 Aug 2018 10:14 pm

Tgt Ion: 95 Resp: 198335

Ion	Ratio	Lower	Upper
95	100		
174	93.7	74.4	114.4
176	91.9	71.3	111.3



7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49043.D
Acq On : 3 Aug 2018 10:39 pm
Operator : gabrielo
Sample : da7701-4
Misc : MS11266,V5V2625,5.03,,,5,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 06 12:11:41 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	319808	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	519789	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	453512	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	237117	50.00	ppb	0.00

System Monitoring Compounds

35) Dibromofluoromethane	5.267	113	198724	57.49	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 114.98%			
41) 1,2-Dichloroethane-d4	5.632	102	34175	51.78	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.56%			
56) Toluene-d8	7.682	98	536573	49.50	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 99.00%			
76) 4-Bromofluorobenzene	10.225	95	196192	51.30	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 102.60%			

Target Compounds

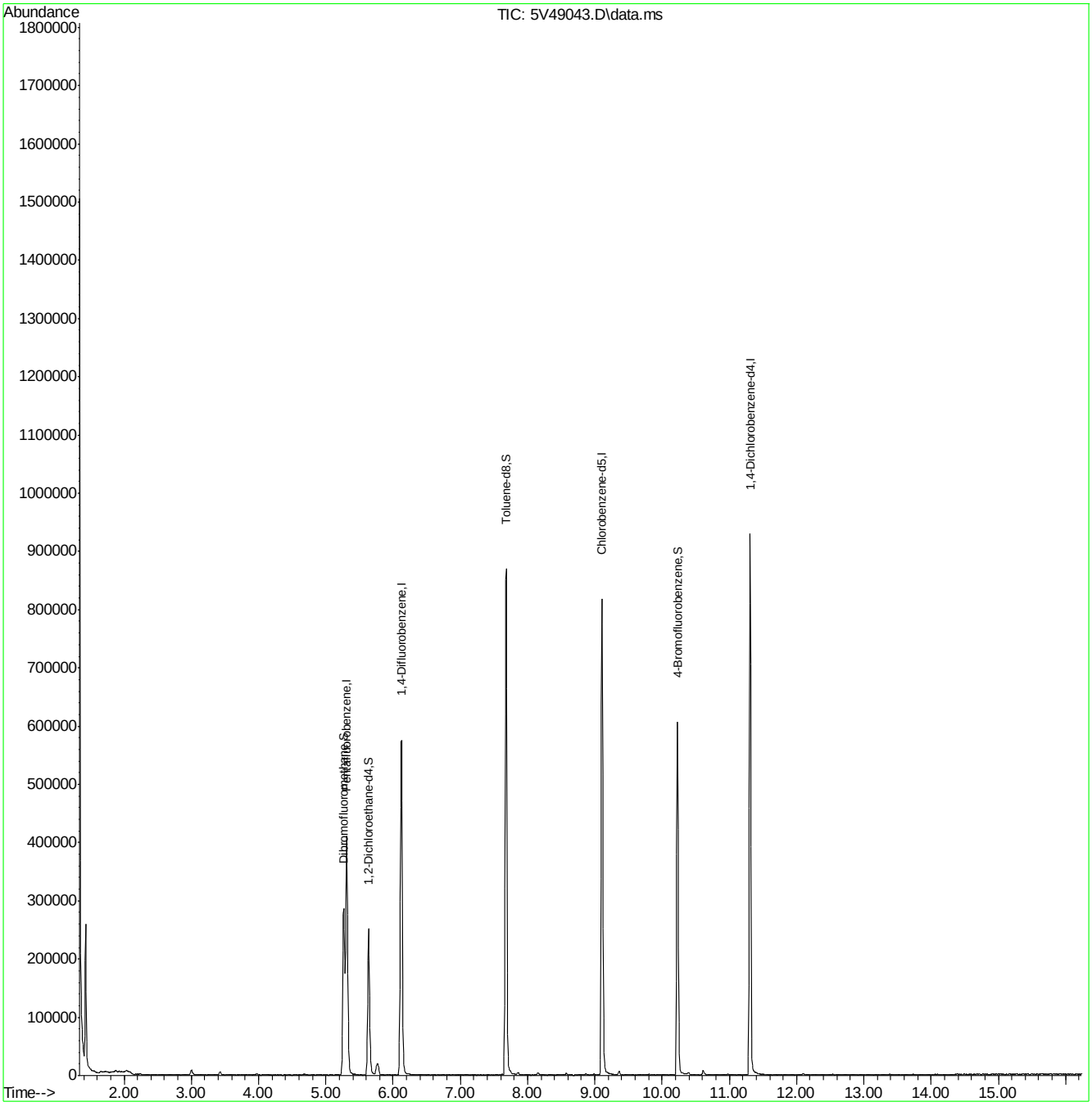
					Qvalue
62) 2-Hexanone	8.449	43	101	Below Cal	# 1

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

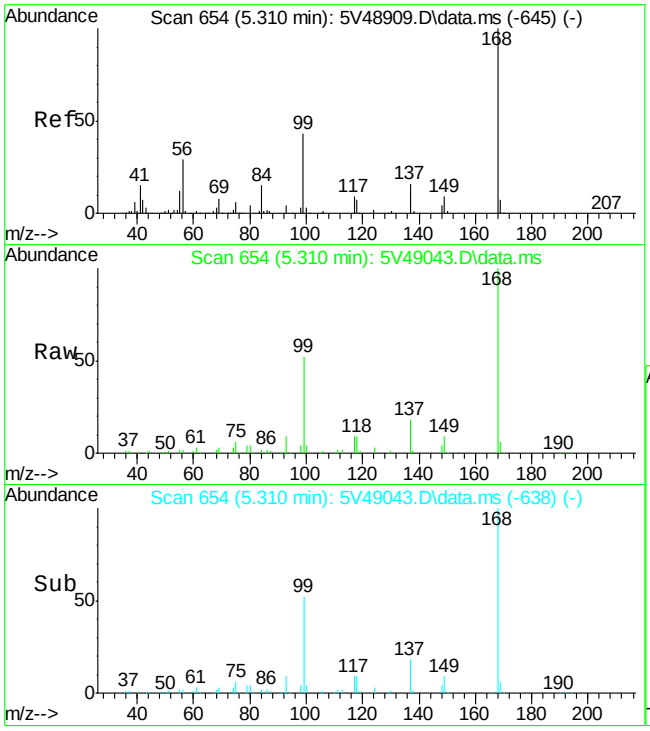
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49043.D
Acq On : 3 Aug 2018 10:39 pm
Operator : gabrielo
Sample : da7701-4
Misc : MS11266,V5V2625,5.03,,,5,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 06 12:11:41 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration



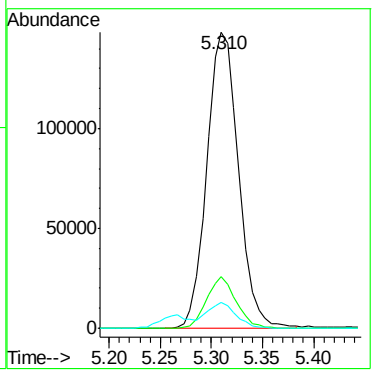
V5V2619soil.M Mon Aug 06 12:27:07 2018 VOA5 Page: 2

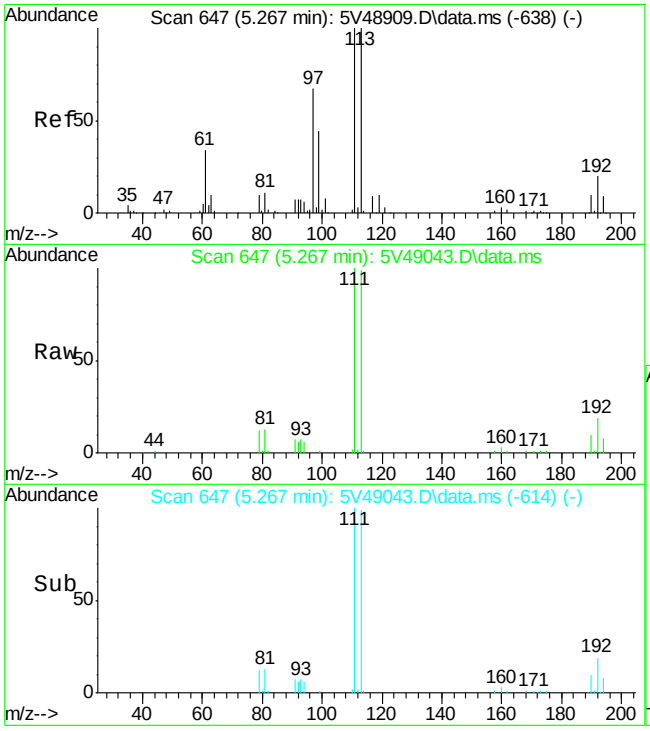


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

Tgt Ion:168 Resp: 319808

Ion	Ratio	Lower	Upper
168	100		
137	16.2	0.0	35.6
93	7.9	0.0	27.3

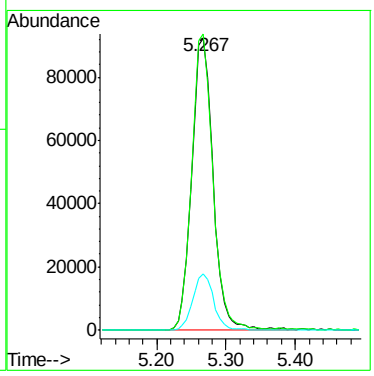


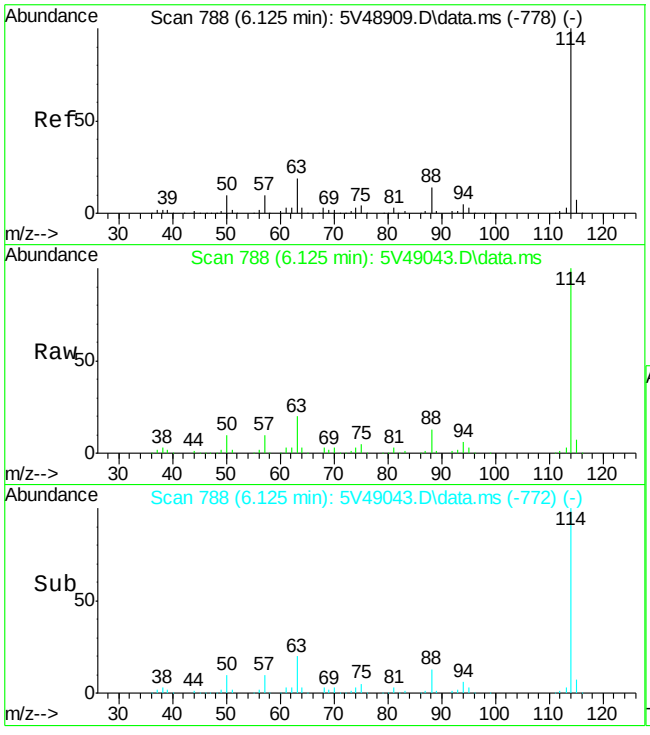


#35
Dibromofluoromethane
Concen: 57.49 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

Tgt Ion:113 Resp: 198724

Ion	Ratio	Lower	Upper
113	100		
111	100.7	83.2	123.2
192	18.7	0.0	39.4

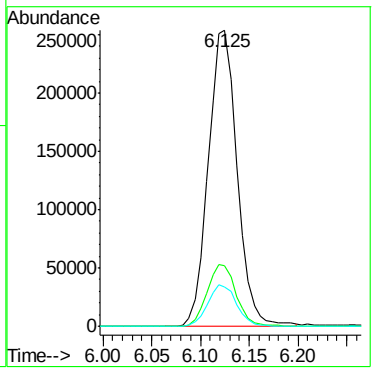


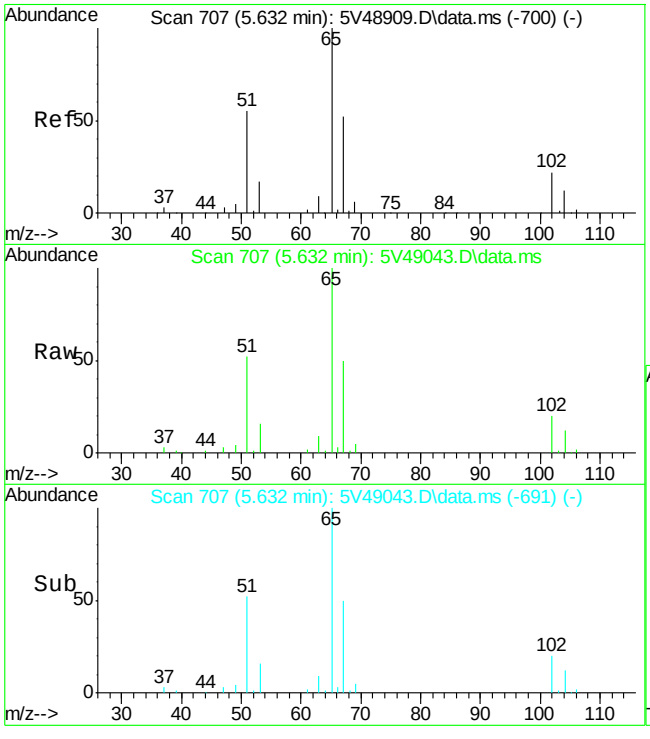


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

Tgt Ion:114 Resp: 519789

Ion	Ratio	Lower	Upper
114	100		
63	20.9	0.2	40.2
88	14.0	0.0	34.0

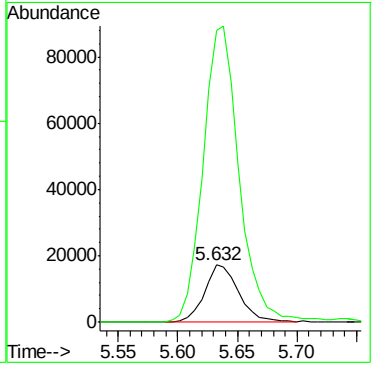


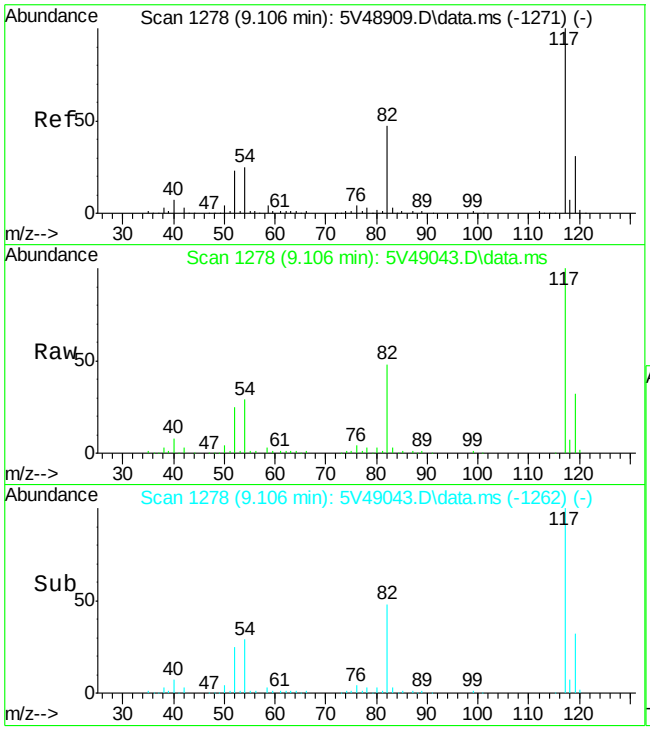


#41
1,2-Dichloroethane-d4
Concen: 51.78 ppb
RT: 5.632 min Scan# 707
Delta R.T. -0.000 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

Tgt Ion:102 Resp: 34175

Ion	Ratio	Lower	Upper
102	100		
65	545.9	459.5	499.5#

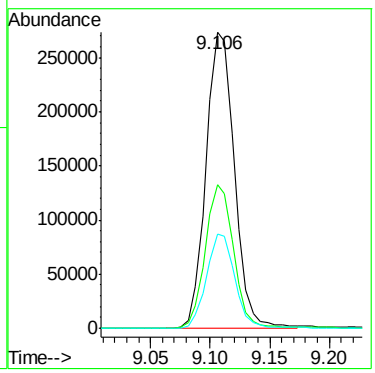


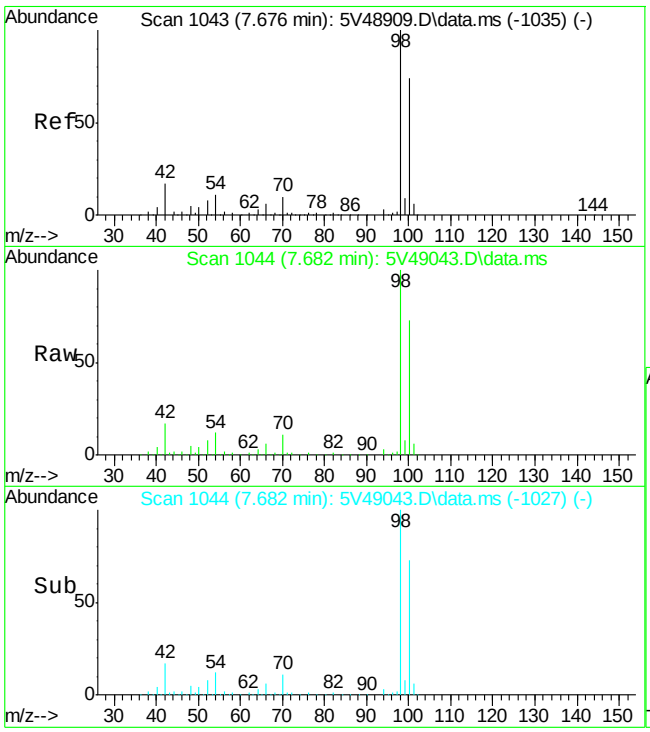


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

Tgt Ion:117 Resp: 453512

Ion	Ratio	Lower	Upper
117	100		
82	48.2	28.0	68.0
119	31.7	11.5	51.5

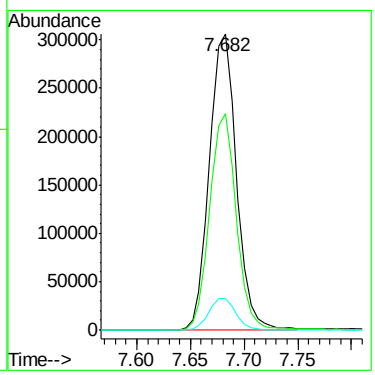




#56
Toluene-d8
Concen: 49.50 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

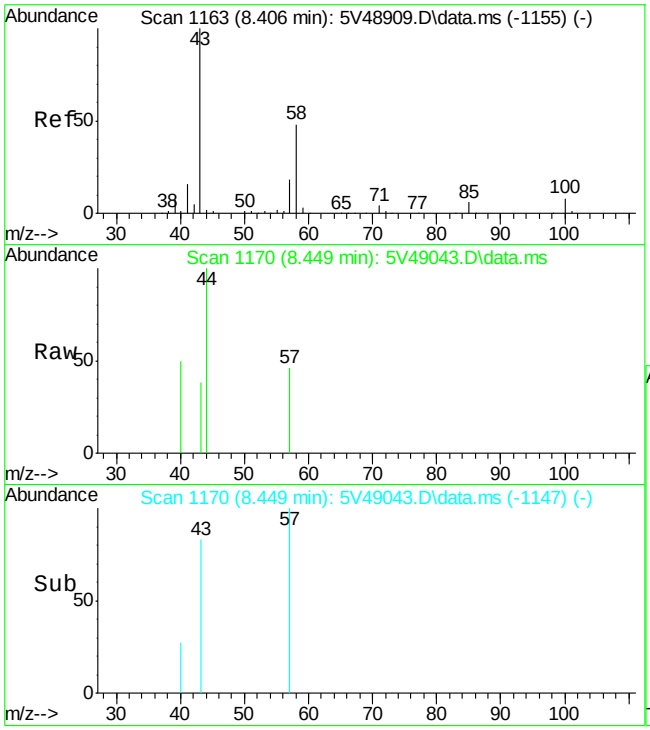
Tgt Ion: 98 Resp: 536573

Ion	Ratio	Lower	Upper
98	100		
100	71.7	51.5	91.5
70	10.7	0.0	30.2



7.1.4

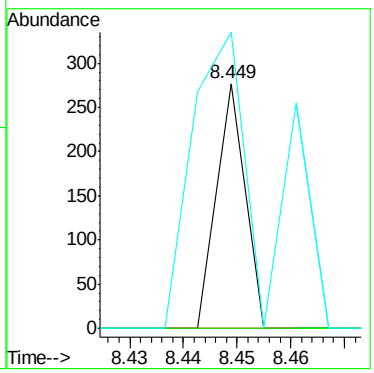
7

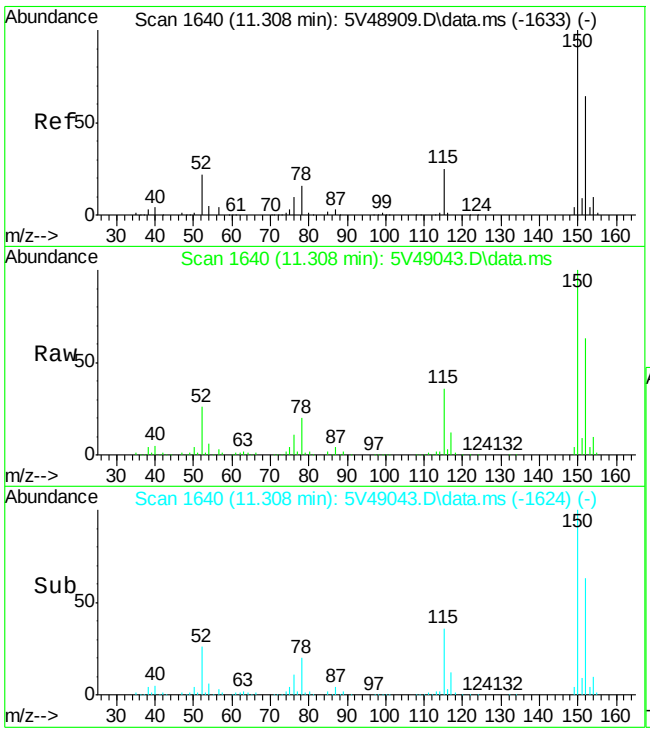


#62
2-Hexanone
Concen: Below Cal
RT: 8.449 min Scan# 1170
Delta R.T. 0.042 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

Tgt Ion: 43 Resp: 101

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	309.9	0.0	37.3#

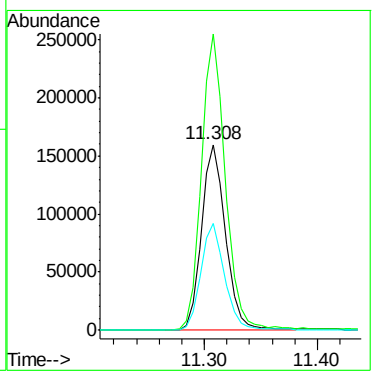


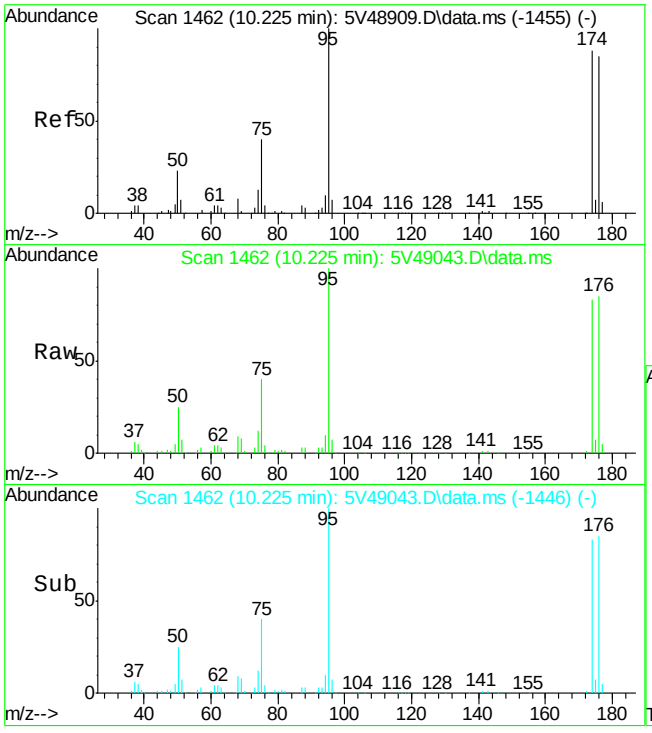


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

Tgt Ion:152 Resp: 237117

Ion	Ratio	Lower	Upper
152	100		
150	159.1	148.8	188.8
115	56.9	34.9	74.9

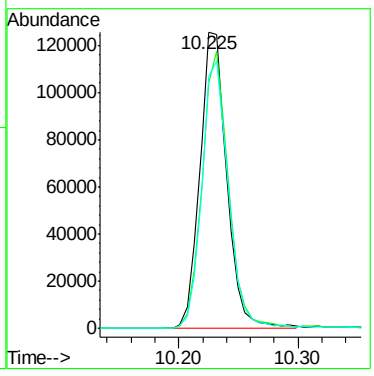




#76
4-Bromofluorobenzene
Concen: 51.30 ppb
RT: 10.225 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 5V49043.D
Acq: 3 Aug 2018 10:39 pm

Tgt Ion: 95 Resp: 196192

Ion	Ratio	Lower	Upper
95	100		
174	92.0	74.4	114.4
176	89.0	71.3	111.3



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49044.D
Acq On : 3 Aug 2018 11:04 pm
Operator : gabrielo
Sample : da7701-5
Misc : MS11266,V5V2625,5.05,,,5,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 06 12:12:11 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.309	168	328873	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	535679	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	487230	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	263202	50.00	ppb	0.00

System Monitoring Compounds						
35) Dibromofluoromethane	5.267	113	195371	54.96	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 109.92%			
41) 1,2-Dichloroethane-d4	5.638	102	34659	50.95	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.90%			
56) Toluene-d8	7.676	98	571395	49.06	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 98.12%			
76) 4-Bromofluorobenzene	10.231	95	212668	50.09	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 100.18%			

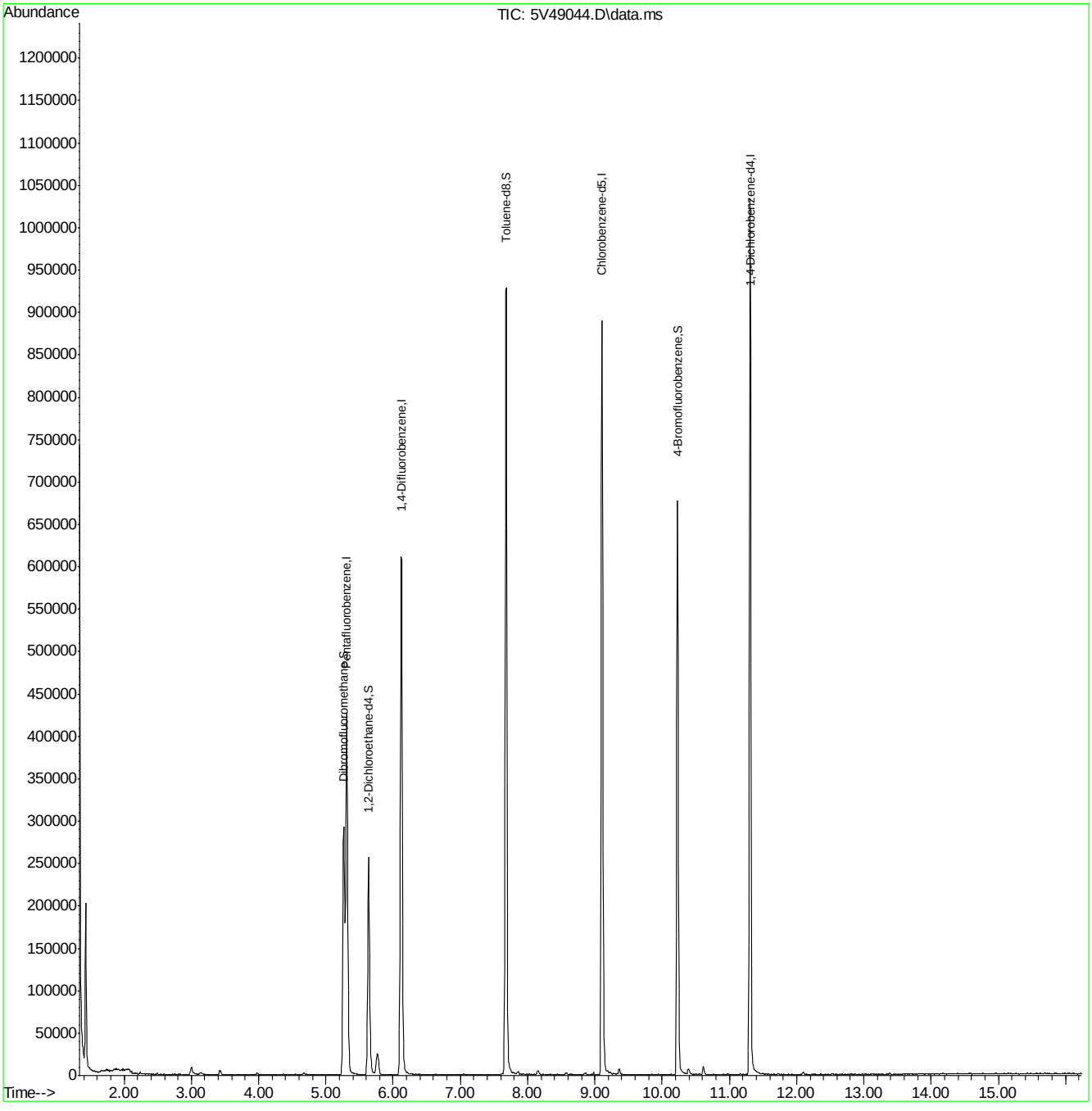
Target Compounds					Qvalue
62) 2-Hexanone	8.333	43	374	Below Cal	# 35

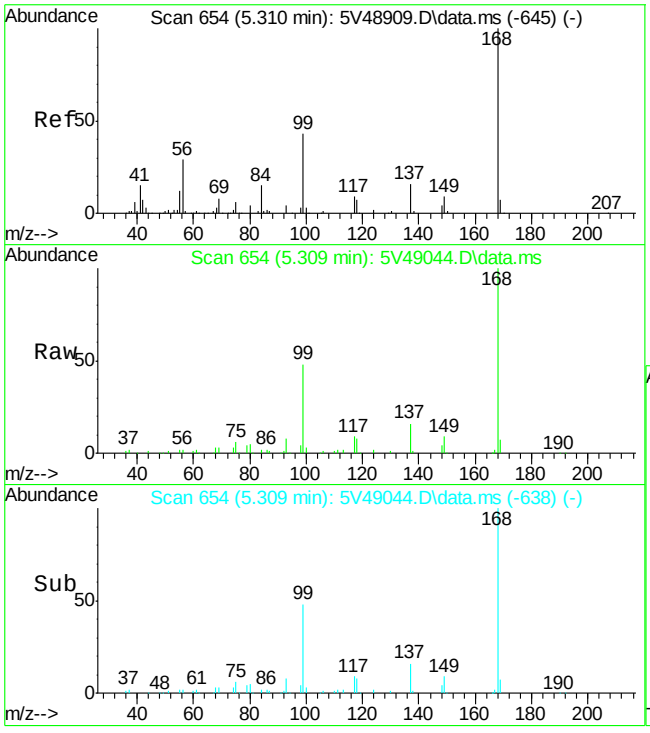
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49044.D
Acq On : 3 Aug 2018 11:04 pm
Operator : gabrielo
Sample : da7701-5
Misc : MS11266,V5V2625,5.05,,,5,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 06 12:12:11 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

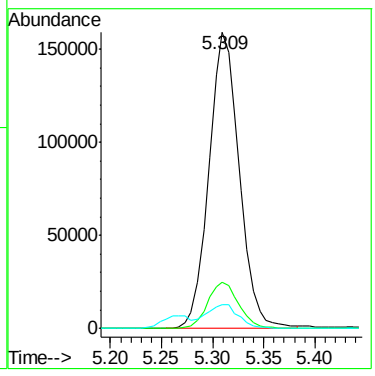


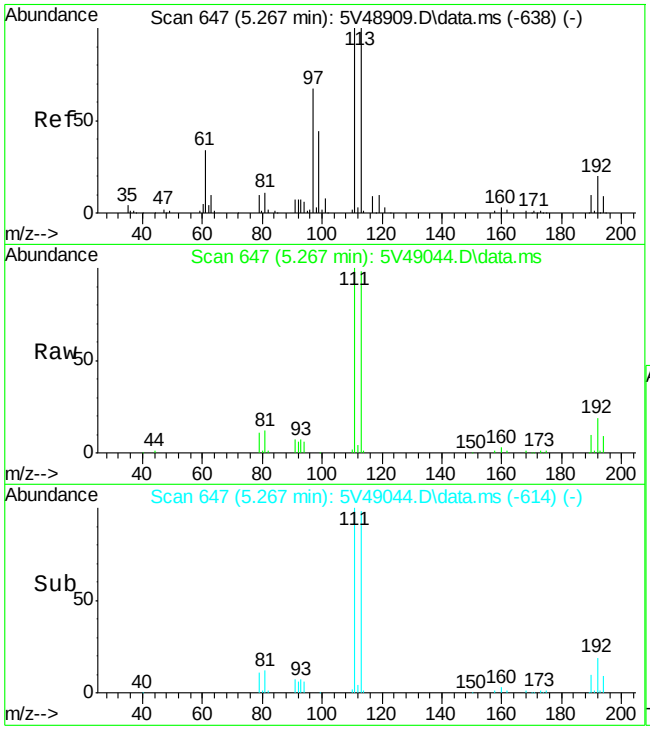


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.309 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion:168 Resp: 328873

Ion	Ratio	Lower	Upper
168	100		
137	16.0	0.0	35.6
93	8.7	0.0	27.3

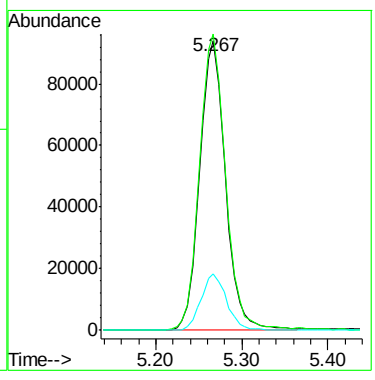


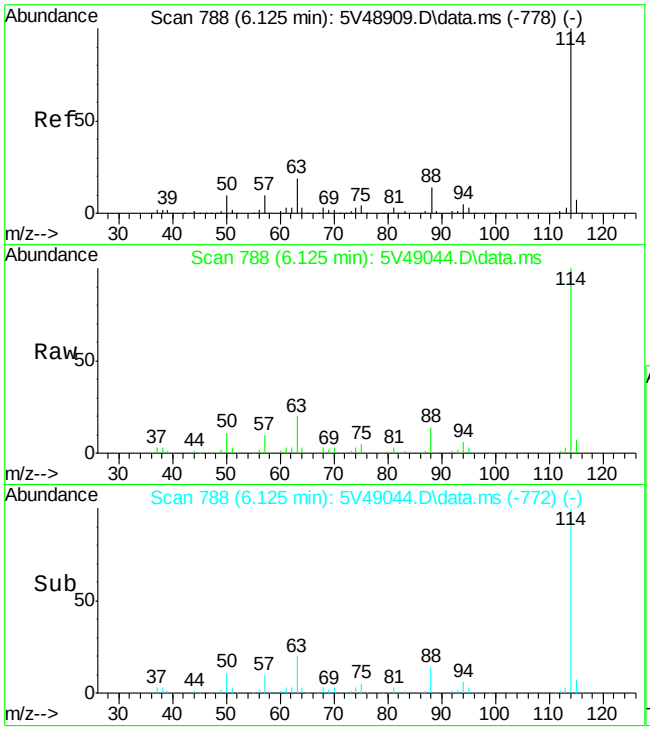


#35
Dibromofluoromethane
Concen: 54.96 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion:113 Resp: 195371

Ion	Ratio	Lower	Upper
113	100		
111	103.3	83.2	123.2
192	19.1	0.0	39.4

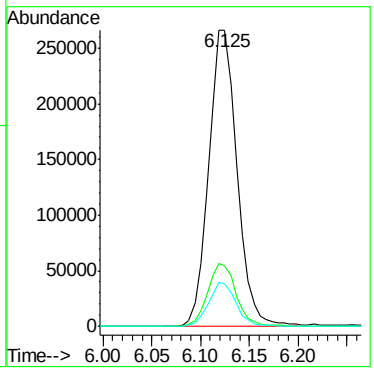


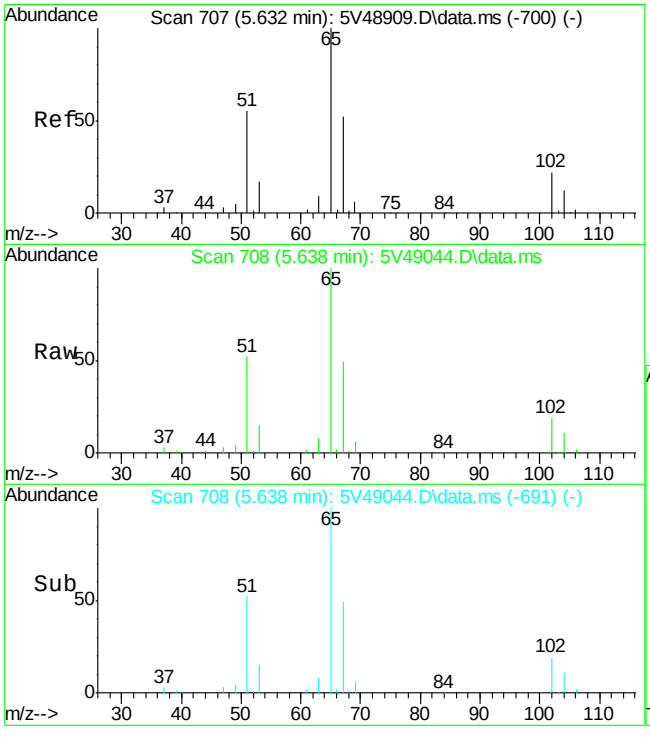


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion:114 Resp: 535679

Ion	Ratio	Lower	Upper
114	100		
63	21.2	0.2	40.2
88	14.3	0.0	34.0

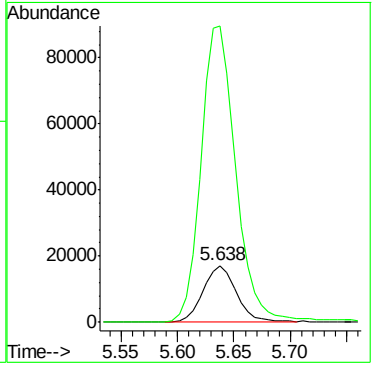


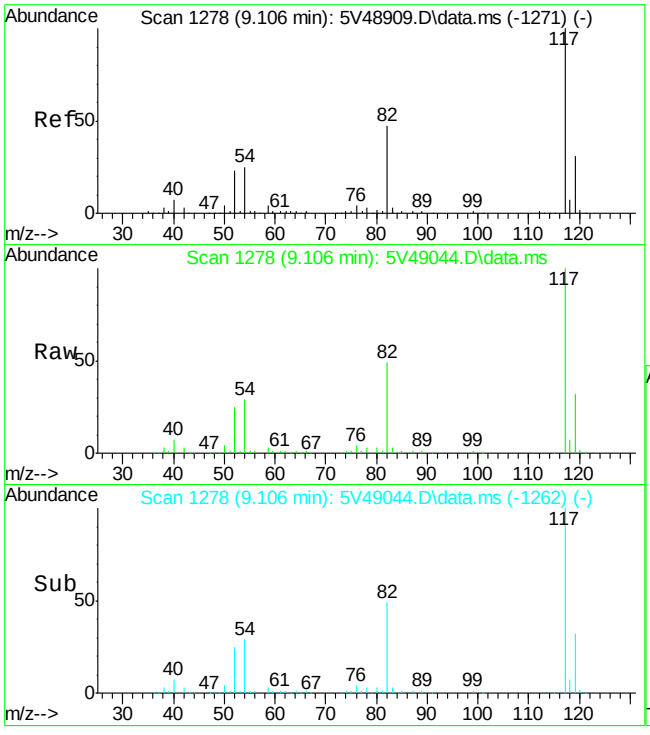


#41
1,2-Dichloroethane-d4
Concen: 50.95 ppb
RT: 5.638 min Scan# 708
Delta R.T. 0.006 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion:102 Resp: 34659

Ion	Ratio	Lower	Upper
102	100		
65	548.2	459.5	499.5#

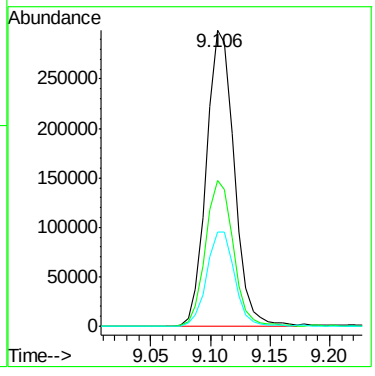


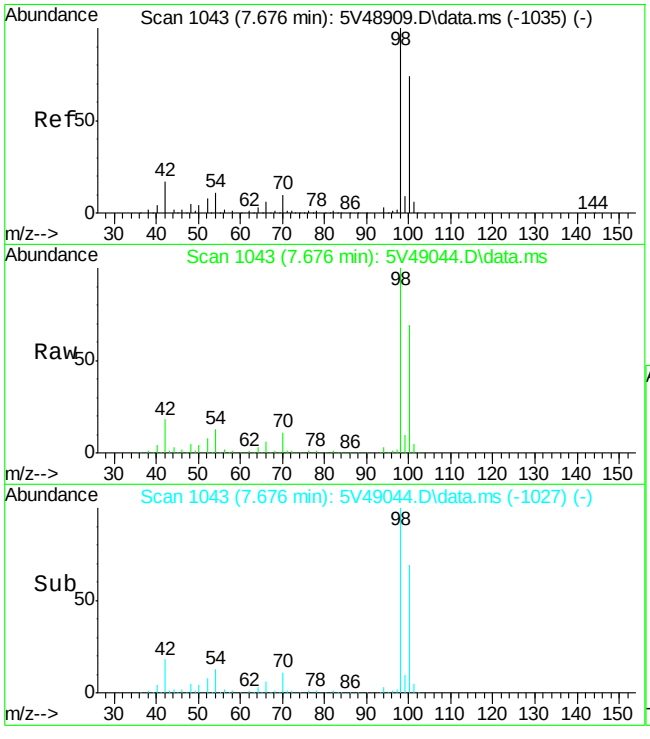


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion:117 Resp: 487230

Ion	Ratio	Lower	Upper
117	100		
82	49.5	28.0	68.0
119	32.0	11.5	51.5

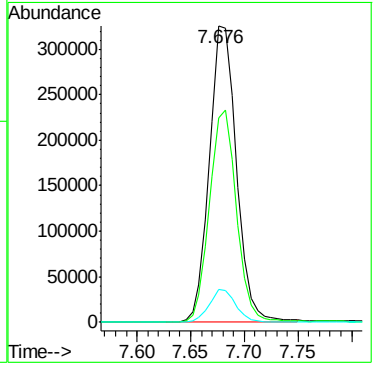


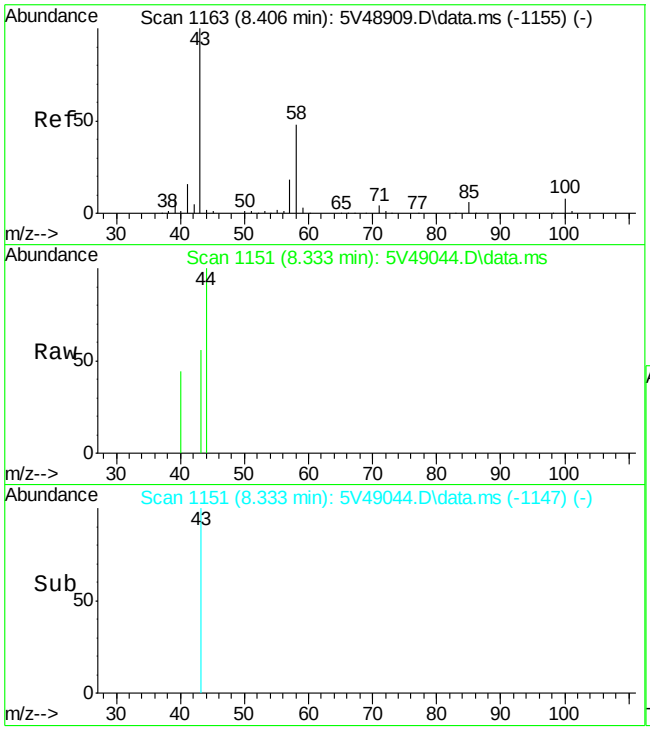


#56
Toluene-d8
Concen: 49.06 ppb
RT: 7.676 min Scan# 1043
Delta R.T. -0.000 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion: 98 Resp: 571395

Ion	Ratio	Lower	Upper
98	100		
100	71.1	51.5	91.5
70	10.7	0.0	30.2

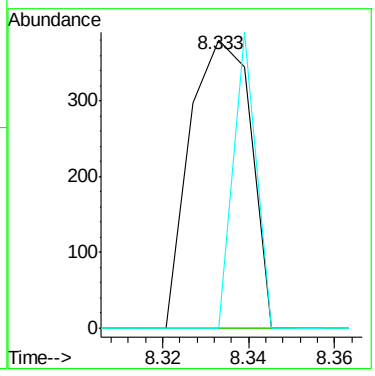


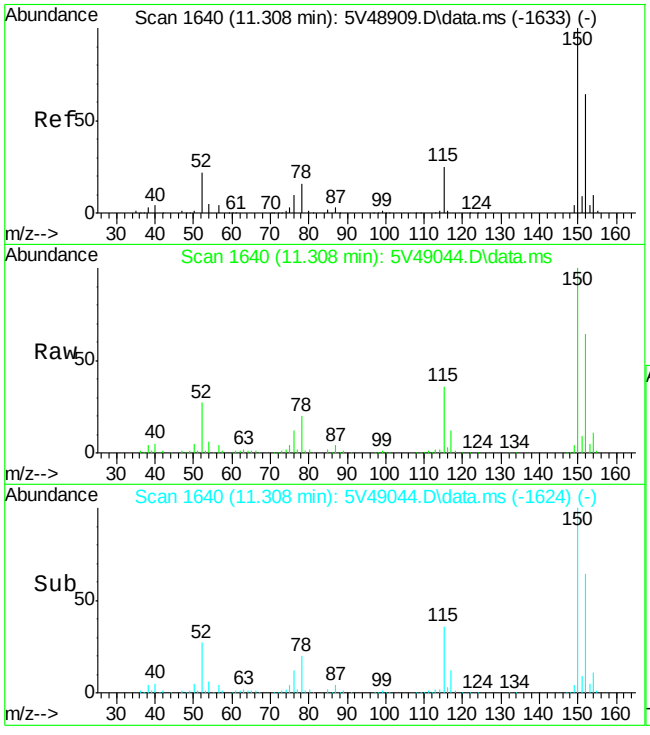


#62
2-Hexanone
Concen: Below Cal
RT: 8.333 min Scan# 1151
Delta R.T. -0.073 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion: 43 Resp: 374

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	38.2	0.0	37.3#

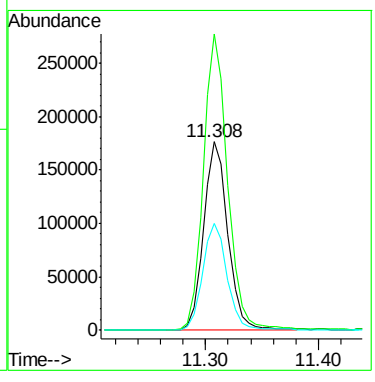


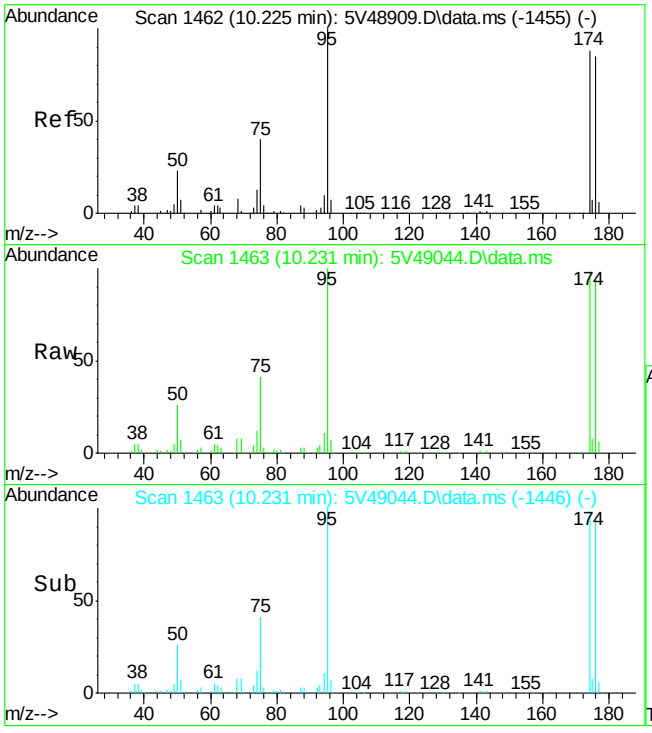


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion:152 Resp: 263202

Ion	Ratio	Lower	Upper
152	100		
150	156.7	148.8	188.8
115	57.1	34.9	74.9

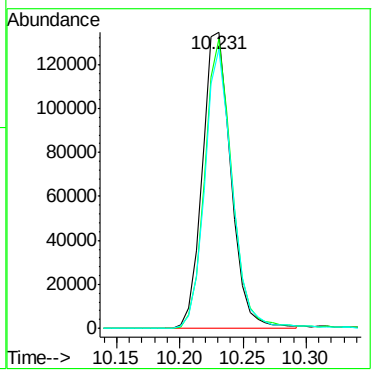




#76
4-Bromofluorobenzene
Concen: 50.09 ppb
RT: 10.231 min Scan# 1463
Delta R.T. 0.006 min
Lab File: 5V49044.D
Acq: 3 Aug 2018 11:04 pm

Tgt Ion: 95 Resp: 212668

Ion	Ratio	Lower	Upper
95	100		
174	93.2	74.4	114.4
176	90.4	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49045.D
Acq On : 3 Aug 2018 11:29 pm
Operator : gabrielo
Sample : da7701-6
Misc : MS11266,V5V2625,5.01,,,5,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 06 12:12:44 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

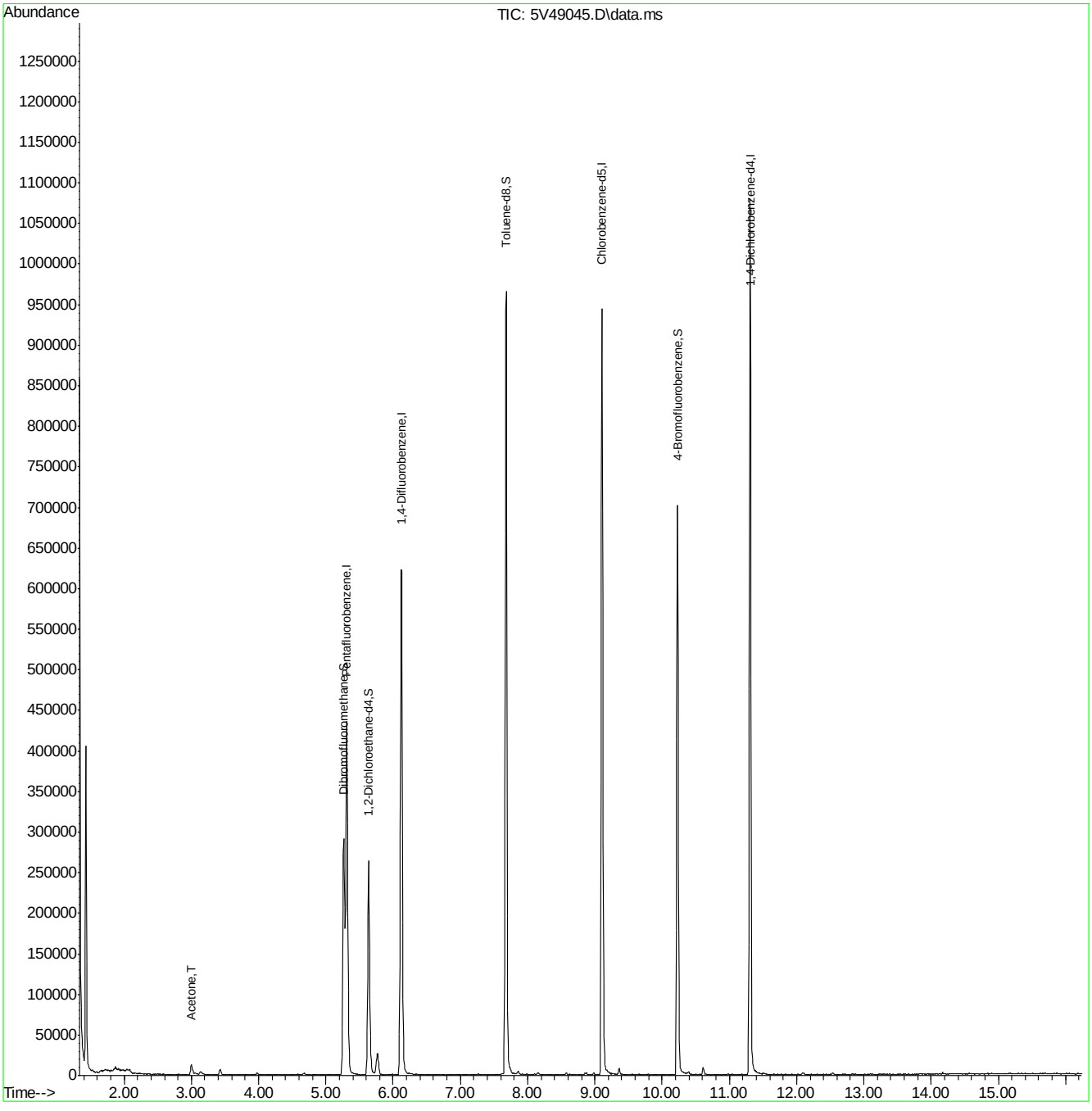
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.309	168	332744	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	550443	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	509589	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	272171	50.00	ppb	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	5.267	113	194715	54.14	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 108.28%			
41) 1,2-Dichloroethane-d4	5.638	102	35186	50.34	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.68%			
56) Toluene-d8	7.682	98	586571	48.15	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 96.30%			
76) 4-Bromofluorobenzene	10.225	95	224084	51.04	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 102.08%			
Target Compounds						Qvalue
14) Acetone	2.998	43	21117	10.17	ppb	86
62) 2-Hexanone	8.339	43	366	Below Cal	#	37

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

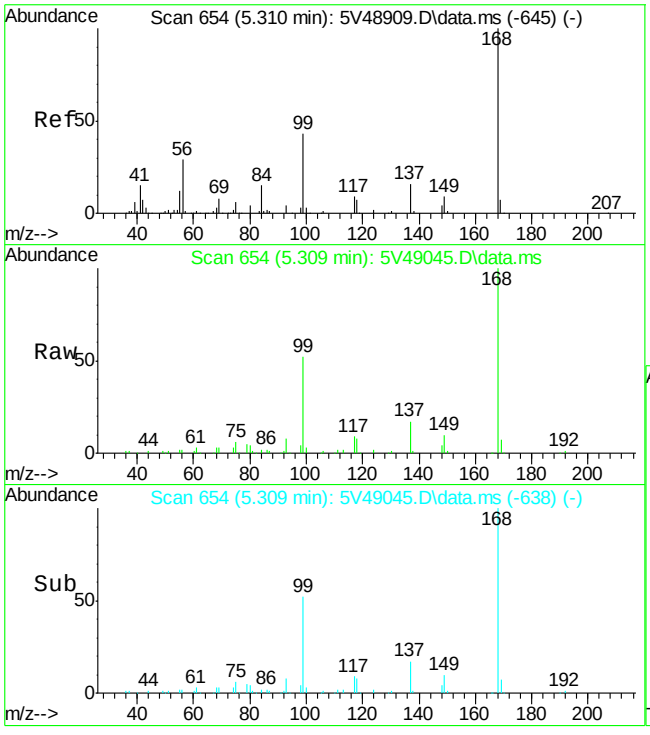
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49045.D
Acq On : 3 Aug 2018 11:29 pm
Operator : gabrielo
Sample : da7701-6
Misc : MS11266,V5V2625,5.01,,,5,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 06 12:12:44 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration



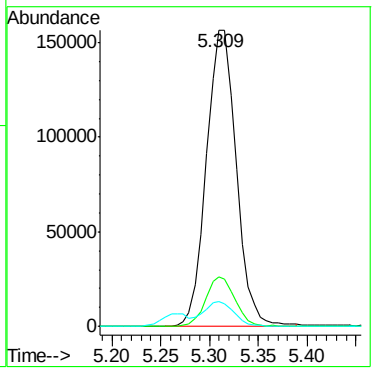
V5V2619soil.M Mon Aug 06 12:27:11 2018 VOA5 Page: 2

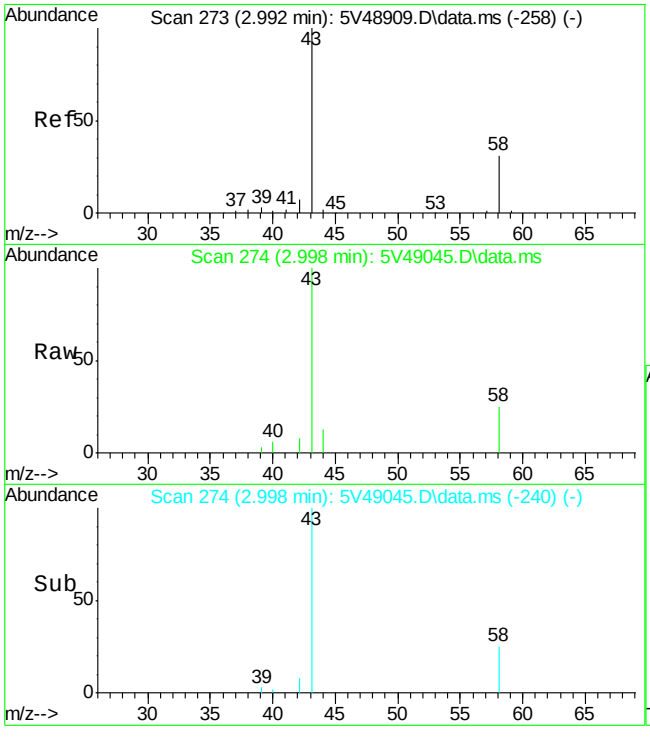


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.309 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion:168 Resp: 332744

Ion	Ratio	Lower	Upper
168	100		
137	16.3	0.0	35.6
93	8.7	0.0	27.3

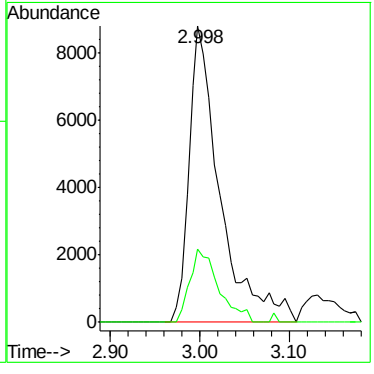


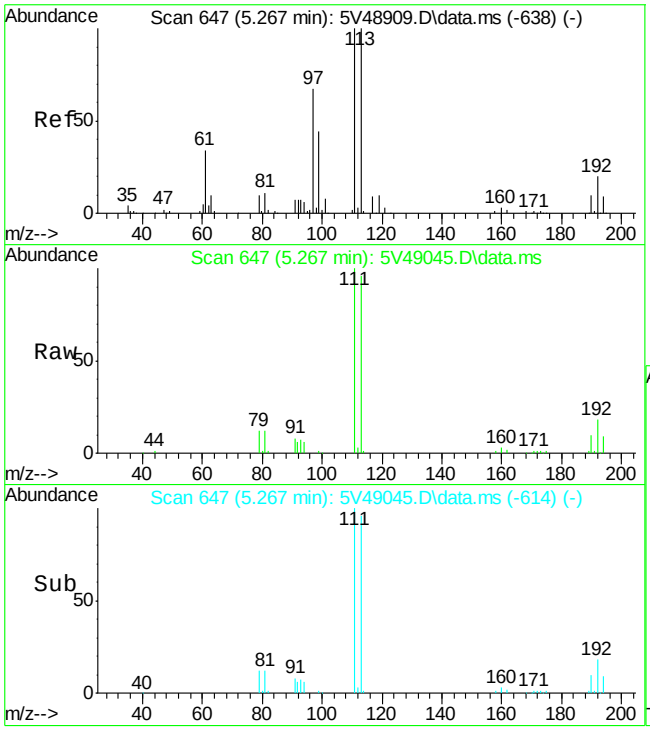


#14
Acetone
Concen: 10.17 ppb
RT: 2.998 min Scan# 274
Delta R.T. 0.006 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion: 43 Resp: 21117

Ion	Ratio	Lower	Upper
43	100		
58	22.9	10.3	50.3

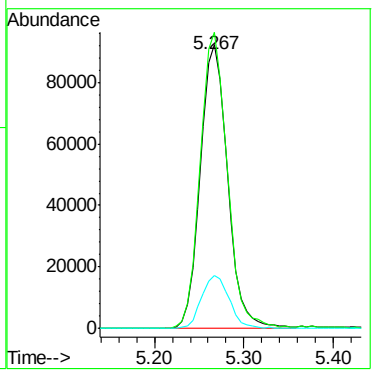


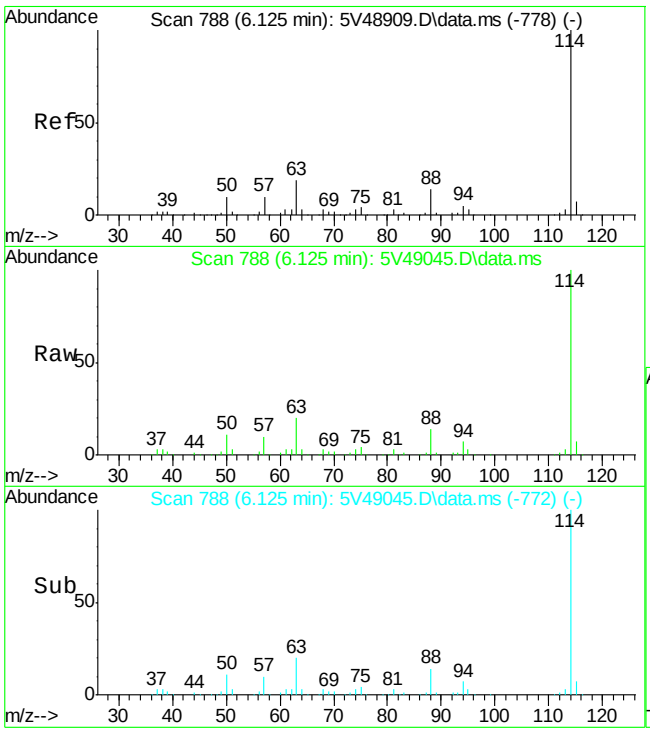


#35
Dibromofluoromethane
Concen: 54.14 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion:113 Resp: 194715

Ion	Ratio	Lower	Upper
113	100		
111	103.9	83.2	123.2
192	18.7	0.0	39.4

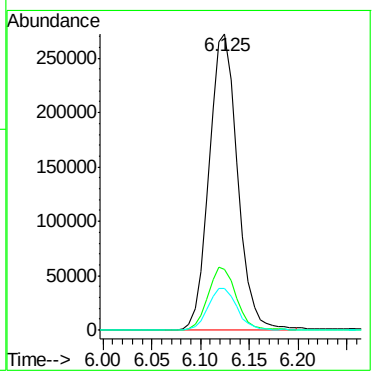


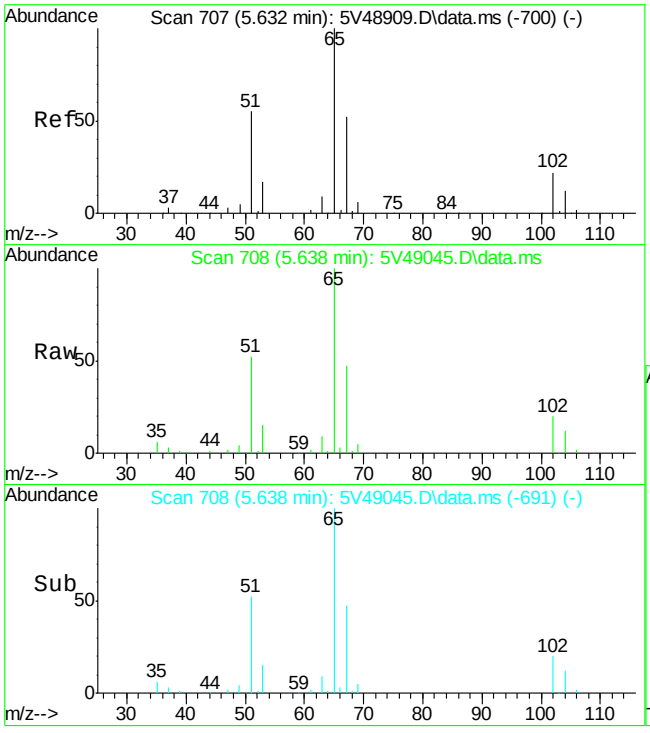


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion:114 Resp: 550443

Ion	Ratio	Lower	Upper
114	100		
63	21.0	0.2	40.2
88	14.3	0.0	34.0

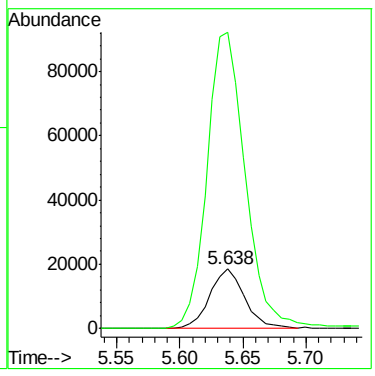


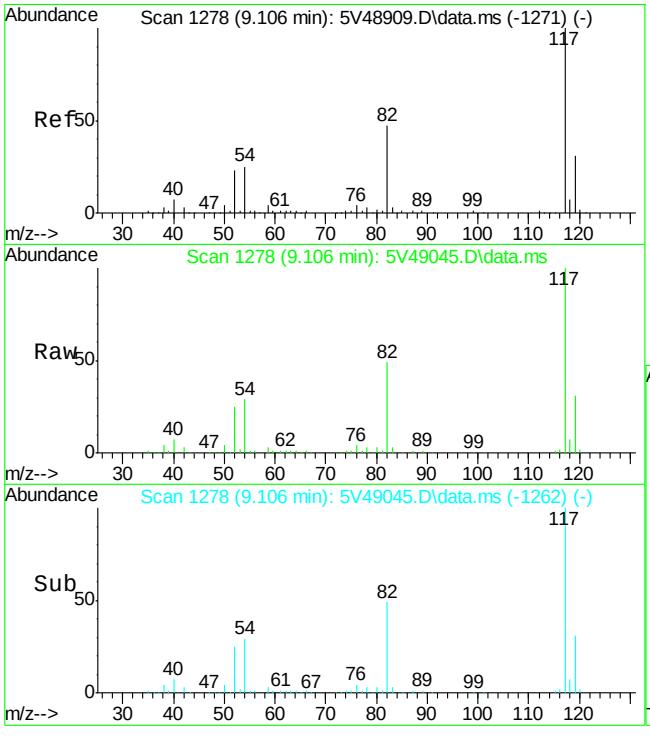


#41
1,2-Dichloroethane-d4
Concen: 50.34 ppb
RT: 5.638 min Scan# 708
Delta R.T. 0.006 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion:102 Resp: 35186

Ion	Ratio	Lower	Upper
102	100		
65	547.2	459.5	499.5#

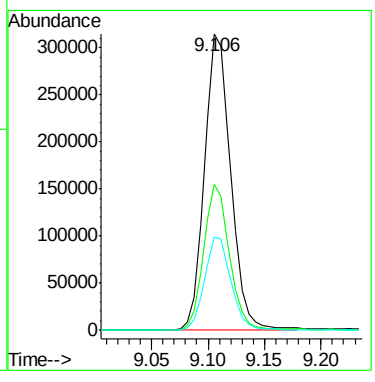


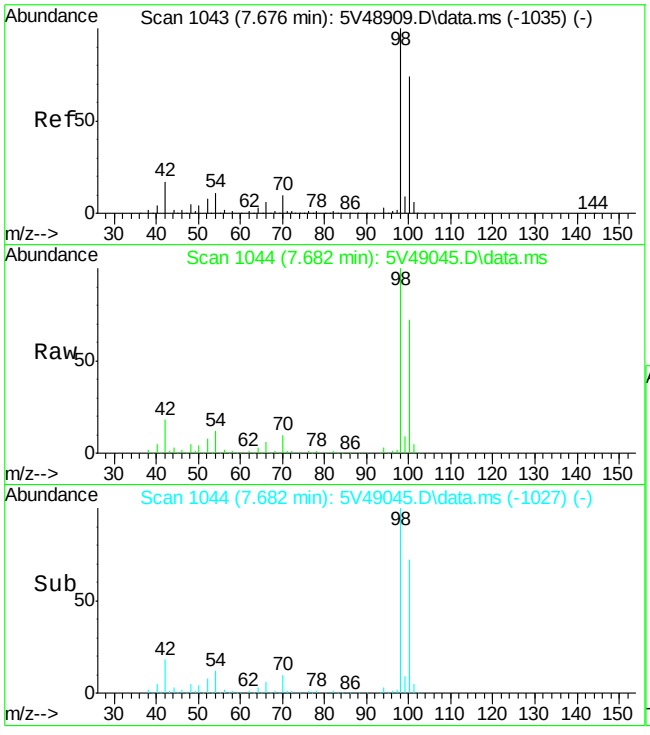


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion:117 Resp: 509589

Ion	Ratio	Lower	Upper
117	100		
82	48.4	28.0	68.0
119	31.5	11.5	51.5

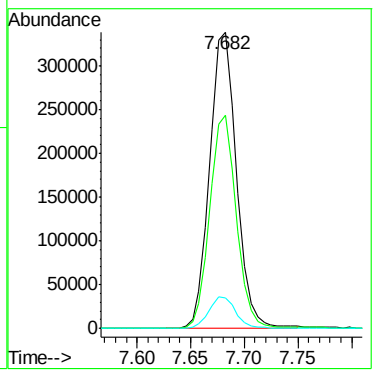


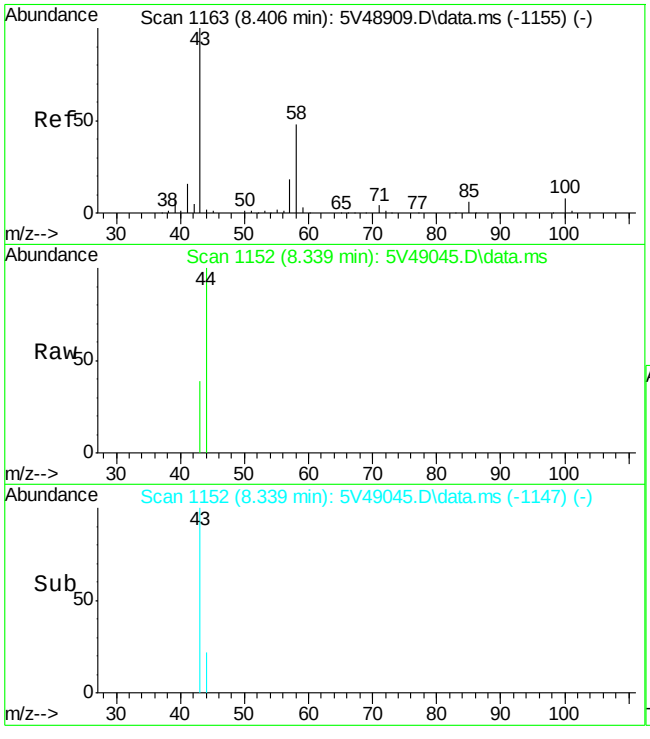


#56
Toluene-d8
Concen: 48.15 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion: 98 Resp: 586571

Ion	Ratio	Lower	Upper
98	100		
100	71.3	51.5	91.5
70	10.6	0.0	30.2

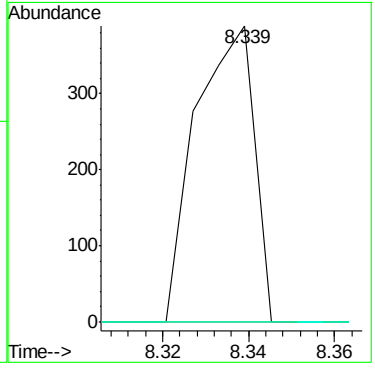


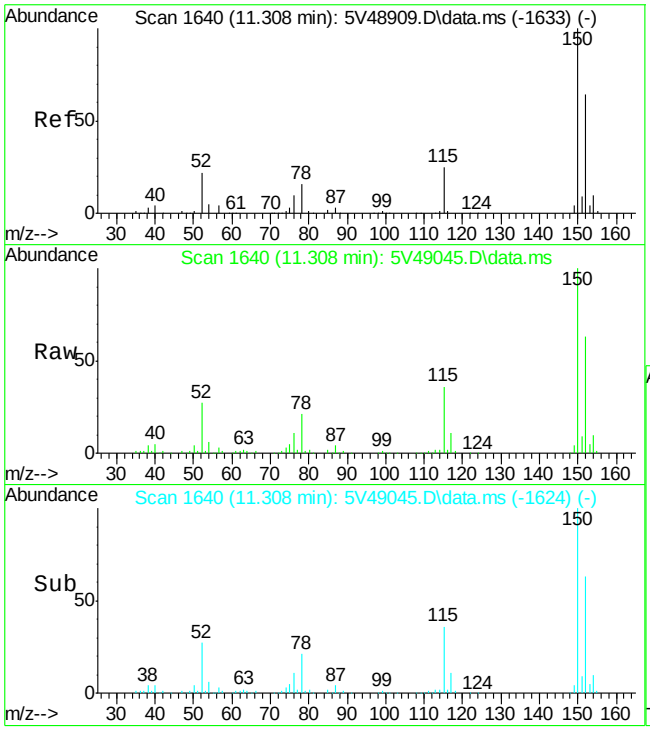


#62
2-Hexanone
Concen: Below Cal
RT: 8.339 min Scan# 1152
Delta R.T. -0.067 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion: 43 Resp: 366

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	0.0	0.0	37.3

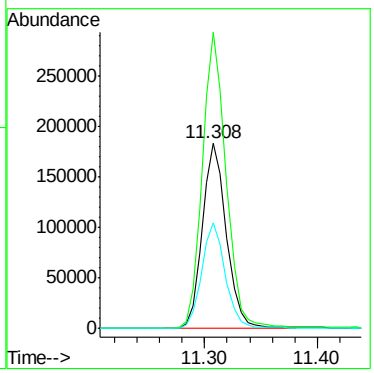


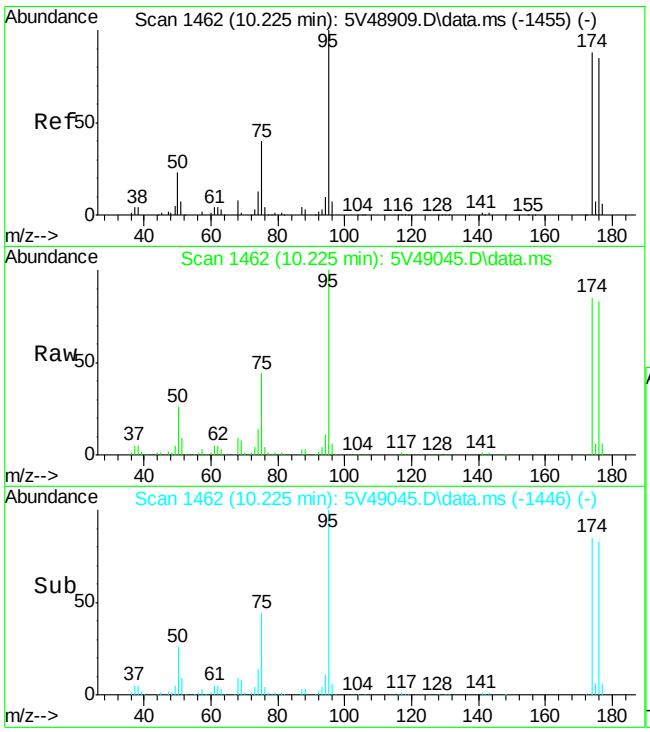


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion:152 Resp: 272171

Ion	Ratio	Lower	Upper
152	100		
150	157.6	148.8	188.8
115	56.4	34.9	74.9

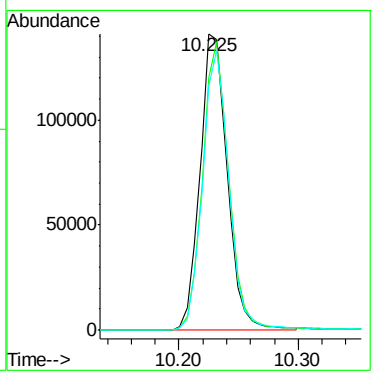




#76
4-Bromofluorobenzene
Concen: 51.04 ppb
RT: 10.225 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 5V49045.D
Acq: 3 Aug 2018 11:29 pm

Tgt Ion: 95 Resp: 224084

Ion	Ratio	Lower	Upper
95	100		
174	93.7	74.4	114.4
176	90.9	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49046.D
Acq On : 3 Aug 2018 11:54 pm
Operator : gabrielo
Sample : da7701-7
Misc : MS11266,V5V2625,5.02,,,5,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 06 12:13:13 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	314963	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	526577	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	447128	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	215231	50.00	ppb	0.00

System Monitoring Compounds						
35) Dibromofluoromethane	5.267	113	193877	56.95	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 113.90%			
41) 1,2-Dichloroethane-d4	5.638	102	35135	52.55	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.10%			
56) Toluene-d8	7.682	98	544817	50.97	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 101.94%			
76) 4-Bromofluorobenzene	10.231	95	188881	54.41	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 108.82%			

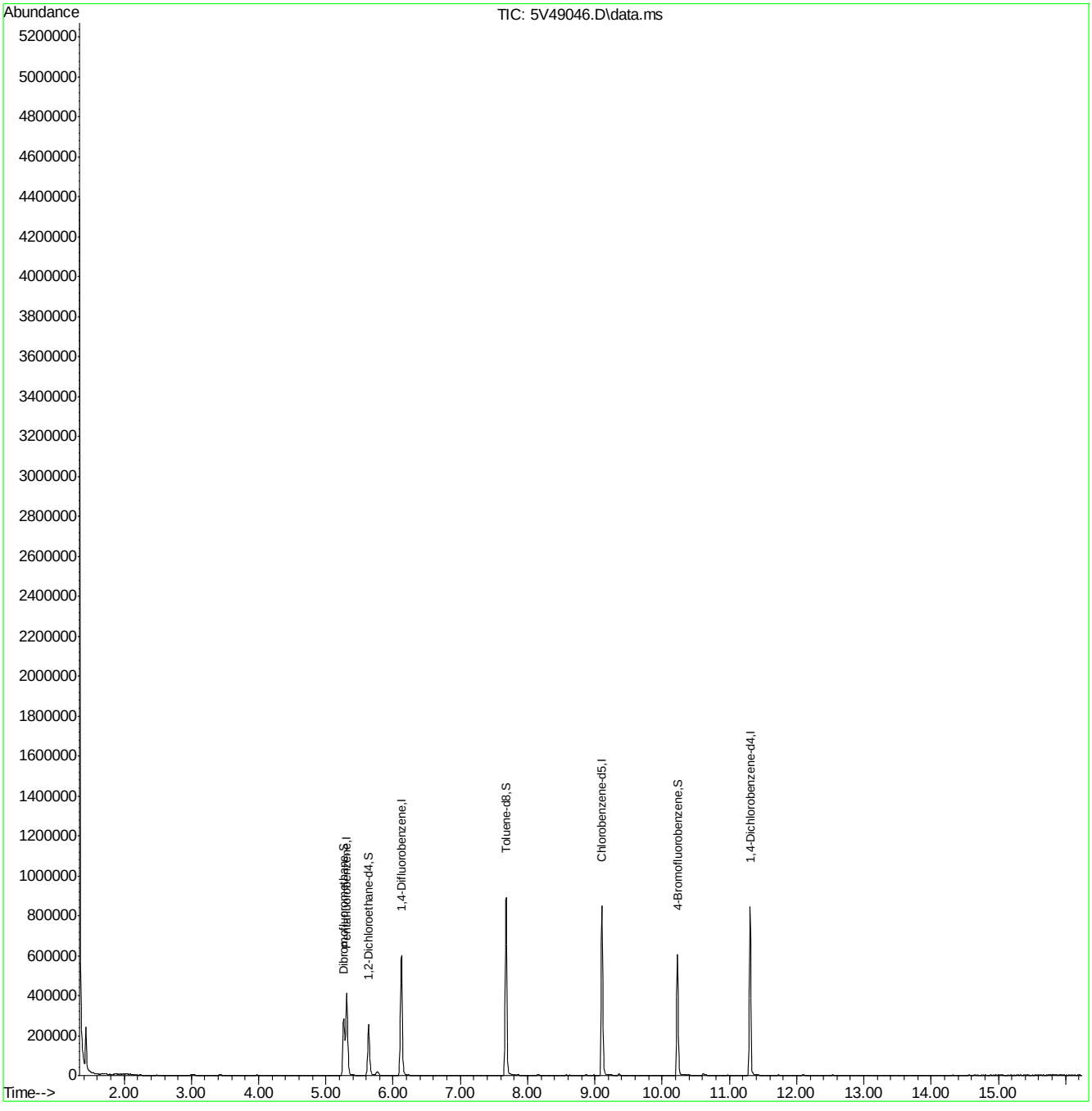
Target Compounds					Qvalue
14) Acetone	2.998	43	7722	Below Cal	84
62) 2-Hexanone	8.333	43	207	Below Cal #	20

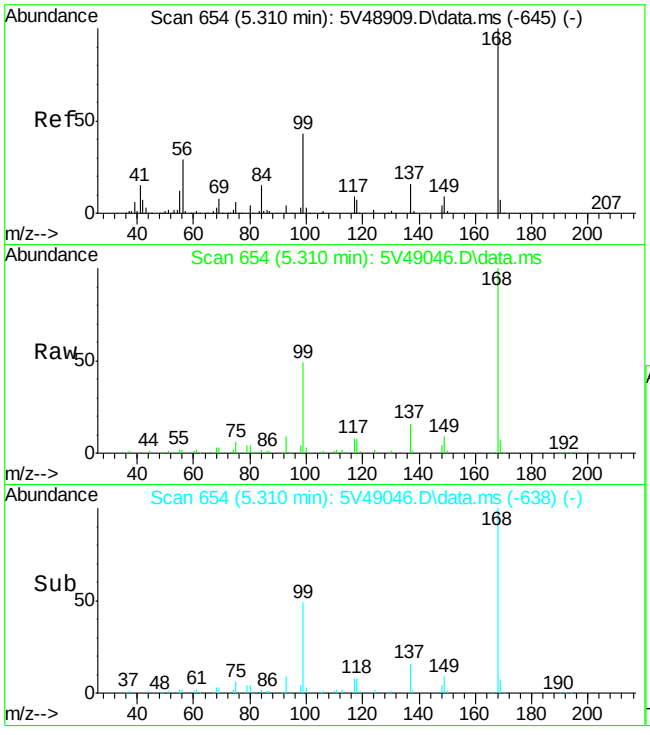
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49046.D
Acq On : 3 Aug 2018 11:54 pm
Operator : gabrielo
Sample : da7701-7
Misc : MS11266,V5V2625,5.02,,,5,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 06 12:13:13 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

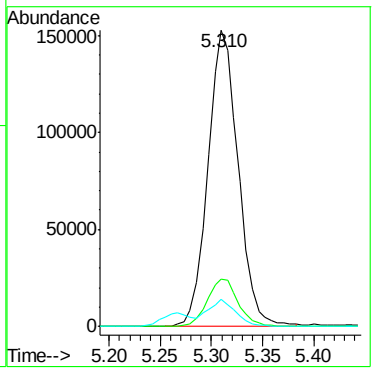


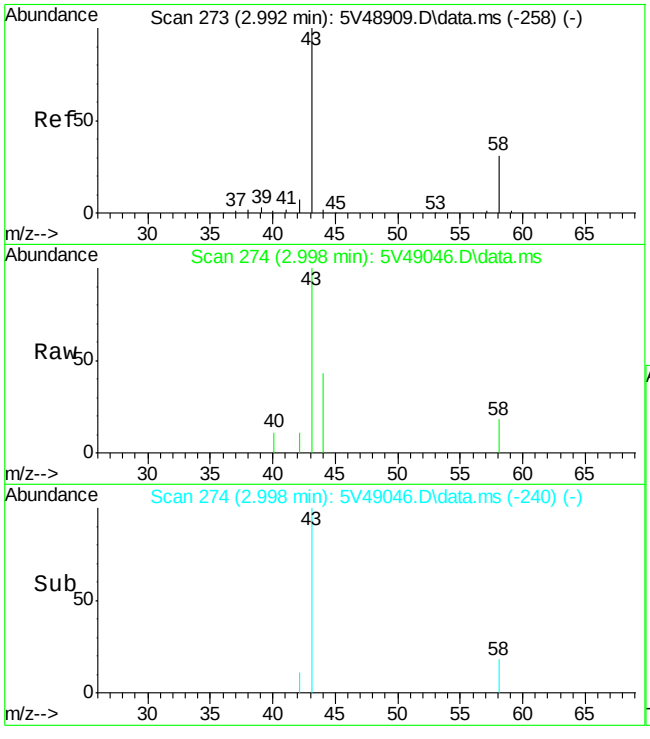


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion:168 Resp: 314963

Ion	Ratio	Lower	Upper
168	100		
137	16.0	0.0	35.6
93	8.3	0.0	27.3

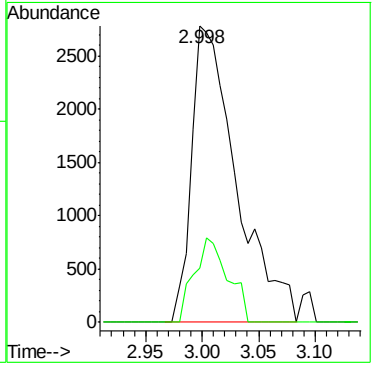


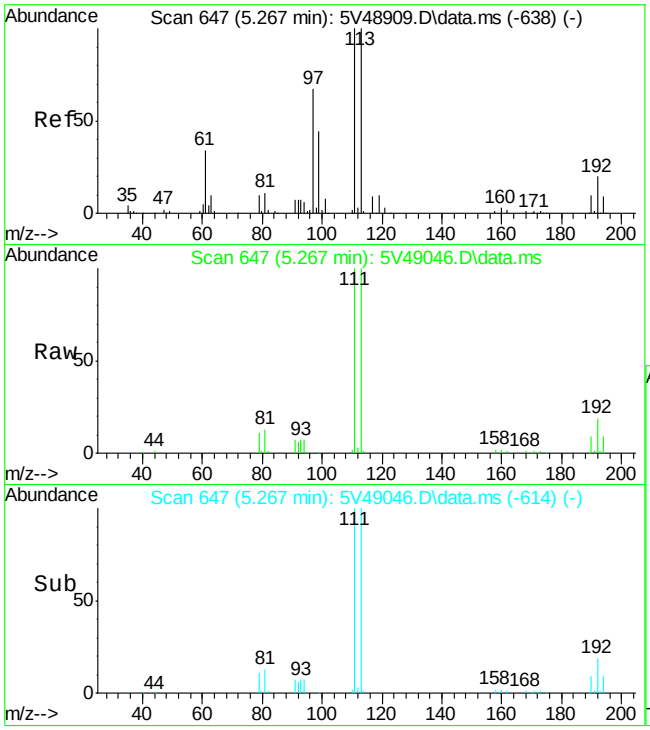


#14
Acetone
Concen: Below Cal
RT: 2.998 min Scan# 274
Delta R.T. 0.006 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion: 43 Resp: 7722

Ion	Ratio	Lower	Upper
43	100		
58	21.4	10.3	50.3

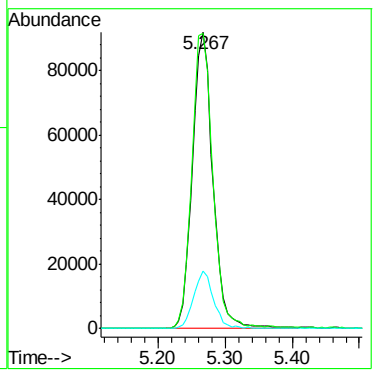


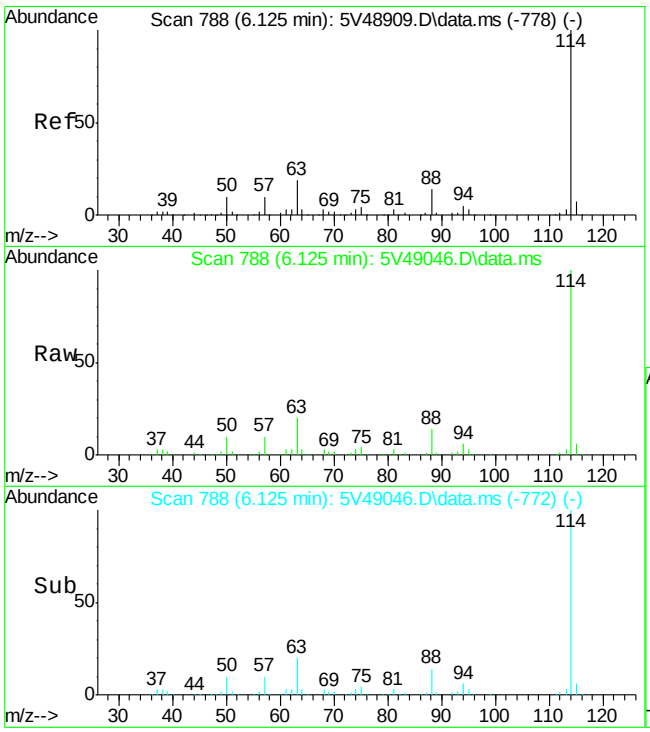


#35
Dibromofluoromethane
Concen: 56.95 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion:113 Resp: 193877

Ion	Ratio	Lower	Upper
113	100		
111	102.8	83.2	123.2
192	18.6	0.0	39.4

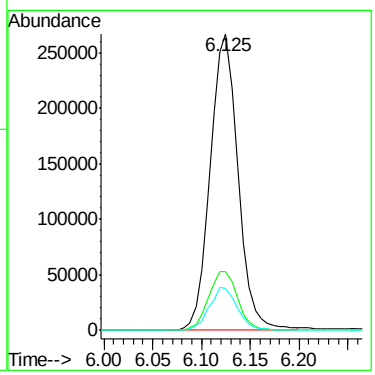


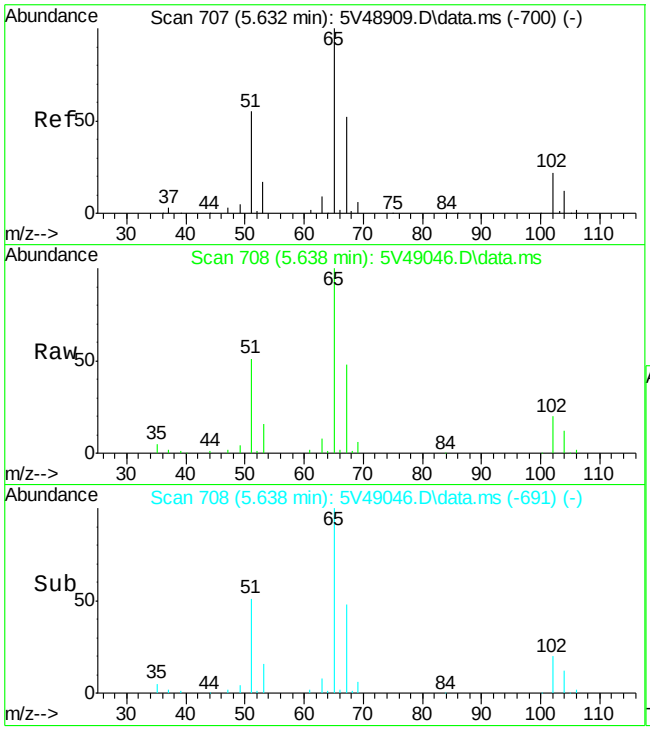


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion:114 Resp: 526577

Ion	Ratio	Lower	Upper
114	100		
63	20.9	0.2	40.2
88	14.3	0.0	34.0

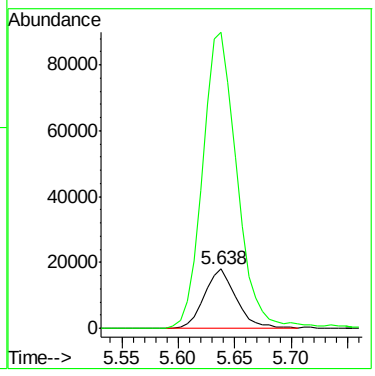


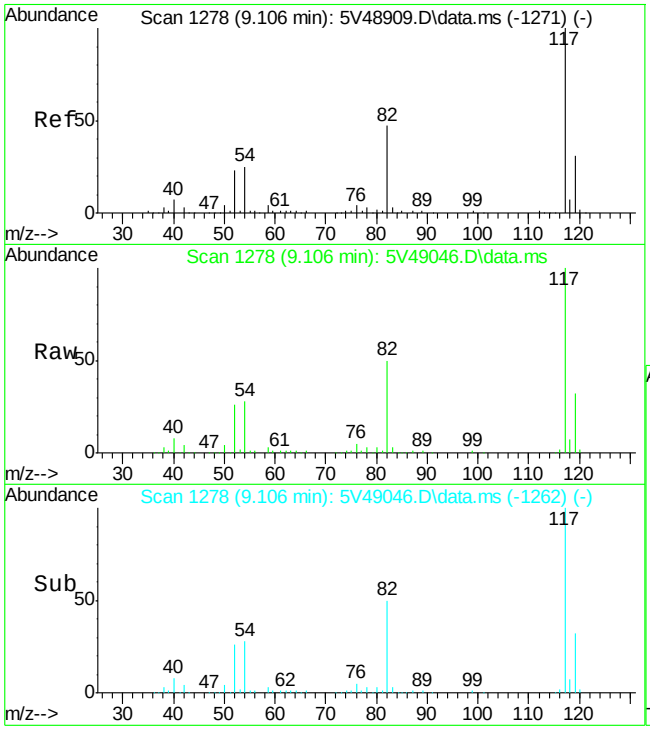


#41
1,2-Dichloroethane-d4
Concen: 52.55 ppb
RT: 5.638 min Scan# 708
Delta R.T. 0.006 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion:102 Resp: 35135

Ion	Ratio	Lower	Upper
102	100		
65	536.5	459.5	499.5#

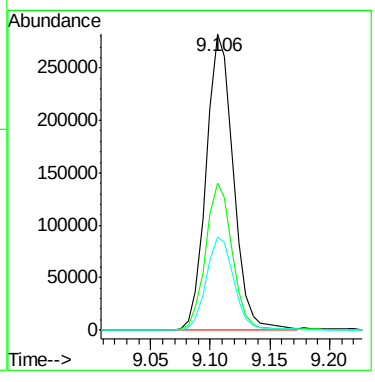


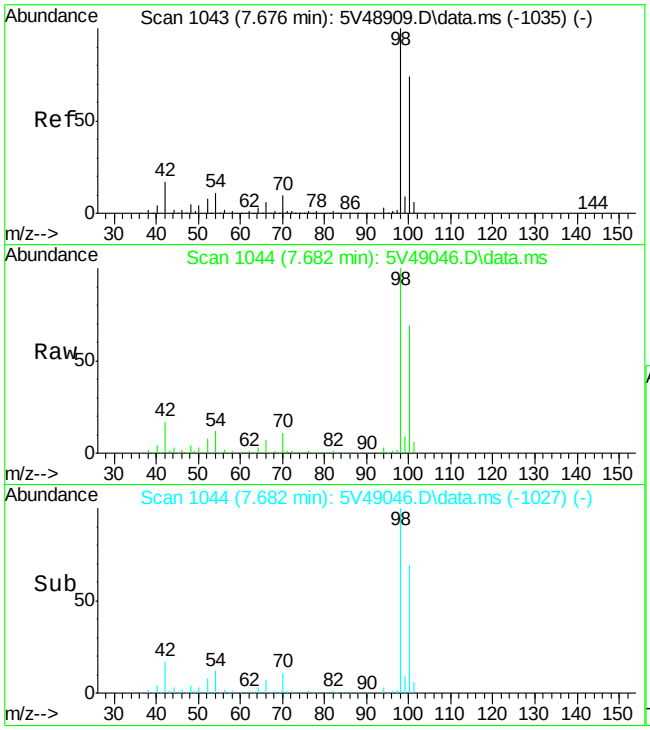


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion:117 Resp: 447128

Ion	Ratio	Lower	Upper
117	100		
82	49.0	28.0	68.0
119	31.9	11.5	51.5

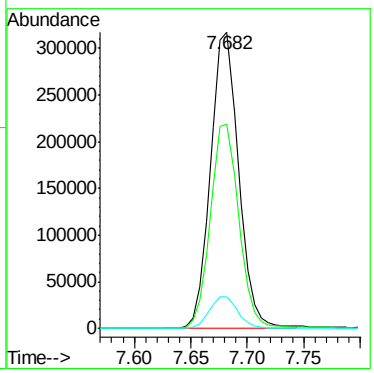


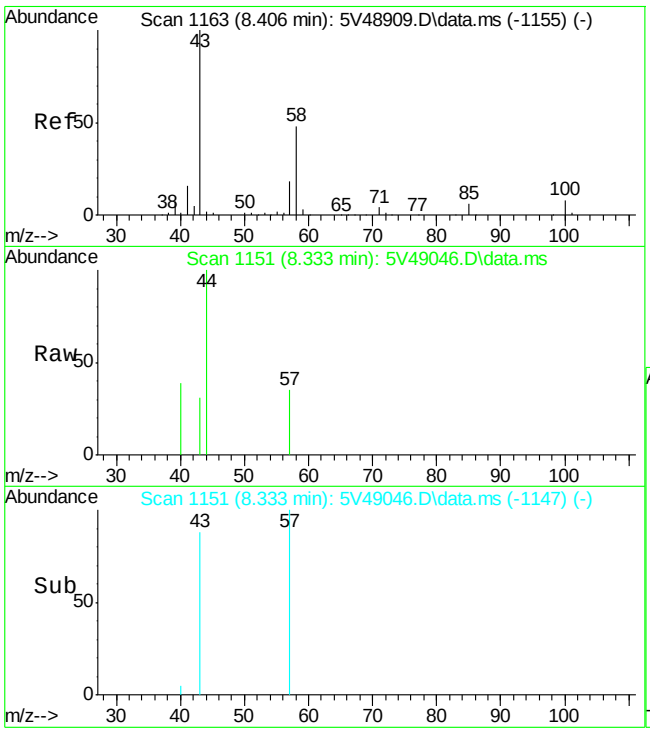


#56
Toluene-d8
Concen: 50.97 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion: 98 Resp: 544817

Ion	Ratio	Lower	Upper
98	100		
100	70.1	51.5	91.5
70	10.7	0.0	30.2

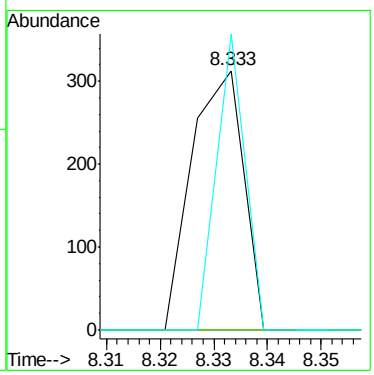


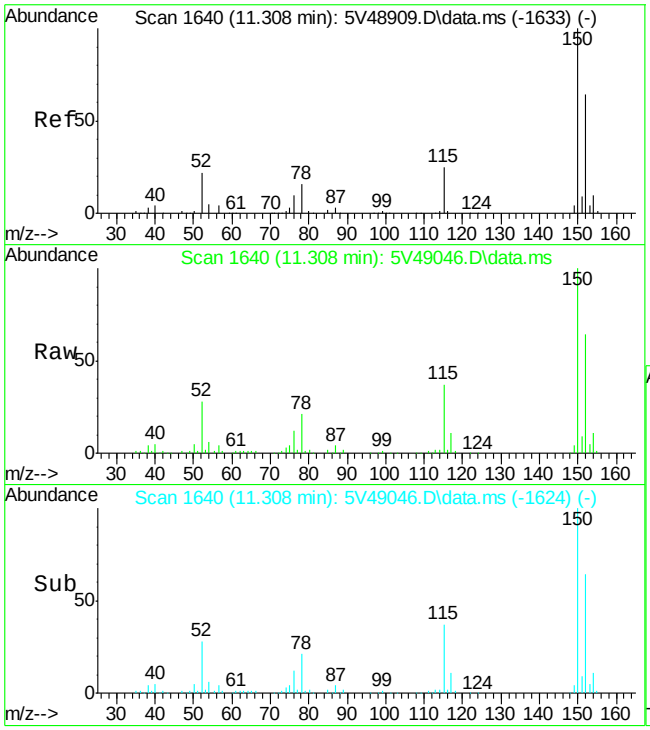


#62
2-Hexanone
Concen: Below Cal
RT: 8.333 min Scan# 1151
Delta R.T. -0.073 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion: 43 Resp: 207

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	62.8	0.0	37.3#

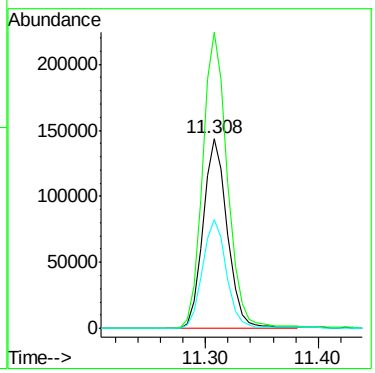


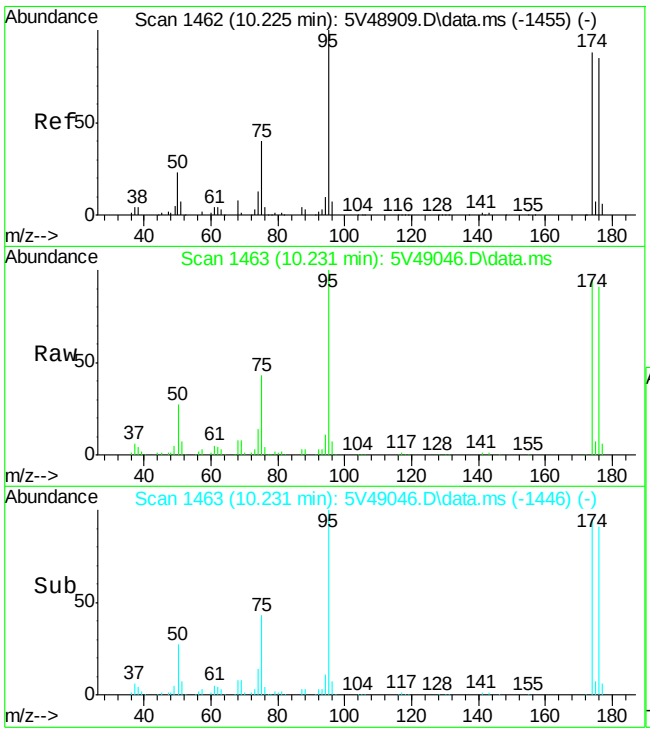


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion:152 Resp: 215231

Ion	Ratio	Lower	Upper
152	100		
150	159.5	148.8	188.8
115	57.4	34.9	74.9

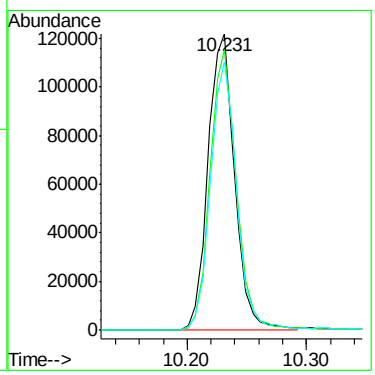




#76
4-Bromofluorobenzene
Concen: 54.41 ppb
RT: 10.231 min Scan# 1463
Delta R.T. 0.006 min
Lab File: 5V49046.D
Acq: 3 Aug 2018 11:54 pm

Tgt Ion: 95 Resp: 188881

Ion	Ratio	Lower	Upper
95	100		
174	93.6	74.4	114.4
176	88.8	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49047.D
Acq On : 4 Aug 2018 12:19 am
Operator : gabrielo
Sample : da7701-8
Misc : MS11266,V5V2625,5.09,,,5,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 06 12:13:40 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.309	168	317684	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.119	114	541281	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	461234	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	223642	50.00	ppb	0.00

System Monitoring Compounds						
35) Dibromofluoromethane	5.267	113	198564	57.82	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 115.64%			
41) 1,2-Dichloroethane-d4	5.632	102	35527	51.69	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.38%			
56) Toluene-d8	7.676	98	558694	50.67	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 101.34%			
76) 4-Bromofluorobenzene	10.225	95	196355	54.43	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 108.86%			

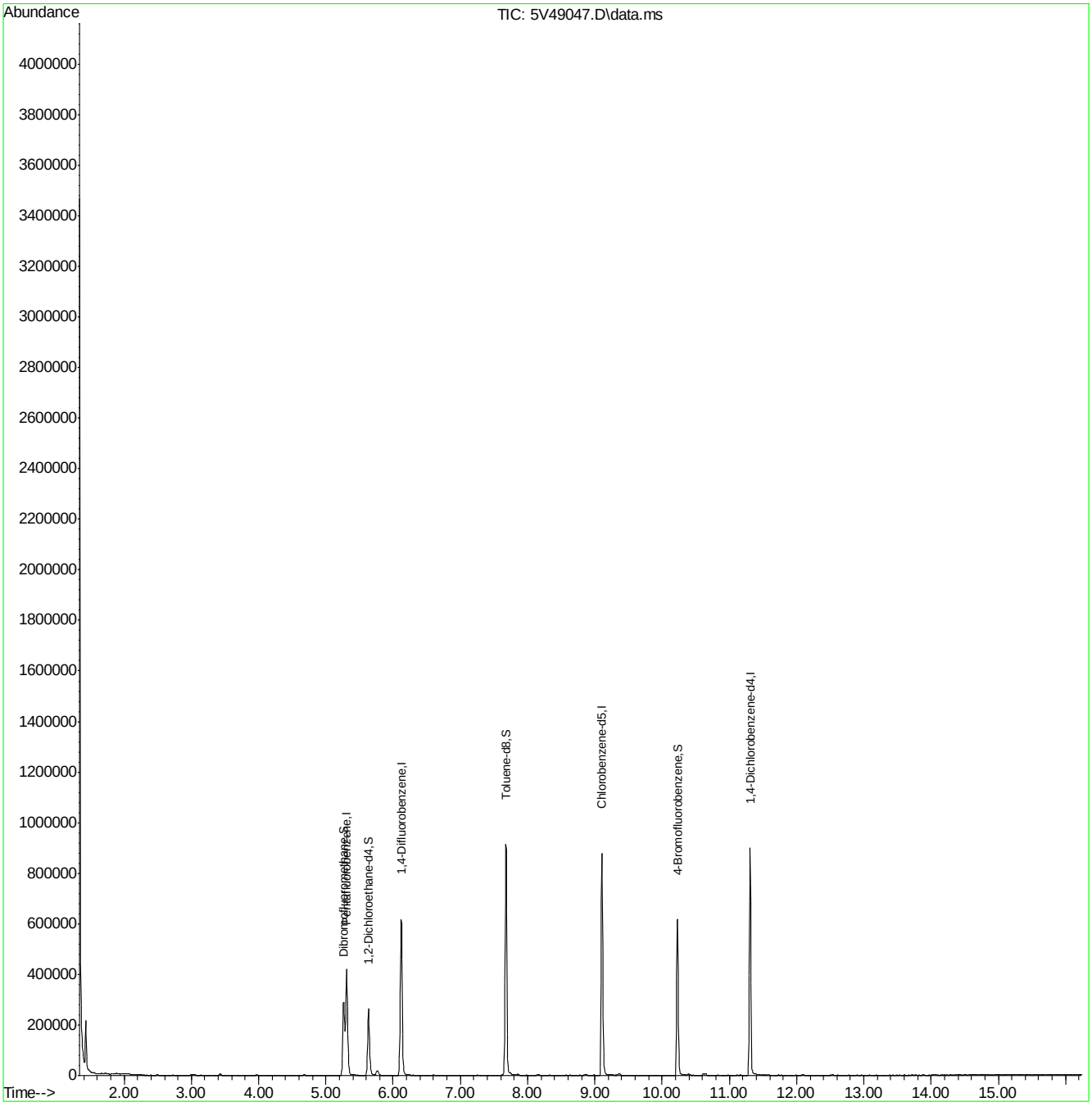
Target Compounds					Qvalue
9) Ethyl Alcohol	2.669	45	95	Below Cal	# 1
14) Acetone	3.004	43	7066	Below Cal	92
62) 2-Hexanone	8.333	43	368	Below Cal	# 43

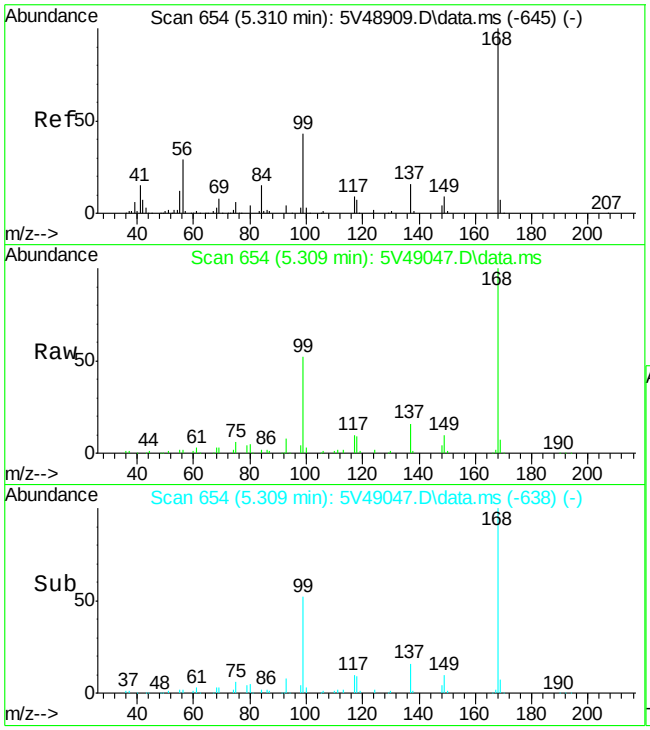
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49047.D
Acq On : 4 Aug 2018 12:19 am
Operator : gabrielo
Sample : da7701-8
Misc : MS11266,V5V2625,5.09,,,5,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 06 12:13:40 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

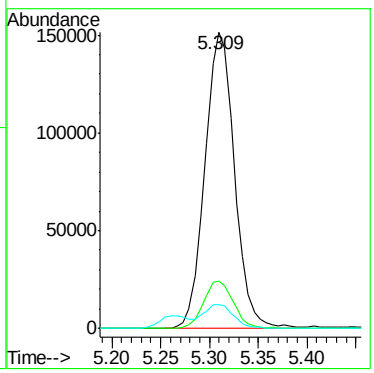


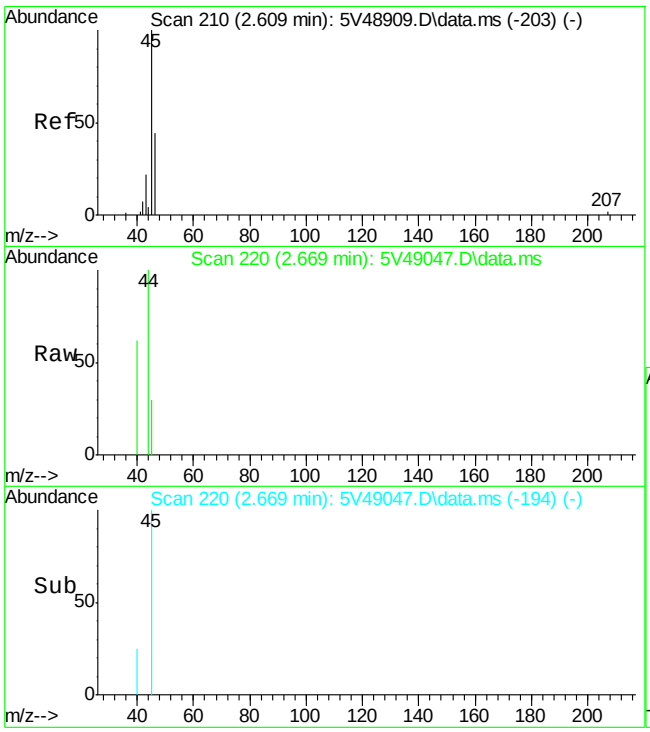


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.309 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion:168 Resp: 317684

Ion	Ratio	Lower	Upper
168	100		
137	16.0	0.0	35.6
93	8.5	0.0	27.3

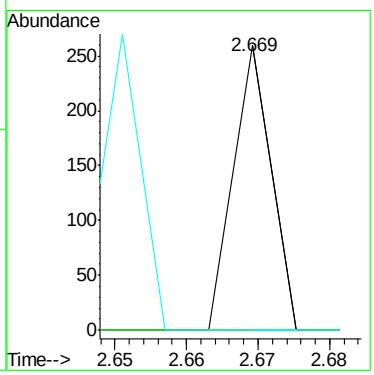


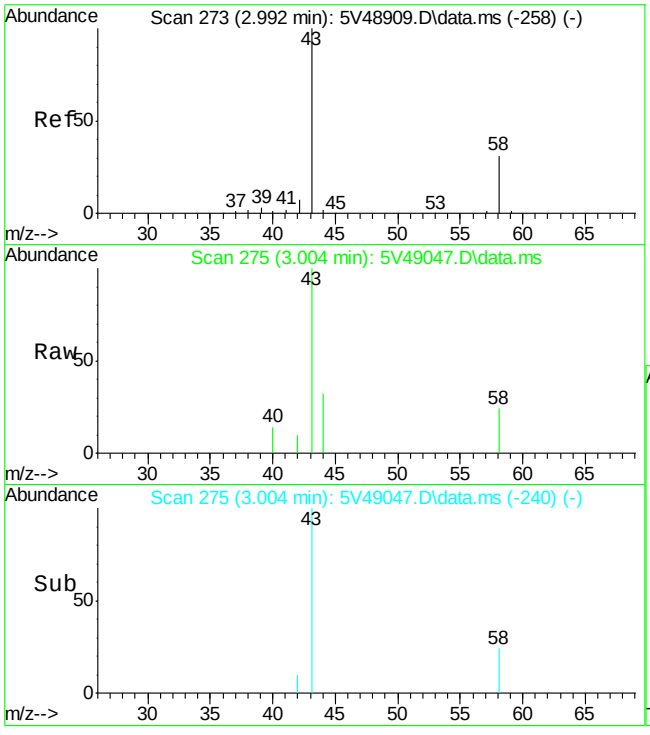


#9
Ethyl Alcohol
Concen: Below Cal
RT: 2.669 min Scan# 220
Delta R.T. 0.060 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion: 45 Resp: 95

Ion	Ratio	Lower	Upper
45	100		
46	0.0	17.2	57.2#
43	104.2	0.0	39.6#

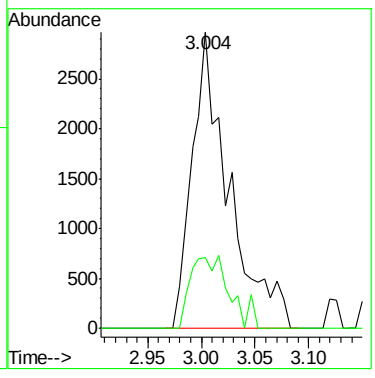


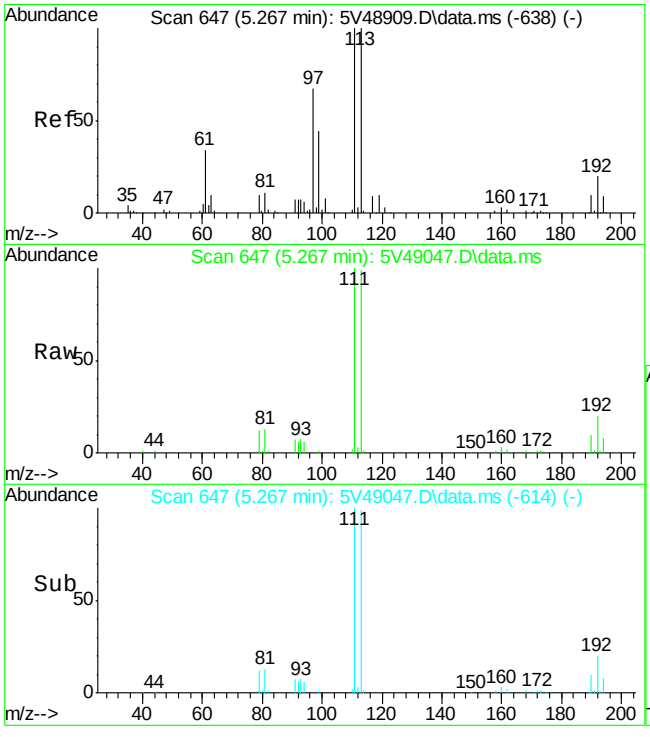


#14
Acetone
Concen: Below Cal
RT: 3.004 min Scan# 275
Delta R.T. 0.012 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion: 43 Resp: 7066

Ion	Ratio	Lower	Upper
43	100		
58	25.8	10.3	50.3

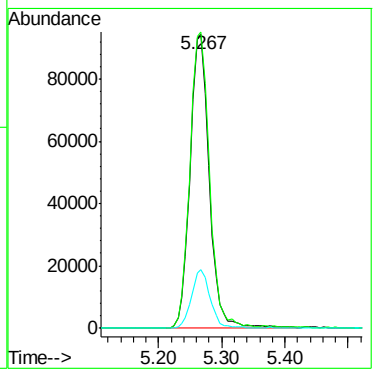


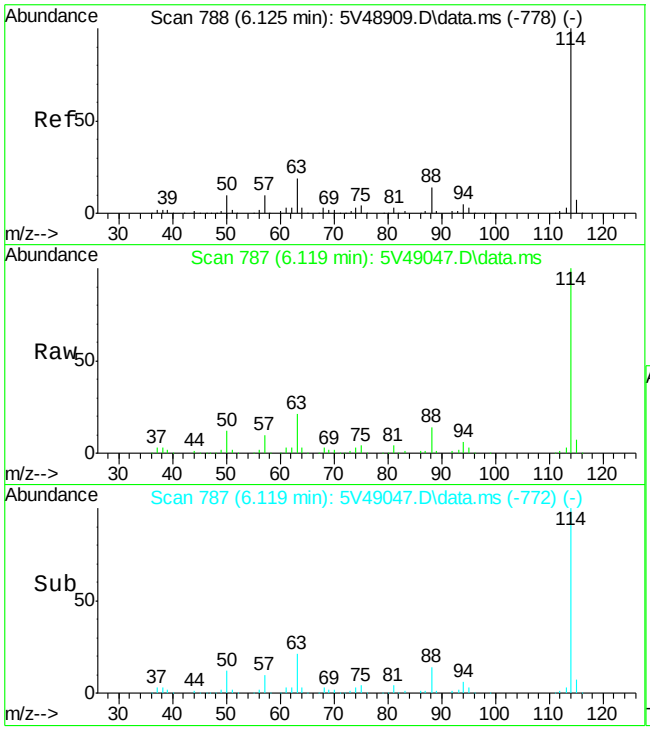


#35
Dibromofluoromethane
Concen: 57.82 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion:113 Resp: 198564

Ion	Ratio	Lower	Upper
113	100		
111	103.9	83.2	123.2
192	19.1	0.0	39.4

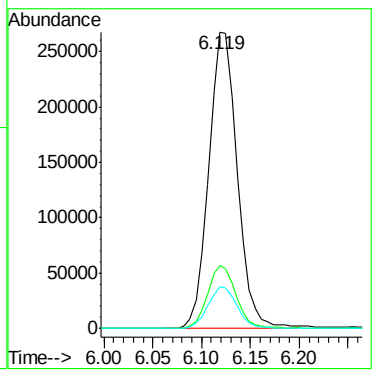


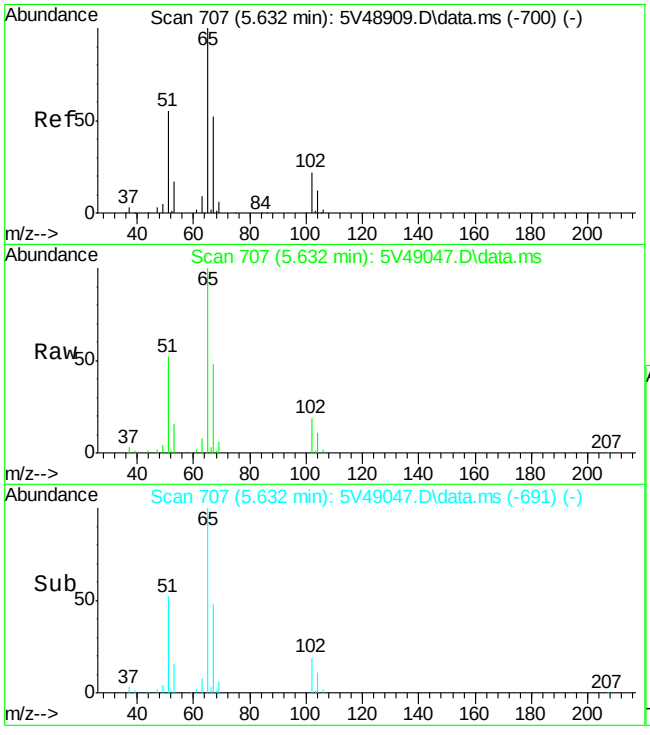


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.119 min Scan# 787
Delta R.T. -0.006 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion:114 Resp: 541281

Ion	Ratio	Lower	Upper
114	100		
63	21.0	0.2	40.2
88	14.0	0.0	34.0

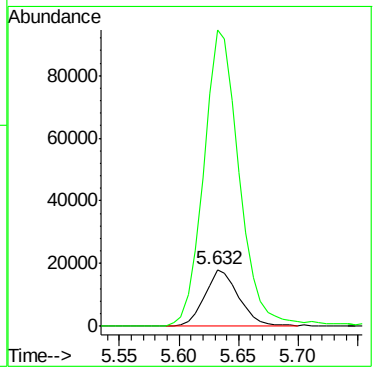




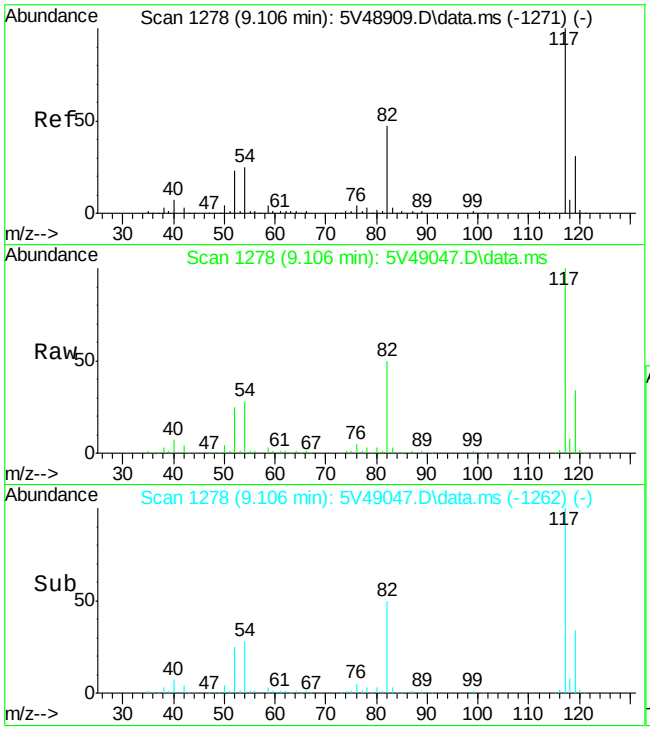
#41
1,2-Dichloroethane-d4
Concen: 51.69 ppb
RT: 5.632 min Scan# 707
Delta R.T. -0.000 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion:102 Resp: 35527

Ion	Ratio	Lower	Upper
102	100		
65	549.4	459.5	499.5#



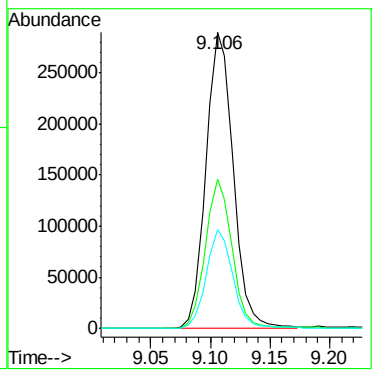
7.1.8

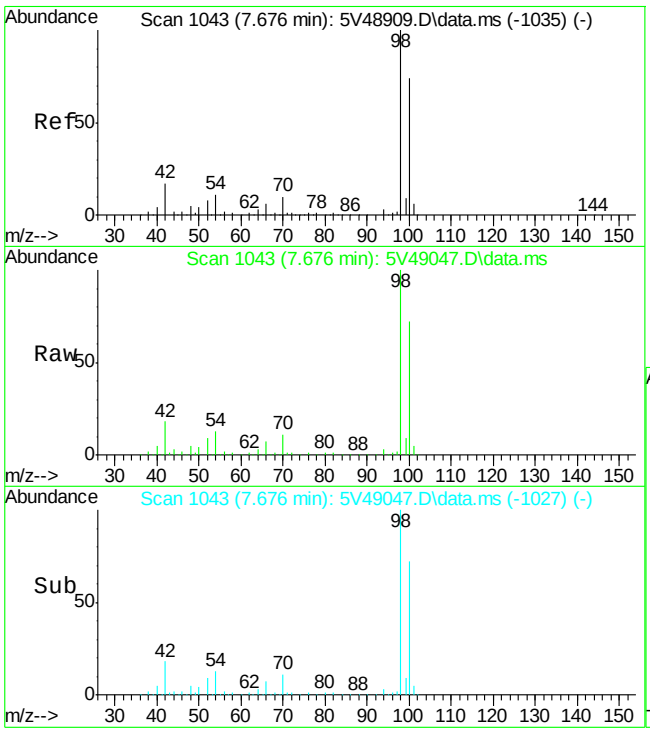


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion:117 Resp: 461234

Ion	Ratio	Lower	Upper
117	100		
82	49.2	28.0	68.0
119	32.4	11.5	51.5

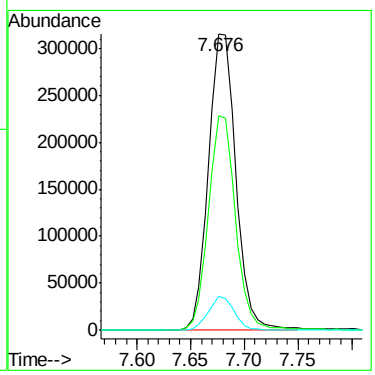




#56
Toluene-d8
Concen: 50.67 ppb
RT: 7.676 min Scan# 1043
Delta R.T. -0.000 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

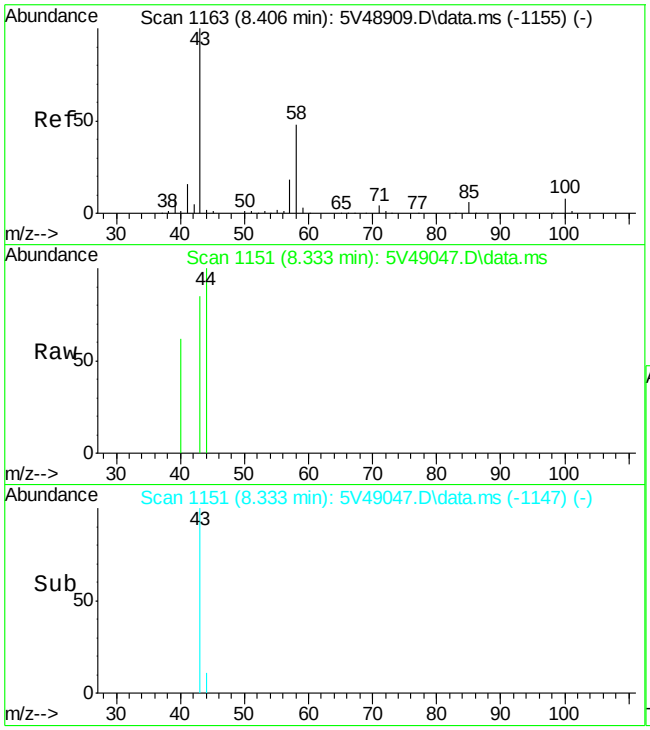
Tgt Ion: 98 Resp: 558694

Ion	Ratio	Lower	Upper
98	100		
100	71.2	51.5	91.5
70	10.7	0.0	30.2



7.1.8

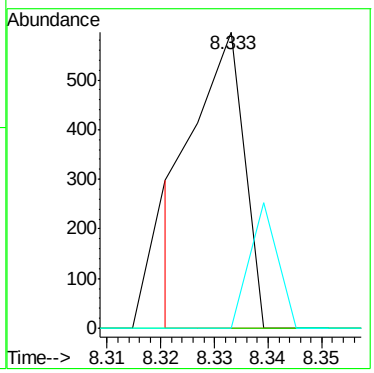
7

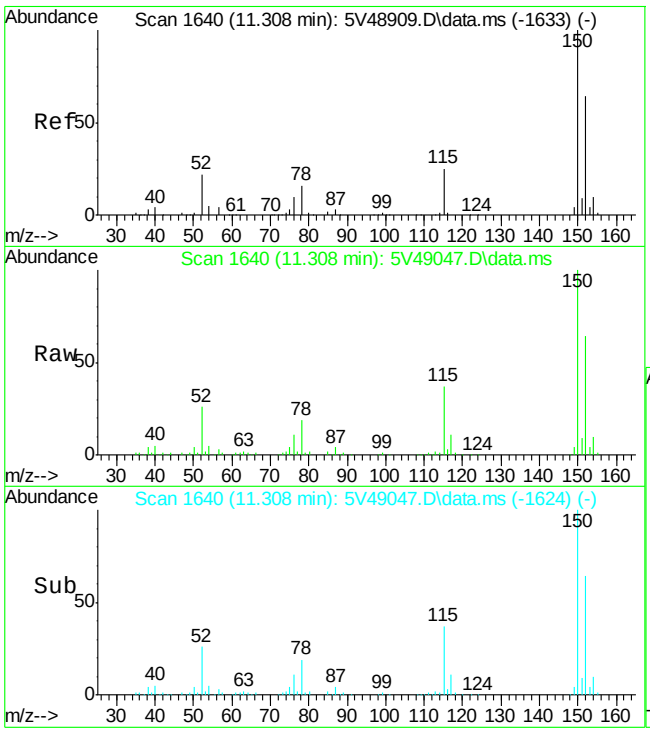


#62
2-Hexanone
Concen: Below Cal
RT: 8.333 min Scan# 1151
Delta R.T. -0.073 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion: 43 Resp: 368

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	25.0	0.0	37.3

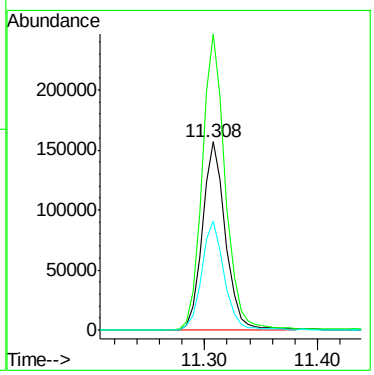




#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

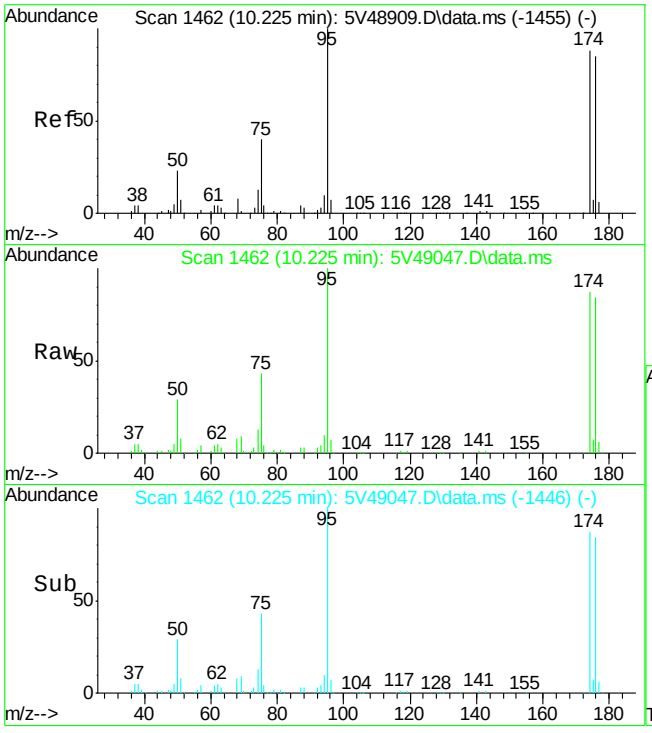
Tgt Ion:152 Resp: 223642

Ion	Ratio	Lower	Upper
152	100		
150	157.3	148.8	188.8
115	56.6	34.9	74.9



7.1.8

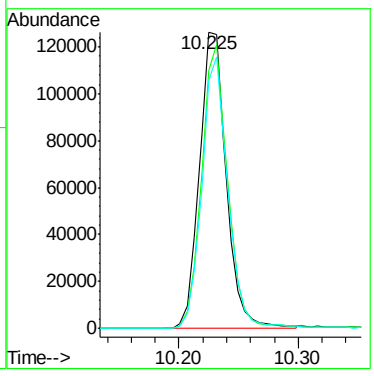
7



#76
4-Bromofluorobenzene
Concen: 54.43 ppb
RT: 10.225 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 5V49047.D
Acq: 4 Aug 2018 12:19 am

Tgt Ion: 95 Resp: 196355

Ion	Ratio	Lower	Upper
95	100		
174	93.2	74.4	114.4
176	88.8	71.3	111.3



7.1.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49048.D
Acq On : 4 Aug 2018 12:44 am
Operator : gabrielo
Sample : da7701-9
Misc : MS11266,V5V2625,5.05,,,5,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 06 12:14:25 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

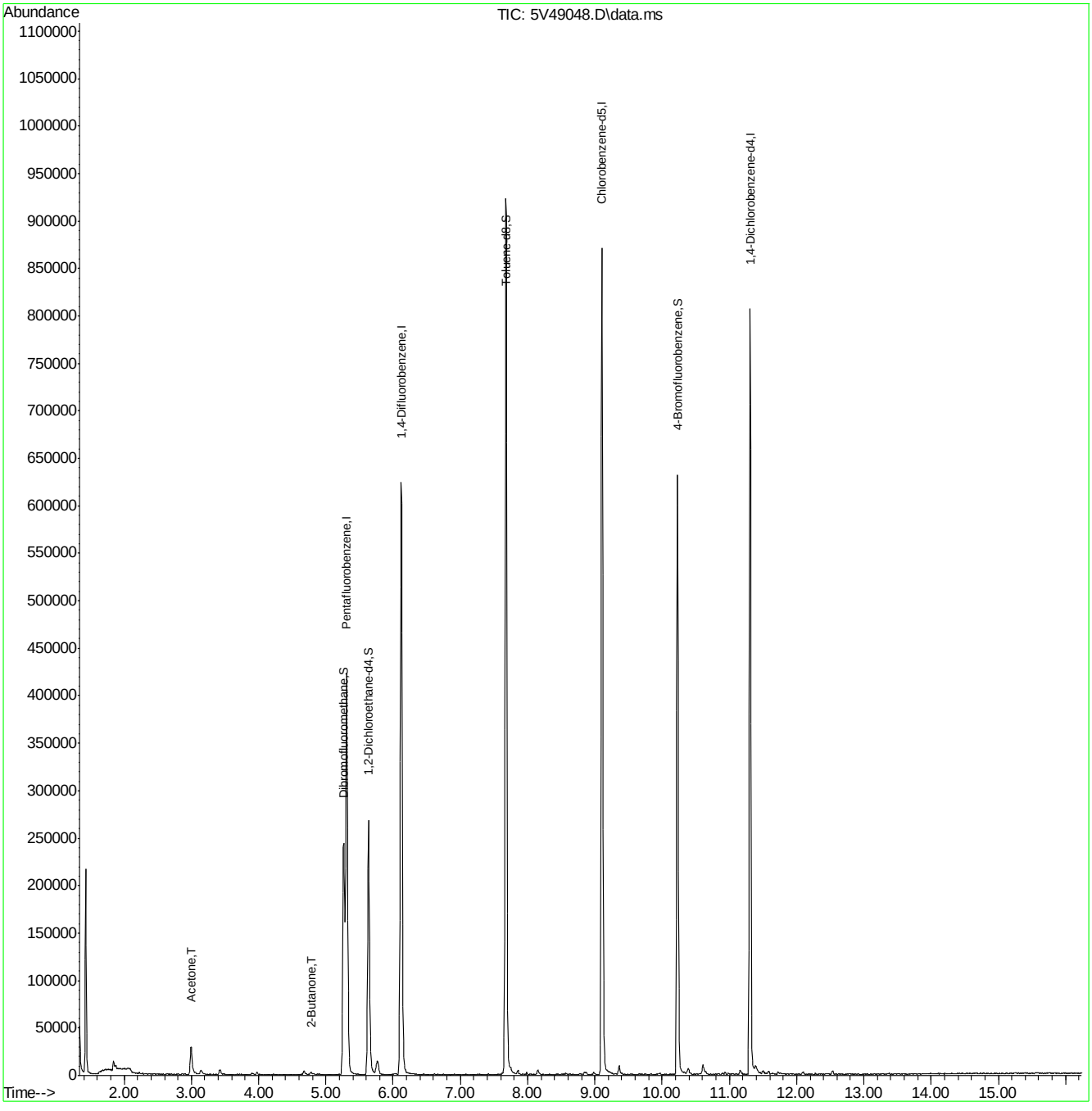
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
2) Pentafluorobenzene	5.309	168	325720	50.00 ppb	0.00
40) 1,4-Difluorobenzene	6.119	114	540838	50.00 ppb	0.00
55) Chlorobenzene-d5	9.106	117	473430	50.00 ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	210271	50.00 ppb	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	5.261	113	167065	47.45 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.90%		
41) 1,2-Dichloroethane-d4	5.632	102	36725	53.48 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 106.96%		
56) Toluene-d8	7.676	98	567229	50.12 ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 100.24%		
76) 4-Bromofluorobenzene	10.231	95	195926	57.77 ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 115.54%		
Target Compounds					Qvalue
9) Ethyl Alcohol	2.614	45	218	Below Cal #	44
14) Acetone	2.998	43	44560	36.97 ppb	89
30) 2-Butanone	4.780	43	5311	8.46 ppb	72
62) 2-Hexanone	8.443	43	207	Below Cal #	1
71) Amyl Acetate	9.945	43	119	Below Cal #	1

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

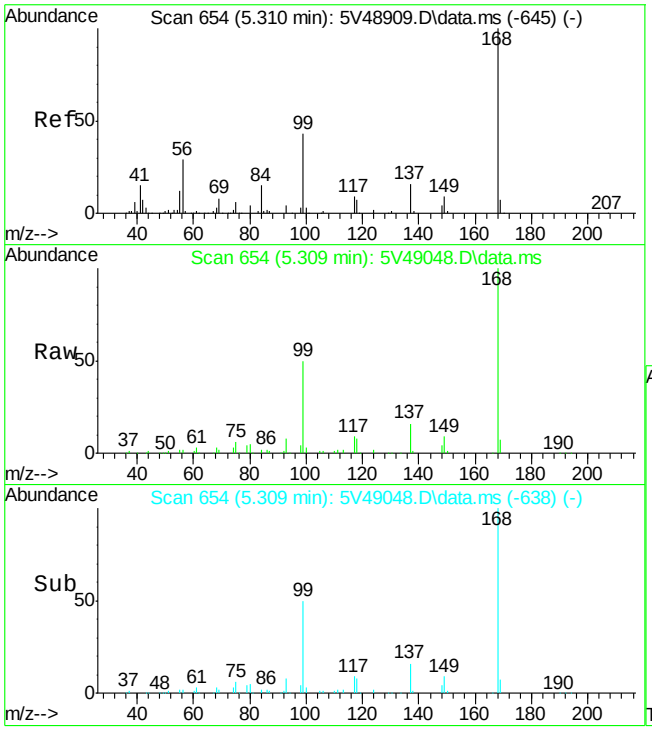
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49048.D
Acq On : 4 Aug 2018 12:44 am
Operator : gabrielo
Sample : da7701-9
Misc : MS11266,V5V2625,5.05,,,5,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 06 12:14:25 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration



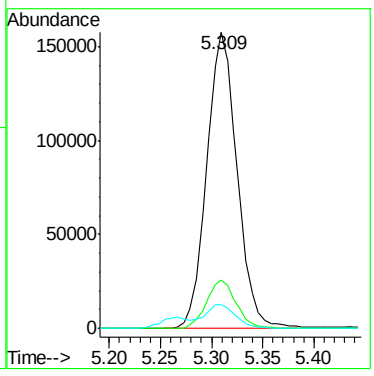
V5V2619soil.M Mon Aug 06 12:27:17 2018 VOA5 Page: 2

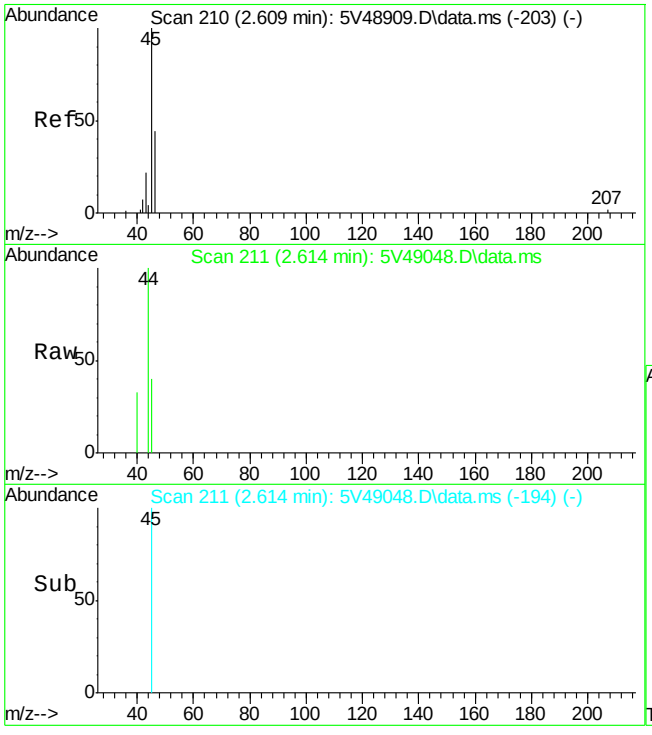


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.309 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion:168 Resp: 325720

Ion	Ratio	Lower	Upper
168	100		
137	15.8	0.0	35.6
93	8.2	0.0	27.3

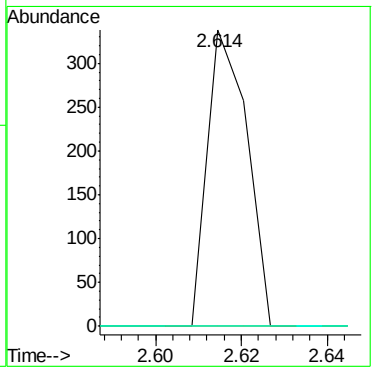


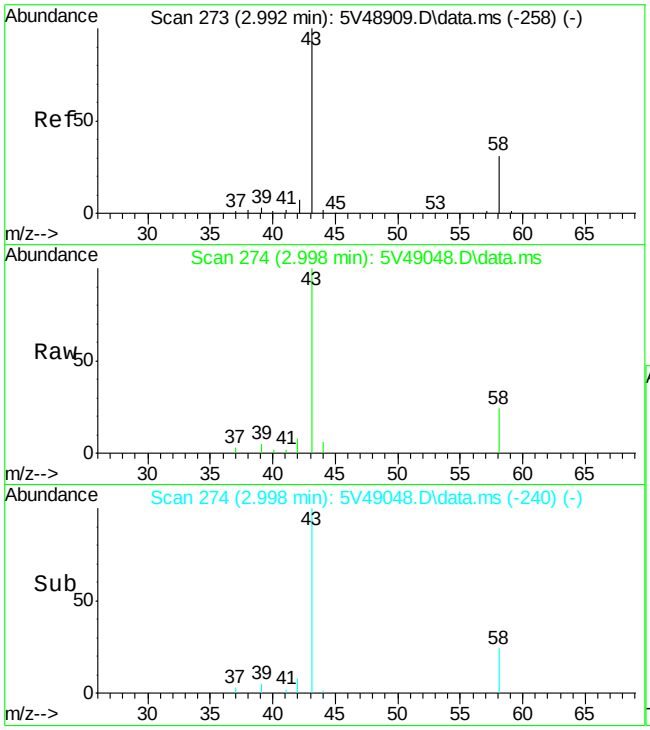


#9
Ethyl Alcohol
Concen: Below Cal
RT: 2.614 min Scan# 211
Delta R.T. 0.006 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion: 45 Resp: 218

Ion	Ratio	Lower	Upper
45	100		
46	0.0	17.2	57.2#
43	0.0	0.0	39.6

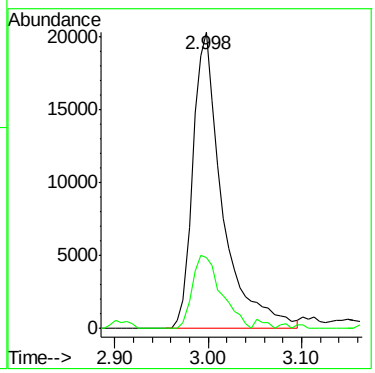


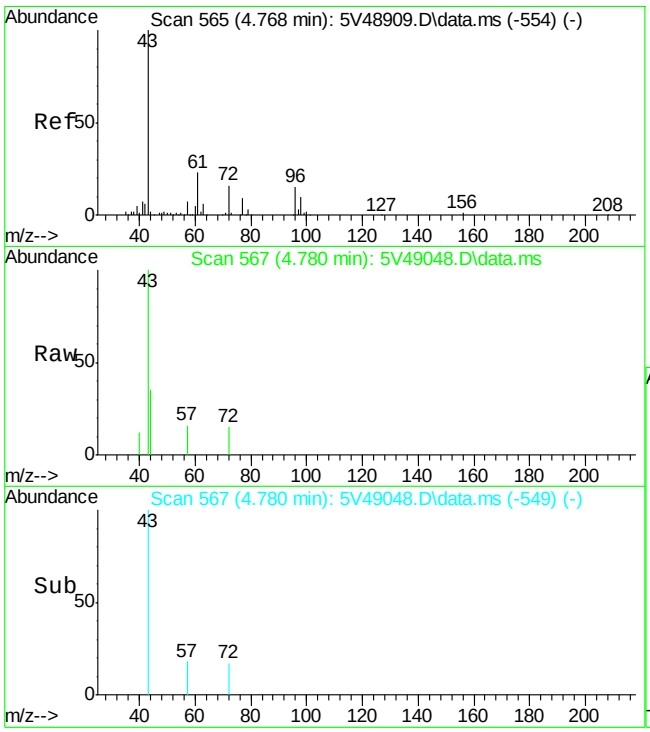


#14
Acetone
Concen: 36.97 ppb
RT: 2.998 min Scan# 274
Delta R.T. 0.006 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion: 43 Resp: 44560

Ion	Ratio	Lower	Upper
43	100		
58	24.1	10.3	50.3

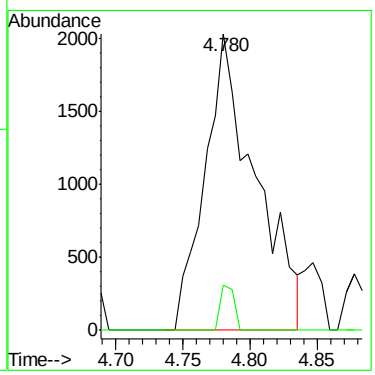


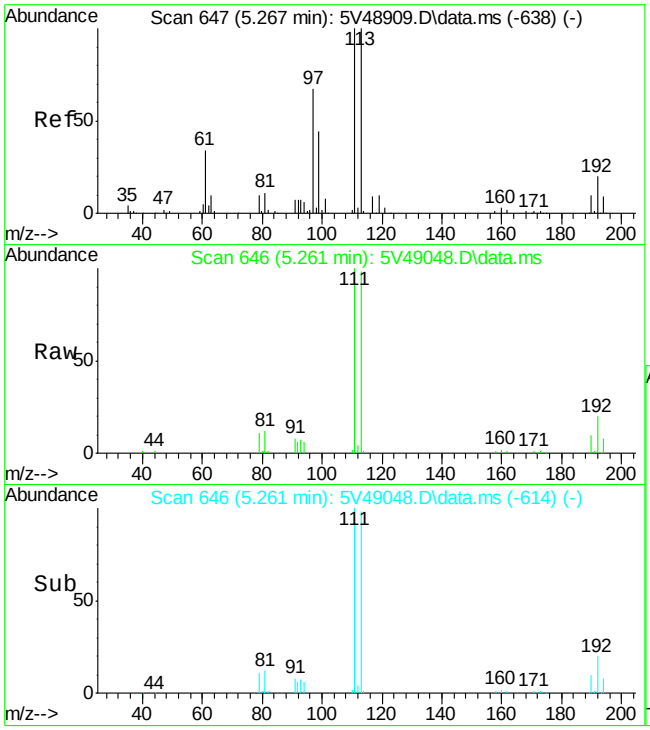


#30
2-Butanone
Concen: 8.46 ppb
RT: 4.780 min Scan# 567
Delta R.T. 0.012 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion: 43 Resp: 5311

Ion	Ratio	Lower	Upper
43	100		
72	4.0	0.0	35.9

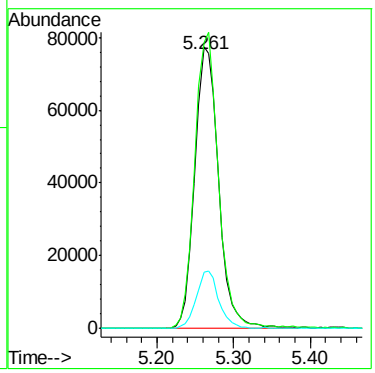


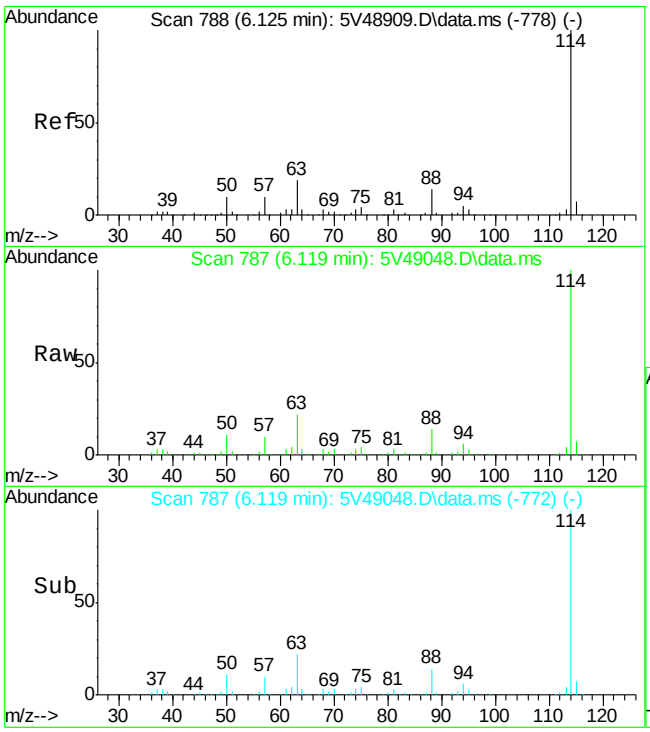


#35
Dibromofluoromethane
Concen: 47.45 ppb
RT: 5.261 min Scan# 646
Delta R.T. -0.006 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion:113 Resp: 167065

Ion	Ratio	Lower	Upper
113	100		
111	104.6	83.2	123.2
192	19.1	0.0	39.4

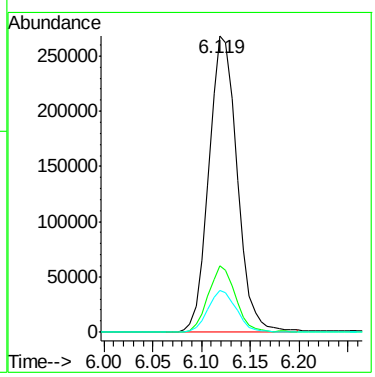




#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.119 min Scan# 787
Delta R.T. -0.006 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

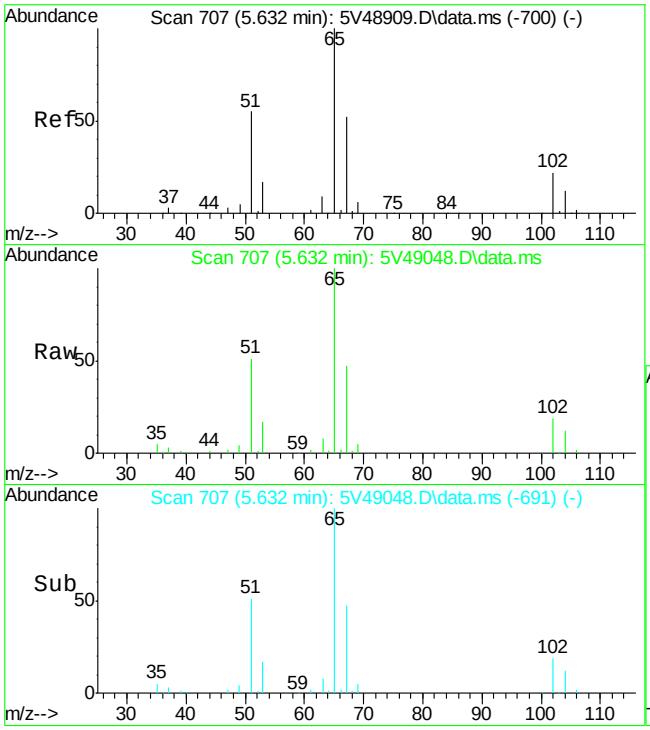
Tgt Ion:114 Resp: 540838

Ion	Ratio	Lower	Upper
114	100		
63	21.5	0.2	40.2
88	14.1	0.0	34.0



7.1.9

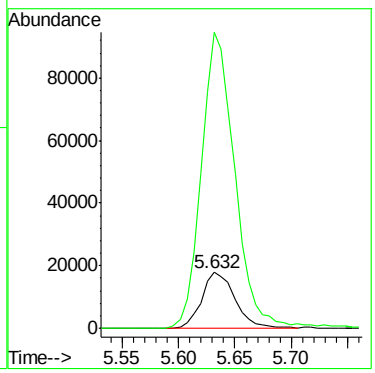
7

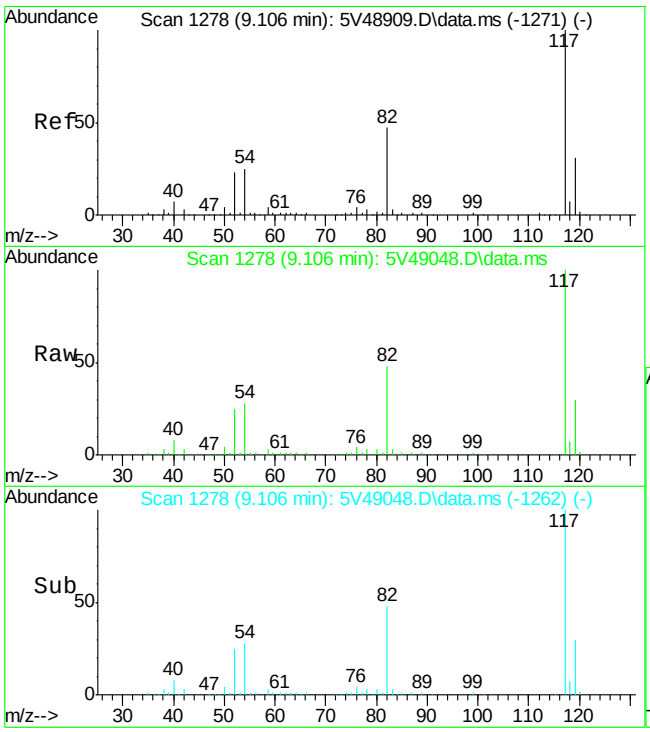


#41
1,2-Dichloroethane-d4
Concen: 53.48 ppb
RT: 5.632 min Scan# 707
Delta R.T. -0.000 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion:102 Resp: 36725

Ion	Ratio	Lower	Upper
102	100		
65	525.6	459.5	499.5#

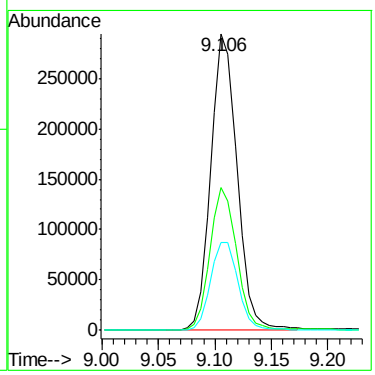


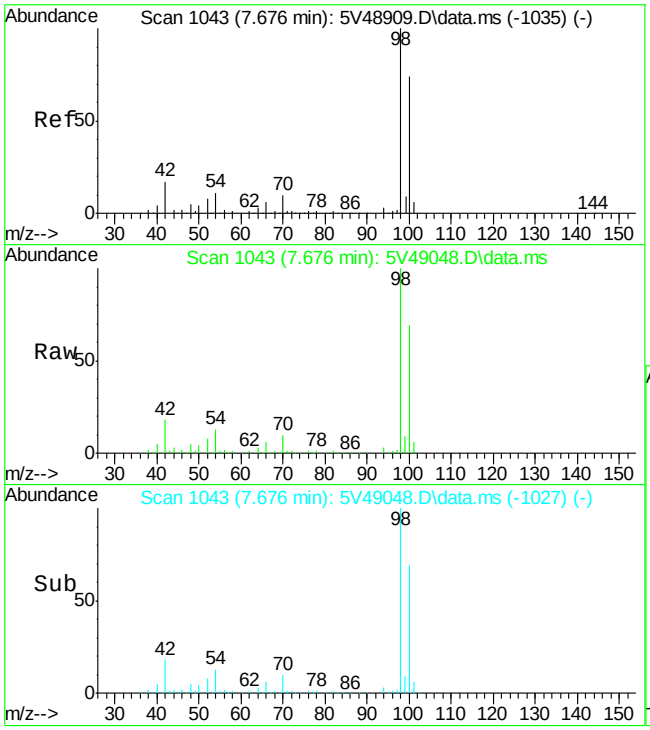


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion:117 Resp: 473430

Ion	Ratio	Lower	Upper
117	100		
82	48.6	28.0	68.0
119	31.0	11.5	51.5

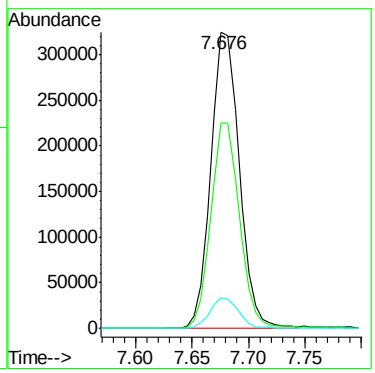


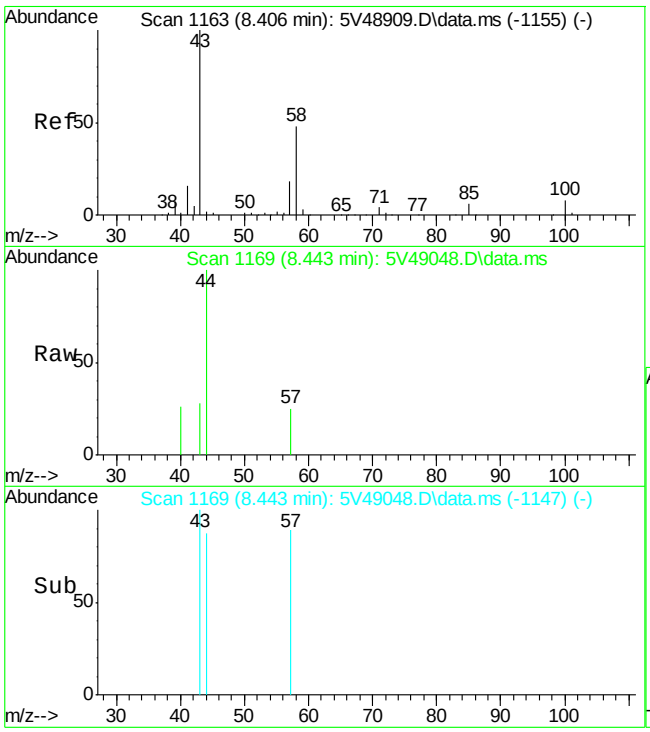


#56
Toluene-d8
Concen: 50.12 ppb
RT: 7.676 min Scan# 1043
Delta R.T. -0.000 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion: 98 Resp: 567229

Ion	Ratio	Lower	Upper
98	100		
100	69.6	51.5	91.5
70	10.3	0.0	30.2

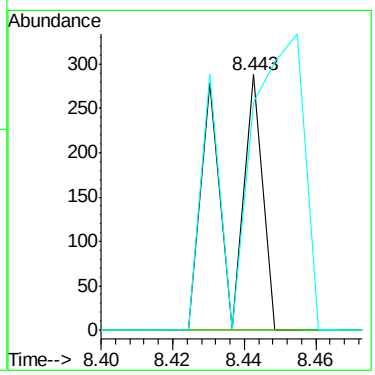


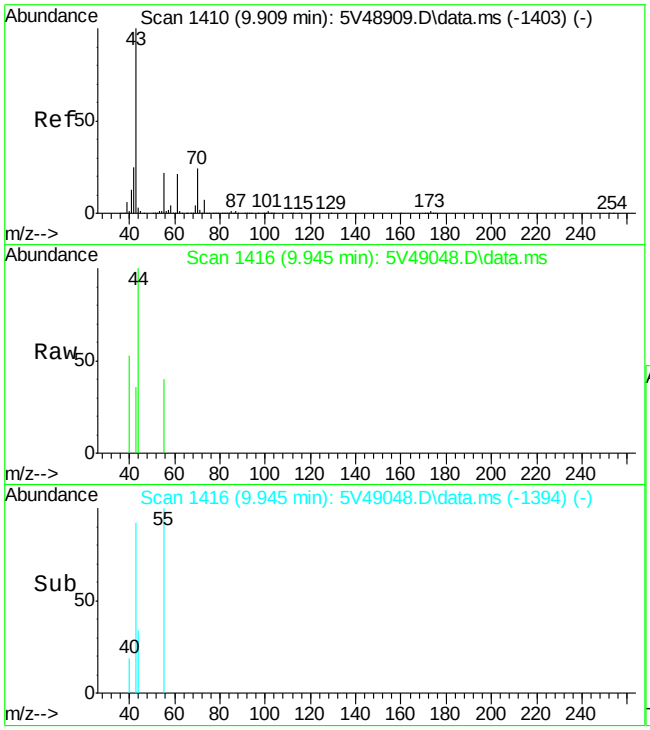


#62
2-Hexanone
Concen: Below Cal
RT: 8.443 min Scan# 1169
Delta R.T. 0.036 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion: 43 Resp: 207

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	208.2	0.0	37.3#

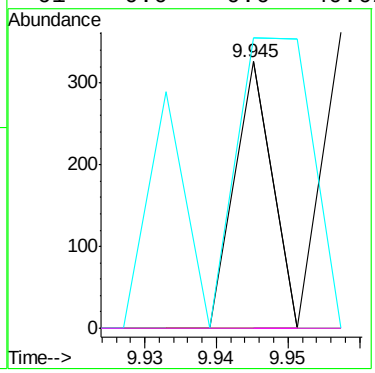


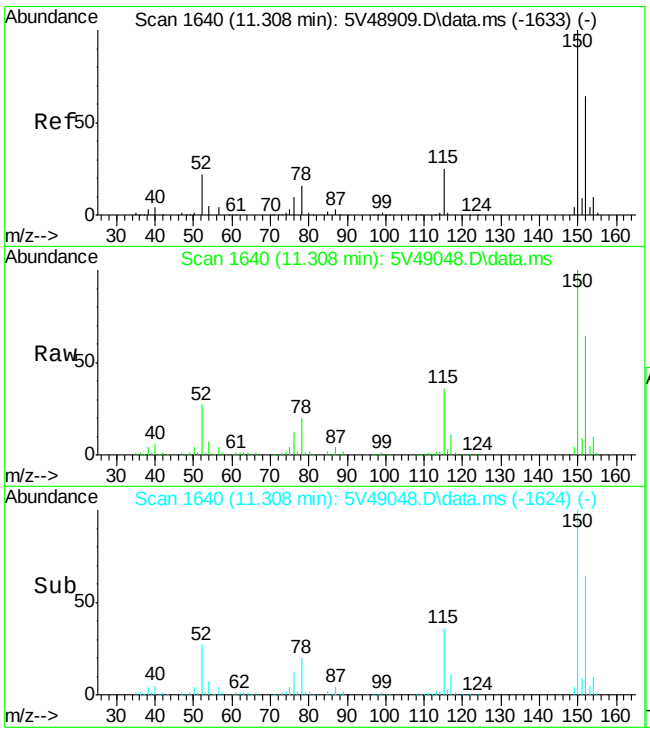


#71
Amyl Acetate
Concen: Below Cal
RT: 9.945 min Scan# 1416
Delta R.T. 0.036 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion: 43 Resp: 119

Ion	Ratio	Lower	Upper
43	100		
70	0.0	3.9	43.9#
55	305.9	2.0	42.0#
61	0.0	0.6	40.6#

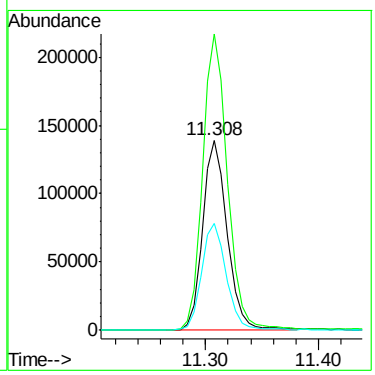


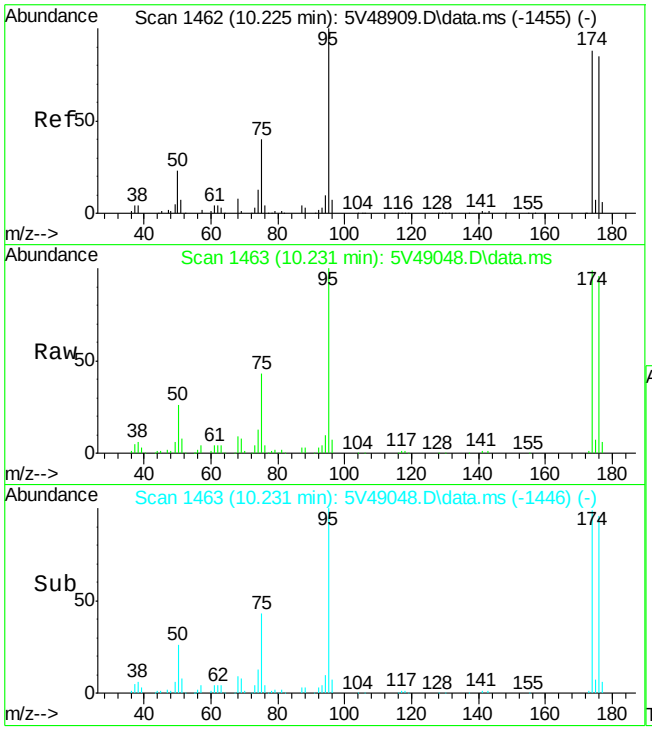


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion:152 Resp: 210271

Ion	Ratio	Lower	Upper
152	100		
150	157.5	148.8	188.8
115	56.7	34.9	74.9

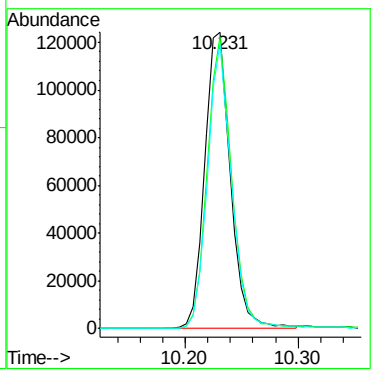




#76
4-Bromofluorobenzene
Concen: 57.77 ppb
RT: 10.231 min Scan# 1463
Delta R.T. 0.006 min
Lab File: 5V49048.D
Acq: 4 Aug 2018 12:44 am

Tgt Ion: 95 Resp: 195926

Ion	Ratio	Lower	Upper
95	100		
174	93.3	74.4	114.4
176	89.3	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49049.D
Acq On : 4 Aug 2018 1:09 am
Operator : gabrielo
Sample : da7701-10
Misc : MS11266,V5V2625,5.06,,,5,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 06 12:18:23 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	320216	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.119	114	539187	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	467102	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	218832	50.00	ppb	0.00

System Monitoring Compounds						
35) Dibromofluoromethane	5.267	113	200218	57.84	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 115.68%			
41) 1,2-Dichloroethane-d4	5.632	102	35289	51.54	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.08%			
56) Toluene-d8	7.676	98	567365	50.81	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 101.62%			
76) 4-Bromofluorobenzene	10.225	95	197546	55.96	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 111.92%			

Target Compounds						Qvalue
9) Ethyl Alcohol	2.621	45	92	Below Cal	#	44
14) Acetone	2.998	43	24256	14.66	ppb	88
62) 2-Hexanone	8.327	43	323	Below Cal	#	37
71) Amyl Acetate	9.957	43	238	Below Cal	#	19

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

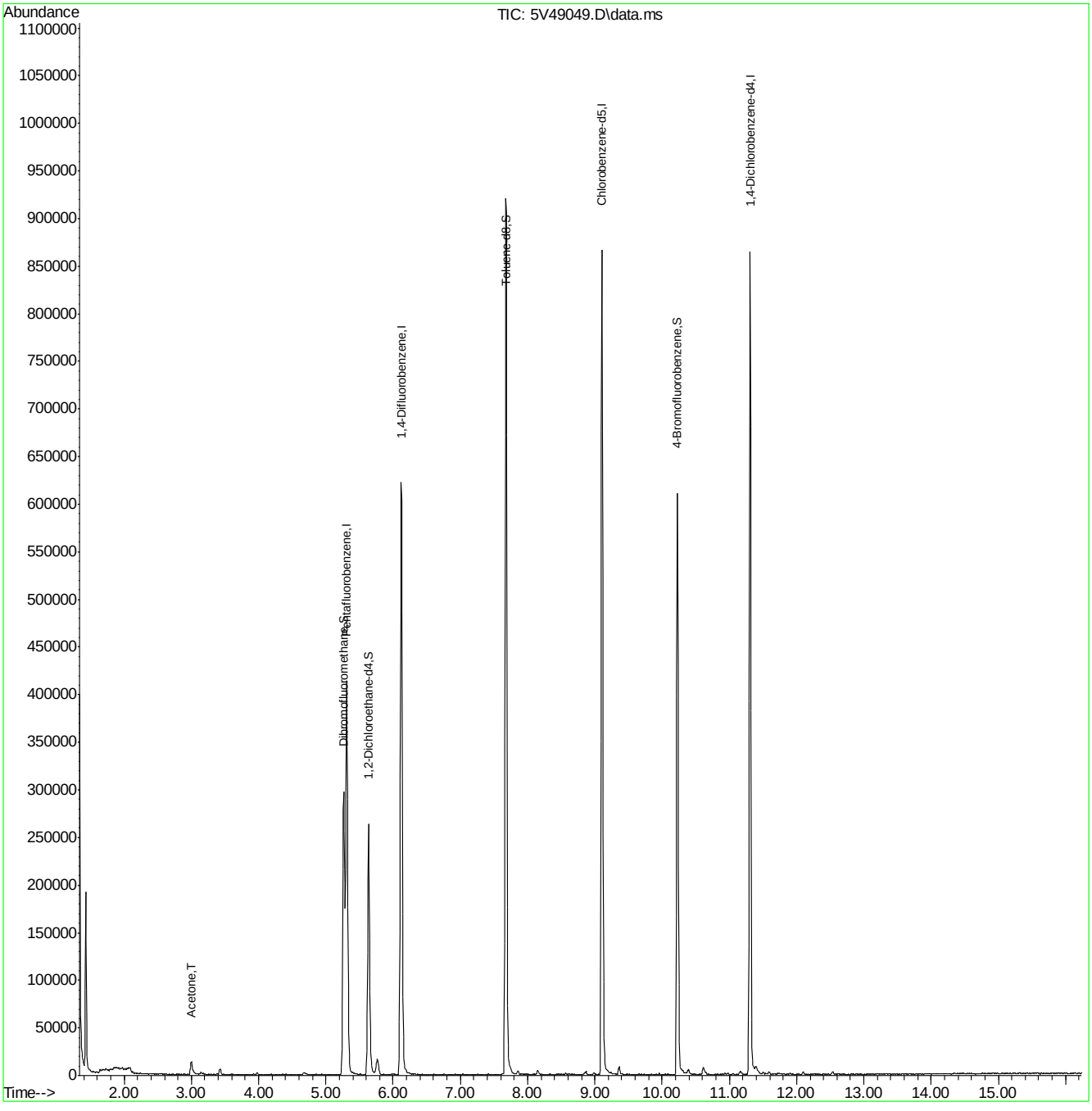
7.1.10

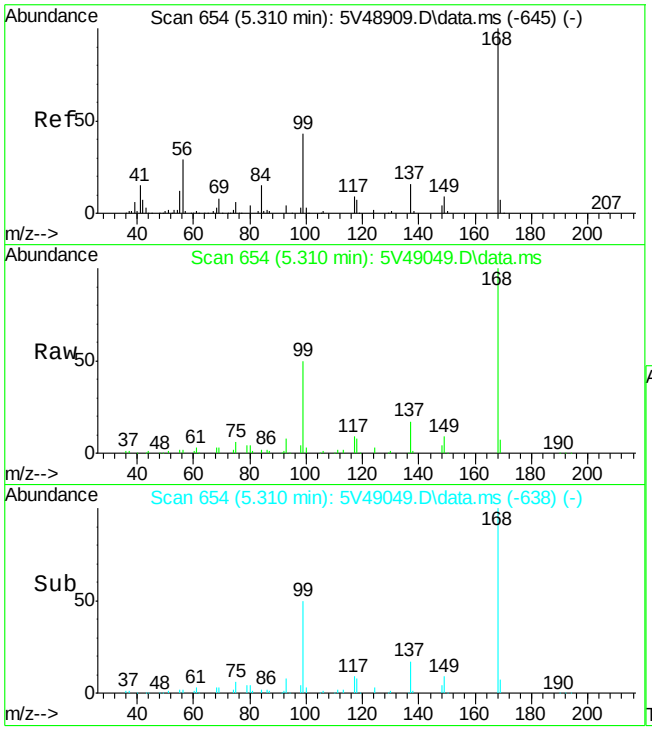
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49049.D
Acq On : 4 Aug 2018 1:09 am
Operator : gabrielo
Sample : da7701-10
Misc : MS11266,V5V2625,5.06,,,5,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 06 12:18:23 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

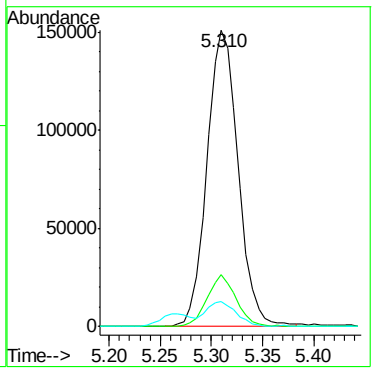


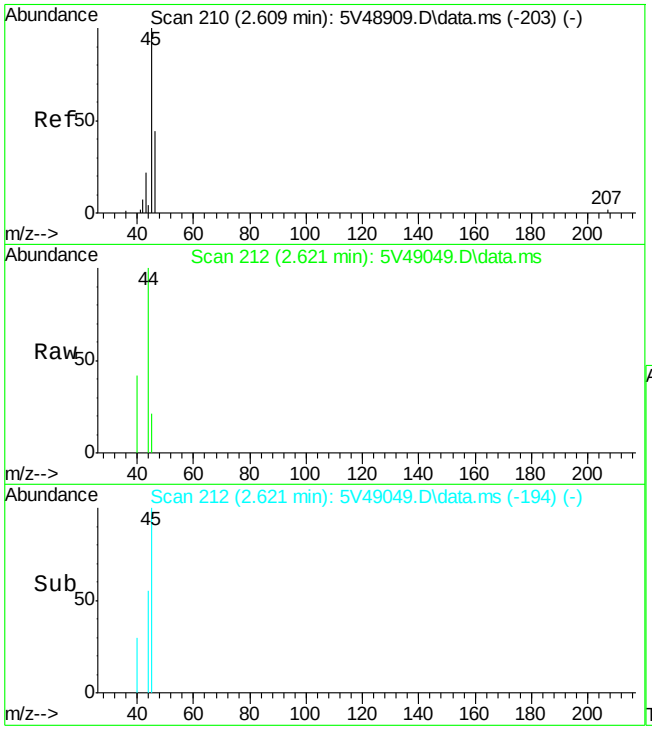


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion:168 Resp: 320216

Ion	Ratio	Lower	Upper
168	100		
137	16.1	0.0	35.6
93	8.1	0.0	27.3

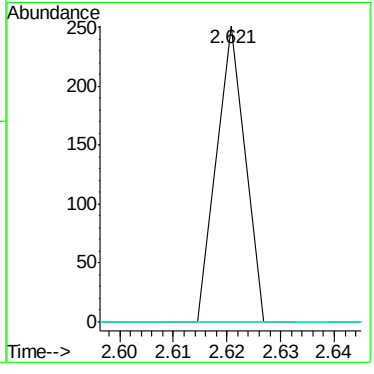


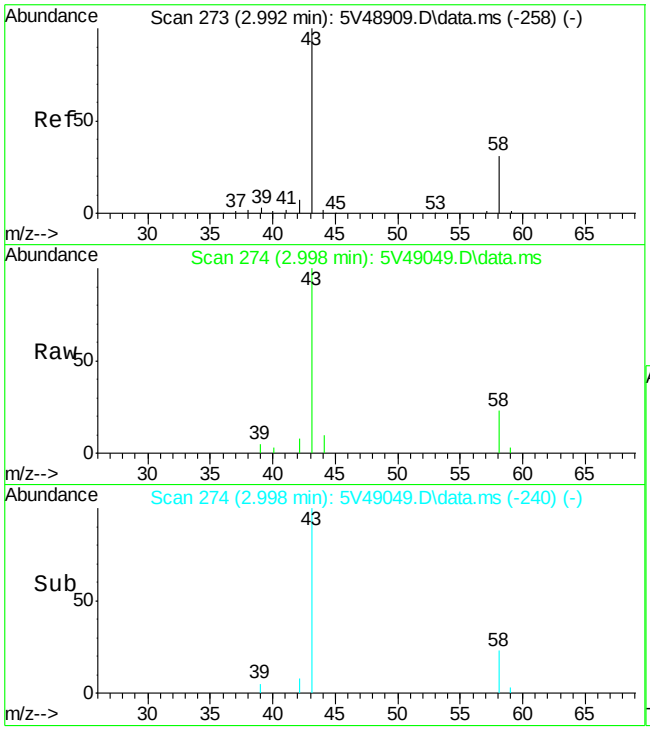


#9
Ethyl Alcohol
Concen: Below Cal
RT: 2.621 min Scan# 212
Delta R.T. 0.012 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion: 45 Resp: 92

Ion	Ratio	Lower	Upper
45	100		
46	0.0	17.2	57.2#
43	0.0	0.0	39.6

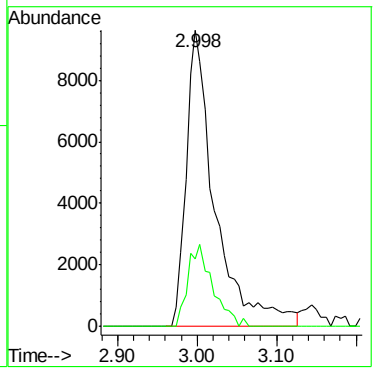


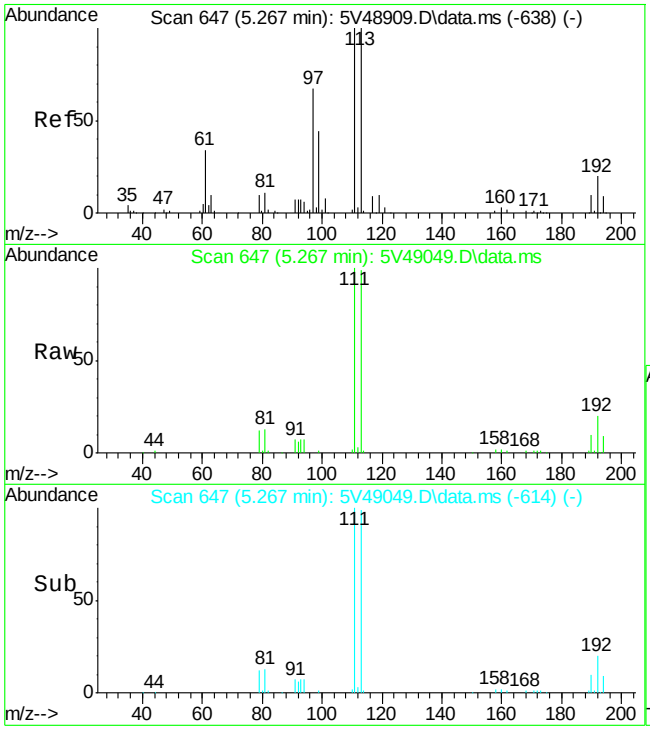


#14
Acetone
Concen: 14.66 ppb
RT: 2.998 min Scan# 274
Delta R.T. 0.006 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion: 43 Resp: 24256

Ion	Ratio	Lower	Upper
43	100		
58	24.0	10.3	50.3

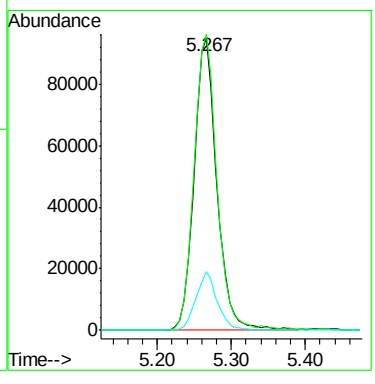


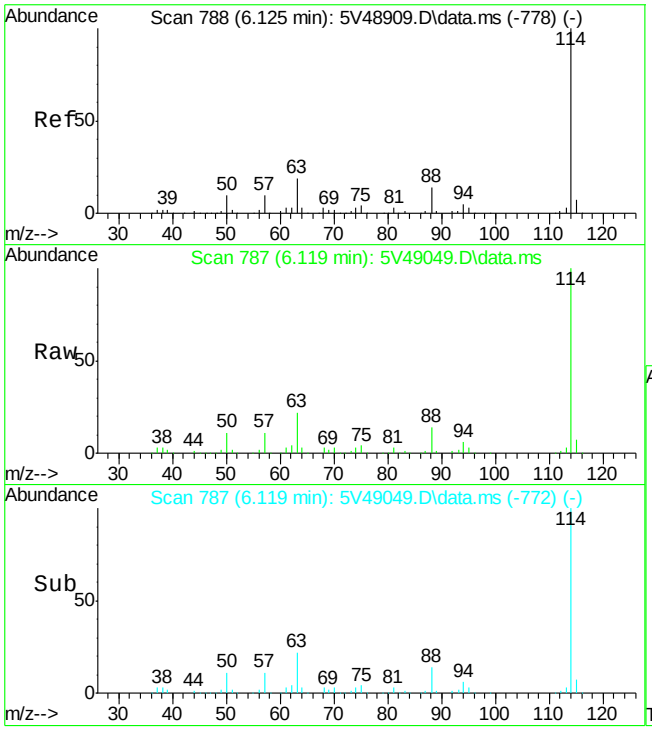


#35
Dibromofluoromethane
Concen: 57.84 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion:113 Resp: 200218

Ion	Ratio	Lower	Upper
113	100		
111	102.6	83.2	123.2
192	18.5	0.0	39.4

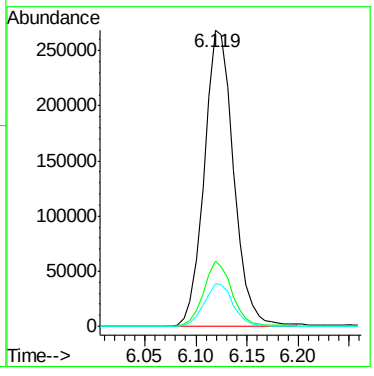


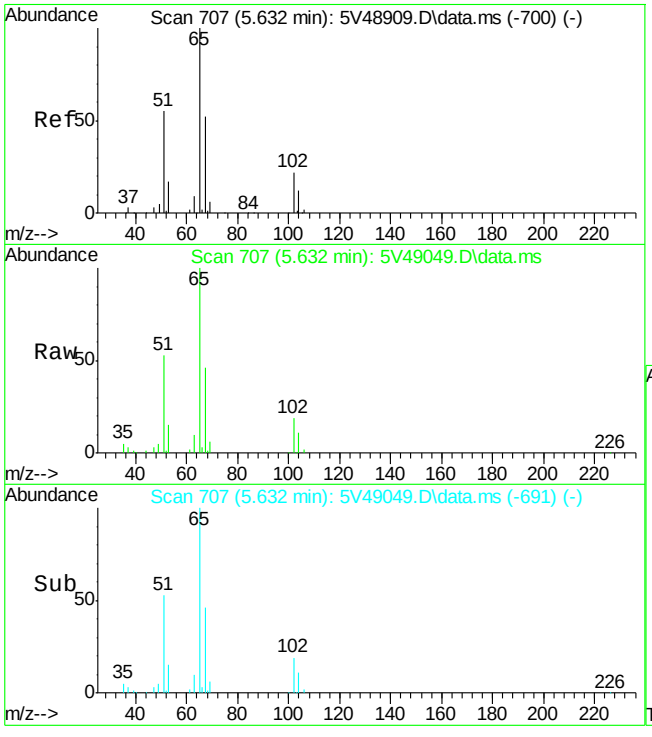


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.119 min Scan# 787
Delta R.T. -0.006 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion:114 Resp: 539187

Ion	Ratio	Lower	Upper
114	100		
63	21.2	0.2	40.2
88	14.3	0.0	34.0

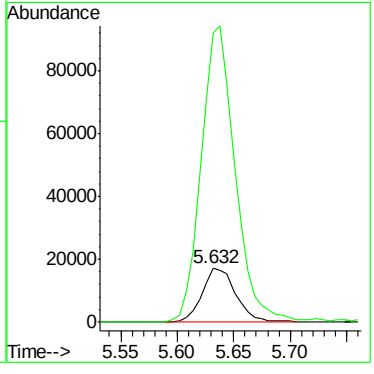


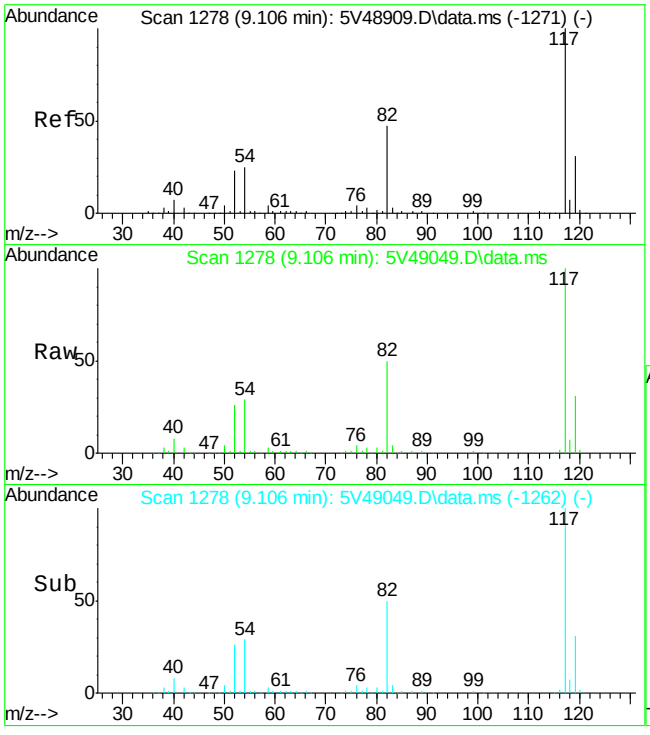


#41
1,2-Dichloroethane-d4
Concen: 51.54 ppb
RT: 5.632 min Scan# 707
Delta R.T. -0.000 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion:102 Resp: 35289

Ion	Ratio	Lower	Upper
102	100		
65	555.6	459.5	499.5#

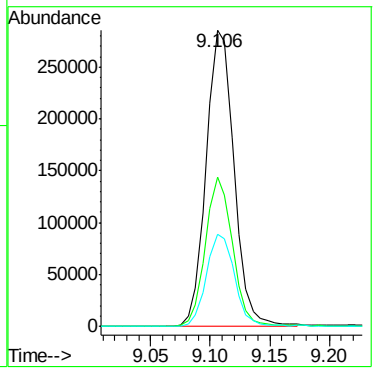


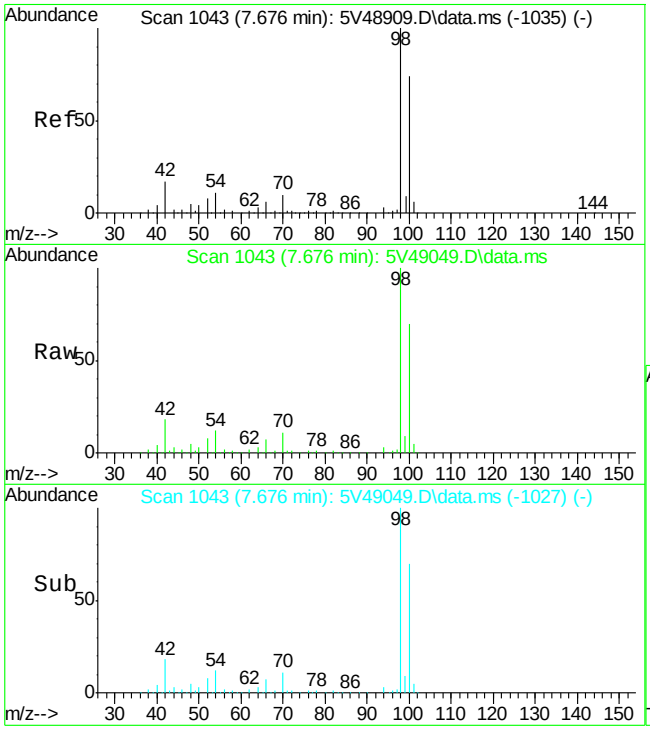


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion:117 Resp: 467102

Ion	Ratio	Lower	Upper
117	100		
82	48.8	28.0	68.0
119	31.4	11.5	51.5

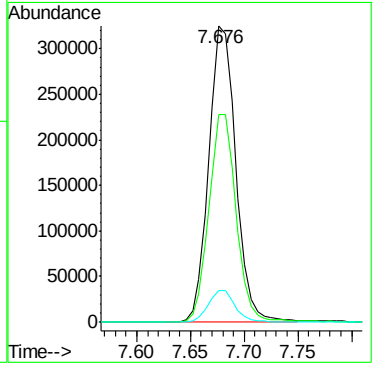


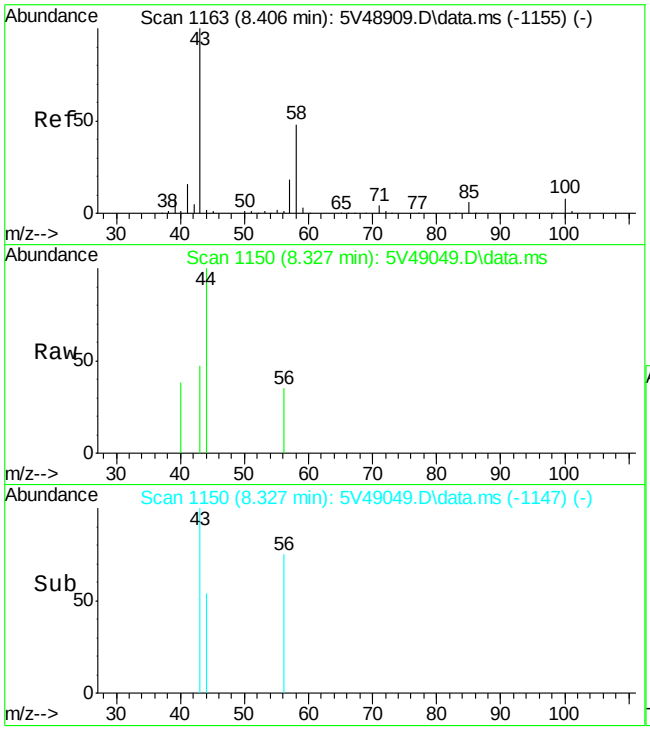


#56
Toluene-d8
Concen: 50.81 ppb
RT: 7.676 min Scan# 1043
Delta R.T. -0.000 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion: 98 Resp: 567365

Ion	Ratio	Lower	Upper
98	100		
100	70.4	51.5	91.5
70	10.6	0.0	30.2

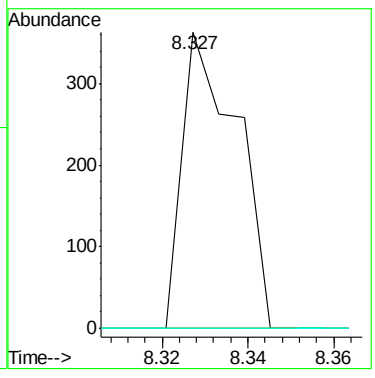


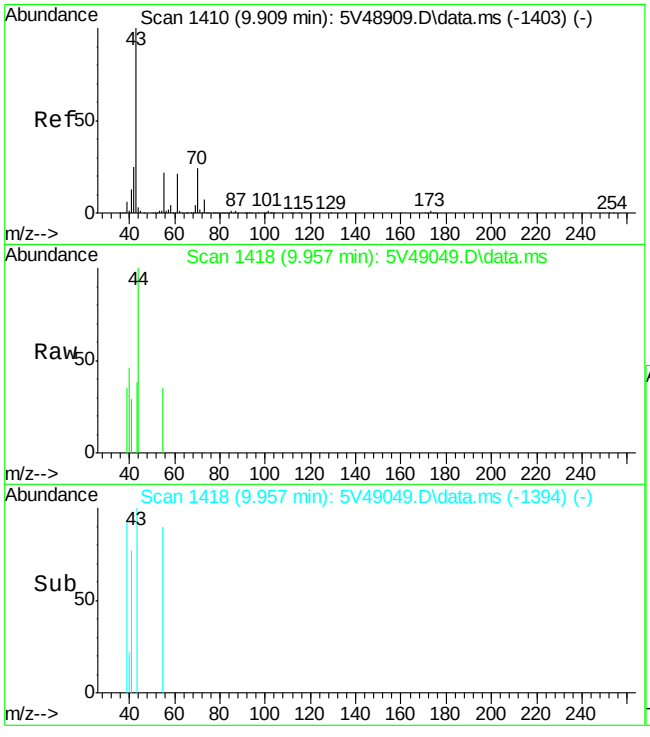


#62
2-Hexanone
Concen: Below Cal
RT: 8.327 min Scan# 1150
Delta R.T. -0.079 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion: 43 Resp: 323

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	0.0	0.0	37.3

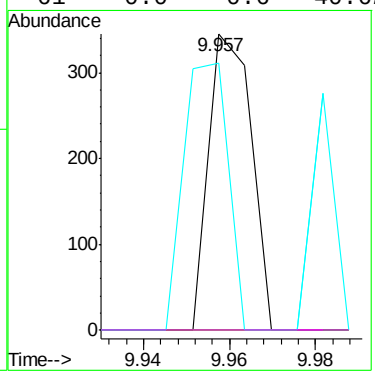


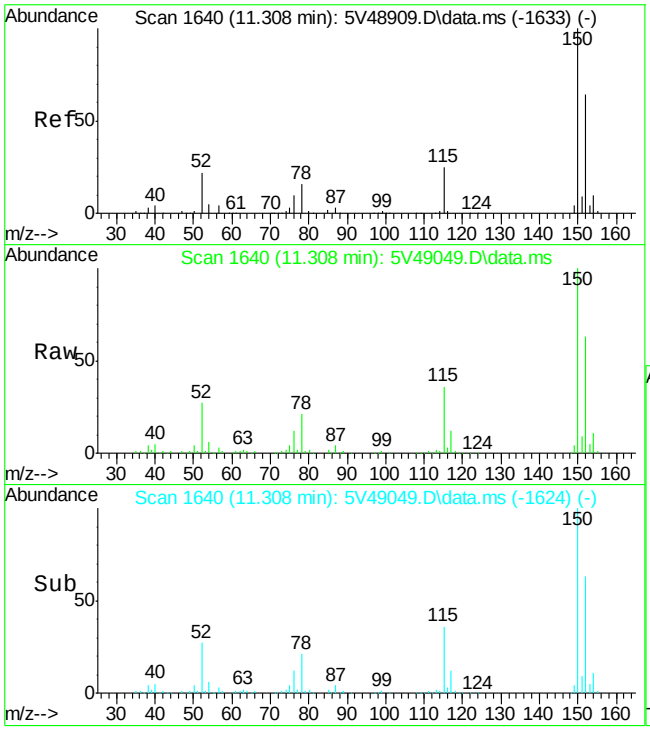


#71
Amyl Acetate
Concen: Below Cal
RT: 9.957 min Scan# 1418
Delta R.T. 0.048 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion: 43 Resp: 238

Ion	Ratio	Lower	Upper
43	100		
70	0.0	3.9	43.9#
55	94.1	2.0	42.0#
61	0.0	0.6	40.6#

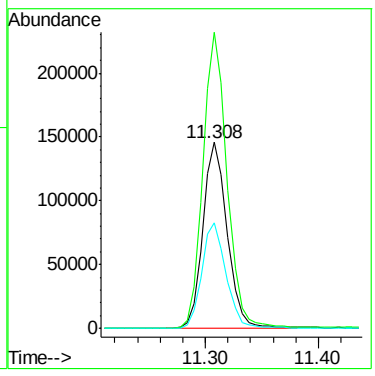


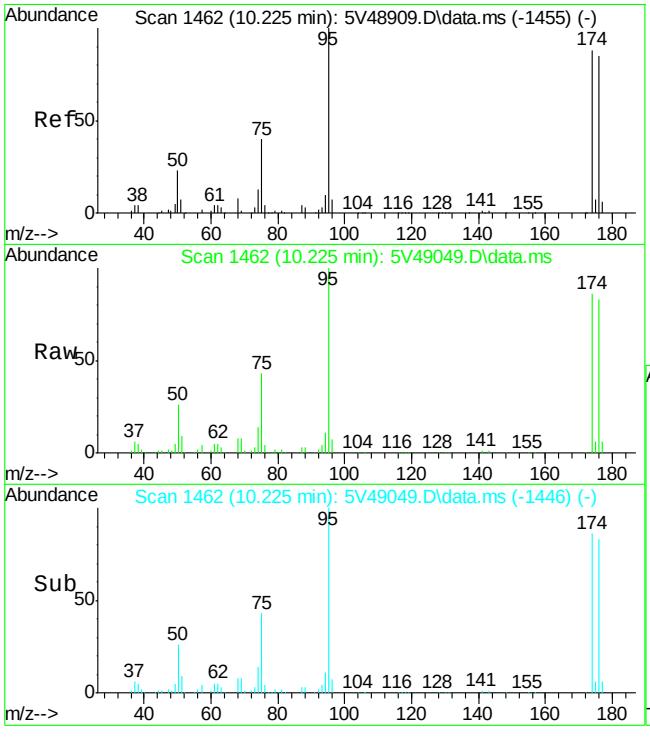


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion:152 Resp: 218832

Ion	Ratio	Lower	Upper
152	100		
150	158.0	148.8	188.8
115	56.8	34.9	74.9

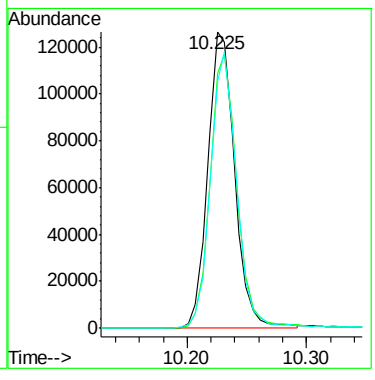




#76
4-Bromofluorobenzene
Concen: 55.96 ppb
RT: 10.225 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 5V49049.D
Acq: 4 Aug 2018 1:09 am

Tgt Ion: 95 Resp: 197546

Ion	Ratio	Lower	Upper
95	100		
174	92.1	74.4	114.4
176	90.4	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49050.D
Acq On : 4 Aug 2018 1:34 am
Operator : gabrielo
Sample : da7701-11
Misc : MS11266,V5V2625,5.08,,,5,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 06 12:18:53 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	308431	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	518718	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	452167	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	228194	50.00	ppb	0.00

System Monitoring Compounds

35) Dibromofluoromethane	5.267	113	191812	57.53	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 115.06%			
41) 1,2-Dichloroethane-d4	5.632	102	34491	52.37	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 104.74%			
56) Toluene-d8	7.682	98	540454	50.00	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 100.00%			
76) 4-Bromofluorobenzene	10.231	95	195702	53.17	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 106.34%			

Target Compounds

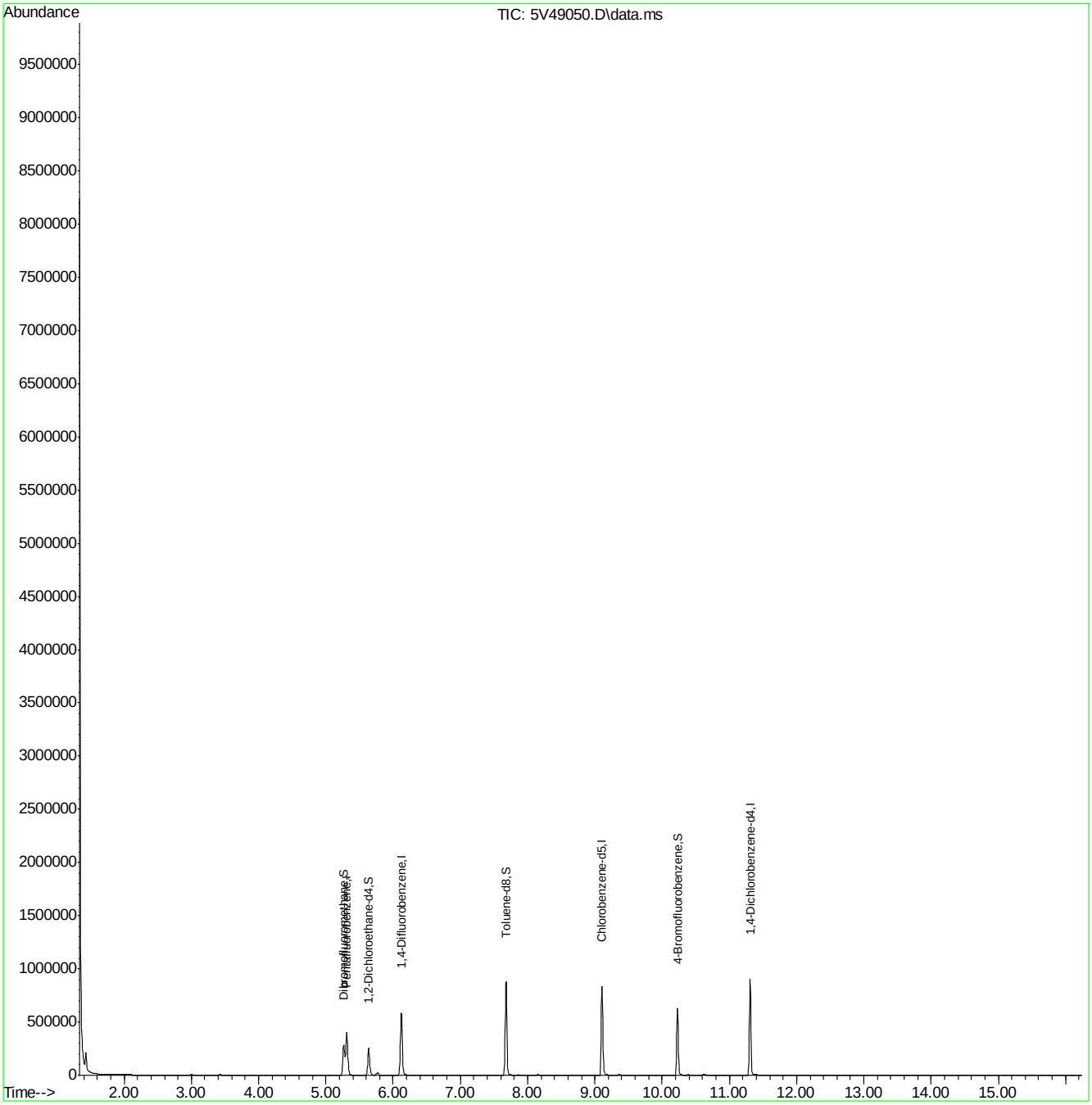
					Qvalue
14) Acetone	3.004	43	10773	Below Cal	87
62) 2-Hexanone	8.461	43	187	Below Cal #	14

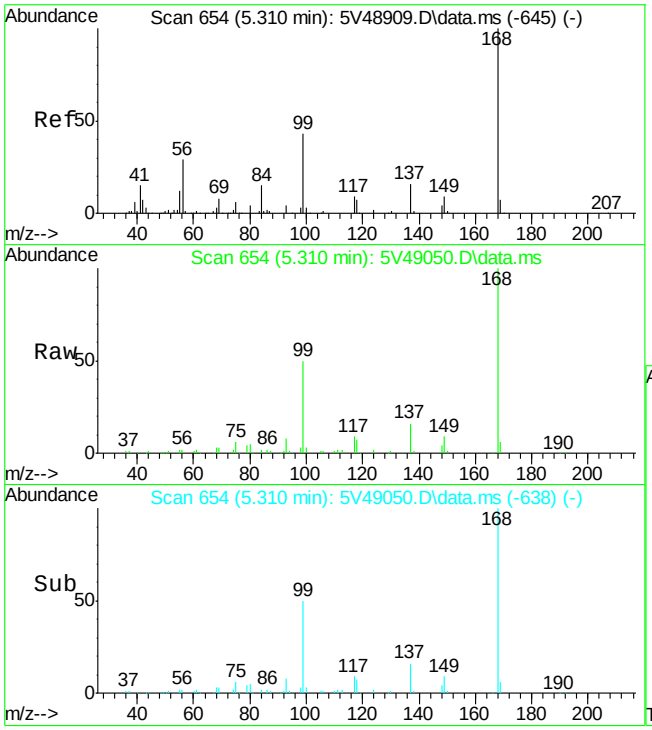
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49050.D
Acq On : 4 Aug 2018 1:34 am
Operator : gabrielo
Sample : da7701-11
Misc : MS11266,V5V2625,5.08,,,5,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 06 12:18:53 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

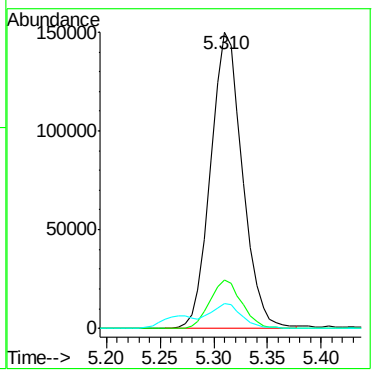


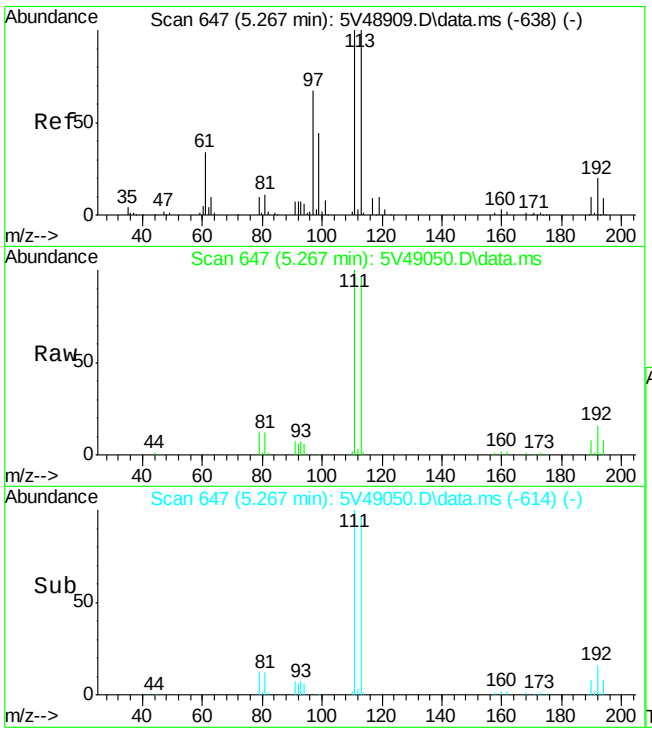


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

Tgt Ion:168 Resp: 308431

Ion	Ratio	Lower	Upper
168	100		
137	16.3	0.0	35.6
93	8.1	0.0	27.3

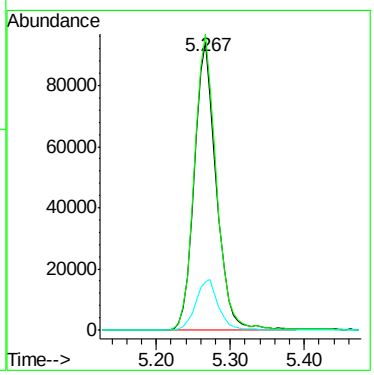


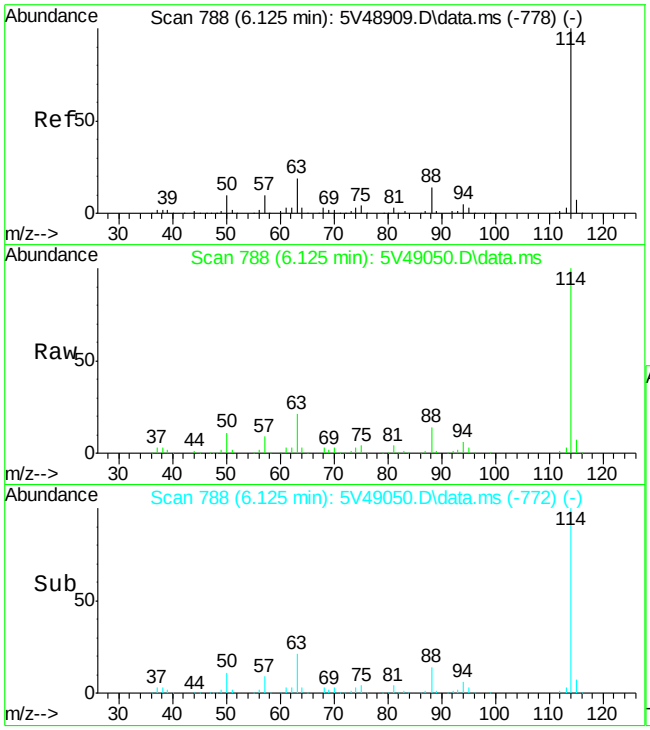


#35
Dibromofluoromethane
Concen: 57.53 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

Tgt Ion:113 Resp: 191812

Ion	Ratio	Lower	Upper
113	100		
111	103.8	83.2	123.2
192	18.0	0.0	39.4

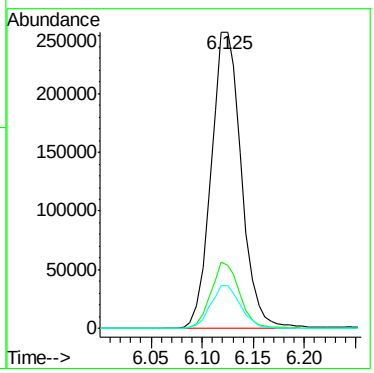


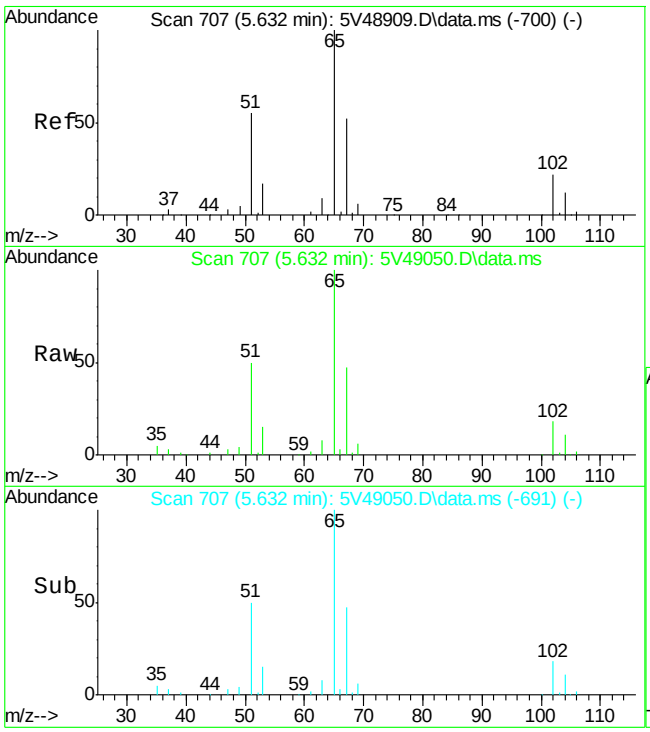


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

Tgt Ion:114 Resp: 518718

Ion	Ratio	Lower	Upper
114	100		
63	21.3	0.2	40.2
88	14.3	0.0	34.0

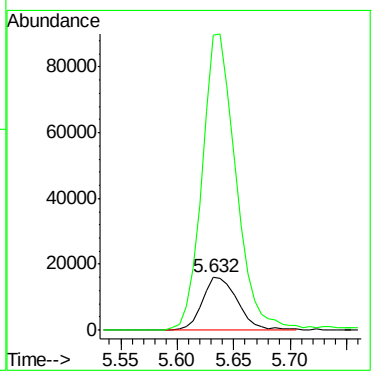


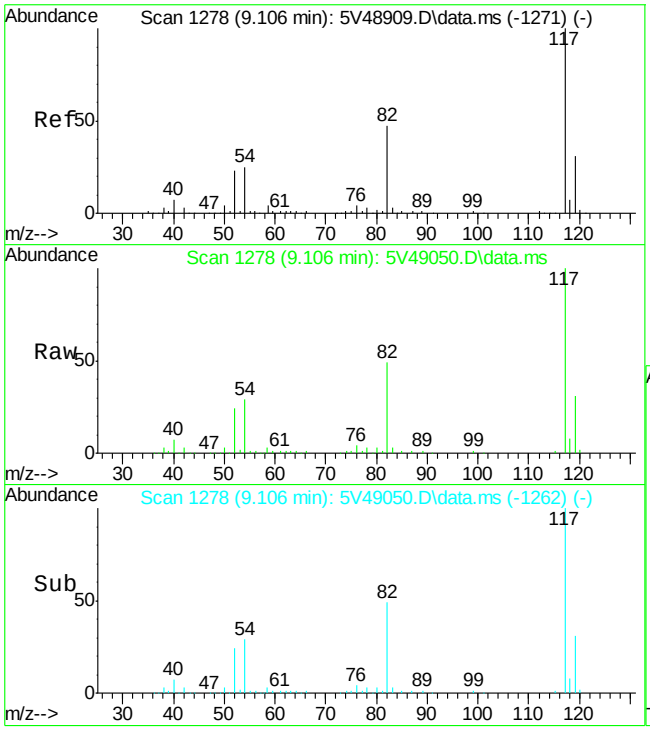


#41
1,2-Dichloroethane-d4
Concen: 52.37 ppb
RT: 5.632 min Scan# 707
Delta R.T. -0.000 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

Tgt Ion:102 Resp: 34491

Ion	Ratio	Lower	Upper
102	100		
65	541.6	459.5	499.5#

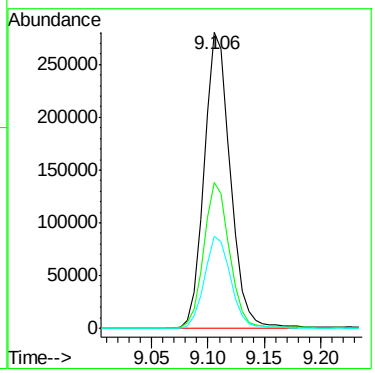


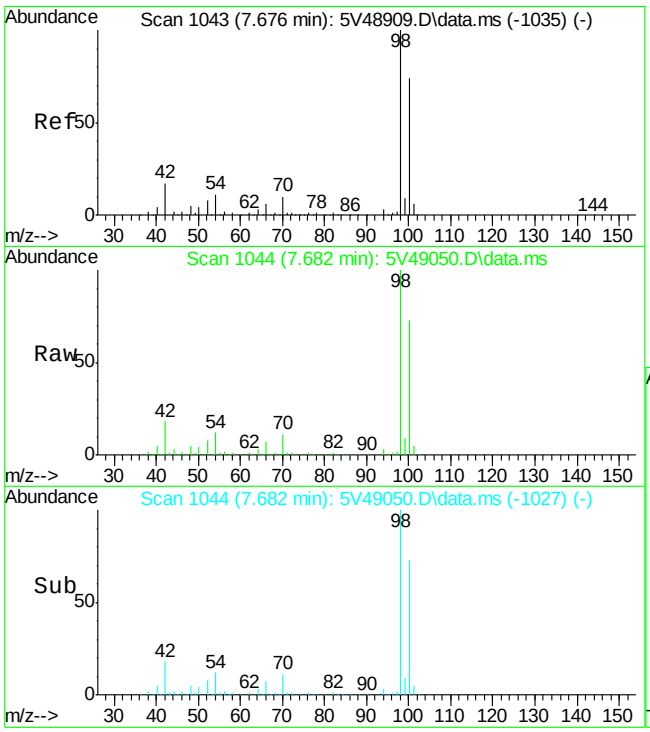


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

Tgt Ion:117 Resp: 452167

Ion	Ratio	Lower	Upper
117	100		
82	48.7	28.0	68.0
119	31.3	11.5	51.5

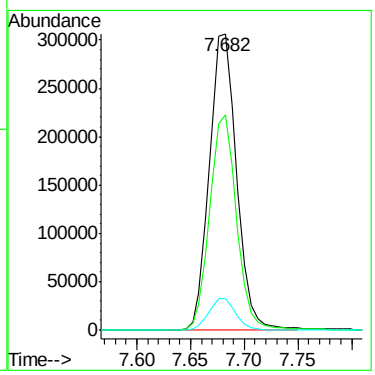




#56
Toluene-d8
Concen: 50.00 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

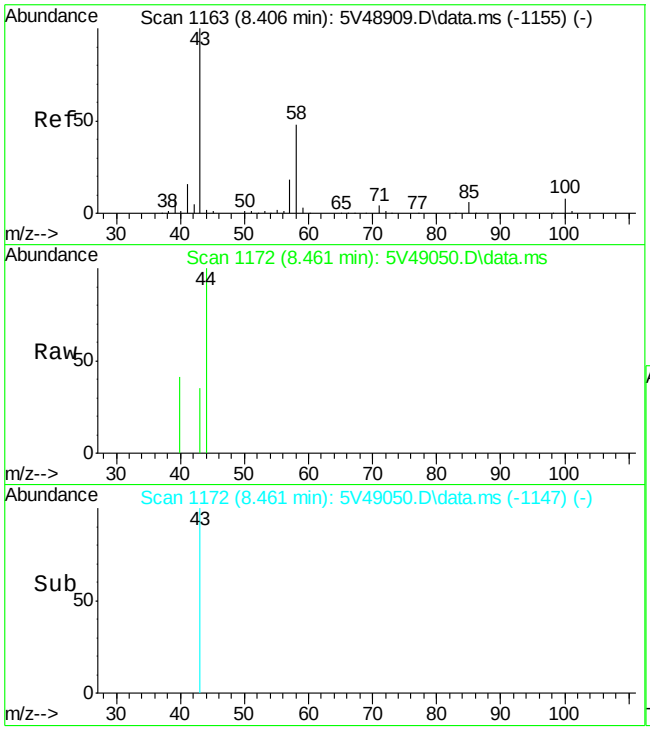
Tgt Ion: 98 Resp: 540454

Ion	Ratio	Lower	Upper
98	100		
100	71.1	51.5	91.5
70	10.6	0.0	30.2



7.1.11

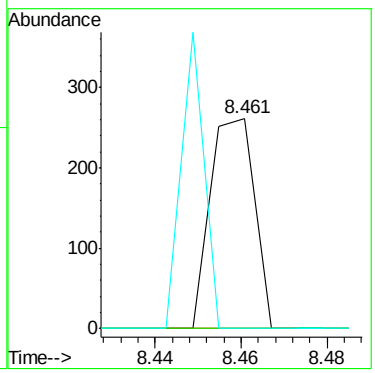
7

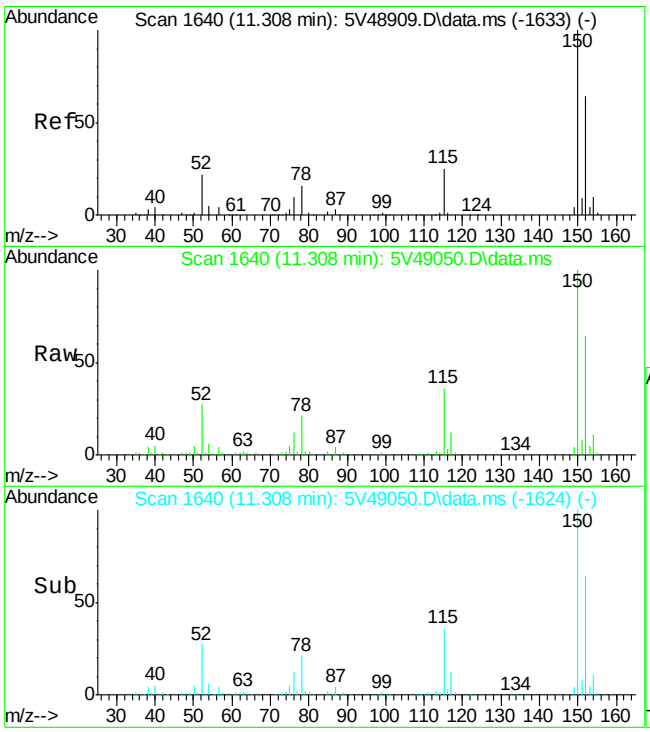


#62
2-Hexanone
Concen: Below Cal
RT: 8.461 min Scan# 1172
Delta R.T. 0.054 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

Tgt Ion: 43 Resp: 187

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	72.2	0.0	37.3#

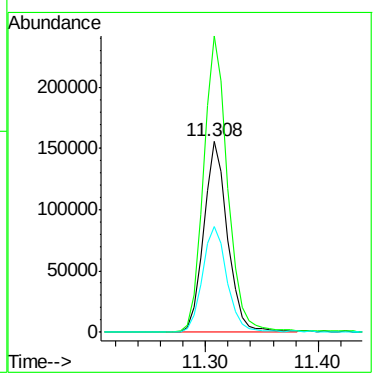


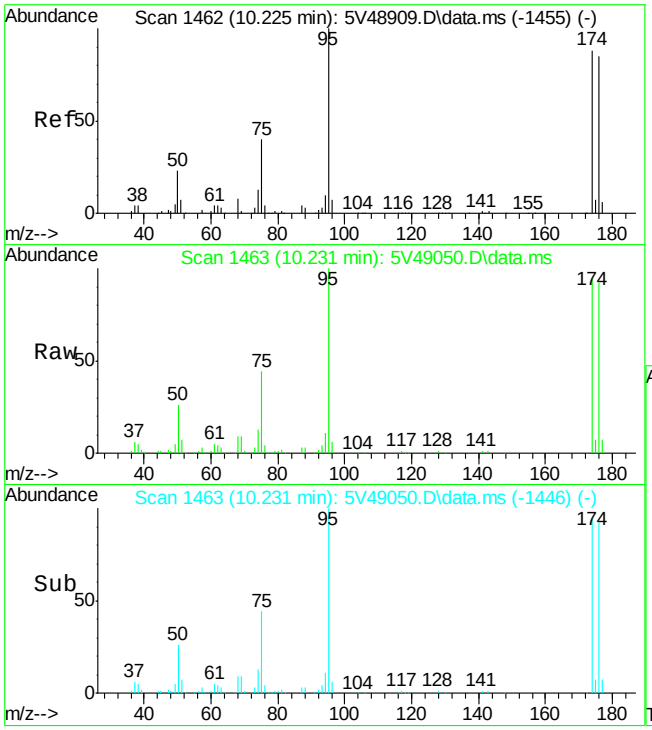


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

Tgt Ion:152 Resp: 228194

Ion	Ratio	Lower	Upper
152	100		
150	157.4	148.8	188.8
115	57.1	34.9	74.9

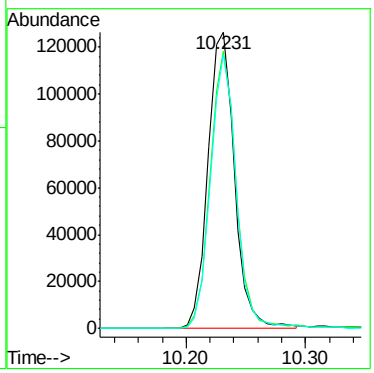




#76
4-Bromofluorobenzene
Concen: 53.17 ppb
RT: 10.231 min Scan# 1463
Delta R.T. 0.006 min
Lab File: 5V49050.D
Acq: 4 Aug 2018 1:34 am

Tgt Ion: 95 Resp: 195702

Ion	Ratio	Lower	Upper
95	100		
174	91.4	74.4	114.4
176	89.3	71.3	111.3



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49051.D
Acq On : 4 Aug 2018 2:00 am
Operator : gabrielo
Sample : da7701-12
Misc : MS11266,V5V2625,5.07,,,5,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 06 12:19:17 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	312359	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	525243	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	461059	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	236443	50.00	ppb	0.00

System Monitoring Compounds						
35) Dibromofluoromethane	5.267	113	199250	59.01	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 118.02%			
41) 1,2-Dichloroethane-d4	5.638	102	35310	52.94	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.88%			
56) Toluene-d8	7.682	98	548262	49.75	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 99.50%			
76) 4-Bromofluorobenzene	10.231	95	197468	51.78	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 103.56%			

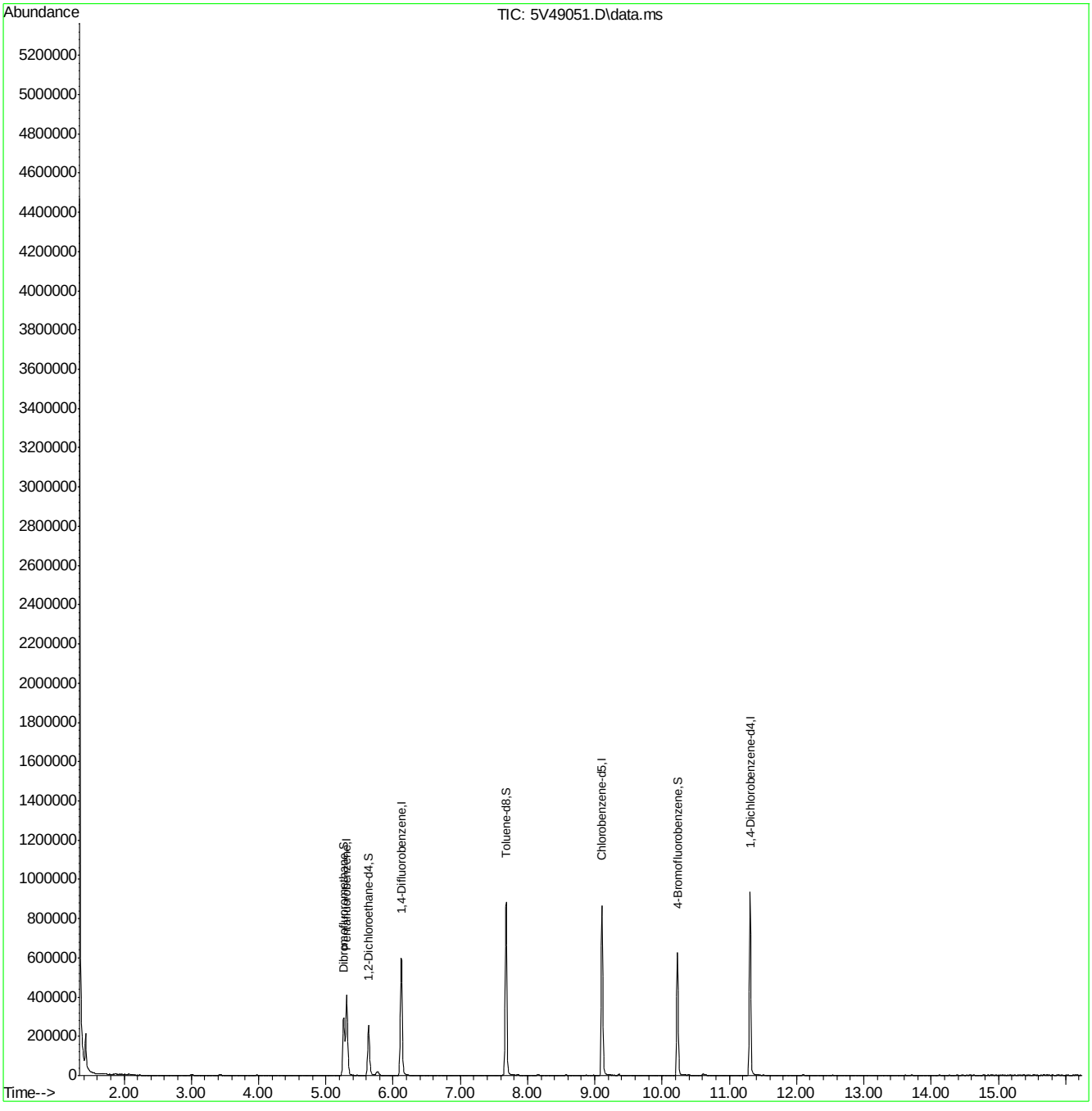
Target Compounds						Qvalue
14) Acetone	2.998	43	7591	Below Cal		83
62) 2-Hexanone	8.333	43	243	Below Cal	#	37

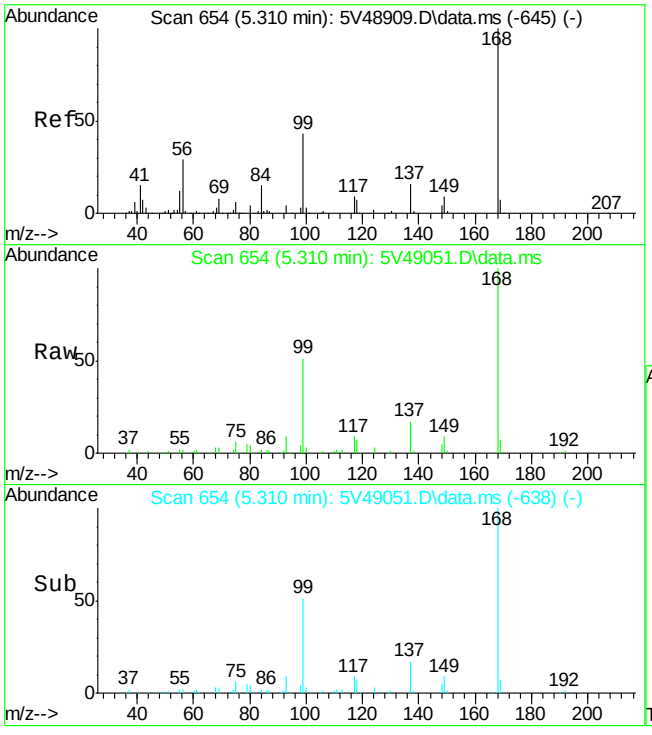
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49051.D
Acq On : 4 Aug 2018 2:00 am
Operator : gabrielo
Sample : da7701-12
Misc : MS11266,V5V2625,5.07,,,5,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 06 12:19:17 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

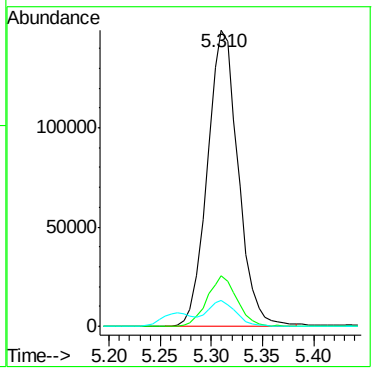


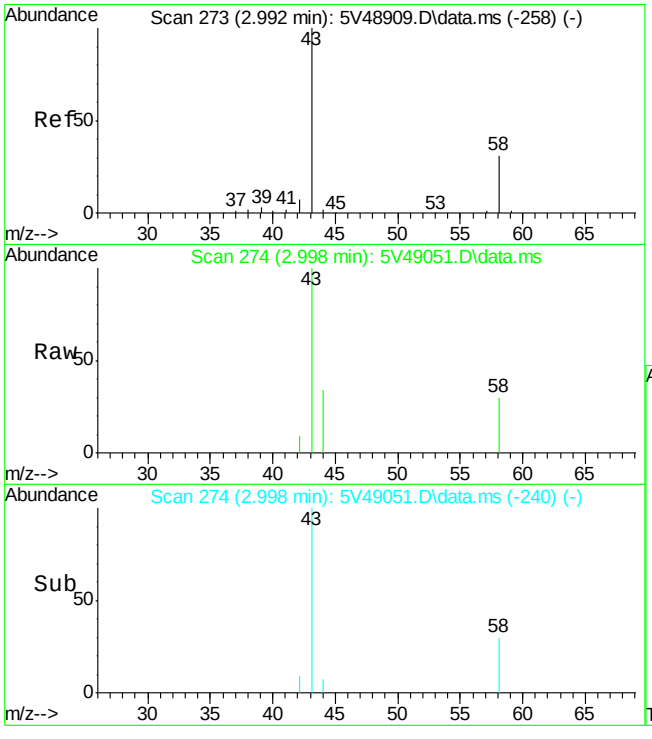


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion:168 Resp: 312359

Ion	Ratio	Lower	Upper
168	100		
137	16.3	0.0	35.6
93	8.0	0.0	27.3

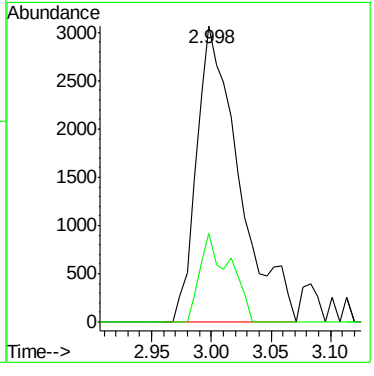


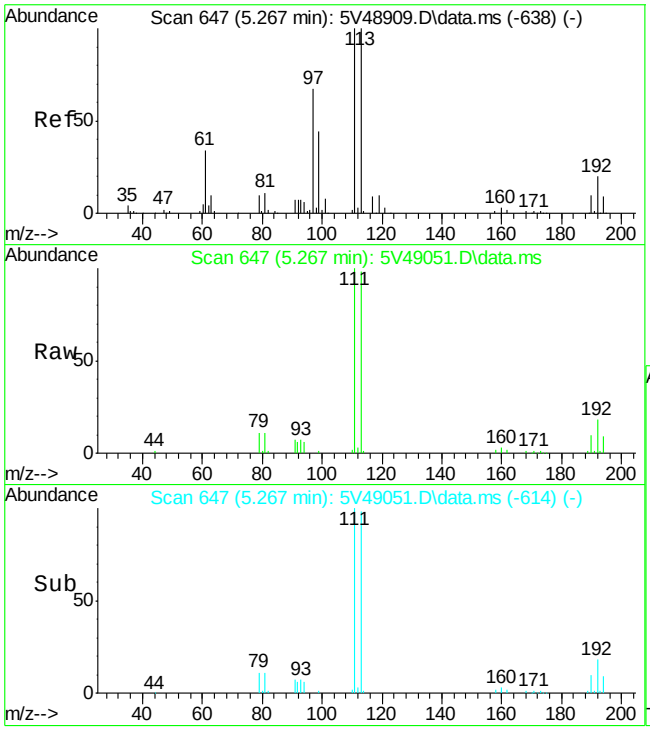


#14
Acetone
Concen: Below Cal
RT: 2.998 min Scan# 274
Delta R.T. 0.006 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion: 43 Resp: 7591

Ion	Ratio	Lower	Upper
43	100		
58	21.1	10.3	50.3

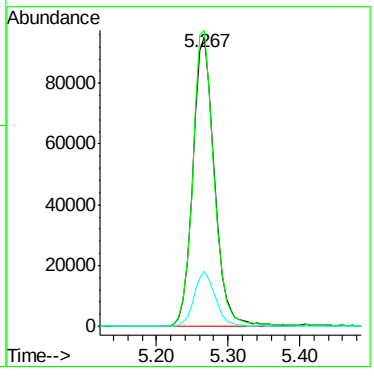


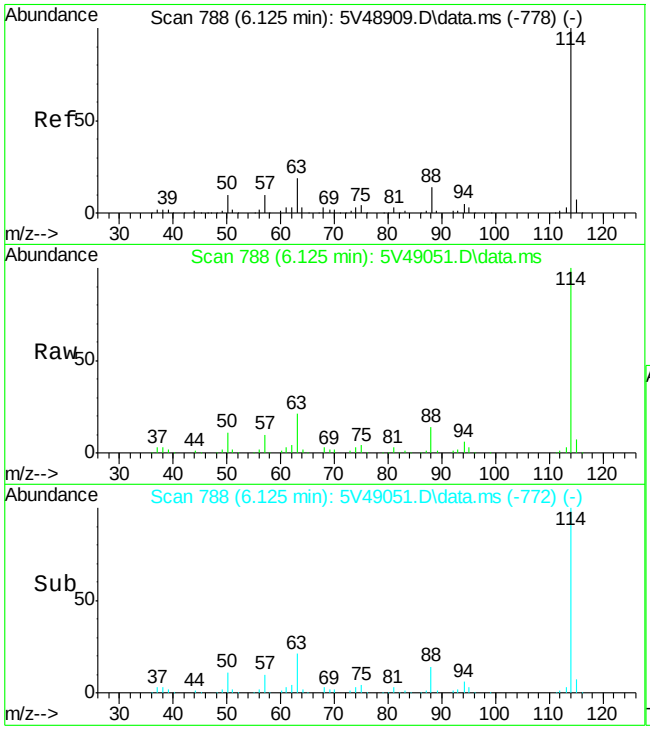


#35
Dibromofluoromethane
Concen: 59.01 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion:113 Resp: 199250

Ion	Ratio	Lower	Upper
113	100		
111	101.0	83.2	123.2
192	18.4	0.0	39.4

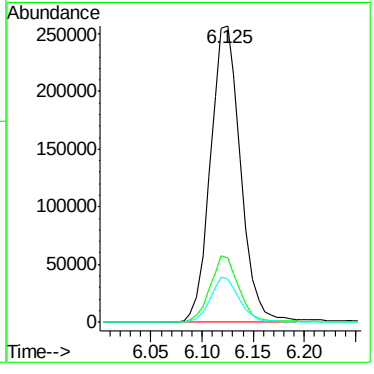




#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

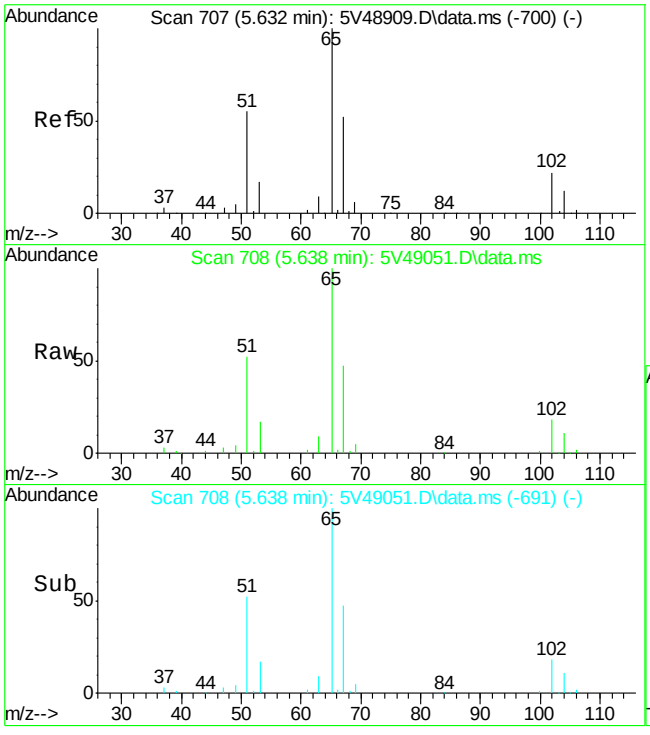
Tgt Ion:114 Resp: 525243

Ion	Ratio	Lower	Upper
114	100		
63	21.3	0.2	40.2
88	14.5	0.0	34.0



7.1.12

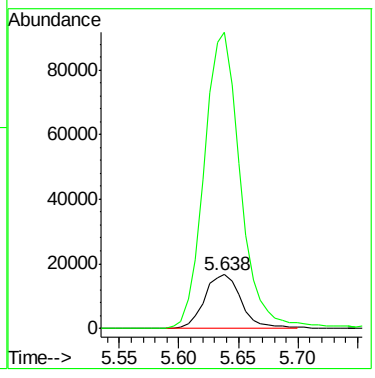
7

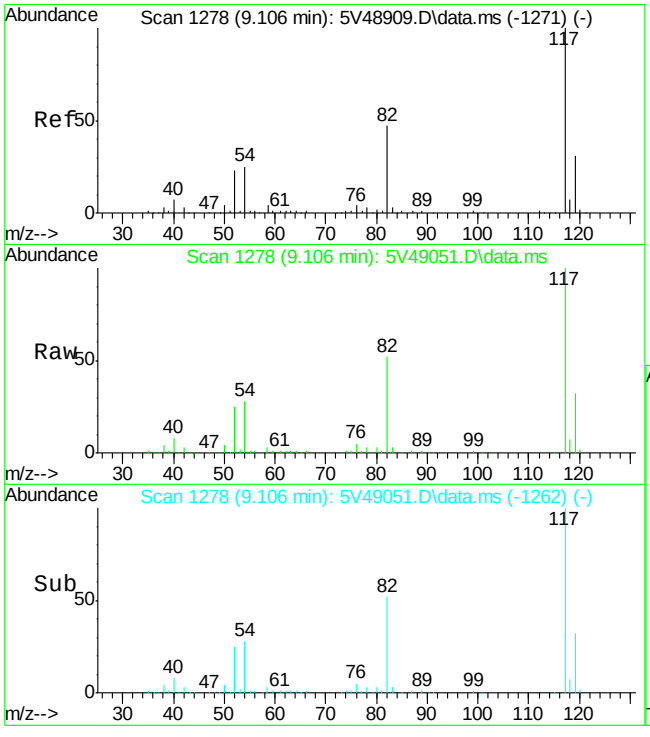


#41
1,2-Dichloroethane-d4
Concen: 52.94 ppb
RT: 5.638 min Scan# 708
Delta R.T. 0.006 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion:102 Resp: 35310

Ion	Ratio	Lower	Upper
102	100		
65	545.0	459.5	499.5#

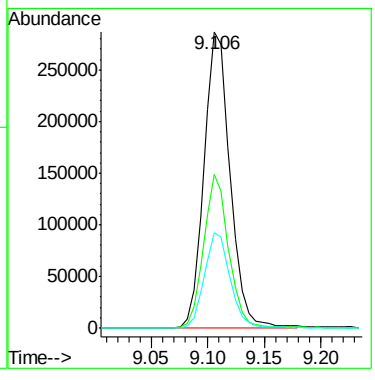


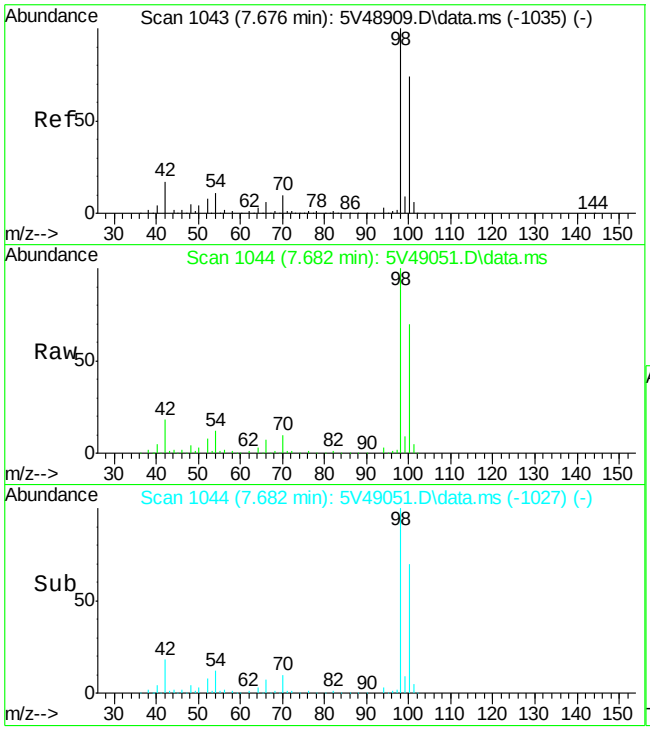


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion:117 Resp: 461059

Ion	Ratio	Lower	Upper
117	100		
82	49.9	28.0	68.0
119	31.9	11.5	51.5

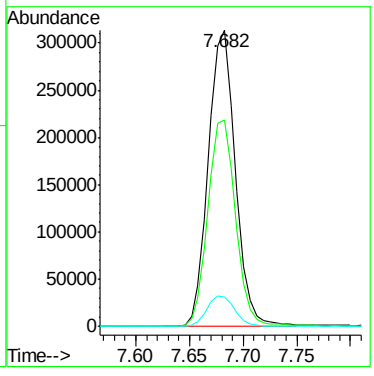


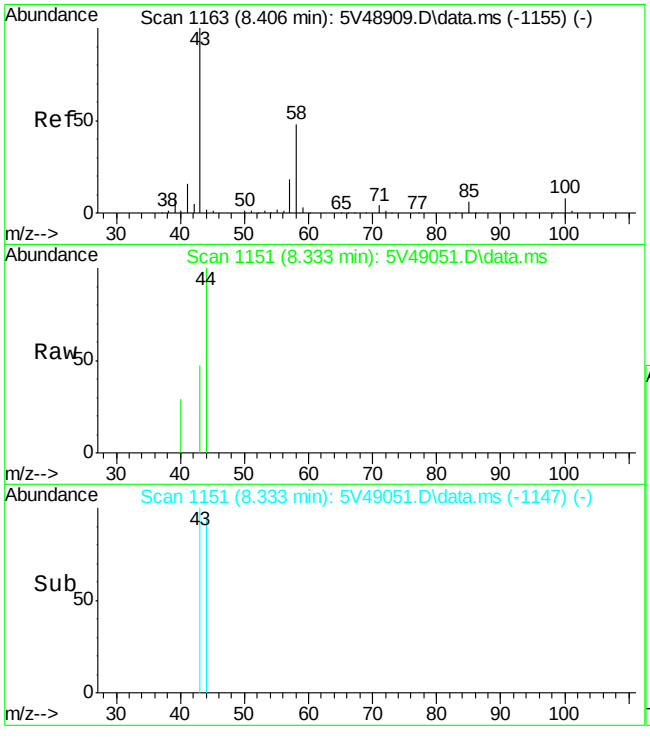


#56
Toluene-d8
Concen: 49.75 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion: 98 Resp: 548262

Ion	Ratio	Lower	Upper
98	100		
100	71.4	51.5	91.5
70	10.6	0.0	30.2

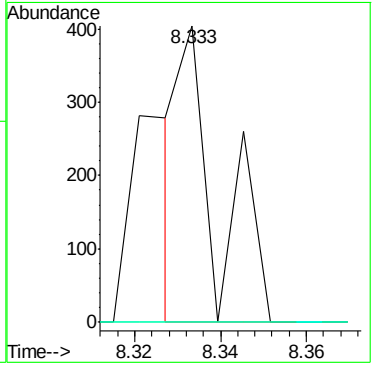


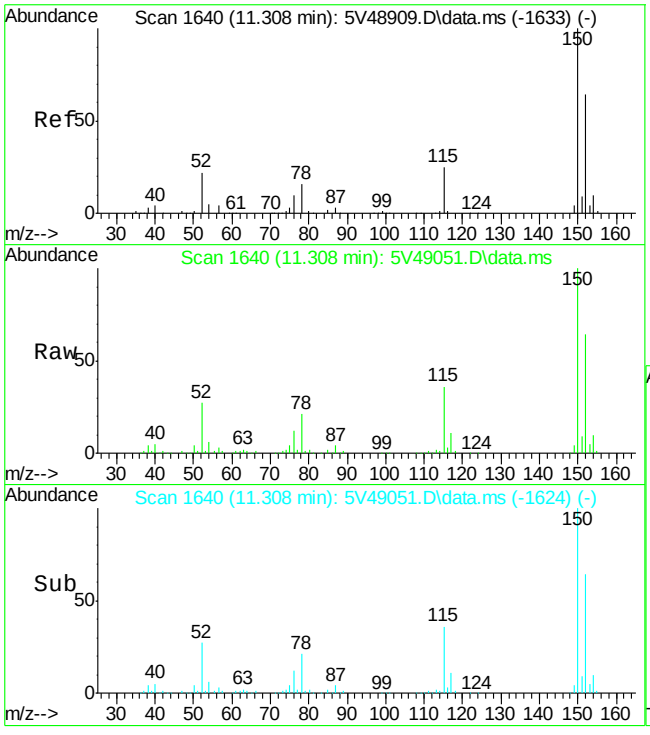


#62
2-Hexanone
Concen: Below Cal
RT: 8.333 min Scan# 1151
Delta R.T. -0.073 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion: 43 Resp: 243

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	0.0	0.0	37.3

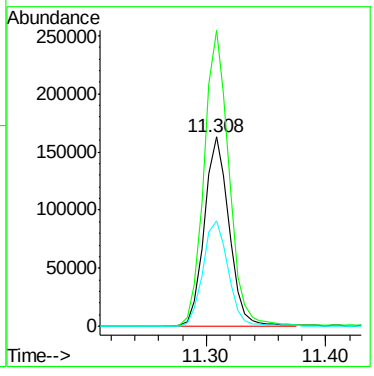


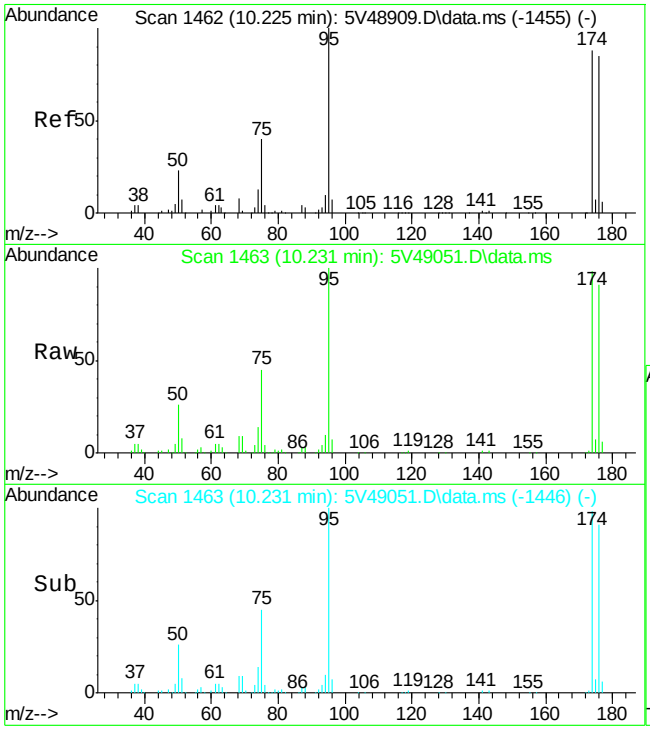


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion:152 Resp: 236443

Ion	Ratio	Lower	Upper
152	100		
150	156.4	148.8	188.8
115	56.9	34.9	74.9

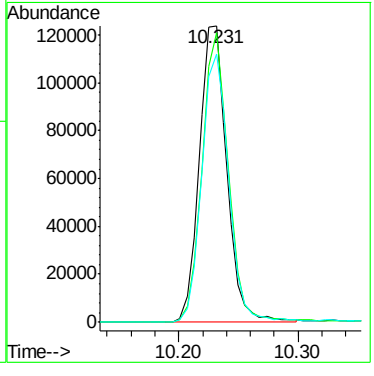




#76
4-Bromofluorobenzene
Concen: 51.78 ppb
RT: 10.231 min Scan# 1463
Delta R.T. 0.006 min
Lab File: 5V49051.D
Acq: 4 Aug 2018 2:00 am

Tgt Ion: 95 Resp: 197468

Ion	Ratio	Lower	Upper
95	100		
174	93.0	74.4	114.4
176	89.1	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49052.D
Acq On : 4 Aug 2018 2:24 am
Operator : gabrielo
Sample : da7701-13
Misc : MS11266,V5V2625,5.00,,,5,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 06 12:19:39 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.309	168	277415	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	477205	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	408546	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	213434	50.00	ppb	0.00

System Monitoring Compounds

35) Dibromofluoromethane 5.267 113 188720 62.93 ppb 0.00
Spiked Amount 50.000 Range 70 - 130 Recovery = 125.86%
41) 1,2-Dichloroethane-d4 5.638 102 31869 52.59 ppb 0.00
Spiked Amount 50.000 Range 70 - 130 Recovery = 105.18%
56) Toluene-d8 7.682 98 498590 51.05 ppb 0.00
Spiked Amount 50.000 Range 64 - 130 Recovery = 102.10%
76) 4-Bromofluorobenzene 10.231 95 175803 51.06 ppb 0.00
Spiked Amount 50.000 Range 62 - 131 Recovery = 102.12%

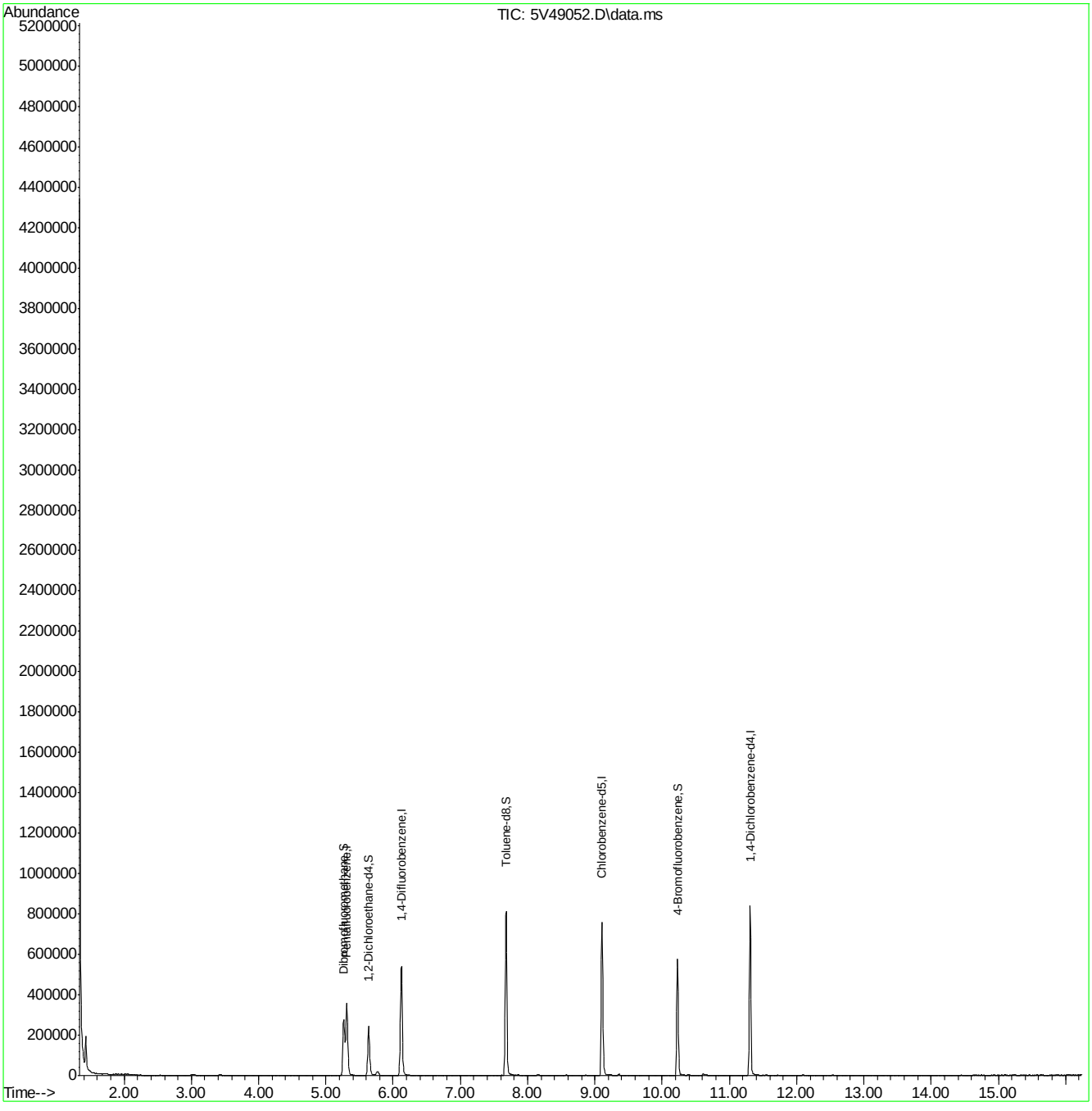
Target Compounds						Qvalue
14) Acetone	3.004	43	7316	Below Cal		81
62) 2-Hexanone	8.339	43	196	Below Cal	#	37

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

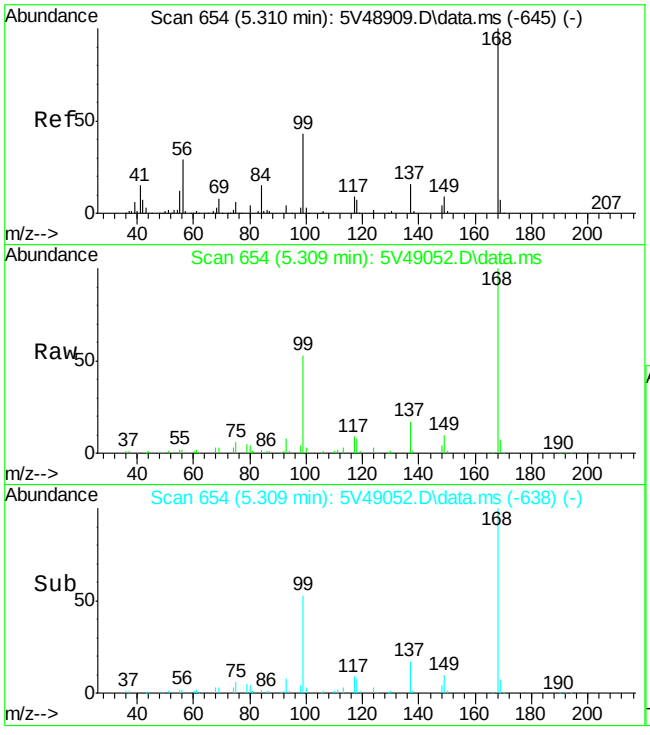
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49052.D
Acq On : 4 Aug 2018 2:24 am
Operator : gabrielo
Sample : da7701-13
Misc : MS11266,V5V2625,5.00,,,5,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 06 12:19:39 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration



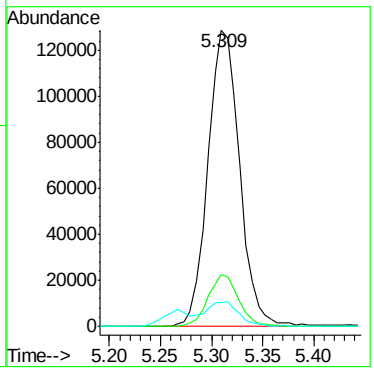
V5V2619soil.M Mon Aug 06 12:27:27 2018 VOA5 Page: 2

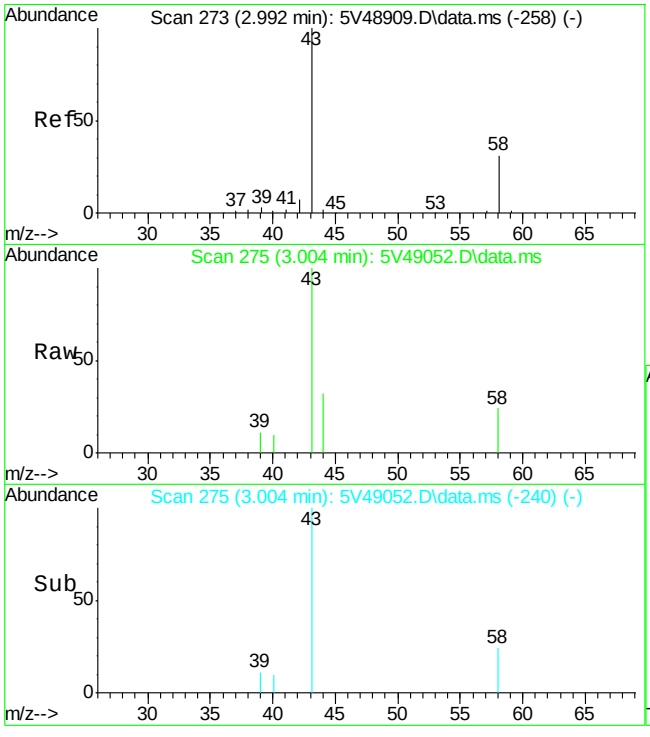


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.309 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion:168 Resp: 277415

Ion	Ratio	Lower	Upper
168	100		
137	16.7	0.0	35.6
93	8.4	0.0	27.3

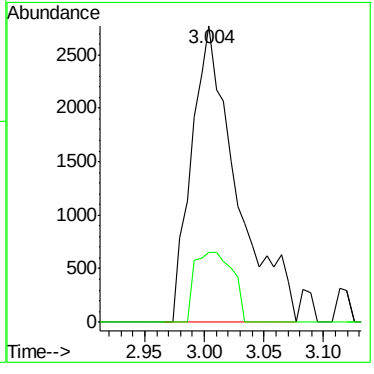


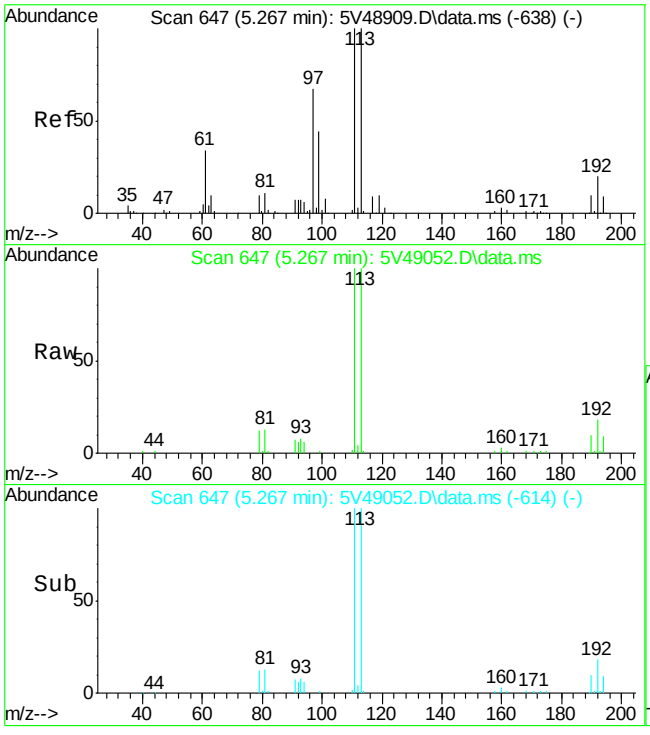


#14
Acetone
Concen: Below Cal
RT: 3.004 min Scan# 275
Delta R.T. 0.012 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion: 43 Resp: 7316

Ion	Ratio	Lower	Upper
43	100		
58	19.9	10.3	50.3

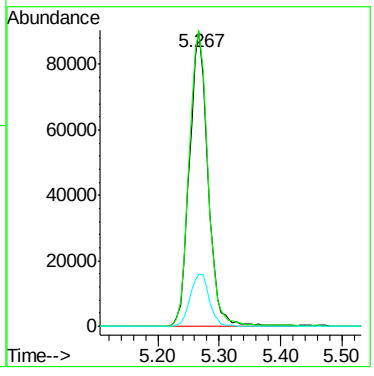


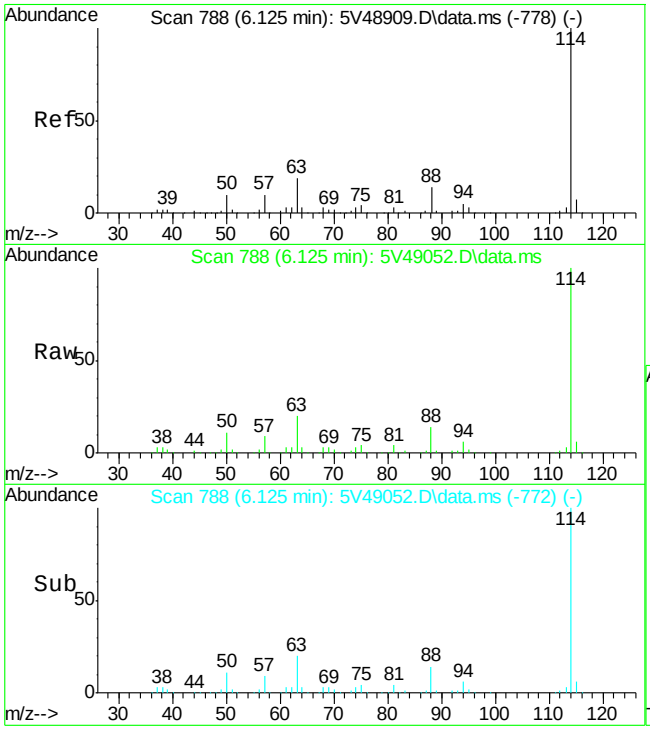


#35
Dibromofluoromethane
Concen: 62.93 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion:113 Resp: 188720

Ion	Ratio	Lower	Upper
113	100		
111	101.8	83.2	123.2
192	18.2	0.0	39.4

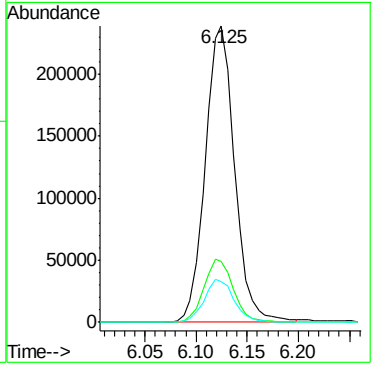


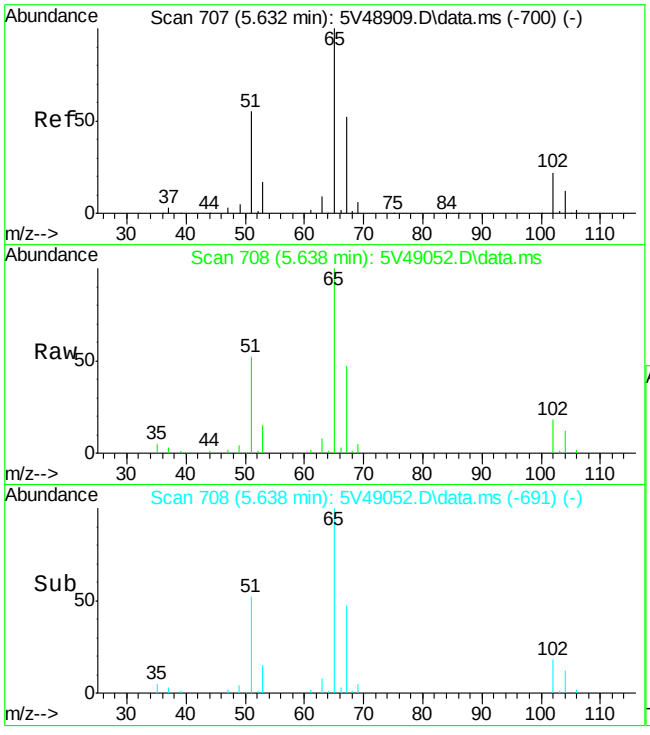


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion:114 Resp: 477205

Ion	Ratio	Lower	Upper
114	100		
63	21.2	0.2	40.2
88	14.5	0.0	34.0

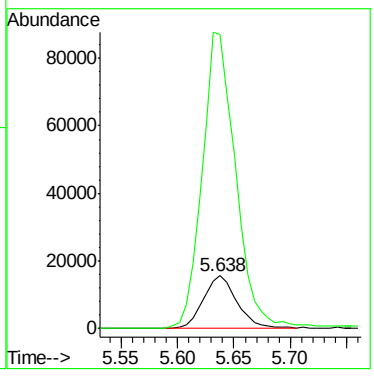


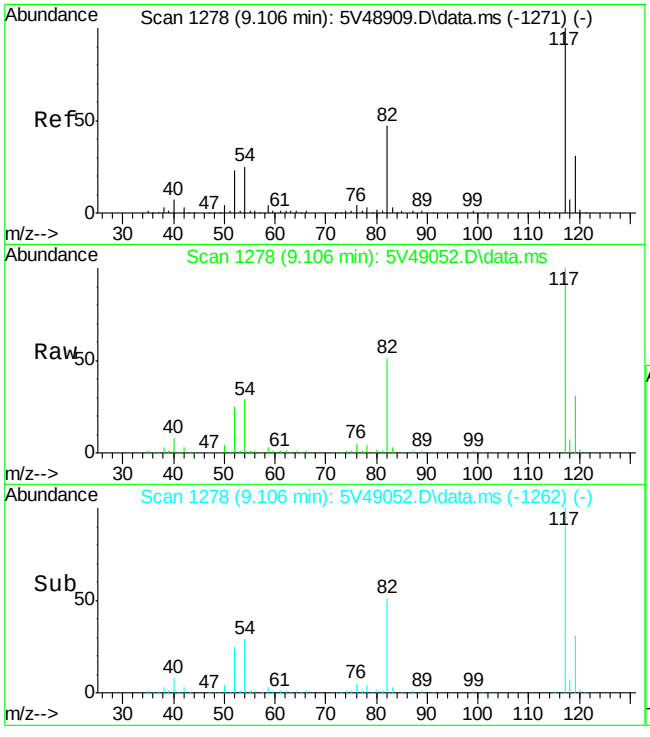


#41
1,2-Dichloroethane-d4
Concen: 52.59 ppb
RT: 5.638 min Scan# 708
Delta R.T. 0.006 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion:102 Resp: 31869

Ion	Ratio	Lower	Upper
102	100		
65	563.5	459.5	499.5#

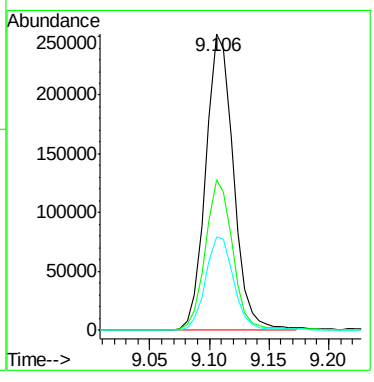


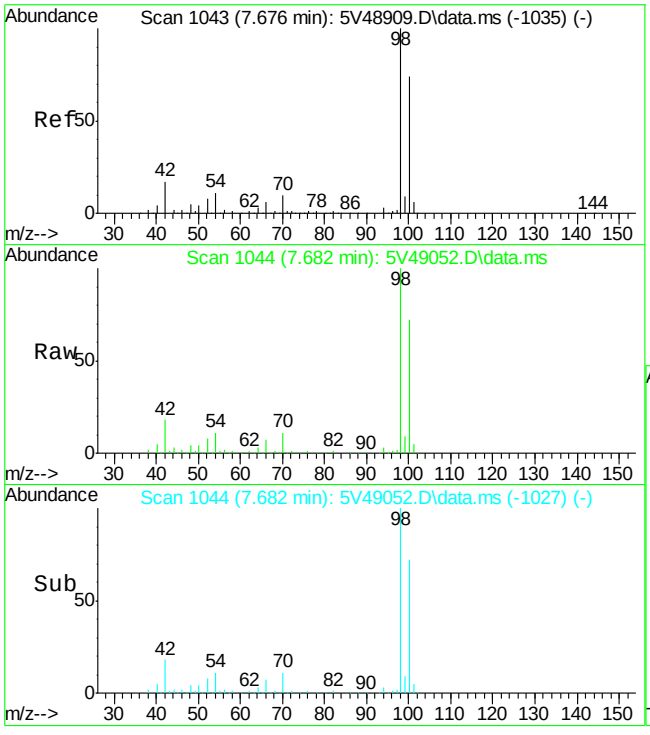


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion:117 Resp: 408546

Ion	Ratio	Lower	Upper
117	100		
82	49.9	28.0	68.0
119	32.0	11.5	51.5

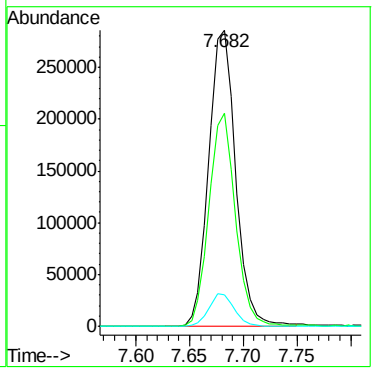


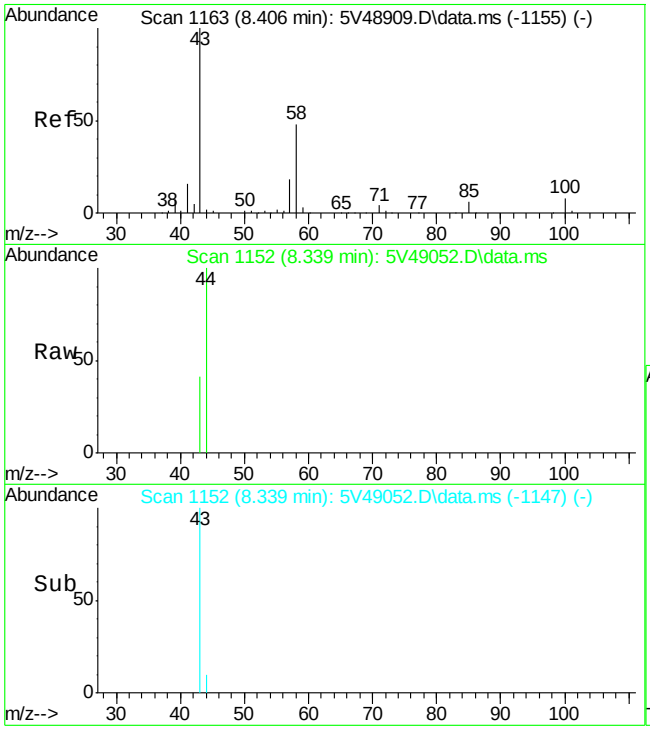


#56
Toluene-d8
Concen: 51.05 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion: 98 Resp: 498590

Ion	Ratio	Lower	Upper
98	100		
100	70.7	51.5	91.5
70	10.5	0.0	30.2

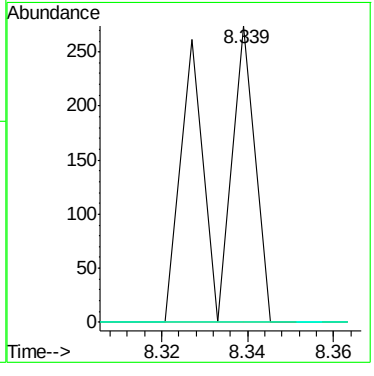


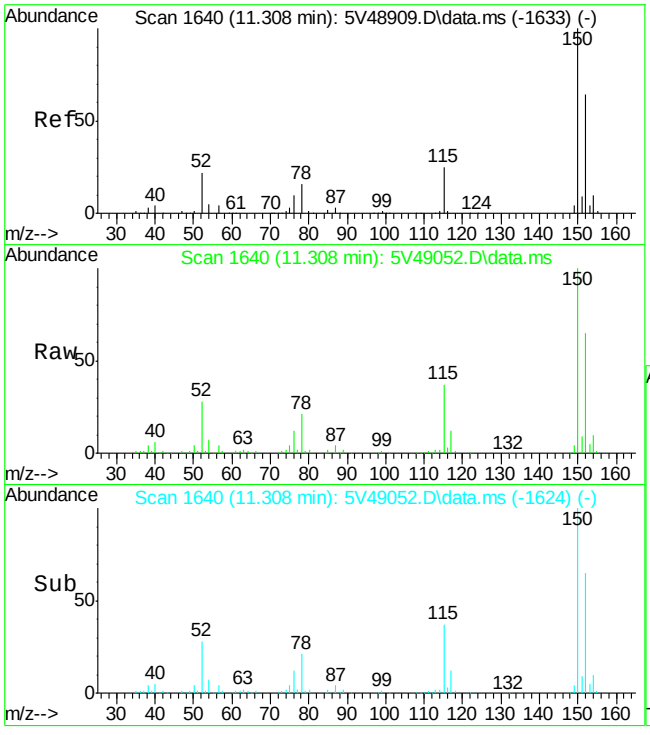


#62
2-Hexanone
Concen: Below Cal
RT: 8.339 min Scan# 1152
Delta R.T. -0.067 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion: 43 Resp: 196

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	0.0	0.0	37.3

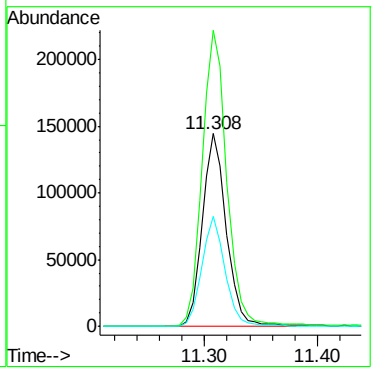


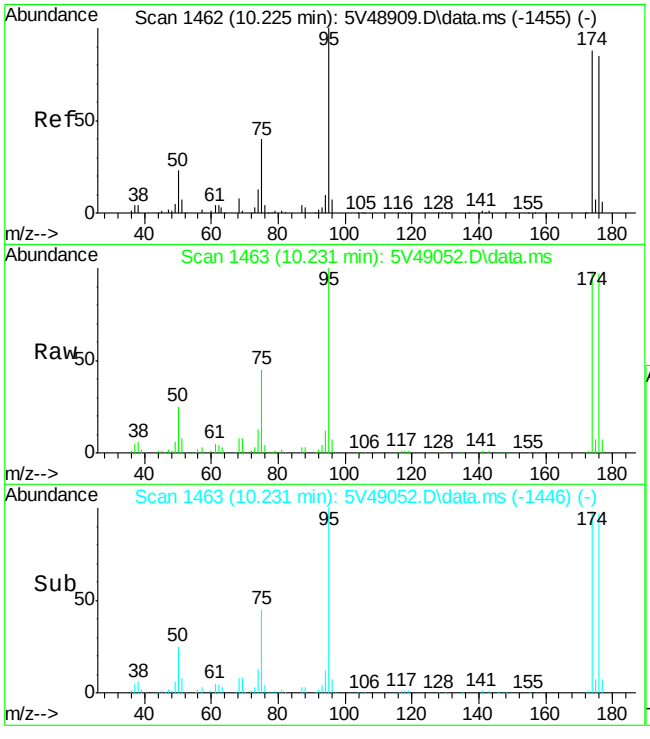


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion:152 Resp: 213434

Ion	Ratio	Lower	Upper
152	100		
150	157.3	148.8	188.8
115	55.4	34.9	74.9

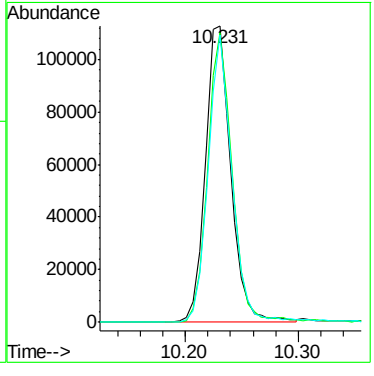




#76
4-Bromofluorobenzene
Concen: 51.06 ppb
RT: 10.231 min Scan# 1463
Delta R.T. 0.006 min
Lab File: 5V49052.D
Acq: 4 Aug 2018 2:24 am

Tgt Ion: 95 Resp: 175803

Ion	Ratio	Lower	Upper
95	100		
174	93.4	74.4	114.4
176	90.3	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54302.D
Acq On : 3 Aug 2018 4:11 pm
Operator : martyb
Sample : da7701-14
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 06 09:55:01 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
2) Pentafluorobenzene	5.762	168	308042	50.00	ug/L	0.00
40) 1,4-Difluorobenzene	6.578	114	521068	50.00	ug/L	0.00
55) Chlorobenzene-d5	9.517	117	518490	50.00	ug/L	0.00
74) 1,4-Dichlorobenzene-d4	11.706	152	274122	50.00	ug/L	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	5.719	113	187661	50.74	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.48%			
41) 1,2-Dichloroethane-d4	6.103	102	40450	49.68	ug/L	0.00
Spiked Amount 50.000	Range 62 - 130		Recovery = 99.36%			
56) Toluene-d8	8.109	98	620857	48.26	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 96.52%			
76) 4-Bromofluorobenzene	10.626	95	258188	49.00	ug/L	0.00
Spiked Amount 50.000	Range 69 - 130		Recovery = 98.00%			
Target Compounds						Qvalue
1) TVH-Gasoline	7.554	TIC	237301m	9.23	ug/L	
14) Acetone	3.347	43	92546	33.59	ug/L	97

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

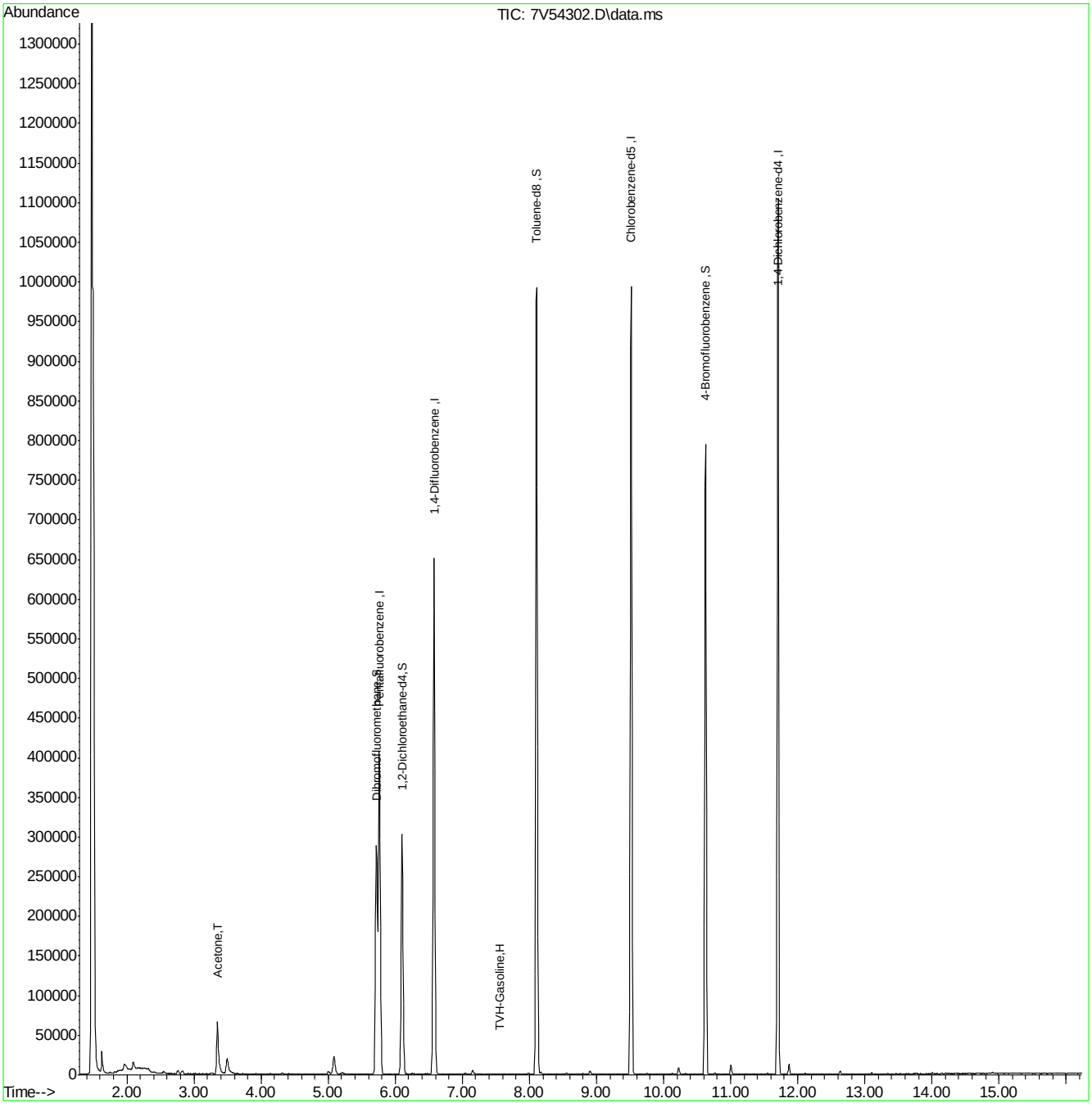
7.1.14

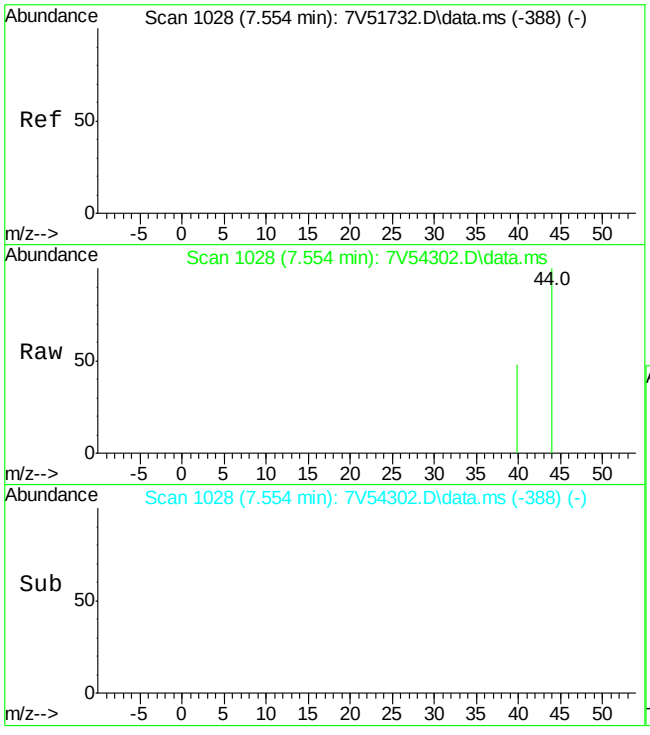
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54302.D
Acq On : 3 Aug 2018 4:11 pm
Operator : martyb
Sample : da7701-14
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 3 Sample Multiplier: 1

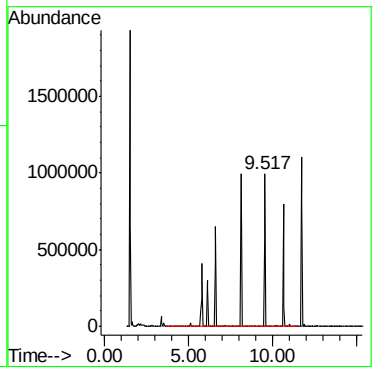
Quant Time: Aug 06 09:55:01 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

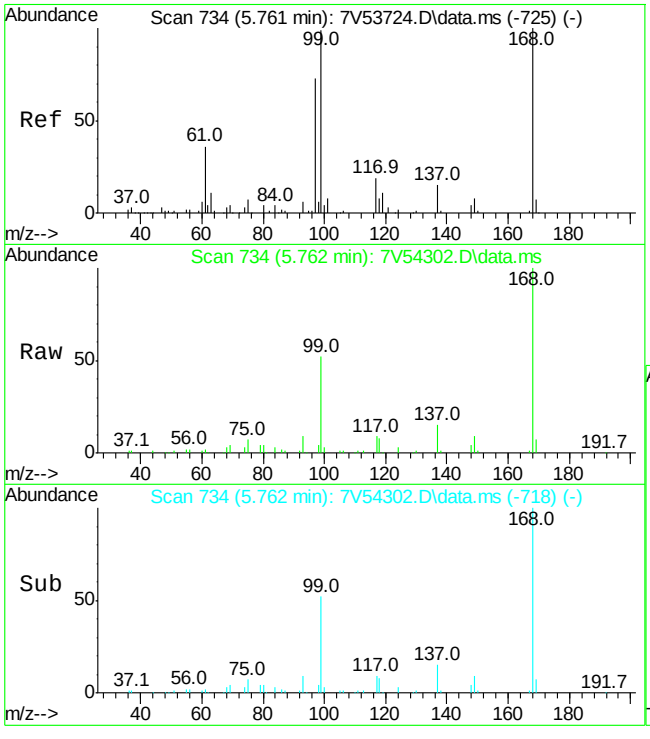




#1
TVH-Gasoline
Concen: 9.23 ug/L m
RT: 7.554 min Scan# 1028
Delta R.T. 0.000 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion:TIC Resp: 237301

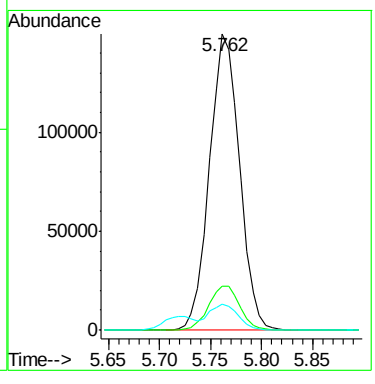


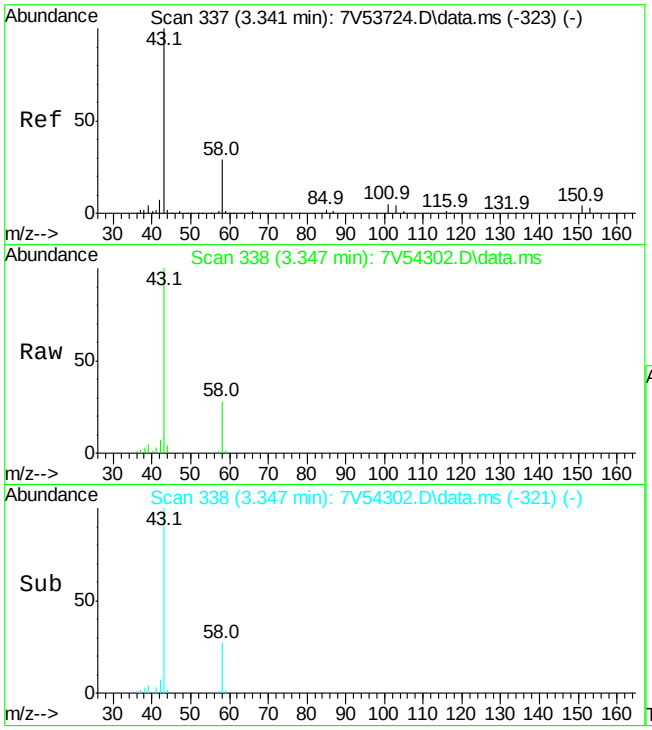


#2
Pentafluorobenzene
Concen: 50.00 ug/L
RT: 5.762 min Scan# 734
Delta R.T. 0.001 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion:168 Resp: 308042

Ion	Ratio	Lower	Upper
168	100		
137	15.2	0.0	35.3
93	8.6	0.0	28.5

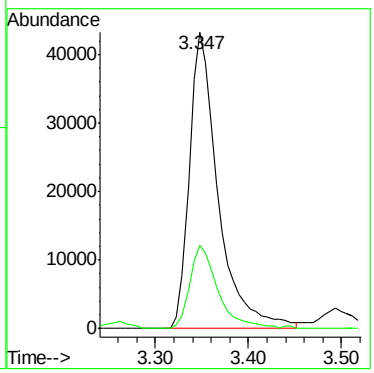


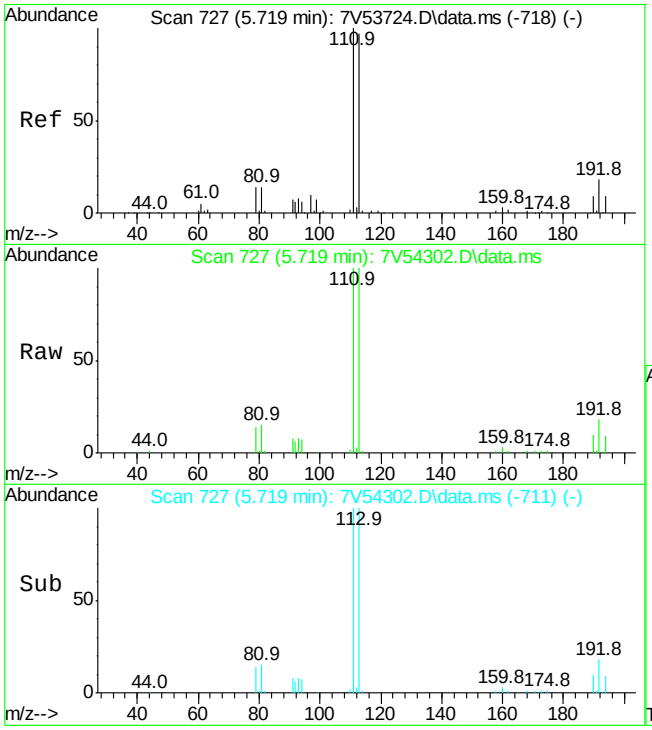


#14
Acetone
Concen: 33.59 ug/L
RT: 3.347 min Scan# 338
Delta R.T. 0.006 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion: 43 Resp: 92546

Ion	Ratio	Lower	Upper
43	100		
58	27.2	8.6	48.6

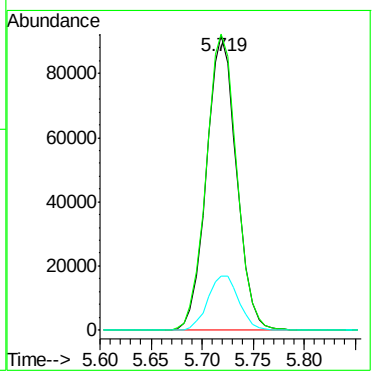


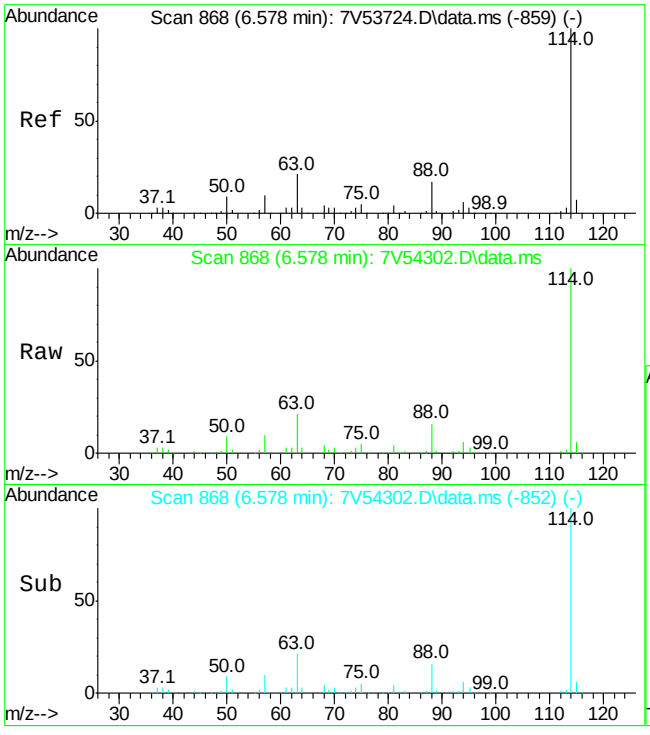


#35
Dibromofluoromethane
Concen: 50.74 ug/L
RT: 5.719 min Scan# 727
Delta R.T. -0.000 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion:113 Resp: 187661

Ion	Ratio	Lower	Upper
113	100		
111	102.2	82.3	122.3
192	19.1	0.0	38.9

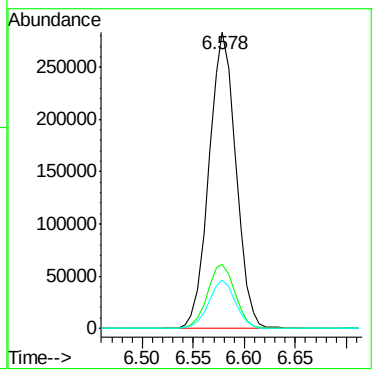


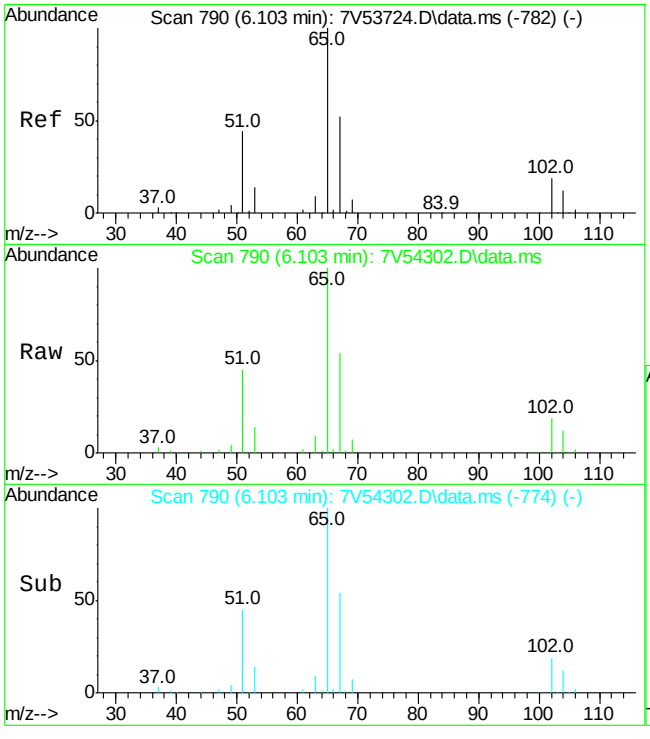


#40
1,4-Difluorobenzene
Concen: 50.00 ug/L
RT: 6.578 min Scan# 868
Delta R.T. 0.000 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion:114 Resp: 521068

Ion	Ratio	Lower	Upper
114	100		
63	22.0	2.2	42.2
88	16.2	0.0	36.7

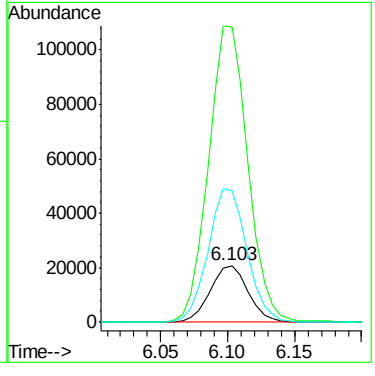


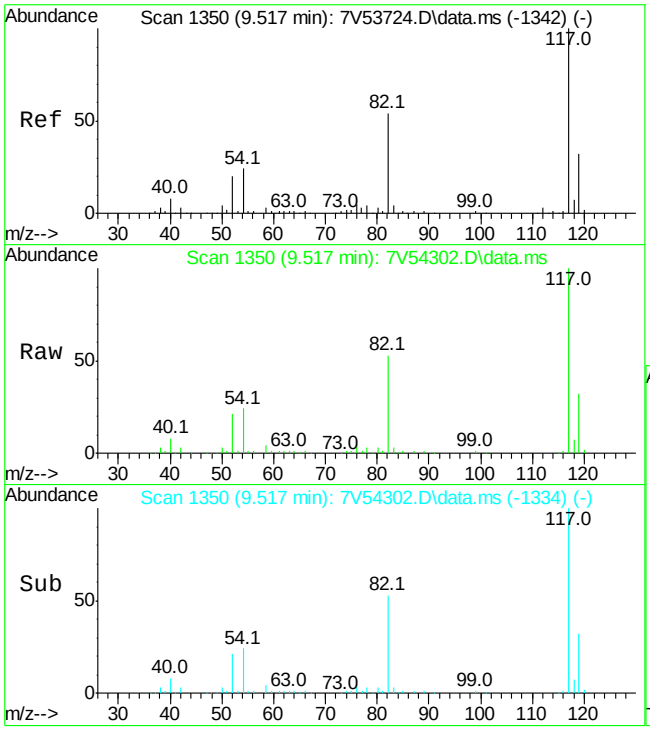


#41
1,2-Dichloroethane-d4
Concen: 49.68 ug/L
RT: 6.103 min Scan# 790
Delta R.T. -0.000 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion:102 Resp: 40450

Ion	Ratio	Lower	Upper
102	100		
65	547.0	529.0	569.0
51	243.4	223.2	263.2

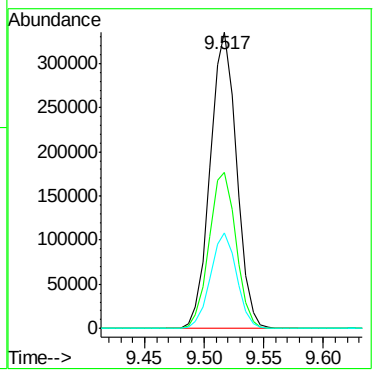


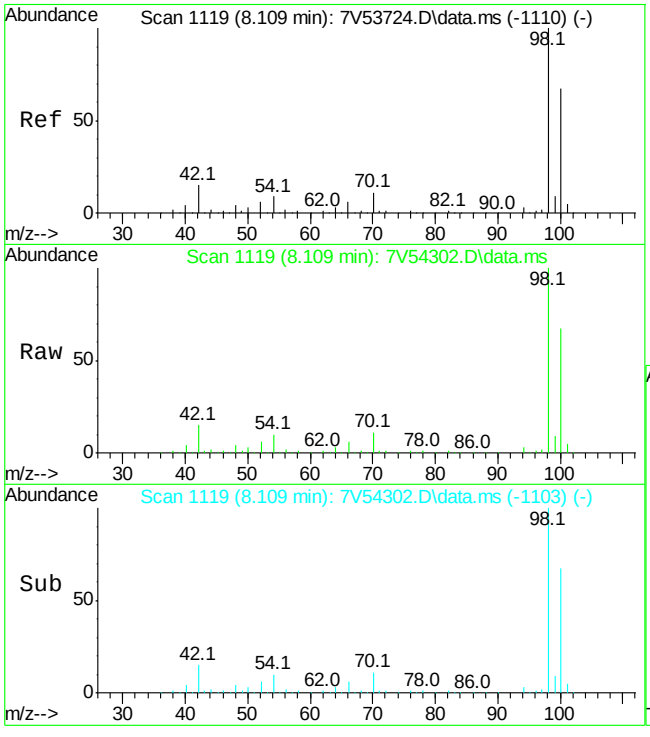


#55
Chlorobenzene-d5
Concen: 50.00 ug/L
RT: 9.517 min Scan# 1350
Delta R.T. -0.000 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion:117 Resp: 518490

Ion	Ratio	Lower	Upper
117	100		
82	53.9	34.5	74.5
119	32.1	11.9	51.9

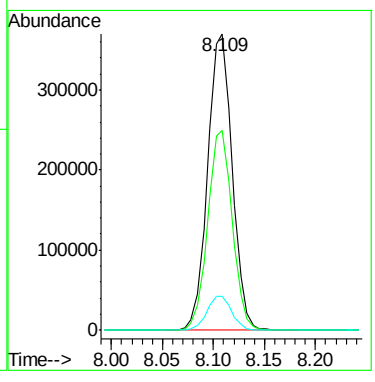


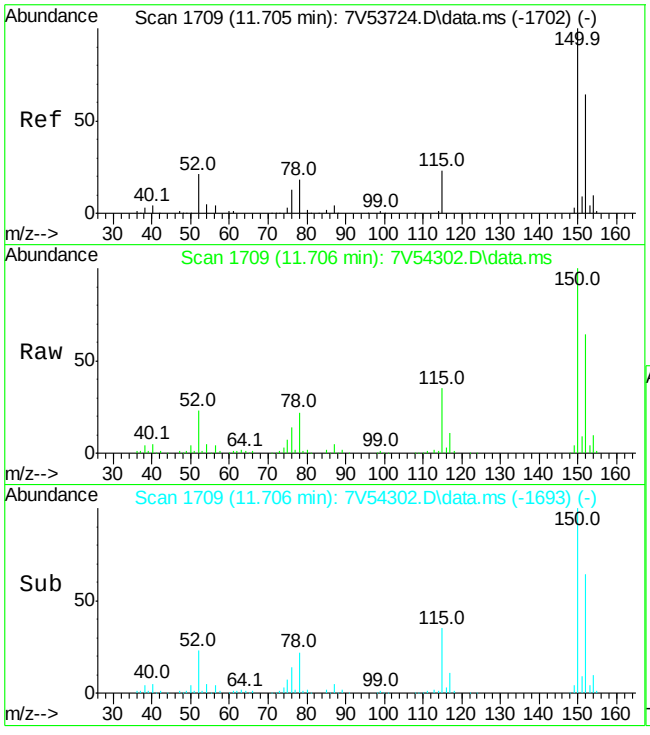


#56
Toluene-d8
Concen: 48.26 ug/L
RT: 8.109 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion: 98 Resp: 620857

Ion	Ratio	Lower	Upper
98	100		
100	67.1	47.5	87.5
70	11.5	0.0	31.5

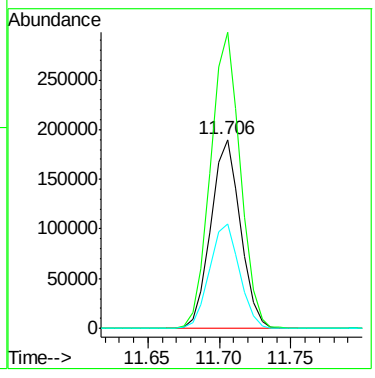


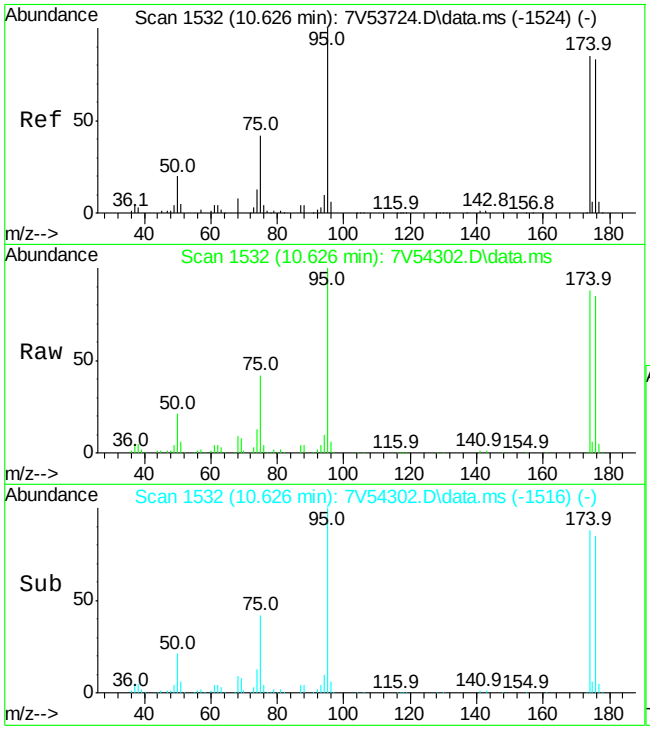


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/L
RT: 11.706 min Scan# 1709
Delta R.T. 0.001 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion:152 Resp: 274122

Ion	Ratio	Lower	Upper
152	100		
150	157.3	155.8	195.8
115	56.0	37.0	77.0

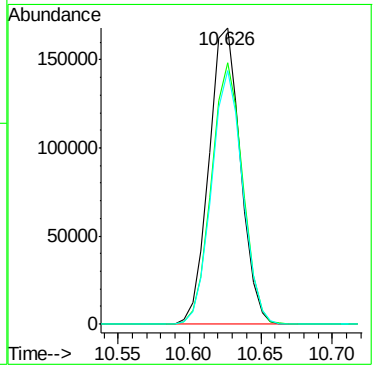




#76
4-Bromofluorobenzene
Concen: 49.00 ug/L
RT: 10.626 min Scan# 1532
Delta R.T. 0.000 min
Lab File: 7V54302.D
Acq: 3 Aug 2018 4:11 pm

Tgt Ion: 95 Resp: 258188

Ion	Ratio	Lower	Upper
95	100		
174	87.3	64.5	104.5
176	84.3	62.5	102.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54293.D
Acq On : 3 Aug 2018 12:40 pm
Operator : martyb
Sample : da7701-15
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 06 09:47:10 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

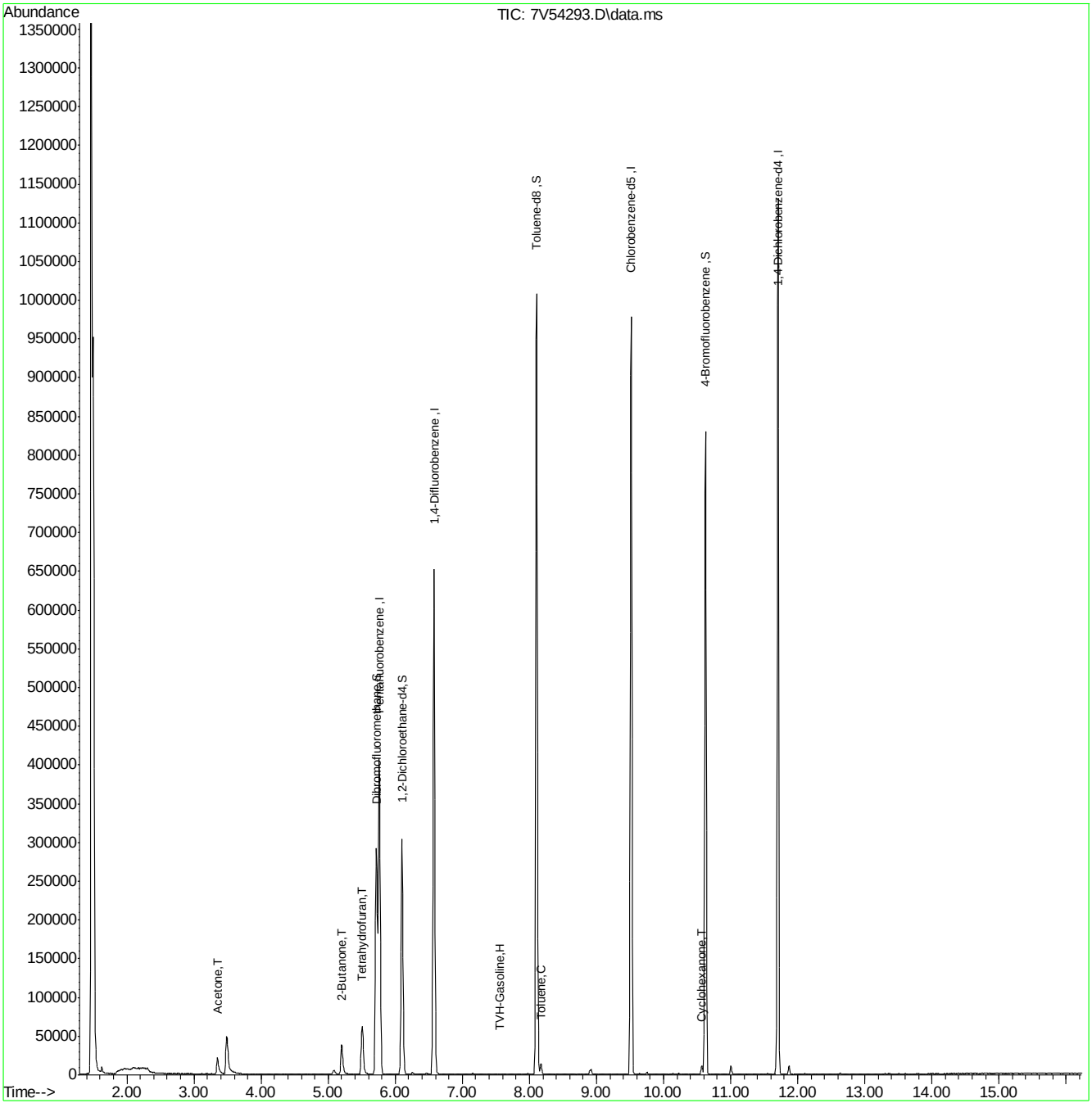
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
2) Pentafluorobenzene	5.762	168	309765	50.00	ug/L	0.00
40) 1,4-Difluorobenzene	6.579	114	520667	50.00	ug/L	0.00
55) Chlorobenzene-d5	9.517	117	512444	50.00	ug/L	0.00
74) 1,4-Dichlorobenzene-d4	11.706	152	273943	50.00	ug/L	# 0.00
System Monitoring Compounds						
35) Dibromofluoromethane	5.719	113	185307	49.82	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.64%			
41) 1,2-Dichloroethane-d4	6.103	102	39913	49.05	ug/L	0.00
Spiked Amount 50.000	Range 62 - 130		Recovery = 98.10%			
56) Toluene-d8	8.109	98	621298	48.86	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.72%			
76) 4-Bromofluorobenzene	10.627	95	260519	49.48	ug/L	0.00
Spiked Amount 50.000	Range 69 - 130		Recovery = 98.96%			
Target Compounds						Qvalue
1) TVH-Gasoline	7.554	TIC	406199m	15.80	ug/L	
14) Acetone	3.354	43	32826	10.62	ug/L	96
30) 2-Butanone	5.201	43	59911	16.40	ug/L	94
33) Tetrahydrofuran	5.506	42	47552	18.34	ug/L	96
57) Toluene	8.176	92	5433	0.58	ug/L	96
75) Cyclohexanone	10.572	55	4592	5.24	ug/L	93

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

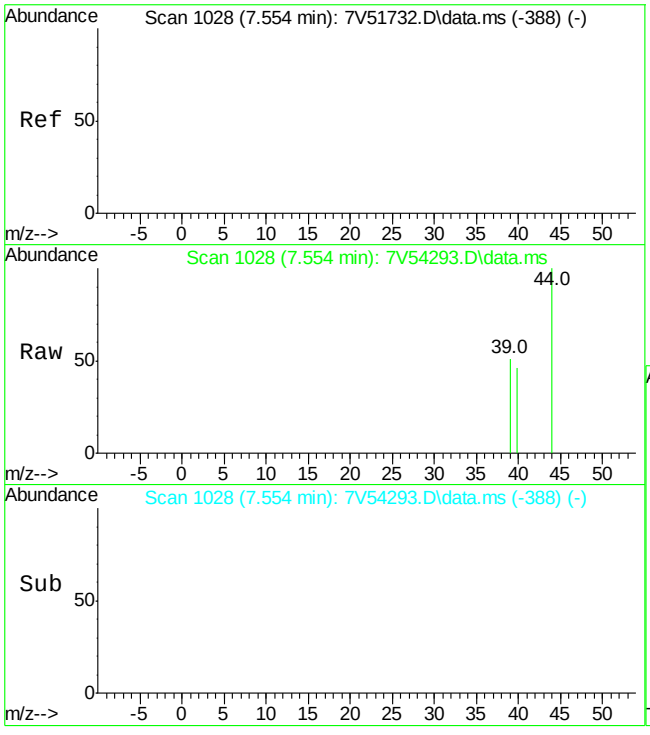
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54293.D
Acq On : 3 Aug 2018 12:40 pm
Operator : martyb
Sample : da7701-15
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 06 09:47:10 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

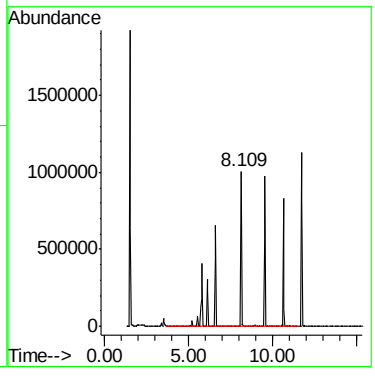


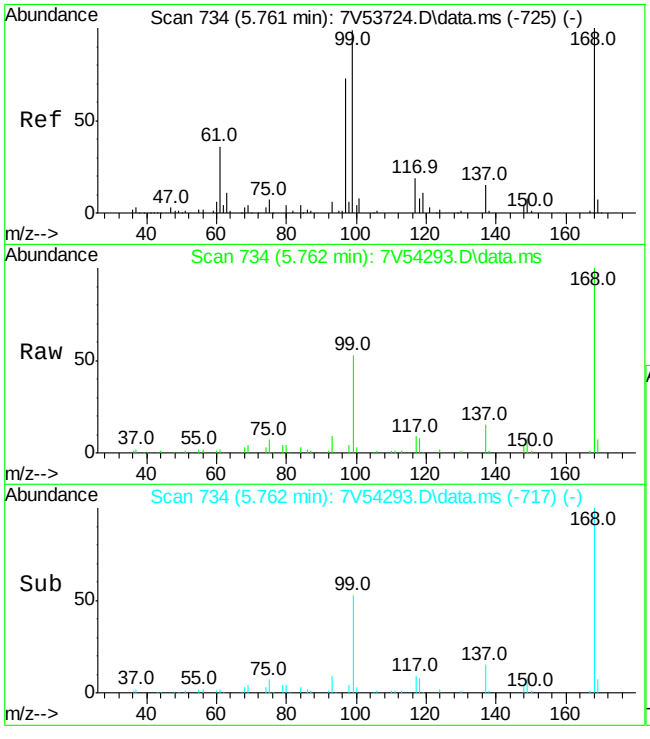
V7V2772water.M Mon Aug 06 10:09:51 2018 Page: 2



#1
TVH-Gasoline
Concen: 15.80 ug/L m
RT: 7.554 min Scan# 1028
Delta R.T. 0.000 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion:TIC Resp: 406199

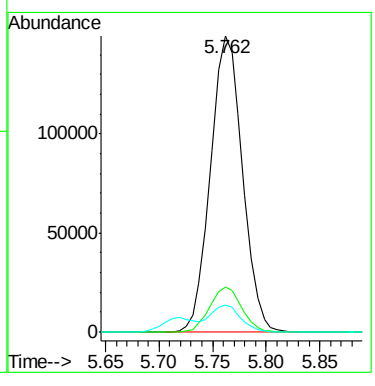


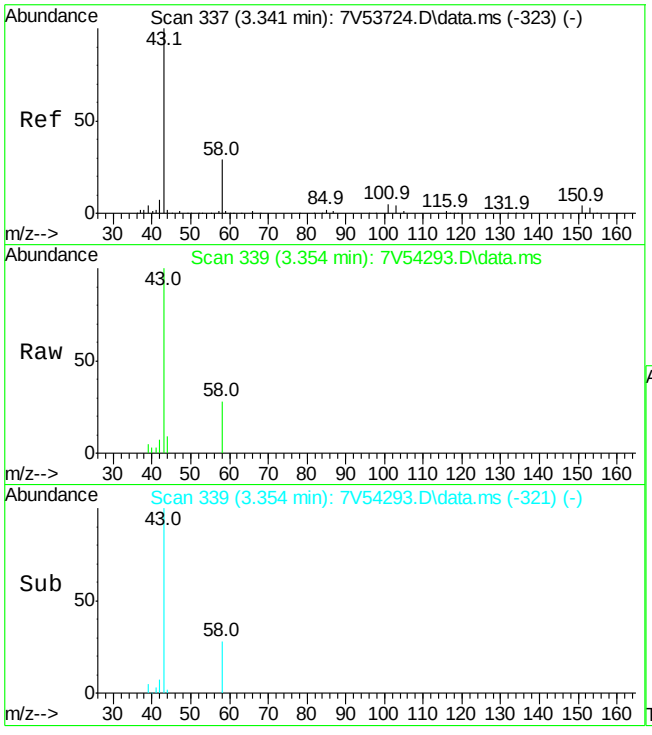


#2
Pentafluorobenzene
Concen: 50.00 ug/L
RT: 5.762 min Scan# 734
Delta R.T. 0.001 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion:168 Resp: 309765

Ion	Ratio	Lower	Upper
168	100		
137	15.2	0.0	35.3
93	8.6	0.0	28.5

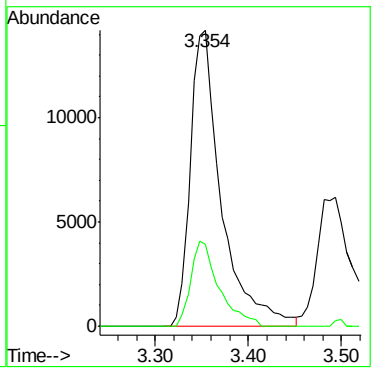


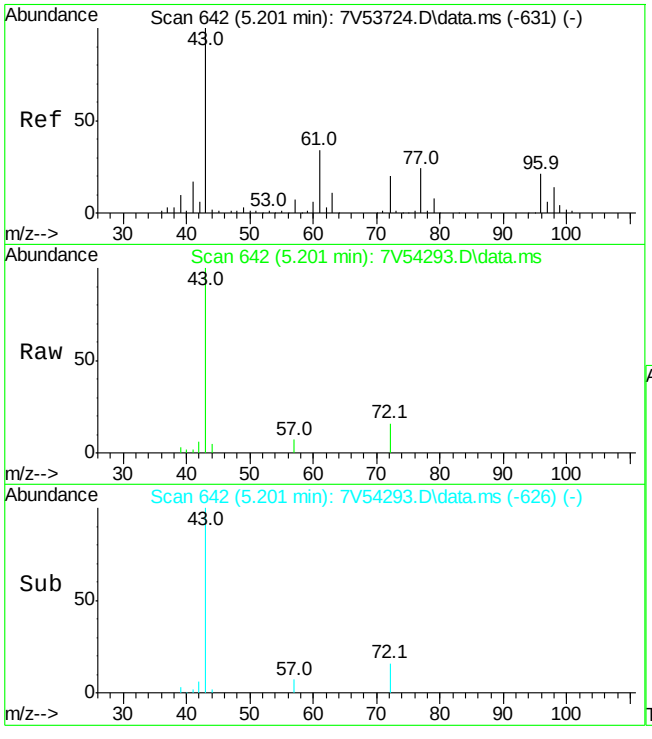


#14
Acetone
Concen: 10.62 ug/L
RT: 3.354 min Scan# 339
Delta R.T. 0.013 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion: 43 Resp: 32826

Ion	Ratio	Lower	Upper
43	100		
58	26.2	8.6	48.6

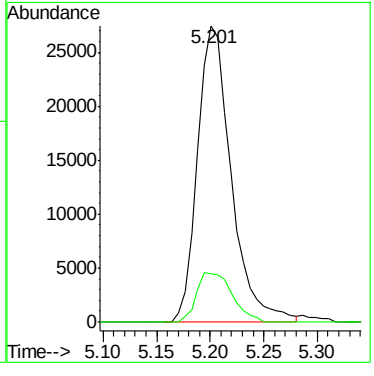


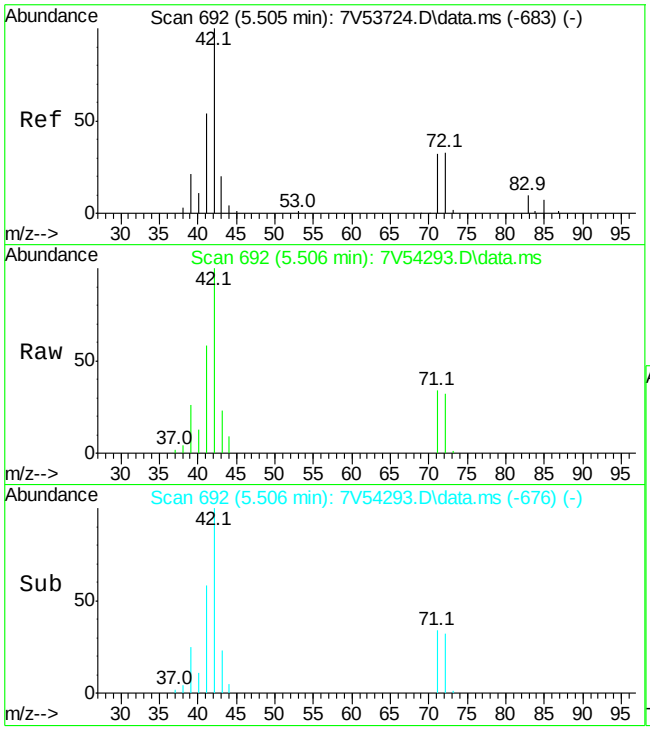


#30
2-Butanone
Concen: 16.40 ug/L
RT: 5.201 min Scan# 642
Delta R.T. -0.000 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion: 43 Resp: 59911

Ion	Ratio	Lower	Upper
43	100		
72	17.6	0.3	40.3

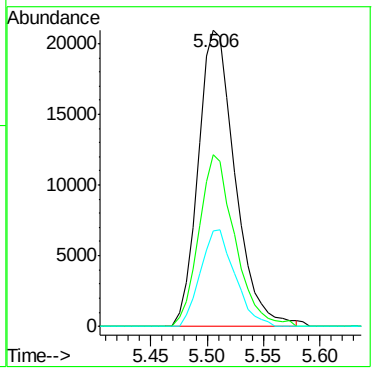


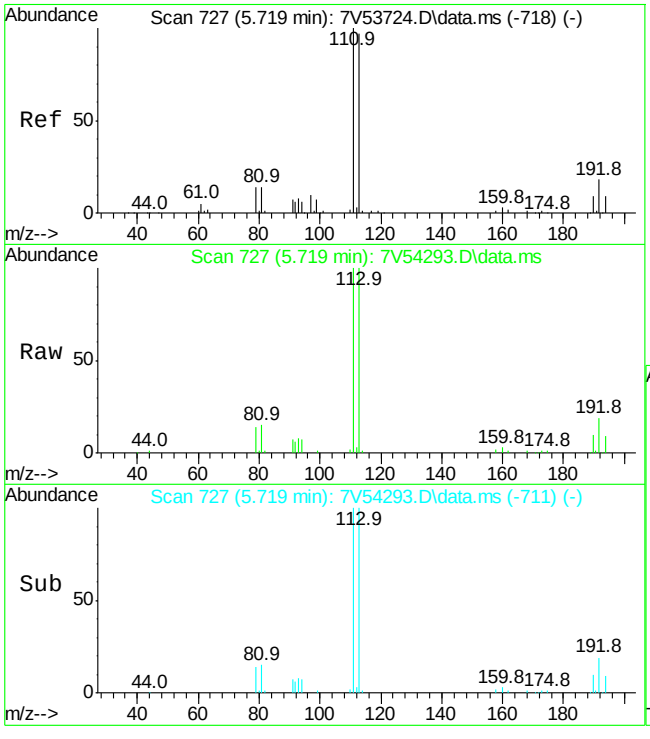


#33
Tetrahydrofuran
Concen: 18.34 ug/L
RT: 5.506 min Scan# 692
Delta R.T. 0.001 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion: 42 Resp: 47552

Ion	Ratio	Lower	Upper
42	100		
41	56.7	35.3	75.3
72	30.7	14.2	54.2

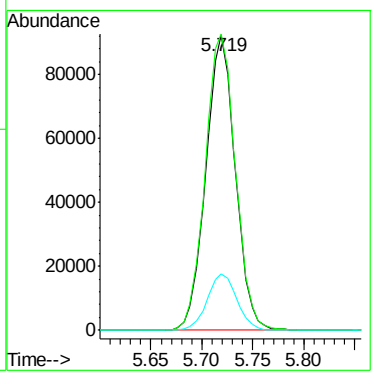


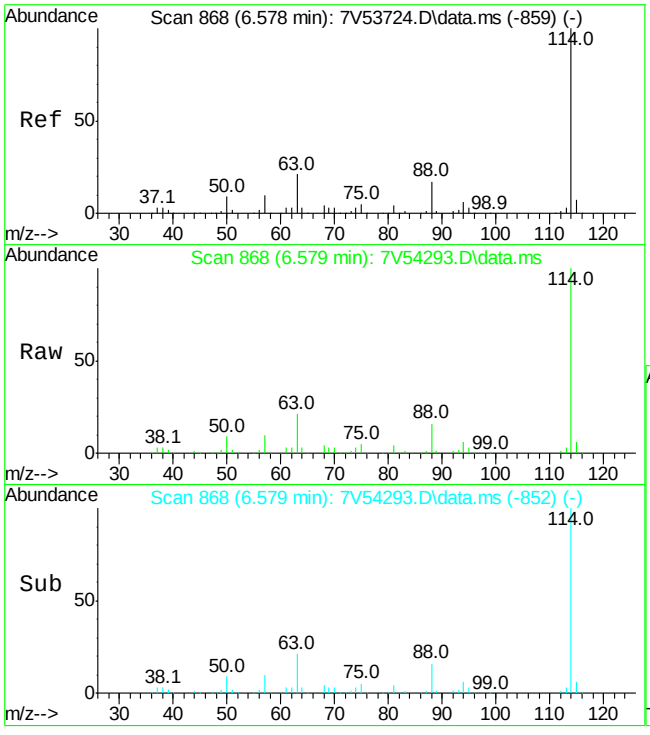


#35
Dibromofluoromethane
Concen: 49.82 ug/L
RT: 5.719 min Scan# 727
Delta R.T. -0.000 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion:113 Resp: 185307

Ion	Ratio	Lower	Upper
113	100		
111	103.3	82.3	122.3
192	19.1	0.0	38.9

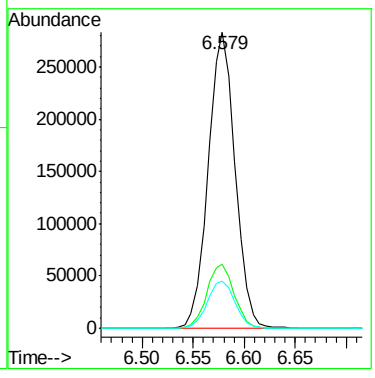


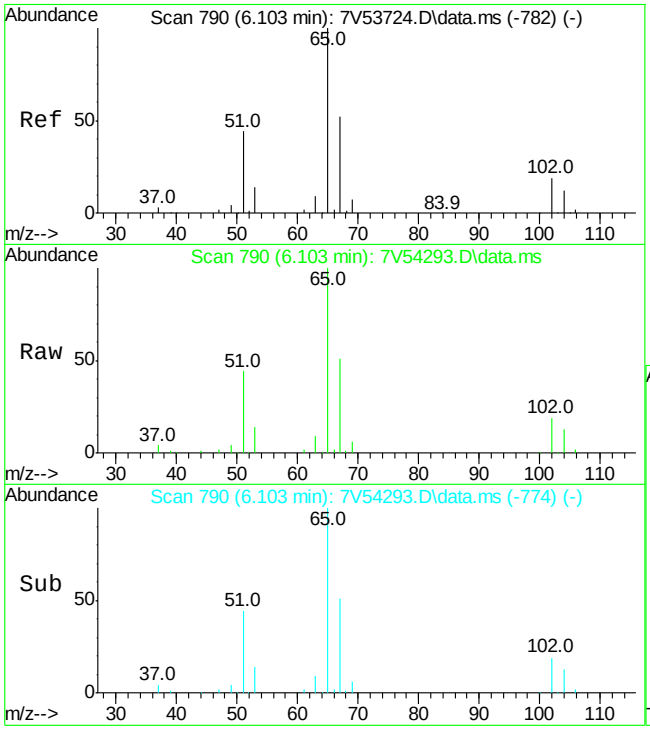


#40
1,4-Difluorobenzene
Concen: 50.00 ug/L
RT: 6.579 min Scan# 868
Delta R.T. 0.001 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion:114 Resp: 520667

Ion	Ratio	Lower	Upper
114	100		
63	22.0	2.2	42.2
88	16.4	0.0	36.7

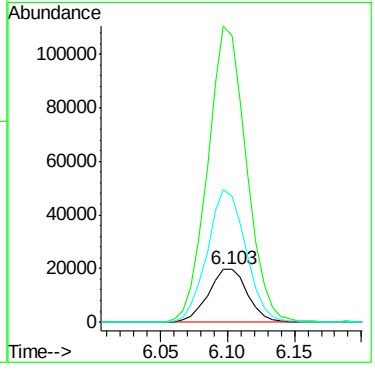


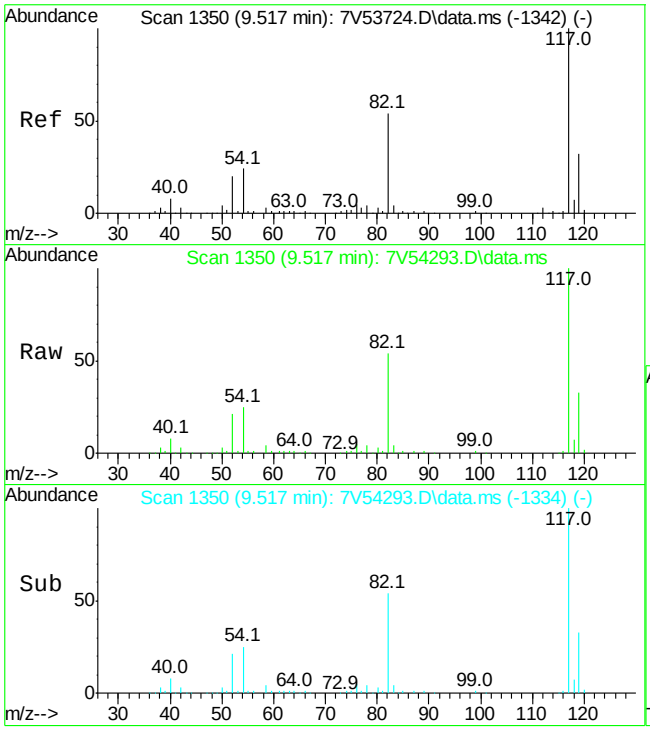


#41
1,2-Dichloroethane-d4
Concen: 49.05 ug/L
RT: 6.103 min Scan# 790
Delta R.T. 0.000 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion:102 Resp: 39913

Ion	Ratio	Lower	Upper
102	100		
65	552.7	529.0	569.0
51	246.6	223.2	263.2

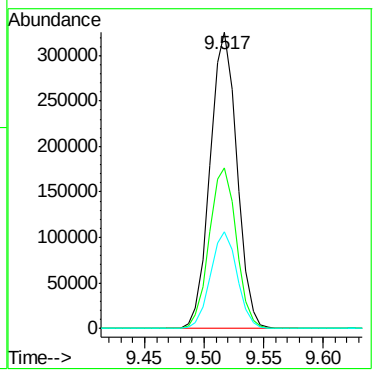


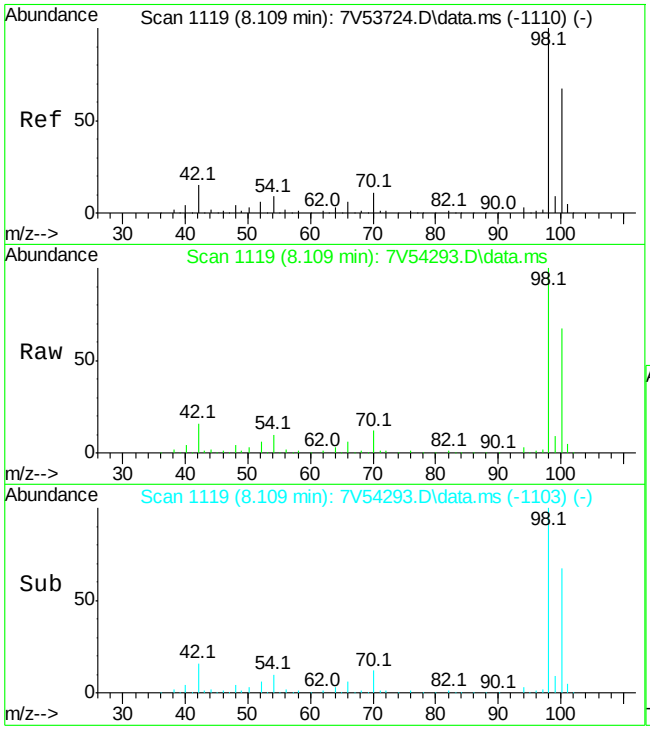


#55
Chlorobenzene-d5
Concen: 50.00 ug/L
RT: 9.517 min Scan# 1350
Delta R.T. 0.000 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion:117 Resp: 512444

Ion	Ratio	Lower	Upper
117	100		
82	54.7	34.5	74.5
119	32.3	11.9	51.9

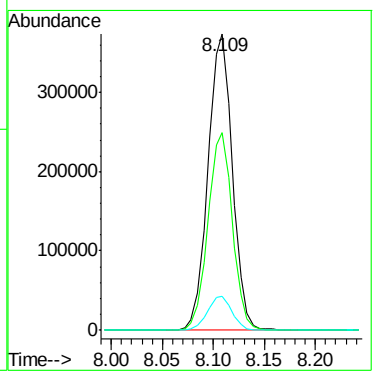


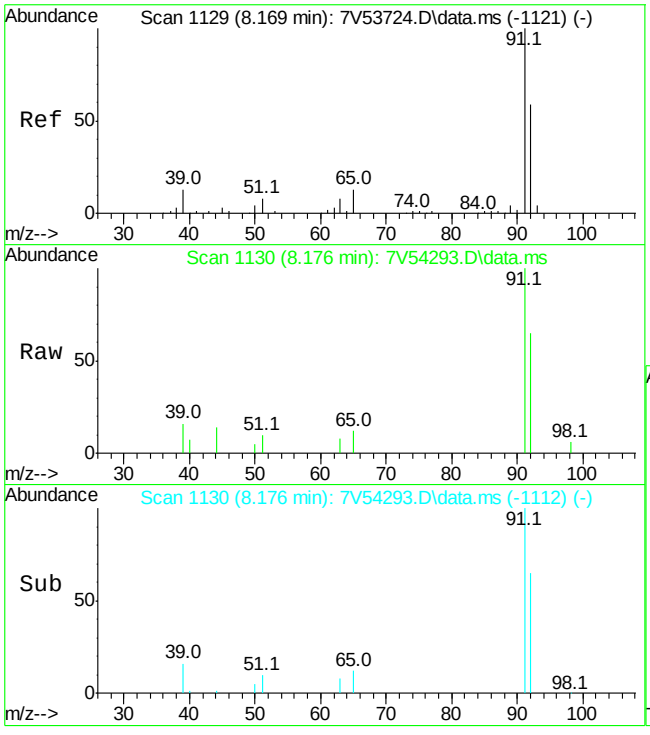


#56
Toluene-d8
Concen: 48.86 ug/L
RT: 8.109 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion: 98 Resp: 621298

Ion	Ratio	Lower	Upper
98	100		
100	66.6	47.5	87.5
70	11.4	0.0	31.5

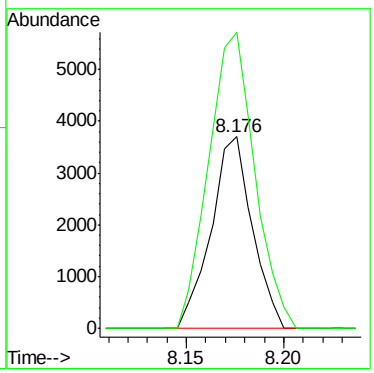


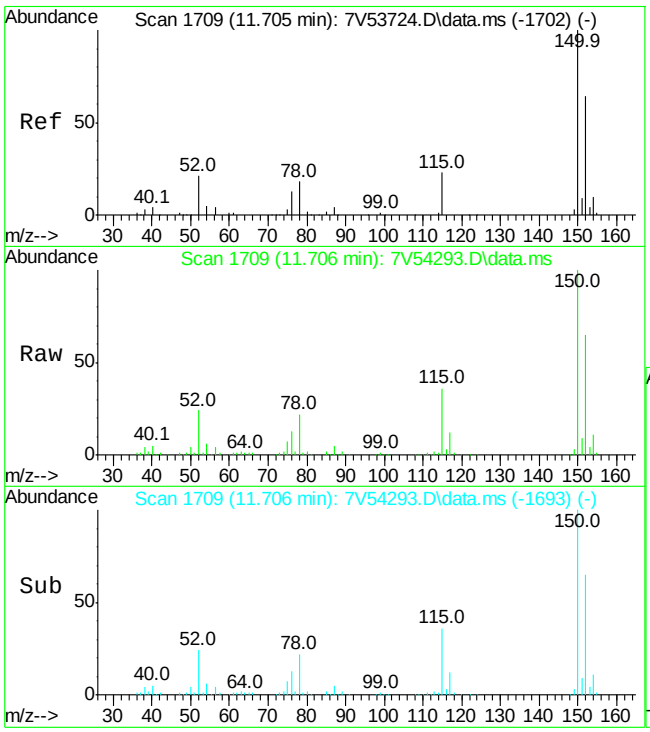


#57
Toluene
Concen: 0.58 ug/L
RT: 8.176 min Scan# 1130
Delta R.T. 0.007 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion: 92 Resp: 5433

Ion	Ratio	Lower	Upper
92	100		
91	173.0	147.0	187.0

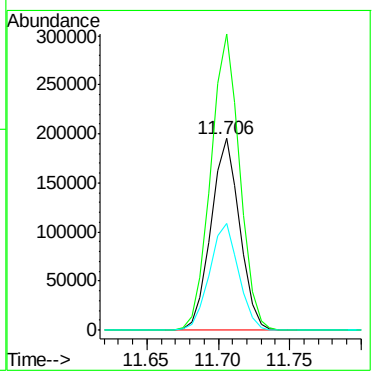


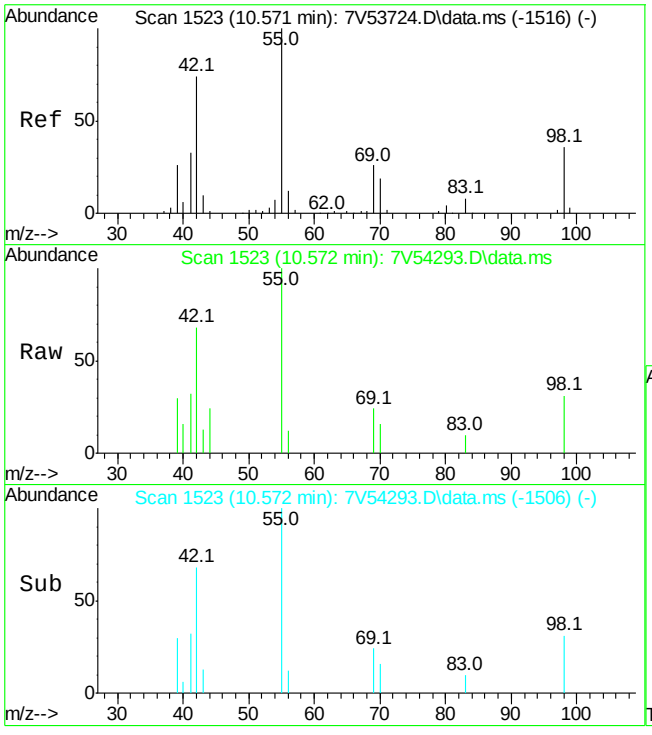


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/L
RT: 11.706 min Scan# 1709
Delta R.T. 0.001 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion:152 Resp: 273943

Ion	Ratio	Lower	Upper
152	100		
150	155.3	155.8	195.8#
115	56.0	37.0	77.0

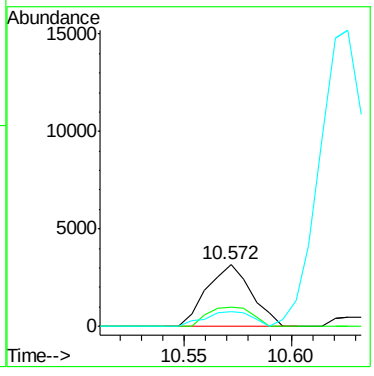


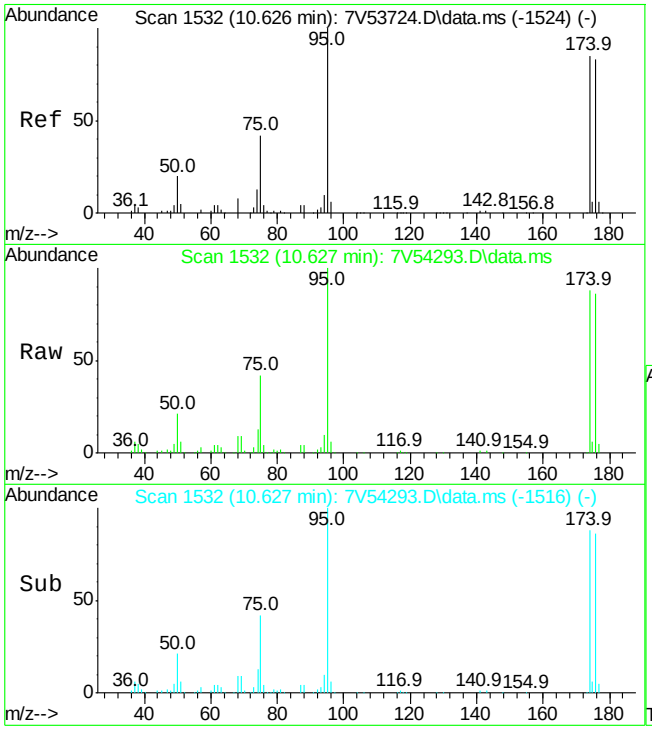


#75
Cyclohexanone
Concen: 5.24 ug/L
RT: 10.572 min Scan# 1523
Delta R.T. 0.001 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion: 55 Resp: 4592

Ion	Ratio	Lower	Upper
55	100		
98	30.8	16.1	56.1
69	23.6	5.8	45.8

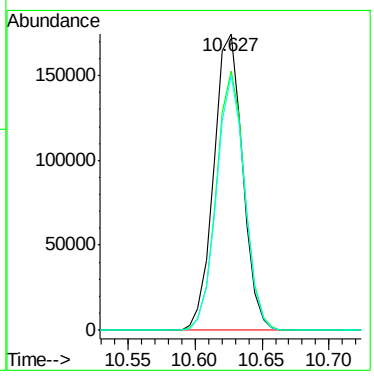




#76
4-Bromofluorobenzene
Concen: 49.48 ug/L
RT: 10.627 min Scan# 1532
Delta R.T. 0.001 min
Lab File: 7V54293.D
Acq: 3 Aug 2018 12:40 pm

Tgt Ion: 95 Resp: 260519

Ion	Ratio	Lower	Upper
95	100		
174	86.5	64.5	104.5
176	83.8	62.5	102.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54303.D
Acq On : 3 Aug 2018 4:34 pm
Operator : martyb
Sample : da7701-16
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 06 09:57:47 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

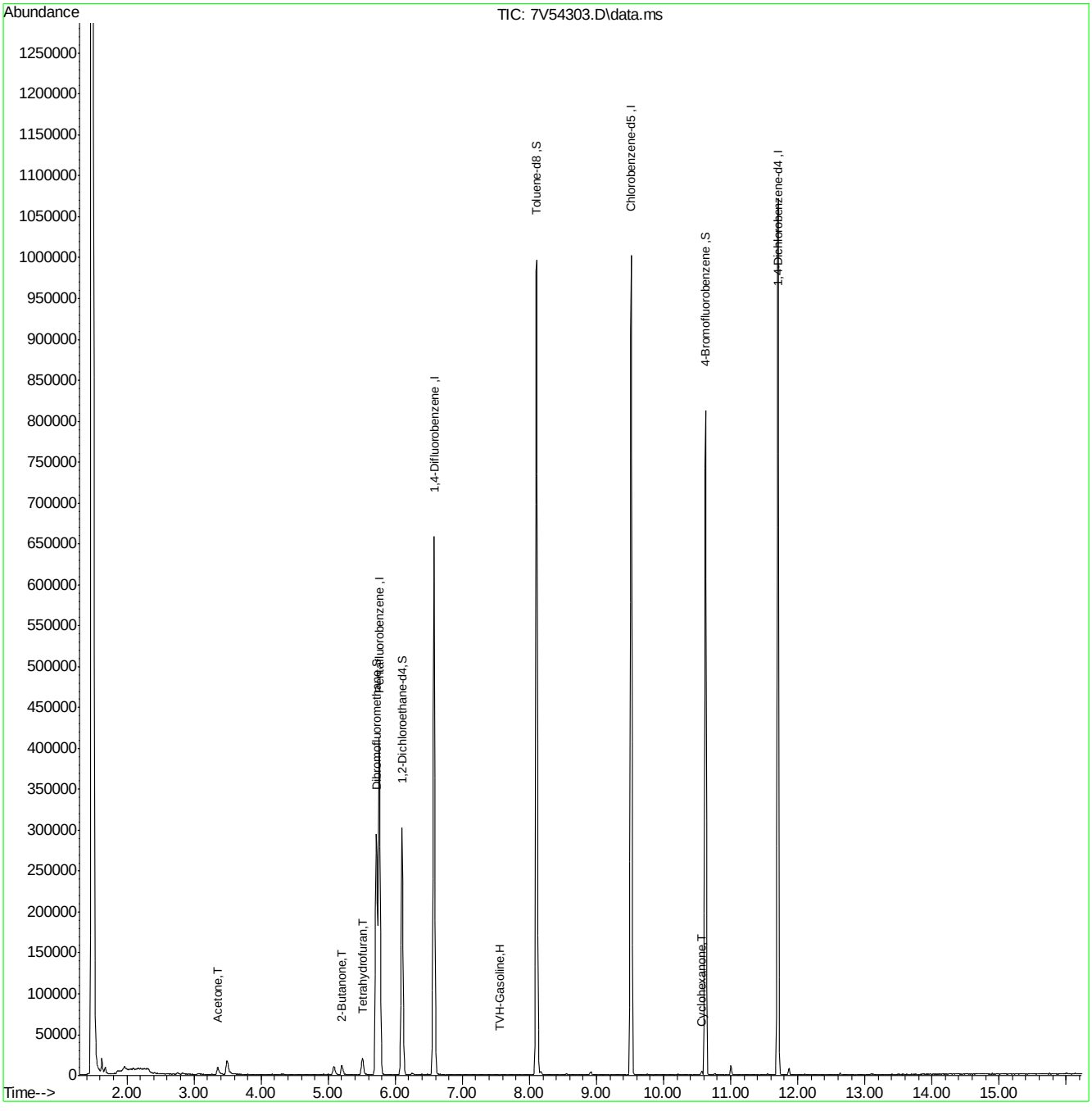
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
2) Pentafluorobenzene	5.762	168	312961	50.00	ug/L	0.00
40) 1,4-Difluorobenzene	6.579	114	521126	50.00	ug/L	0.00
55) Chlorobenzene-d5	9.517	117	516136	50.00	ug/L	0.00
74) 1,4-Dichlorobenzene-d4	11.706	152	272421	50.00	ug/L	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	5.719	113	188261	50.10	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.20%			
41) 1,2-Dichloroethane-d4	6.103	102	40816	50.12	ug/L	0.00
Spiked Amount 50.000	Range 62 - 130		Recovery = 100.24%			
56) Toluene-d8	8.109	98	622719	48.63	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.26%			
76) 4-Bromofluorobenzene	10.627	95	259466	49.55	ug/L	0.00
Spiked Amount 50.000	Range 69 - 130		Recovery = 99.10%			
Target Compounds						Qvalue
1) TVH-Gasoline	7.554	TIC	253551m	9.86	ug/L	
14) Acetone	3.354	43	15337	3.89	ug/L	92
30) 2-Butanone	5.207	43	17820	4.83	ug/L	89
33) Tetrahydrofuran	5.512	42	16370	6.25	ug/L	95
75) Cyclohexanone	10.572	55	1895	2.17	ug/L	95

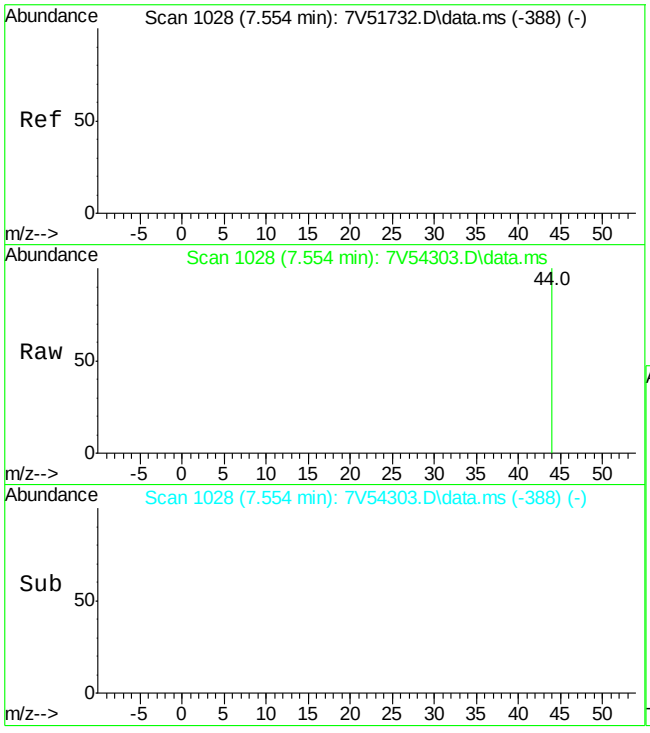
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54303.D
Acq On : 3 Aug 2018 4:34 pm
Operator : martyb
Sample : da7701-16
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 4 Sample Multiplier: 1

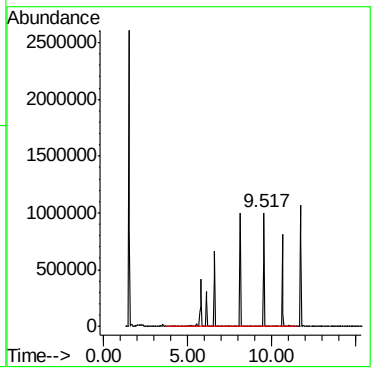
Quant Time: Aug 06 09:57:47 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

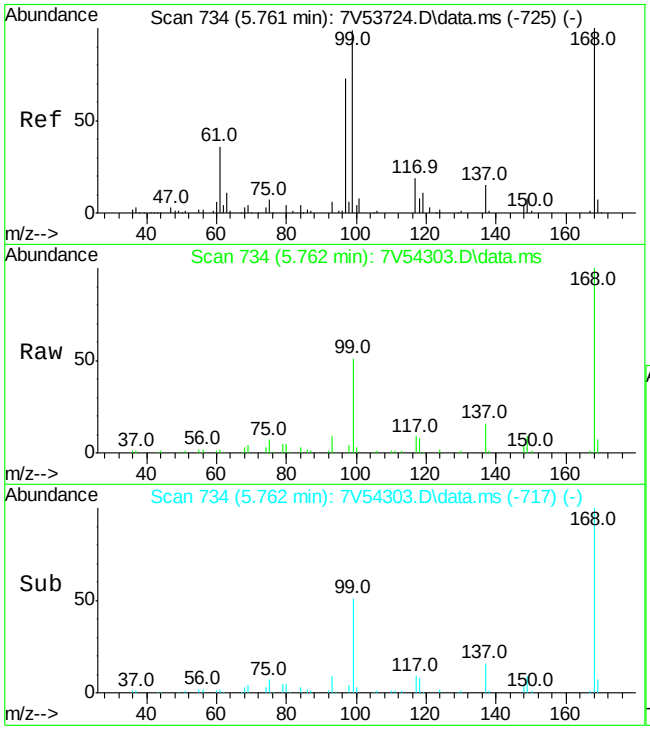




#1
TVH-Gasoline
Concen: 9.86 ug/L m
RT: 7.554 min Scan# 1028
Delta R.T. 0.000 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion:TIC Resp: 253551

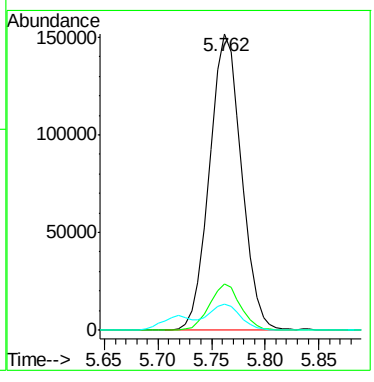


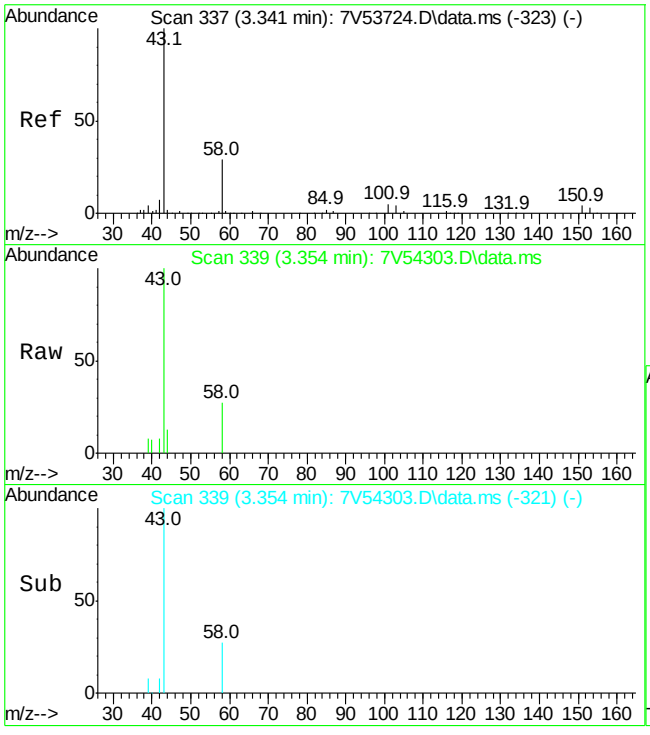


#2
Pentafluorobenzene
Concen: 50.00 ug/L
RT: 5.762 min Scan# 734
Delta R.T. 0.001 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion:168 Resp: 312961

Ion	Ratio	Lower	Upper
168	100		
137	15.1	0.0	35.3
93	8.5	0.0	28.5

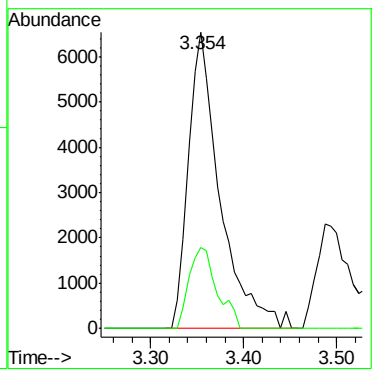


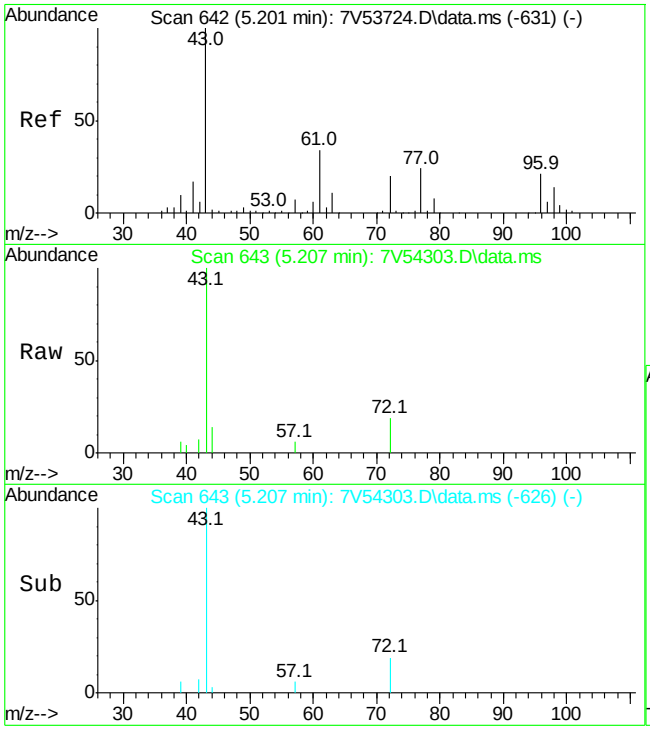


#14
Acetone
Concen: 3.89 ug/L
RT: 3.354 min Scan# 339
Delta R.T. 0.013 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion: 43 Resp: 15337

Ion	Ratio	Lower	Upper
43	100		
58	24.2	8.6	48.6

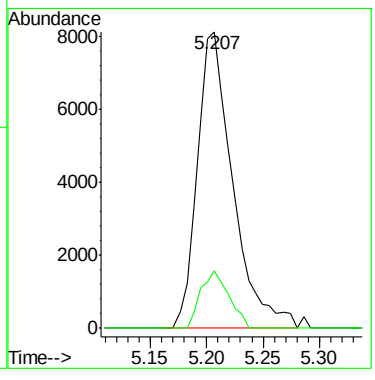


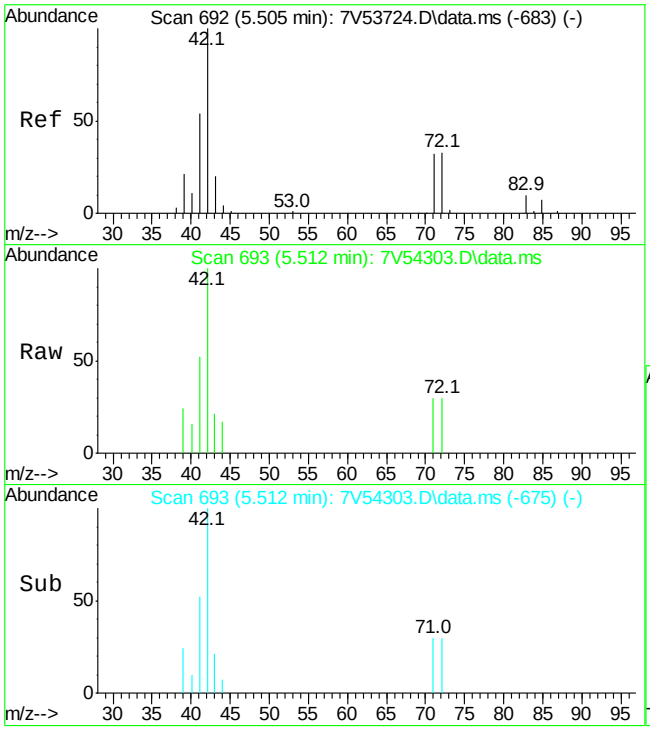


#30
2-Butanone
Concen: 4.83 ug/L
RT: 5.207 min Scan# 643
Delta R.T. 0.006 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion: 43 Resp: 17820

Ion	Ratio	Lower	Upper
43	100		
72	15.4	0.3	40.3

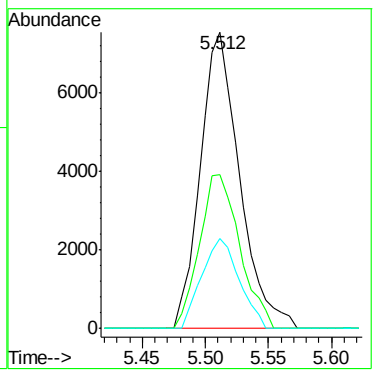


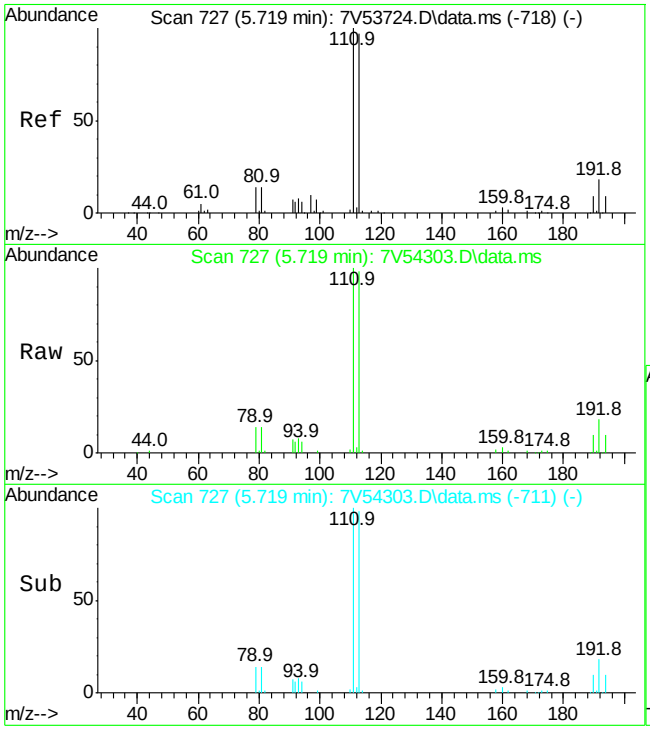


#33
Tetrahydrofuran
Concen: 6.25 ug/L
RT: 5.512 min Scan# 693
Delta R.T. 0.007 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion: 42 Resp: 16370

Ion	Ratio	Lower	Upper
42	100		
41	53.3	35.3	75.3
72	28.8	14.2	54.2

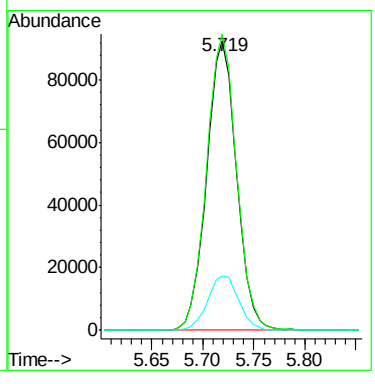


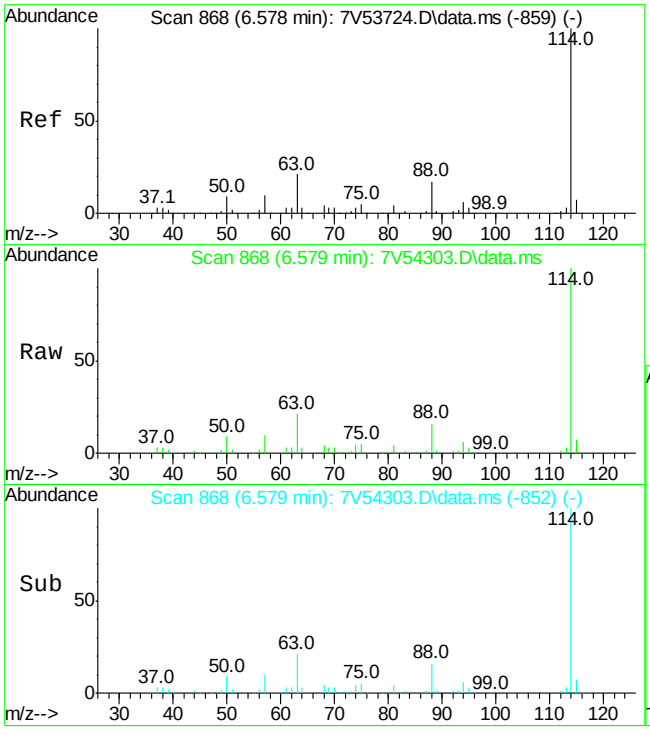


#35
Dibromofluoromethane
Concen: 50.10 ug/L
RT: 5.719 min Scan# 727
Delta R.T. -0.000 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion:113 Resp: 188261

Ion	Ratio	Lower	Upper
113	100		
111	103.0	82.3	122.3
192	19.4	0.0	38.9

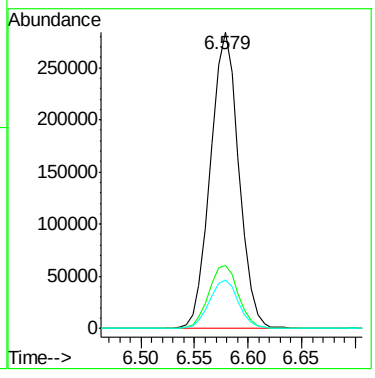


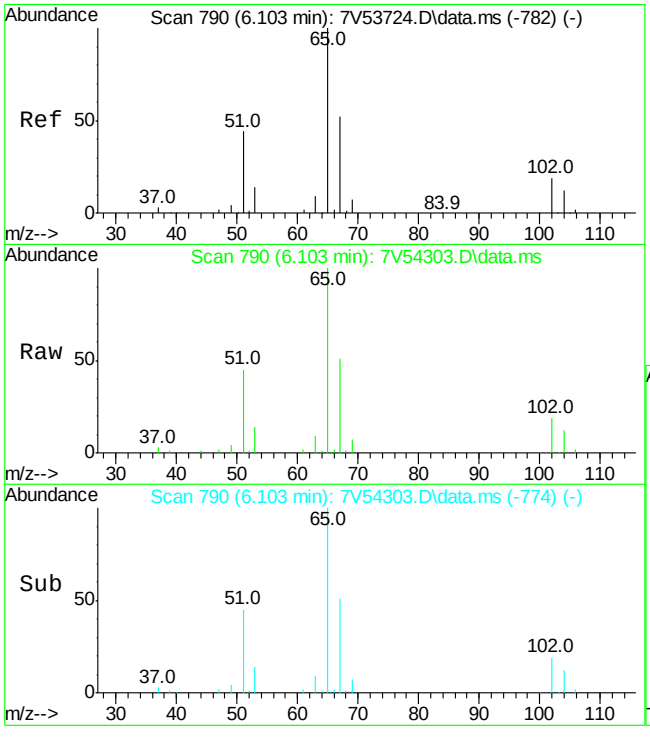


#40
1,4-Difluorobenzene
Concen: 50.00 ug/L
RT: 6.579 min Scan# 868
Delta R.T. 0.001 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion:114 Resp: 521126

Ion	Ratio	Lower	Upper
114	100		
63	22.1	2.2	42.2
88	16.7	0.0	36.7

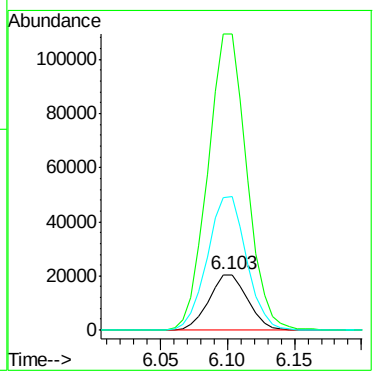


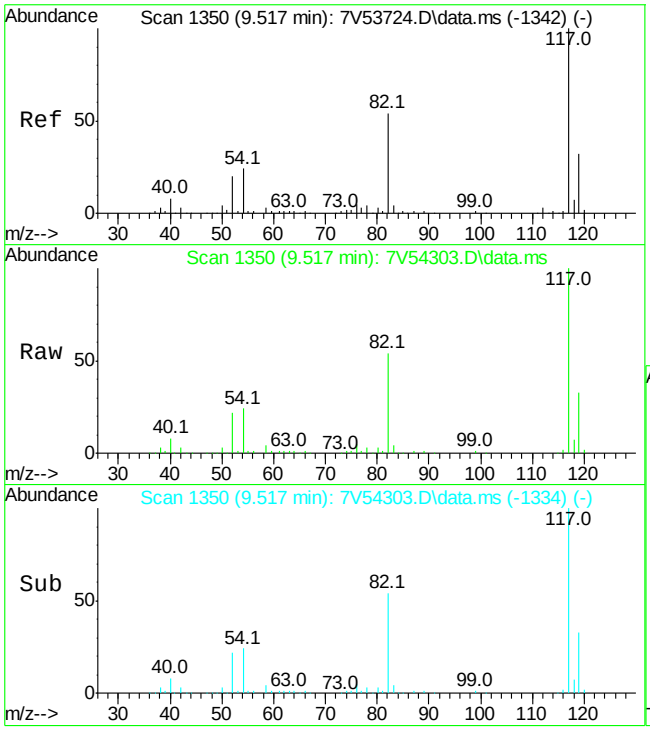


#41
1,2-Dichloroethane-d4
Concen: 50.12 ug/L
RT: 6.103 min Scan# 790
Delta R.T. 0.000 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion:102 Resp: 40816

Ion	Ratio	Lower	Upper
102	100		
65	541.7	529.0	569.0
51	244.9	223.2	263.2

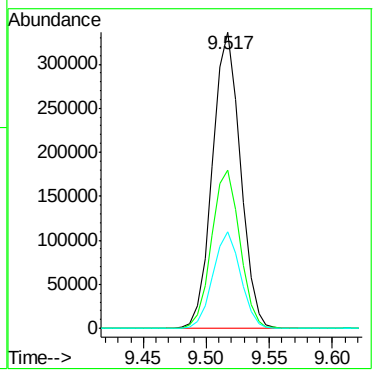


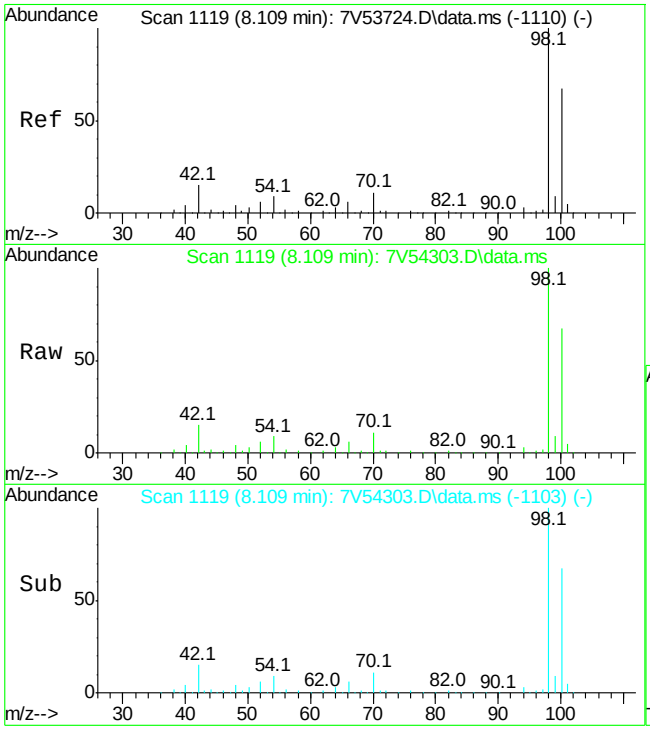


#55
Chlorobenzene-d5
Concen: 50.00 ug/L
RT: 9.517 min Scan# 1350
Delta R.T. 0.000 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion:117 Resp: 516136

Ion	Ratio	Lower	Upper
117	100		
82	54.1	34.5	74.5
119	32.1	11.9	51.9

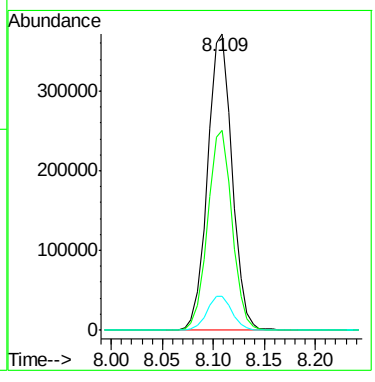


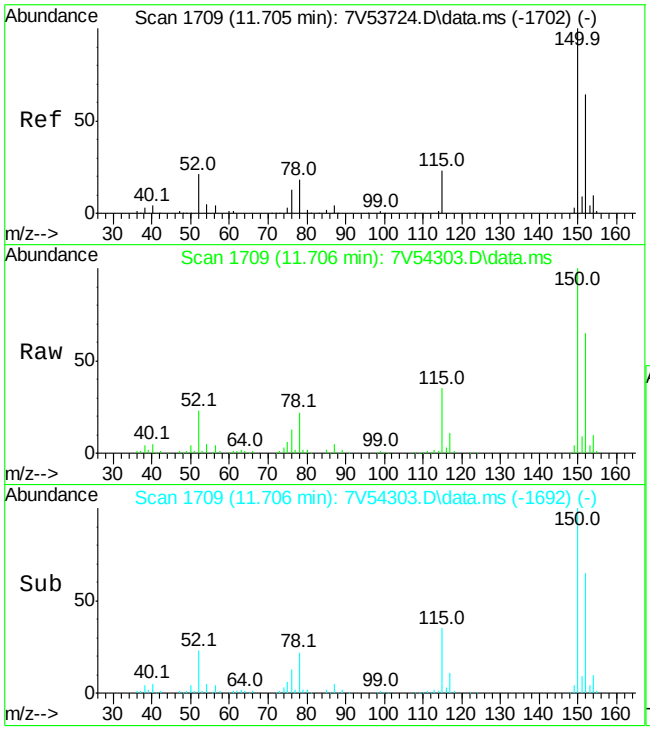


#56
Toluene-d8
Concen: 48.63 ug/L
RT: 8.109 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion: 98 Resp: 622719

Ion	Ratio	Lower	Upper
98	100		
100	67.1	47.5	87.5
70	11.6	0.0	31.5

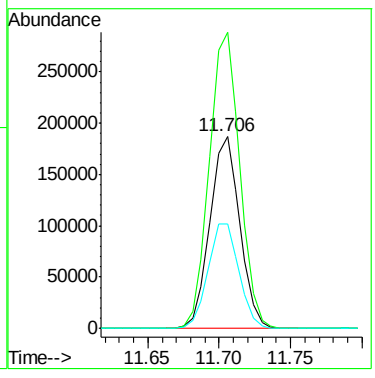


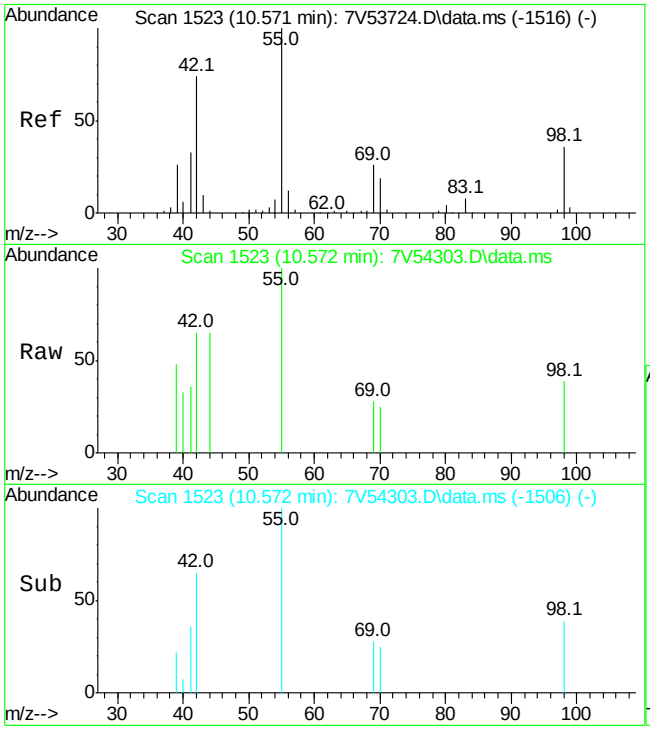


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/L
RT: 11.706 min Scan# 1709
Delta R.T. 0.001 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion:152 Resp: 272421

Ion	Ratio	Lower	Upper
152	100		
150	157.0	155.8	195.8
115	56.4	37.0	77.0

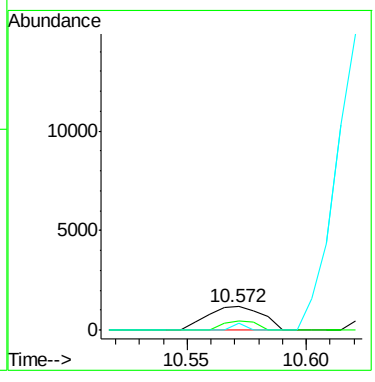


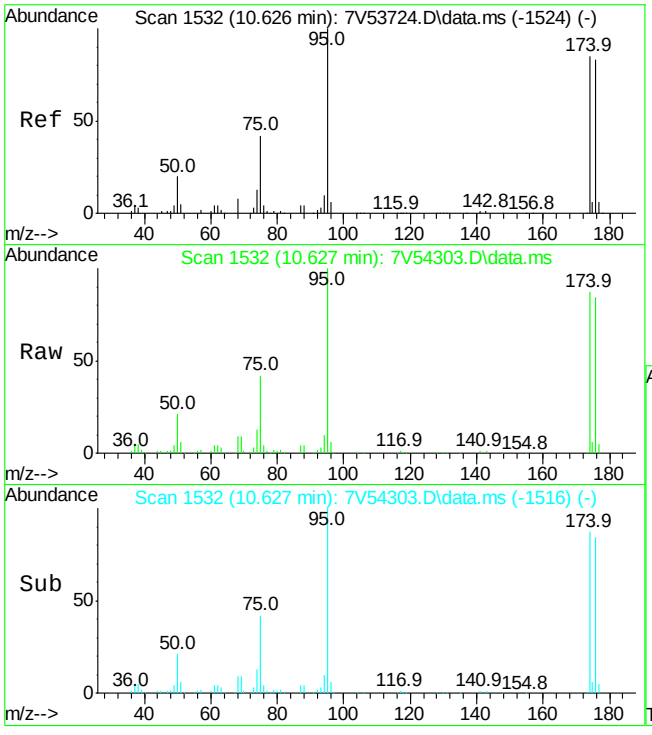


#75
Cyclohexanone
Concen: 2.17 ug/L
RT: 10.572 min Scan# 1523
Delta R.T. 0.001 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion: 55 Resp: 1895

Ion	Ratio	Lower	Upper
55	100		
98	39.1	16.1	56.1
69	28.3	5.8	45.8

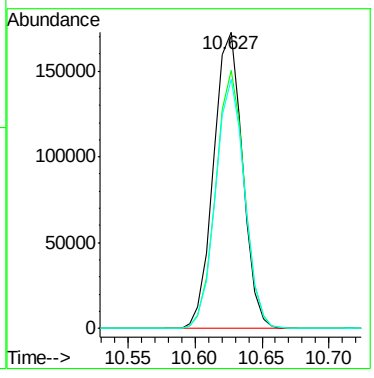




#76
4-Bromofluorobenzene
Concen: 49.55 ug/L
RT: 10.627 min Scan# 1532
Delta R.T. 0.001 min
Lab File: 7V54303.D
Acq: 3 Aug 2018 4:34 pm

Tgt Ion: 95 Resp: 259466

Ion	Ratio	Lower	Upper
95	100		
174	86.1	64.5	104.5
176	84.0	62.5	102.5



7.1.16

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54304.D
Acq On : 3 Aug 2018 4:57 pm
Operator : martyb
Sample : da7701-17
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 06 09:58:30 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
2) Pentafluorobenzene	5.762	168	308038	50.00	ug/L	0.00
40) 1,4-Difluorobenzene	6.578	114	513826	50.00	ug/L	0.00
55) Chlorobenzene-d5	9.517	117	508703	50.00	ug/L	0.00
74) 1,4-Dichlorobenzene-d4	11.705	152	268802	50.00	ug/L	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	5.719	113	182767	49.42	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.84%			
41) 1,2-Dichloroethane-d4	6.097	102	38899	48.44	ug/L	0.00
Spiked Amount 50.000	Range 62 - 130		Recovery = 96.88%			
56) Toluene-d8	8.109	98	616378	48.83	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.66%			
76) 4-Bromofluorobenzene	10.626	95	255068	49.37	ug/L	0.00
Spiked Amount 50.000	Range 69 - 130		Recovery = 98.74%			
Target Compounds						Qvalue
1) TVH-Gasoline	7.554	TIC	170980m	6.65	ug/L	
14) Acetone	3.353	43	8710	1.45	ug/L	88

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

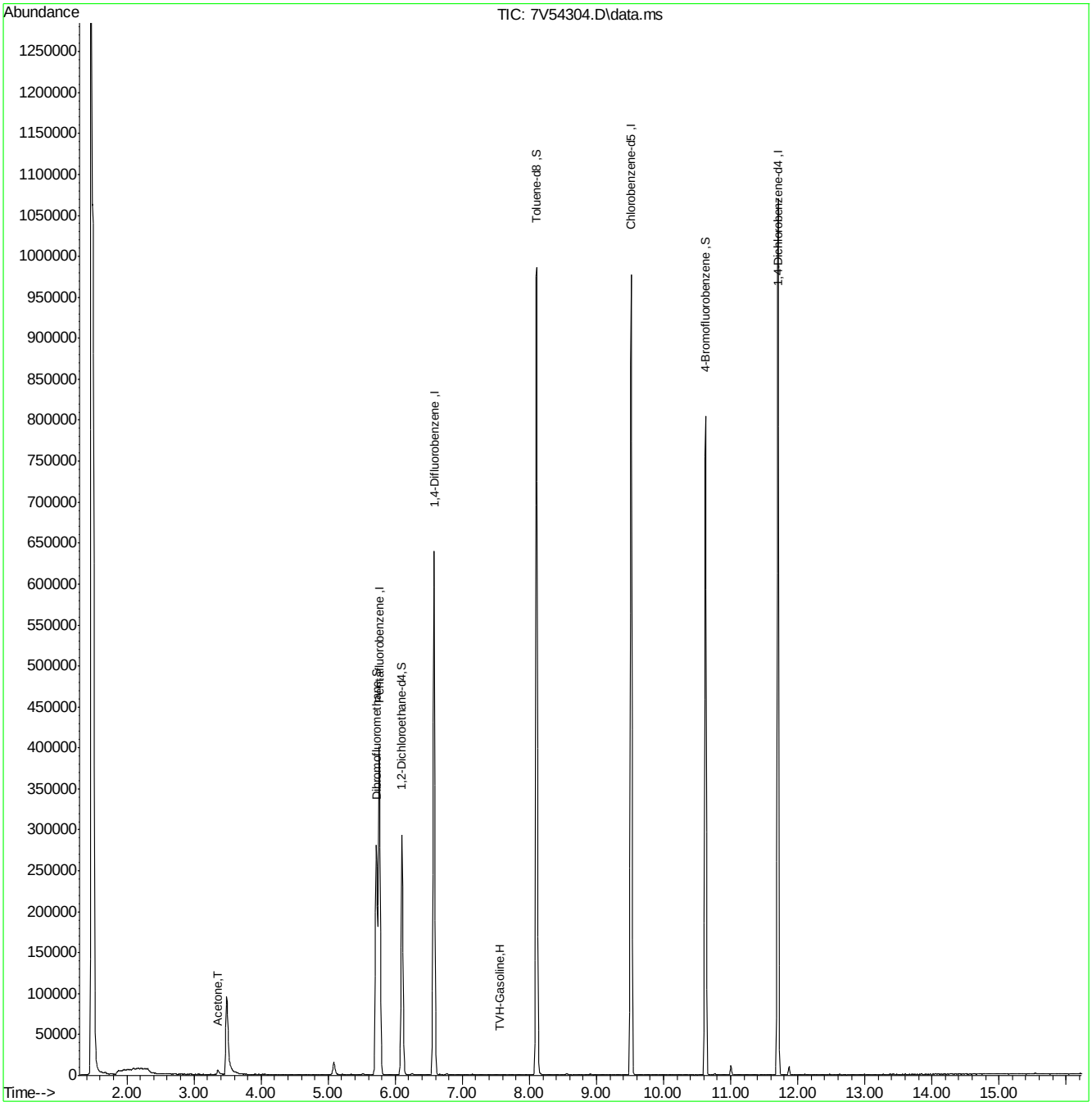
7.1.17

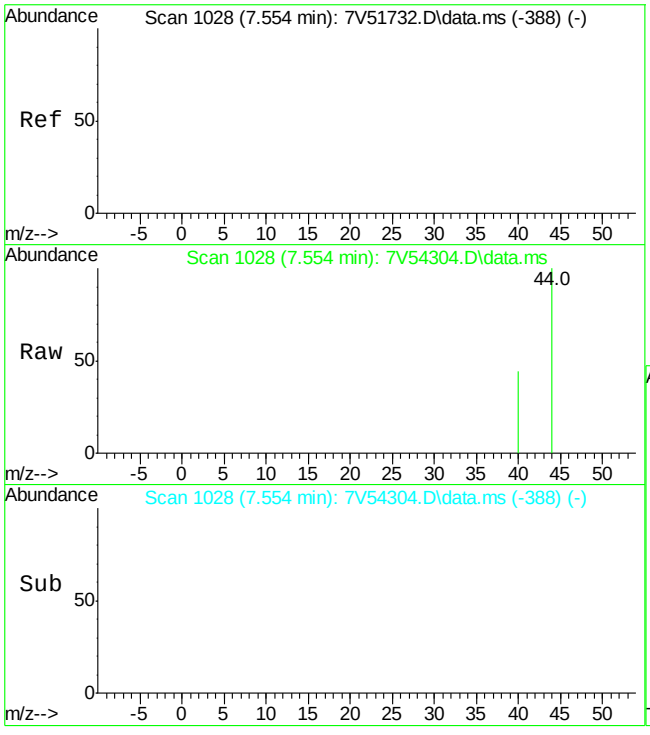
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54304.D
Acq On : 3 Aug 2018 4:57 pm
Operator : martyb
Sample : da7701-17
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 5 Sample Multiplier: 1

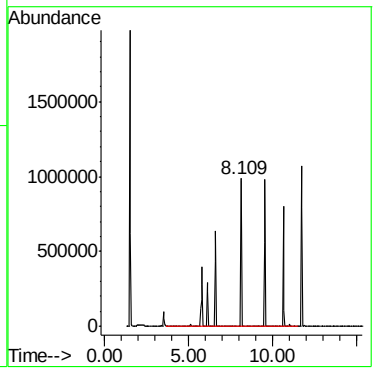
Quant Time: Aug 06 09:58:30 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

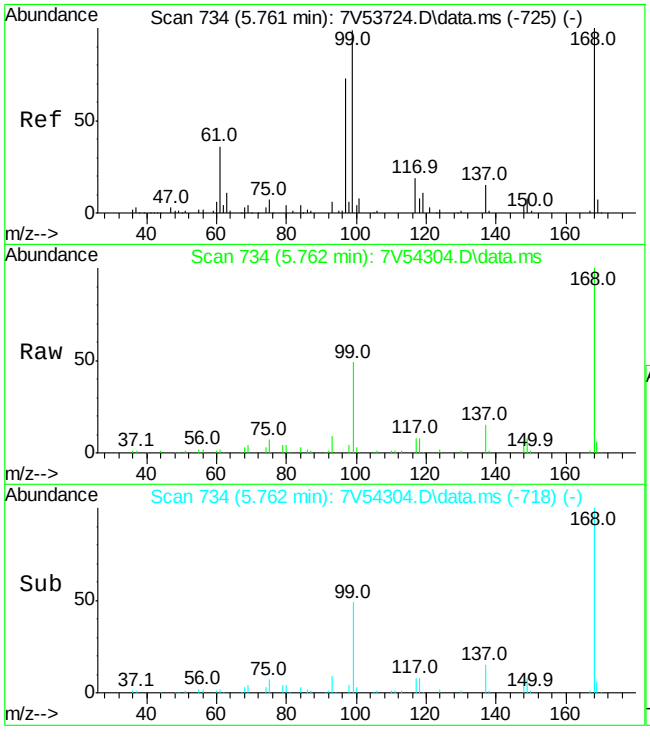




#1
TVH-Gasoline
Concen: 6.65 ug/L m
RT: 7.554 min Scan# 1028
Delta R.T. 0.000 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion:TIC Resp: 170980

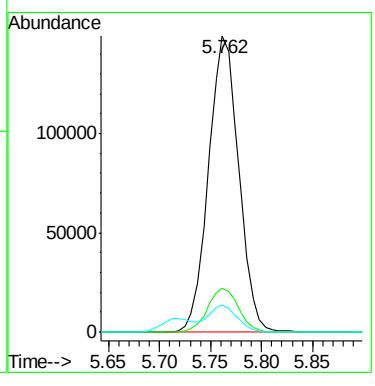


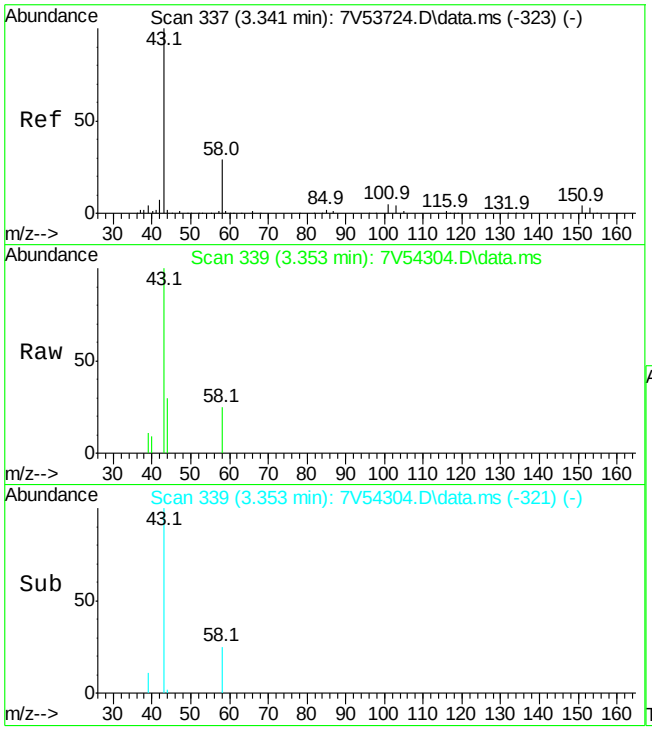


#2
Pentafluorobenzene
Concen: 50.00 ug/L
RT: 5.762 min Scan# 734
Delta R.T. 0.001 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion:168 Resp: 308038

Ion	Ratio	Lower	Upper
168	100		
137	15.0	0.0	35.3
93	9.2	0.0	28.5

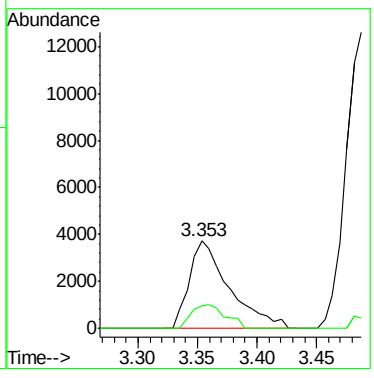


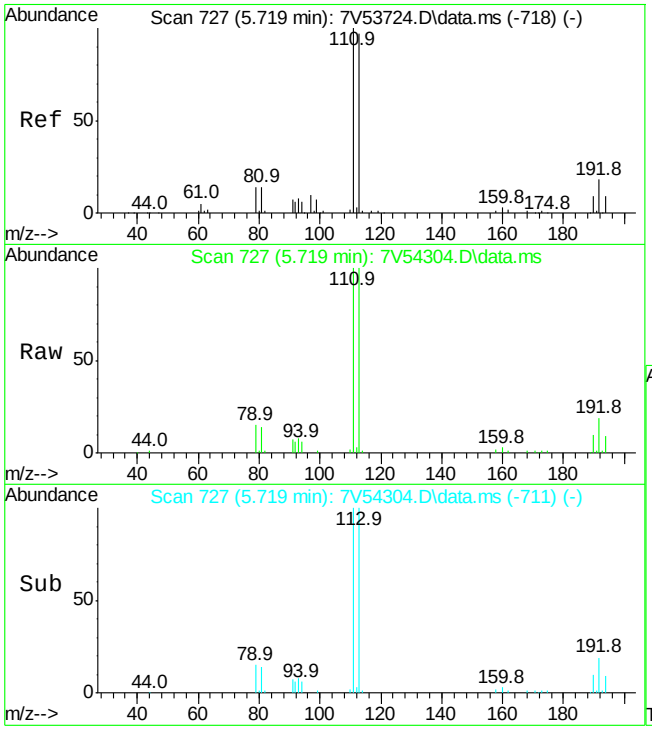


#14
Acetone
Concen: 1.45 ug/L
RT: 3.353 min Scan# 339
Delta R.T. 0.012 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion: 43 Resp: 8710

Ion	Ratio	Lower	Upper
43	100		
58	22.4	8.6	48.6

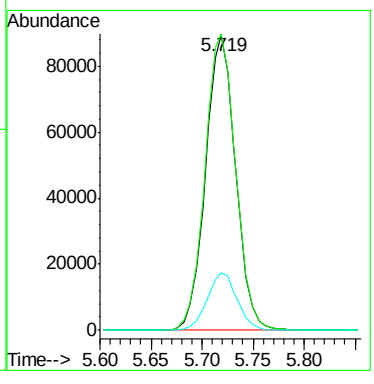


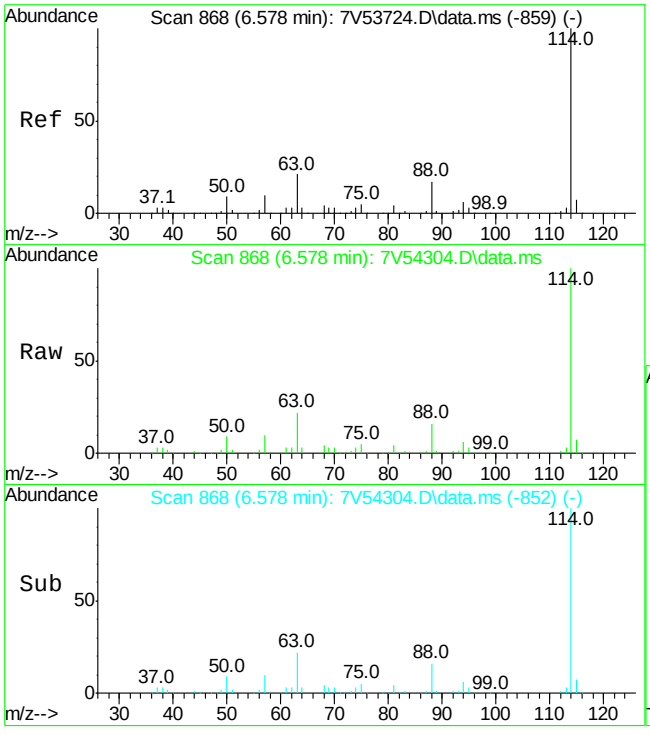


#35
Dibromofluoromethane
Concen: 49.42 ug/L
RT: 5.719 min Scan# 727
Delta R.T. -0.000 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion:113 Resp: 182767

Ion	Ratio	Lower	Upper
113	100		
111	102.3	82.3	122.3
192	19.3	0.0	38.9

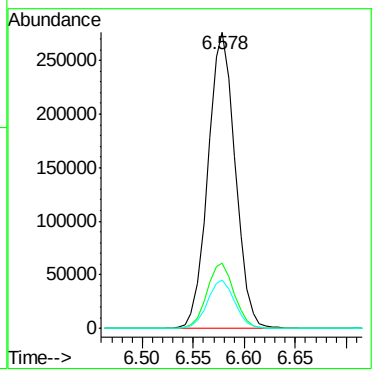


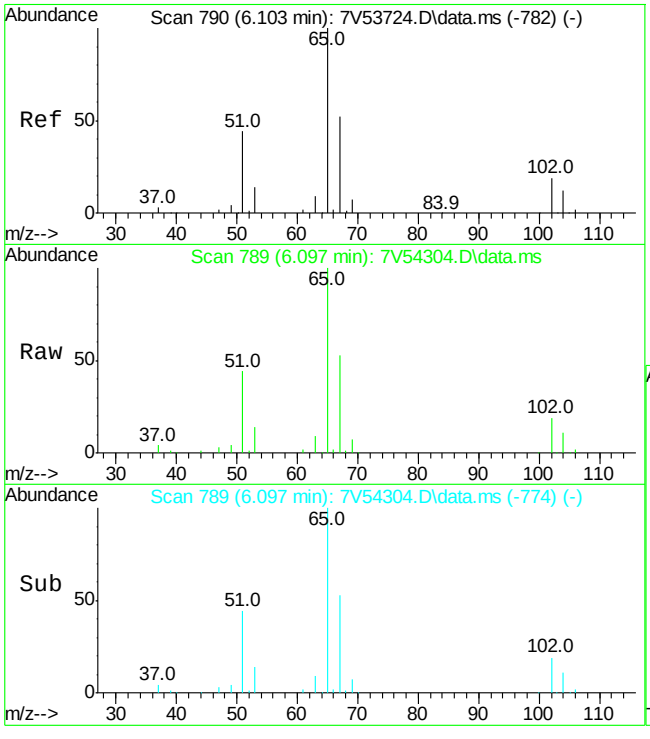


#40
1,4-Difluorobenzene
Concen: 50.00 ug/L
RT: 6.578 min Scan# 868
Delta R.T. 0.000 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion:114 Resp: 513826

Ion	Ratio	Lower	Upper
114	100		
63	22.0	2.2	42.2
88	16.2	0.0	36.7

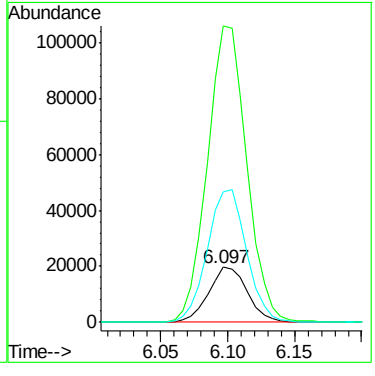


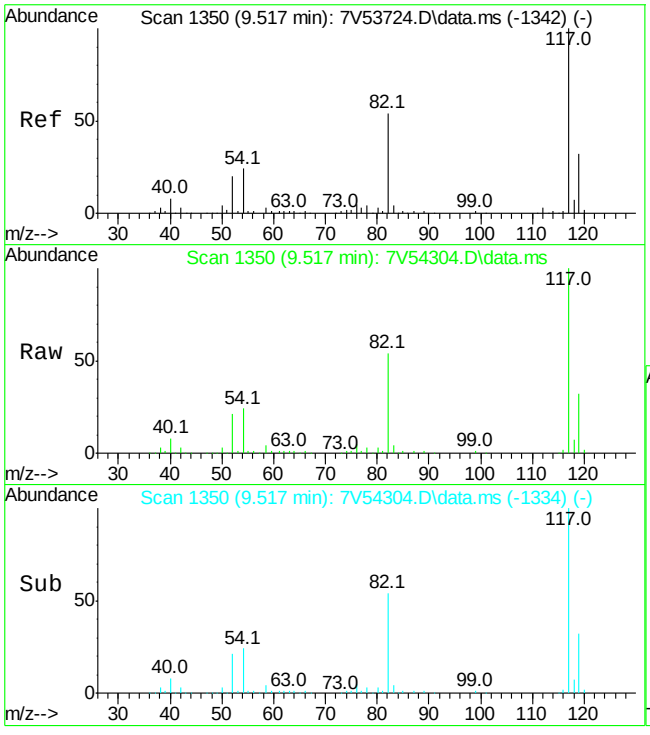


#41
1,2-Dichloroethane-d4
Concen: 48.44 ug/L
RT: 6.097 min Scan# 789
Delta R.T. -0.006 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion:102 Resp: 38899

Ion	Ratio	Lower	Upper
102	100		
65	554.6	529.0	569.0
51	247.2	223.2	263.2

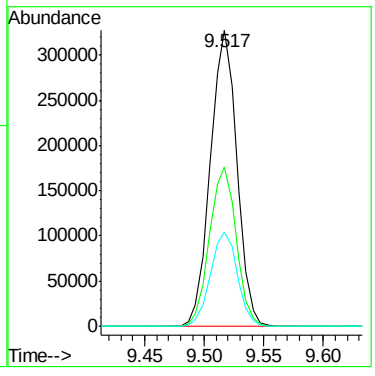


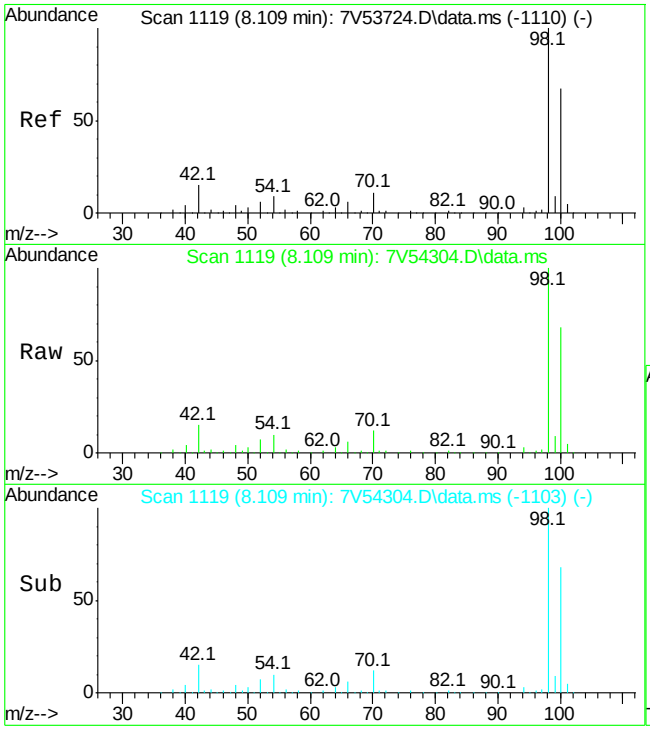


#55
Chlorobenzene-d5
Concen: 50.00 ug/L
RT: 9.517 min Scan# 1350
Delta R.T. -0.000 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion:117 Resp: 508703

Ion	Ratio	Lower	Upper
117	100		
82	54.2	34.5	74.5
119	32.2	11.9	51.9

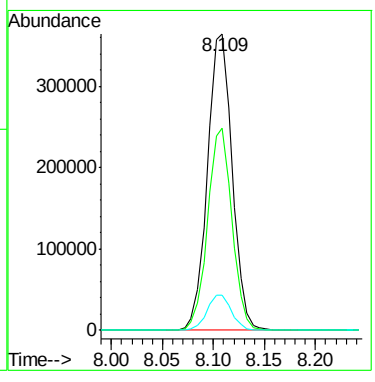


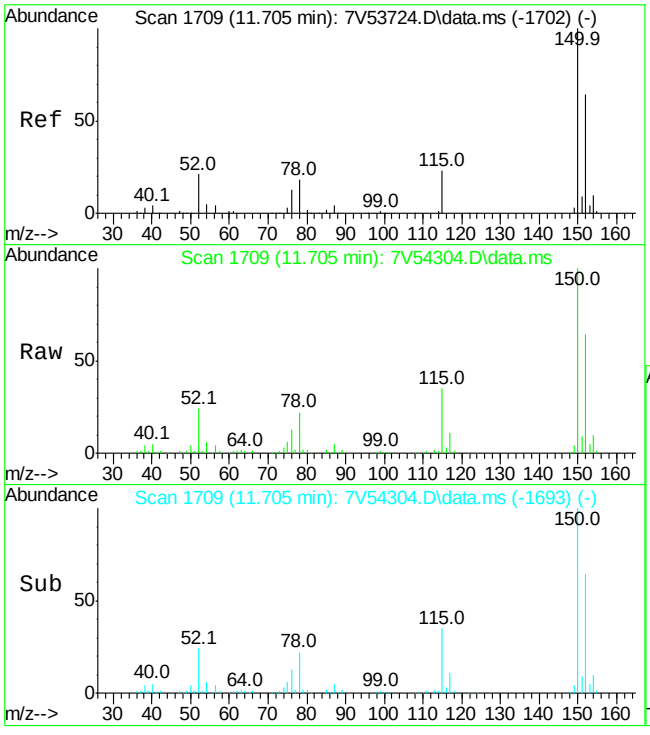


#56
Toluene-d8
Concen: 48.83 ug/L
RT: 8.109 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion: 98 Resp: 616378

Ion	Ratio	Lower	Upper
98	100		
100	67.0	47.5	87.5
70	11.6	0.0	31.5

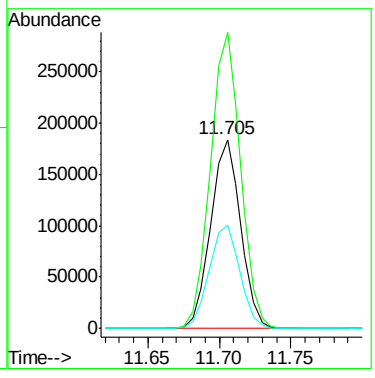


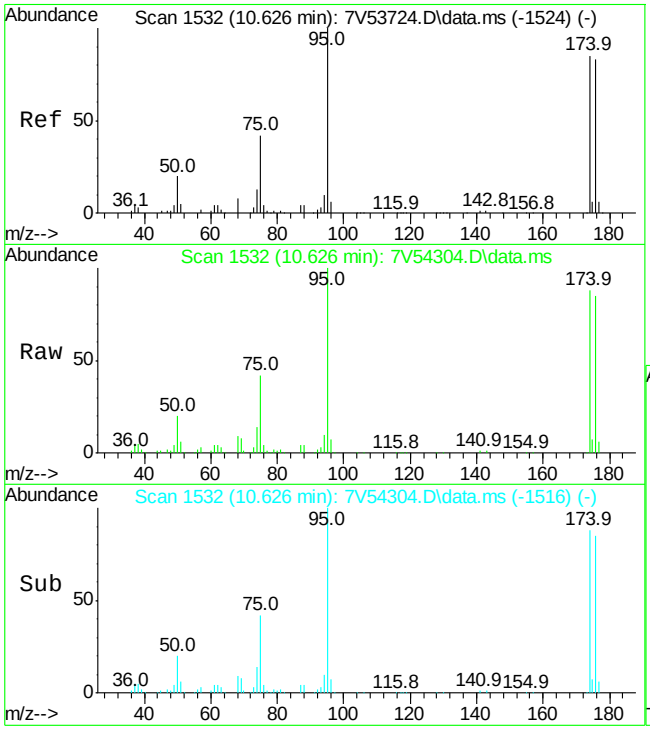


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/L
RT: 11.705 min Scan# 1709
Delta R.T. 0.000 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion:152 Resp: 268802

Ion	Ratio	Lower	Upper
152	100		
150	157.6	155.8	195.8
115	56.0	37.0	77.0

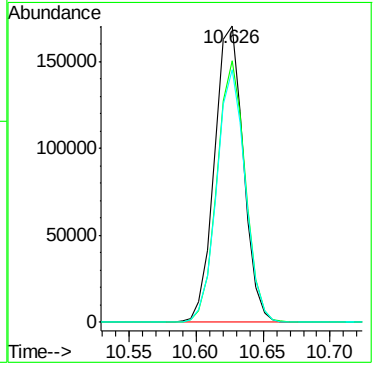




#76
4-Bromofluorobenzene
Concen: 49.37 ug/L
RT: 10.626 min Scan# 1532
Delta R.T. 0.000 min
Lab File: 7V54304.D
Acq: 3 Aug 2018 4:57 pm

Tgt Ion: 95 Resp: 255068

Ion	Ratio	Lower	Upper
95	100		
174	86.4	64.5	104.5
176	84.1	62.5	102.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54305.D
Acq On : 3 Aug 2018 5:21 pm
Operator : martyb
Sample : da7701-18
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 09:59:16 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
2) Pentafluorobenzene	5.761	168	306488	50.00	ug/L	0.00
40) 1,4-Difluorobenzene	6.578	114	517934	50.00	ug/L	0.00
55) Chlorobenzene-d5	9.517	117	510710	50.00	ug/L	0.00
74) 1,4-Dichlorobenzene-d4	11.705	152	269300	50.00	ug/L	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	5.719	113	182979	49.72	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.44%			
41) 1,2-Dichloroethane-d4	6.097	102	39609	48.94	ug/L	0.00
Spiked Amount 50.000	Range 62 - 130		Recovery = 97.88%			
56) Toluene-d8	8.109	98	618968	48.85	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.70%			
76) 4-Bromofluorobenzene	10.626	95	255723	49.40	ug/L	0.00
Spiked Amount 50.000	Range 69 - 130		Recovery = 98.80%			
Target Compounds						Qvalue
1) TVH-Gasoline	7.554	TIC	122787m	4.77	ug/L	
14) Acetone	3.353	43	10814	2.27	ug/L	90

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

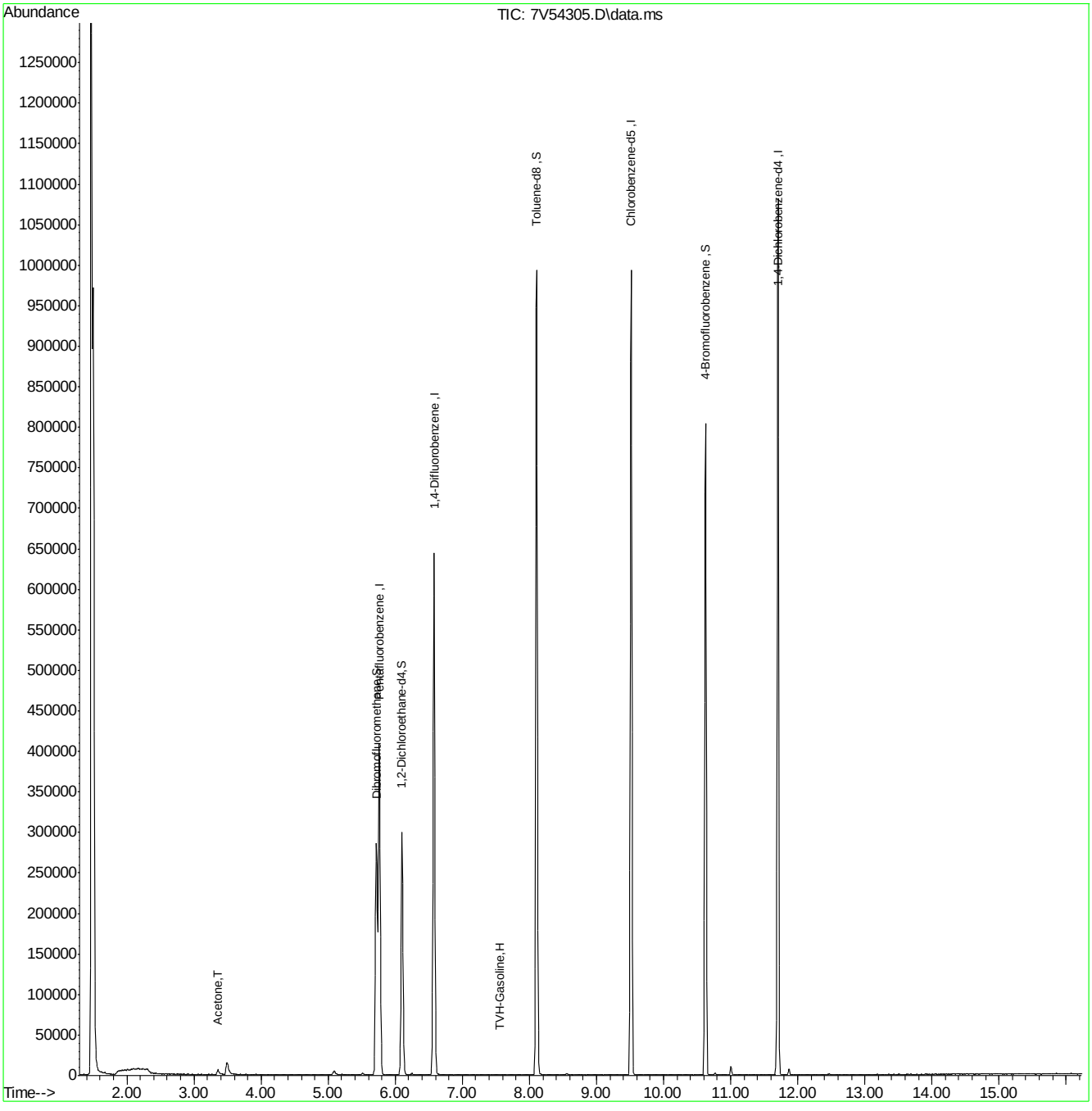
7.1.18

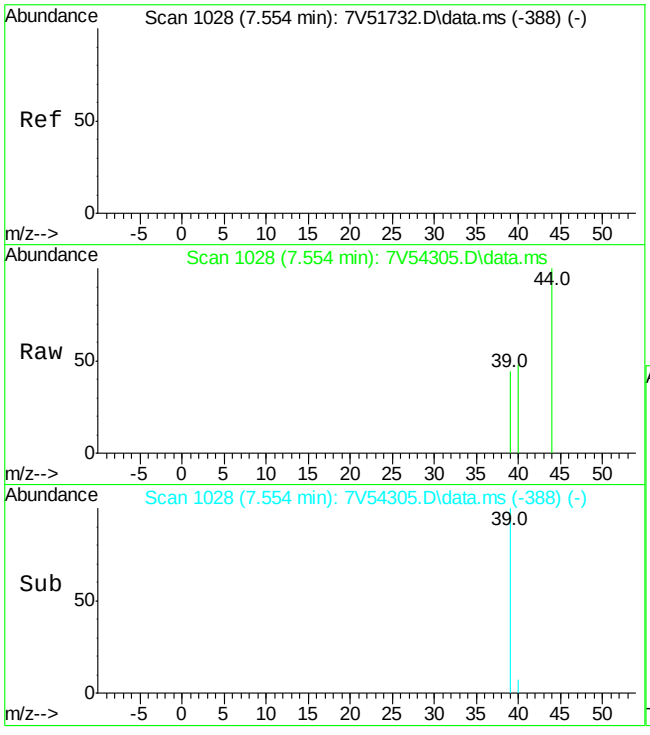
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54305.D
Acq On : 3 Aug 2018 5:21 pm
Operator : martyb
Sample : da7701-18
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 6 Sample Multiplier: 1

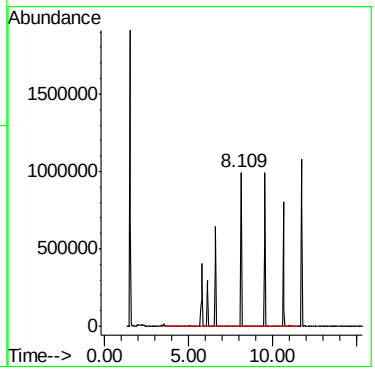
Quant Time: Aug 06 09:59:16 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

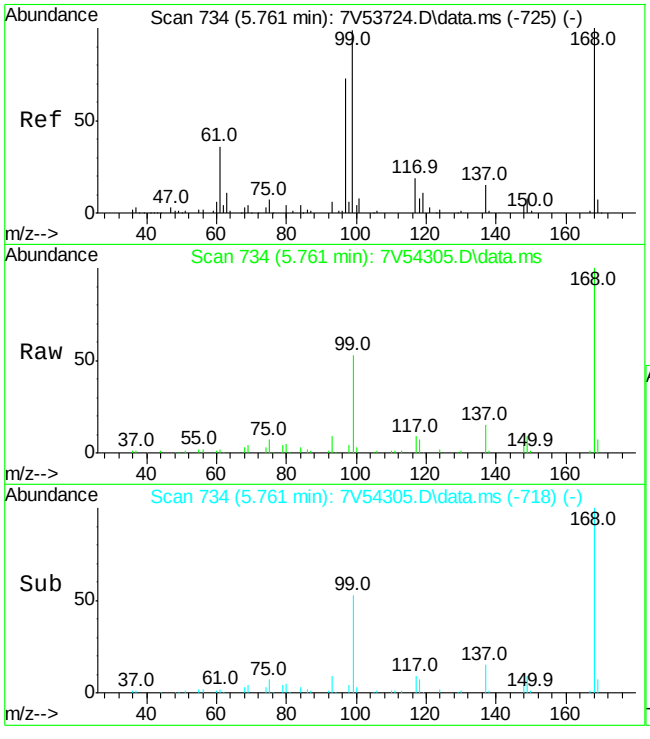




#1
TVH-Gasoline
Concen: 4.77 ug/L m
RT: 7.554 min Scan# 1028
Delta R.T. 0.000 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion:TIC Resp: 122787

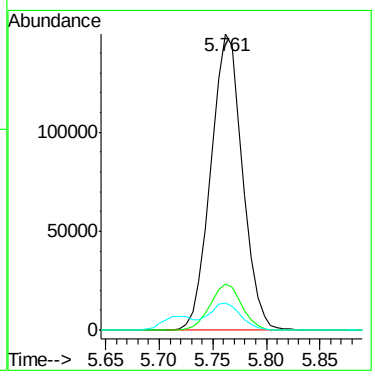


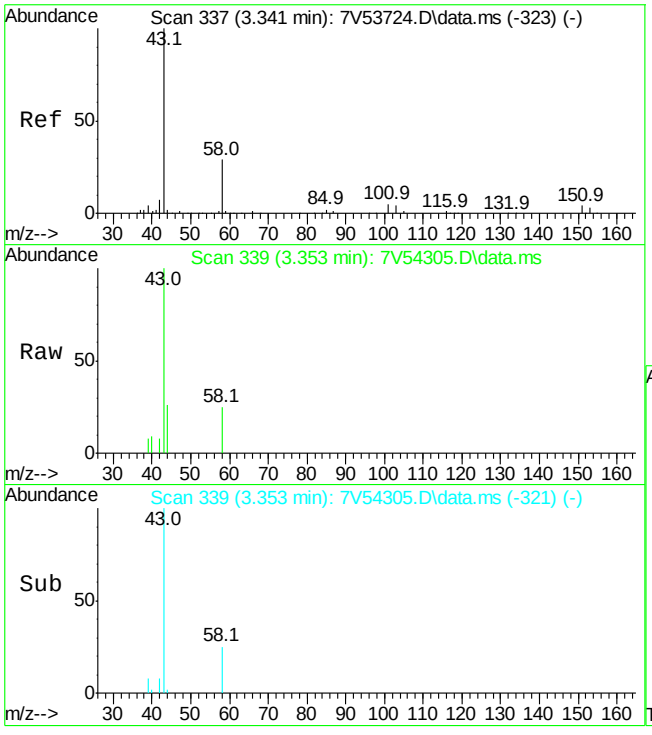


#2
Pentafluorobenzene
Concen: 50.00 ug/L
RT: 5.761 min Scan# 734
Delta R.T. 0.000 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion:168 Resp: 306488

Ion	Ratio	Lower	Upper
168	100		
137	15.4	0.0	35.3
93	9.4	0.0	28.5

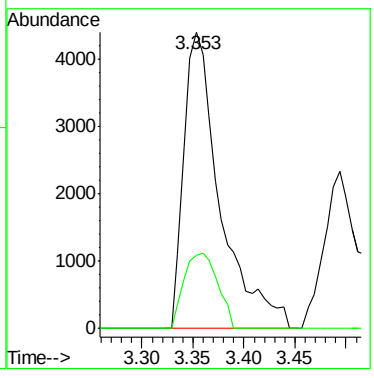


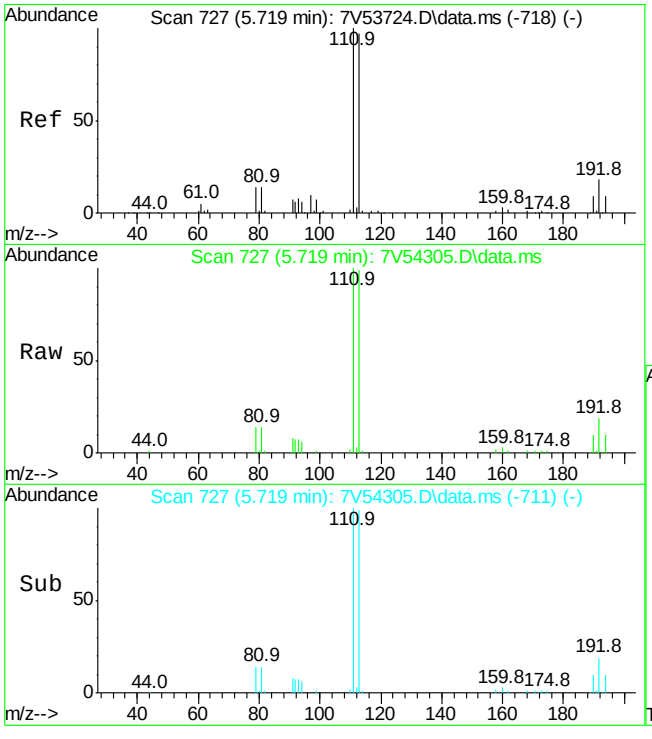


#14
Acetone
Concen: 2.27 ug/L
RT: 3.353 min Scan# 339
Delta R.T. 0.012 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion: 43 Resp: 10814

Ion	Ratio	Lower	Upper
43	100		
58	23.5	8.6	48.6

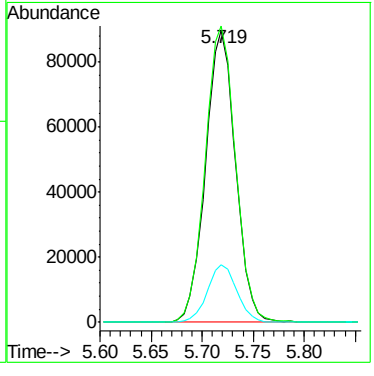


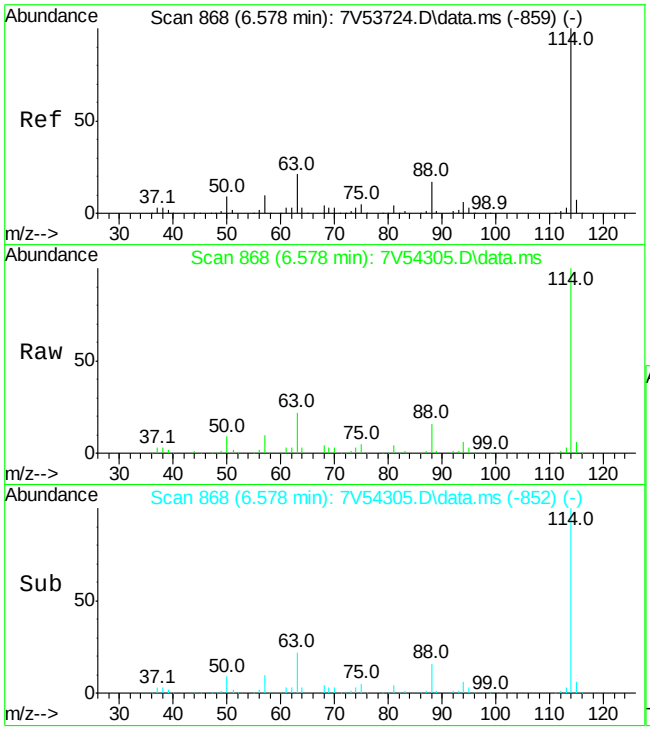


#35
Dibromofluoromethane
Concen: 49.72 ug/L
RT: 5.719 min Scan# 727
Delta R.T. -0.000 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion:113 Resp: 182979

Ion	Ratio	Lower	Upper
113	100		
111	102.9	82.3	122.3
192	19.2	0.0	38.9

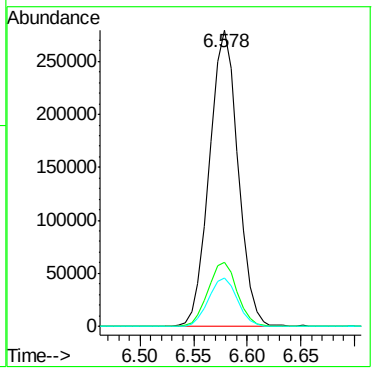


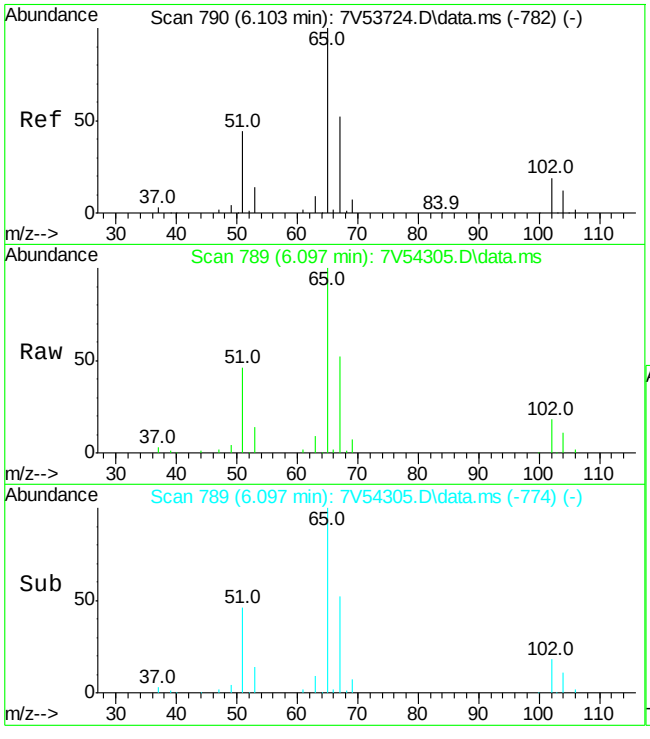


#40
1,4-Difluorobenzene
Concen: 50.00 ug/L
RT: 6.578 min Scan# 868
Delta R.T. 0.000 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion:114 Resp: 517934

Ion	Ratio	Lower	Upper
114	100		
63	22.0	2.2	42.2
88	16.2	0.0	36.7

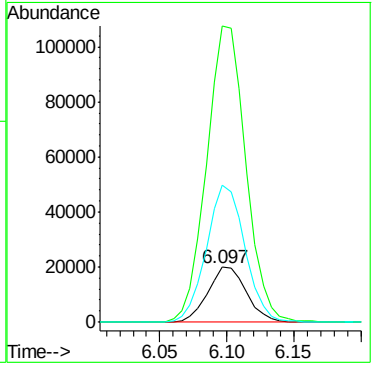


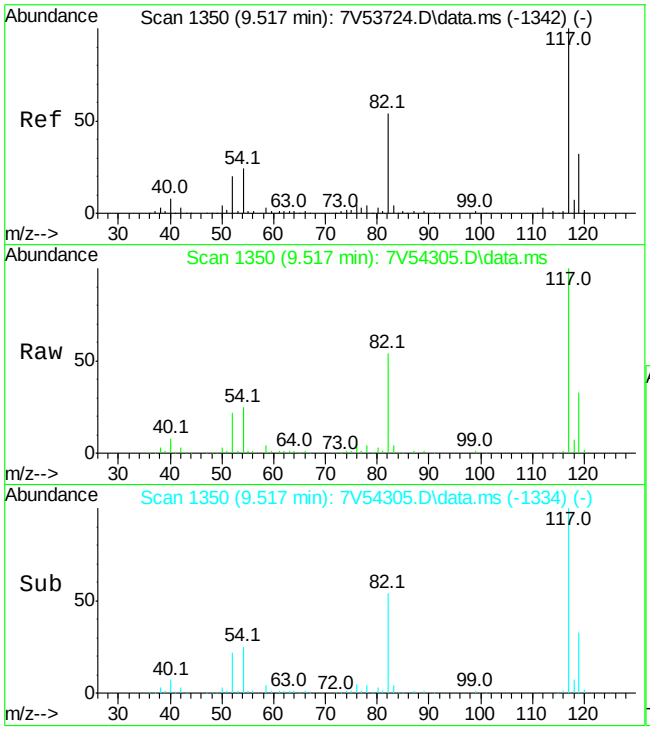


#41
1,2-Dichloroethane-d4
Concen: 48.94 ug/L
RT: 6.097 min Scan# 789
Delta R.T. -0.006 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion:102 Resp: 39609

Ion	Ratio	Lower	Upper
102	100		
65	550.9	529.0	569.0
51	249.9	223.2	263.2

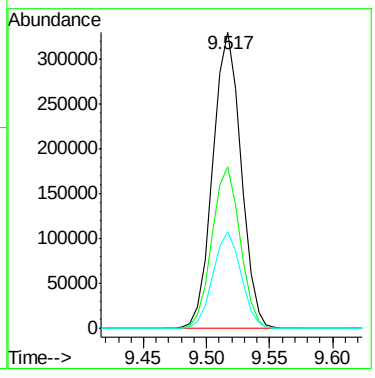


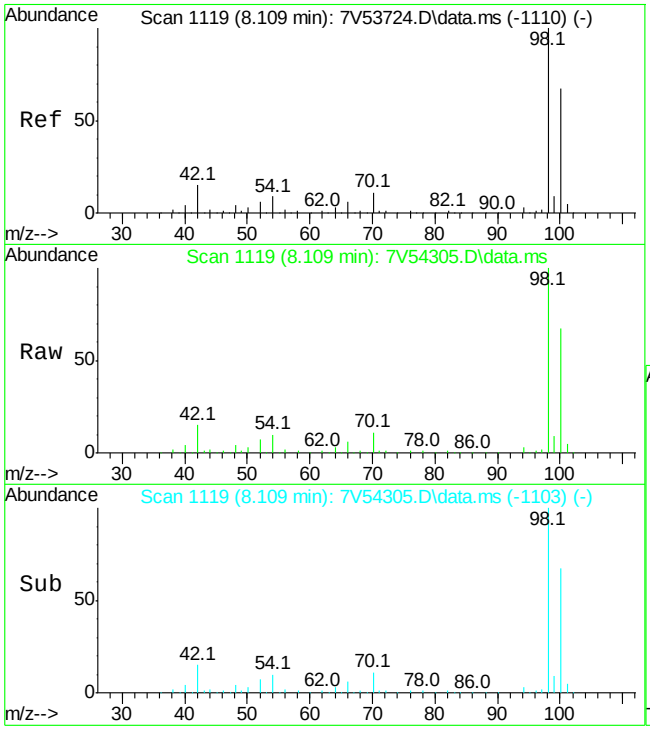


#55
Chlorobenzene-d5
Concen: 50.00 ug/L
RT: 9.517 min Scan# 1350
Delta R.T. -0.000 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion:117 Resp: 510710

Ion	Ratio	Lower	Upper
117	100		
82	54.4	34.5	74.5
119	32.3	11.9	51.9

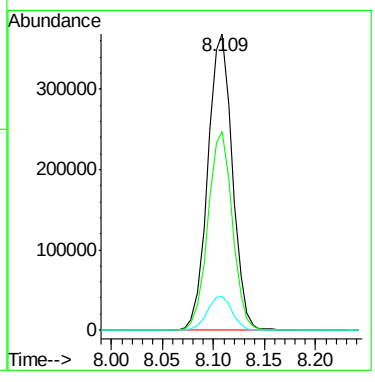


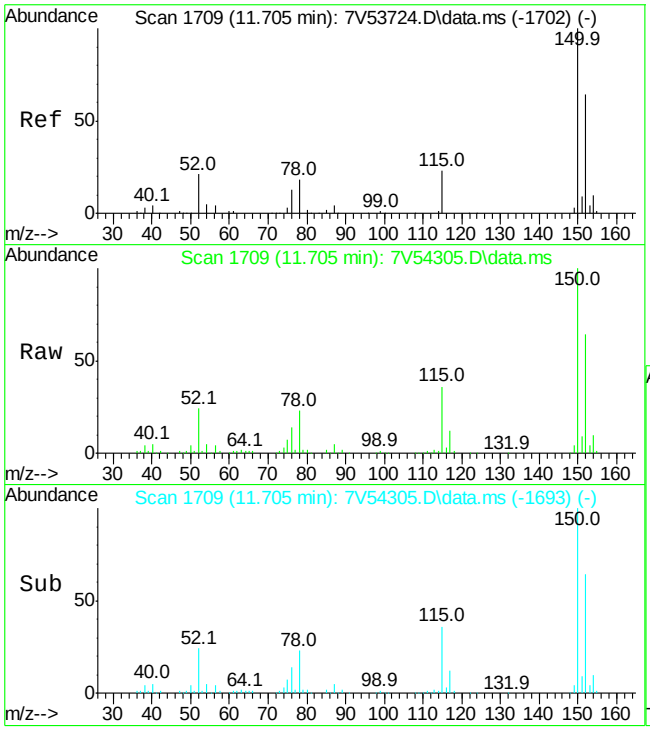


#56
Toluene-d8
Concen: 48.85 ug/L
RT: 8.109 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion: 98 Resp: 618968

Ion	Ratio	Lower	Upper
98	100		
100	66.8	47.5	87.5
70	11.5	0.0	31.5

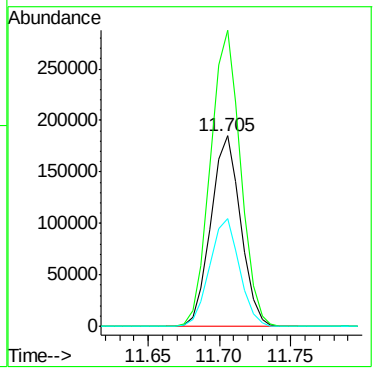


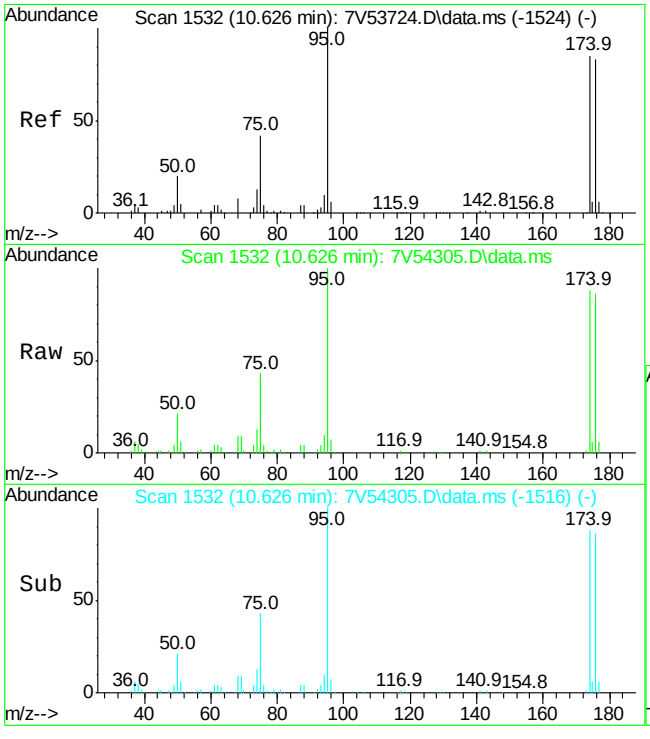


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/L
RT: 11.705 min Scan# 1709
Delta R.T. 0.000 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion:152 Resp: 269300

Ion	Ratio	Lower	Upper
152	100		
150	156.3	155.8	195.8
115	56.3	37.0	77.0

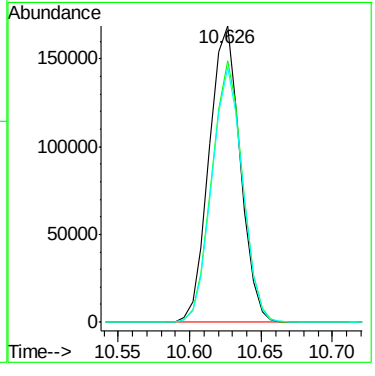




#76
4-Bromofluorobenzene
Concen: 49.40 ug/L
RT: 10.626 min Scan# 1532
Delta R.T. 0.000 min
Lab File: 7V54305.D
Acq: 3 Aug 2018 5:21 pm

Tgt Ion: 95 Resp: 255723

Ion	Ratio	Lower	Upper
95	100		
174	87.2	64.5	104.5
176	85.1	62.5	102.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54306.D
Acq On : 3 Aug 2018 5:44 pm
Operator : martyb
Sample : da7701-19
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 10:00:10 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

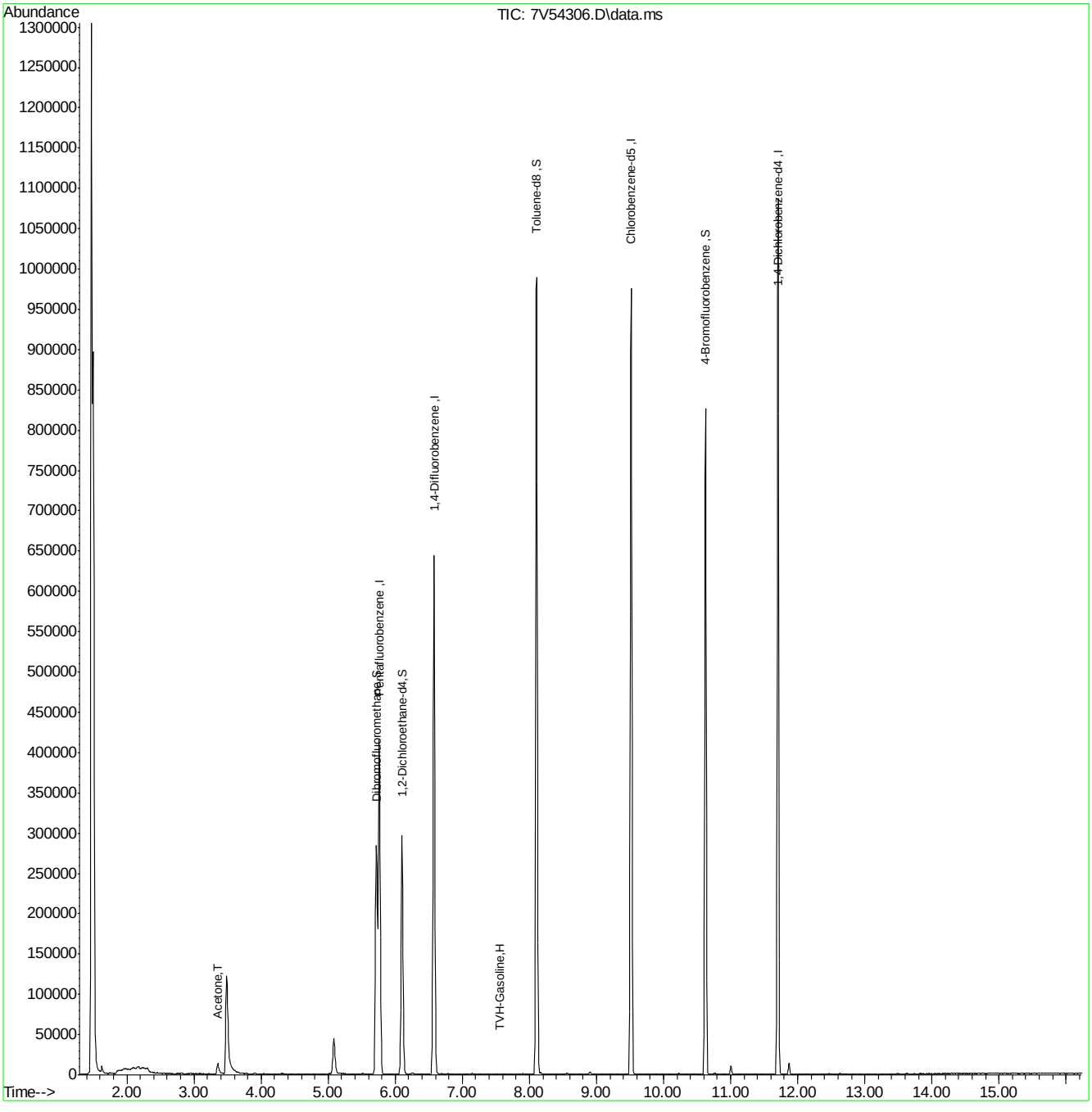
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
2) Pentafluorobenzene	5.762	168	309058	50.00	ug/L	0.00
40) 1,4-Difluorobenzene	6.579	114	515507	50.00	ug/L	0.00
55) Chlorobenzene-d5	9.517	117	507247	50.00	ug/L	0.00
74) 1,4-Dichlorobenzene-d4	11.706	152	269439	50.00	ug/L	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	5.719	113	182010	49.05	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.10%			
41) 1,2-Dichloroethane-d4	6.103	102	38818	48.19	ug/L	0.00
Spiked Amount 50.000	Range 62 - 130		Recovery = 96.38%			
56) Toluene-d8	8.109	98	618359	49.13	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.26%			
76) 4-Bromofluorobenzene	10.627	95	255316	49.30	ug/L	0.00
Spiked Amount 50.000	Range 69 - 130		Recovery = 98.60%			
Target Compounds						Qvalue
1) TVH-Gasoline	7.554	TIC	238629m	9.28	ug/L	
14) Acetone	3.354	43	21688	6.39	ug/L	94

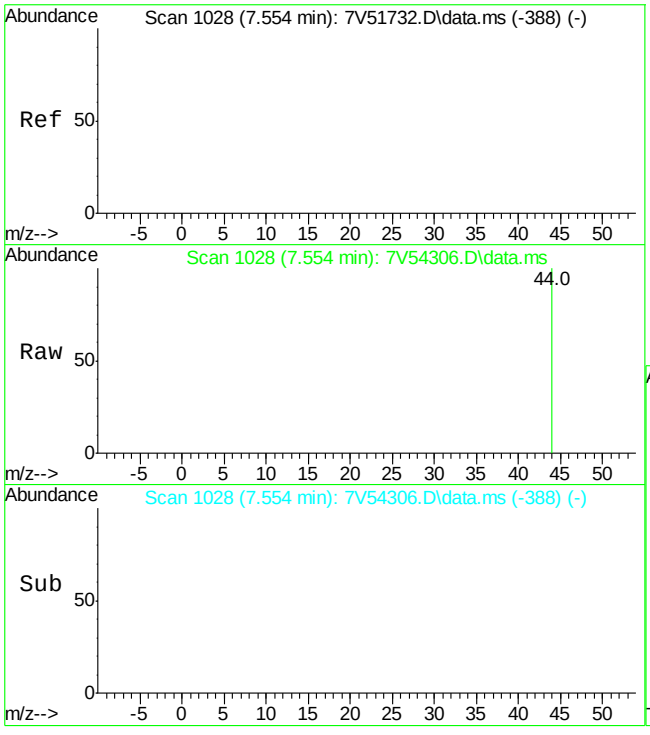
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54306.D
Acq On : 3 Aug 2018 5:44 pm
Operator : martyb
Sample : da7701-19
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 7 Sample Multiplier: 1

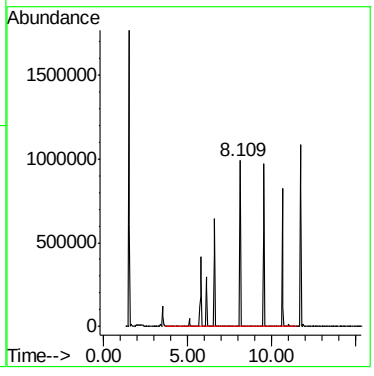
Quant Time: Aug 06 10:00:10 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

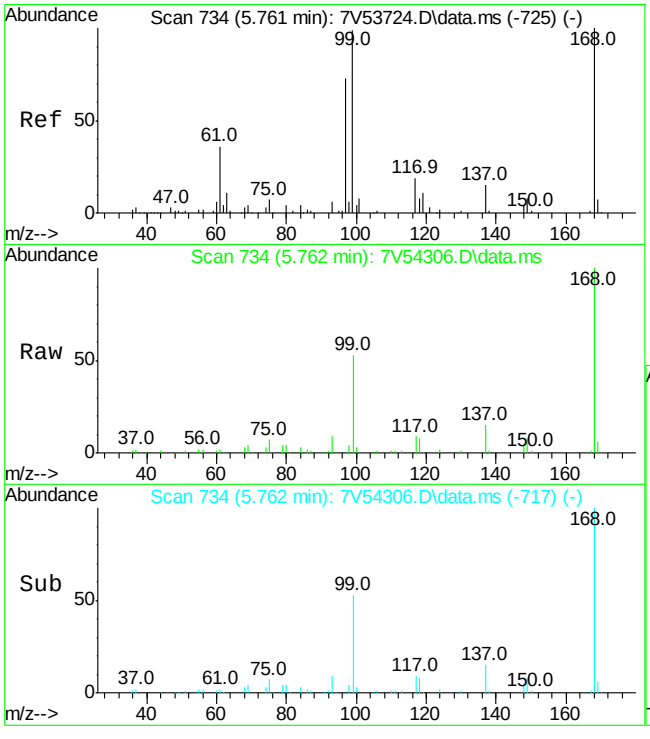




#1
TVH-Gasoline
Concen: 9.28 ug/L m
RT: 7.554 min Scan# 1028
Delta R.T. 0.000 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion:TIC Resp: 238629

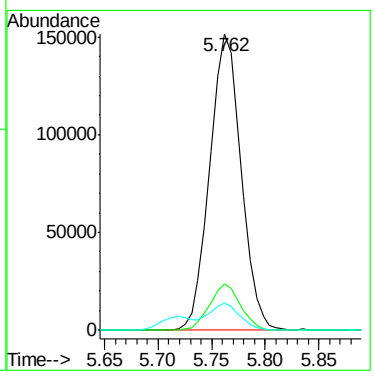


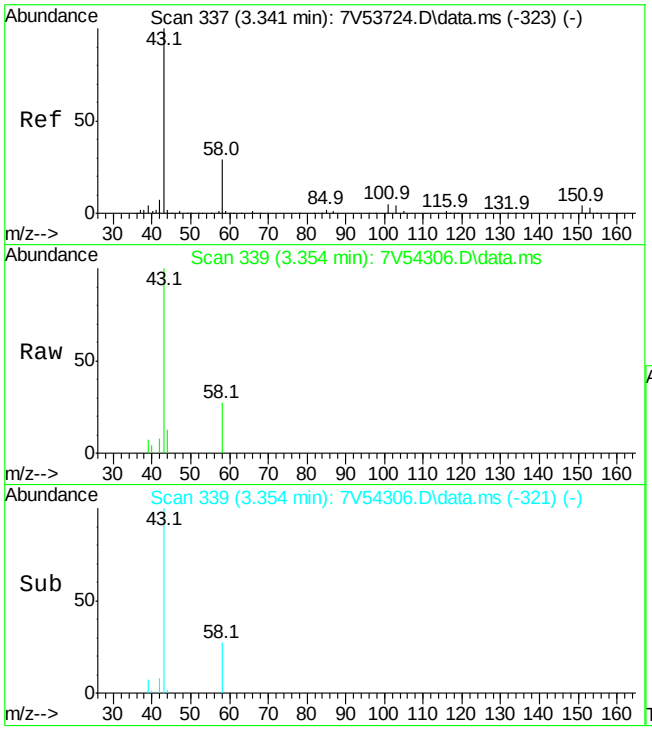


#2
Pentafluorobenzene
Concen: 50.00 ug/L
RT: 5.762 min Scan# 734
Delta R.T. 0.001 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion:168 Resp: 309058

Ion	Ratio	Lower	Upper
168	100		
137	15.2	0.0	35.3
93	8.6	0.0	28.5

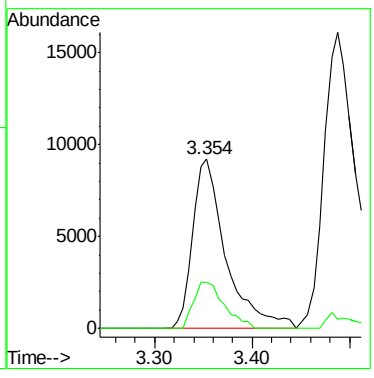


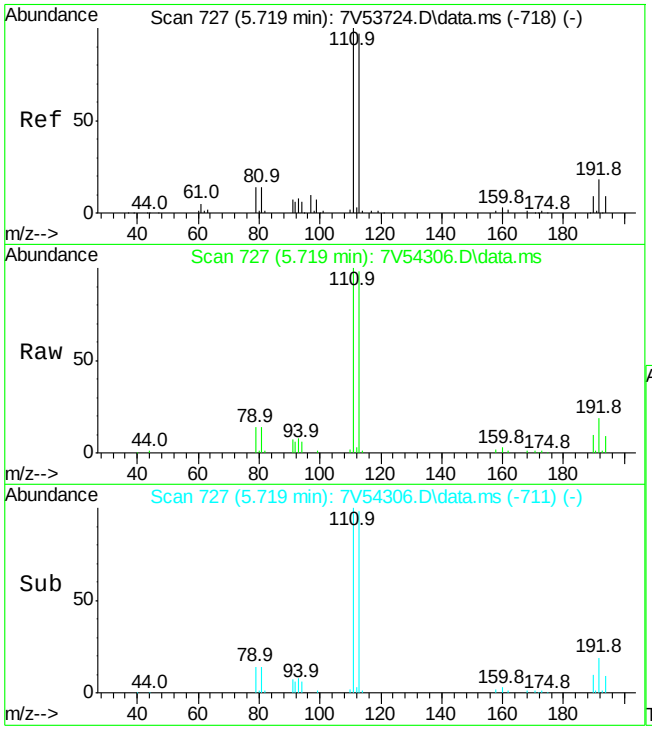


#14
Acetone
Concen: 6.39 ug/L
RT: 3.354 min Scan# 339
Delta R.T. 0.013 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion: 43 Resp: 21688

Ion	Ratio	Lower	Upper
43	100		
58	25.2	8.6	48.6

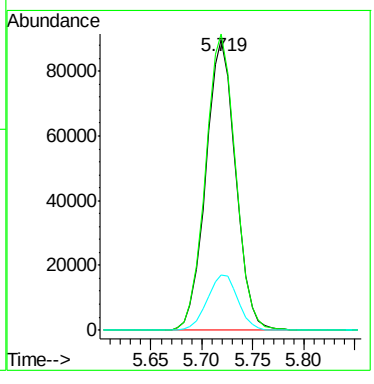


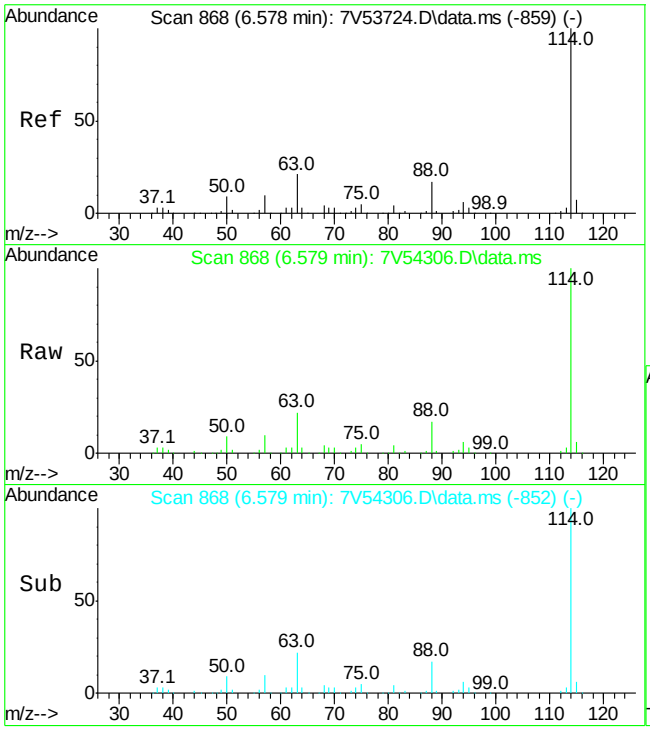


#35
Dibromofluoromethane
Concen: 49.05 ug/L
RT: 5.719 min Scan# 727
Delta R.T. -0.000 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion:113 Resp: 182010

Ion	Ratio	Lower	Upper
113	100		
111	102.9	82.3	122.3
192	19.5	0.0	38.9

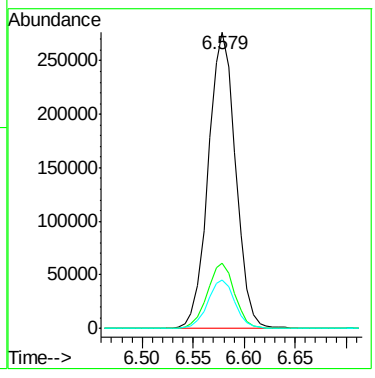


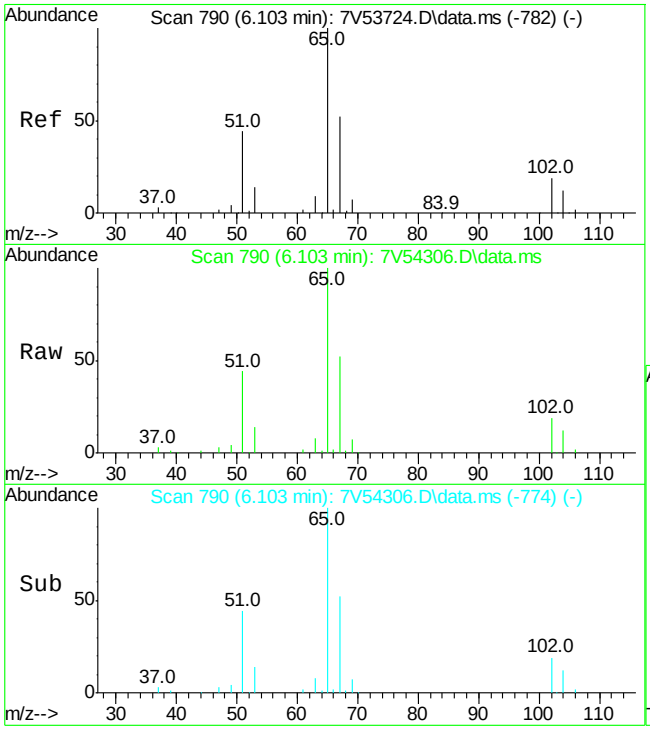


#40
1,4-Difluorobenzene
Concen: 50.00 ug/L
RT: 6.579 min Scan# 868
Delta R.T. 0.001 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion:114 Resp: 515507

Ion	Ratio	Lower	Upper
114	100		
63	21.9	2.2	42.2
88	16.2	0.0	36.7

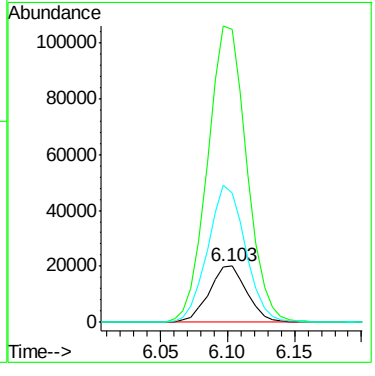


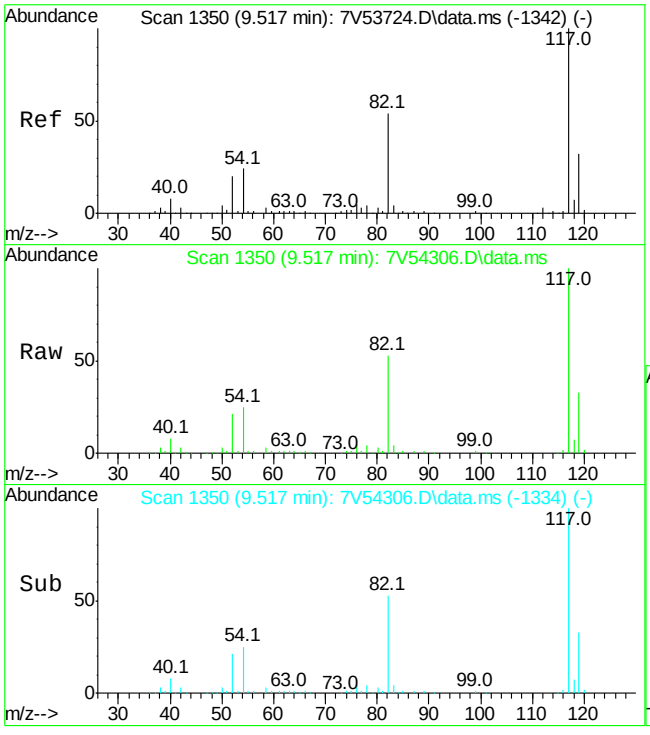


#41
1,2-Dichloroethane-d4
Concen: 48.19 ug/L
RT: 6.103 min Scan# 790
Delta R.T. 0.000 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion:102 Resp: 38818

Ion	Ratio	Lower	Upper
102	100		
65	553.0	529.0	569.0
51	246.6	223.2	263.2

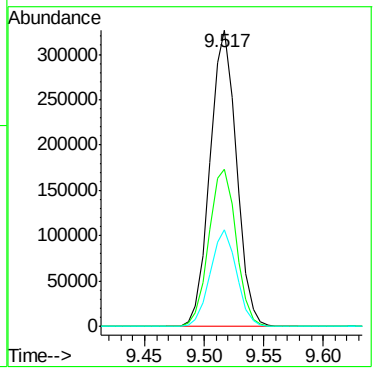


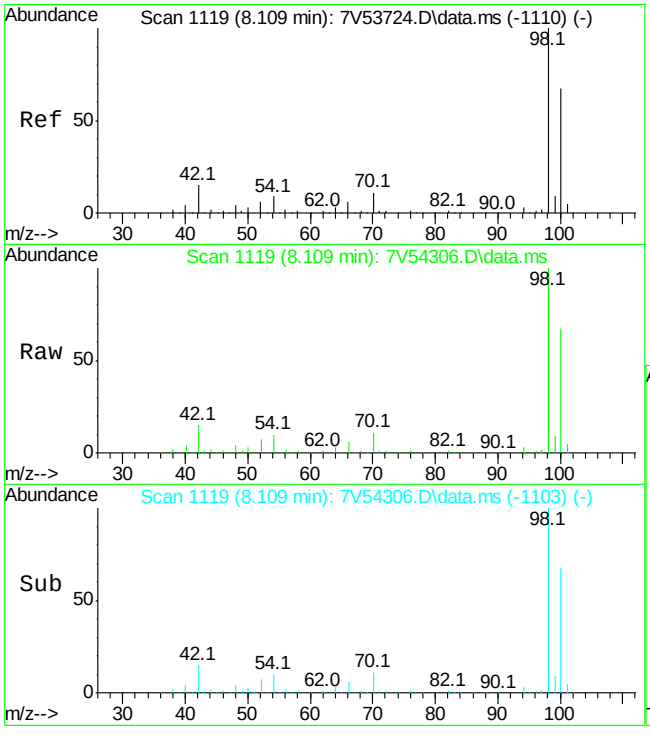


#55
Chlorobenzene-d5
Concen: 50.00 ug/L
RT: 9.517 min Scan# 1350
Delta R.T. -0.000 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion:117 Resp: 507247

Ion	Ratio	Lower	Upper
117	100		
82	54.4	34.5	74.5
119	32.3	11.9	51.9

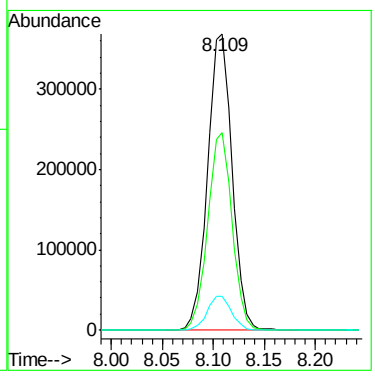


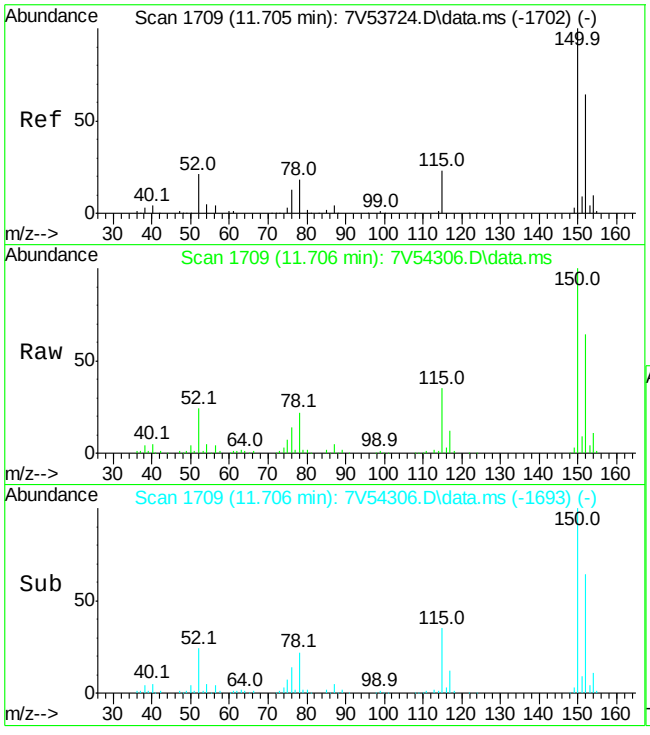


#56
Toluene-d8
Concen: 49.13 ug/L
RT: 8.109 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion: 98 Resp: 618359

Ion	Ratio	Lower	Upper
98	100		
100	66.2	47.5	87.5
70	11.4	0.0	31.5

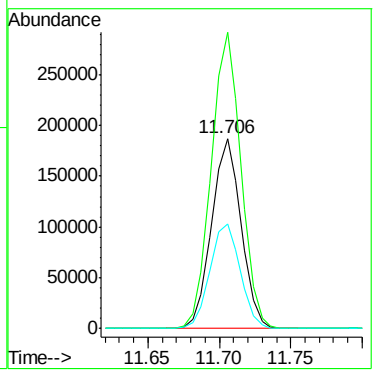


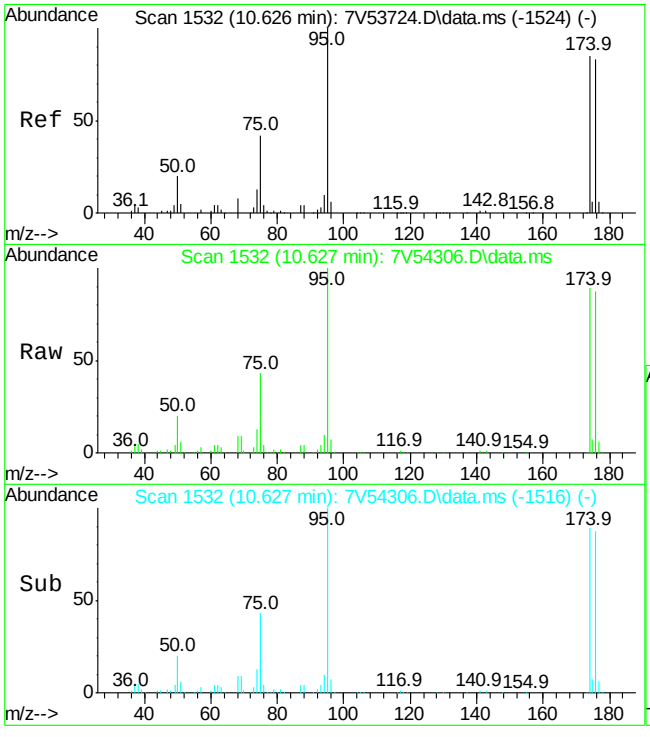


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/L
RT: 11.706 min Scan# 1709
Delta R.T. 0.001 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion:152 Resp: 269439

Ion	Ratio	Lower	Upper
152	100		
150	156.7	155.8	195.8
115	56.3	37.0	77.0

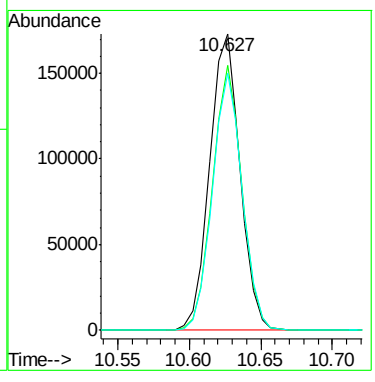




#76
4-Bromofluorobenzene
Concen: 49.30 ug/L
RT: 10.627 min Scan# 1532
Delta R.T. 0.001 min
Lab File: 7V54306.D
Acq: 3 Aug 2018 5:44 pm

Tgt Ion: 95 Resp: 255316

Ion	Ratio	Lower	Upper
95	100		
174	86.8	64.5	104.5
176	85.3	62.5	102.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49030.D
Acq On : 3 Aug 2018 5:14 pm
Operator : gabrielo
Sample : mb
Misc : MS11266,V5V2625,5.00,,,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 06 12:04:45 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	5.310	168	334969	50.00	ppb	0.00
40) 1,4-Difluorobenzene	6.125	114	543124	50.00	ppb	0.00
55) Chlorobenzene-d5	9.106	117	485398	50.00	ppb	0.00
74) 1,4-Dichlorobenzene-d4	11.308	152	269856	50.00	ppb	0.00

System Monitoring Compounds

35) Dibromofluoromethane	5.267	113	196739	54.34	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 108.68%			
41) 1,2-Dichloroethane-d4	5.638	102	35439	51.39	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.78%			
56) Toluene-d8	7.682	98	568168	48.97	ppb	0.00
Spiked Amount 50.000	Range 64 - 130		Recovery = 97.94%			
76) 4-Bromofluorobenzene	10.225	95	218528	50.20	ppb	0.00
Spiked Amount 50.000	Range 62 - 131		Recovery = 100.40%			

Target Compounds

						Qvalue
9) Ethyl Alcohol	2.621	45	101	Below Cal	#	44
14) Acetone	3.004	43	10857	Below Cal		77
62) 2-Hexanone	8.412	43	98	Below Cal	#	37
71) Amyl Acetate	9.915	43	1461	Below Cal	#	49

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

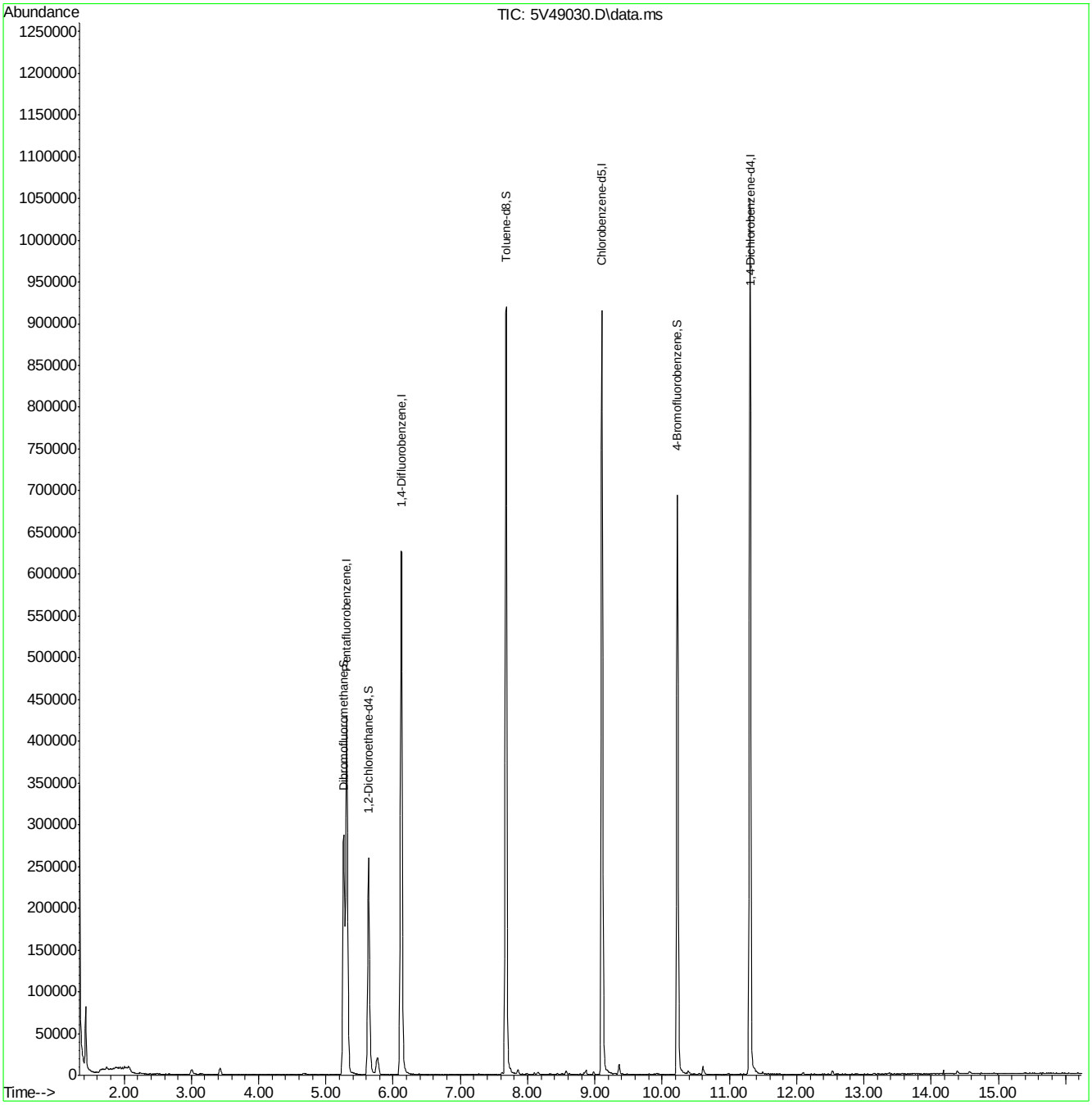
7.2.1

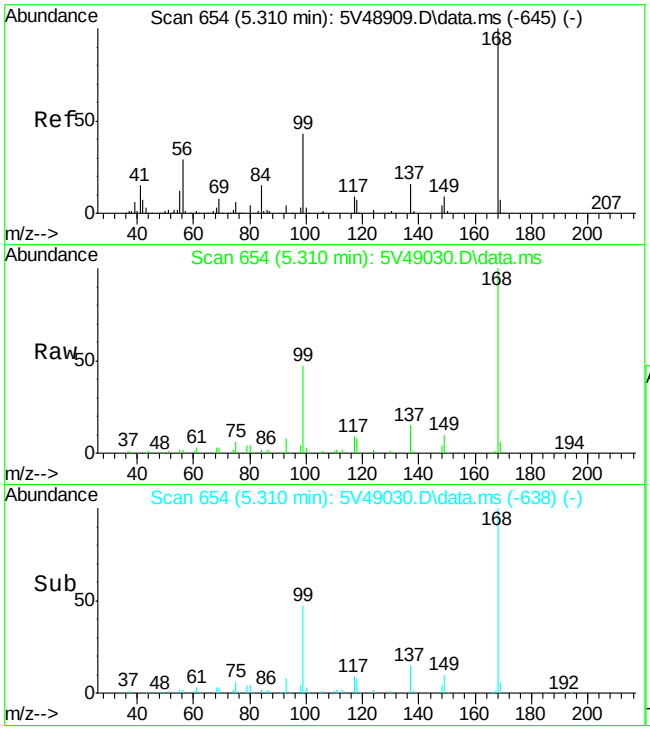
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5V2625\
Data File : 5V49030.D
Acq On : 3 Aug 2018 5:14 pm
Operator : gabrielo
Sample : mb
Misc : MS11266,V5V2625,5.00,,,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 06 12:04:45 2018
Quant Method : C:\msdchem\1\METHODS\V5V2619soil.M
Quant Title : 8260
QLast Update : Tue Jul 31 10:13:02 2018
Response via : Initial Calibration

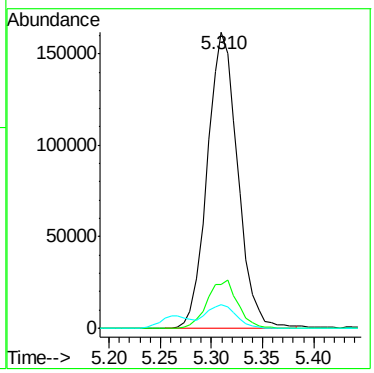


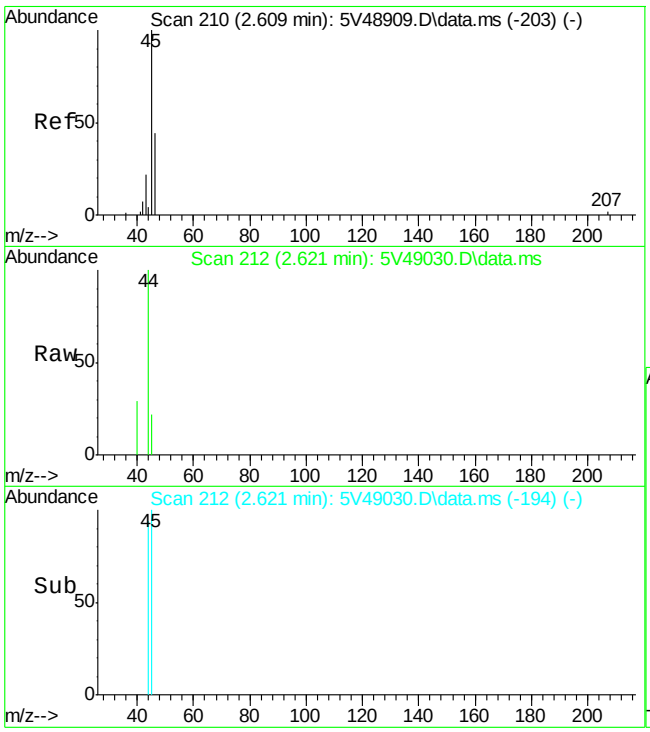


#2
Pentafluorobenzene
Concen: 50.00 ppb
RT: 5.310 min Scan# 654
Delta R.T. -0.000 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion:168 Resp: 334969

Ion	Ratio	Lower	Upper
168	100		
137	16.2	0.0	35.6
93	7.8	0.0	27.3

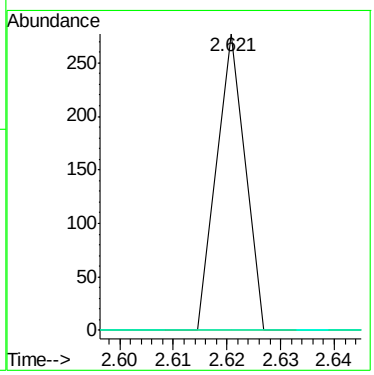


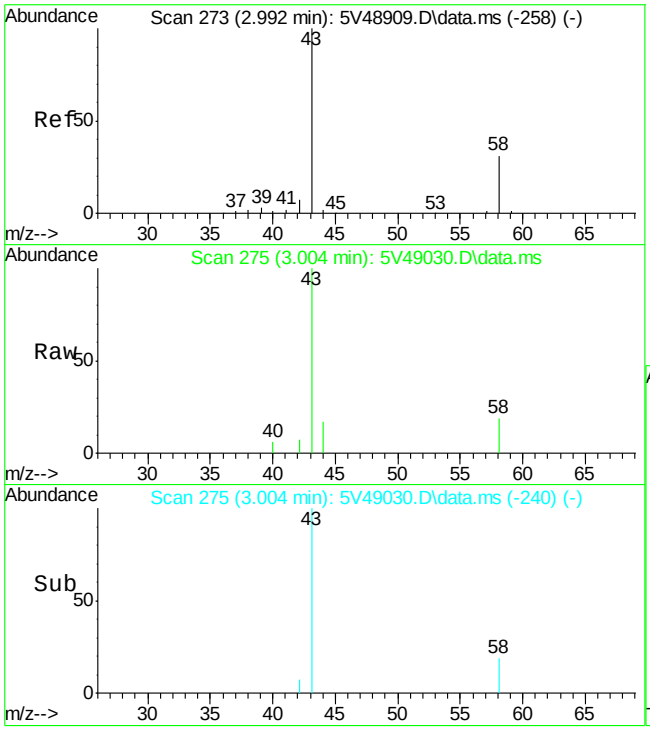


#9
Ethyl Alcohol
Concen: Below Cal
RT: 2.621 min Scan# 212
Delta R.T. 0.012 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion: 45 Resp: 101

Ion	Ratio	Lower	Upper
45	100		
46	0.0	17.2	57.2#
43	0.0	0.0	39.6

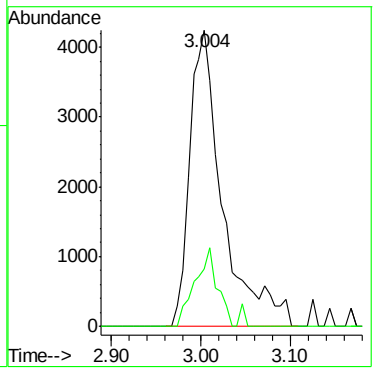


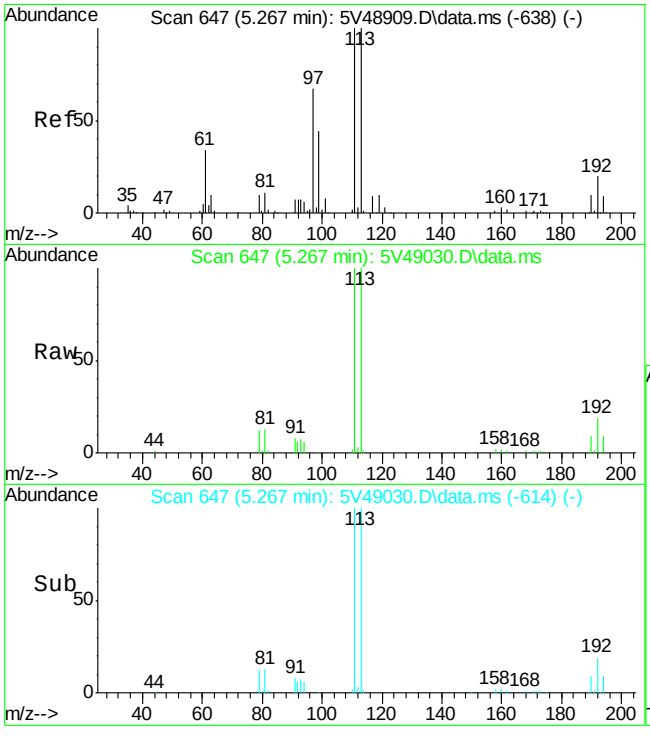


#14
Acetone
Concen: Below Cal
RT: 3.004 min Scan# 275
Delta R.T. 0.012 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion: 43 Resp: 10857

Ion	Ratio	Lower	Upper
43	100		
58	18.0	10.3	50.3

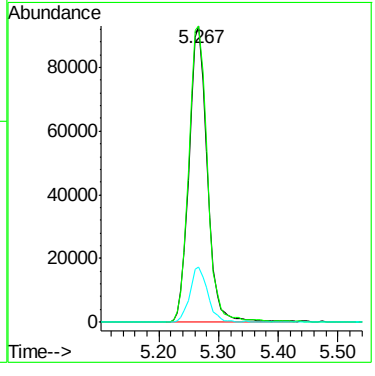




#35
Dibromofluoromethane
Concen: 54.34 ppb
RT: 5.267 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

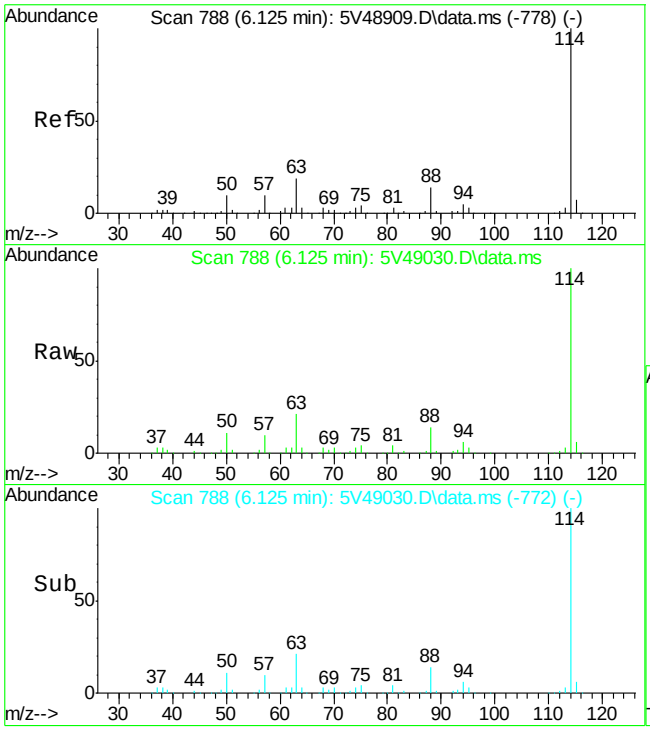
Tgt Ion:113 Resp: 196739

Ion	Ratio	Lower	Upper
113	100		
111	102.0	83.2	123.2
192	17.9	0.0	39.4



7.2.1

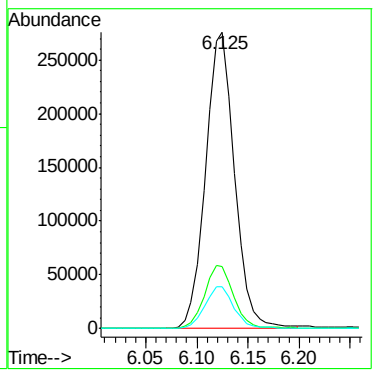
7

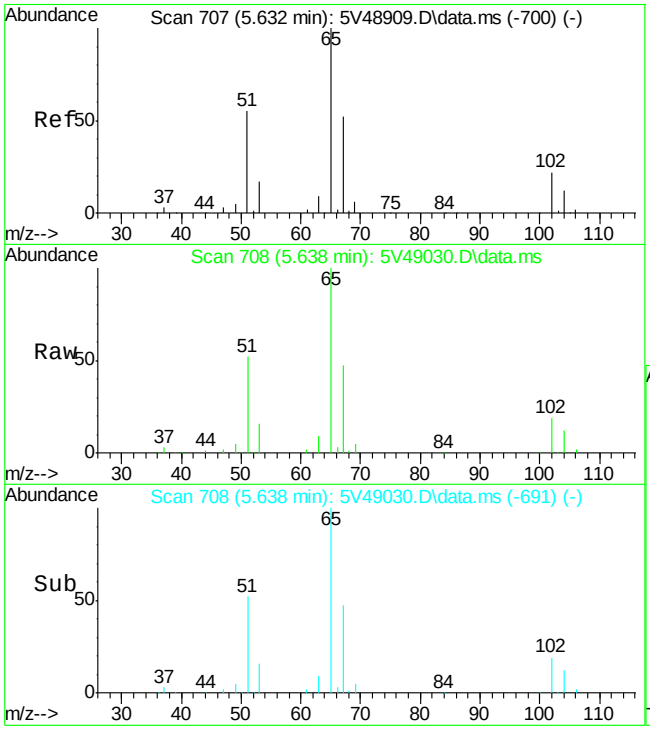


#40
1,4-Difluorobenzene
Concen: 50.00 ppb
RT: 6.125 min Scan# 788
Delta R.T. -0.000 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion:114 Resp: 543124

Ion	Ratio	Lower	Upper
114	100		
63	21.2	0.2	40.2
88	14.0	0.0	34.0

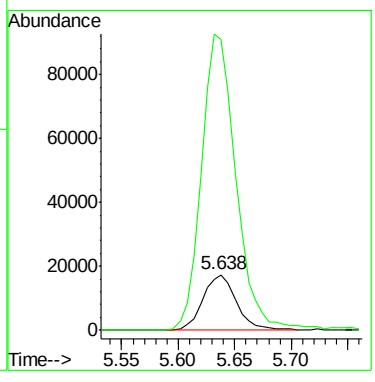


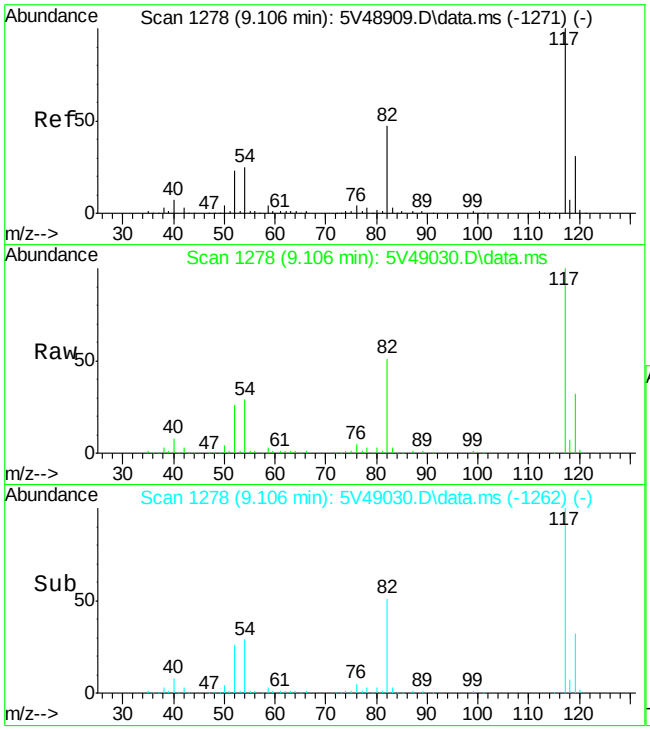


#41
1,2-Dichloroethane-d4
Concen: 51.39 ppb
RT: 5.638 min Scan# 708
Delta R.T. 0.006 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion:102 Resp: 35439

Ion	Ratio	Lower	Upper
102	100		
65	550.4	459.5	499.5#

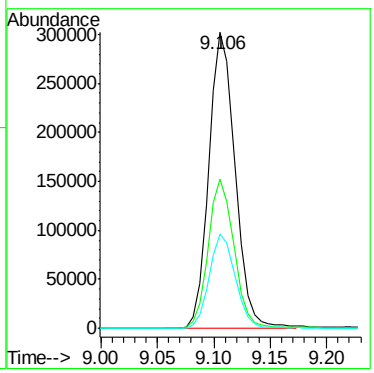


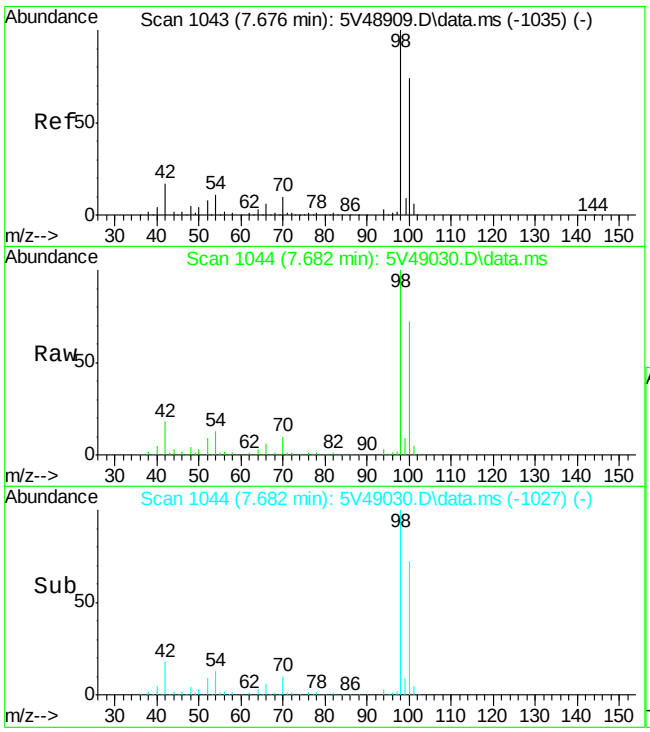


#55
Chlorobenzene-d5
Concen: 50.00 ppb
RT: 9.106 min Scan# 1278
Delta R.T. -0.000 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion:117 Resp: 485398

Ion	Ratio	Lower	Upper
117	100		
82	49.8	28.0	68.0
119	31.7	11.5	51.5

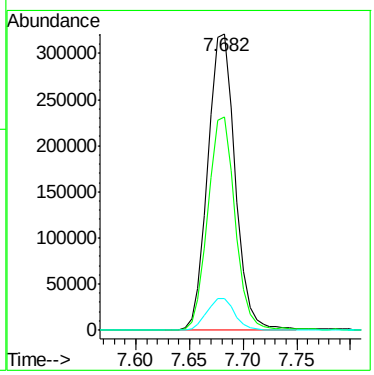




#56
Toluene-d8
Concen: 48.97 ppb
RT: 7.682 min Scan# 1044
Delta R.T. 0.006 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

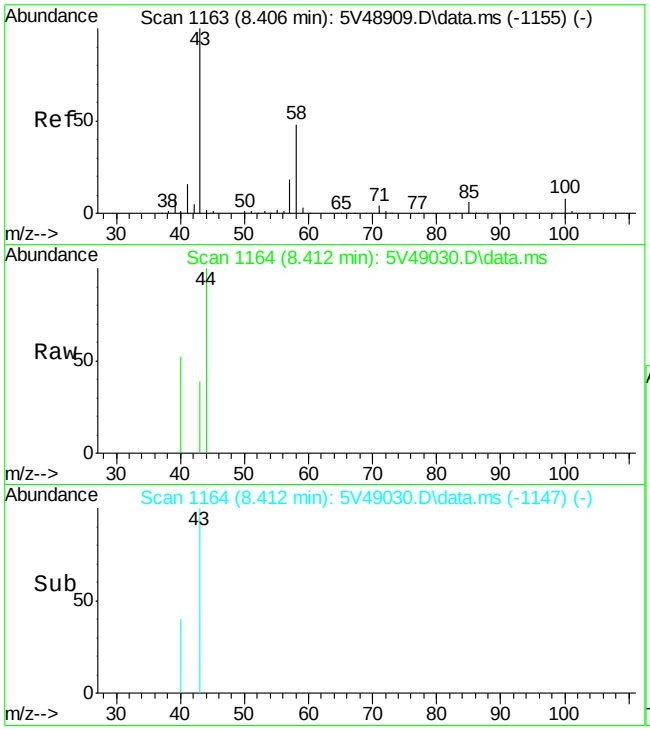
Tgt Ion: 98 Resp: 568168

Ion	Ratio	Lower	Upper
98	100		
100	71.4	51.5	91.5
70	10.8	0.0	30.2



7.2.1

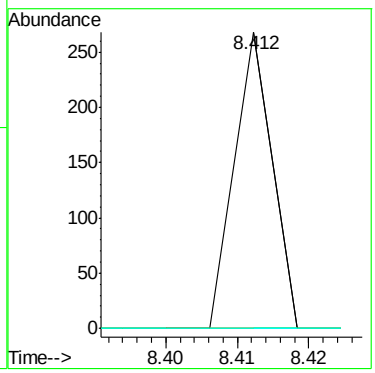
7

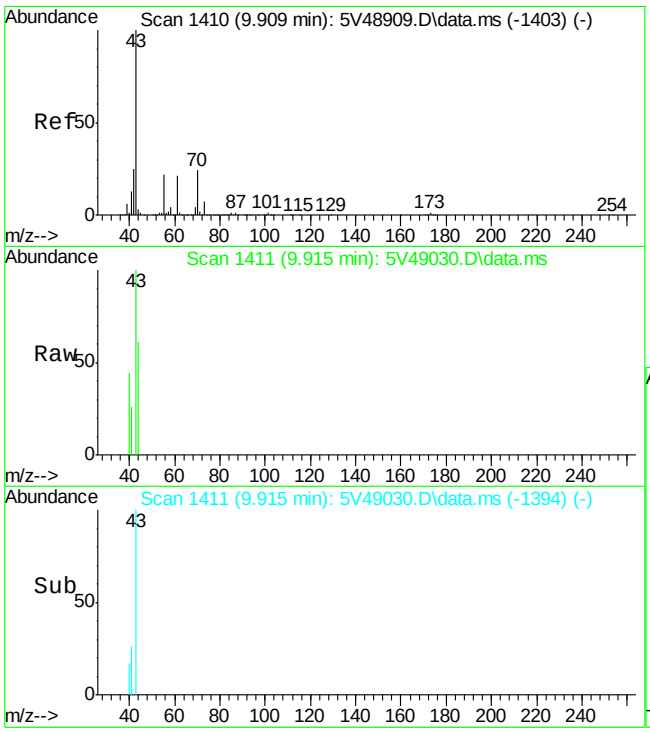


#62
2-Hexanone
Concen: Below Cal
RT: 8.412 min Scan# 1164
Delta R.T. 0.006 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion: 43 Resp: 98

Ion	Ratio	Lower	Upper
43	100		
58	0.0	28.4	68.4#
57	0.0	0.0	37.3

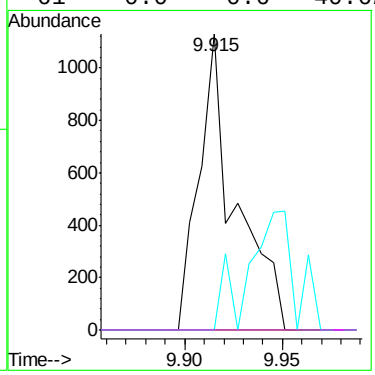


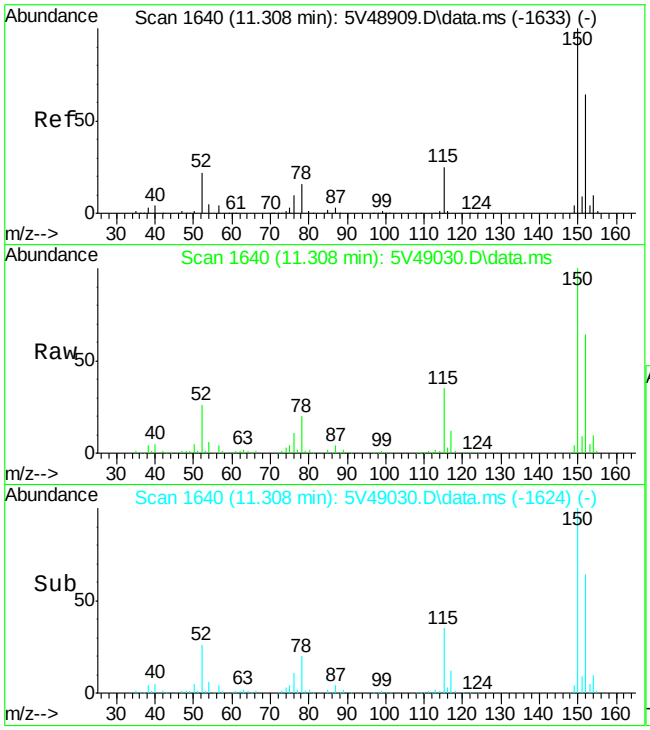


#71
Amyl Acetate
Concen: Below Cal
RT: 9.915 min Scan# 1411
Delta R.T. 0.006 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion: 43 Resp: 1461

Ion	Ratio	Lower	Upper
43	100		
70	0.0	3.9	43.9#
55	51.1	2.0	42.0#
61	0.0	0.6	40.6#

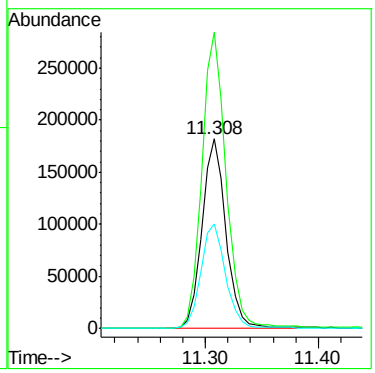


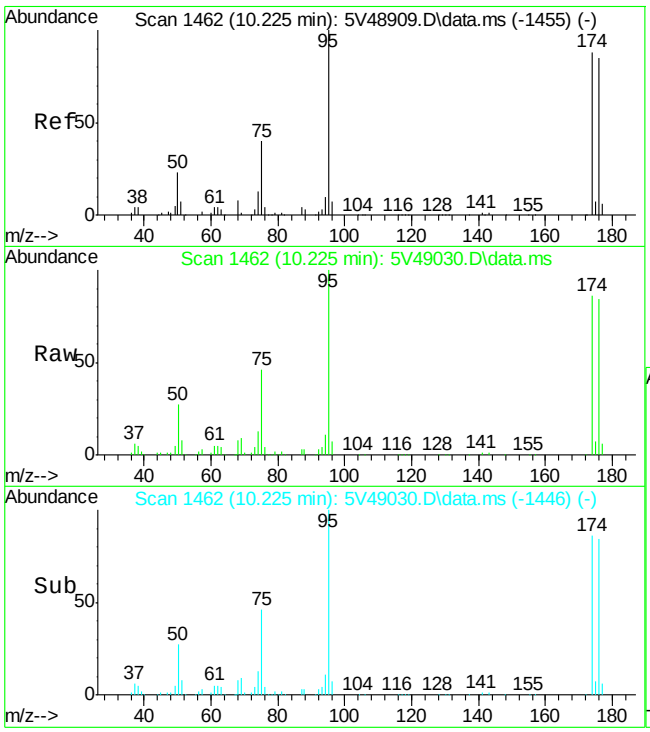


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ppb
RT: 11.308 min Scan# 1640
Delta R.T. -0.000 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion:152 Resp: 269856

Ion	Ratio	Lower	Upper
152	100		
150	157.4	148.8	188.8
115	57.1	34.9	74.9

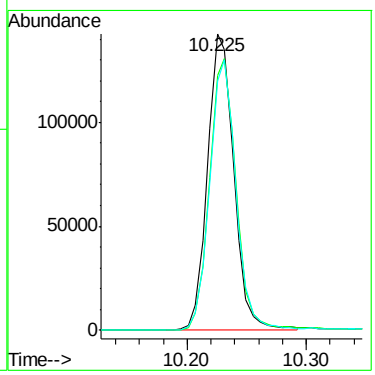




#76
4-Bromofluorobenzene
Concen: 50.20 ppb
RT: 10.225 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 5V49030.D
Acq: 3 Aug 2018 5:14 pm

Tgt Ion: 95 Resp: 218528

Ion	Ratio	Lower	Upper
95	100		
174	92.6	74.4	114.4
176	91.0	71.3	111.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54290.D
Acq On : 3 Aug 2018 11:29 am
Operator : martyb
Sample : mb
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 06 09:45:09 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

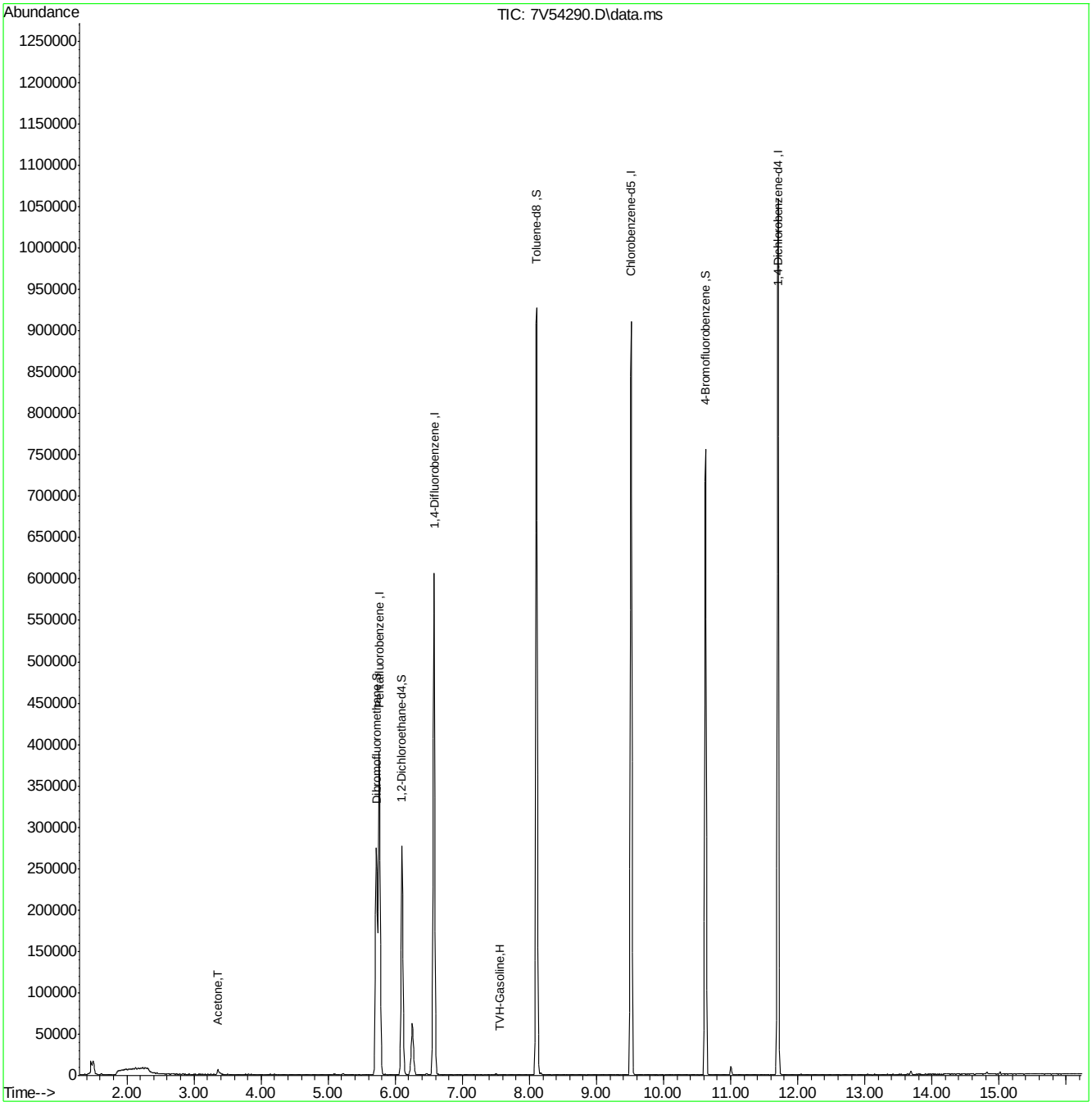
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
2) Pentafluorobenzene	5.762	168	292416	50.00	ug/L	0.00
40) 1,4-Difluorobenzene	6.579	114	487527	50.00	ug/L	0.00
55) Chlorobenzene-d5	9.517	117	481632	50.00	ug/L	0.00
74) 1,4-Dichlorobenzene-d4	11.706	152	264763	50.00	ug/L	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	5.719	113	175485	49.98	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.96%			
41) 1,2-Dichloroethane-d4	6.097	102	37257	48.90	ug/L	0.00
Spiked Amount 50.000	Range 62 - 130		Recovery = 97.80%			
56) Toluene-d8	8.109	98	580581	48.58	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.16%			
76) 4-Bromofluorobenzene	10.627	95	241280	47.41	ug/L	0.00
Spiked Amount 50.000	Range 69 - 130		Recovery = 94.82%			
Target Compounds						Qvalue
1) TVH-Gasoline	7.554	TIC	251052m	9.76	ug/L	
14) Acetone	3.354	43	9308	1.87	ug/L	88

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

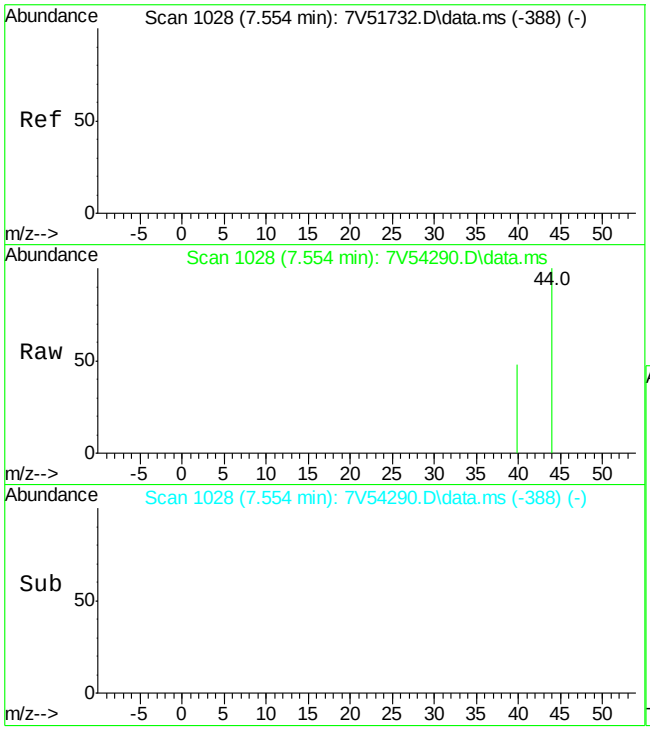
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\V7V2798\
Data File : 7V54290.D
Acq On : 3 Aug 2018 11:29 am
Operator : martyb
Sample : mb
Misc : MS11263,V7V2798,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 06 09:45:09 2018
Quant Method : C:\msdchem\1\methods\V7V2772water.M
Quant Title : 8260
QLast Update : Mon Jul 09 08:49:26 2018
Response via : Initial Calibration

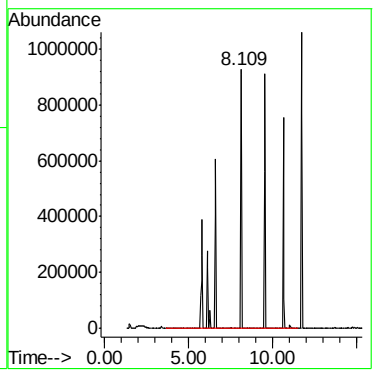


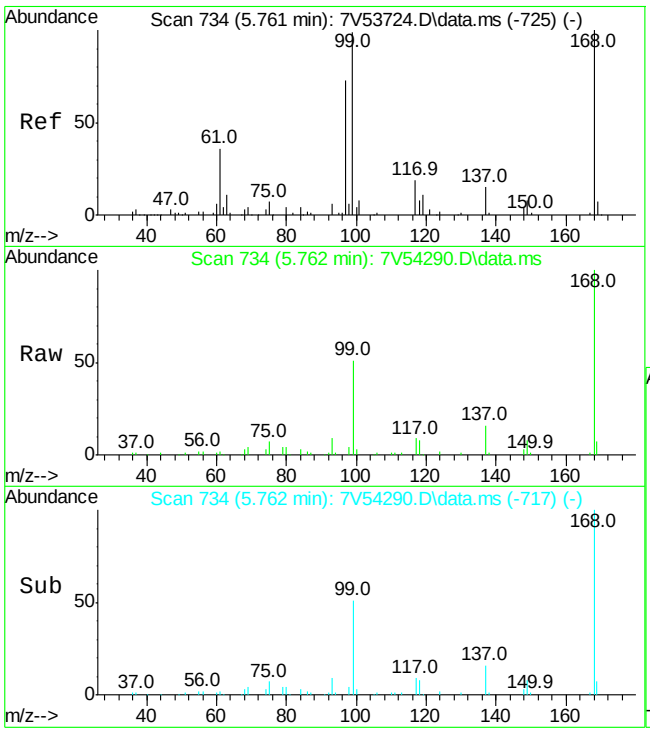
V7V2772water.M Mon Aug 06 10:09:39 2018 Page: 2



#1
TVH-Gasoline
Concen: 9.76 ug/L m
RT: 7.554 min Scan# 1028
Delta R.T. 0.000 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

Tgt Ion:TIC Resp: 251052

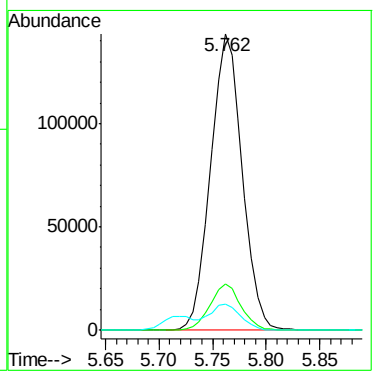


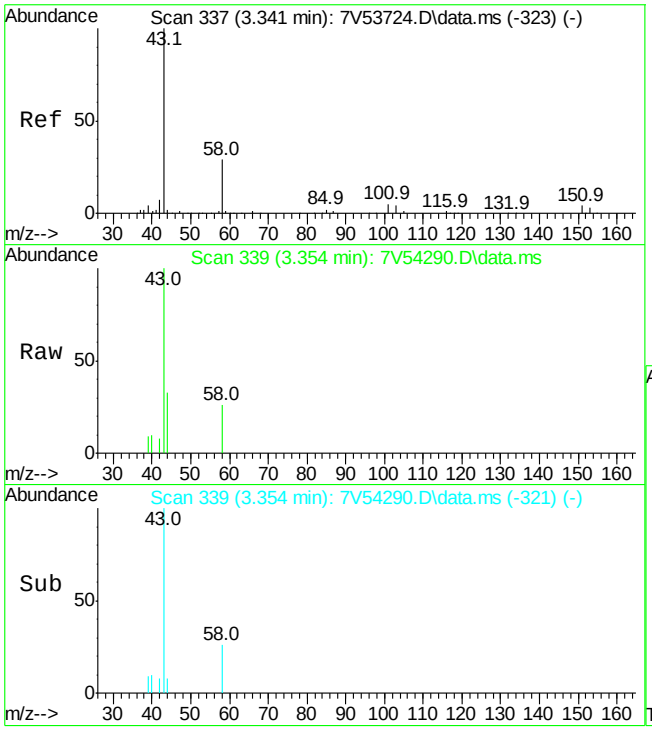


#2
Pentafluorobenzene
Concen: 50.00 ug/L
RT: 5.762 min Scan# 734
Delta R.T. 0.001 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

Tgt Ion:168 Resp: 292416

Ion	Ratio	Lower	Upper
168	100		
137	15.2	0.0	35.3
93	8.5	0.0	28.5

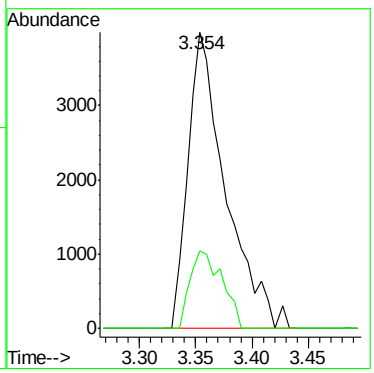


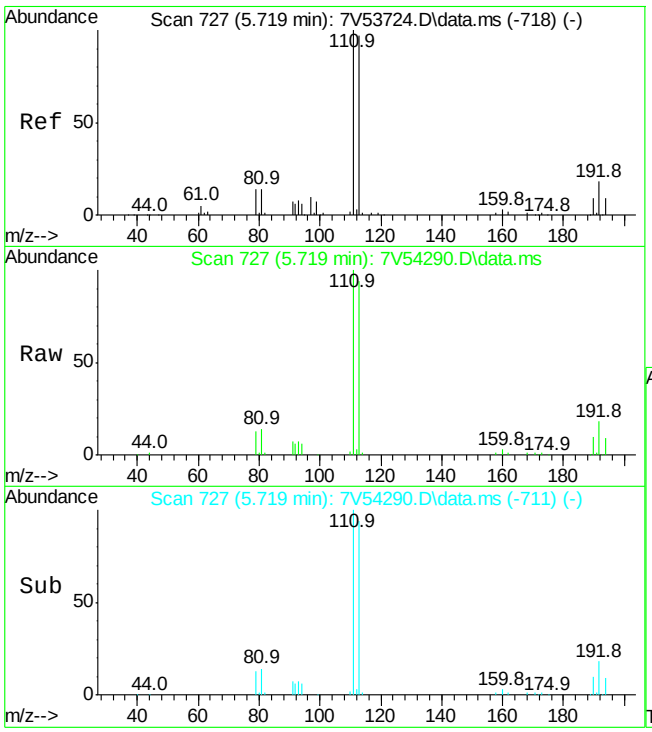


#14
Acetone
Concen: 1.87 ug/L
RT: 3.354 min Scan# 339
Delta R.T. 0.013 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

Tgt Ion: 43 Resp: 9308

Ion	Ratio	Lower	Upper
43	100		
58	22.3	8.6	48.6

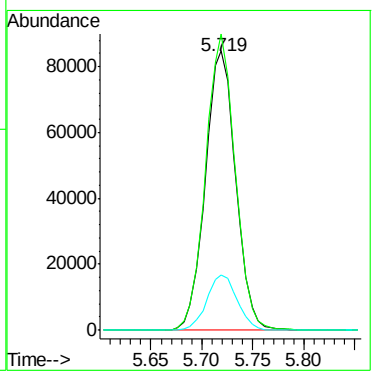




#35
Dibromofluoromethane
Concen: 49.98 ug/L
RT: 5.719 min Scan# 727
Delta R.T. -0.000 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

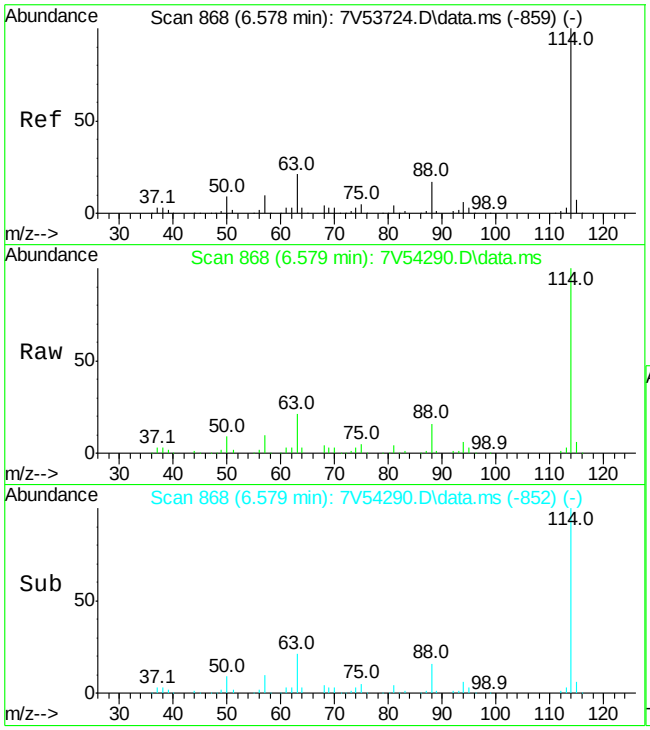
Tgt Ion:113 Resp: 175485

Ion	Ratio	Lower	Upper
113	100		
111	103.4	82.3	122.3
192	19.7	0.0	38.9



7.2.2

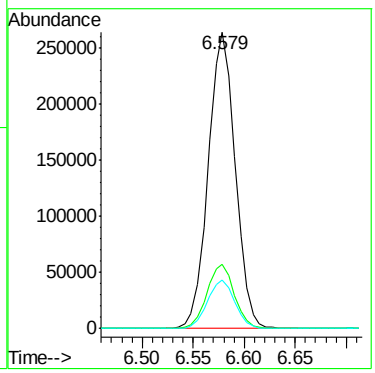
7

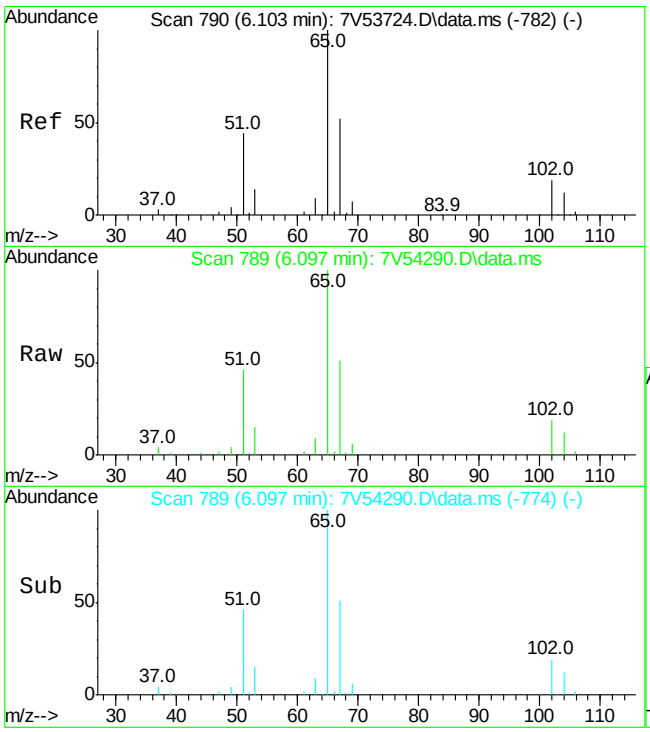


#40
1,4-Difluorobenzene
Concen: 50.00 ug/L
RT: 6.579 min Scan# 868
Delta R.T. 0.001 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

Tgt Ion:114 Resp: 487527

Ion	Ratio	Lower	Upper
114	100		
63	21.8	2.2	42.2
88	16.3	0.0	36.7

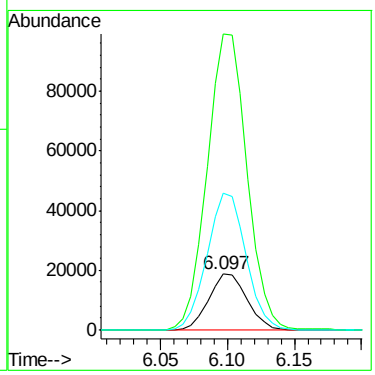




#41
1,2-Dichloroethane-d4
Concen: 48.90 ug/L
RT: 6.097 min Scan# 789
Delta R.T. -0.006 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

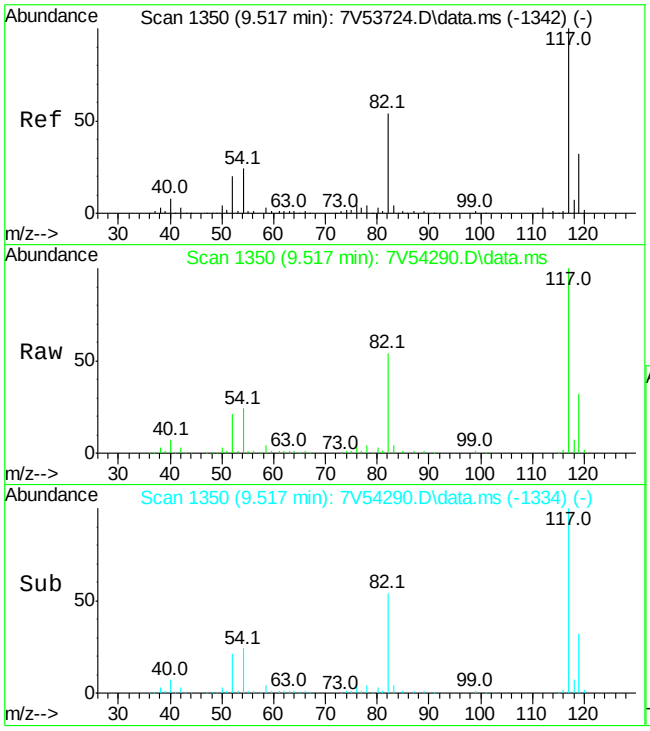
Tgt Ion:102 Resp: 37257

Ion	Ratio	Lower	Upper
102	100		
65	547.8	529.0	569.0
51	248.0	223.2	263.2



7.2.2

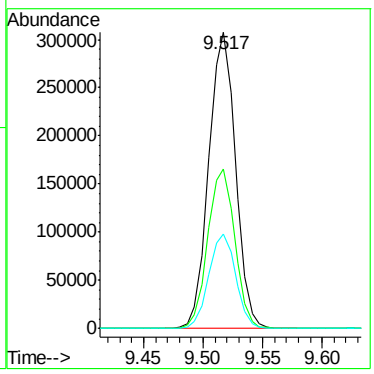
7

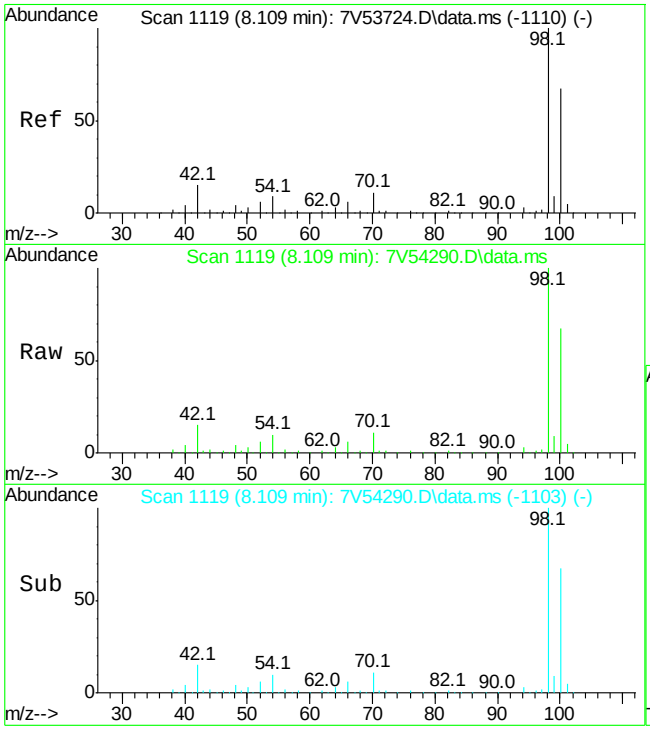


#55
Chlorobenzene-d5
Concen: 50.00 ug/L
RT: 9.517 min Scan# 1350
Delta R.T. 0.000 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

Tgt Ion:117 Resp: 481632

Ion	Ratio	Lower	Upper
117	100		
82	54.4	34.5	74.5
119	32.1	11.9	51.9

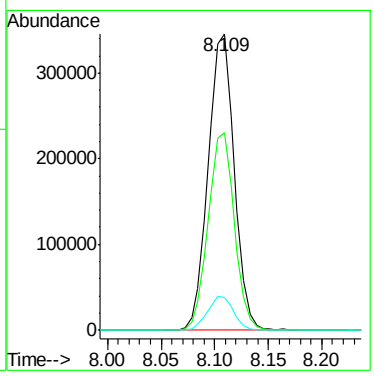


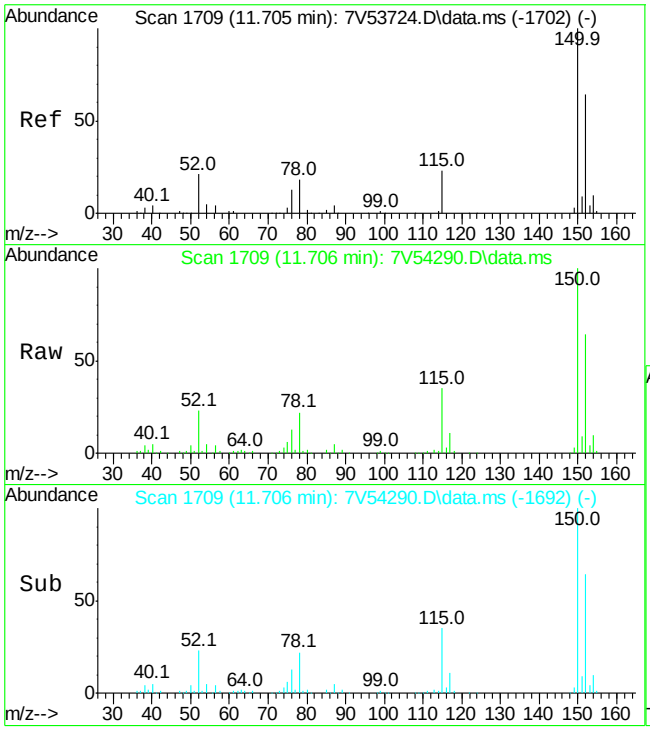


#56
Toluene-d8
Concen: 48.58 ug/L
RT: 8.109 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

Tgt Ion: 98 Resp: 580581

Ion	Ratio	Lower	Upper
98	100		
100	67.0	47.5	87.5
70	11.4	0.0	31.5

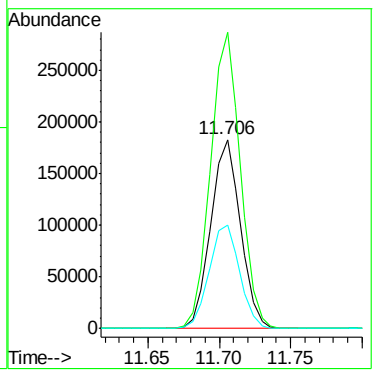


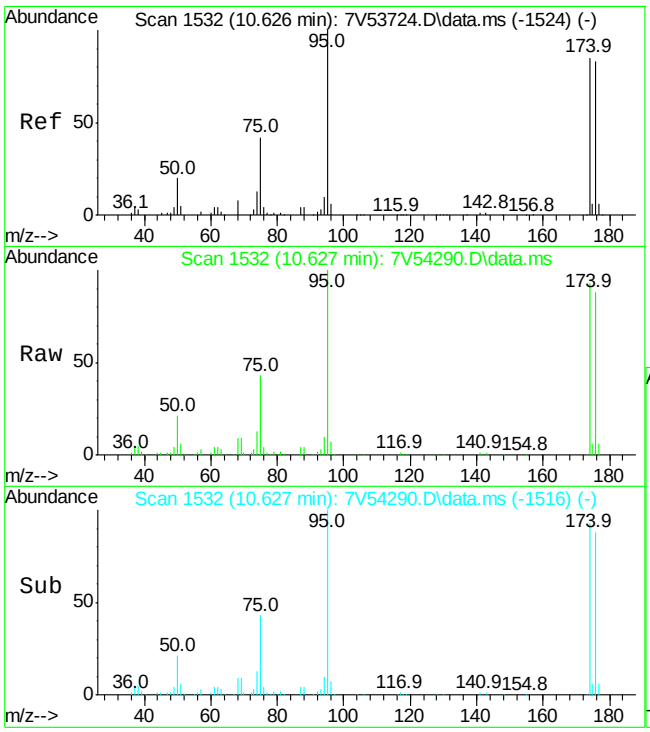


#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/L
RT: 11.706 min Scan# 1709
Delta R.T. 0.001 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

Tgt Ion:152 Resp: 264763

Ion	Ratio	Lower	Upper
152	100		
150	157.0	155.8	195.8
115	56.1	37.0	77.0

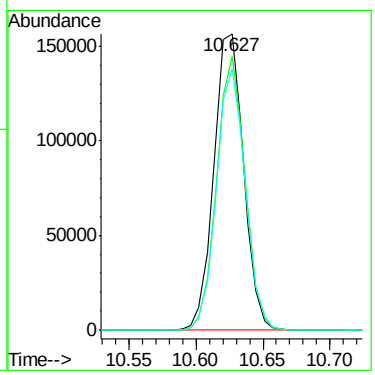




#76
4-Bromofluorobenzene
Concen: 47.41 ug/L
RT: 10.627 min Scan# 1532
Delta R.T. 0.001 min
Lab File: 7V54290.D
Acq: 3 Aug 2018 11:29 am

Tgt Ion: 95 Resp: 241280

Ion	Ratio	Lower	Upper
95	100		
174	88.3	64.5	104.5
176	85.4	62.5	102.5



MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MB	3G37551.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	670	500	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	67	17	ug/kg	
95-57-8	2-Chlorophenol	ND	67	17	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	67	17	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	67	17	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	330	250	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	330	250	ug/kg	
95-48-7	2-Methylphenol	ND	67	17	ug/kg	
106-44-5	4-Methylphenol	ND	67	17	ug/kg	
88-75-5	2-Nitrophenol	ND	67	17	ug/kg	
100-02-7	4-Nitrophenol	ND	330	250	ug/kg	
87-86-5	Pentachlorophenol	ND	67	17	ug/kg	
108-95-2	Phenol	ND	67	17	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	67	17	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	67	17	ug/kg	
83-32-9	Acenaphthene	ND	67	17	ug/kg	
208-96-8	Acenaphthylene	ND	67	17	ug/kg	
62-53-3	Aniline	ND	250	67	ug/kg	
120-12-7	Anthracene	ND	67	17	ug/kg	
92-87-5	Benzidine	ND	830	670	ug/kg	
56-55-3	Benzo(a)anthracene	ND	67	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	67	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	67	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	67	17	ug/kg	
50-32-8	Benzo(a)pyrene	ND	67	17	ug/kg	
100-51-6	Benzyl Alcohol	ND	67	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	67	17	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	67	21	ug/kg	
86-74-8	Carbazole	ND	67	17	ug/kg	
106-47-8	4-Chloroaniline	ND	67	17	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	67	17	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	67	17	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	67	17	ug/kg	
91-58-7	2-Chloronaphthalene	ND	67	17	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	67	17	ug/kg	
218-01-9	Chrysene	ND	67	17	ug/kg	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MB	3G37551.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Result	RL	MDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	67	17	ug/kg	
132-64-9	Dibenzofuran	ND	67	17	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	17	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	67	17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	67	17	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	67	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	17	ug/kg	
84-66-2	Diethyl phthalate	ND	67	17	ug/kg	
131-11-3	Dimethyl phthalate	ND	67	17	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	67	33	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	67	33	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	170	33	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	67	17	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	170	37	ug/kg	
206-44-0	Fluoranthene	ND	67	17	ug/kg	
86-73-7	Fluorene	ND	67	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	67	17	ug/kg	
87-68-3	Hexachlorobutadiene	ND	67	17	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	67	17	ug/kg	
67-72-1	Hexachloroethane	ND	67	47	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	67	17	ug/kg	
78-59-1	Isophorone	ND	67	17	ug/kg	
90-12-0	1-Methylnaphthalene	ND	67	23	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	30	ug/kg	
91-20-3	Naphthalene	ND	67	23	ug/kg	
88-74-4	2-Nitroaniline	ND	67	17	ug/kg	
99-09-2	3-Nitroaniline	ND	67	17	ug/kg	
100-01-6	4-Nitroaniline	ND	67	17	ug/kg	
98-95-3	Nitrobenzene	ND	67	17	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	67	33	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	67	17	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	67	19	ug/kg	
85-01-8	Phenanthrene	ND	67	17	ug/kg	
129-00-0	Pyrene	ND	67	17	ug/kg	
110-86-1	Pyridine	ND	67	17	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	67	17	ug/kg	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MB	3G37551.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Surrogate Recoveries		Limits
321-60-8	2-Fluorobiphenyl	99%	23-130%
367-12-4	2-Fluorophenol	81%	10-130%
4165-60-0	Nitrobenzene-d5	85%	12-131%
4165-62-2	Phenol-d5	87%	17-130%
1718-51-0	Terphenyl-d14	98%	29-141%
118-79-6	2,4,6-Tribromophenol	102%	25-130%

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MB2	3G37552.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	4000	3000	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	400	100	ug/kg	
95-57-8	2-Chlorophenol	ND	400	100	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	400	100	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	400	100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	2000	1500	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	2000	1500	ug/kg	
95-48-7	2-Methylphenol	ND	400	100	ug/kg	
106-44-5	4-Methylphenol	ND	400	100	ug/kg	
88-75-5	2-Nitrophenol	ND	400	100	ug/kg	
100-02-7	4-Nitrophenol	ND	2000	1500	ug/kg	
87-86-5	Pentachlorophenol	ND	400	100	ug/kg	
108-95-2	Phenol	ND	400	100	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	400	100	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	400	100	ug/kg	
83-32-9	Acenaphthene	ND	400	100	ug/kg	
208-96-8	Acenaphthylene	ND	400	100	ug/kg	
62-53-3	Aniline	ND	1500	400	ug/kg	
120-12-7	Anthracene	ND	400	100	ug/kg	
92-87-5	Benzidine	ND	5000	4000	ug/kg	
56-55-3	Benzo(a)anthracene	ND	400	100	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	400	100	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	400	100	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	400	100	ug/kg	
50-32-8	Benzo(a)pyrene	ND	400	100	ug/kg	
100-51-6	Benzyl Alcohol	ND	400	100	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	400	100	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	400	120	ug/kg	
86-74-8	Carbazole	ND	400	100	ug/kg	
106-47-8	4-Chloroaniline	ND	400	100	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	400	100	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	400	100	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	400	100	ug/kg	
91-58-7	2-Chloronaphthalene	ND	400	100	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	400	100	ug/kg	
218-01-9	Chrysene	ND	400	100	ug/kg	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MB2	3G37552.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Result	RL	MDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	400	100	ug/kg	
132-64-9	Dibenzofuran	ND	400	100	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	400	100	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	400	100	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	400	100	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	400	100	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	400	100	ug/kg	
84-66-2	Diethyl phthalate	ND	400	100	ug/kg	
131-11-3	Dimethyl phthalate	ND	400	100	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	400	200	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	400	200	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	1000	200	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	400	100	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1000	220	ug/kg	
206-44-0	Fluoranthene	ND	400	100	ug/kg	
86-73-7	Fluorene	ND	400	100	ug/kg	
118-74-1	Hexachlorobenzene	ND	400	100	ug/kg	
87-68-3	Hexachlorobutadiene	ND	400	100	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	400	100	ug/kg	
67-72-1	Hexachloroethane	ND	400	280	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	400	100	ug/kg	
78-59-1	Isophorone	ND	400	100	ug/kg	
90-12-0	1-Methylnaphthalene	ND	400	140	ug/kg	
91-57-6	2-Methylnaphthalene	ND	400	180	ug/kg	
91-20-3	Naphthalene	ND	400	140	ug/kg	
88-74-4	2-Nitroaniline	ND	400	100	ug/kg	
99-09-2	3-Nitroaniline	ND	400	100	ug/kg	
100-01-6	4-Nitroaniline	ND	400	100	ug/kg	
98-95-3	Nitrobenzene	ND	400	100	ug/kg	
62-75-9	N-Nitrosodimethylamine	ND	400	200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	400	100	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	400	120	ug/kg	
85-01-8	Phenanthrene	ND	400	100	ug/kg	
129-00-0	Pyrene	ND	400	100	ug/kg	
110-86-1	Pyridine	ND	400	100	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	400	100	ug/kg	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MB2	3G37552.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Surrogate Recoveries		Limits
321-60-8	2-Fluorobiphenyl	88%	23-130%
367-12-4	2-Fluorophenol	70%	10-130%
4165-60-0	Nitrobenzene-d5	73%	12-131%
4165-62-2	Phenol-d5	74%	17-130%
1718-51-0	Terphenyl-d14	95%	29-141%
118-79-6	2,4,6-Tribromophenol	95%	25-130%

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-MB	3G37587.D	1	08/07/18	DC	08/07/18	OP16689	E3G1870

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	10	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	2.0	0.84	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	4.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	8.2	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.90	ug/l	
106-44-5	4-Methylphenol	ND	2.0	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	2.0	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	5.0	4.0	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	4.0	ug/l	
108-95-2	Phenol	ND	2.0	0.50	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	0.70	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.0	ug/l	
83-32-9	Acenaphthene	ND	2.0	0.70	ug/l	
208-96-8	Acenaphthylene	ND	2.0	0.60	ug/l	
62-53-3	Aniline	ND	5.0	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	0.70	ug/l	
92-87-5	Benzidine	ND	100	75	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	0.70	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	0.90	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	0.90	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	2.0	0.90	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.70	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.3	ug/l	
86-74-8	Carbazole	ND	2.0	0.80	ug/l	
106-47-8	4-Chloroaniline	ND	2.0	0.80	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.70	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.70	ug/l	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	2.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.70	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.70	ug/l	
218-01-9	Chrysene	ND	2.0	0.70	ug/l	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-MB	3G37587.D	1	08/07/18	DC	08/07/18	OP16689	E3G1870

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	Result	RL	MDL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.3	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.70	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.2	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.80	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.80	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.90	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	4.0	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.80	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.80	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.80	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.80	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	2.0	0.70	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.70	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.90	ug/l	
86-73-7	Fluorene	ND	2.0	0.60	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.70	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.90	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	4.0	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.90	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.4	ug/l	
78-59-1	Isophorone	ND	2.0	0.70	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.70	ug/l	
91-20-3	Naphthalene	ND	2.0	0.80	ug/l	
88-74-4	2-Nitroaniline	ND	2.0	0.90	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	4.0	ug/l	
100-01-6	4-Nitroaniline	ND	2.0	0.90	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.80	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	4.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	2.0	0.70	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.70	ug/l	
85-01-8	Phenanthrene	ND	2.0	0.60	ug/l	
129-00-0	Pyrene	ND	2.0	0.70	ug/l	
110-86-1	Pyridine	ND	5.0	4.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.80	ug/l	

Method Blank Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-MB	3G37587.D	1	08/07/18	DC	08/07/18	OP16689	E3G1870

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	41%	10-130%
4165-62-2	Phenol-d5	28%	10-130%
118-79-6	2,4,6-Tribromophenol	80%	10-135%
4165-60-0	Nitrobenzene-d5	65%	19-130%
321-60-8	2-Fluorobiphenyl	77%	20-130%
1718-51-0	Terphenyl-d14	93%	13-149%

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-BS	3G37553.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
65-85-0	Benzoic Acid	1670	1000	60	10-151
59-50-7	4-Chloro-3-methyl phenol	1670	1420	85	63-130
95-57-8	2-Chlorophenol	1670	1320	79	44-130
120-83-2	2,4-Dichlorophenol	1670	1370	82	55-130
105-67-9	2,4-Dimethylphenol	1670	1430	86	52-130
534-52-1	4,6-Dinitro-o-cresol	1670	1490	89	48-150
51-28-5	2,4-Dinitrophenol	1670	1410	85	38-144
95-48-7	2-Methylphenol	1670	1350	81	46-130
106-44-5	4-Methylphenol	1670	1400	84	49-130
88-75-5	2-Nitrophenol	1670	1480	89	53-130
100-02-7	4-Nitrophenol	1670	1620	97	56-139
87-86-5	Pentachlorophenol	1670	1510	91	59-130
108-95-2	Phenol	1670	1360	82	48-130
95-95-4	2,4,5-Trichlorophenol	1670	1510	91	63-130
88-06-2	2,4,6-Trichlorophenol	1670	1680	101	61-130
83-32-9	Acenaphthene	1670	1600	96	55-130
208-96-8	Acenaphthylene	1670	1490	89	55-130
62-53-3	Aniline	1670	1250	75	46-130
120-12-7	Anthracene	1670	1520	91	70-130
92-87-5	Benzidine	1670	964	58	10-165
56-55-3	Benzo(a)anthracene	1670	1640	98	70-130
205-99-2	Benzo(b)fluoranthene	1670	1550	93	70-130
207-08-9	Benzo(k)fluoranthene	1670	1560	94	70-130
191-24-2	Benzo(g,h,i)perylene	1670	1560	94	70-130
50-32-8	Benzo(a)pyrene	1670	1550	93	70-130
100-51-6	Benzyl Alcohol	1670	1350	81	38-146
101-55-3	4-Bromophenyl phenyl ether	1670	1530	92	67-130
85-68-7	Butyl benzyl phthalate	1670	1570	94	70-130
86-74-8	Carbazole	1670	1550	93	70-130
106-47-8	4-Chloroaniline	1670	1210	73	45-130
111-91-1	bis(2-Chloroethoxy)methane	1670	1400	84	50-130
111-44-4	bis(2-Chloroethyl)ether	1670	1400	84	41-130
108-60-1	2,2'-Oxybis(1-chloropropane)	1670	1330	80	41-134
91-58-7	2-Chloronaphthalene	1670	1630	98	55-130
7005-72-3	4-Chlorophenyl phenyl ether	1670	1560	94	61-130
218-01-9	Chrysene	1670	1650	99	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-BS	3G37553.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
53-70-3	Dibenzo(a,h)anthracene	1670	1560	94	70-130
132-64-9	Dibenzofuran	1670	1610	97	59-130
84-74-2	Di-n-butyl phthalate	1670	1470	88	70-130
95-50-1	1,2-Dichlorobenzene	1670	1360	82	39-130
541-73-1	1,3-Dichlorobenzene	1670	1350	81	38-130
106-46-7	1,4-Dichlorobenzene	1670	1340	80	38-130
91-94-1	3,3'-Dichlorobenzidine	1670	1350	81	47-130
84-66-2	Diethyl phthalate	1670	1630	98	70-130
131-11-3	Dimethyl phthalate	1670	1610	97	65-130
121-14-2	2,4-Dinitrotoluene	1670	1630	98	70-130
606-20-2	2,6-Dinitrotoluene	1670	1650	99	67-130
117-84-0	Di-n-octyl phthalate	1670	1510	91	70-133
122-66-7	1,2-Diphenylhydrazine	1670	1410	85	59-133
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1630	98	70-130
206-44-0	Fluoranthene	1670	1560	94	70-130
86-73-7	Fluorene	1670	1600	96	62-130
118-74-1	Hexachlorobenzene	1670	1640	98	66-130
87-68-3	Hexachlorobutadiene	1670	1420	85	43-130
77-47-4	Hexachlorocyclopentadiene	1670	1480	89	35-130
67-72-1	Hexachloroethane	1670	1320	79	40-130
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1470	88	70-130
78-59-1	Isophorone	1670	1420	85	54-130
90-12-0	1-Methylnaphthalene	1670	1420	85	47-130
91-57-6	2-Methylnaphthalene	1670	1390	83	46-130
91-20-3	Naphthalene	1670	1390	83	45-130
88-74-4	2-Nitroaniline	1670	1600	96	65-130
99-09-2	3-Nitroaniline	1670	1460	88	65-130
100-01-6	4-Nitroaniline	1670	1630	98	70-130
98-95-3	Nitrobenzene	1670	1380	83	48-130
62-75-9	N-Nitrosodimethylamine	1670	1330	80	36-130
86-30-6	N-Nitrosodiphenylamine	1670	1510	91	70-130
621-64-7	N-Nitroso-di-n-propylamine	1670	1300	78	47-130
85-01-8	Phenanthrene	1670	1500	90	70-130
129-00-0	Pyrene	1670	1600	96	70-130
110-86-1	Pyridine	1670	1190	71	19-130
120-82-1	1,2,4-Trichlorobenzene	1670	1400	84	47-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-BS	3G37553.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Surrogate Recoveries	BSP	Limits
321-60-8	2-Fluorobiphenyl	92%	23-130%
367-12-4	2-Fluorophenol	79%	10-130%
4165-60-0	Nitrobenzene-d5	80%	12-131%
4165-62-2	Phenol-d5	81%	17-130%
1718-51-0	Terphenyl-d14	100%	29-141%
118-79-6	2,4,6-Tribromophenol	102%	25-130%

8.2.1

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* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-BS	3G37588.D	1	08/07/18	DC	08/07/18	OP16689	E3G1870

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	17.8	36	10-130
59-50-7	4-Chloro-3-methyl phenol	50	42.4	85	54-130
95-57-8	2-Chlorophenol	50	33.1	66	21-130
120-83-2	2,4-Dichlorophenol	50	37.5	75	28-130
105-67-9	2,4-Dimethylphenol	50	36.5	73	39-130
534-52-1	4,6-Dinitro-o-cresol	50	43.5	87	24-144
51-28-5	2,4-Dinitrophenol	50	38.4	77	11-137
95-48-7	2-Methylphenol	50	29.5	59	31-130
106-44-5	4-Methylphenol	50	28.8	58	29-130
88-75-5	2-Nitrophenol	50	35.0	70	21-130
100-02-7	4-Nitrophenol	50	26.6	53	11-130
87-86-5	Pentachlorophenol	50	46.0	92	18-136
108-95-2	Phenol	50	15.2	30	12-130
95-95-4	2,4,5-Trichlorophenol	50	51.3	103	33-130
88-06-2	2,4,6-Trichlorophenol	50	47.8	96	23-130
83-32-9	Acenaphthene	50	45.6	91	48-130
208-96-8	Acenaphthylene	50	42.8	86	48-130
62-53-3	Aniline	50	25.2	50	17-130
120-12-7	Anthracene	50	48.1	96	64-130
92-87-5	Benzidine	50	12	24	10-233
56-55-3	Benzo(a)anthracene	50	49.6	99	68-130
205-99-2	Benzo(b)fluoranthene	50	48.2	96	68-130
207-08-9	Benzo(k)fluoranthene	50	48.4	97	67-130
191-24-2	Benzo(g,h,i)perylene	50	47.6	95	66-130
50-32-8	Benzo(a)pyrene	50	48.4	97	66-130
100-51-6	Benzyl Alcohol	50	29.7	59	21-130
101-55-3	4-Bromophenyl phenyl ether	50	49.2	98	61-130
85-68-7	Butyl benzyl phthalate	50	47.3	95	69-135
86-74-8	Carbazole	50	49.7	99	66-130
106-47-8	4-Chloroaniline	50	31.9	64	28-130
111-91-1	bis(2-Chloroethoxy)methane	50	34.9	70	40-130
111-44-4	bis(2-Chloroethyl)ether	50	31.3	63	31-130
108-60-1	2,2'-Oxybis(1-chloropropane)	50	29.7	59	29-130
91-58-7	2-Chloronaphthalene	50	41.2	82	38-130
7005-72-3	4-Chlorophenyl phenyl ether	50	48.7	97	56-130
218-01-9	Chrysene	50	50.3	101	65-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-BS	3G37588.D	1	08/07/18	DC	08/07/18	OP16689	E3G1870

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
53-70-3	Dibenzo(a,h)anthracene	50	48.2	96	64-130
132-64-9	Dibenzofuran	50	47.8	96	53-130
84-74-2	Di-n-butyl phthalate	50	46.2	92	64-130
95-50-1	1,2-Dichlorobenzene	50	23.8	48	13-130
541-73-1	1,3-Dichlorobenzene	50	21.0	42	10-130
106-46-7	1,4-Dichlorobenzene	50	22.5	45	10-130
91-94-1	3,3'-Dichlorobenzidine	50	39.0	78	43-135
84-66-2	Diethyl phthalate	50	52.9	106	65-130
131-11-3	Dimethyl phthalate	50	50.0	100	61-130
121-14-2	2,4-Dinitrotoluene	50	56.4	113	67-130
606-20-2	2,6-Dinitrotoluene	50	51.1	102	63-130
117-84-0	Di-n-octyl phthalate	50	48.1	96	65-136
122-66-7	1,2-Diphenylhydrazine	50	42.9	86	55-130
117-81-7	bis(2-Ethylhexyl)phthalate	50	49.2	98	67-133
206-44-0	Fluoranthene	50	49.5	99	63-130
86-73-7	Fluorene	50	49.1	98	57-130
118-74-1	Hexachlorobenzene	50	49.8	100	59-130
87-68-3	Hexachlorobutadiene	50	19.8	40	10-130
77-47-4	Hexachlorocyclopentadiene	50	17.2	34	10-130
67-72-1	Hexachloroethane	50	17.2	34	10-130
193-39-5	Indeno(1,2,3-cd)pyrene	50	46.2	92	64-130
78-59-1	Isophorone	50	36.9	74	41-130
90-12-0	1-Methylnaphthalene	50	33.1	66	36-130
91-57-6	2-Methylnaphthalene	50	32.1	64	32-130
91-20-3	Naphthalene	50	29.2	58	29-130
88-74-4	2-Nitroaniline	50	48.4	97	60-130
99-09-2	3-Nitroaniline	50	45.7	91	56-139
100-01-6	4-Nitroaniline	50	52.8	106	66-130
98-95-3	Nitrobenzene	50	32.2	64	34-130
62-75-9	N-Nitrosodimethylamine	50	19.8	40	19-130
86-30-6	N-Nitrosodiphenylamine	50	47.5	95	63-130
621-64-7	N-Nitroso-di-n-propylamine	50	32.9	66	37-130
85-01-8	Phenanthrene	50	48.2	96	64-130
129-00-0	Pyrene	50	50.0	100	70-130
110-86-1	Pyridine	50	13.2	26	10-130
120-82-1	1,2,4-Trichlorobenzene	50	25.2	50	17-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-BS	3G37588.D	1	08/07/18	DC	08/07/18	OP16689	E3G1870

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	40%	10-130%
4165-62-2	Phenol-d5	28%	10-130%
118-79-6	2,4,6-Tribromophenol	104%	10-135%
4165-60-0	Nitrobenzene-d5	64%	19-130%
321-60-8	2-Fluorobiphenyl	90%	20-130%
1718-51-0	Terphenyl-d14	101%	13-149%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MS	3G37555.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869
OP16681-MSD	3G37556.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869
DA7701-6	3G37554.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	DA7701-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		1850	ND	0* [a]	1850	ND	0* [a]	nc	10-151/30
59-50-7	4-Chloro-3-methyl phenol	ND		1850	1480	80	1850	1470	80	1	10-188/30
95-57-8	2-Chlorophenol	ND		1850	1220	66	1850	1270	69	4	10-144/30
120-83-2	2,4-Dichlorophenol	ND		1850	1320	71	1850	1370	74	4	10-168/30
105-67-9	2,4-Dimethylphenol	ND		1850	1270	69	1850	1280	69	1	10-161/30
534-52-1	4,6-Dinitro-o-cresol	ND		1850	1420	77	1850	1510	82	6	10-131/30
51-28-5	2,4-Dinitrophenol	ND		1850	723	39	1850	632	34	13	10-130/30
95-48-7	2-Methylphenol	ND		1850	1200	65	1850	1230	67	2	10-149/30
106-44-5	4-Methylphenol	ND		1850	1280	69	1850	1320	71	3	10-167/30
88-75-5	2-Nitrophenol	ND		1850	1280	69	1850	1300	70	2	10-186/30
100-02-7	4-Nitrophenol	ND		1850	1780	96	1850	1780	96	0	26-136/30
87-86-5	Pentachlorophenol	ND		1850	1590	86	1850	1660	90	4	10-139/30
108-95-2	Phenol	ND		1850	1220	66	1850	1260	68	3	10-142/30
95-95-4	2,4,5-Trichlorophenol	ND		1850	1600	87	1850	1600	87	0	24-132/30
88-06-2	2,4,6-Trichlorophenol	ND		1850	1630	88	1850	1720	93	5	10-169/30
83-32-9	Acenaphthene	ND		1850	1560	84	1850	1600	87	3	10-167/30
208-96-8	Acenaphthylene	ND		1850	1430	77	1850	1480	80	3	10-167/30
62-53-3	Aniline	ND		1850	1030	56	1850	1090	59	6	23-130/30
120-12-7	Anthracene	ND		1850	1600	87	1850	1640	89	2	22-143/30
92-87-5	Benzidine	ND		1850	774	42	1850	ND	0* [a]	200* [b]	10-165/30
56-55-3	Benzo(a)anthracene	ND		1850	1710	93	1850	1720	93	1	15-152/30
205-99-2	Benzo(b)fluoranthene	ND		1850	1590	86	1850	1630	88	2	17-155/30
207-08-9	Benzo(k)fluoranthene	ND		1850	1660	90	1850	1640	89	1	10-172/30
191-24-2	Benzo(g,h,i)perylene	ND		1850	1600	87	1850	1590	86	1	10-153/30
50-32-8	Benzo(a)pyrene	ND		1850	1630	88	1850	1630	88	0	19-151/30
100-51-6	Benzyl Alcohol	ND		1850	1240	67	1850	1280	69	3	10-200/30
101-55-3	4-Bromophenyl phenyl ether	ND		1850	1590	86	1850	1600	87	1	43-132/30
85-68-7	Butyl benzyl phthalate	ND		1850	1640	89	1850	1670	90	2	52-141/30
86-74-8	Carbazole	ND		1850	1680	91	1850	1680	91	0	50-200/30
106-47-8	4-Chloroaniline	ND		1850	1180	64	1850	1230	67	4	10-176/30
111-91-1	bis(2-Chloroethoxy)methane	ND		1850	1250	68	1850	1260	68	1	10-157/30
111-44-4	bis(2-Chloroethyl)ether	ND		1850	1160	63	1850	1120	61	4	10-142/30
108-60-1	2,2'-Oxybis(1-chloropropane)	ND		1850	990	54	1850	941	51	5	18-132/30
91-58-7	2-Chloronaphthalene	ND		1850	1460	79	1850	1510	82	3	22-133/30
7005-72-3	4-Chlorophenyl phenyl ether	ND		1850	1610	87	1850	1610	87	0	40-130/30
218-01-9	Chrysene	ND		1850	1760	95	1850	1720	93	2	21-147/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MS	3G37555.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869
OP16681-MSD	3G37556.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869
DA7701-6	3G37554.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Compound	DA7701-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
53-70-3	Dibenzo(a,h)anthracene	ND		1850	1620	88	1850	1590	86	2	16-152/30
132-64-9	Dibenzofuran	ND		1850	1610	87	1850	1630	88	1	10-166/30
84-74-2	Di-n-butyl phthalate	ND		1850	1540	83	1850	1540	83	0	59-130/30
95-50-1	1,2-Dichlorobenzene	ND		1850	792	43	1850	671	36	17	14-130/30
541-73-1	1,3-Dichlorobenzene	ND		1850	670	36	1850	544	29	21	12-130/30
106-46-7	1,4-Dichlorobenzene	ND		1850	692	37	1850	572	31	19	15-130/30
91-94-1	3,3'-Dichlorobenzidine	ND		1850	1520	82	1850	1570	85	3	10-157/30
84-66-2	Diethyl phthalate	ND		1850	1710	93	1850	1740	94	2	43-132/30
131-11-3	Dimethyl phthalate	ND		1850	1670	90	1850	1720	93	3	33-138/30
121-14-2	2,4-Dinitrotoluene	ND		1850	1790	97	1850	1810	98	1	10-200/30
606-20-2	2,6-Dinitrotoluene	ND		1850	1710	93	1850	1770	96	3	12-164/30
117-84-0	Di-n-octyl phthalate	ND		1850	1620	88	1850	1640	89	1	57-135/30
122-66-7	1,2-Diphenylhydrazine	ND		1850	1390	75	1850	1450	78	4	53-133/30
117-81-7	bis(2-Ethylhexyl)phthalate	ND		1850	1750	95	1850	1750	95	0	56-138/30
206-44-0	Fluoranthene	ND		1850	1680	91	1850	1670	90	1	14-151/30
86-73-7	Fluorene	ND		1850	1640	89	1850	1660	90	1	10-196/30
118-74-1	Hexachlorobenzene	ND		1850	1630	88	1850	1700	92	4	31-138/30
87-68-3	Hexachlorobutadiene	ND		1850	941	51	1850	838	45	12	15-134/30
77-47-4	Hexachlorocyclopentadiene	ND		1850	1070	58	1850	1080	58	1	10-130/30
67-72-1	Hexachloroethane	ND		1850	606	33	1850	481	26	23	10-196/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1850	1510	82	1850	1510	82	0	15-153/30
78-59-1	Isophorone	ND		1850	1290	70	1850	1320	71	2	29-130/30
90-12-0	1-Methylnaphthalene	ND		1850	1260	68	1850	1250	68	1	10-199/30
91-57-6	2-Methylnaphthalene	ND		1850	1220	66	1850	1210	65	1	10-188/30
91-20-3	Naphthalene	ND		1850	1070	58	1850	1020	55	5	10-194/30
88-74-4	2-Nitroaniline	ND		1850	1650	89	1850	1680	91	2	14-162/30
99-09-2	3-Nitroaniline	ND		1850	1610	87	1850	1640	89	2	29-135/30
100-01-6	4-Nitroaniline	ND		1850	1770	96	1850	1780	96	1	17-162/30
98-95-3	Nitrobenzene	ND		1850	1180	64	1850	1160	63	2	10-200/30
62-75-9	N-Nitrosodimethylamine	ND		1850	1120	61	1850	1160	63	4	30-130/30
86-30-6	N-Nitrosodiphenylamine	ND		1850	1580	86	1850	1600	87	1	10-147/30
621-64-7	N-Nitroso-di-n-propylamine	ND		1850	1140	62	1850	1150	62	1	10-147/30
85-01-8	Phenanthrene	ND		1850	1600	87	1850	1640	89	2	22-144/30
129-00-0	Pyrene	ND		1850	1720	93	1850	1740	94	1	16-152/30
110-86-1	Pyridine	ND		1850	989	54	1850	979	53	1	19-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		1850	1040	56	1850	969	52	7	17-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16681-MS	3G37555.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869
OP16681-MSD	3G37556.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869
DA7701-6	3G37554.D	1	08/06/18	DC	08/06/18	OP16681	E3G1869

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

CAS No.	Surrogate Recoveries	MS	MSD	DA7701-6	Limits
321-60-8	2-Fluorobiphenyl	75%	78%	49%	23-130%
367-12-4	2-Fluorophenol	62%	64%	40%	10-130%
4165-60-0	Nitrobenzene-d5	62%	60%	28%	12-131%
4165-62-2	Phenol-d5	67%	69%	65%	17-130%
1718-51-0	Terphenyl-d14	94%	95%	90%	29-141%
118-79-6	2,4,6-Tribromophenol	94%	97%	91%	25-130%

(a) Outside control limits due to possible matrix interference.
(b) Variability of recovery may be due to sample matrix/nonhomogeneity.

8.3.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-MS	3G37618.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871
OP16689-MSD	3G37619.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871
DA7701-15	3G37617.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	DA7701-15 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		50	ND	0* [a]	50	ND	0* [a]	nc	10-130/30
59-50-7	4-Chloro-3-methyl phenol	ND		50	36.2	72	50	39.9	80	10	40-130/30
95-57-8	2-Chlorophenol	ND		50	24.5	49	50	32.8	66	29	10-130/30
120-83-2	2,4-Dichlorophenol	ND		50	26.7	53	50	36.0	72	30	10-130/30
105-67-9	2,4-Dimethylphenol	ND		50	37.9	76	50	40.3	81	6	13-130/30
534-52-1	4,6-Dinitro-o-cresol	ND		50	20.9	42	50	23.3	47	11	10-130/30
51-28-5	2,4-Dinitrophenol	ND		50	13.4	27	50	14.6	29	9	10-130/30
95-48-7	2-Methylphenol	ND		50	29.1	58	50	32.1	64	10	16-130/30
106-44-5	4-Methylphenol	ND		50	26.6	53	50	30.0	60	12	12-130/30
88-75-5	2-Nitrophenol	ND		50	26.1	52	50	35.4	71	30	10-130/30
100-02-7	4-Nitrophenol	ND		50	13.4	27	50	15.8	32	16	10-130/30
87-86-5	Pentachlorophenol	ND		50	21.0	42	50	24.4	49	15	10-130/30
108-95-2	Phenol	ND		50	12.2	24	50	16.0	32	27	10-130/30
95-95-4	2,4,5-Trichlorophenol	ND		50	30.7	61	50	39.0	78	24	10-130/30
88-06-2	2,4,6-Trichlorophenol	ND		50	28.6	57	50	33.1	66	15	10-130/30
83-32-9	Acenaphthene	ND		50	45.8	92	50	45.6	91	0	31-130/30
208-96-8	Acenaphthylene	ND		50	42.3	85	50	43.6	87	3	31-130/30
62-53-3	Aniline	ND		50	27.1	54	50	31.0	62	13	10-130/30
120-12-7	Anthracene	ND		50	46.7	93	50	47.4	95	1	38-140/30
92-87-5	Benzidine	ND		50	ND	0* [a]	50	ND	0* [a]	nc	10-233/30
56-55-3	Benzo(a)anthracene	ND		50	48.5	97	50	48.0	96	1	44-149/30
205-99-2	Benzo(b)fluoranthene	ND		50	44.9	90	50	45.4	91	1	44-153/30
207-08-9	Benzo(k)fluoranthene	ND		50	46.5	93	50	46.7	93	0	44-151/30
191-24-2	Benzo(g,h,i)perylene	ND		50	46.4	93	50	46.8	94	1	45-149/30
50-32-8	Benzo(a)pyrene	ND		50	45.9	92	50	46.0	92	0	40-148/30
100-51-6	Benzyl Alcohol	ND		50	32.9	66	50	33.6	67	2	18-130/30
101-55-3	4-Bromophenyl phenyl ether	ND		50	46.3	93	50	46.5	93	0	41-139/30
85-68-7	Butyl benzyl phthalate	ND		50	45.4	91	50	46.1	92	2	47-159/30
86-74-8	Carbazole	ND		50	47.2	94	50	47.7	95	1	19-147/30
106-47-8	4-Chloroaniline	ND		50	31.7	63	50	35.5	71	11	10-130/30
111-91-1	bis(2-Chloroethoxy)methane	ND		50	37.2	74	50	40.1	80	8	26-130/30
111-44-4	bis(2-Chloroethyl)ether	ND		50	33.0	66	50	35.5	71	7	21-130/30
108-60-1	2,2'-Oxybis(1-chloropropane)	ND		50	31.3	63	50	33.5	67	7	20-130/30
91-58-7	2-Chloronaphthalene	ND		50	44.1	88	50	43.3	87	2	25-130/30
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	48.5	97	50	48.7	97	0	34-131/30
218-01-9	Chrysene	ND		50	48.8	98	50	48.5	97	1	40-153/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-MS	3G37618.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871
OP16689-MSD	3G37619.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871
DA7701-15	3G37617.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Compound	DA7701-15 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
53-70-3	Dibenzo(a,h)anthracene	ND		50	47.8	96	50	48.2	96	1	43-153/30
132-64-9	Dibenzofuran	ND		50	46.5	93	50	47.1	94	1	10-130/30
84-74-2	Di-n-butyl phthalate	ND		50	43.0	86	50	44.5	89	3	44-152/30
95-50-1	1,2-Dichlorobenzene	ND		50	27.8	56	50	28.0	56	1	11-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	25.6	51	50	25.6	51	0	10-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	26.4	53	50	25.5	51	3	10-130/30
91-94-1	3,3'-Dichlorobenzidine	ND		50	36.7	73	50	40.7	81	10	10-141/30
84-66-2	Diethyl phthalate	ND		50	49.7	99	50	50.5	101	2	58-130/30
131-11-3	Dimethyl phthalate	ND		50	48.2	96	50	49.1	98	2	59-130/30
121-14-2	2,4-Dinitrotoluene	ND		50	50.4	101	50	52.3	105	4	44-147/30
606-20-2	2,6-Dinitrotoluene	ND		50	49.8	100	50	50.1	100	1	41-142/30
117-84-0	Di-n-octyl phthalate	ND		50	46.7	93	50	47.9	96	3	43-162/30
122-66-7	1,2-Diphenylhydrazine	ND		50	41.0	82	50	40.9	82	0	34-142/30
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	48.0	96	50	49.0	98	2	44-159/30
206-44-0	Fluoranthene	ND		50	47.2	94	50	48.3	97	2	42-148/30
86-73-7	Fluorene	ND		50	48.3	97	50	48.9	98	1	34-134/30
118-74-1	Hexachlorobenzene	ND		50	47.8	96	50	47.2	94	1	40-140/30
87-68-3	Hexachlorobutadiene	ND		50	26.7	53	50	23.4	47	13	10-130/30
77-47-4	Hexachlorocyclopentadiene	ND		50	24.2	48	50	22.2	44	9	10-130/30
67-72-1	Hexachloroethane	ND		50	21.5	43	50	19.8	40	8	10-130/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	45.5	91	50	47.2	94	4	42-153/30
78-59-1	Isophorone	ND		50	36.6	73	50	39.5	79	8	27-130/30
90-12-0	1-Methylnaphthalene	ND		50	36.5	73	50	37.3	75	2	25-130/30
91-57-6	2-Methylnaphthalene	ND		50	35.4	71	50	36.1	72	2	23-130/30
91-20-3	Naphthalene	ND		50	32.8	66	50	35.0	70	6	21-130/30
88-74-4	2-Nitroaniline	ND		50	44.8	90	50	45.2	90	1	26-150/30
99-09-2	3-Nitroaniline	ND		50	43.4	87	50	44.9	90	3	29-130/30
100-01-6	4-Nitroaniline	ND		50	46.8	94	50	48.5	97	4	34-145/30
98-95-3	Nitrobenzene	ND		50	34.6	69	50	37.4	75	8	24-130/30
62-75-9	N-Nitrosodimethylamine	ND		50	19.7	39	50	21.9	44	11	17-130/30
86-30-6	N-Nitrosodiphenylamine	ND		50	46.1	92	50	46.7	93	1	10-130/30
621-64-7	N-Nitroso-di-n-propylamine	ND		50	33.3	67	50	35.1	70	5	23-130/30
85-01-8	Phenanthrene	ND		50	47.1	94	50	46.9	94	0	42-140/30
129-00-0	Pyrene	ND		50	48.3	97	50	48.3	97	0	46-148/30
110-86-1	Pyridine	ND		50	18.0	36	50	22.0	44	20	10-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	30.9	62	50	30.4	61	2	10-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: DA7701
Account: WESTCOL Weston Solutions, Inc.
Project: Place Bridge

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP16689-MS	3G37618.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871
OP16689-MSD	3G37619.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871
DA7701-15	3G37617.D	1	08/08/18	DC	08/07/18	OP16689	E3G1871

The QC reported here applies to the following samples: **Method:** SW846 8270C

DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

CAS No.	Surrogate Recoveries	MS	MSD	DA7701-15	Limits
367-12-4	2-Fluorophenol	27%	35%	37%	10-130%
4165-62-2	Phenol-d5	22%	29%	25%	10-130%
118-79-6	2,4,6-Tribromophenol	62%	73%	86%	10-135%
4165-60-0	Nitrobenzene-d5	67%	74%	65%	19-130%
321-60-8	2-Fluorobiphenyl	93%	94%	82%	20-130%
1718-51-0	Terphenyl-d14	96%	96%	91%	13-149%

(a) Outside control limits due to possible matrix interference.

* = Outside of Control Limits.

MS Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Janis Kardatzke
08/09/18 18:10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37596.D
Acq On : 7 Aug 2018 7:59 pm
Operator : DONC
Sample : DA7701-1
Misc : OP16681,E3G1870,30.00,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 08 09:45:29 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	677714	40.0000 ppm	0.00
26) Naphthalene-d8	5.877	136	2570914	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1283411	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	2315765	40.0000 ppm	0.00
84) Chrysene-d12	12.434	240	1481501	40.0000 ppm	0.00
93) Perylene-d12	14.790	264	1505577	40.0000 ppm	0.03

System Monitoring Compounds					
5) 2-Fluorophenol	4.050	112	490819	15.5364 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 31.08%		
8) Phenol-d5	4.743	99	956672	20.4472 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 40.90%		
27) Nitrobenzene-d5	5.360	82	862897	19.4795 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 38.96%		
49) 2-Fluorobiphenyl	6.641	172	1404316	31.7898 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 63.58%		
69) 2,4,6-Tribromophenol	7.857	330	187168	34.6595 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 69.32%		
87) Terphenyl-d14	10.742	244	1771513	47.6635 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 95.32%		

Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	20860	0.2492 ppm	84
21) Acetophenone	5.248	105	40499	0.8629 ppm	96
23) 4-Methylphenol	5.284	107	148589	4.0719 ppm	98
24) 3&4-Methylphenol	5.284	107	148589	4.0719 ppm	98
31) 2,4-Dimethylphenol	5.654	122	53703	2.1573 ppm	94
36) Naphthalene	5.889	128	40036	0.7652 ppm	88
42) 2-Methylnaphthalene	6.382	142	35812	0.7649 ppm	81
43) 1-Methylnaphthalene	6.459	142	17936m	0.4073 ppm	
50) Biphenyl	6.717	154	15178	0.6842 ppm	92
55) Acenaphthylene	7.058	152	13767	0.6864 ppm #	49
63) Diethylphthalate	7.511	149	45943	0.3153 ppm	97
70) N-Nitrosodiphenylamine	7.728	169	14311	0.3423 ppm	88
71) Diphenylamine	7.728	169	14311	0.3423 ppm	88
78) n-Octadecane	8.427	57	130910	2.7425 ppm	96
79) Phenanthrene	8.598	178	82929	1.2776 ppm	90
82) Di-n-butylphthalate	9.291	149	406897	5.1277 ppm #	1
83) Fluoranthene	10.137	202	76916	1.1341 ppm	82
85) Benzidine	10.372	184	2882	Below Cal #	1
86) Pyrene	10.466	202	146541	2.6577 ppm	88
92) Bis(2-ethylhexyl)phtha...	12.628	149	195645	6.4832 ppm	83
101) Benzo(g,h,i)perylene	16.635	276	91425	2.1791 ppm	99

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

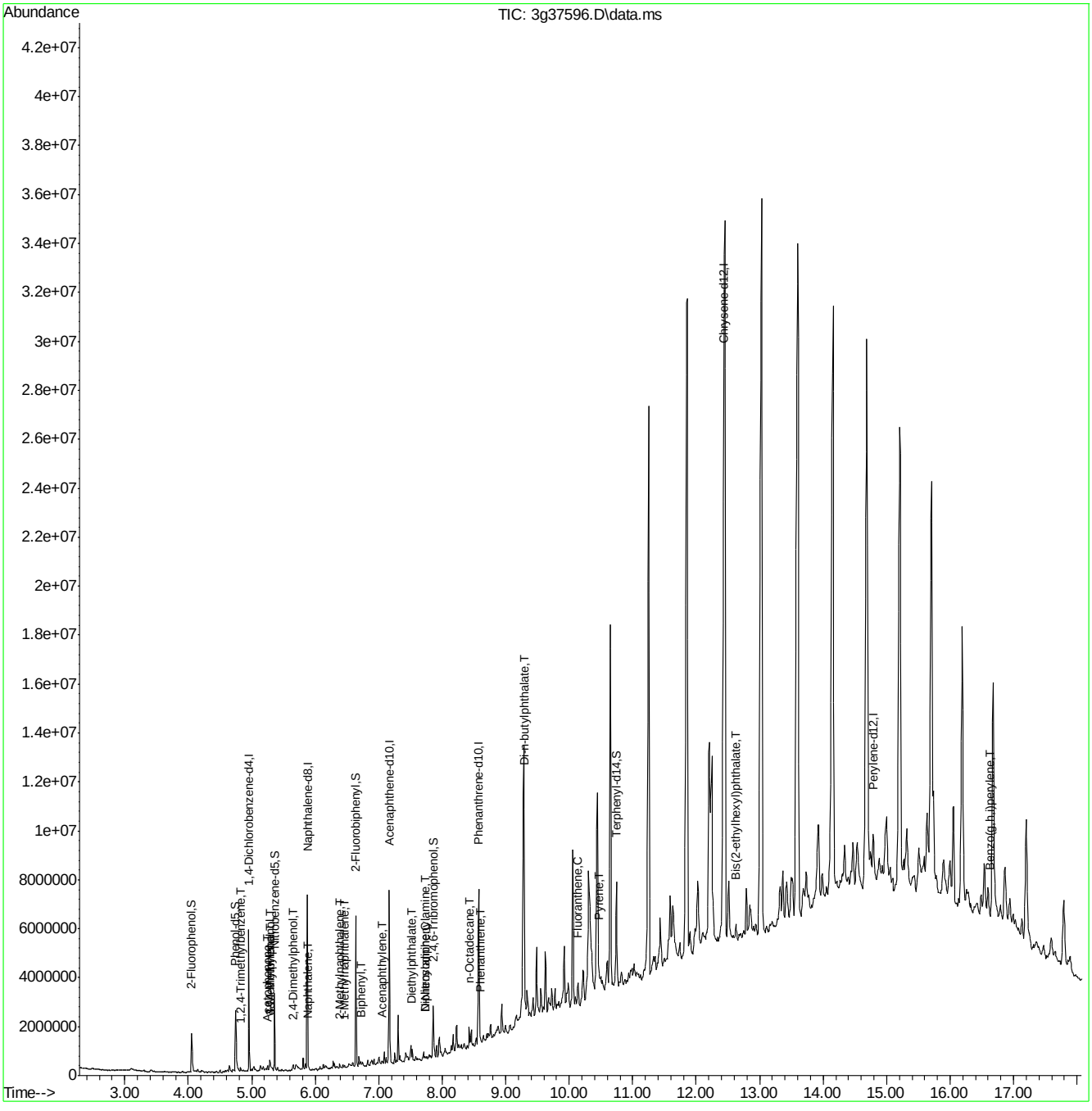
9.1.1

9

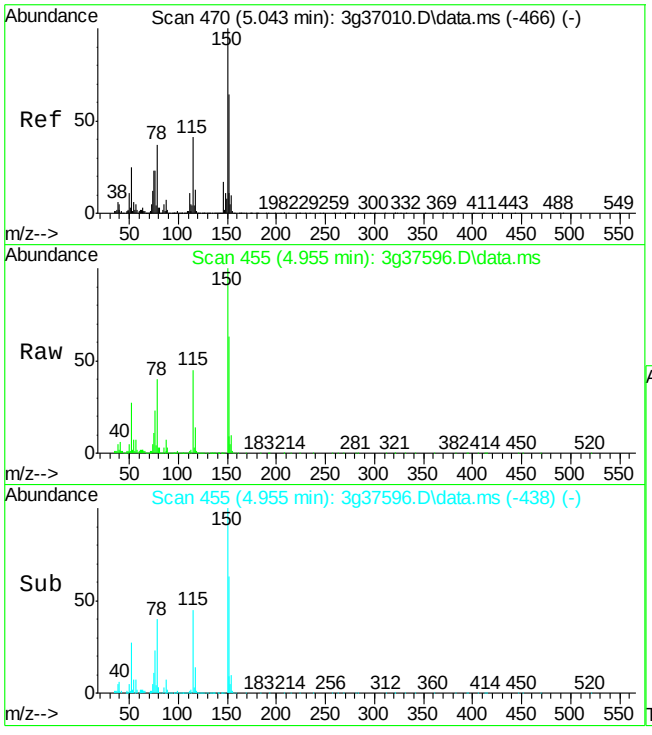
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37596.D
Acq On : 7 Aug 2018 7:59 pm
Operator : DONC
Sample : DA7701-1
Misc : OP16681,E3G1870,30.00,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 08 09:45:29 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



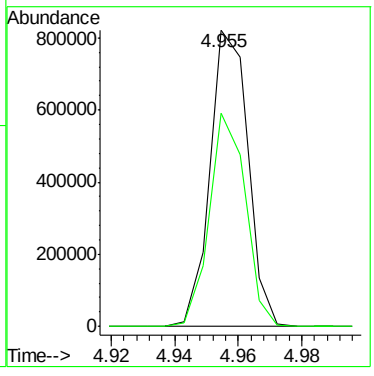
bnae3g1850.M Wed Aug 08 09:45:37 2018 3G Page: 2

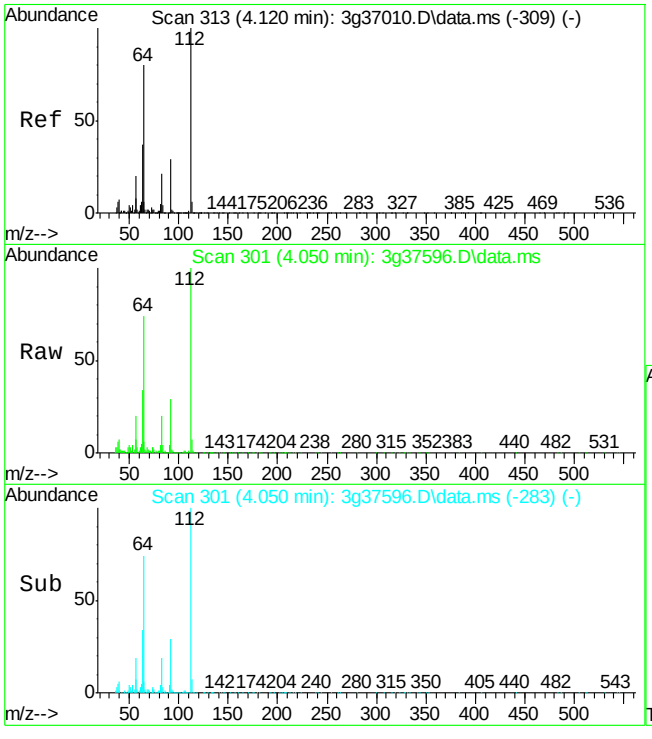


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:152 Resp: 677714

Ion	Ratio	Lower	Upper
152	100		
115	68.5	53.0	93.0

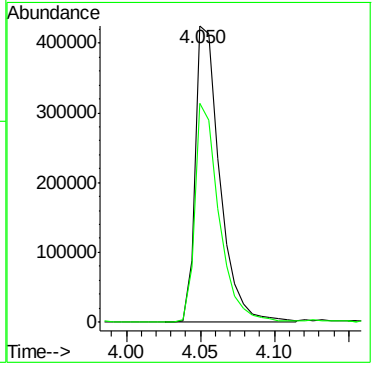


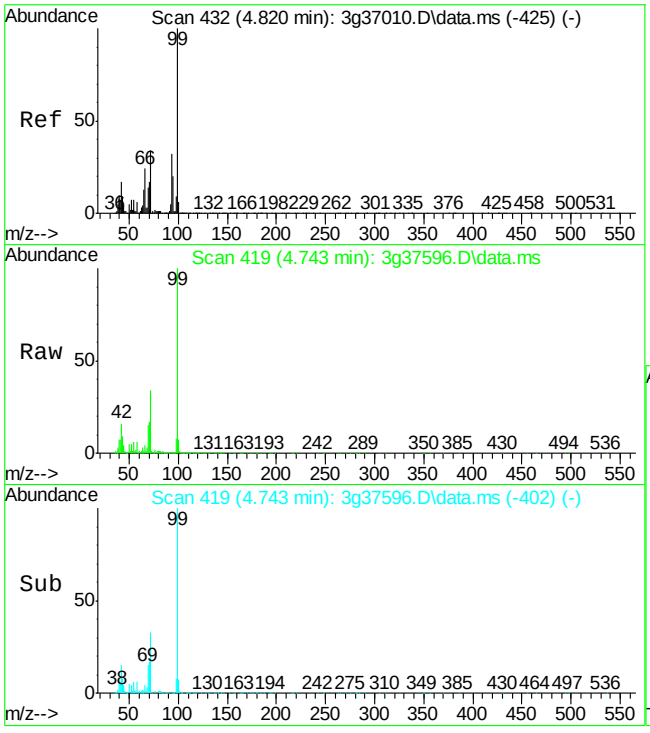


#5
2-Fluorophenol
Concen: 15.5364 ppm
RT: 4.050 min Scan# 301
Delta R.T. 0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:112 Resp: 490819

Ion	Ratio	Lower	Upper
112	100		
64	72.4	58.3	98.3

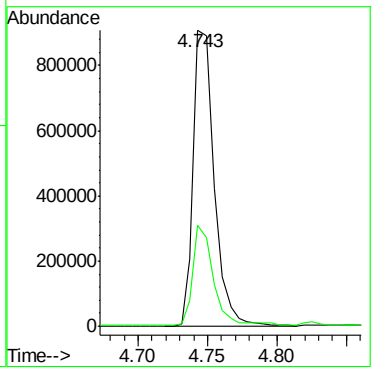


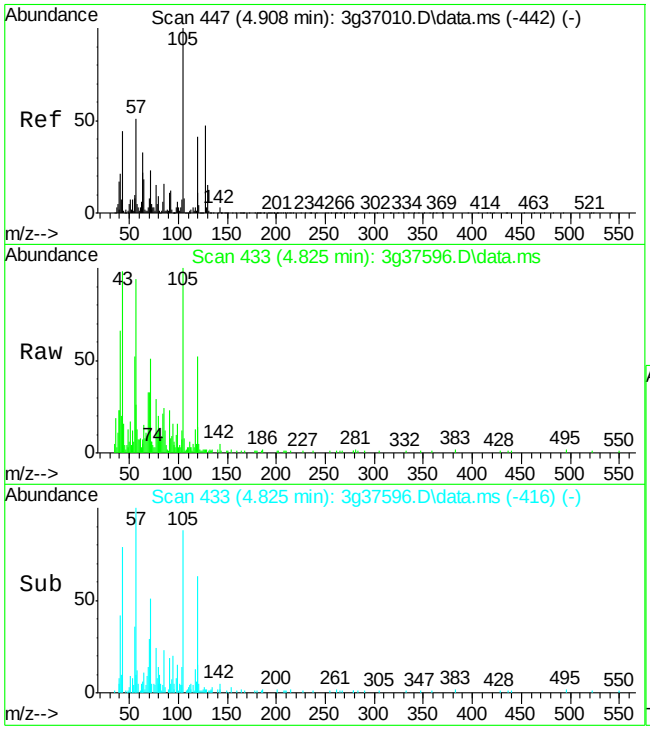


#8
Phenol-d5
Concen: 20.4472 ppm
RT: 4.743 min Scan# 419
Delta R.T. 0.000 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion: 99 Resp: 956672

Ion	Ratio	Lower	Upper
99	100		
71	32.1	13.6	53.6

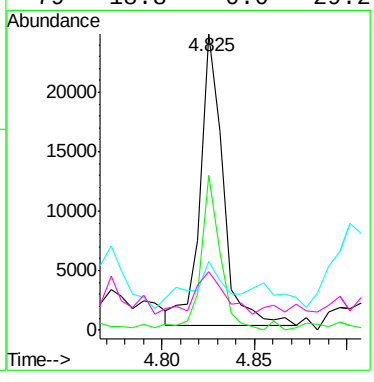


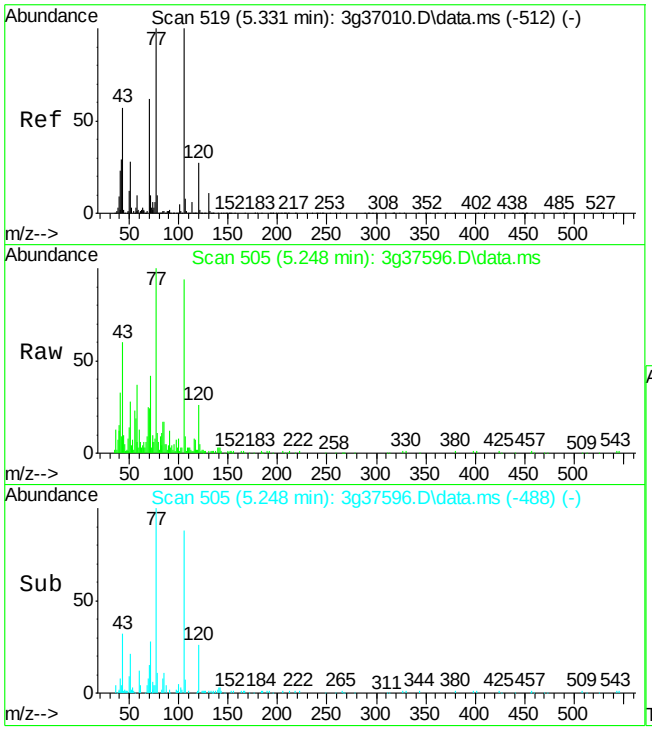


#13
1,2,4-Trimethylbenzene
Concen: 0.2492 ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:105 Resp: 20860

Ion	Ratio	Lower	Upper
105	100		
120	45.0	19.5	59.5
91	24.1	0.0	31.4
79	18.8	0.0	29.2

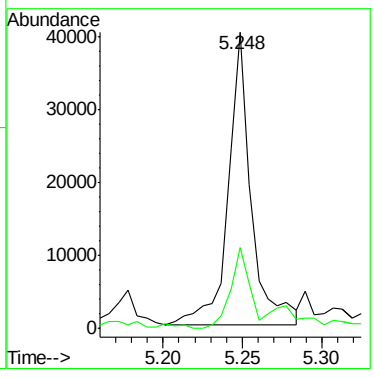


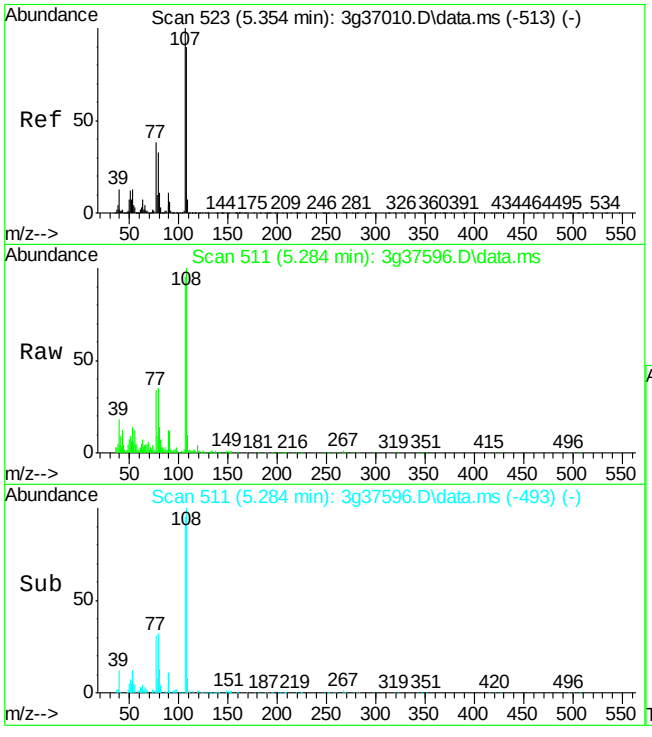


#21
Acetophenone
Concen: 0.8629 ppm
RT: 5.248 min Scan# 505
Delta R.T. 0.000 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:105 Resp: 40499

Ion	Ratio	Lower	Upper
105	100		
120	24.3	6.5	46.5

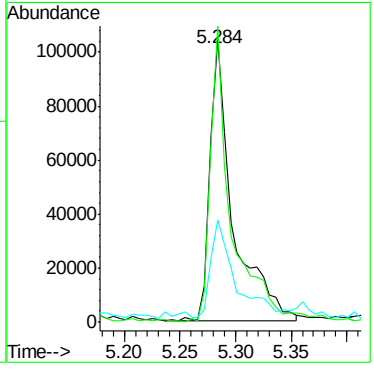




#23
4-Methylphenol
Concen: 4.0719 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:107 Resp: 148589

Ion	Ratio	Lower	Upper
107	100		
108	93.7	72.8	112.8
79	38.0	15.6	55.6



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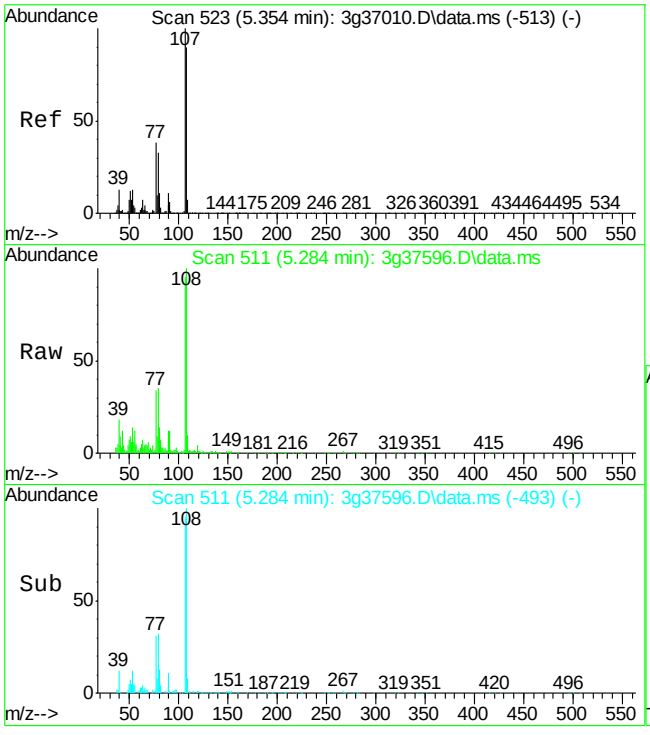
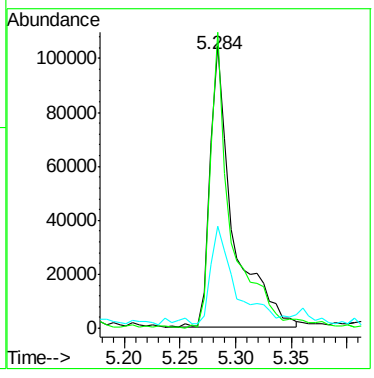
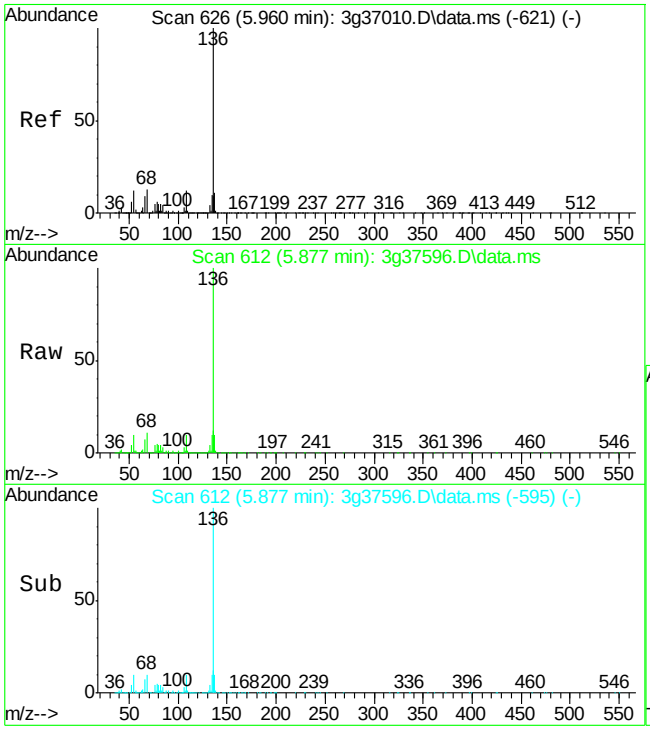


#24
3&4-Methylphenol
Concen: 4.0719 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:107 Resp: 148589

Ion	Ratio	Lower	Upper
107	100		
108	93.7	72.8	112.8
79	38.0	15.6	55.6

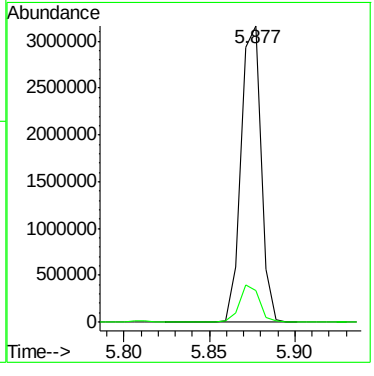


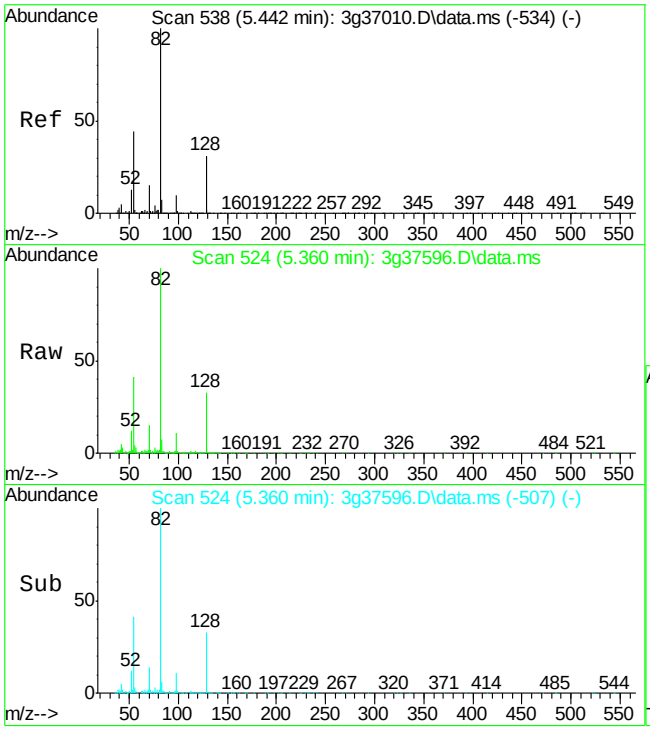


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. 0.000 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:136 Resp: 2570914

Ion	Ratio	Lower	Upper
136	100		
68	12.4	0.0	32.4

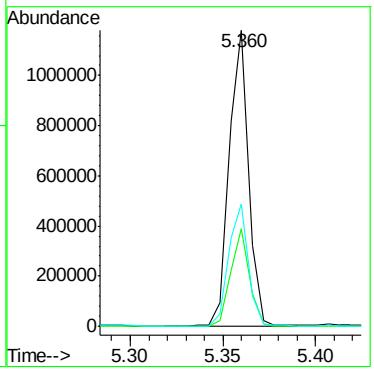


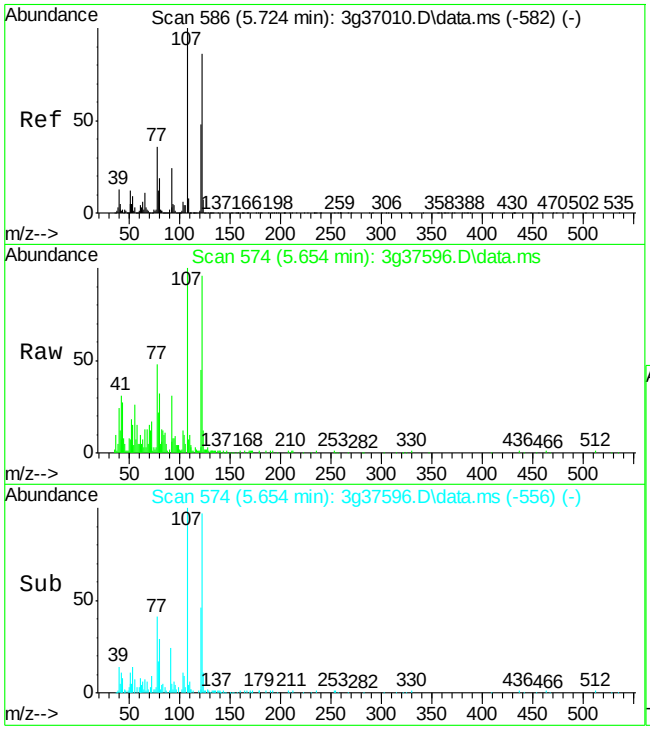


#27
Nitrobenzene-d5
Concen: 19.4795 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion: 82 Resp: 862897

Ion	Ratio	Lower	Upper
82	100		
128	32.0	10.8	50.8
54	41.9	22.9	62.9

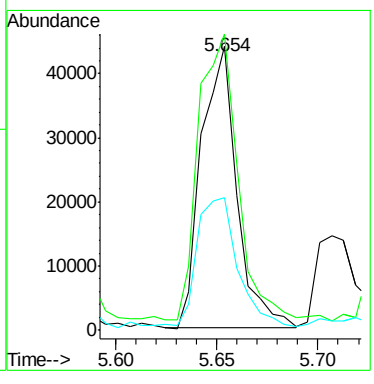


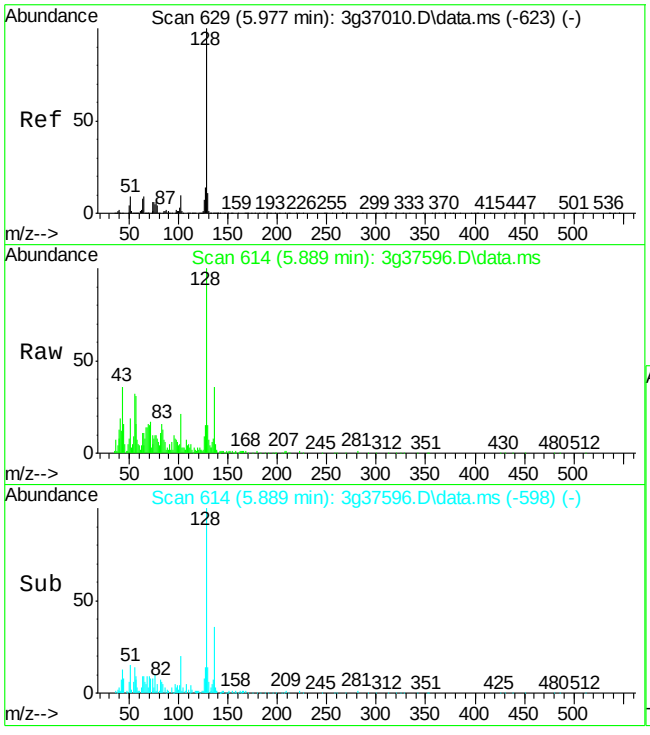


#31
2,4-Dimethylphenol
Concen: 2.1573 ppm
RT: 5.654 min Scan# 574
Delta R.T. 0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:122 Resp: 53703

Ion	Ratio	Lower	Upper
122	100		
107	115.2	100.3	140.3
121	51.5	37.1	77.1

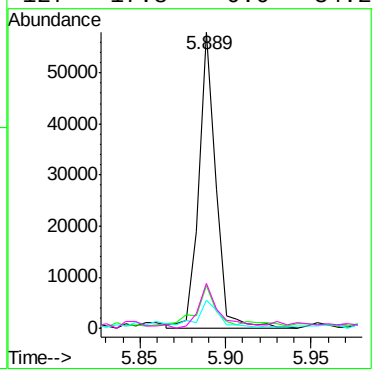


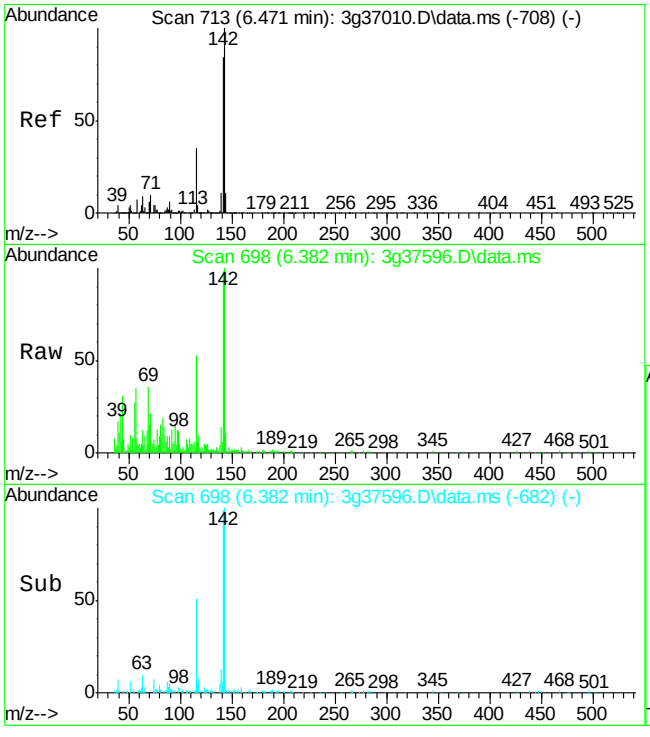


#36
Naphthalene
Concen: 0.7652 ppm
RT: 5.889 min Scan# 614
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:128 Resp: 40036

Ion	Ratio	Lower	Upper
128	100		
129	15.3	0.0	30.9
126	14.3	0.0	27.5
127	17.8	0.0	34.2

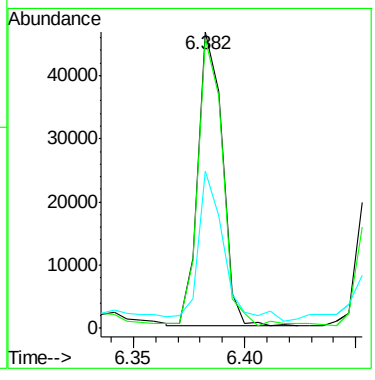




#42
2-Methylnaphthalene
Concen: 0.7649 ppm
RT: 6.382 min Scan# 698
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:142 Resp: 35812

Ion	Ratio	Lower	Upper
142	100		
141	97.0	62.4	102.4
115	51.5	15.8	55.8



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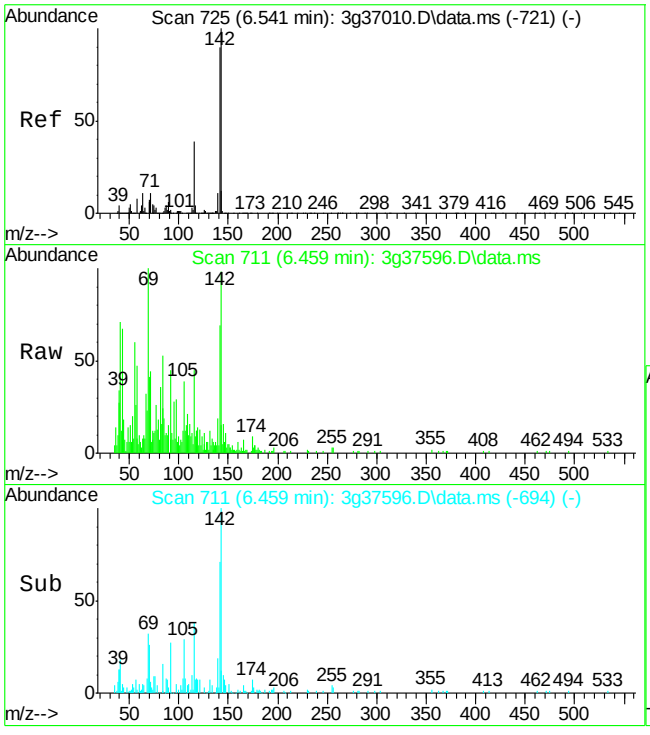
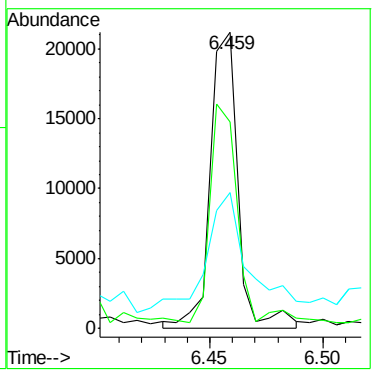
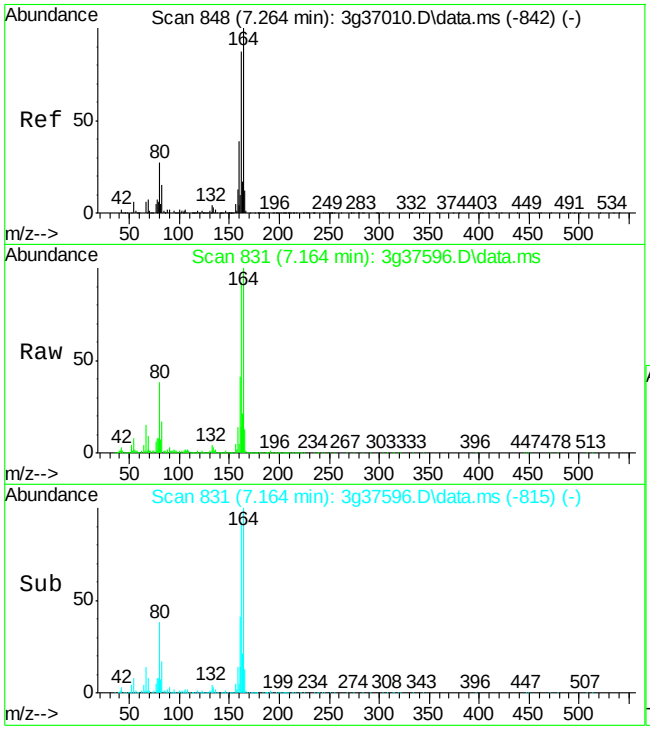


#43
1-Methylnaphthalene
Concen: 0.4073 ppm m
RT: 6.459 min Scan# 711
Delta R.T. 0.000 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:142 Resp: 17936

Ion	Ratio	Lower	Upper
142	100		
141	193.0	70.2	110.2#
115	101.5	19.3	59.3#

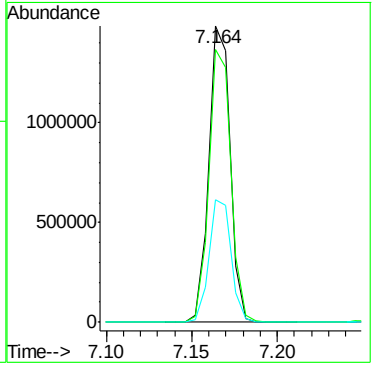


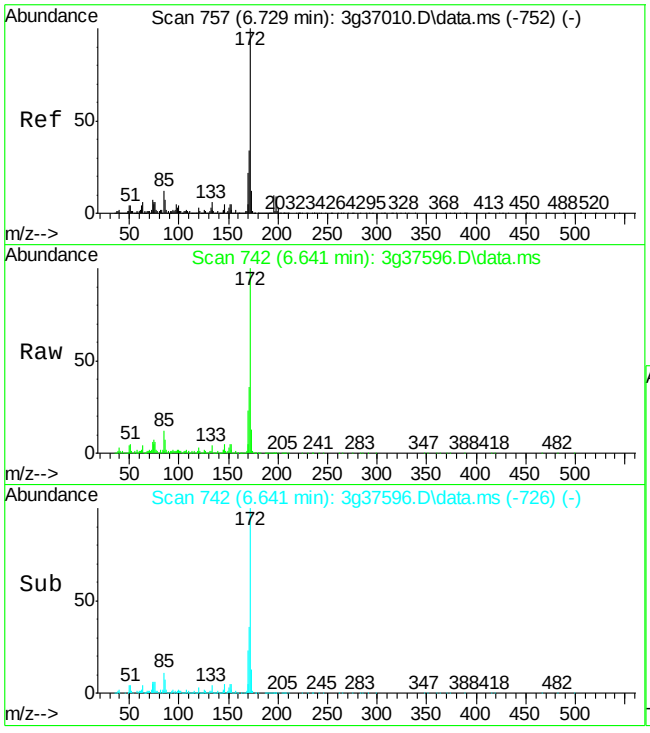


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:164 Resp: 1283411

Ion	Ratio	Lower	Upper
164	100		
162	94.7	69.6	109.6
160	42.7	20.5	60.5

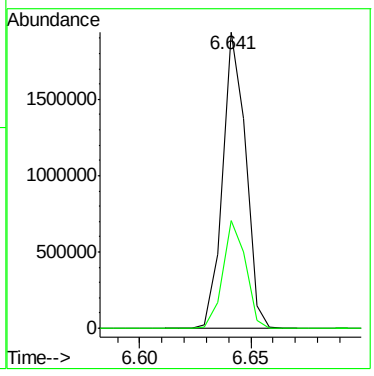


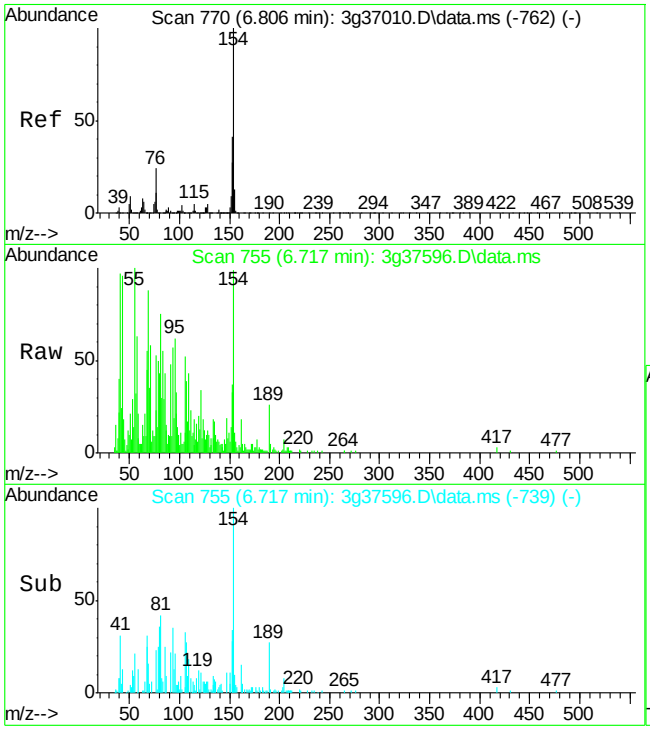


#49
2-Fluorobiphenyl
Concen: 31.7898 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:172 Resp: 1404316

Ion	Ratio	Lower	Upper
172	100		
171	36.2	14.5	54.5

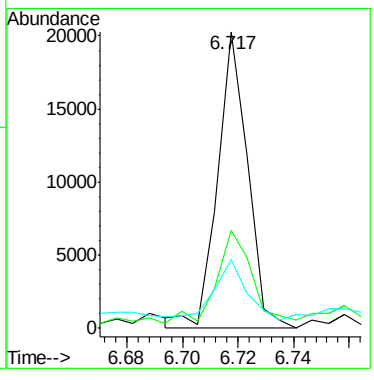


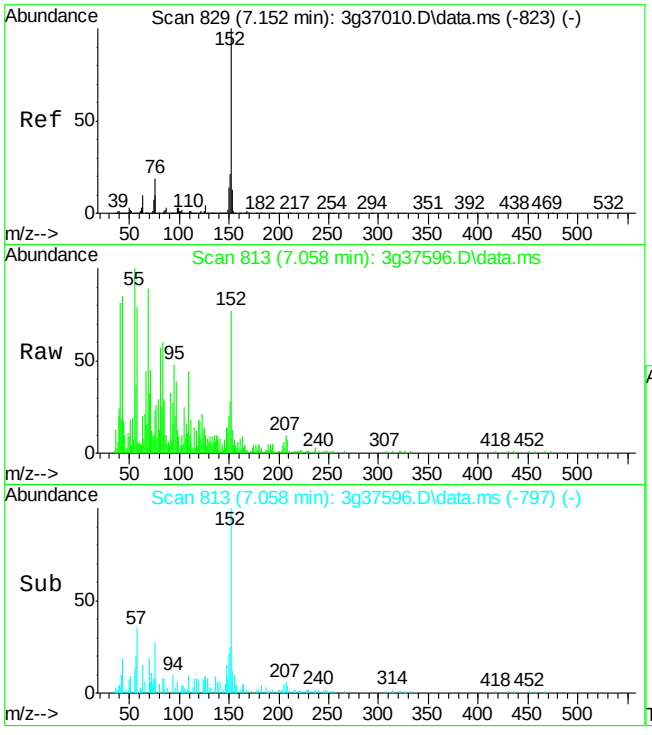


#50
Biphenyl
Concen: 0.6842 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:154 Resp: 15178

Ion	Ratio	Lower	Upper
154	100		
153	35.3	21.4	61.4
76	22.1	5.2	45.2

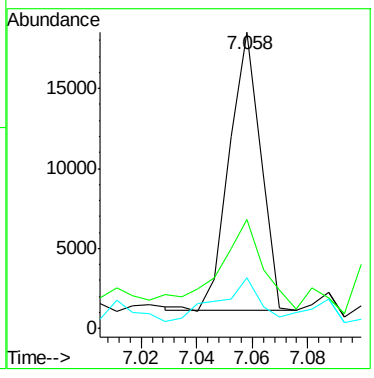


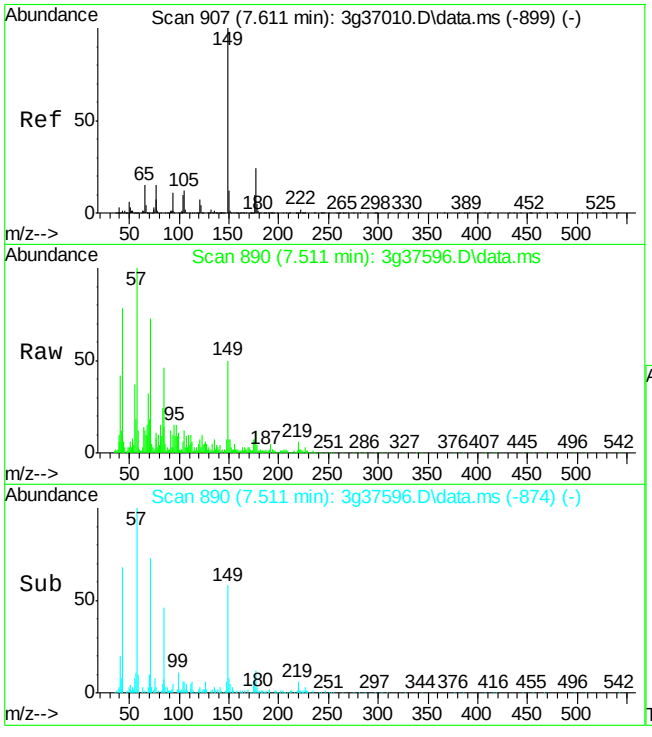


#55
Acenaphthylene
Concen: 0.6864 ppm
RT: 7.058 min Scan# 813
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:152 Resp: 13767

Ion	Ratio	Lower	Upper
152	100		
151	54.4	1.0	41.0#
153	20.5	0.0	33.2

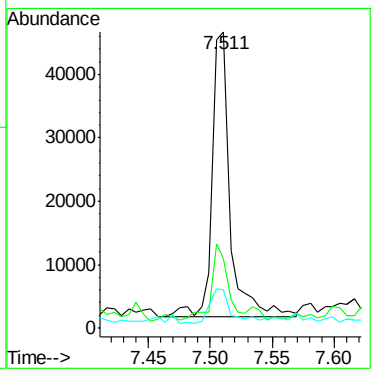




#63
Diethylphthalate
Concen: 0.3153 ppm
RT: 7.511 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:149 Resp: 45943

Ion	Ratio	Lower	Upper
149	100		
177	24.3	3.6	43.6
150	14.8	0.0	32.5



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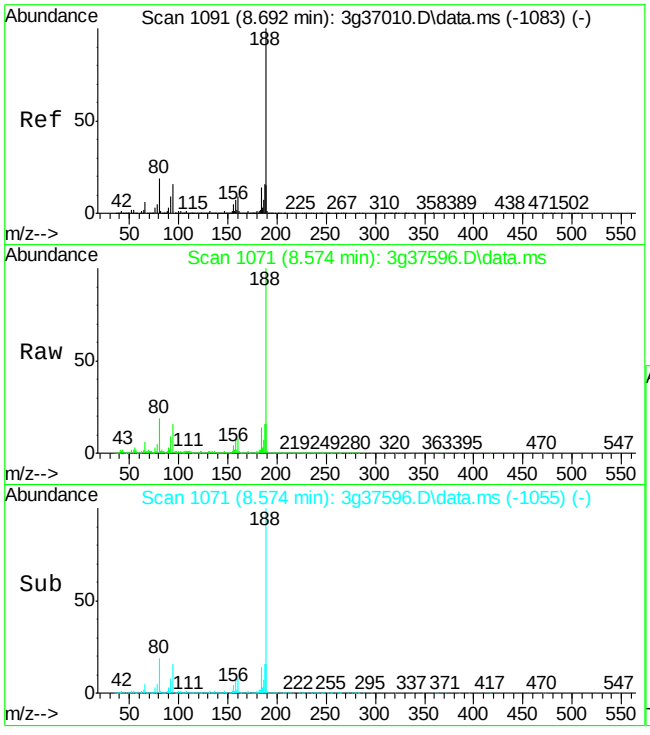
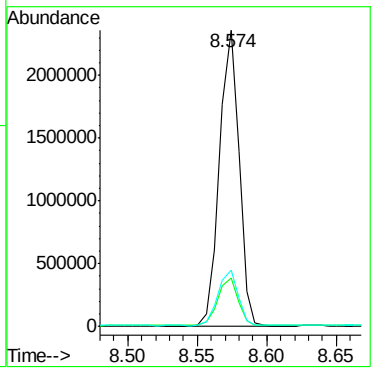
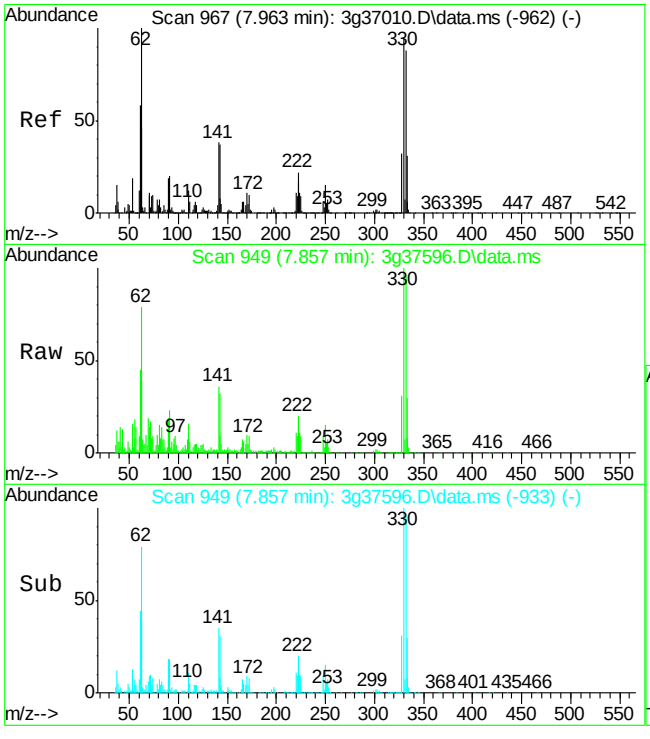


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:188 Resp: 2315765

Ion	Ratio	Lower	Upper
188	100		
94	16.4	0.0	35.1
80	19.2	0.0	37.9

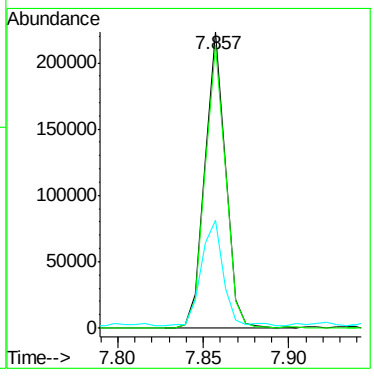


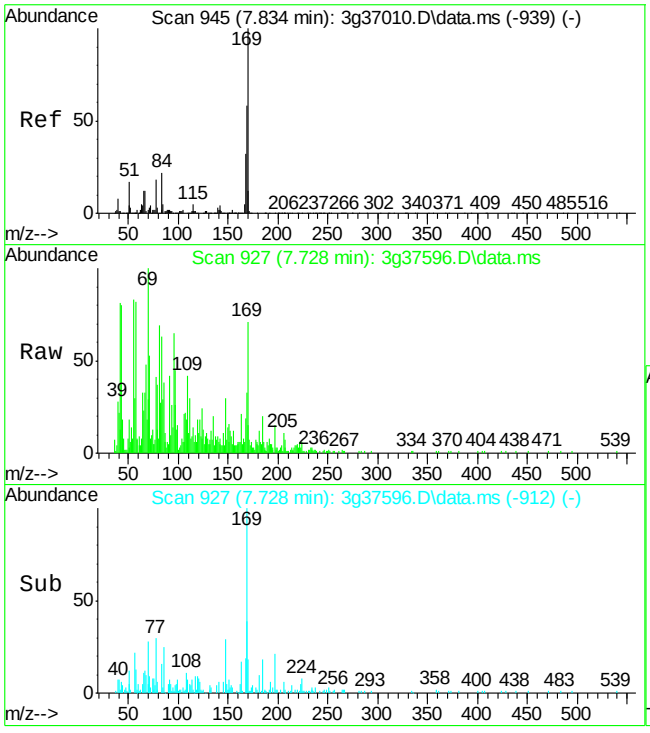


#69
2,4,6-Tribromophenol
Concen: 34.6595 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:330 Resp: 187168

Ion	Ratio	Lower	Upper
330	100		
332	95.1	74.8	112.2
141	38.3	33.8	50.6

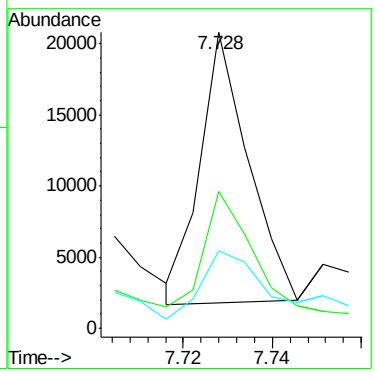


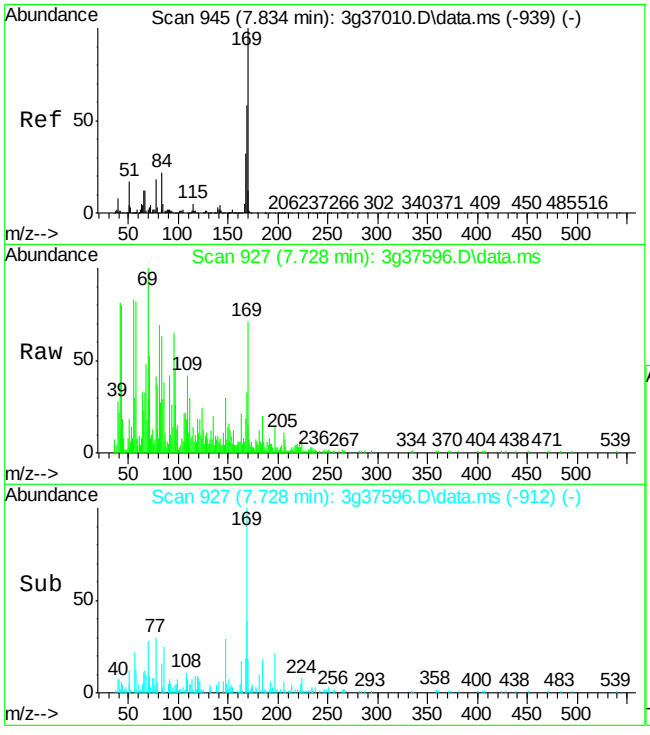


#70
N-Nitrosodiphenylamine
Concen: 0.3423 ppm
RT: 7.728 min Scan# 927
Delta R.T. -0.012 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:169 Resp: 14311

Ion	Ratio	Lower	Upper
169	100		
168	46.2	39.3	79.3
167	32.1	12.8	52.8

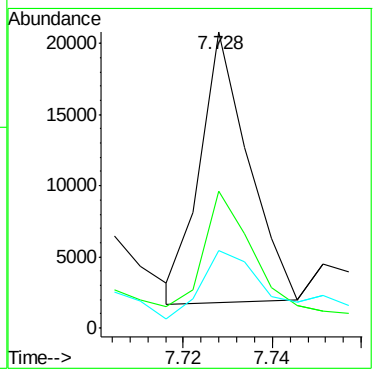


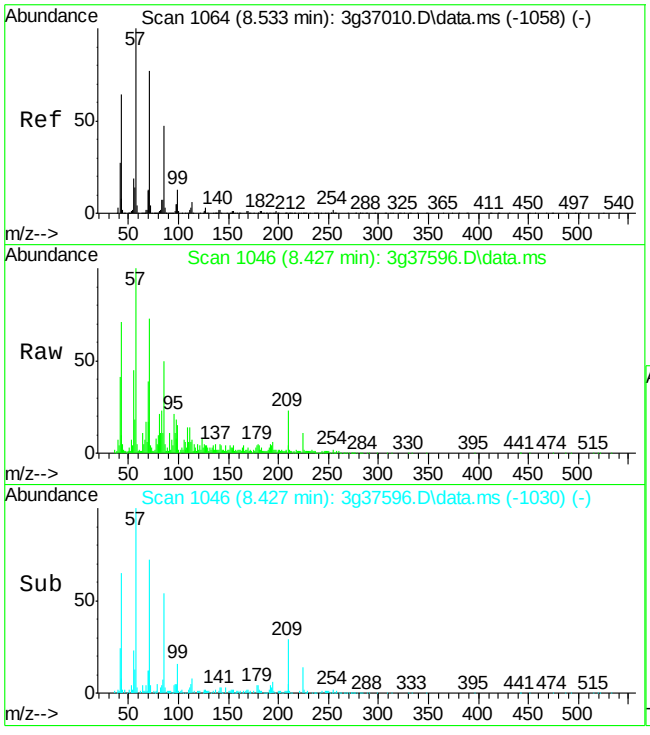


#71
Diphenylamine
Concen: 0.3423 ppm
RT: 7.728 min Scan# 927
Delta R.T. -0.012 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:169 Resp: 14311

Ion	Ratio	Lower	Upper
169	100		
168	46.2	39.3	79.3
167	32.1	12.8	52.8

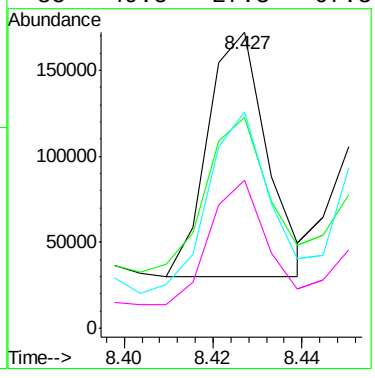


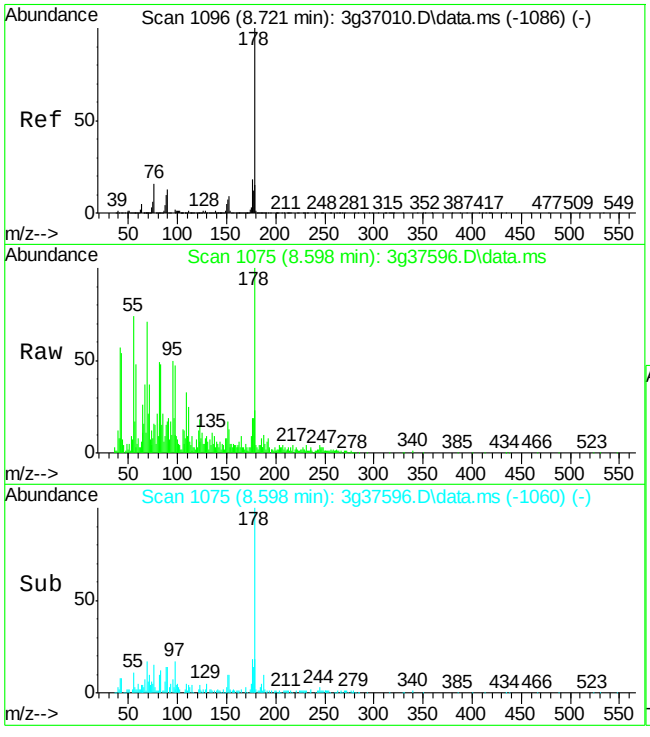


#78
n-Octadecane
Concen: 2.7425 ppm
RT: 8.427 min Scan# 1046
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion: 57 Resp: 130910

Ion	Ratio	Lower	Upper
57	100		
43	67.2	43.2	83.2
71	78.7	55.6	95.6
85	49.5	27.3	67.3

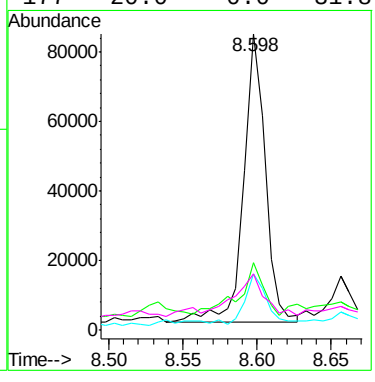


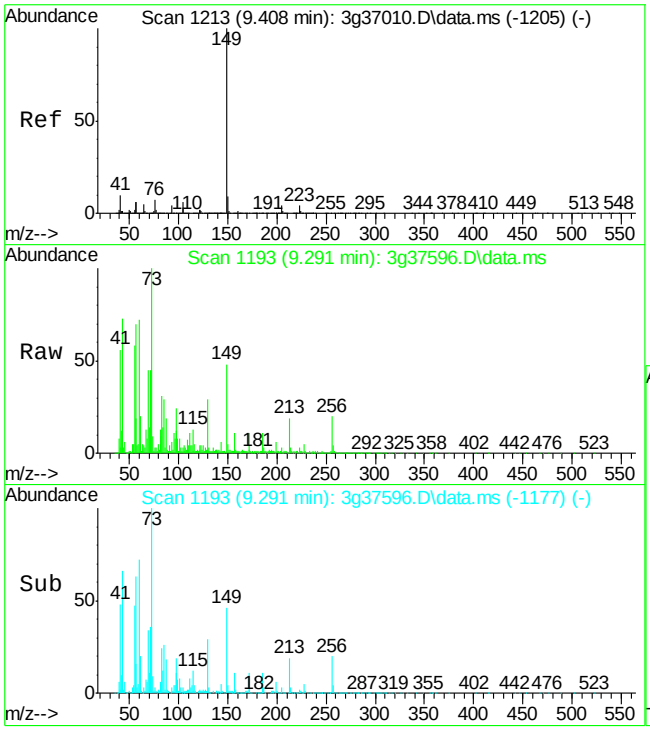


#79
Phenanthrene
Concen: 1.2776 ppm
RT: 8.598 min Scan# 1075
Delta R.T. -0.012 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:178 Resp: 82929

Ion	Ratio	Lower	Upper
178	100		
179	20.5	0.0	35.6
176	17.8	0.0	38.7
177	20.0	0.0	31.8

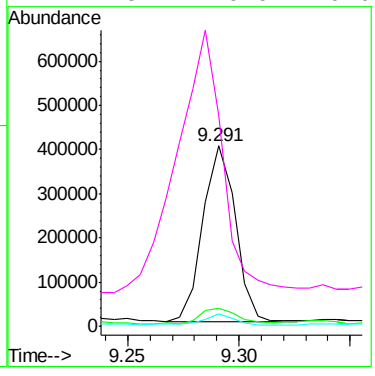


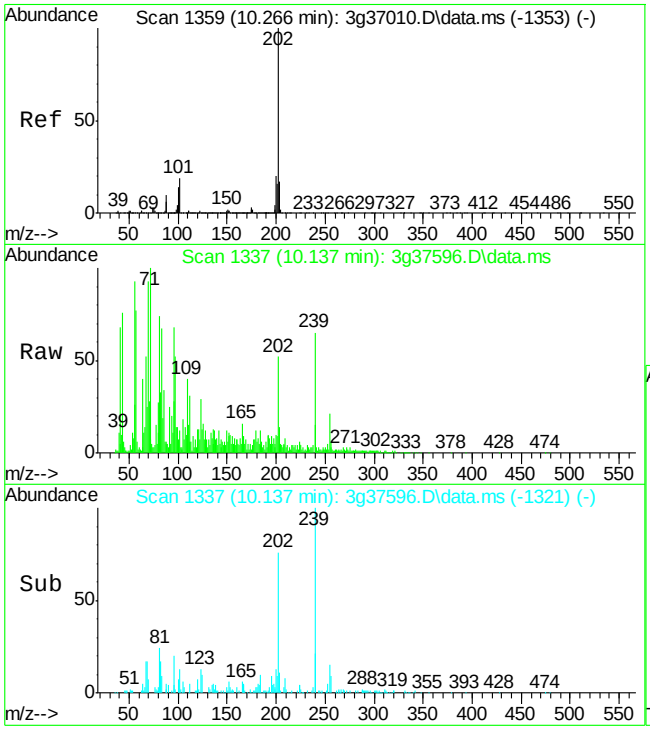


#82
Di-n-butylphthalate
Concen: 5.1277 ppm
RT: 9.291 min Scan# 1193
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:149 Resp: 406897

Ion	Ratio	Lower	Upper
149	100		
150	9.8	0.0	28.8
104	6.3	0.0	25.8
41	223.7	0.0	29.6#

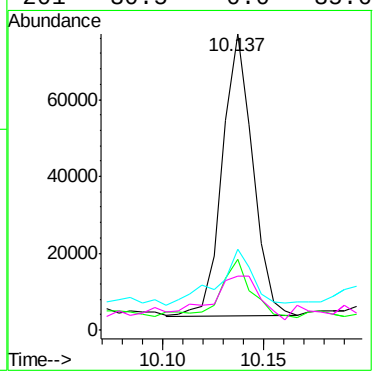


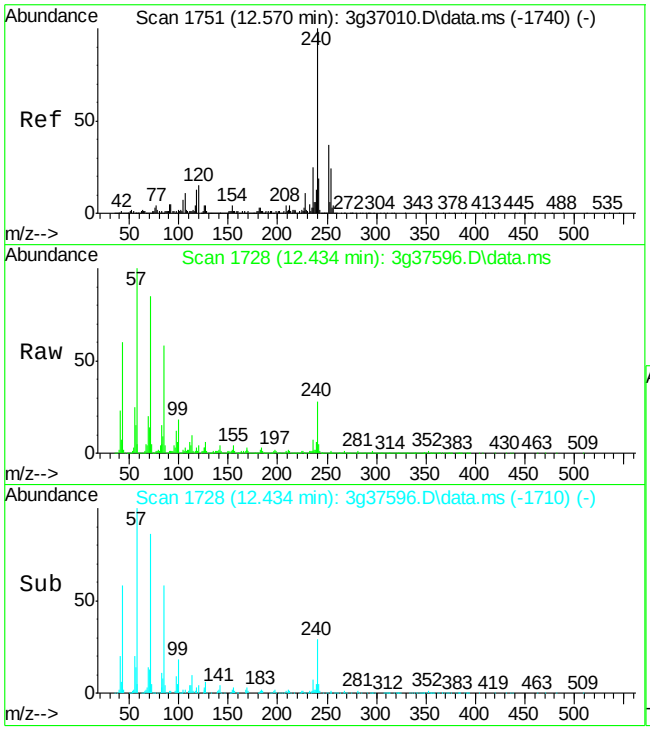


#83
Fluoranthene
Concen: 1.1341 ppm
RT: 10.137 min Scan# 1337
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:202 Resp: 76916

Ion	Ratio	Lower	Upper
202	100		
101	21.6	0.0	38.8
203	23.1	0.0	37.1
201	30.5	0.0	35.6

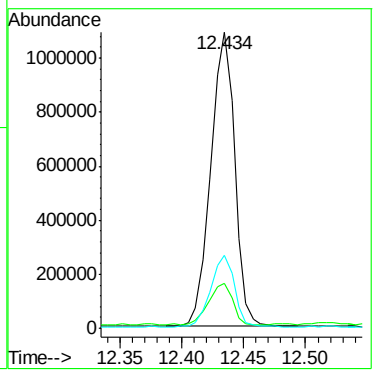


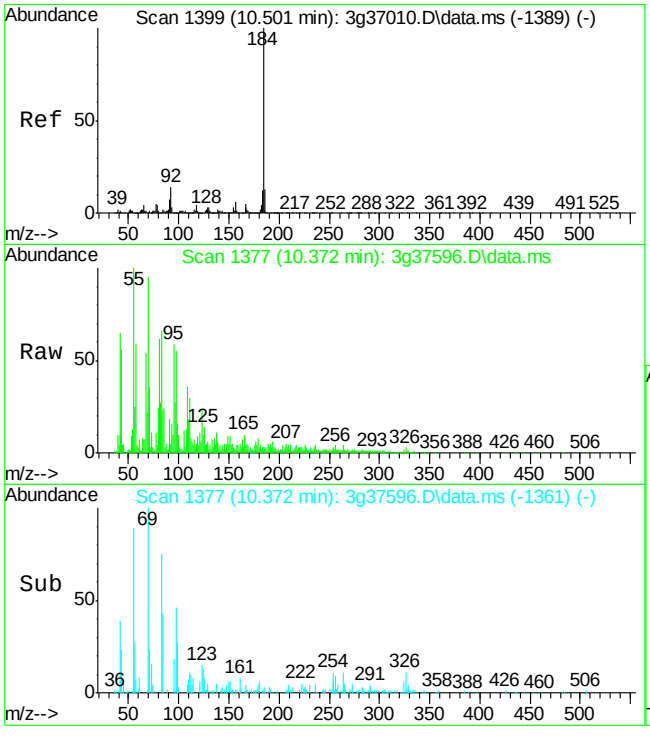


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.434 min Scan# 1728
Delta R.T. 0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:240 Resp: 1481501

Ion	Ratio	Lower	Upper
240	100		
120	14.4	0.0	36.6
236	24.2	4.3	44.3

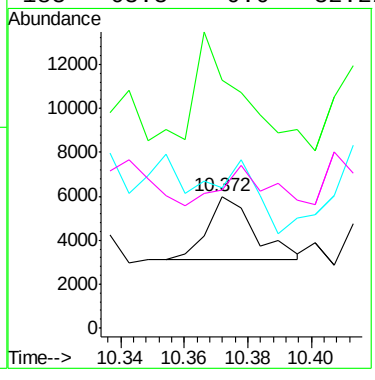


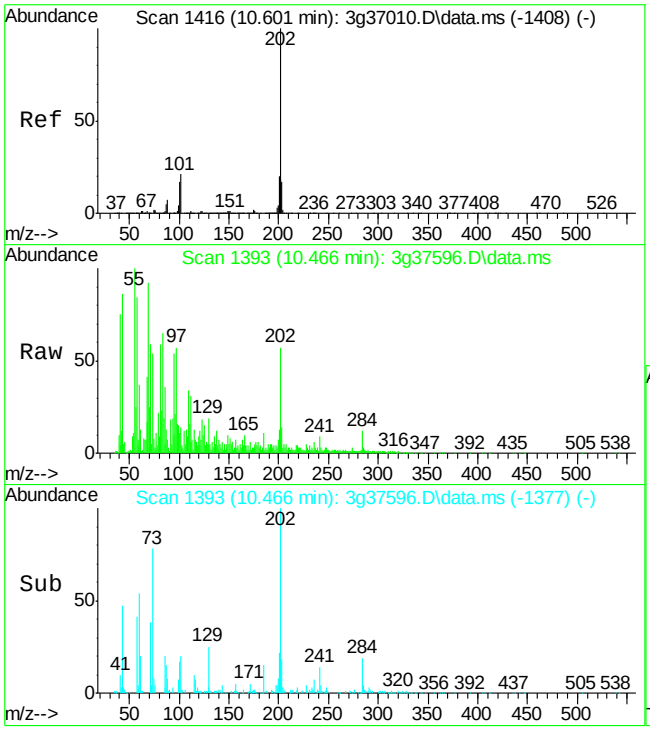


#85
Benzidine
Concen: Below ppm
RT: 10.372 min Scan# 1377
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:184 Resp: 2882

Ion	Ratio	Lower	Upper
184	100		
92	213.8	0.0	34.2#
185	0.0	0.0	33.2
183	63.3	0.0	32.2#

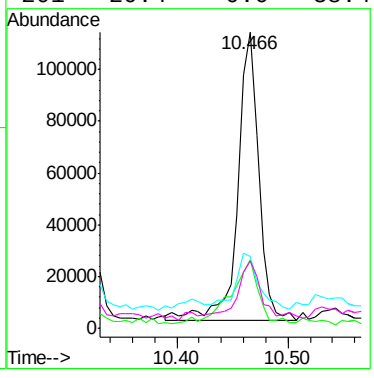


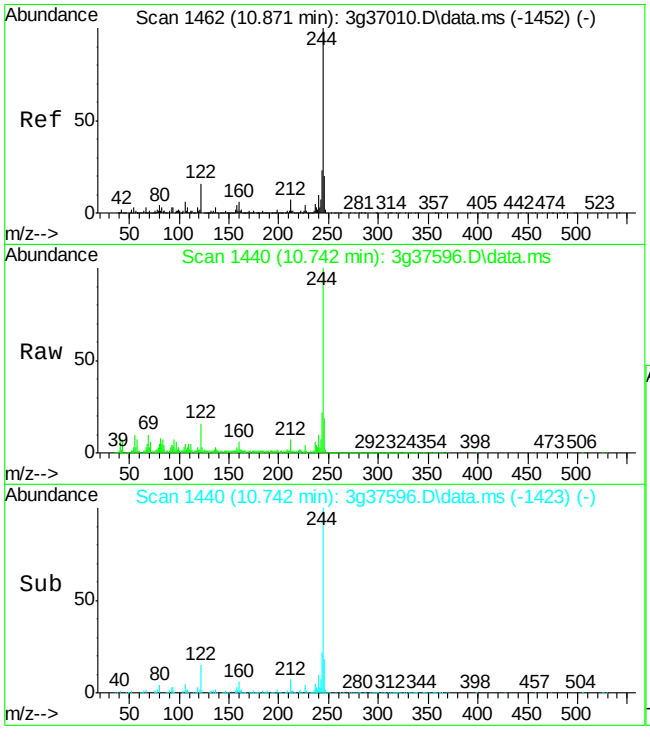


#86
Pyrene
Concen: 2.6577 ppm
RT: 10.466 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:202 Resp: 146541

Ion	Ratio	Lower	Upper
202	100		
200	30.1	0.0	39.9
203	21.5	0.0	37.7
201	20.4	0.0	38.4

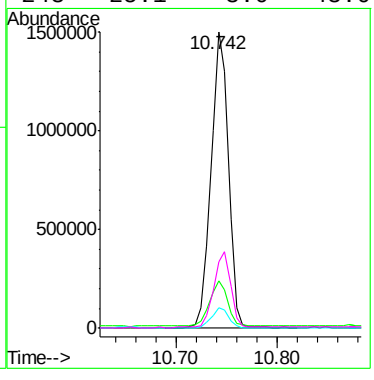


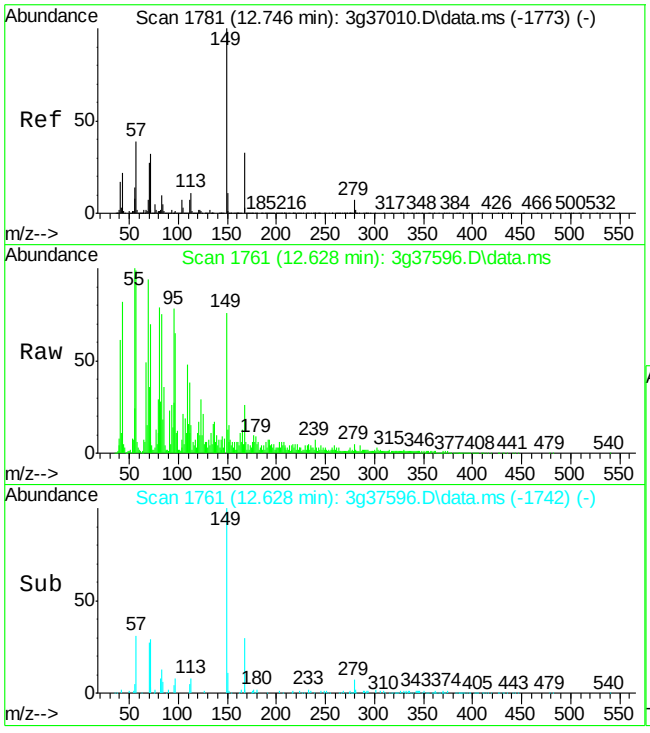


#87
Terphenyl-d14
Concen: 47.6635 ppm
RT: 10.742 min Scan# 1440
Delta R.T. 0.000 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:244 Resp: 1771513

Ion	Ratio	Lower	Upper
244	100		
122	15.6	0.0	35.4
212	6.8	0.0	27.0
243	25.1	3.0	43.0

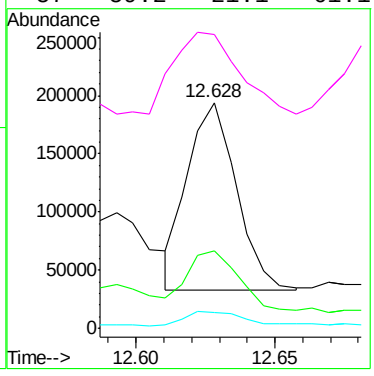


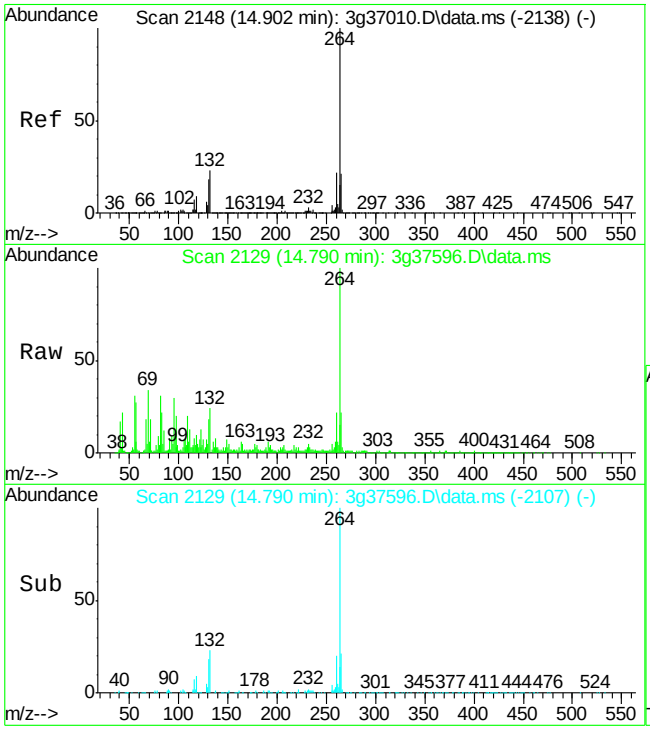


#92
Bis(2-ethylhexyl)phthalate
Concen: 6.4832 ppm
RT: 12.628 min Scan# 1761
Delta R.T. 0.012 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:149 Resp: 195645

Ion	Ratio	Lower	Upper
149	100		
167	36.2	13.6	53.6
279	9.4	0.0	27.3
57	59.2	21.1	61.1

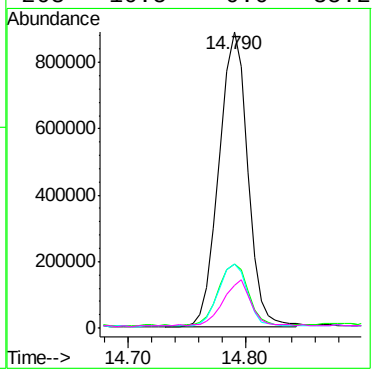


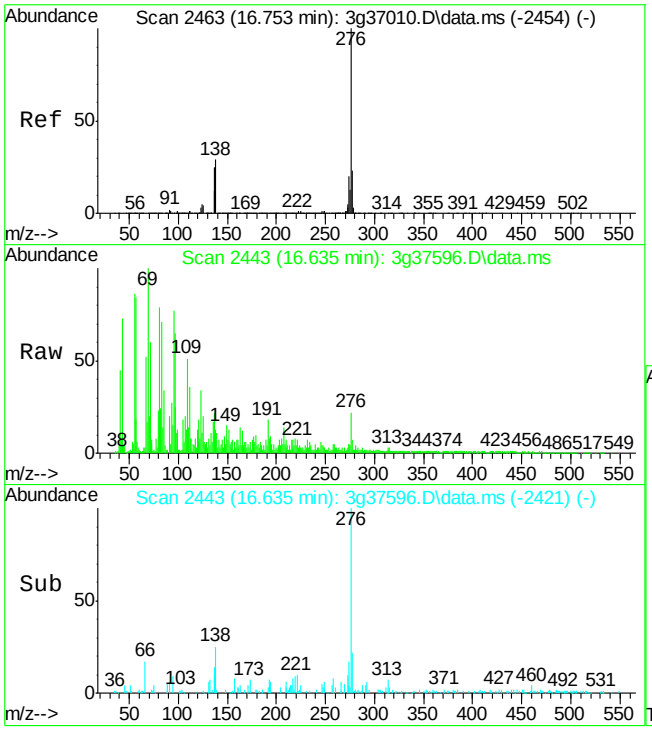


#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.790 min Scan# 2129
Delta R.T. 0.029 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:264 Resp: 1505577

Ion	Ratio	Lower	Upper
264	100		
260	21.9	1.3	41.3
265	21.2	0.2	40.2
263	16.5	0.0	35.2

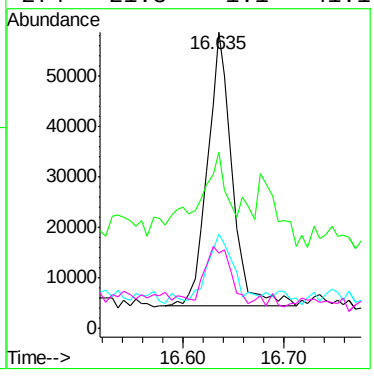




#101
Benzo(g,h,i)perylene
Concen: 2.1791 ppm
RT: 16.635 min Scan# 2443
Delta R.T. 0.029 min
Lab File: 3g37596.D
Acq: 7 Aug 18 7:59 pm

Tgt Ion:276 Resp: 91425

Ion	Ratio	Lower	Upper
276	100		
138	30.4	9.8	49.8
277	24.5	3.4	43.4
274	21.3	1.1	41.1



9.1.1

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37557.D
Acq On : 6 Aug 2018 6:17 pm
Operator : DONC
Sample : DA7701-2
Misc : OP16681,E3G1869,30.10,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 07 09:57:15 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

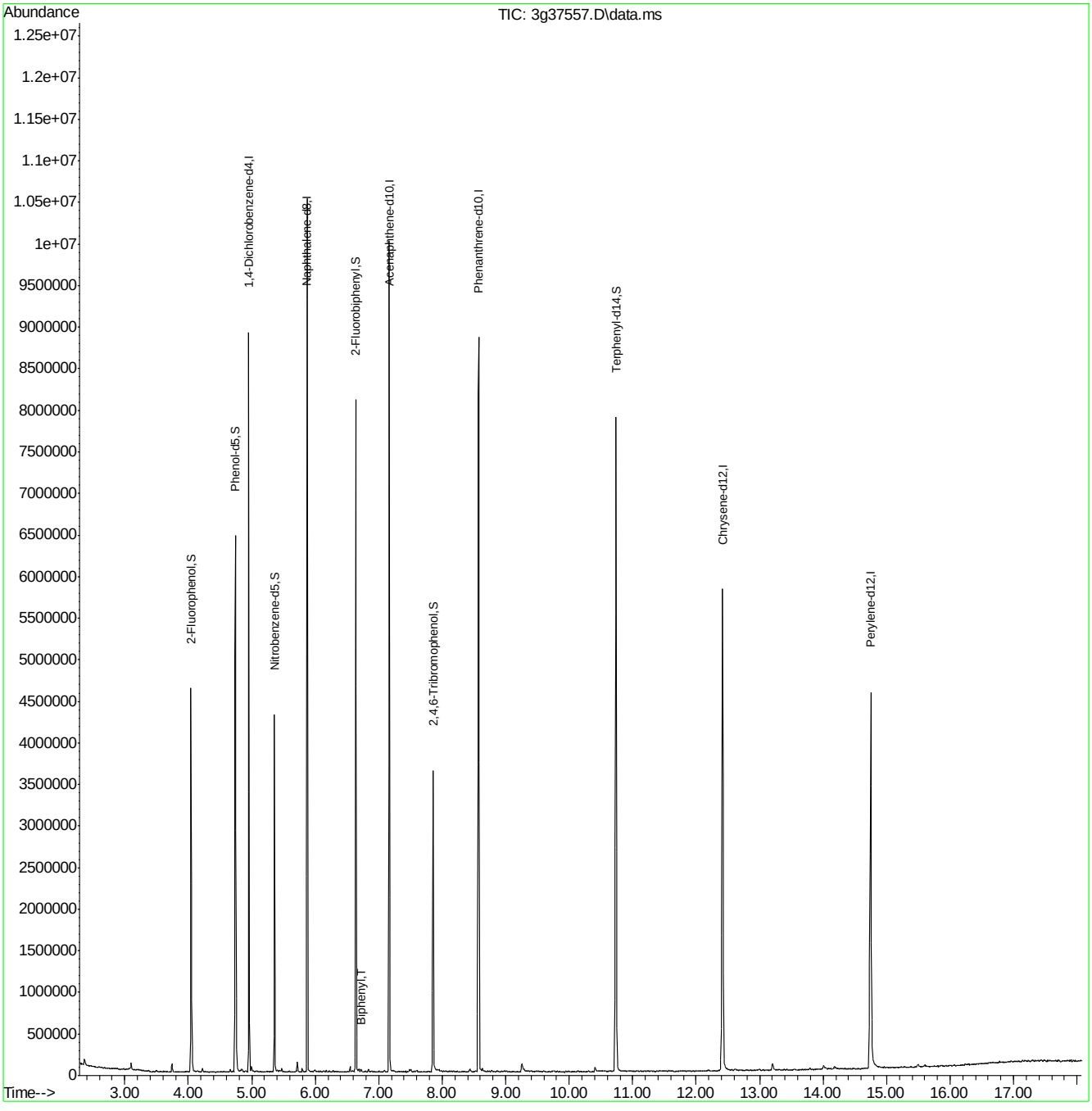
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.954	152	918397	40.0000 ppm	0.00
26) Naphthalene-d8	5.871	136	3491865	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1834444	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	3246349	40.0000 ppm	0.00
84) Chrysene-d12	12.416	240	2603861	40.0000 ppm	-0.01
93) Perylene-d12	14.749	264	2342761	40.0000 ppm	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol	4.044	112	1122850	26.2281 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 52.46%		
8) Phenol-d5	4.743	99	2097392	33.0801 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 66.16%		
27) Nitrobenzene-d5	5.360	82	1246621	20.7197 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 41.44%		
49) 2-Fluorobiphenyl	6.641	172	1801274	28.5275 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 57.06%		
69) 2,4,6-Tribromophenol	7.857	330	350822	46.3422 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 92.68%		
87) Terphenyl-d14	10.736	244	3045104	46.6152 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 93.24%		
Target Compounds					Qvalue
14) n-decane	4.819	43	3127	Below Cal #	62
50) Biphenyl	6.717	154	4578	0.4755 ppm	87
63) Diethylphthalate	7.504	149	2642	Below Cal #	58

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

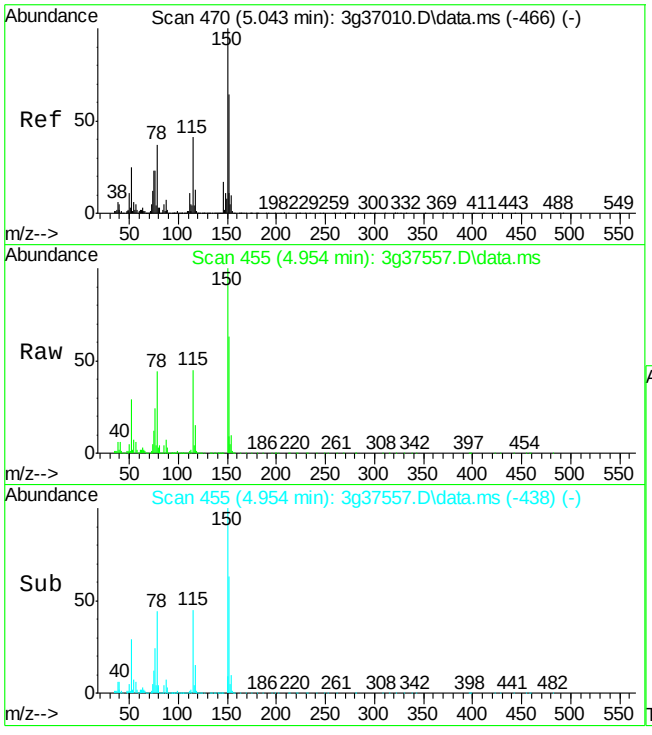
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37557.D
Acq On : 6 Aug 2018 6:17 pm
Operator : DONC
Sample : DA7701-2
Misc : OP16681,E3G1869,30.10,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 07 09:57:15 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



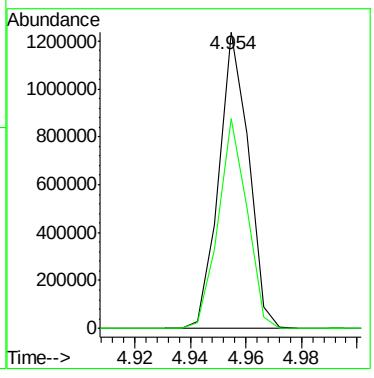
bnae3g1850.M Tue Aug 07 09:57:25 2018 3G

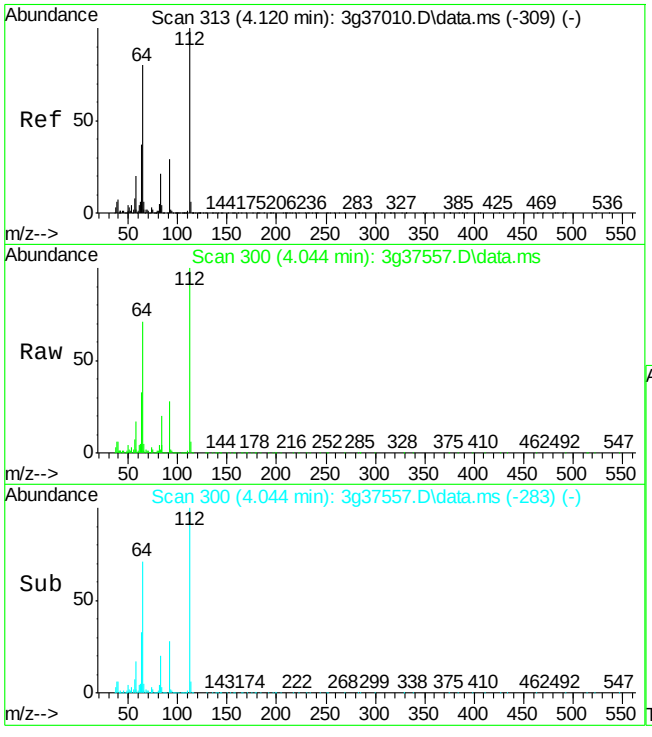


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.954 min Scan# 455
Delta R.T. -0.000 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:152 Resp: 918397

Ion	Ratio	Lower	Upper
152	100		
115	68.3	53.0	93.0

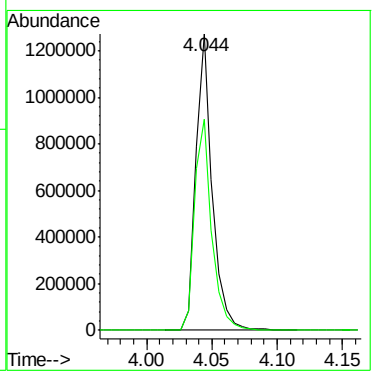


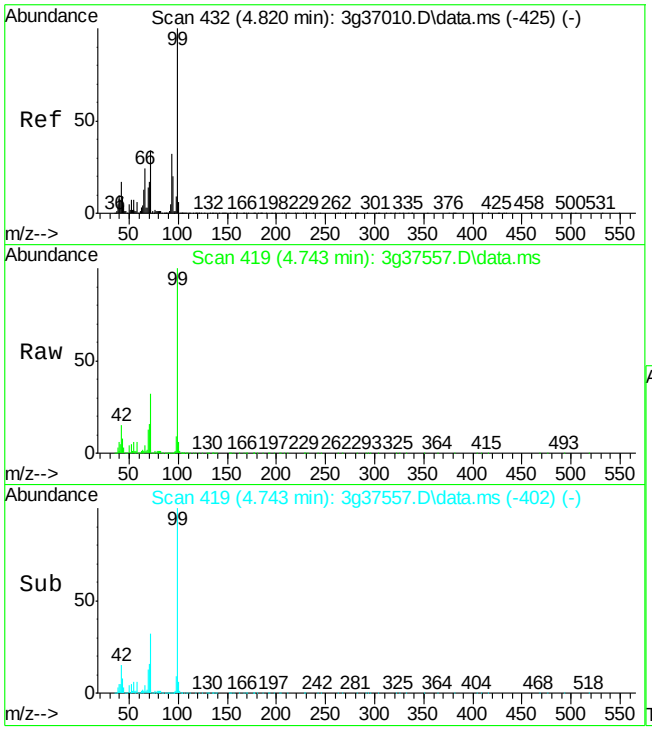


#5
2-Fluorophenol
Concen: 26.2281 ppm
RT: 4.044 min Scan# 300
Delta R.T. -0.000 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:112 Resp: 1122850

Ion	Ratio	Lower	Upper
112	100		
64	75.1	58.3	98.3

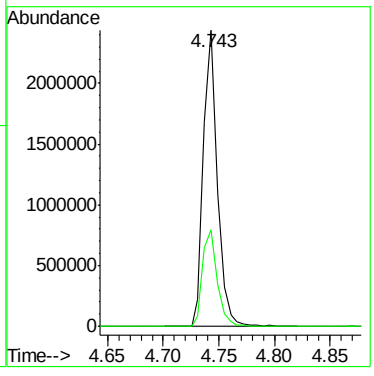


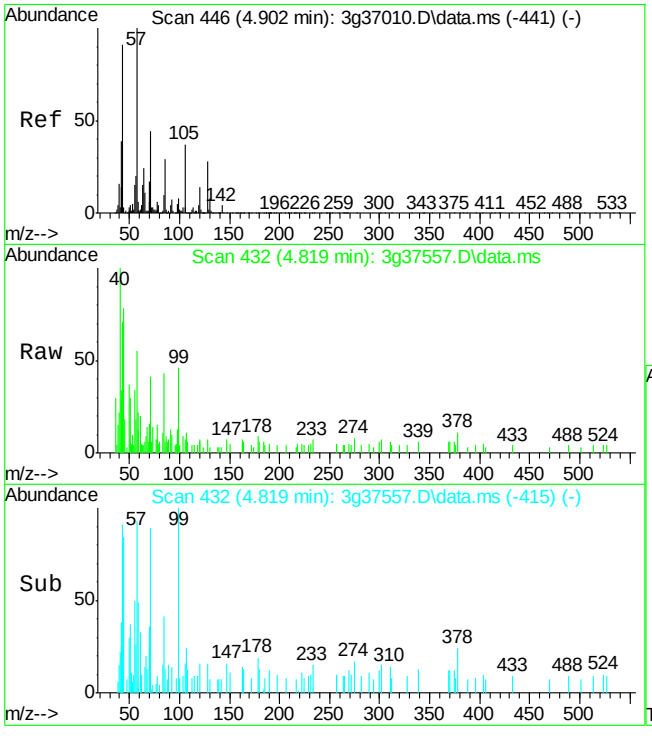


#8
Phenol-d5
Concen: 33.0801 ppm
RT: 4.743 min Scan# 419
Delta R.T. -0.000 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion: 99 Resp: 2097392

Ion	Ratio	Lower	Upper
99	100		
71	34.1	13.6	53.6

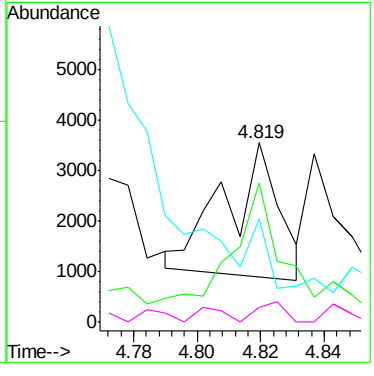


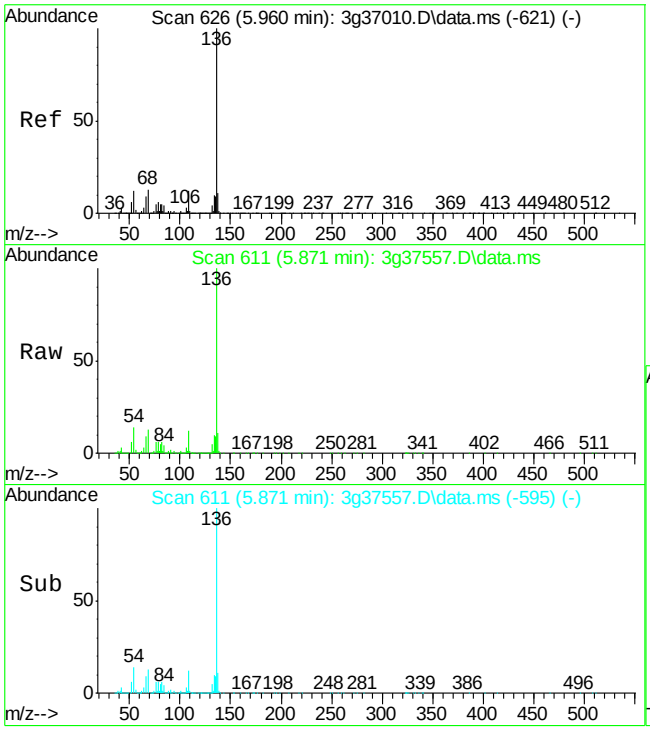


#14
n-decane
Concen: Below ppm
RT: 4.819 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion: 43 Resp: 3127

Ion	Ratio	Lower	Upper
43	100		
57	93.4	92.0	132.0
71	0.0	28.7	68.7#
85	0.0	11.8	51.8#

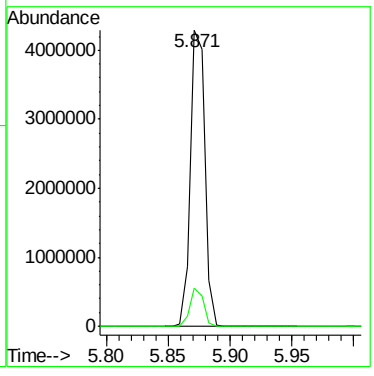


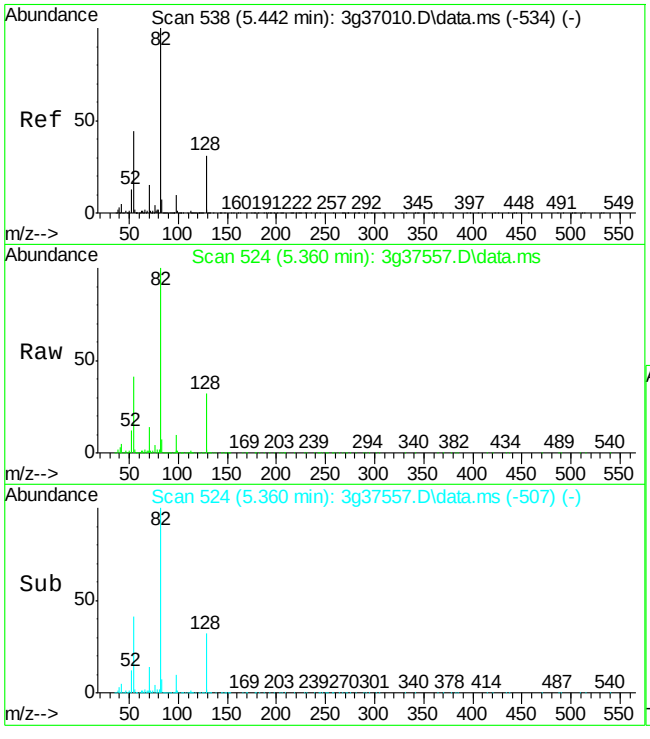


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:136 Resp: 3491865

Ion	Ratio	Lower	Upper
136	100		
68	12.2	0.0	32.4

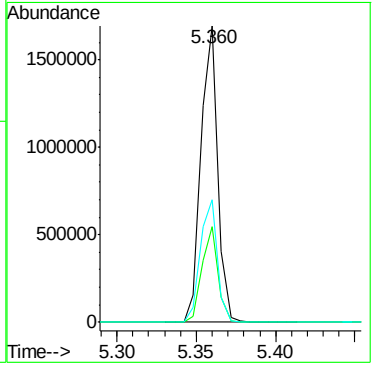




#27
Nitrobenzene-d5
Concen: 20.7197 ppm
RT: 5.360 min Scan# 524
Delta R.T. -0.000 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

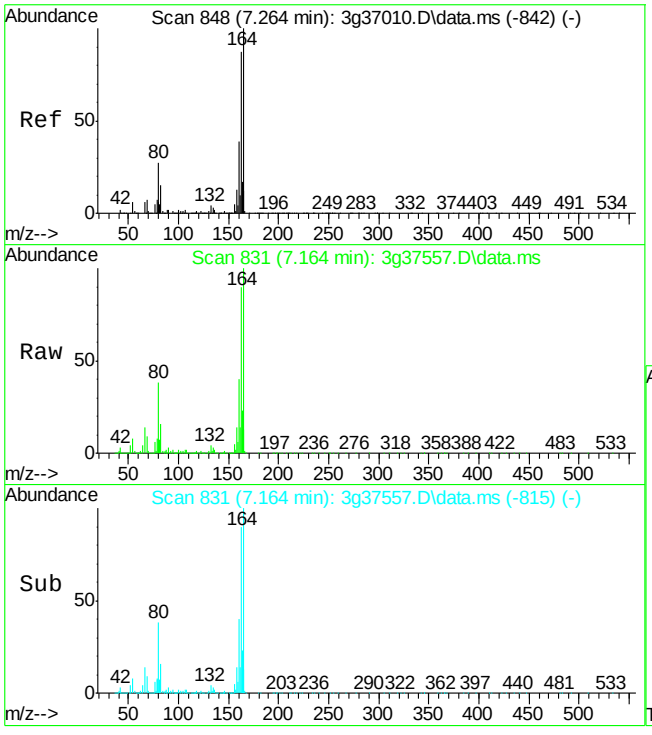
Tgt Ion: 82 Resp: 1246621

Ion	Ratio	Lower	Upper
82	100		
128	30.8	10.8	50.8
54	42.2	22.9	62.9



9.1.2

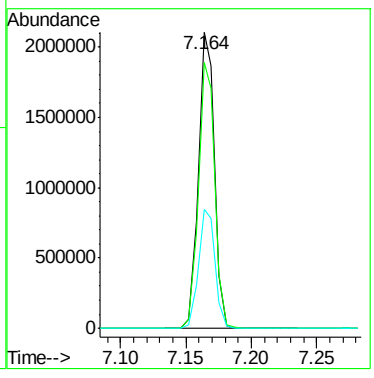
9

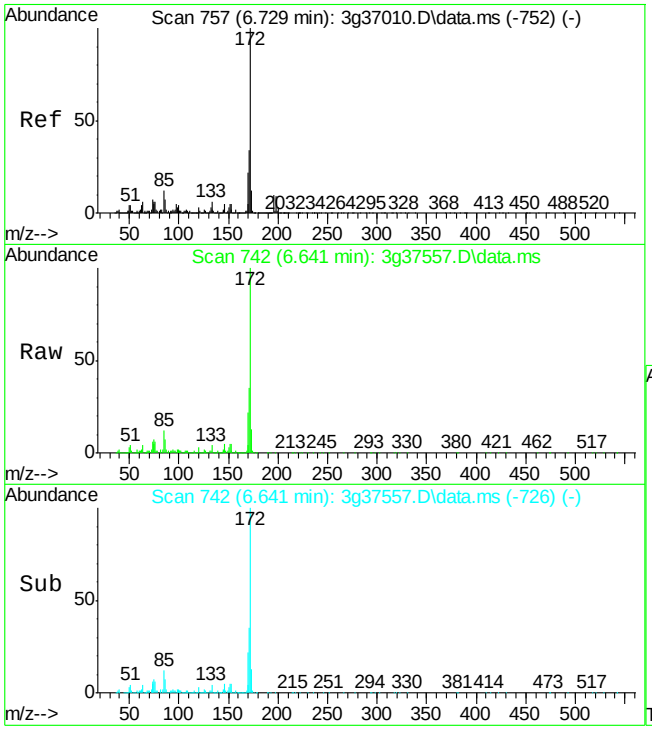


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:164 Resp: 1834444

Ion	Ratio	Lower	Upper
164	100		
162	91.5	69.6	109.6
160	41.6	20.5	60.5

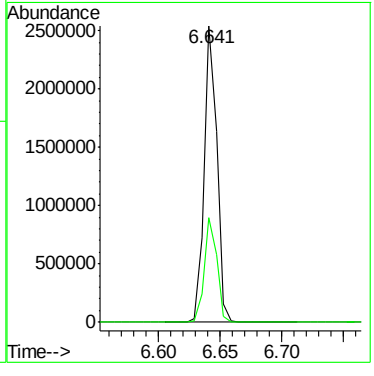


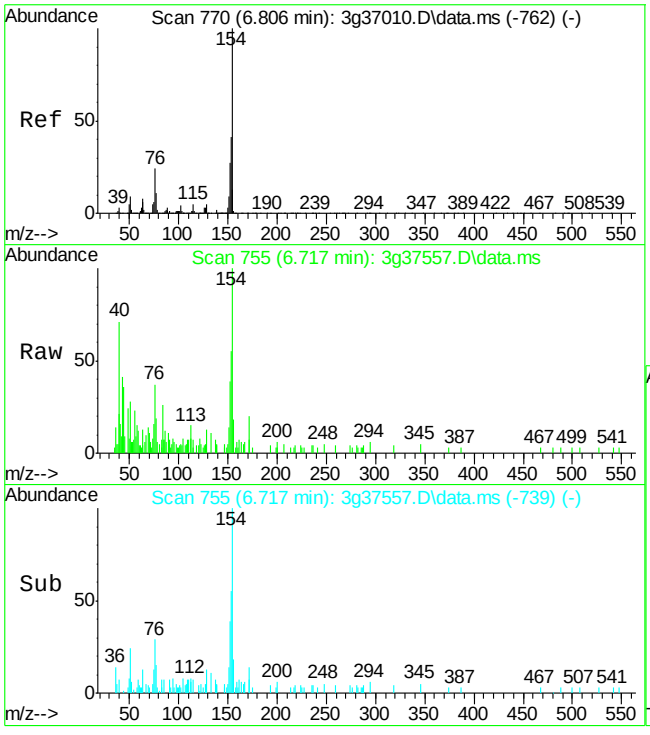


#49
2-Fluorobiphenyl
Concen: 28.5275 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:172 Resp: 1801274

Ion	Ratio	Lower	Upper
172	100		
171	35.0	14.5	54.5

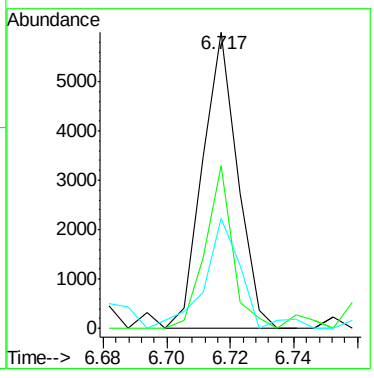


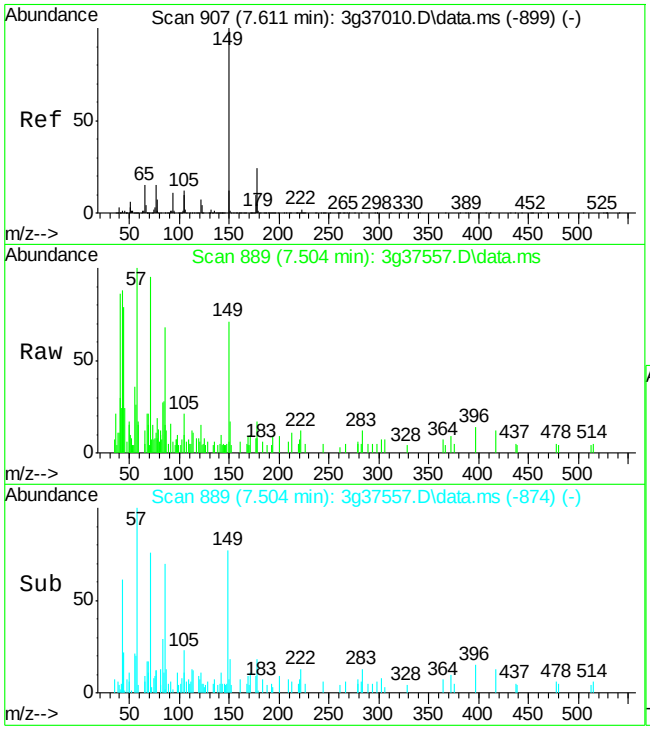


#50
Biphenyl
Concen: 0.4755 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:154 Resp: 4578

Ion	Ratio	Lower	Upper
154	100		
153	43.4	21.4	61.4
76	39.3	5.2	45.2

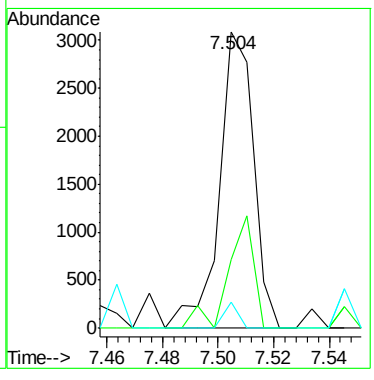




#63
Diethylphthalate
Concen: Below ppm
RT: 7.504 min Scan# 889
Delta R.T. -0.012 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

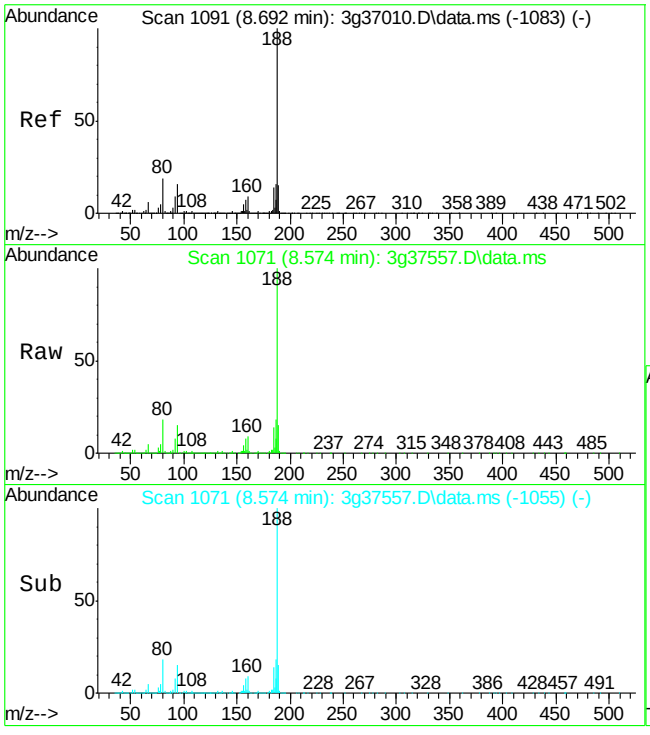
Tgt Ion:149 Resp: 2642

Ion	Ratio	Lower	Upper
149	100		
177	0.0	3.6	43.6#
150	0.0	0.0	32.5



9.1.2

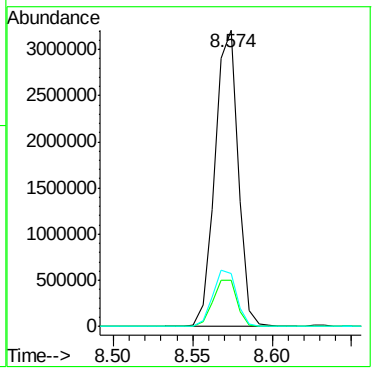
9

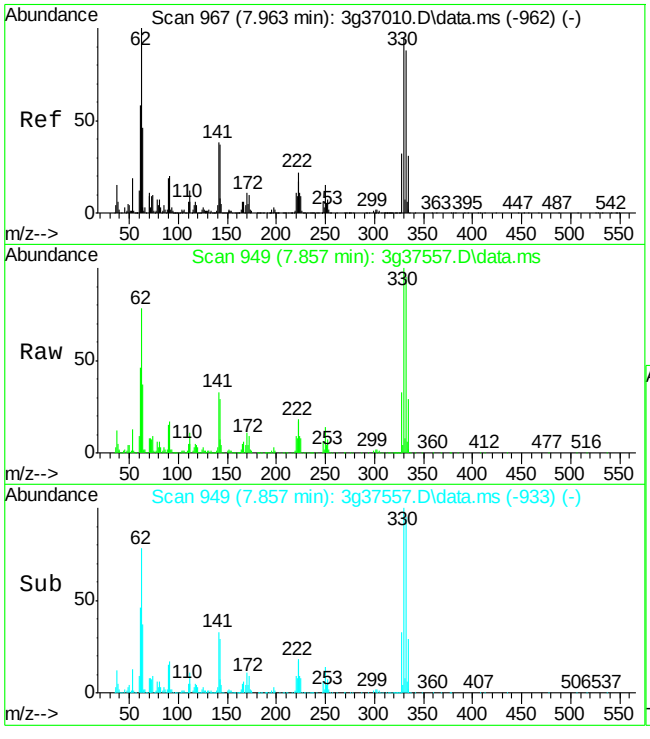


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:188 Resp: 3246349

Ion	Ratio	Lower	Upper
188	100		
94	16.1	0.0	35.1
80	19.4	0.0	37.9

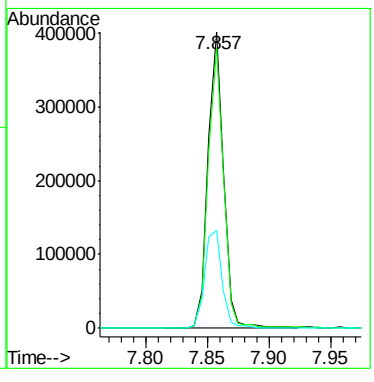


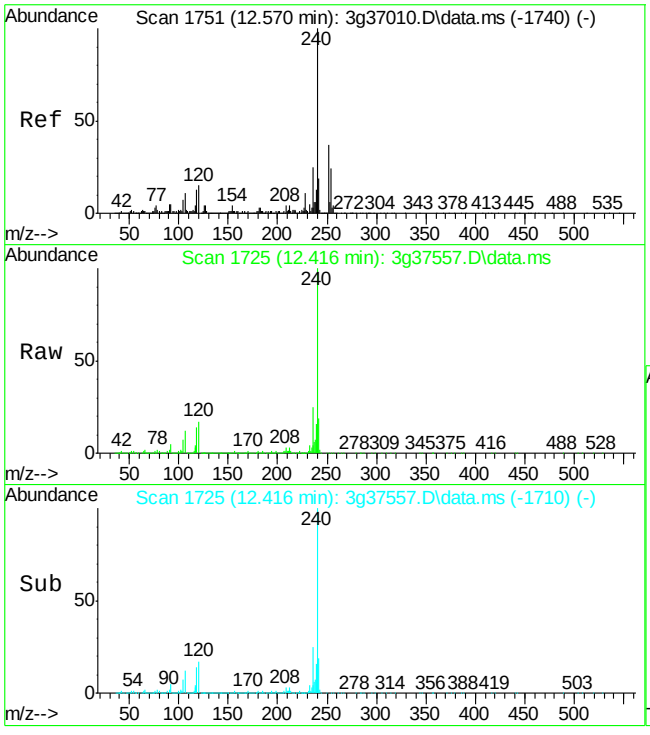


#69
2,4,6-Tribromophenol
Concen: 46.3422 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:330 Resp: 350822

Ion	Ratio	Lower	Upper
330	100		
332	93.9	74.8	112.2
141	36.8	33.8	50.6

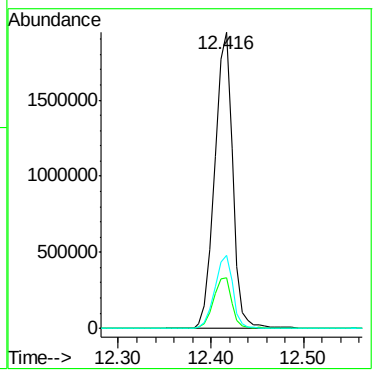


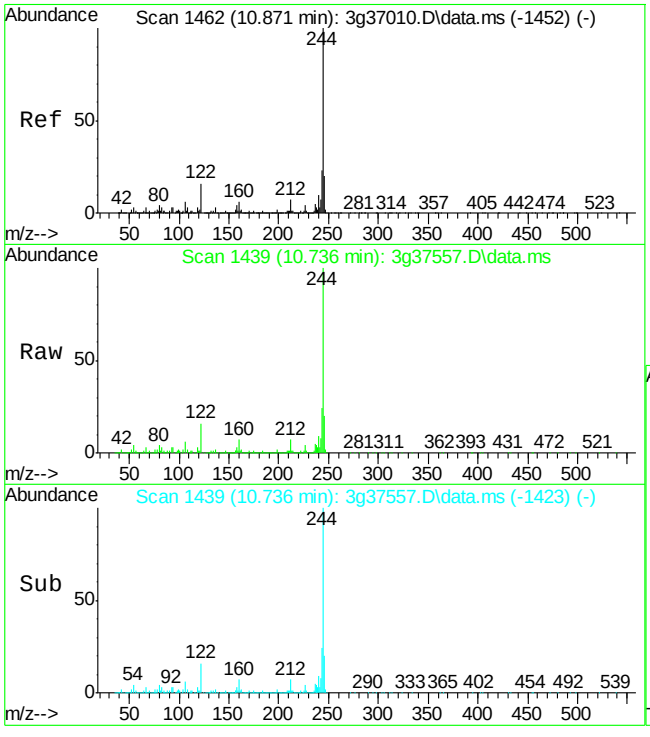


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.416 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:240 Resp: 2603861

Ion	Ratio	Lower	Upper
240	100		
120	17.4	0.0	36.6
236	24.9	4.3	44.3

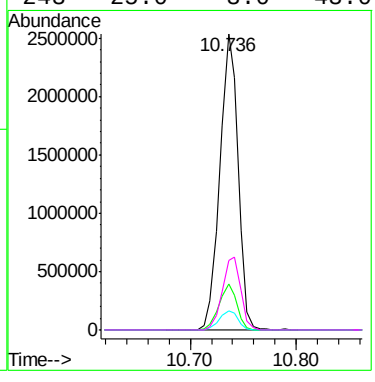


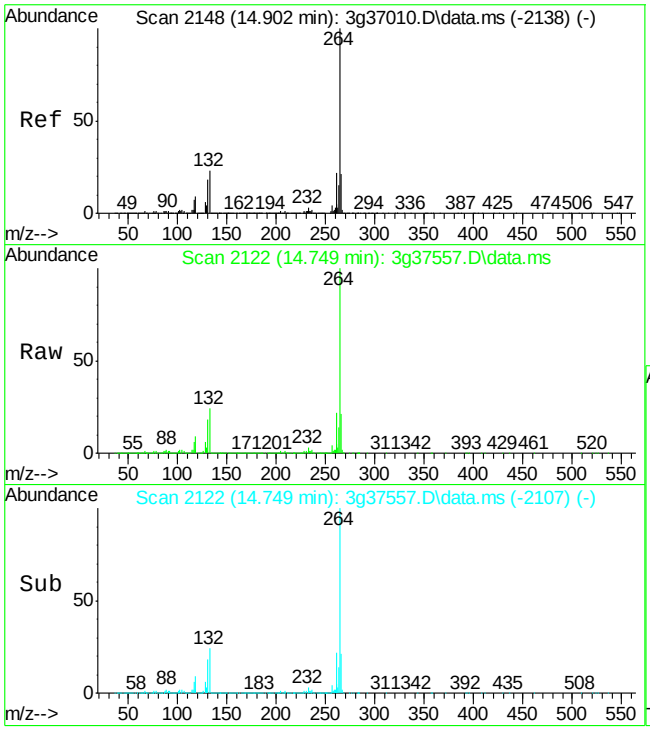


#87
Terphenyl-d14
Concen: 46.6152 ppm
RT: 10.736 min Scan# 1439
Delta R.T. -0.006 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:244 Resp: 3045104

Ion	Ratio	Lower	Upper
244	100		
122	15.3	0.0	35.4
212	6.6	0.0	27.0
243	25.0	3.0	43.0

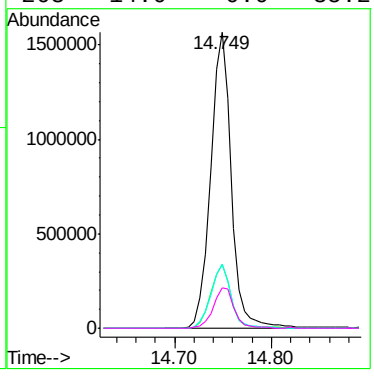




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37557.D
Acq: 6 Aug 18 6:17 pm

Tgt Ion:264 Resp: 2342761

Ion	Ratio	Lower	Upper
264	100		
260	21.4	1.3	41.3
265	21.3	0.2	40.2
263	14.0	0.0	35.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37597.D
Acq On : 7 Aug 2018 8:27 pm
Operator : DONC
Sample : DA7701-3
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 08 09:49:25 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	681481	40.0000	ppm	0.00
26) Naphthalene-d8	5.877	136	2564947	40.0000	ppm	0.00
44) Acenaphthene-d10	7.170	164	1294158	40.0000	ppm	0.00
67) Phenanthrene-d10	8.574	188	2363685	40.0000	ppm	0.00
84) Chrysene-d12	12.422	240	1887381	40.0000	ppm	0.00
93) Perylene-d12	14.761	264	1621002	40.0000	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	4.050	112	814413	25.6369	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 51.28%			
8) Phenol-d5	4.743	99	1436102	30.5246	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 61.04%			
27) Nitrobenzene-d5	5.360	82	1125984	25.4777	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 50.96%			
49) 2-Fluorobiphenyl	6.641	172	1718985	38.5898	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 77.18%			
69) 2,4,6-Tribromophenol	7.857	330	223422	40.5342	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 81.06%			
87) Terphenyl-d14	10.742	244	1972315	41.6543	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 83.30%			

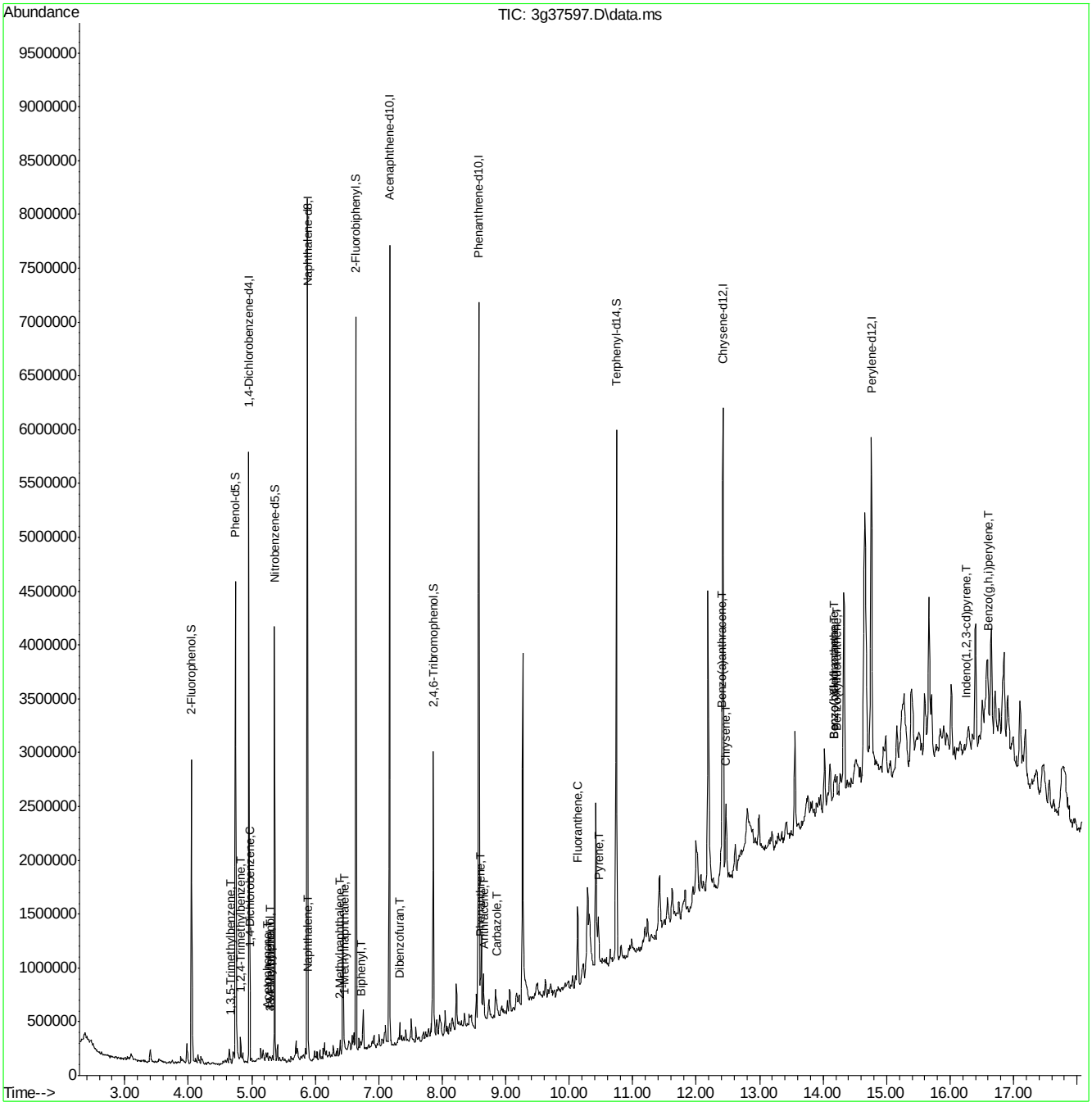
Target Compounds						Qvalue
7) 1,3,5-Trimethylbenzene	4.673	105	9892	0.5211	ppm	82
13) 1,2,4-Trimethylbenzene	4.825	105	36620	0.4616	ppm	96
16) 1,4-Dichlorobenzene	4.972	146	122268	4.2212	ppm	96
21) Acetophenone	5.248	105	22700	0.4810	ppm	83
23) 4-Methylphenol	5.284	107	17080	0.4655	ppm	82
24) 3&4-Methylphenol	5.284	107	17080	0.4655	ppm	82
36) Naphthalene	5.889	128	75839	1.1839	ppm	93
42) 2-Methylnaphthalene	6.382	142	21935	0.4696	ppm	95
43) 1-Methylnaphthalene	6.459	142	8715	0.1984	ppm	94
50) Biphenyl	6.717	154	14255	0.6660	ppm	98
60) Dibenzofuran	7.334	168	9275	0.1804	ppm	96
63) Diethylphthalate	7.511	149	14410	Below	Cal #	63
79) Phenanthrene	8.598	178	115595	1.7448	ppm	93
80) Anthracene	8.656	178	31606	0.4615	ppm	86
81) Carbazole	8.856	167	15636	0.2520	ppm	67
83) Fluoranthene	10.131	202	163685	2.3645	ppm	96
85) Benzidine	10.395	184	1114	Below	Cal #	1
86) Pyrene	10.466	202	168202	2.3946	ppm	94
90) Benzo(a)anthracene	12.405	228	83998	1.3773	ppm	81
91) Chrysene	12.464	228	80595	1.3594	ppm	93
95) Benzo(b)fluoranthene	14.168	252	100323	1.9085	ppm	92
96) Benzo(k)fluoranthene	14.215	252	33089	0.6306	ppm	84
97) Benzo(b&k)fluoranthene	14.168	252	130897	2.4777	ppm	80
99) Indeno(1,2,3-cd)pyrene	16.253	276	47421	1.1463	ppm #	74
101) Benzo(g,h,i)perylene	16.594	276	47798	1.0582	ppm	77

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

Quantitation Report (QT Reviewed)

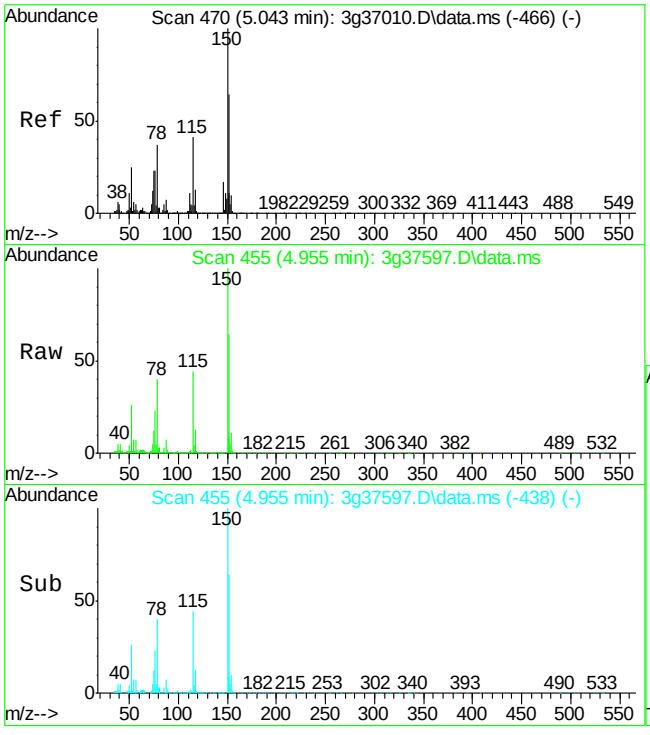
Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37597.D
Acq On : 7 Aug 2018 8:27 pm
Operator : DONC
Sample : DA7701-3
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 08 09:49:25 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



bnae3g1850.M Wed Aug 08 09:49:31 2018 3G

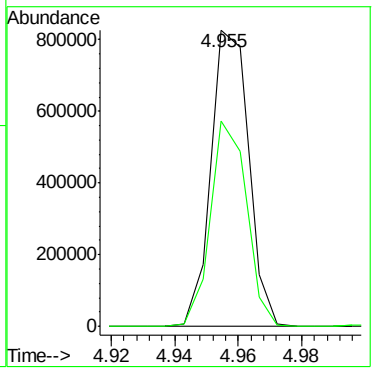
Page: 2

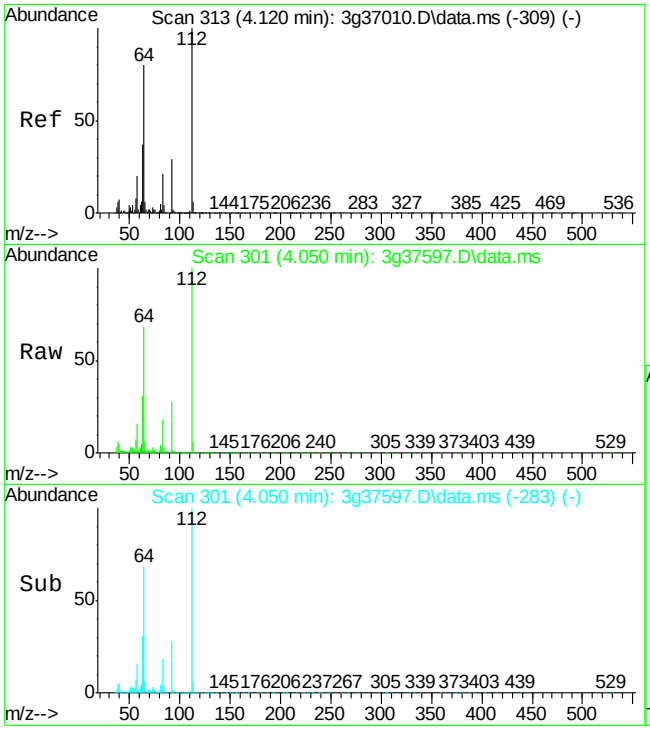


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:152 Resp: 681481

Ion	Ratio	Lower	Upper
152	100		
115	66.3	53.0	93.0

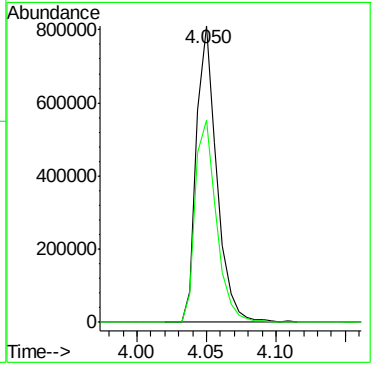


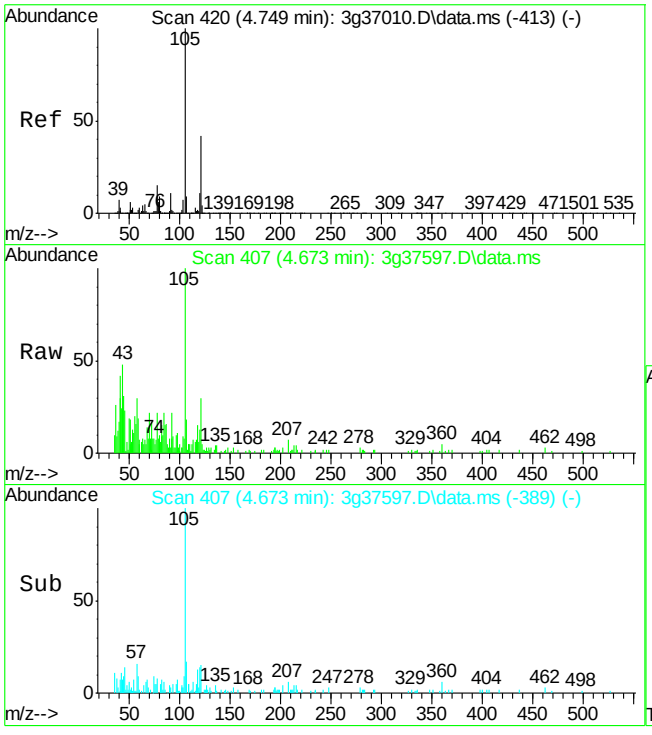


#5
2-Fluorophenol
Concen: 25.6369 ppm
RT: 4.050 min Scan# 301
Delta R.T. 0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:112 Resp: 814413

Ion	Ratio	Lower	Upper
112	100		
64	71.3	58.3	98.3

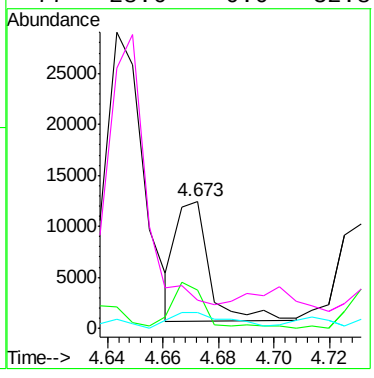


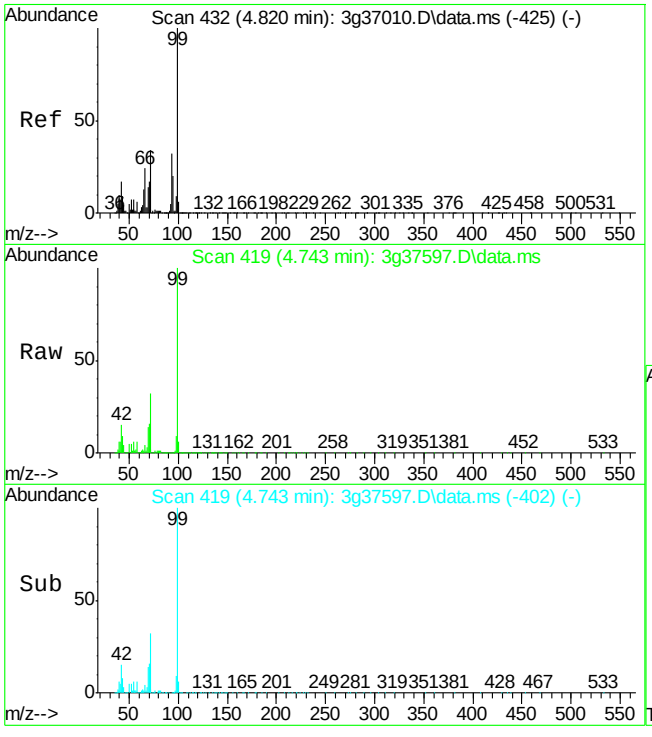


#7
1,3,5-Trimethylbenzene
Concen: 0.5211 ppm
RT: 4.673 min Scan# 407
Delta R.T. 0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:105 Resp: 9892

Ion	Ratio	Lower	Upper
105	100		
120	38.9	15.9	55.9
119	23.5	0.0	29.4
77	28.6	0.0	32.8

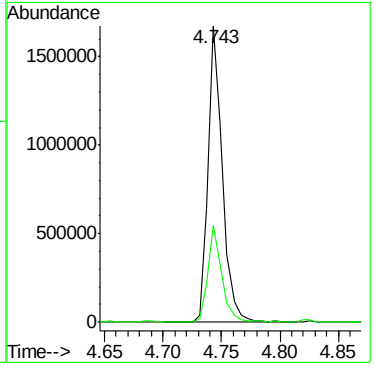


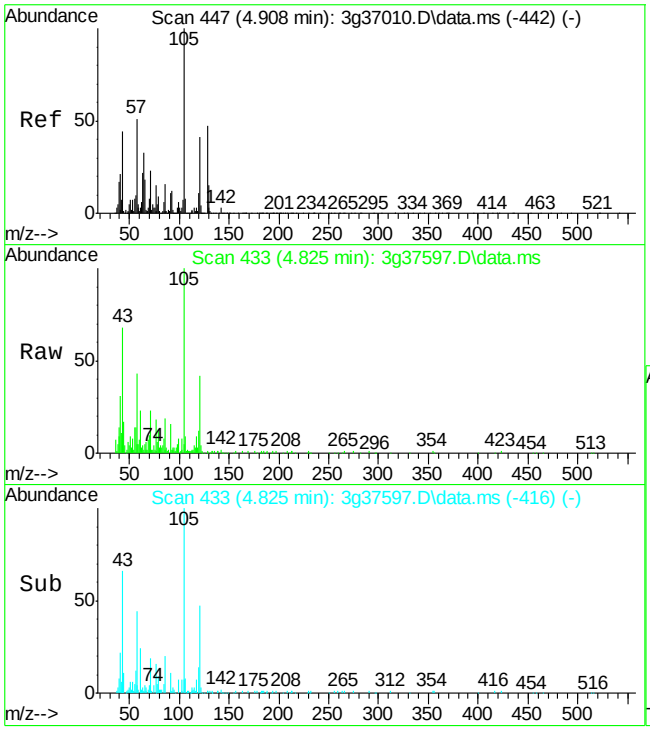


#8
Phenol-d5
Concen: 30.5246 ppm
RT: 4.743 min Scan# 419
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion: 99 Resp: 1436102

Ion	Ratio	Lower	Upper
99	100		
71	31.4	13.6	53.6

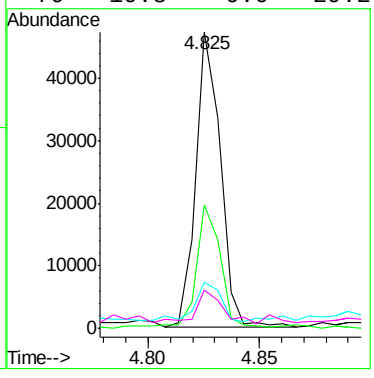


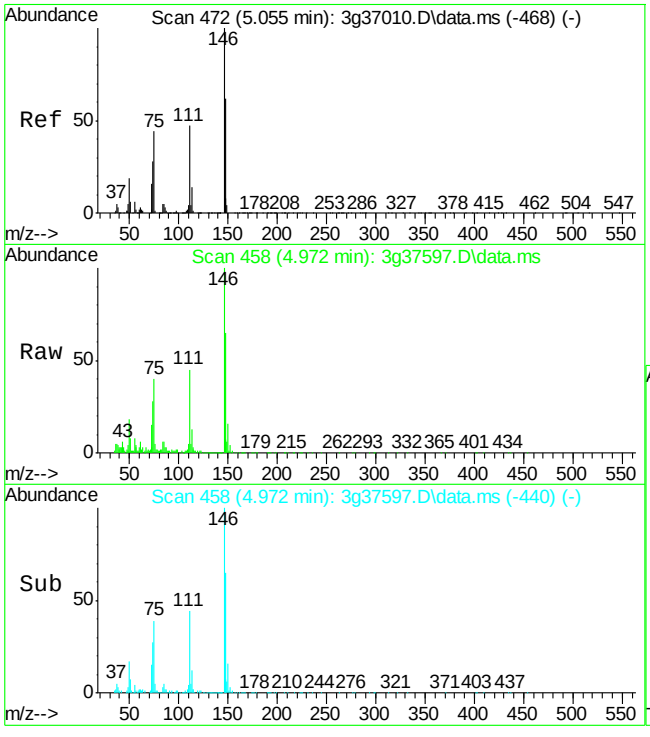


#13
1,2,4-Trimethylbenzene
Concen: 0.4616 ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:105 Resp: 36620

Ion	Ratio	Lower	Upper
105	100		
120	41.3	19.5	59.5
91	13.6	0.0	31.4
79	10.8	0.0	29.2

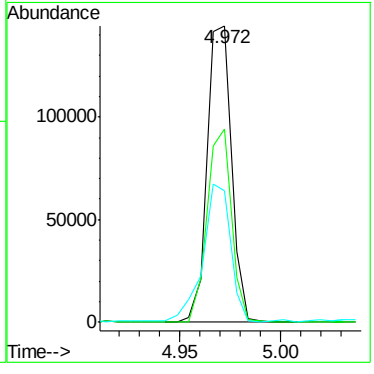


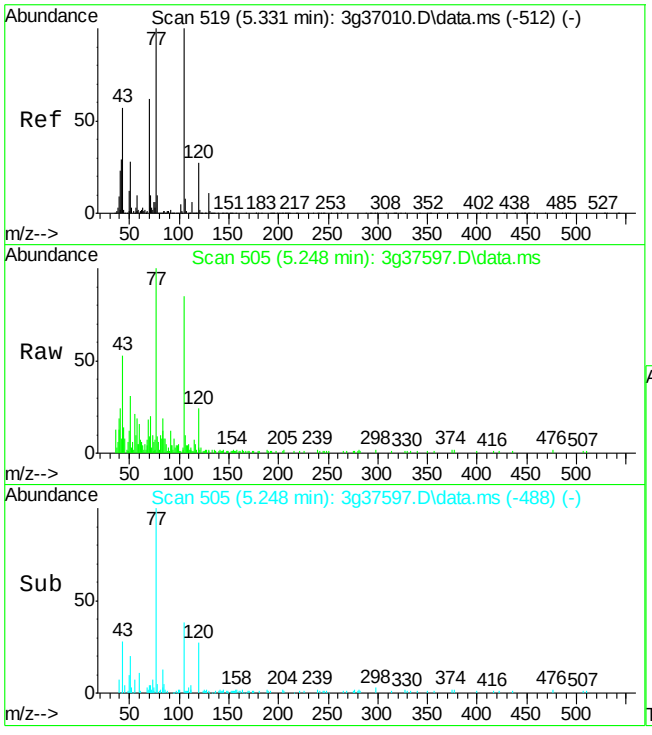


#16
1,4-Dichlorobenzene
Concen: 4.2212 ppm
RT: 4.972 min Scan# 458
Delta R.T. 0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:146 Resp: 122268

Ion	Ratio	Lower	Upper
146	100		
148	64.8	42.4	82.4
111	52.5	29.3	69.3

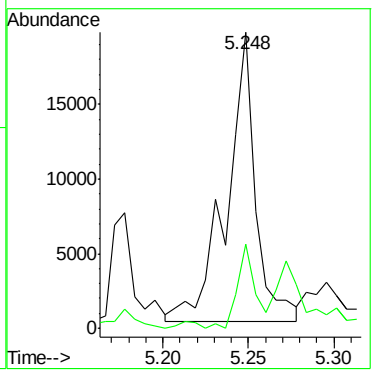


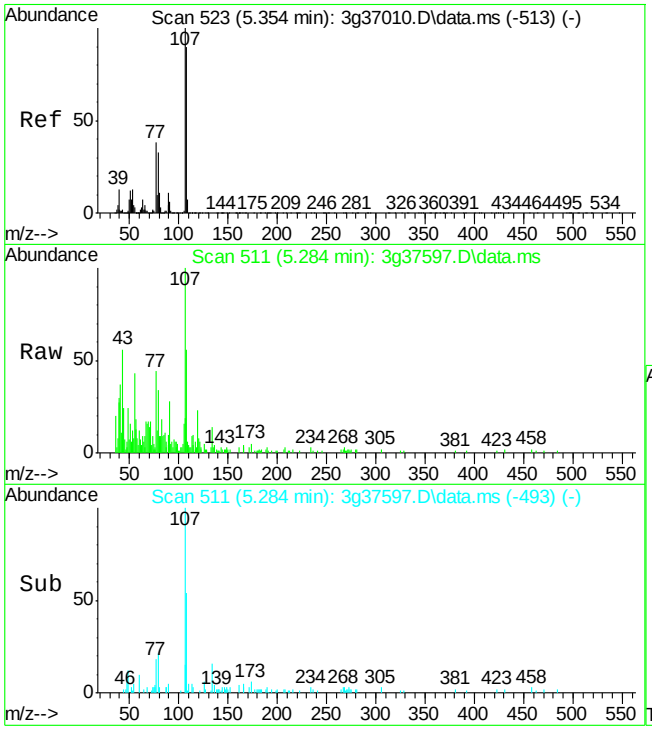


#21
Acetophenone
Concen: 0.4810 ppm
RT: 5.248 min Scan# 505
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:105 Resp: 22700

Ion	Ratio	Lower	Upper
105	100		
120	17.9	6.5	46.5

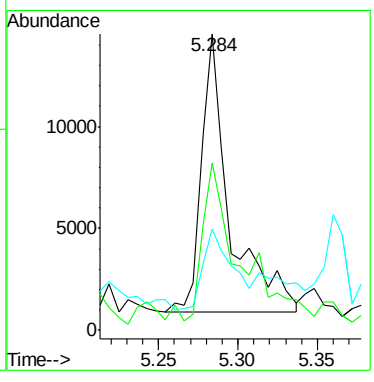


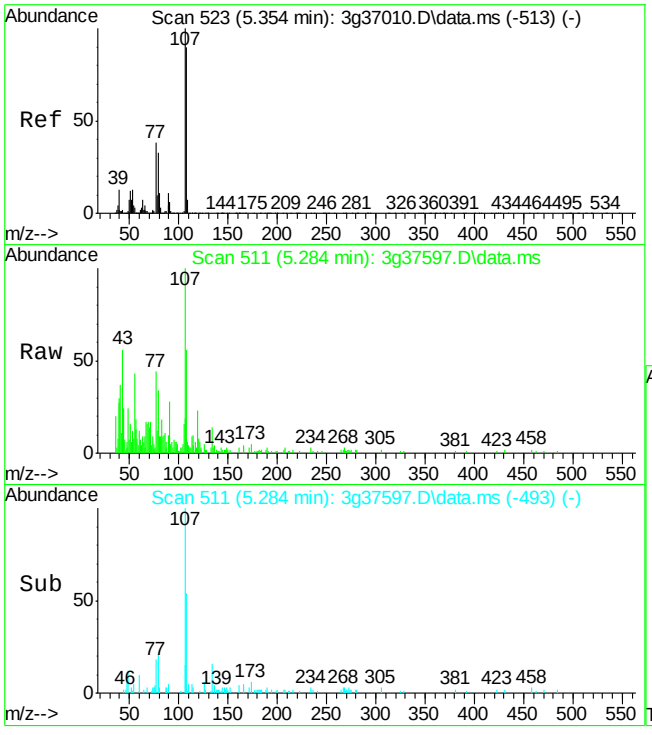


#23
4-Methylphenol
Concen: 0.4655 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:107 Resp: 17080

Ion	Ratio	Lower	Upper
107	100		
108	72.9	72.8	112.8
79	29.5	15.6	55.6

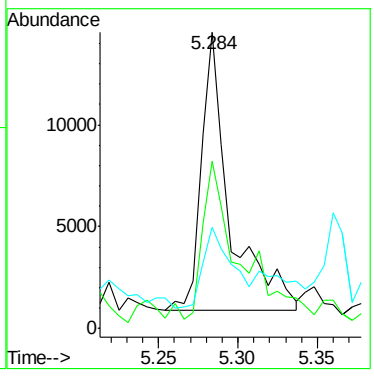


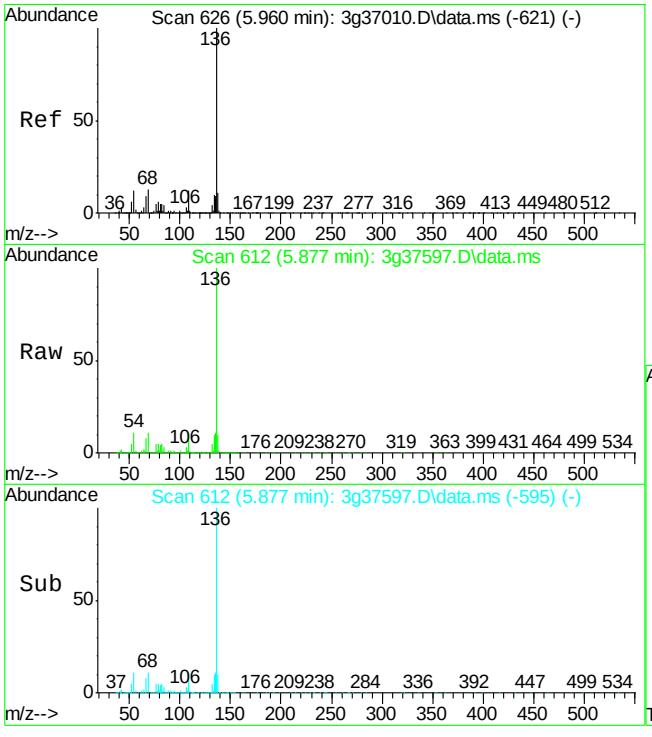


#24
3&4-Methylphenol
Concen: 0.4655 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:107 Resp: 17080

Ion	Ratio	Lower	Upper
107	100		
108	72.9	72.8	112.8
79	29.5	15.6	55.6

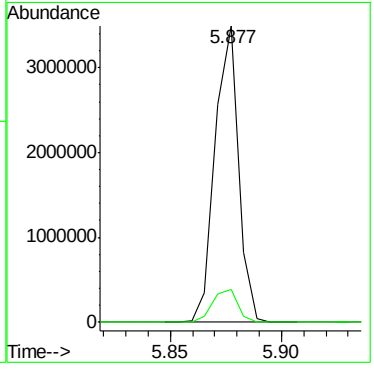


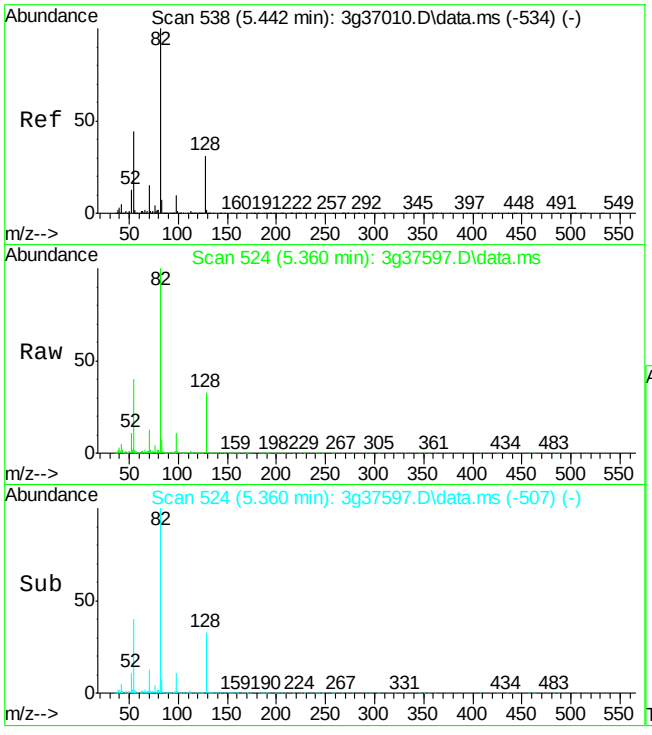


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:136 Resp: 2564947

Ion	Ratio	Lower	Upper
136	100		
68	12.0	0.0	32.4

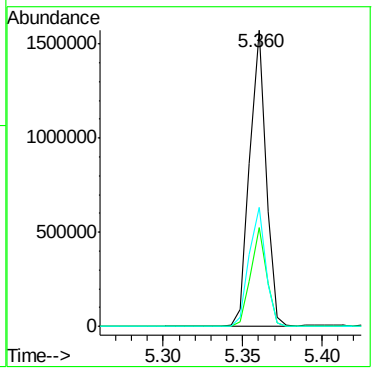


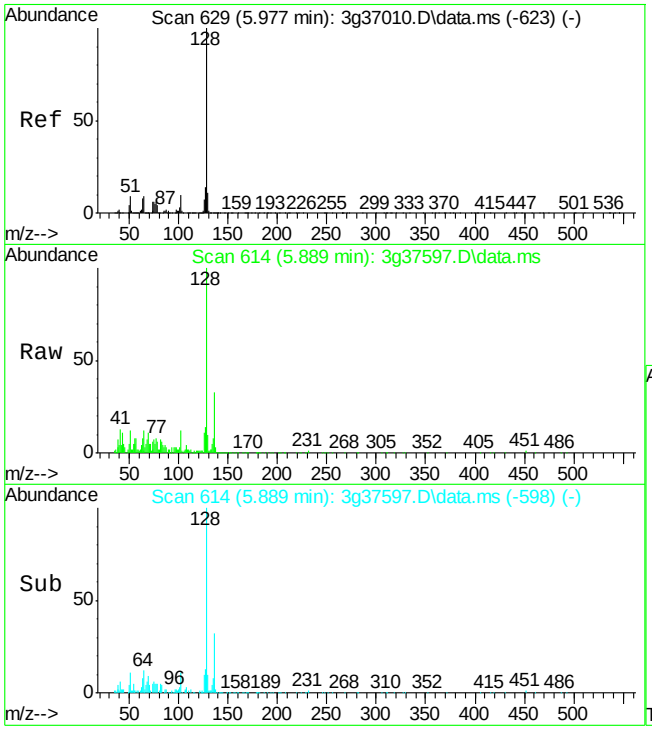


#27
Nitrobenzene-d5
Concen: 25.4777 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion: 82 Resp: 1125984

Ion	Ratio	Lower	Upper
82	100		
128	32.8	10.8	50.8
54	40.7	22.9	62.9

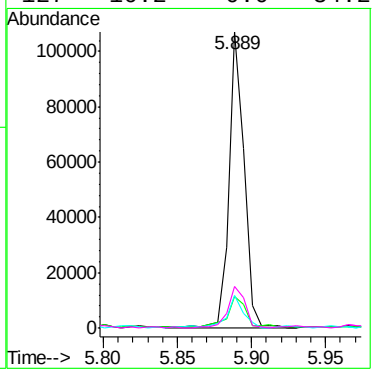


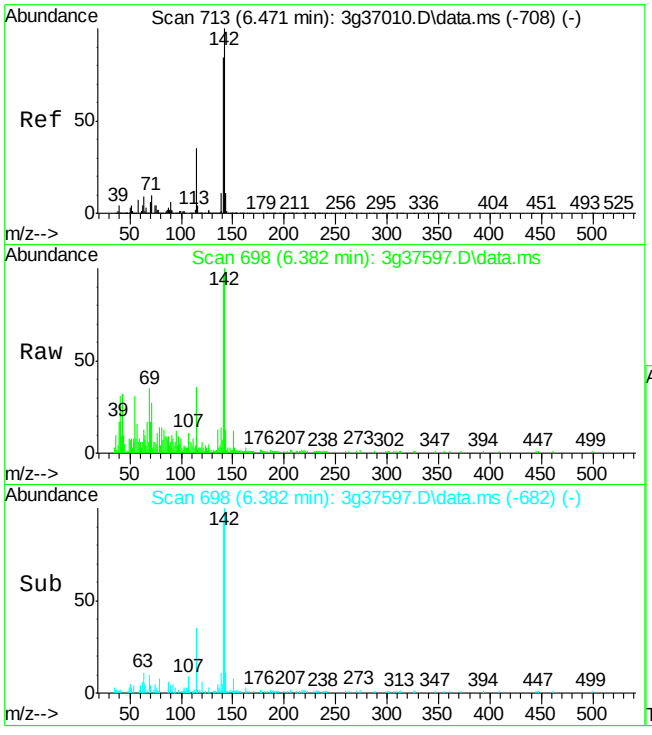


#36
Naphthalene
Concen: 1.1839 ppm
RT: 5.889 min Scan# 614
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:128 Resp: 75839

Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	30.9
126	12.5	0.0	27.5
127	16.2	0.0	34.2

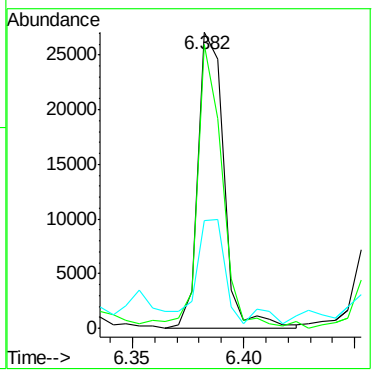


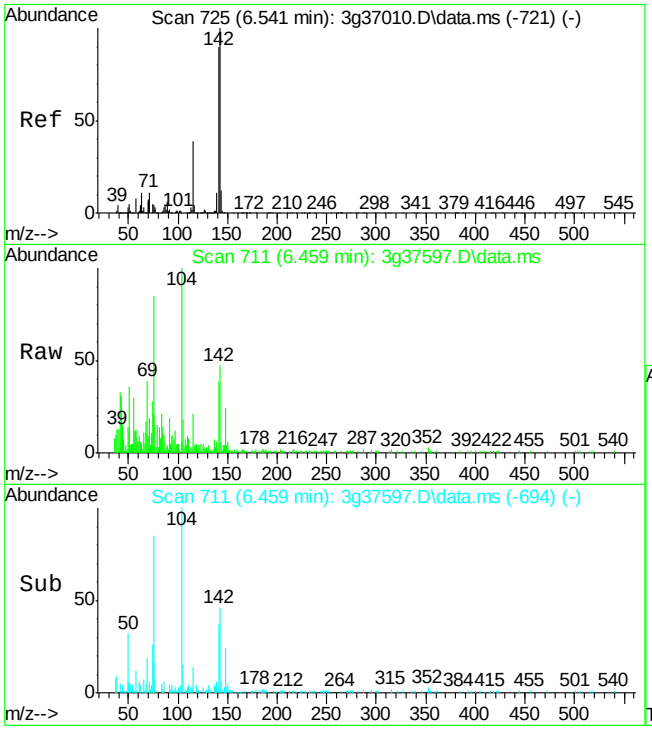


#42
2-Methylnaphthalene
Concen: 0.4696 ppm
RT: 6.382 min Scan# 698
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:142 Resp: 21935

Ion	Ratio	Lower	Upper
142	100		
141	88.0	62.4	102.4
115	38.0	15.8	55.8

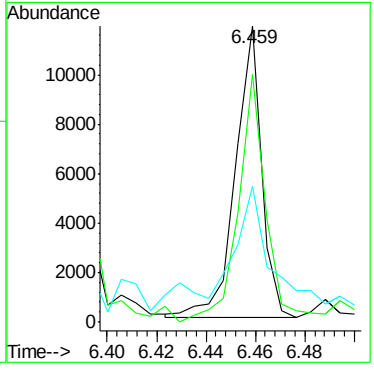


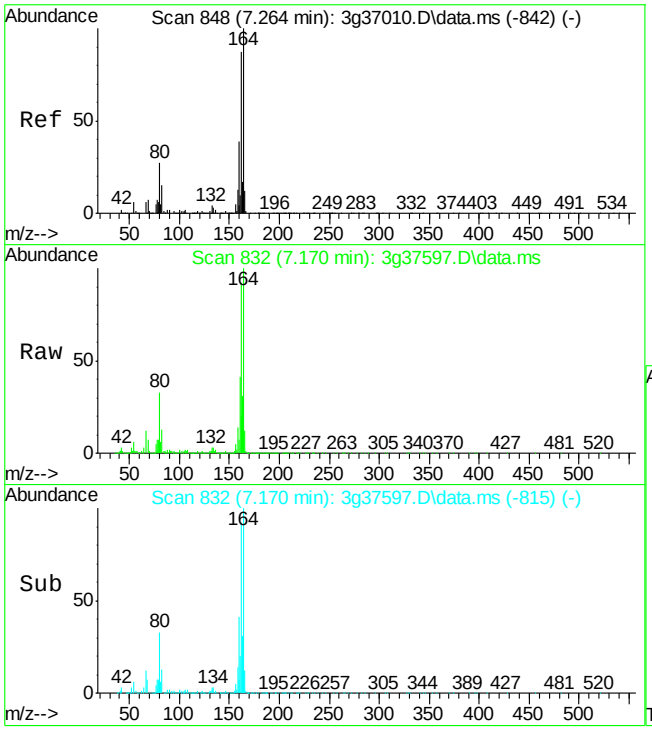


#43
1-Methylnaphthalene
Concen: 0.1984 ppm
RT: 6.459 min Scan# 711
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:142 Resp: 8715

Ion	Ratio	Lower	Upper
142	100		
141	89.8	70.2	110.2
115	51.0	19.3	59.3

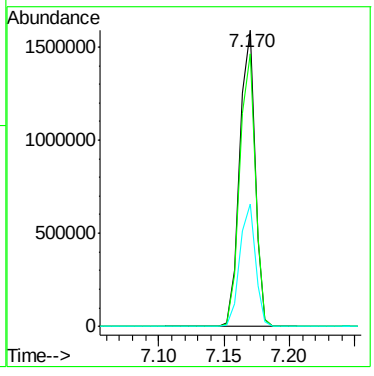


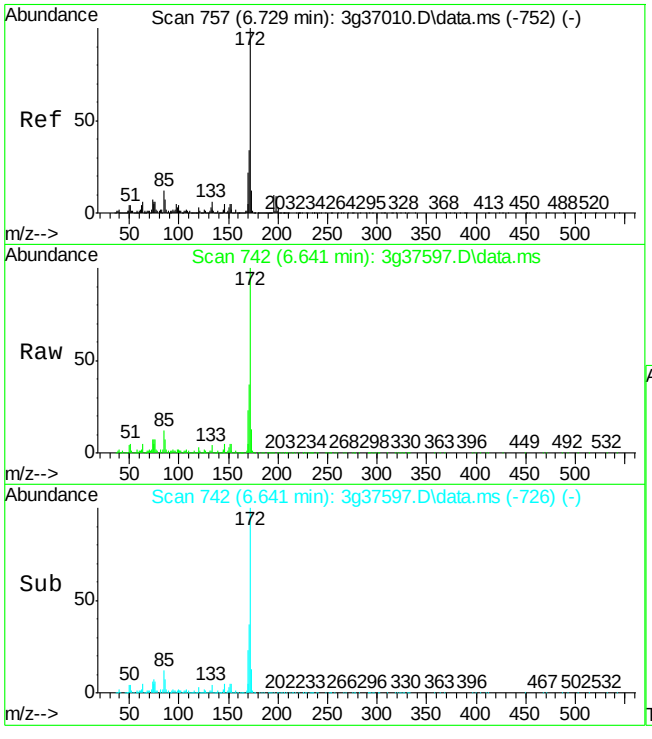


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:164 Resp: 1294158

Ion	Ratio	Lower	Upper
164	100		
162	93.2	69.6	109.6
160	42.2	20.5	60.5

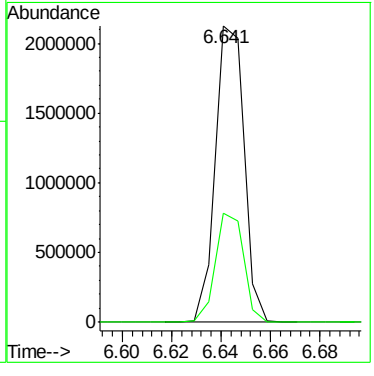


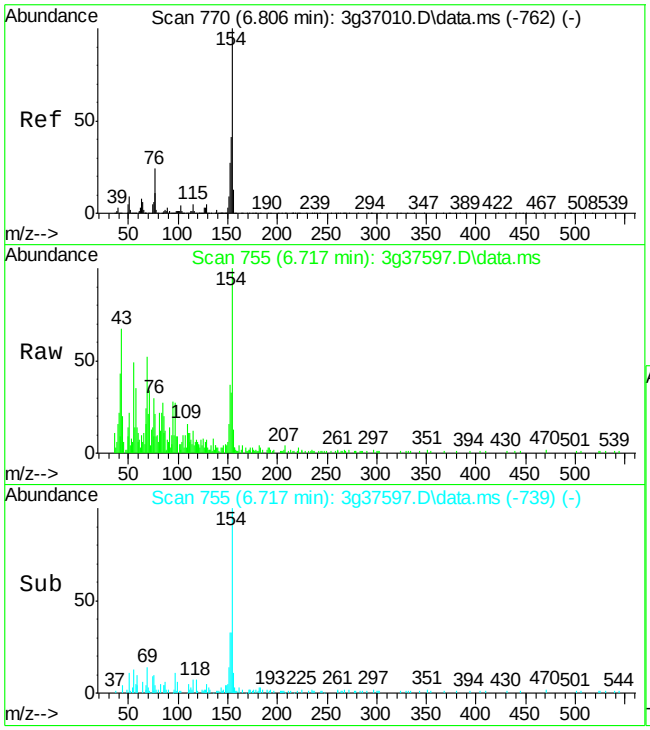


#49
2-Fluorobiphenyl
Concen: 38.5898 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:172 Resp: 1718985

Ion	Ratio	Lower	Upper
172	100		
171	36.1	14.5	54.5

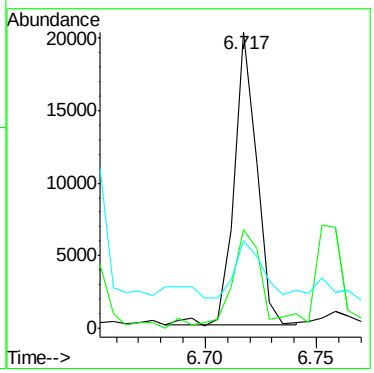


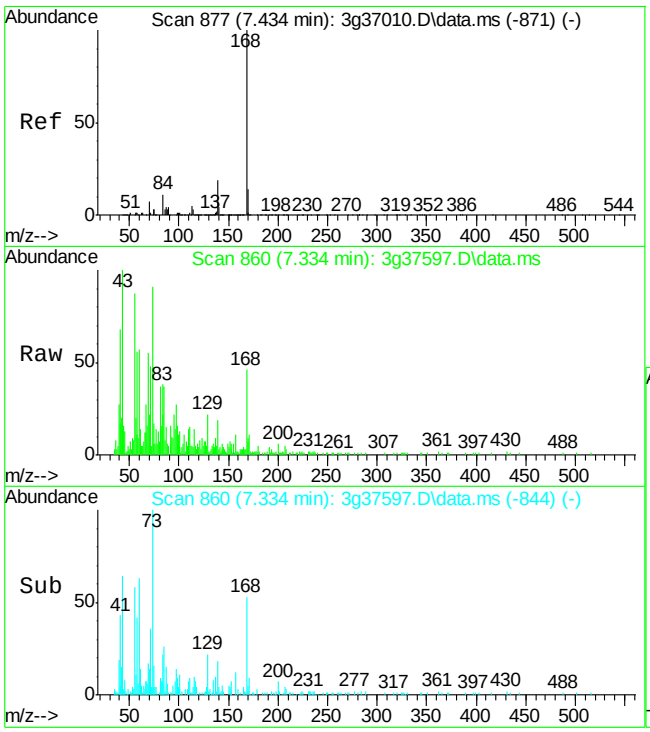


#50
Biphenyl
Concen: 0.6660 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:154 Resp: 14255

Ion	Ratio	Lower	Upper
154	100		
153	42.1	21.4	61.4
76	23.5	5.2	45.2

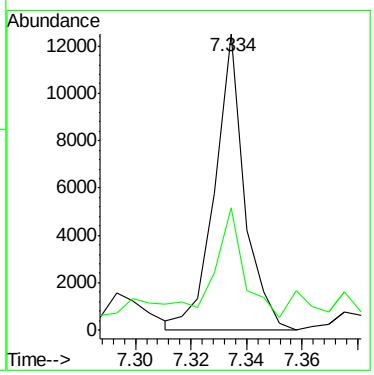


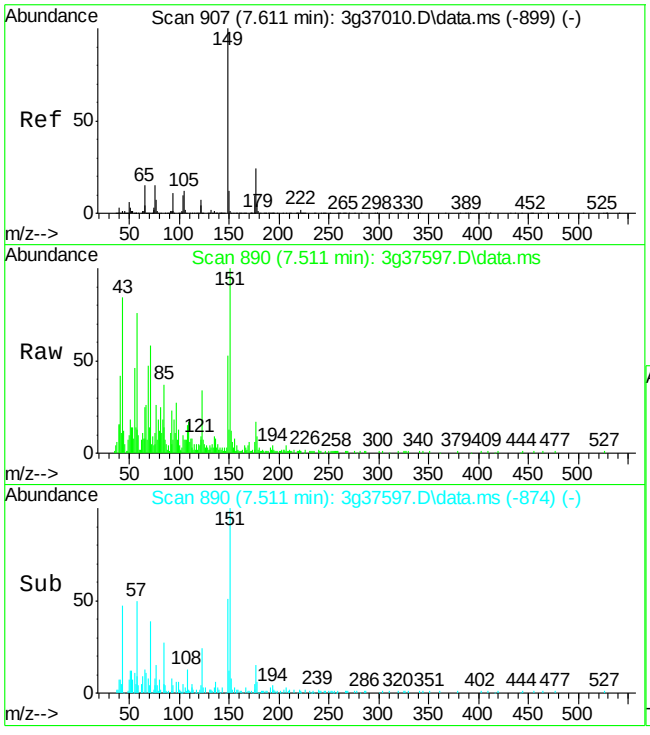


#60
Dibenzofuran
Concen: 0.1804 ppm
RT: 7.334 min Scan# 860
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:168 Resp: 9275

Ion	Ratio	Lower	Upper
168	100		
139	36.5	14.4	54.4

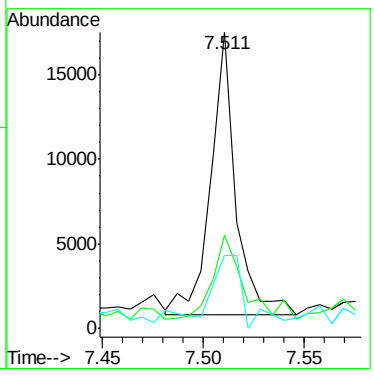


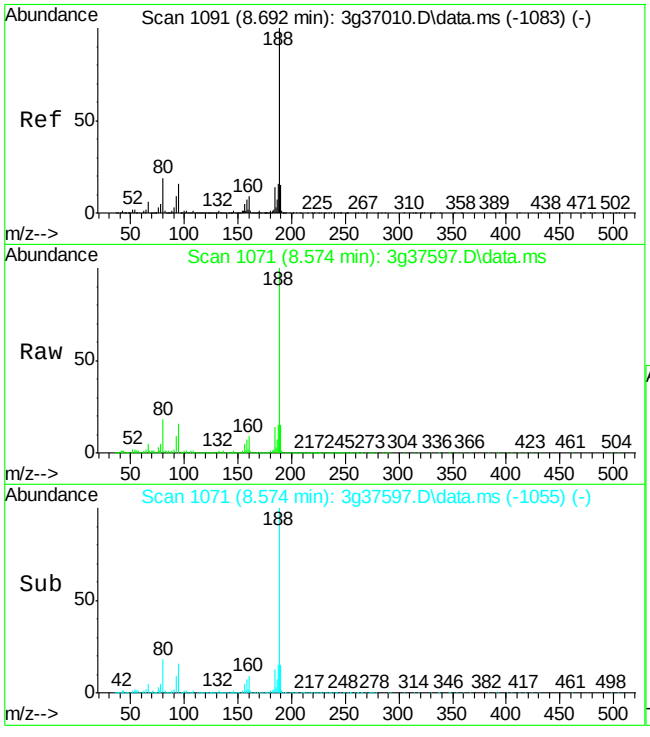


#63
Diethylphthalate
Concen: Below ppm
RT: 7.511 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:149 Resp: 14410

Ion	Ratio	Lower	Upper
149	100		
177	37.4	3.6	43.6
150	34.0	0.0	32.5#

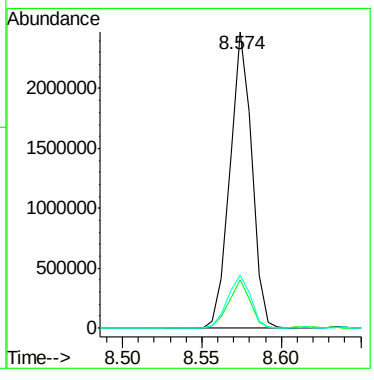


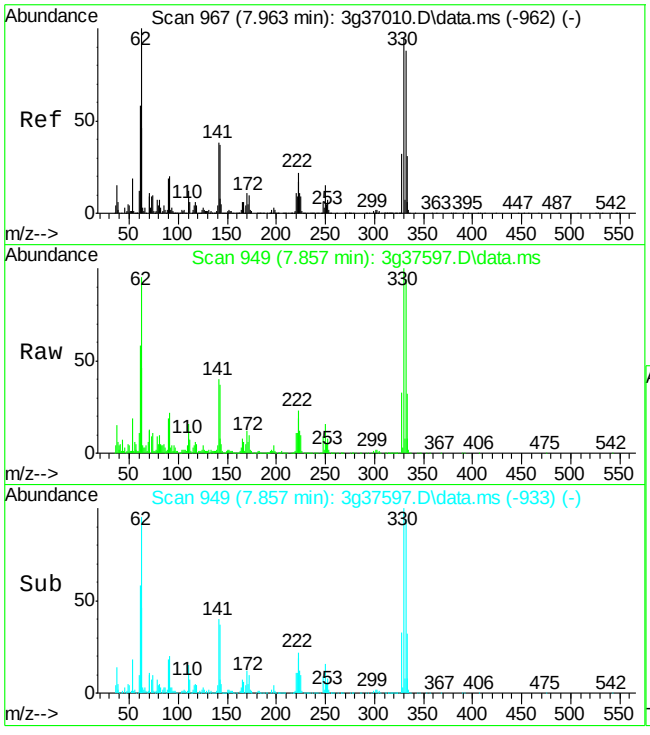


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:188 Resp: 2363685

Ion	Ratio	Lower	Upper
188	100		
94	16.1	0.0	35.1
80	18.7	0.0	37.9

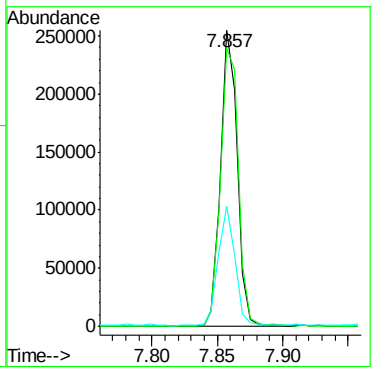


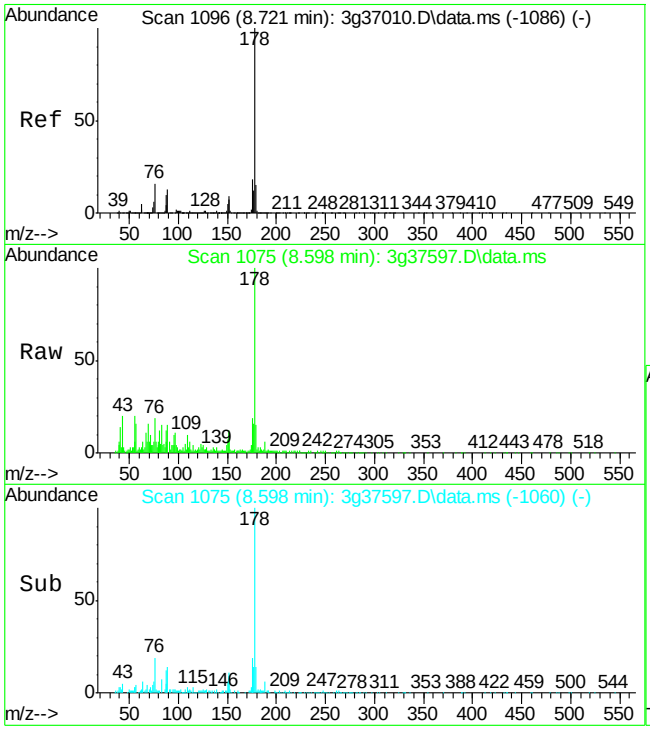


#69
2,4,6-Tribromophenol
Concen: 40.5342 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:330 Resp: 223422

Ion	Ratio	Lower	Upper
330	100		
332	101.5	74.8	112.2
141	41.1	33.8	50.6

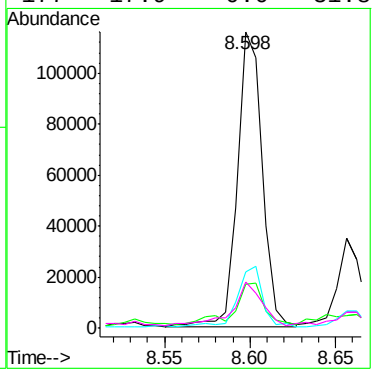


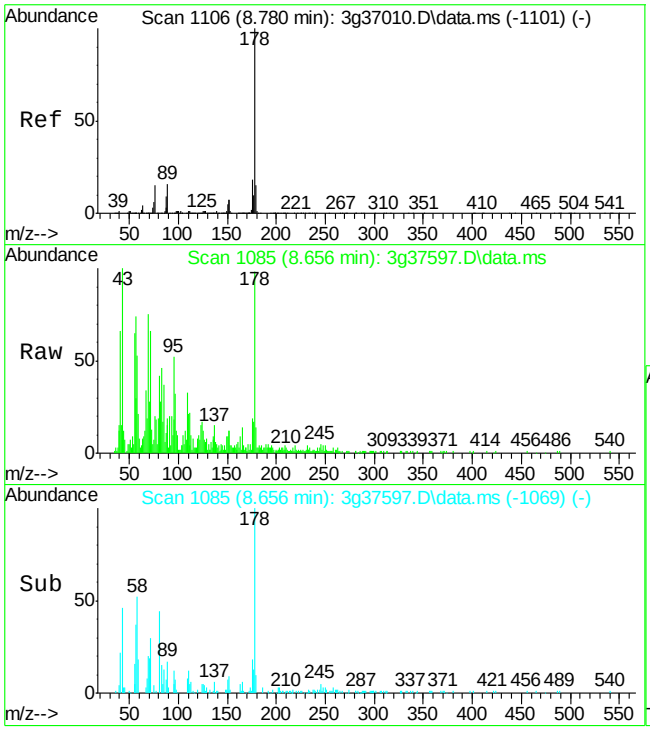


#79
Phenanthrene
Concen: 1.7448 ppm
RT: 8.598 min Scan# 1075
Delta R.T. -0.012 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:178 Resp: 115595

Ion	Ratio	Lower	Upper
178	100		
179	17.7	0.0	35.6
176	20.0	0.0	38.7
177	17.9	0.0	31.8

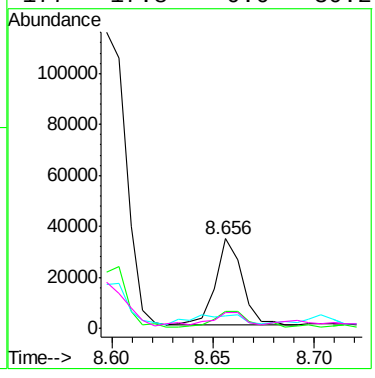


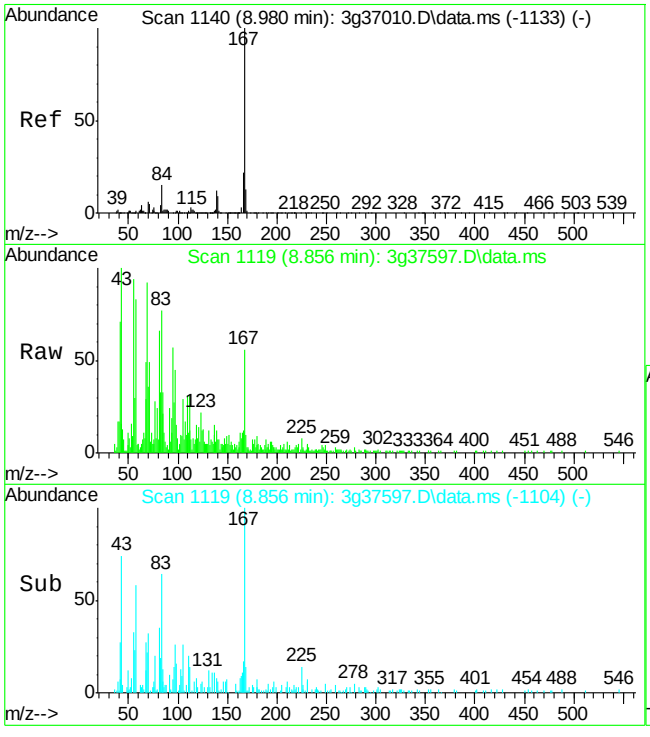


#80
Anthracene
Concen: 0.4615 ppm
RT: 8.656 min Scan# 1085
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:178 Resp: 31606

Ion	Ratio	Lower	Upper
178	100		
176	22.1	0.0	38.0
179	21.8	0.0	35.2
177	17.8	0.0	30.2

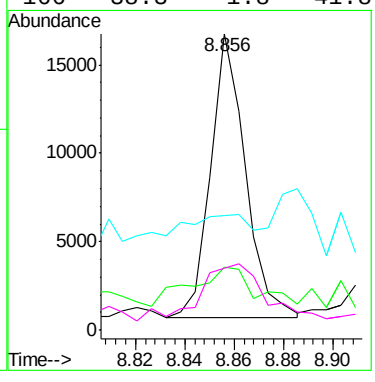


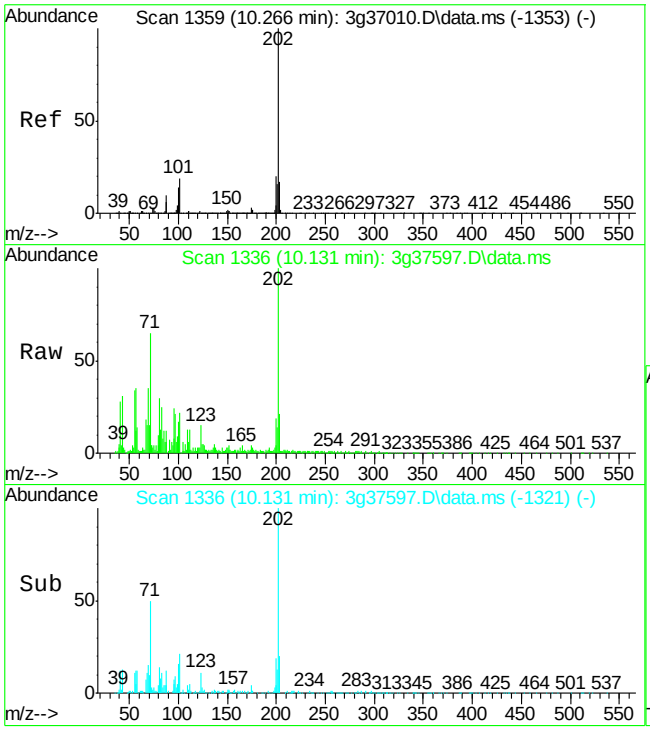


#81
Carbazole
Concen: 0.2520 ppm
RT: 8.856 min Scan# 1119
Delta R.T. -0.012 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:167 Resp: 15636

Ion	Ratio	Lower	Upper
167	100		
139	25.0	0.0	32.0
84	30.4	0.0	36.8
166	38.3	1.8	41.8

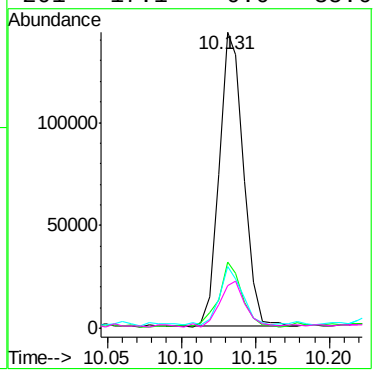


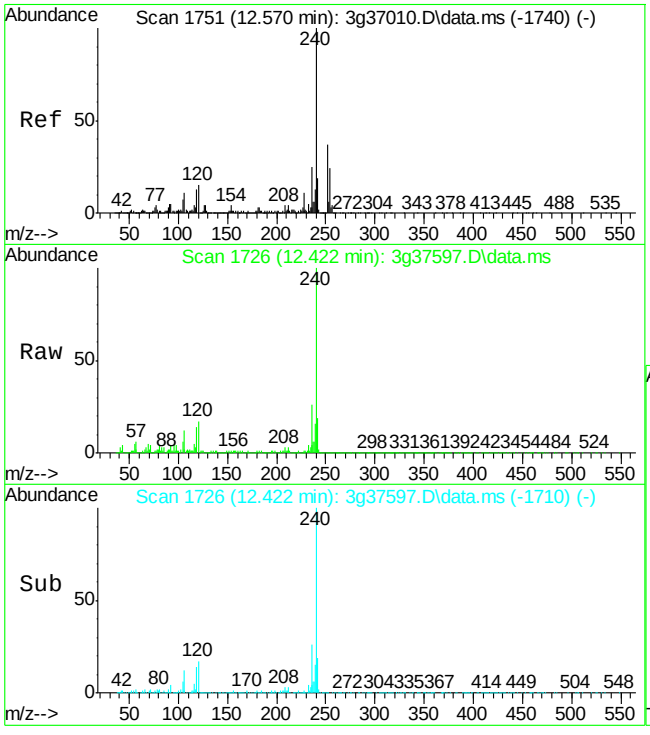


#83
Fluoranthene
Concen: 2.3645 ppm
RT: 10.131 min Scan# 1336
Delta R.T. -0.012 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:202 Resp: 163685

Ion	Ratio	Lower	Upper
202	100		
101	20.8	0.0	38.8
203	18.6	0.0	37.1
201	17.1	0.0	35.6

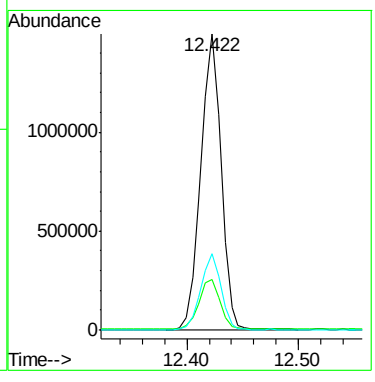


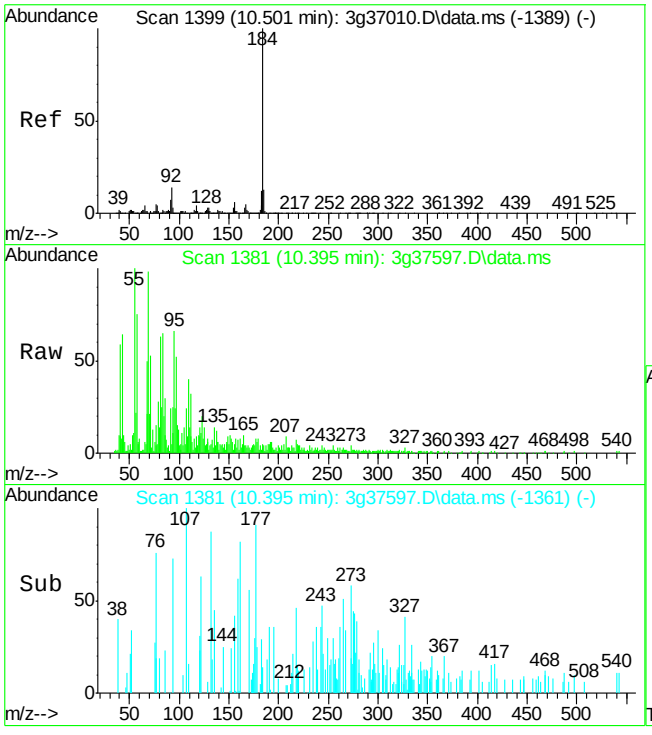


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.422 min Scan# 1726
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:240 Resp: 1887381

Ion	Ratio	Lower	Upper
240	100		
120	18.0	0.0	36.6
236	25.5	4.3	44.3

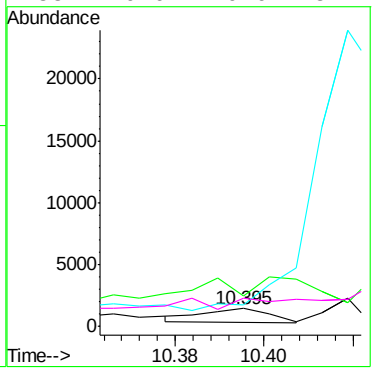


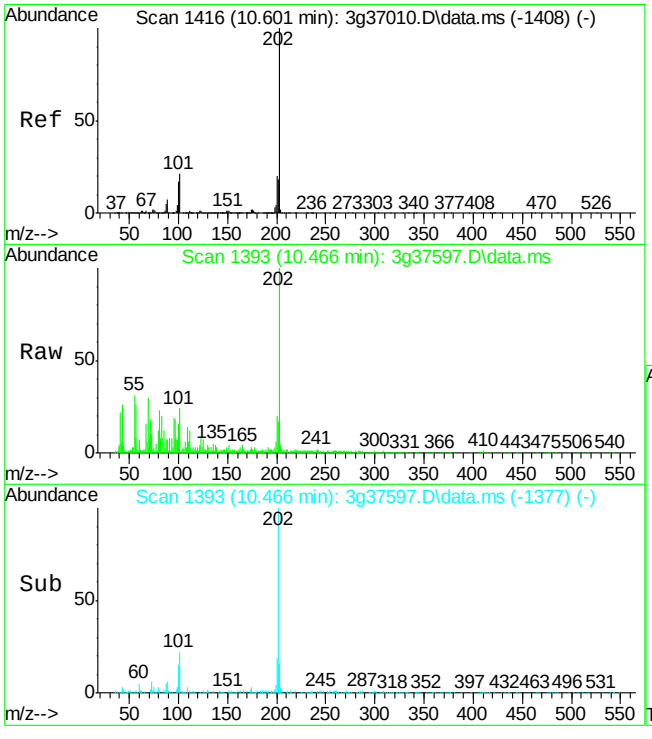


#85
Benzidine
Concen: Below ppm
RT: 10.395 min Scan# 1381
Delta R.T. 0.018 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:184 Resp: 1114

Ion	Ratio	Lower	Upper
184	100		
92	159.0	0.0	34.2#
185	0.0	0.0	33.2
183	0.0	0.0	32.2

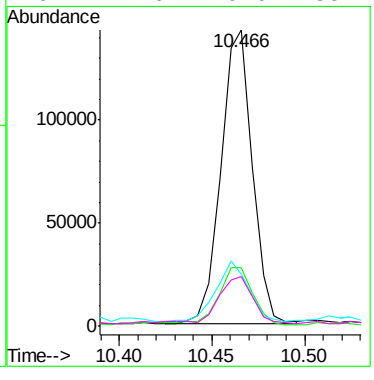


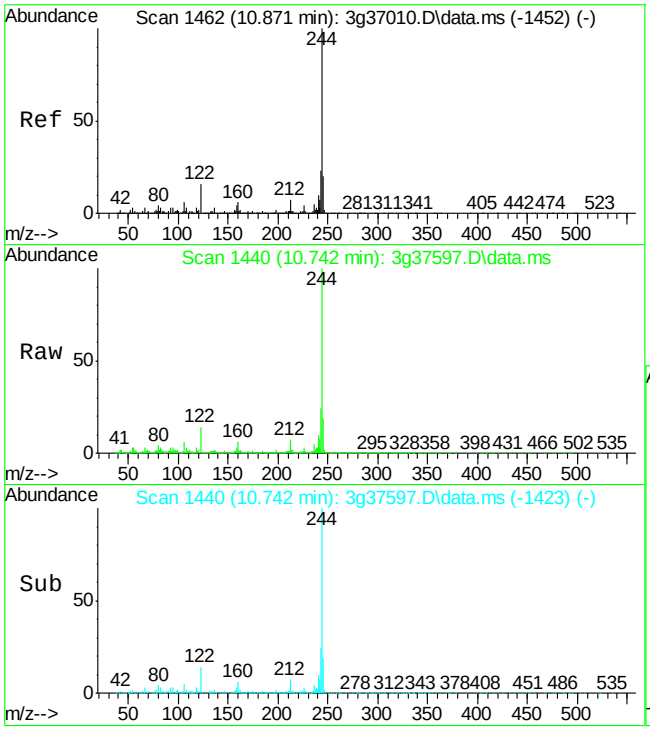


#86
Pyrene
Concen: 2.3946 ppm
RT: 10.466 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:202 Resp: 168202

Ion	Ratio	Lower	Upper
202	100		
200	23.1	0.0	39.9
203	21.6	0.0	37.7
201	17.9	0.0	38.4

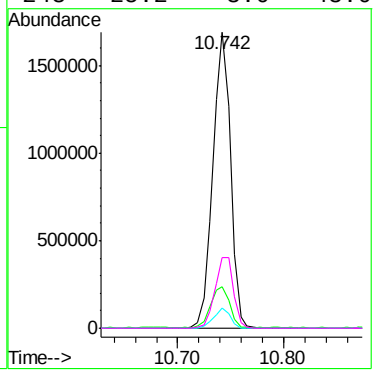


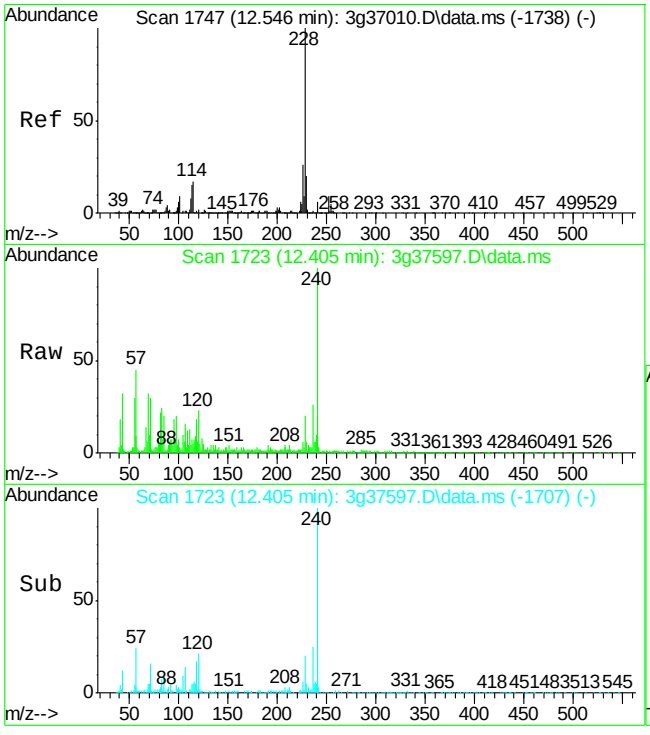


#87
Terphenyl-d14
Concen: 41.6543 ppm
RT: 10.742 min Scan# 1440
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:244 Resp: 1972315

Ion	Ratio	Lower	Upper
244	100		
122	15.0	0.0	35.4
212	6.6	0.0	27.0
243	25.2	3.0	43.0

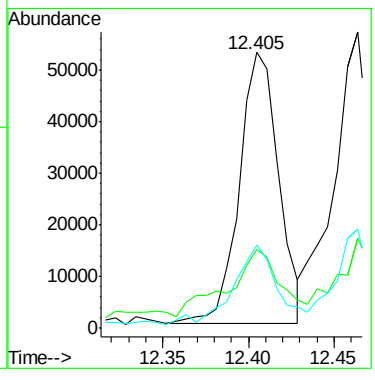


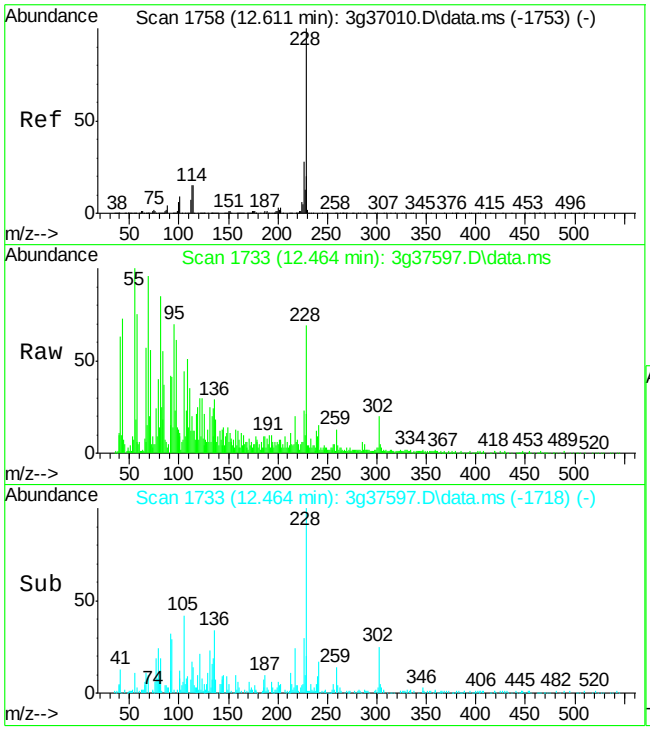


#90
Benzo(a)anthracene
Concen: 1.3773 ppm
RT: 12.405 min Scan# 1723
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:228 Resp: 83998

Ion	Ratio	Lower	Upper
228	100		
229	32.7	0.0	40.0
226	32.1	6.1	46.1

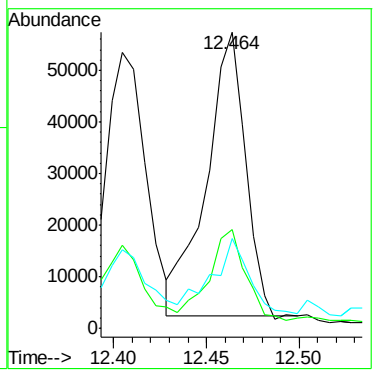


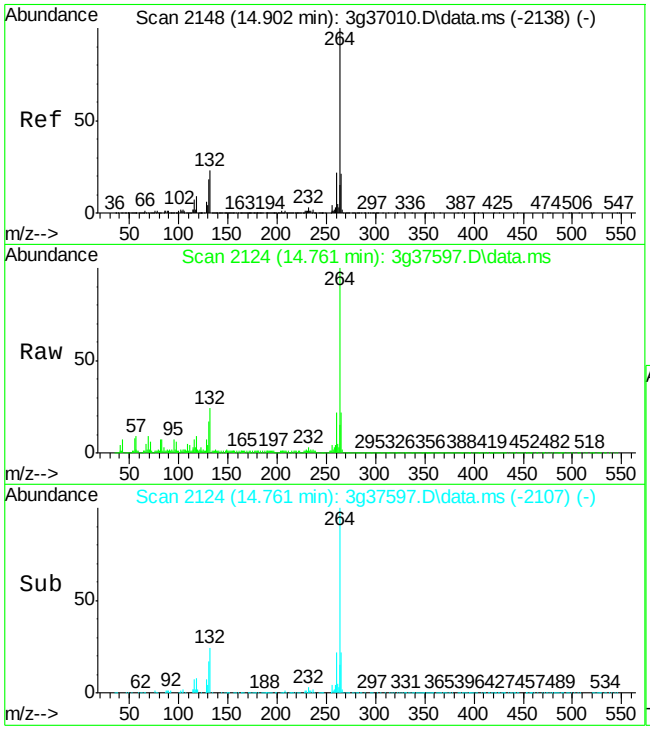


#91
Chrysene
Concen: 1.3594 ppm
RT: 12.464 min Scan# 1733
Delta R.T. -0.012 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:228 Resp: 80595

Ion	Ratio	Lower	Upper
228	100		
226	29.7	8.0	48.0
229	25.0	0.0	39.8

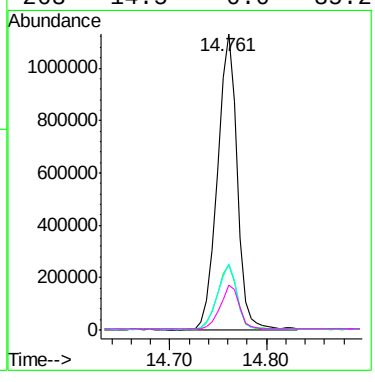


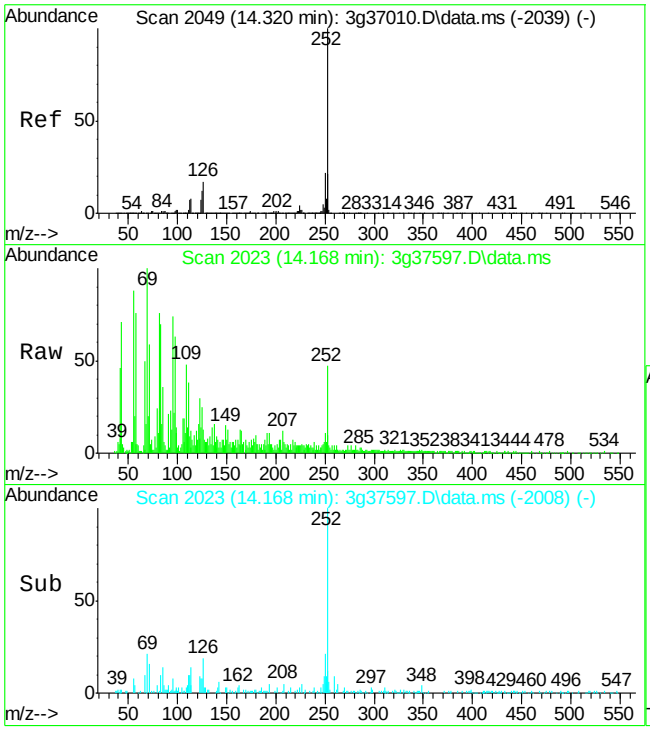


#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.761 min Scan# 2124
Delta R.T. 0.000 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:264 Resp: 1621002

Ion	Ratio	Lower	Upper
264	100		
260	22.0	1.3	41.3
265	21.9	0.2	40.2
263	14.5	0.0	35.2

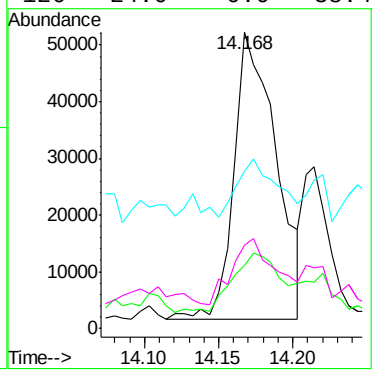


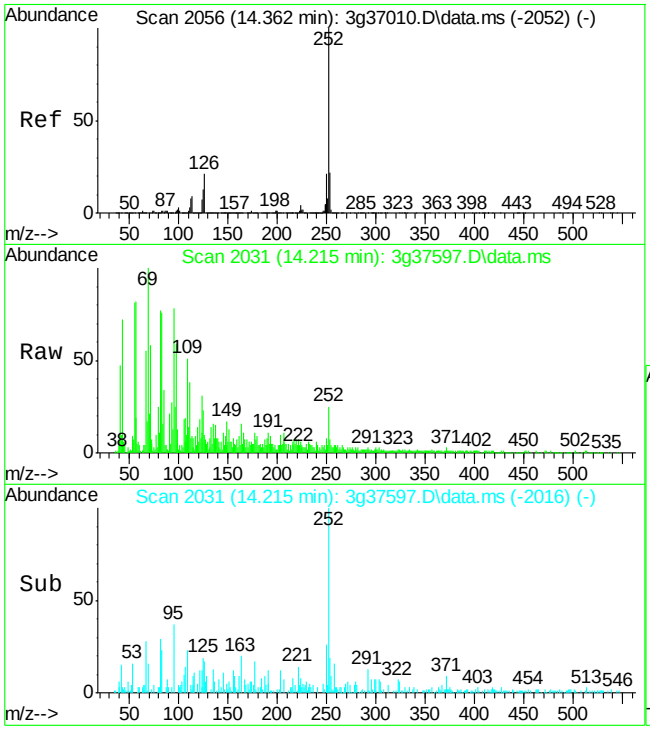


#95
Benzo(b)fluoranthene
Concen: 1.9085 ppm
RT: 14.168 min Scan# 2023
Delta R.T. -0.012 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:252 Resp: 100323

Ion	Ratio	Lower	Upper
252	100		
253	20.6	1.3	41.3
125	18.2	0.0	33.8
126	24.0	0.0	38.4

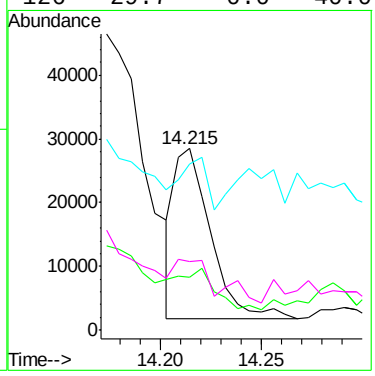


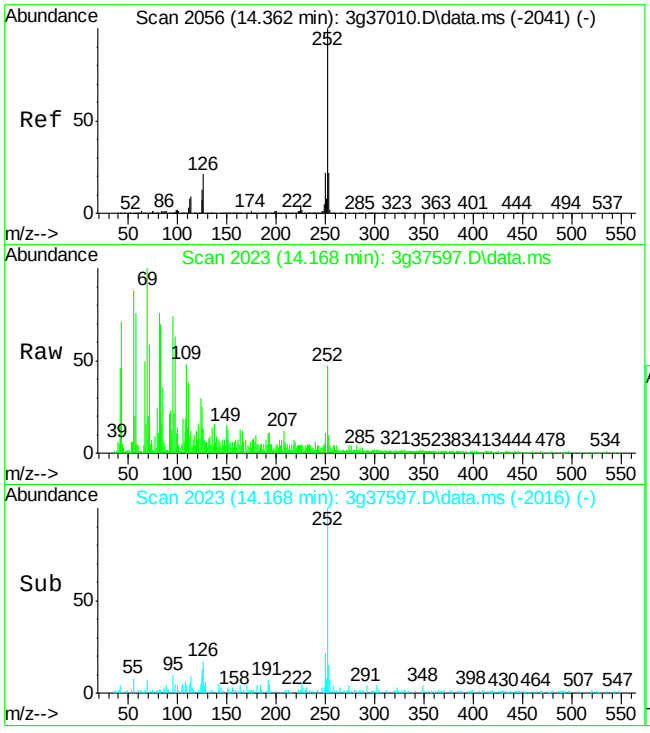


#96
Benzo(k)fluoranthene
Concen: 0.6306 ppm
RT: 14.215 min Scan# 2031
Delta R.T. -0.012 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:252 Resp: 33089

Ion	Ratio	Lower	Upper
252	100		
253	24.6	1.1	41.1
125	21.5	0.0	33.0
126	29.7	0.0	40.0

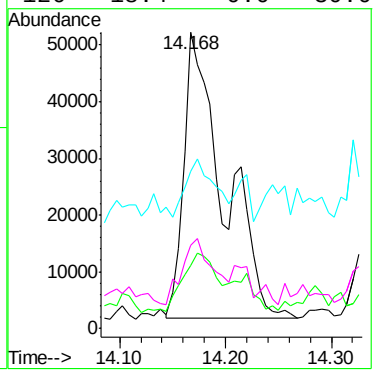


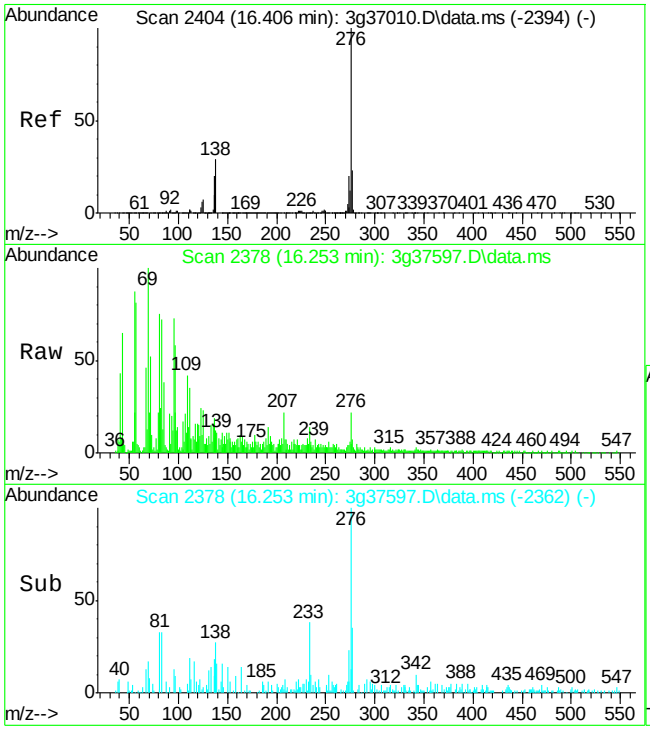


#97
Benzo(b&k)fluoranthene
Concen: 2.4777 ppm
RT: 14.168 min Scan# 2023
Delta R.T. -0.059 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:252 Resp: 130897

Ion	Ratio	Lower	Upper
252	100		
253	16.5	0.0	30.5
125	14.0	0.0	26.5
126	18.4	0.0	30.0

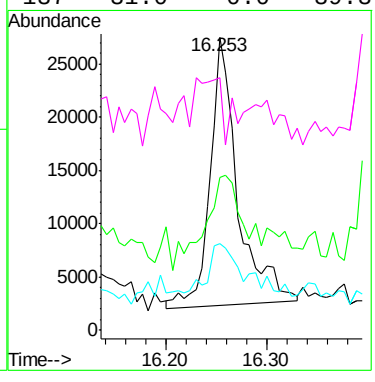


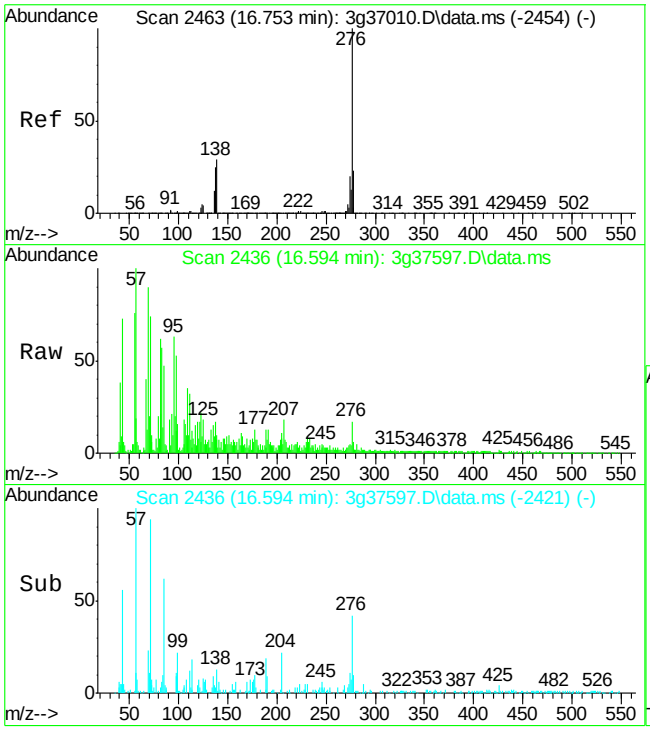


#99
Indeno(1,2,3-cd)pyrene
Concen: 1.1463 ppm
RT: 16.253 min Scan# 2378
Delta R.T. -0.006 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:276 Resp: 47421

Ion	Ratio	Lower	Upper
276	100		
138	51.1	8.5	48.5#
277	26.2	3.3	43.3
137	31.0	0.0	39.3

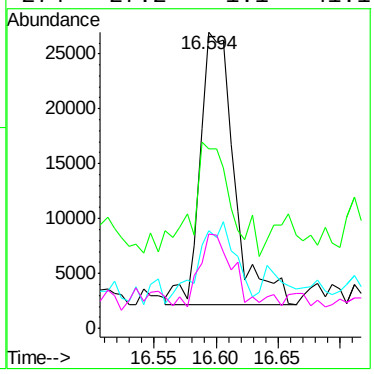




#101
Benzo(g,h,i)perylene
Concen: 1.0582 ppm
RT: 16.594 min Scan# 2436
Delta R.T. -0.012 min
Lab File: 3g37597.D
Acq: 7 Aug 18 8:27 pm

Tgt Ion:276 Resp: 47798

Ion	Ratio	Lower	Upper
276	100		
138	47.8	9.8	49.8
277	32.1	3.4	43.4
274	27.2	1.1	41.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37598.D
Acq On : 7 Aug 2018 8:54 pm
Operator : DONC
Sample : DA7701-4
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 08 09:52:54 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.960	152	764210	40.0000	ppm	0.00
26) Naphthalene-d8	5.877	136	2834241	40.0000	ppm	0.00
44) Acenaphthene-d10	7.170	164	1369301	40.0000	ppm	0.00
67) Phenanthrene-d10	8.574	188	2416543	40.0000	ppm	0.00
84) Chrysene-d12	12.422	240	1919366	40.0000	ppm	0.00
93) Perylene-d12	14.761	264	1639316	40.0000	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	4.050	112	876086	24.5929	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 49.18%			
8) Phenol-d5	4.743	99	1582070	29.9869	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 59.98%			
27) Nitrobenzene-d5	5.360	82	1245532	25.5049	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 51.00%			
49) 2-Fluorobiphenyl	6.647	172	1884702	39.9882	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 79.98%			
69) 2,4,6-Tribromophenol	7.857	330	229370	40.7030	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 81.40%			
87) Terphenyl-d14	10.742	244	1995846	41.4489	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 82.90%			

Target Compounds							Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	58937	0.6783	ppm		97
14) n-decane	4.819	43	61688	1.0371	ppm		87
16) 1,4-Dichlorobenzene	4.972	146	525901	16.1907	ppm		99
21) Acetophenone	5.248	105	64717	1.2228	ppm		93
23) 4-Methylphenol	5.284	107	15927	0.3871	ppm		92
24) 3&4-Methylphenol	5.284	107	15927	0.3871	ppm		92
36) Naphthalene	5.889	128	329894	3.8090	ppm		97
42) 2-Methylnaphthalene	6.382	142	46027	0.8918	ppm		89
43) 1-Methylnaphthalene	6.459	142	19101	0.3935	ppm		96
50) Biphenyl	6.717	154	29279	0.8982	ppm		91
57) Acenaphthene	7.193	154	16003	0.4308	ppm	#	72
60) Dibenzofuran	7.334	168	22823	0.4195	ppm		96
63) Diethylphthalate	7.510	149	15332	Below	Cal	#	69
64) Fluorene	7.628	166	21142	0.4717	ppm	#	77
79) Phenanthrene	8.603	178	306470	4.5247	ppm		96
80) Anthracene	8.656	178	70045	1.0004	ppm		86
81) Carbazole	8.856	167	34477	0.5434	ppm		86
83) Fluoranthene	10.137	202	335586	4.7416	ppm		98
85) Benzidine	10.401	184	1615	Below	Cal	#	1
86) Pyrene	10.466	202	312747	4.3781	ppm		96
90) Benzo(a)anthracene	12.405	228	144359	2.3276	ppm		86
91) Chrysene	12.464	228	145785	2.4180	ppm		98
92) Bis(2-ethylhexyl)phtha...	12.616	149	33123	0.8472	ppm	#	1
95) Benzo(b)fluoranthene	14.173	252	164643	3.0970	ppm		96
96) Benzo(k)fluoranthene	14.214	252	52904	0.9969	ppm		86
97) Benzo(b&k)fluoranthene	14.173	252	213447	3.9951	ppm		85
99) Indeno(1,2,3-cd)pyrene	16.259	276	65762	1.5718	ppm	#	73
101) Benzo(g,h,i)perylene	16.600	276	66415	1.4539	ppm		88

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37598.D
Acq On : 7 Aug 2018 8:54 pm
Operator : DONC
Sample : DA7701-4
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 08 09:52:54 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

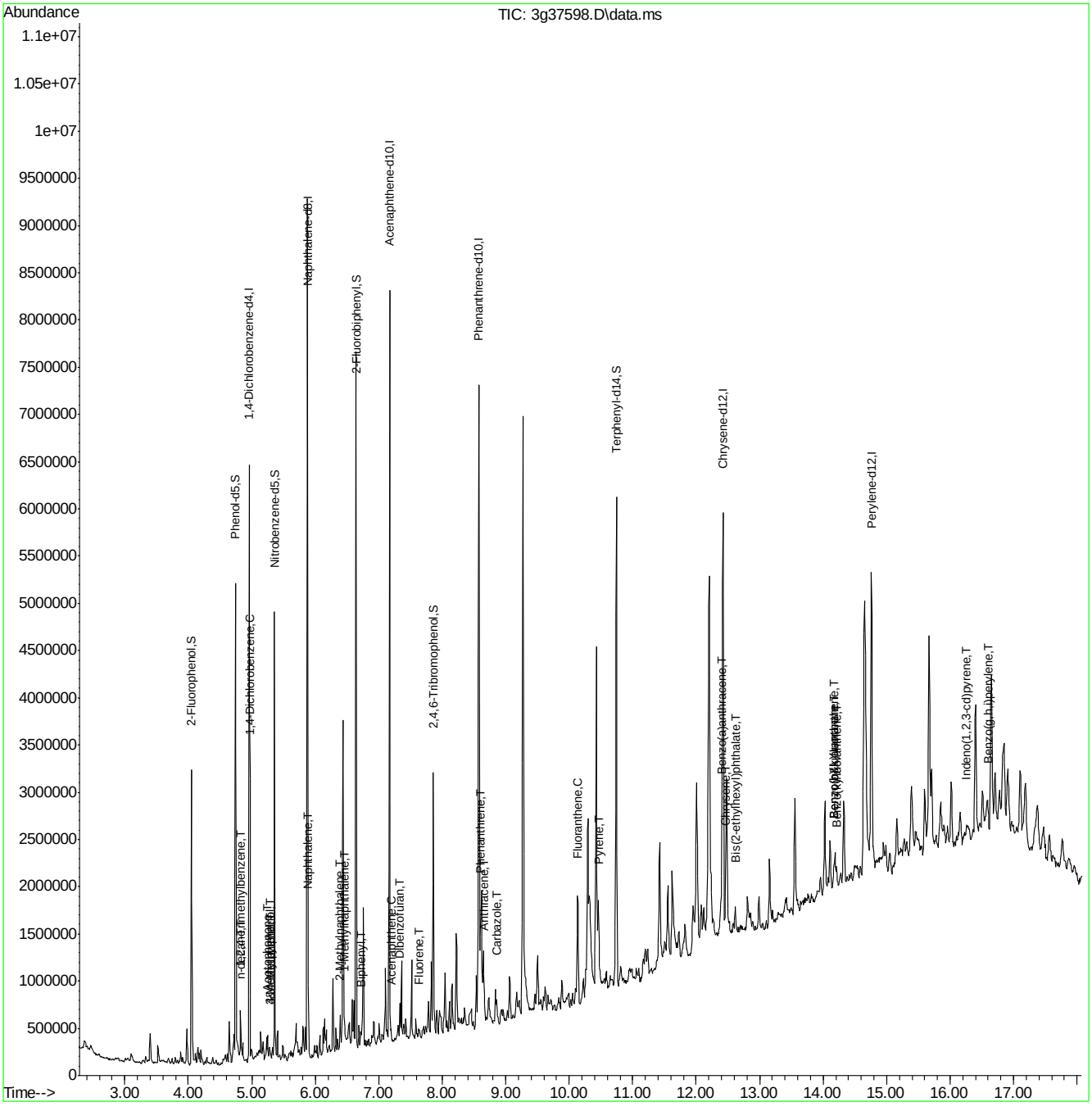
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

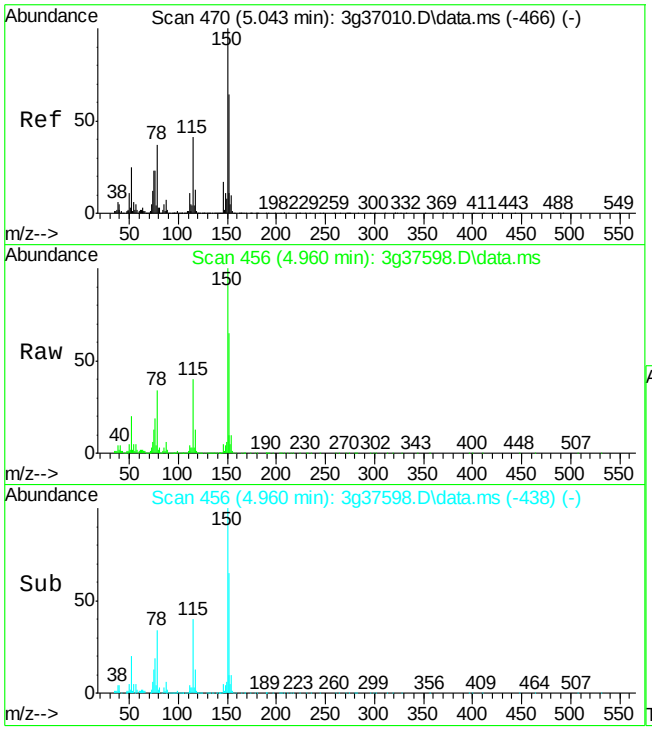
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37598.D
Acq On : 7 Aug 2018 8:54 pm
Operator : DONC
Sample : DA7701-4
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 08 09:52:54 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

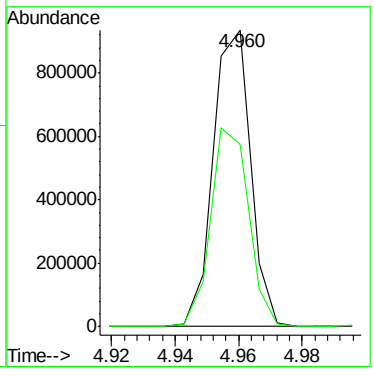


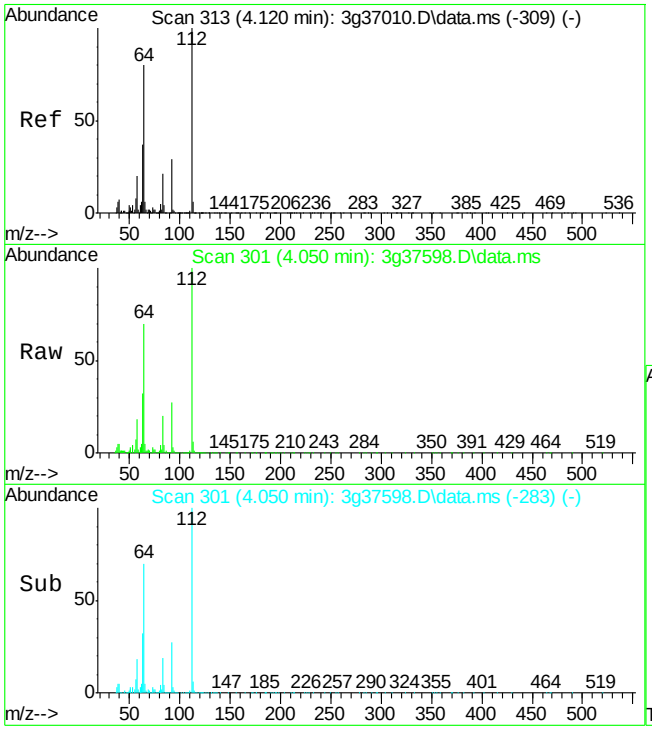


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.960 min Scan# 456
Delta R.T. 0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:152 Resp: 764210

Ion	Ratio	Lower	Upper
152	100		
115	67.6	53.0	93.0

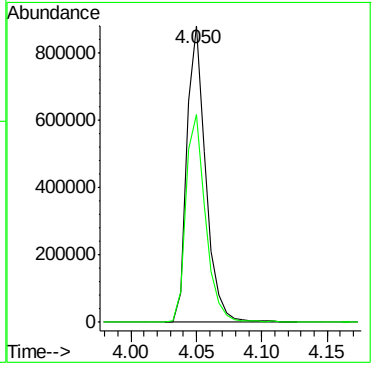


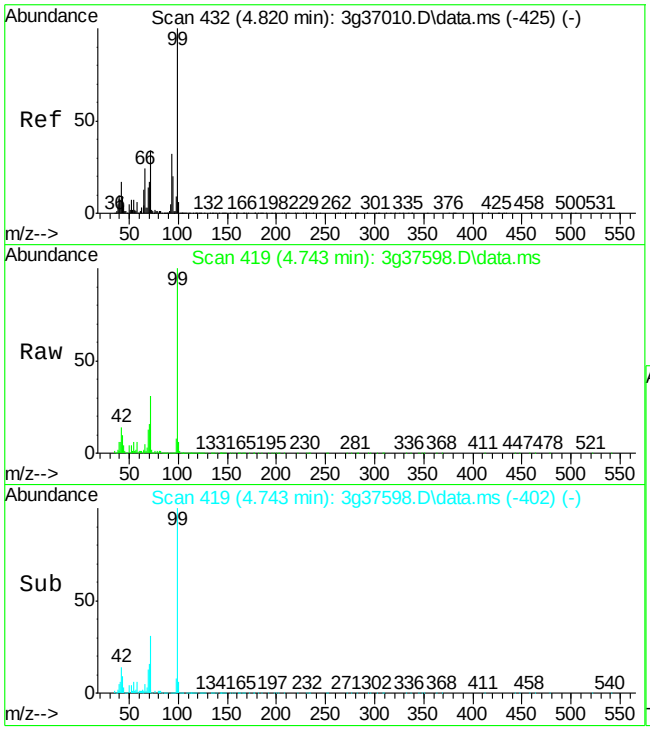


#5
2-Fluorophenol
Concen: 24.5929 ppm
RT: 4.050 min Scan# 301
Delta R.T. 0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:112 Resp: 876086

Ion	Ratio	Lower	Upper
112	100		
64	73.5	58.3	98.3

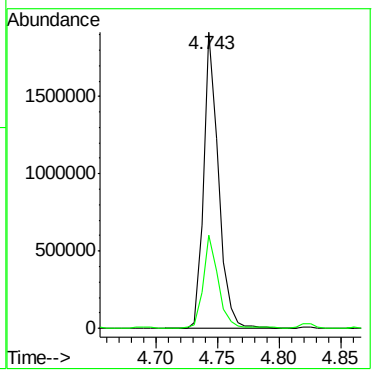


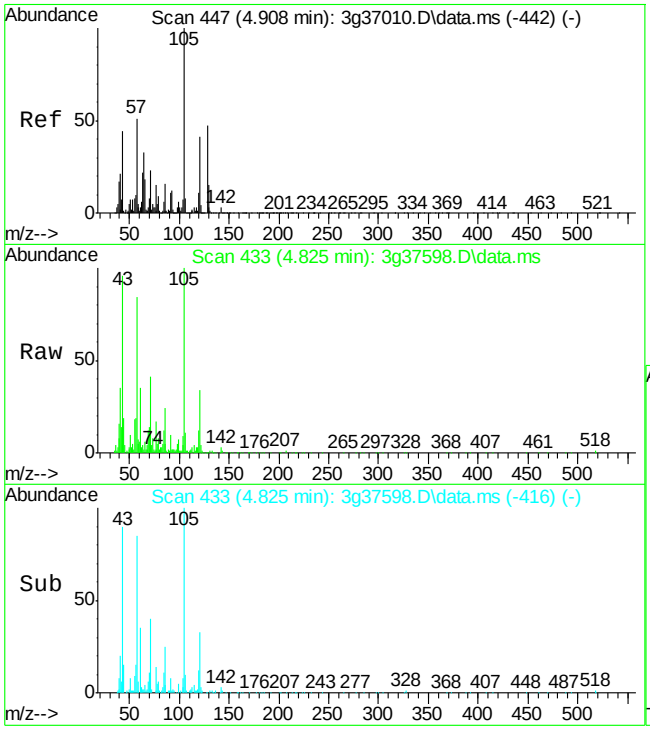


#8
Phenol-d5
Concen: 29.9869 ppm
RT: 4.743 min Scan# 419
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion: 99 Resp: 1582070

Ion	Ratio	Lower	Upper
99	100		
71	31.9	13.6	53.6

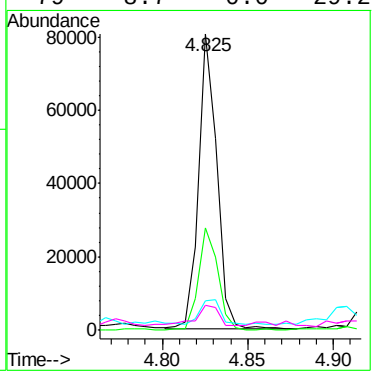


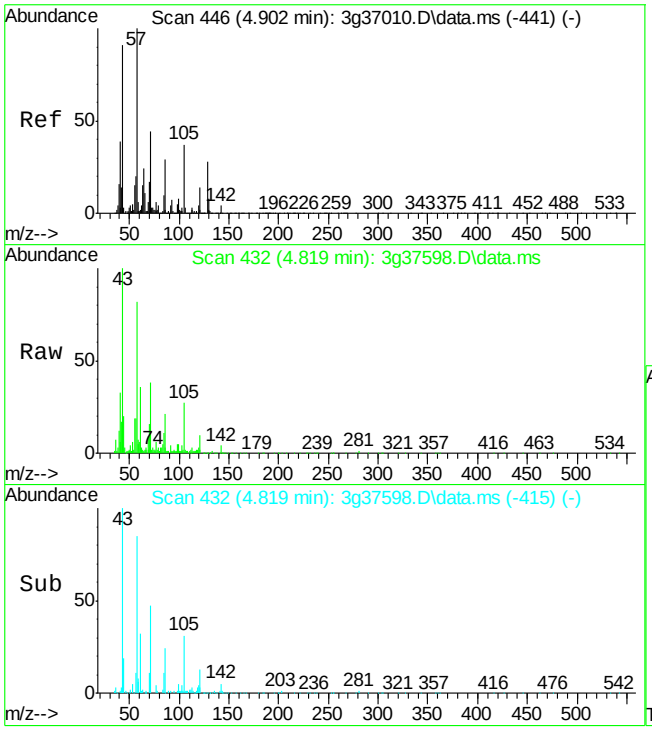


#13
1,2,4-Trimethylbenzene
Concen: 0.6783 ppm
RT: 4.825 min Scan# 433
Delta R.T. -0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:105 Resp: 58937

Ion	Ratio	Lower	Upper
105	100		
120	37.2	19.5	59.5
91	10.2	0.0	31.4
79	8.7	0.0	29.2

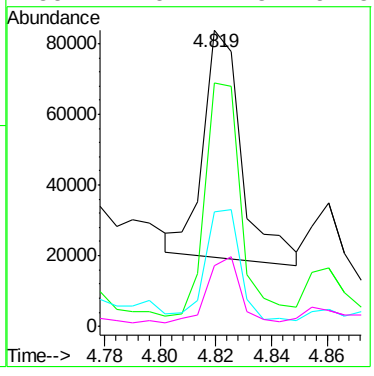


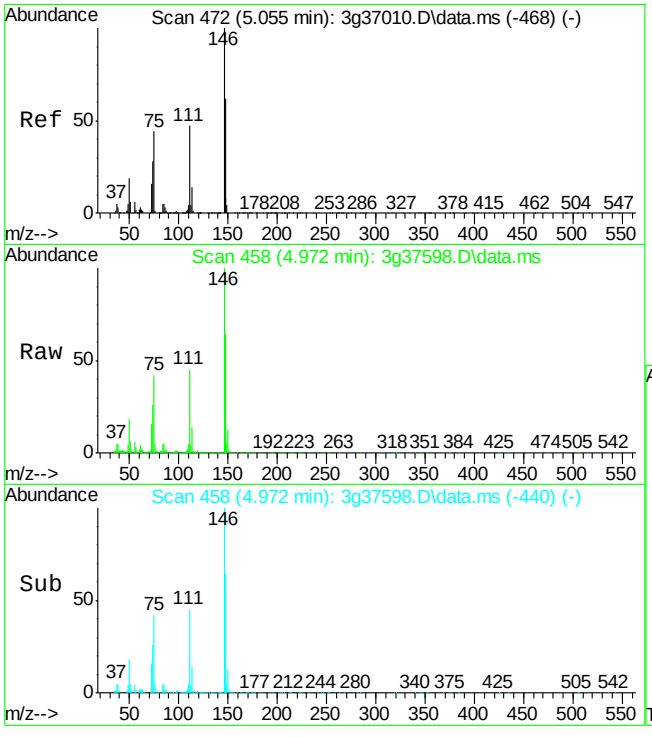


#14
n-decane
Concen: 1.0371 ppm
RT: 4.819 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion: 43 Resp: 61688

Ion	Ratio	Lower	Upper
43	100		
57	95.2	92.0	132.0
71	44.5	28.7	68.7
85	24.5	11.8	51.8

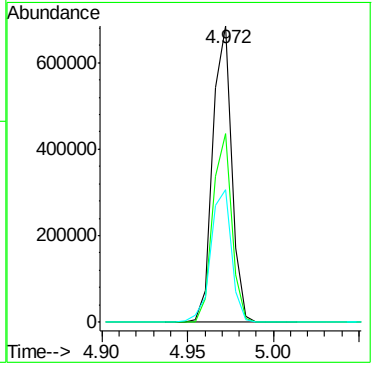


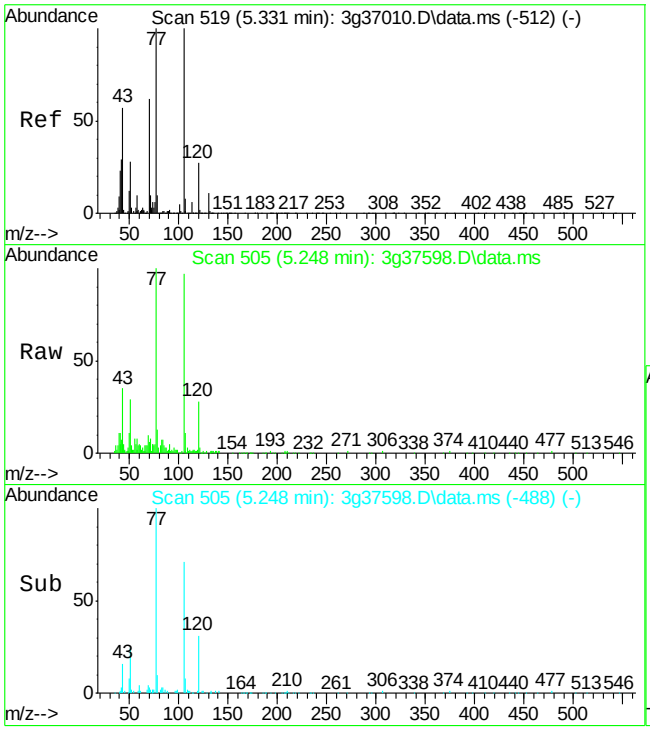


#16
1,4-Dichlorobenzene
Concen: 16.1907 ppm
RT: 4.972 min Scan# 458
Delta R.T. 0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:146 Resp: 525901

Ion	Ratio	Lower	Upper
146	100		
148	63.8	42.4	82.4
111	48.7	29.3	69.3

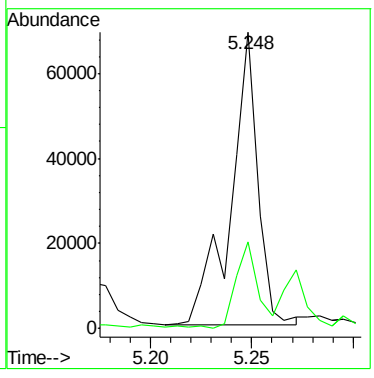


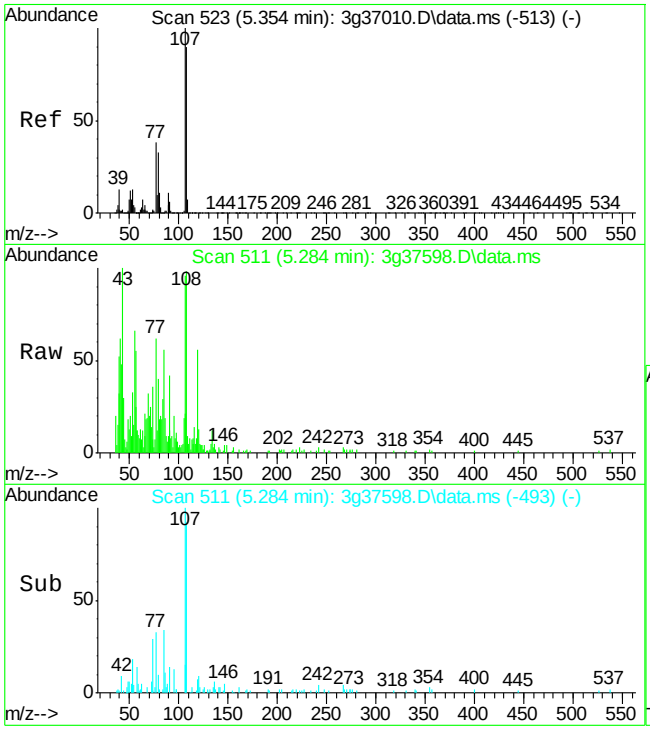


#21
Acetophenone
Concen: 1.2228 ppm
RT: 5.248 min Scan# 505
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:105 Resp: 64717

Ion	Ratio	Lower	Upper
105	100		
120	22.8	6.5	46.5

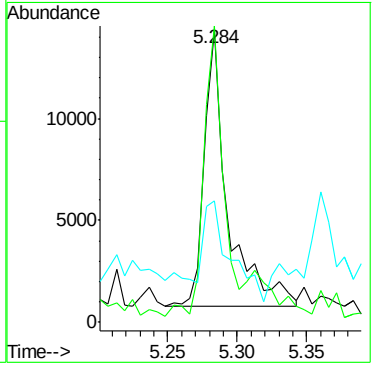


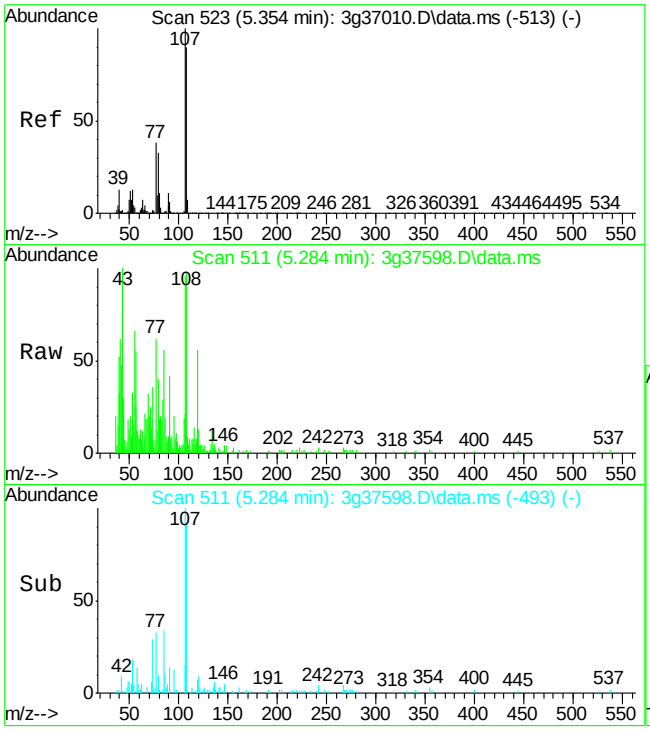


#23
4-Methylphenol
Concen: 0.3871 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:107 Resp: 15927

Ion	Ratio	Lower	Upper
107	100		
108	86.4	72.8	112.8
79	42.9	15.6	55.6

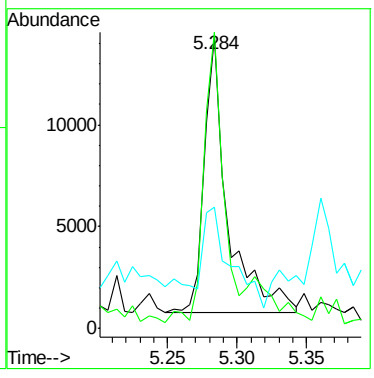


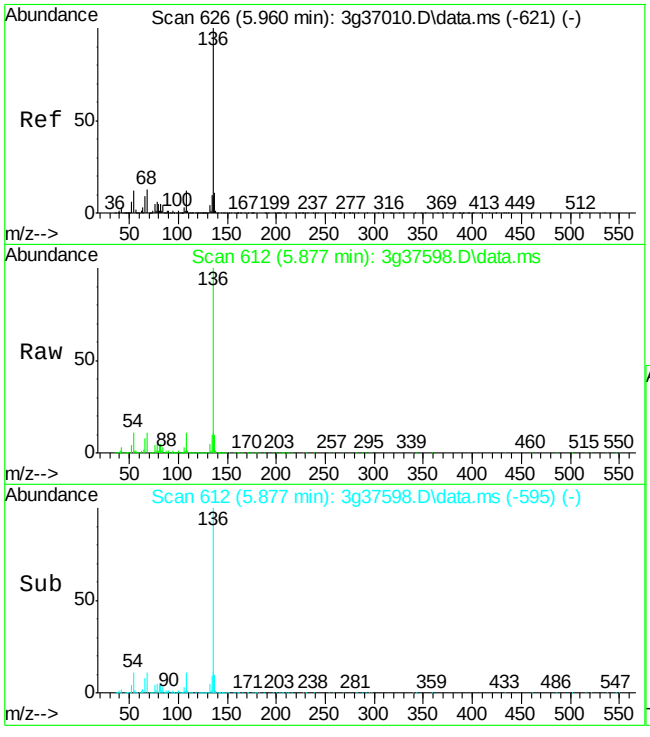


#24
3&4-Methylphenol
Concen: 0.3871 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:107 Resp: 15927

Ion	Ratio	Lower	Upper
107	100		
108	86.4	72.8	112.8
79	42.9	15.6	55.6

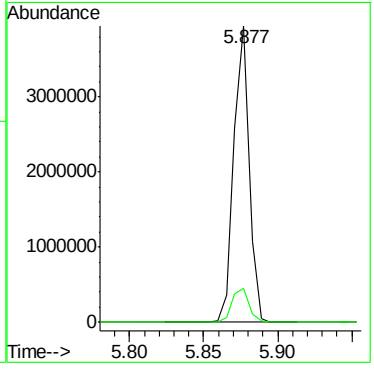


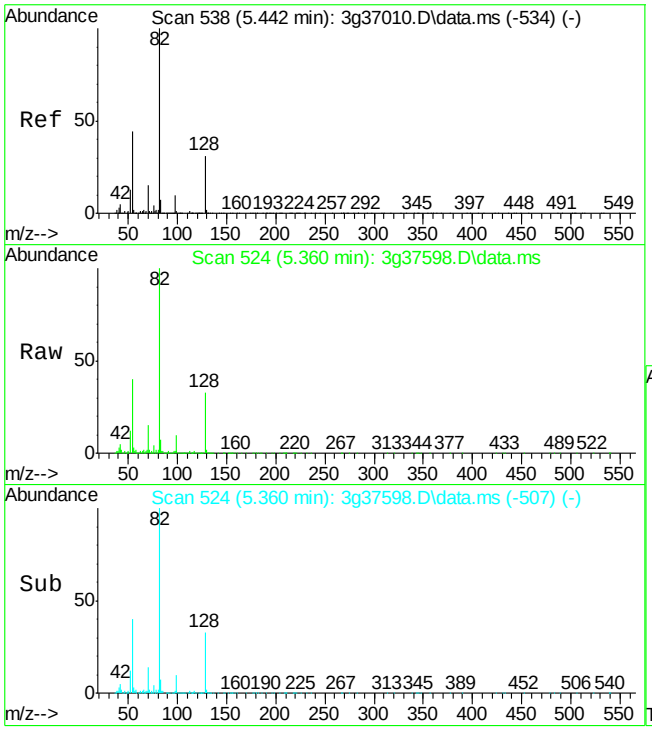


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:136 Resp: 2834241

Ion	Ratio	Lower	Upper
136	100		
68	12.7	0.0	32.4

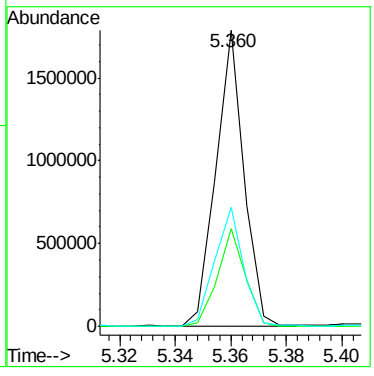


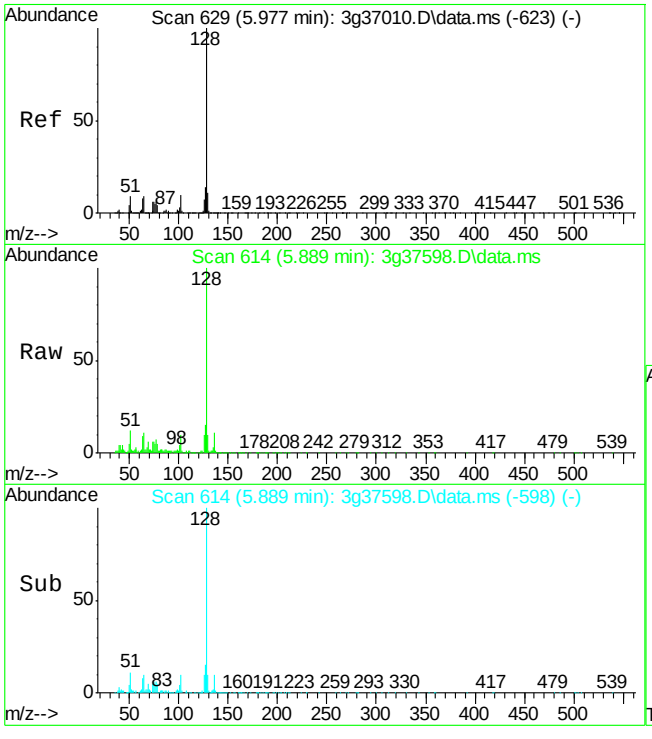


#27
Nitrobenzene-d5
Concen: 25.5049 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion: 82 Resp: 1245532

Ion	Ratio	Lower	Upper
82	100		
128	32.8	10.8	50.8
54	41.2	22.9	62.9

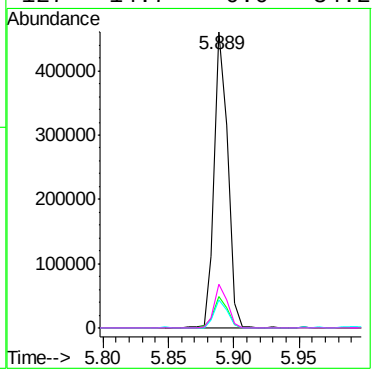


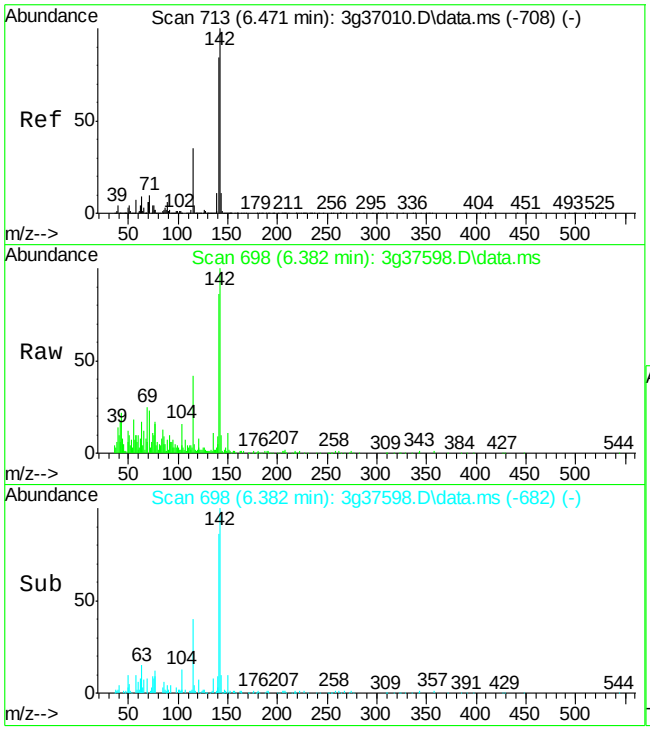


#36
Naphthalene
Concen: 3.8090 ppm
RT: 5.889 min Scan# 614
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:128 Resp: 329894

Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	30.9
126	10.2	0.0	27.5
127	14.7	0.0	34.2

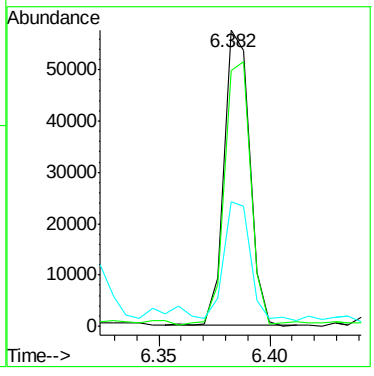


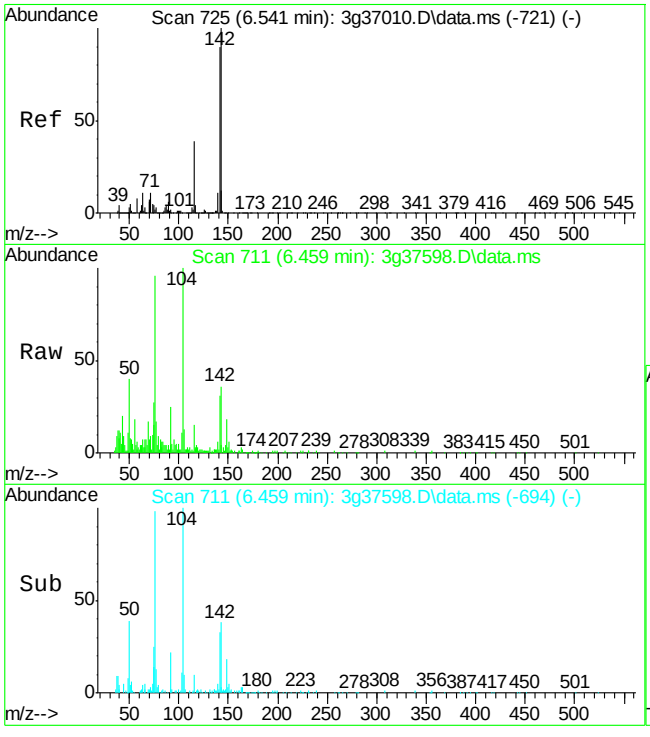


#42
2-Methylnaphthalene
Concen: 0.8918 ppm
RT: 6.382 min Scan# 698
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:142 Resp: 46027

Ion	Ratio	Lower	Upper
142	100		
141	92.6	62.4	102.4
115	42.2	15.8	55.8

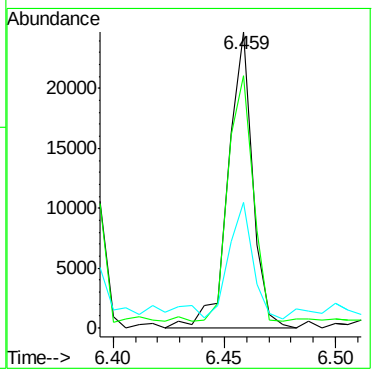




#43
1-Methylnaphthalene
Concen: 0.3935 ppm
RT: 6.459 min Scan# 711
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

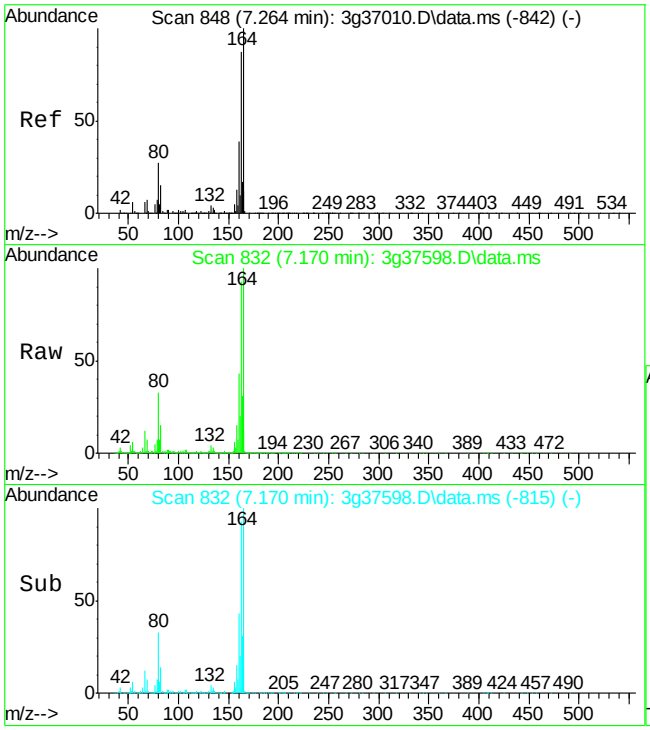
Tgt Ion:142 Resp: 19101

Ion	Ratio	Lower	Upper
142	100		
141	85.0	70.2	110.2
115	38.1	19.3	59.3



9.1.4

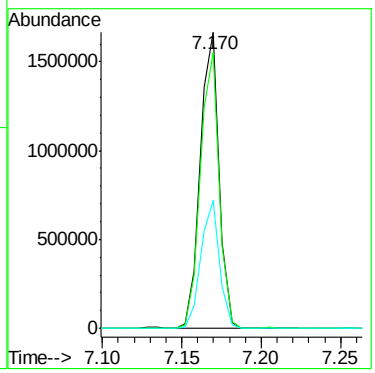
9

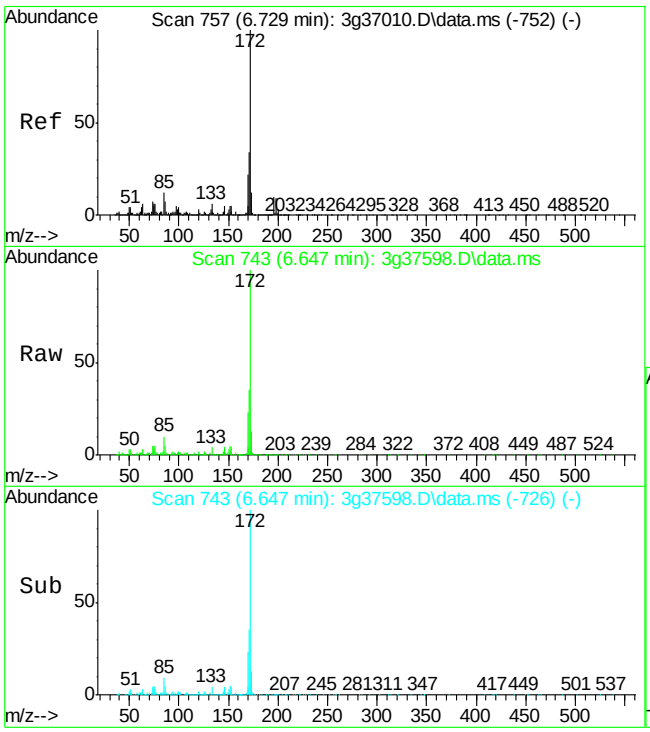


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:164 Resp: 1369301

Ion	Ratio	Lower	Upper
164	100		
162	93.0	69.6	109.6
160	42.6	20.5	60.5

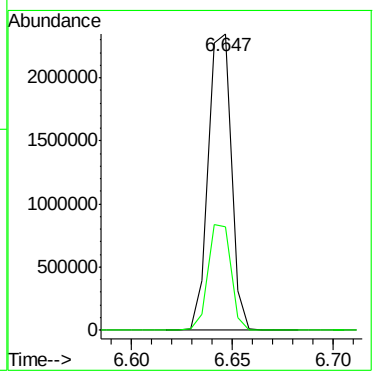


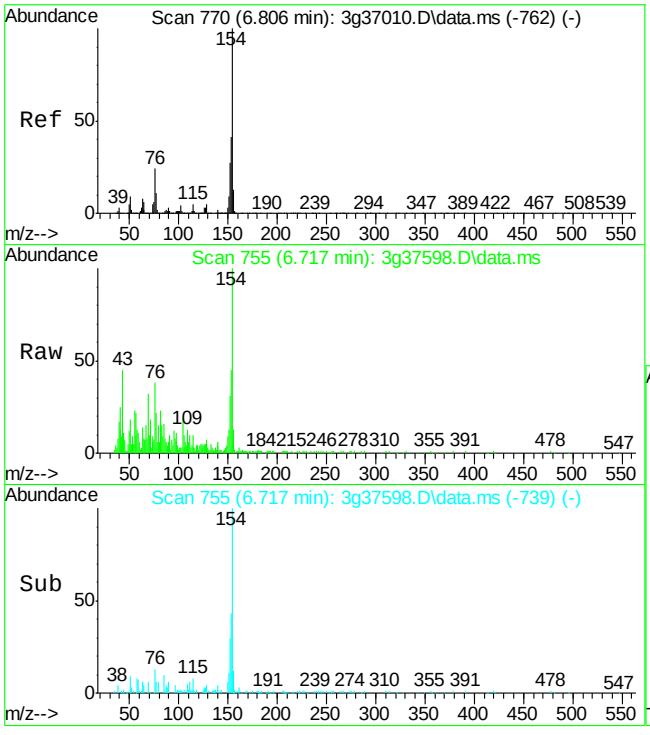


#49
2-Fluorobiphenyl
Concen: 39.9882 ppm
RT: 6.647 min Scan# 743
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:172 Resp: 1884702

Ion	Ratio	Lower	Upper
172	100		
171	35.6	14.5	54.5

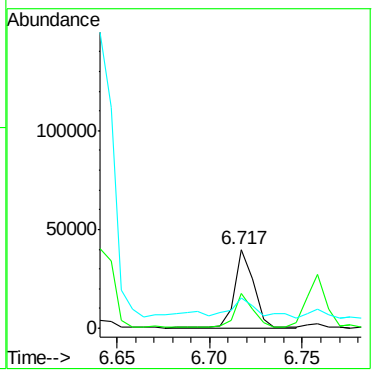


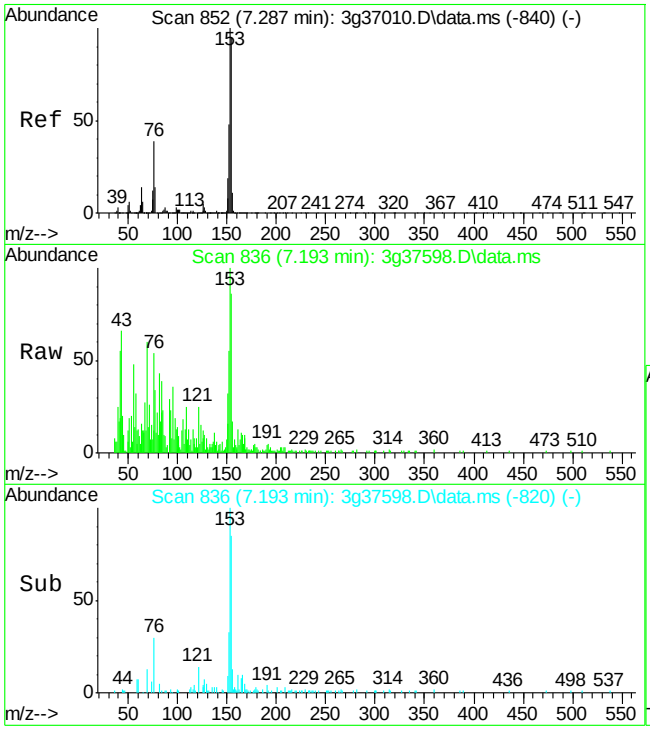


#50
Biphenyl
Concen: 0.8982 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:154 Resp: 29279

Ion	Ratio	Lower	Upper
154	100		
153	40.6	21.4	61.4
76	35.6	5.2	45.2

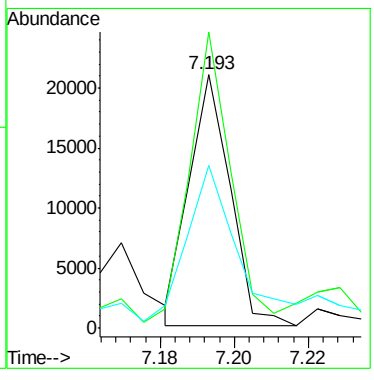


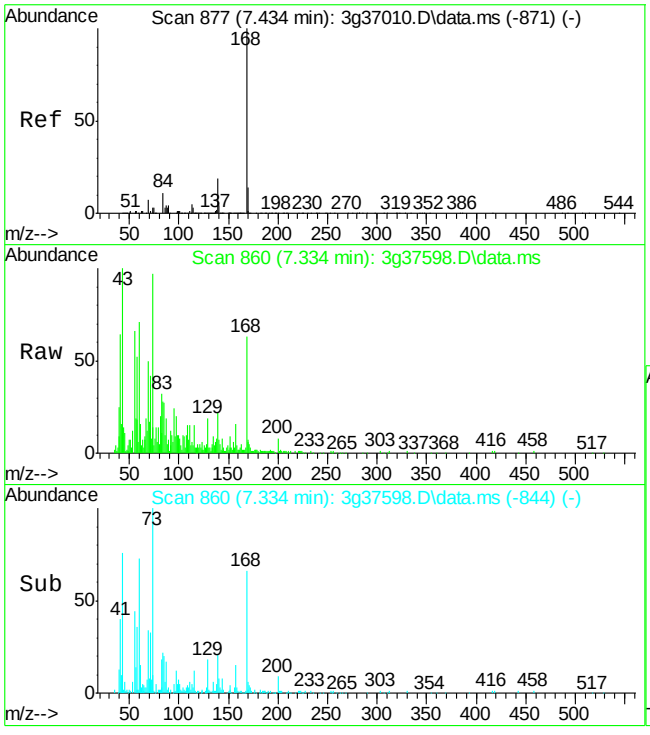


#57
Acenaphthene
Concen: 0.4308 ppm
RT: 7.193 min Scan# 836
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:154 Resp: 16003

Ion	Ratio	Lower	Upper
154	100		
153	116.6	85.6	125.6
152	95.1	30.1	70.1#

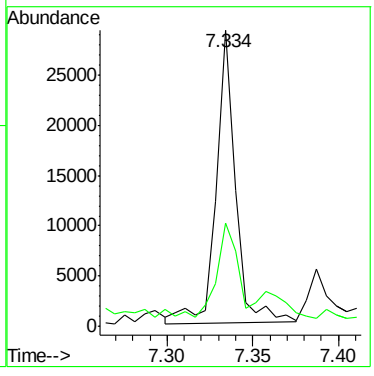


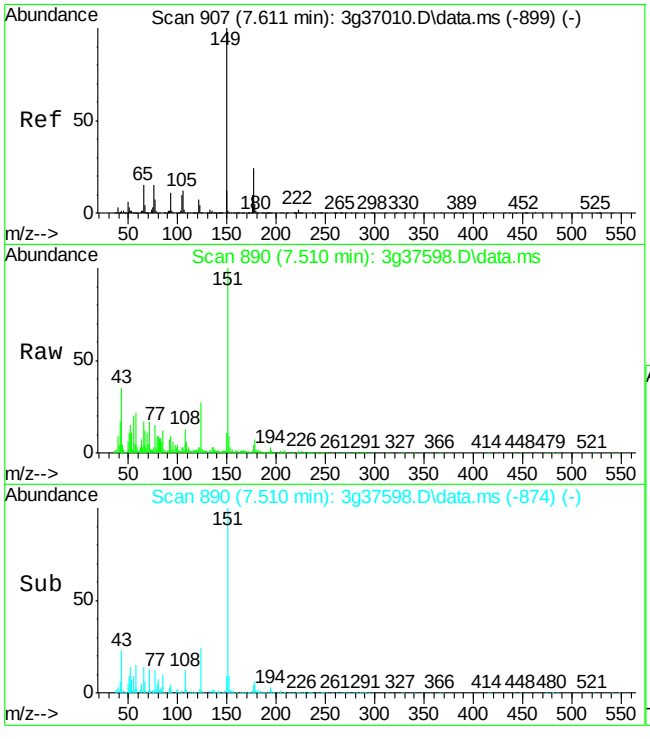


#60
Dibenzofuran
Concen: 0.4195 ppm
RT: 7.334 min Scan# 860
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:168 Resp: 22823

Ion	Ratio	Lower	Upper
168	100		
139	36.8	14.4	54.4

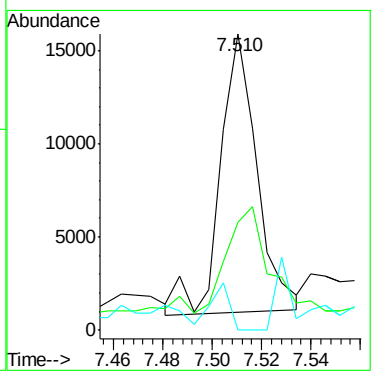




#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

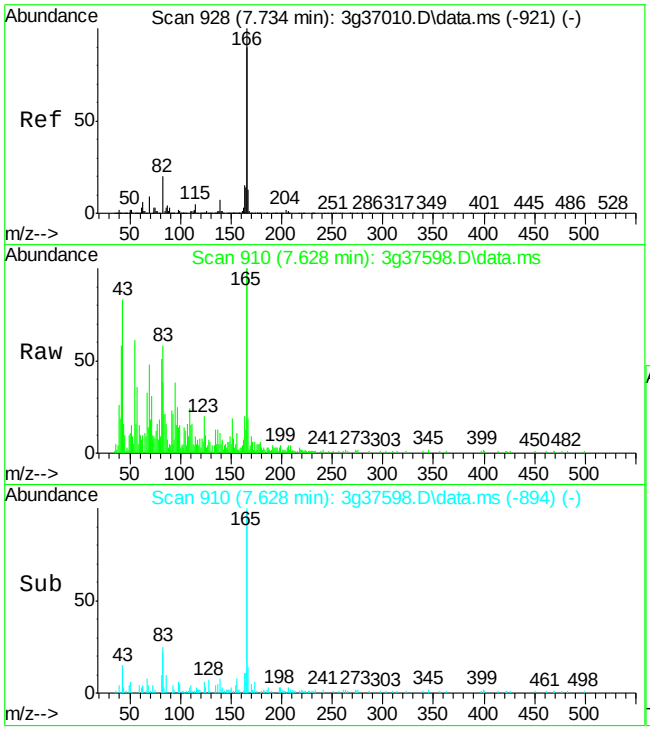
Tgt Ion:149 Resp: 15332

Ion	Ratio	Lower	Upper
149	100		
177	44.4	3.6	43.6#
150	8.7	0.0	32.5



9.1.4

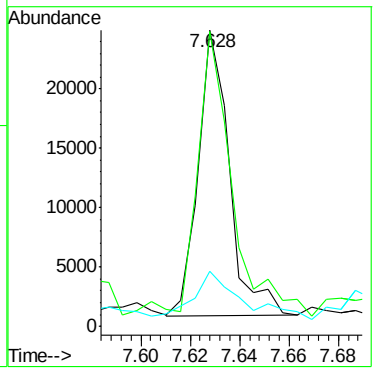
9

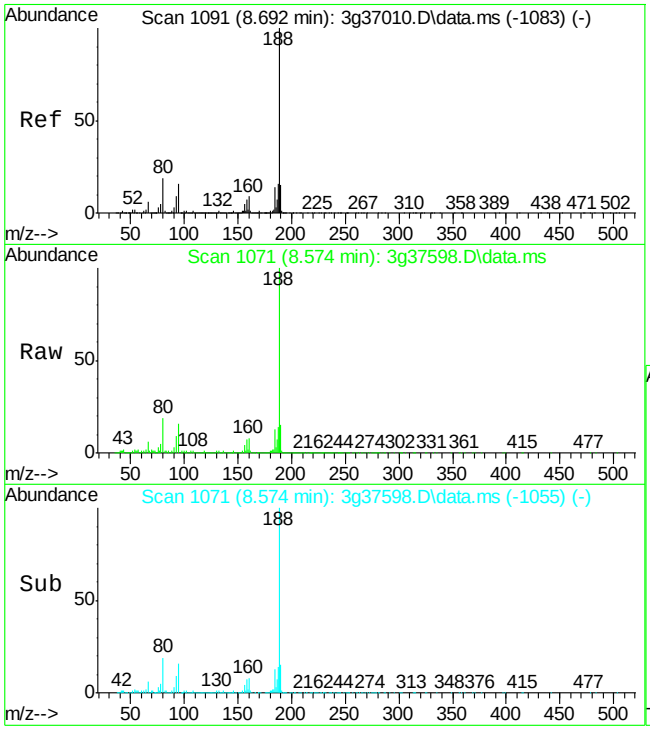


#64
Fluorene
Concen: 0.4717 ppm
RT: 7.628 min Scan# 910
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:166 Resp: 21142

Ion	Ratio	Lower	Upper
166	100		
165	111.4	70.5	110.5#
167	26.2	0.0	33.3

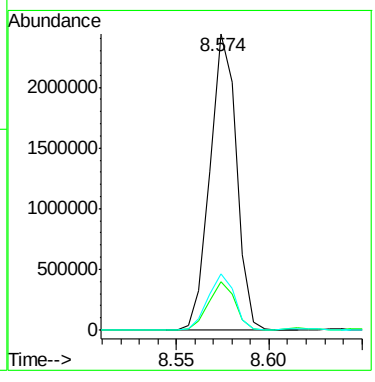


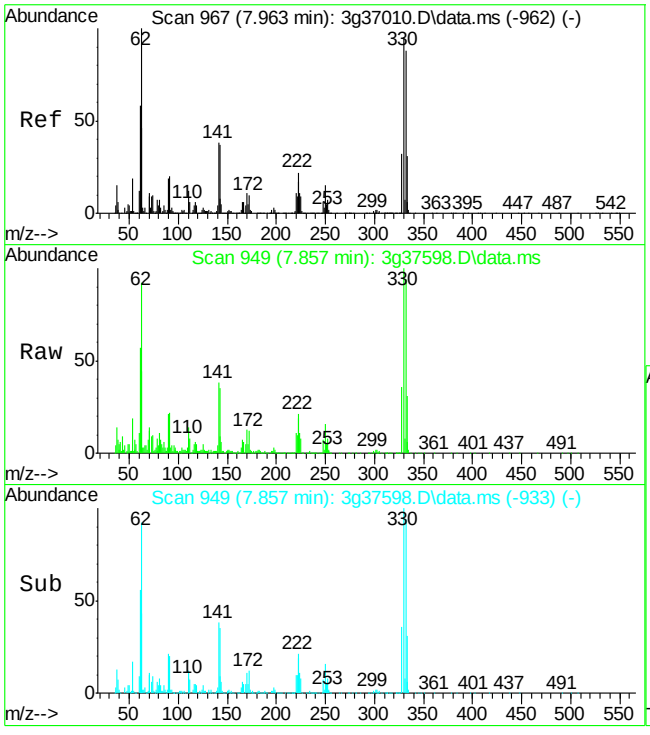


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:188 Resp: 2416543

Ion	Ratio	Lower	Upper
188	100		
94	16.0	0.0	35.1
80	18.9	0.0	37.9

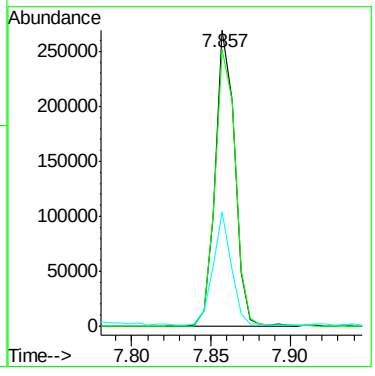


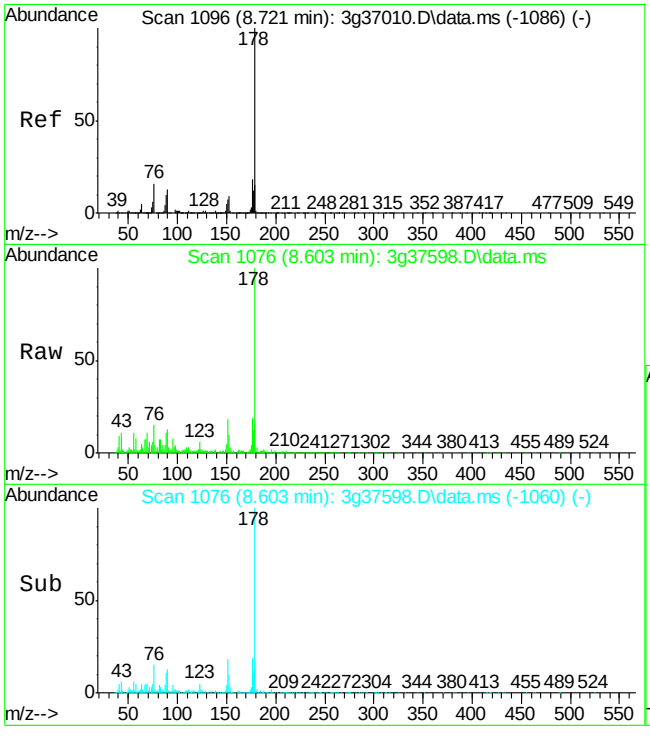


#69
2,4,6-Tribromophenol
Concen: 40.7030 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:330 Resp: 229370

Ion	Ratio	Lower	Upper
330	100		
332	98.3	74.8	112.2
141	36.4	33.8	50.6

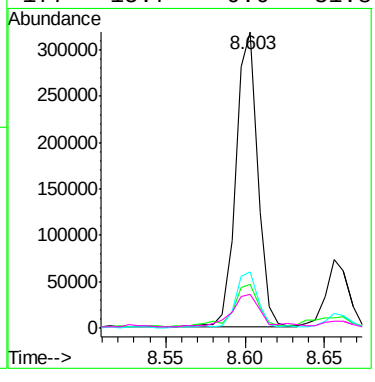


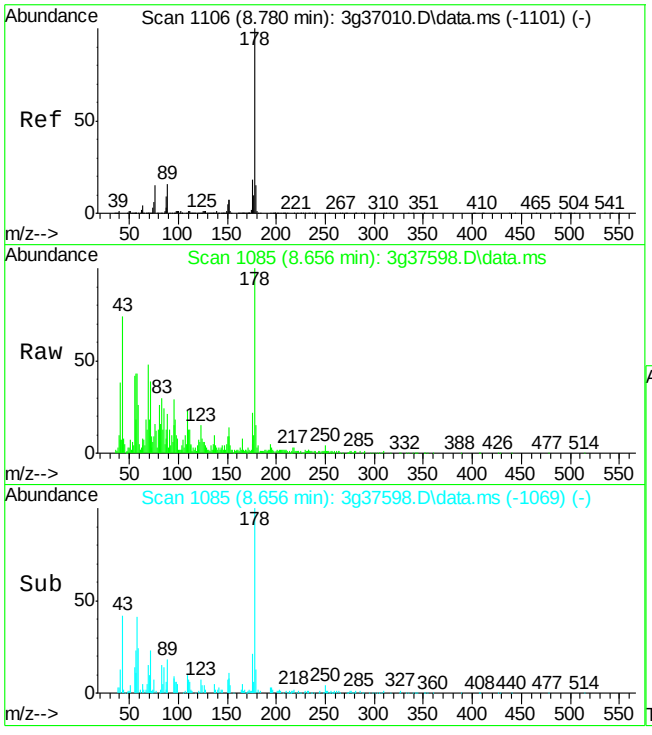


#79
Phenanthrene
Concen: 4.5247 ppm
RT: 8.603 min Scan# 1076
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:178 Resp: 306470

Ion	Ratio	Lower	Upper
178	100		
179	16.8	0.0	35.6
176	19.5	0.0	38.7
177	15.7	0.0	31.8

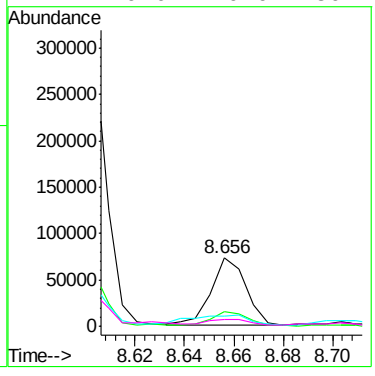


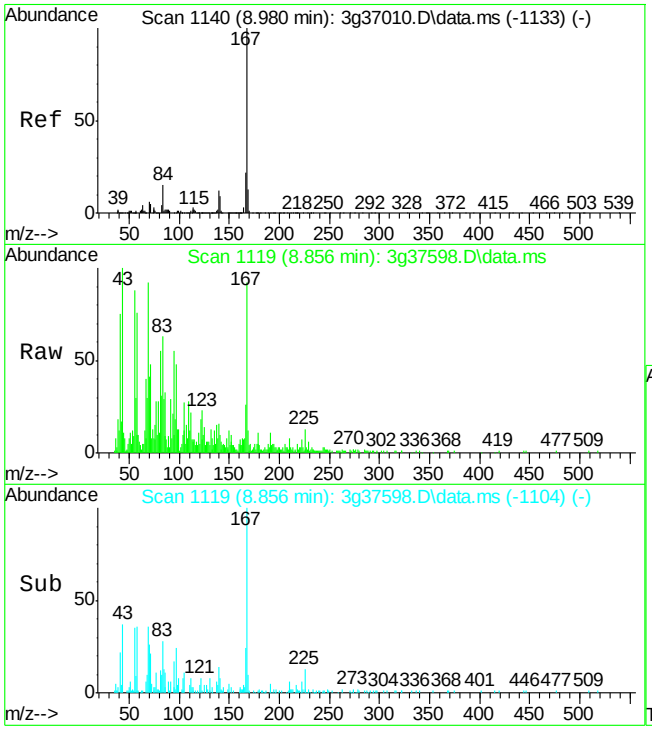


#80
Anthracene
Concen: 1.0004 ppm
RT: 8.656 min Scan# 1085
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:178 Resp: 70045

Ion	Ratio	Lower	Upper
178	100		
176	22.9	0.0	38.0
179	25.7	0.0	35.2
177	10.6	0.0	30.2

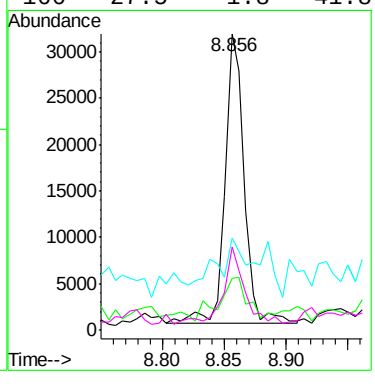


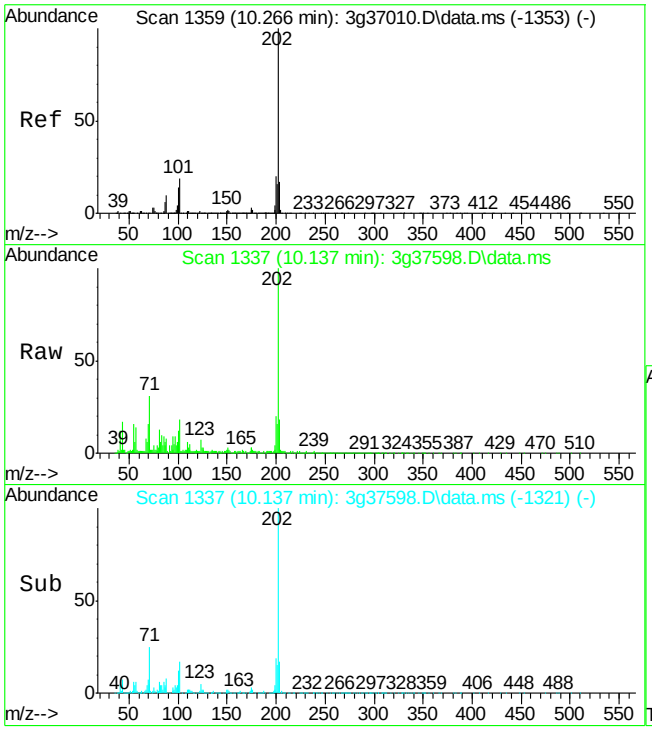


#81
Carbazole
Concen: 0.5434 ppm
RT: 8.856 min Scan# 1119
Delta R.T. -0.012 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:167 Resp: 34477

Ion	Ratio	Lower	Upper
167	100		
139	23.3	0.0	32.0
84	18.8	0.0	36.8
166	27.5	1.8	41.8

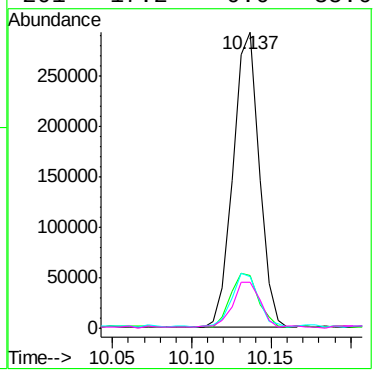


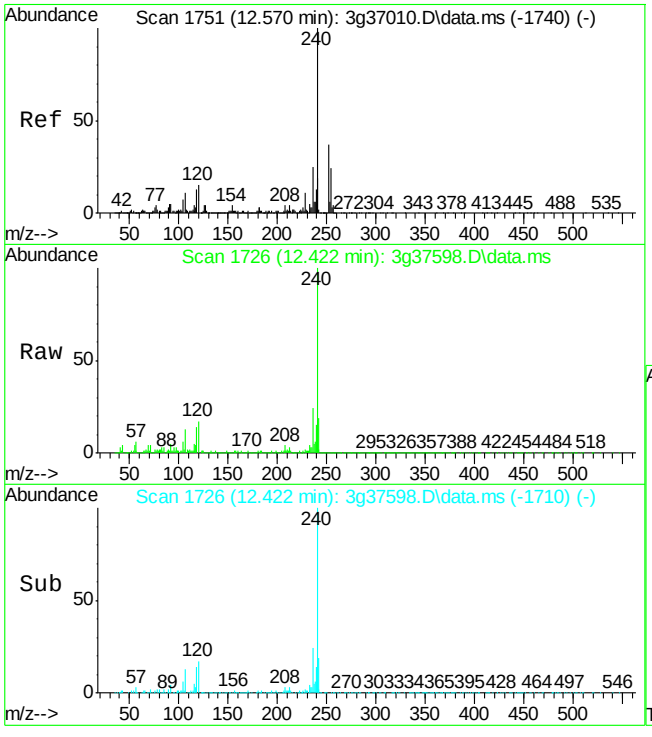


#83
Fluoranthene
Concen: 4.7416 ppm
RT: 10.137 min Scan# 1337
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:202 Resp: 335586

Ion	Ratio	Lower	Upper
202	100		
101	19.0	0.0	38.8
203	18.4	0.0	37.1
201	17.2	0.0	35.6

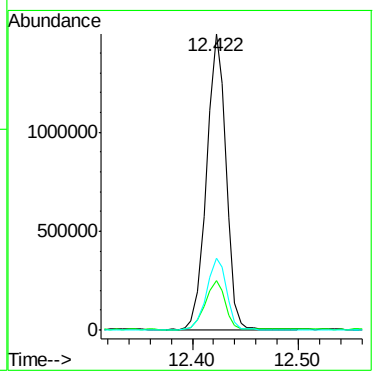


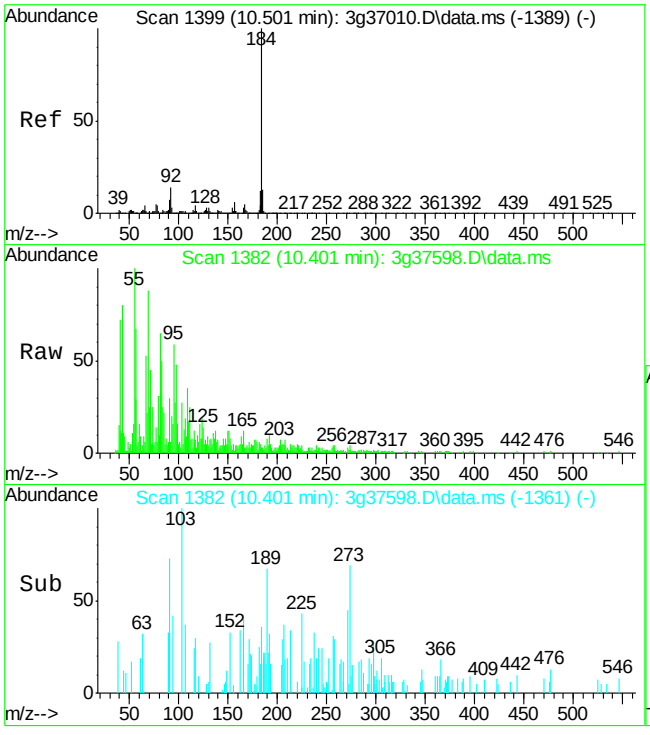


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.422 min Scan# 1726
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:240 Resp: 1919366

Ion	Ratio	Lower	Upper
240	100		
120	16.9	0.0	36.6
236	24.9	4.3	44.3

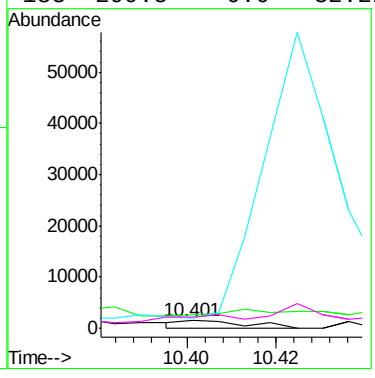


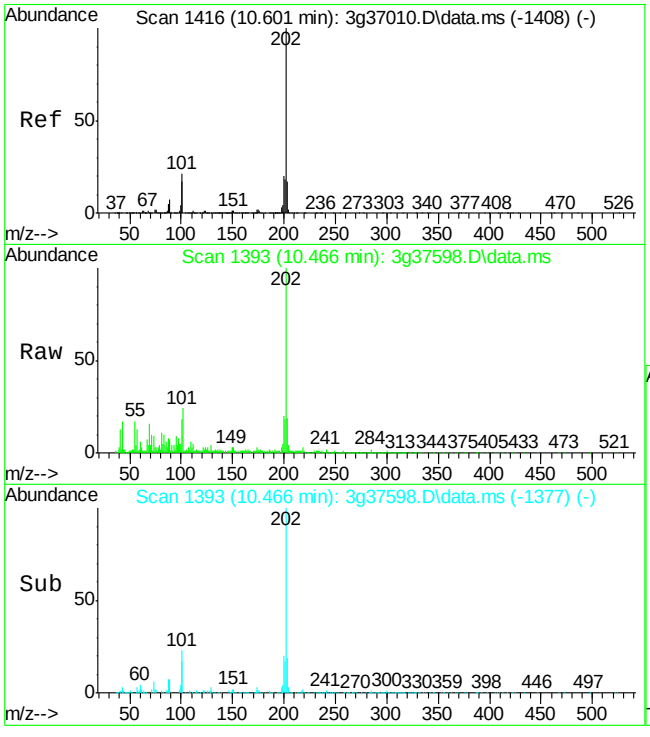


#85
Benzidine
Concen: Below ppm
RT: 10.401 min Scan# 1382
Delta R.T. 0.023 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:184 Resp: 1615

Ion	Ratio	Lower	Upper
184	100		
92	113.5	0.0	34.2#
185	4055.4	0.0	33.2#
183	299.5	0.0	32.2#

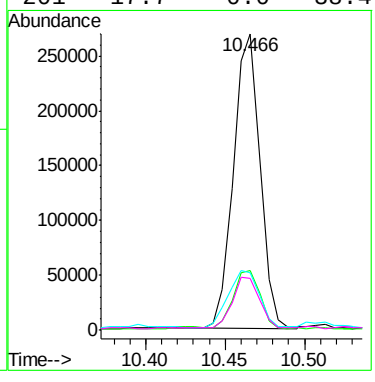


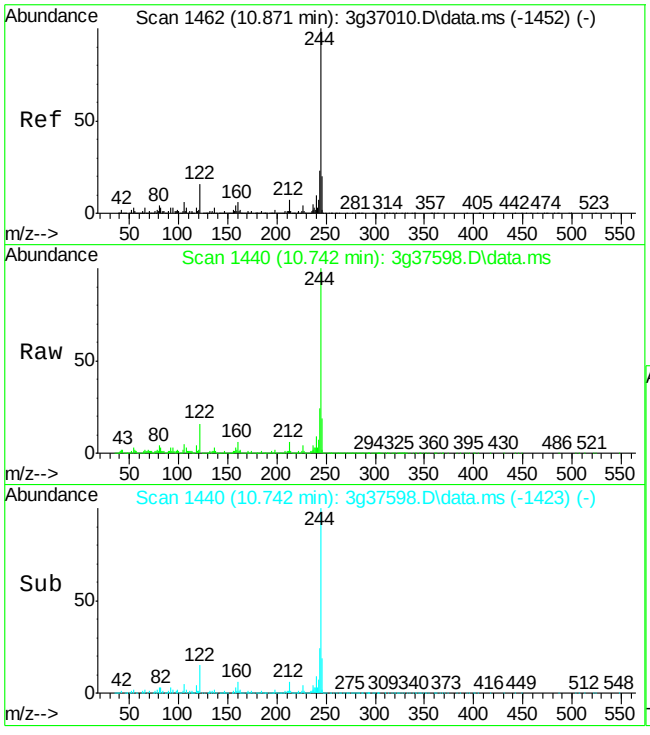


#86
Pyrene
Concen: 4.3781 ppm
RT: 10.466 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:202 Resp: 312747

Ion	Ratio	Lower	Upper
202	100		
200	20.2	0.0	39.9
203	22.7	0.0	37.7
201	17.7	0.0	38.4

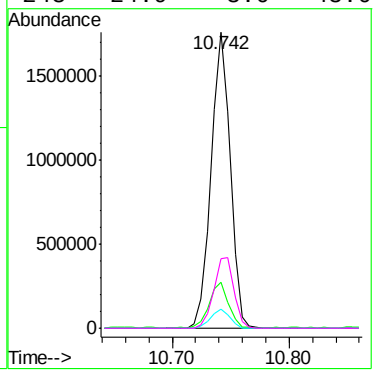


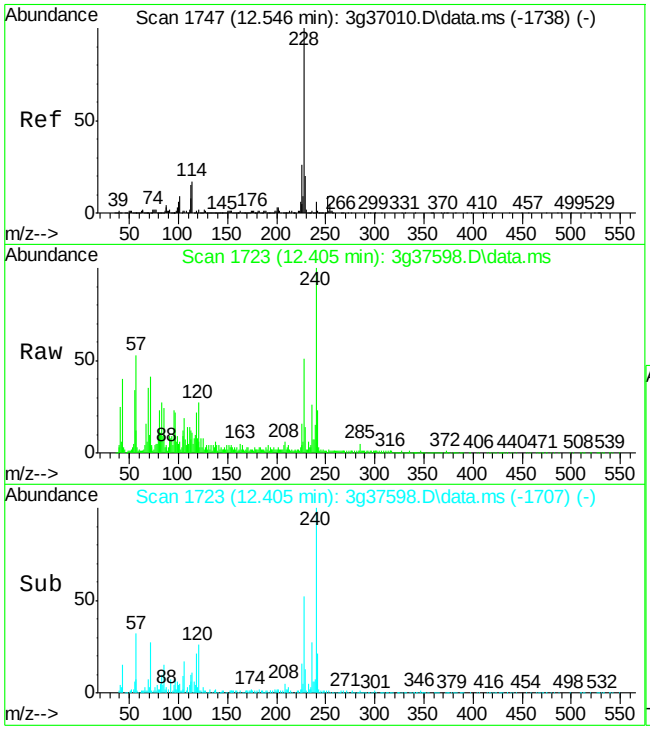


#87
Terphenyl-d14
Concen: 41.4489 ppm
RT: 10.742 min Scan# 1440
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:244 Resp: 1995846

Ion	Ratio	Lower	Upper
244	100		
122	15.4	0.0	35.4
212	6.5	0.0	27.0
243	24.9	3.0	43.0

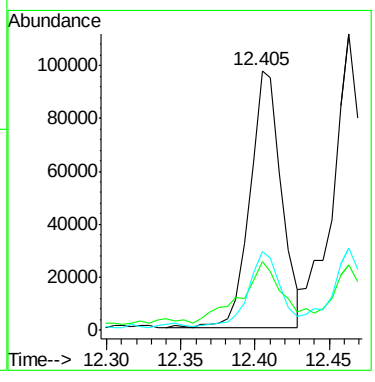


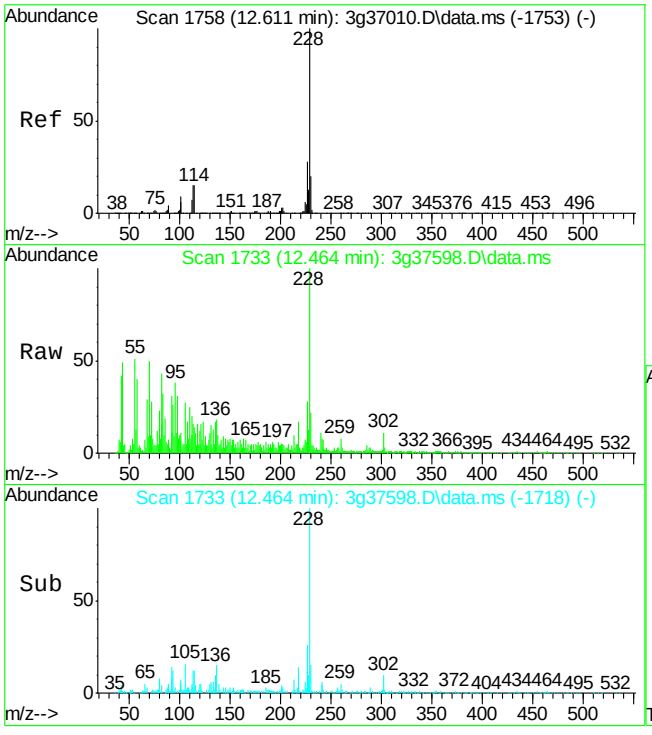


#90
Benzo(a)anthracene
Concen: 2.3276 ppm
RT: 12.405 min Scan# 1723
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:228 Resp: 144359

Ion	Ratio	Lower	Upper
228	100		
229	31.4	0.0	40.0
226	29.3	6.1	46.1

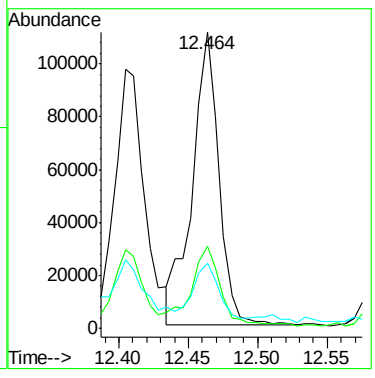


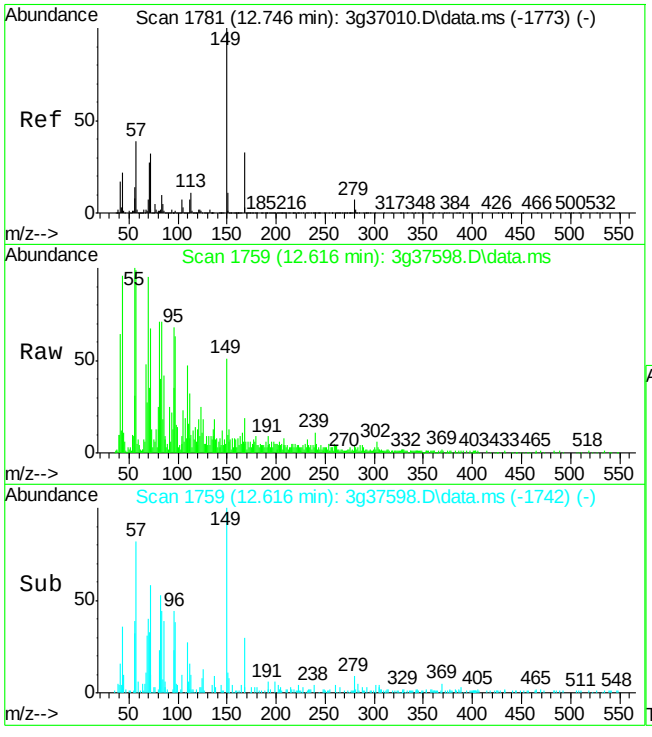


#91
Chrysene
Concen: 2.4180 ppm
RT: 12.464 min Scan# 1733
Delta R.T. -0.012 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:228 Resp: 145785

Ion	Ratio	Lower	Upper
228	100		
226	28.0	8.0	48.0
229	17.4	0.0	39.8

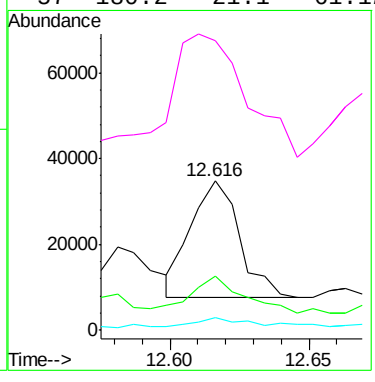


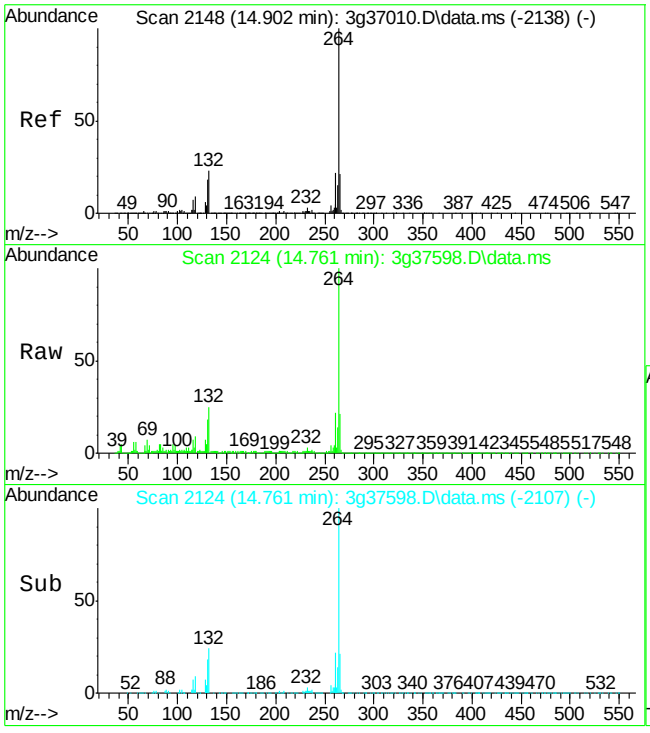


#92
Bis(2-ethylhexyl)phthalate
Concen: 0.8472 ppm
RT: 12.616 min Scan# 1759
Delta R.T. -0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:149 Resp: 33123

Ion	Ratio	Lower	Upper
149	100		
167	44.7	13.6	53.6
279	14.4	0.0	27.3
57	180.2	21.1	61.1#

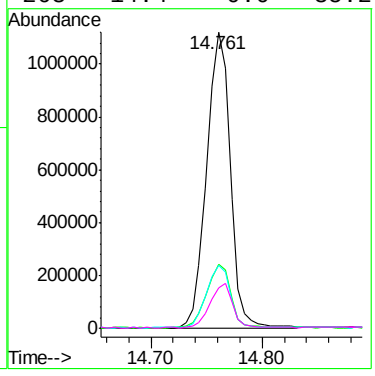


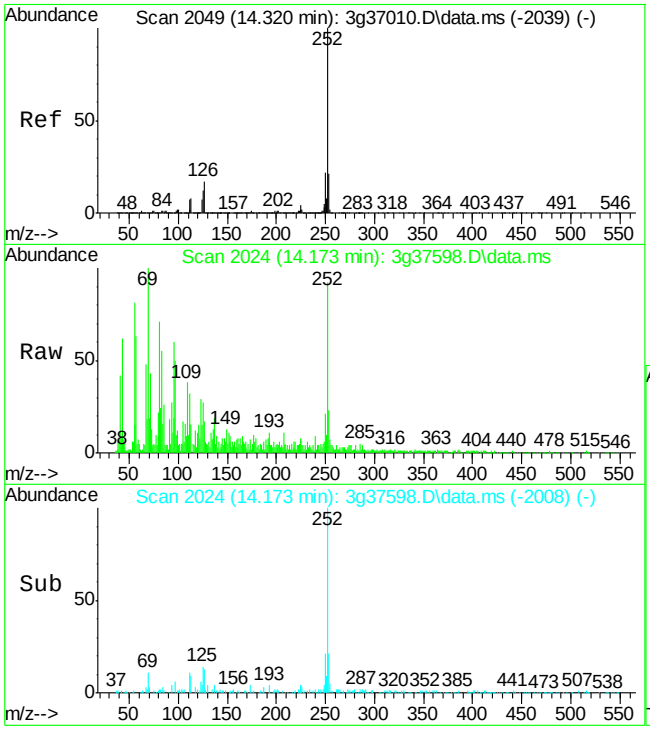


#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.761 min Scan# 2124
Delta R.T. -0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:264 Resp: 1639316

Ion	Ratio	Lower	Upper
264	100		
260	22.1	1.3	41.3
265	21.2	0.2	40.2
263	14.4	0.0	35.2

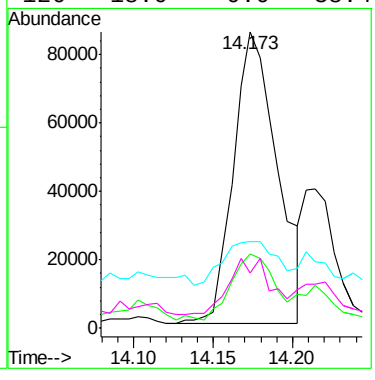


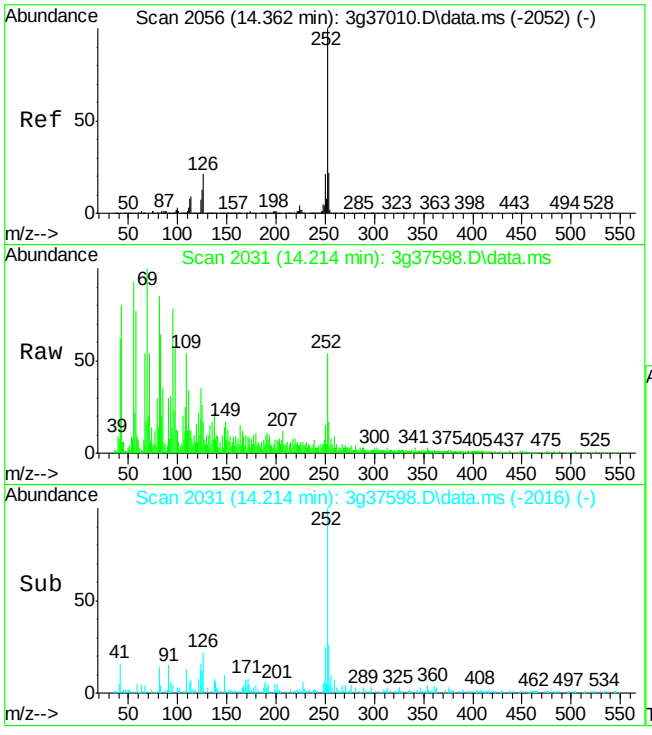


#95
Benzo(b)fluoranthene
Concen: 3.0970 ppm
RT: 14.173 min Scan# 2024
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:252 Resp: 164643

Ion	Ratio	Lower	Upper
252	100		
253	20.3	1.3	41.3
125	18.0	0.0	33.8
126	18.0	0.0	38.4

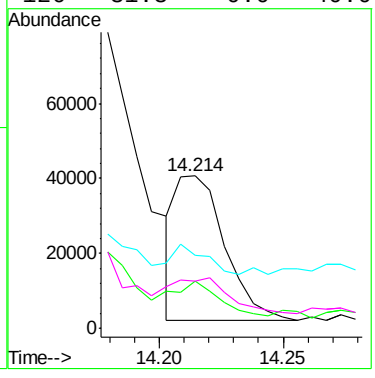


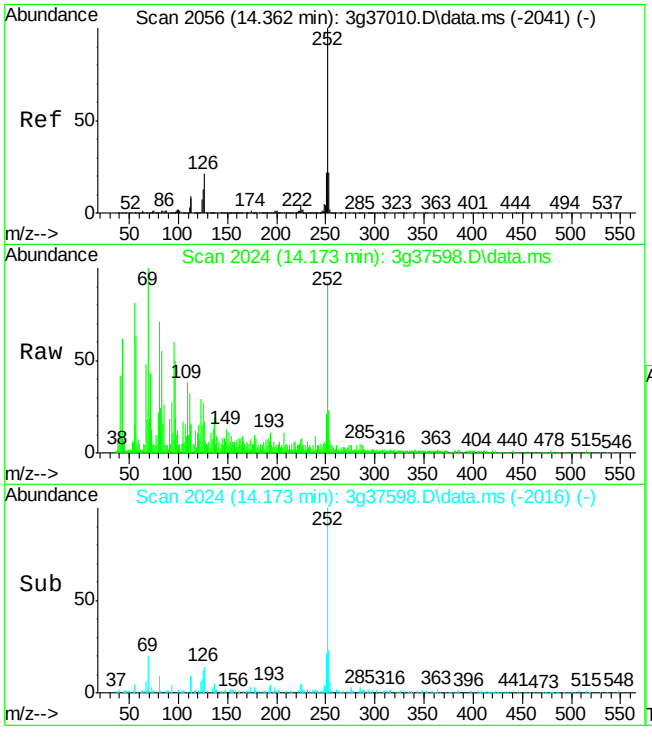


#96
Benzo(k)fluoranthene
Concen: 0.9969 ppm
RT: 14.214 min Scan# 2031
Delta R.T. -0.012 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:252 Resp: 52904

Ion	Ratio	Lower	Upper
252	100		
253	24.5	1.1	41.1
125	16.0	0.0	33.0
126	31.3	0.0	40.0

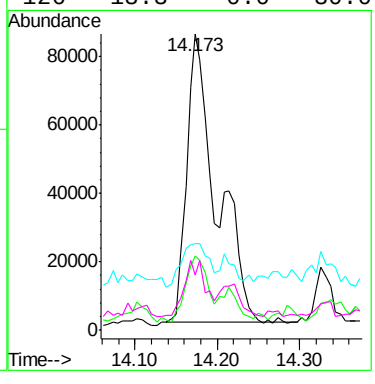


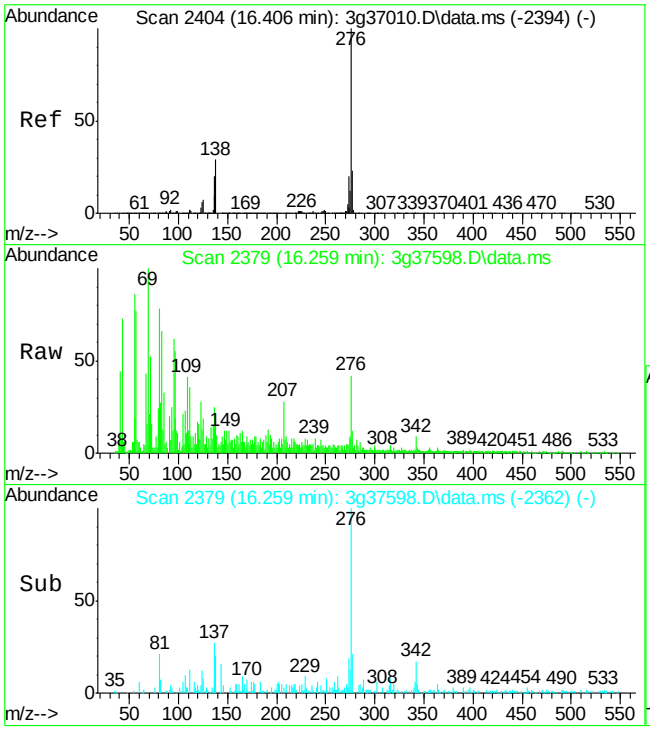


#97
Benzo(b&k)fluoranthene
Concen: 3.9951 ppm
RT: 14.173 min Scan# 2024
Delta R.T. -0.053 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:252 Resp: 213447

Ion	Ratio	Lower	Upper
252	100		
253	16.7	0.0	30.5
125	13.9	0.0	26.5
126	13.3	0.0	30.0

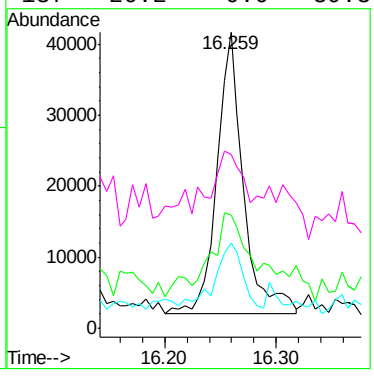


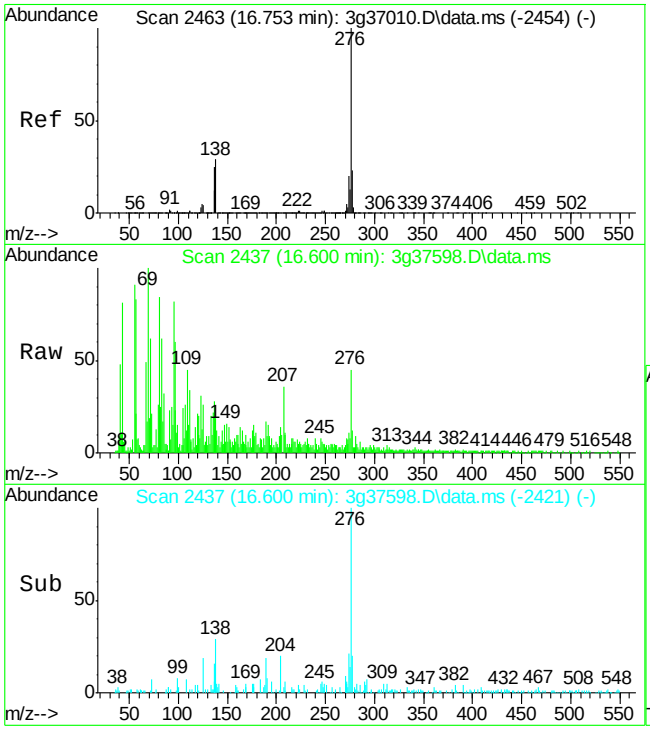


#99
Indeno(1,2,3-cd)pyrene
Concen: 1.5718 ppm
RT: 16.259 min Scan# 2379
Delta R.T. 0.000 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:276 Resp: 65762

Ion	Ratio	Lower	Upper
276	100		
138	57.7	8.5	48.5#
277	23.8	3.3	43.3
137	26.2	0.0	39.3

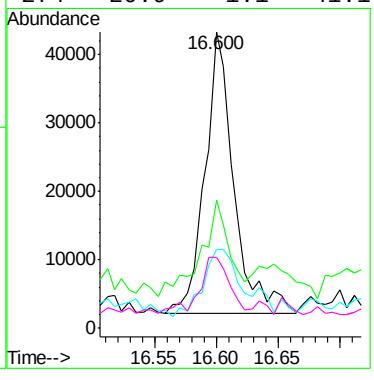




#101
Benzo(g,h,i)perylene
Concen: 1.4539 ppm
RT: 16.600 min Scan# 2437
Delta R.T. -0.006 min
Lab File: 3g37598.D
Acq: 7 Aug 18 8:54 pm

Tgt Ion:276 Resp: 66415

Ion	Ratio	Lower	Upper
276	100		
138	34.4	9.8	49.8
277	35.8	3.4	43.4
274	20.9	1.1	41.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37558.D
Acq On : 6 Aug 2018 6:45 pm
Operator : DONC
Sample : DA7701-5
Misc : OP16681,E3G1869,30.10,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 07 09:58:11 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

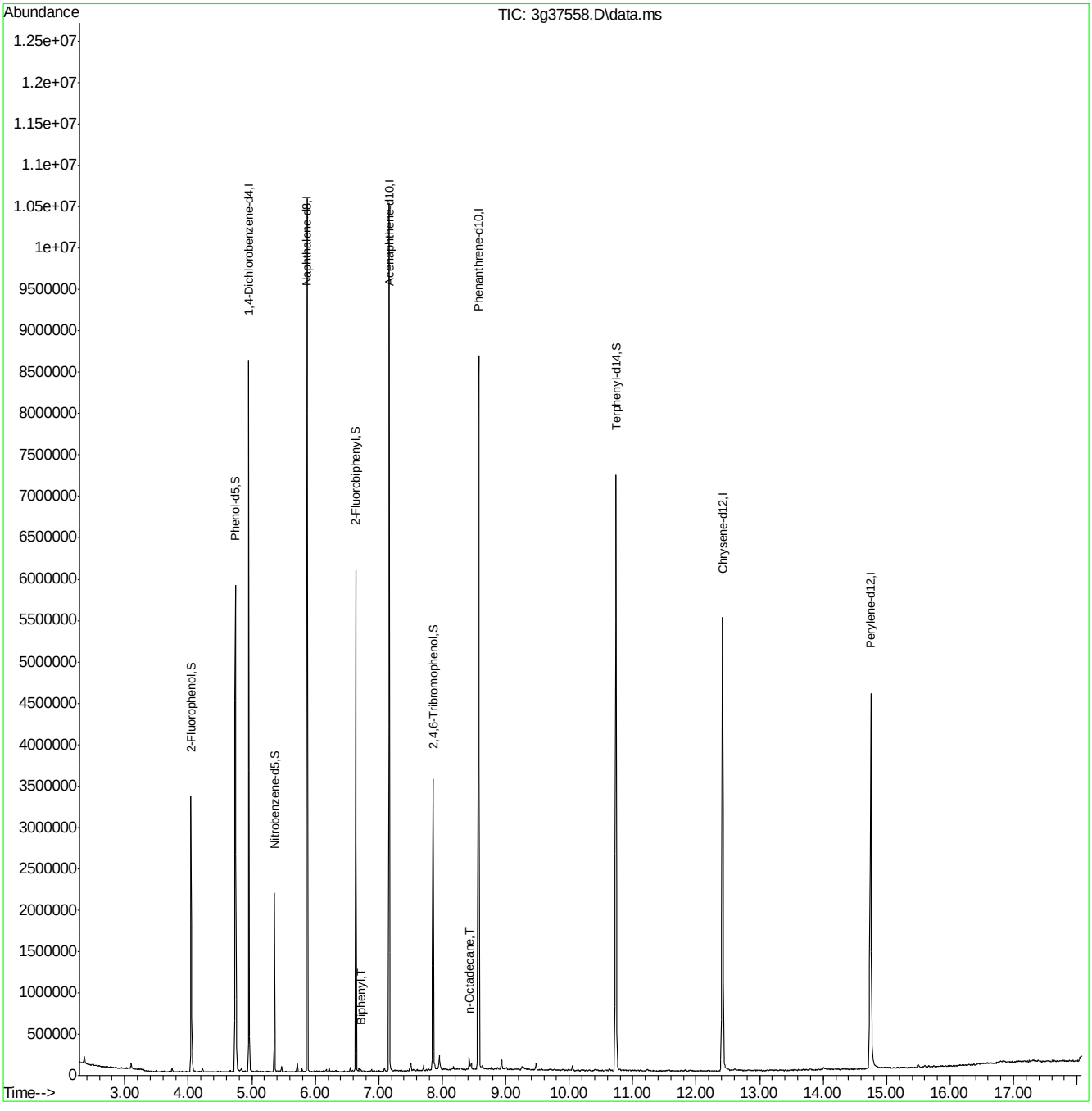
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	846801	40.0000 ppm	0.00
26) Naphthalene-d8	5.871	136	3320967	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1749324	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	3120830	40.0000 ppm	0.00
84) Chrysene-d12	12.417	240	2544987	40.0000 ppm	-0.01
93) Perylene-d12	14.749	264	2300899	40.0000 ppm	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol	4.044	112	806317	20.4268 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 40.86%		
8) Phenol-d5	4.743	99	1928117	32.9815 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 65.96%		
27) Nitrobenzene-d5	5.360	82	676550	11.8234 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 23.64%		
49) 2-Fluorobiphenyl	6.641	172	1333087	22.1399 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 44.28%		
69) 2,4,6-Tribromophenol	7.857	330	355355	48.8289 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 97.66%		
87) Terphenyl-d14	10.736	244	2815576	44.0986 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 88.20%		
Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	2294	Below Cal #	36
14) n-decane	4.820	43	2173	Below Cal #	69
50) Biphenyl	6.717	154	4741	0.4803 ppm	96
63) Diethylphthalate	7.505	149	2591	Below Cal #	63
78) n-Octadecane	8.421	57	29675	0.4613 ppm	96

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

Quantitation Report (QT Reviewed)

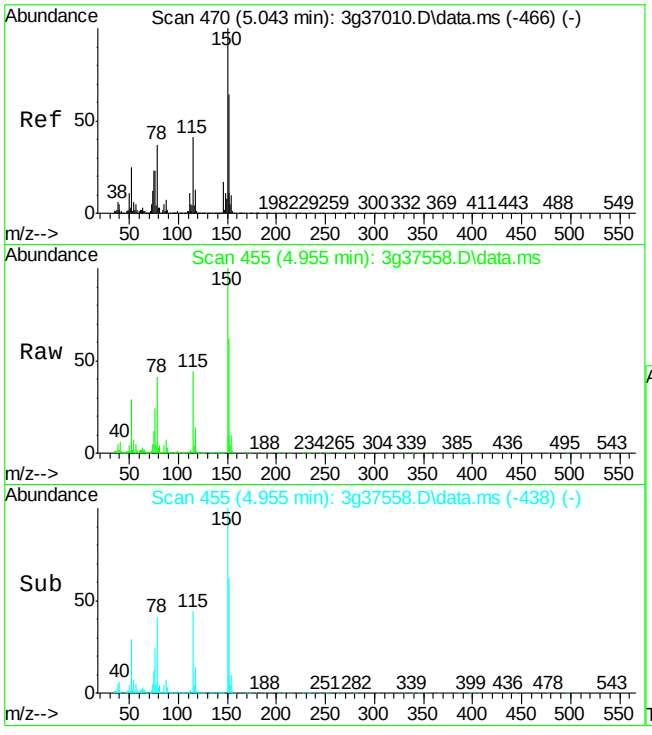
Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37558.D
Acq On : 6 Aug 2018 6:45 pm
Operator : DONC
Sample : DA7701-5
Misc : OP16681,E3G1869,30.10,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 07 09:58:11 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



bnae3g1850.M Tue Aug 07 09:58:16 2018 3G

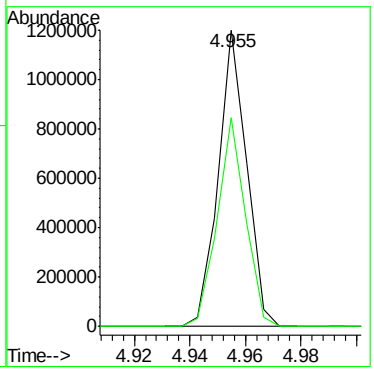
Page: 2

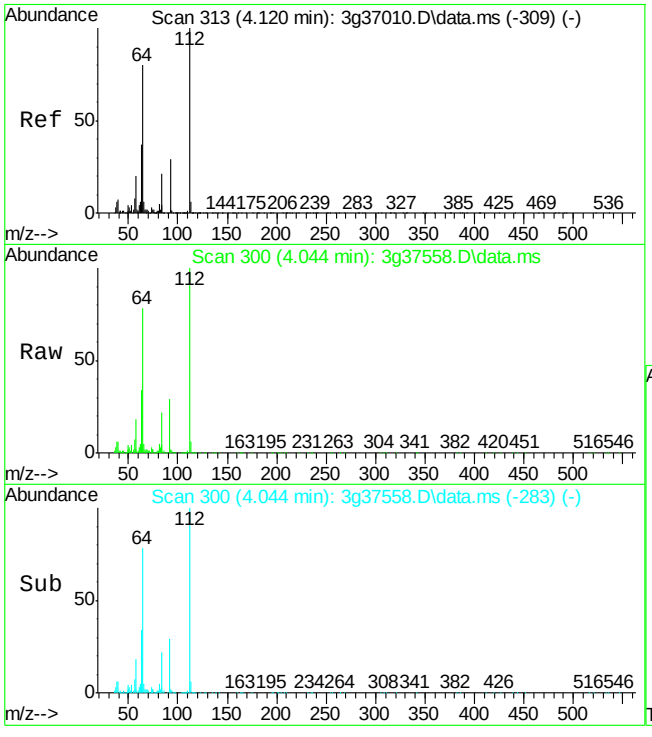


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:152 Resp: 846801

Ion	Ratio	Lower	Upper
152	100		
115	70.1	53.0	93.0

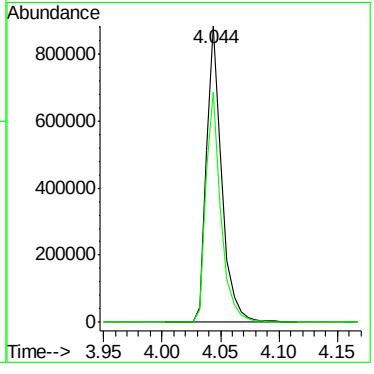


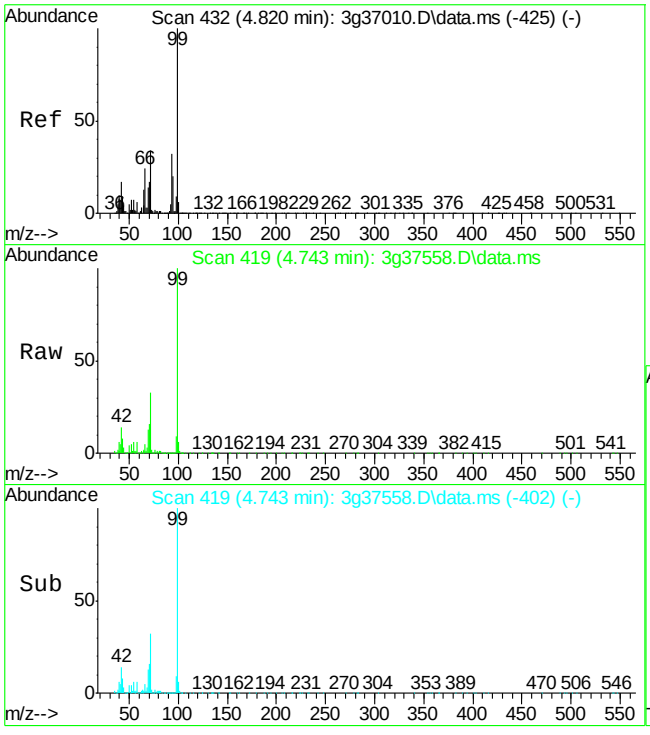


#5
2-Fluorophenol
Concen: 20.4268 ppm
RT: 4.044 min Scan# 300
Delta R.T. 0.000 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:112 Resp: 806317

Ion	Ratio	Lower	Upper
112	100		
64	76.3	58.3	98.3

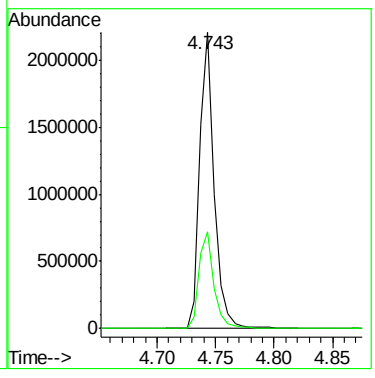


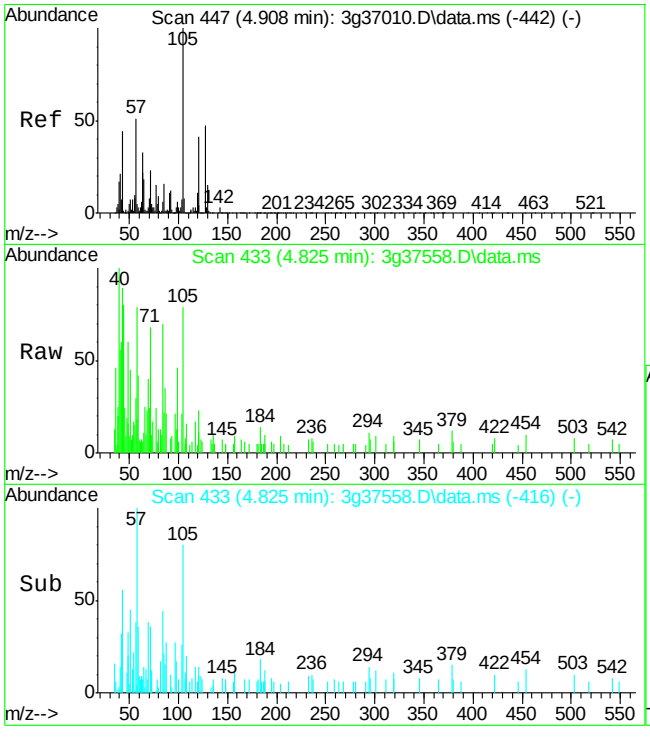


#8
Phenol-d5
Concen: 32.9815 ppm
RT: 4.743 min Scan# 419
Delta R.T. 0.000 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion: 99 Resp: 1928117

Ion	Ratio	Lower	Upper
99	100		
71	33.2	13.6	53.6

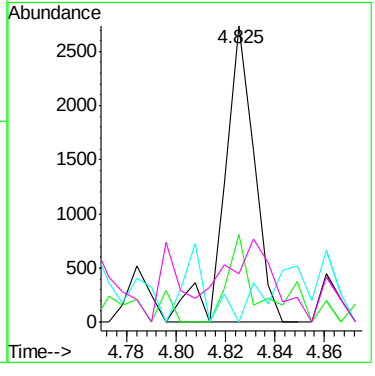


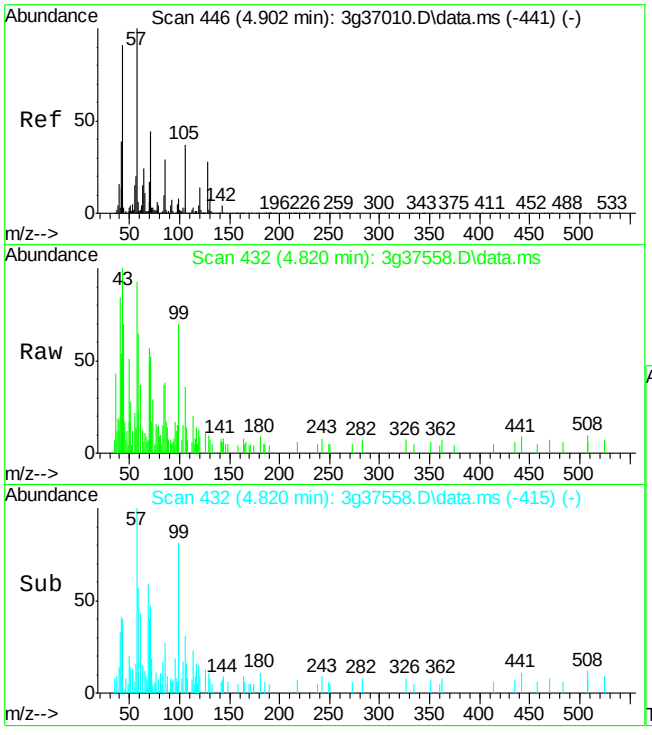


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:105 Resp: 2294

Ion	Ratio	Lower	Upper
105	100		
120	0.0	19.5	59.5#
91	0.0	0.0	31.4
79	46.6	0.0	29.2#

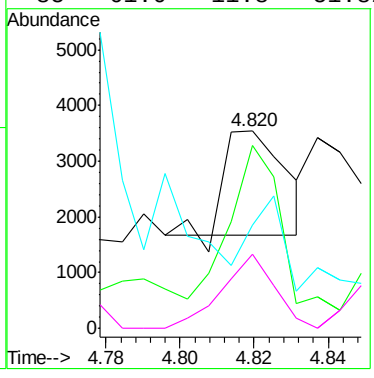


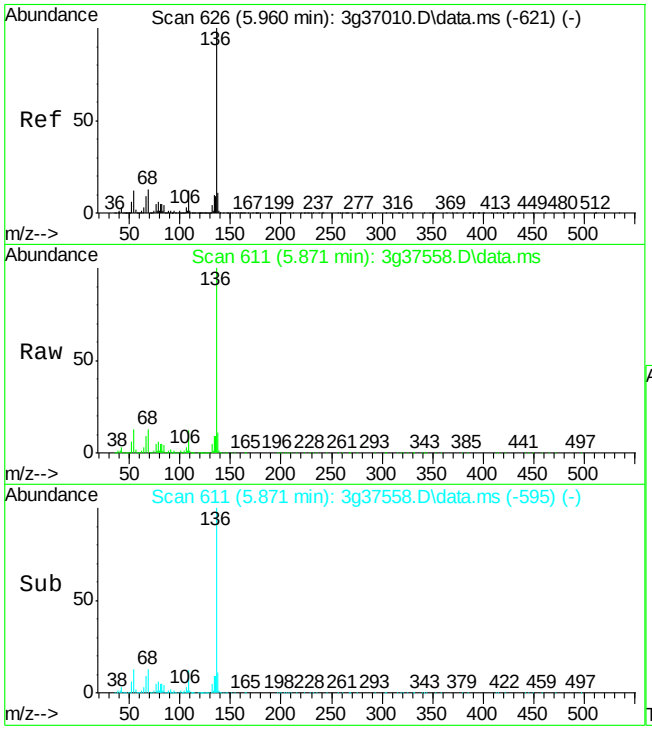


#14
n-decane
Concen: Below ppm
RT: 4.820 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion: 43 Resp: 2173

Ion	Ratio	Lower	Upper
43	100		
57	130.0	92.0	132.0
71	83.0	28.7	68.7#
85	61.0	11.8	51.8#

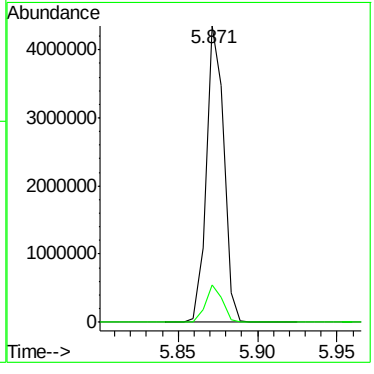


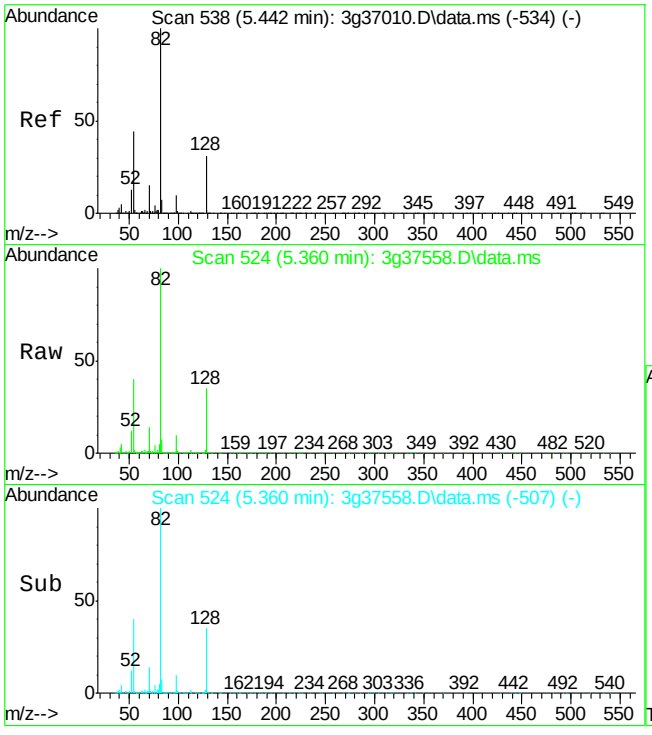


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:136 Resp: 3320967

Ion	Ratio	Lower	Upper
136	100		
68	12.1	0.0	32.4

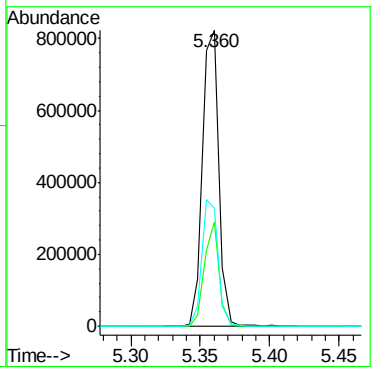


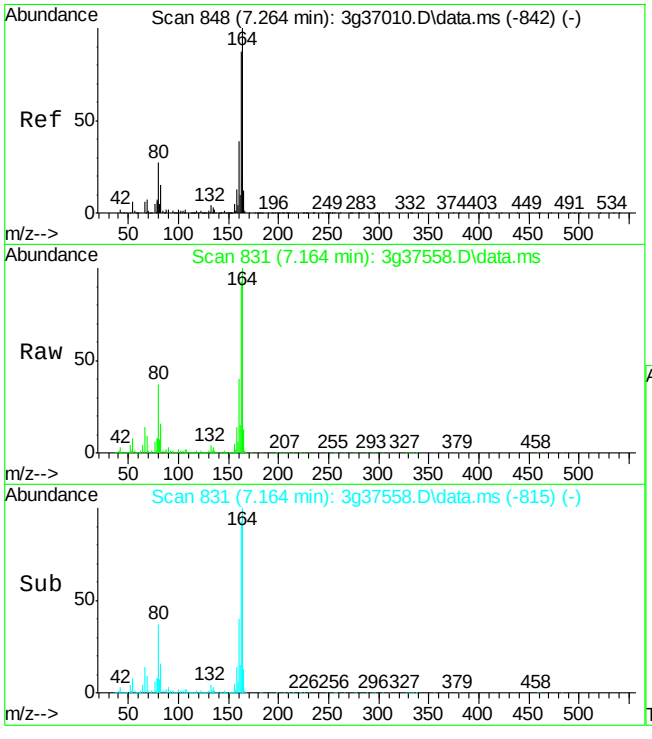


#27
Nitrobenzene-d5
Concen: 11.8234 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion: 82 Resp: 676550

Ion	Ratio	Lower	Upper
82	100		
128	31.5	10.8	50.8
54	42.1	22.9	62.9

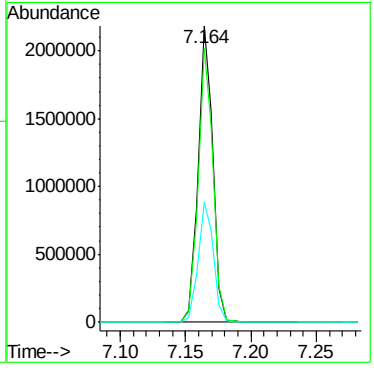


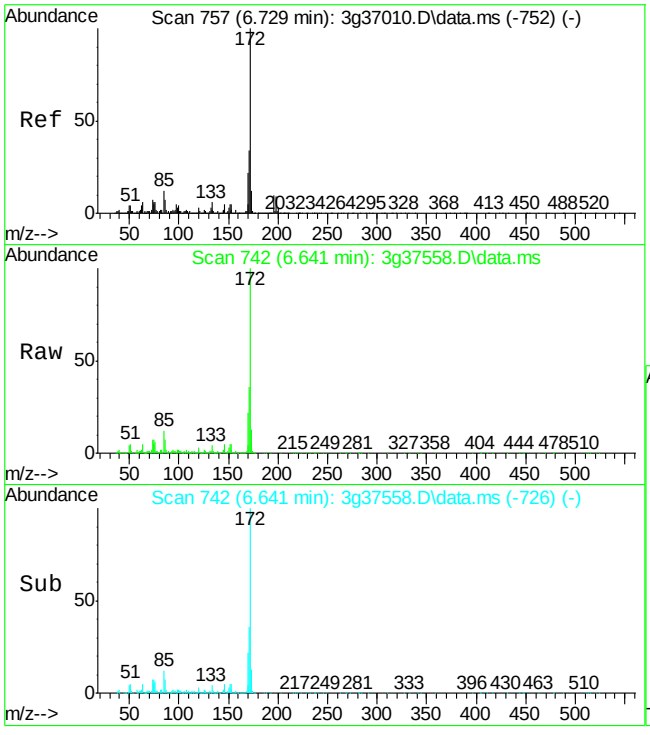


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:164 Resp: 1749324

Ion	Ratio	Lower	Upper
164	100		
162	93.1	69.6	109.6
160	42.0	20.5	60.5

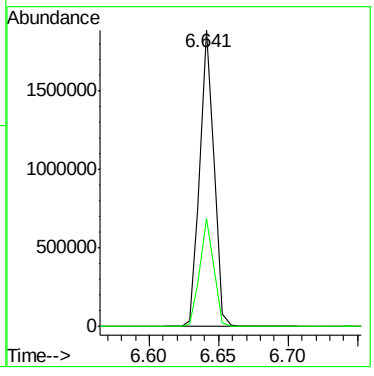


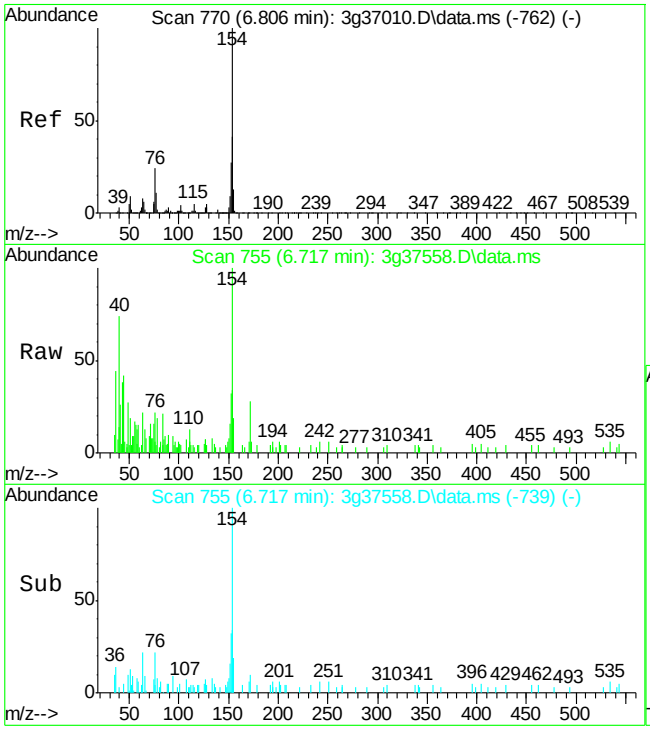


#49
2-Fluorobiphenyl
Concen: 22.1399 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:172 Resp: 1333087

Ion	Ratio	Lower	Upper
172	100		
171	35.7	14.5	54.5

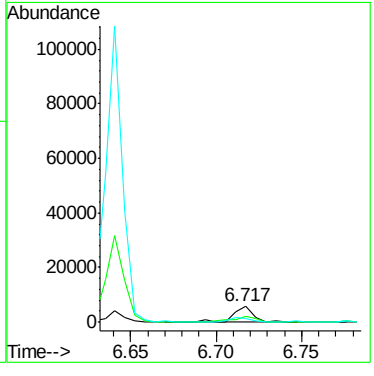


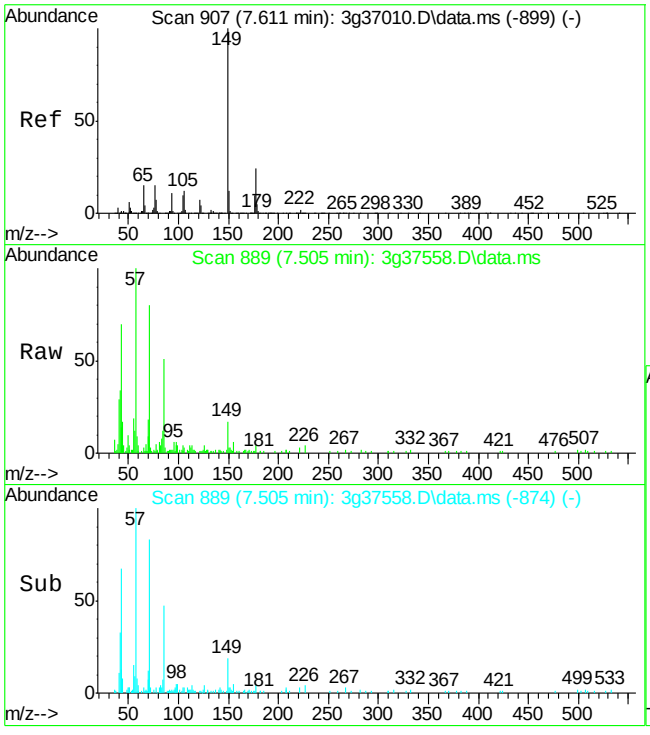


#50
Biphenyl
Concen: 0.4803 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:154 Resp: 4741

Ion	Ratio	Lower	Upper
154	100		
153	42.8	21.4	61.4
76	28.3	5.2	45.2

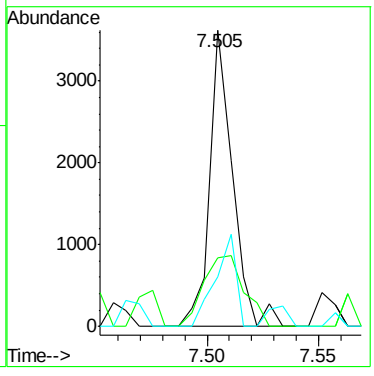


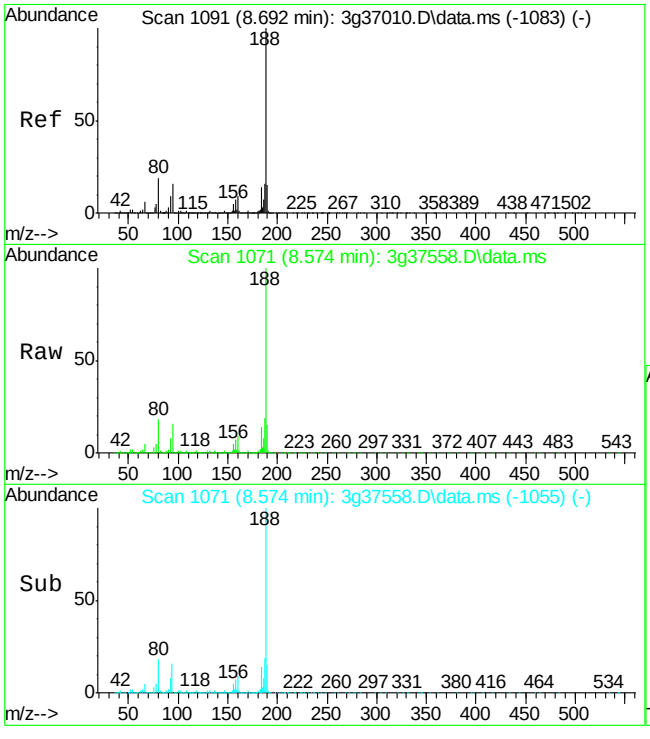


#63
Diethylphthalate
Concen: Below ppm
RT: 7.505 min Scan# 889
Delta R.T. -0.012 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:149 Resp: 2591

Ion	Ratio	Lower	Upper
149	100		
177	42.8	3.6	43.6
150	0.0	0.0	32.5

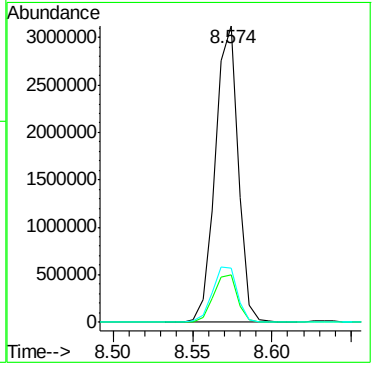


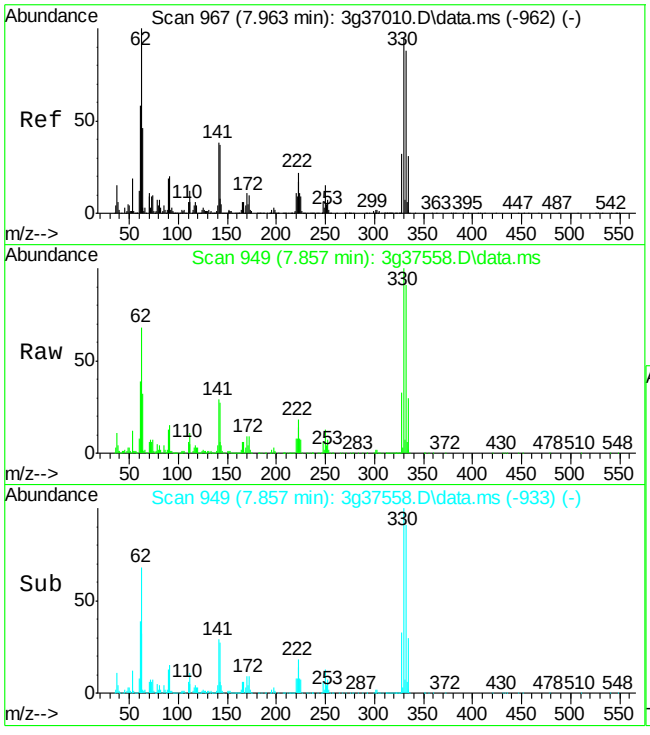


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:188 Resp: 3120830

Ion	Ratio	Lower	Upper
188	100		
94	16.6	0.0	35.1
80	19.9	0.0	37.9

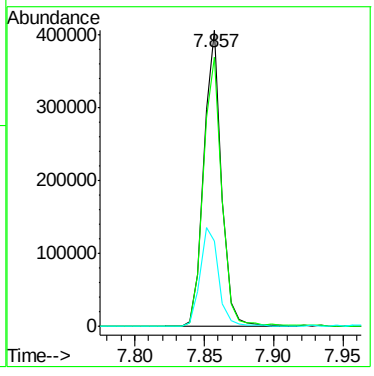


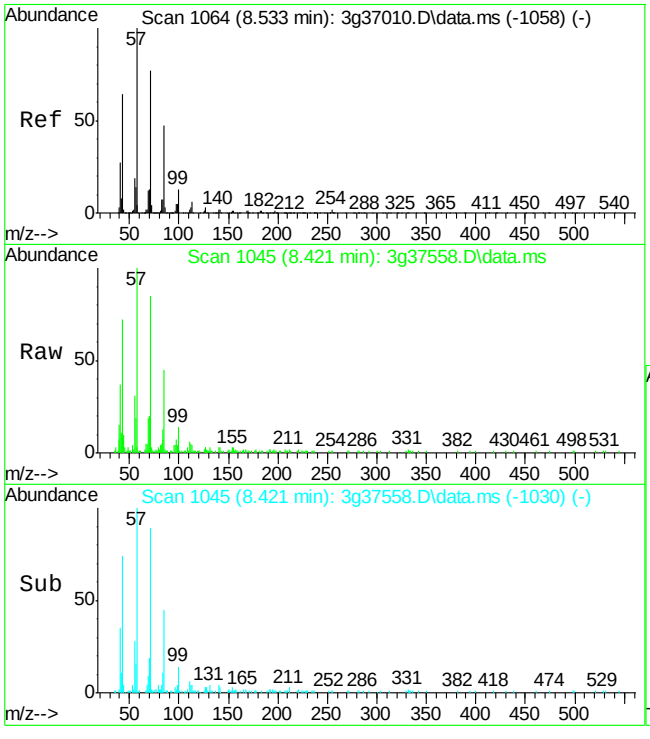


#69
2,4,6-Tribromophenol
Concen: 48.8289 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:330 Resp: 355355

Ion	Ratio	Lower	Upper
330	100		
332	95.0	74.8	112.2
141	35.2	33.8	50.6

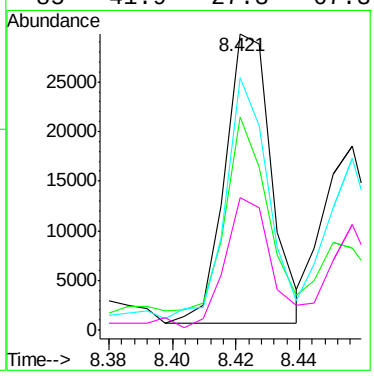


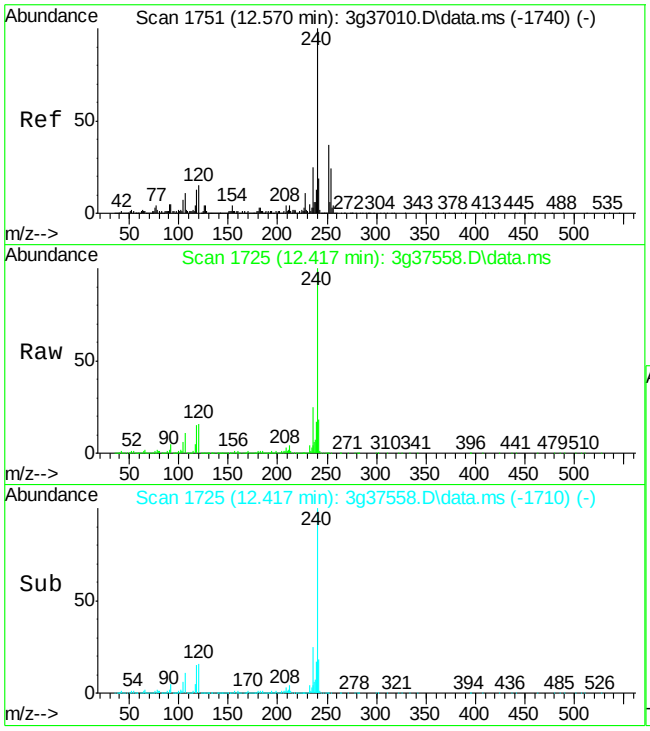


#78
n-Octadecane
Concen: 0.4613 ppm
RT: 8.421 min Scan# 1045
Delta R.T. -0.012 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion: 57 Resp: 29675

Ion	Ratio	Lower	Upper
57	100		
43	58.7	43.2	83.2
71	75.1	55.6	95.6
85	41.9	27.3	67.3

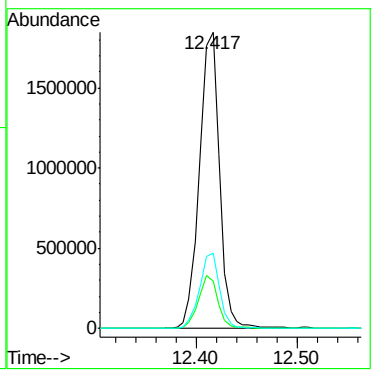


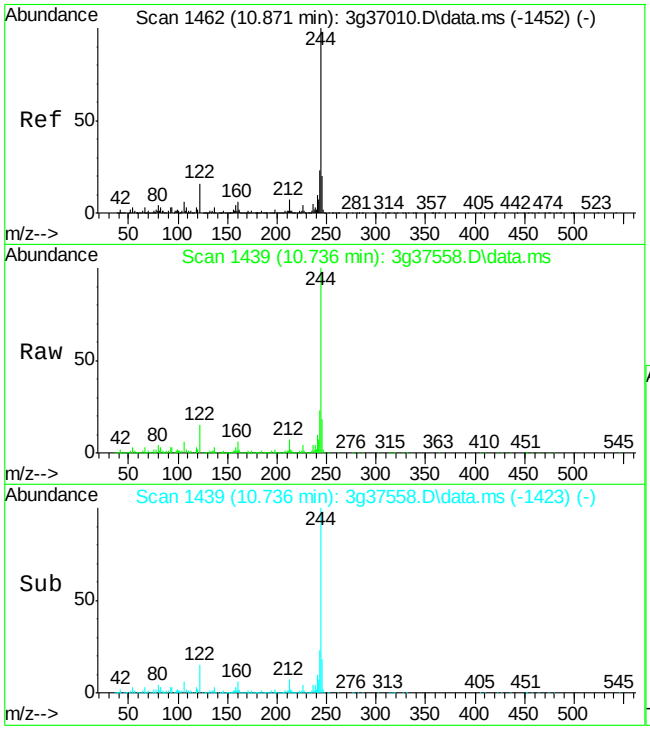


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.417 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:240 Resp: 2544987

Ion	Ratio	Lower	Upper
240	100		
120	17.2	0.0	36.6
236	25.2	4.3	44.3

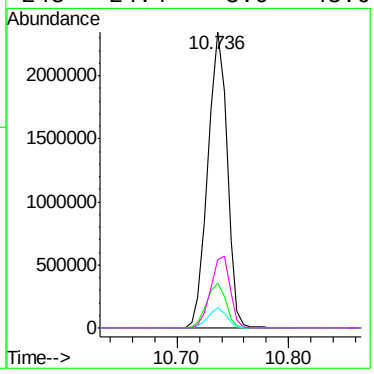


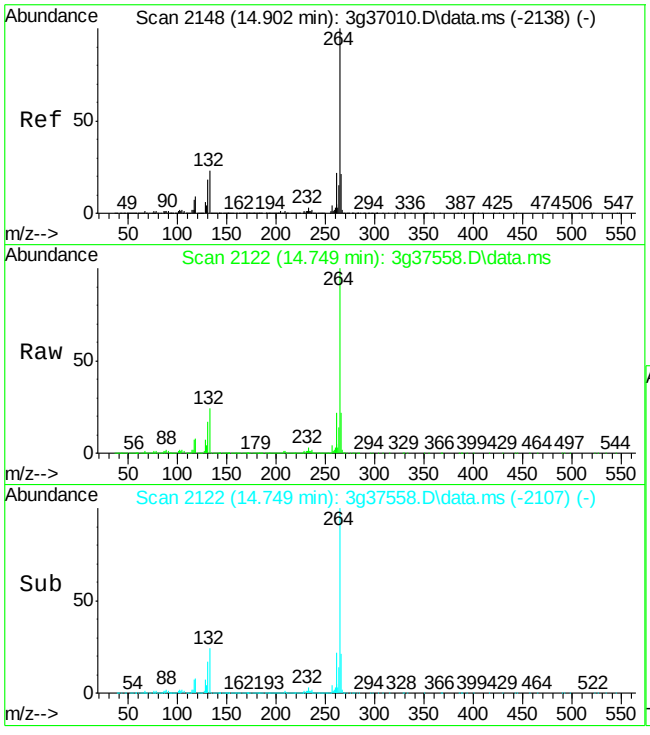


#87
Terphenyl-d14
Concen: 44.0986 ppm
RT: 10.736 min Scan# 1439
Delta R.T. -0.006 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:244 Resp: 2815576

Ion	Ratio	Lower	Upper
244	100		
122	15.2	0.0	35.4
212	6.6	0.0	27.0
243	24.4	3.0	43.0

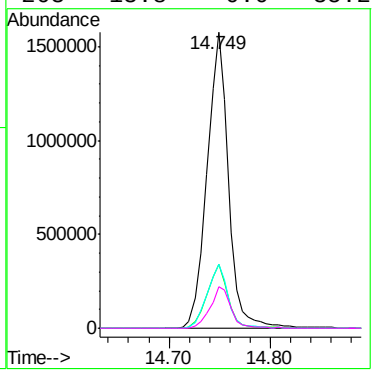




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37558.D
Acq: 6 Aug 18 6:45 pm

Tgt Ion:264 Resp: 2300899

Ion	Ratio	Lower	Upper
264	100		
260	21.3	1.3	41.3
265	21.5	0.2	40.2
263	13.8	0.0	35.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37554.D
Acq On : 6 Aug 2018 4:55 pm
Operator : DONC
Sample : DA7701-6
Misc : OP16681,E3G1869,30.00,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 07 09:53:23 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

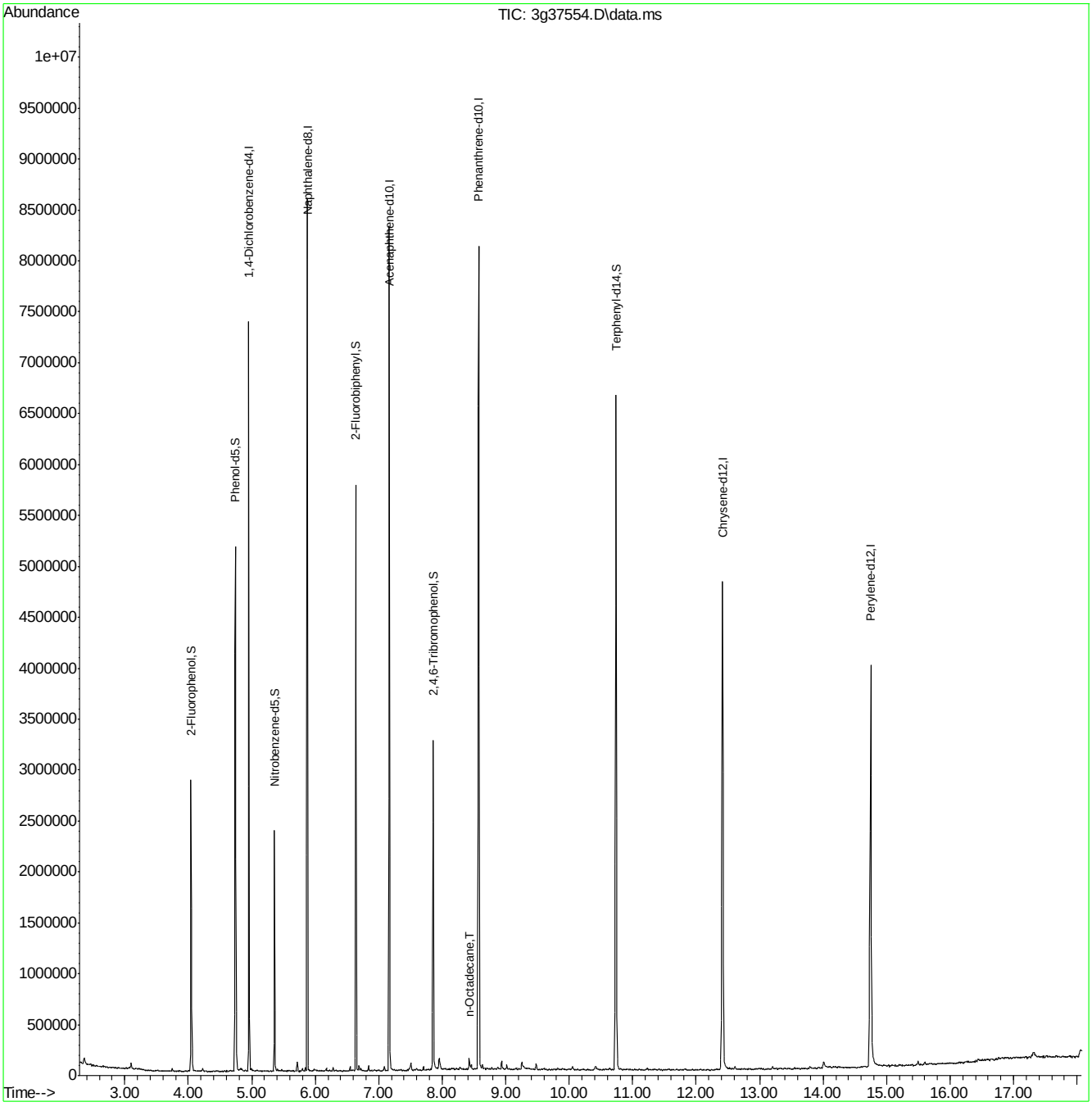
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	745186	40.0000 ppm	0.00
26) Naphthalene-d8	5.877	136	2896627	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1551543	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	2813110	40.0000 ppm	0.00
84) Chrysene-d12	12.417	240	2289420	40.0000 ppm	-0.01
93) Perylene-d12	14.749	264	2044669	40.0000 ppm	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol	4.044	112	689181	19.8401 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 39.68%		
8) Phenol-d5	4.743	99	1673312	32.5260 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 65.06%		
27) Nitrobenzene-d5	5.360	82	709050	14.2066 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 28.42%		
49) 2-Fluorobiphenyl	6.641	172	1295474	24.2579 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 48.52%		
69) 2,4,6-Tribromophenol	7.857	330	297256	45.3136 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 90.62%		
87) Terphenyl-d14	10.736	244	2588209	45.0627 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 90.12%		
Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	1514	Below Cal #	48
14) n-decane	4.819	43	6383	Below Cal #	63
63) Diethylphthalate	7.510	149	3392	Below Cal #	58
78) n-Octadecane	8.421	57	18162	0.3132 ppm	93

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

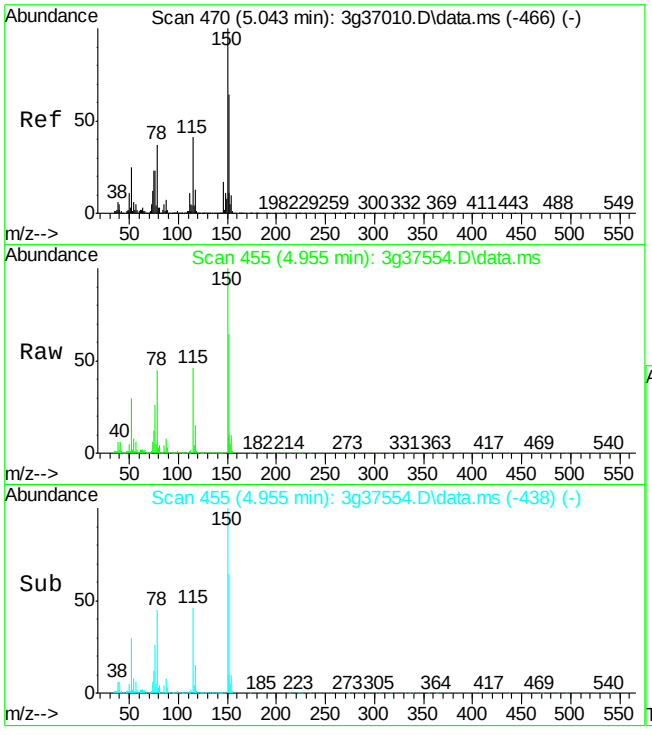
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37554.D
Acq On : 6 Aug 2018 4:55 pm
Operator : DONC
Sample : DA7701-6
Misc : OP16681,E3G1869,30.00,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 07 09:53:23 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



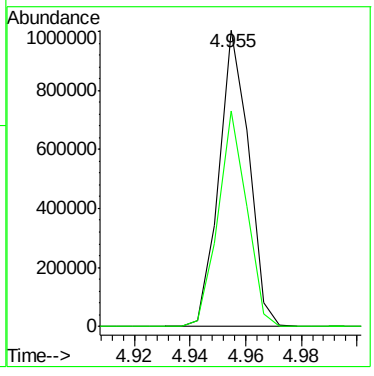
bnae3g1850.M Tue Aug 07 09:53:29 2018 3G

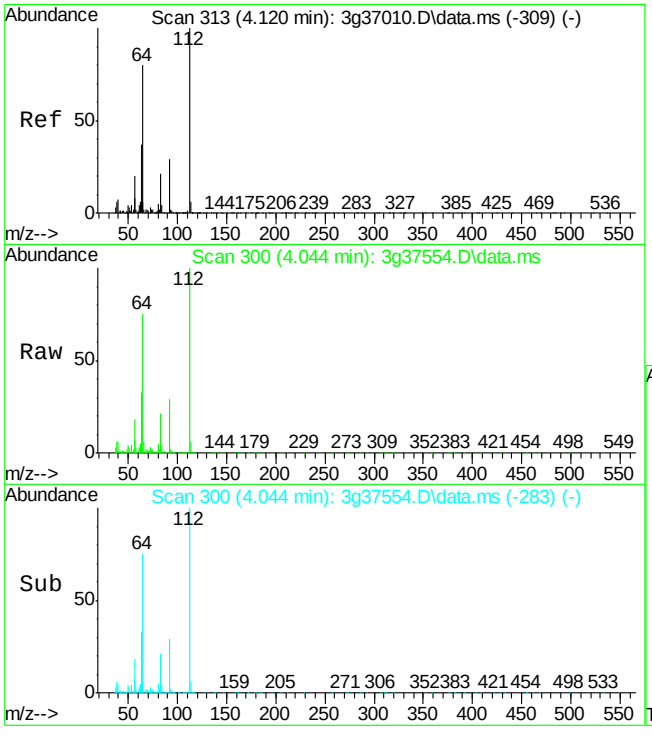


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:152 Resp: 745186

Ion	Ratio	Lower	Upper
152	100		
115	70.1	53.0	93.0

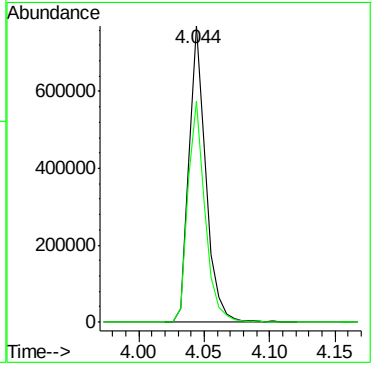


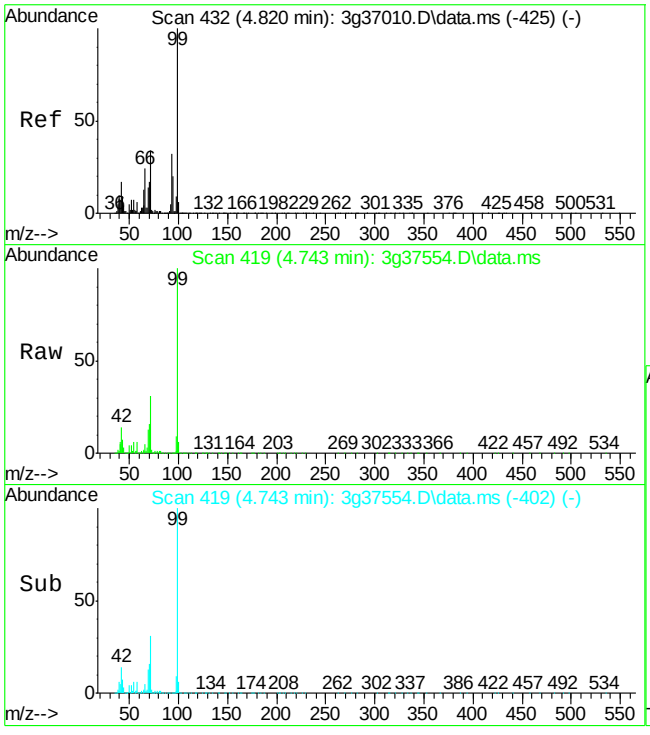


#5
2-Fluorophenol
Concen: 19.8401 ppm
RT: 4.044 min Scan# 300
Delta R.T. 0.000 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:112 Resp: 689181

Ion	Ratio	Lower	Upper
112	100		
64	75.9	58.3	98.3

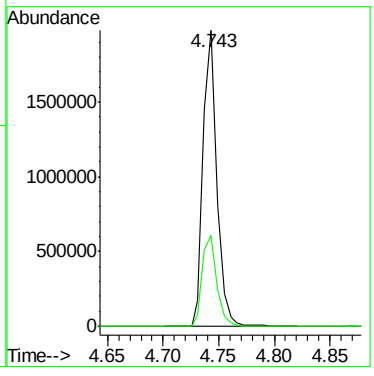


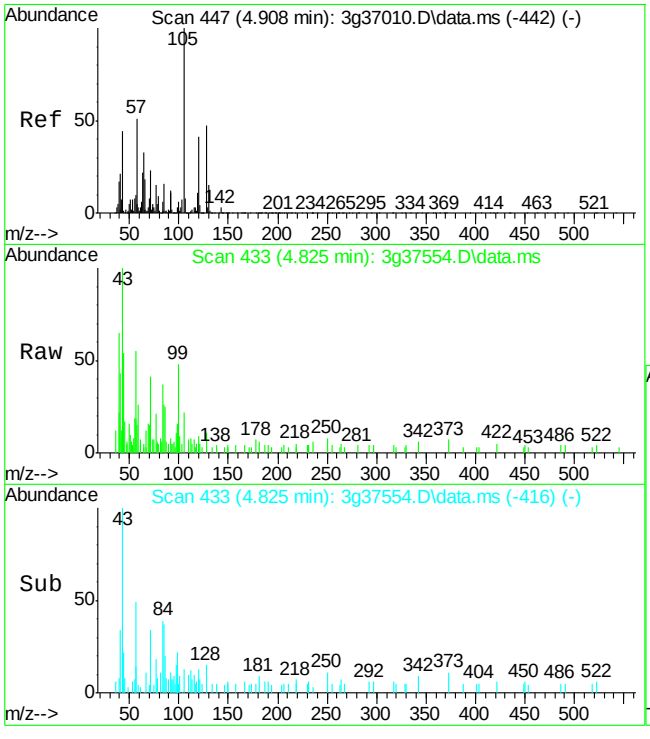


#8
Phenol-d5
Concen: 32.5260 ppm
RT: 4.743 min Scan# 419
Delta R.T. 0.000 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion: 99 Resp: 1673312

Ion	Ratio	Lower	Upper
99	100		
71	32.7	13.6	53.6

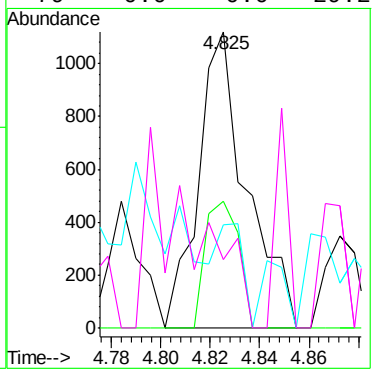


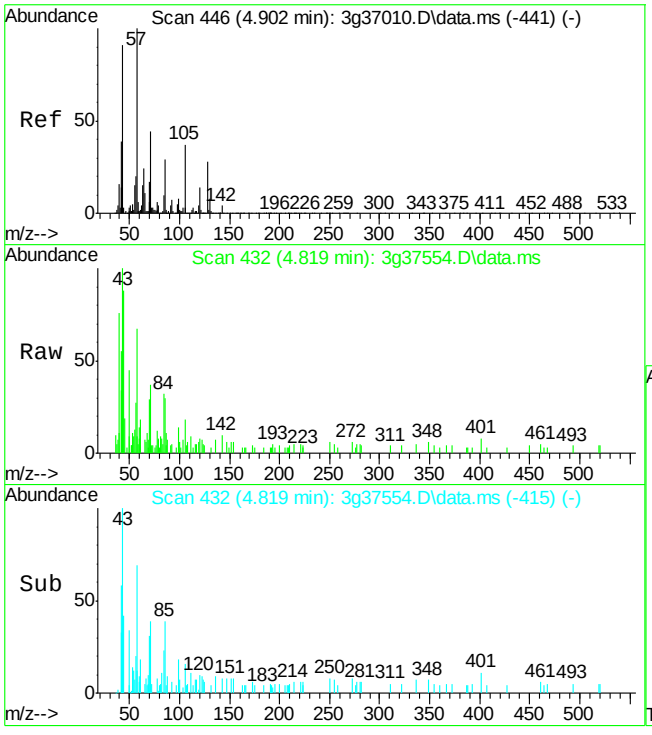


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:105 Resp: 1514

Ion	Ratio	Lower	Upper
105	100		
120	0.0	19.5	59.5#
91	0.0	0.0	31.4
79	0.0	0.0	29.2

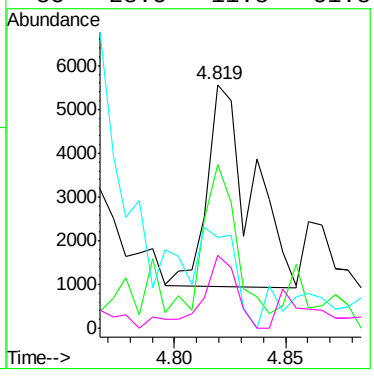


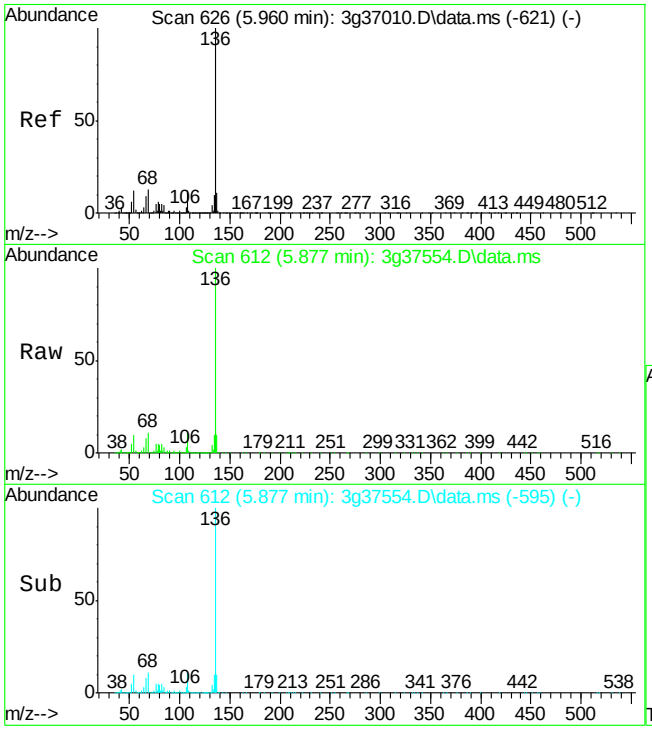


#14
n-decane
Concen: Below ppm
RT: 4.819 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion: 43 Resp: 6383

Ion	Ratio	Lower	Upper
43	100		
57	52.1	92.0	132.0#
71	38.6	28.7	68.7
85	28.5	11.8	51.8

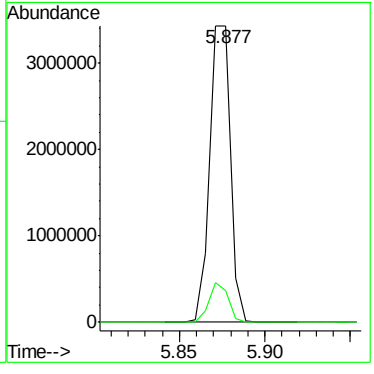


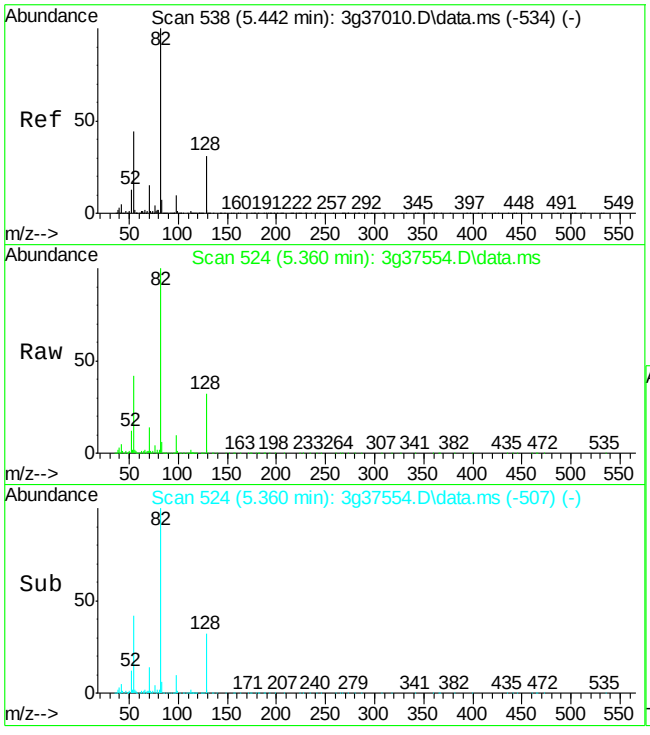


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. 0.000 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:136 Resp: 2896627

Ion	Ratio	Lower	Upper
136	100		
68	12.3	0.0	32.4

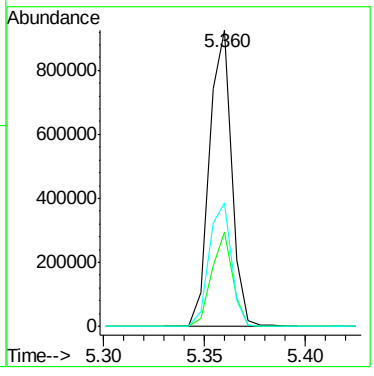


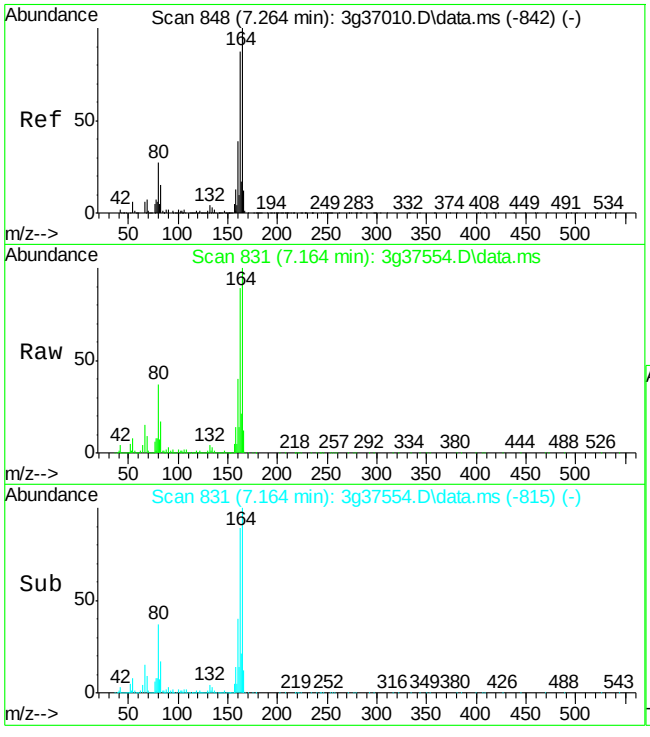


#27
Nitrobenzene-d5
Concen: 14.2066 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion: 82 Resp: 709050

Ion	Ratio	Lower	Upper
82	100		
128	30.1	10.8	50.8
54	41.9	22.9	62.9

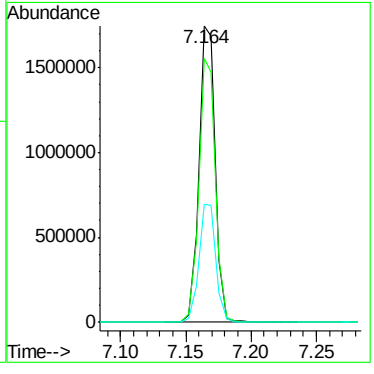


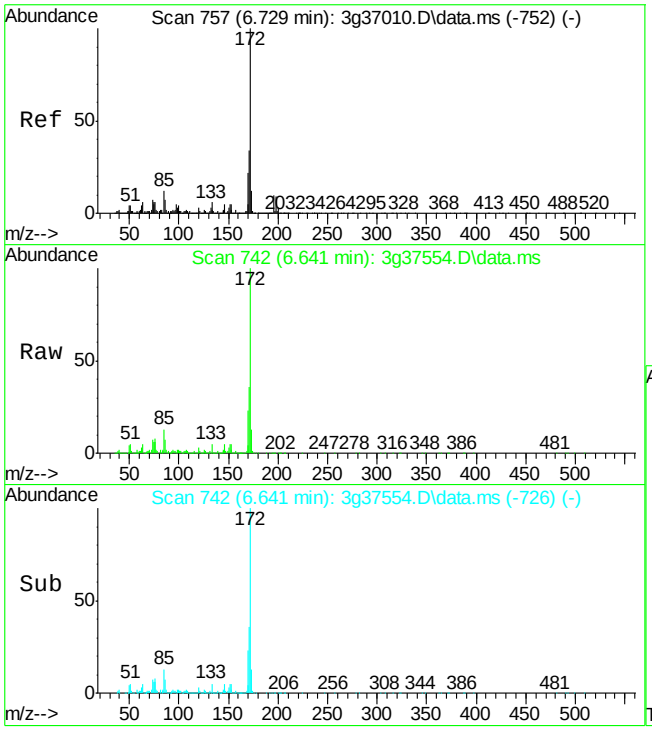


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:164 Resp: 1551543

Ion	Ratio	Lower	Upper
164	100		
162	90.2	69.6	109.6
160	41.3	20.5	60.5

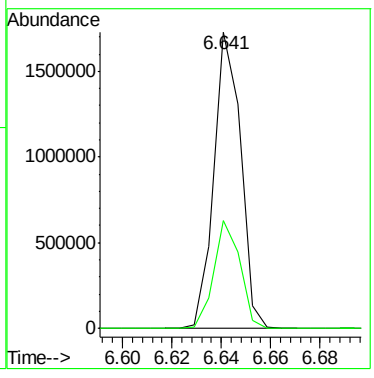


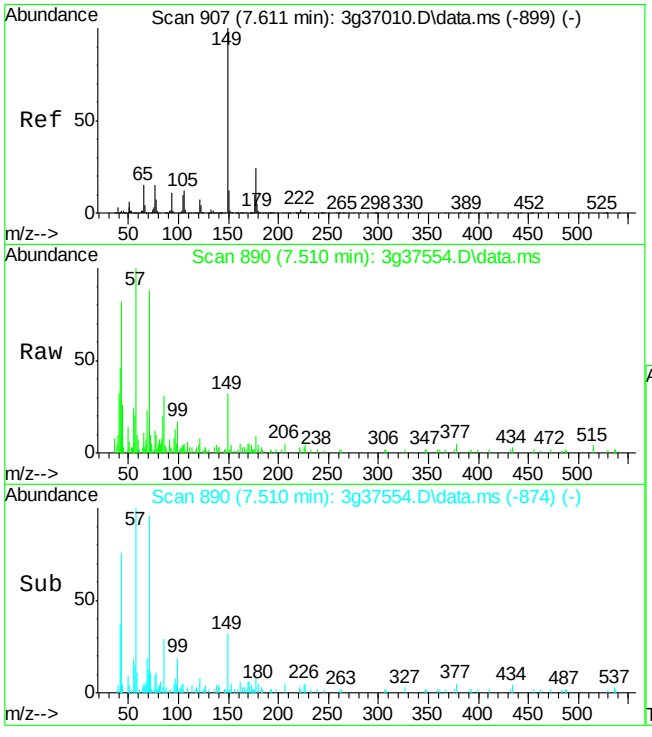


#49
2-Fluorobiphenyl
Concen: 24.2579 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:172 Resp: 1295474

Ion	Ratio	Lower	Upper
172	100		
171	35.6	14.5	54.5

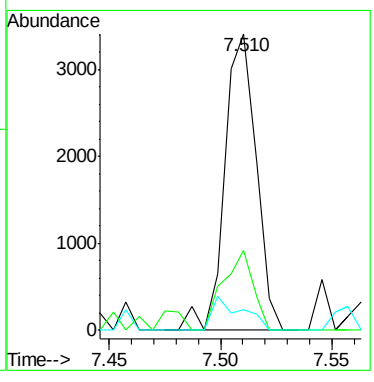


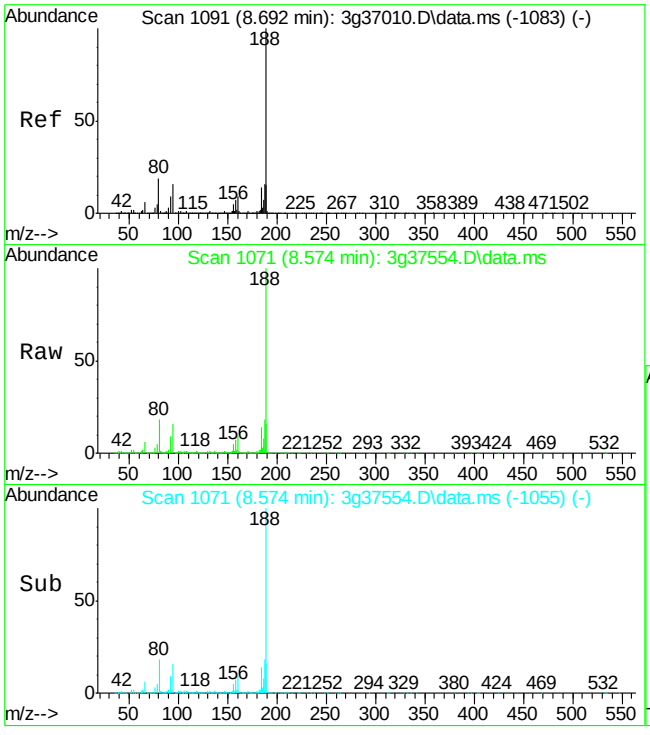


#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:149 Resp: 3392

Ion	Ratio	Lower	Upper
149	100		
177	0.0	3.6	43.6#
150	0.0	0.0	32.5

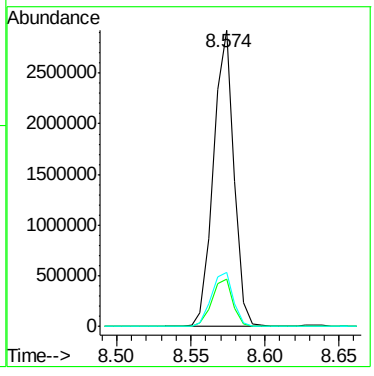


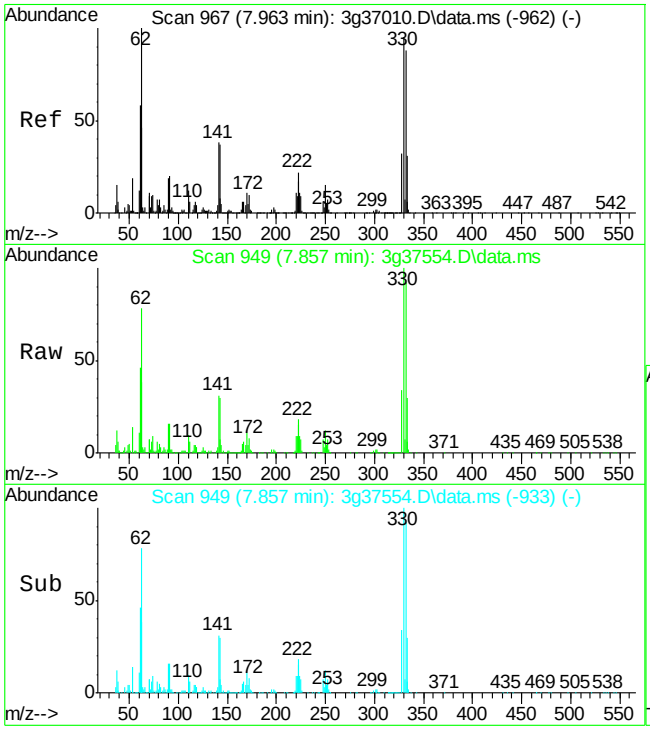


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:188 Resp: 2813110

Ion	Ratio	Lower	Upper
188	100		
94	16.3	0.0	35.1
80	19.6	0.0	37.9

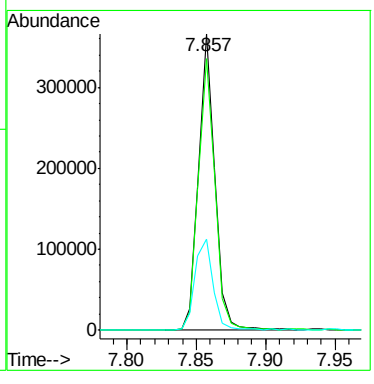


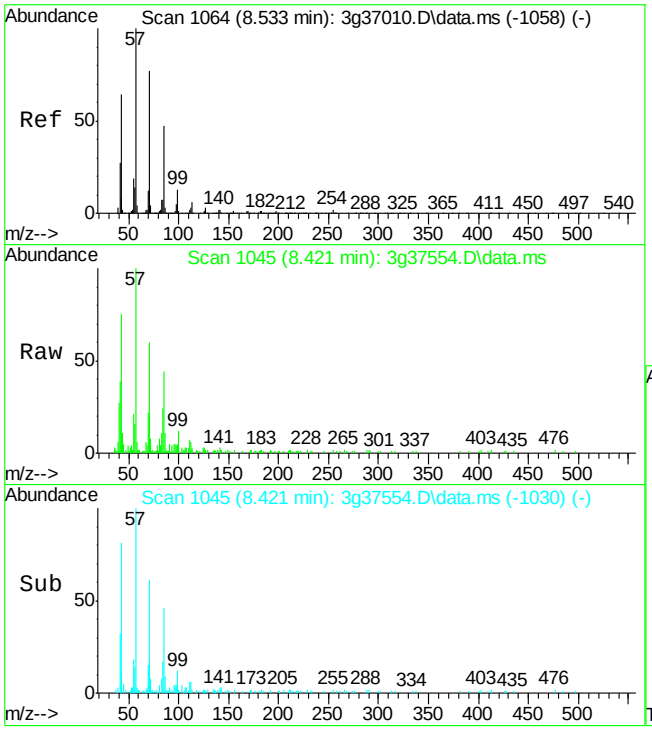


#69
2,4,6-Tribromophenol
Concen: 45.3136 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:330 Resp: 297256

Ion	Ratio	Lower	Upper
330	100		
332	93.7	74.8	112.2
141	34.4	33.8	50.6

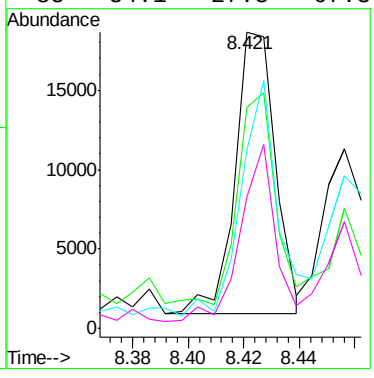


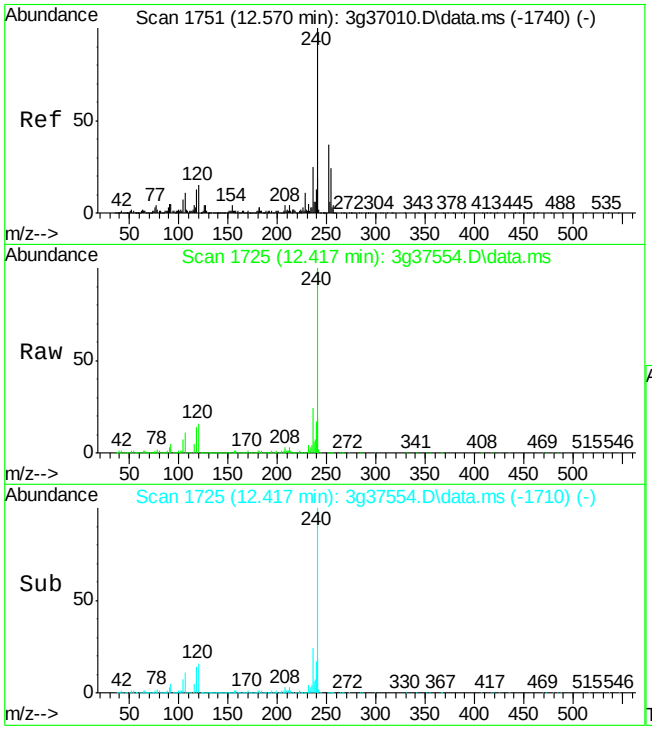


#78
n-Octadecane
Concen: 0.3132 ppm
RT: 8.421 min Scan# 1045
Delta R.T. -0.012 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion: 57 Resp: 18162

Ion	Ratio	Lower	Upper
57	100		
43	70.2	43.2	83.2
71	78.7	55.6	95.6
85	54.1	27.3	67.3

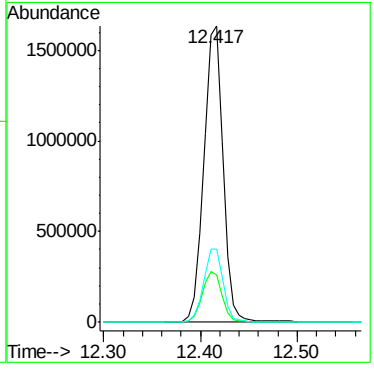


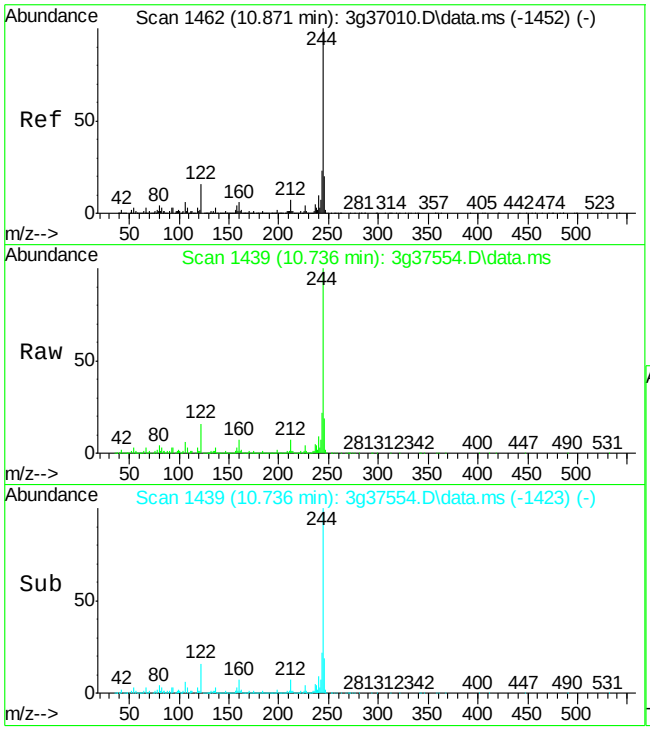


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.417 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:240 Resp: 2289420

Ion	Ratio	Lower	Upper
240	100		
120	17.4	0.0	36.6
236	24.9	4.3	44.3

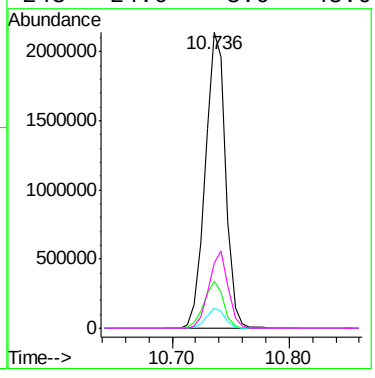


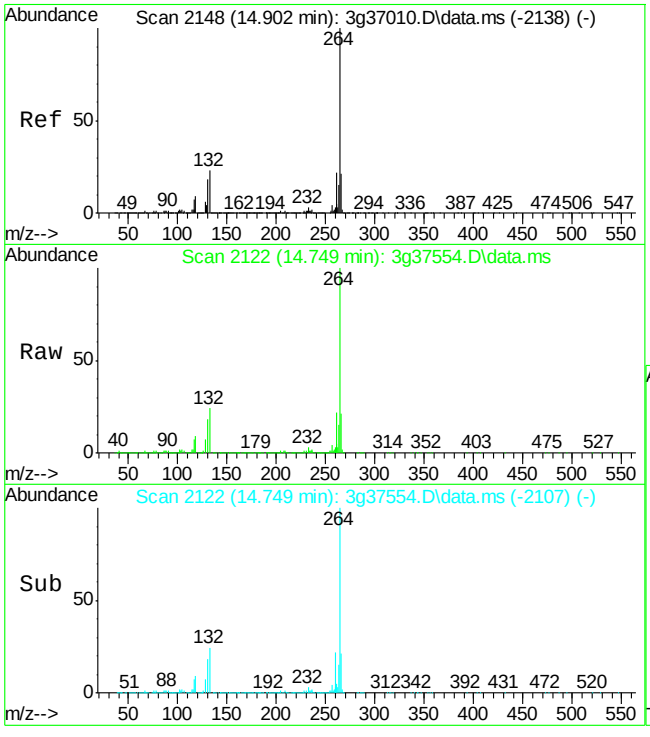


#87
Terphenyl-d14
Concen: 45.0627 ppm
RT: 10.736 min Scan# 1439
Delta R.T. -0.006 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:244 Resp: 2588209

Ion	Ratio	Lower	Upper
244	100		
122	15.2	0.0	35.4
212	6.5	0.0	27.0
243	24.6	3.0	43.0

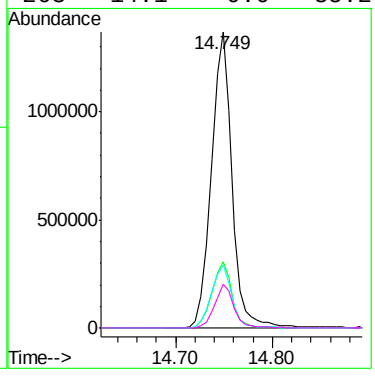




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37554.D
Acq: 6 Aug 18 4:55 pm

Tgt Ion:264 Resp: 2044669

Ion	Ratio	Lower	Upper
264	100		
260	22.0	1.3	41.3
265	21.4	0.2	40.2
263	14.1	0.0	35.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37599.D
Acq On : 7 Aug 2018 9:21 pm
Operator : DONC
Sample : DA7701-7
Misc : OP16681,E3G1870,30.00,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 08 09:55:10 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.960	152	921039	40.0000	ppm	0.00
26) Naphthalene-d8	5.877	136	3444361	40.0000	ppm	0.00
44) Acenaphthene-d10	7.170	164	1719513	40.0000	ppm	0.00
67) Phenanthrene-d10	8.574	188	3037855	40.0000	ppm	0.00
84) Chrysene-d12	12.422	240	2487011	40.0000	ppm	0.00
93) Perylene-d12	14.761	264	2140479	40.0000	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	4.056	112	1159608	27.0090	ppm	0.01
Spiked Amount 50.000	Range 1 - 250		Recovery = 54.02%			
8) Phenol-d5	4.749	99	1951164	30.6856	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 61.38%			
27) Nitrobenzene-d5	5.360	82	1634198	27.5361	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 55.08%			
49) 2-Fluorobiphenyl	6.647	172	2546640	43.0279	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 86.06%			
69) 2,4,6-Tribromophenol	7.857	330	309452	43.6829	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 87.36%			
87) Terphenyl-d14	10.742	244	2641754	42.3407	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 84.68%			

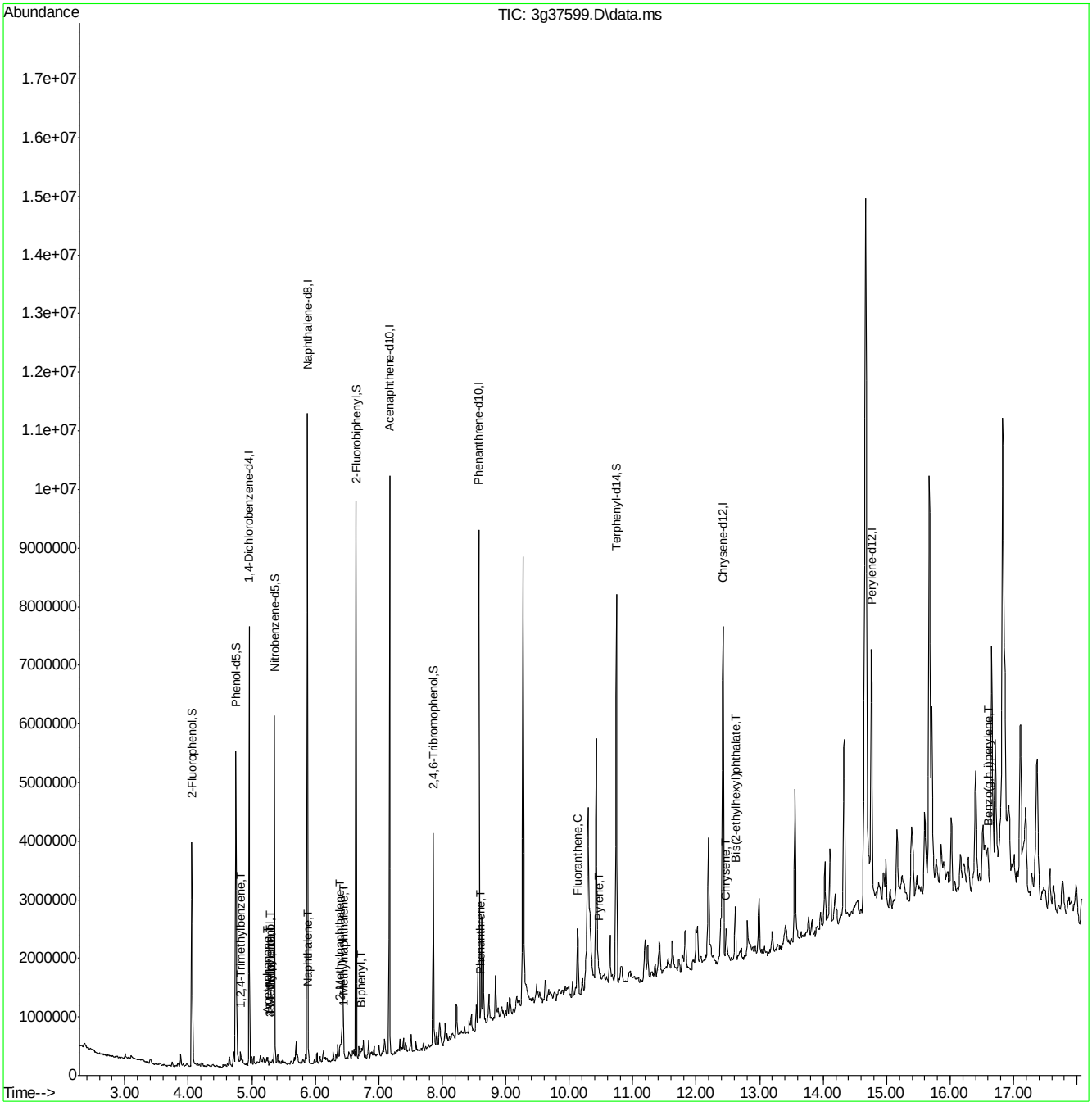
Target Compounds						Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	29959	0.2653	ppm	88
21) Acetophenone	5.248	105	19754	0.3097	ppm	91
23) 4-Methylphenol	5.284	107	17404	0.3509	ppm	95
24) 3&4-Methylphenol	5.284	107	17404	0.3509	ppm	95
36) Naphthalene	5.889	128	96901	1.1410	ppm	95
42) 2-Methylnaphthalene	6.388	142	23029	0.3672	ppm	83
43) 1-Methylnaphthalene	6.453	142	9430	0.1599	ppm	85
50) Biphenyl	6.717	154	16415	0.6332	ppm	87
63) Diethylphthalate	7.510	149	30440	Below	Cal	86
79) Phenanthrene	8.597	178	33408	0.3924	ppm	76
83) Fluoranthene	10.137	202	33949	0.3816	ppm	78
85) Benzidine	10.395	184	6159	Below	Cal #	1
86) Pyrene	10.466	202	41897	0.4526	ppm	83
91) Chrysene	12.464	228	32493	0.4159	ppm	95
92) Bis(2-ethylhexyl)phtha...	12.616	149	215280	4.2496	ppm	84
101) Benzo(g,h,i)perylene	16.606	276	23579	0.3953	ppm	87

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

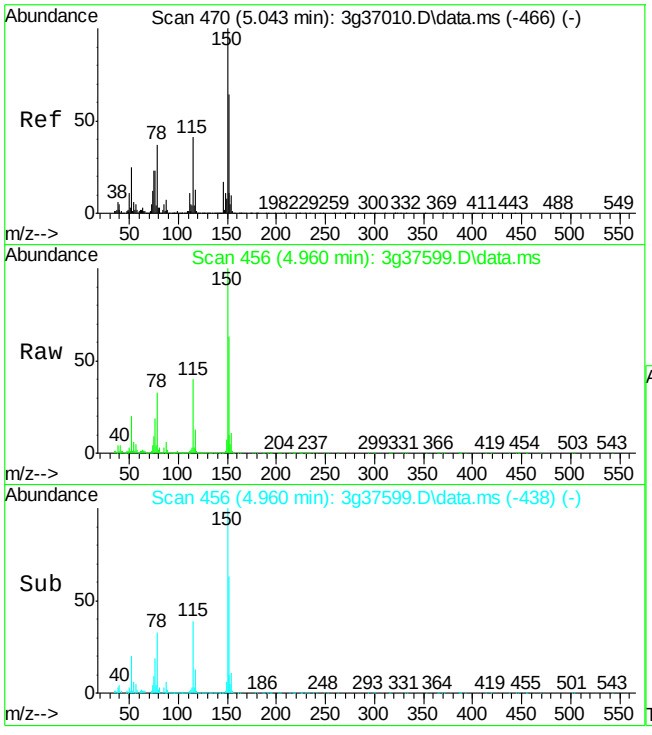
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37599.D
Acq On : 7 Aug 2018 9:21 pm
Operator : DONC
Sample : DA7701-7
Misc : OP16681,E3G1870,30.00,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 08 09:55:10 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



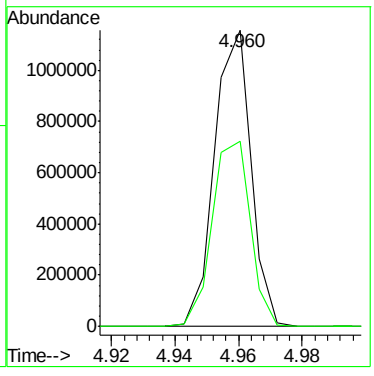
bnae3g1850.M Wed Aug 08 09:55:14 2018 3G Page: 2

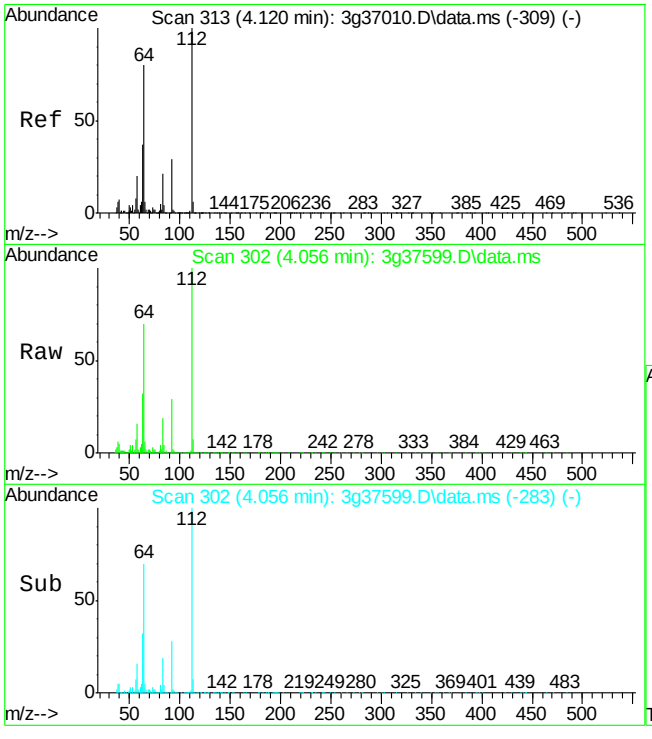


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.960 min Scan# 456
Delta R.T. 0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:152 Resp: 921039

Ion	Ratio	Lower	Upper
152	100		
115	65.8	53.0	93.0

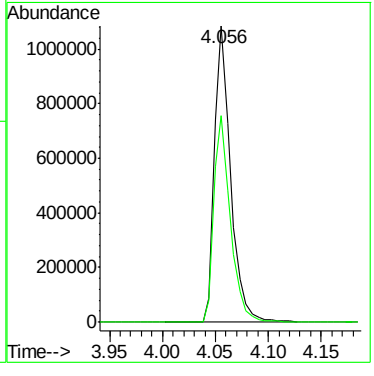


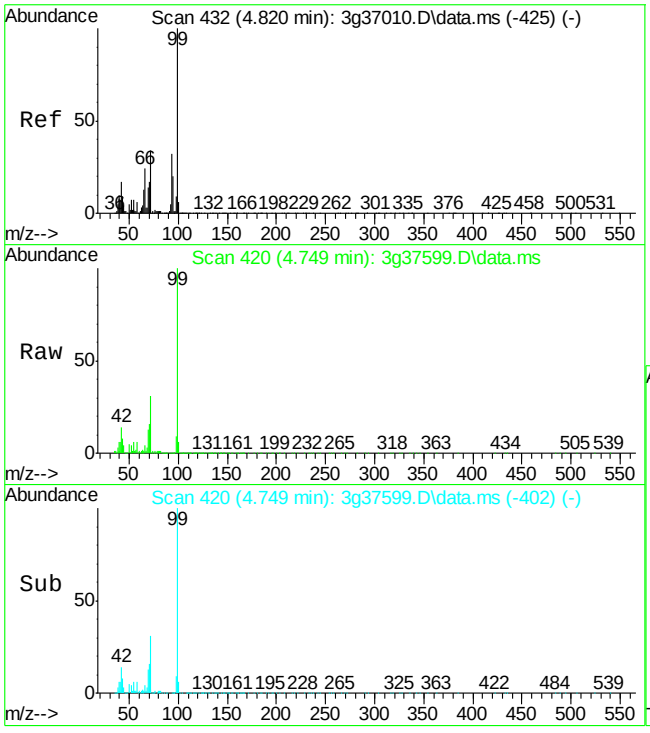


#5
2-Fluorophenol
Concen: 27.0090 ppm
RT: 4.056 min Scan# 302
Delta R.T. 0.012 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:112 Resp: 1159608

Ion	Ratio	Lower	Upper
112	100		
64	70.9	58.3	98.3

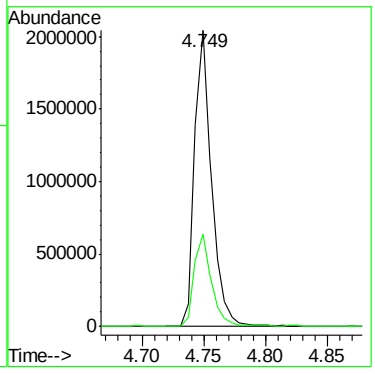


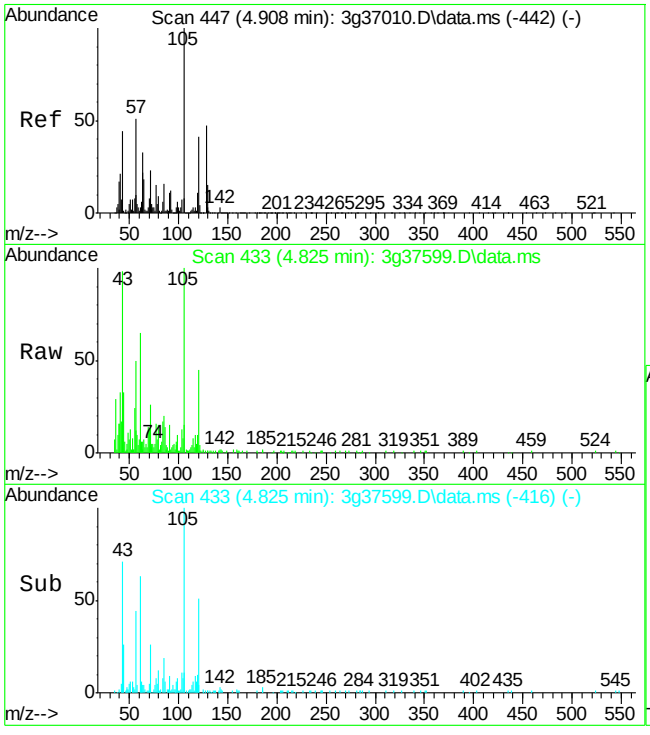


#8
Phenol-d5
Concen: 30.6856 ppm
RT: 4.749 min Scan# 420
Delta R.T. 0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion: 99 Resp: 1951164

Ion	Ratio	Lower	Upper
99	100		
71	31.7	13.6	53.6

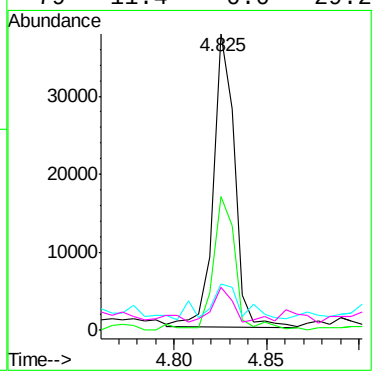


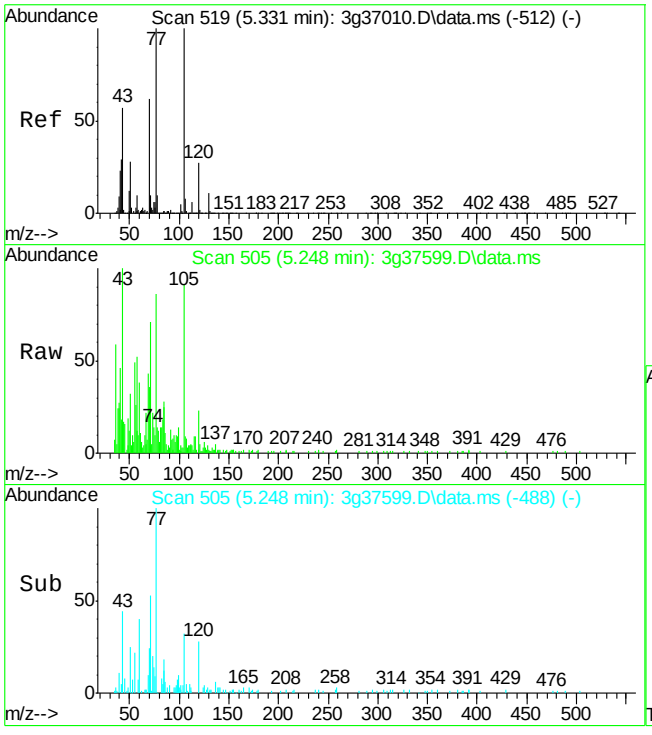


#13
1,2,4-Trimethylbenzene
Concen: 0.2653 ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:105 Resp: 29959

Ion	Ratio	Lower	Upper
105	100		
120	46.4	19.5	59.5
91	17.9	0.0	31.4
79	11.4	0.0	29.2

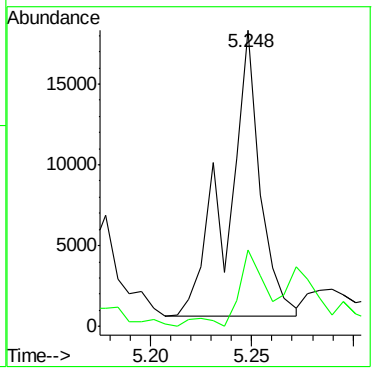


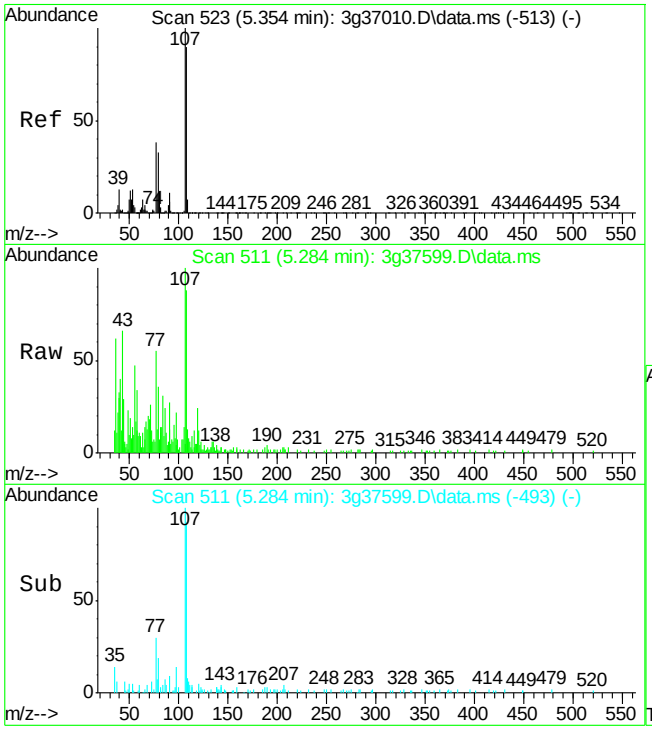


#21
Acetophenone
Concen: 0.3097 ppm
RT: 5.248 min Scan# 505
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:105 Resp: 19754

Ion	Ratio	Lower	Upper
105	100		
120	21.9	6.5	46.5

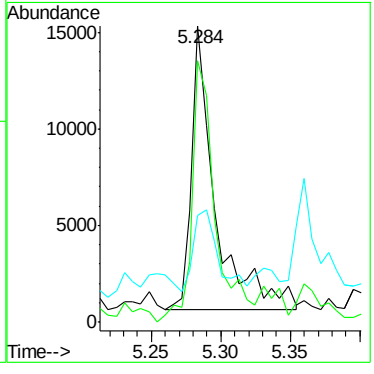


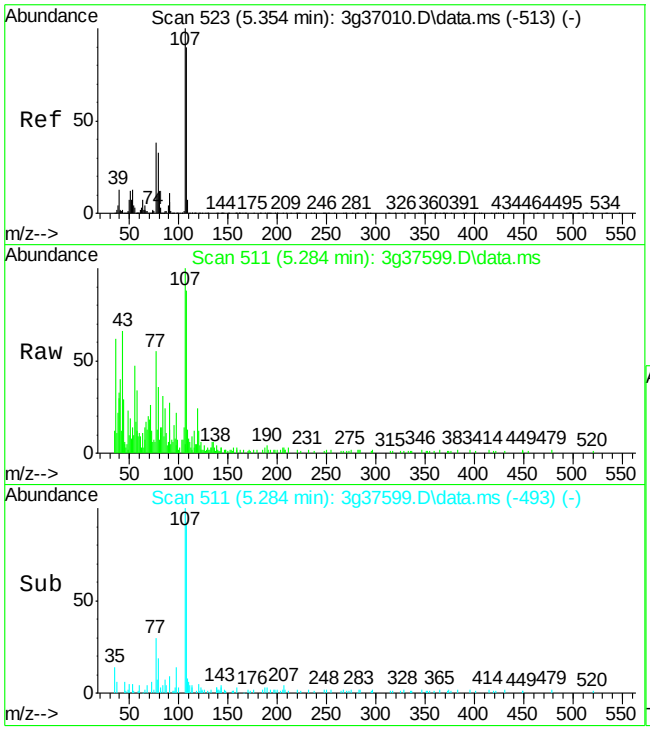


#23
4-Methylphenol
Concen: 0.3509 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:107 Resp: 17404

Ion	Ratio	Lower	Upper
107	100		
108	89.7	72.8	112.8
79	29.6	15.6	55.6

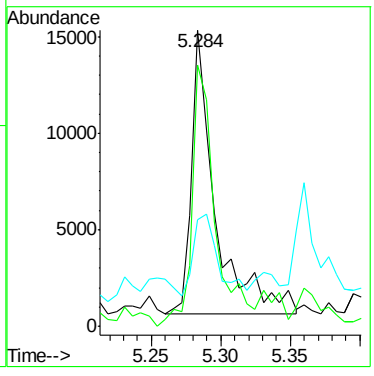


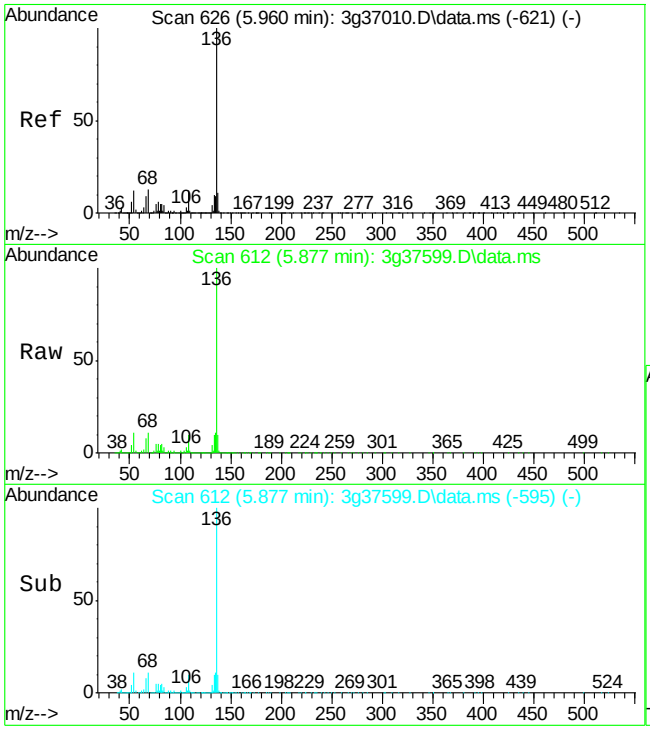


#24
3&4-Methylphenol
Concen: 0.3509 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:107 Resp: 17404

Ion	Ratio	Lower	Upper
107	100		
108	89.7	72.8	112.8
79	29.6	15.6	55.6

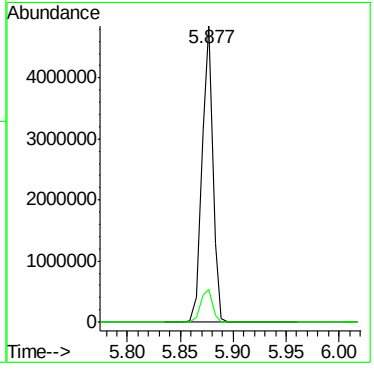


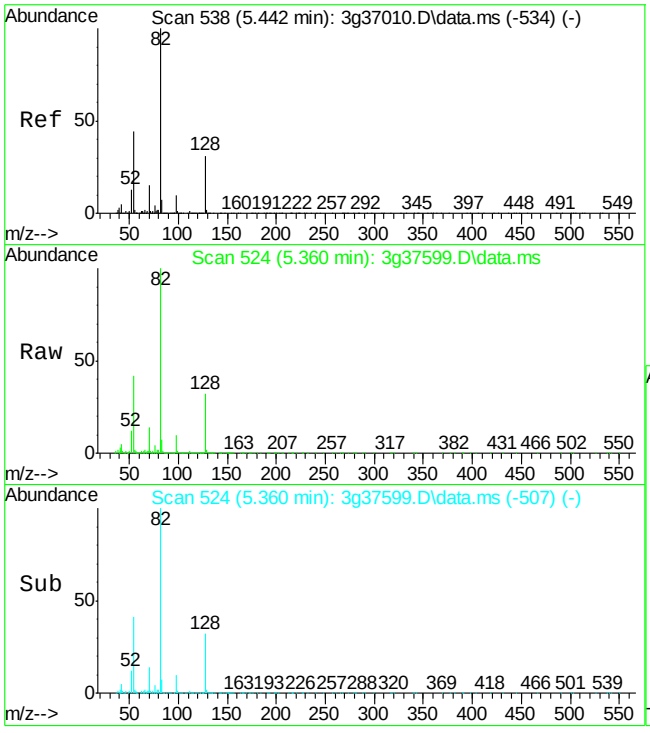


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:136 Resp: 3444361

Ion	Ratio	Lower	Upper
136	100		
68	12.0	0.0	32.4

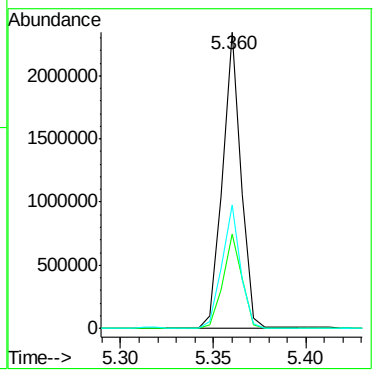


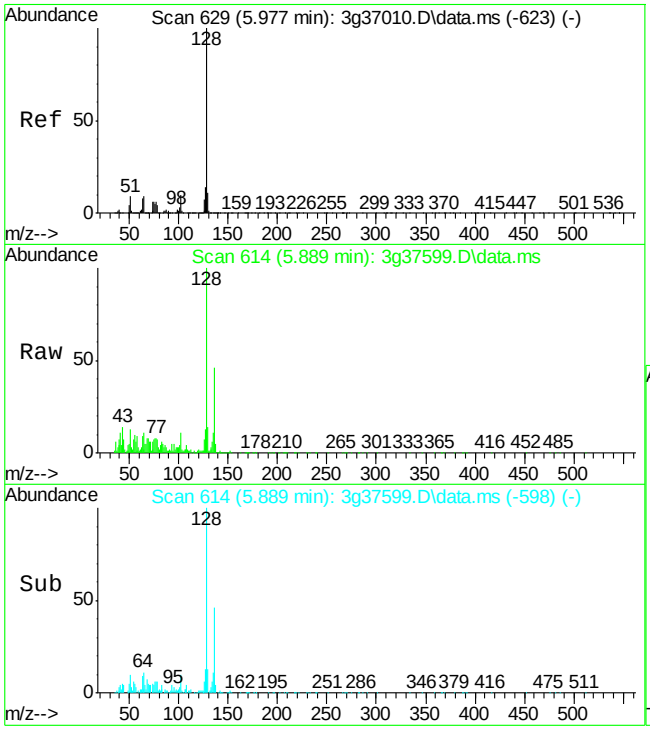


#27
Nitrobenzene-d5
Concen: 27.5361 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion: 82 Resp: 1634198

Ion	Ratio	Lower	Upper
82	100		
128	32.6	10.8	50.8
54	41.4	22.9	62.9

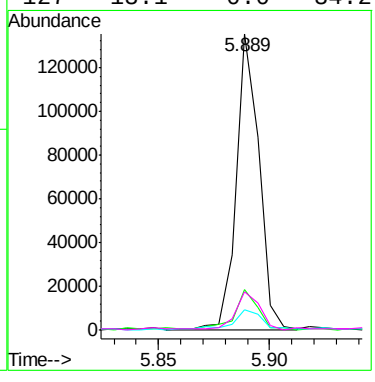


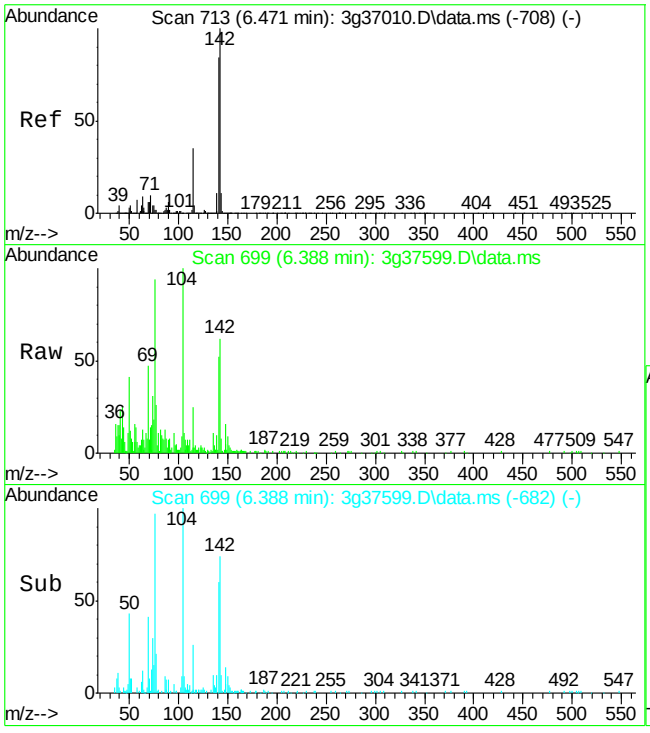


#36
Naphthalene
Concen: 1.1410 ppm
RT: 5.889 min Scan# 614
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:128 Resp: 96901

Ion	Ratio	Lower	Upper
128	100		
129	13.8	0.0	30.9
126	9.4	0.0	27.5
127	13.1	0.0	34.2

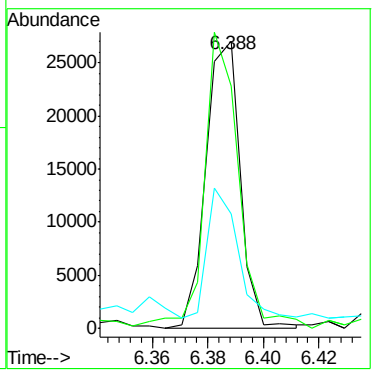


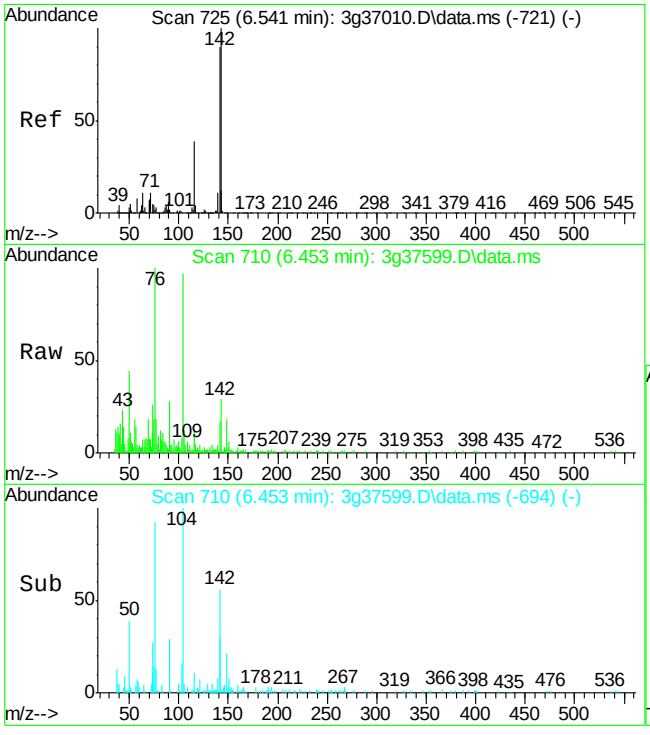


#42
2-Methylnaphthalene
Concen: 0.3672 ppm
RT: 6.388 min Scan# 699
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:142 Resp: 23029

Ion	Ratio	Lower	Upper
142	100		
141	102.1	62.4	102.4
115	40.0	15.8	55.8

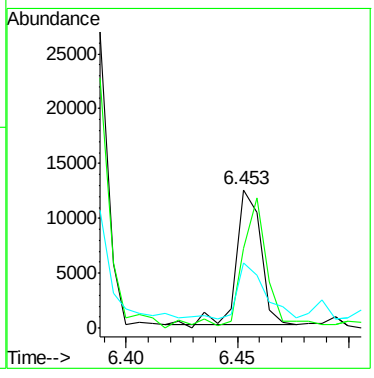


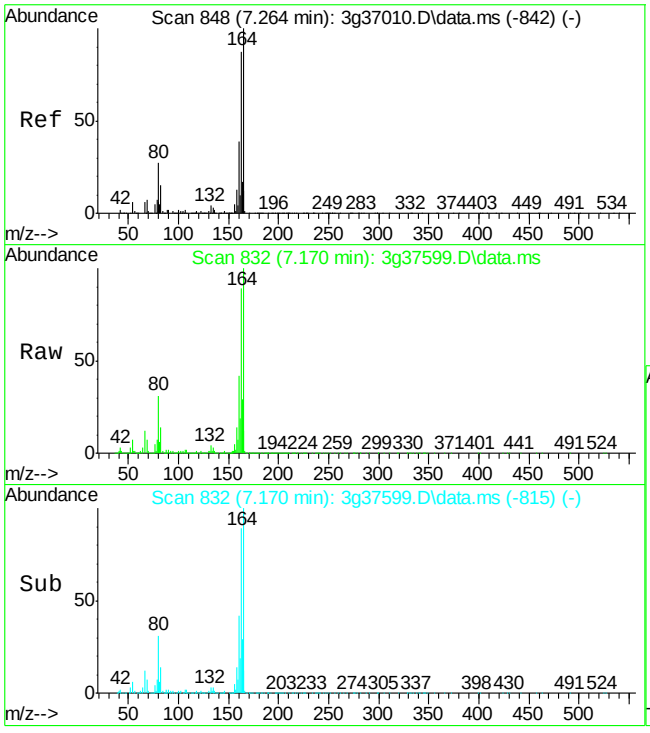


#43
1-Methylnaphthalene
Concen: 0.1599 ppm
RT: 6.453 min Scan# 710
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:142 Resp: 9430

Ion	Ratio	Lower	Upper
142	100		
141	105.7	70.2	110.2
115	45.6	19.3	59.3

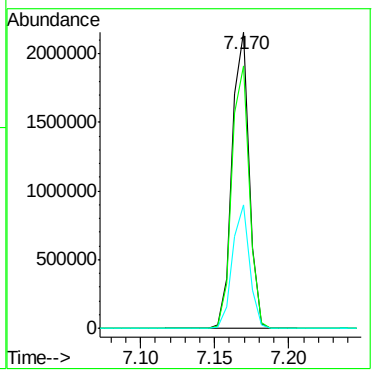


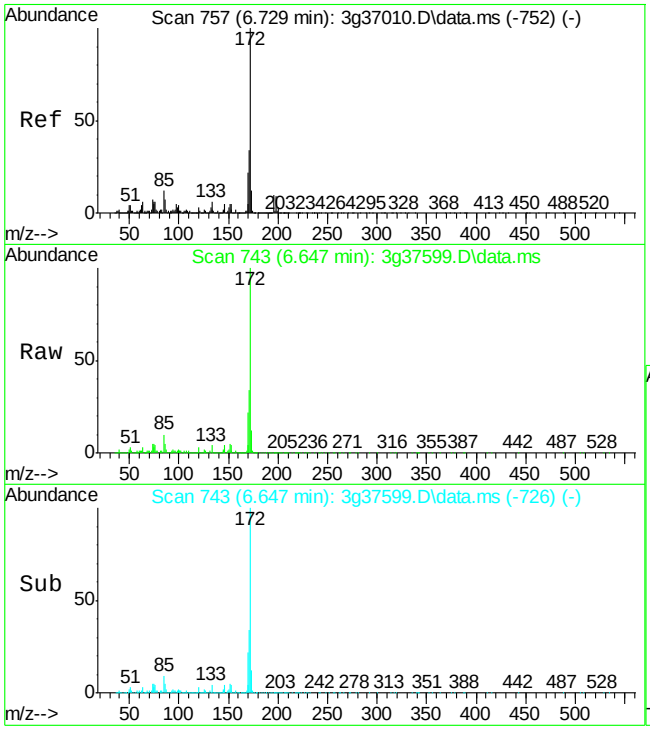


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:164 Resp: 1719513

Ion	Ratio	Lower	Upper
164	100		
162	91.3	69.6	109.6
160	42.1	20.5	60.5

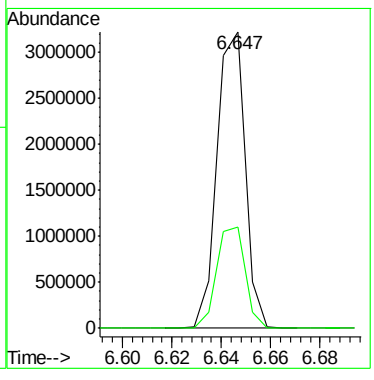


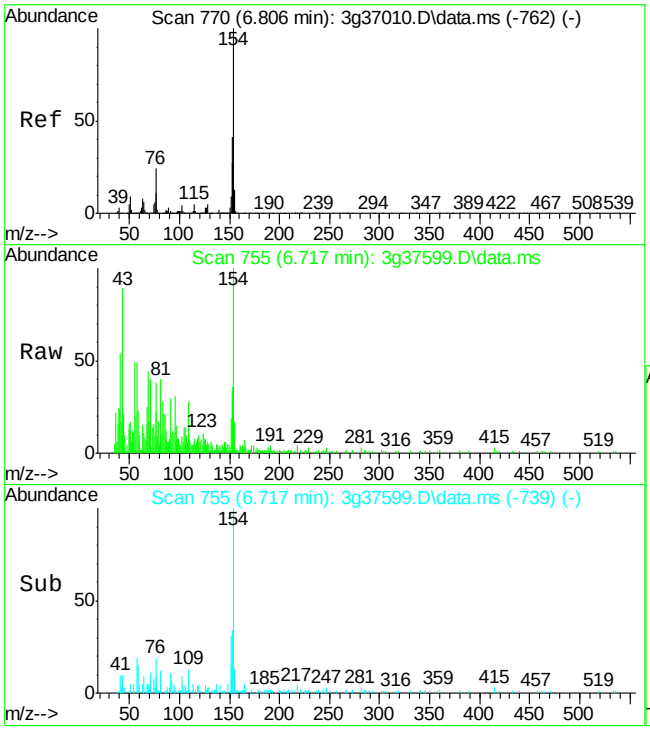


#49
2-Fluorobiphenyl
Concen: 43.0279 ppm
RT: 6.647 min Scan# 743
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:172 Resp: 2546640

Ion	Ratio	Lower	Upper
172	100		
171	34.9	14.5	54.5

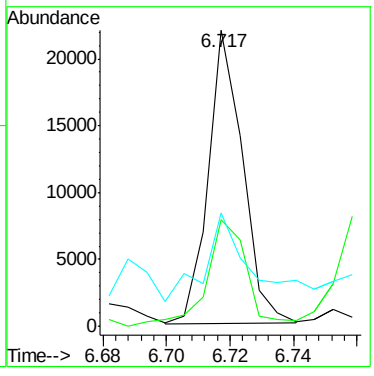


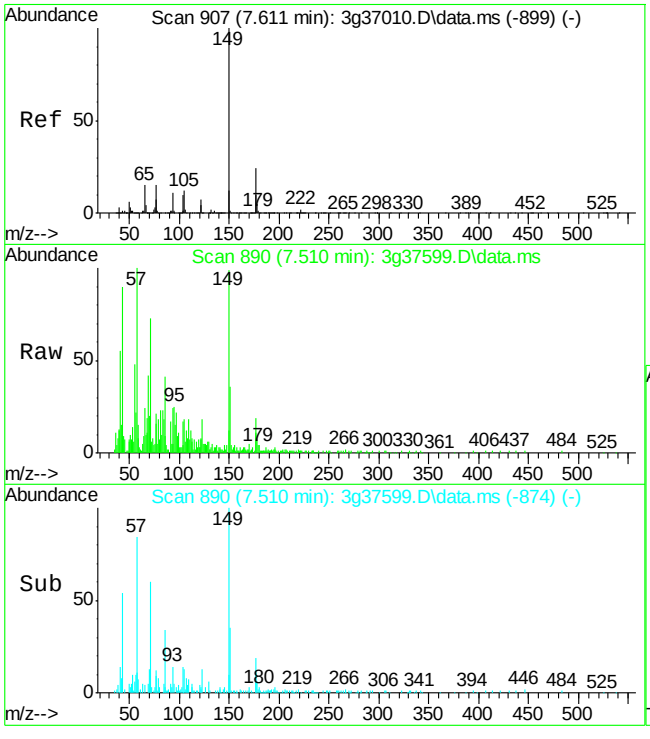


#50
Biphenyl
Concen: 0.6332 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:154 Resp: 16415

Ion	Ratio	Lower	Upper
154	100		
153	42.8	21.4	61.4
76	40.6	5.2	45.2

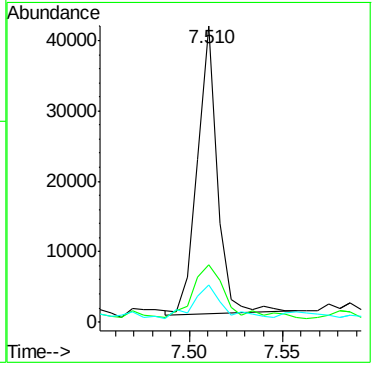




#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

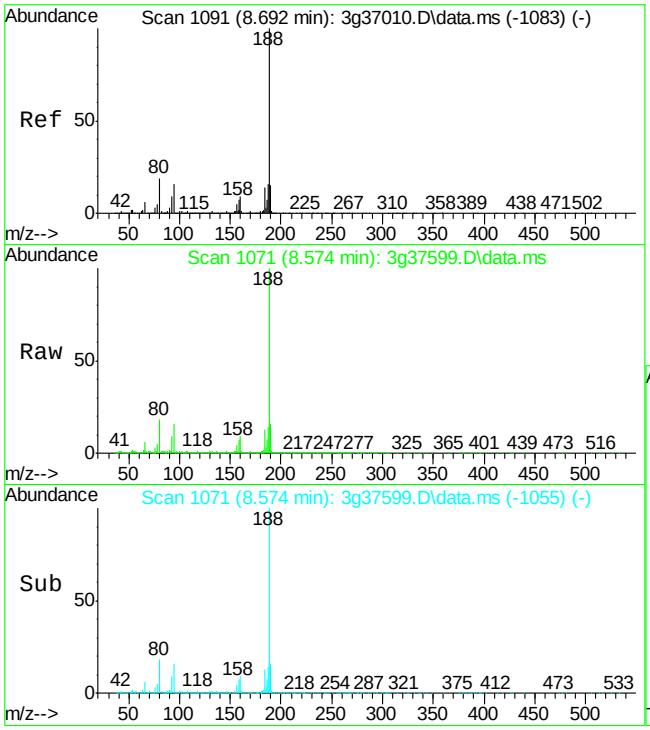
Tgt Ion:149 Resp: 30440

Ion	Ratio	Lower	Upper
149	100		
177	30.9	3.6	43.6
150	17.7	0.0	32.5



9.1.7

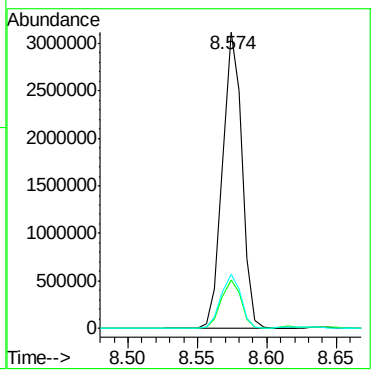
9

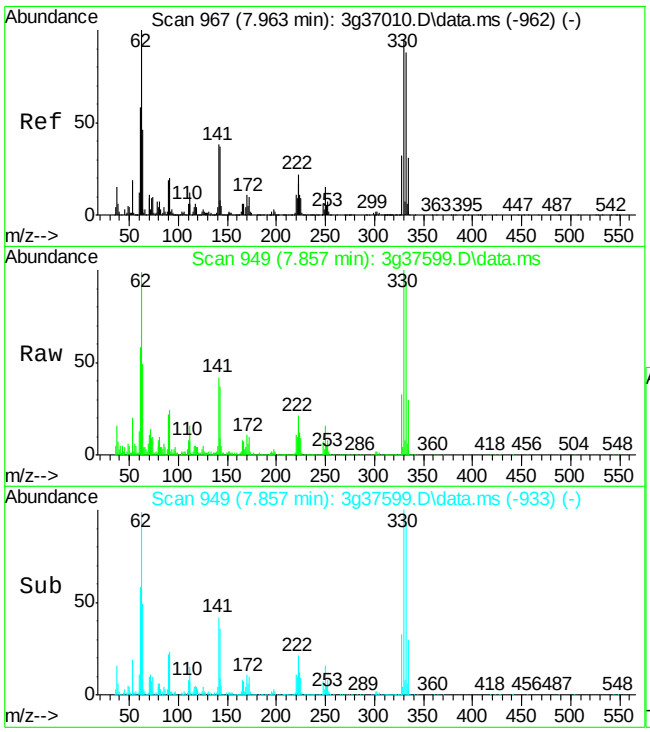


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:188 Resp: 3037855

Ion	Ratio	Lower	Upper
188	100		
94	16.3	0.0	35.1
80	18.6	0.0	37.9

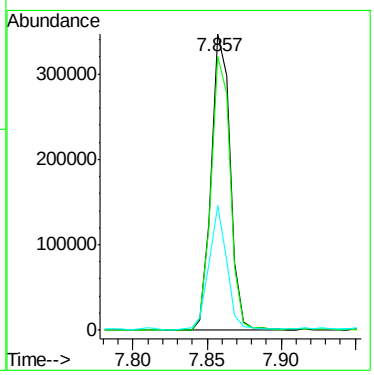


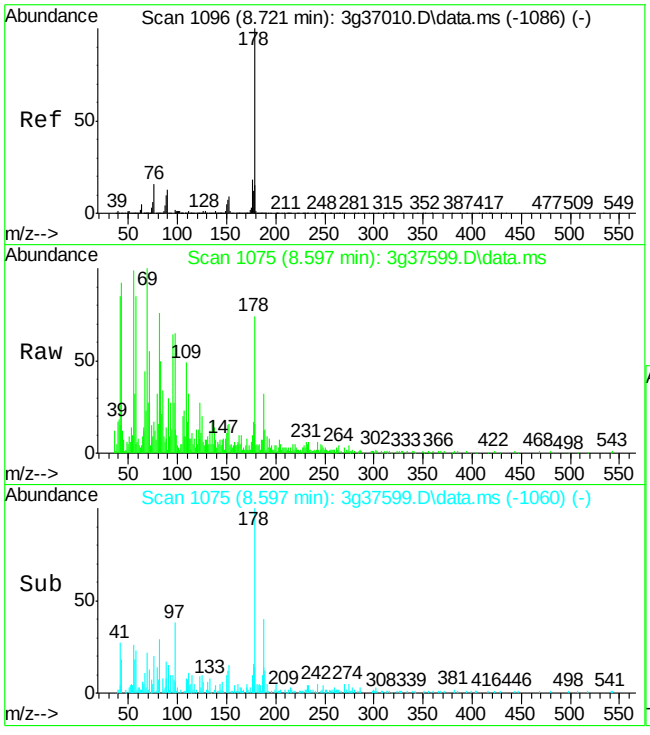


#69
2,4,6-Tribromophenol
Concen: 43.6829 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:330 Resp: 309452

Ion	Ratio	Lower	Upper
330	100		
332	93.5	74.8	112.2
141	39.0	33.8	50.6

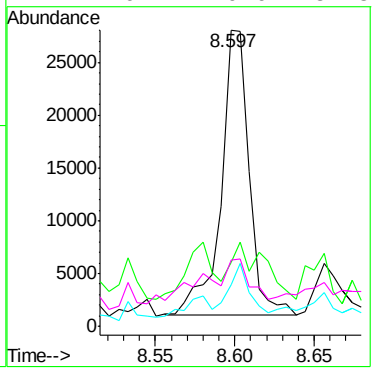


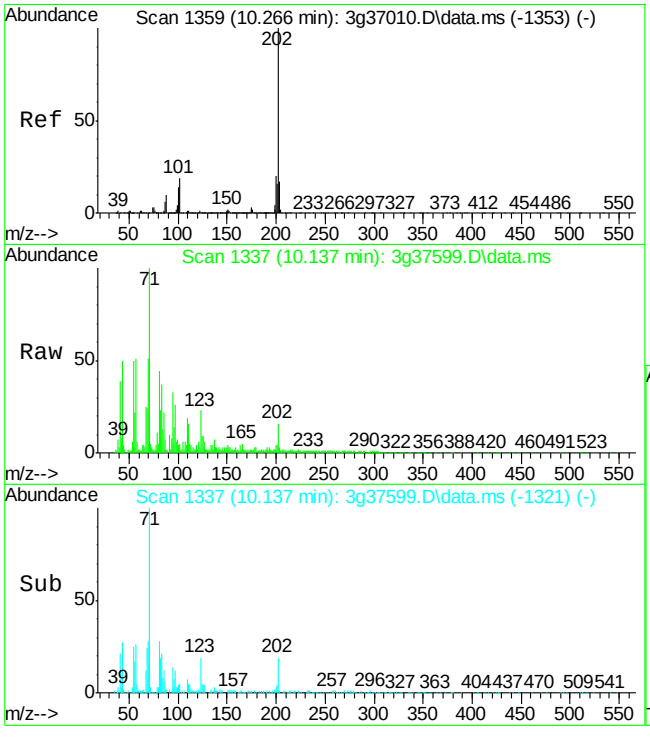


#79
Phenanthrene
Concen: 0.3924 ppm
RT: 8.597 min Scan# 1075
Delta R.T. -0.012 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:178 Resp: 33408

Ion	Ratio	Lower	Upper
178	100		
179	25.8	0.0	35.6
176	13.8	0.0	38.7
177	29.1	0.0	31.8

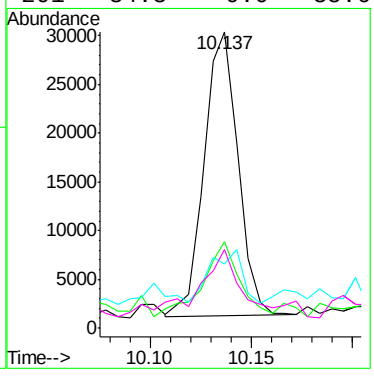


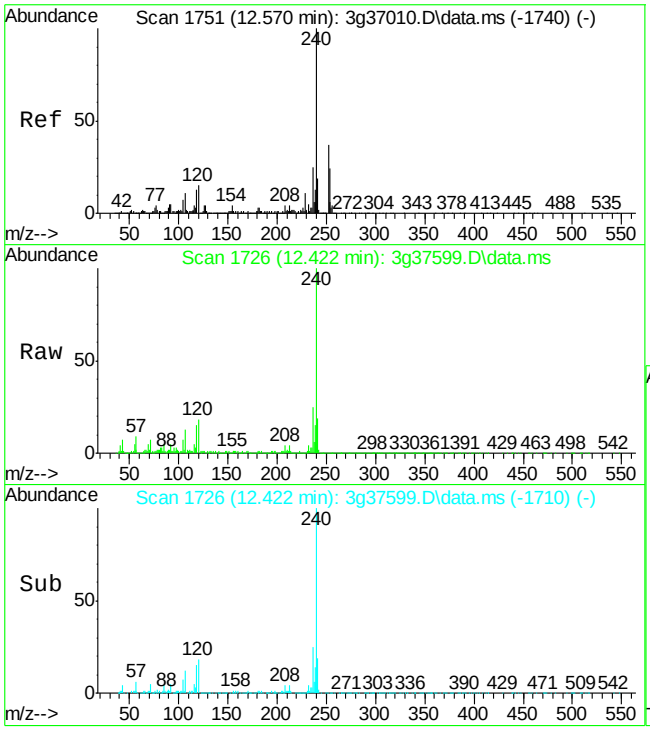


#83
Fluoranthene
Concen: 0.3816 ppm
RT: 10.137 min Scan# 1337
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:202 Resp: 33949

Ion	Ratio	Lower	Upper
202	100		
101	28.5	0.0	38.8
203	18.2	0.0	37.1
201	34.3	0.0	35.6

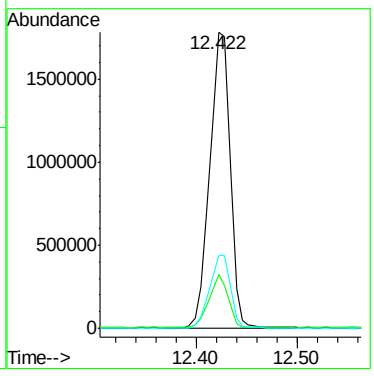


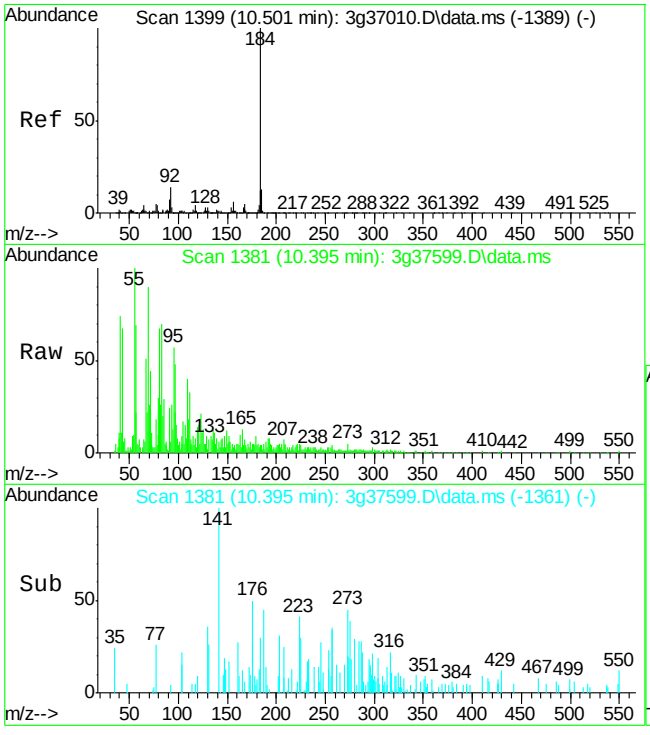


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.422 min Scan# 1726
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:240 Resp: 2487011

Ion	Ratio	Lower	Upper
240	100		
120	16.8	0.0	36.6
236	25.2	4.3	44.3

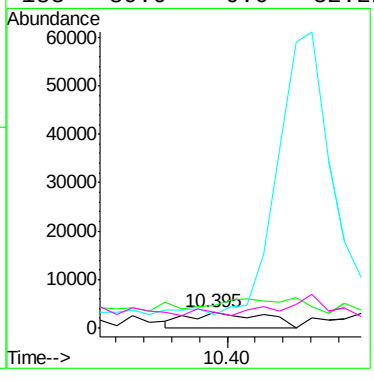


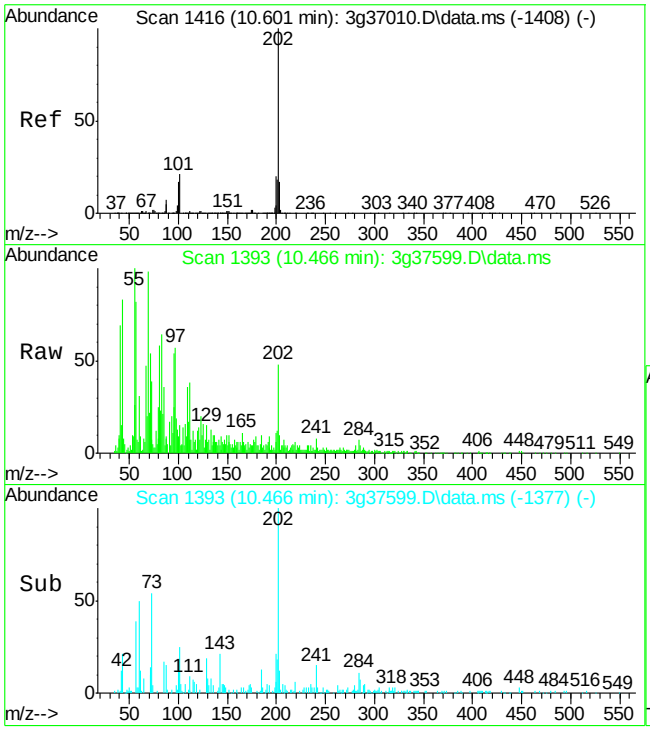


#85
Benzidine
Concen: Below ppm
RT: 10.395 min Scan# 1381
Delta R.T. 0.018 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:184 Resp: 6159

Ion	Ratio	Lower	Upper
184	100		
92	95.5	0.0	34.2#
185	1263.0	0.0	33.2#
183	80.0	0.0	32.2#

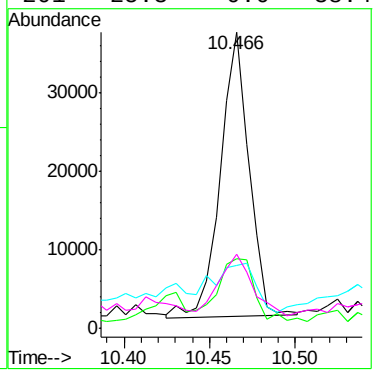


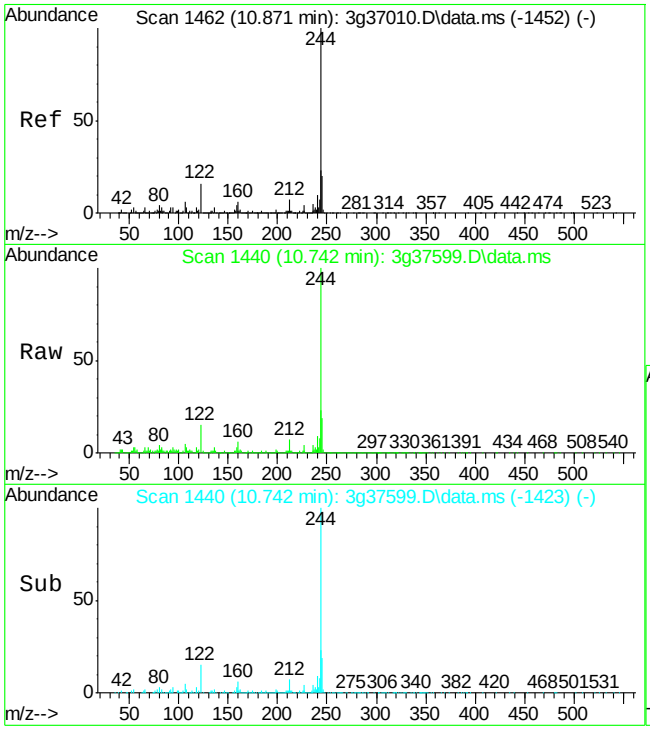


#86
Pyrene
Concen: 0.4526 ppm
RT: 10.466 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:202 Resp: 41897

Ion	Ratio	Lower	Upper
202	100		
200	28.4	0.0	39.9
203	25.4	0.0	37.7
201	25.3	0.0	38.4

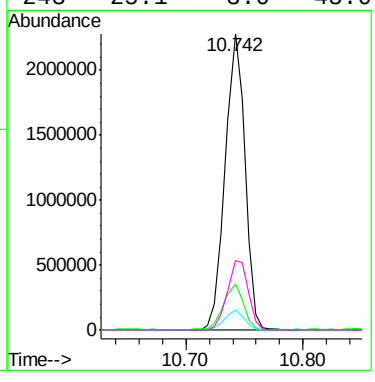


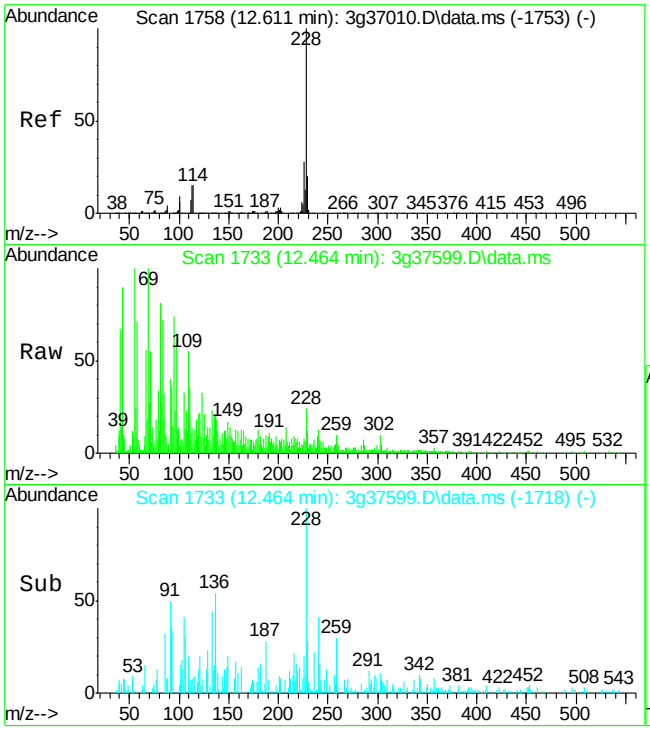


#87
Terphenyl-d14
Concen: 42.3407 ppm
RT: 10.742 min Scan# 1440
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:244 Resp: 2641754

Ion	Ratio	Lower	Upper
244	100		
122	15.5	0.0	35.4
212	6.7	0.0	27.0
243	25.1	3.0	43.0

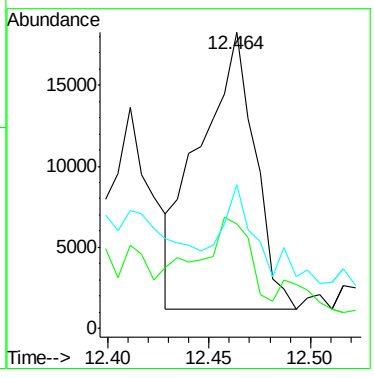


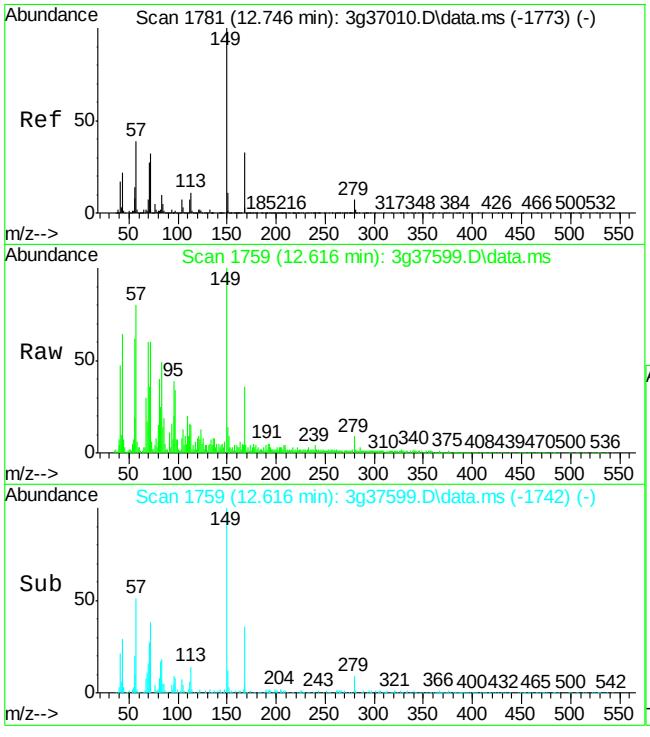


#91
Chrysene
Concen: 0.4159 ppm
RT: 12.464 min Scan# 1733
Delta R.T. -0.012 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:228 Resp: 32493

Ion	Ratio	Lower	Upper
228	100		
226	27.0	8.0	48.0
229	23.9	0.0	39.8

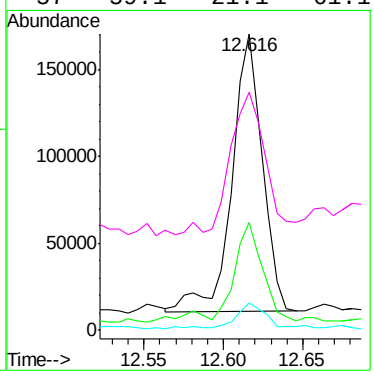


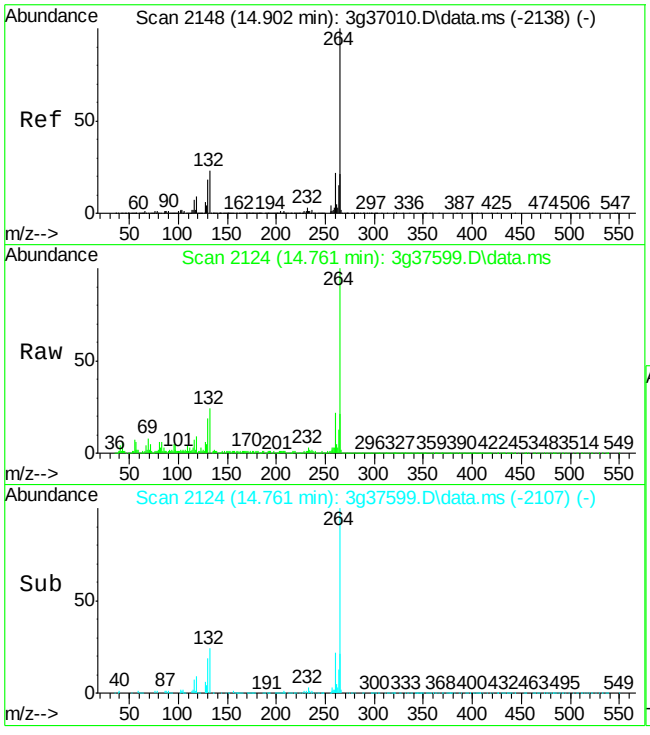


#92
Bis(2-ethylhexyl)phthalate
Concen: 4.2496 ppm
RT: 12.616 min Scan# 1759
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:149 Resp: 215280

Ion	Ratio	Lower	Upper
149	100		
167	32.1	13.6	53.6
279	8.2	0.0	27.3
57	59.1	21.1	61.1

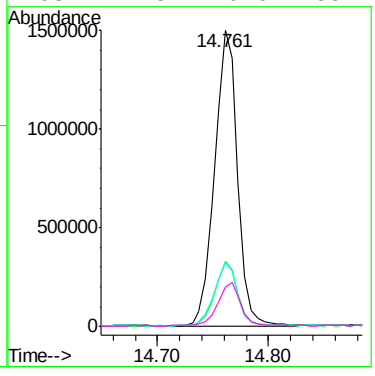


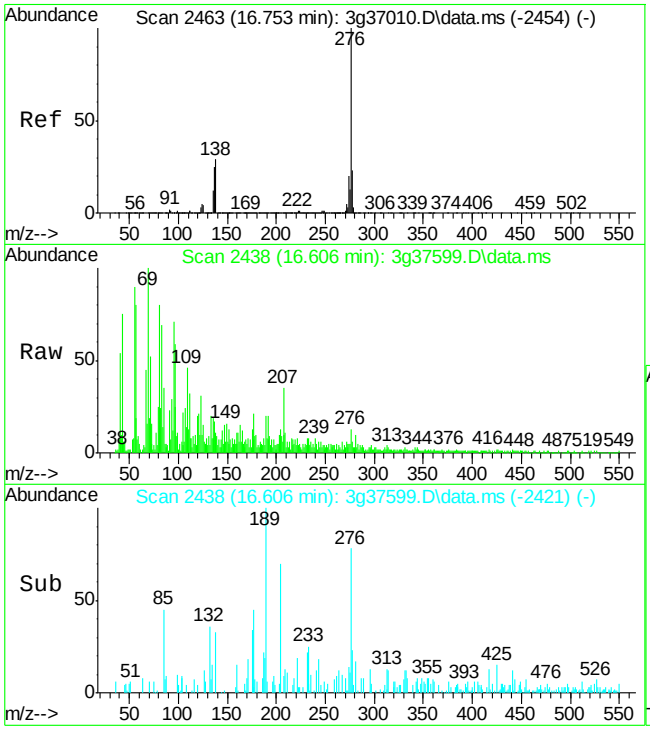


#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.761 min Scan# 2124
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:264 Resp: 2140479

Ion	Ratio	Lower	Upper
264	100		
260	21.5	1.3	41.3
265	21.3	0.2	40.2
263	14.8	0.0	35.2

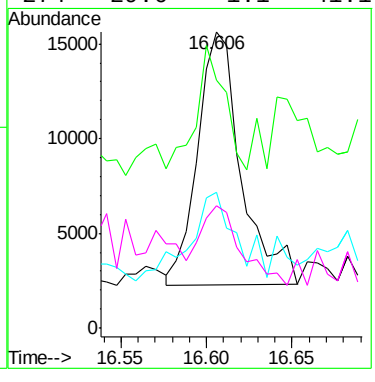




#101
Benzo(g,h,i)perylene
Concen: 0.3953 ppm
RT: 16.606 min Scan# 2438
Delta R.T. 0.000 min
Lab File: 3g37599.D
Acq: 7 Aug 18 9:21 pm

Tgt Ion:276 Resp: 23579

Ion	Ratio	Lower	Upper
276	100		
138	31.5	9.8	49.8
277	33.7	3.4	43.4
274	29.6	1.1	41.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37600.D
Acq On : 7 Aug 2018 9:48 pm
Operator : DONC
Sample : DA7701-8
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 08 09:57:45 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.960	152	736627	40.0000	ppm	0.00
26) Naphthalene-d8	5.877	136	2809601	40.0000	ppm	0.00
44) Acenaphthene-d10	7.170	164	1407189	40.0000	ppm	0.00
67) Phenanthrene-d10	8.574	188	2539601	40.0000	ppm	0.00
84) Chrysene-d12	12.422	240	2116366	40.0000	ppm	0.00
93) Perylene-d12	14.761	264	1832743	40.0000	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	4.056	112	775414	22.5819	ppm	0.01
Spiked Amount 50.000	Range 1 - 250		Recovery = 45.16%			
8) Phenol-d5	4.749	99	1433085	28.1801	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 56.36%			
27) Nitrobenzene-d5	5.360	82	1172276	24.2154	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 48.44%			
49) 2-Fluorobiphenyl	6.647	172	1945168	40.1599	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 80.32%			
69) 2,4,6-Tribromophenol	7.863	330	243223	41.0699	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 82.14%			
87) Terphenyl-d14	10.742	244	2270655	42.7665	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 85.54%			

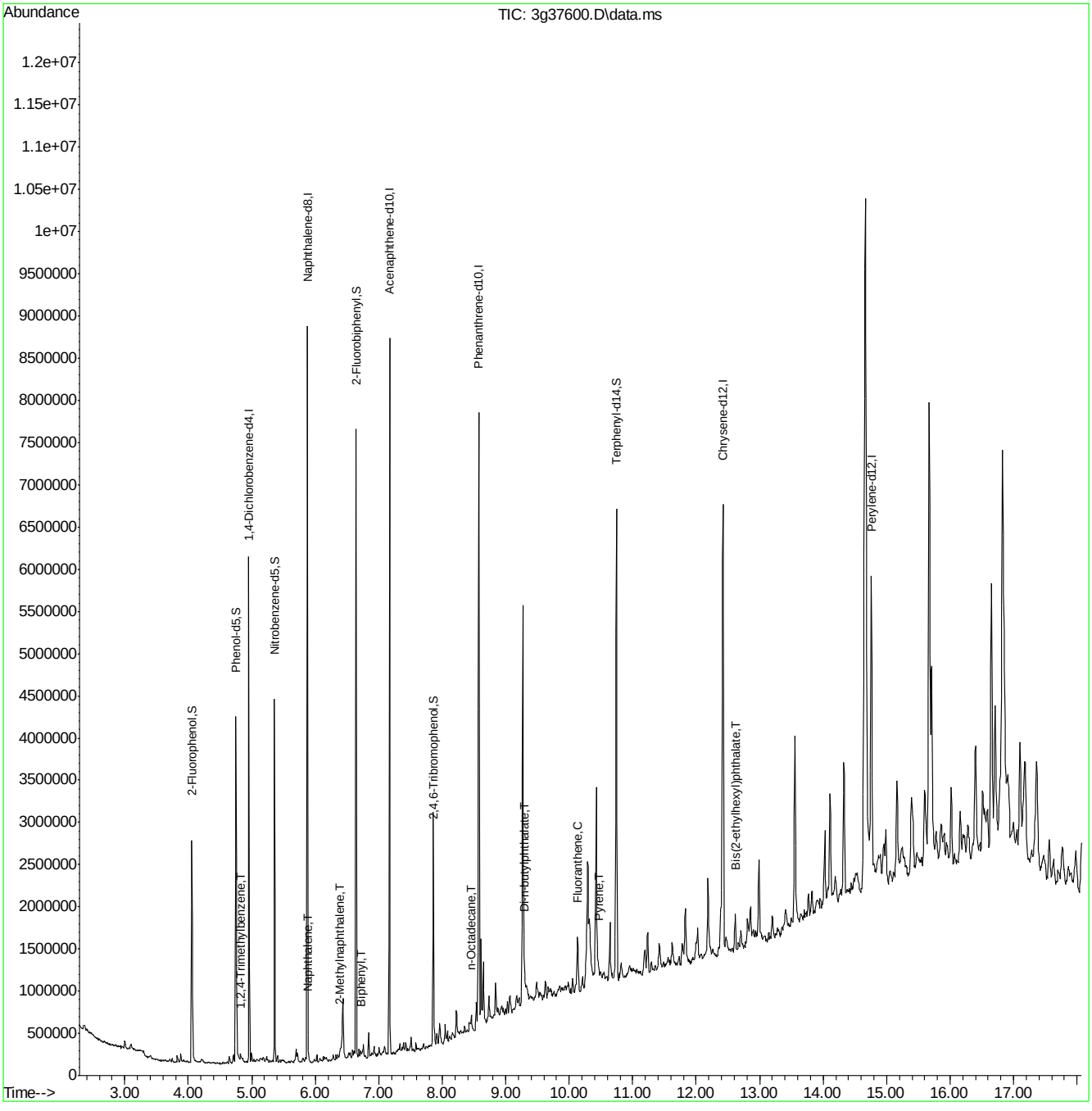
Target Compounds						Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	17170	0.1801	ppm	96
14) n-decane	4.825	43	7186	Below Cal	#	80
36) Naphthalene	5.889	128	48505	0.8157	ppm	93
42) 2-Methylnaphthalene	6.388	142	12871	0.2516	ppm	92
50) Biphenyl	6.717	154	11282	0.5990	ppm	86
63) Diethylphthalate	7.510	149	24539	Below Cal		89
78) n-Octadecane	8.462	57	43192	0.8251	ppm	82
82) Di-n-butylphthalate	9.291	149	50371	0.7220	ppm #	1
83) Fluoranthene	10.137	202	26670	0.3586	ppm	83
85) Benzidine	10.354	184	1550	Below Cal	#	1
86) Pyrene	10.466	202	30213	0.3836	ppm	80
92) Bis(2-ethylhexyl)phtha...	12.616	149	87229	2.0235	ppm #	77

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

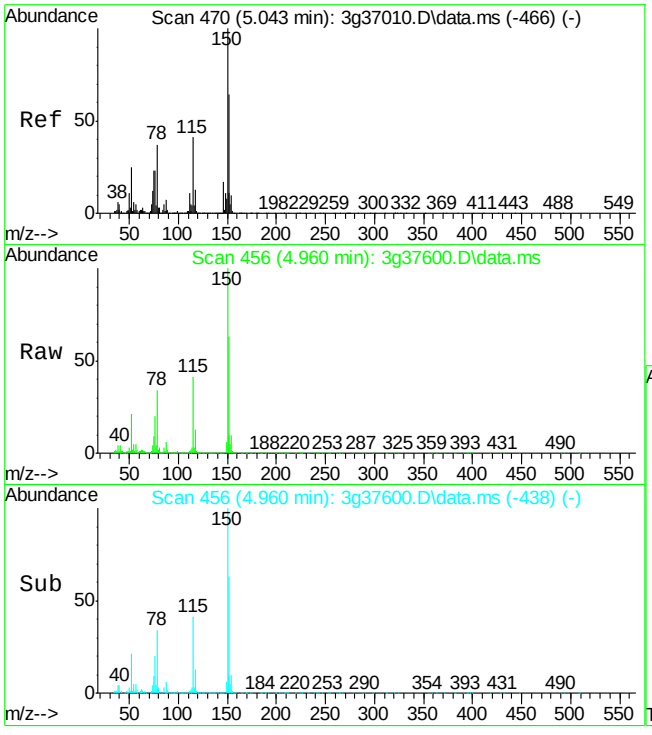
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37600.D
Acq On : 7 Aug 2018 9:48 pm
Operator : DONC
Sample : DA7701-8
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 08 09:57:45 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



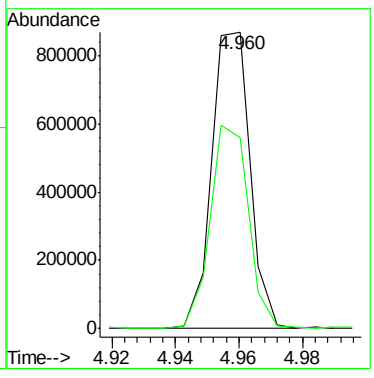
bnae3g1850.M Wed Aug 08 09:57:49 2018 3G

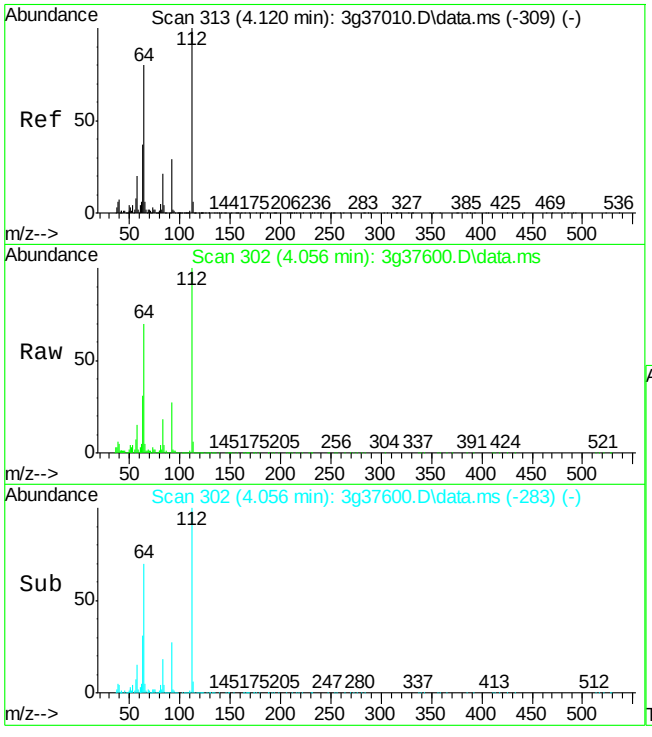


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.960 min Scan# 456
Delta R.T. 0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:152 Resp: 736627

Ion	Ratio	Lower	Upper
152	100		
115	68.1	53.0	93.0

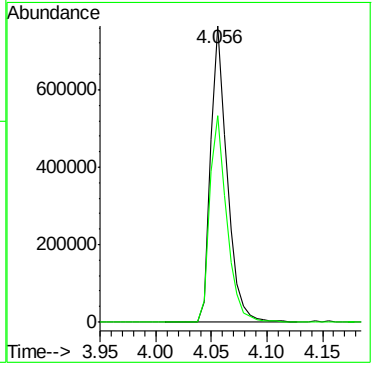


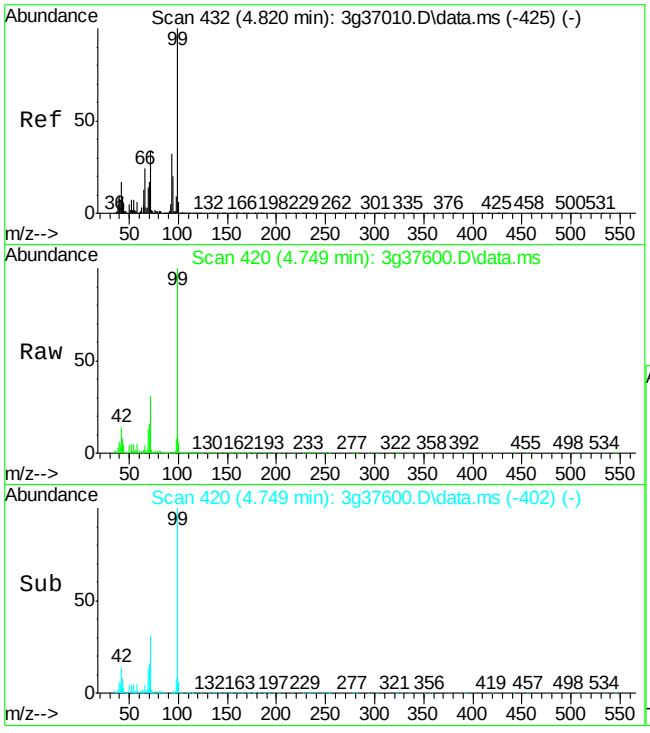


#5
2-Fluorophenol
Concen: 22.5819 ppm
RT: 4.056 min Scan# 302
Delta R.T. 0.012 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:112 Resp: 775414

Ion	Ratio	Lower	Upper
112	100		
64	72.1	58.3	98.3

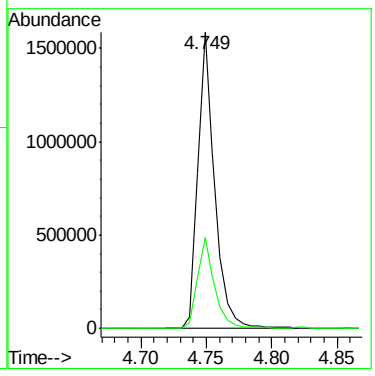


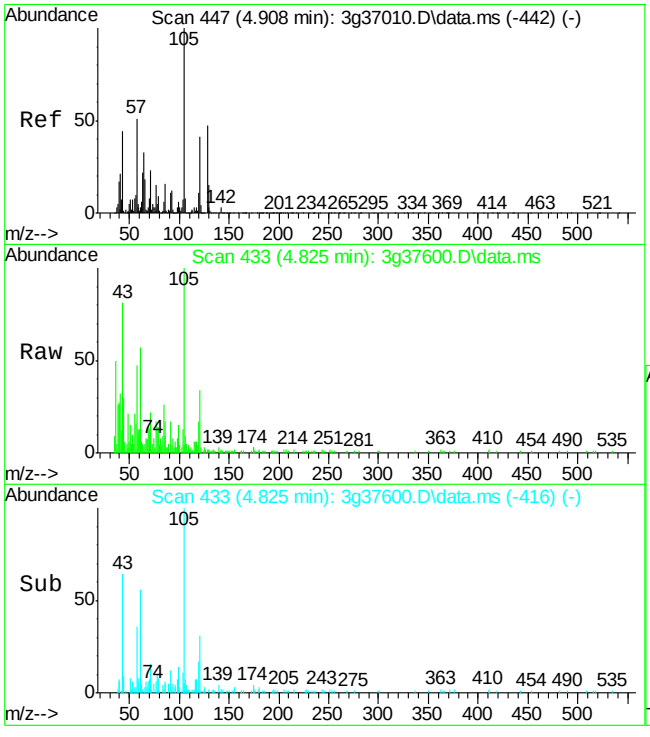


#8
Phenol-d5
Concen: 28.1801 ppm
RT: 4.749 min Scan# 420
Delta R.T. 0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion: 99 Resp: 1433085

Ion	Ratio	Lower	Upper
99	100		
71	31.1	13.6	53.6

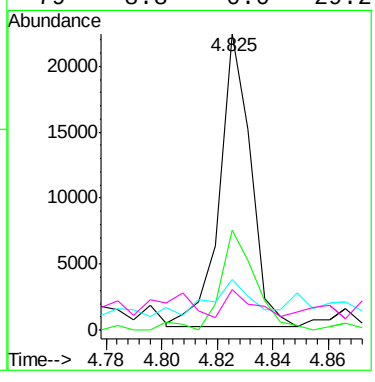


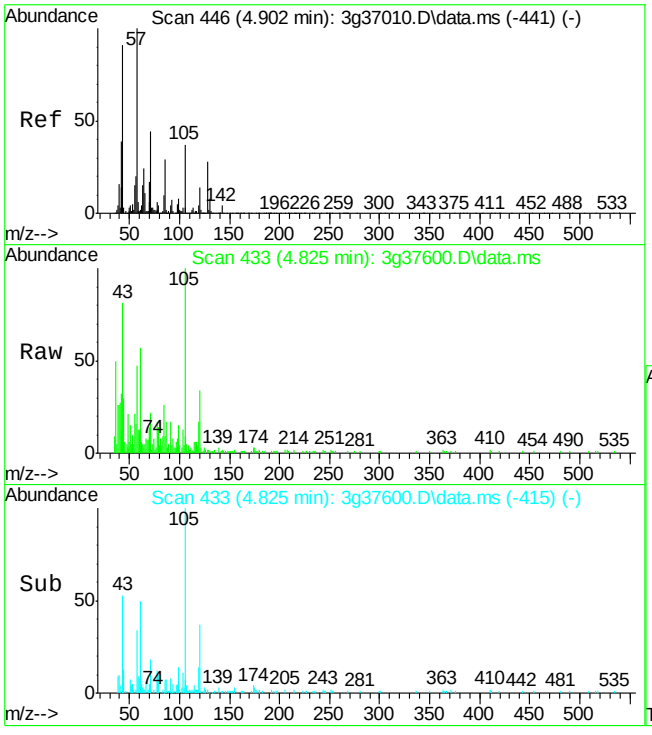


#13
1,2,4-Trimethylbenzene
Concen: 0.1801 ppm
RT: 4.825 min Scan# 433
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:105 Resp: 17170

Ion	Ratio	Lower	Upper
105	100		
120	38.8	19.5	59.5
91	16.7	0.0	31.4
79	8.8	0.0	29.2

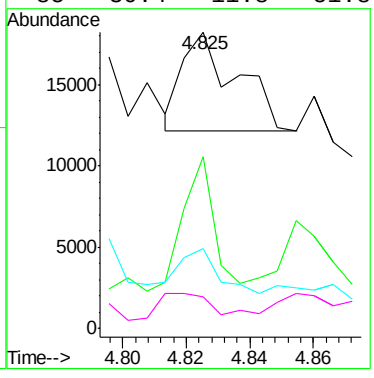


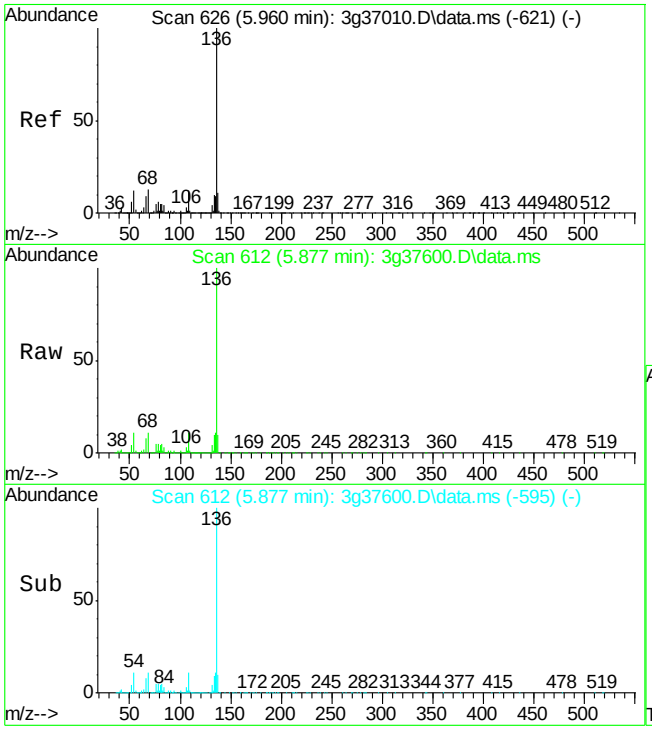


#14
n-decane
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion: 43 Resp: 7186

Ion	Ratio	Lower	Upper
43	100		
57	86.7	92.0	132.0#
71	34.1	28.7	68.7
85	30.4	11.8	51.8

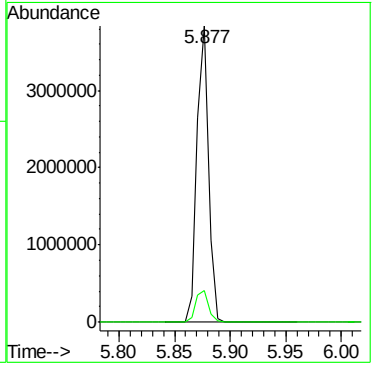


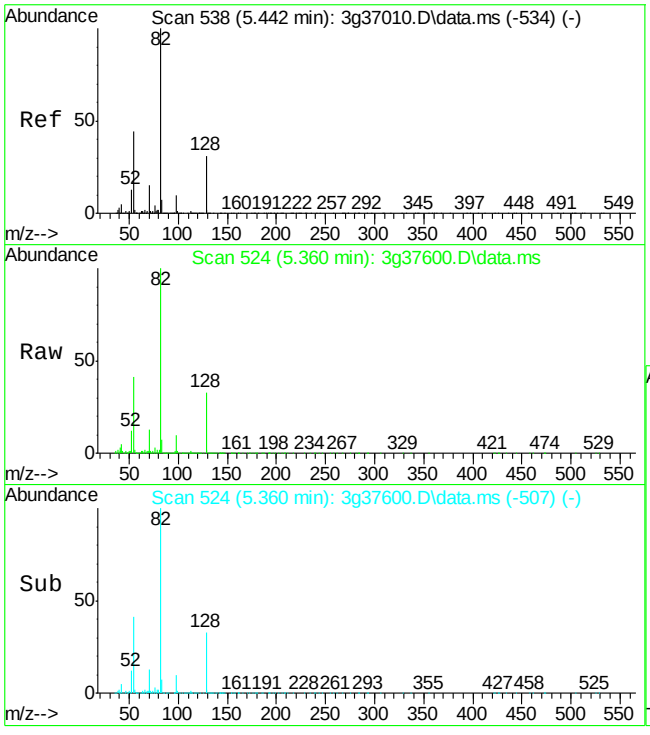


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:136 Resp: 2809601

Ion	Ratio	Lower	Upper
136	100		
68	11.7	0.0	32.4

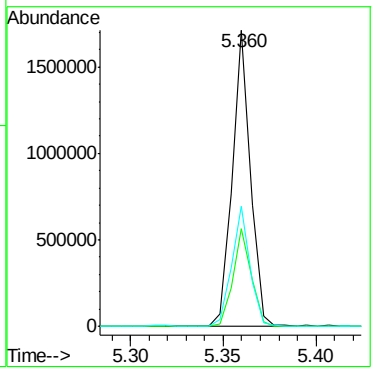


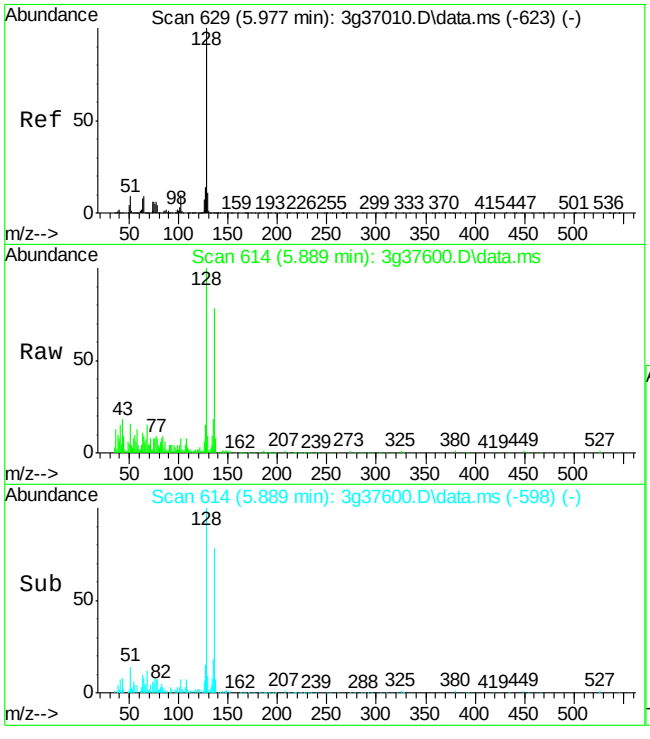


#27
Nitrobenzene-d5
Concen: 24.2154 ppm
RT: 5.360 min Scan# 524
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion: 82 Resp: 1172276

Ion	Ratio	Lower	Upper
82	100		
128	33.4	10.8	50.8
54	40.7	22.9	62.9

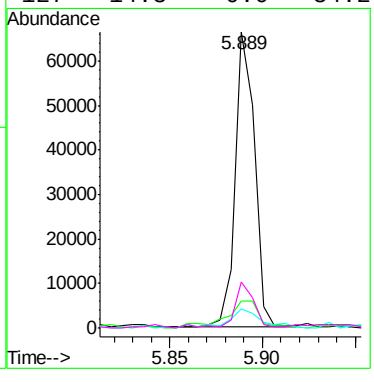


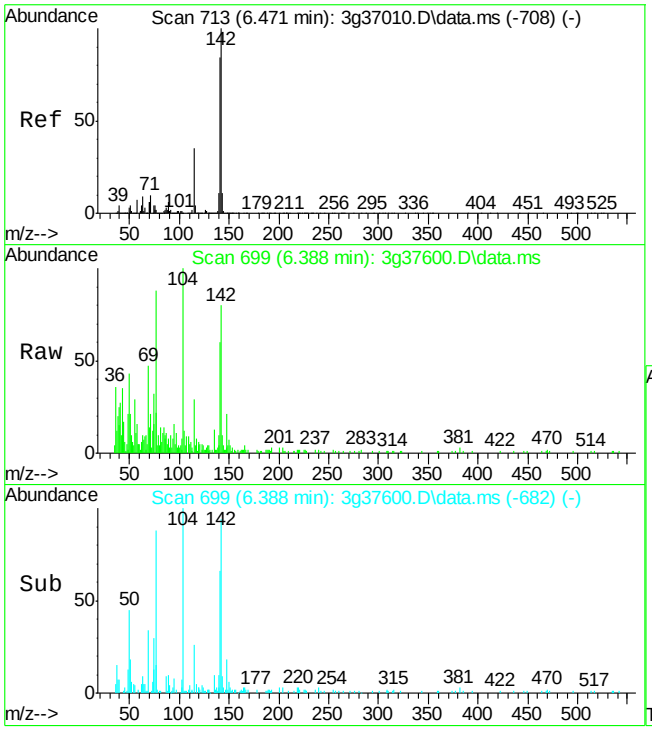


#36
Naphthalene
Concen: 0.8157 ppm
RT: 5.889 min Scan# 614
Delta R.T. -0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:128 Resp: 48505

Ion	Ratio	Lower	Upper
128	100		
129	16.1	0.0	30.9
126	10.9	0.0	27.5
127	14.3	0.0	34.2

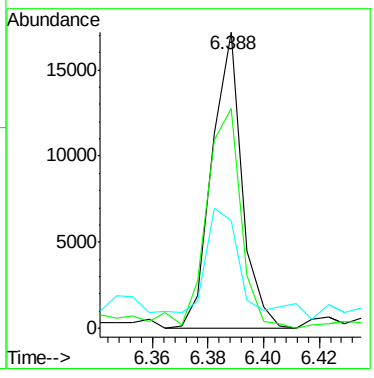


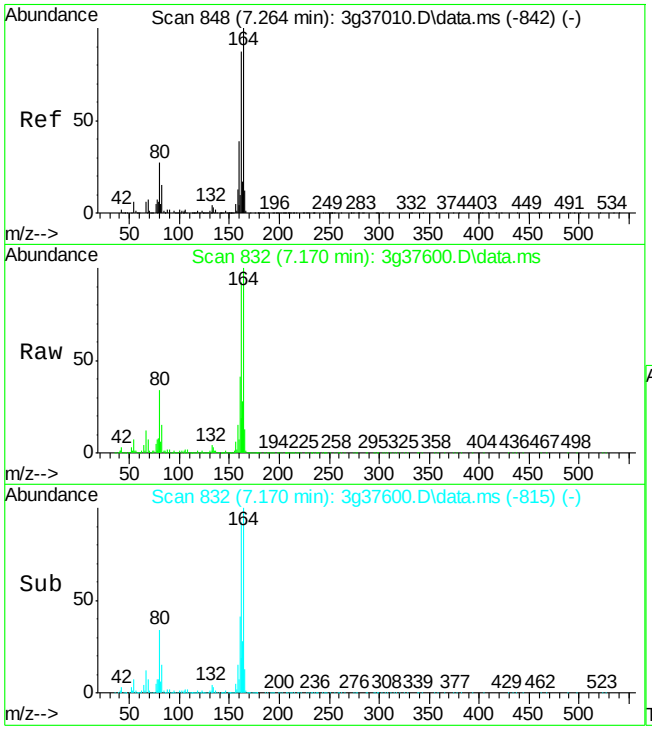


#42
2-Methylnaphthalene
Concen: 0.2516 ppm
RT: 6.388 min Scan# 699
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:142 Resp: 12871

Ion	Ratio	Lower	Upper
142	100		
141	85.8	62.4	102.4
115	45.7	15.8	55.8

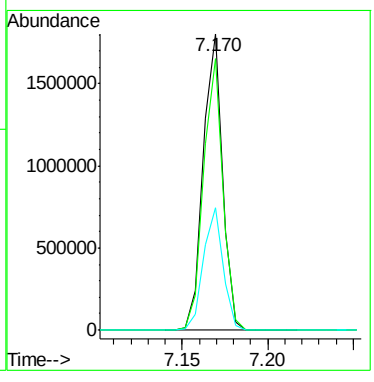


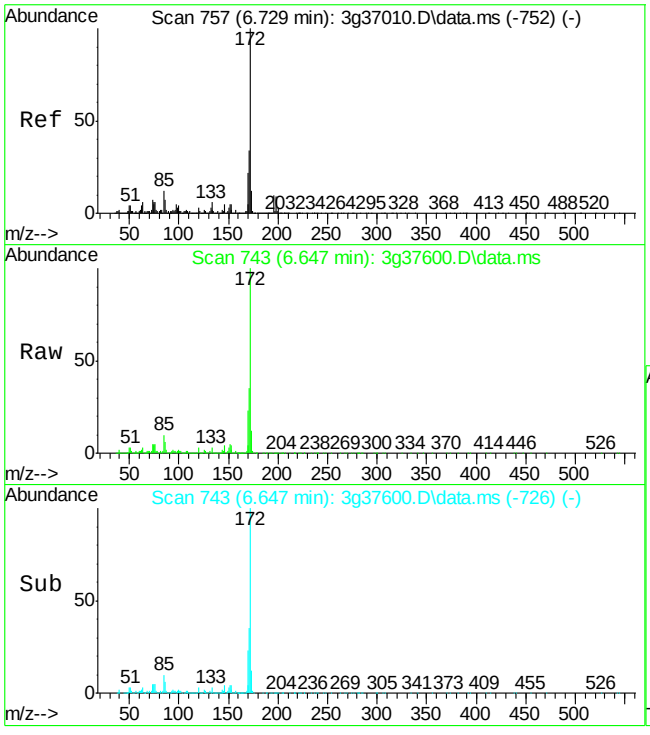


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:164 Resp: 1407189

Ion	Ratio	Lower	Upper
164	100		
162	92.0	69.6	109.6
160	42.2	20.5	60.5

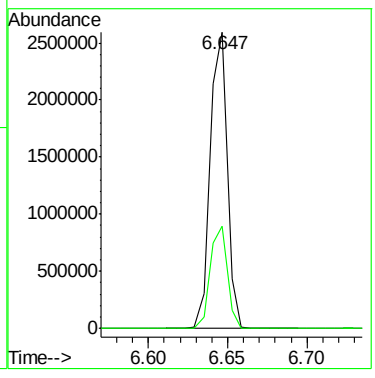


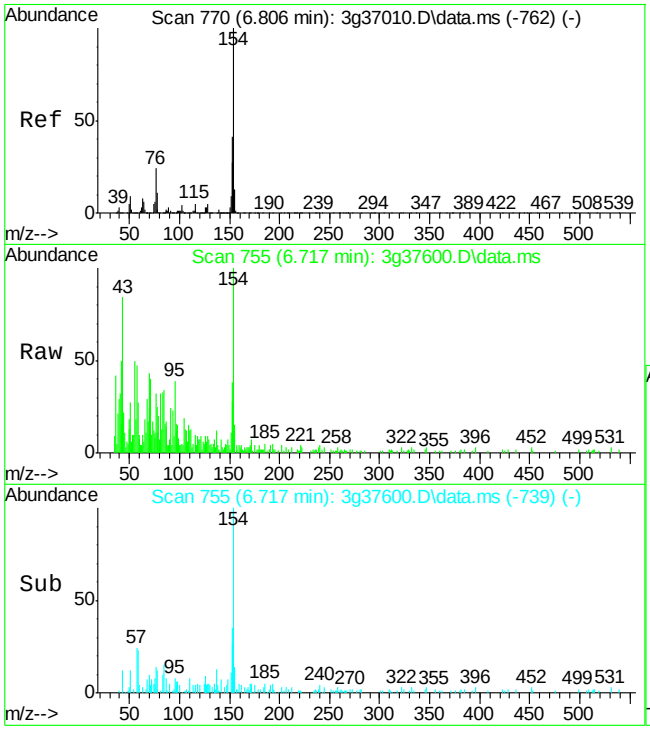


#49
2-Fluorobiphenyl
Concen: 40.1599 ppm
RT: 6.647 min Scan# 743
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:172 Resp: 1945168

Ion	Ratio	Lower	Upper
172	100		
171	34.7	14.5	54.5

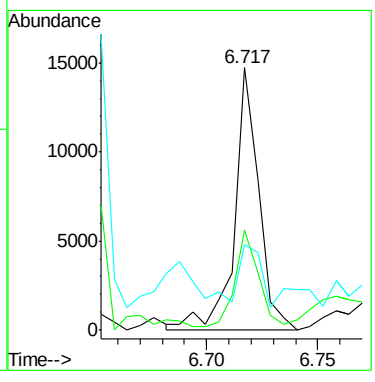


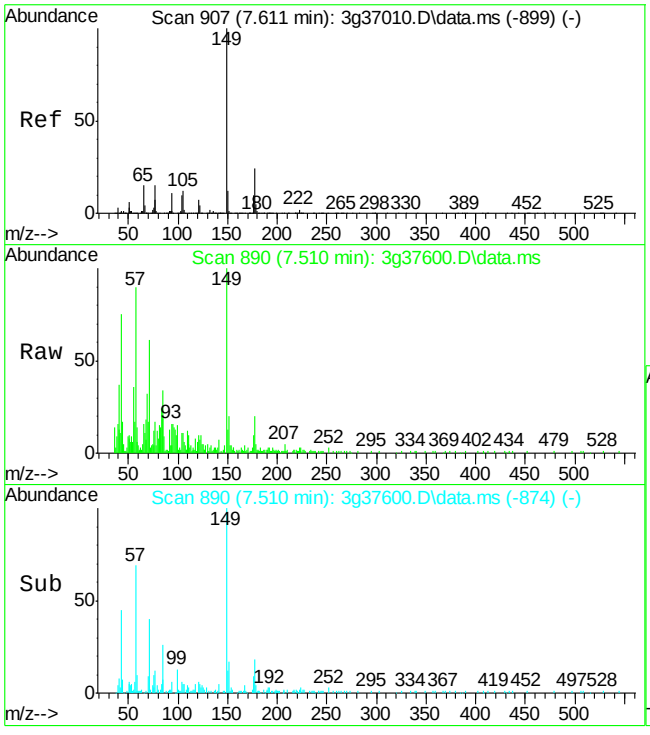


#50
Biphenyl
Concen: 0.5990 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:154 Resp: 11282

Ion	Ratio	Lower	Upper
154	100		
153	35.5	21.4	61.4
76	35.6	5.2	45.2

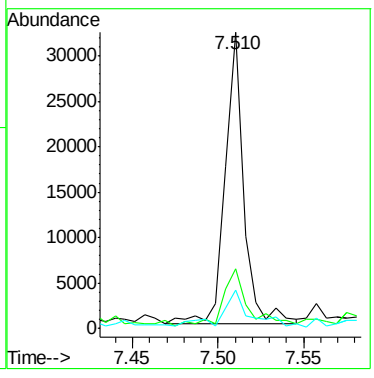


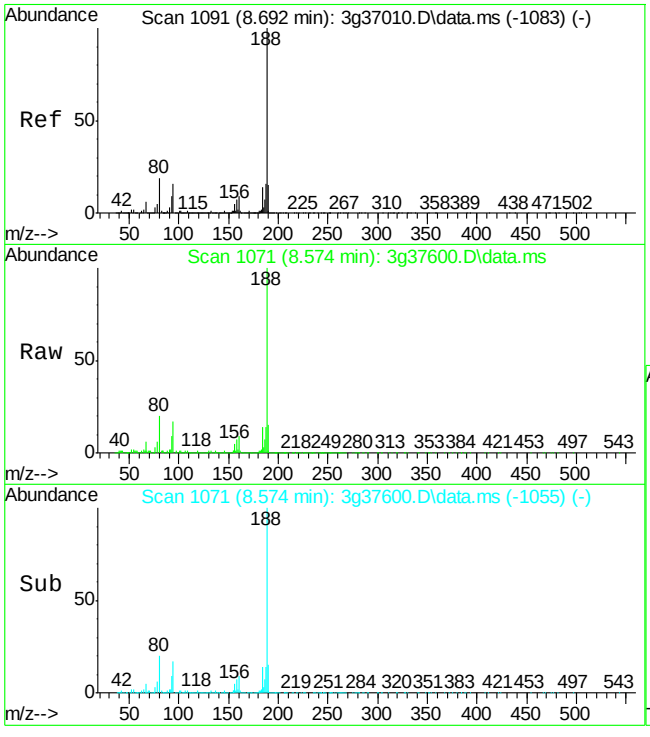


#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:149 Resp: 24539

Ion	Ratio	Lower	Upper
149	100		
177	27.3	3.6	43.6
150	19.2	0.0	32.5

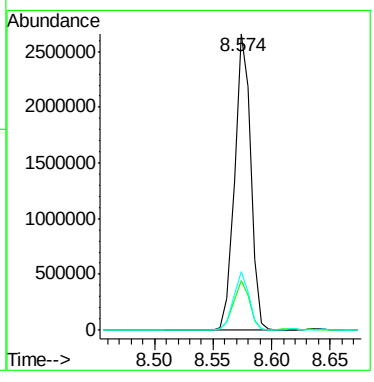


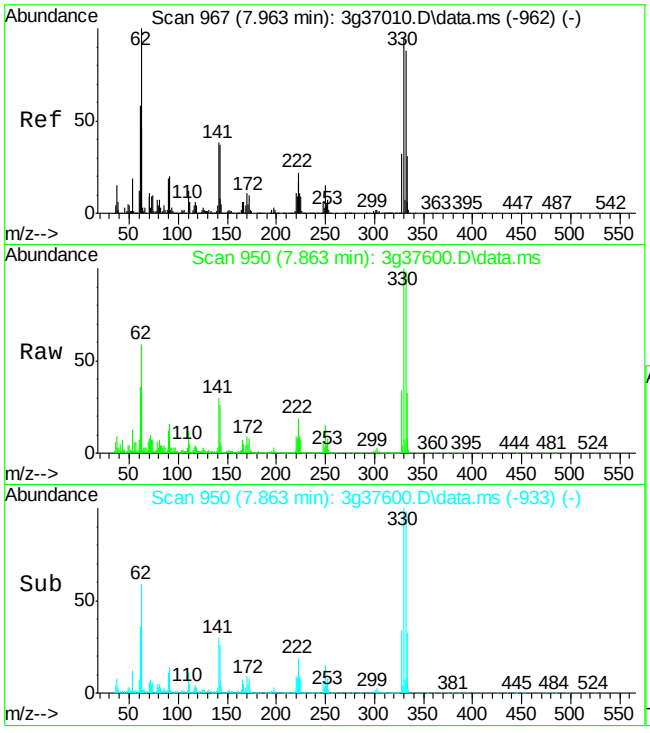


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:188 Resp: 2539601

Ion	Ratio	Lower	Upper
188	100		
94	16.5	0.0	35.1
80	18.8	0.0	37.9

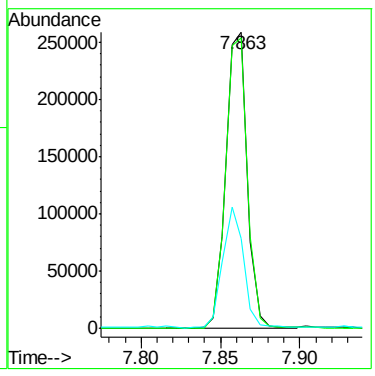


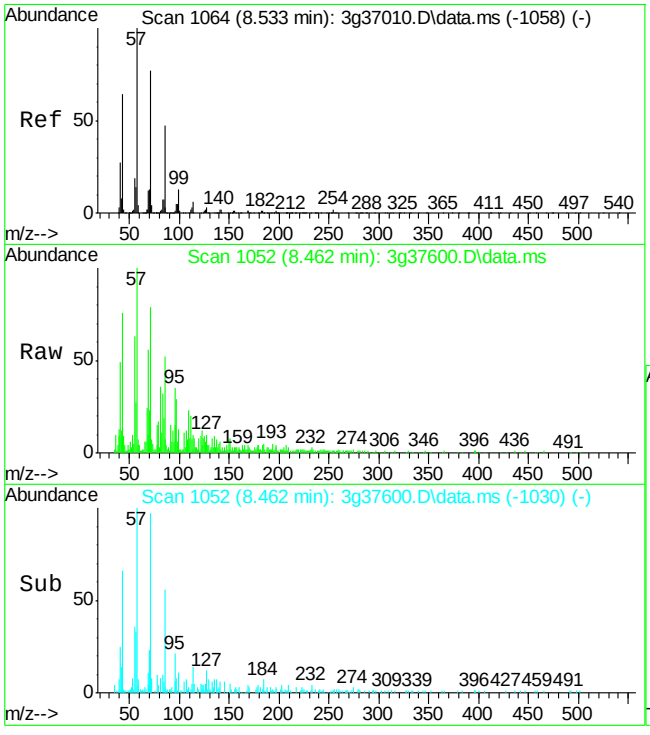


#69
2,4,6-Tribromophenol
Concen: 41.0699 ppm
RT: 7.863 min Scan# 950
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:330 Resp: 243223

Ion	Ratio	Lower	Upper
330	100		
332	99.4	74.8	112.2
141	40.6	33.8	50.6

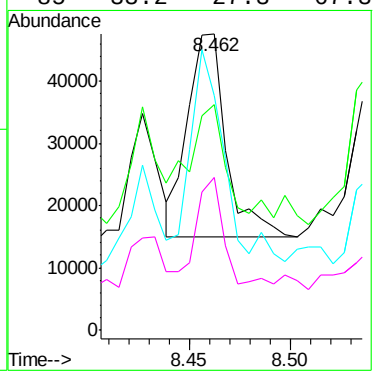


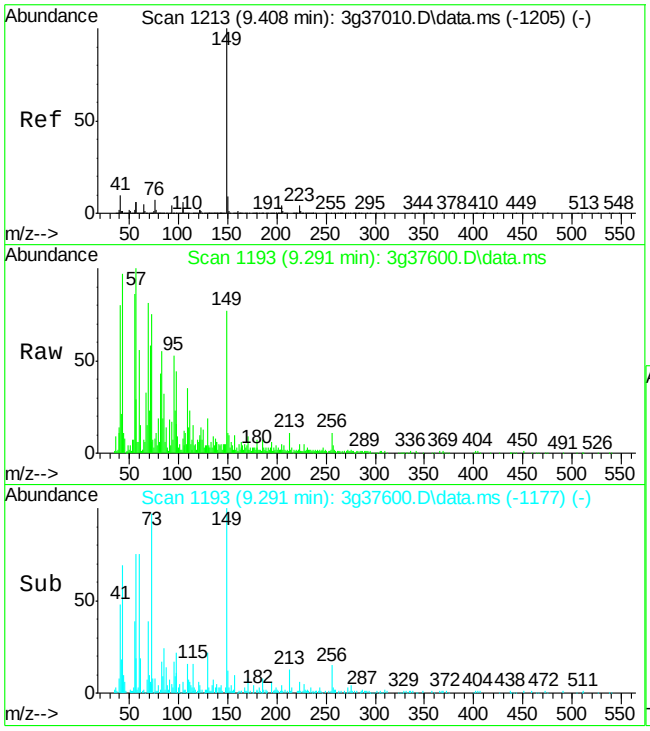


#78
n-Octadecane
Concen: 0.8251 ppm
RT: 8.462 min Scan# 1052
Delta R.T. 0.029 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion: 57 Resp: 43192

Ion	Ratio	Lower	Upper
57	100		
43	51.9	43.2	83.2
71	92.8	55.6	95.6
85	33.2	27.3	67.3

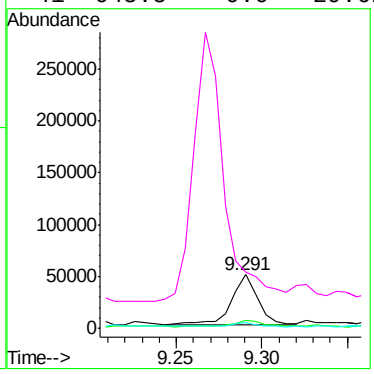


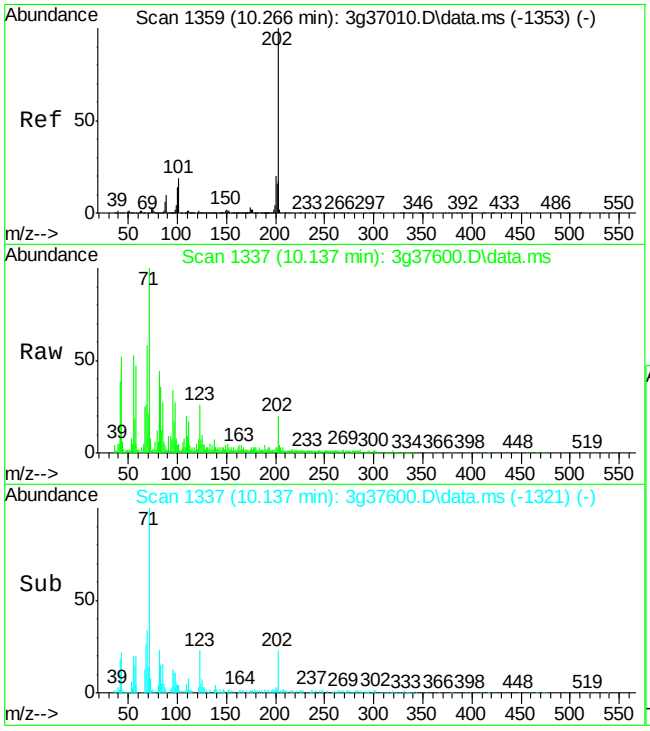


#82
Di-n-butylphthalate
Concen: 0.7220 ppm
RT: 9.291 min Scan# 1193
Delta R.T. -0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:149 Resp: 50371

Ion	Ratio	Lower	Upper
149	100		
150	21.0	0.0	28.8
104	6.1	0.0	25.8
41	645.5	0.0	29.6#

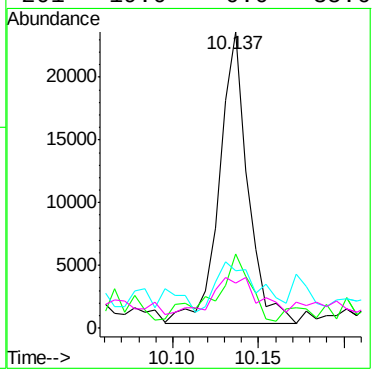




#83
Fluoranthene
Concen: 0.3586 ppm
RT: 10.137 min Scan# 1337
Delta R.T. -0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

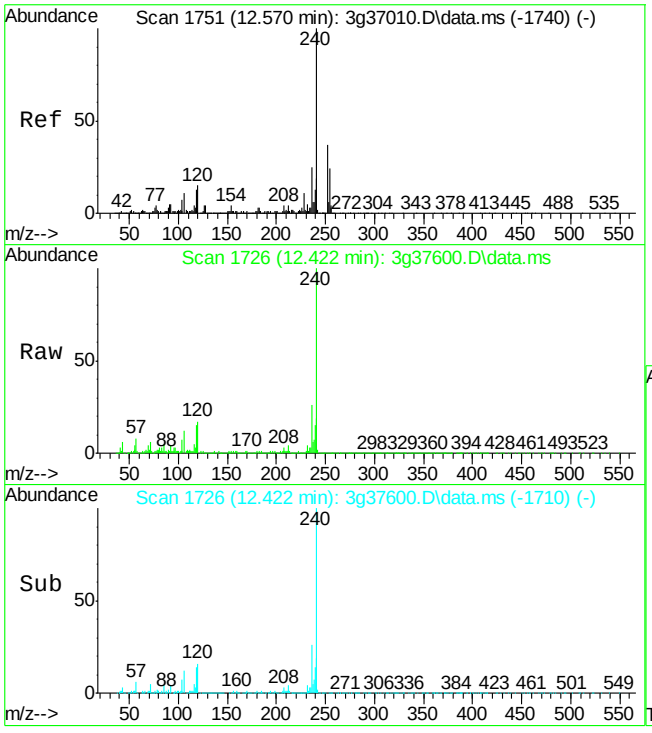
Tgt Ion:202 Resp: 26670

Ion	Ratio	Lower	Upper
202	100		
101	28.2	0.0	38.8
203	25.5	0.0	37.1
201	19.0	0.0	35.6



9.1.8

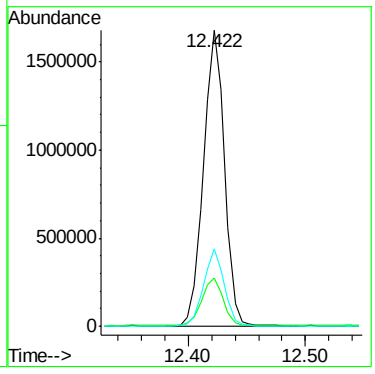
9

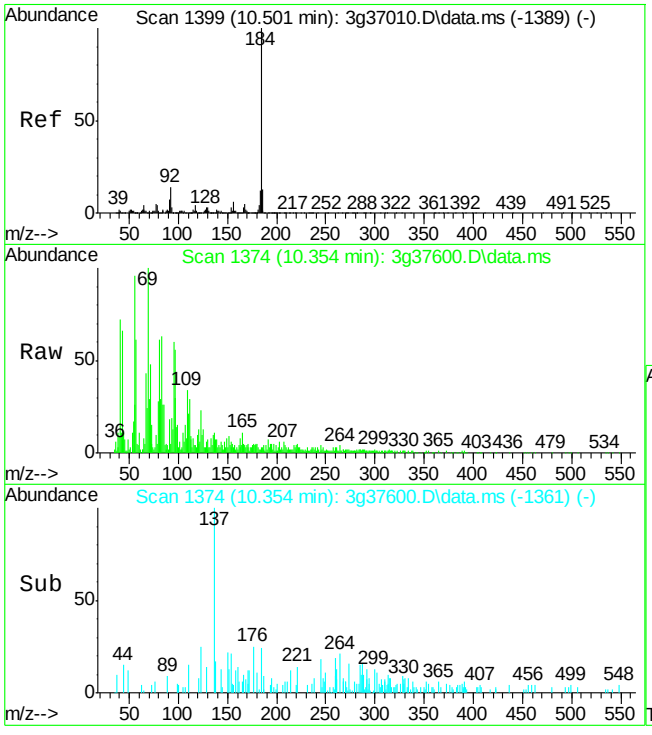


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.422 min Scan# 1726
Delta R.T. -0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:240 Resp: 2116366

Ion	Ratio	Lower	Upper
240	100		
120	16.5	0.0	36.6
236	25.5	4.3	44.3

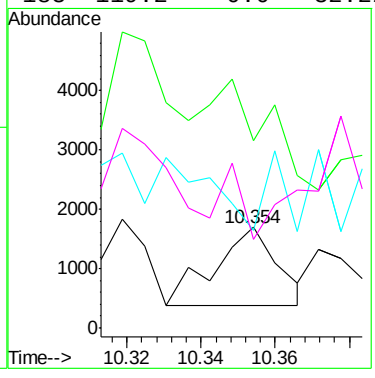


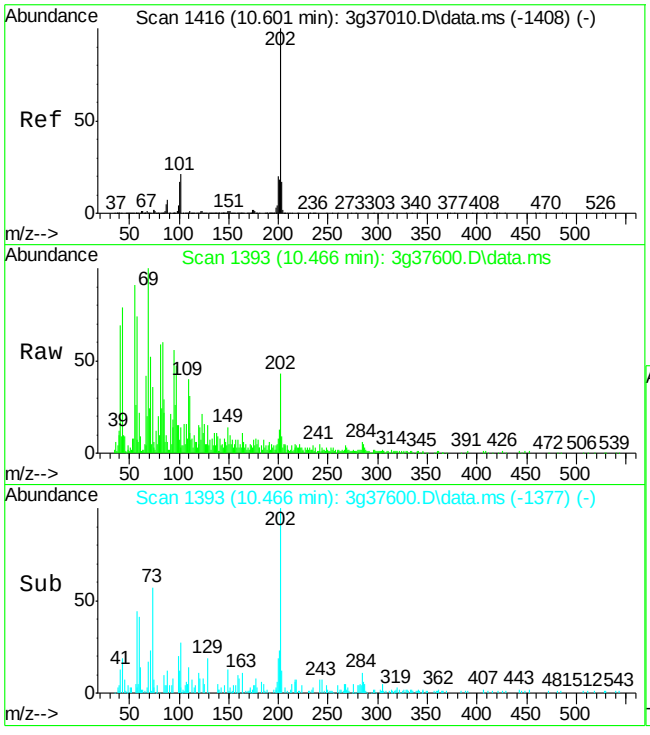


#85
Benzidine
Concen: Below ppm
RT: 10.354 min Scan# 1374
Delta R.T. -0.024 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:184 Resp: 1550

Ion	Ratio	Lower	Upper
184	100		
92	168.7	0.0	34.2#
185	0.0	0.0	33.2
183	119.2	0.0	32.2#

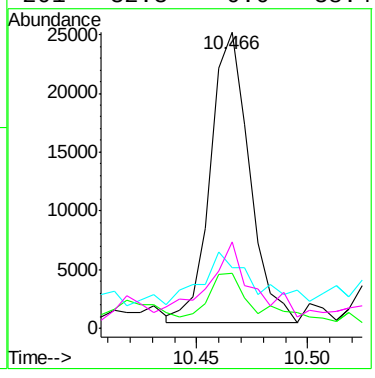


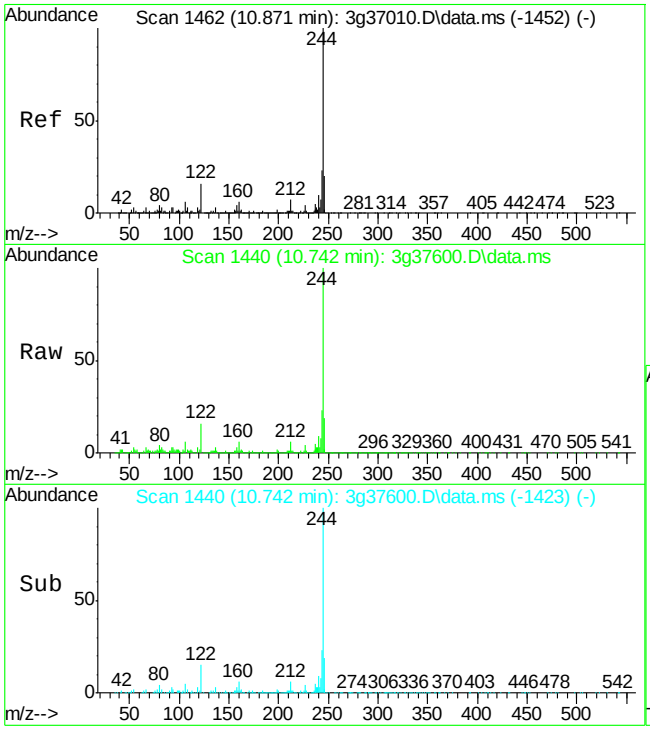


#86
Pyrene
Concen: 0.3836 ppm
RT: 10.466 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:202 Resp: 30213

Ion	Ratio	Lower	Upper
202	100		
200	19.0	0.0	39.9
203	30.8	0.0	37.7
201	32.3	0.0	38.4

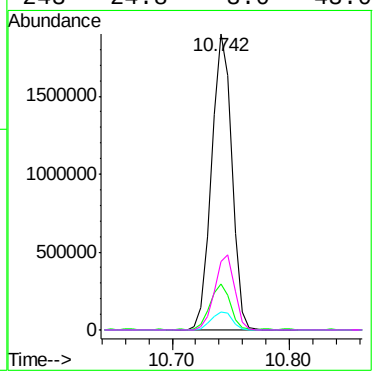


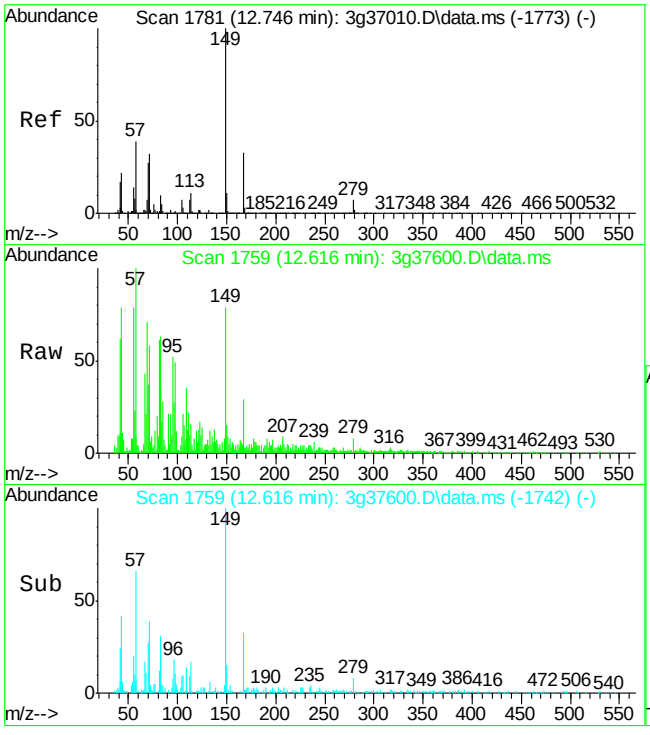


#87
Terphenyl-d14
Concen: 42.7665 ppm
RT: 10.742 min Scan# 1440
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:244 Resp: 2270655

Ion	Ratio	Lower	Upper
244	100		
122	15.2	0.0	35.4
212	6.4	0.0	27.0
243	24.8	3.0	43.0

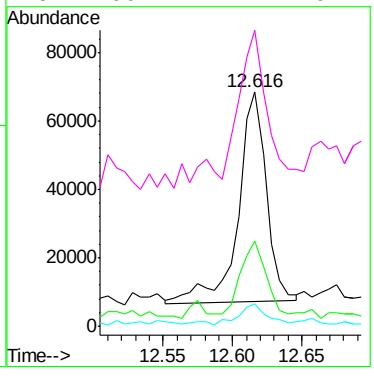


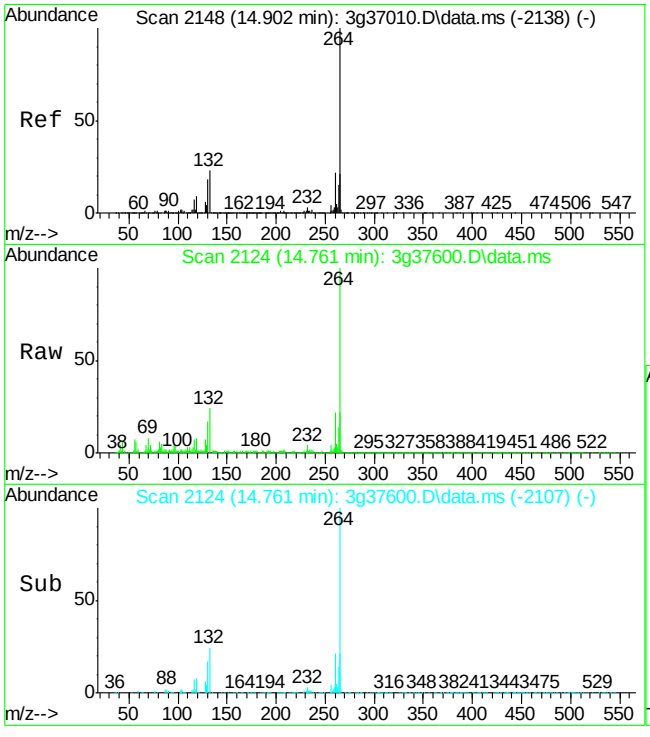


#92
Bis(2-ethylhexyl)phthalate
Concen: 2.0235 ppm
RT: 12.616 min Scan# 1759
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:149 Resp: 87229

Ion	Ratio	Lower	Upper
149	100		
167	31.2	13.6	53.6
279	9.5	0.0	27.3
57	66.4	21.1	61.1#

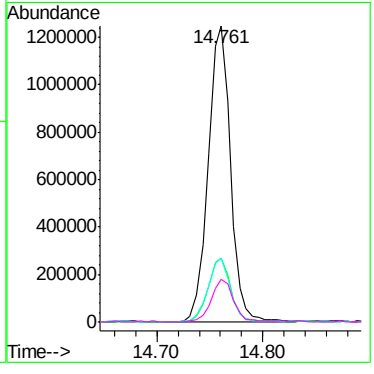




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.761 min Scan# 2124
Delta R.T. -0.000 min
Lab File: 3g37600.D
Acq: 7 Aug 18 9:48 pm

Tgt Ion:264 Resp: 1832743

Ion	Ratio	Lower	Upper
264	100		
260	21.8	1.3	41.3
265	21.1	0.2	40.2
263	14.5	0.0	35.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37603.D
Acq On : 7 Aug 2018 11:10 pm
Operator : DONC
Sample : DA7701-9, 2x
Misc : OP16681,E3G1870,30.00,,,1,2
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 08 10:08:34 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.960	152	755348	40.0000	ppm	0.00
26) Naphthalene-d8	5.877	136	2910838	40.0000	ppm	0.00
44) Acenaphthene-d10	7.170	164	1495891	40.0000	ppm	0.00
67) Phenanthrene-d10	8.580	188	2728887	40.0000	ppm	0.00
84) Chrysene-d12	12.428	240	2143073	40.0000	ppm	0.00
93) Perylene-d12	14.778	264	1638228	40.0000	ppm	0.02

System Monitoring Compounds						
5) 2-Fluorophenol	4.056	112	419636	11.9179	ppm	0.01
Spiked Amount 50.000	Range 1 - 250		Recovery = 23.84%			
8) Phenol-d5	4.749	99	865577	16.5988	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 33.20%			
27) Nitrobenzene-d5	5.360	82	776114	15.4744	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 30.94%			
49) 2-Fluorobiphenyl	6.647	172	1236997	24.0246	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 48.04%			
69) 2,4,6-Tribromophenol	7.863	330	43788	6.8810	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 13.76%			
87) Terphenyl-d14	10.748	244	1283389	23.8707	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 47.74%			

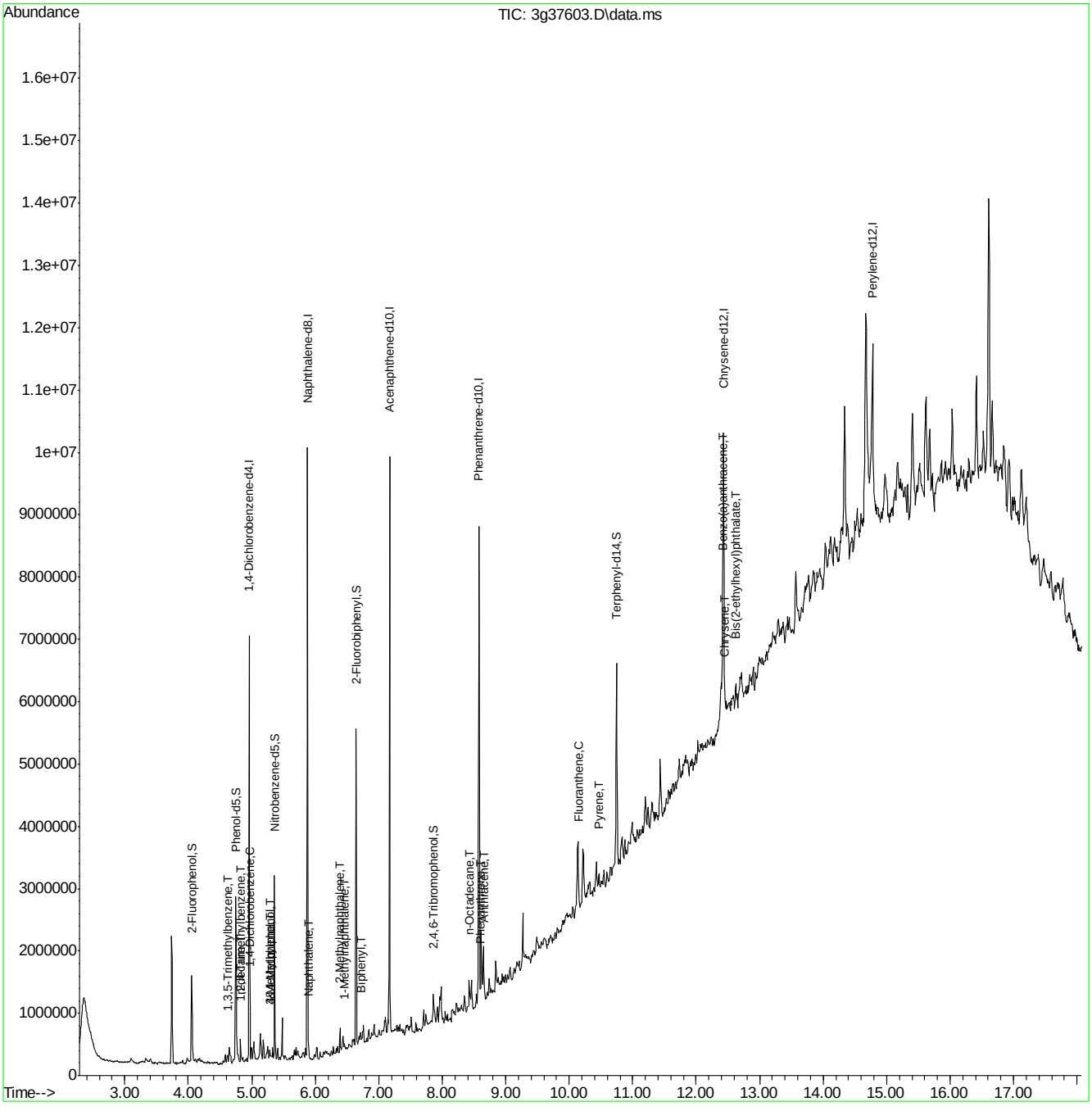
Target Compounds						Qvalue
7) 1,3,5-Trimethylbenzene	4.620	105	22255	0.6376	ppm	79
13) 1,2,4-Trimethylbenzene	4.831	105	61577	0.7191	ppm	97
14) n-decane	4.825	43	31662	0.4279	ppm	90
16) 1,4-Dichlorobenzene	4.972	146	110900	3.4543	ppm	91
23) 4-Methylphenol	5.284	107	27676	0.6805	ppm	96
24) 3&4-Methylphenol	5.284	107	27676	0.6805	ppm	96
36) Naphthalene	5.895	128	72207	1.0413	ppm	92
42) 2-Methylnaphthalene	6.388	142	35453	0.6688	ppm	95
43) 1-Methylnaphthalene	6.459	142	14423	0.2893	ppm	94
50) Biphenyl	6.723	154	19920	0.7175	ppm	89
63) Diethylphthalate	7.510	149	6606	Below	Cal	87
78) n-Octadecane	8.427	57	44658	0.7939	ppm	90
79) Phenanthrene	8.603	178	82577	1.0796	ppm	91
80) Anthracene	8.656	178	13534	0.1712	ppm	92
83) Fluoranthene	10.143	202	82004	1.0260	ppm	89
85) Benzidine	10.384	184	3263	Below	Cal #	1
86) Pyrene	10.472	202	128611	1.6125	ppm	95
90) Benzo(a)anthracene	12.416	228	36650	0.5292	ppm	71
91) Chrysene	12.452	228	95595	1.4200	ppm	80
92) Bis(2-ethylhexyl)phtha...	12.622	149	74968	1.7174	ppm #	58

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

Quantitation Report (QT Reviewed)

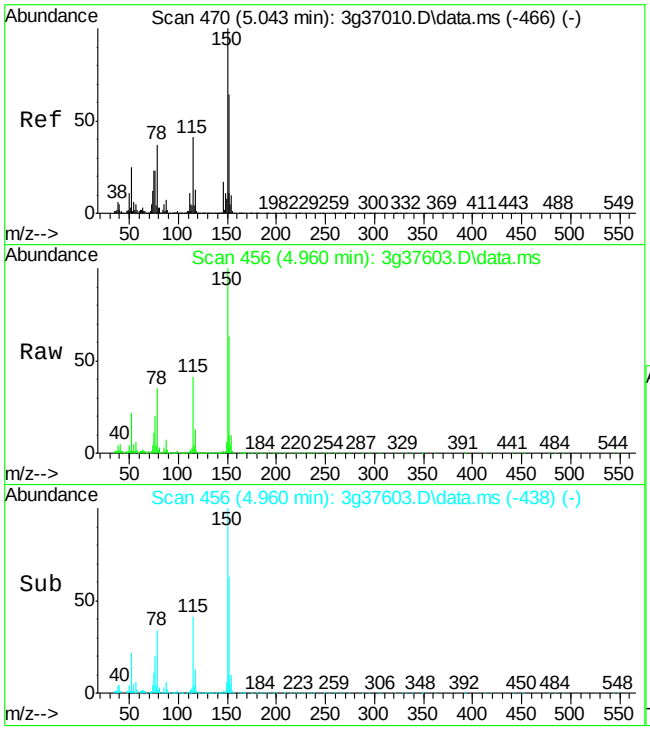
Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37603.D
Acq On : 7 Aug 2018 11:10 pm
Operator : DONC
Sample : DA7701-9, 2x
Misc : OP16681,E3G1870,30.00,,,1,2
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 08 10:08:34 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



bnae3g1850.M Wed Aug 08 10:08:38 2018 3G

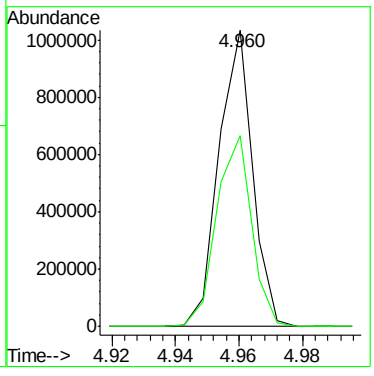
Page: 2

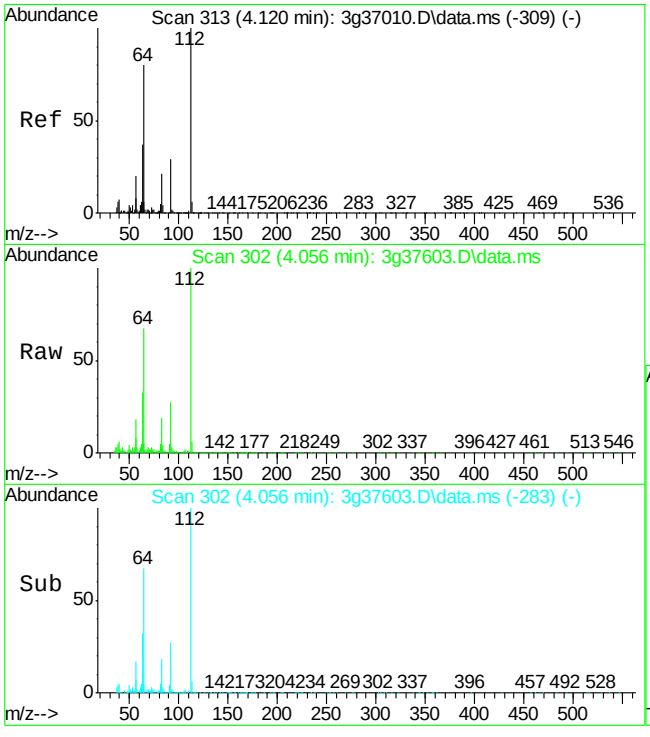


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.960 min Scan# 456
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:152 Resp: 755348

Ion	Ratio	Lower	Upper
152	100		
115	66.8	53.0	93.0

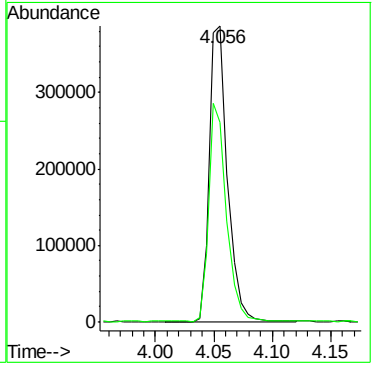


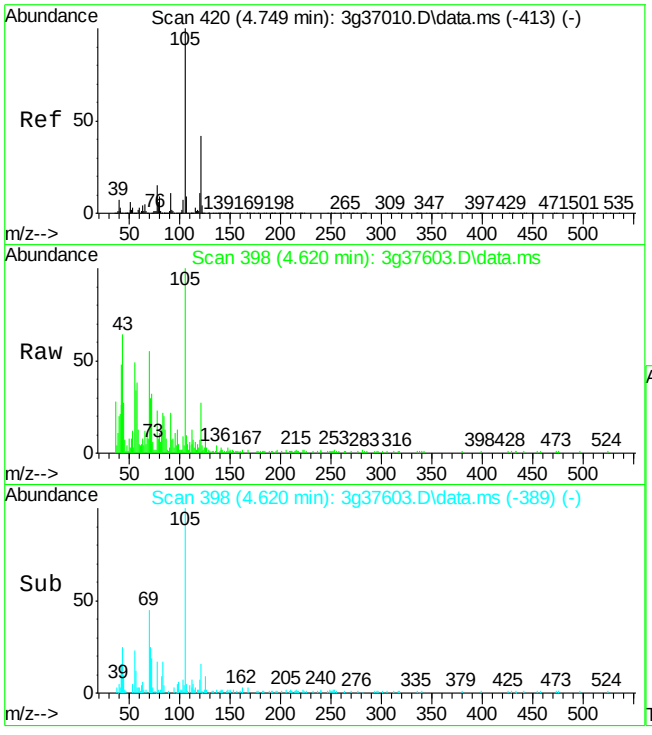


#5
2-Fluorophenol
Concen: 11.9179 ppm
RT: 4.056 min Scan# 302
Delta R.T. 0.012 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:112 Resp: 419636

Ion	Ratio	Lower	Upper
112	100		
64	71.0	58.3	98.3

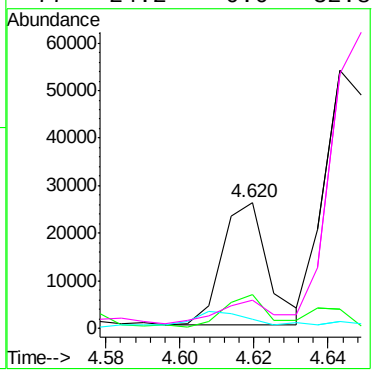


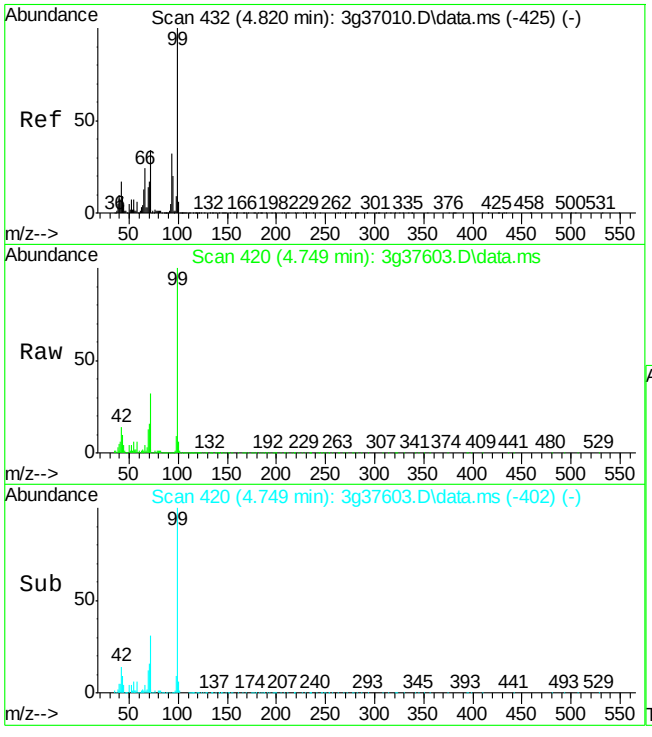


#7
1,3,5-Trimethylbenzene
Concen: 0.6376 ppm
RT: 4.620 min Scan# 398
Delta R.T. -0.047 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:105 Resp: 22255

Ion	Ratio	Lower	Upper
105	100		
120	23.5	15.9	55.9
119	13.2	0.0	29.4
77	24.2	0.0	32.8

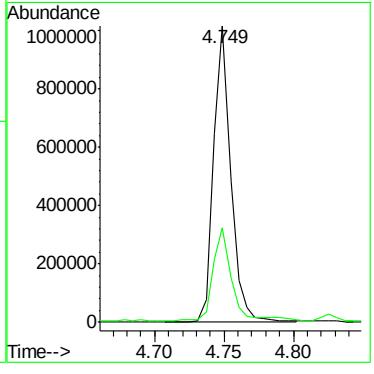


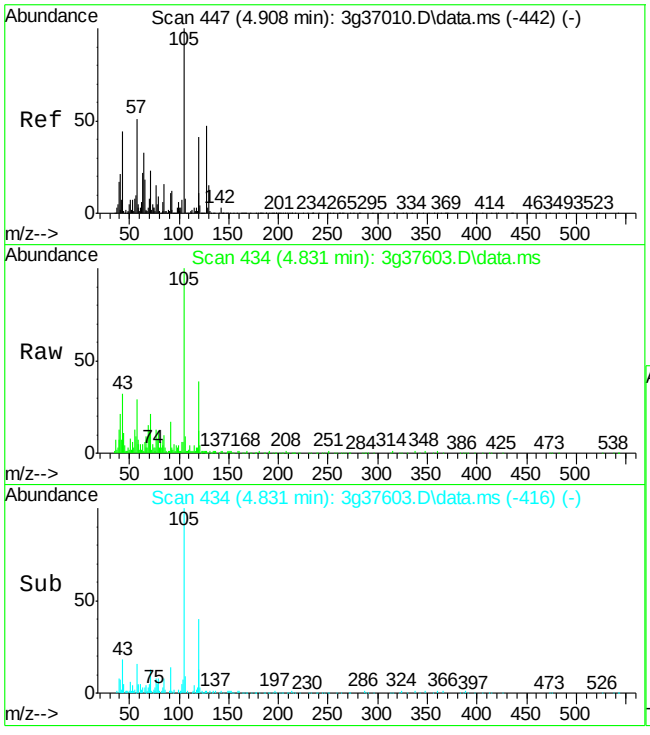


#8
Phenol-d5
Concen: 16.5988 ppm
RT: 4.749 min Scan# 420
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion: 99 Resp: 865577

Ion	Ratio	Lower	Upper
99	100		
71	35.1	13.6	53.6

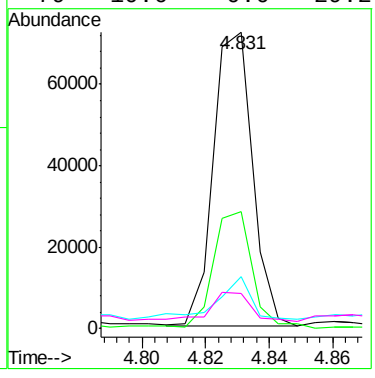


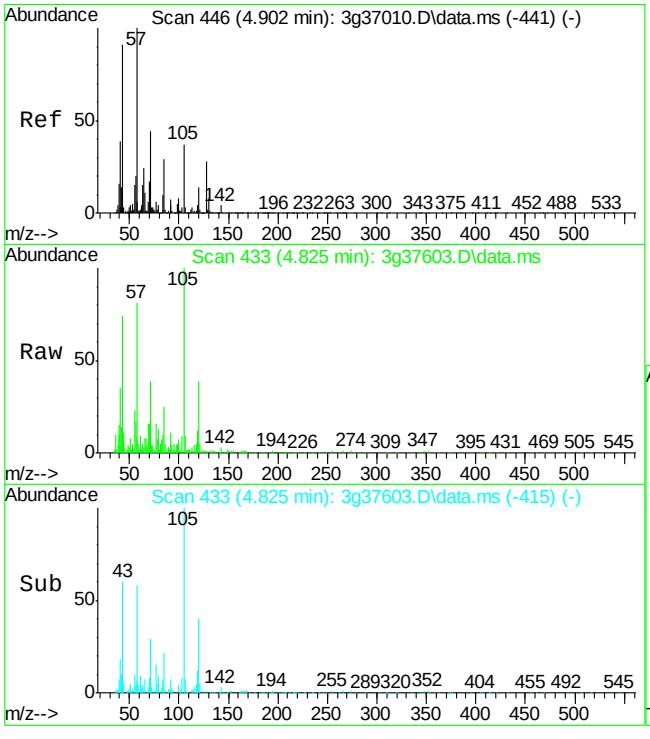


#13
1,2,4-Trimethylbenzene
Concen: 0.7191 ppm
RT: 4.831 min Scan# 434
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:105 Resp: 61577

Ion	Ratio	Lower	Upper
105	100		
120	38.9	19.5	59.5
91	14.5	0.0	31.4
79	10.6	0.0	29.2

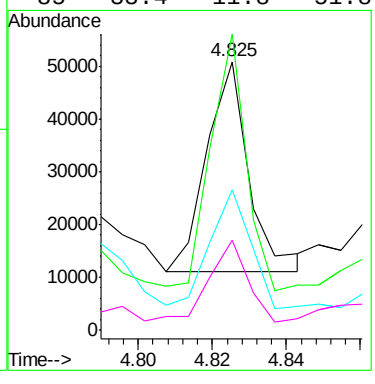


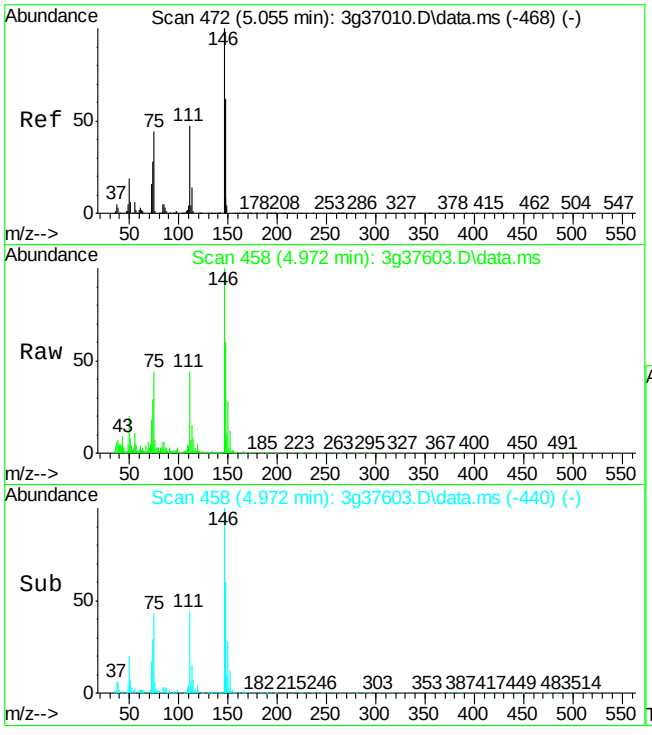


#14
n-decane
Concen: 0.4279 ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion: 43 Resp: 31662

Ion	Ratio	Lower	Upper
43	100		
57	96.9	92.0	132.0
71	51.1	28.7	68.7
85	33.4	11.8	51.8

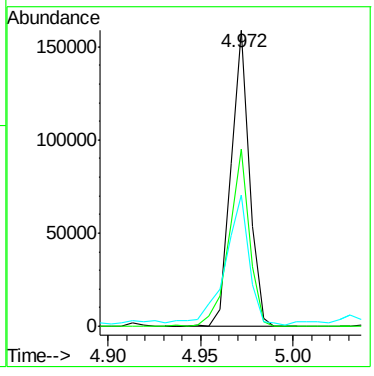


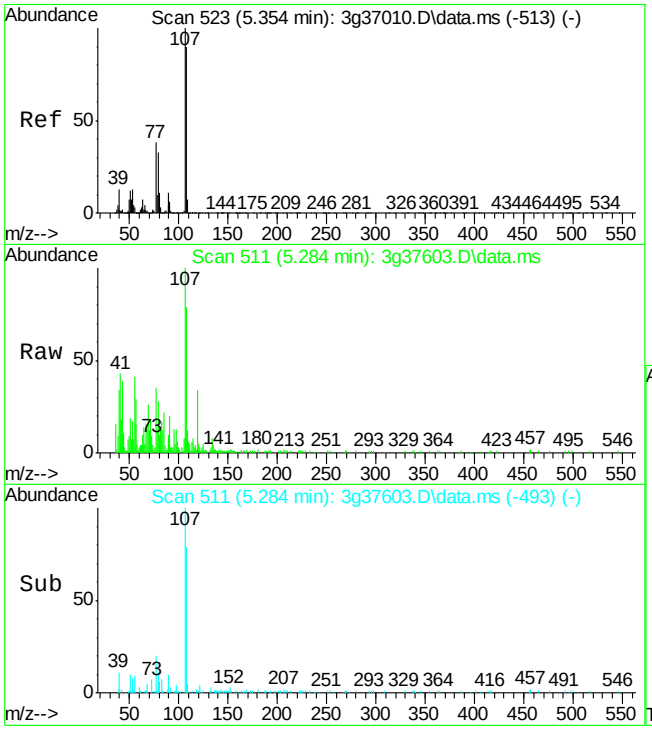


#16
1,4-Dichlorobenzene
Concen: 3.4543 ppm
RT: 4.972 min Scan# 458
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:146 Resp: 110900

Ion	Ratio	Lower	Upper
146	100		
148	66.6	42.4	82.4
111	57.8	29.3	69.3

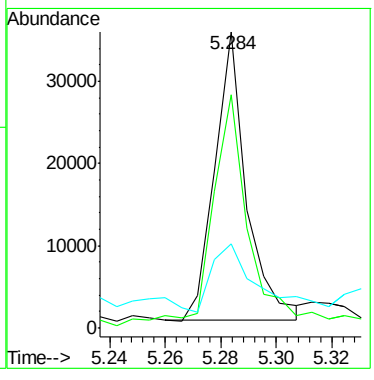


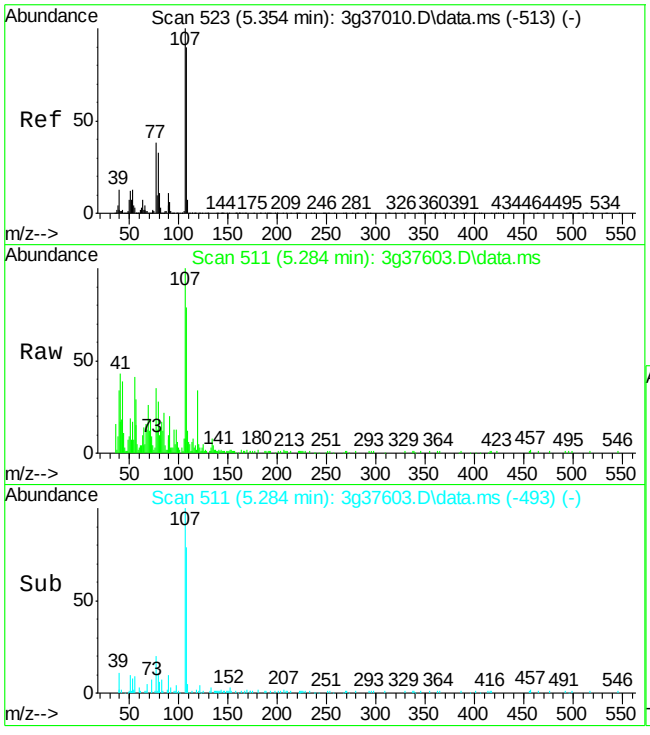


#23
4-Methylphenol
Concen: 0.6805 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:107 Resp: 27676

Ion	Ratio	Lower	Upper
107	100		
108	97.8	72.8	112.8
79	35.2	15.6	55.6

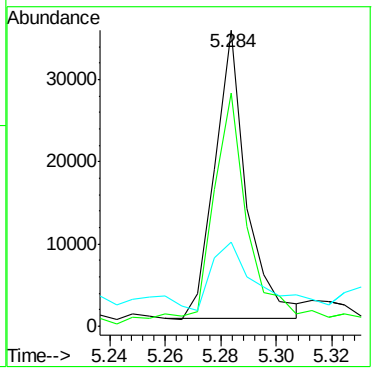


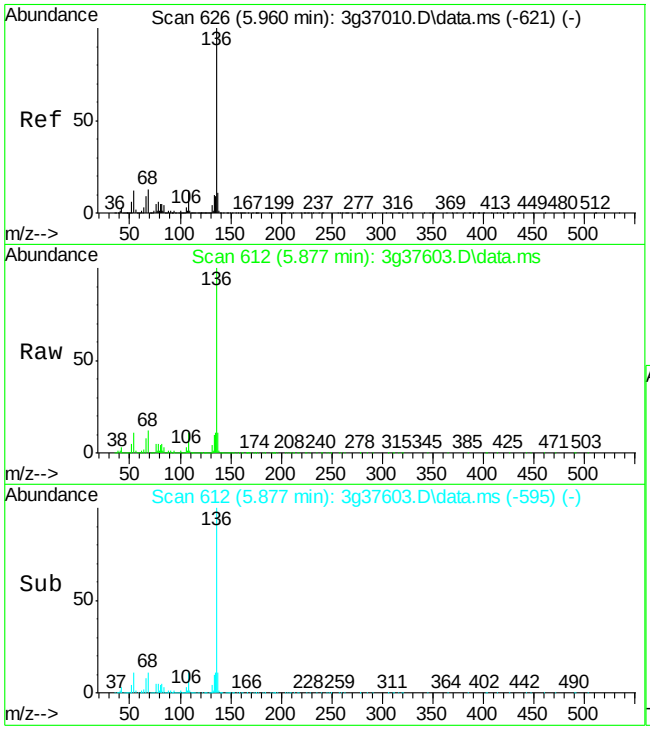


#24
3&4-Methylphenol
Concen: 0.6805 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:107 Resp: 27676

Ion	Ratio	Lower	Upper
107	100		
108	97.8	72.8	112.8
79	35.2	15.6	55.6

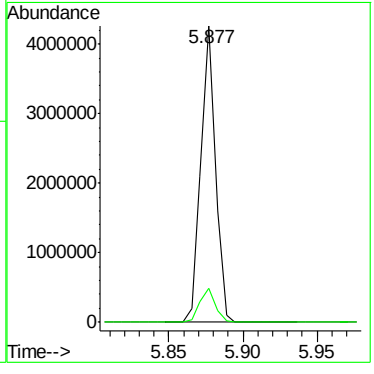


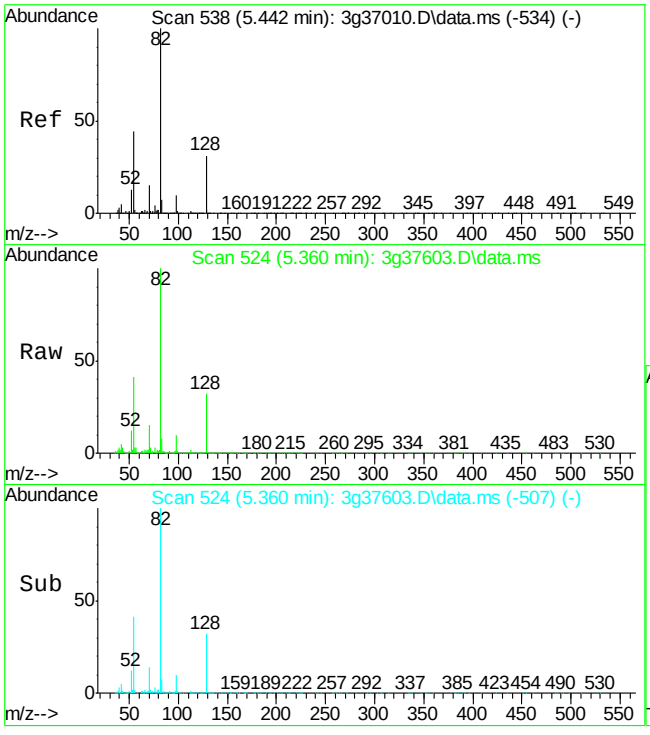


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:136 Resp: 2910838

Ion	Ratio	Lower	Upper
136	100		
68	12.0	0.0	32.4

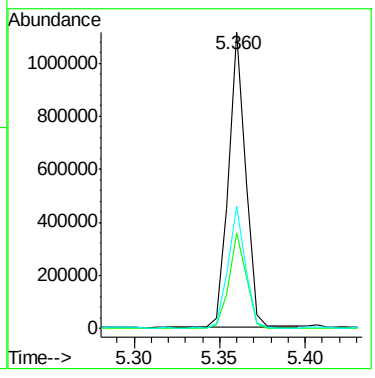


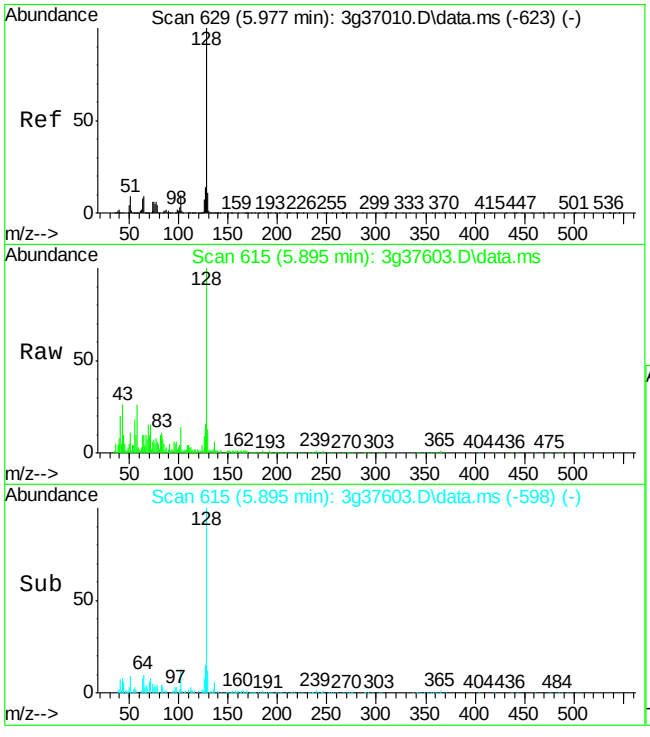


#27
Nitrobenzene-d5
Concen: 15.4744 ppm
RT: 5.360 min Scan# 524
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion: 82 Resp: 776114

Ion	Ratio	Lower	Upper
82	100		
128	32.4	10.8	50.8
54	40.9	22.9	62.9

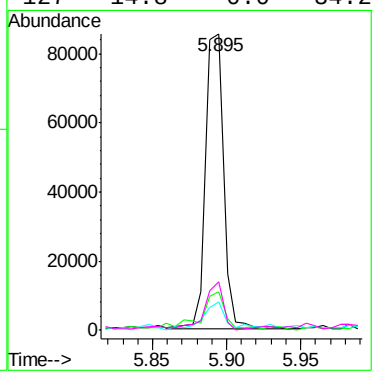


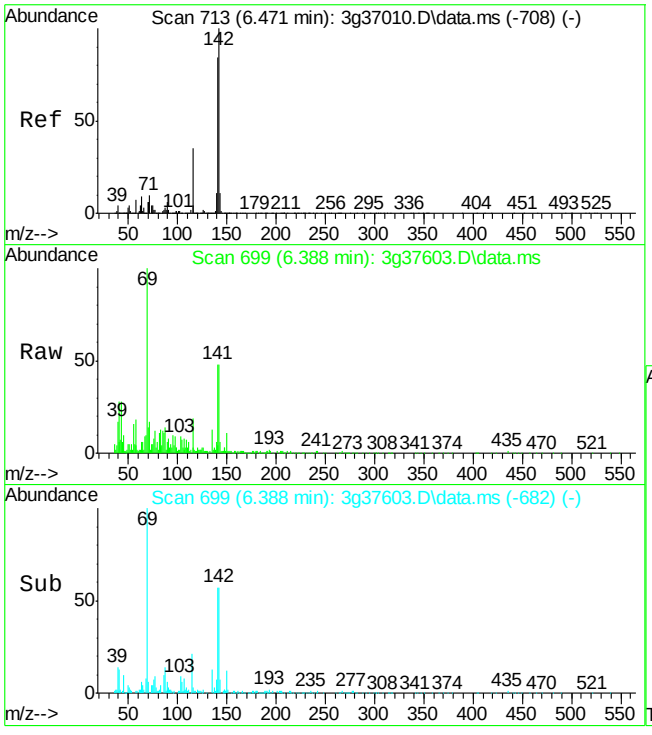


#36
Naphthalene
Concen: 1.0413 ppm
RT: 5.895 min Scan# 615
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:128 Resp: 72207

Ion	Ratio	Lower	Upper
128	100		
129	16.8	0.0	30.9
126	10.4	0.0	27.5
127	14.8	0.0	34.2

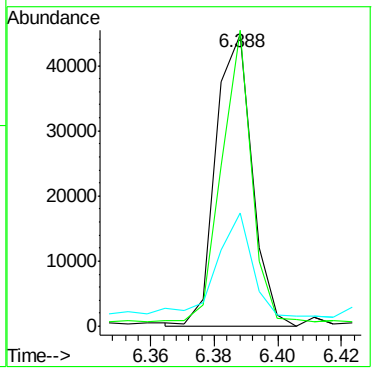


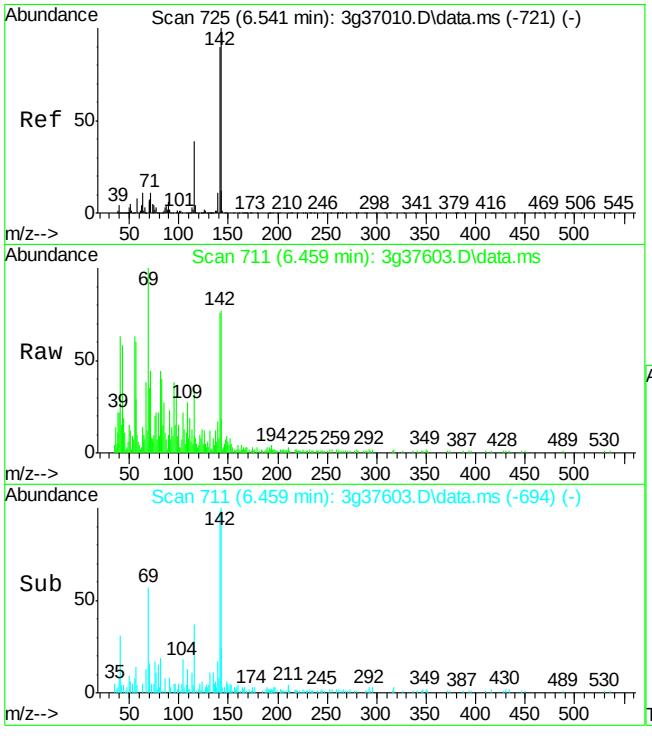


#42
2-Methylnaphthalene
Concen: 0.6688 ppm
RT: 6.388 min Scan# 699
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:142 Resp: 35453

Ion	Ratio	Lower	Upper
142	100		
141	81.0	62.4	102.4
115	43.4	15.8	55.8

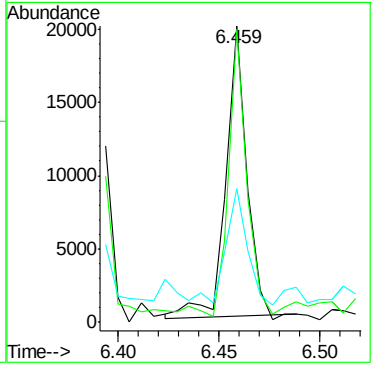


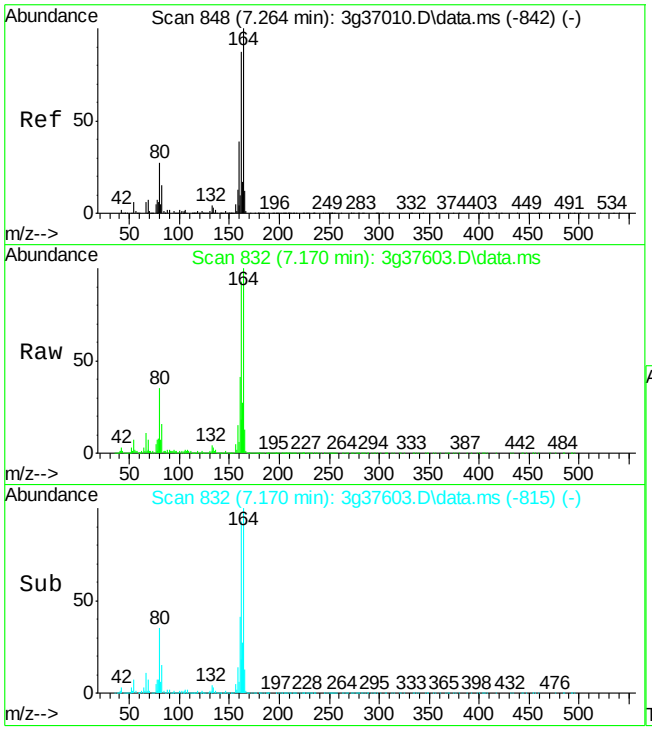


#43
1-Methylnaphthalene
Concen: 0.2893 ppm
RT: 6.459 min Scan# 711
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:142 Resp: 14423

Ion	Ratio	Lower	Upper
142	100		
141	83.7	70.2	110.2
115	41.6	19.3	59.3

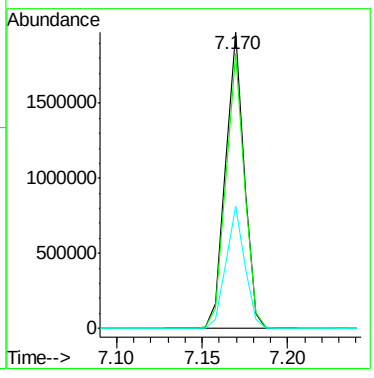


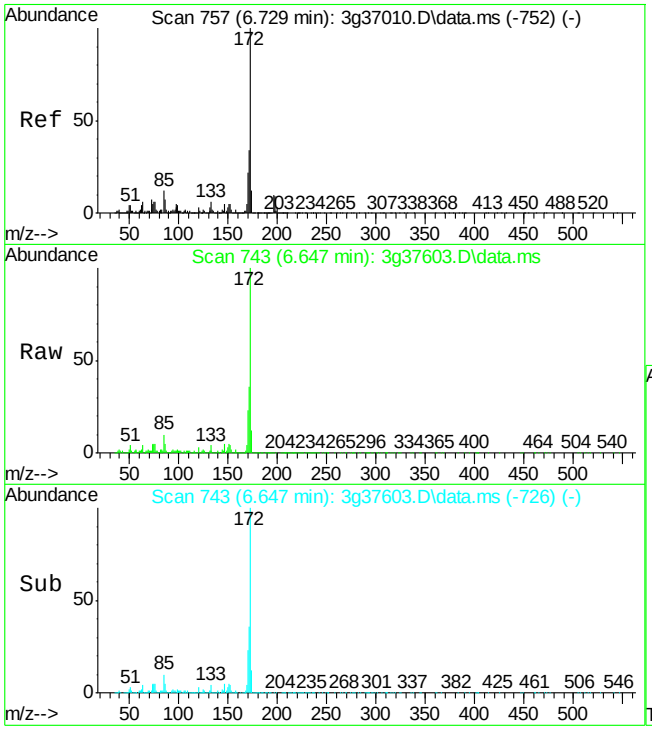


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:164 Resp: 1495891

Ion	Ratio	Lower	Upper
164	100		
162	92.6	69.6	109.6
160	41.7	20.5	60.5

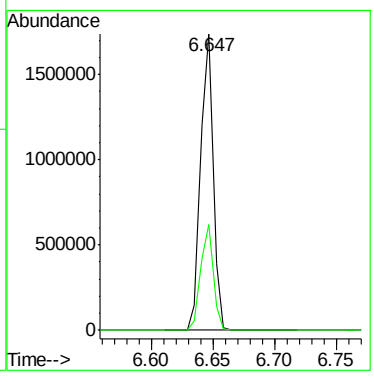


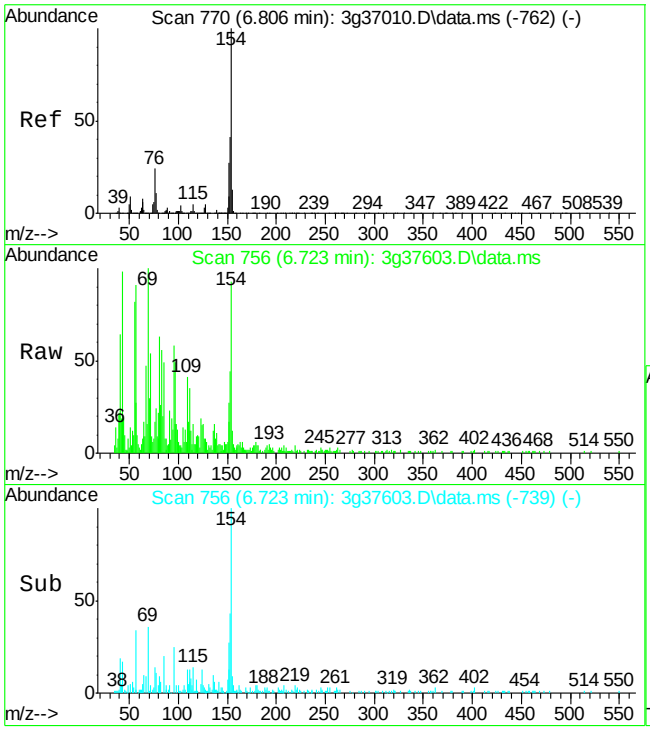


#49
2-Fluorobiphenyl
Concen: 24.0246 ppm
RT: 6.647 min Scan# 743
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:172 Resp: 1236997

Ion	Ratio	Lower	Upper
172	100		
171	35.4	14.5	54.5

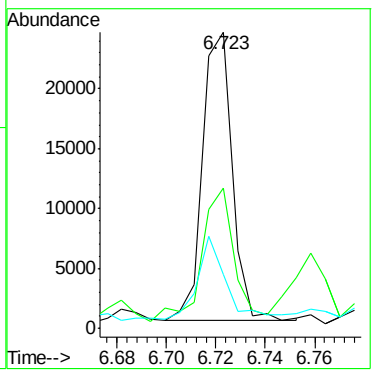


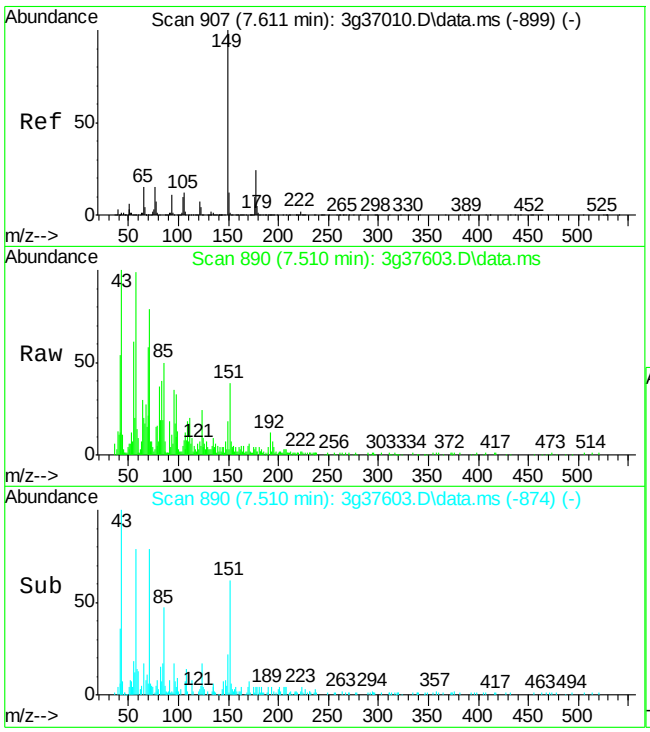


#50
Biphenyl
Concen: 0.7175 ppm
RT: 6.723 min Scan# 756
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:154 Resp: 19920

Ion	Ratio	Lower	Upper
154	100		
153	51.0	21.4	61.4
76	27.3	5.2	45.2

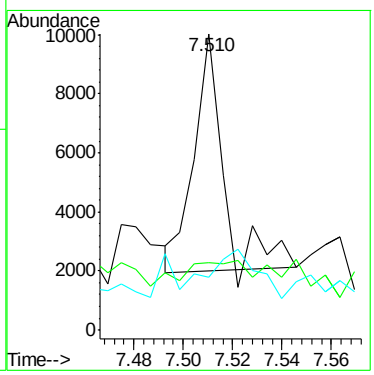


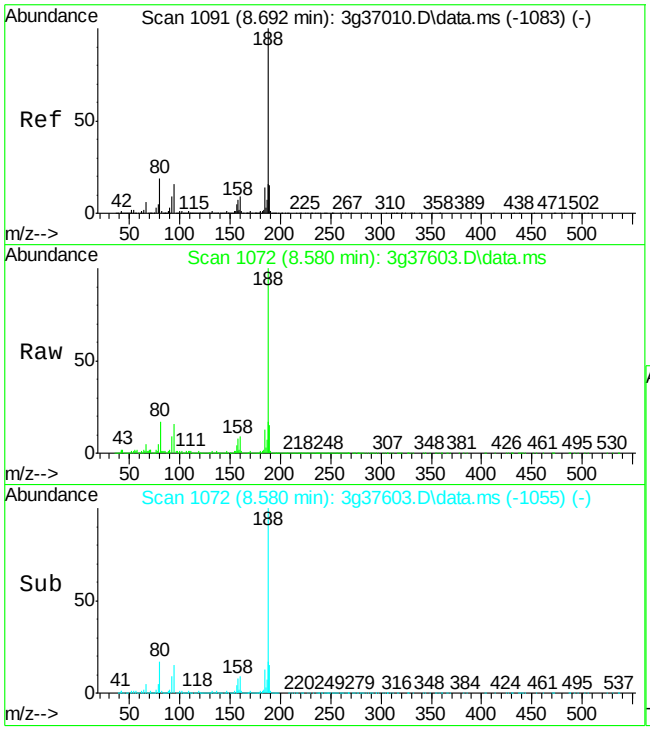


#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:149 Resp: 6606

Ion	Ratio	Lower	Upper
149	100		
177	22.3	3.6	43.6
150	25.3	0.0	32.5

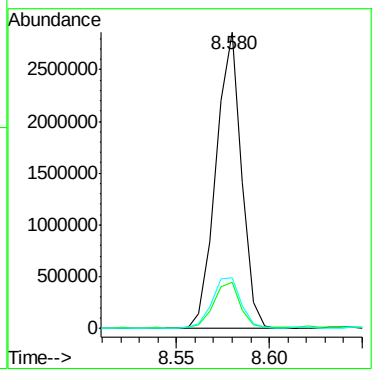


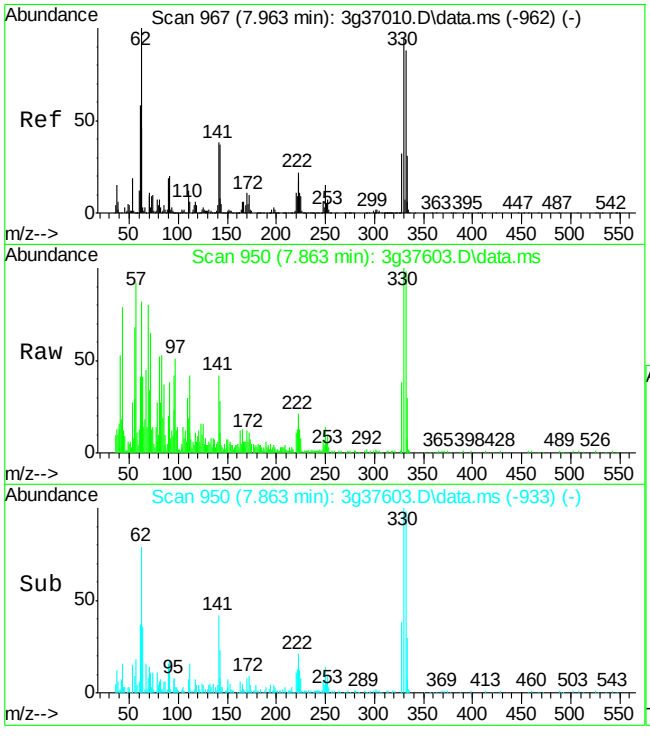


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.580 min Scan# 1072
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:188 Resp: 2728887

Ion	Ratio	Lower	Upper
188	100		
94	16.1	0.0	35.1
80	18.8	0.0	37.9

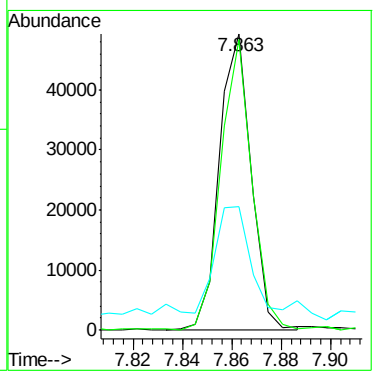


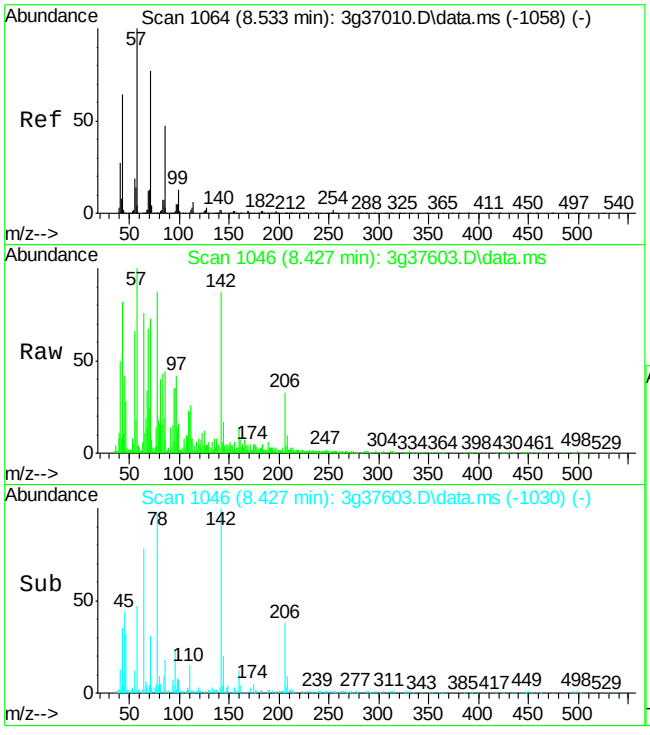


#69
2,4,6-Tribromophenol
Concen: 6.8810 ppm
RT: 7.863 min Scan# 950
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:330 Resp: 43788

Ion	Ratio	Lower	Upper
330	100		
332	97.4	74.8	112.2
141	56.3	33.8	50.6#

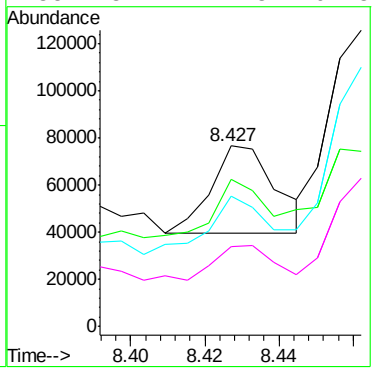


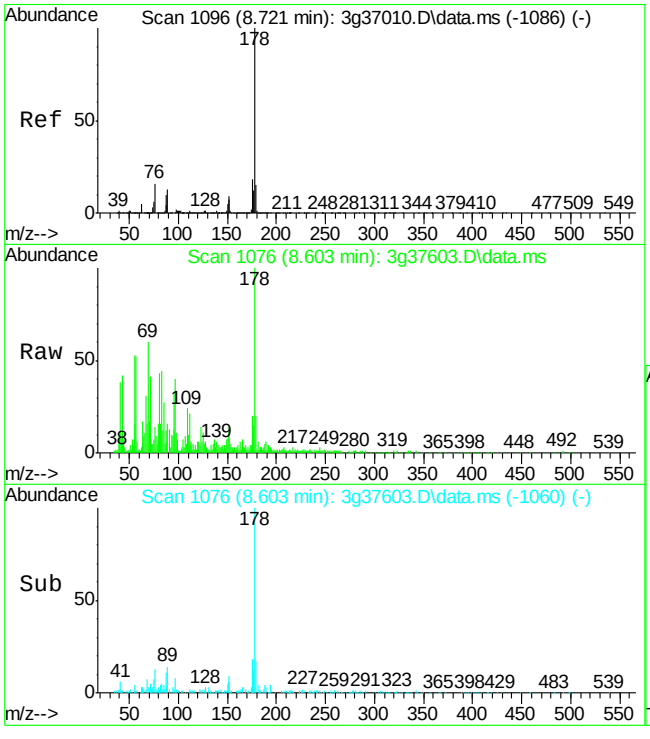


#78
n-Octadecane
Concen: 0.7939 ppm
RT: 8.427 min Scan# 1046
Delta R.T. -0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion: 57 Resp: 44658

Ion	Ratio	Lower	Upper
57	100		
43	56.9	43.2	83.2
71	69.0	55.6	95.6
85	37.2	27.3	67.3

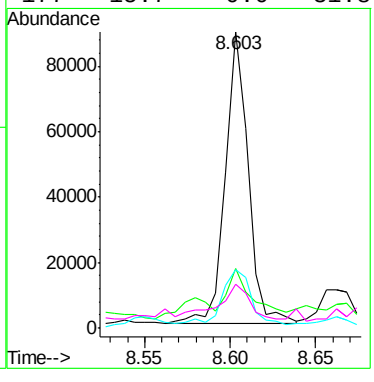


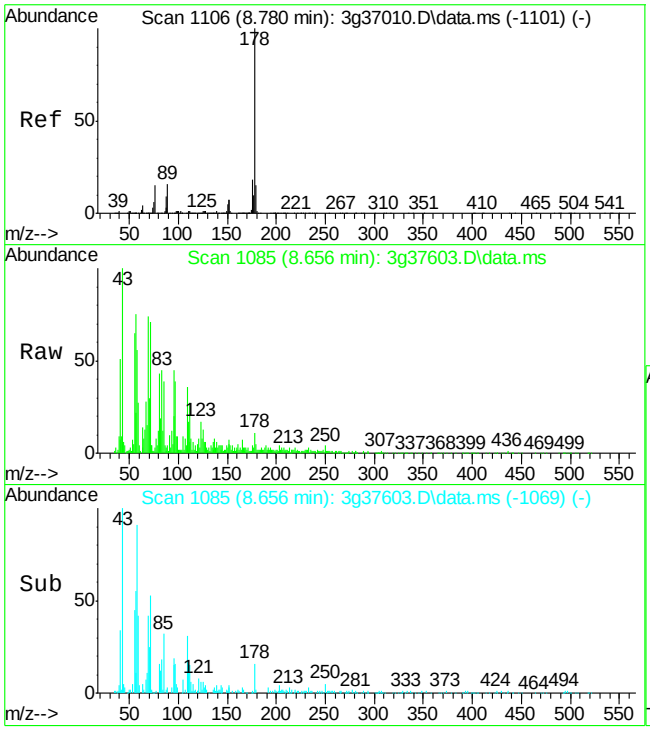


#79
Phenanthrene
Concen: 1.0796 ppm
RT: 8.603 min Scan# 1076
Delta R.T. -0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:178 Resp: 82577

Ion	Ratio	Lower	Upper
178	100		
179	16.7	0.0	35.6
176	25.1	0.0	38.7
177	15.7	0.0	31.8

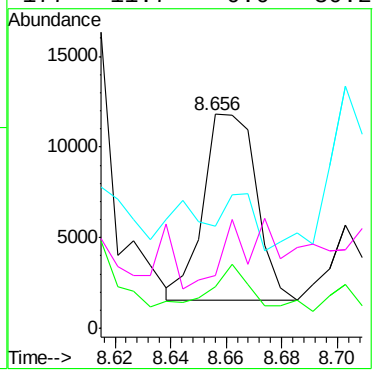


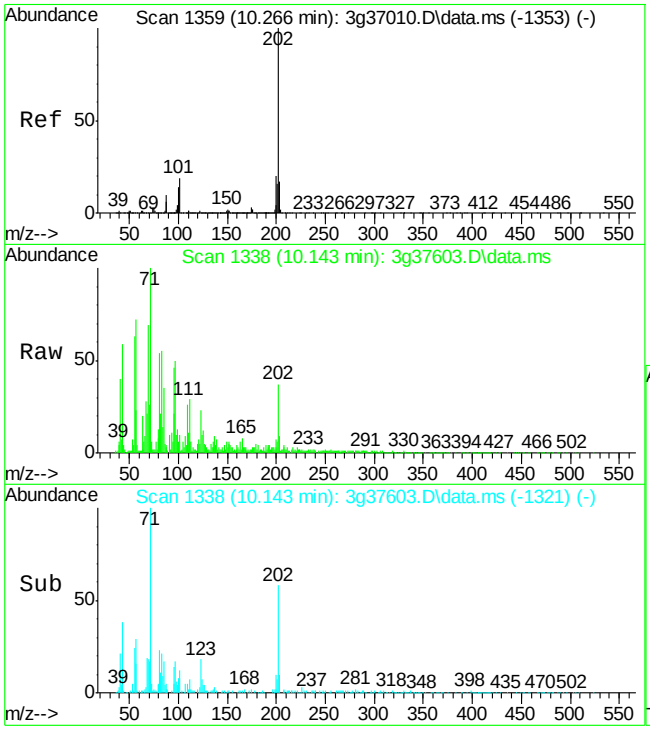


#80
Anthracene
Concen: 0.1712 ppm
RT: 8.656 min Scan# 1085
Delta R.T. -0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:178 Resp: 13534

Ion	Ratio	Lower	Upper
178	100		
176	12.6	0.0	38.0
179	12.3	0.0	35.2
177	11.7	0.0	30.2

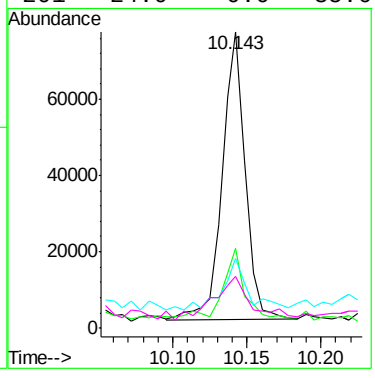


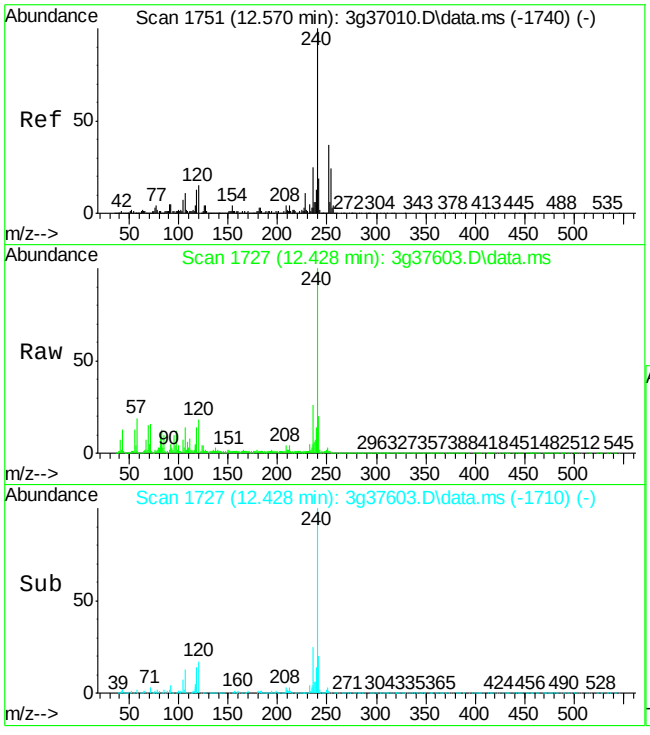


#83
Fluoranthene
Concen: 1.0260 ppm
RT: 10.143 min Scan# 1338
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:202 Resp: 82004

Ion	Ratio	Lower	Upper
202	100		
101	22.5	0.0	38.8
203	19.8	0.0	37.1
201	24.0	0.0	35.6

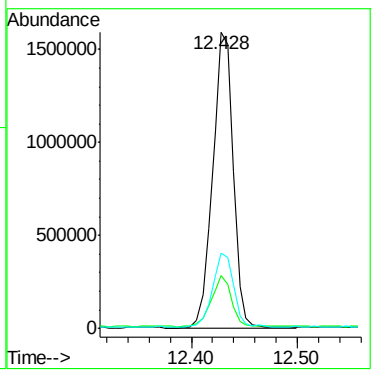


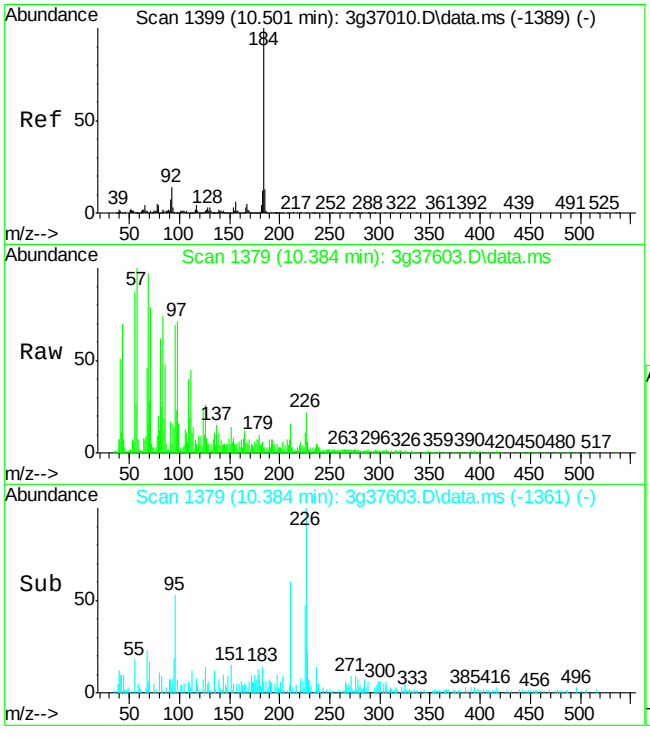


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.428 min Scan# 1727
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:240 Resp: 2143073

Ion	Ratio	Lower	Upper
240	100		
120	16.7	0.0	36.6
236	25.8	4.3	44.3

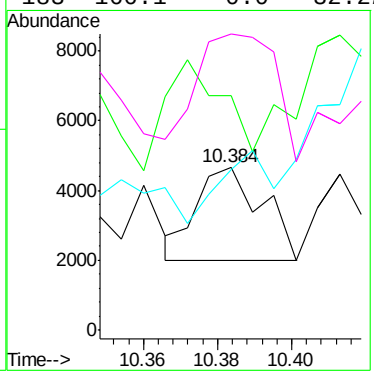


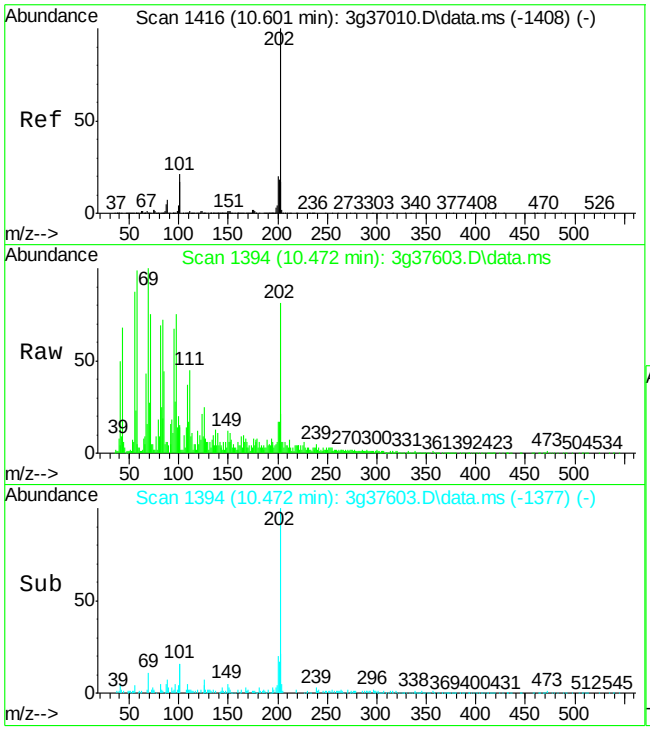


#85
Benzidine
Concen: Below ppm
RT: 10.384 min Scan# 1379
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:184 Resp: 3263

Ion	Ratio	Lower	Upper
184	100		
92	109.0	0.0	34.2#
185	0.0	0.0	33.2
183	166.1	0.0	32.2#

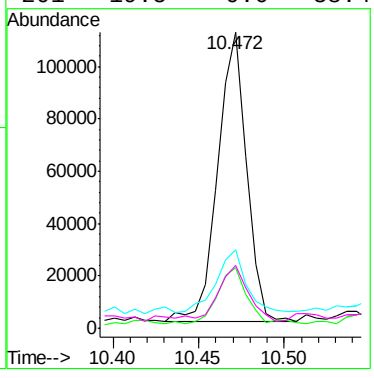


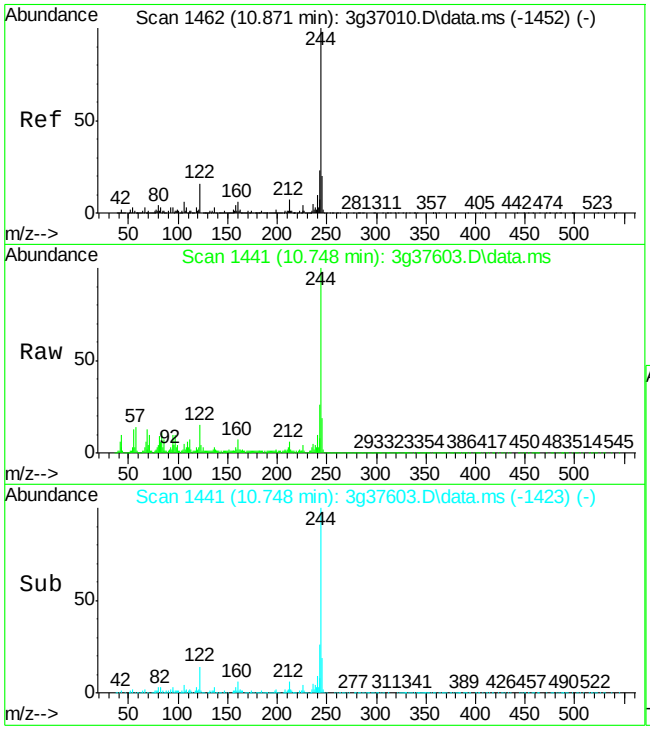


#86
Pyrene
Concen: 1.6125 ppm
RT: 10.472 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:202 Resp: 128611

Ion	Ratio	Lower	Upper
202	100		
200	20.9	0.0	39.9
203	22.8	0.0	37.7
201	19.5	0.0	38.4

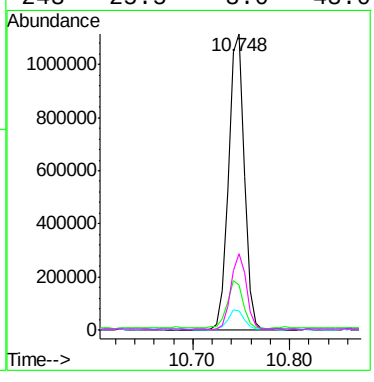


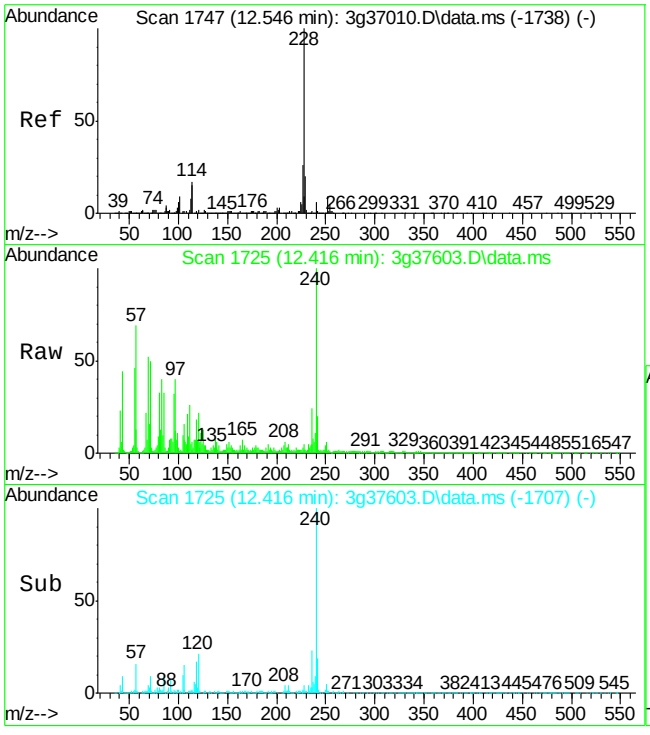


#87
Terphenyl-d14
Concen: 23.8707 ppm
RT: 10.748 min Scan# 1441
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:244 Resp: 1283389

Ion	Ratio	Lower	Upper
244	100		
122	16.4	0.0	35.4
212	7.1	0.0	27.0
243	25.5	3.0	43.0

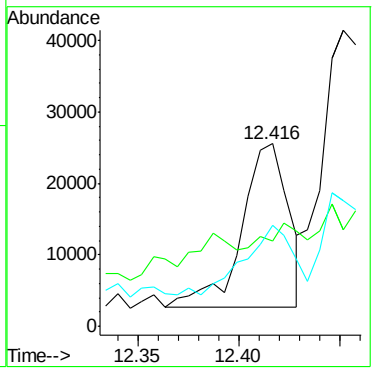


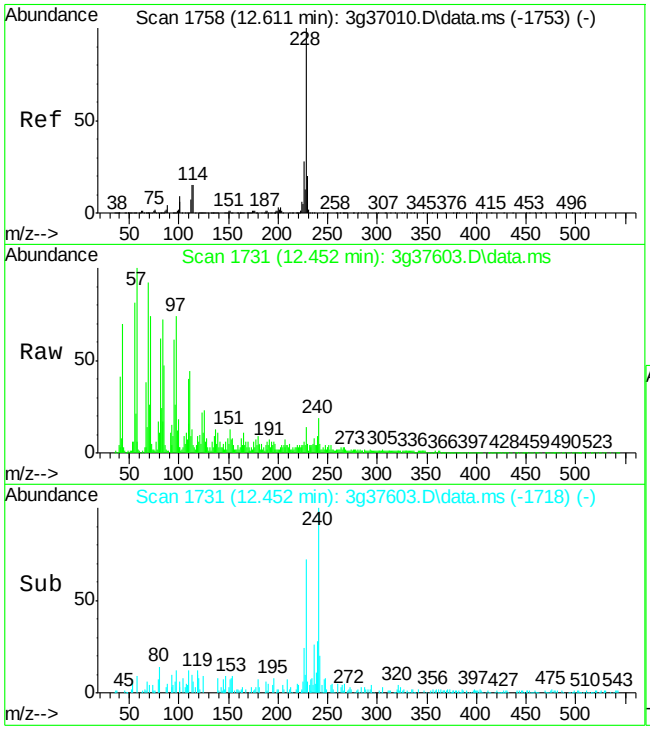


#90
Benzo(a)anthracene
Concen: 0.5292 ppm
RT: 12.416 min Scan# 1725
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:228 Resp: 36650

Ion	Ratio	Lower	Upper
228	100		
229	10.6	0.0	40.0
226	44.4	6.1	46.1

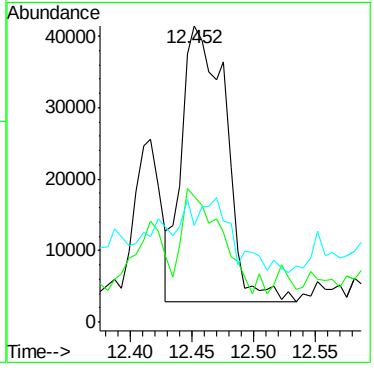


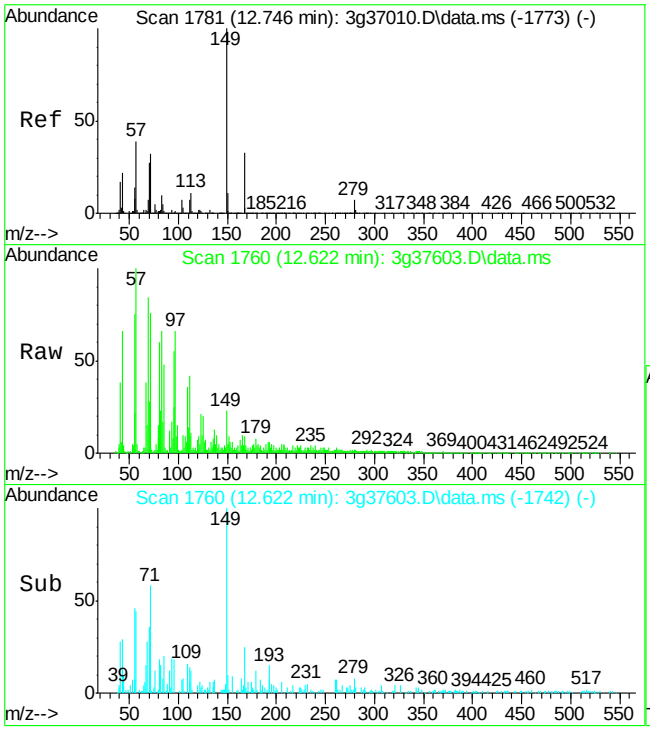


#91
Chrysene
Concen: 1.4200 ppm
RT: 12.452 min Scan# 1731
Delta R.T. -0.024 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:228 Resp: 95595

Ion	Ratio	Lower	Upper
228	100		
226	32.4	8.0	48.0
229	2.9	0.0	39.8

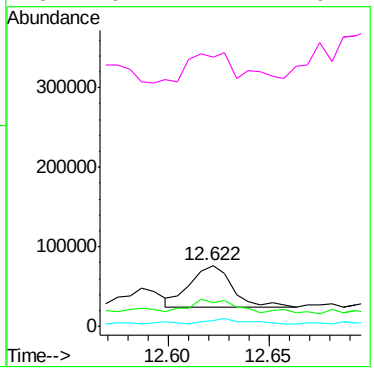


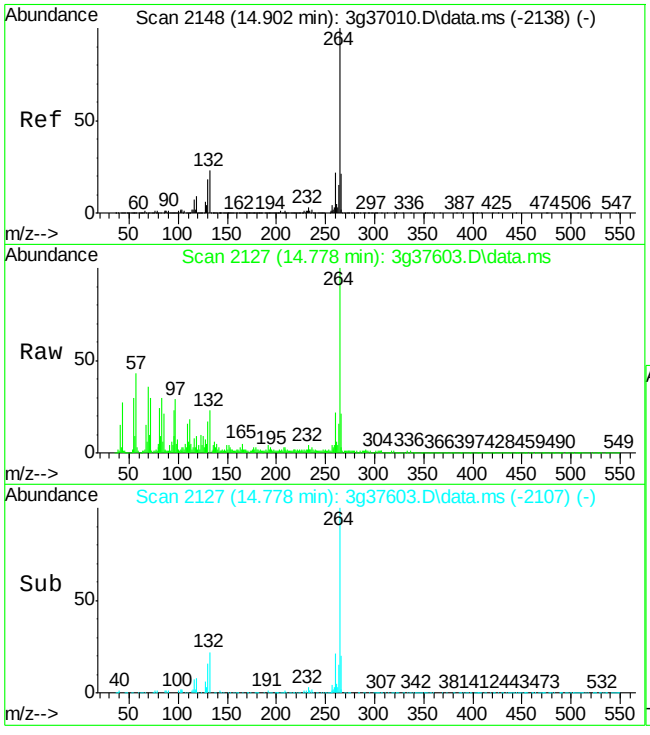


#92
Bis(2-ethylhexyl)phthalate
Concen: 1.7174 ppm
RT: 12.622 min Scan# 1760
Delta R.T. 0.006 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:149 Resp: 74968

Ion	Ratio	Lower	Upper
149	100		
167	33.1	13.6	53.6
279	12.0	0.0	27.3
57	91.4	21.1	61.1#

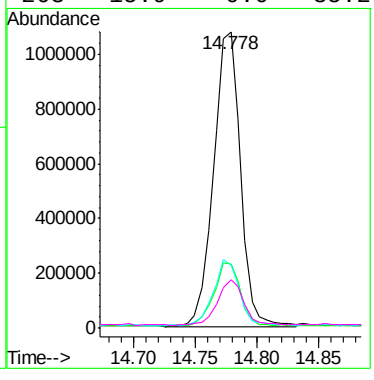




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.778 min Scan# 2127
Delta R.T. 0.018 min
Lab File: 3g37603.D
Acq: 7 Aug 18 11:10 pm

Tgt Ion:264 Resp: 1638228

Ion	Ratio	Lower	Upper
264	100		
260	21.6	1.3	41.3
265	22.2	0.2	40.2
263	15.9	0.0	35.2



Manual Integrations APPROVED (compounds with "m" flag)
Janis Kardatzke
08/09/18 18:10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37604.D
Acq On : 7 Aug 2018 11:38 pm
Operator : DONC
Sample : DA7701-10, 2x
Misc : OP16681,E3G1870,30.10,,,1,2
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 08 10:12:26 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.961	152	697702	40.0000 ppm	0.00
26) Naphthalene-d8	5.877	136	2662847	40.0000 ppm	0.00
44) Acenaphthene-d10	7.170	164	1355135	40.0000 ppm	0.00
67) Phenanthrene-d10	8.580	188	2454003	40.0000 ppm	0.00
84) Chrysene-d12	12.434	240	1967320	40.0000 ppm	0.00
93) Perylene-d12	14.779	264	1444212	40.0000 ppm	0.02

System Monitoring Compounds					
5) 2-Fluorophenol	4.056	112	335699	10.3218 ppm	0.01
Spiked Amount 50.000	Range 1 - 250		Recovery = 20.64%		
8) Phenol-d5	4.749	99	664652	13.7988 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 27.60%		
27) Nitrobenzene-d5	5.360	82	528681	11.5227 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 23.04%		
49) 2-Fluorobiphenyl	6.647	172	919195	19.7067 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 39.42%		
69) 2,4,6-Tribromophenol	7.863	330	94228	16.4661 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 32.94%		
87) Terphenyl-d14	10.748	244	1042403	21.1205 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 42.24%		

Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	40491	0.5015 ppm	90
14) n-decane	4.825	43	30175	0.4488 ppm	92
16) 1,4-Dichlorobenzene	4.972	146	57051	1.9238 ppm	83
23) 4-Methylphenol	5.284	107	20792	0.5535 ppm	85
24) 3&4-Methylphenol	5.284	107	20792	0.5535 ppm	85
36) Naphthalene	5.889	128	51705	0.8801 ppm	92
42) 2-Methylnaphthalene	6.388	142	23733	0.4894 ppm	92
50) Biphenyl	6.723	154	23946	0.8150 ppm	96
55) Acenaphthylene	7.064	152	5493	0.5627 ppm	69
60) Dibenzofuran	7.334	168	9492	0.1763 ppm	89
63) Diethylphthalate	7.511	149	12737	Below Cal #	57
78) n-Octadecane	8.427	57	35756	0.7069 ppm	91
79) Phenanthrene	8.603	178	77337	1.1244 ppm	87
83) Fluoranthene	10.149	202	94577	1.3159 ppm	94
85) Benzidine	10.390	184	2557	Below Cal #	1
86) Pyrene	10.472	202	147386	2.0130 ppm	93
90) Benzo(a)anthracene	12.417	228	38452	0.6049 ppm	79
91) Chrysene	12.475	228	106734m	1.7271 ppm	
92) Bis(2-ethylhexyl)phtha...	12.622	149	81406	2.0314 ppm #	64
95) Benzo(b)fluoranthene	14.185	252	57912	1.2365 ppm	77
97) Benzo(b&k)fluoranthene	14.185	252	72170	1.5333 ppm	64

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

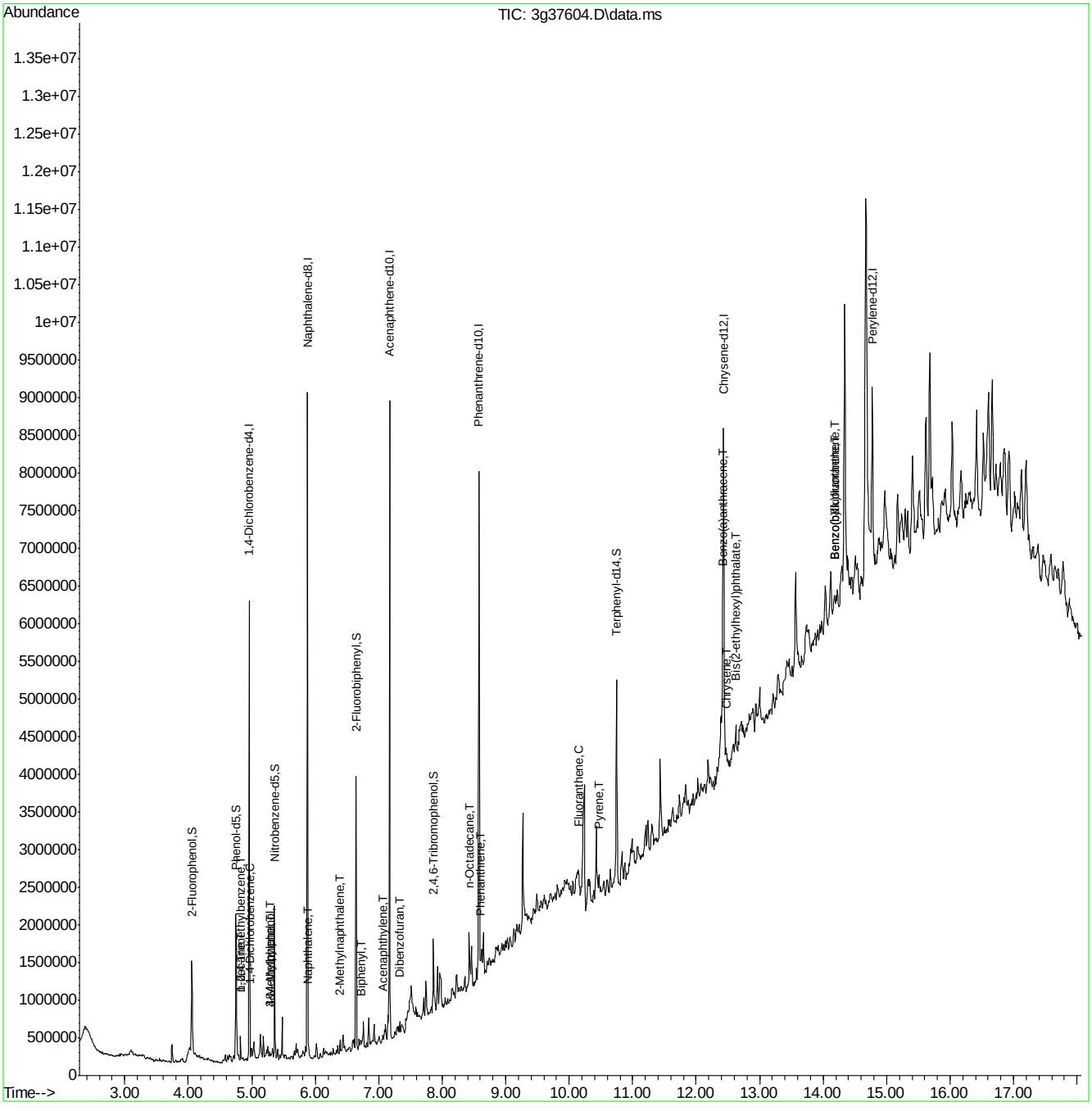
9.1.10

9

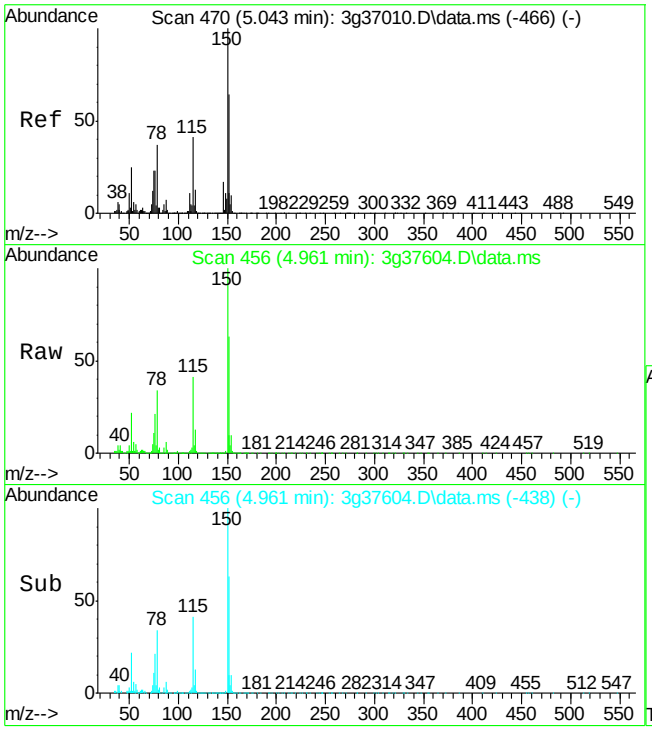
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37604.D
Acq On : 7 Aug 2018 11:38 pm
Operator : DONC
Sample : DA7701-10, 2x
Misc : OP16681,E3G1870,30.10,,,1,2
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 08 10:12:26 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



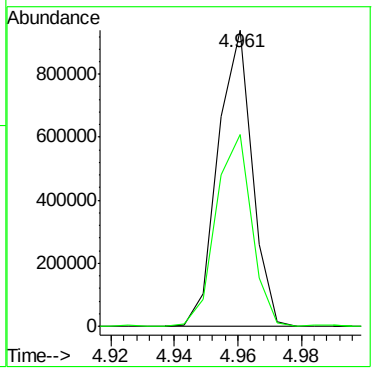
bnae3g1850.M Wed Aug 08 10:12:31 2018 3G

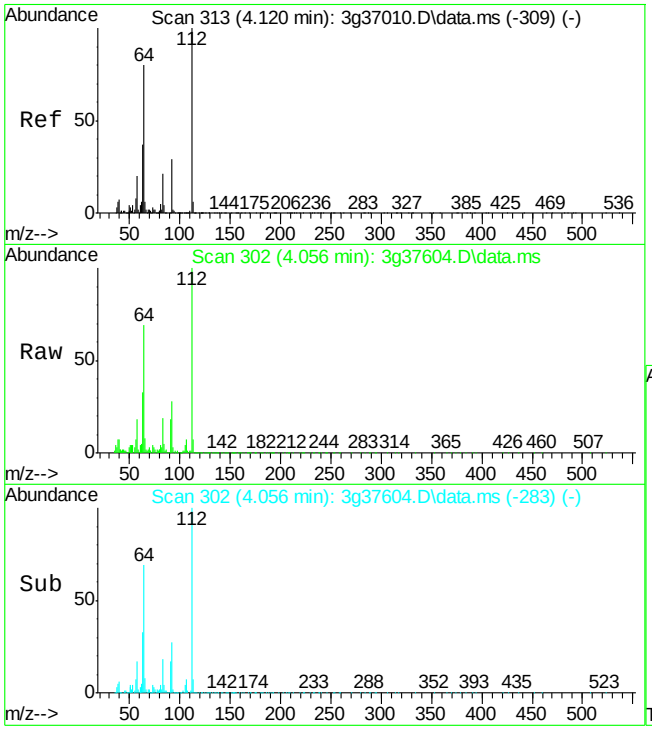


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.961 min Scan# 456
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:152 Resp: 697702

Ion	Ratio	Lower	Upper
152	100		
115	67.1	53.0	93.0

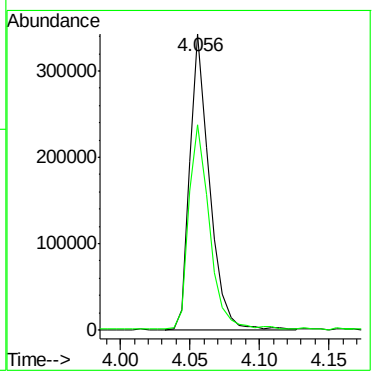


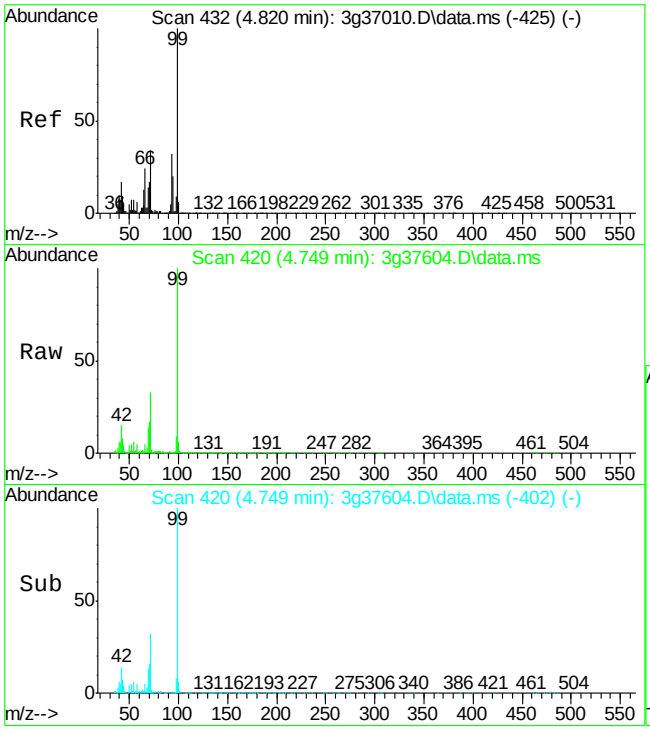


#5
2-Fluorophenol
Concen: 10.3218 ppm
RT: 4.056 min Scan# 302
Delta R.T. 0.012 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:112 Resp: 335699

Ion	Ratio	Lower	Upper
112	100		
64	72.7	58.3	98.3

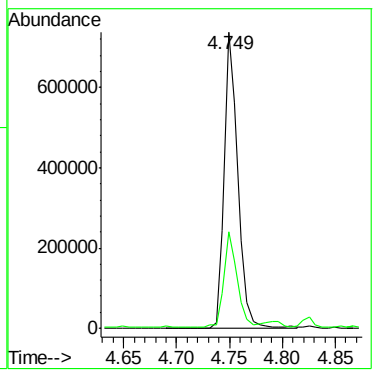


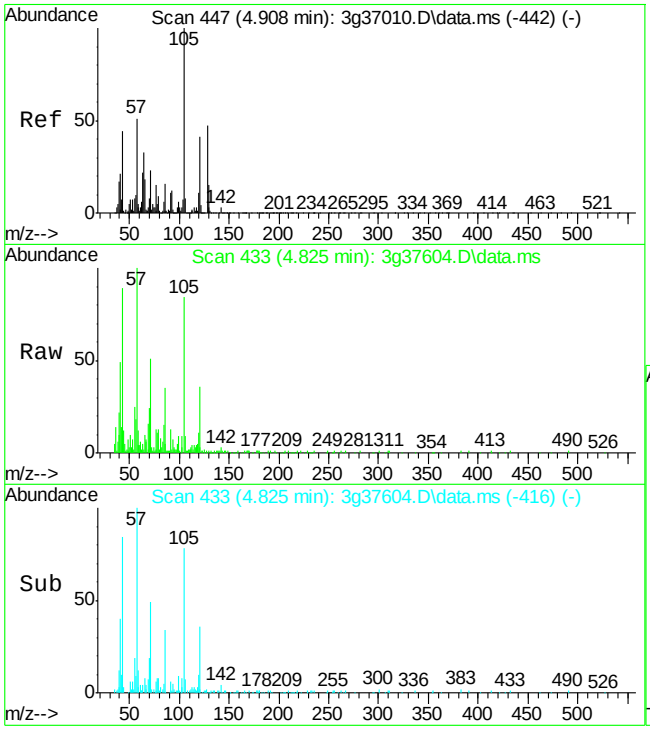


#8
Phenol-d5
Concen: 13.7988 ppm
RT: 4.749 min Scan# 420
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion: 99 Resp: 664652

Ion	Ratio	Lower	Upper
99	100		
71	31.7	13.6	53.6

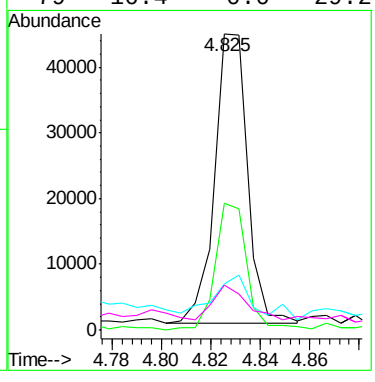


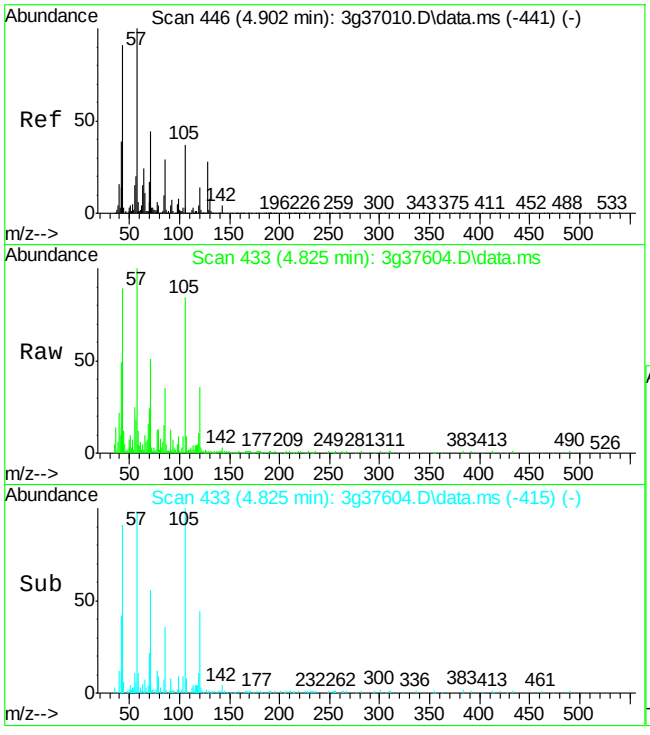


#13
1,2,4-Trimethylbenzene
Concen: 0.5015 ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:105 Resp: 40491

Ion	Ratio	Lower	Upper
105	100		
120	42.4	19.5	59.5
91	19.6	0.0	31.4
79	16.4	0.0	29.2

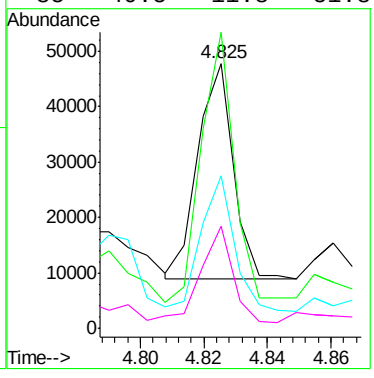


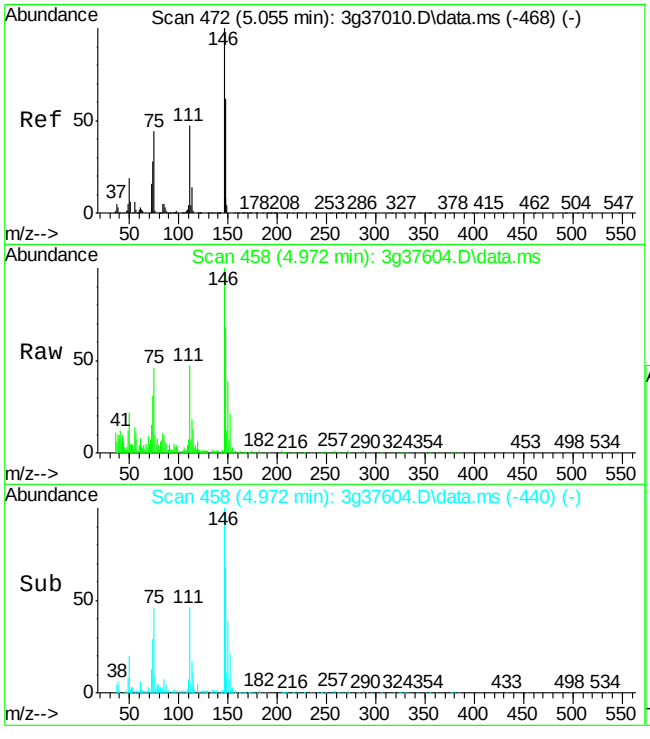


#14
n-decane
Concen: 0.4488 ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion: 43 Resp: 30175

Ion	Ratio	Lower	Upper
43	100		
57	115.7	92.0	132.0
71	58.8	28.7	68.7
85	40.5	11.8	51.8

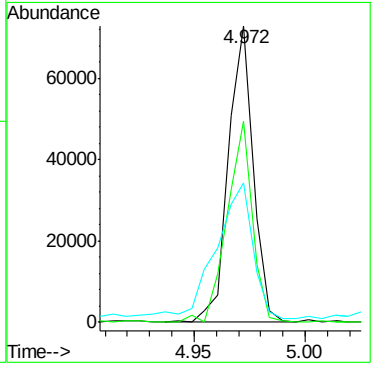


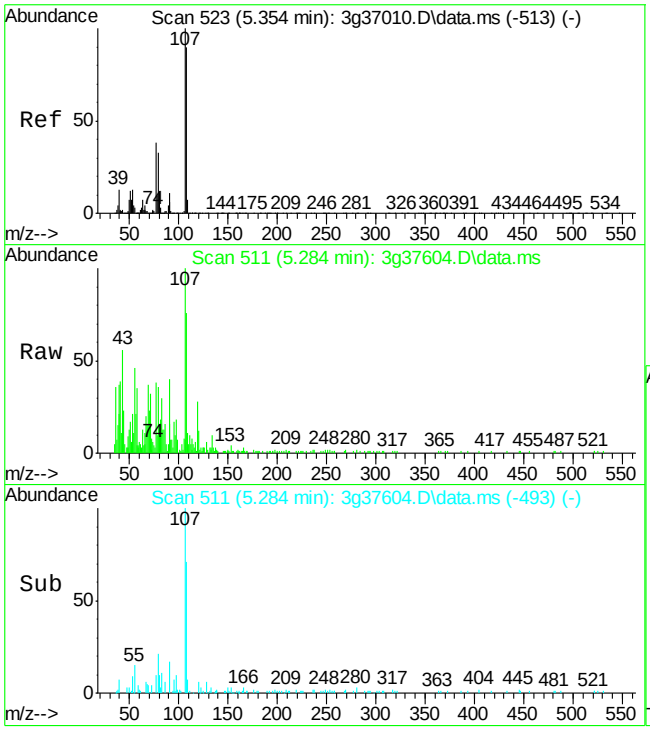


#16
1,4-Dichlorobenzene
Concen: 1.9238 ppm
RT: 4.972 min Scan# 458
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:146 Resp: 57051

Ion	Ratio	Lower	Upper
146	100		
148	68.8	42.4	82.4
111	68.9	29.3	69.3

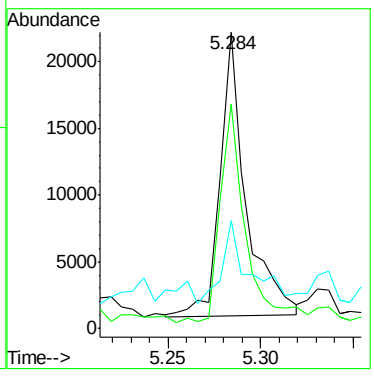


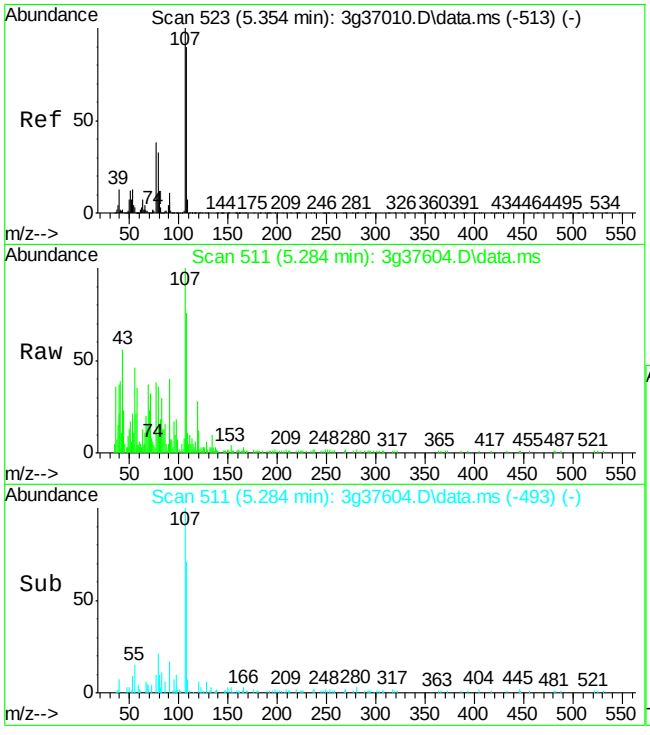


#23
4-Methylphenol
Concen: 0.5535 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:107 Resp: 20792

Ion	Ratio	Lower	Upper
107	100		
108	74.1	72.8	112.8
79	33.2	15.6	55.6

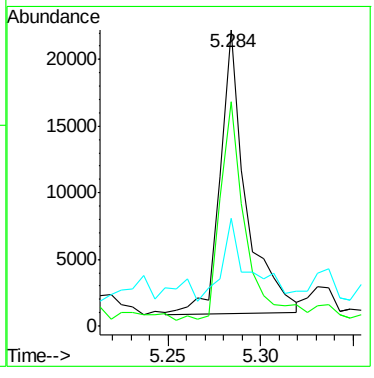


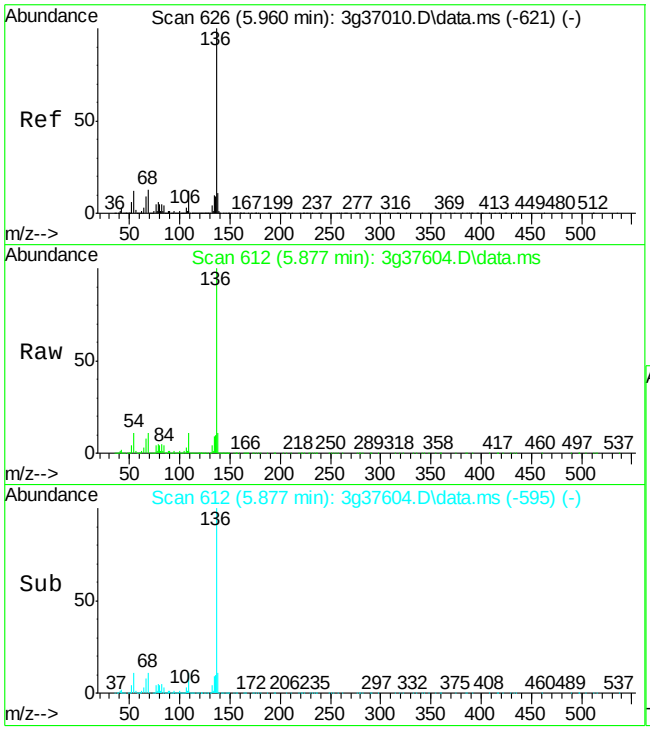


#24
3&4-Methylphenol
Concen: 0.5535 ppm
RT: 5.284 min Scan# 511
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:107 Resp: 20792

Ion	Ratio	Lower	Upper
107	100		
108	74.1	72.8	112.8
79	33.2	15.6	55.6

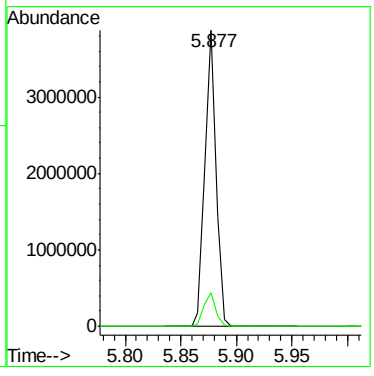


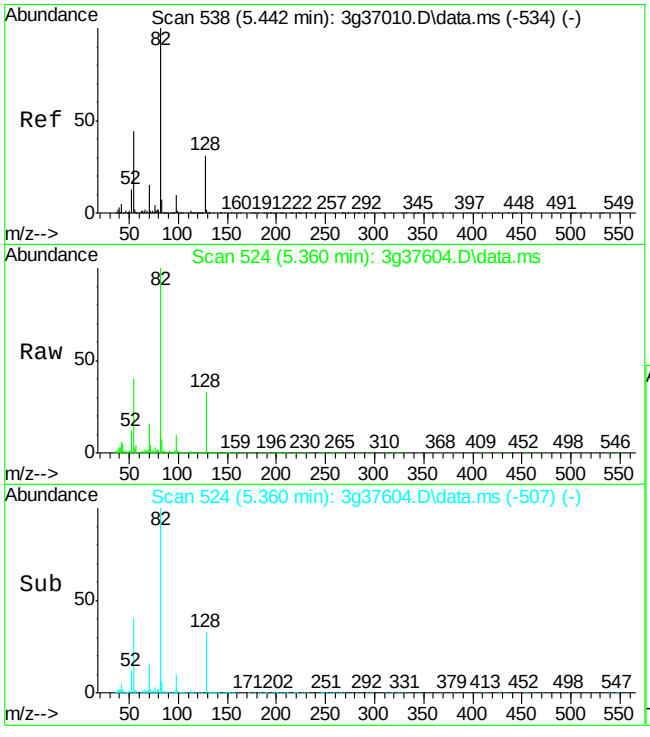


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:136 Resp: 2662847

Ion	Ratio	Lower	Upper
136	100		
68	12.0	0.0	32.4

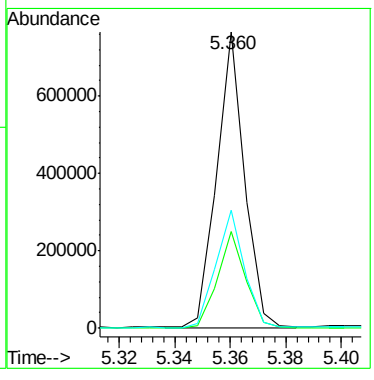


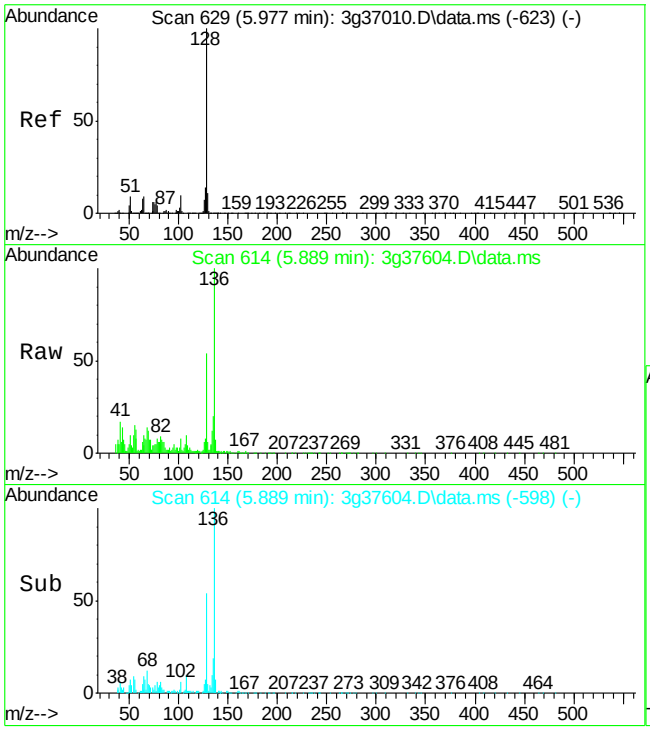


#27
Nitrobenzene-d5
Concen: 11.5227 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion: 82 Resp: 528681

Ion	Ratio	Lower	Upper
82	100		
128	33.3	10.8	50.8
54	41.0	22.9	62.9

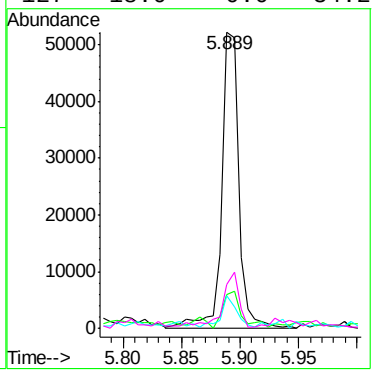


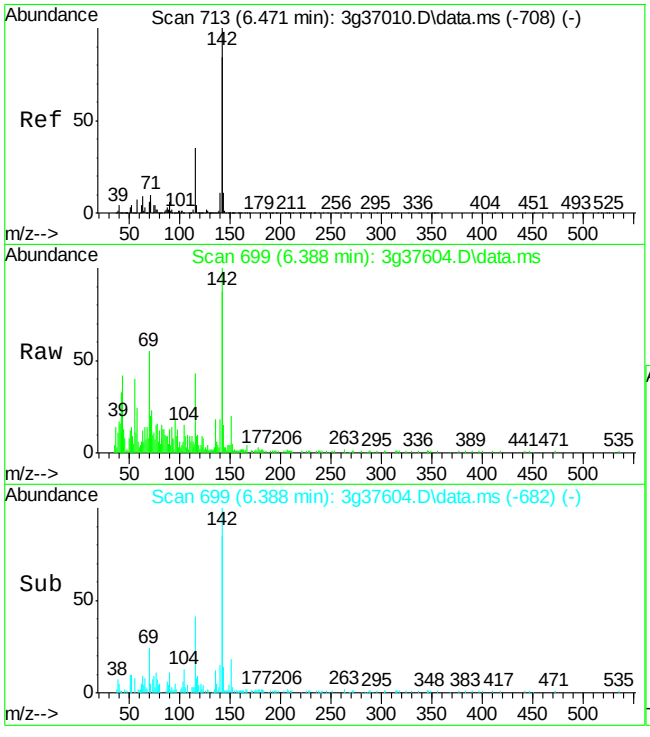


#36
Naphthalene
Concen: 0.8801 ppm
RT: 5.889 min Scan# 614
Delta R.T. -0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:128 Resp: 51705

Ion	Ratio	Lower	Upper
128	100		
129	13.6	0.0	30.9
126	9.7	0.0	27.5
127	18.0	0.0	34.2

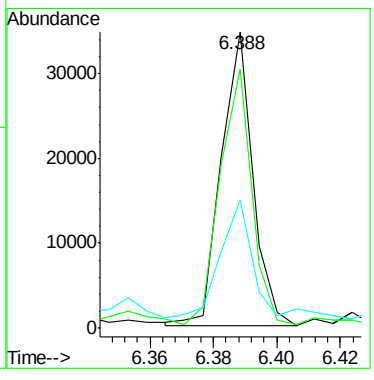




#42
2-Methylnaphthalene
Concen: 0.4894 ppm
RT: 6.388 min Scan# 699
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

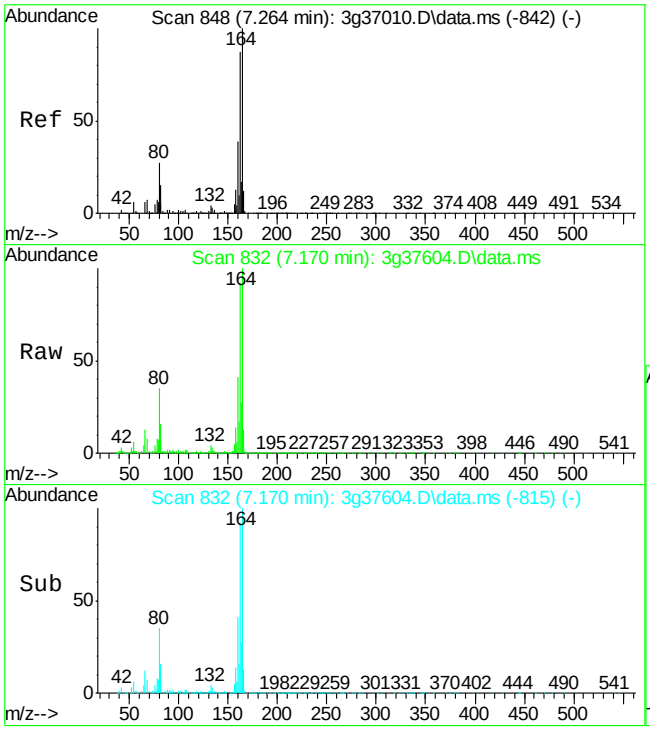
Tgt Ion:142 Resp: 23733

Ion	Ratio	Lower	Upper
142	100		
141	86.9	62.4	102.4
115	44.4	15.8	55.8



9.1.10

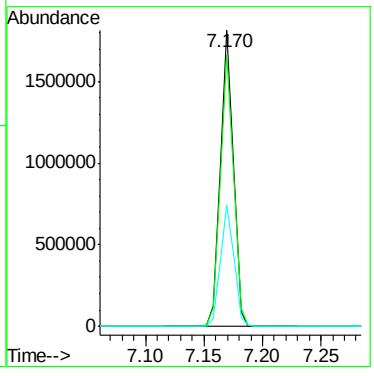
9

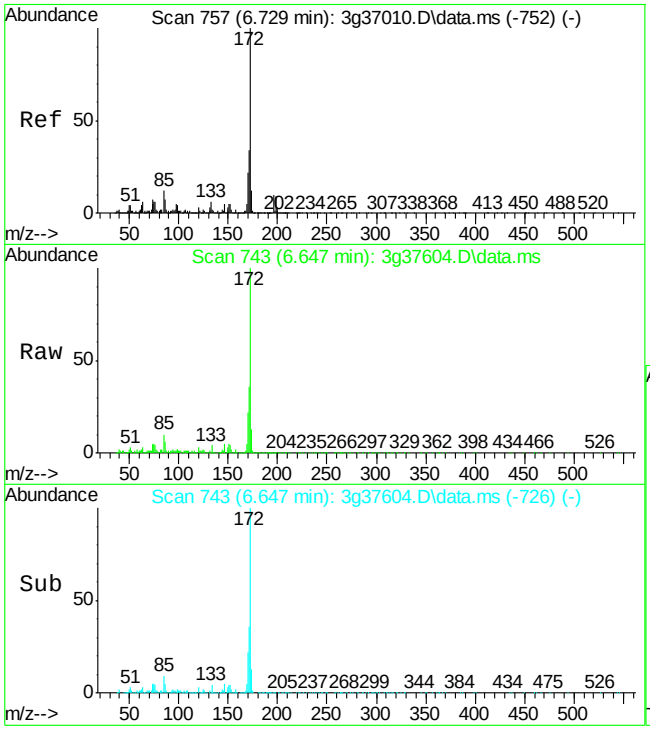


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:164 Resp: 1355135

Ion	Ratio	Lower	Upper
164	100		
162	93.5	69.6	109.6
160	42.5	20.5	60.5

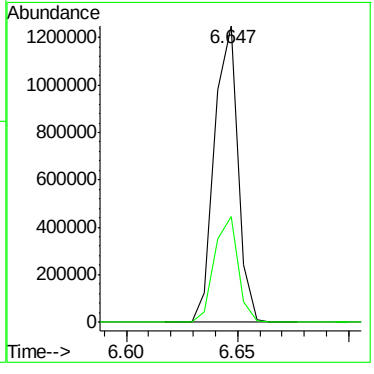


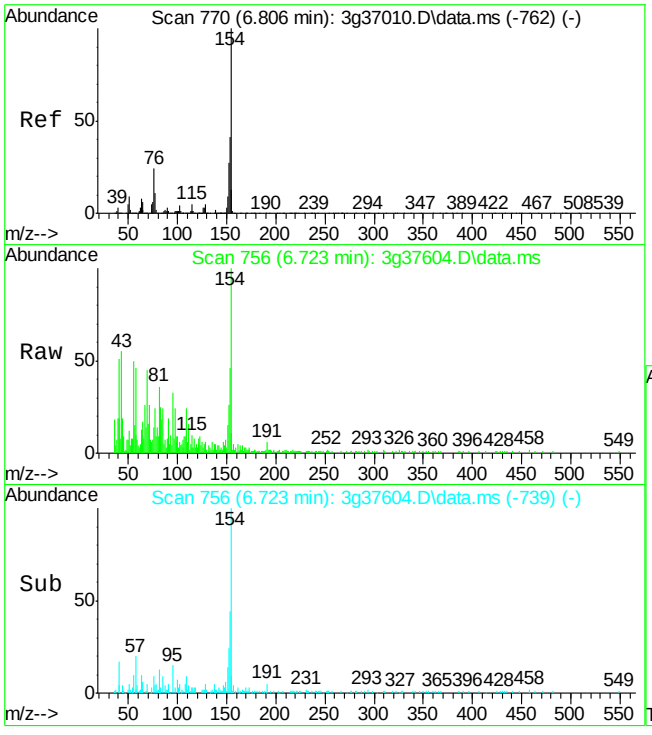


#49
2-Fluorobiphenyl
Concen: 19.7067 ppm
RT: 6.647 min Scan# 743
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:172 Resp: 919195

Ion	Ratio	Lower	Upper
172	100		
171	35.8	14.5	54.5

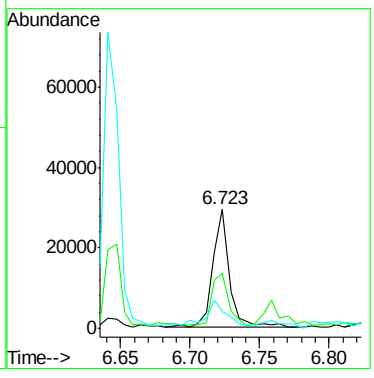


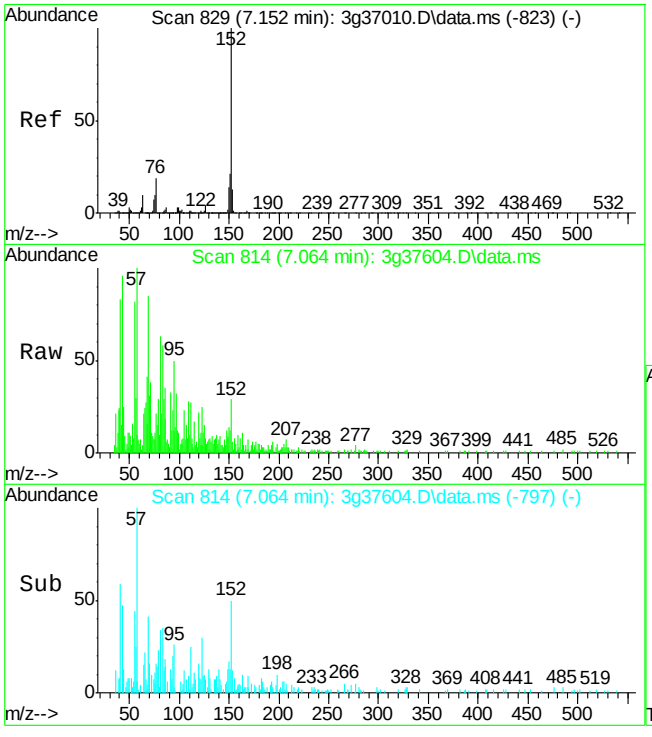


#50
Biphenyl
Concen: 0.8150 ppm
RT: 6.723 min Scan# 756
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:154 Resp: 23946

Ion	Ratio	Lower	Upper
154	100		
153	45.4	21.4	61.4
76	25.8	5.2	45.2

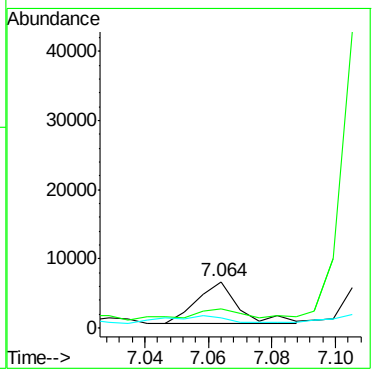


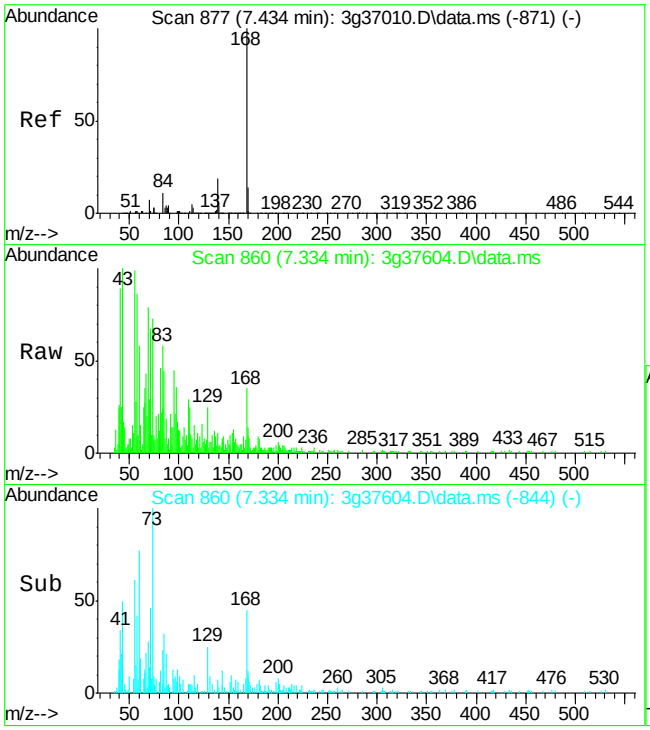


#55
Acenaphthylene
Concen: 0.5627 ppm
RT: 7.064 min Scan# 814
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:152 Resp: 5493

Ion	Ratio	Lower	Upper
152	100		
151	32.0	1.0	41.0
153	30.5	0.0	33.2

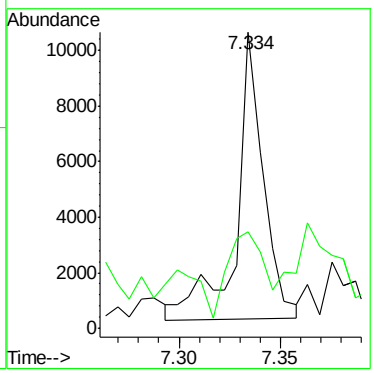


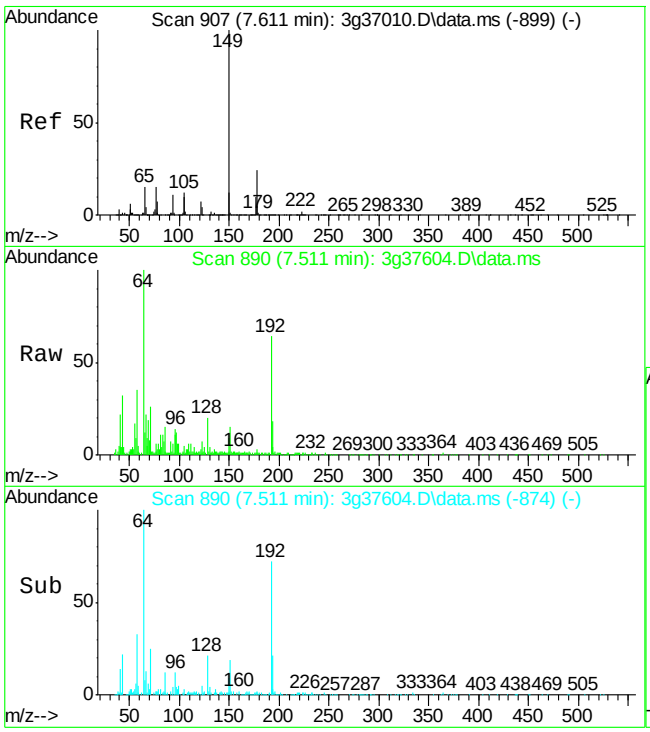


#60
Dibenzofuran
Concen: 0.1763 ppm
RT: 7.334 min Scan# 860
Delta R.T. -0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:168 Resp: 9492

Ion	Ratio	Lower	Upper
168	100		
139	40.8	14.4	54.4

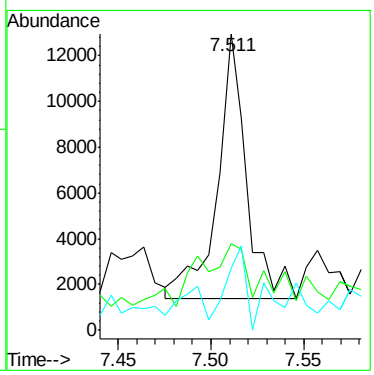




#63
Diethylphthalate
Concen: Below ppm
RT: 7.511 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:149 Resp: 12737

Ion	Ratio	Lower	Upper
149	100		
177	48.9	3.6	43.6#
150	23.2	0.0	32.5



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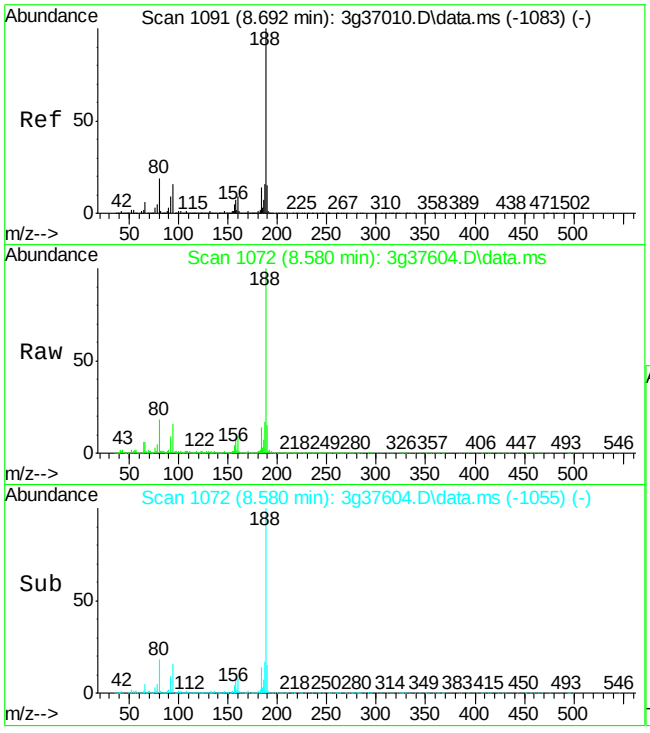
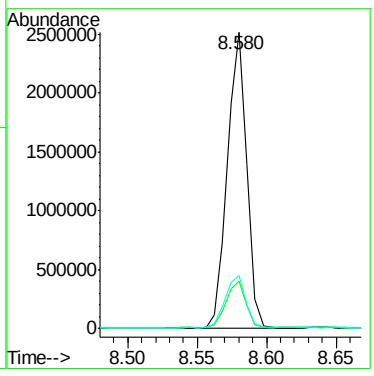
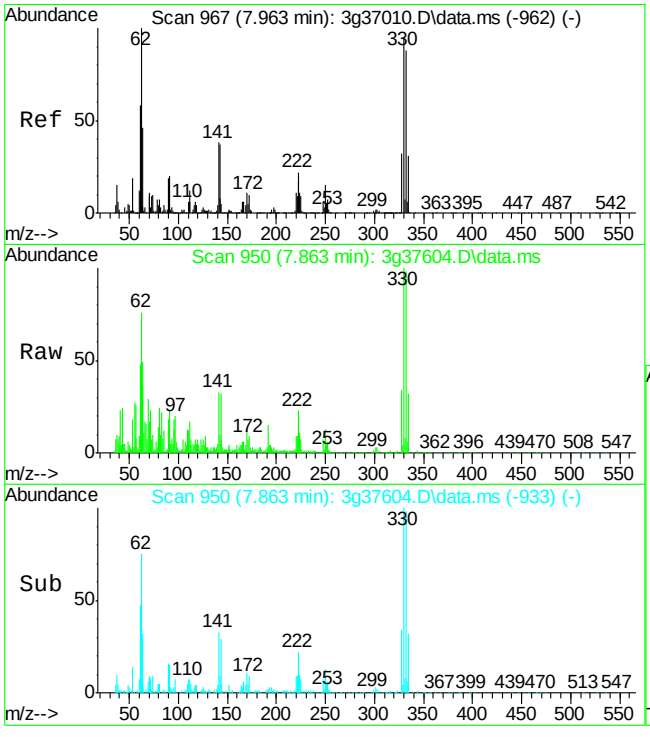


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.580 min Scan# 1072
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:188 Resp: 2454003

Ion	Ratio	Lower	Upper
188	100		
94	15.9	0.0	35.1
80	18.5	0.0	37.9

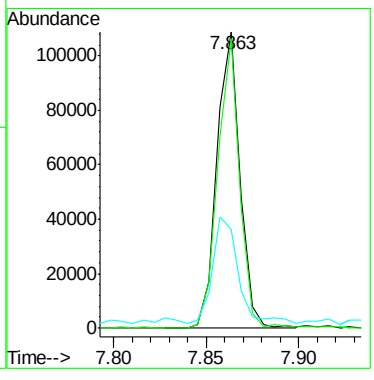


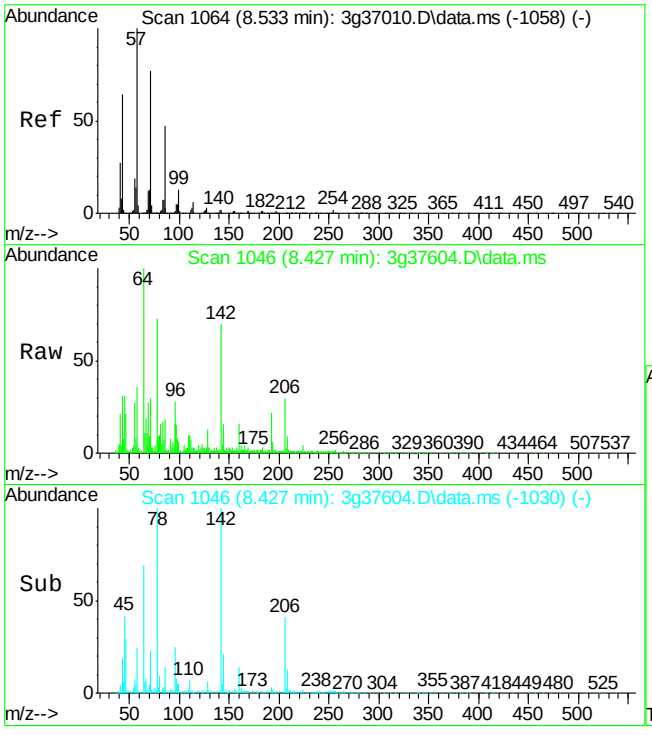


#69
2,4,6-Tribromophenol
Concen: 16.4661 ppm
RT: 7.863 min Scan# 950
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:330 Resp: 94228

Ion	Ratio	Lower	Upper
330	100		
332	92.7	74.8	112.2
141	40.3	33.8	50.6

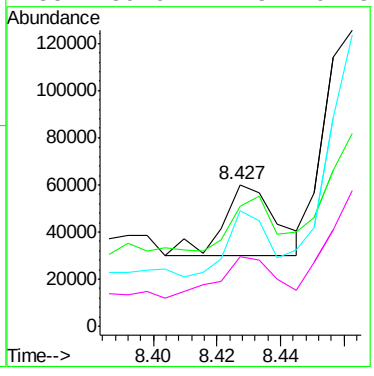


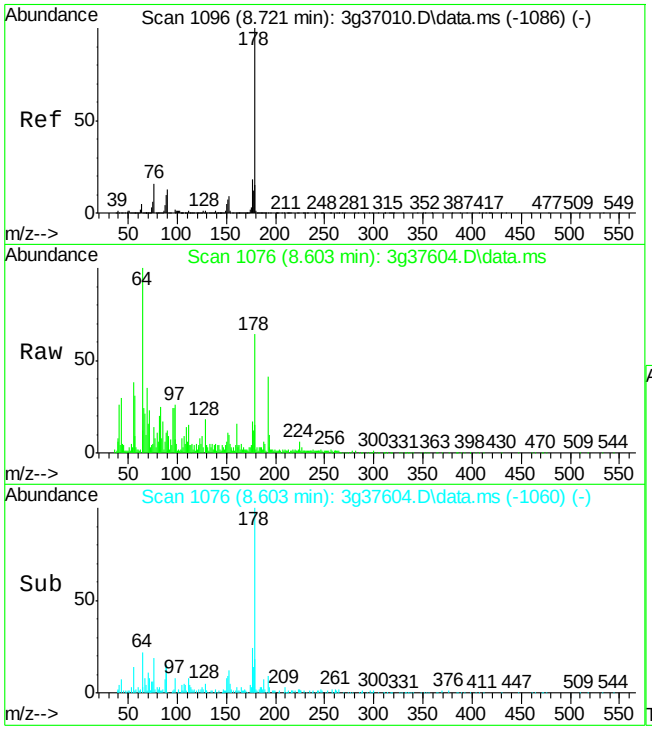


#78
n-Octadecane
Concen: 0.7069 ppm
RT: 8.427 min Scan# 1046
Delta R.T. -0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion: 57 Resp: 35756

Ion	Ratio	Lower	Upper
57	100		
43	60.9	43.2	83.2
71	69.6	55.6	95.6
85	59.6	27.3	67.3

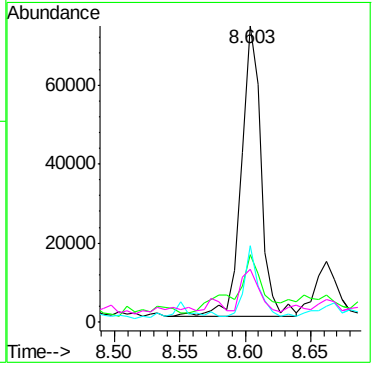


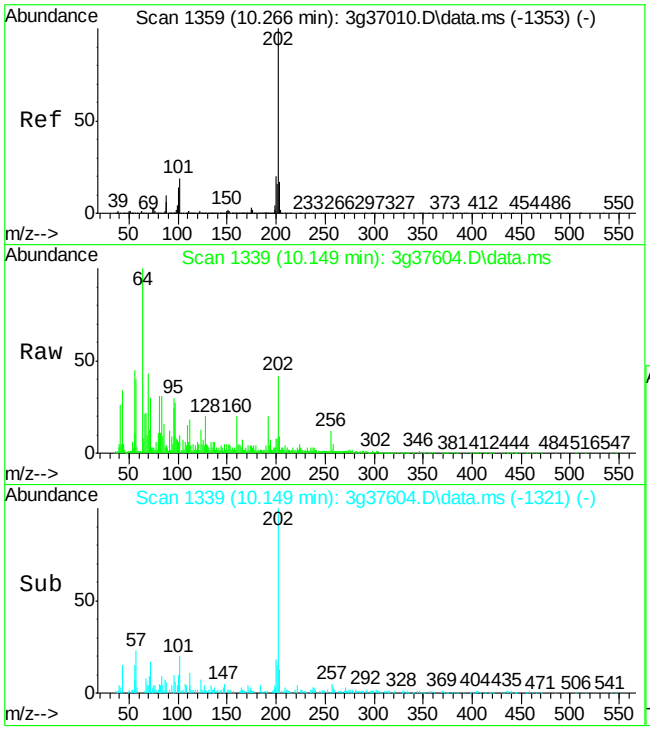


#79
Phenanthrene
Concen: 1.1244 ppm
RT: 8.603 min Scan# 1076
Delta R.T. -0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:178 Resp: 77337

Ion	Ratio	Lower	Upper
178	100		
179	28.5	0.0	35.6
176	17.2	0.0	38.7
177	13.1	0.0	31.8

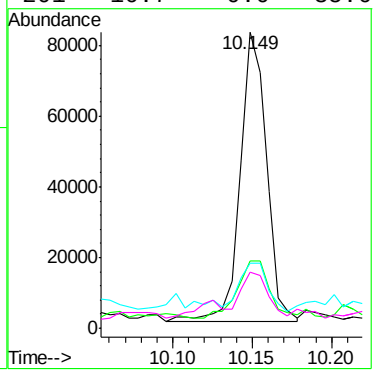


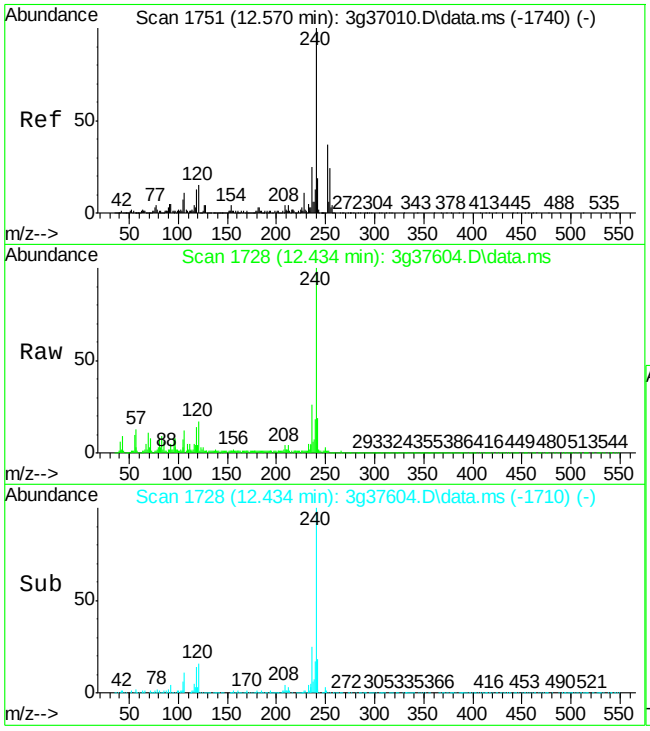


#83
Fluoranthene
Concen: 1.3159 ppm
RT: 10.149 min Scan# 1339
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:202 Resp: 94577

Ion	Ratio	Lower	Upper
202	100		
101	24.8	0.0	38.8
203	17.9	0.0	37.1
201	16.7	0.0	35.6

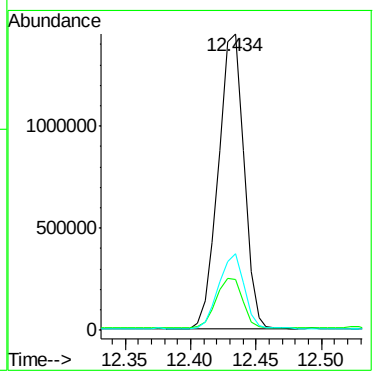




#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.434 min Scan# 1728
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:240 Resp: 1967320

Ion	Ratio	Lower	Upper
240	100		
120	17.6	0.0	36.6
236	25.4	4.3	44.3



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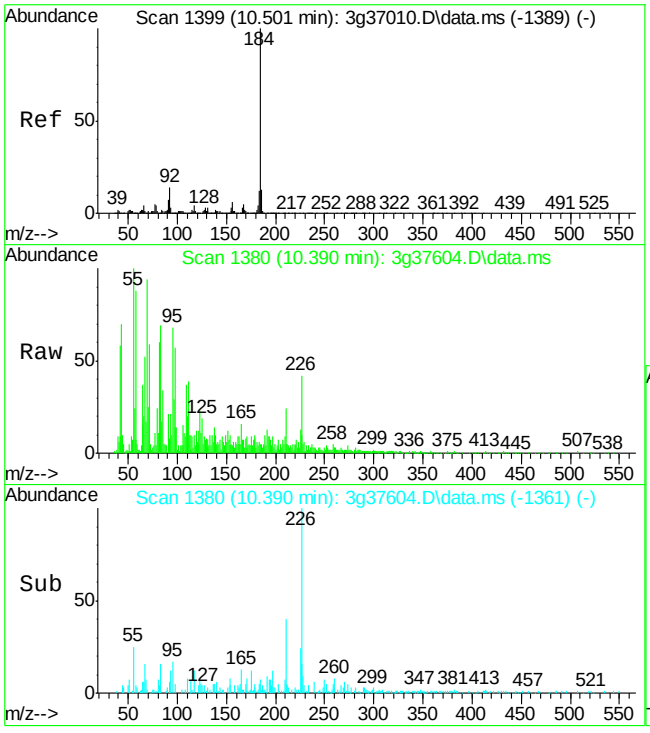
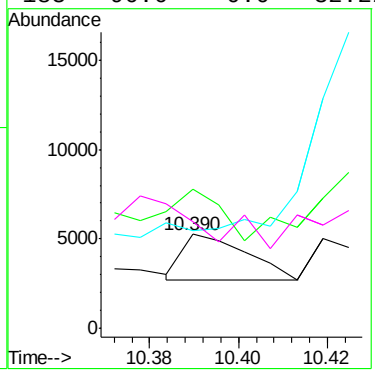
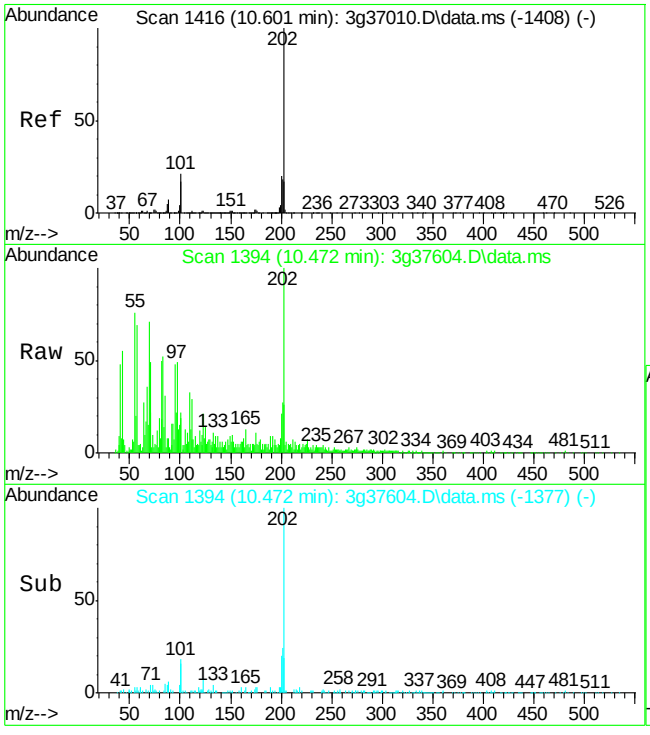


#85
Benzidine
Concen: Below ppm
RT: 10.390 min Scan# 1380
Delta R.T. 0.012 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:184 Resp: 2557

Ion	Ratio	Lower	Upper
184	100		
92	323.9	0.0	34.2#
185	0.0	0.0	33.2
183	96.6	0.0	32.2#

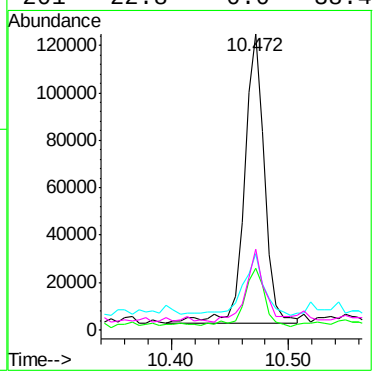


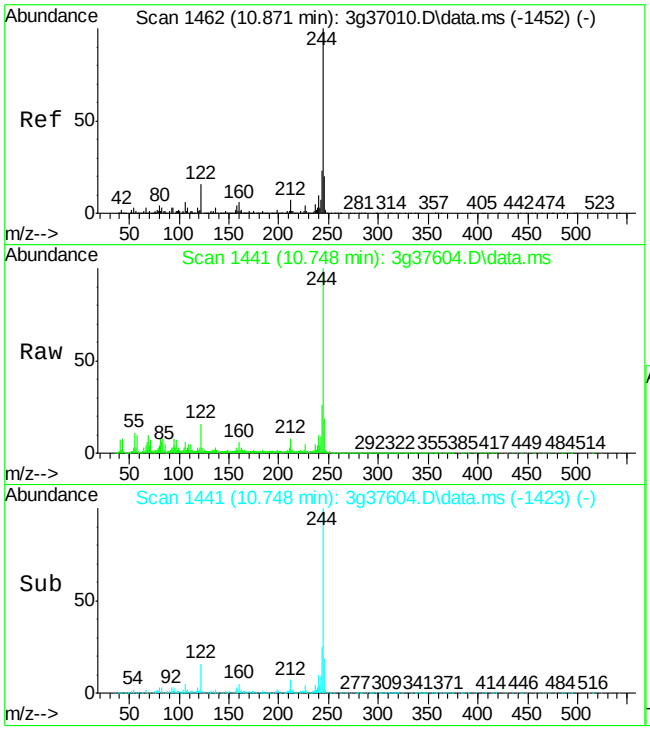


#86
Pyrene
Concen: 2.0130 ppm
RT: 10.472 min Scan# 1394
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:202 Resp: 147386

Ion	Ratio	Lower	Upper
202	100		
200	20.4	0.0	39.9
203	22.1	0.0	37.7
201	22.8	0.0	38.4

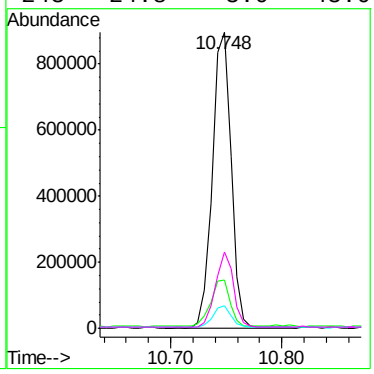


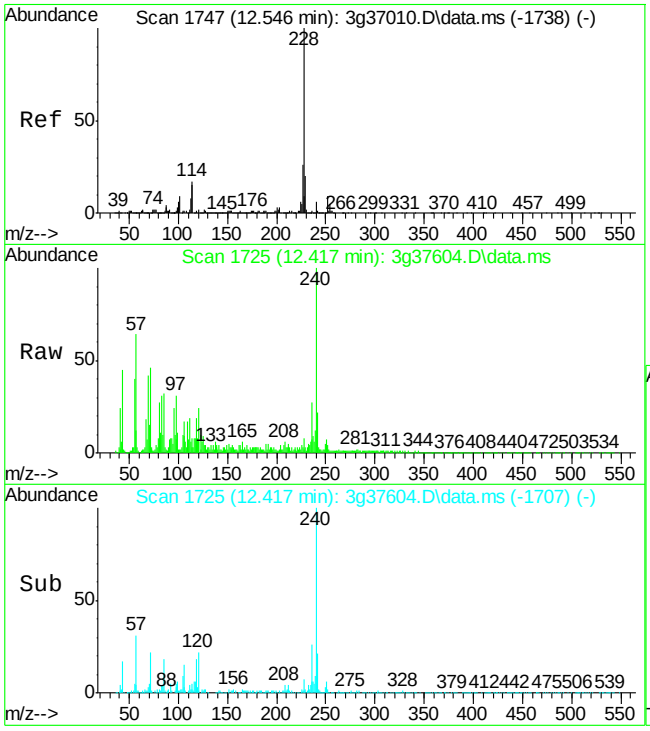


#87
Terphenyl-d14
Concen: 21.1205 ppm
RT: 10.748 min Scan# 1441
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:244 Resp: 1042403

Ion	Ratio	Lower	Upper
244	100		
122	16.5	0.0	35.4
212	7.2	0.0	27.0
243	24.8	3.0	43.0

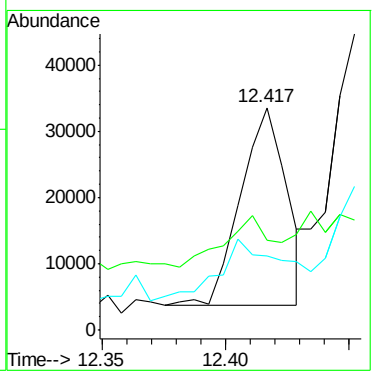


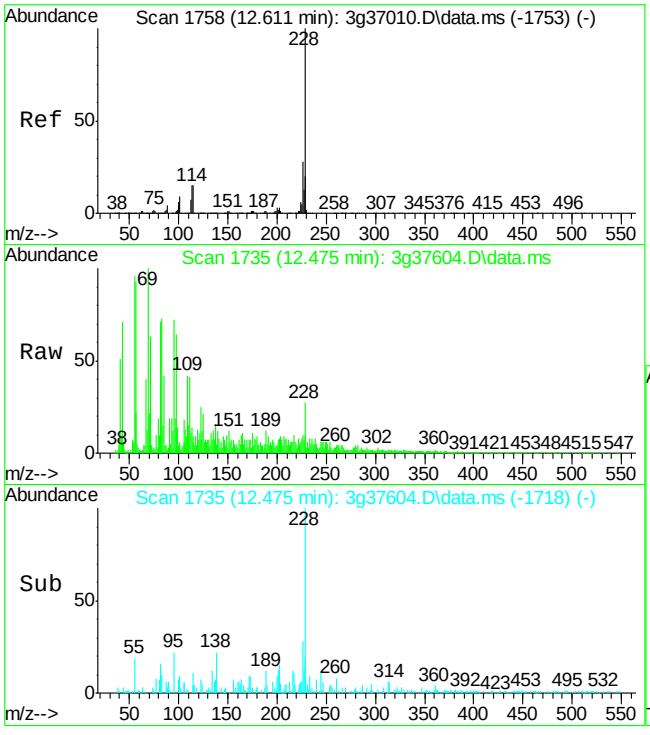


#90
Benzo(a)anthracene
Concen: 0.6049 ppm
RT: 12.417 min Scan# 1725
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:228 Resp: 38452

Ion	Ratio	Lower	Upper
228	100		
229	26.0	0.0	40.0
226	39.7	6.1	46.1

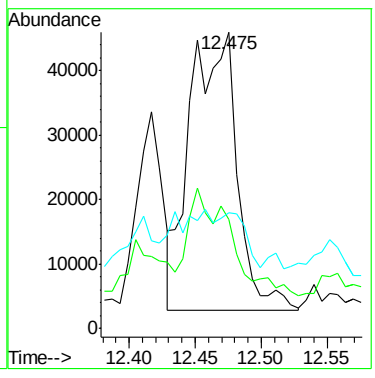


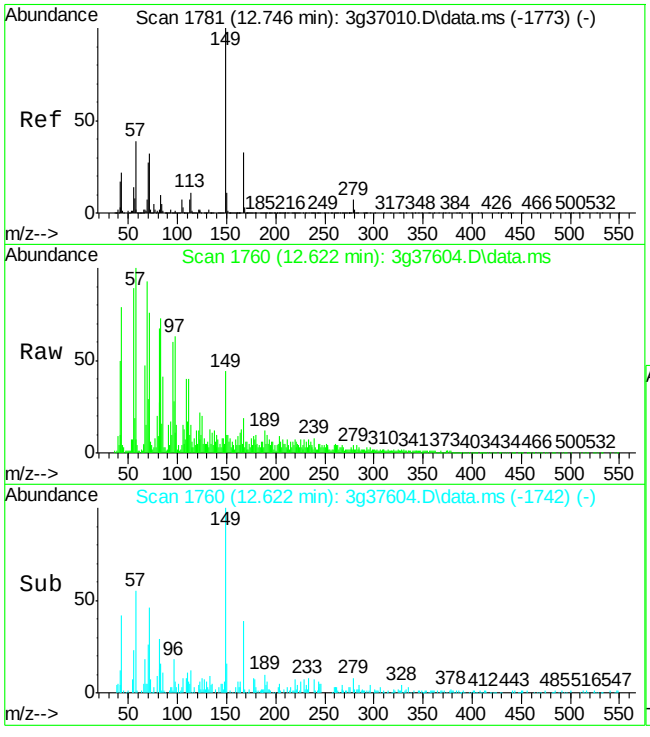


#91
Chrysene
Concen: 1.7271 ppm m
RT: 12.475 min Scan# 1735
Delta R.T. 0.000 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:228 Resp: 106734

Ion	Ratio	Lower	Upper
228	100		
226	5.7	8.0	48.0#
229	3.5	0.0	39.8

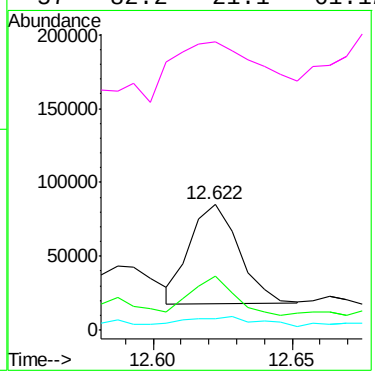


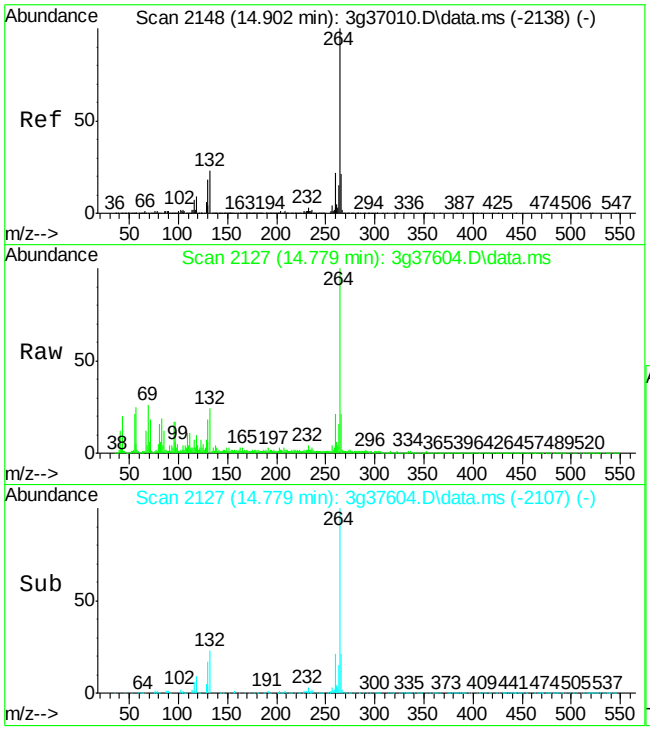


#92
Bis(2-ethylhexyl)phthalate
Concen: 2.0314 ppm
RT: 12.622 min Scan# 1760
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:149 Resp: 81406

Ion	Ratio	Lower	Upper
149	100		
167	35.1	13.6	53.6
279	13.9	0.0	27.3
57	82.2	21.1	61.1#

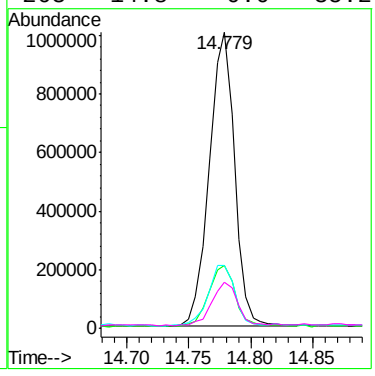


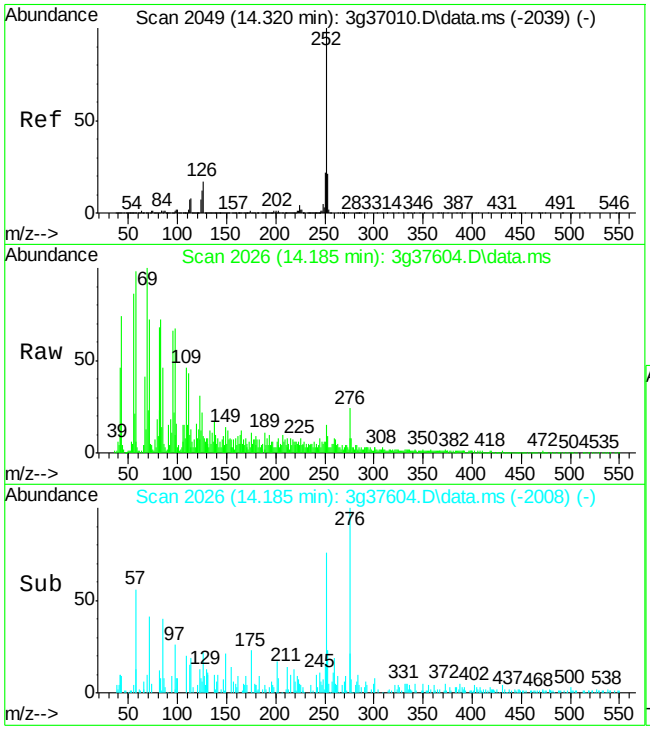


#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.779 min Scan# 2127
Delta R.T. 0.018 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:264 Resp: 1444212

Ion	Ratio	Lower	Upper
264	100		
260	21.7	1.3	41.3
265	21.7	0.2	40.2
263	14.8	0.0	35.2

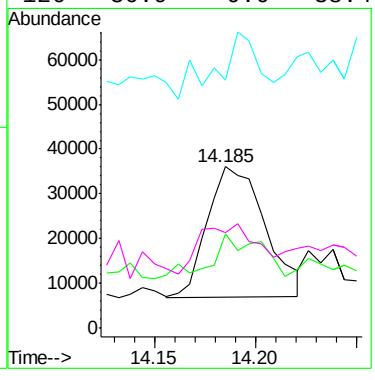


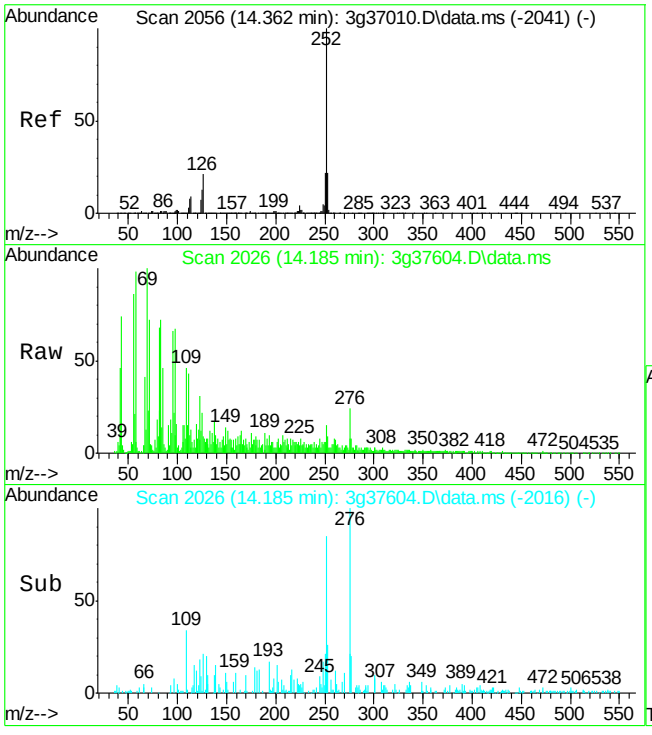


#95
Benzo(b)fluoranthene
Concen: 1.2365 ppm
RT: 14.185 min Scan# 2026
Delta R.T. 0.006 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:252 Resp: 57912

Ion	Ratio	Lower	Upper
252	100		
253	27.1	1.3	41.3
125	19.7	0.0	33.8
126	36.9	0.0	38.4

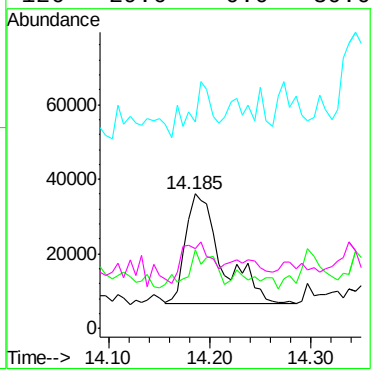




#97
Benzo(b&k)fluoranthene
Concen: 1.5333 ppm
RT: 14.185 min Scan# 2026
Delta R.T. -0.041 min
Lab File: 3g37604.D
Acq: 7 Aug 18 11:38 pm

Tgt Ion:252 Resp: 72170

Ion	Ratio	Lower	Upper
252	100		
253	18.7	0.0	30.5
125	18.0	0.0	26.5
126	29.6	0.0	30.0



9.1.10

9

Manual Integrations APPROVED (compounds with "m" flag)
Janis Kardatzke
08/09/18 18:10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37605.D
Acq On : 8 Aug 2018 12:05 am
Operator : DONC
Sample : DA7701-11, 2x
Misc : OP16681,E3G1870,30.00,,,1,2
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 08 10:14:45 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.960	152	716513	40.0000	ppm	0.00
26) Naphthalene-d8	5.877	136	2723775	40.0000	ppm	0.00
44) Acenaphthene-d10	7.170	164	1384978	40.0000	ppm	0.00
67) Phenanthrene-d10	8.580	188	2504271	40.0000	ppm	0.00
84) Chrysene-d12	12.428	240	2099659	40.0000	ppm	0.00
93) Perylene-d12	14.767	264	1566246	40.0000	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	4.056	112	513888	15.3858	ppm	0.01
Spiked Amount 50.000	Range 1 - 250		Recovery = 30.78%			
8) Phenol-d5	4.749	99	864698	17.4807	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 34.96%			
27) Nitrobenzene-d5	5.360	82	698909	14.8921	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 29.78%			
49) 2-Fluorobiphenyl	6.647	172	1127505	23.6518	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 47.30%			
69) 2,4,6-Tribromophenol	7.863	330	132602	22.7067	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 45.42%			
87) Terphenyl-d14	10.742	244	1206196	22.8988	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 45.80%			

Target Compounds							Qvalue
14) n-decane	4.825	43	5648	Below	Cal		89
42) 2-Methylnaphthalene	6.388	142	7308	0.1473	ppm		85
43) 1-Methylnaphthalene	6.459	142	5182	0.1111	ppm		79
50) Biphenyl	6.723	154	7719	0.5443	ppm		90
63) Diethylphthalate	7.510	149	4110	Below	Cal	#	81
78) n-Octadecane	8.427	57	30514	0.5911	ppm		85
79) Phenanthrene	8.603	178	74675	1.0639	ppm		94
80) Anthracene	8.662	178	16304	0.2247	ppm		80
83) Fluoranthene	10.137	202	108974	1.4858	ppm		98
85) Benzidine	10.342	184	1022	Below	Cal	#	1
86) Pyrene	10.466	202	113042	1.4466	ppm		96
90) Benzo(a)anthracene	12.411	228	55704	0.8210	ppm		82
91) Chrysene	12.469	228	62008	0.9402	ppm		84
92) Bis(2-ethylhexyl)phtha...	12.616	149	104597	2.4456	ppm	#	67
95) Benzo(b)fluoranthene	14.173	252	54169	1.0665	ppm		86
96) Benzo(k)fluoranthene	14.214	252	23922m	0.4718	ppm		
97) Benzo(b&k)fluoranthene	14.173	252	70161	1.3745	ppm		73
98) Benzo(a)pyrene	14.673	252	46239	0.9445	ppm	#	62
101) Benzo(g,h,i)perylene	16.606	276	44086	1.0101	ppm		85

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

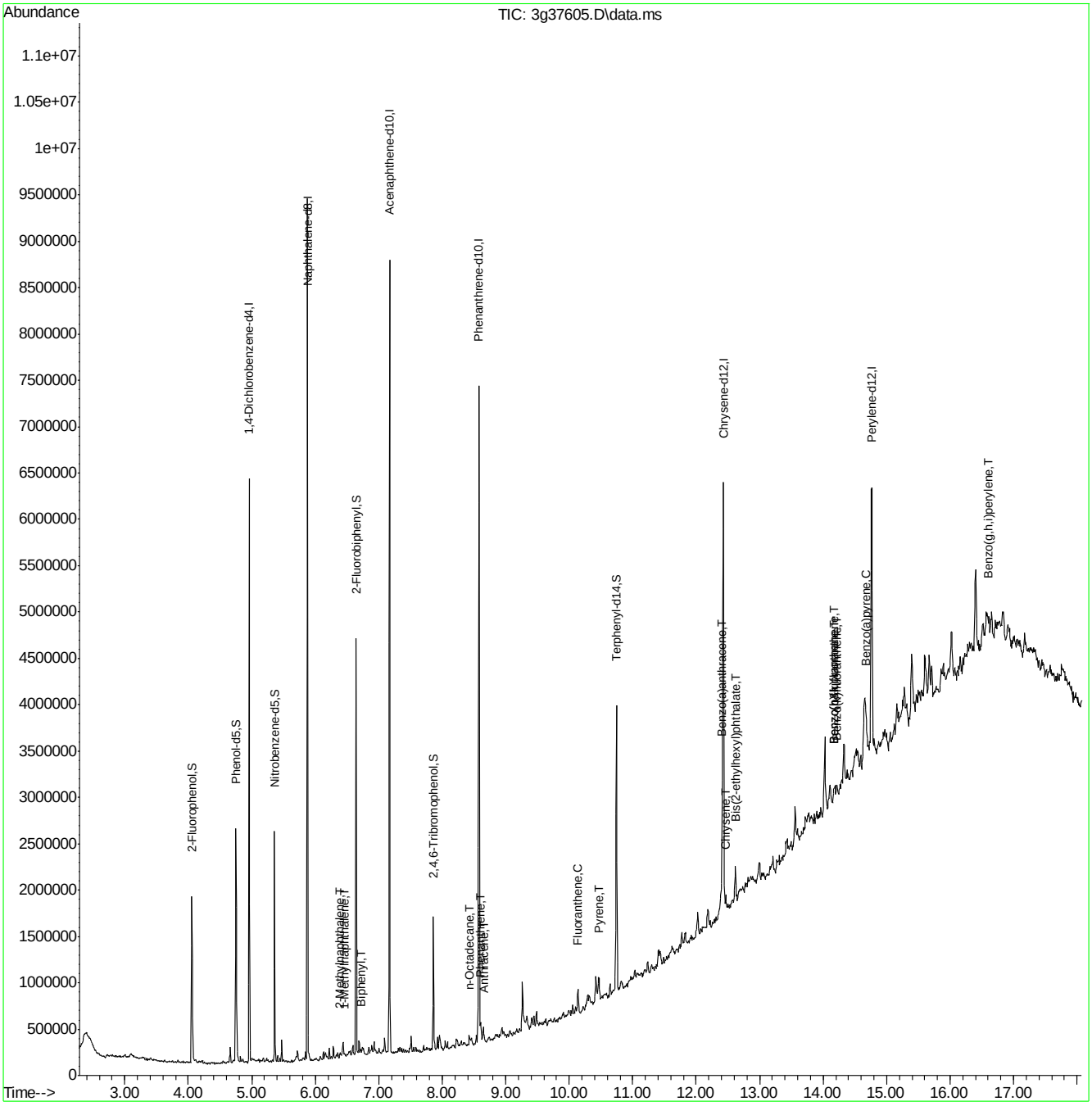
9.1.11

9

Quantitation Report (QT Reviewed)

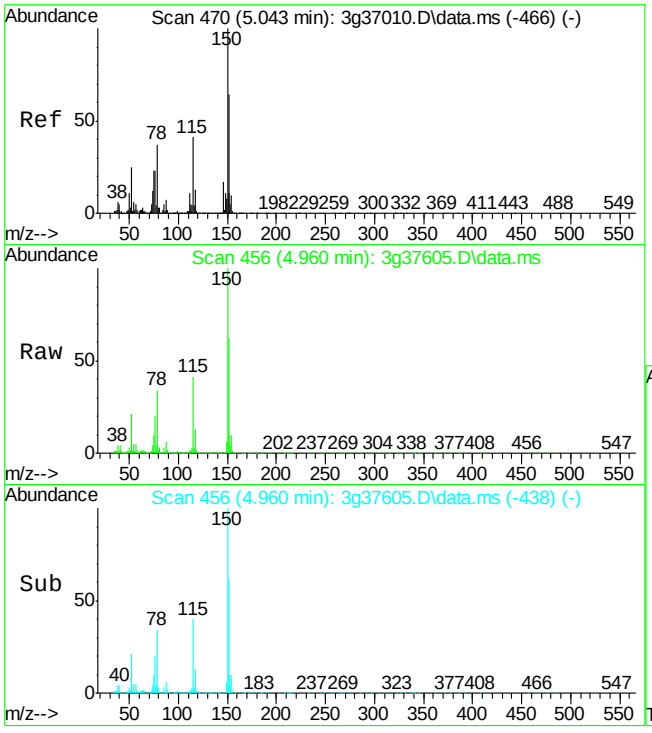
Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37605.D
Acq On : 8 Aug 2018 12:05 am
Operator : DONC
Sample : DA7701-11, 2x
Misc : OP16681,E3G1870,30.00,,,1,2
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 08 10:14:45 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



bnae3g1850.M Wed Aug 08 10:14:52 2018 3G

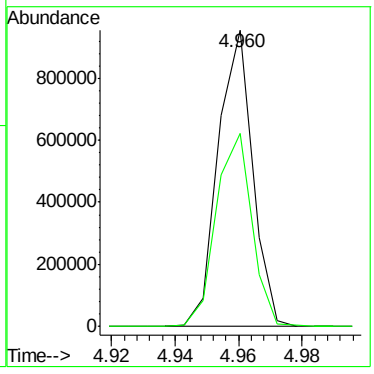
Page: 2

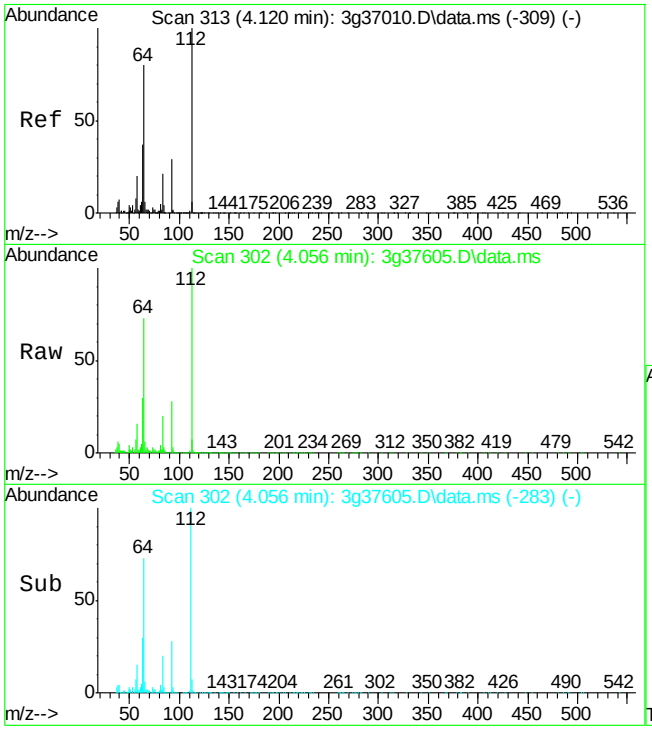


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.960 min Scan# 456
Delta R.T. 0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:152 Resp: 716513

Ion	Ratio	Lower	Upper
152	100		
115	67.2	53.0	93.0

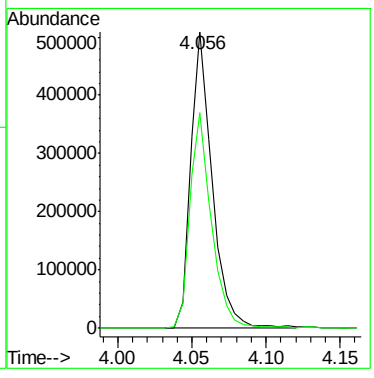


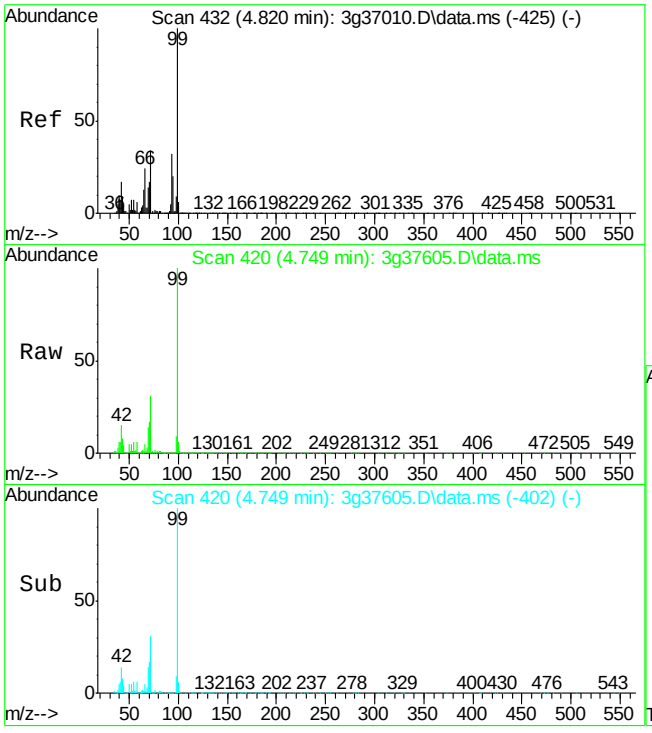


#5
2-Fluorophenol
Concen: 15.3858 ppm
RT: 4.056 min Scan# 302
Delta R.T. 0.012 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:112 Resp: 513888

Ion	Ratio	Lower	Upper
112	100		
64	73.4	58.3	98.3

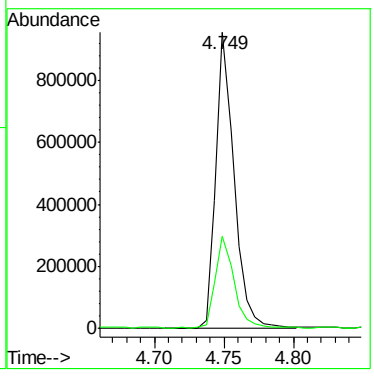


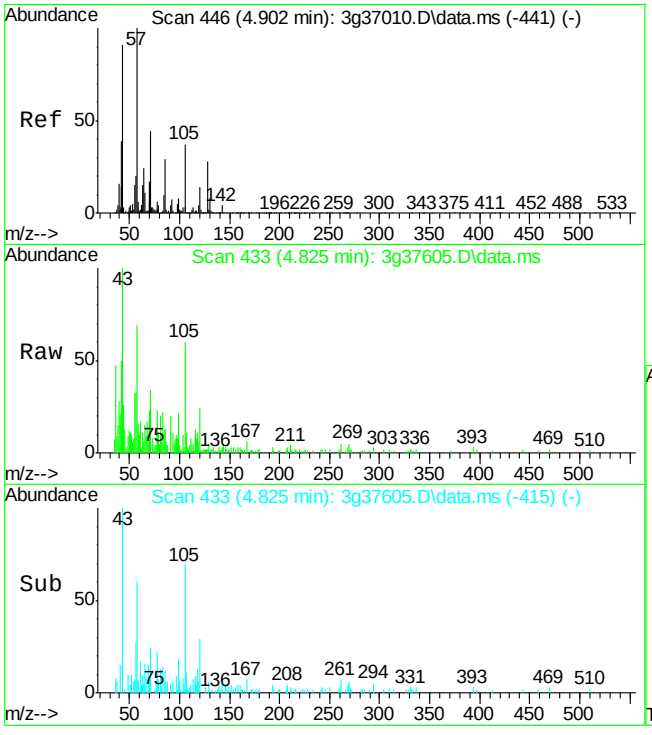


#8
Phenol-d5
Concen: 17.4807 ppm
RT: 4.749 min Scan# 420
Delta R.T. 0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion: 99 Resp: 864698

Ion	Ratio	Lower	Upper
99	100		
71	31.9	13.6	53.6

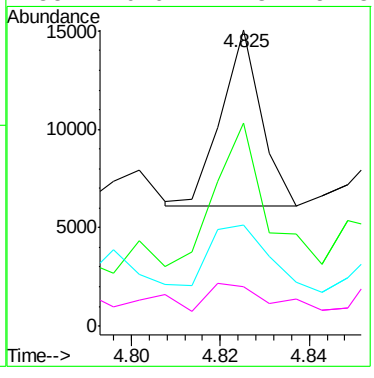


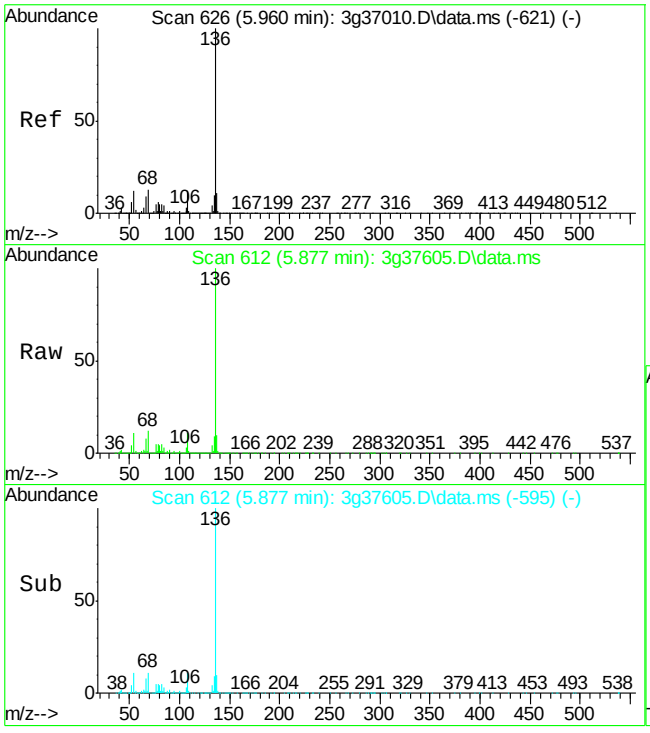


#14
n-decane
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion: 43 Resp: 5648

Ion	Ratio	Lower	Upper
43	100		
57	124.1	92.0	132.0
71	55.6	28.7	68.7
85	26.9	11.8	51.8

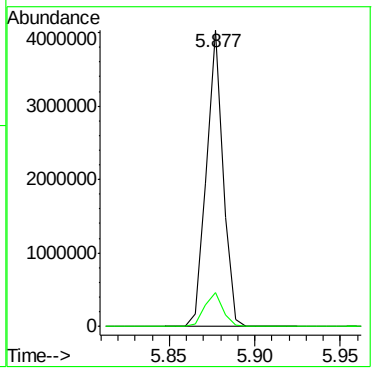


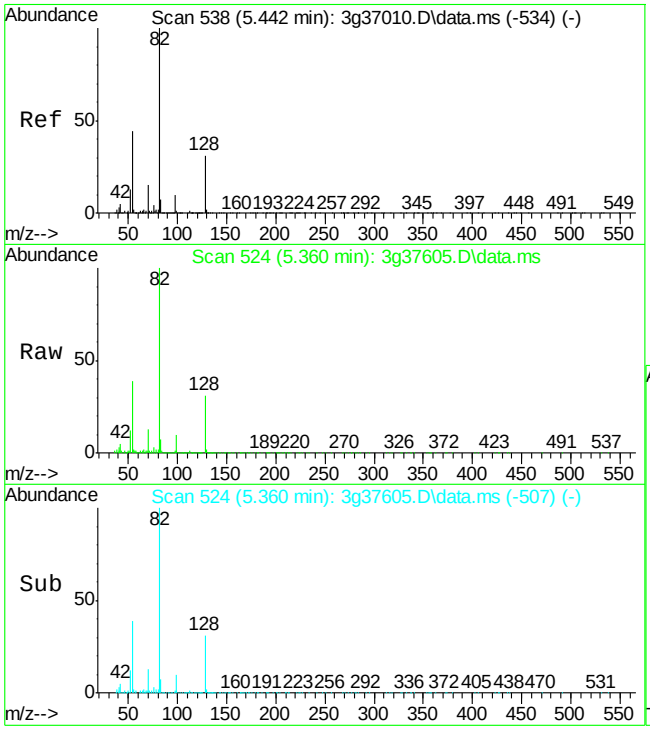


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:136 Resp: 2723775

Ion	Ratio	Lower	Upper
136	100		
68	12.3	0.0	32.4

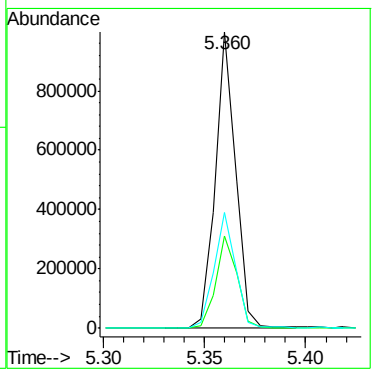




#27
Nitrobenzene-d5
Concen: 14.8921 ppm
RT: 5.360 min Scan# 524
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion: 82 Resp: 698909

Ion	Ratio	Lower	Upper
82	100		
128	32.5	10.8	50.8
54	41.1	22.9	62.9



9.1.11

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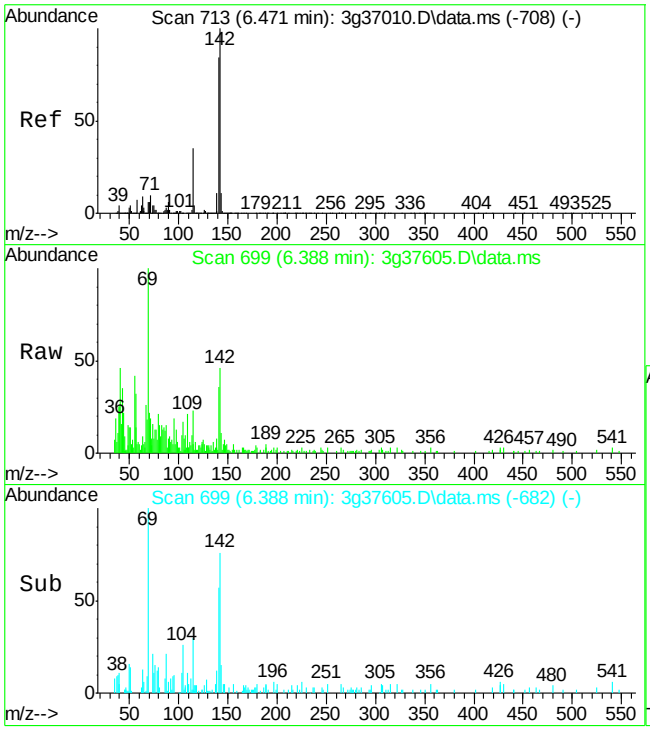
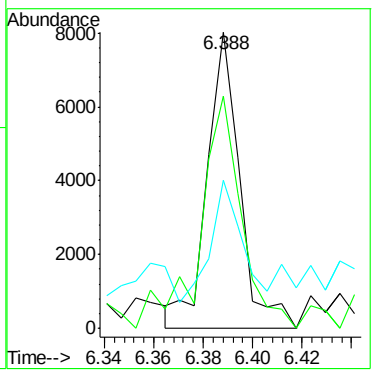
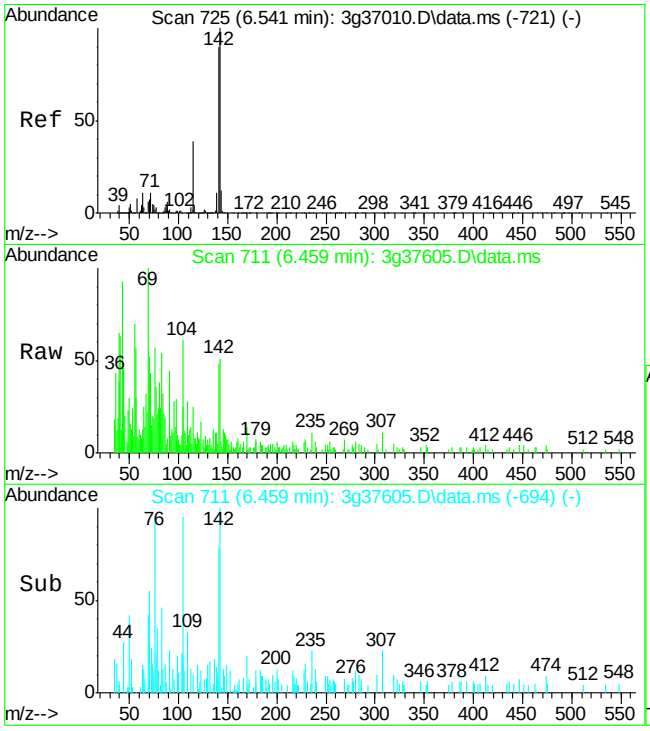


#42
2-Methylnaphthalene
Concen: 0.1473 ppm
RT: 6.388 min Scan# 699
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:142 Resp: 7308

Ion	Ratio	Lower	Upper
142	100		
141	99.1	62.4	102.4
115	39.7	15.8	55.8

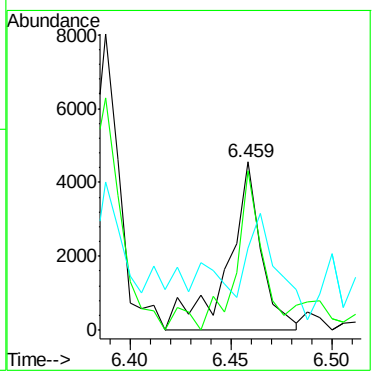




#43
1-Methylnaphthalene
Concen: 0.1111 ppm
RT: 6.459 min Scan# 711
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:142 Resp: 5182

Ion	Ratio	Lower	Upper
142	100		
141	73.0	70.2	110.2
115	56.0	19.3	59.3



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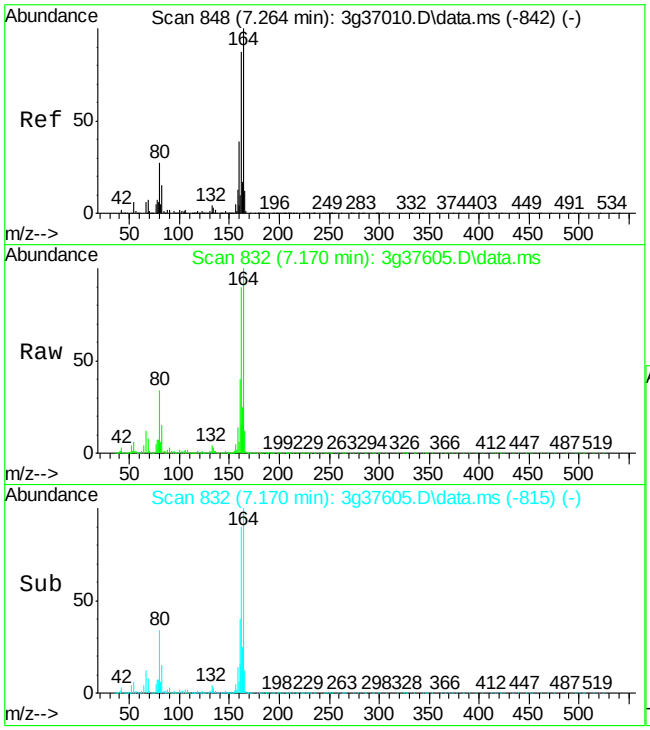
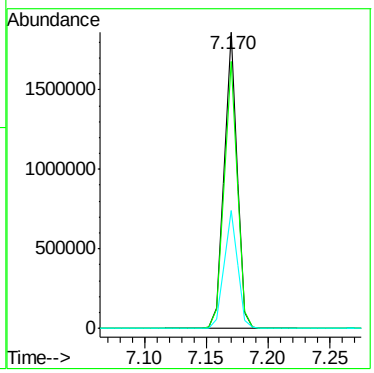
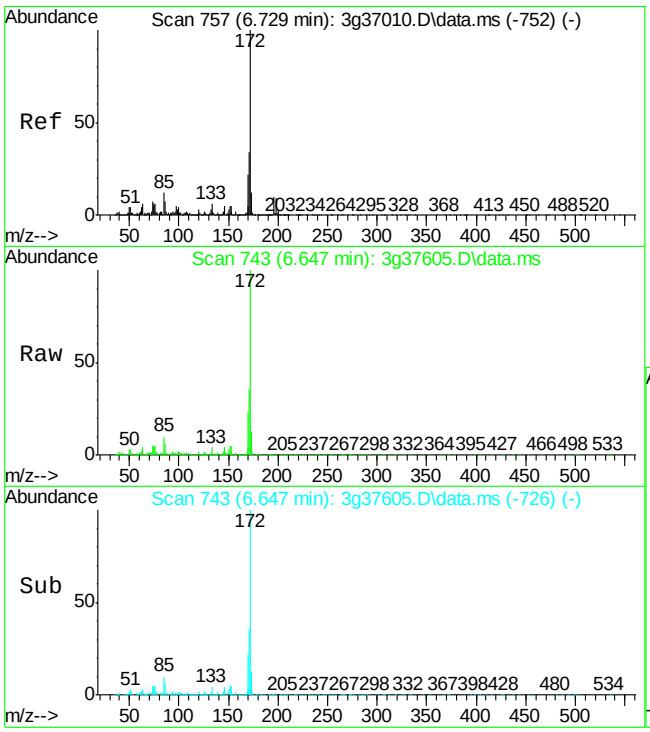


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:164 Resp: 1384978

Ion	Ratio	Lower	Upper
164	100		
162	91.9	69.6	109.6
160	41.4	20.5	60.5

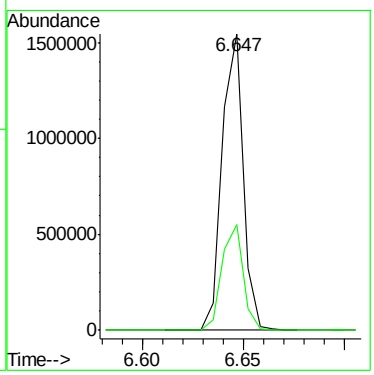


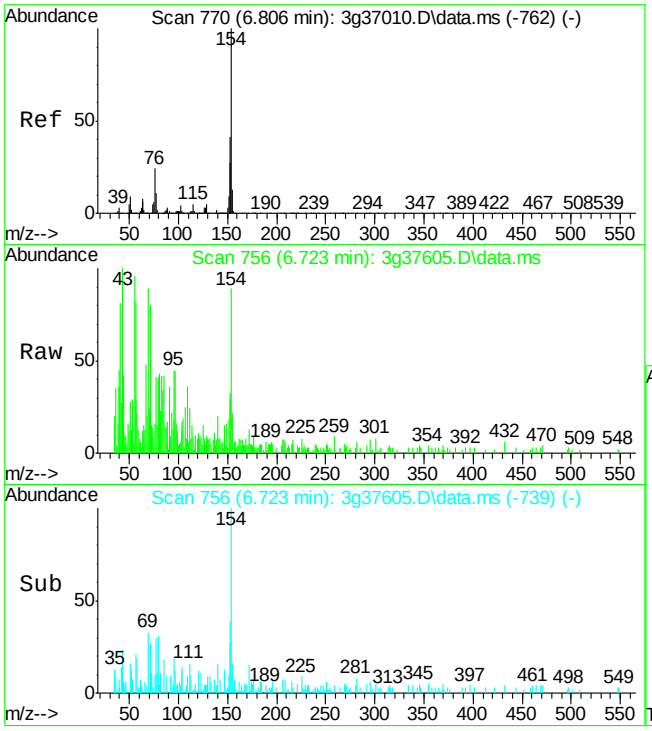


#49
2-Fluorobiphenyl
Concen: 23.6518 ppm
RT: 6.647 min Scan# 743
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:172 Resp: 1127505

Ion	Ratio	Lower	Upper
172	100		
171	36.0	14.5	54.5

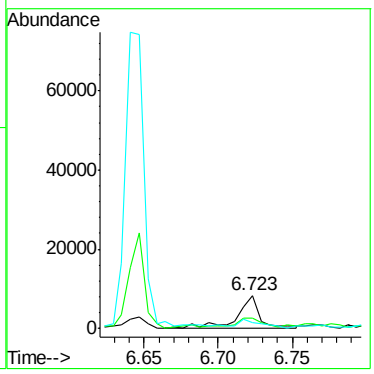


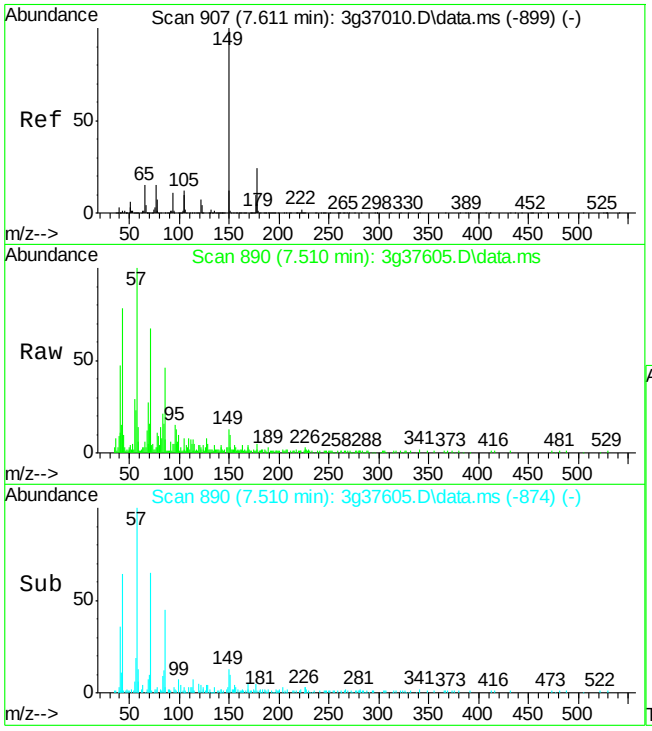


#50
Biphenyl
Concen: 0.5443 ppm
RT: 6.723 min Scan# 756
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:154 Resp: 7719

Ion	Ratio	Lower	Upper
154	100		
153	37.0	21.4	61.4
76	32.2	5.2	45.2

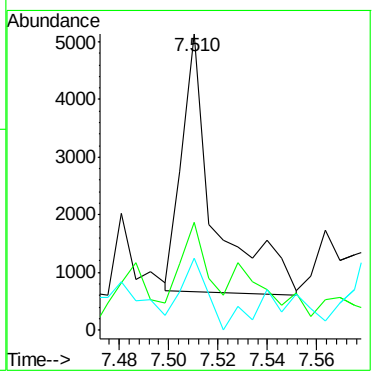




#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:149 Resp: 4110

Ion	Ratio	Lower	Upper
149	100		
177	29.5	3.6	43.6
150	0.0	0.0	32.5



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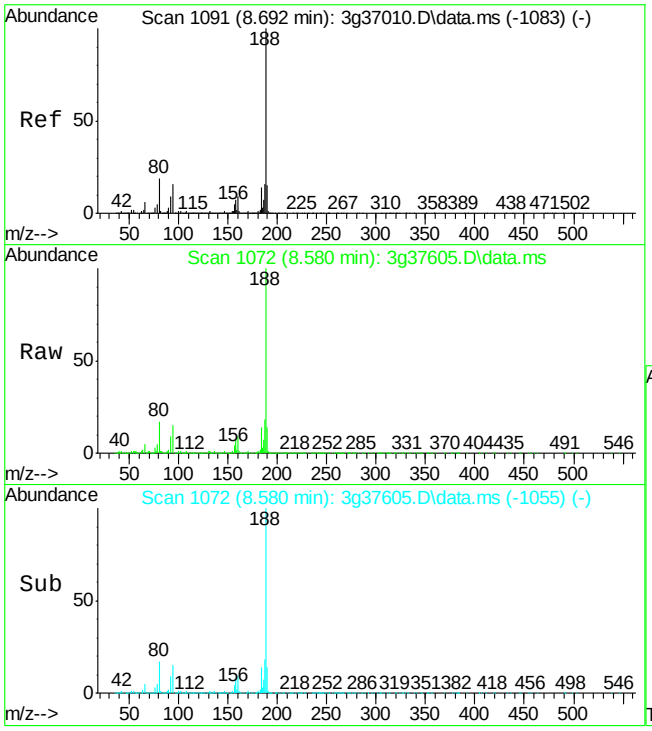
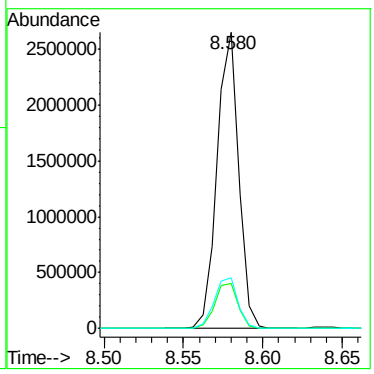
9

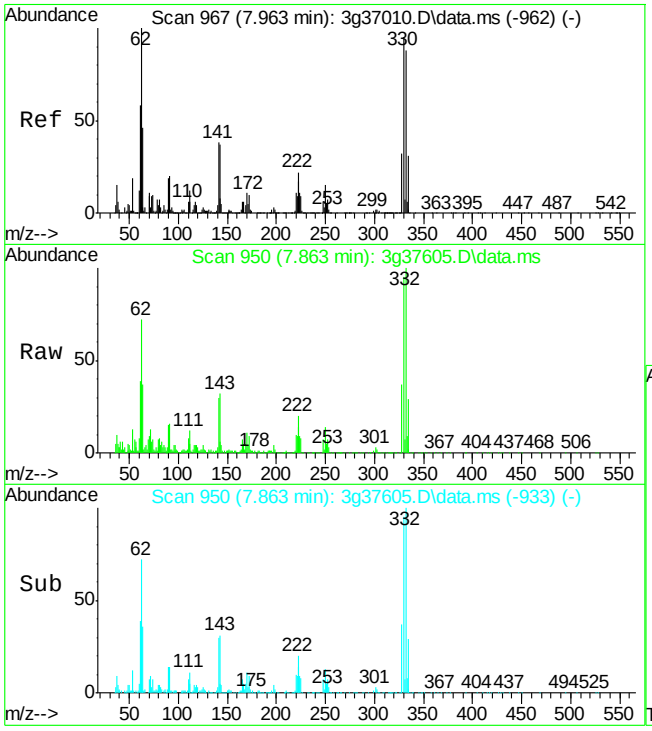


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.580 min Scan# 1072
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:188 Resp: 2504271

Ion	Ratio	Lower	Upper
188	100		
94	16.3	0.0	35.1
80	18.4	0.0	37.9

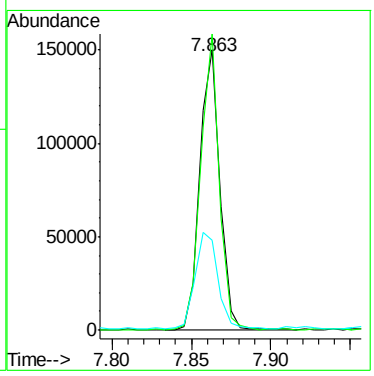


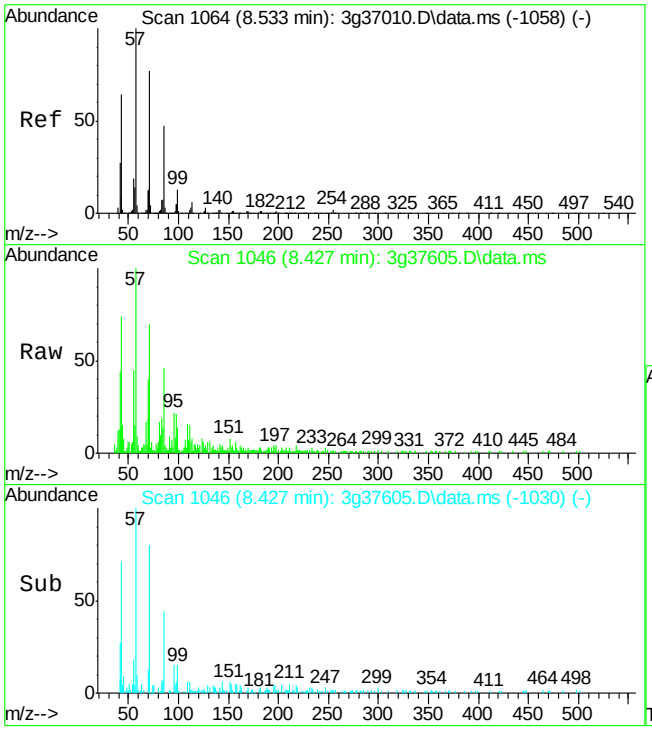


#69
2,4,6-Tribromophenol
Concen: 22.7067 ppm
RT: 7.863 min Scan# 950
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:330 Resp: 132602

Ion	Ratio	Lower	Upper
330	100		
332	97.4	74.8	112.2
141	39.8	33.8	50.6

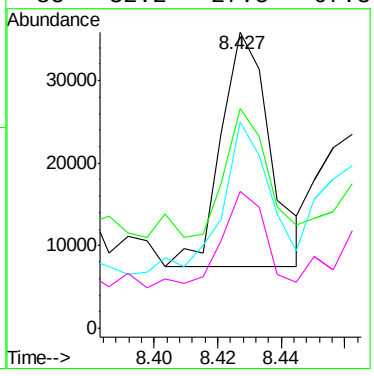


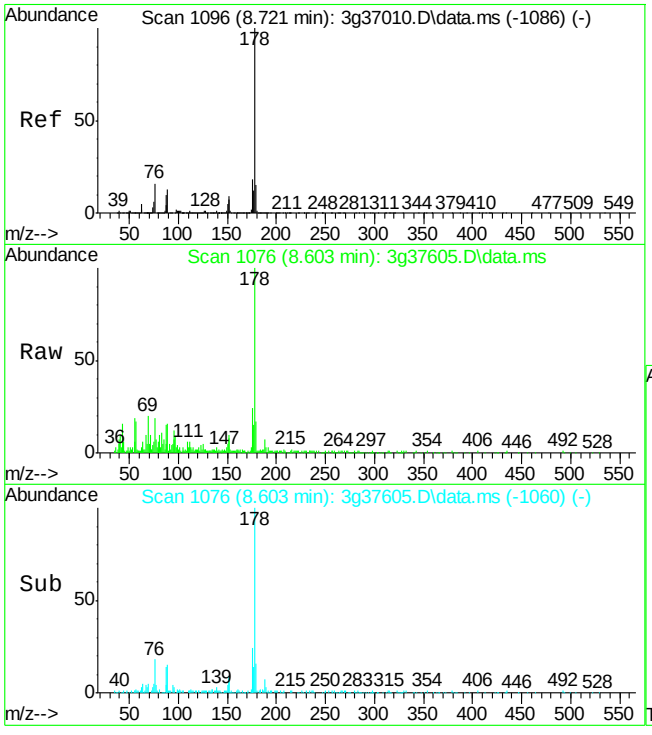


#78
n-Octadecane
Concen: 0.5911 ppm
RT: 8.427 min Scan# 1046
Delta R.T. -0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion: 57 Resp: 30514

Ion	Ratio	Lower	Upper
57	100		
43	50.8	43.2	83.2
71	66.9	55.6	95.6
85	32.2	27.3	67.3

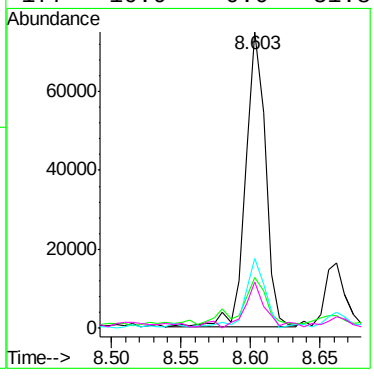


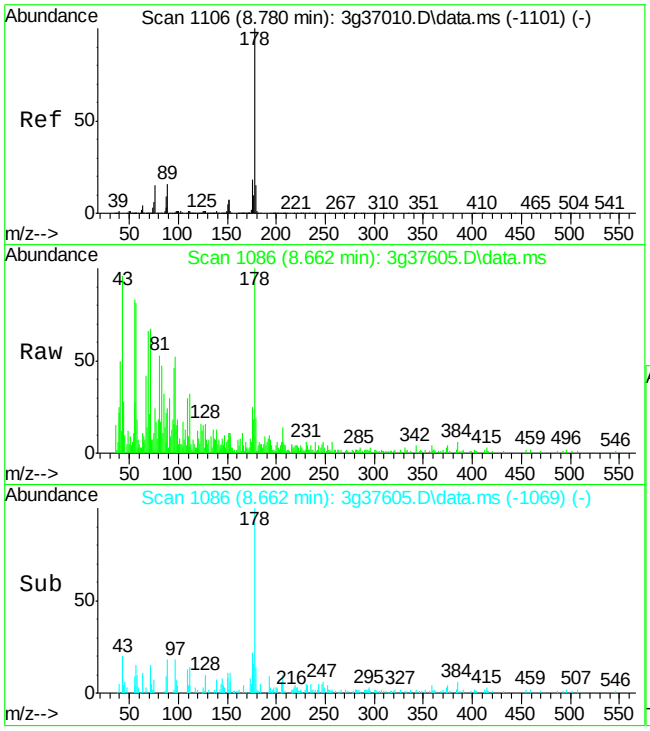


#79
Phenanthrene
Concen: 1.0639 ppm
RT: 8.603 min Scan# 1076
Delta R.T. -0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:178 Resp: 74675

Ion	Ratio	Lower	Upper
178	100		
179	16.2	0.0	35.6
176	21.6	0.0	38.7
177	16.0	0.0	31.8

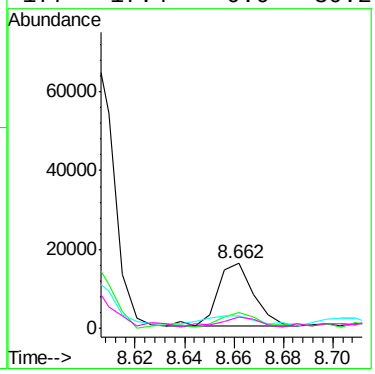


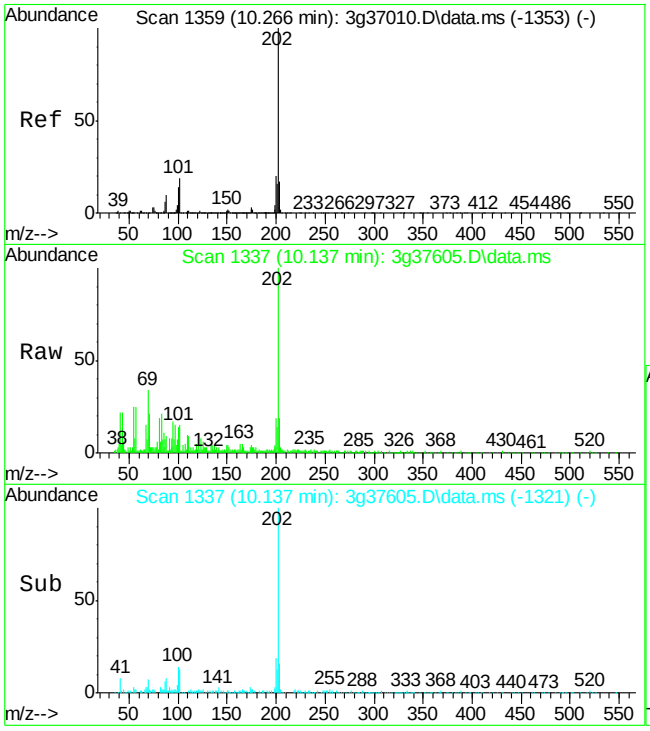


#80
Anthracene
Concen: 0.2247 ppm
RT: 8.662 min Scan# 1086
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:178 Resp: 16304

Ion	Ratio	Lower	Upper
178	100		
176	25.0	0.0	38.0
179	26.2	0.0	35.2
177	17.4	0.0	30.2

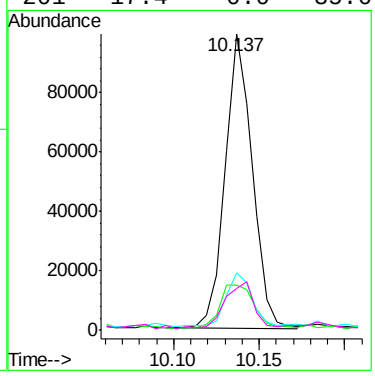


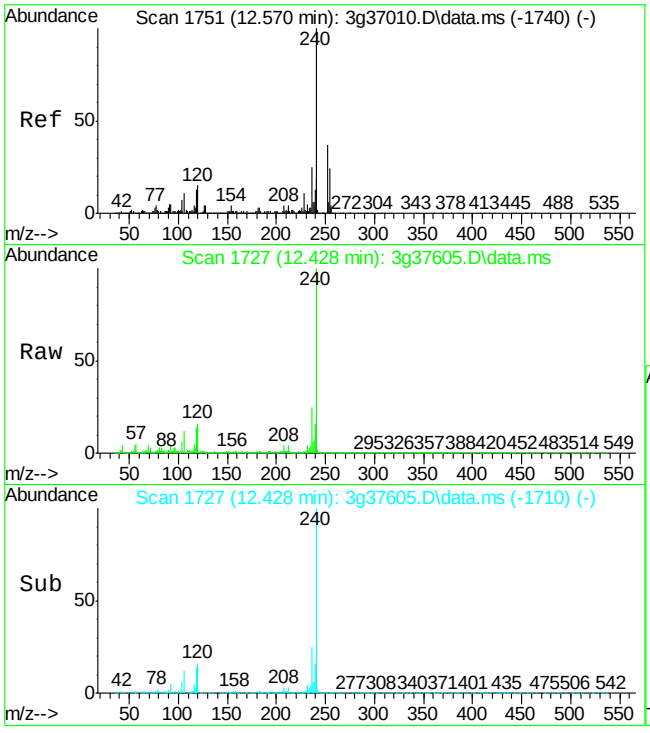


#83
Fluoranthene
Concen: 1.4858 ppm
RT: 10.137 min Scan# 1337
Delta R.T. -0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:202 Resp: 108974

Ion	Ratio	Lower	Upper
202	100		
101	19.7	0.0	38.8
203	17.3	0.0	37.1
201	17.4	0.0	35.6

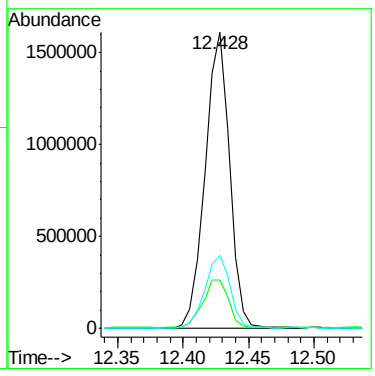


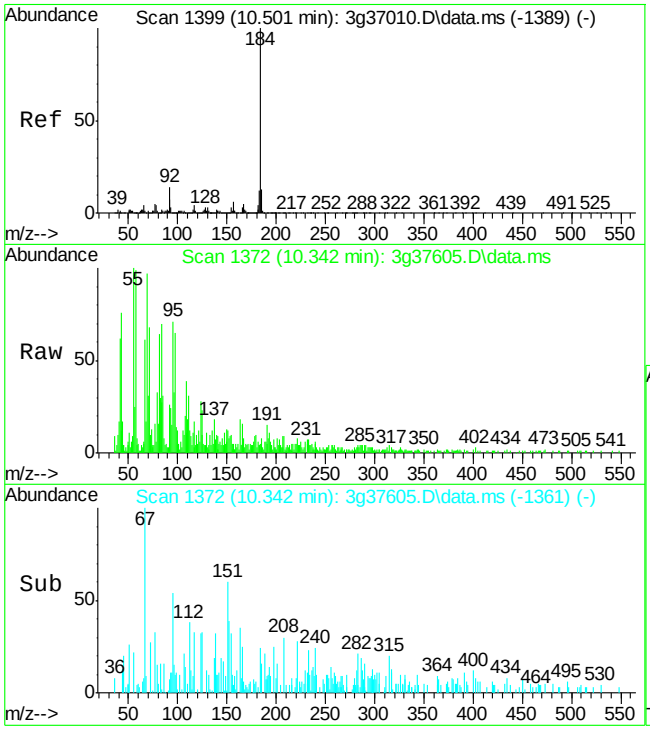


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.428 min Scan# 1727
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:240 Resp: 2099659

Ion	Ratio	Lower	Upper
240	100		
120	17.5	0.0	36.6
236	25.8	4.3	44.3

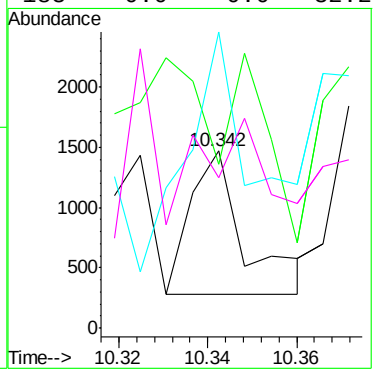


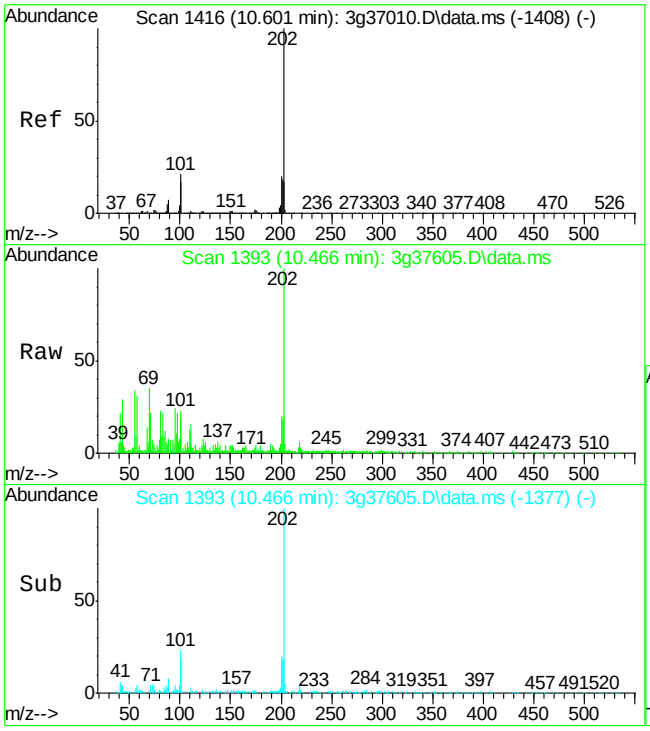


#85
Benzidine
Concen: Below ppm
RT: 10.342 min Scan# 1372
Delta R.T. -0.035 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:184 Resp: 1022

Ion	Ratio	Lower	Upper
184	100		
92	0.0	0.0	34.2
185	204.3	0.0	33.2#
183	0.0	0.0	32.2

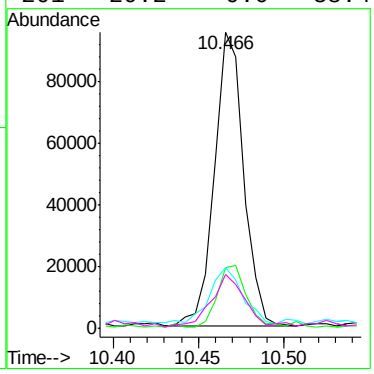


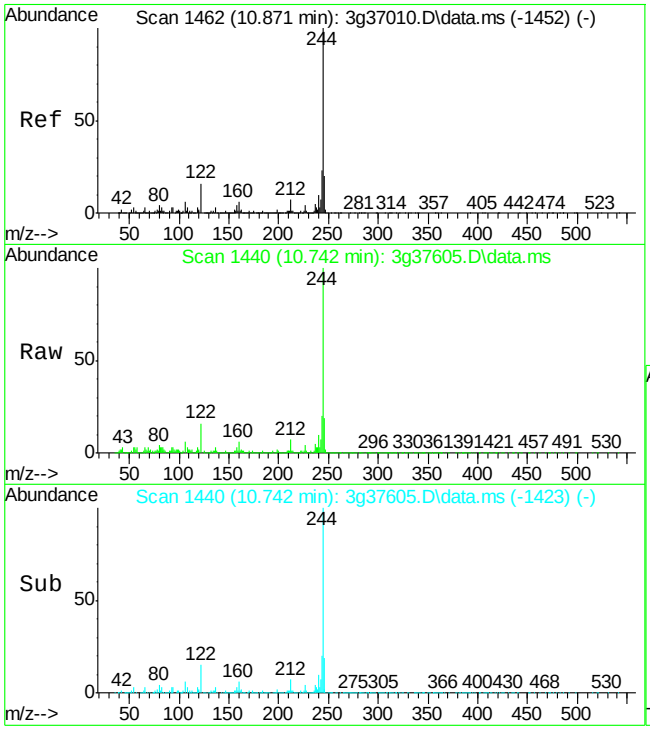


#86
Pyrene
Concen: 1.4466 ppm
RT: 10.466 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:202 Resp: 113042

Ion	Ratio	Lower	Upper
202	100		
200	20.3	0.0	39.9
203	21.5	0.0	37.7
201	20.2	0.0	38.4

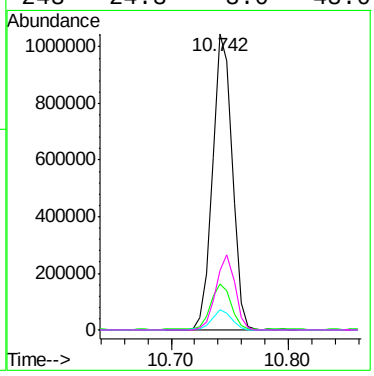


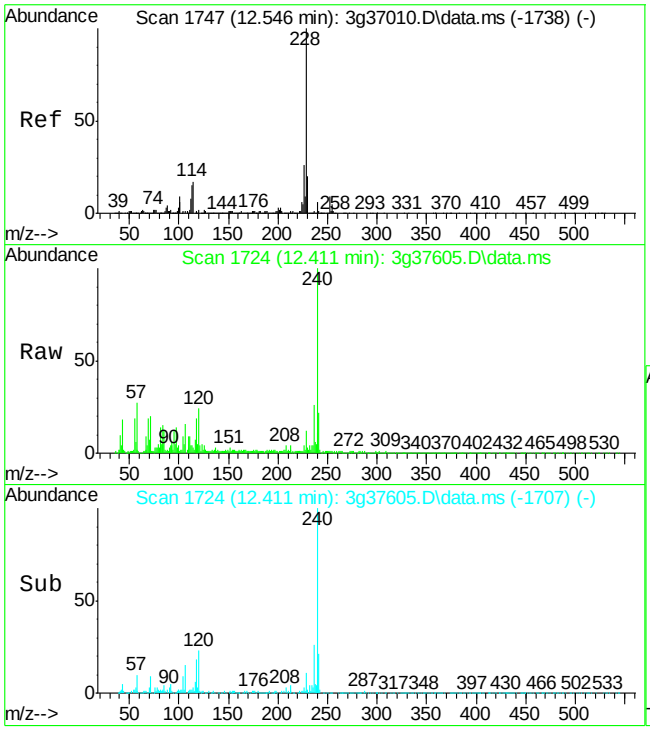


#87
Terphenyl-d14
Concen: 22.8988 ppm
RT: 10.742 min Scan# 1440
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:244 Resp: 1206196

Ion	Ratio	Lower	Upper
244	100		
122	16.0	0.0	35.4
212	6.8	0.0	27.0
243	24.3	3.0	43.0

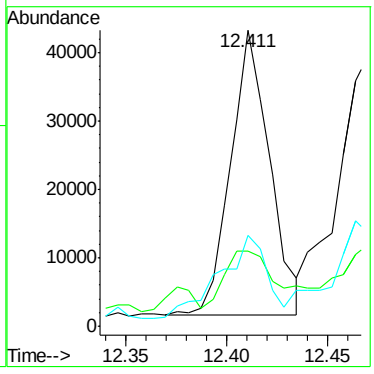


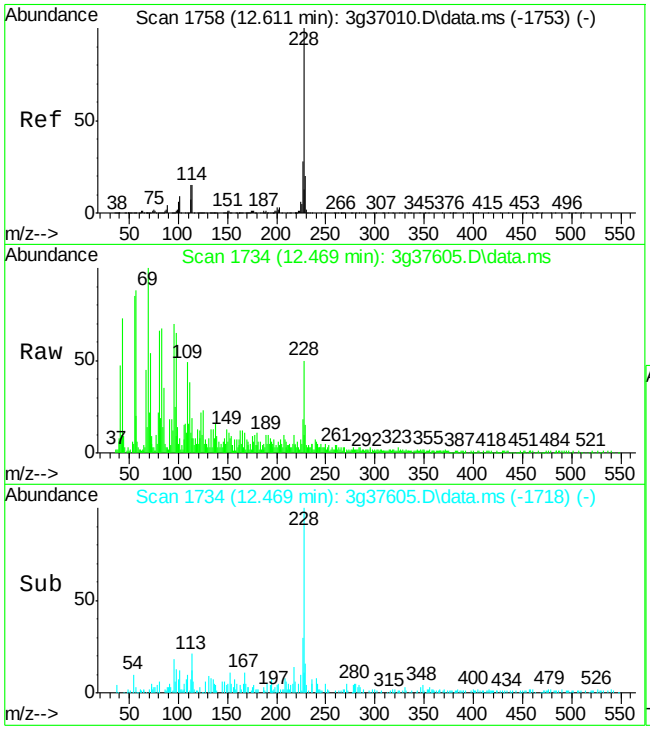


#90
Benzo(a)anthracene
Concen: 0.8210 ppm
RT: 12.411 min Scan# 1724
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:228 Resp: 55704

Ion	Ratio	Lower	Upper
228	100		
229	28.0	0.0	40.0
226	35.5	6.1	46.1

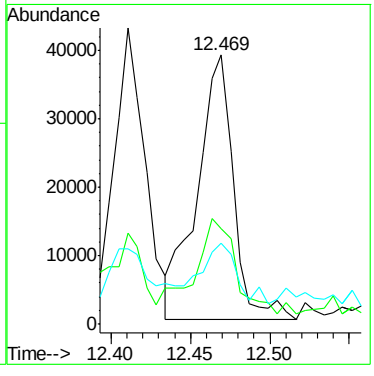


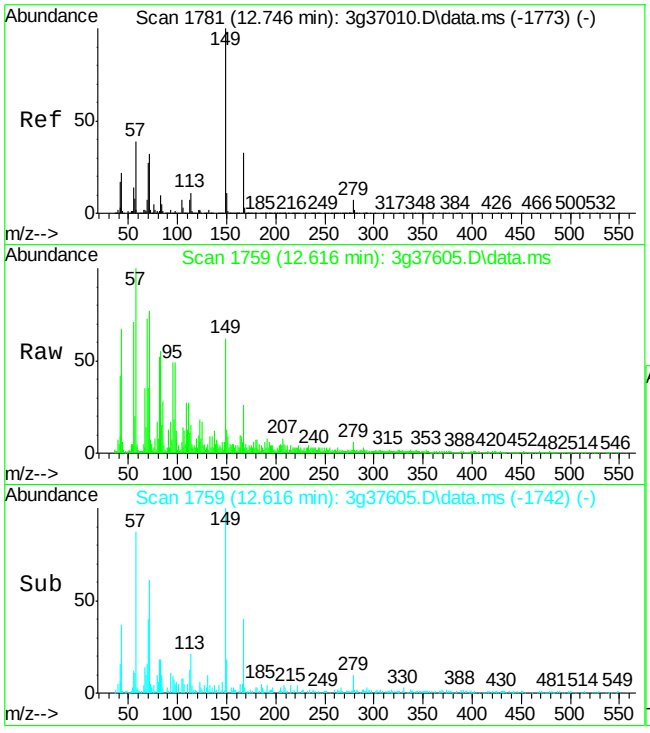


#91
Chrysene
Concen: 0.9402 ppm
RT: 12.469 min Scan# 1734
Delta R.T. -0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:228 Resp: 62008

Ion	Ratio	Lower	Upper
228	100		
226	40.0	8.0	48.0
229	23.2	0.0	39.8

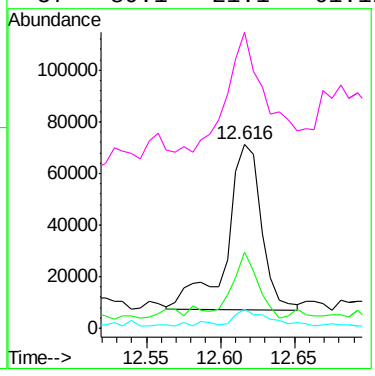


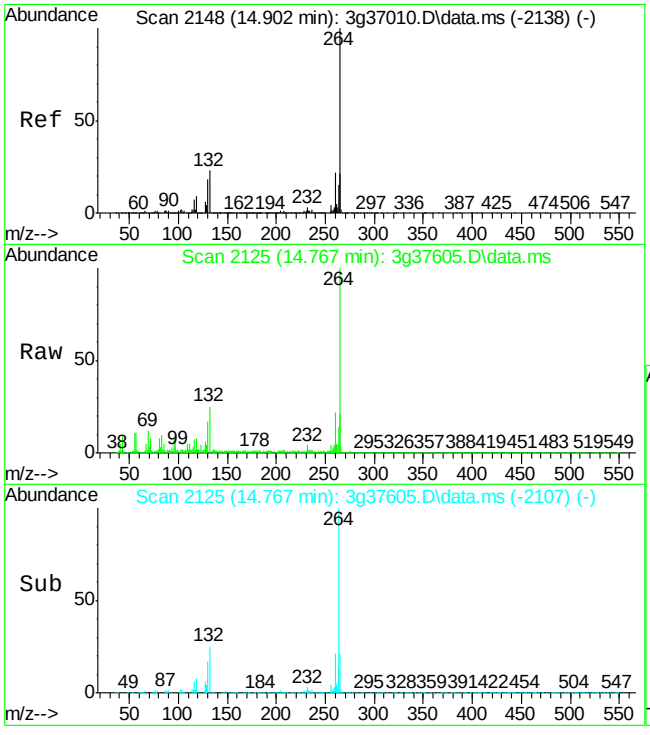


#92
Bis(2-ethylhexyl)phthalate
Concen: 2.4456 ppm
RT: 12.616 min Scan# 1759
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:149 Resp: 104597

Ion	Ratio	Lower	Upper
149	100		
167	32.1	13.6	53.6
279	9.1	0.0	27.3
57	80.1	21.1	61.1#

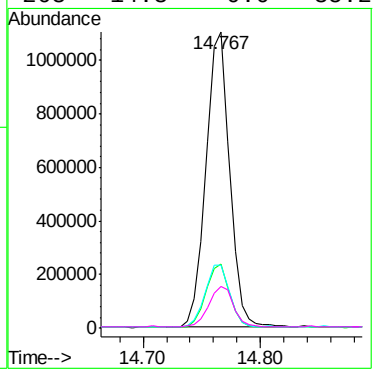


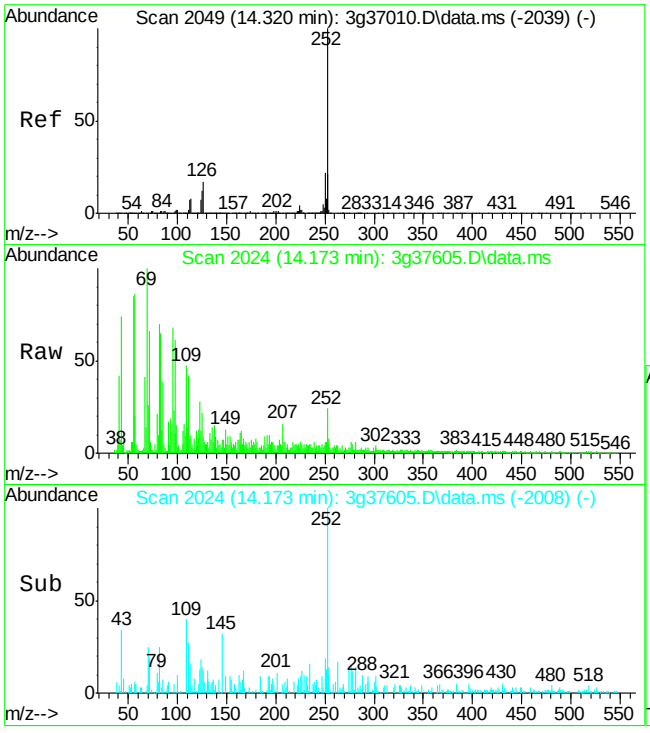


#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.767 min Scan# 2125
Delta R.T. 0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:264 Resp: 1566246

Ion	Ratio	Lower	Upper
264	100		
260	21.7	1.3	41.3
265	22.0	0.2	40.2
263	14.3	0.0	35.2

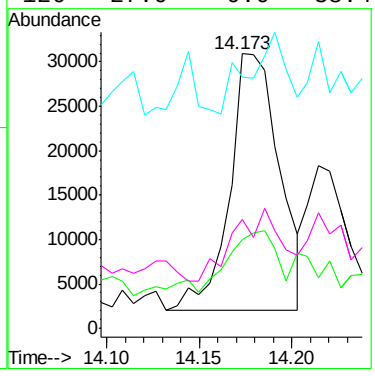


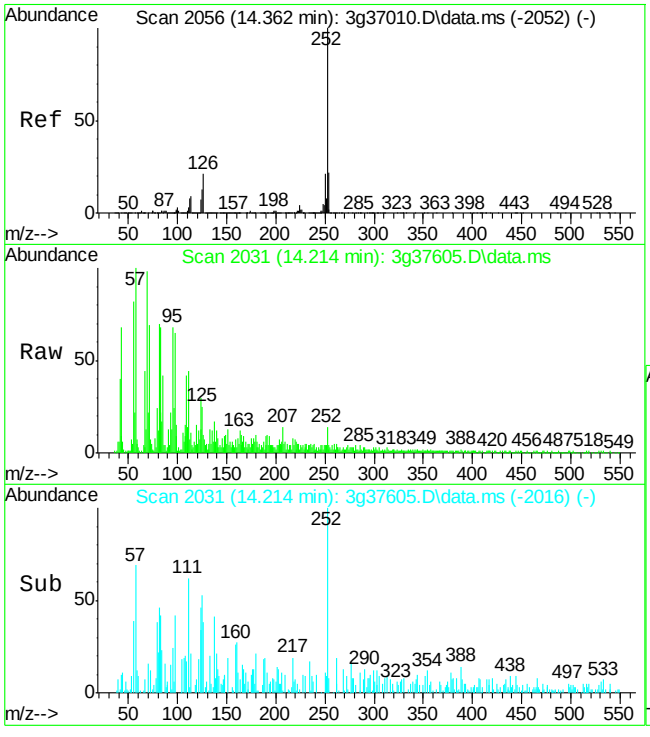


#95
Benzo(b)fluoranthene
Concen: 1.0665 ppm
RT: 14.173 min Scan# 2024
Delta R.T. -0.006 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:252 Resp: 54169

Ion	Ratio	Lower	Upper
252	100		
253	22.4	1.3	41.3
125	23.6	0.0	33.8
126	27.0	0.0	38.4

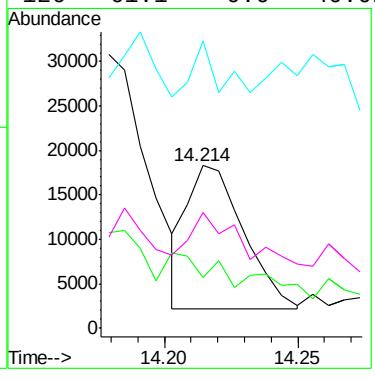


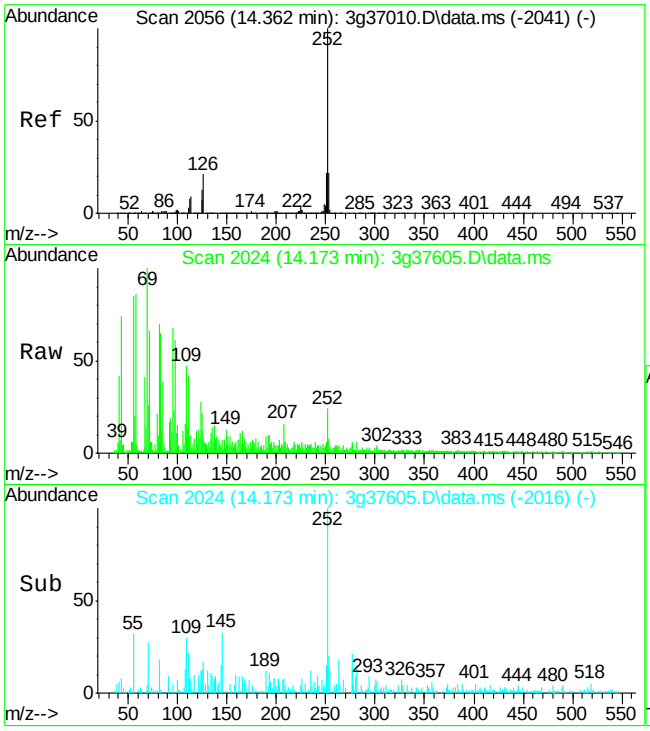


#96
Benzo(k)fluoranthene
Concen: 0.4718 ppm m
RT: 14.214 min Scan# 2031
Delta R.T. -0.012 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:252 Resp: 23922

Ion	Ratio	Lower	Upper
252	100		
253	50.7	1.1	41.1#
125	56.0	0.0	33.0#
126	61.1	0.0	40.0#

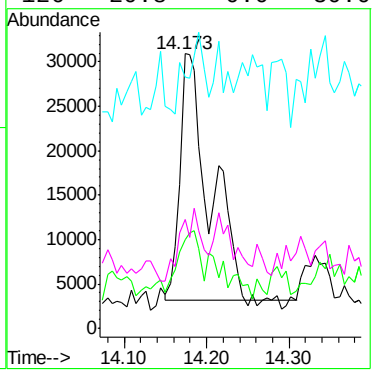


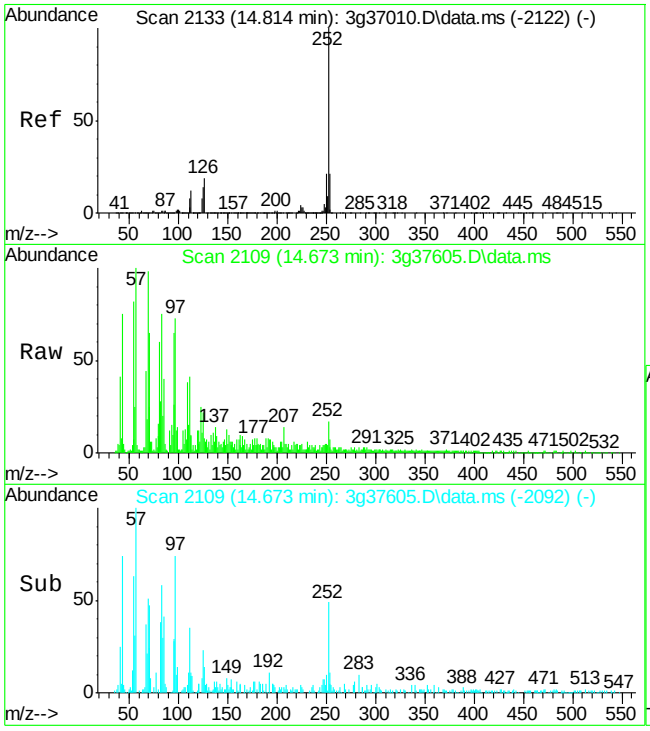


#97
Benzo(b&k)fluoranthene
Concen: 1.3745 ppm
RT: 14.173 min Scan# 2024
Delta R.T. -0.053 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:252 Resp: 70161

Ion	Ratio	Lower	Upper
252	100		
253	17.3	0.0	30.5
125	19.1	0.0	26.5
126	20.8	0.0	30.0

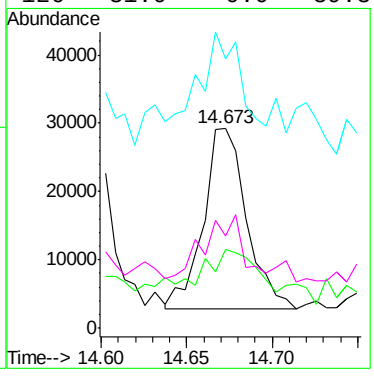


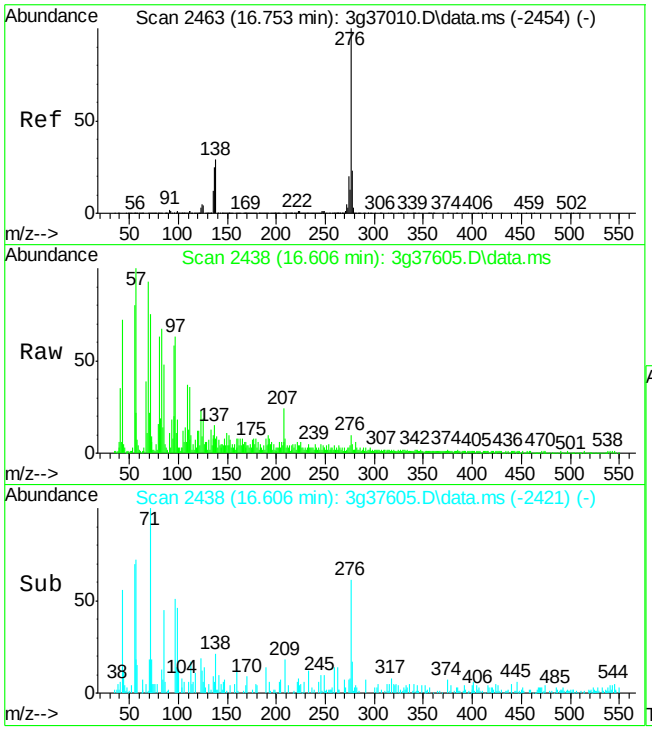


#98
Benzo(a)pyrene
Concen: 0.9445 ppm
RT: 14.673 min Scan# 2109
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:252 Resp: 46239

Ion	Ratio	Lower	Upper
252	100		
253	27.1	1.2	41.2
125	51.5	0.0	34.4#
126	31.0	0.0	39.3

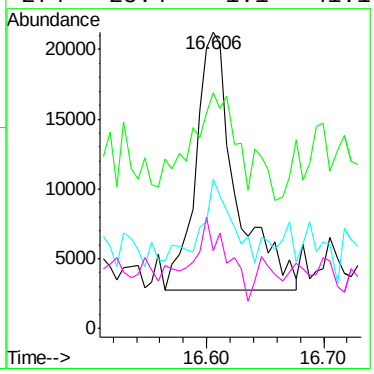




#101
Benzo(g,h,i)perylene
Concen: 1.0101 ppm
RT: 16.606 min Scan# 2438
Delta R.T. -0.000 min
Lab File: 3g37605.D
Acq: 8 Aug 18 12:05 am

Tgt Ion:276 Resp: 44086

Ion	Ratio	Lower	Upper
276	100		
138	39.2	9.8	49.8
277	32.1	3.4	43.4
274	25.4	1.1	41.1



Manual Integrations APPROVED (compounds with "m" flag)
Janis Kardatzke
08/09/18 18:10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37606.D
Acq On : 8 Aug 2018 12:32 am
Operator : DONC
Sample : DA7701-12, 2x
Misc : OP16681,E3G1870,30.00,,,1,2
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 08 10:17:06 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.960	152	789476	40.0000 ppm	0.00
26) Naphthalene-d8	5.877	136	3011717	40.0000 ppm	0.00
44) Acenaphthene-d10	7.170	164	1532672	40.0000 ppm	0.00
67) Phenanthrene-d10	8.580	188	2728138	40.0000 ppm	0.00
84) Chrysene-d12	12.428	240	2279751	40.0000 ppm	0.00
93) Perylene-d12	14.767	264	1706383	40.0000 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	4.056	112	567179	15.4119 ppm	0.01
Spiked Amount 50.000	Range 1 - 250		Recovery = 30.82%		
8) Phenol-d5	4.749	99	992848	18.2164 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 36.44%		
27) Nitrobenzene-d5	5.360	82	812753	15.6621 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 31.32%		
49) 2-Fluorobiphenyl	6.647	172	1290775	24.4675 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 48.94%		
69) 2,4,6-Tribromophenol	7.863	330	159190	25.0227 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 50.04%		
87) Terphenyl-d14	10.742	244	1423092	24.8822 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 49.76%		

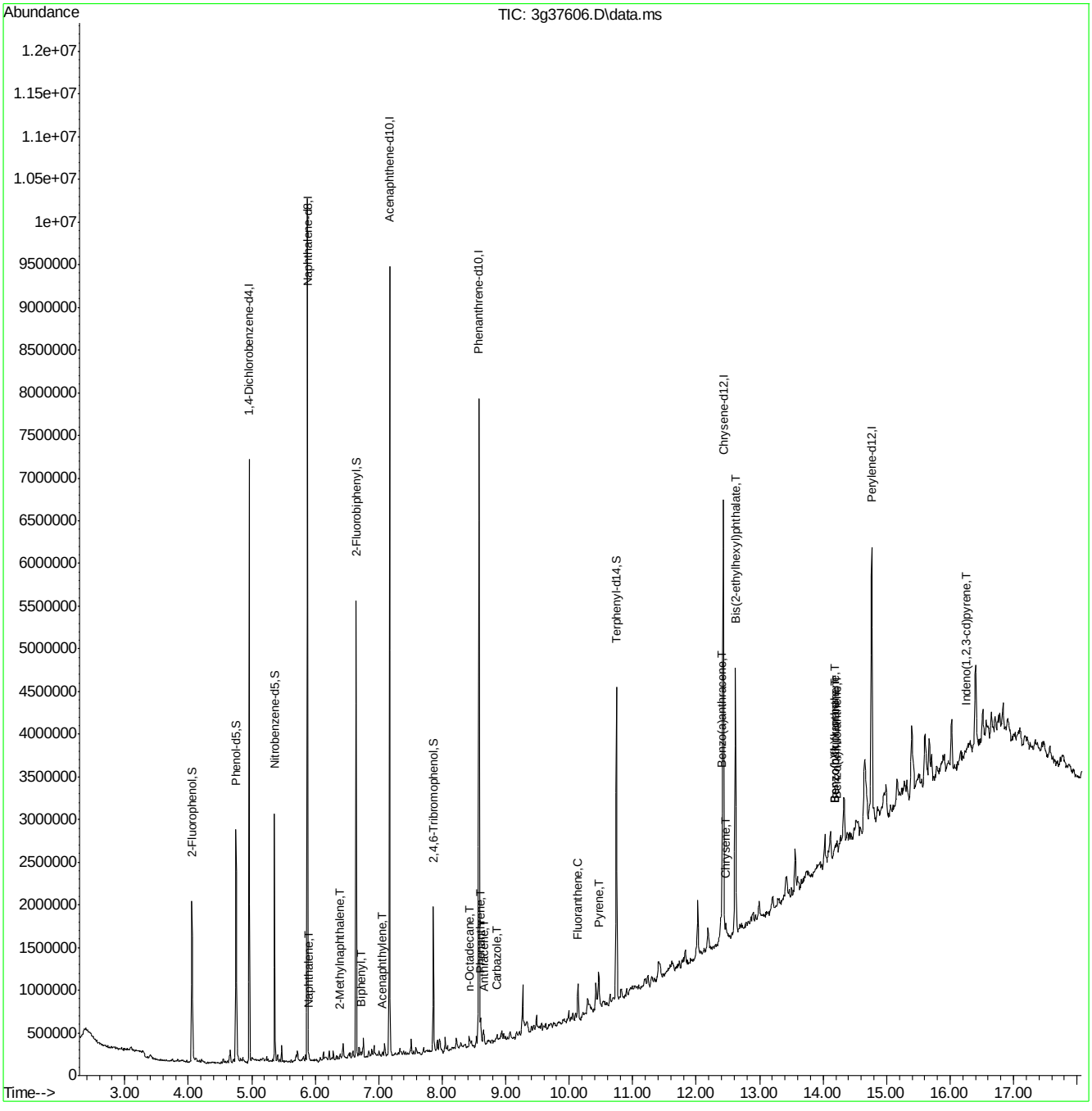
Target Compounds					Qvalue
14) n-decane	4.819	43	8602	Below Cal #	79
36) Naphthalene	5.895	128	12408	0.4233 ppm	86
42) 2-Methylnaphthalene	6.388	142	9062	0.1652 ppm	94
50) Biphenyl	6.723	154	9273	0.5550 ppm	95
55) Acenaphthylene	7.058	152	12299	0.6363 ppm	95
63) Diethylphthalate	7.510	149	4075	Below Cal #	45
78) n-Octadecane	8.427	57	23776	0.4228 ppm #	88
79) Phenanthrene	8.603	178	104551	1.3673 ppm	95
80) Anthracene	8.662	178	23779	0.3008 ppm	79
81) Carbazole	8.862	167	13340	0.1862 ppm	90
83) Fluoranthene	10.137	202	170824	2.1380 ppm	97
86) Pyrene	10.466	202	177095	2.0872 ppm	95
90) Benzo(a)anthracene	12.411	228	84059	1.1411 ppm	95
91) Chrysene	12.463	228	82724	1.1552 ppm	94
92) Bis(2-ethylhexyl)phtha...	12.616	149	963821	20.7554 ppm	98
95) Benzo(b)fluoranthene	14.179	252	77662	1.4035 ppm #	80
96) Benzo(k)fluoranthene	14.220	252	32904m	0.5957 ppm	
97) Benzo(b&k)fluoranthene	14.179	252	107239	1.9283 ppm	84
99) Indeno(1,2,3-cd)pyrene	16.259	276	27470	0.6308 ppm	79

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

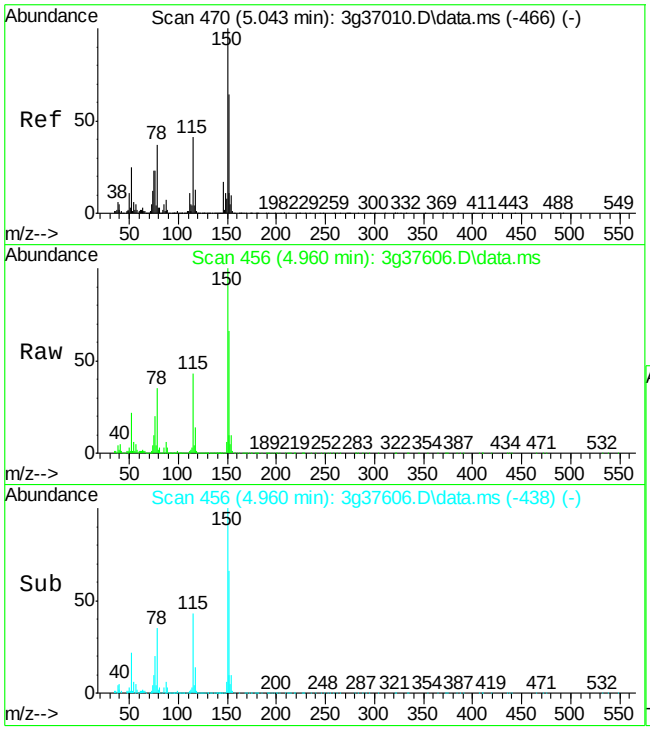
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37606.D
Acq On : 8 Aug 2018 12:32 am
Operator : DONC
Sample : DA7701-12, 2x
Misc : OP16681,E3G1870,30.00,,,1,2
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 08 10:17:06 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



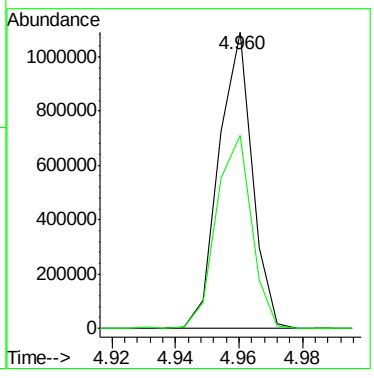
bnae3g1850.M Wed Aug 08 10:17:10 2018 3G Page: 2

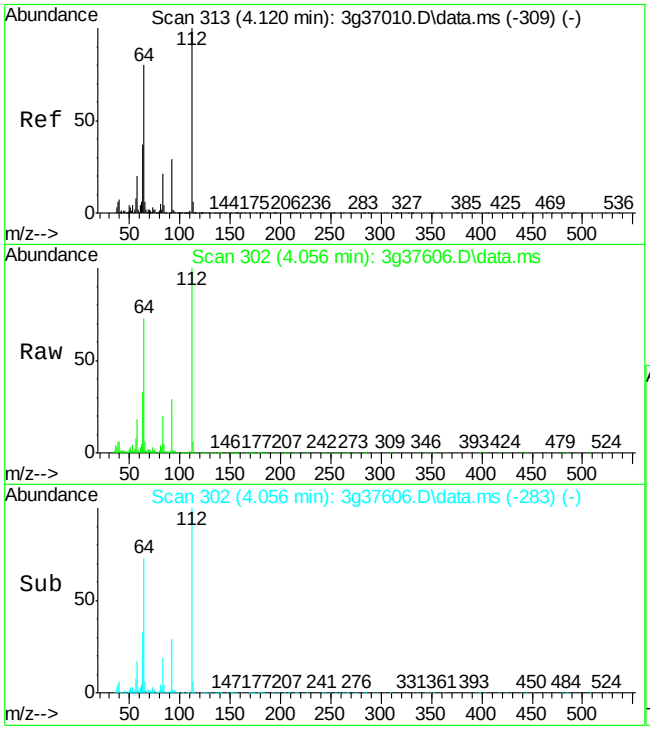


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.960 min Scan# 456
Delta R.T. 0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:152 Resp: 789476

Ion	Ratio	Lower	Upper
152	100		
115	68.8	53.0	93.0

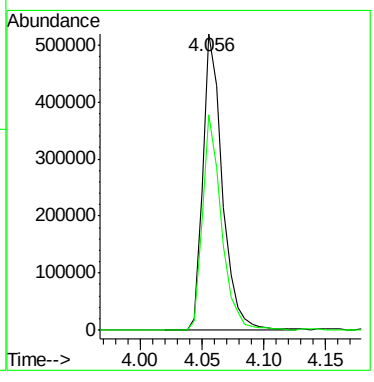


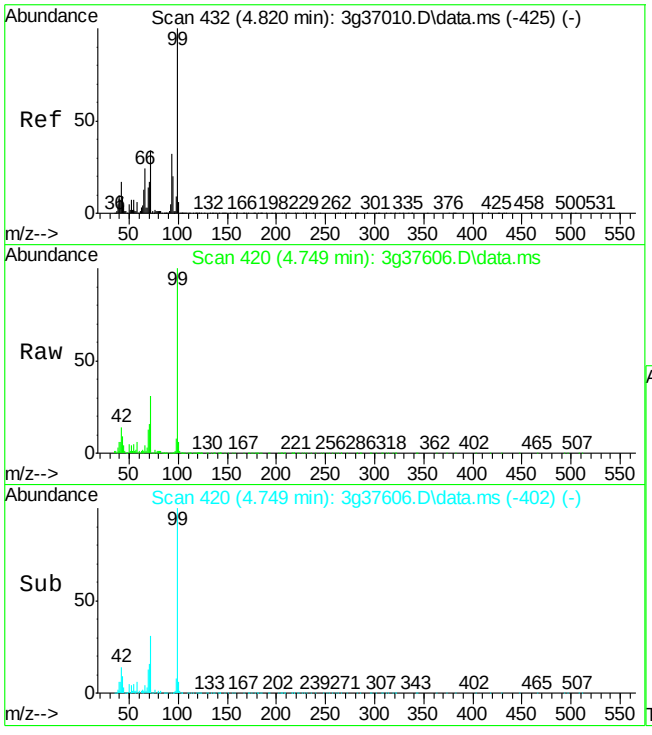


#5
2-Fluorophenol
Concen: 15.4119 ppm
RT: 4.056 min Scan# 302
Delta R.T. 0.012 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:112 Resp: 567179

Ion	Ratio	Lower	Upper
112	100		
64	70.4	58.3	98.3

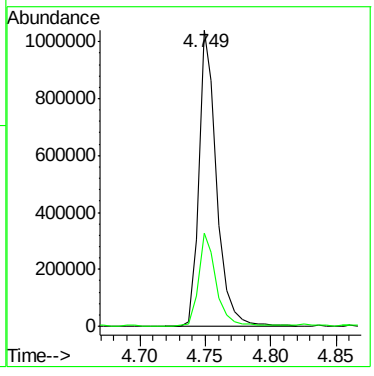


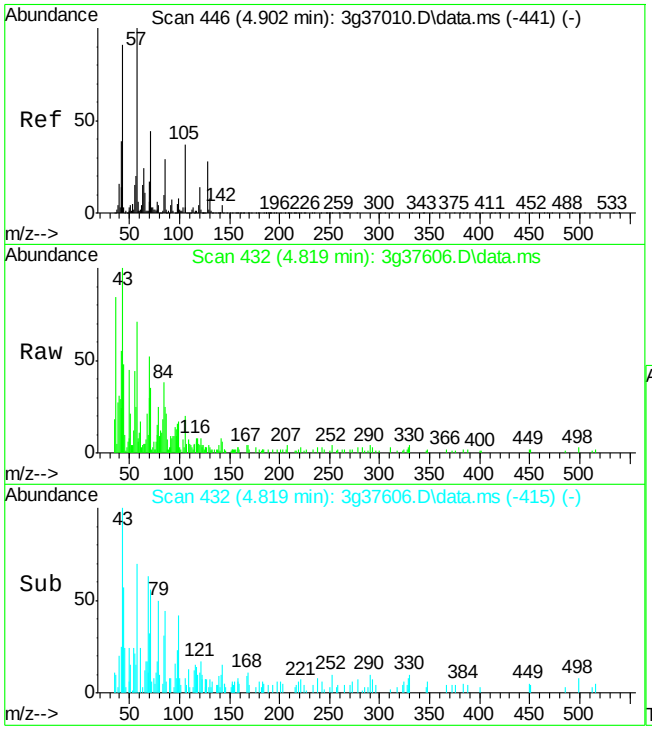


#8
Phenol-d5
Concen: 18.2164 ppm
RT: 4.749 min Scan# 420
Delta R.T. 0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion: 99 Resp: 992848

Ion	Ratio	Lower	Upper
99	100		
71	31.2	13.6	53.6

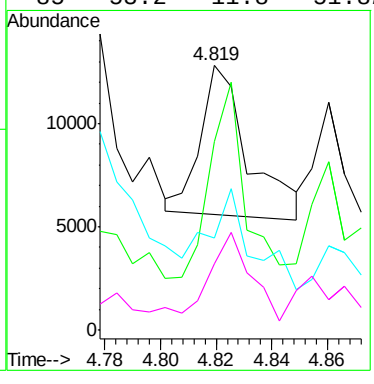


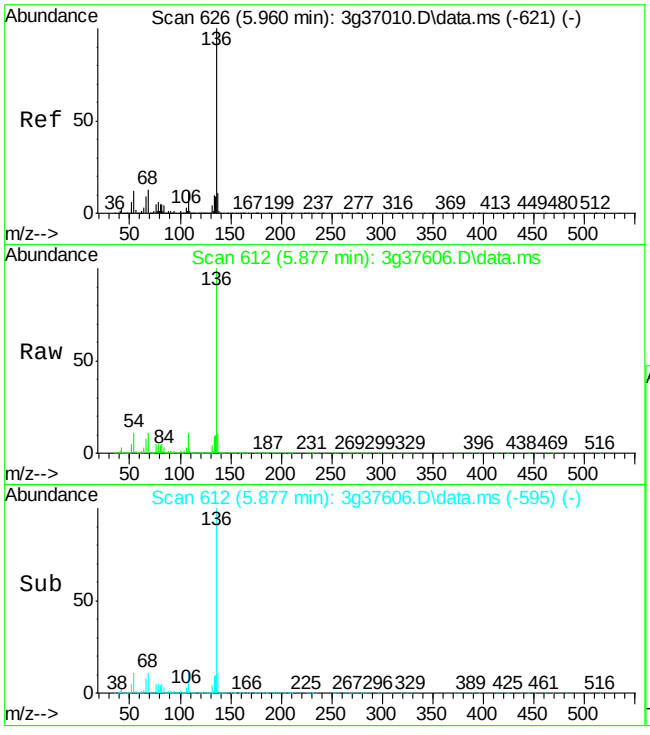


#14
n-decane
Concen: Below ppm
RT: 4.819 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion: 43 Resp: 8602

Ion	Ratio	Lower	Upper
43	100		
57	93.8	92.0	132.0
71	61.8	28.7	68.7
85	53.2	11.8	51.8#

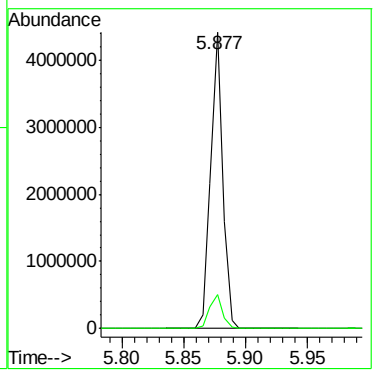


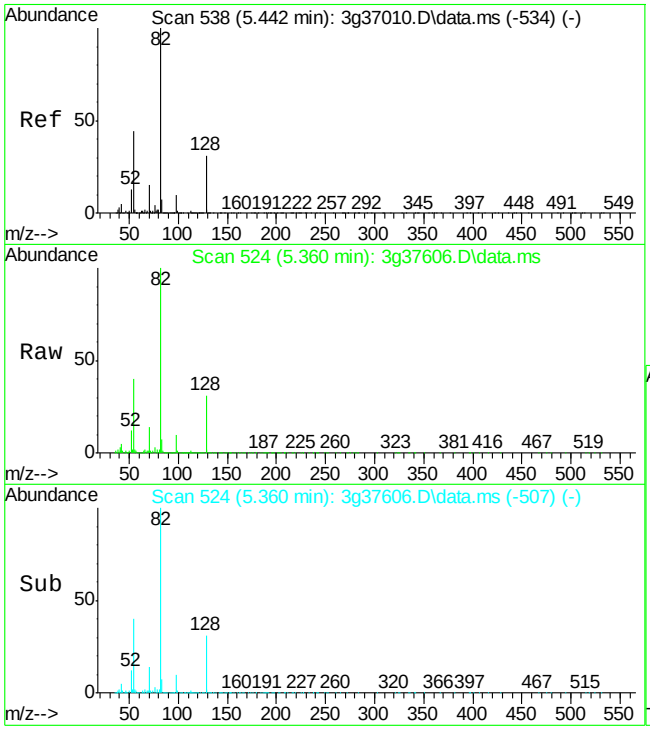


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:136 Resp: 3011717

Ion	Ratio	Lower	Upper
136	100		
68	12.1	0.0	32.4

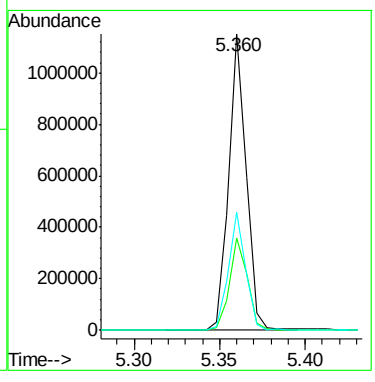


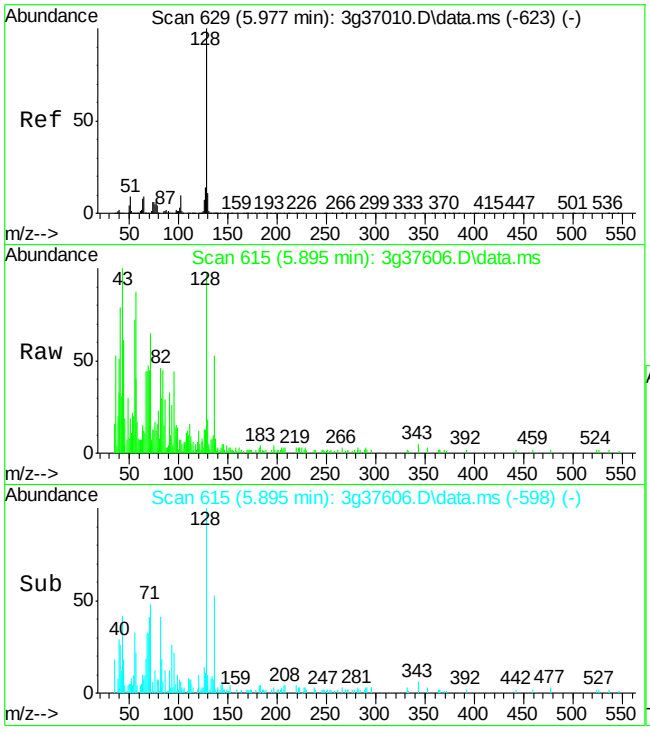


#27
Nitrobenzene-d5
Concen: 15.6621 ppm
RT: 5.360 min Scan# 524
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion: 82 Resp: 812753

Ion	Ratio	Lower	Upper
82	100		
128	31.9	10.8	50.8
54	39.1	22.9	62.9

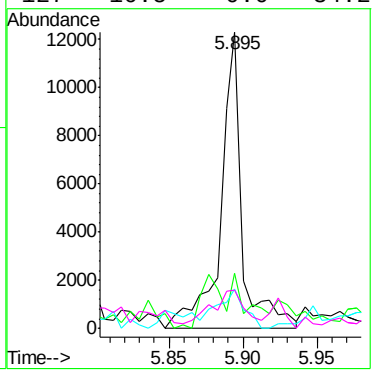


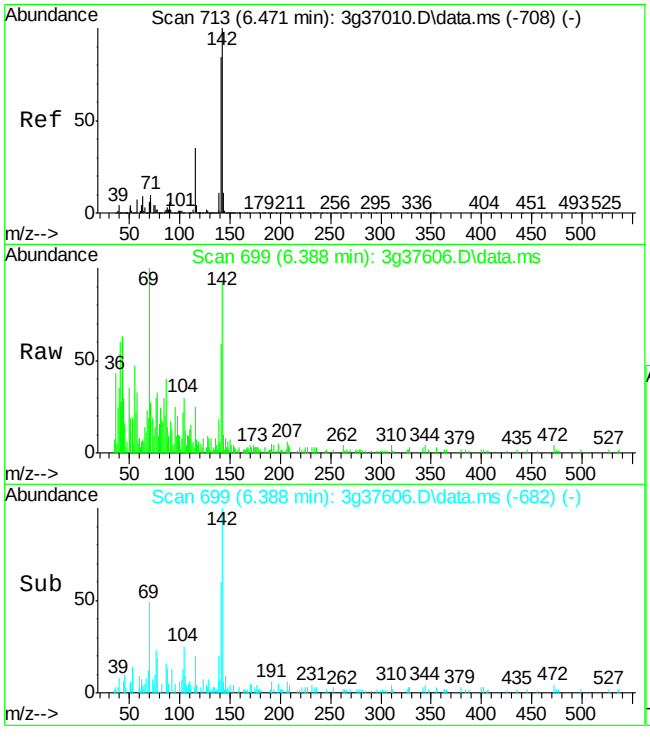


#36
Naphthalene
Concen: 0.4233 ppm
RT: 5.895 min Scan# 615
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:128 Resp: 12408

Ion	Ratio	Lower	Upper
128	100		
129	17.4	0.0	30.9
126	16.7	0.0	27.5
127	16.5	0.0	34.2

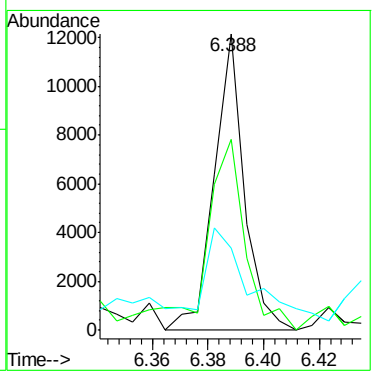


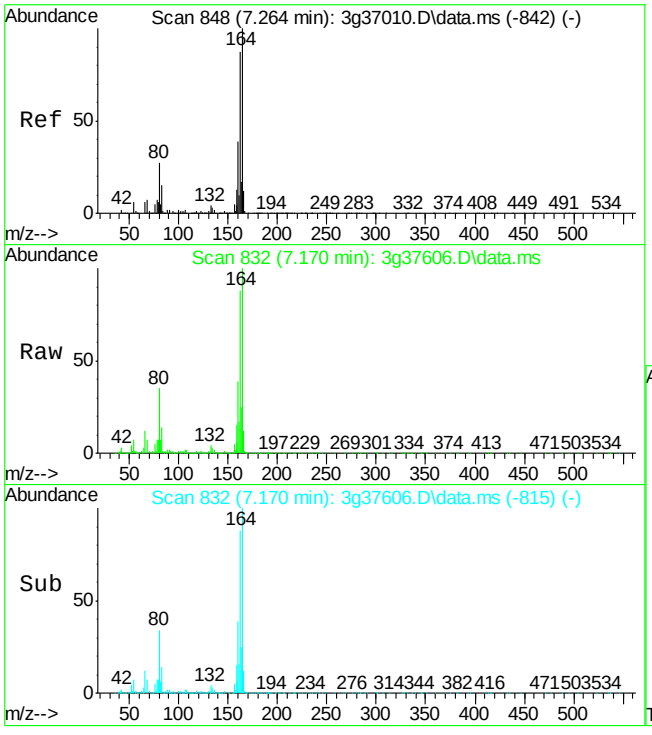


#42
2-Methylnaphthalene
Concen: 0.1652 ppm
RT: 6.388 min Scan# 699
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:142 Resp: 9062

Ion	Ratio	Lower	Upper
142	100		
141	83.9	62.4	102.4
115	45.1	15.8	55.8

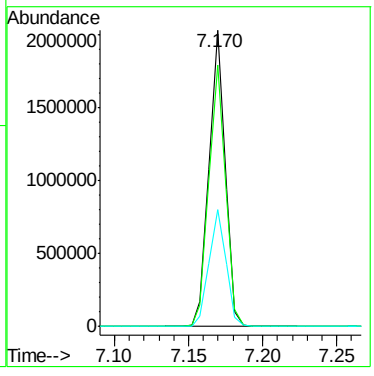


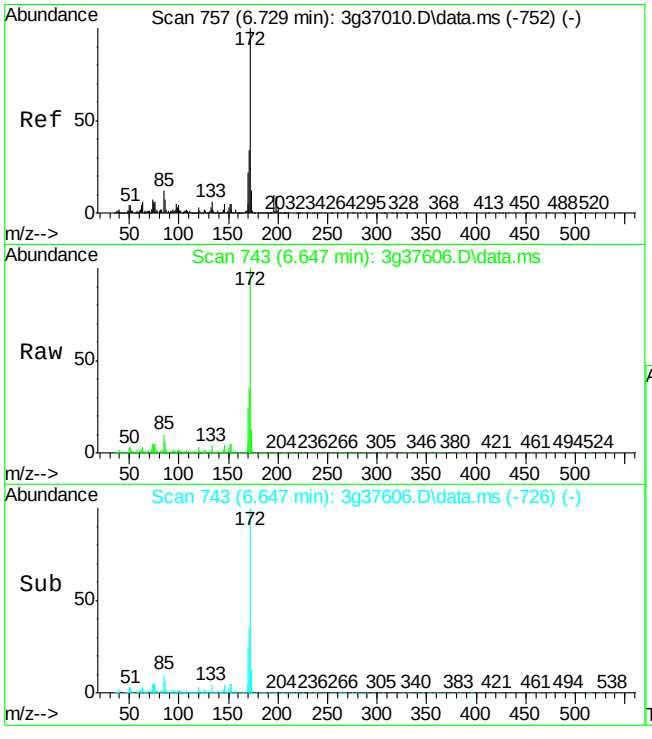


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:164 Resp: 1532672

Ion	Ratio	Lower	Upper
164	100		
162	91.2	69.6	109.6
160	41.5	20.5	60.5

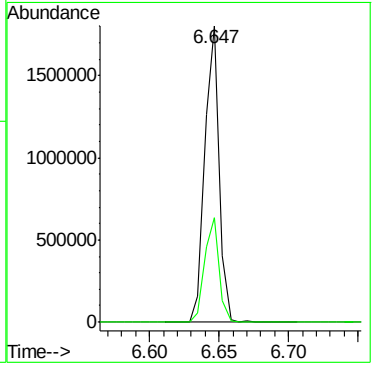


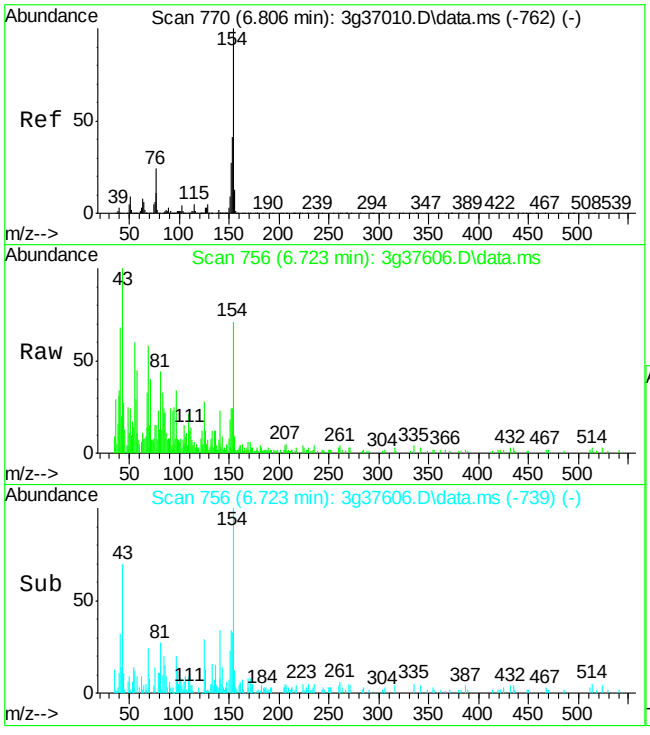


#49
2-Fluorobiphenyl
Concen: 24.4675 ppm
RT: 6.647 min Scan# 743
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:172 Resp: 1290775

Ion	Ratio	Lower	Upper
172	100		
171	35.2	14.5	54.5

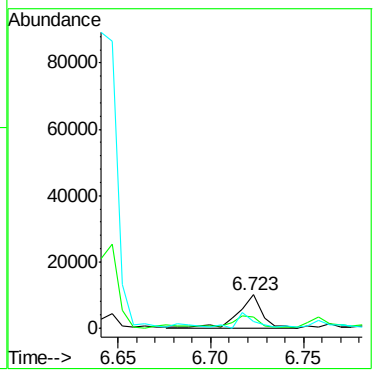


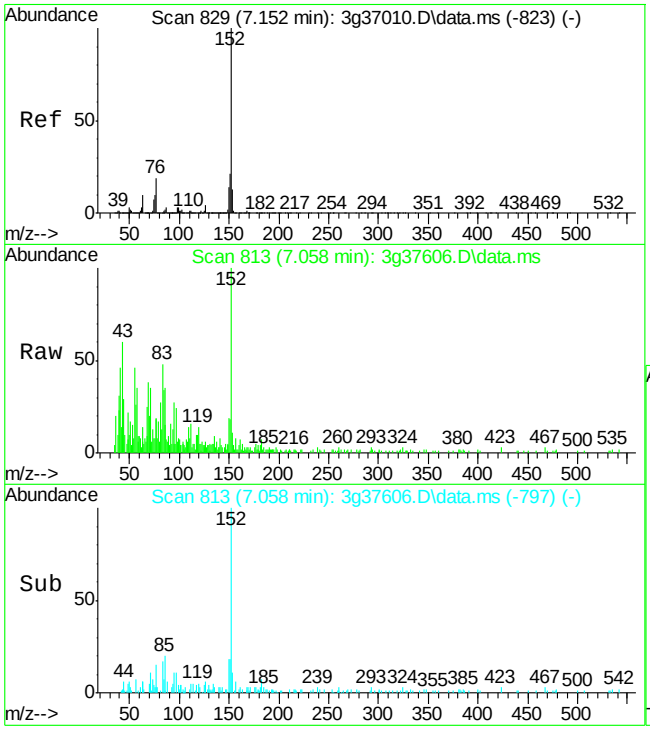


#50
Biphenyl
Concen: 0.5550 ppm
RT: 6.723 min Scan# 756
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:154 Resp: 9273

Ion	Ratio	Lower	Upper
154	100		
153	38.1	21.4	61.4
76	27.1	5.2	45.2

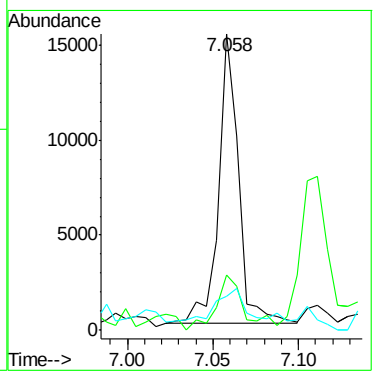


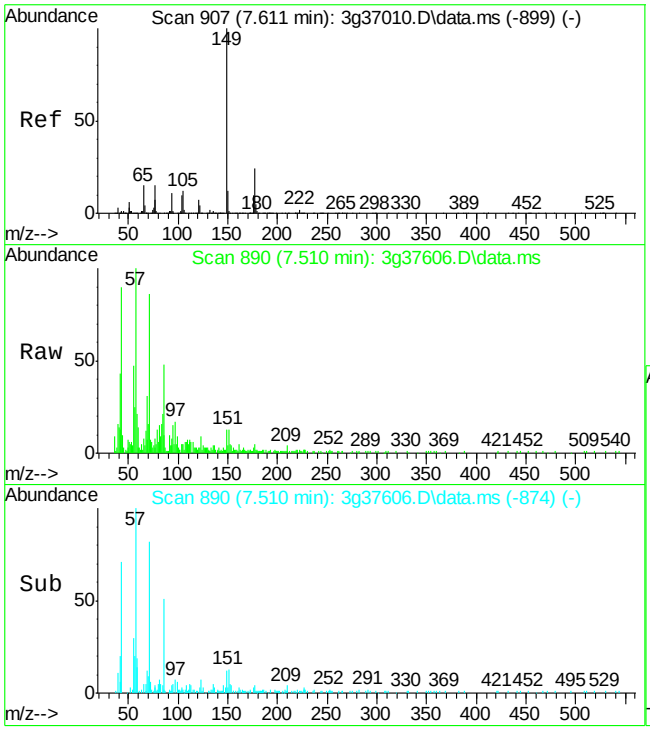


#55
Acenaphthylene
Concen: 0.6363 ppm
RT: 7.058 min Scan# 813
Delta R.T. -0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:152 Resp: 12299

Ion	Ratio	Lower	Upper
152	100		
151	24.0	1.0	41.0
153	14.6	0.0	33.2

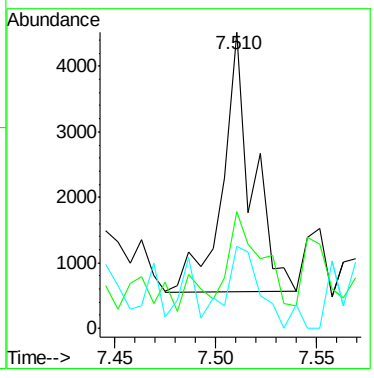


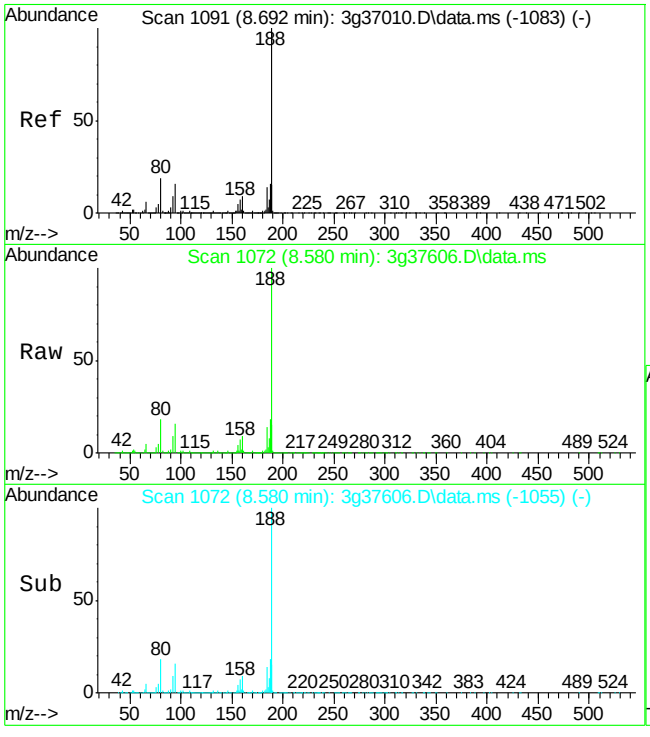


#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:149 Resp: 4075

Ion	Ratio	Lower	Upper
149	100		
177	52.5	3.6	43.6#
150	31.7	0.0	32.5

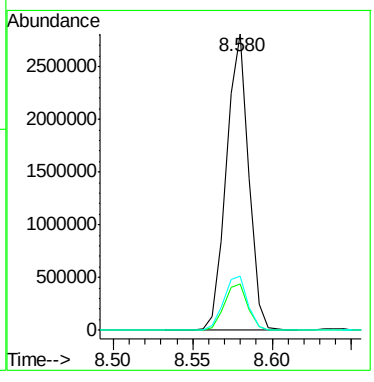


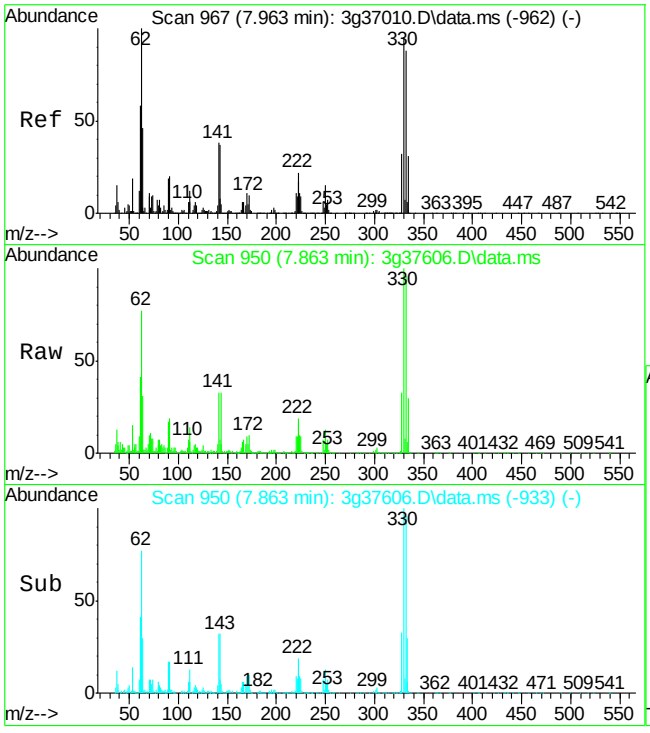


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.580 min Scan# 1072
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:188 Resp: 2728138

Ion	Ratio	Lower	Upper
188	100		
94	16.5	0.0	35.1
80	19.3	0.0	37.9

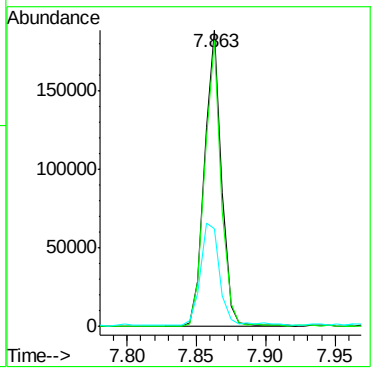


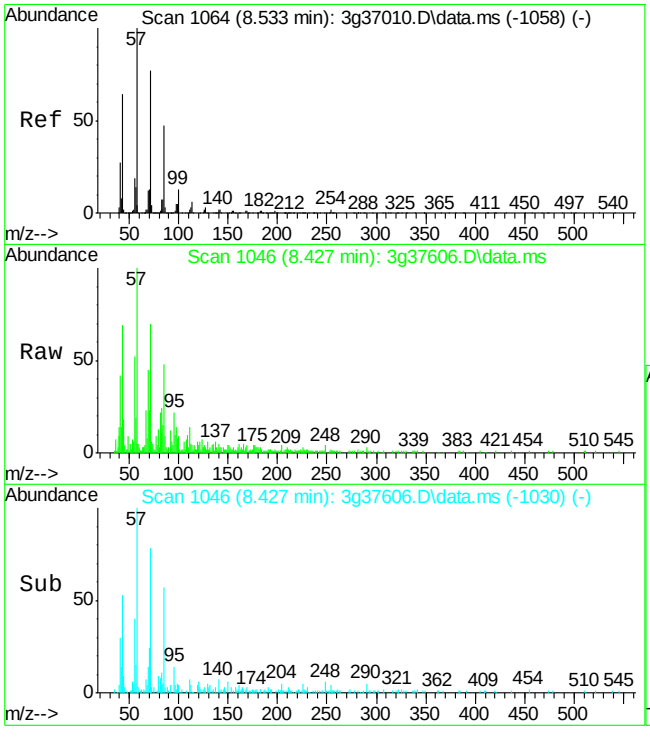


#69
2,4,6-Tribromophenol
Concen: 25.0227 ppm
RT: 7.863 min Scan# 950
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:330 Resp: 159190

Ion	Ratio	Lower	Upper
330	100		
332	94.4	74.8	112.2
141	40.6	33.8	50.6

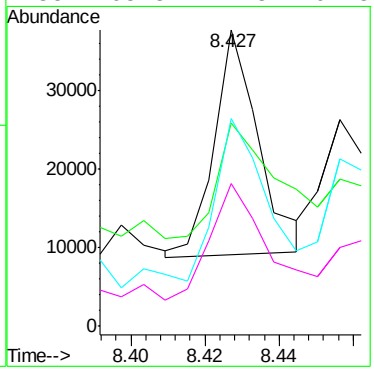


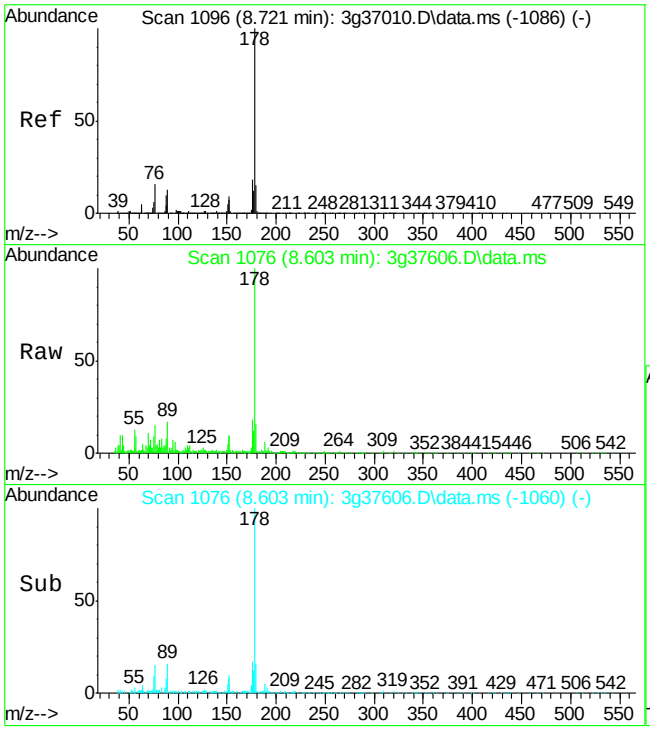


#78
n-Octadecane
Concen: 0.4228 ppm
RT: 8.427 min Scan# 1046
Delta R.T. -0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion: 57 Resp: 23776

Ion	Ratio	Lower	Upper
57	100		
43	70.2	43.2	83.2
71	74.6	55.6	95.6
85	68.3	27.3	67.3#

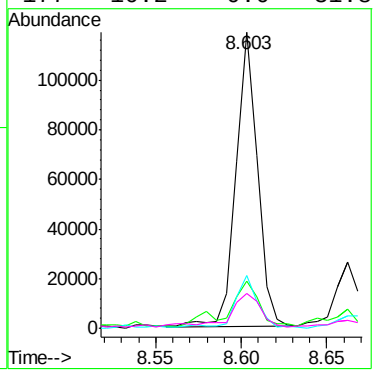


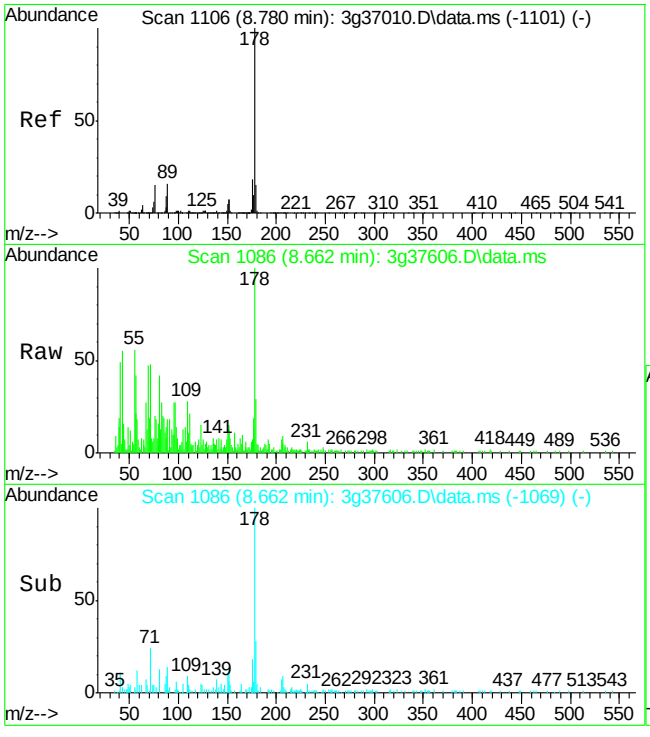


#79
Phenanthrene
Concen: 1.3673 ppm
RT: 8.603 min Scan# 1076
Delta R.T. -0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:178 Resp: 104551

Ion	Ratio	Lower	Upper
178	100		
179	16.6	0.0	35.6
176	17.3	0.0	38.7
177	16.2	0.0	31.8

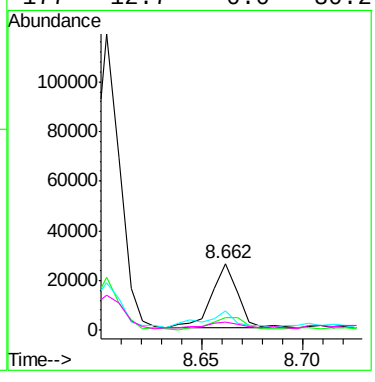


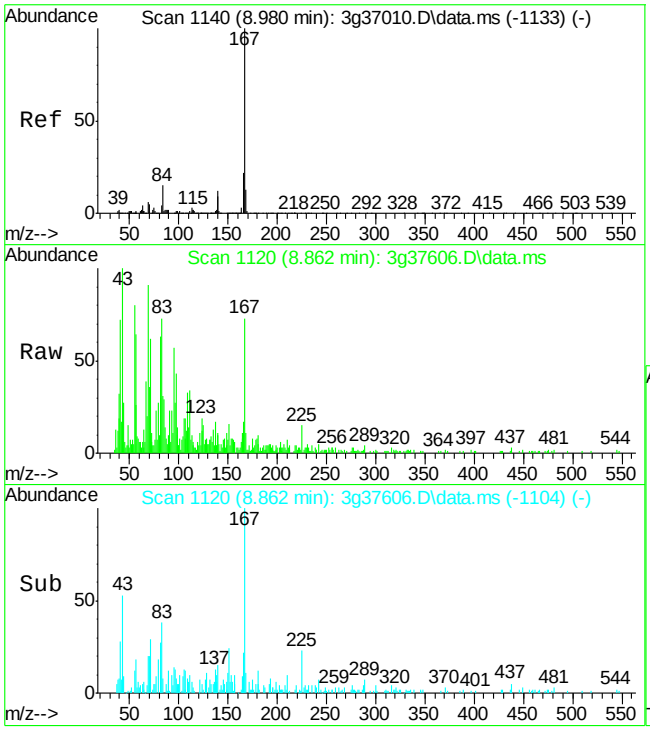


#80
Anthracene
Concen: 0.3008 ppm
RT: 8.662 min Scan# 1086
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:178 Resp: 23779

Ion	Ratio	Lower	Upper
178	100		
176	24.8	0.0	38.0
179	30.9	0.0	35.2
177	12.7	0.0	30.2

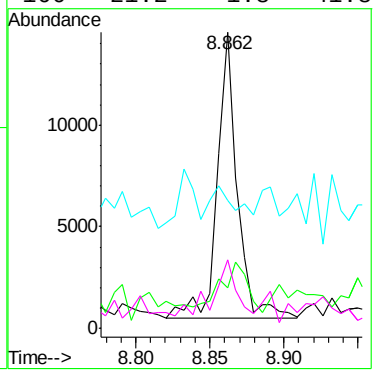


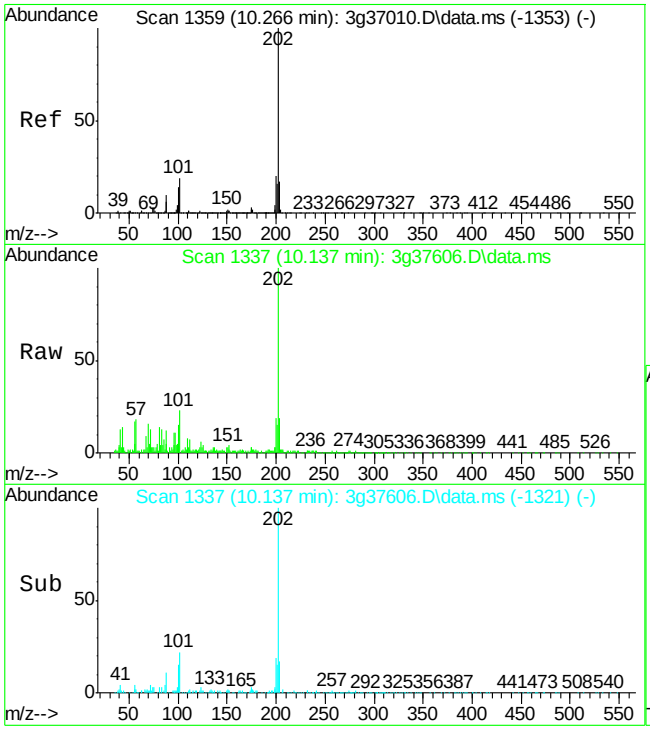


#81
Carbazole
Concen: 0.1862 ppm
RT: 8.862 min Scan# 1120
Delta R.T. -0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:167 Resp: 13340

Ion	Ratio	Lower	Upper
167	100		
139	24.6	0.0	32.0
84	14.0	0.0	36.8
166	21.2	1.8	41.8

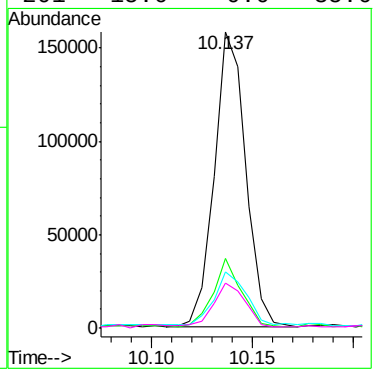


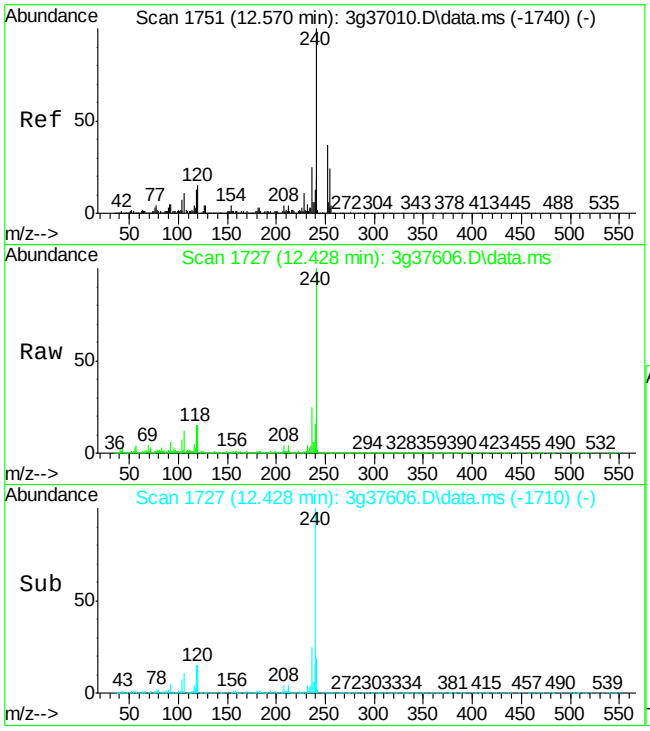


#83
Fluoranthene
Concen: 2.1380 ppm
RT: 10.137 min Scan# 1337
Delta R.T. -0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:202 Resp: 170824

Ion	Ratio	Lower	Upper
202	100		
101	21.1	0.0	38.8
203	18.9	0.0	37.1
201	15.6	0.0	35.6

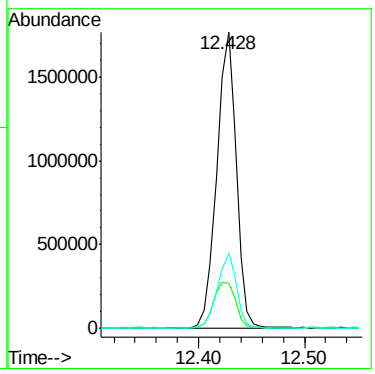


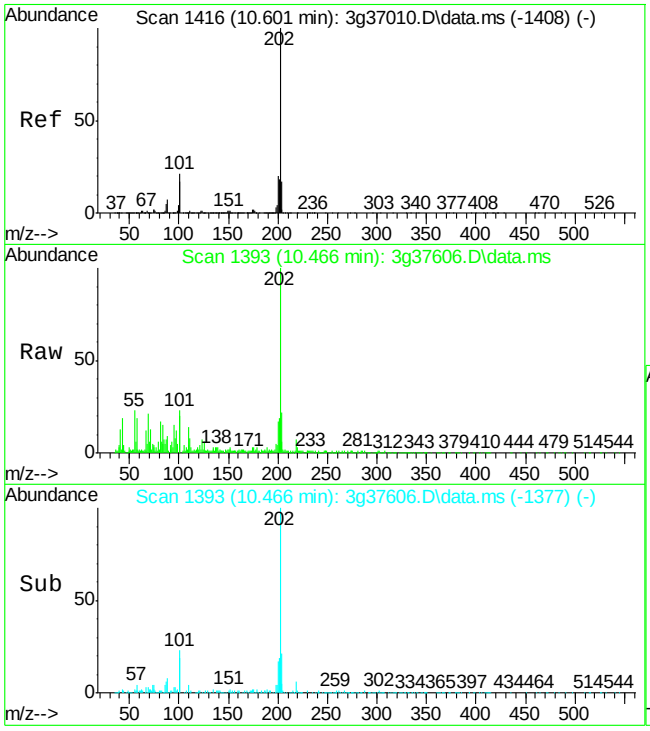


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.428 min Scan# 1727
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:240 Resp: 2279751

Ion	Ratio	Lower	Upper
240	100		
120	17.5	0.0	36.6
236	24.9	4.3	44.3

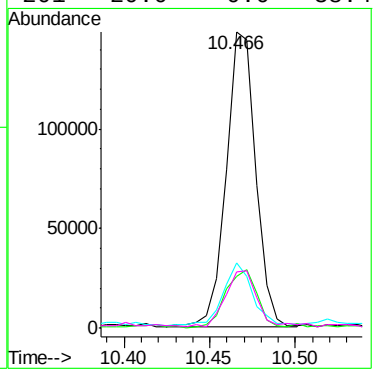


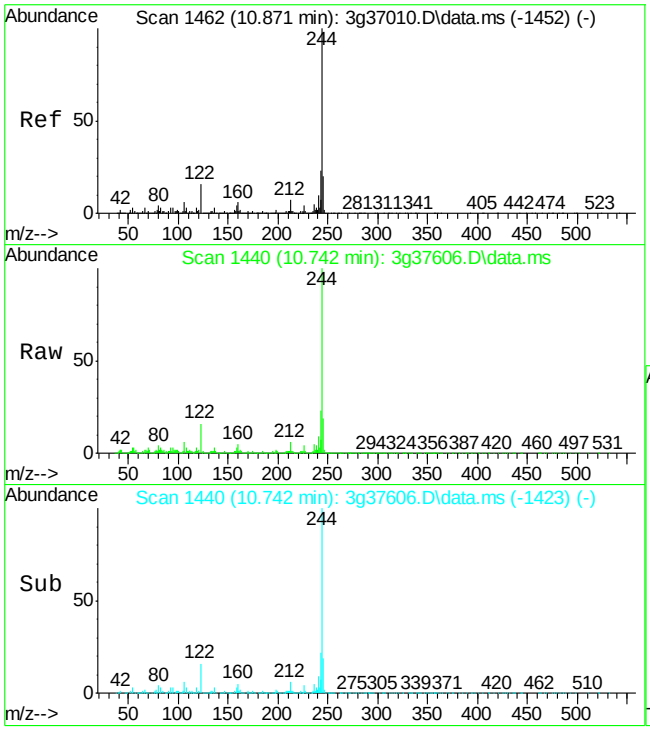


#86
Pyrene
Concen: 2.0872 ppm
RT: 10.466 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:202 Resp: 177095

Ion	Ratio	Lower	Upper
202	100		
200	21.2	0.0	39.9
203	21.2	0.0	37.7
201	20.0	0.0	38.4

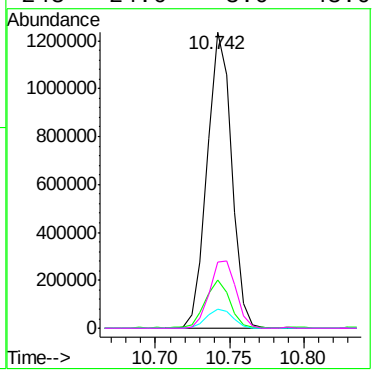


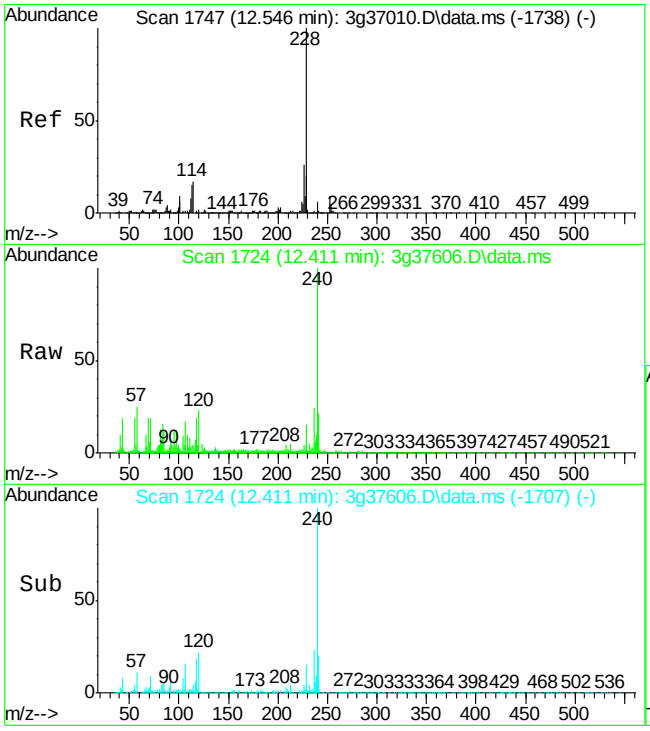


#87
Terphenyl-d14
Concen: 24.8822 ppm
RT: 10.742 min Scan# 1440
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:244 Resp: 1423092

Ion	Ratio	Lower	Upper
244	100		
122	16.4	0.0	35.4
212	6.8	0.0	27.0
243	24.6	3.0	43.0

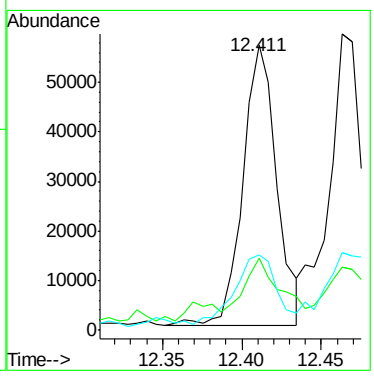


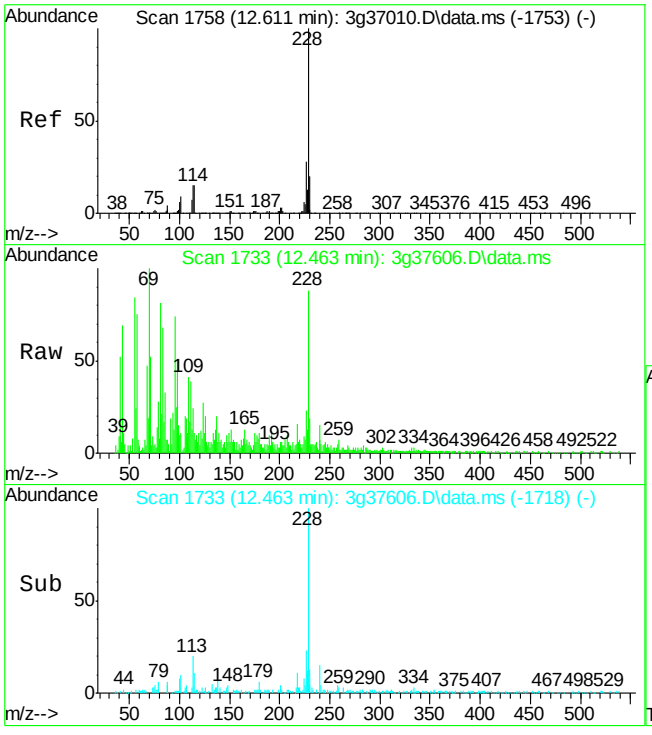


#90
Benzo(a)anthracene
Concen: 1.1411 ppm
RT: 12.411 min Scan# 1724
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:228 Resp: 84059

Ion	Ratio	Lower	Upper
228	100		
229	19.0	0.0	40.0
226	29.8	6.1	46.1

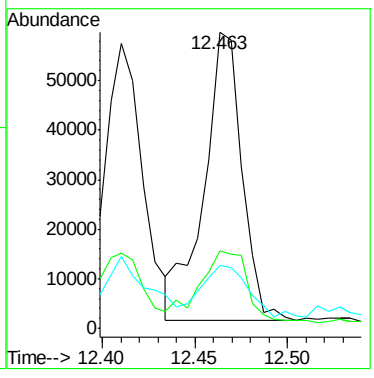


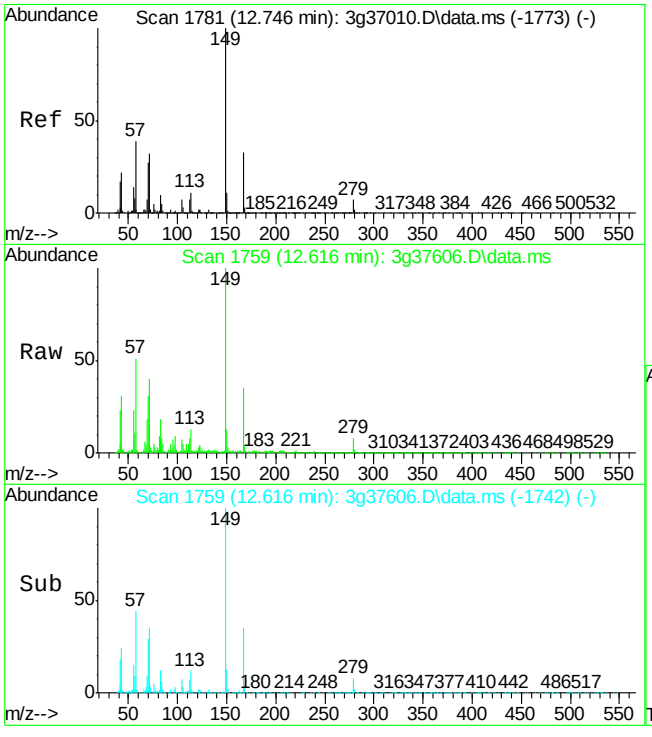


#91
Chrysene
Concen: 1.1552 ppm
RT: 12.463 min Scan# 1733
Delta R.T. -0.012 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:228 Resp: 82724

Ion	Ratio	Lower	Upper
228	100		
226	31.0	8.0	48.0
229	22.3	0.0	39.8

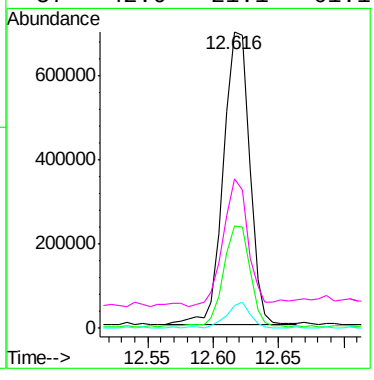


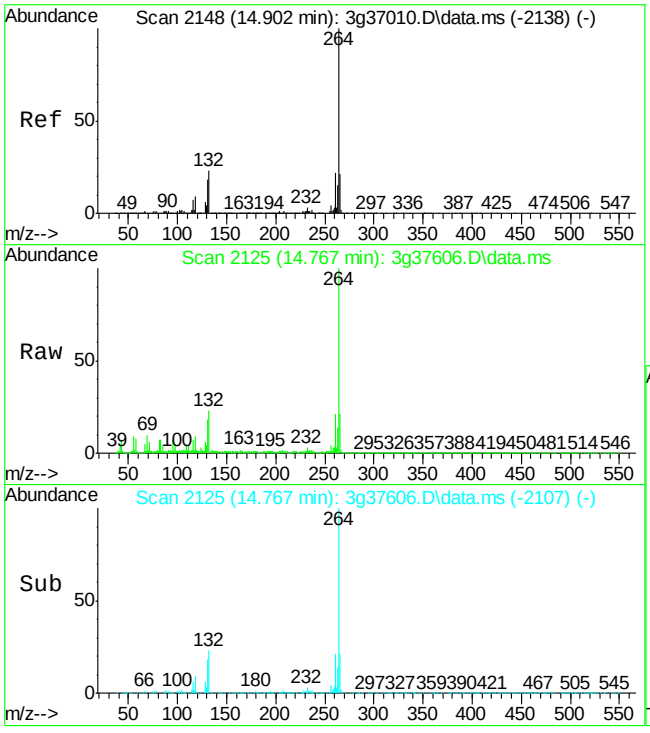


#92
Bis(2-ethylhexyl)phthalate
Concen: 20.7554 ppm
RT: 12.616 min Scan# 1759
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:149 Resp: 963821

Ion	Ratio	Lower	Upper
149	100		
167	35.0	13.6	53.6
279	8.3	0.0	27.3
57	42.0	21.1	61.1

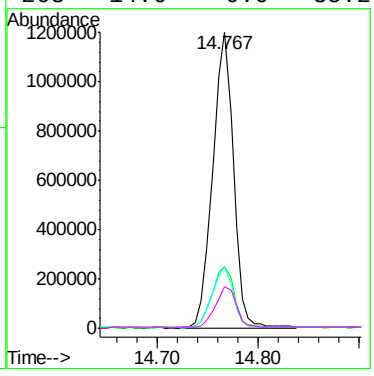


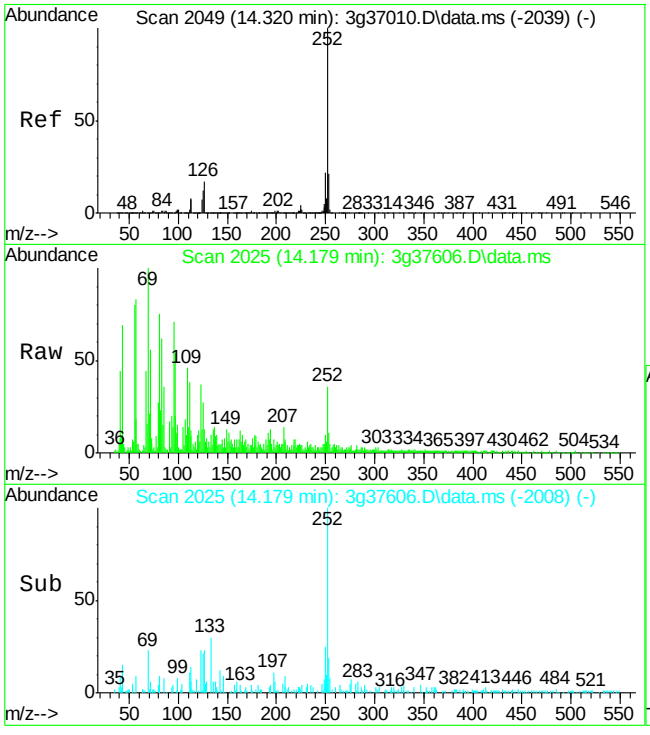


#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.767 min Scan# 2125
Delta R.T. 0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:264 Resp: 1706383

Ion	Ratio	Lower	Upper
264	100		
260	22.2	1.3	41.3
265	21.6	0.2	40.2
263	14.6	0.0	35.2

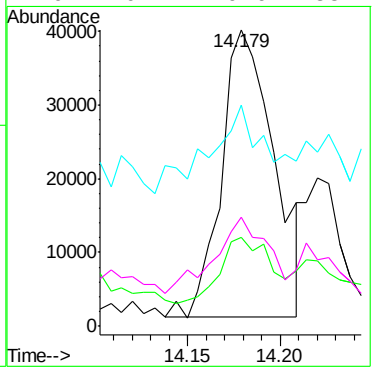


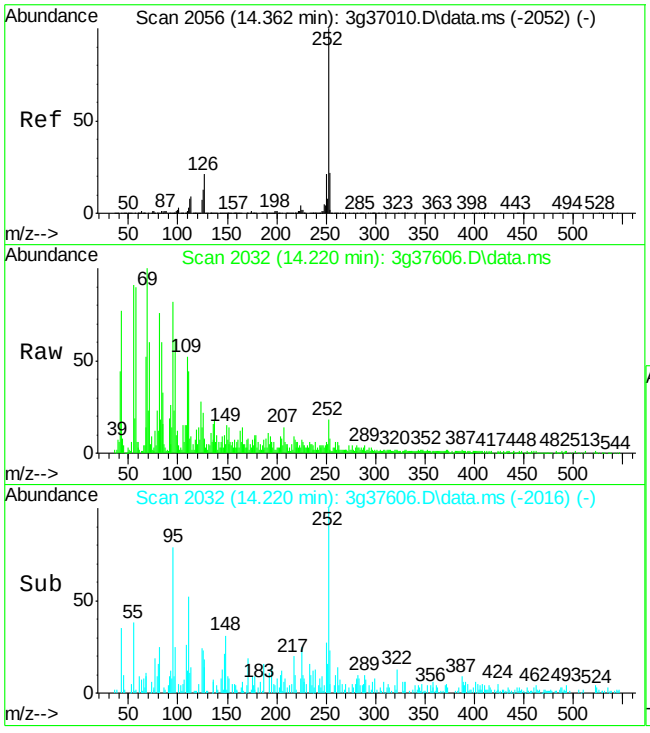


#95
Benzo(b)fluoranthene
Concen: 1.4035 ppm
RT: 14.179 min Scan# 2025
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:252 Resp: 77662

Ion	Ratio	Lower	Upper
252	100		
253	21.8	1.3	41.3
125	34.3	0.0	33.8#
126	26.2	0.0	38.4

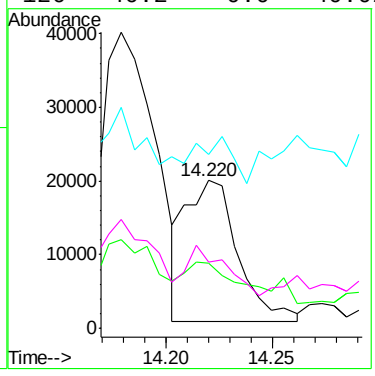


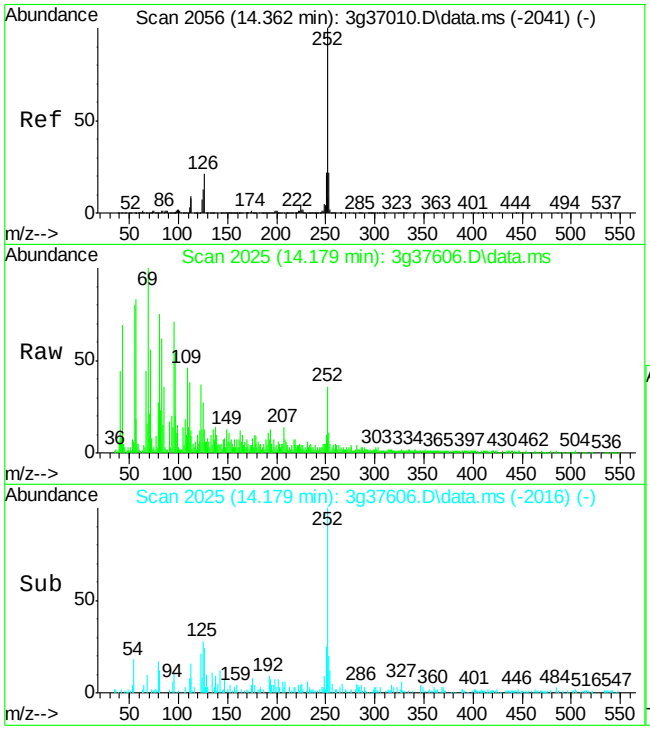


#96
Benzo(k)fluoranthene
Concen: 0.5957 ppm m
RT: 14.220 min Scan# 2032
Delta R.T. -0.006 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:252 Resp: 32904

Ion	Ratio	Lower	Upper
252	100		
253	51.5	1.1	41.1#
125	49.7	0.0	33.0#
126	46.2	0.0	40.0#

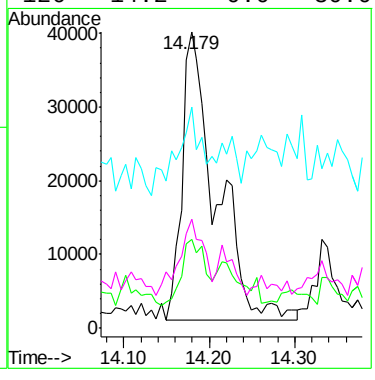


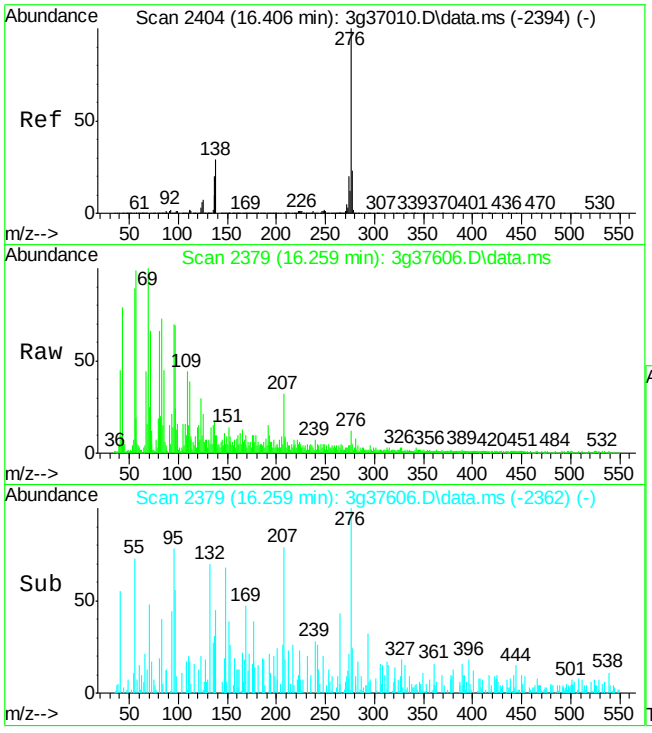


#97
Benzo(b&k)fluoranthene
Concen: 1.9283 ppm
RT: 14.179 min Scan# 2025
Delta R.T. -0.047 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:252 Resp: 107239

Ion	Ratio	Lower	Upper
252	100		
253	15.8	0.0	30.5
125	15.2	0.0	26.5
126	14.2	0.0	30.0

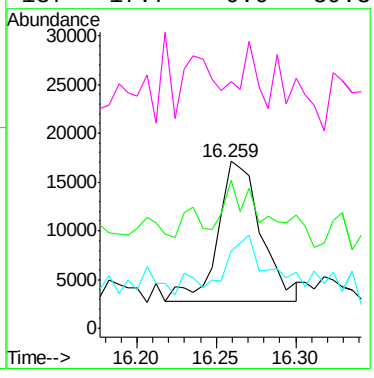




#99
Indeno(1,2,3-cd)pyrene
Concen: 0.6308 ppm
RT: 16.259 min Scan# 2379
Delta R.T. -0.000 min
Lab File: 3g37606.D
Acq: 8 Aug 18 12:32 am

Tgt Ion:276 Resp: 27470

Ion	Ratio	Lower	Upper
276	100		
138	47.3	8.5	48.5
277	32.6	3.3	43.3
137	17.7	0.0	39.3



9.1.12

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37601.D
Acq On : 7 Aug 2018 10:16 pm
Operator : DONC
Sample : DA7701-13
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 08 09:59:52 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.960	152	772155	40.0000	ppm	0.00
26) Naphthalene-d8	5.877	136	2932826	40.0000	ppm	0.00
44) Acenaphthene-d10	7.170	164	1489425	40.0000	ppm	0.00
67) Phenanthrene-d10	8.574	188	2673115	40.0000	ppm	0.00
84) Chrysene-d12	12.422	240	2247286	40.0000	ppm	0.00
93) Perylene-d12	14.761	264	1920638	40.0000	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	4.056	112	806444	22.4050	ppm	0.01
Spiked Amount 50.000	Range 1 - 250		Recovery = 44.82%			
8) Phenol-d5	4.749	99	1515989	28.4387	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 56.88%			
27) Nitrobenzene-d5	5.360	82	1253930	24.8138	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 49.62%			
49) 2-Fluorobiphenyl	6.647	172	2030057	39.5984	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 79.20%			
69) 2,4,6-Tribromophenol	7.863	330	253758	40.7087	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 81.42%			
87) Terphenyl-d14	10.742	244	2318533	41.1243	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 82.24%			

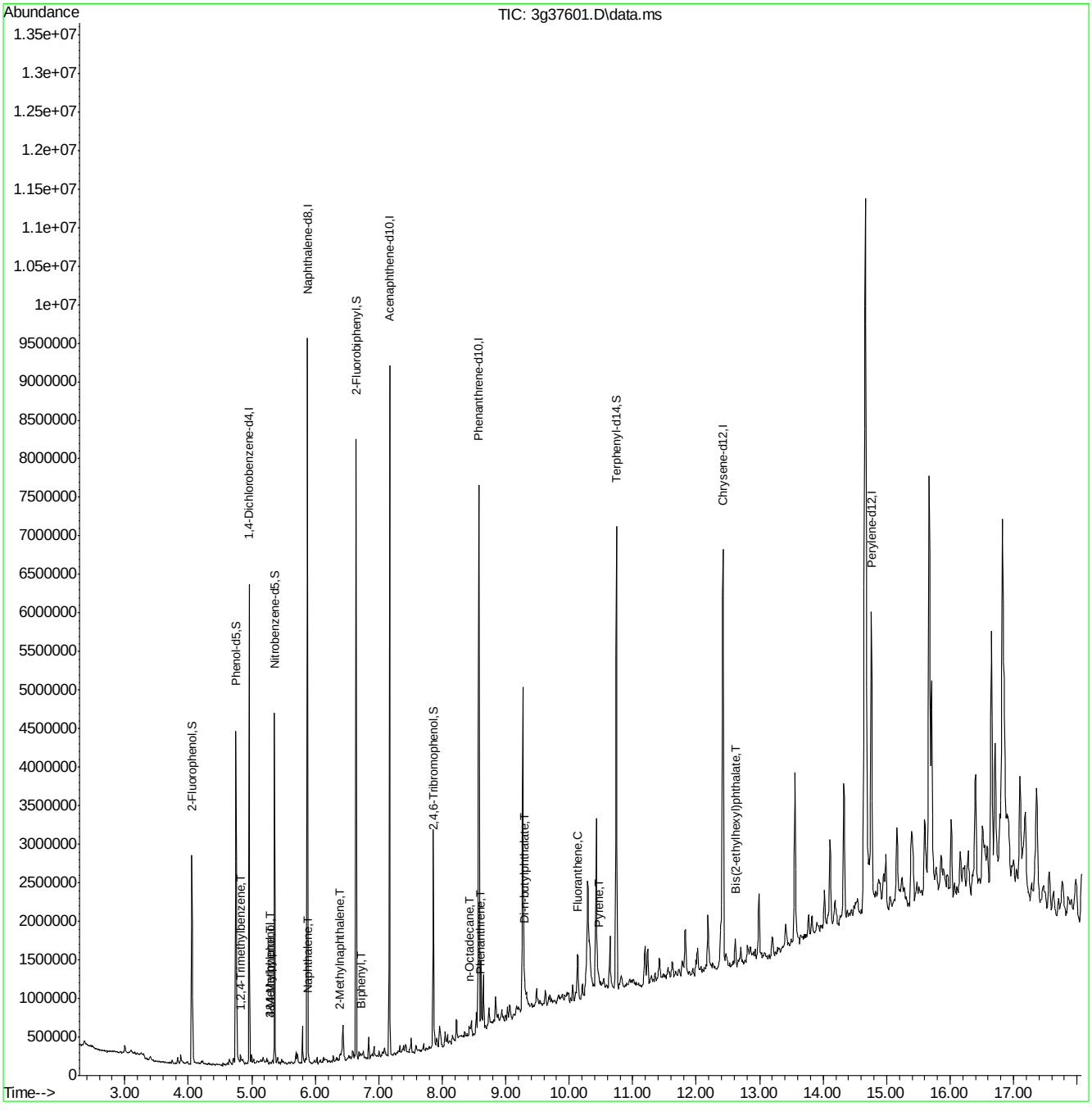
Target Compounds							Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	20940	0.2153	ppm		87
14) n-decane	4.819	43	5720	Below Cal		#	63
23) 4-Methylphenol	5.289	107	9730	0.2340	ppm		83
24) 3&4-Methylphenol	5.289	107	9730	0.2340	ppm		83
36) Naphthalene	5.889	128	48788	0.7969	ppm		91
42) 2-Methylnaphthalene	6.388	142	11389	0.2132	ppm	#	74
50) Biphenyl	6.717	154	11716	0.5956	ppm		88
63) Diethylphthalate	7.510	149	20995	Below Cal			71
78) n-Octadecane	8.427	57	23009	0.4176	ppm		89
79) Phenanthrene	8.603	178	21912	0.2925	ppm		83
82) Di-n-butylphthalate	9.291	149	50526	0.6959	ppm	#	81
83) Fluoranthene	10.137	202	37924	0.4844	ppm		89
85) Benzidine	10.407	184	1908	Below Cal		#	1
86) Pyrene	10.466	202	38660	0.4622	ppm		88
92) Bis(2-ethylhexyl)phtha...	12.616	149	60659	1.3251	ppm	#	59

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

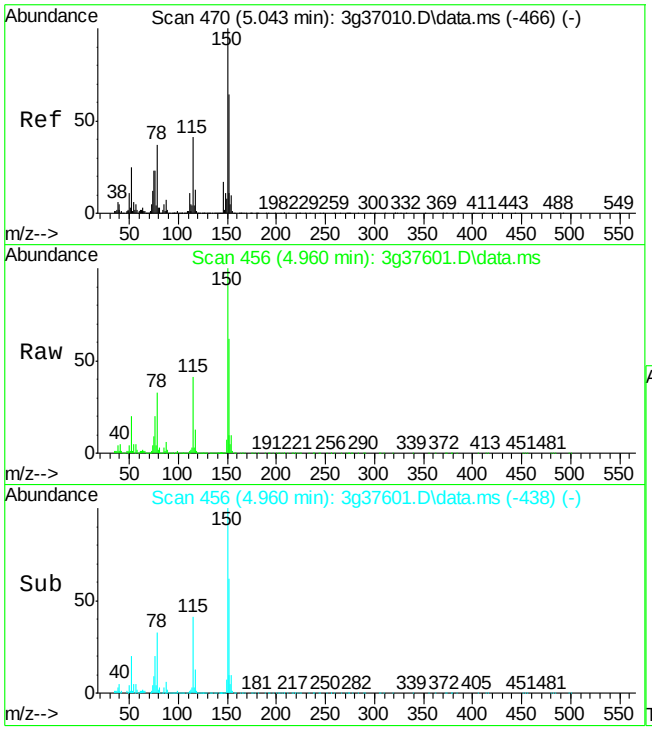
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37601.D
Acq On : 7 Aug 2018 10:16 pm
Operator : DONC
Sample : DA7701-13
Misc : OP16681,E3G1870,30.10,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 08 09:59:52 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



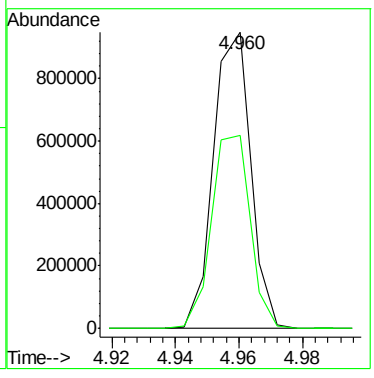
bnae3g1850.M Wed Aug 08 09:59:57 2018 3G Page: 2

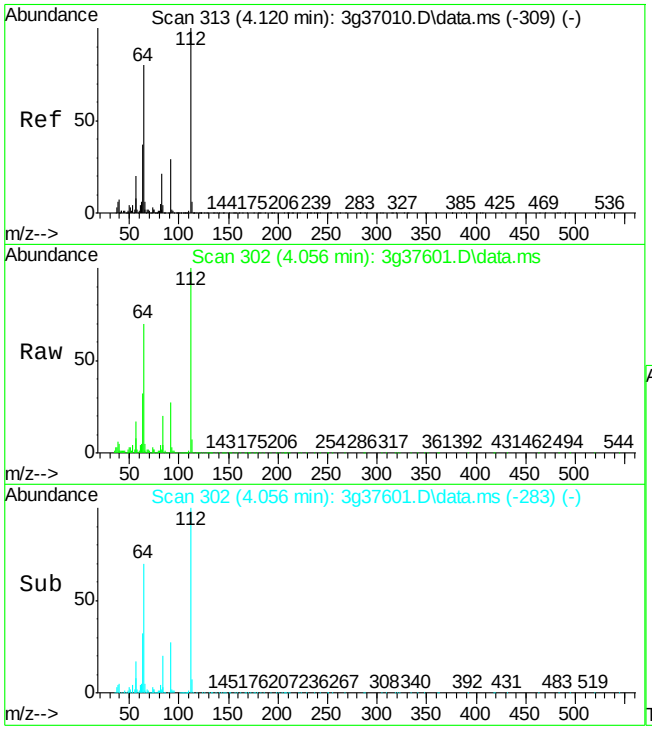


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.960 min Scan# 456
Delta R.T. 0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:152 Resp: 772155

Ion	Ratio	Lower	Upper
152	100		
115	67.4	53.0	93.0

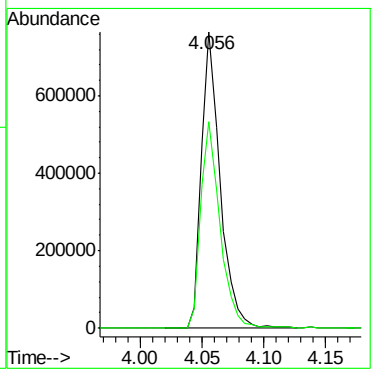


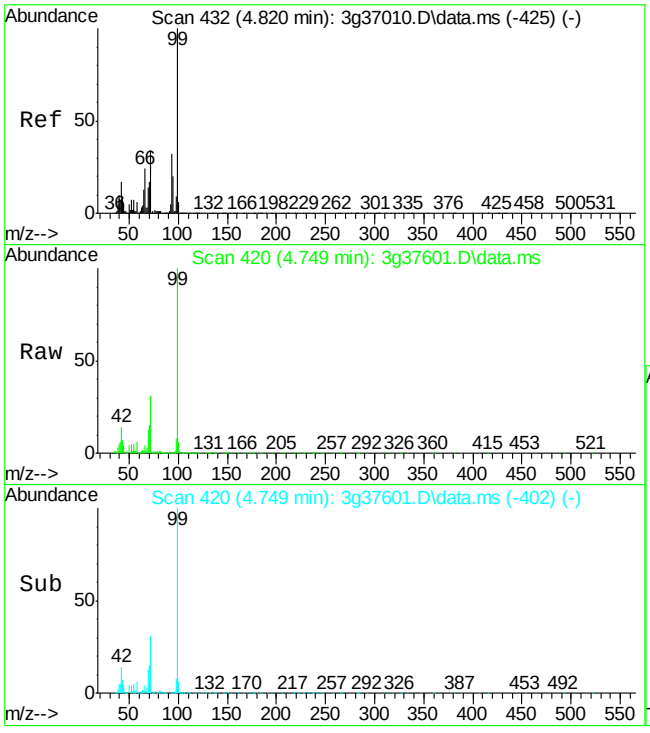


#5
2-Fluorophenol
Concen: 22.4050 ppm
RT: 4.056 min Scan# 302
Delta R.T. 0.012 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:112 Resp: 806444

Ion	Ratio	Lower	Upper
112	100		
64	71.5	58.3	98.3

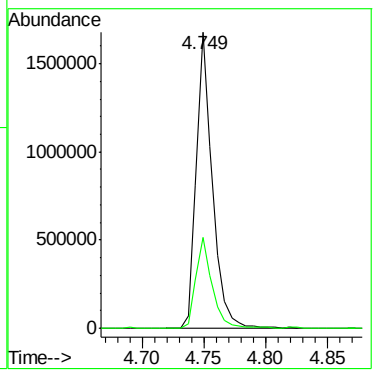


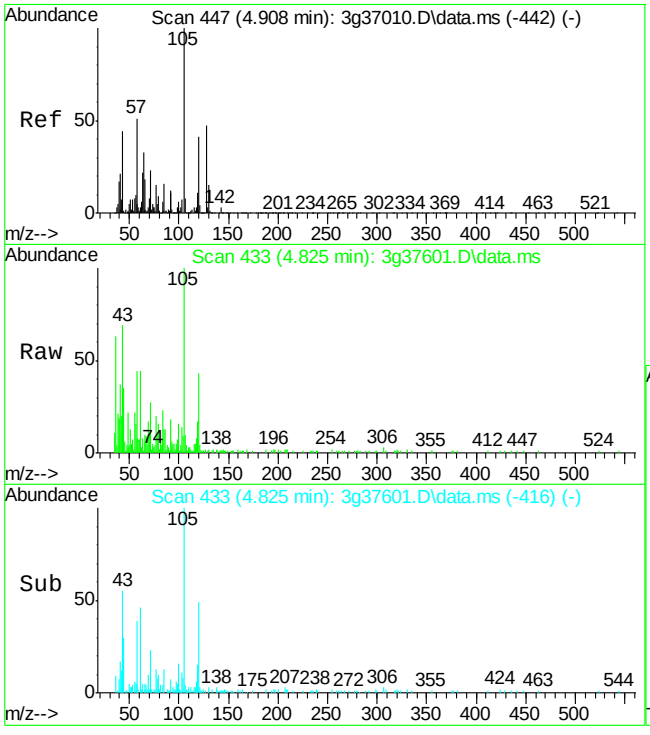


#8
Phenol-d5
Concen: 28.4387 ppm
RT: 4.749 min Scan# 420
Delta R.T. 0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion: 99 Resp: 1515989

Ion	Ratio	Lower	Upper
99	100		
71	30.6	13.6	53.6

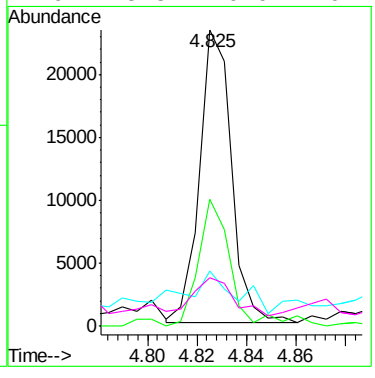


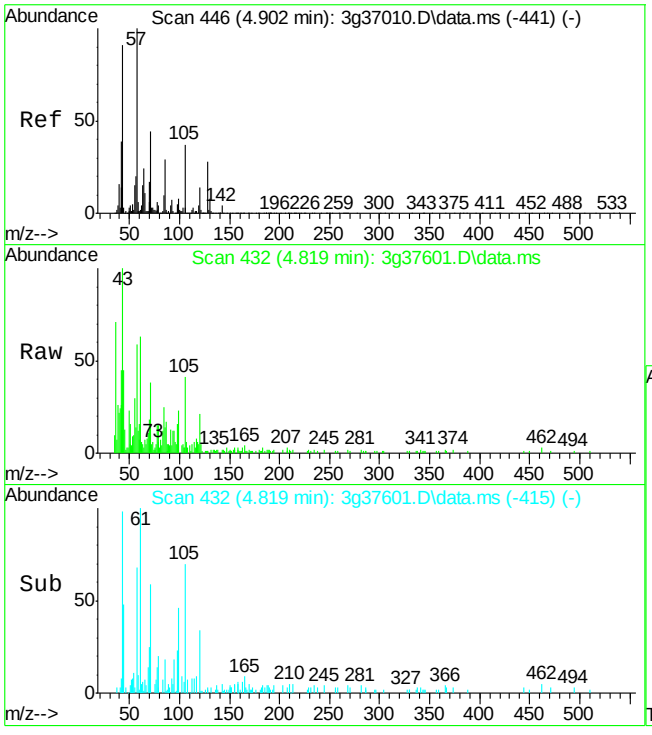


#13
1,2,4-Trimethylbenzene
Concen: 0.2153 ppm
RT: 4.825 min Scan# 433
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:105 Resp: 20940

Ion	Ratio	Lower	Upper
105	100		
120	44.2	19.5	59.5
91	19.6	0.0	31.4
79	18.8	0.0	29.2

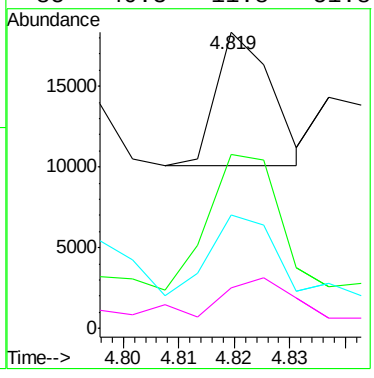


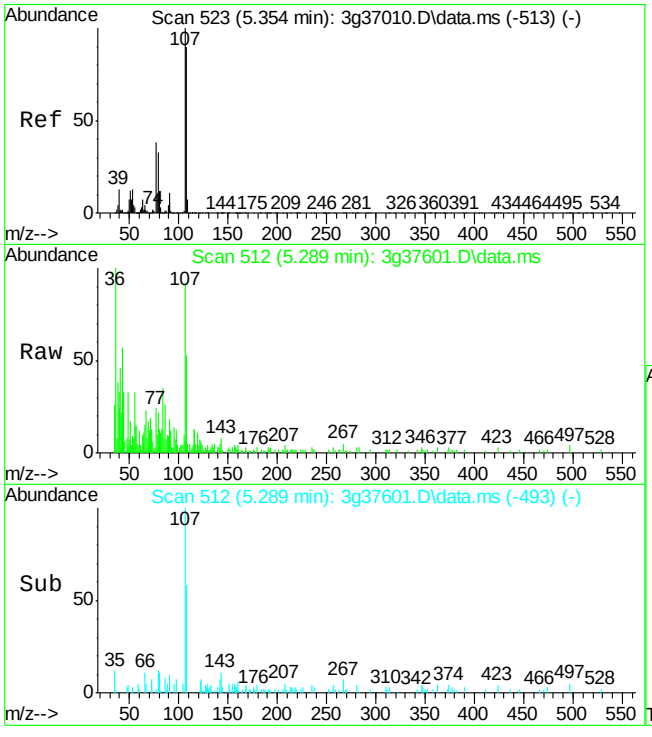


#14
n-decane
Concen: Below ppm
RT: 4.819 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion: 43 Resp: 5720

Ion	Ratio	Lower	Upper
43	100		
57	135.6	92.0	132.0#
71	105.6	28.7	68.7#
85	40.3	11.8	51.8

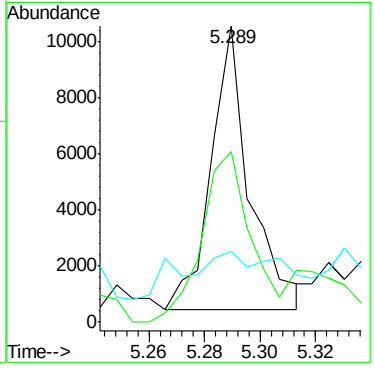


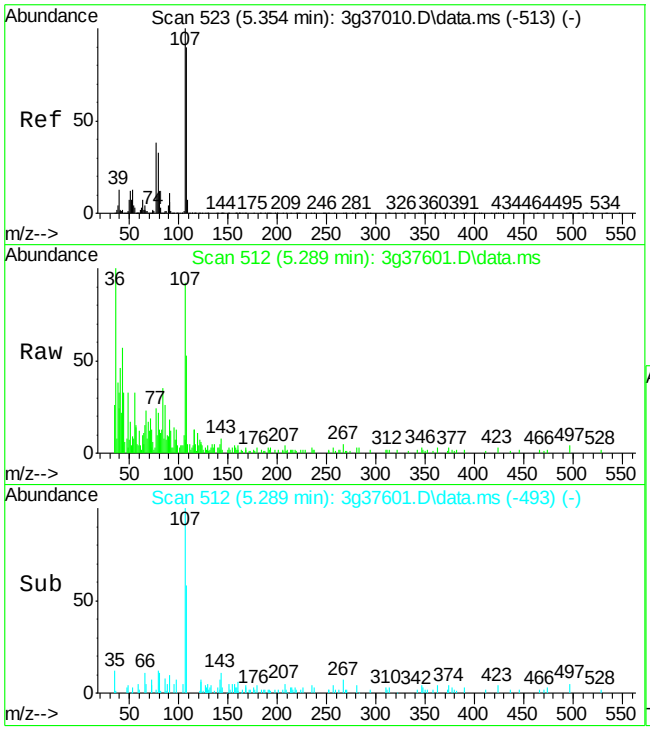


#23
4-Methylphenol
Concen: 0.2340 ppm
RT: 5.289 min Scan# 512
Delta R.T. 0.012 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:107 Resp: 9730

Ion	Ratio	Lower	Upper
107	100		
108	76.7	72.8	112.8
79	45.0	15.6	55.6

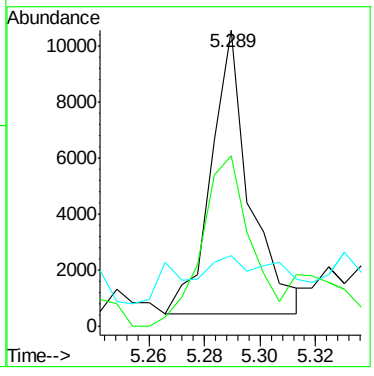


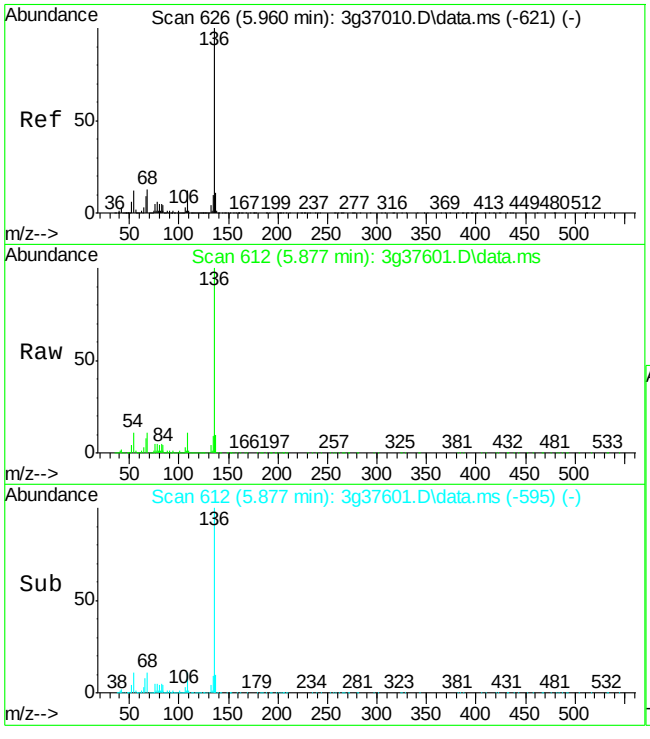


#24
3&4-Methylphenol
Concen: 0.2340 ppm
RT: 5.289 min Scan# 512
Delta R.T. 0.012 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:107 Resp: 9730

Ion	Ratio	Lower	Upper
107	100		
108	76.7	72.8	112.8
79	45.0	15.6	55.6

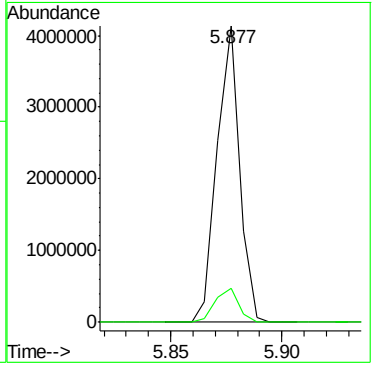


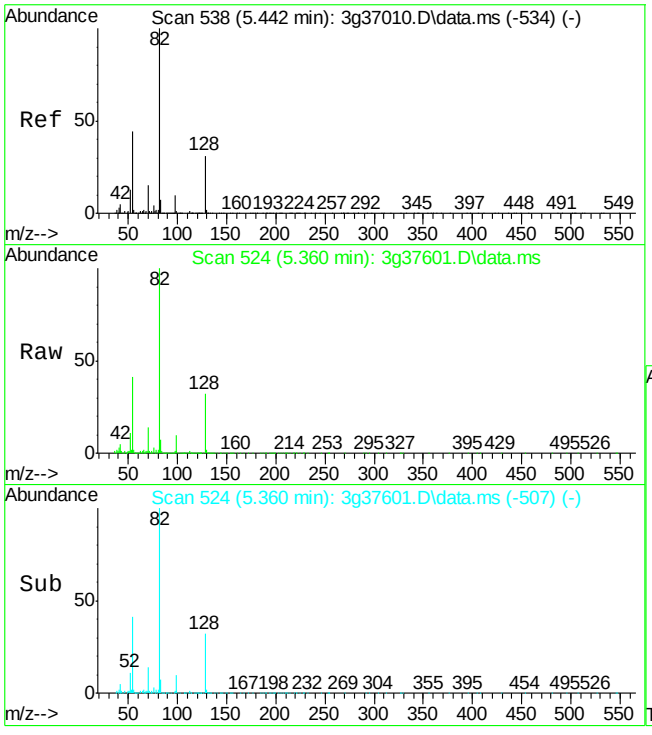


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:136 Resp: 2932826

Ion	Ratio	Lower	Upper
136	100		
68	11.9	0.0	32.4

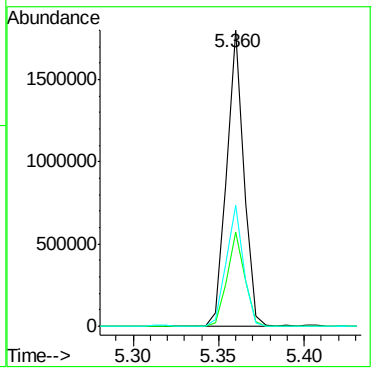


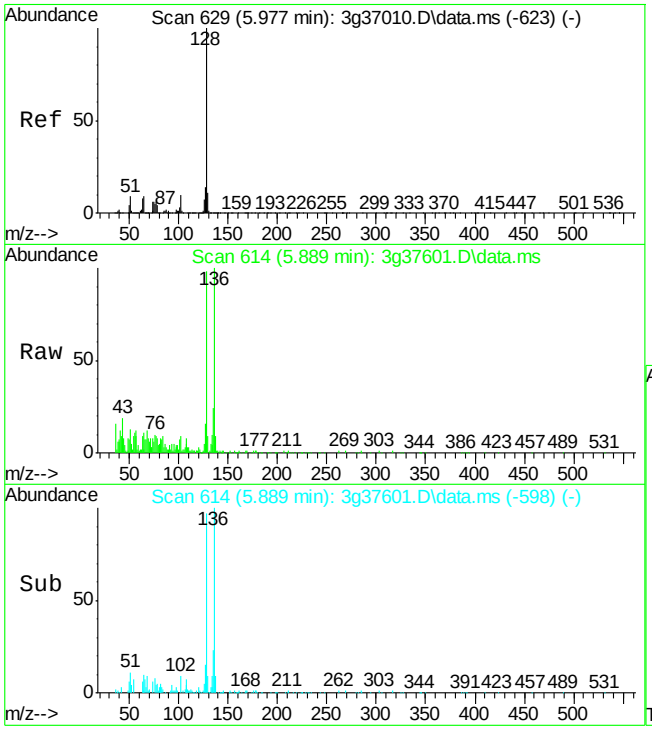


#27
Nitrobenzene-d5
Concen: 24.8138 ppm
RT: 5.360 min Scan# 524
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion: 82 Resp: 1253930

Ion	Ratio	Lower	Upper
82	100		
128	32.5	10.8	50.8
54	41.1	22.9	62.9

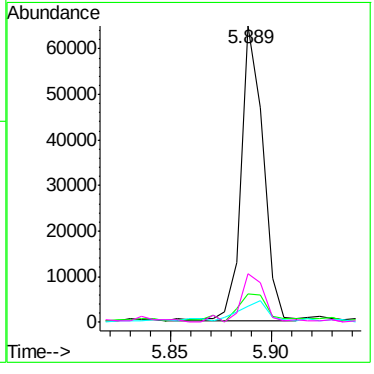


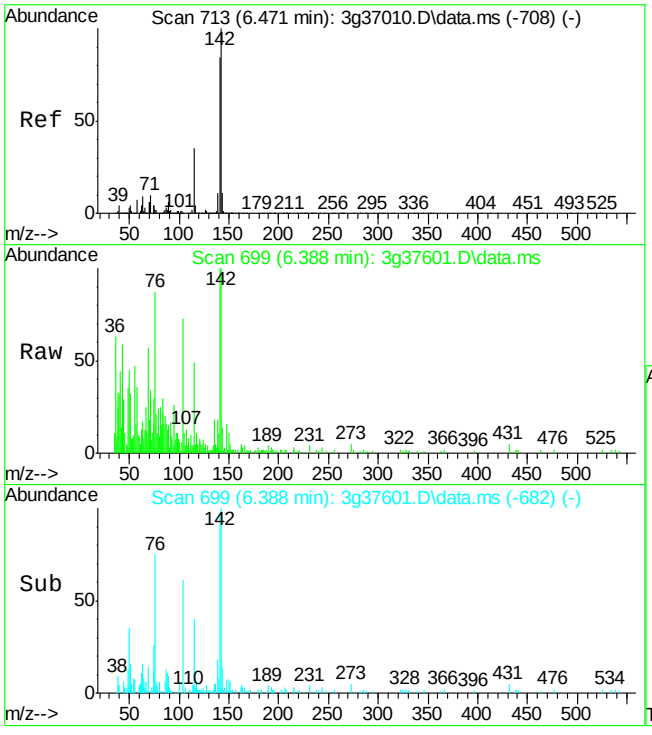


#36
Naphthalene
Concen: 0.7969 ppm
RT: 5.889 min Scan# 614
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:128 Resp: 48788

Ion	Ratio	Lower	Upper
128	100		
129	12.4	0.0	30.9
126	12.2	0.0	27.5
127	18.1	0.0	34.2

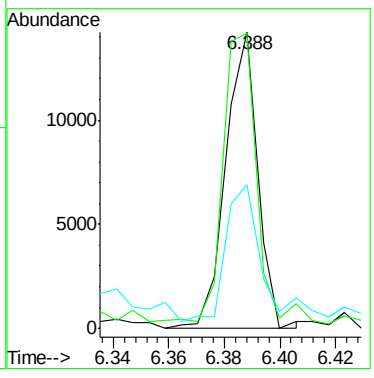


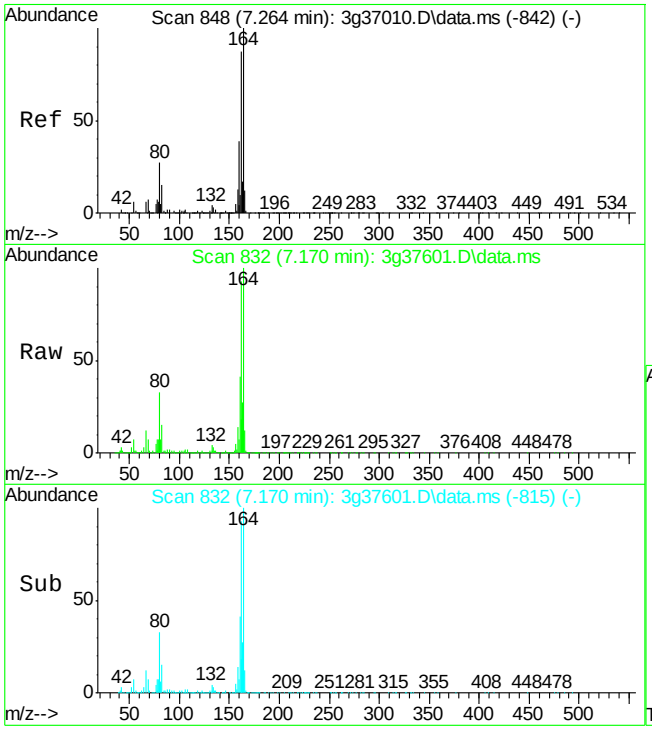


#42
2-Methylnaphthalene
Concen: 0.2132 ppm
RT: 6.388 min Scan# 699
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:142 Resp: 11389

Ion	Ratio	Lower	Upper
142	100		
141	104.2	62.4	102.4#
115	53.4	15.8	55.8

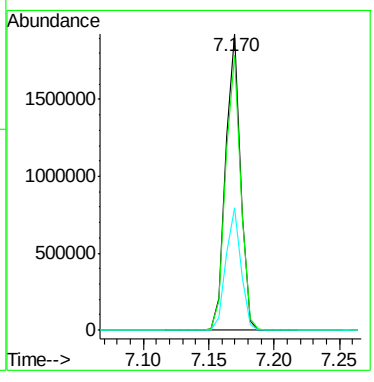


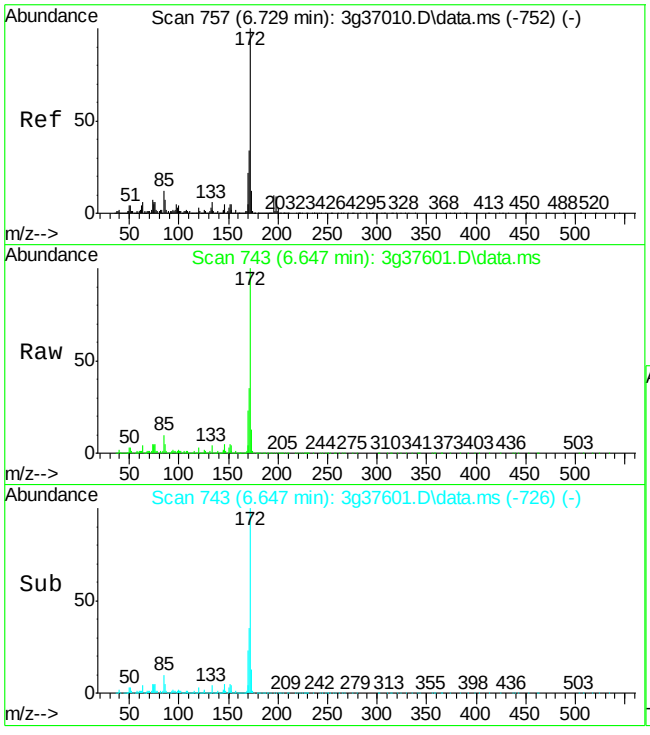


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.170 min Scan# 832
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:164 Resp: 1489425

Ion	Ratio	Lower	Upper
164	100		
162	94.4	69.6	109.6
160	42.0	20.5	60.5

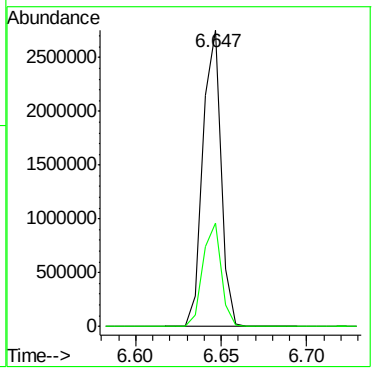


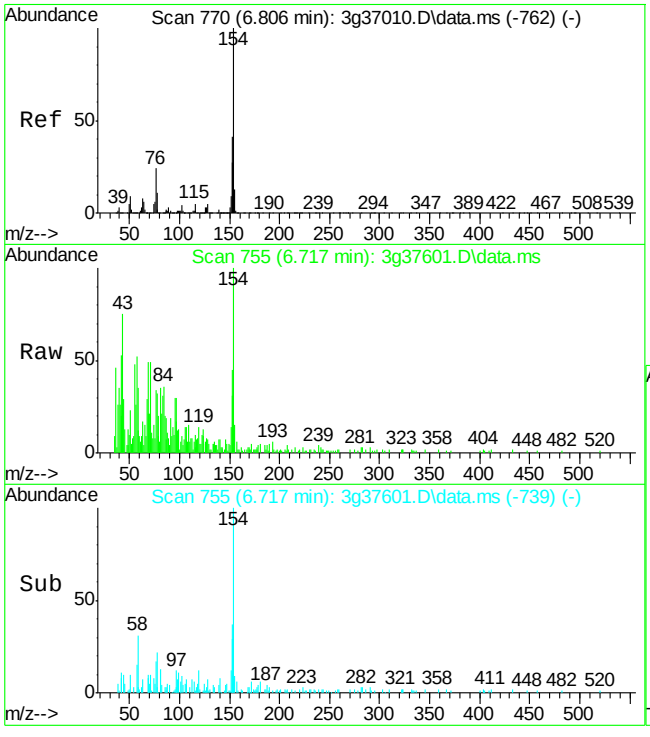


#49
2-Fluorobiphenyl
Concen: 39.5984 ppm
RT: 6.647 min Scan# 743
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:172 Resp: 2030057

Ion	Ratio	Lower	Upper
172	100		
171	35.1	14.5	54.5

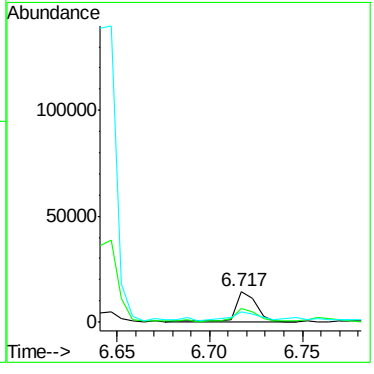


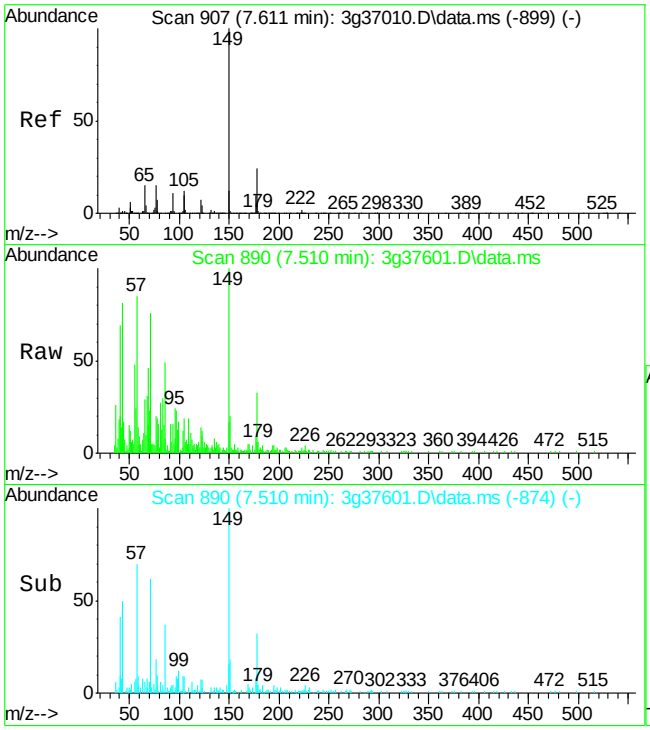


#50
Biphenyl
Concen: 0.5956 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:154 Resp: 11716

Ion	Ratio	Lower	Upper
154	100		
153	40.1	21.4	61.4
76	39.9	5.2	45.2

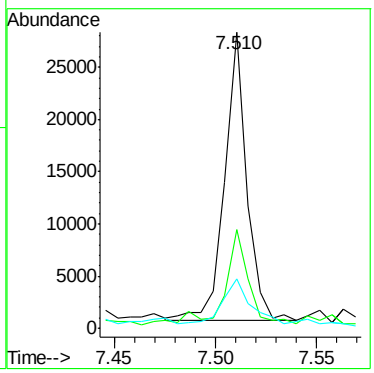


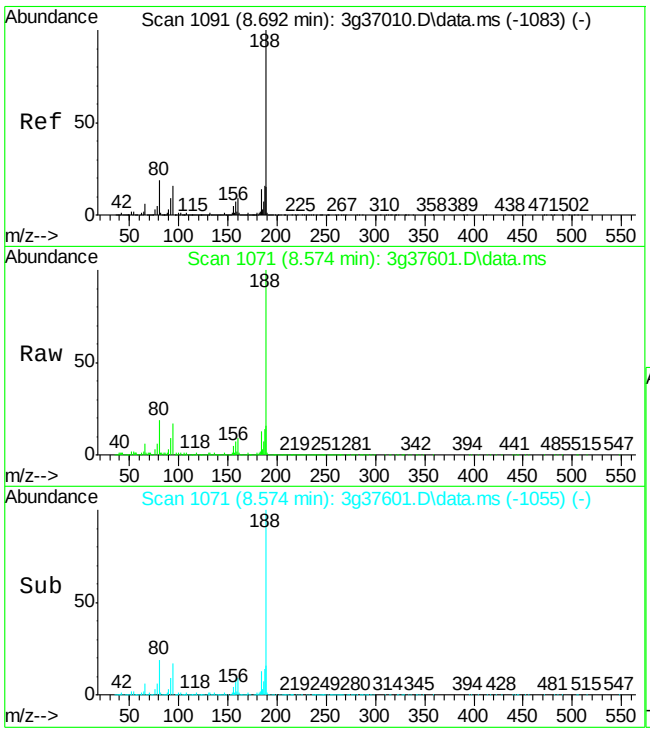


#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:149 Resp: 20995

Ion	Ratio	Lower	Upper
149	100		
177	36.9	3.6	43.6
150	25.2	0.0	32.5

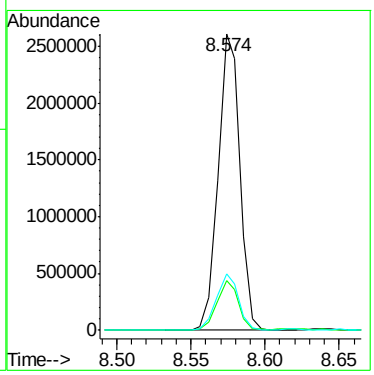


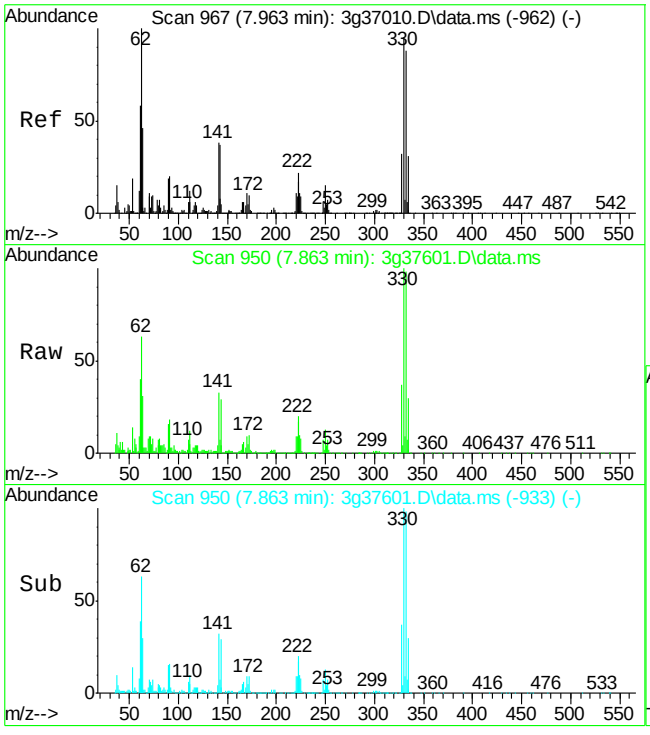


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:188 Resp: 2673115

Ion	Ratio	Lower	Upper
188	100		
94	16.4	0.0	35.1
80	19.3	0.0	37.9

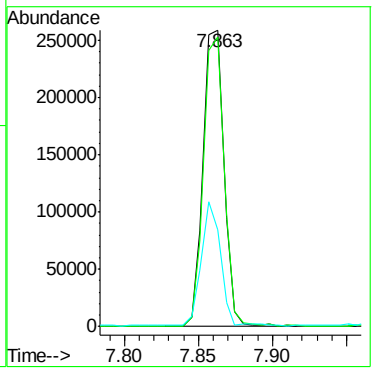


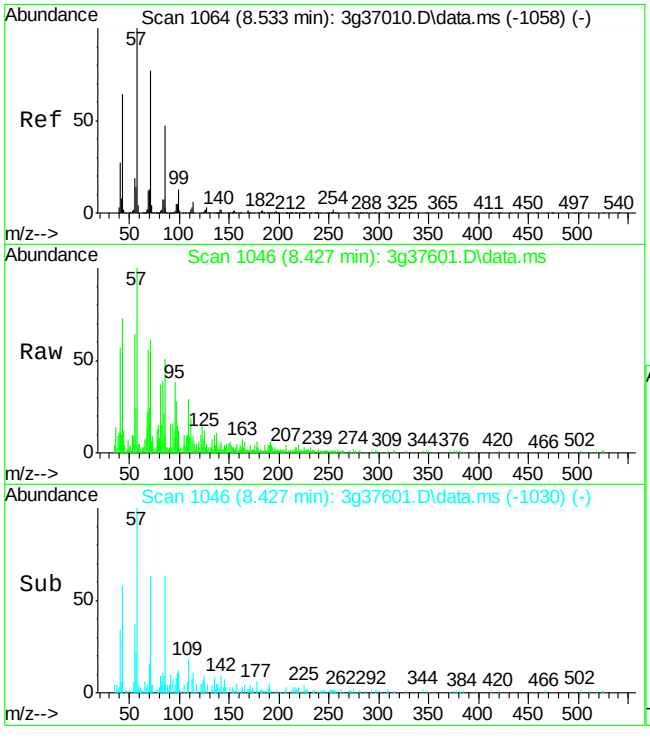


#69
2,4,6-Tribromophenol
Concen: 40.7087 ppm
RT: 7.863 min Scan# 950
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:330 Resp: 253758

Ion	Ratio	Lower	Upper
330	100		
332	96.7	74.8	112.2
141	37.2	33.8	50.6

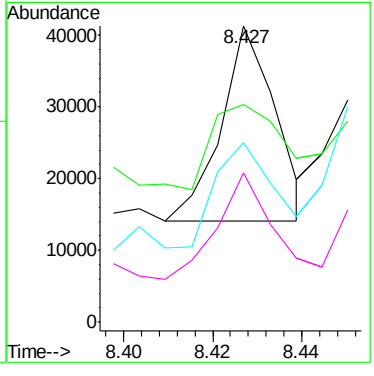


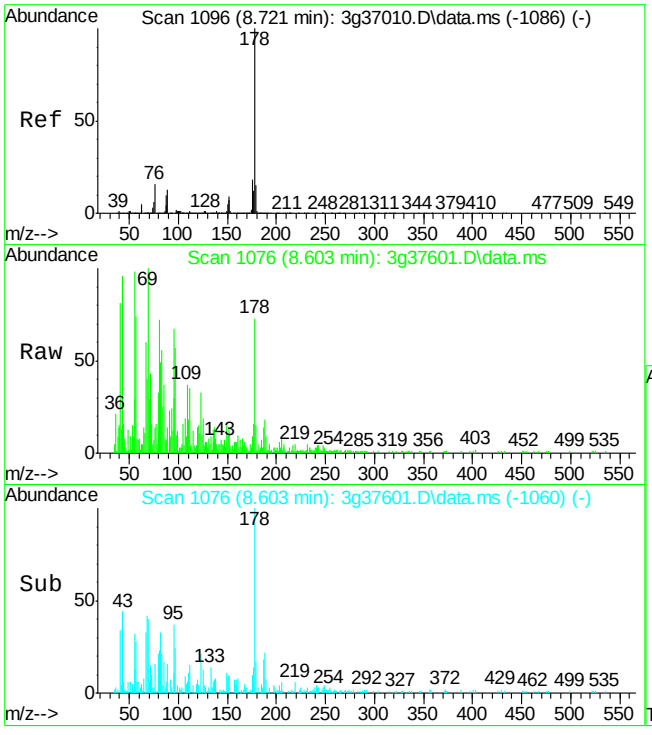


#78
n-Octadecane
Concen: 0.4176 ppm
RT: 8.427 min Scan# 1046
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion: 57 Resp: 23009

Ion	Ratio	Lower	Upper
57	100		
43	72.1	43.2	83.2
71	68.5	55.6	95.6
85	56.6	27.3	67.3

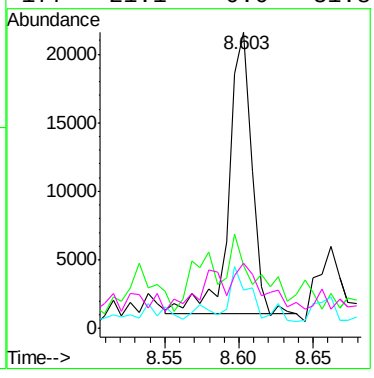


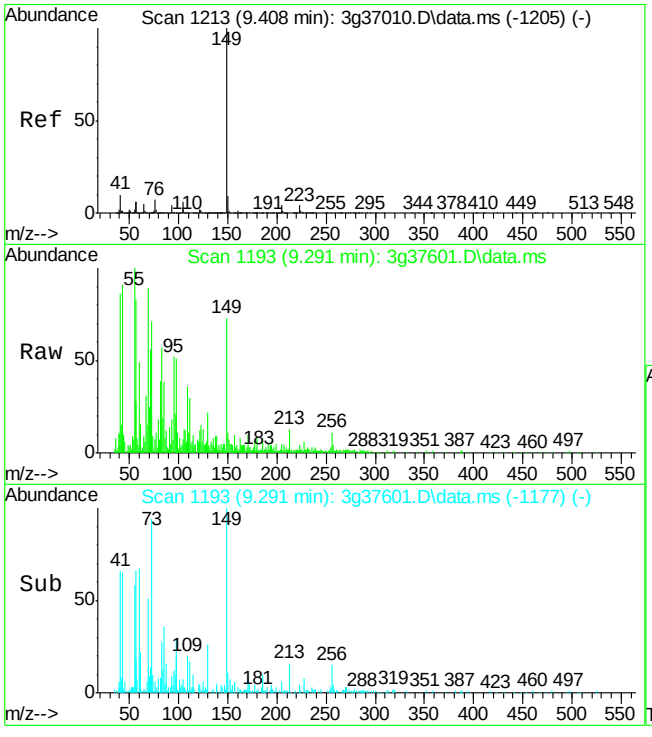


#79
Phenanthrene
Concen: 0.2925 ppm
RT: 8.603 min Scan# 1076
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:178 Resp: 21912

Ion	Ratio	Lower	Upper
178	100		
179	26.4	0.0	35.6
176	15.8	0.0	38.7
177	21.1	0.0	31.8

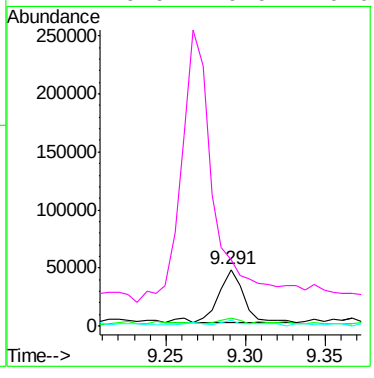


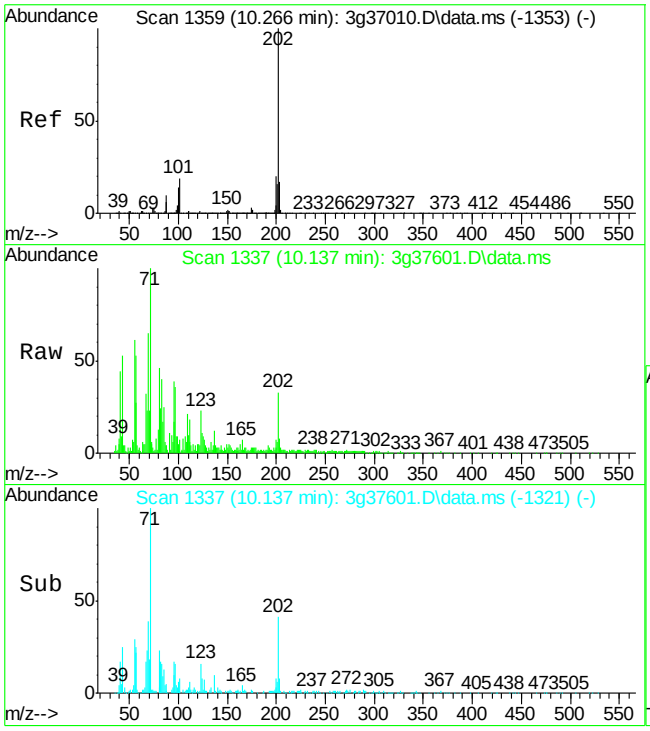


#82
Di-n-butylphthalate
Concen: 0.6959 ppm
RT: 9.291 min Scan# 1193
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:149 Resp: 50526

Ion	Ratio	Lower	Upper
149	100		
150	11.7	0.0	28.8
104	13.4	0.0	25.8
41	0.0	0.0	29.6

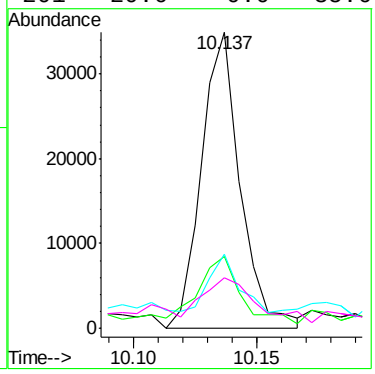


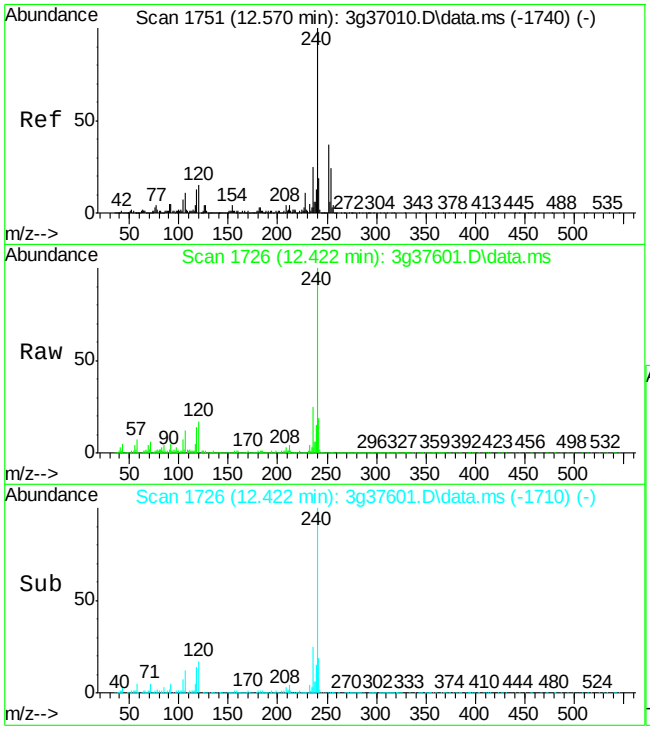


#83
Fluoranthene
Concen: 0.4844 ppm
RT: 10.137 min Scan# 1337
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:202 Resp: 37924

Ion	Ratio	Lower	Upper
202	100		
101	26.1	0.0	38.8
203	15.7	0.0	37.1
201	20.6	0.0	35.6

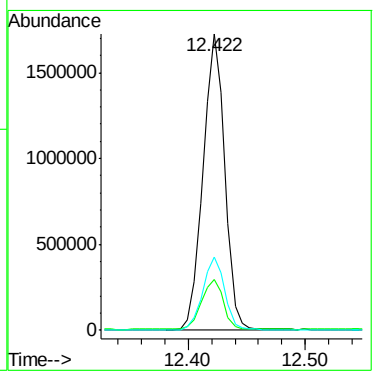


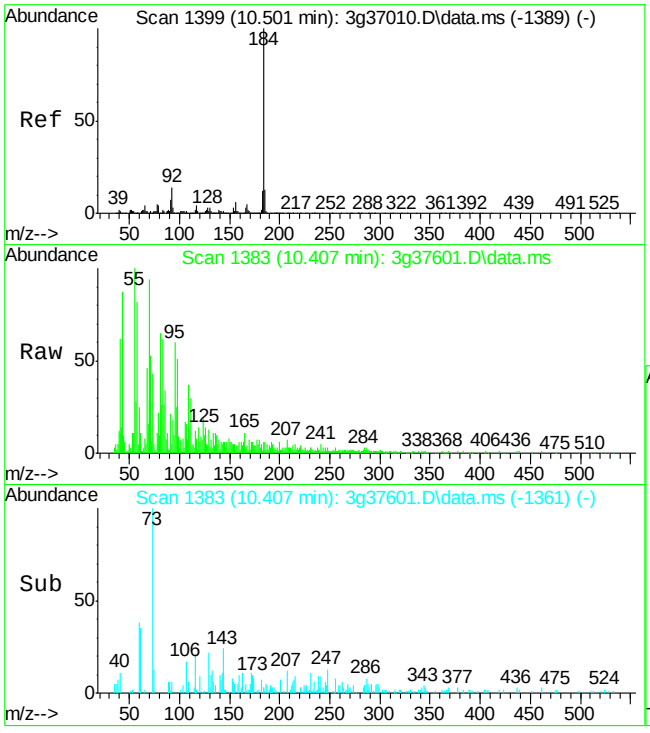


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.422 min Scan# 1726
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:240 Resp: 2247286

Ion	Ratio	Lower	Upper
240	100		
120	17.0	0.0	36.6
236	24.9	4.3	44.3

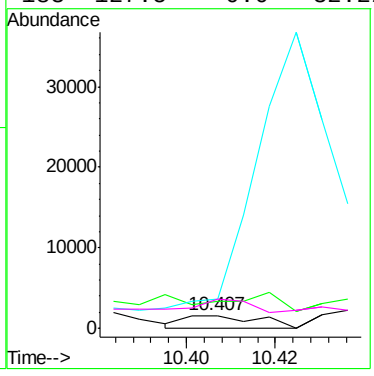


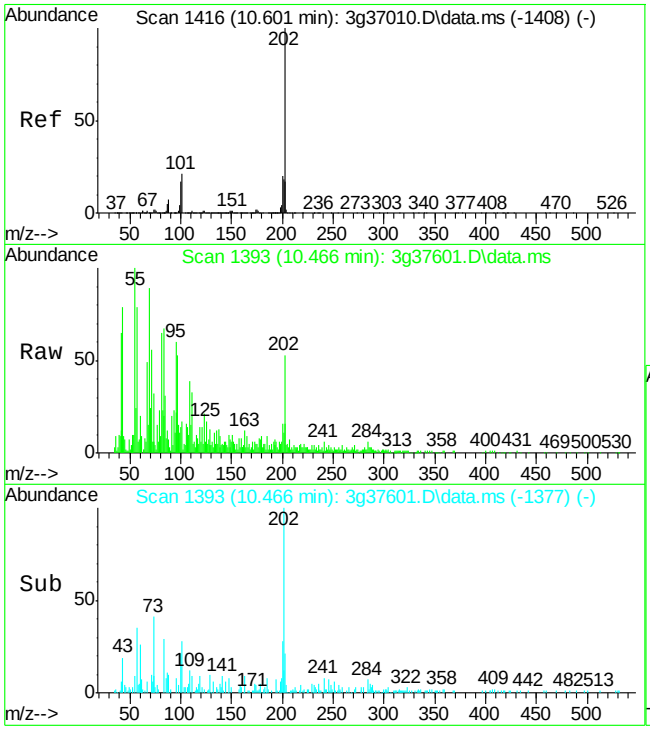


#85
Benzidine
Concen: Below ppm
RT: 10.407 min Scan# 1383
Delta R.T. 0.029 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:184 Resp: 1908

Ion	Ratio	Lower	Upper
184	100		
92	125.6	0.0	34.2#
185	0.0	0.0	33.2
183	127.5	0.0	32.2#

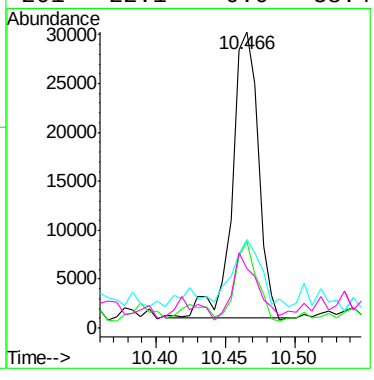


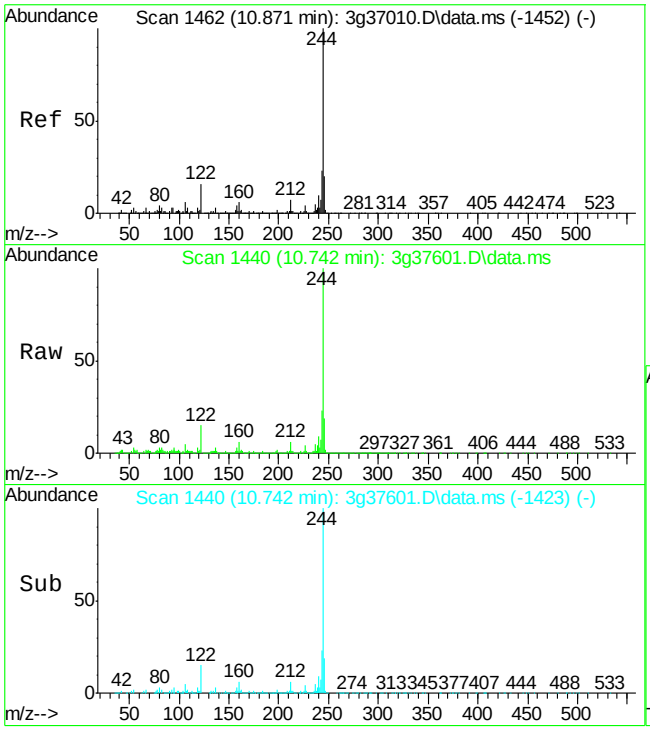


#86
Pyrene
Concen: 0.4622 ppm
RT: 10.466 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:202 Resp: 38660

Ion	Ratio	Lower	Upper
202	100		
200	23.4	0.0	39.9
203	26.8	0.0	37.7
201	22.1	0.0	38.4

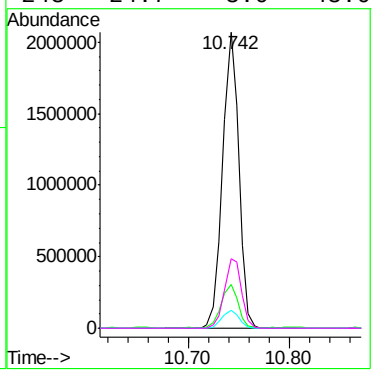


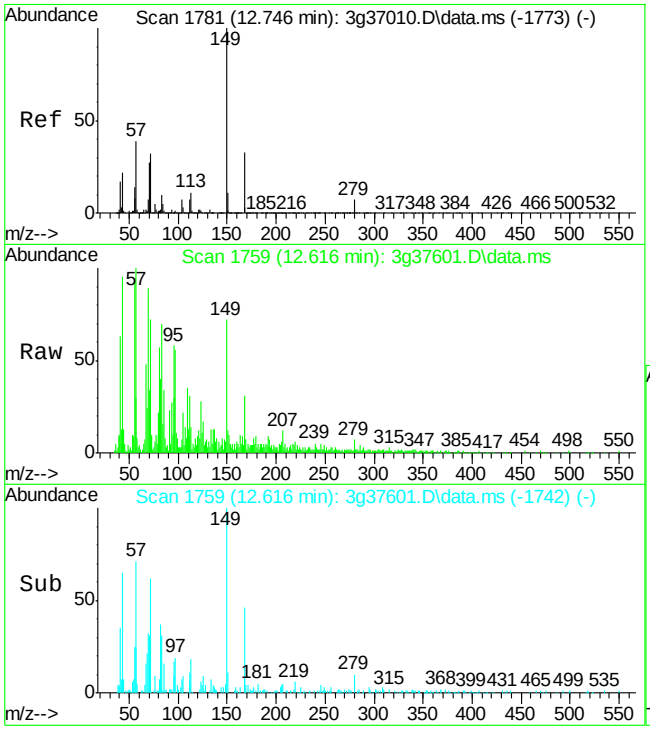


#87
Terphenyl-d14
Concen: 41.1243 ppm
RT: 10.742 min Scan# 1440
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:244 Resp: 2318533

Ion	Ratio	Lower	Upper
244	100		
122	15.0	0.0	35.4
212	6.4	0.0	27.0
243	24.7	3.0	43.0

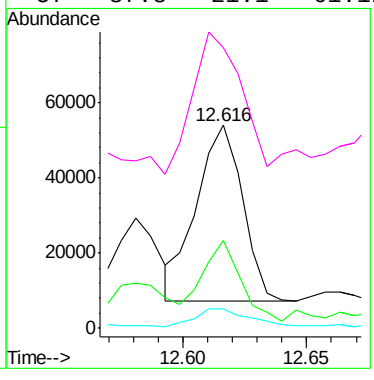


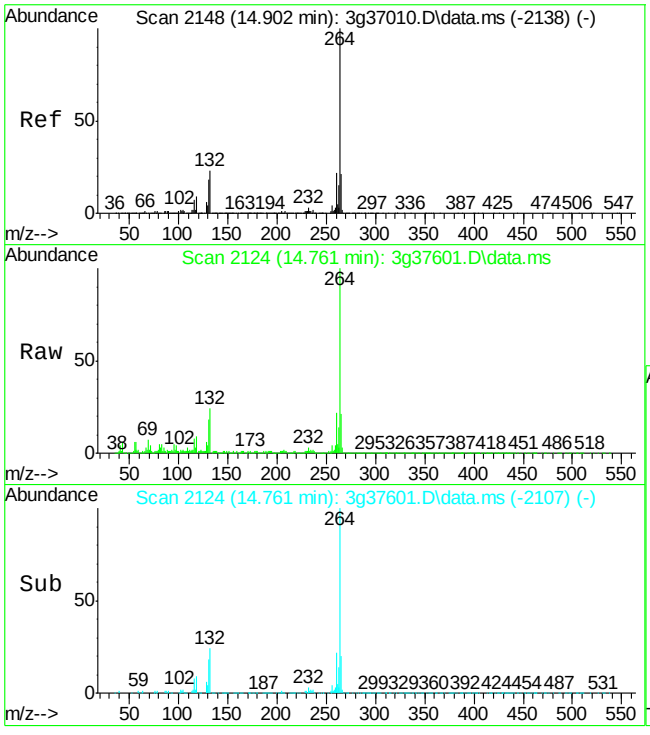


#92
Bis(2-ethylhexyl)phthalate
Concen: 1.3251 ppm
RT: 12.616 min Scan# 1759
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:149 Resp: 60659

Ion	Ratio	Lower	Upper
149	100		
167	37.3	13.6	53.6
279	11.0	0.0	27.3
57	87.8	21.1	61.1#

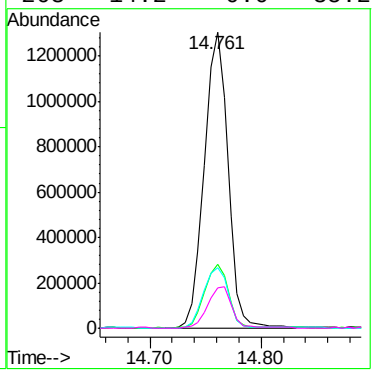




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.761 min Scan# 2124
Delta R.T. -0.000 min
Lab File: 3g37601.D
Acq: 7 Aug 18 10:16 pm

Tgt Ion:264 Resp: 1920638

Ion	Ratio	Lower	Upper
264	100		
260	21.9	1.3	41.3
265	21.3	0.2	40.2
263	14.2	0.0	35.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37620.D
Acq On : 8 Aug 2018 4:34 pm
Operator : DONC
Sample : DA7701-14
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 09 08:39:05 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	849639	40.0000 ppm	0.00
26) Naphthalene-d8	5.871	136	3288354	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1698457	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	3069366	40.0000 ppm	0.00
84) Chrysene-d12	12.416	240	2498619	40.0000 ppm	-0.01
93) Perylene-d12	14.755	264	2244178	40.0000 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	4.038	112	389640	9.8379 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 19.68%		
8) Phenol-d5	4.737	99	528301	9.0067 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 18.02%		
27) Nitrobenzene-d5	5.360	82	1820100	32.1235 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 64.24%		
49) 2-Fluorobiphenyl	6.641	172	2549159	43.6044 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 87.20%		
69) 2,4,6-Tribromophenol	7.857	330	168764	23.5785 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 47.16%		
87) Terphenyl-d14	10.742	244	2750460	43.8782 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 87.76%		

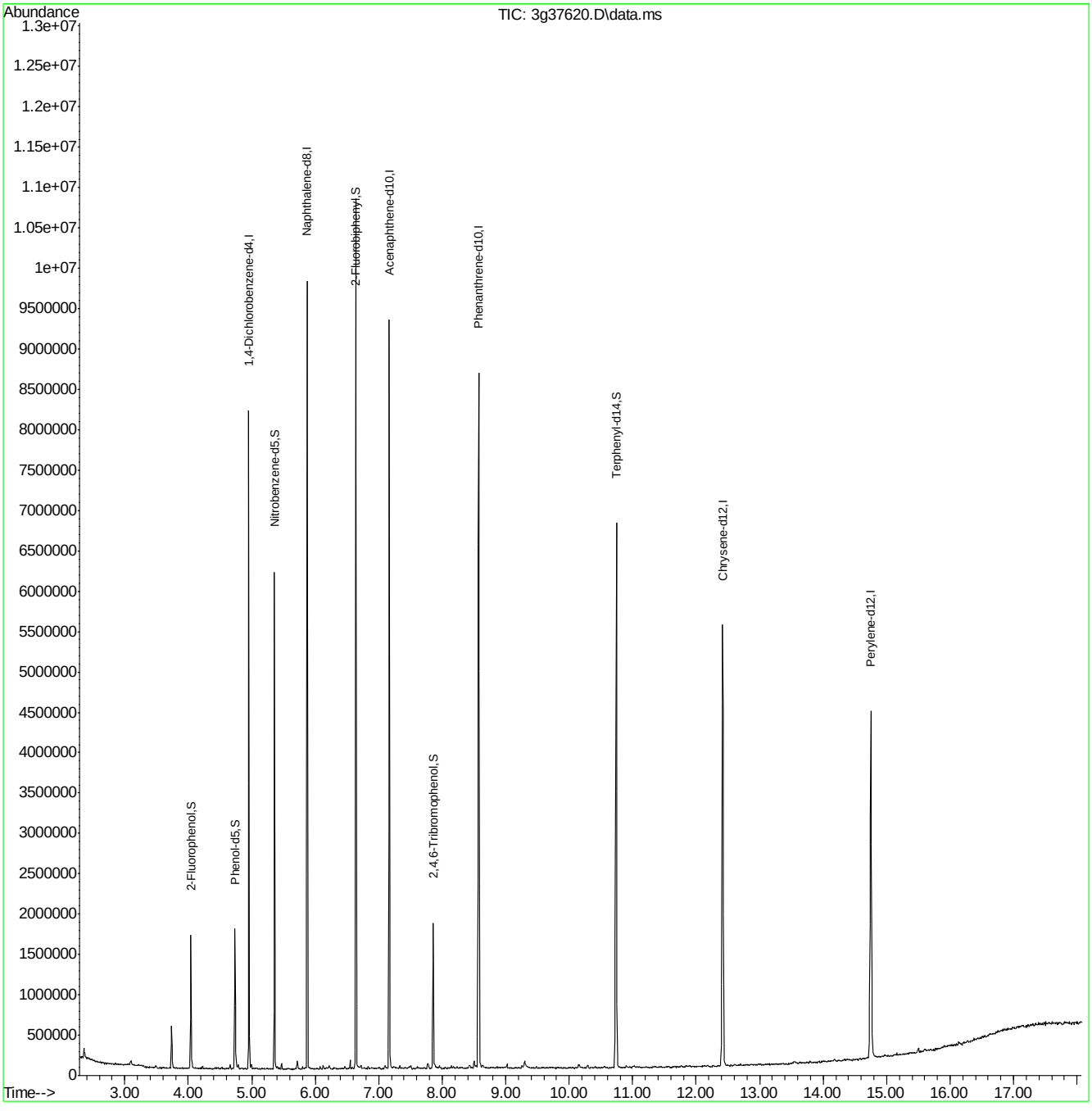
Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	1125	Below Cal #	1
14) n-decane	4.819	43	1281	Below Cal #	47
63) Diethylphthalate	7.510	149	3682	Below Cal #	81
85) Benzidine	10.313	184	1042	Below Cal #	67

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

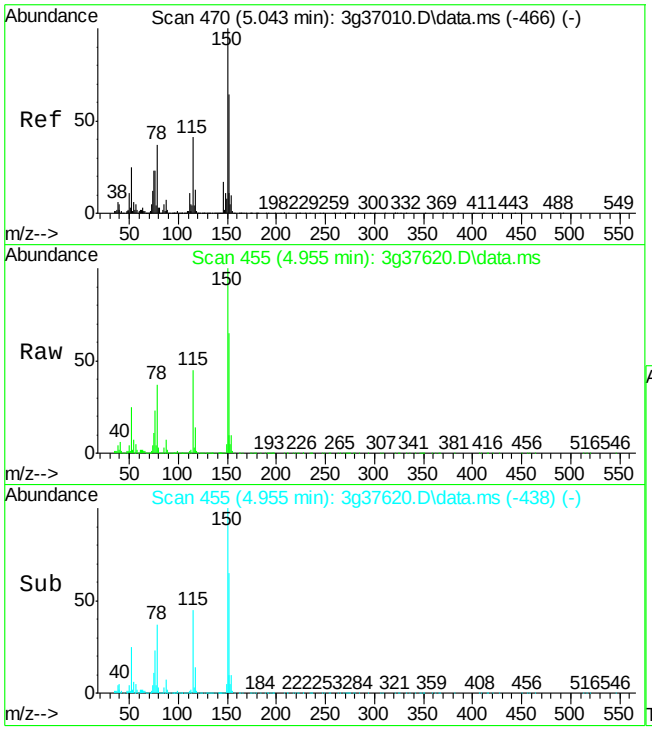
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37620.D
Acq On : 8 Aug 2018 4:34 pm
Operator : DONC
Sample : DA7701-14
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 09 08:39:05 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



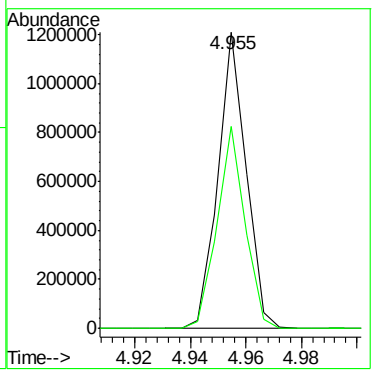
bnae3g1850.M Thu Aug 09 08:39:12 2018 3G

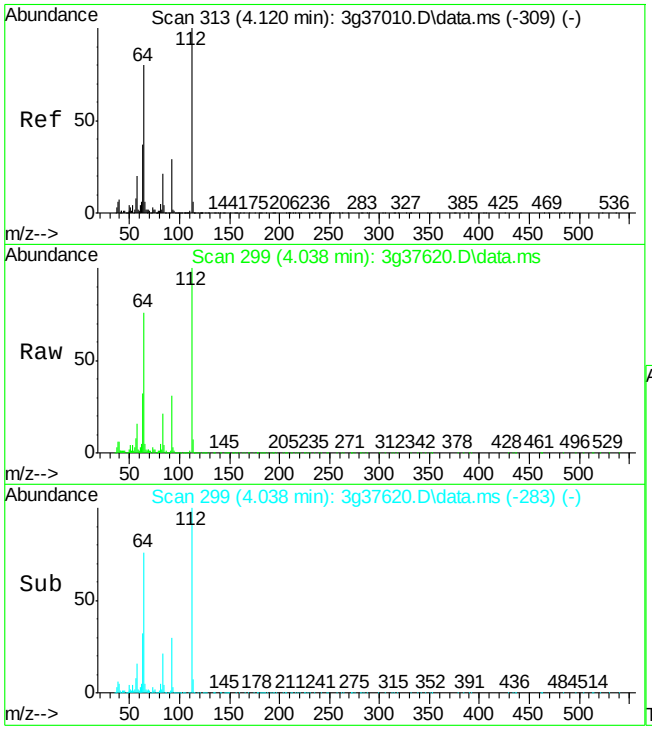


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. -0.000 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:152 Resp: 849639

Ion	Ratio	Lower	Upper
152	100		
115	67.4	53.0	93.0

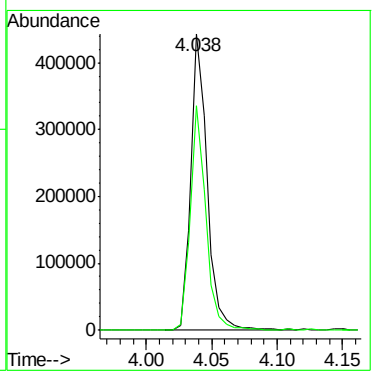


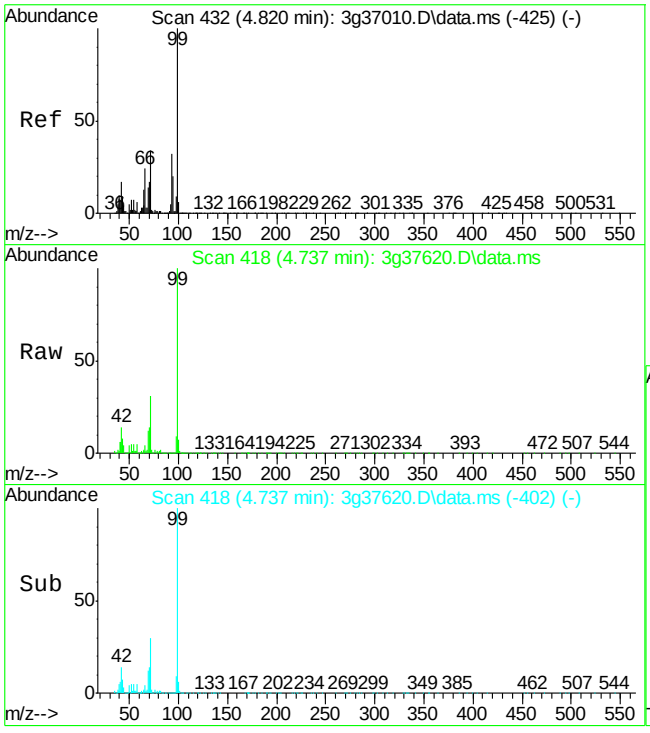


#5
2-Fluorophenol
Concen: 9.8379 ppm
RT: 4.038 min Scan# 299
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:112 Resp: 389640

Ion	Ratio	Lower	Upper
112	100		
64	71.8	58.3	98.3

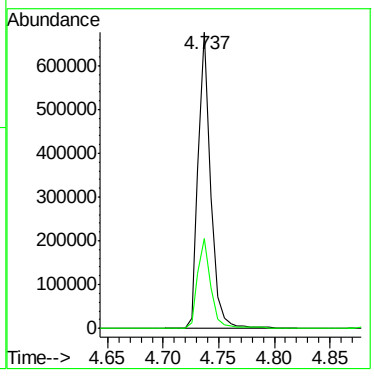


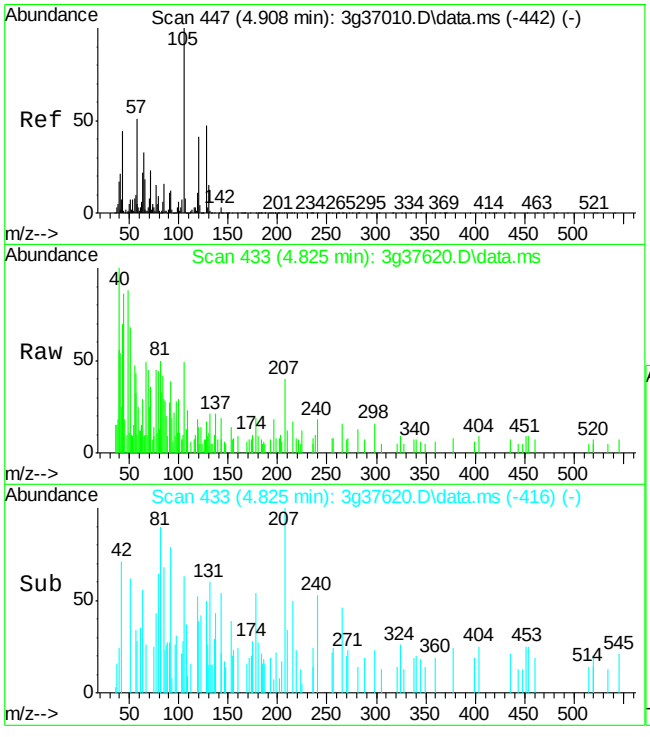


#8
Phenol-d5
Concen: 9.0067 ppm
RT: 4.737 min Scan# 418
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion: 99 Resp: 528301

Ion	Ratio	Lower	Upper
99	100		
71	31.8	13.6	53.6

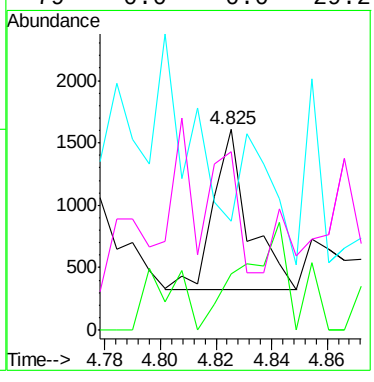


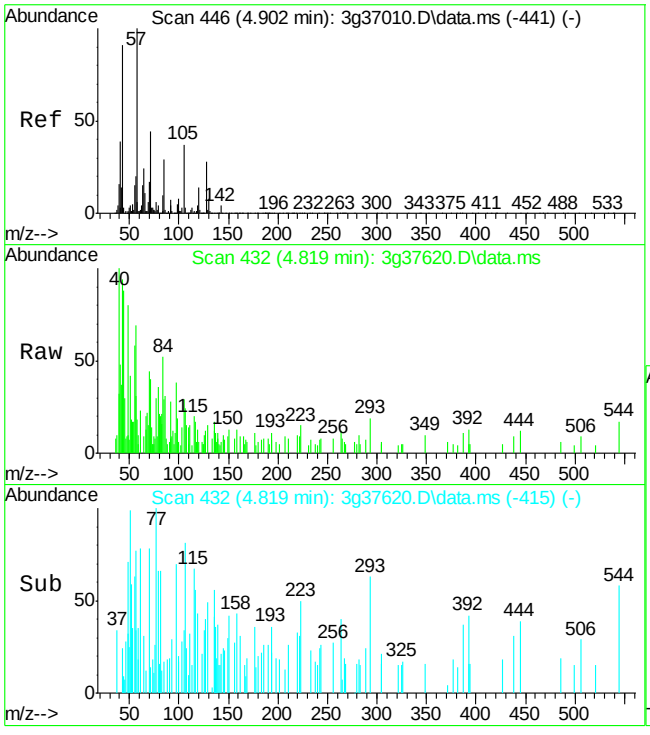


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. -0.000 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:105 Resp: 1125

Ion	Ratio	Lower	Upper
105	100		
120	97.5	19.5	59.5#
91	107.6	0.0	31.4#
79	0.0	0.0	29.2

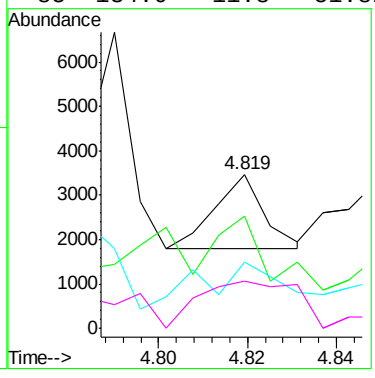


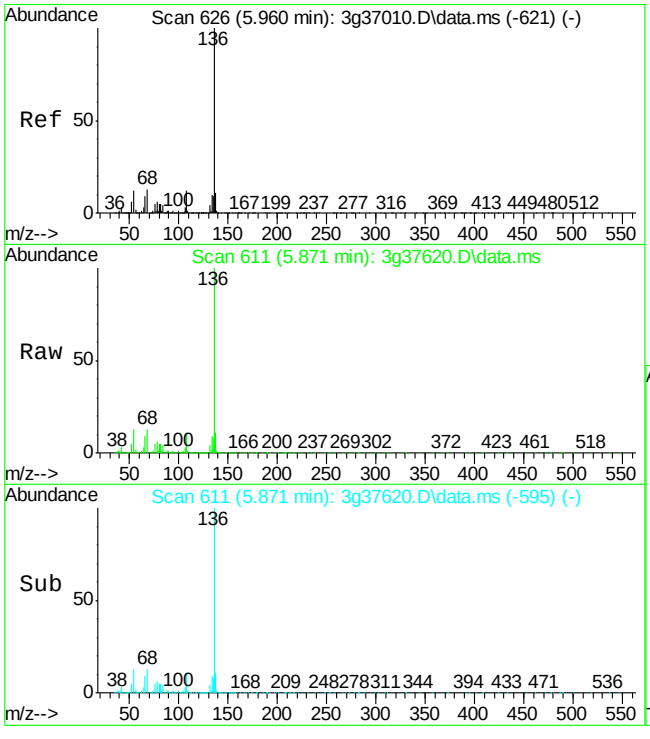


#14
n-decane
Concen: Below ppm
RT: 4.819 min Scan# 432
Delta R.T. -0.000 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion: 43 Resp: 1281

Ion	Ratio	Lower	Upper
43	100		
57	104.3	92.0	132.0
71	0.0	28.7	68.7#
85	134.0	11.8	51.8#

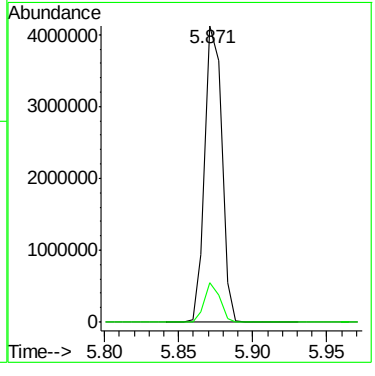


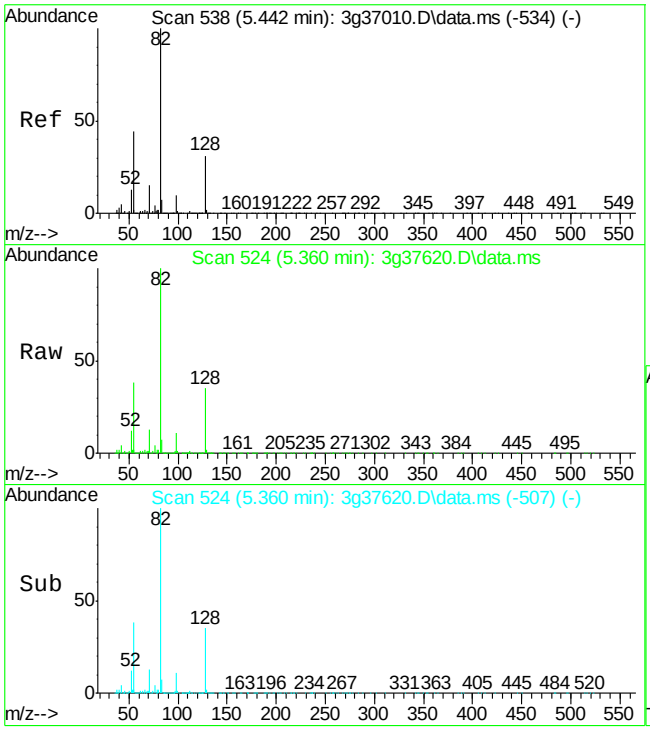


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:136 Resp: 3288354

Ion	Ratio	Lower	Upper
136	100		
68	12.1	0.0	32.4

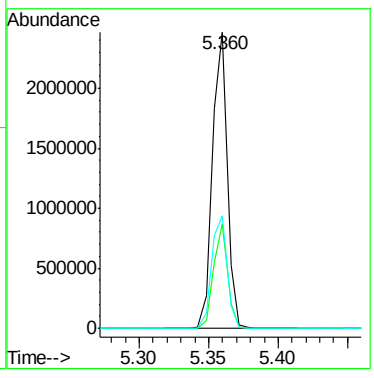


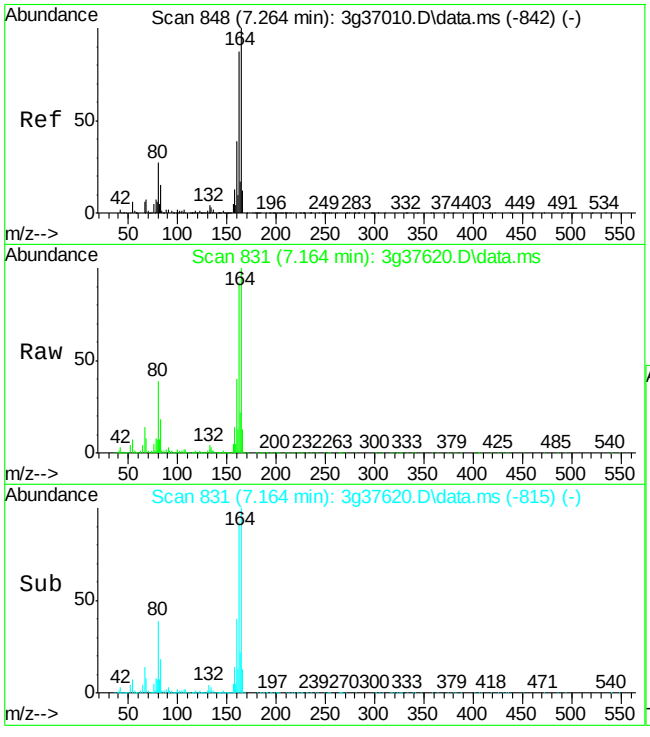


#27
Nitrobenzene-d5
Concen: 32.1235 ppm
RT: 5.360 min Scan# 524
Delta R.T. -0.000 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion: 82 Resp: 1820100

Ion	Ratio	Lower	Upper
82	100		
128	33.4	10.8	50.8
54	39.7	22.9	62.9

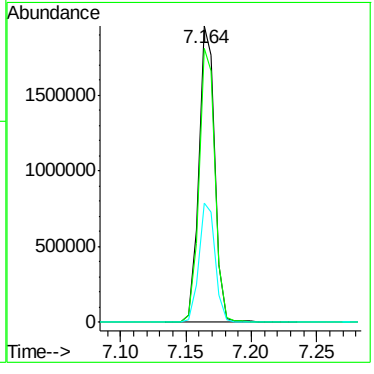




#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:164 Resp: 1698457

Ion	Ratio	Lower	Upper
164	100		
162	92.9	69.6	109.6
160	41.4	20.5	60.5



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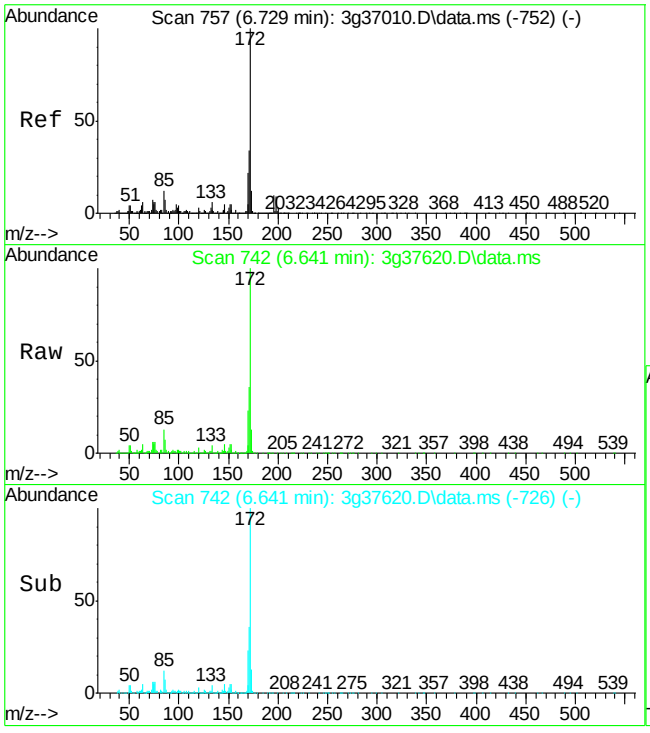
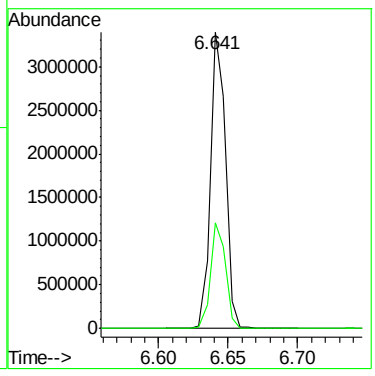
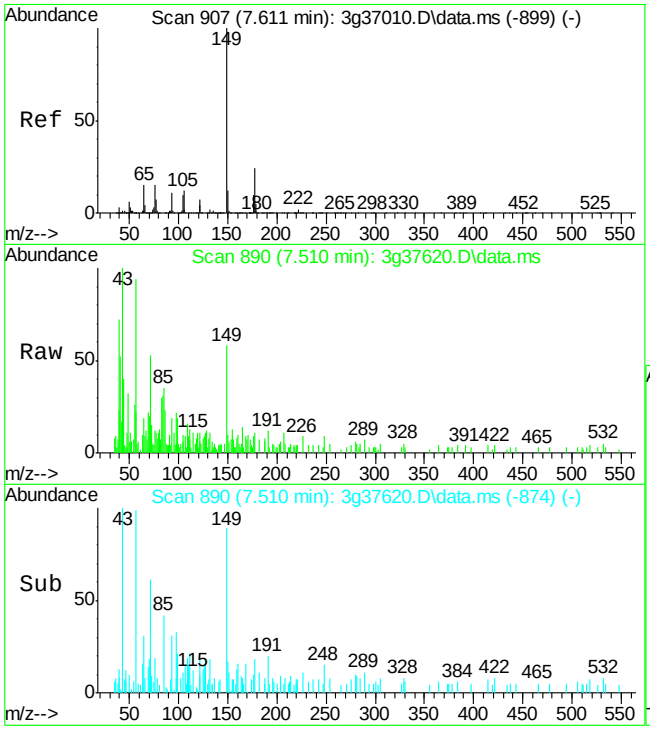


#49
2-Fluorobiphenyl
Concen: 43.6044 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:172 Resp: 2549159

Ion	Ratio	Lower	Upper
172	100		
171	35.7	14.5	54.5

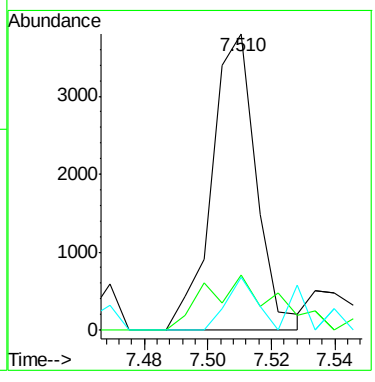


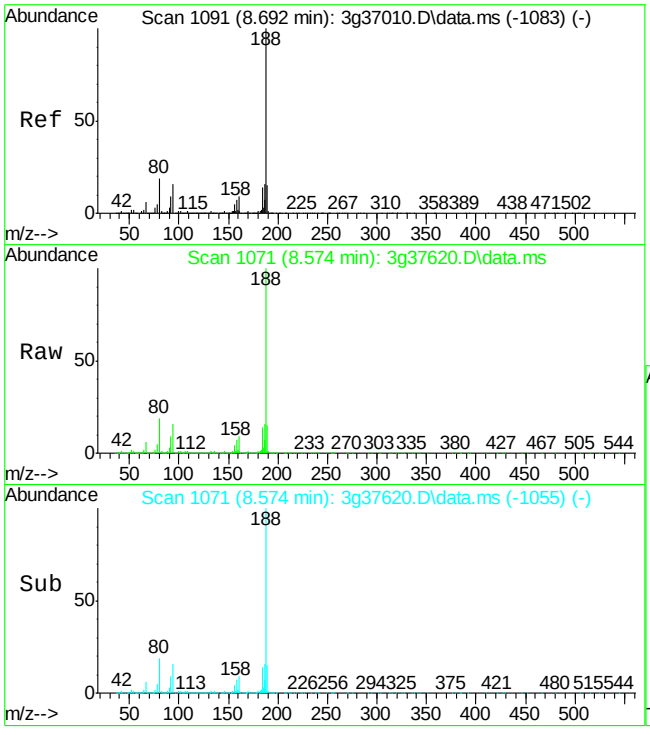


#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:149 Resp: 3682

Ion	Ratio	Lower	Upper
149	100		
177	29.4	3.6	43.6
150	0.0	0.0	32.5

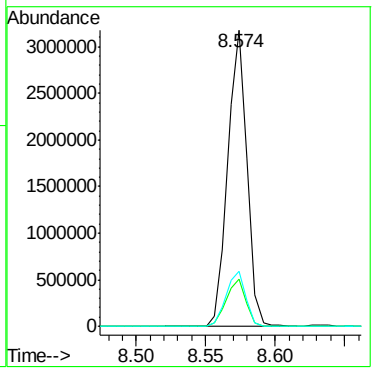


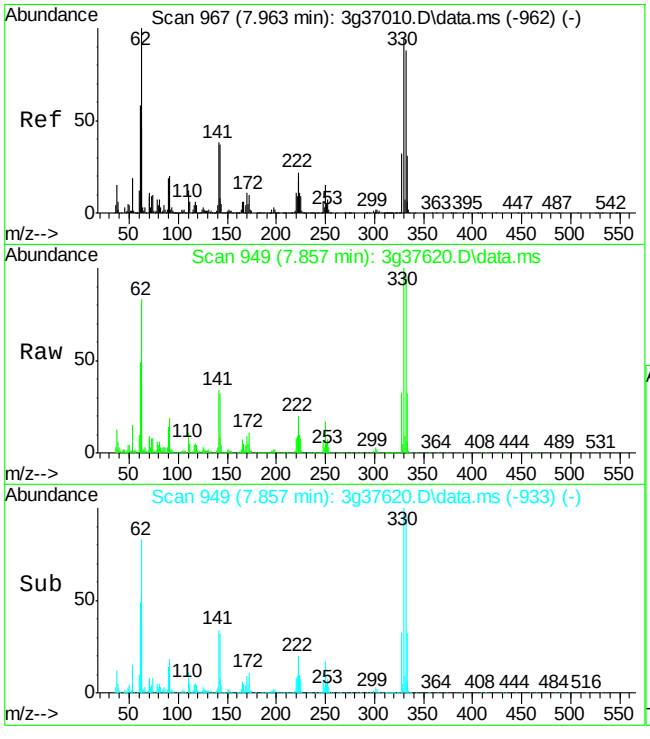


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:188 Resp: 3069366

Ion	Ratio	Lower	Upper
188	100		
94	16.4	0.0	35.1
80	19.2	0.0	37.9

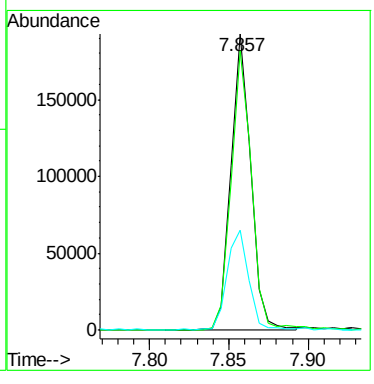


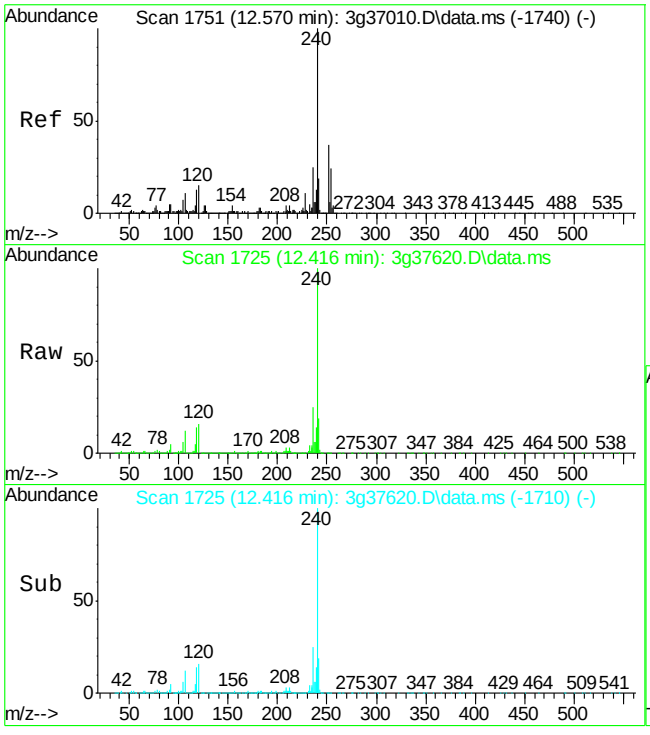


#69
2,4,6-Tribromophenol
Concen: 23.5785 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:330 Resp: 168764

Ion	Ratio	Lower	Upper
330	100		
332	97.5	74.8	112.2
141	36.2	33.8	50.6

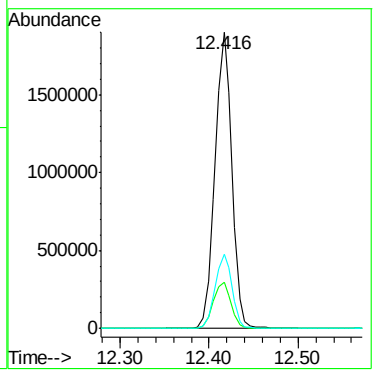


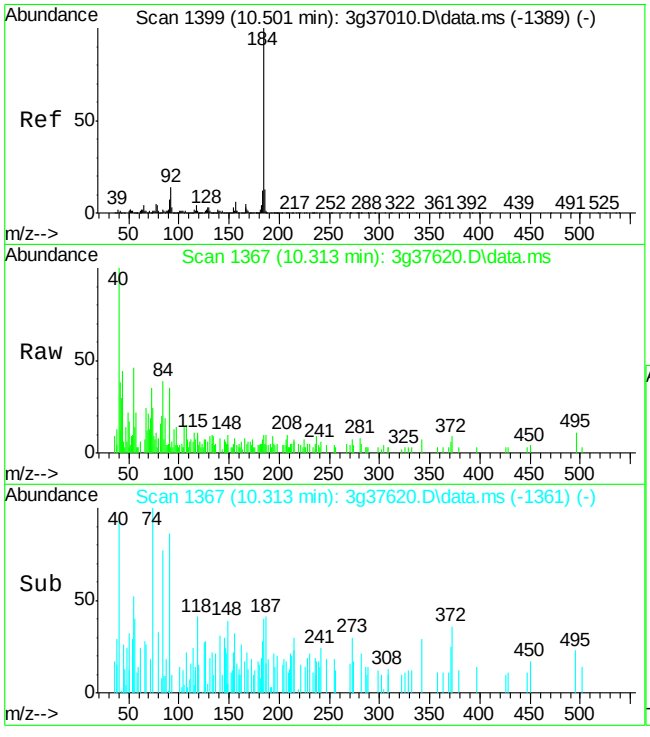


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.416 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:240 Resp: 2498619

Ion	Ratio	Lower	Upper
240	100		
120	16.3	0.0	36.6
236	25.0	4.3	44.3

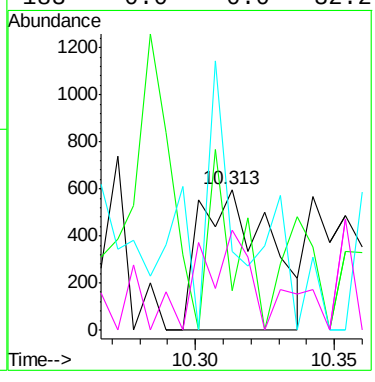




#85
Benzidine
Concen: Below ppm
RT: 10.313 min Scan# 1367
Delta R.T. -0.065 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

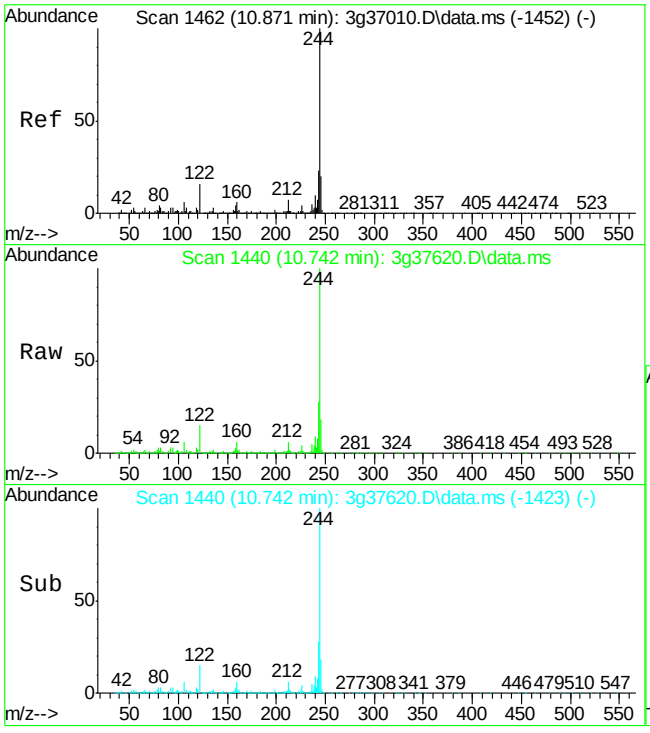
Tgt Ion:184 Resp: 1042

Ion	Ratio	Lower	Upper
184	100		
92	0.0	0.0	34.2
185	0.0	0.0	33.2
183	0.0	0.0	32.2



9.1.14

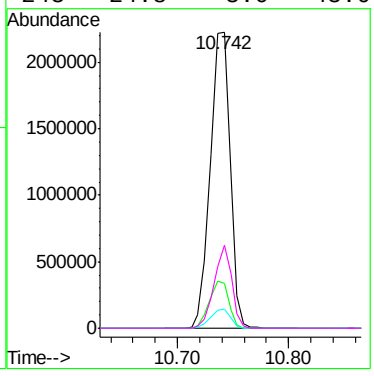
9

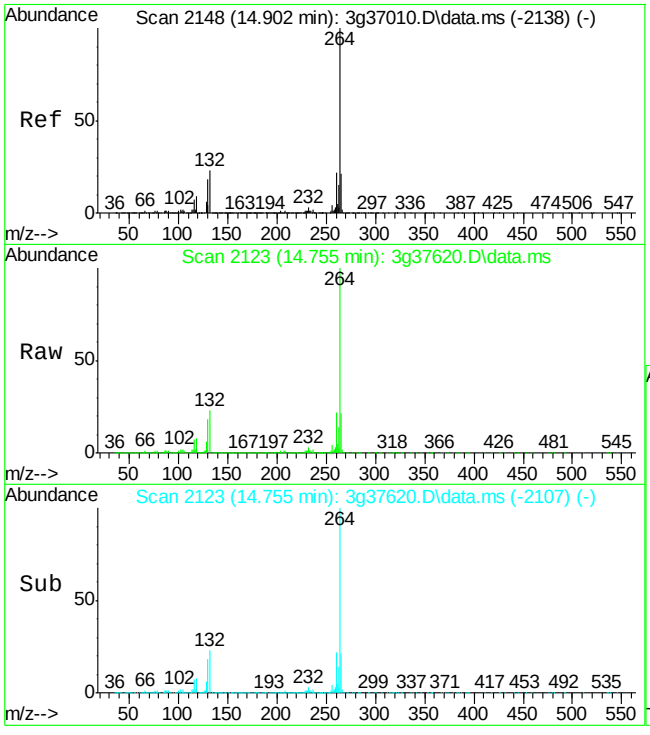


#87
Terphenyl-d14
Concen: 43.8782 ppm
RT: 10.742 min Scan# 1440
Delta R.T. -0.000 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:244 Resp: 2750460

Ion	Ratio	Lower	Upper
244	100		
122	15.8	0.0	35.4
212	6.5	0.0	27.0
243	24.8	3.0	43.0

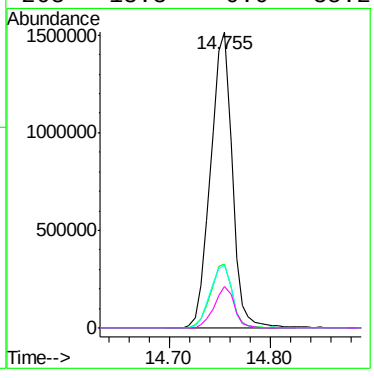




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.755 min Scan# 2123
Delta R.T. -0.006 min
Lab File: 3g37620.D
Acq: 8 Aug 18 4:34 pm

Tgt Ion:264 Resp: 2244178

Ion	Ratio	Lower	Upper
264	100		
260	21.7	1.3	41.3
265	21.9	0.2	40.2
263	13.3	0.0	35.2



9.1.14

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37617.D
Acq On : 8 Aug 2018 3:11 pm
Operator : DONC
Sample : DA7701-15
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 09 08:33:46 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	892906	40.0000 ppm	0.00
26) Naphthalene-d8	5.871	136	3342598	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1635028	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	2878110	40.0000 ppm	0.00
84) Chrysene-d12	12.417	240	2286489	40.0000 ppm	-0.01
93) Perylene-d12	14.755	264	2073880	40.0000 ppm	0.00

System Monitoring Compounds

5) 2-Fluorophenol	4.038	112	768639	18.4668 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 36.94%		
8) Phenol-d5	4.737	99	755844	12.2615 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 24.52%		
27) Nitrobenzene-d5	5.360	82	1862011	32.3299 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 64.66%		
49) 2-Fluorobiphenyl	6.641	172	2295236	40.7840 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 81.56%		
69) 2,4,6-Tribromophenol	7.857	330	286923	42.7506 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 85.50%		
87) Terphenyl-d14	10.742	244	2600978	45.3431 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 90.68%		

Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	1650	Below Cal #	1
14) n-decane	4.814	43	1354	Below Cal #	1
50) Biphenyl	6.717	154	6168	0.5040 ppm	90
63) Diethylphthalate	7.510	149	9414	Below Cal	94
85) Benzidine	10.366	184	1549	Below Cal #	67

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

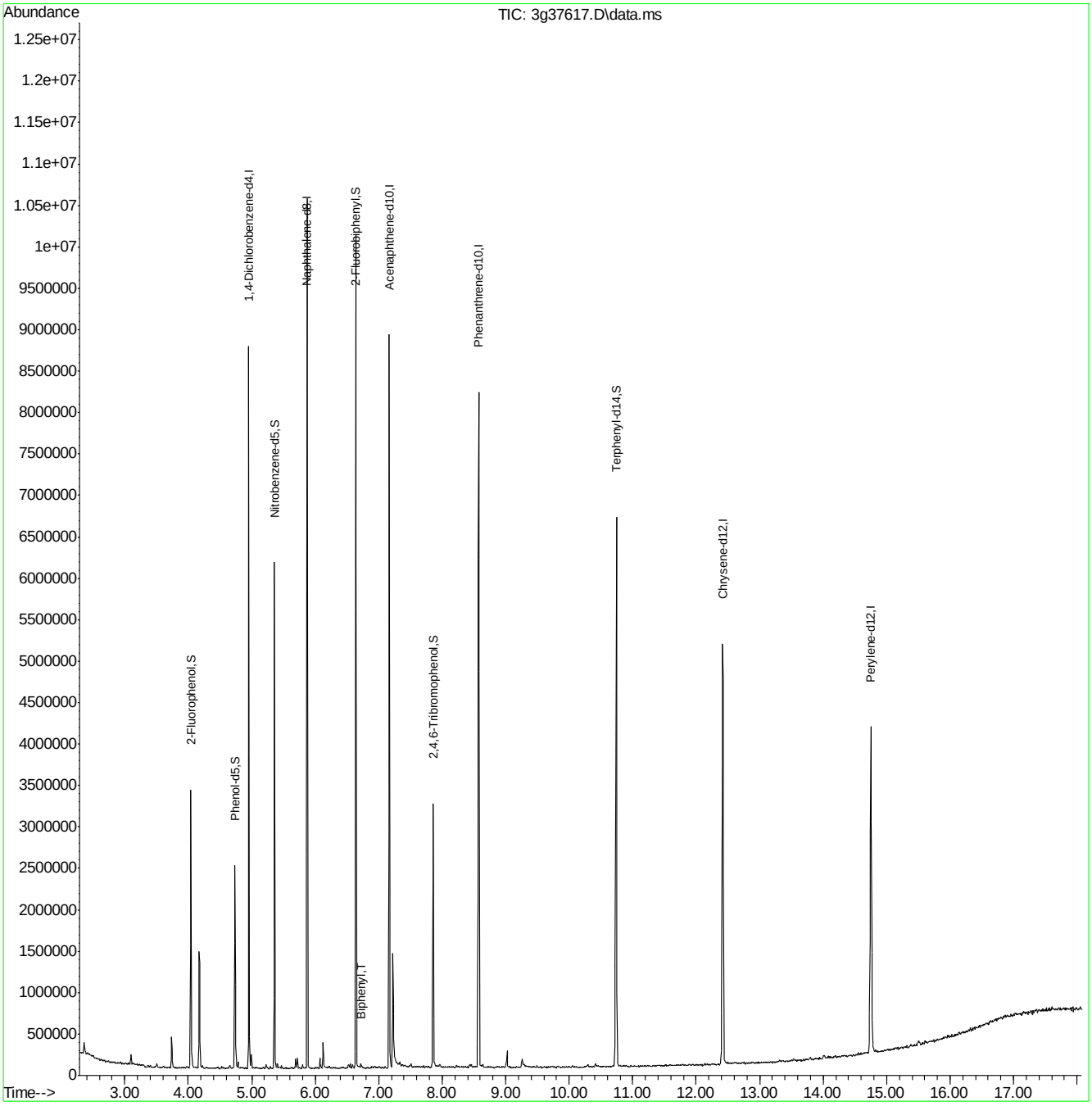
9.1.15

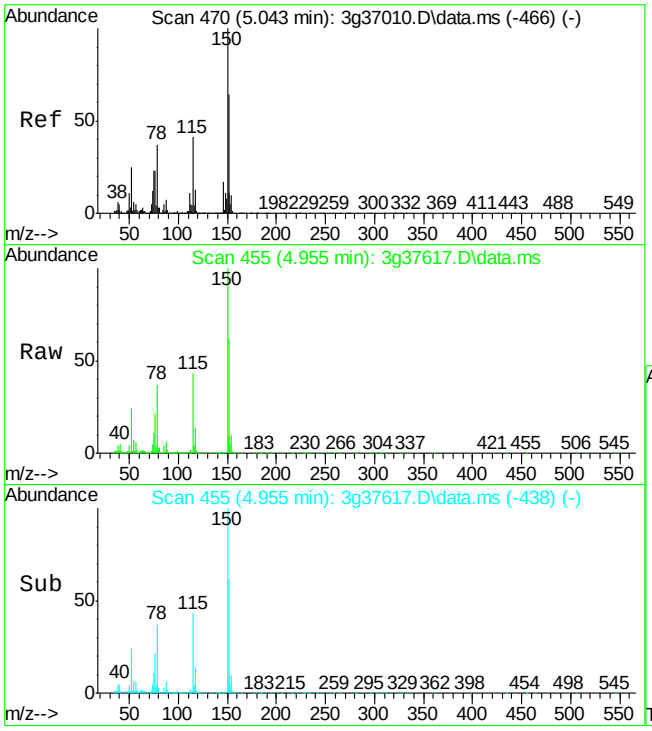
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37617.D
Acq On : 8 Aug 2018 3:11 pm
Operator : DONC
Sample : DA7701-15
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 09 08:33:46 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

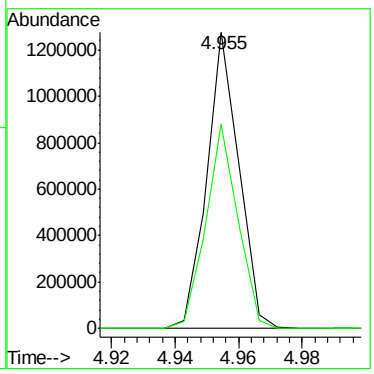


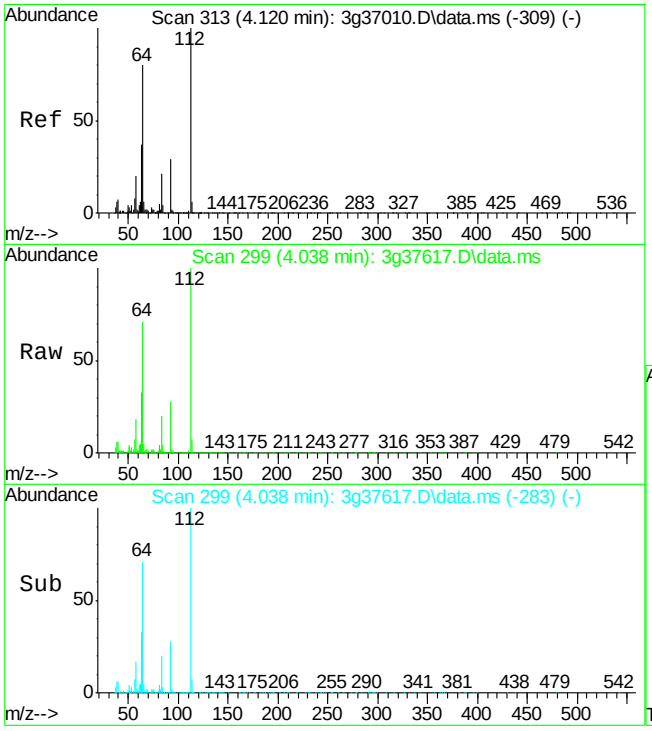


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:152 Resp: 892906

Ion	Ratio	Lower	Upper
152	100		
115	68.8	53.0	93.0

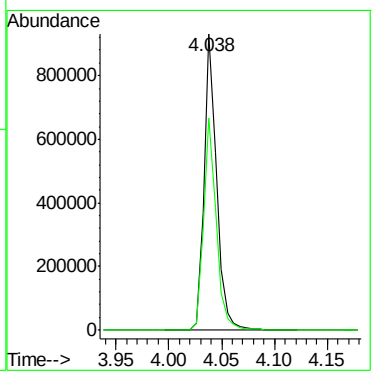


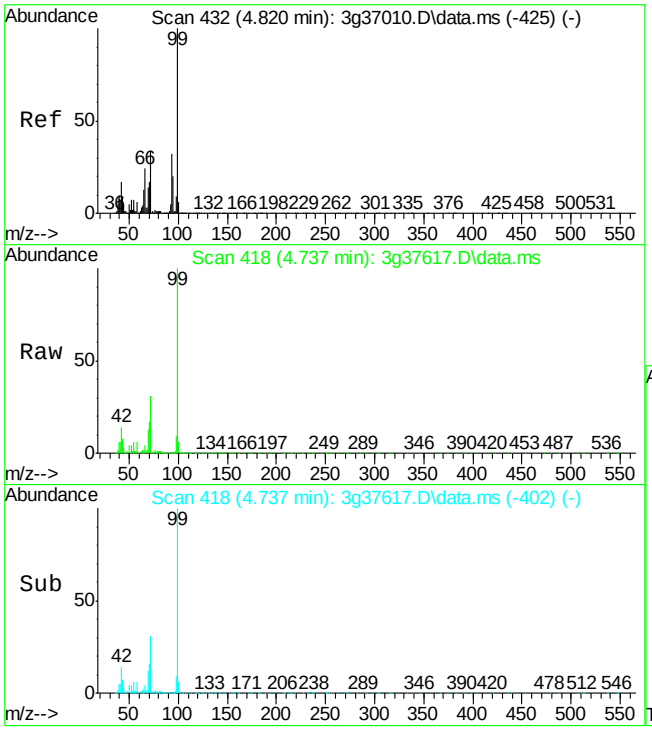


#5
2-Fluorophenol
Concen: 18.4668 ppm
RT: 4.038 min Scan# 299
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:112 Resp: 768639

Ion	Ratio	Lower	Upper
112	100		
64	72.8	58.3	98.3

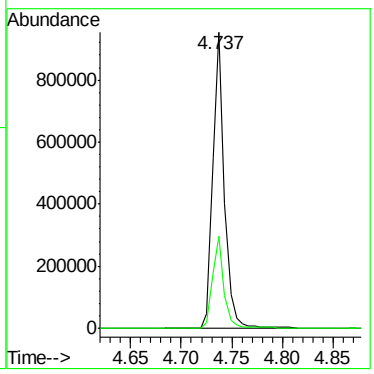


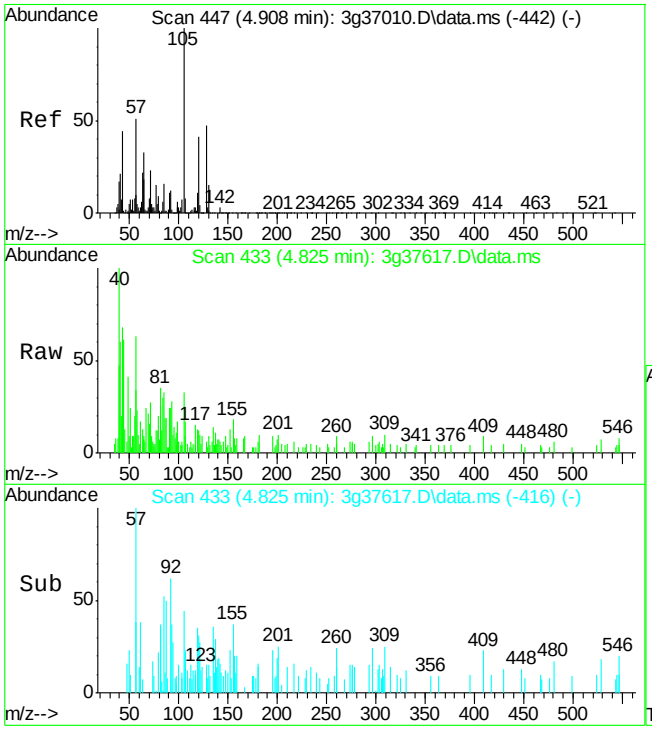


#8
Phenol-d5
Concen: 12.2615 ppm
RT: 4.737 min Scan# 418
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion: 99 Resp: 755844

Ion	Ratio	Lower	Upper
99	100		
71	30.3	13.6	53.6

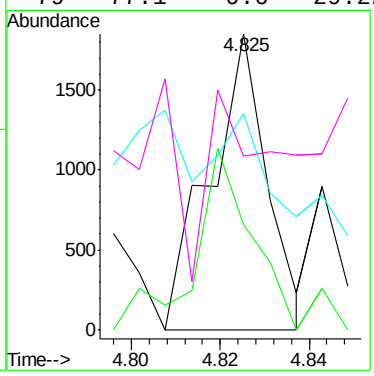


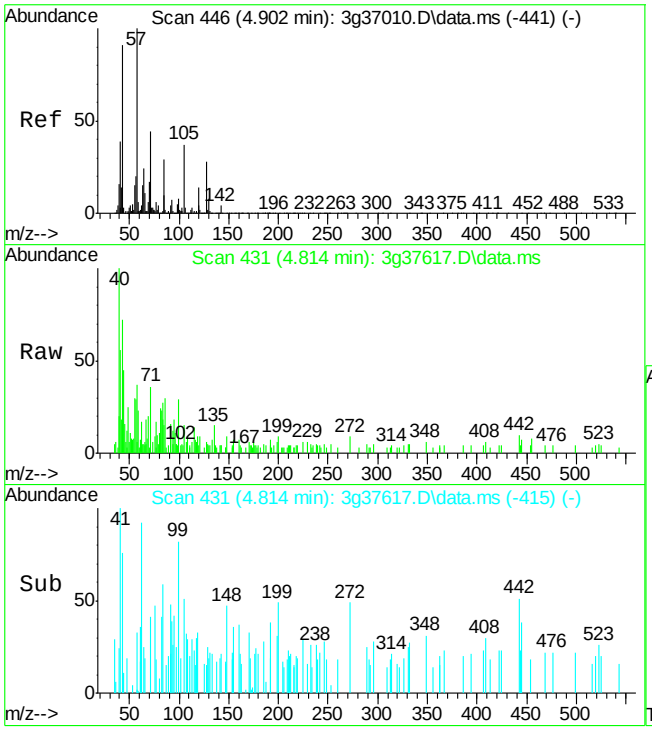


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. -0.000 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:105 Resp: 1650

Ion	Ratio	Lower	Upper
105	100		
120	0.0	19.5	59.5#
91	69.3	0.0	31.4#
79	77.1	0.0	29.2#

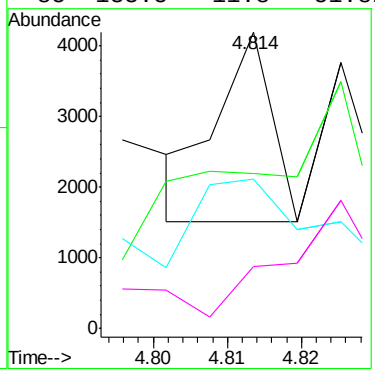


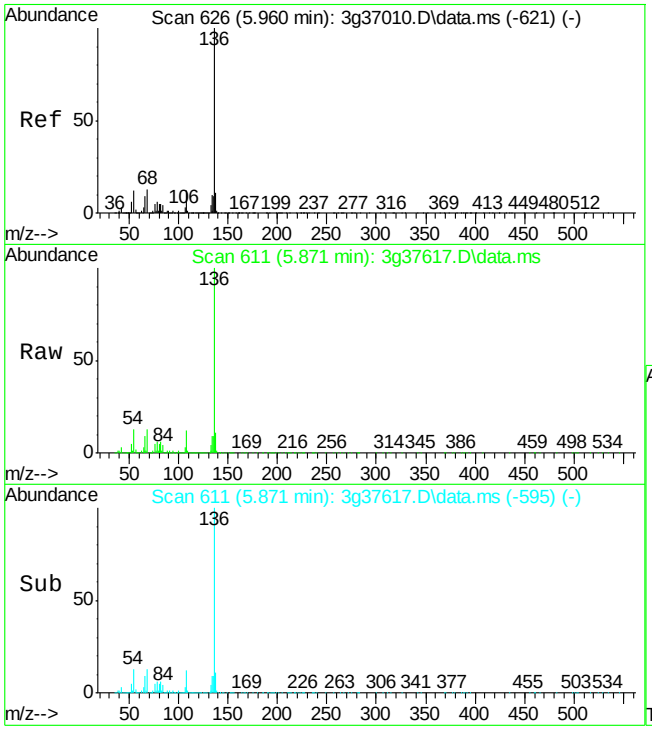


#14
n-decane
Concen: Below ppm
RT: 4.814 min Scan# 431
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion: 43 Resp: 1354

Ion	Ratio	Lower	Upper
43	100		
57	208.4	92.0	132.0#
71	100.6	28.7	68.7#
85	133.5	11.8	51.8#

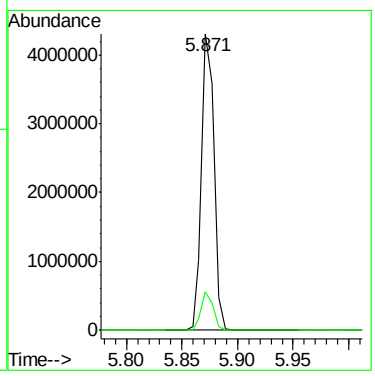


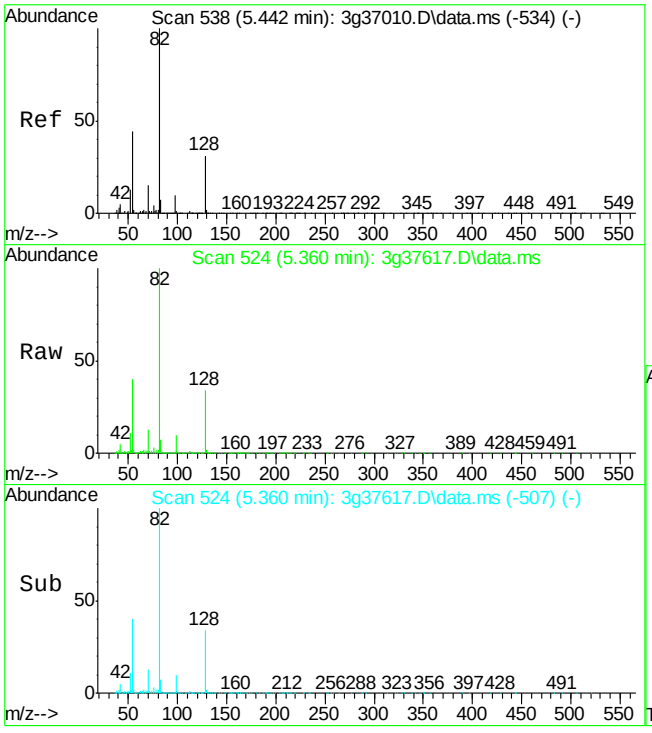


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:136 Resp: 3342598

Ion	Ratio	Lower	Upper
136	100		
68	12.4	0.0	32.4

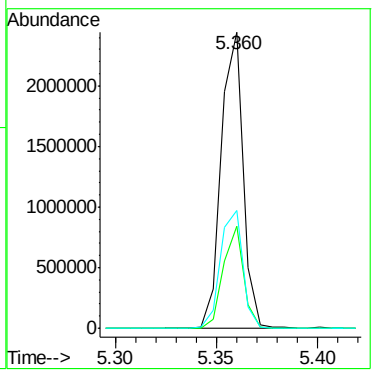


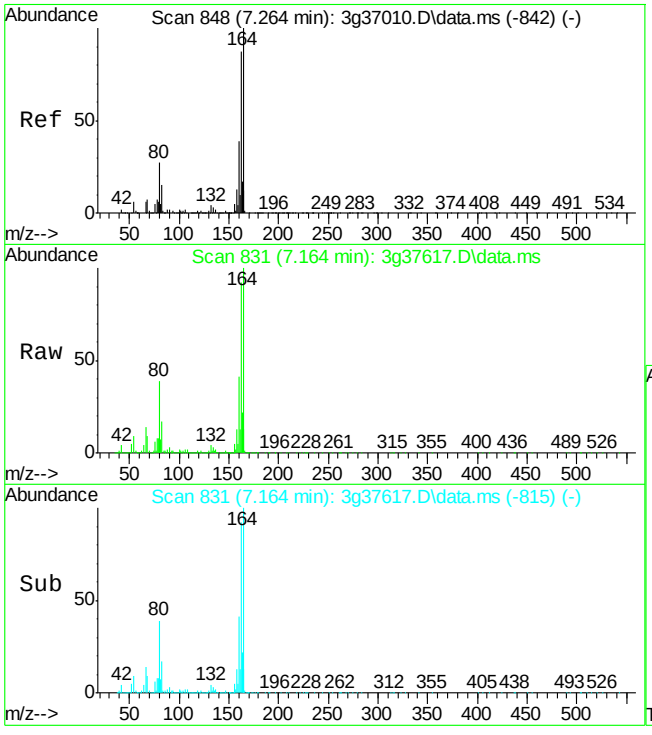


#27
Nitrobenzene-d5
Concen: 32.3299 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion: 82 Resp: 1862011

Ion	Ratio	Lower	Upper
82	100		
128	32.2	10.8	50.8
54	40.9	22.9	62.9

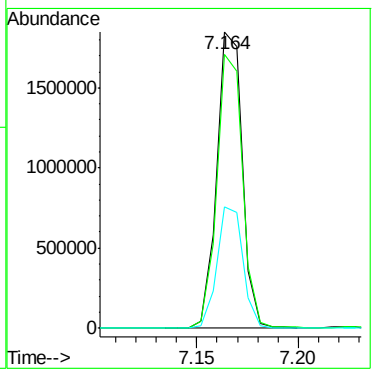


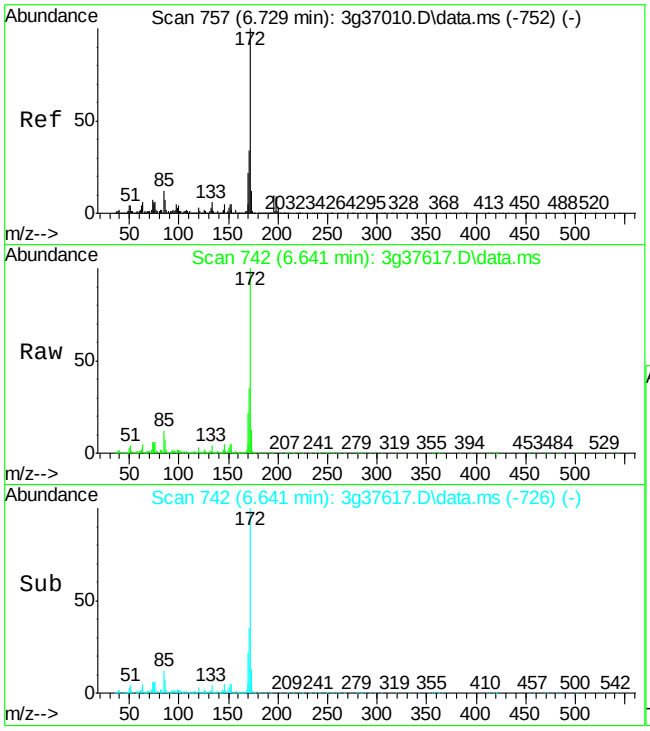


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:164 Resp: 1635028

Ion	Ratio	Lower	Upper
164	100		
162	93.2	69.6	109.6
160	41.9	20.5	60.5

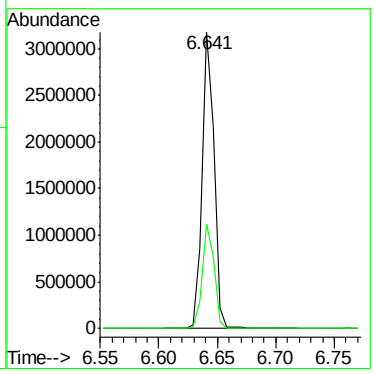


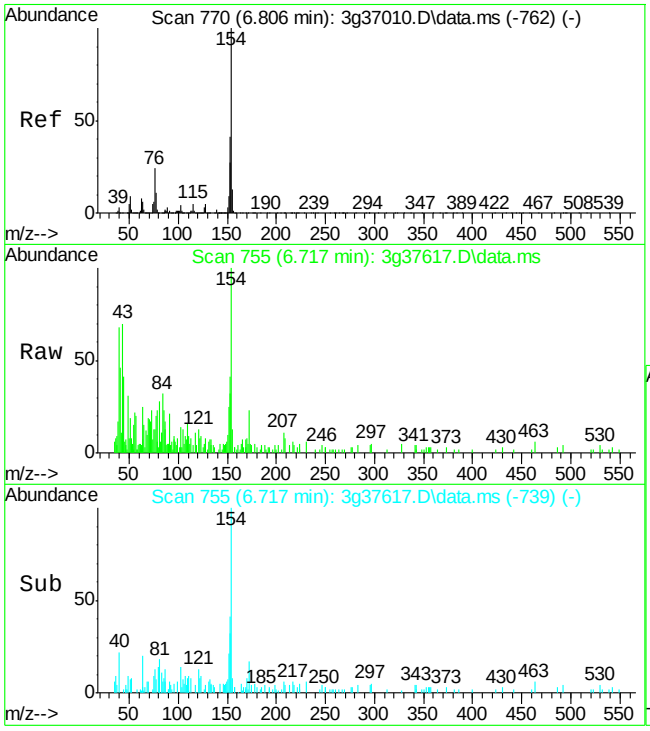


#49
2-Fluorobiphenyl
Concen: 40.7840 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:172 Resp: 2295236

Ion	Ratio	Lower	Upper
172	100		
171	35.0	14.5	54.5

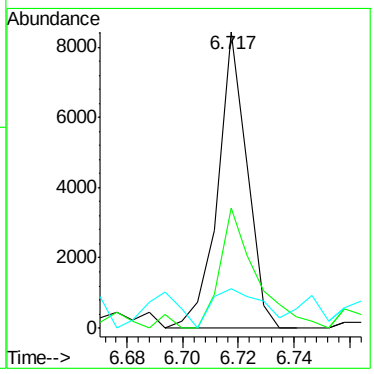


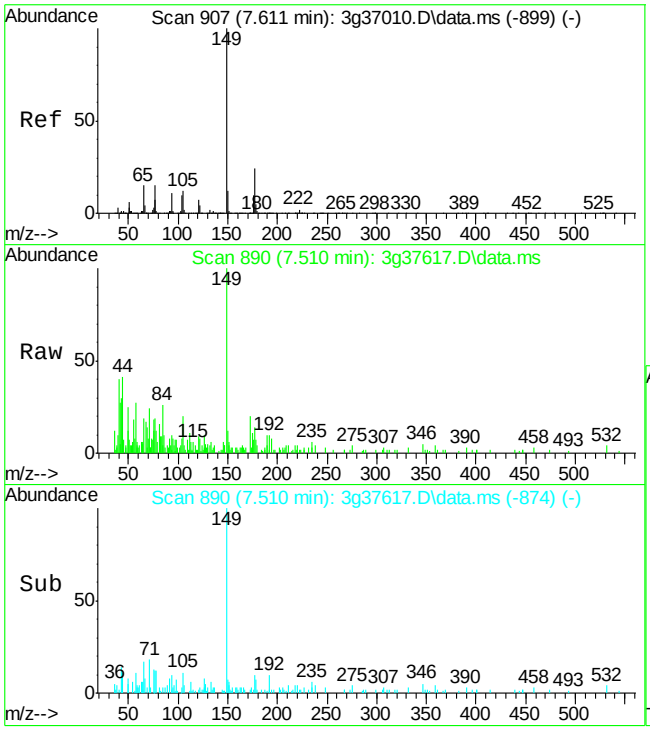


#50
Biphenyl
Concen: 0.5040 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:154 Resp: 6168

Ion	Ratio	Lower	Upper
154	100		
153	50.0	21.4	61.4
76	23.1	5.2	45.2

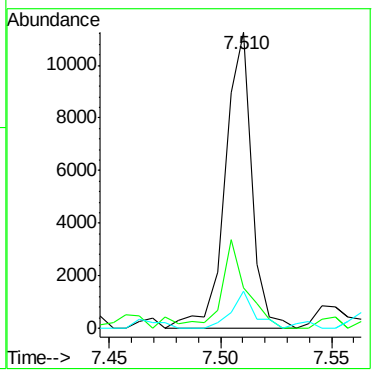


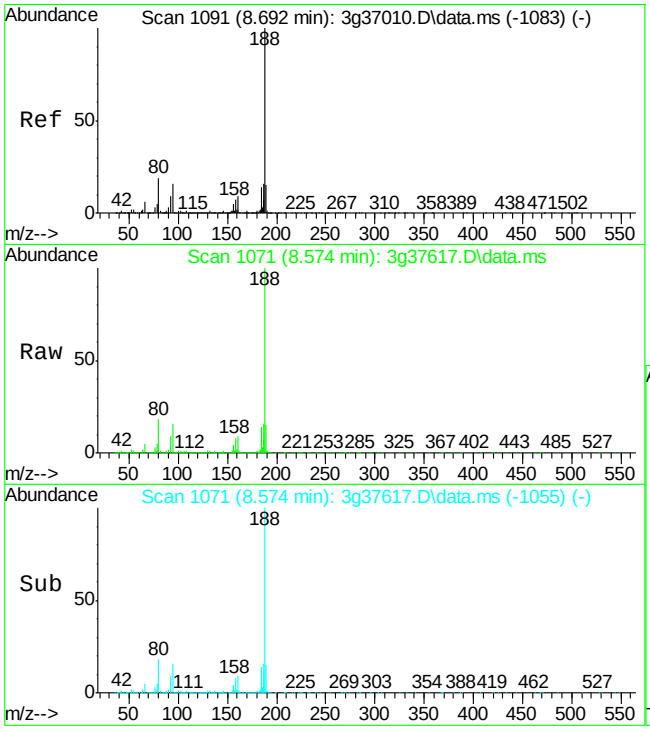


#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:149 Resp: 9414

Ion	Ratio	Lower	Upper
149	100		
177	27.3	3.6	43.6
150	10.8	0.0	32.5

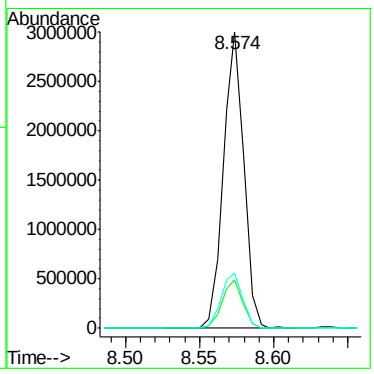


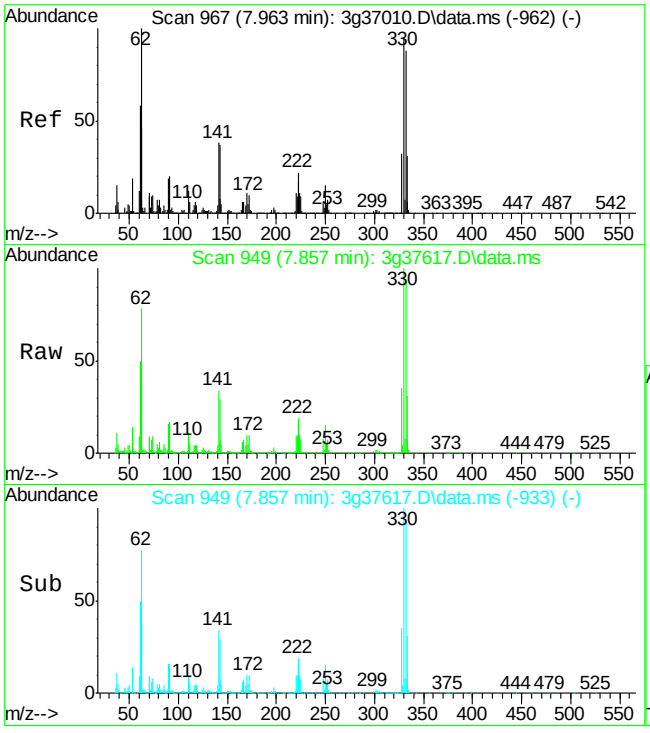


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:188 Resp: 2878110

Ion	Ratio	Lower	Upper
188	100		
94	16.5	0.0	35.1
80	19.6	0.0	37.9

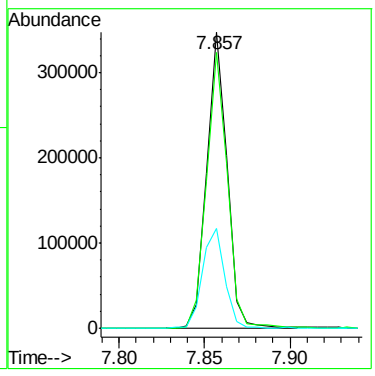


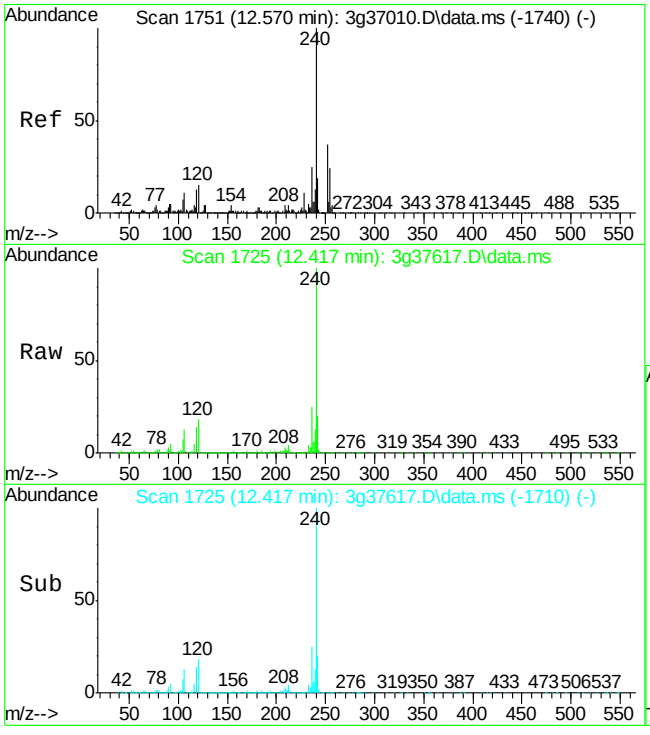


#69
2,4,6-Tribromophenol
Concen: 42.7506 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:330 Resp: 286923

Ion	Ratio	Lower	Upper
330	100		
332	95.8	74.8	112.2
141	37.1	33.8	50.6

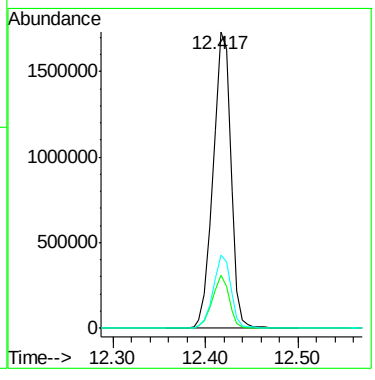


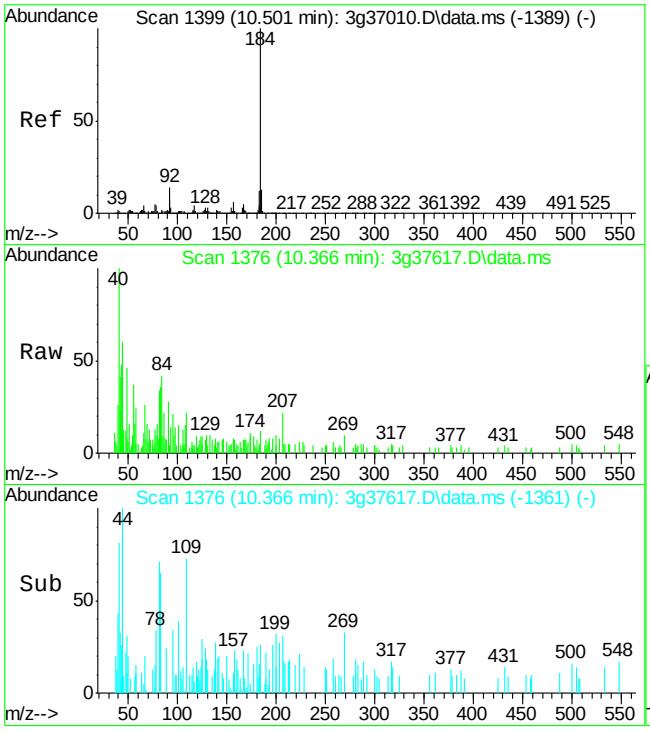


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.417 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:240 Resp: 2286489

Ion	Ratio	Lower	Upper
240	100		
120	17.1	0.0	36.6
236	24.5	4.3	44.3

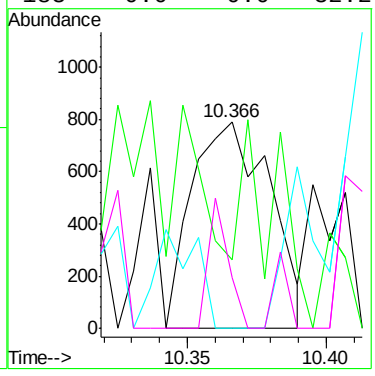


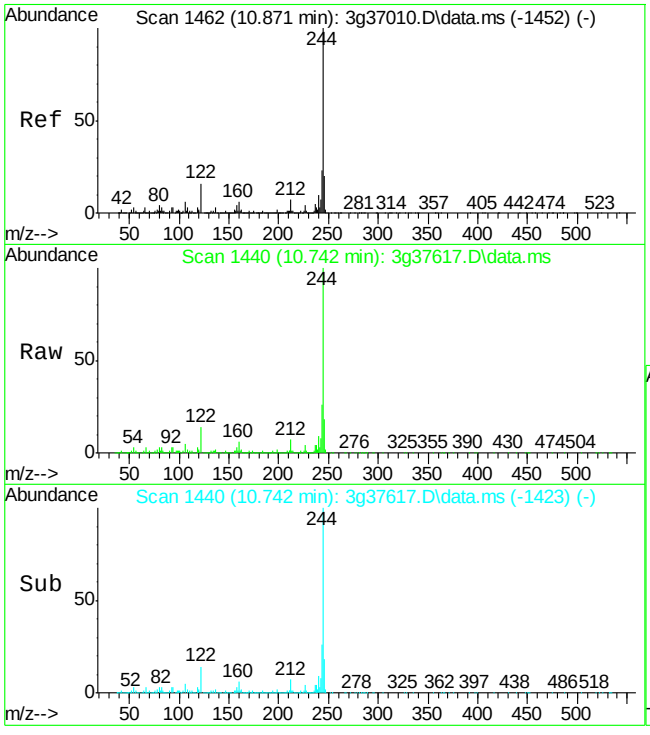


#85
Benzidine
Concen: Below ppm
RT: 10.366 min Scan# 1376
Delta R.T. -0.012 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:184 Resp: 1549

Ion	Ratio	Lower	Upper
184	100		
92	0.0	0.0	34.2
185	0.0	0.0	33.2
183	0.0	0.0	32.2

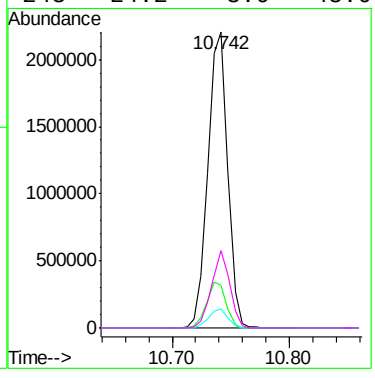


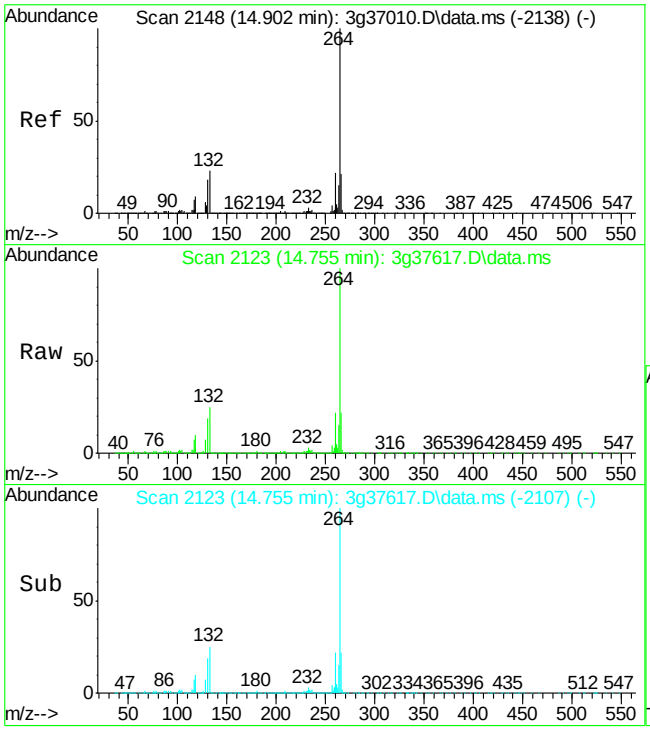


#87
Terphenyl-d14
Concen: 45.3431 ppm
RT: 10.742 min Scan# 1440
Delta R.T. -0.000 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:244 Resp: 2600978

Ion	Ratio	Lower	Upper
244	100		
122	15.4	0.0	35.4
212	6.4	0.0	27.0
243	24.2	3.0	43.0

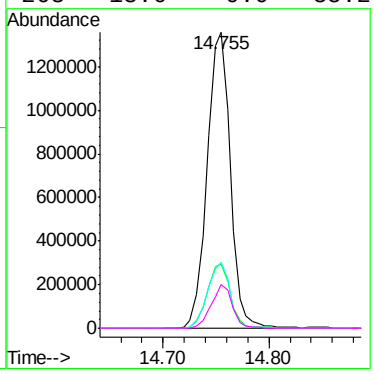




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.755 min Scan# 2123
Delta R.T. -0.006 min
Lab File: 3g37617.D
Acq: 8 Aug 18 3:11 pm

Tgt Ion:264 Resp: 2073880

Ion	Ratio	Lower	Upper
264	100		
260	21.9	1.3	41.3
265	21.7	0.2	40.2
263	13.6	0.0	35.2



9.1.15

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37621.D
Acq On : 8 Aug 2018 5:02 pm
Operator : DONC
Sample : DA7701-16
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 09 08:40:04 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	857553	40.0000 ppm	0.00
26) Naphthalene-d8	5.871	136	3262629	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1619685	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	2800636	40.0000 ppm	0.00
84) Chrysene-d12	12.417	240	2181367	40.0000 ppm	-0.01
93) Perylene-d12	14.749	264	2008703	40.0000 ppm	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol	4.038	112	778751	19.4811 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 38.96%		
8) Phenol-d5	4.737	99	766471	12.9465 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 25.90%		
27) Nitrobenzene-d5	5.360	82	1859506	33.0778 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 66.16%		
49) 2-Fluorobiphenyl	6.641	172	2409513	43.2202 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 86.44%		
69) 2,4,6-Tribromophenol	7.857	330	329573	50.4638 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 100.92%		
87) Terphenyl-d14	10.736	244	2763929	50.5058 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 101.02%		
Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	2009	Below Cal #	3
14) n-decane	4.819	43	2685	Below Cal #	33
50) Biphenyl	6.717	154	7105	0.5178 ppm	68
63) Diethylphthalate	7.511	149	4698	Below Cal #	33
85) Benzidine	10.343	184	1016	Below Cal #	67

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

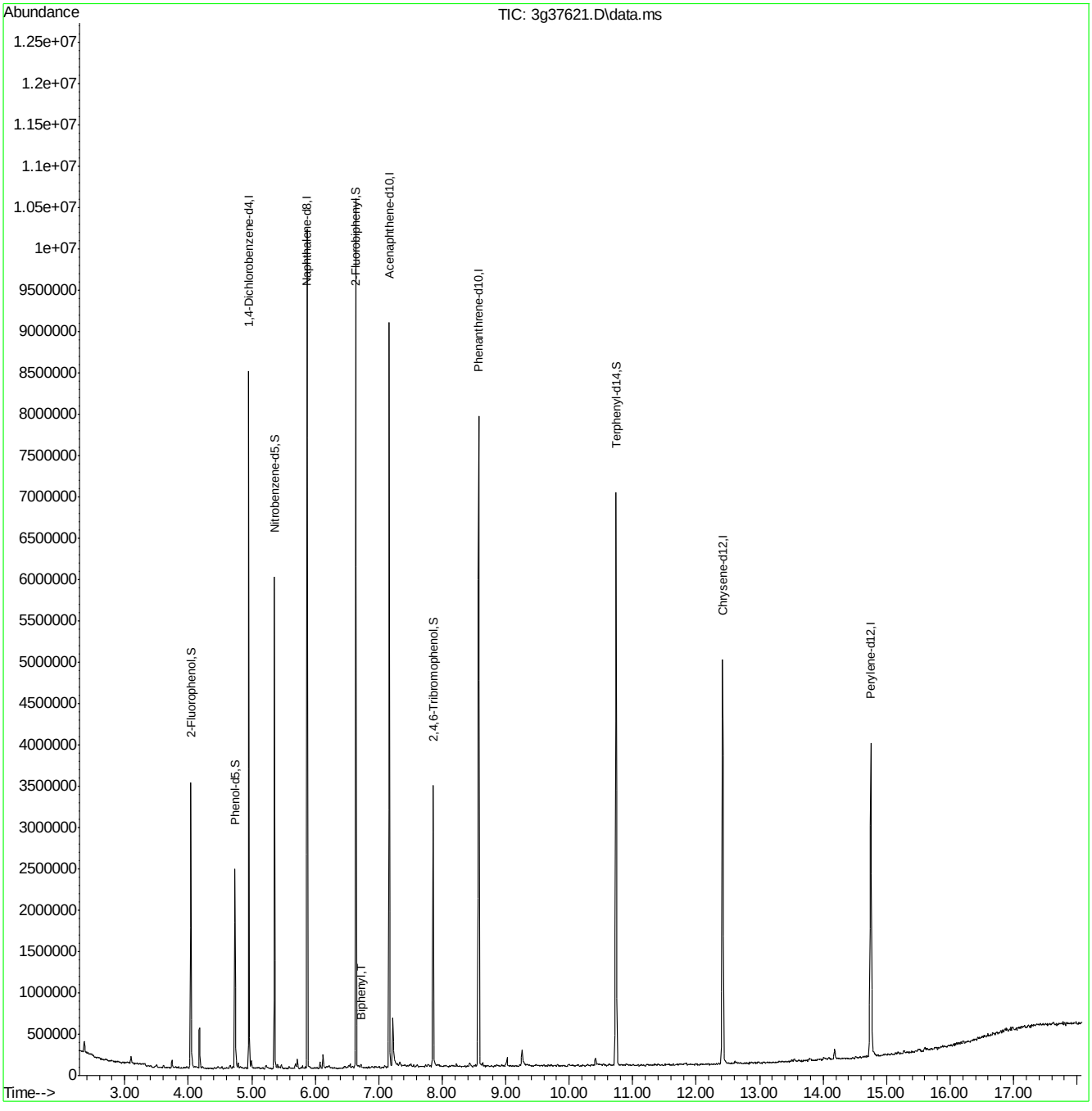
9.1.16

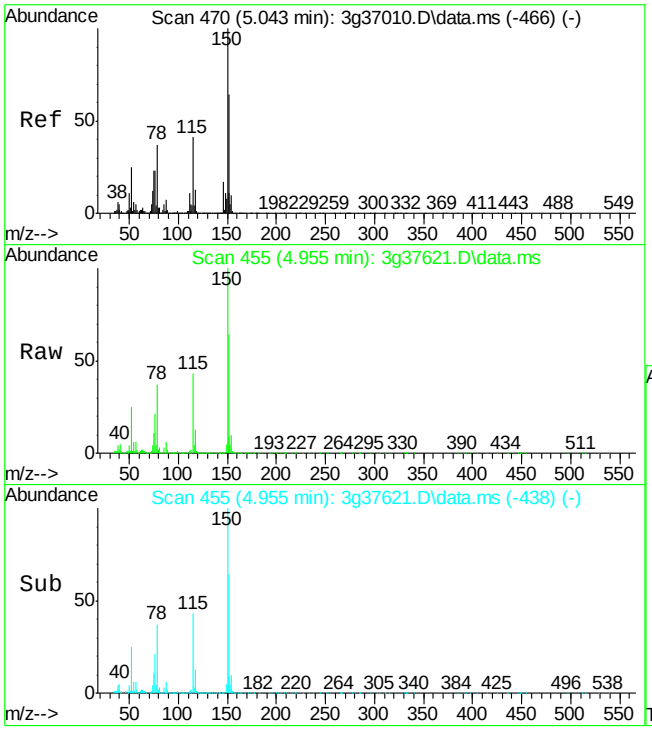
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37621.D
Acq On : 8 Aug 2018 5:02 pm
Operator : DONC
Sample : DA7701-16
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 09 08:40:04 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

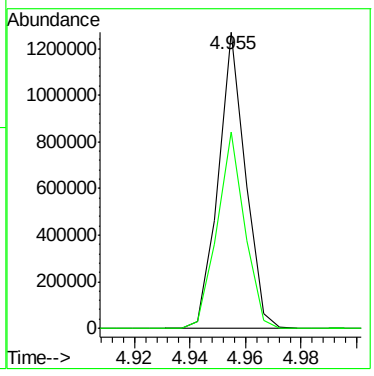


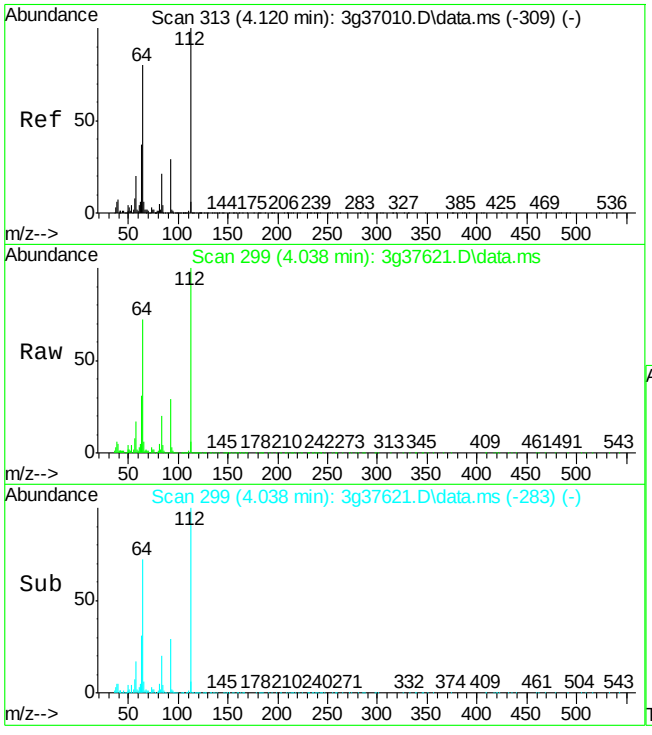


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:152 Resp: 857553

Ion	Ratio	Lower	Upper
152	100		
115	67.5	53.0	93.0

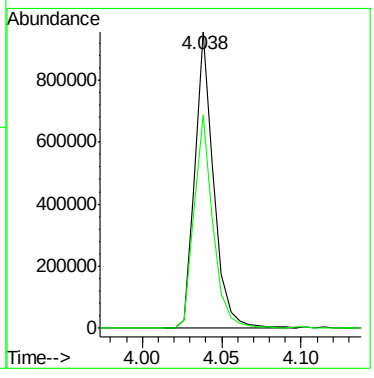


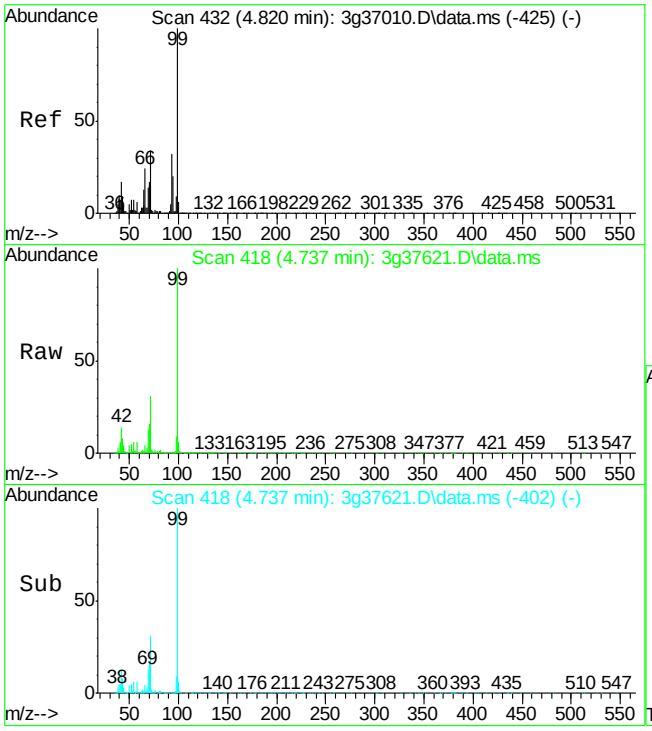


#5
2-Fluorophenol
Concen: 19.4811 ppm
RT: 4.038 min Scan# 299
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:112 Resp: 778751

Ion	Ratio	Lower	Upper
112	100		
64	72.4	58.3	98.3

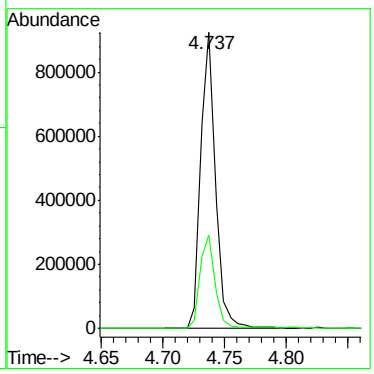


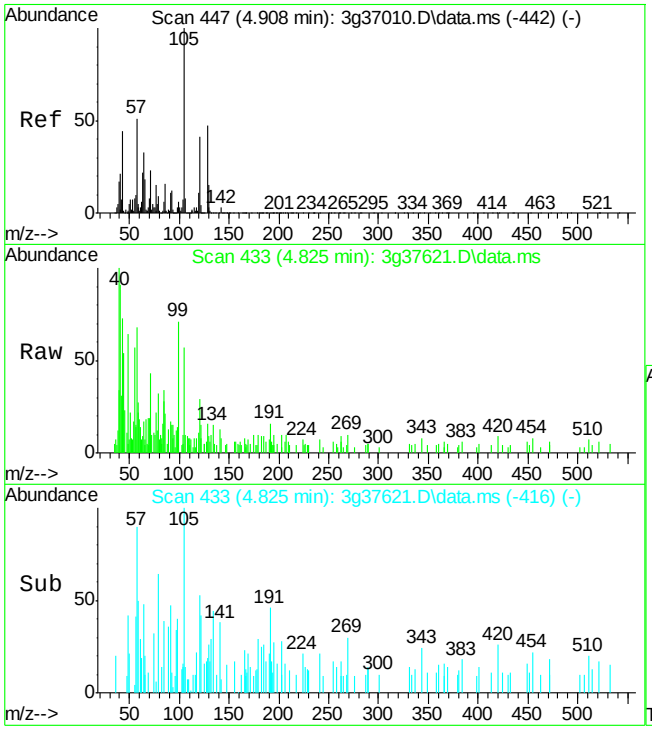


#8
Phenol-d5
Concen: 12.9465 ppm
RT: 4.737 min Scan# 418
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion: 99 Resp: 766471

Ion	Ratio	Lower	Upper
99	100		
71	32.4	13.6	53.6

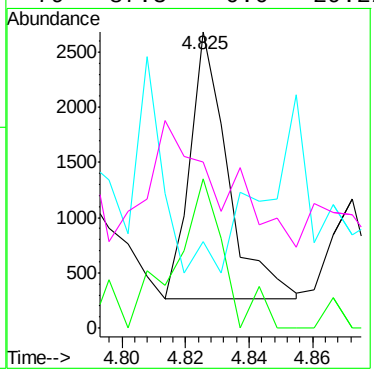


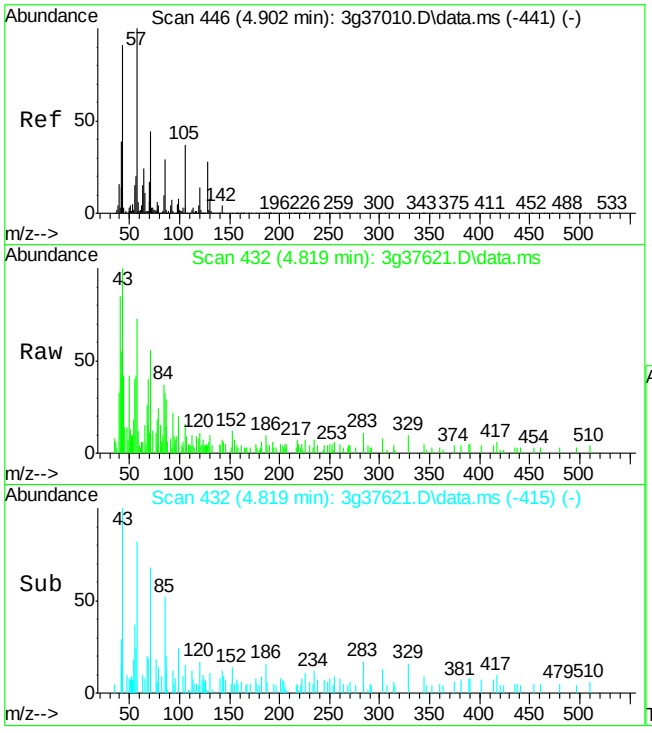


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:105 Resp: 2009

Ion	Ratio	Lower	Upper
105	100		
120	80.6	19.5	59.5#
91	52.1	0.0	31.4#
79	87.3	0.0	29.2#

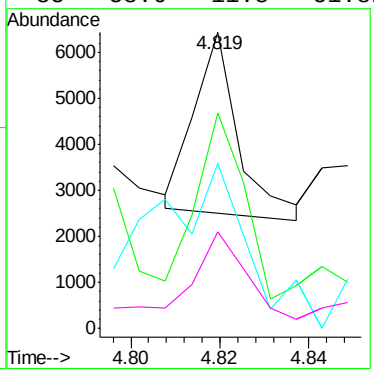


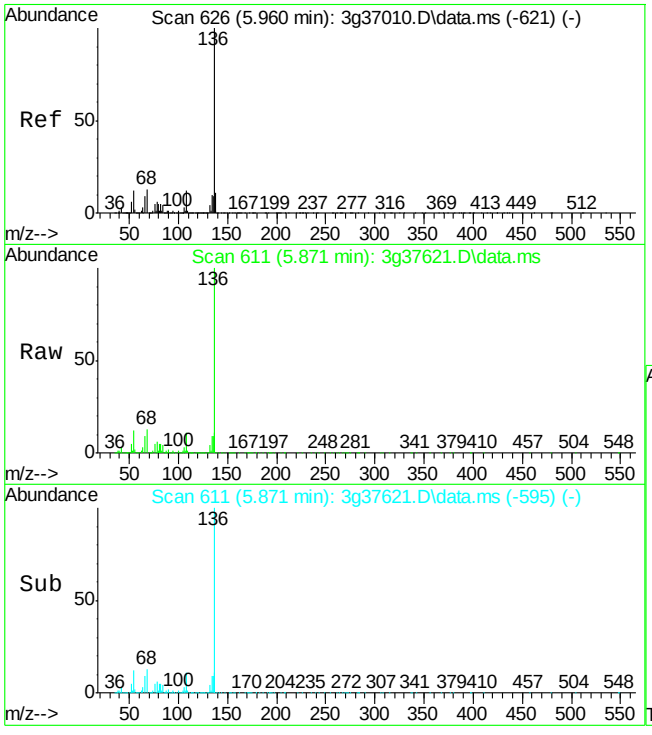


#14
n-decane
Concen: Below ppm
RT: 4.819 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion: 43 Resp: 2685

Ion	Ratio	Lower	Upper
43	100		
57	97.8	92.0	132.0
71	187.7	28.7	68.7#
85	58.6	11.8	51.8#

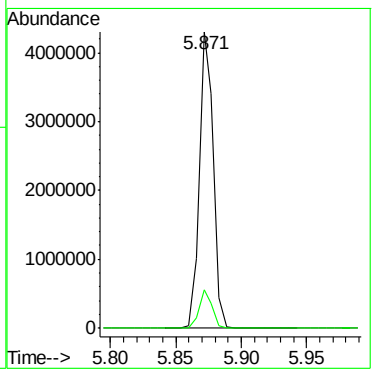


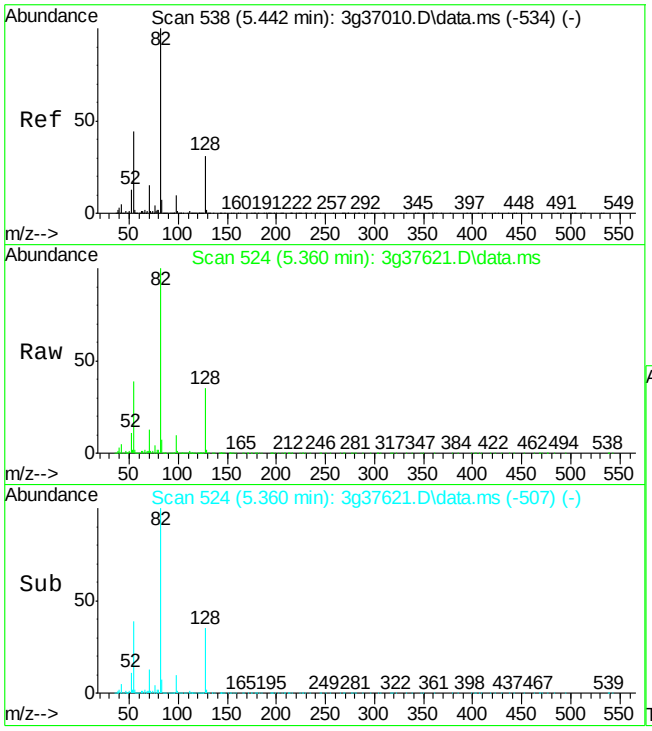


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:136 Resp: 3262629

Ion	Ratio	Lower	Upper
136	100		
68	12.0	0.0	32.4

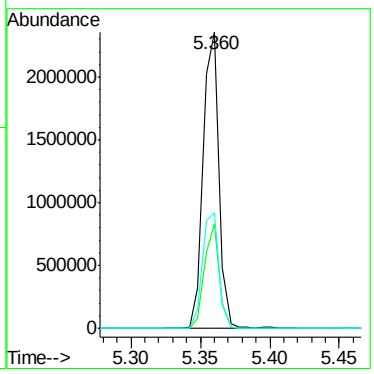


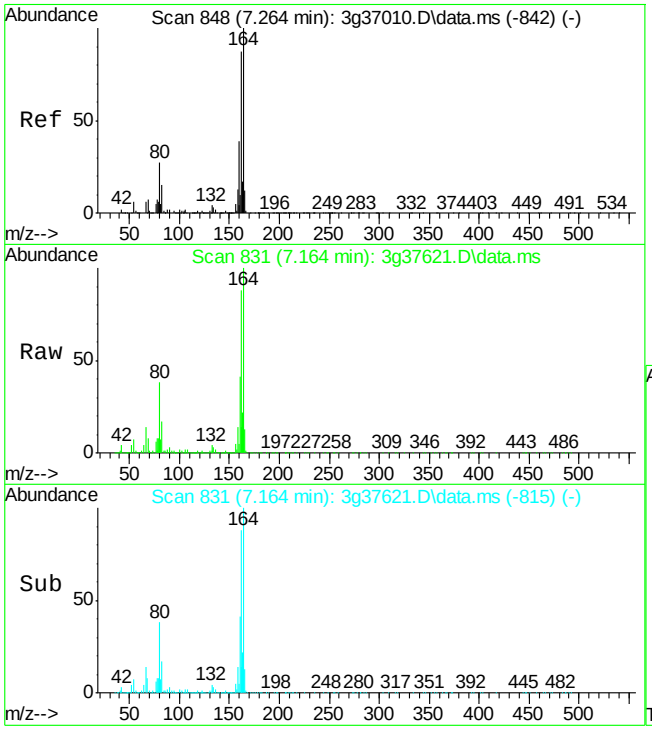


#27
Nitrobenzene-d5
Concen: 33.0778 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion: 82 Resp: 1859506

Ion	Ratio	Lower	Upper
82	100		
128	32.9	10.8	50.8
54	41.1	22.9	62.9

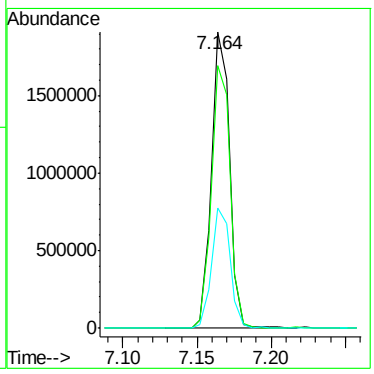


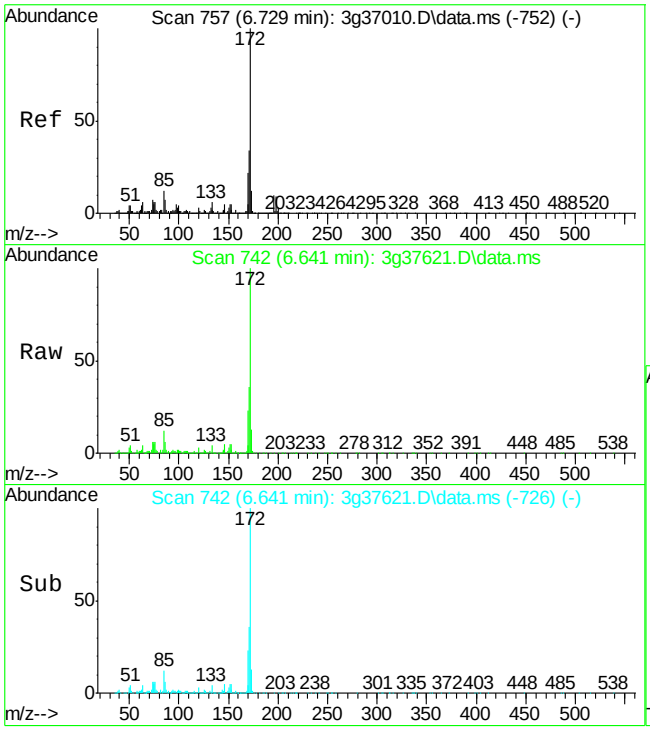


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:164 Resp: 1619685

Ion	Ratio	Lower	Upper
164	100		
162	92.1	69.6	109.6
160	42.2	20.5	60.5

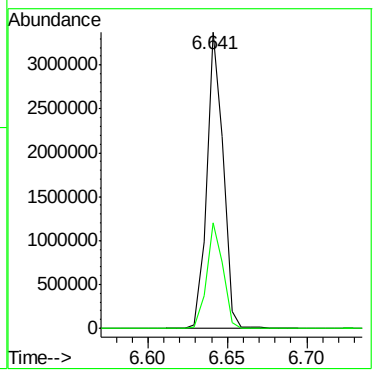


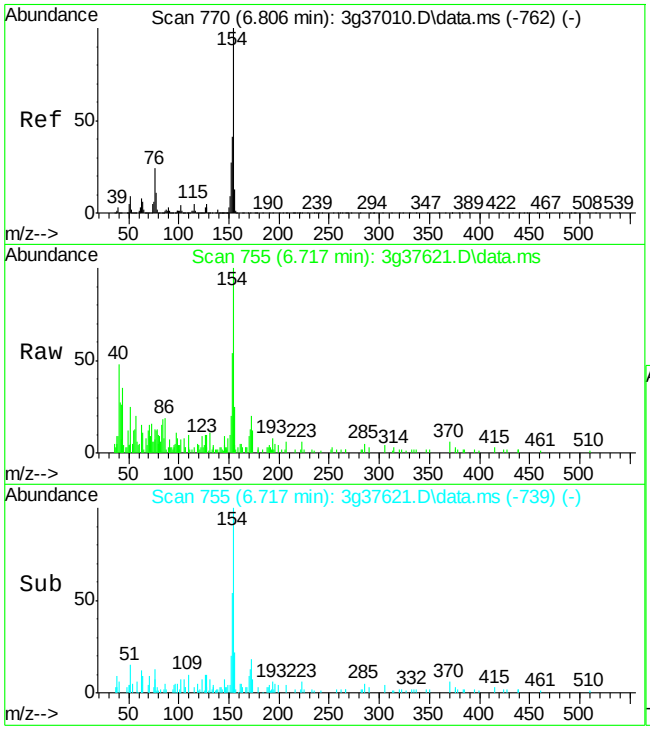


#49
2-Fluorobiphenyl
Concen: 43.2202 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:172 Resp: 2409513

Ion	Ratio	Lower	Upper
172	100		
171	35.4	14.5	54.5

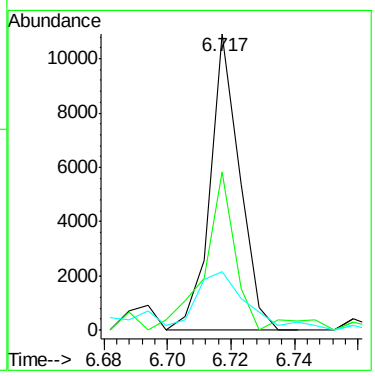


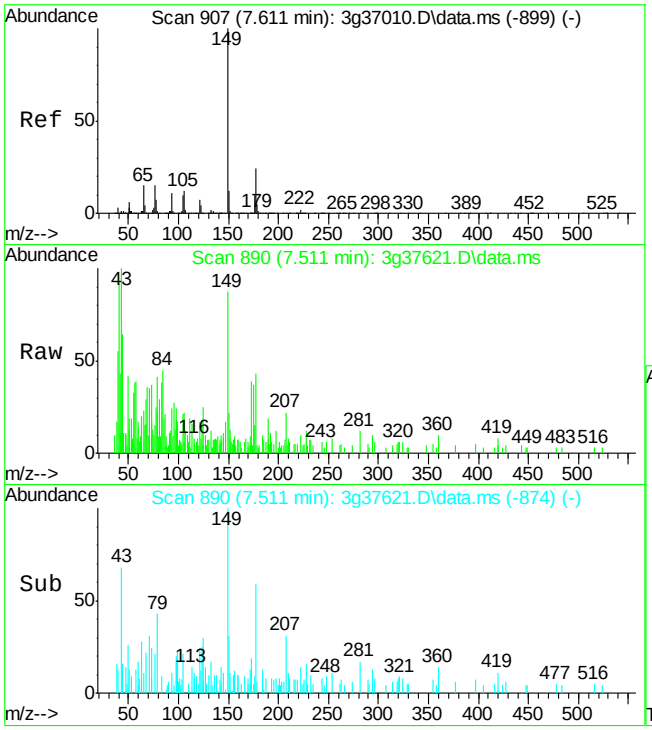


#50
Biphenyl
Concen: 0.5178 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:154 Resp: 7105

Ion	Ratio	Lower	Upper
154	100		
153	60.2	21.4	61.4
76	43.1	5.2	45.2

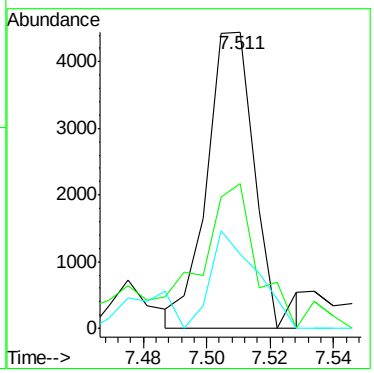


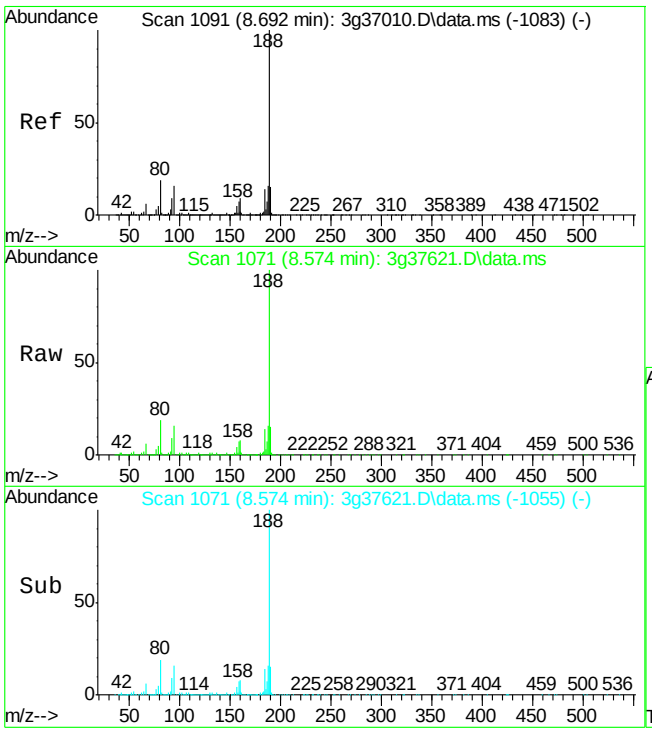


#63
Diethylphthalate
Concen: Below ppm
RT: 7.511 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:149 Resp: 4698

Ion	Ratio	Lower	Upper
149	100		
177	61.3	3.6	43.6#
150	31.3	0.0	32.5

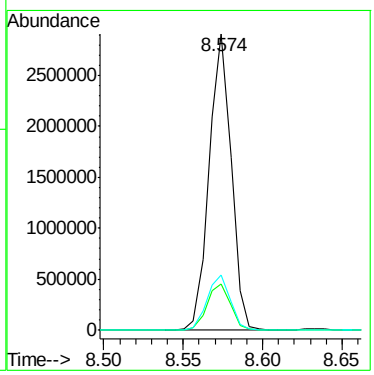


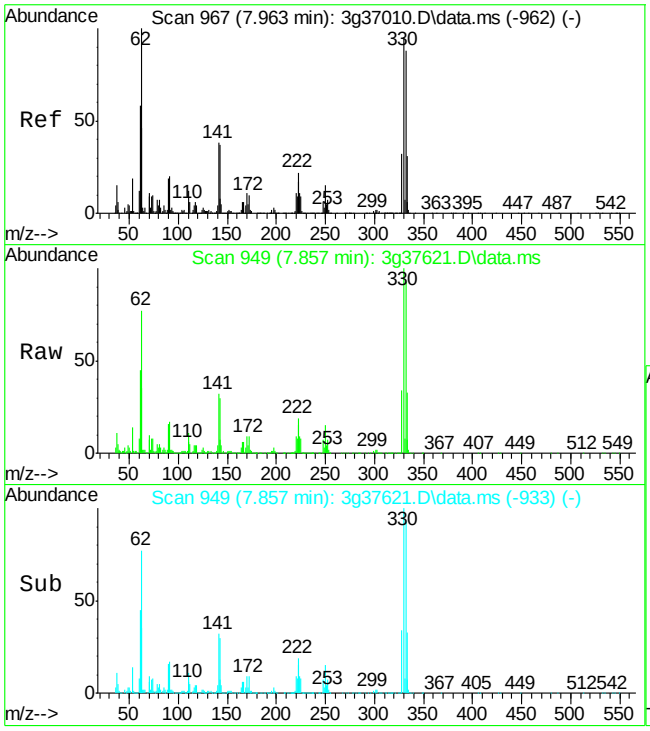


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:188 Resp: 2800636

Ion	Ratio	Lower	Upper
188	100		
94	16.6	0.0	35.1
80	19.3	0.0	37.9

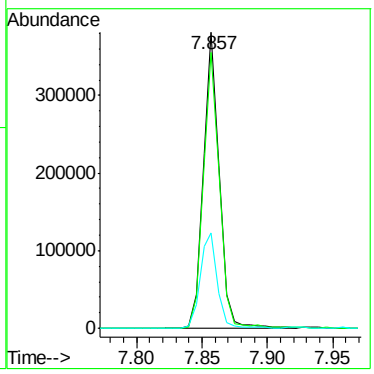


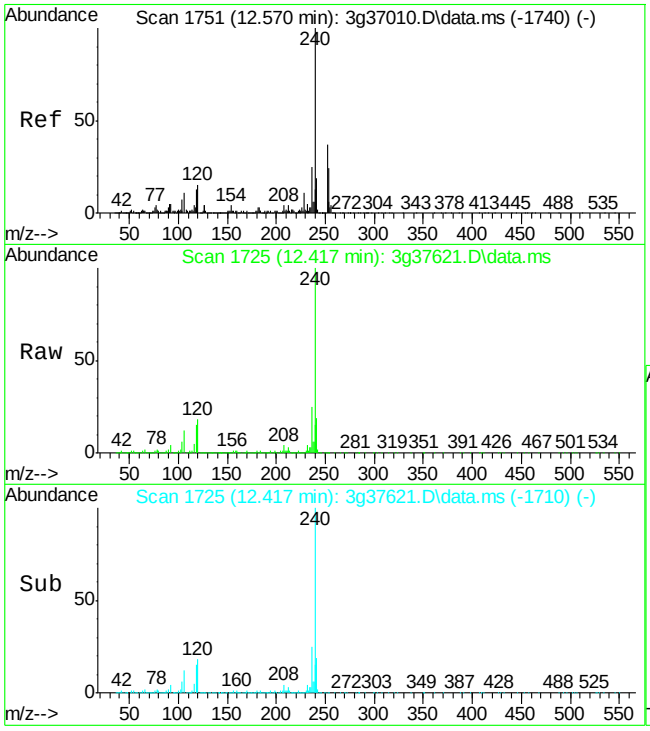


#69
2,4,6-Tribromophenol
Concen: 50.4638 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:330 Resp: 329573

Ion	Ratio	Lower	Upper
330	100		
332	94.4	74.8	112.2
141	34.5	33.8	50.6

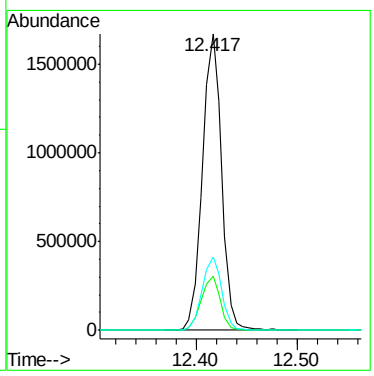




#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.417 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

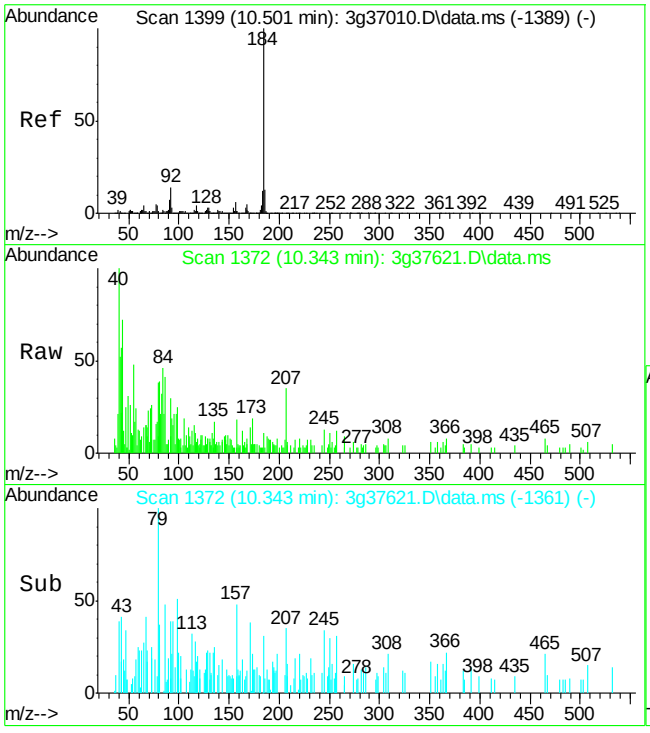
Tgt Ion:240 Resp: 2181367

Ion	Ratio	Lower	Upper
240	100		
120	18.3	0.0	36.6
236	25.1	4.3	44.3



9.1.16

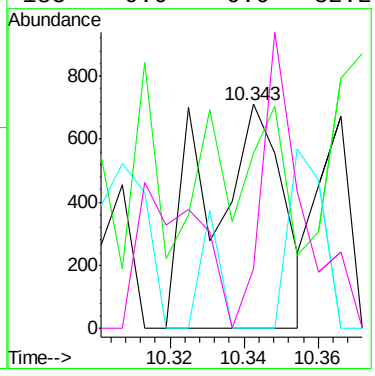
9

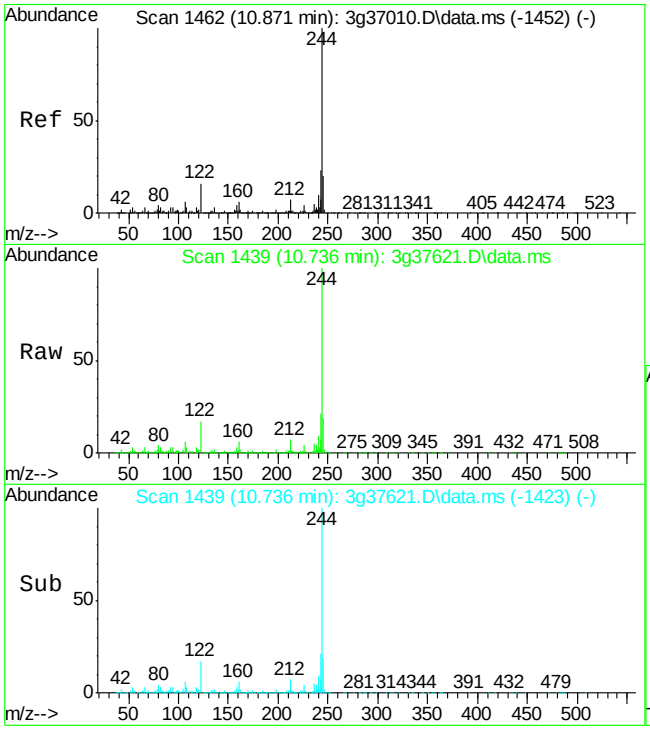


#85
Benzidine
Concen: Below ppm
RT: 10.343 min Scan# 1372
Delta R.T. -0.035 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:184 Resp: 1016

Ion	Ratio	Lower	Upper
184	100		
92	0.0	0.0	34.2
185	0.0	0.0	33.2
183	0.0	0.0	32.2

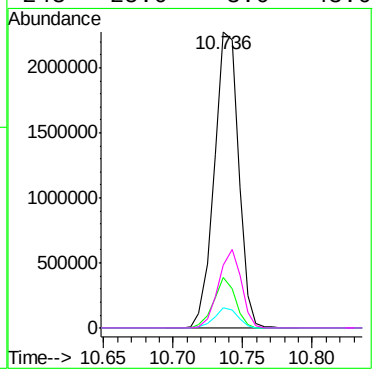


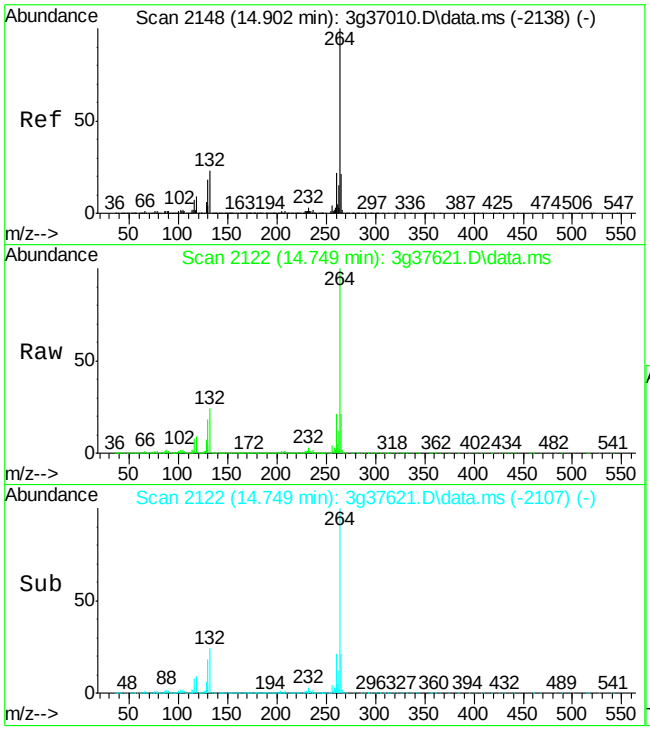


#87
Terphenyl-d14
Concen: 50.5058 ppm
RT: 10.736 min Scan# 1439
Delta R.T. -0.006 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:244 Resp: 2763929

Ion	Ratio	Lower	Upper
244	100		
122	15.3	0.0	35.4
212	6.6	0.0	27.0
243	25.0	3.0	43.0

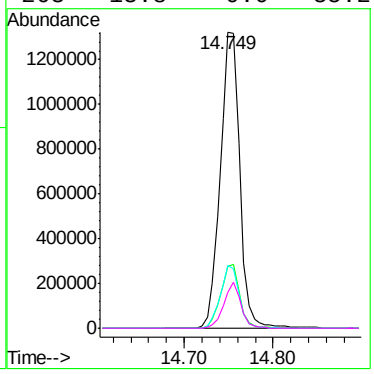




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37621.D
Acq: 8 Aug 18 5:02 pm

Tgt Ion:264 Resp: 2008703

Ion	Ratio	Lower	Upper
264	100		
260	21.3	1.3	41.3
265	20.8	0.2	40.2
263	13.8	0.0	35.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37622.D
Acq On : 8 Aug 2018 5:29 pm
Operator : DONC
Sample : DA7701-17
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 09 08:40:58 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	750799	40.0000	ppm	0.00
26) Naphthalene-d8	5.871	136	2884715	40.0000	ppm	0.00
44) Acenaphthene-d10	7.164	164	1474009	40.0000	ppm	0.00
67) Phenanthrene-d10	8.574	188	2650748	40.0000	ppm	0.00
84) Chrysene-d12	12.417	240	2155020	40.0000	ppm	-0.01
93) Perylene-d12	14.749	264	1950892	40.0000	ppm	-0.01

System Monitoring Compounds						
5) 2-Fluorophenol	4.038	112	766655	21.9054	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 43.82%			
8) Phenol-d5	4.737	99	734584	14.1722	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 28.34%			
27) Nitrobenzene-d5	5.360	82	1747422	35.1561	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 70.32%			
49) 2-Fluorobiphenyl	6.641	172	2401927	47.3421	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 94.68%			
69) 2,4,6-Tribromophenol	7.857	330	310490	50.2301	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 100.46%			
87) Terphenyl-d14	10.742	244	2668493	49.3581	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 98.72%			

Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	1406	Below Cal #	1
14) n-decane	4.820	43	2787	Below Cal #	24
63) Diethylphthalate	7.511	149	3073	Below Cal #	65

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

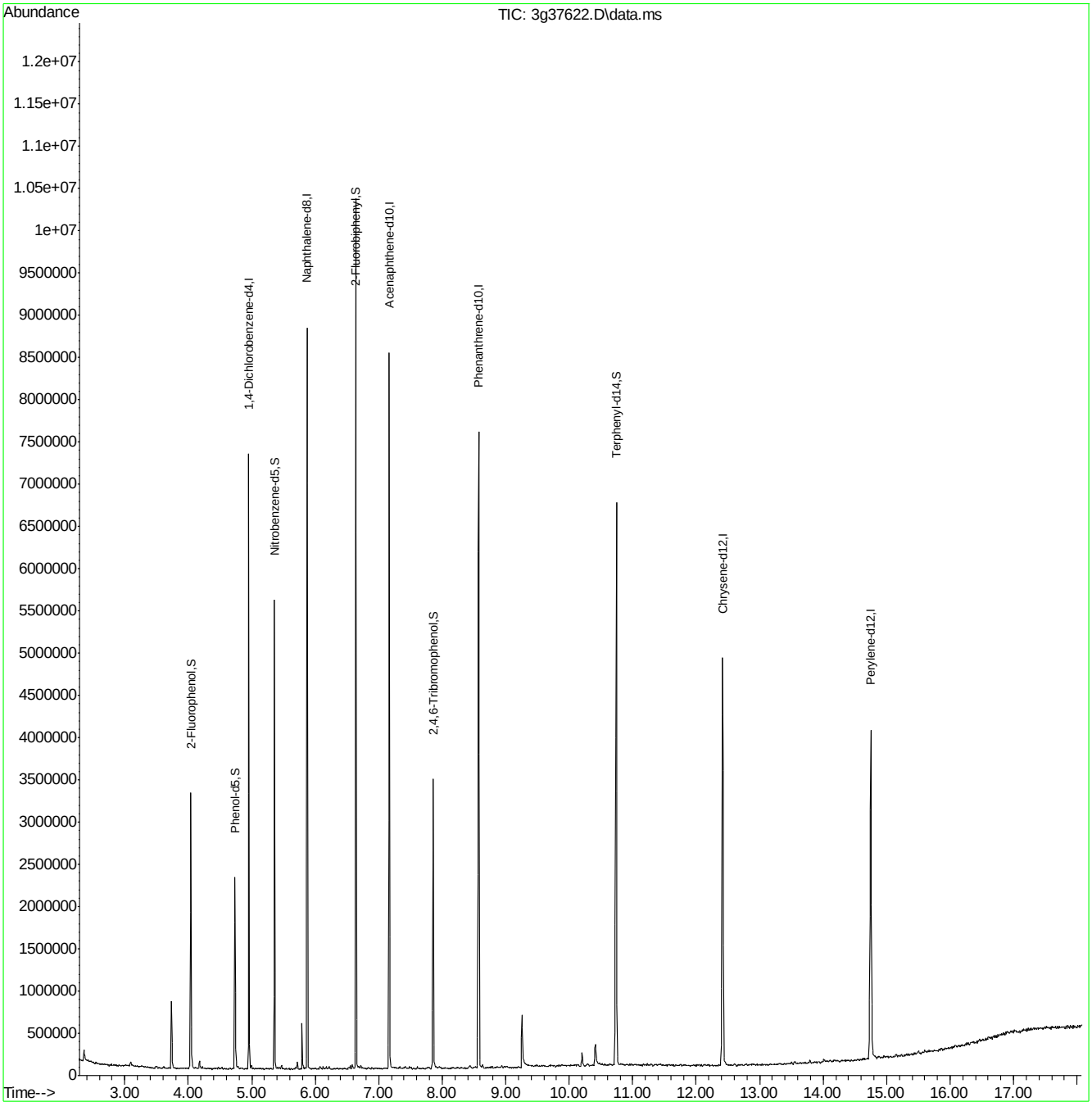
9.1.17

9

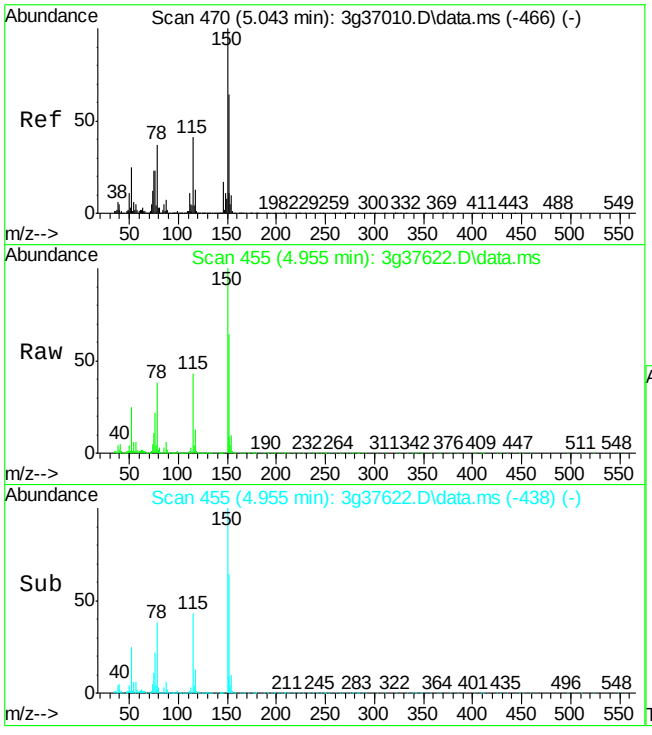
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37622.D
Acq On : 8 Aug 2018 5:29 pm
Operator : DONC
Sample : DA7701-17
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 09 08:40:58 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



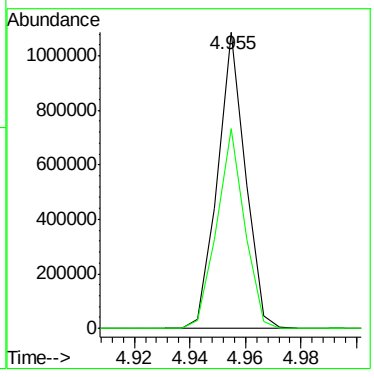
bnae3g1850.M Thu Aug 09 08:41:03 2018 3G

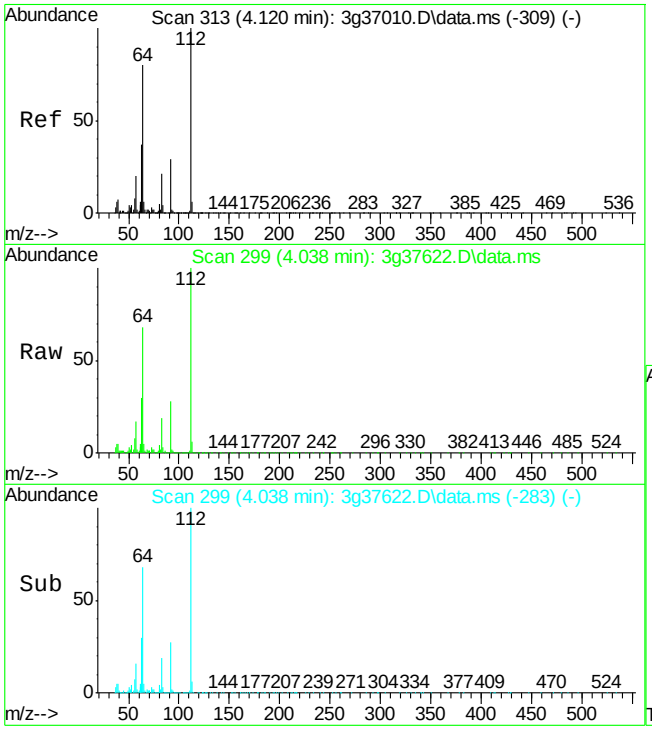


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:152 Resp: 750799

Ion	Ratio	Lower	Upper
152	100		
115	67.4	53.0	93.0

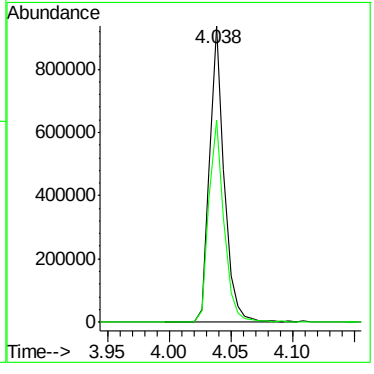


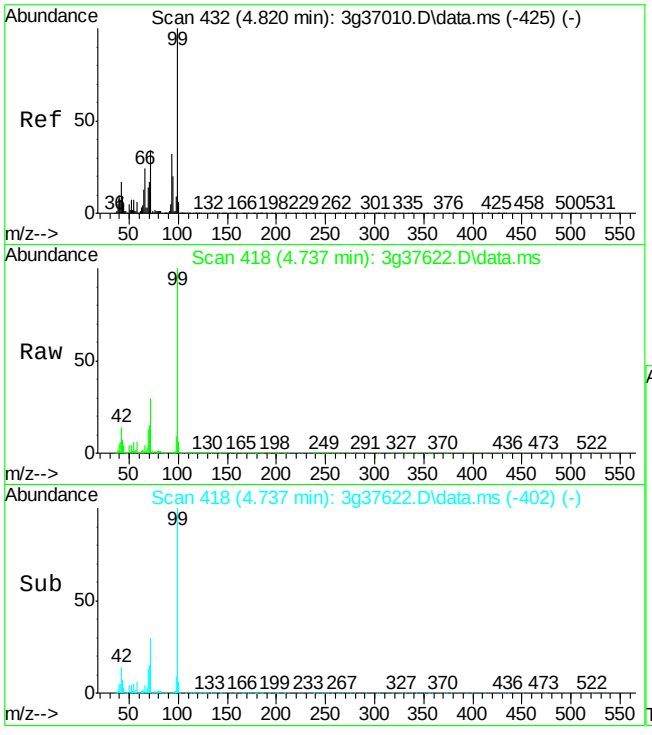


#5
2-Fluorophenol
Concen: 21.9054 ppm
RT: 4.038 min Scan# 299
Delta R.T. -0.006 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:112 Resp: 766655

Ion	Ratio	Lower	Upper
112	100		
64	71.1	58.3	98.3

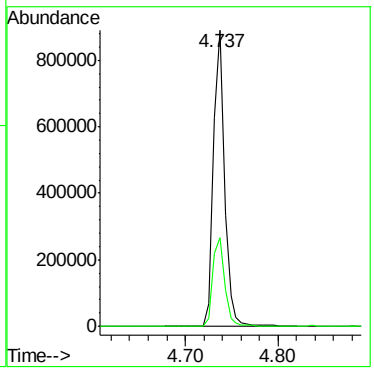


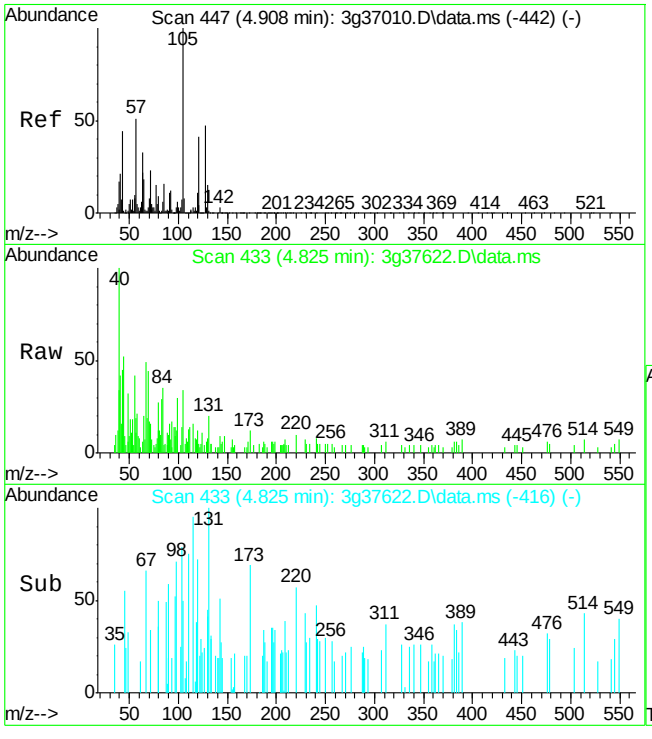


#8
Phenol-d5
Concen: 14.1722 ppm
RT: 4.737 min Scan# 418
Delta R.T. -0.006 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion: 99 Resp: 734584

Ion	Ratio	Lower	Upper
99	100		
71	31.5	13.6	53.6

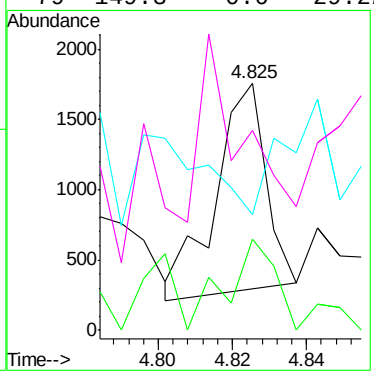


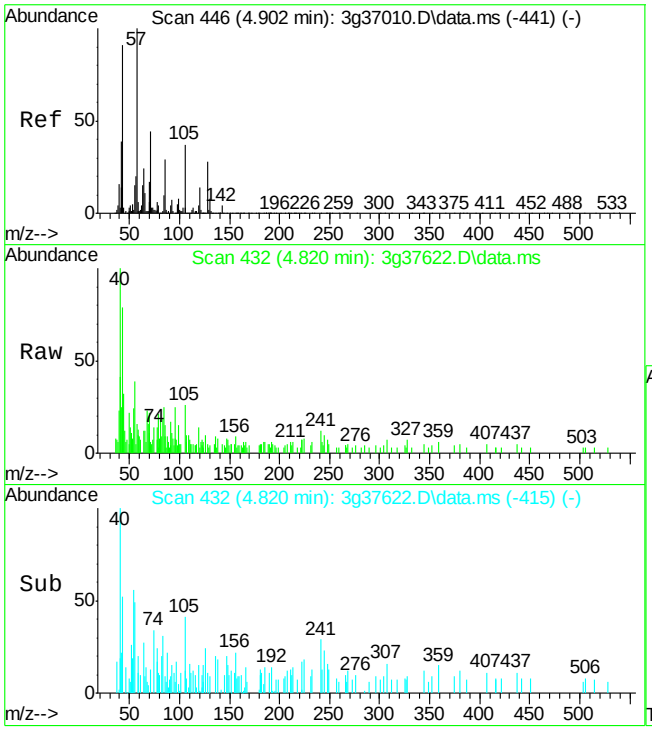


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:105 Resp: 1406

Ion	Ratio	Lower	Upper
105	100		
120	0.0	19.5	59.5#
91	0.0	0.0	31.4
79	149.3	0.0	29.2#

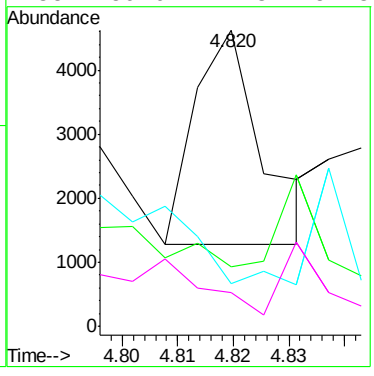


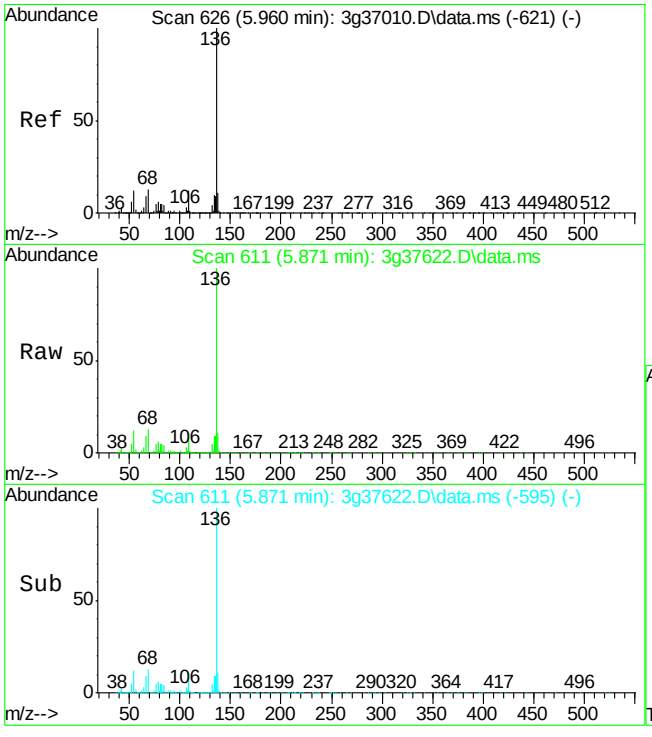


#14
n-decane
Concen: Below ppm
RT: 4.820 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion: 43 Resp: 2787

Ion	Ratio	Lower	Upper
43	100		
57	0.0	92.0	132.0#
71	66.9	28.7	68.7
85	59.6	11.8	51.8#

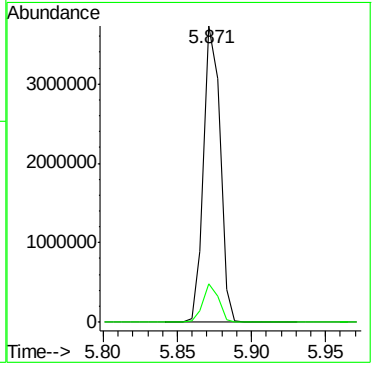


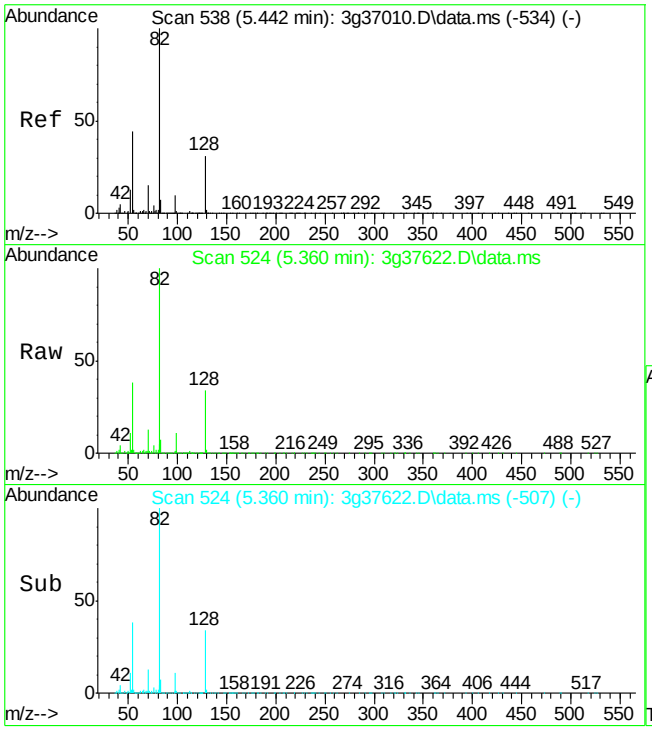


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:136 Resp: 2884715

Ion	Ratio	Lower	Upper
136	100		
68	12.1	0.0	32.4

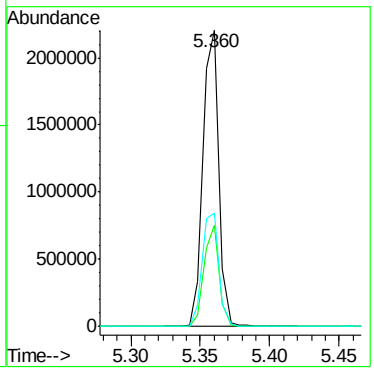


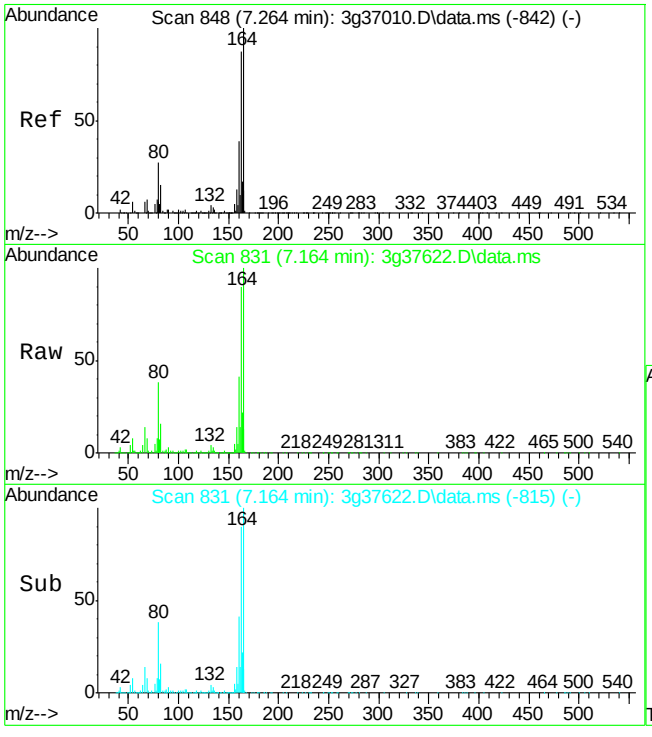


#27
Nitrobenzene-d5
Concen: 35.1561 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion: 82 Resp: 1747422

Ion	Ratio	Lower	Upper
82	100		
128	32.5	10.8	50.8
54	40.2	22.9	62.9

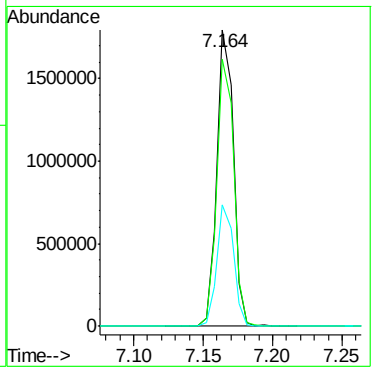


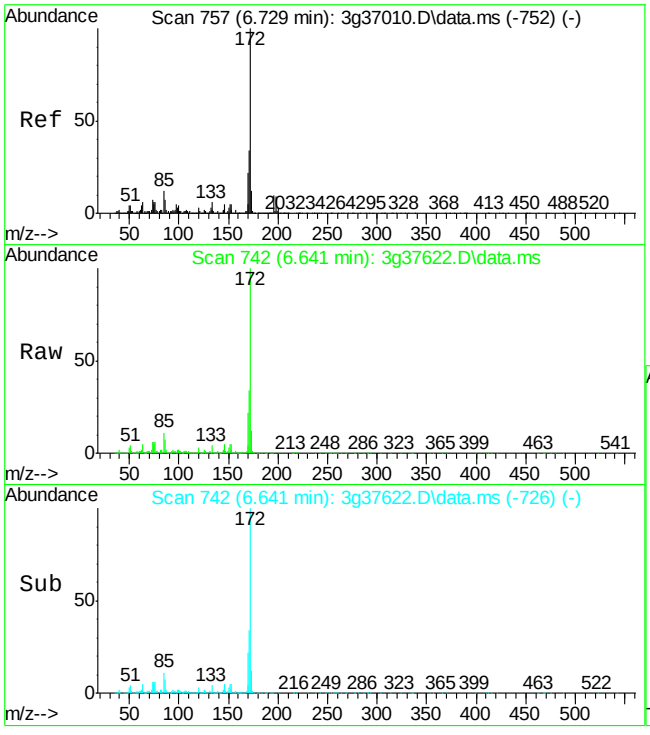


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:164 Resp: 1474009

Ion	Ratio	Lower	Upper
164	100		
162	92.8	69.6	109.6
160	41.7	20.5	60.5

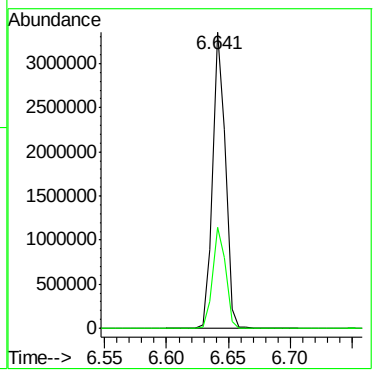


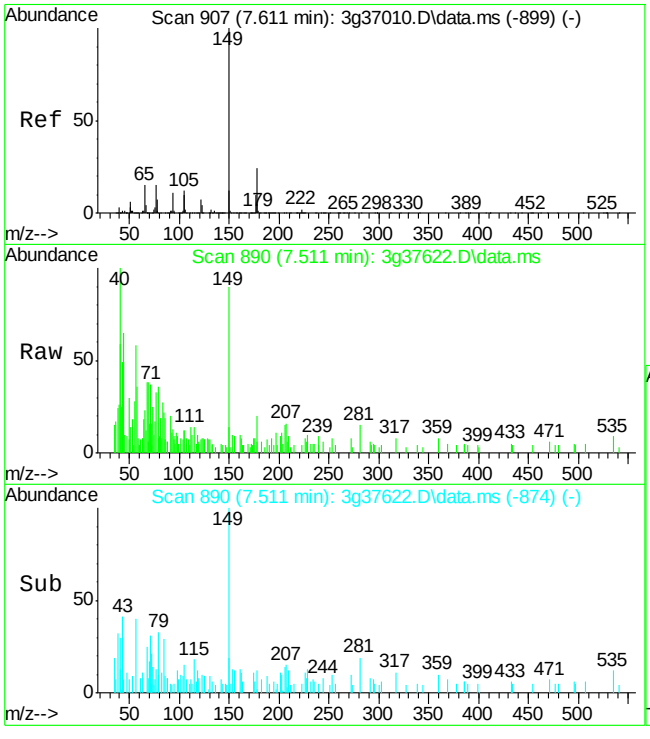


#49
2-Fluorobiphenyl
Concen: 47.3421 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:172 Resp: 2401927

Ion	Ratio	Lower	Upper
172	100		
171	34.9	14.5	54.5

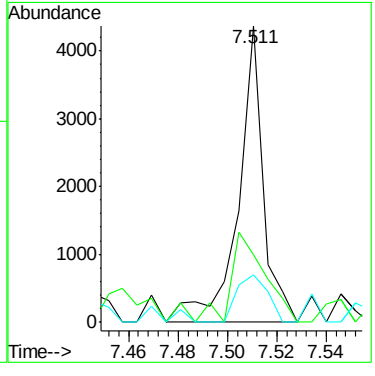


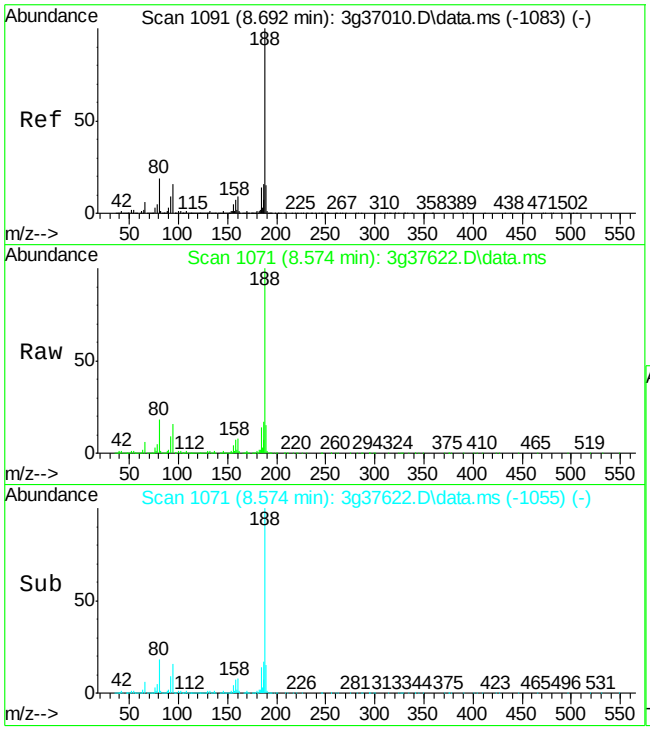


#63
Diethylphthalate
Concen: Below ppm
RT: 7.511 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:149 Resp: 3073

Ion	Ratio	Lower	Upper
149	100		
177	41.3	3.6	43.6
150	0.0	0.0	32.5

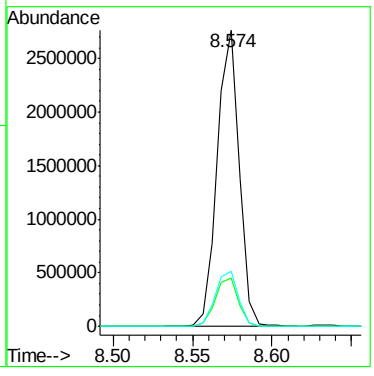


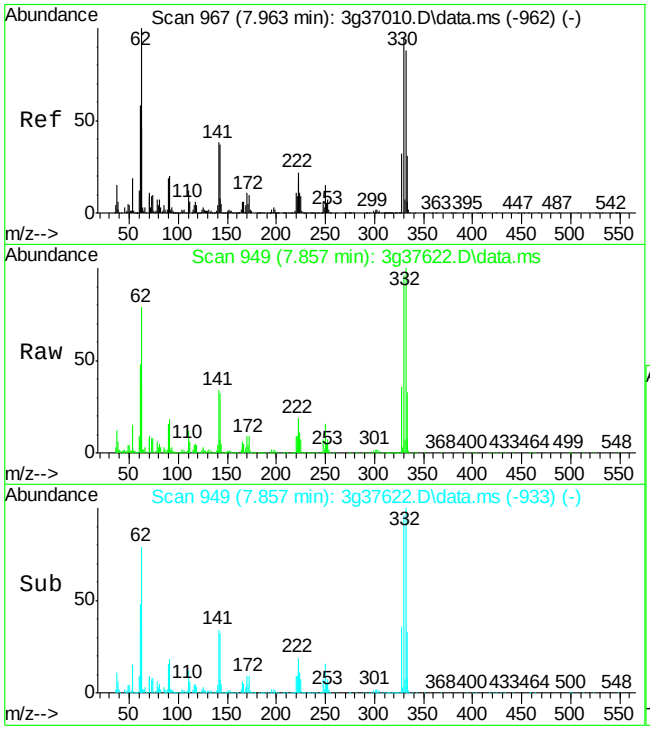


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:188 Resp: 2650748

Ion	Ratio	Lower	Upper
188	100		
94	17.2	0.0	35.1
80	19.6	0.0	37.9

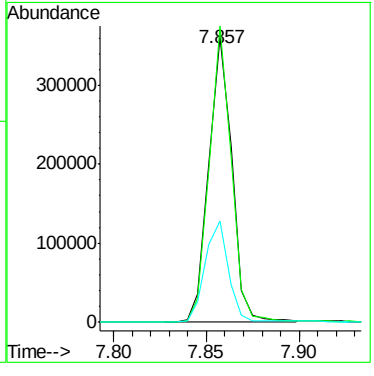


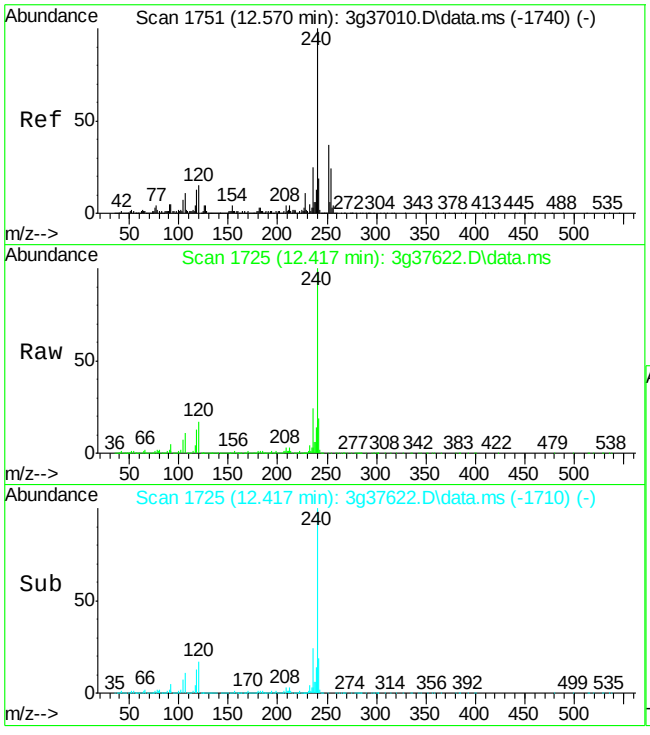


#69
2,4,6-Tribromophenol
Concen: 50.2301 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:330 Resp: 310490

Ion	Ratio	Lower	Upper
330	100		
332	99.3	74.8	112.2
141	35.5	33.8	50.6

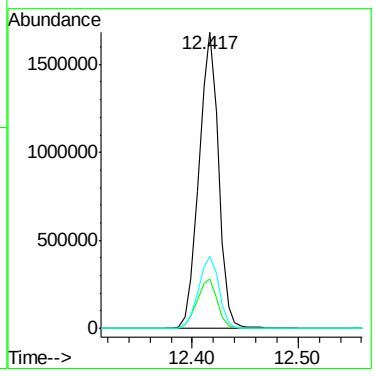


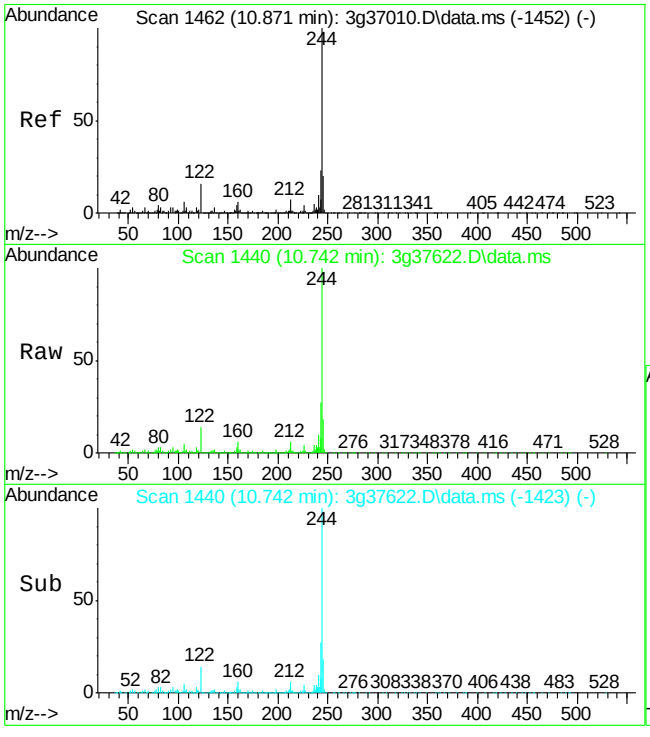


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.417 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:240 Resp: 2155020

Ion	Ratio	Lower	Upper
240	100		
120	17.2	0.0	36.6
236	25.2	4.3	44.3

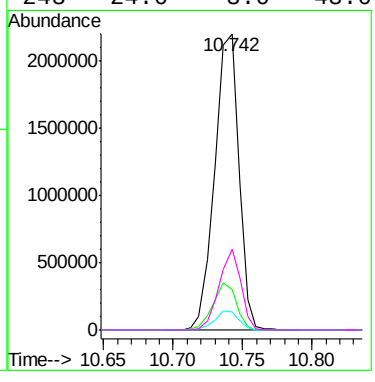


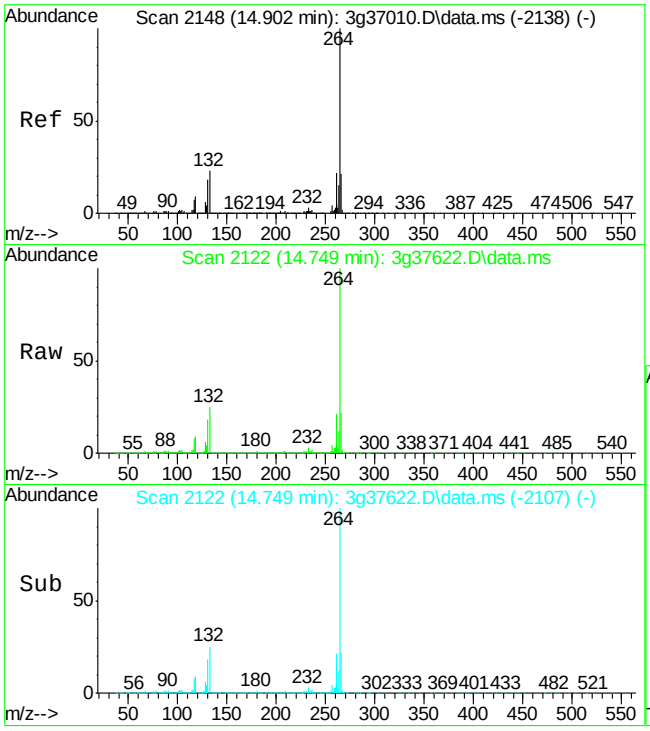


#87
Terphenyl-d14
Concen: 49.3581 ppm
RT: 10.742 min Scan# 1440
Delta R.T. 0.000 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:244 Resp: 2668493

Ion	Ratio	Lower	Upper
244	100		
122	15.5	0.0	35.4
212	6.4	0.0	27.0
243	24.6	3.0	43.0

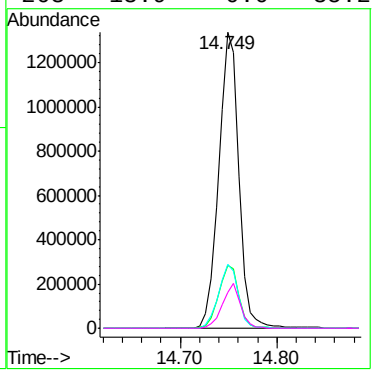




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37622.D
Acq: 8 Aug 18 5:29 pm

Tgt Ion:264 Resp: 1950892

Ion	Ratio	Lower	Upper
264	100		
260	21.4	1.3	41.3
265	21.4	0.2	40.2
263	13.9	0.0	35.2



9.1.17

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37623.D
Acq On : 8 Aug 2018 5:57 pm
Operator : DONC
Sample : DA7701-18
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 09 08:42:21 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	800802	40.0000 ppm	0.00
26) Naphthalene-d8	5.871	136	3120869	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1562884	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	2817891	40.0000 ppm	0.00
84) Chrysene-d12	12.417	240	2362420	40.0000 ppm	-0.01
93) Perylene-d12	14.749	264	2093995	40.0000 ppm	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol	4.038	112	648883	17.3827 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 34.76%		
8) Phenol-d5	4.737	99	667860	12.0803 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 24.16%		
27) Nitrobenzene-d5	5.354	82	1316849	24.4887 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 48.98%		
49) 2-Fluorobiphenyl	6.641	172	1600721	29.7562 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 59.52%		
69) 2,4,6-Tribromophenol	7.857	330	249386	37.9518 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 75.90%		
87) Terphenyl-d14	10.736	244	1741612	29.3858 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 58.78%		

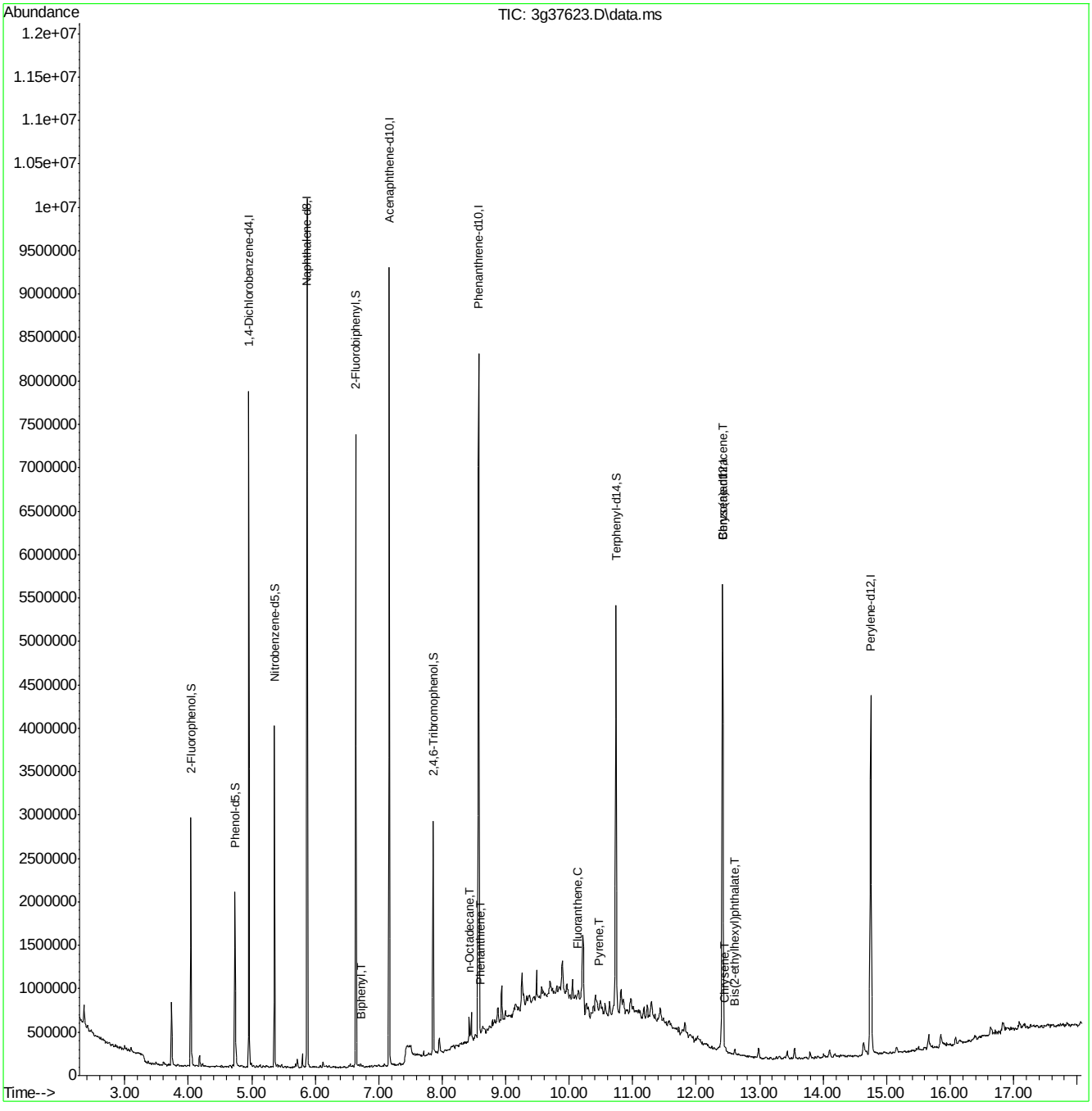
Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	2705	Below Cal #	60
14) n-decane	4.820	43	2267	Below Cal #	75
50) Biphenyl	6.717	154	4247	0.4805 ppm	72
63) Diethylphthalate	7.505	149	3970	Below Cal #	53
78) n-Octadecane	8.421	57	54675	0.9413 ppm	94
79) Phenanthrene	8.598	178	13313	0.1686 ppm #	76
83) Fluoranthene	10.137	202	16572	0.2008 ppm	72
85) Benzidine	10.366	184	1074	Below Cal #	1
86) Pyrene	10.460	202	17820	0.2027 ppm	84
90) Benzo(a)anthracene	12.417	228	13218	0.1732 ppm	81
91) Chrysene	12.452	228	9770	0.1317 ppm	85
92) Bis(2-ethylhexyl)phtha...	12.605	149	14769	0.3069 ppm #	63

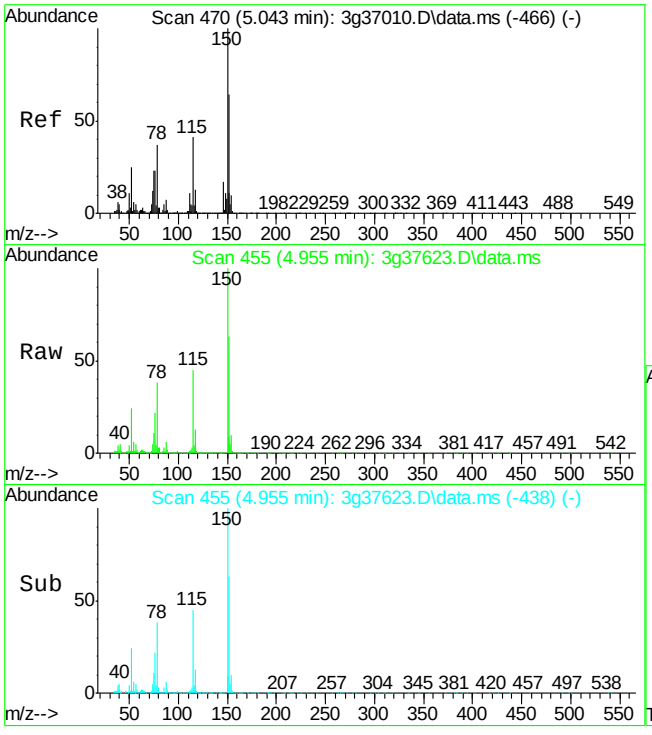
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37623.D
Acq On : 8 Aug 2018 5:57 pm
Operator : DONC
Sample : DA7701-18
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 09 08:42:21 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

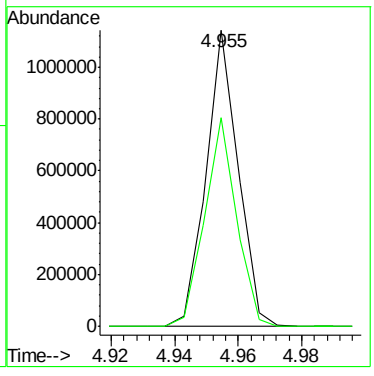


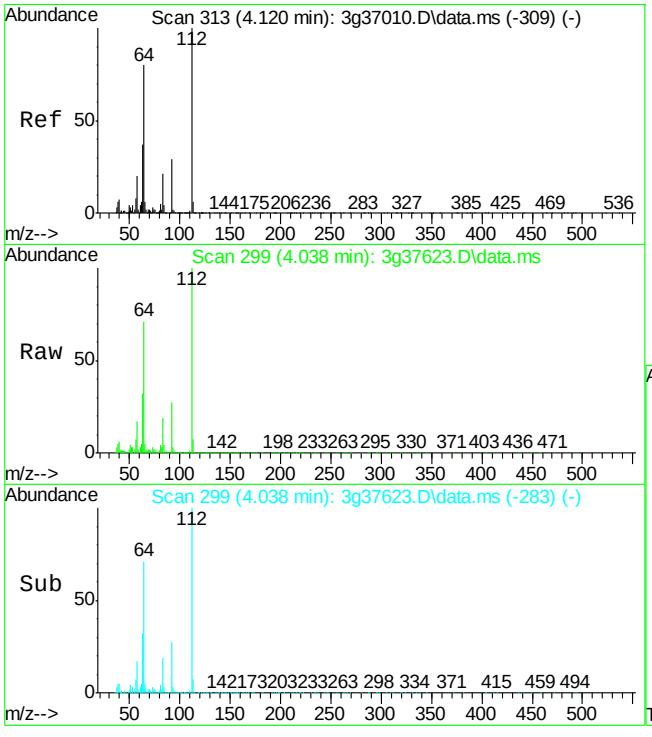


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:152 Resp: 800802

Ion	Ratio	Lower	Upper
152	100		
115	69.9	53.0	93.0

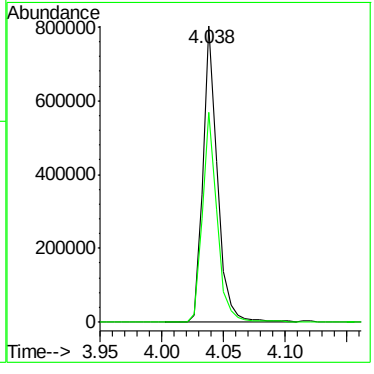


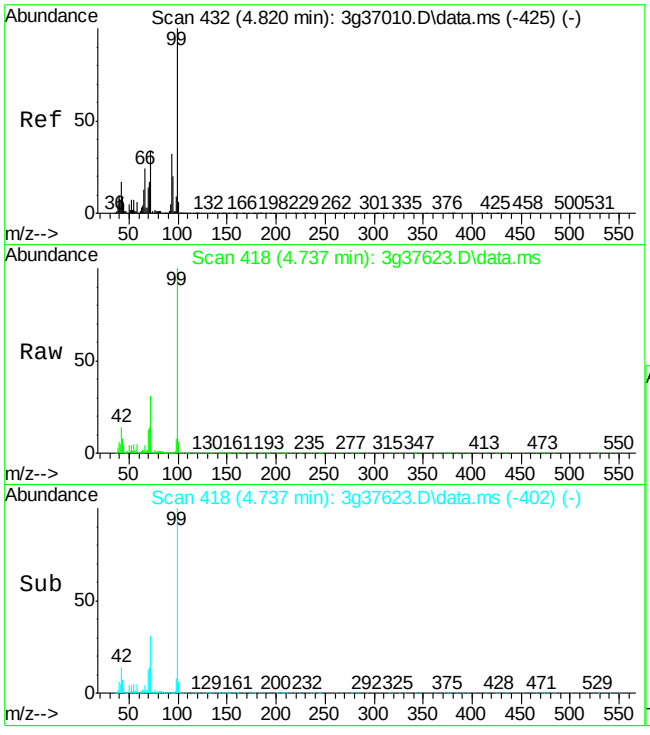


#5
2-Fluorophenol
Concen: 17.3827 ppm
RT: 4.038 min Scan# 299
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:112 Resp: 648883

Ion	Ratio	Lower	Upper
112	100		
64	71.9	58.3	98.3

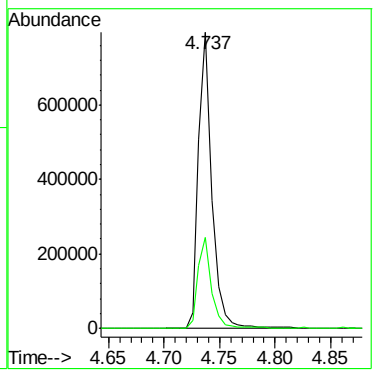


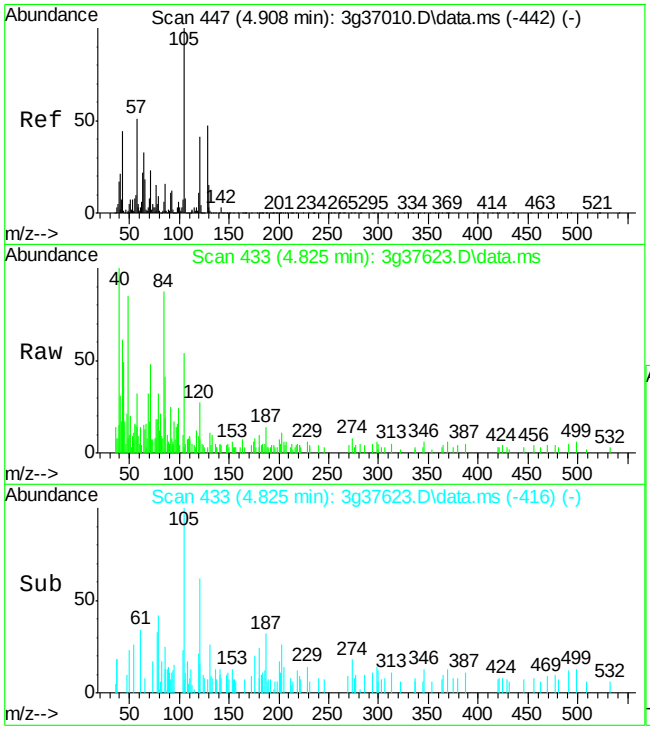


#8
Phenol-d5
Concen: 12.0803 ppm
RT: 4.737 min Scan# 418
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion: 99 Resp: 667860

Ion	Ratio	Lower	Upper
99	100		
71	30.8	13.6	53.6

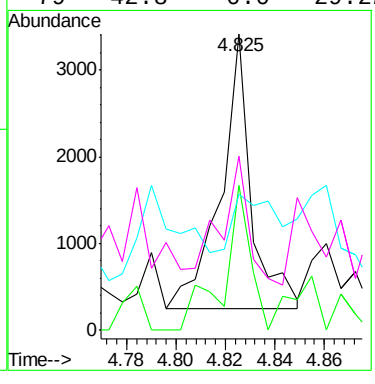


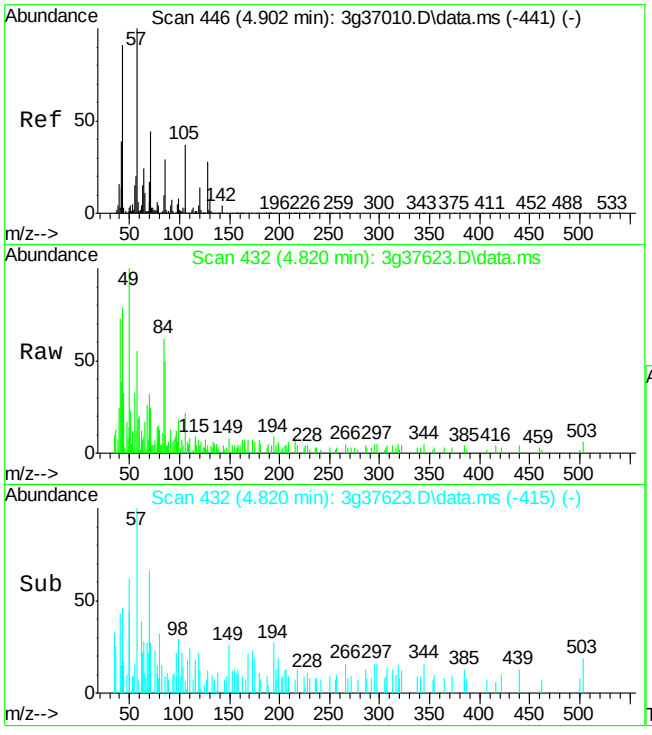


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:105 Resp: 2705

Ion	Ratio	Lower	Upper
105	100		
120	46.5	19.5	59.5
91	48.9	0.0	31.4#
79	42.8	0.0	29.2#

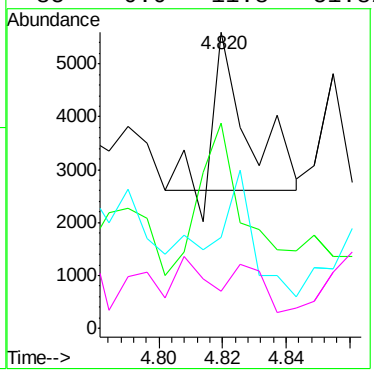


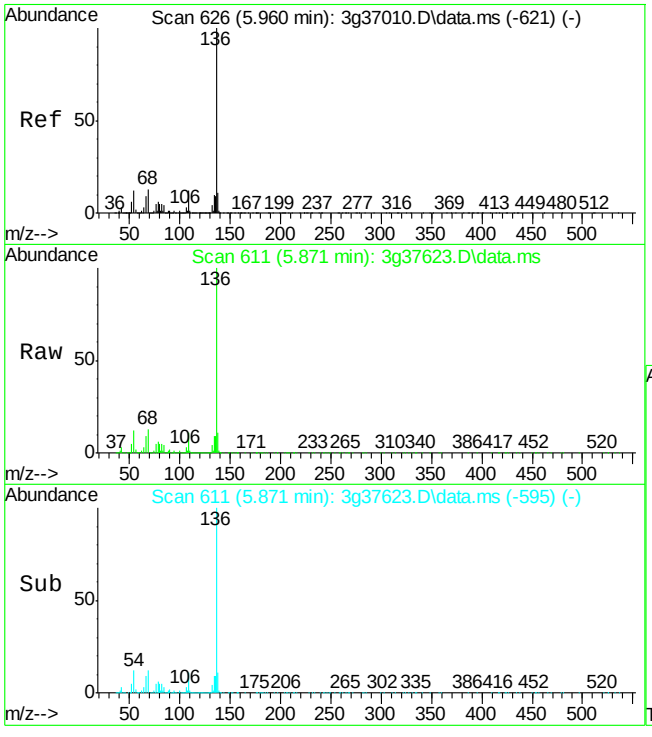


#14
n-decane
Concen: Below ppm
RT: 4.820 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion: 43 Resp: 2267

Ion	Ratio	Lower	Upper
43	100		
57	127.0	92.0	132.0
71	67.4	28.7	68.7
85	0.0	11.8	51.8#

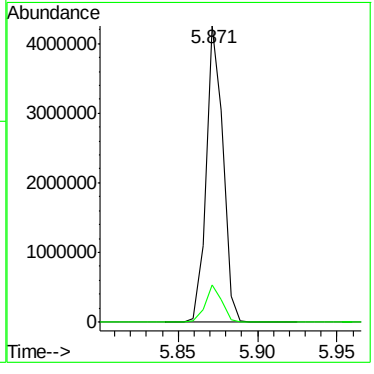


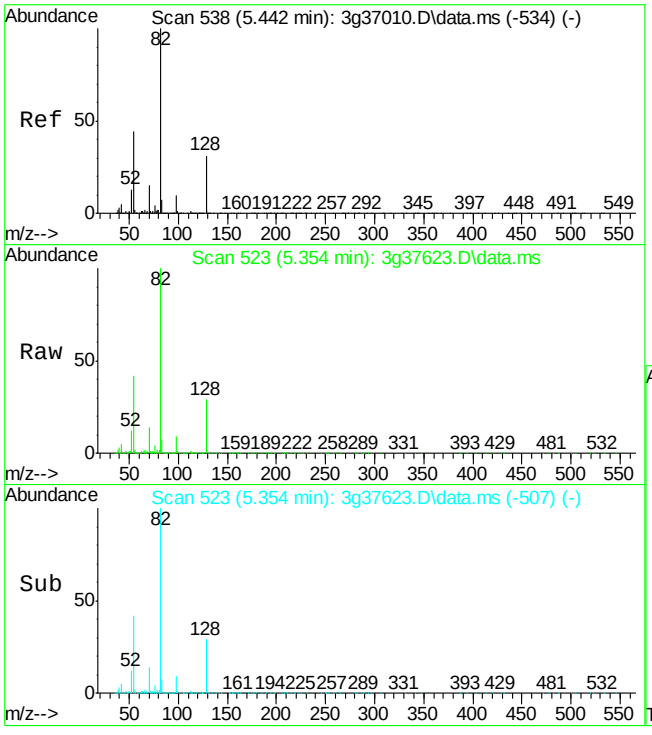


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:136 Resp: 3120869

Ion	Ratio	Lower	Upper
136	100		
68	12.3	0.0	32.4

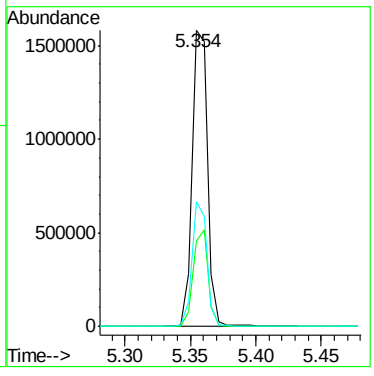


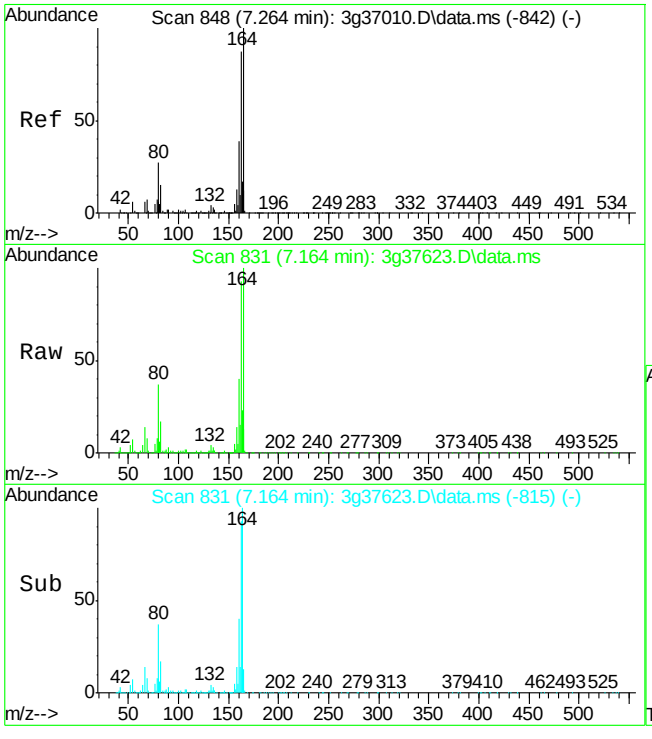


#27
Nitrobenzene-d5
Concen: 24.4887 ppm
RT: 5.354 min Scan# 523
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion: 82 Resp: 1316849

Ion	Ratio	Lower	Upper
82	100		
128	31.7	10.8	50.8
54	40.4	22.9	62.9

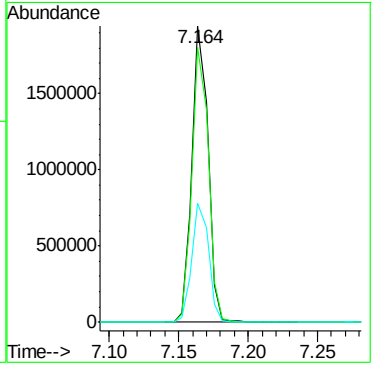


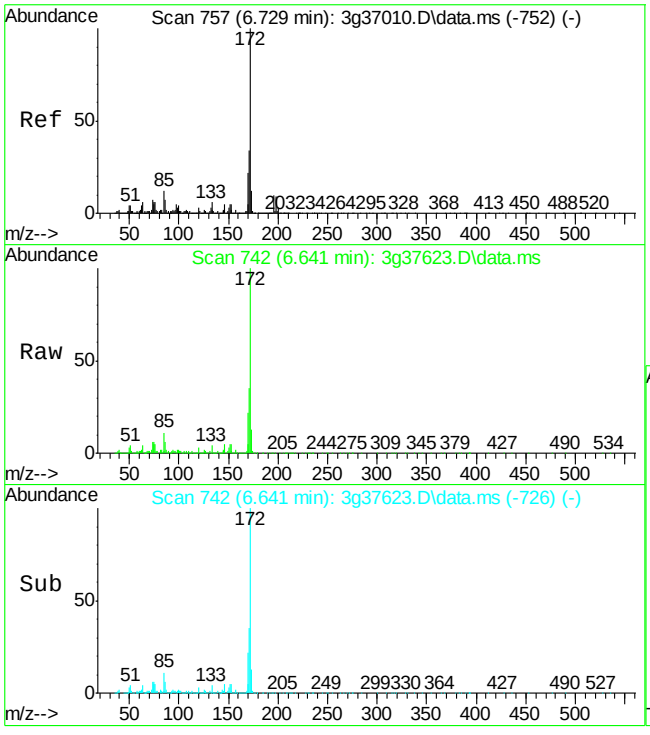


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:164 Resp: 1562884

Ion	Ratio	Lower	Upper
164	100		
162	95.0	69.6	109.6
160	41.7	20.5	60.5

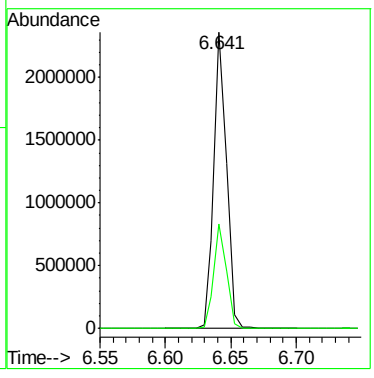


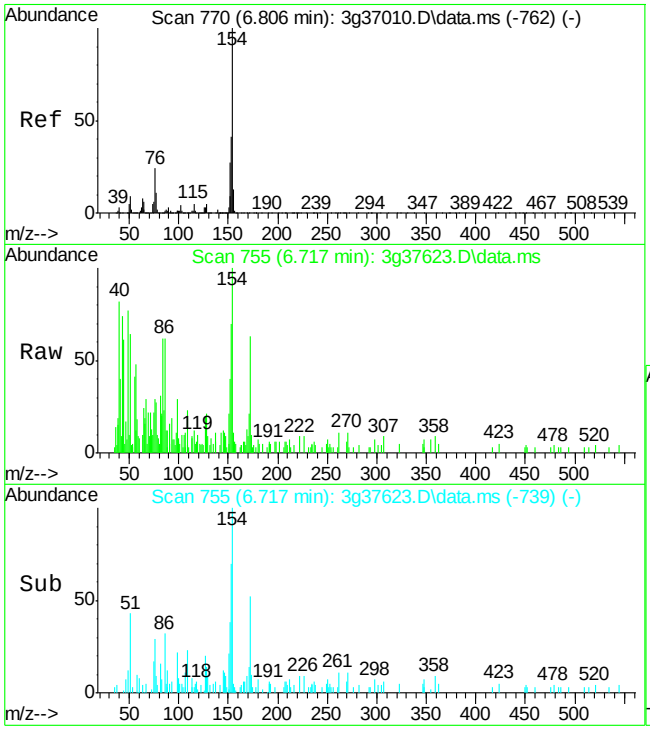


#49
2-Fluorobiphenyl
Concen: 29.7562 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:172 Resp: 1600721

Ion	Ratio	Lower	Upper
172	100		
171	35.3	14.5	54.5

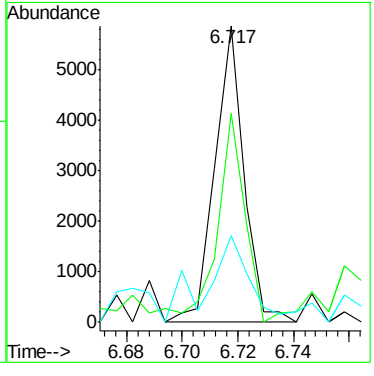


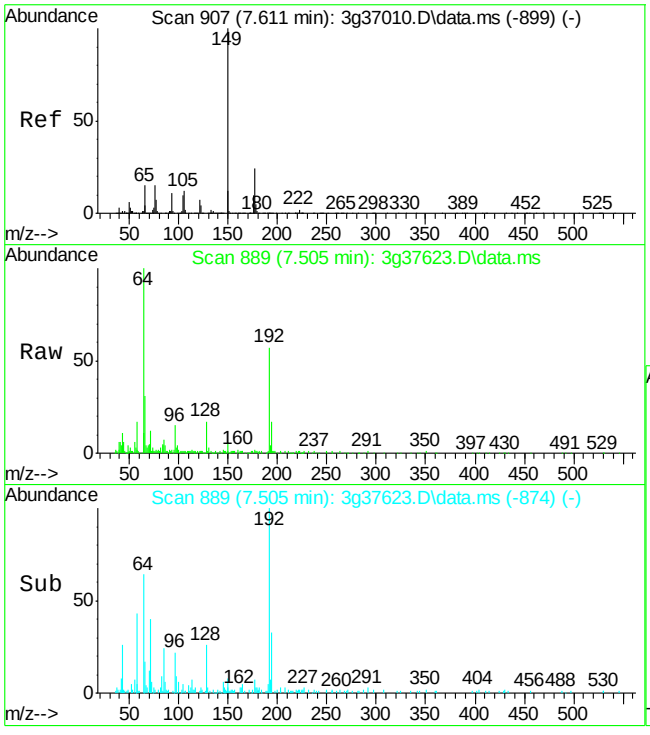


#50
Biphenyl
Concen: 0.4805 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:154 Resp: 4247

Ion	Ratio	Lower	Upper
154	100		
153	56.5	21.4	61.4
76	42.7	5.2	45.2

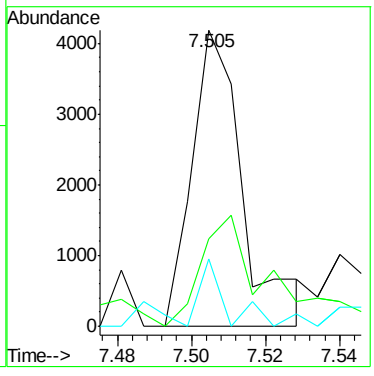


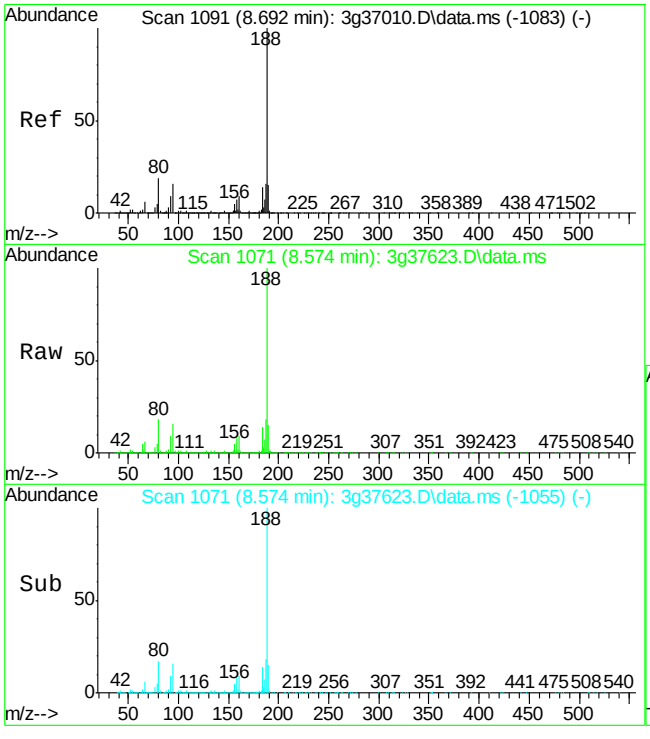


#63
Diethylphthalate
Concen: Below ppm
RT: 7.505 min Scan# 889
Delta R.T. -0.012 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:149 Resp: 3970

Ion	Ratio	Lower	Upper
149	100		
177	50.5	3.6	43.6#
150	0.0	0.0	32.5

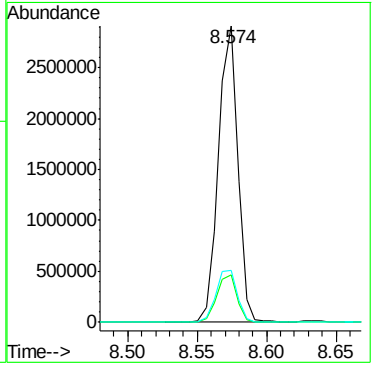


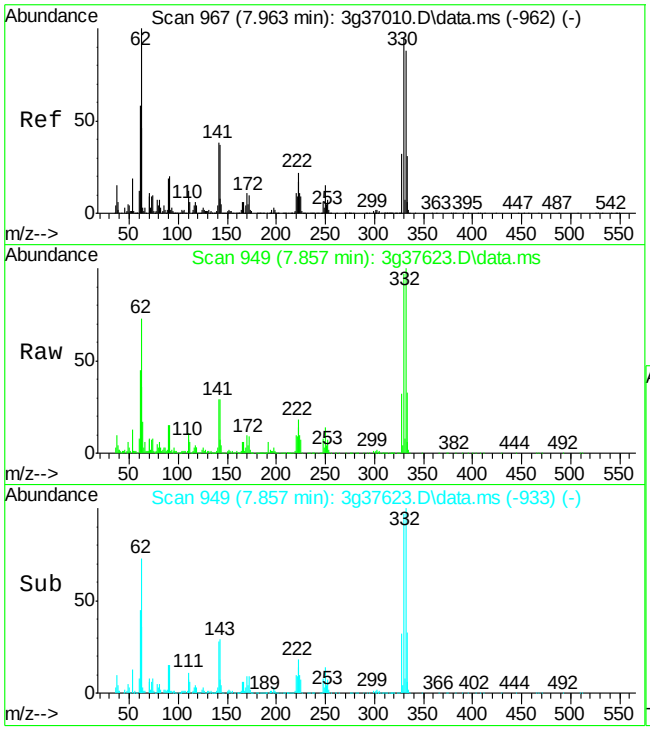


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:188 Resp: 2817891

Ion	Ratio	Lower	Upper
188	100		
94	16.5	0.0	35.1
80	19.2	0.0	37.9

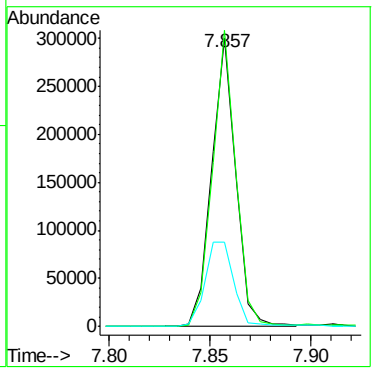


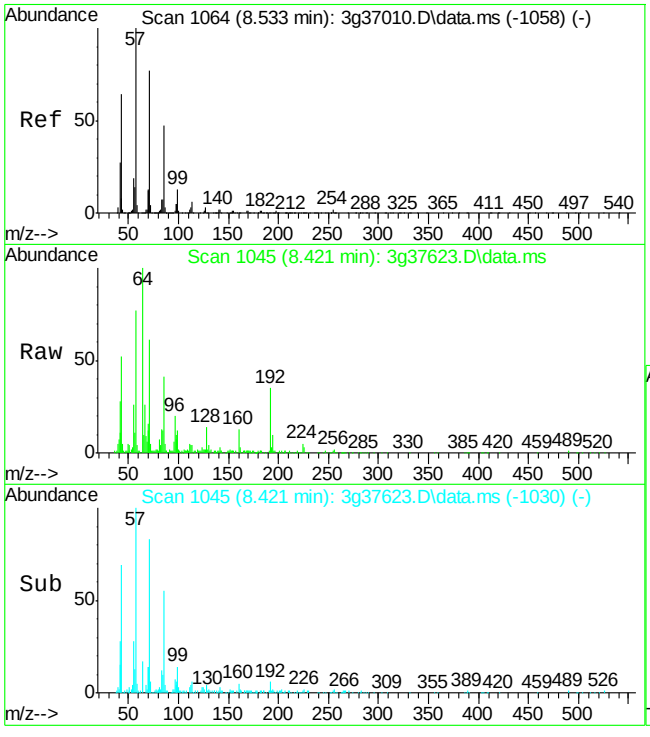


#69
2,4,6-Tribromophenol
Concen: 37.9518 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:330 Resp: 249386

Ion	Ratio	Lower	Upper
330	100		
332	100.6	74.8	112.2
141	34.8	33.8	50.6

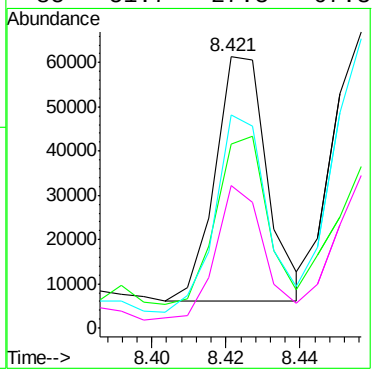


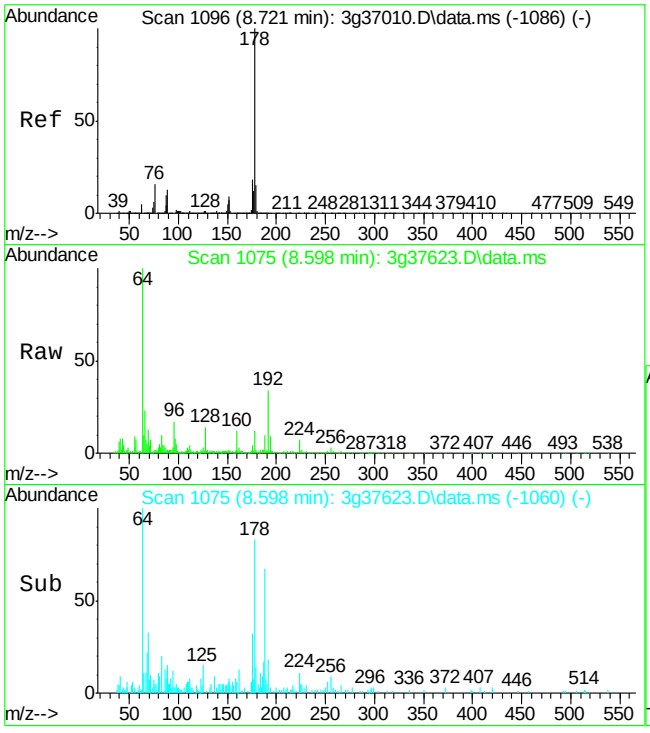


#78
n-Octadecane
Concen: 0.9413 ppm
RT: 8.421 min Scan# 1045
Delta R.T. -0.012 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion: 57 Resp: 54675

Ion	Ratio	Lower	Upper
57	100		
43	67.1	43.2	83.2
71	80.2	55.6	95.6
85	51.7	27.3	67.3

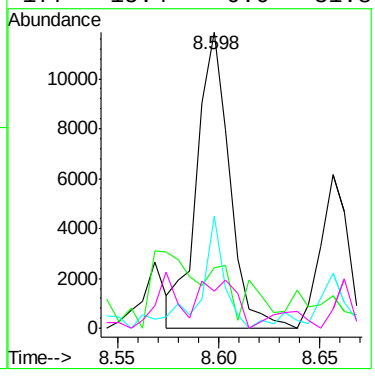


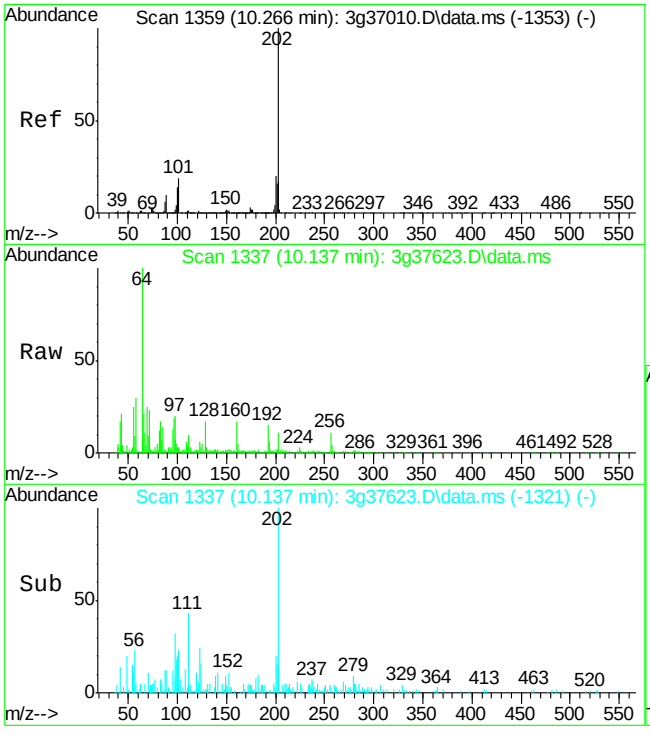


#79
Phenanthrene
Concen: 0.1686 ppm
RT: 8.598 min Scan# 1075
Delta R.T. -0.012 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:178 Resp: 13313

Ion	Ratio	Lower	Upper
178	100		
179	0.0	0.0	35.6
176	28.5	0.0	38.7
177	15.4	0.0	31.8

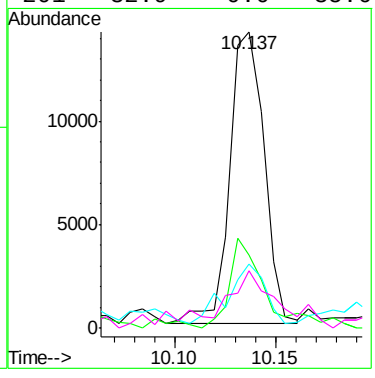


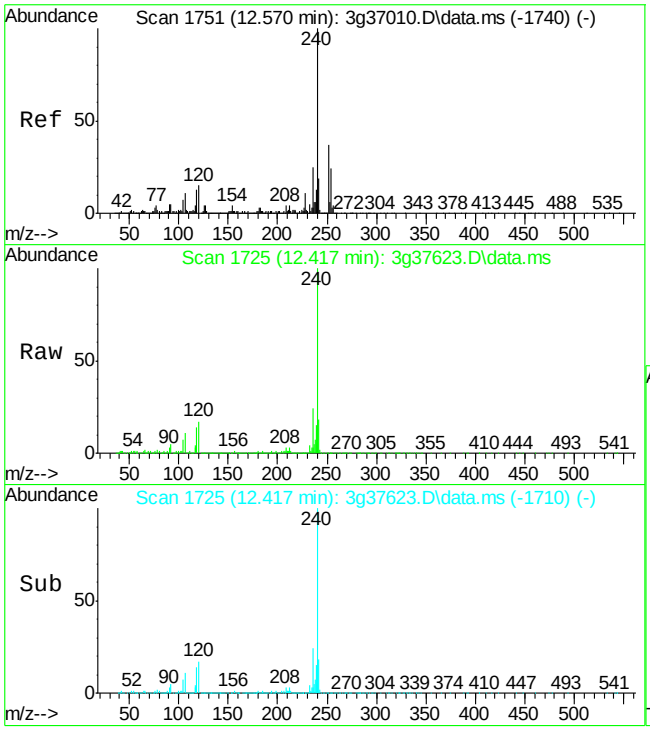


#83
Fluoranthene
Concen: 0.2008 ppm
RT: 10.137 min Scan# 1337
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:202 Resp: 16572

Ion	Ratio	Lower	Upper
202	100		
101	32.5	0.0	38.8
203	22.4	0.0	37.1
201	32.9	0.0	35.6

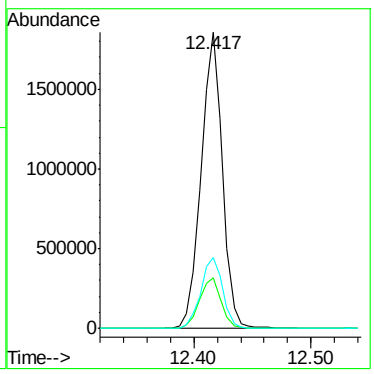


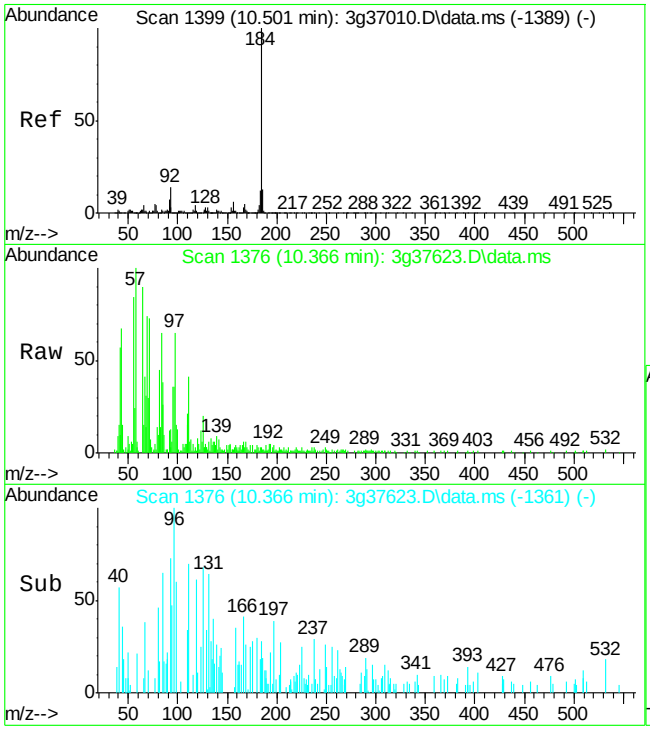


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.417 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:240 Resp: 2362420

Ion	Ratio	Lower	Upper
240	100		
120	17.6	0.0	36.6
236	24.7	4.3	44.3

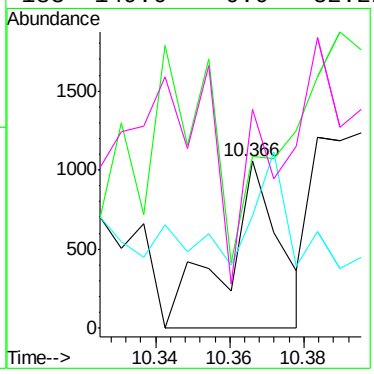




#85
Benzidine
Concen: Below ppm
RT: 10.366 min Scan# 1376
Delta R.T. -0.012 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

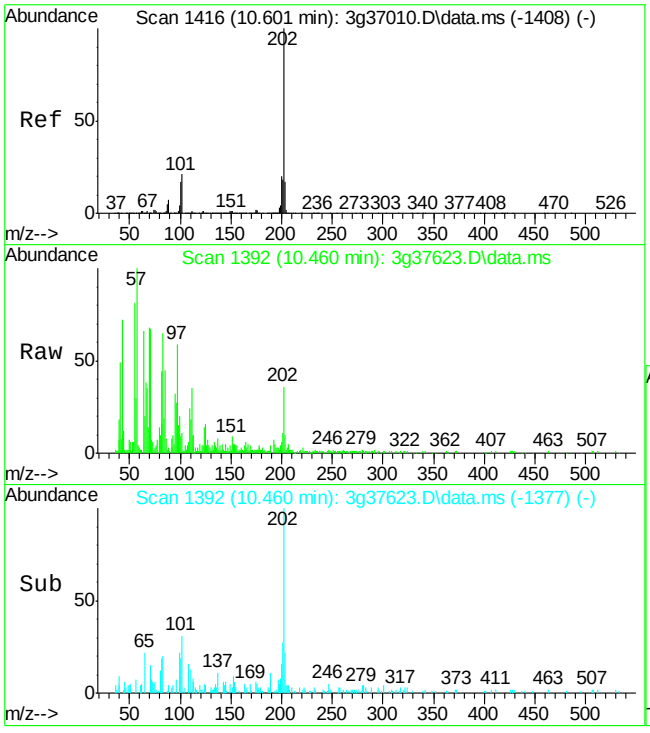
Tgt Ion:184 Resp: 1074

Ion	Ratio	Lower	Upper
184	100		
92	112.4	0.0	34.2#
185	0.0	0.0	33.2
183	149.6	0.0	32.2#



9.1.18

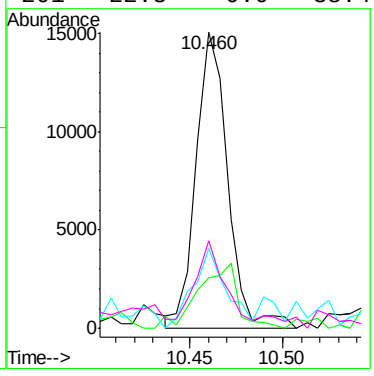
9

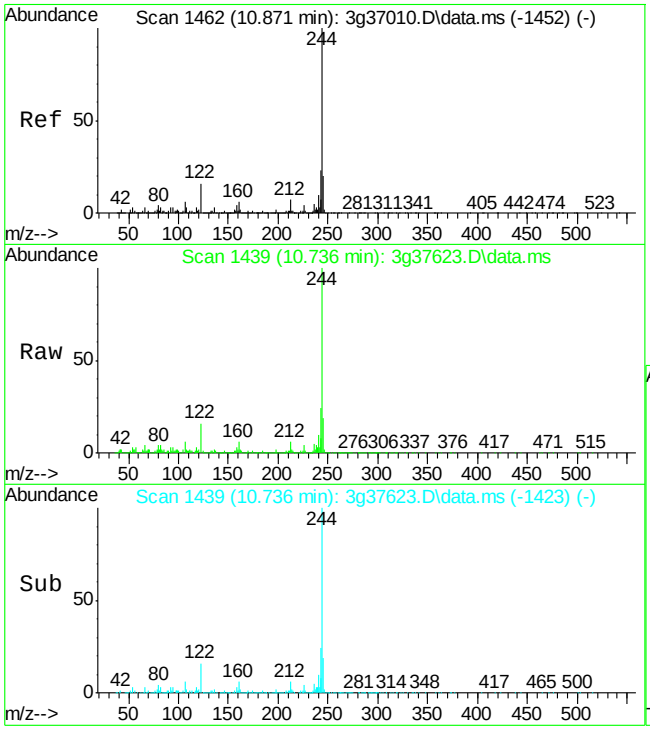


#86
Pyrene
Concen: 0.2027 ppm
RT: 10.460 min Scan# 1392
Delta R.T. -0.012 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:202 Resp: 17820

Ion	Ratio	Lower	Upper
202	100		
200	27.2	0.0	39.9
203	28.5	0.0	37.7
201	22.3	0.0	38.4

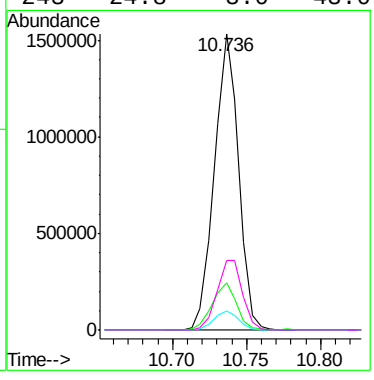


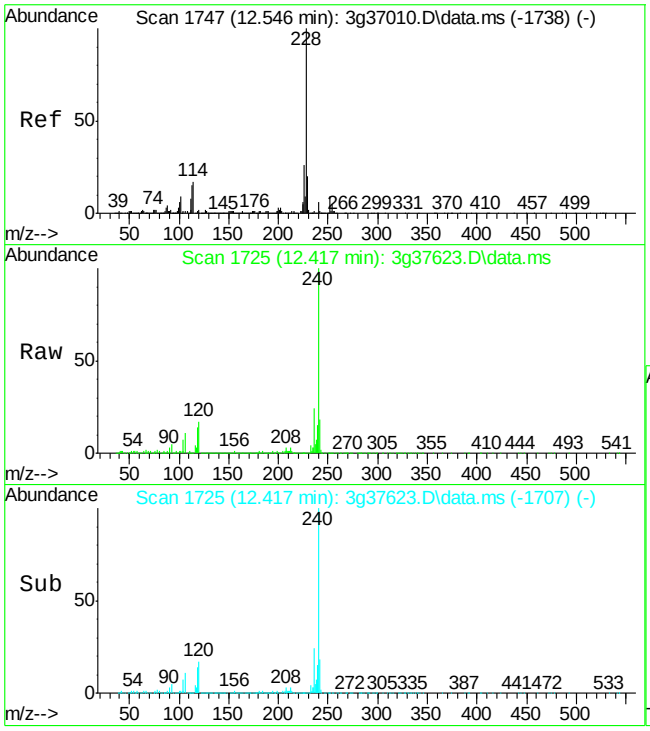


#87
Terphenyl-d14
Concen: 29.3858 ppm
RT: 10.736 min Scan# 1439
Delta R.T. -0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:244 Resp: 1741612

Ion	Ratio	Lower	Upper
244	100		
122	16.0	0.0	35.4
212	6.6	0.0	27.0
243	24.8	3.0	43.0

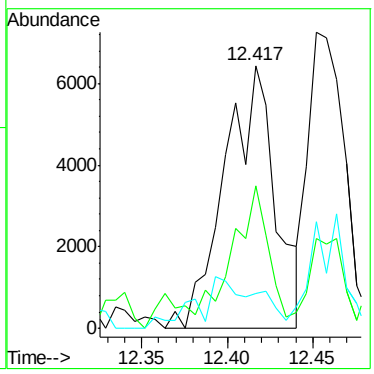


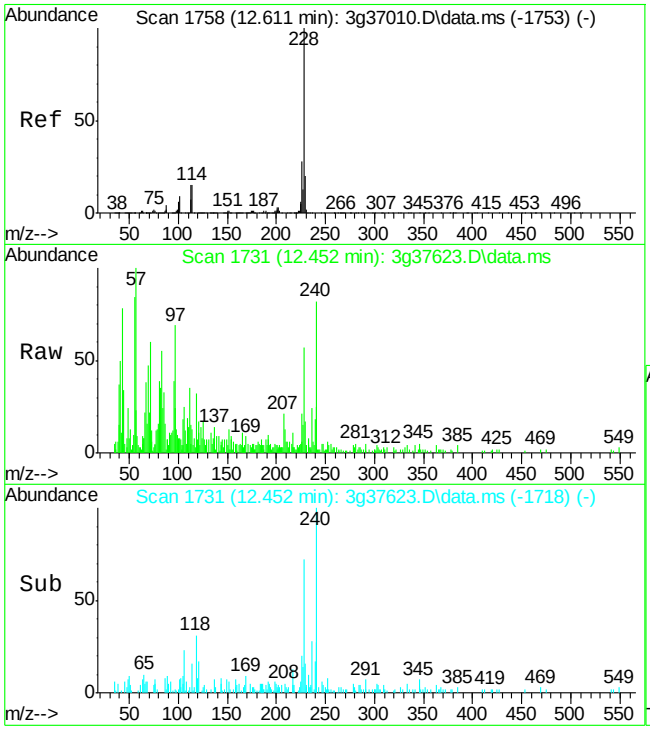


#90
Benzo(a)anthracene
Concen: 0.1732 ppm
RT: 12.417 min Scan# 1725
Delta R.T. 0.006 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:228 Resp: 13218

Ion	Ratio	Lower	Upper
228	100		
229	36.7	0.0	40.0
226	23.3	6.1	46.1

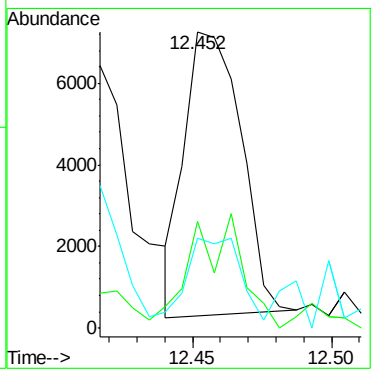


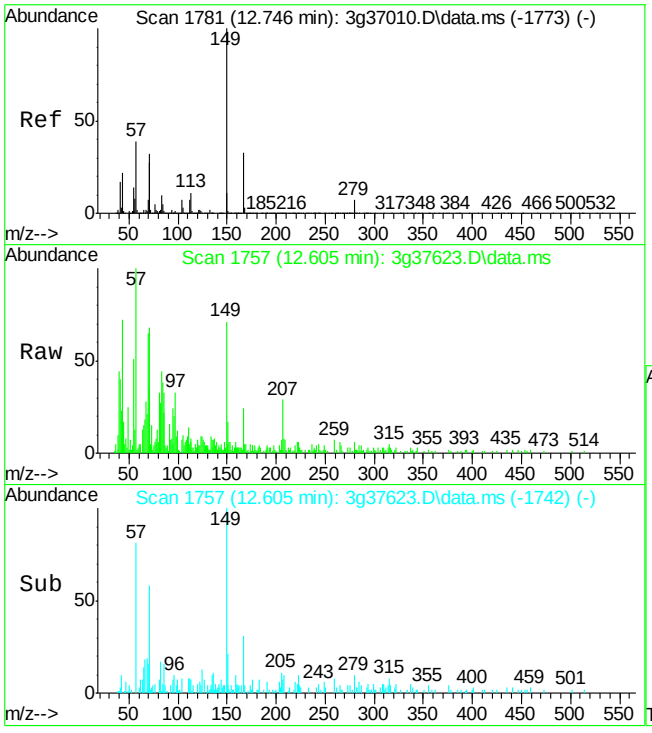


#91
Chrysene
Concen: 0.1317 ppm
RT: 12.452 min Scan# 1731
Delta R.T. -0.023 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:228 Resp: 9770

Ion	Ratio	Lower	Upper
228	100		
226	35.6	8.0	48.0
229	26.8	0.0	39.8

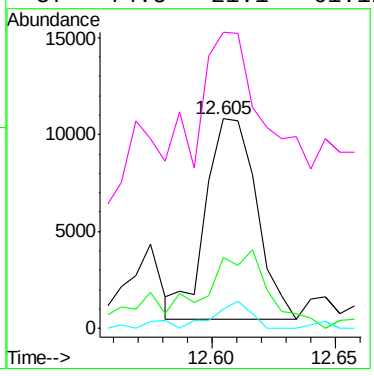


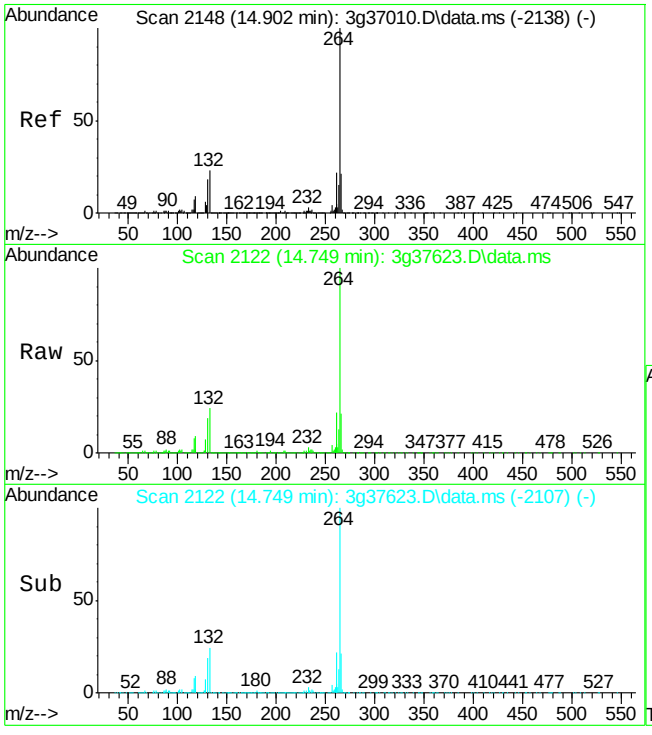


#92
Bis(2-ethylhexyl)phthalate
Concen: 0.3069 ppm
RT: 12.605 min Scan# 1757
Delta R.T. -0.012 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:149 Resp: 14769

Ion	Ratio	Lower	Upper
149	100		
167	47.5	13.6	53.6
279	9.4	0.0	27.3
57	74.5	21.1	61.1#

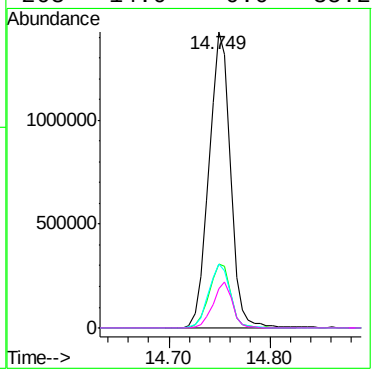




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37623.D
Acq: 8 Aug 18 5:57 pm

Tgt Ion:264 Resp: 2093995

Ion	Ratio	Lower	Upper
264	100		
260	21.9	1.3	41.3
265	21.7	0.2	40.2
263	14.0	0.0	35.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37624.D
Acq On : 8 Aug 2018 6:25 pm
Operator : DONC
Sample : DA7701-19
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 09 08:43:28 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.954	152	753300	40.0000	ppm	0.00
26) Naphthalene-d8	5.871	136	2972913	40.0000	ppm	0.00
44) Acenaphthene-d10	7.164	164	1539061	40.0000	ppm	0.00
67) Phenanthrene-d10	8.574	188	2787928	40.0000	ppm	0.00
84) Chrysene-d12	12.416	240	2246655	40.0000	ppm	-0.01
93) Perylene-d12	14.749	264	2025596	40.0000	ppm	-0.01

System Monitoring Compounds						
5) 2-Fluorophenol	4.038	112	714793	20.3558	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 40.72%			
8) Phenol-d5	4.737	99	744992	14.3252	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 28.66%			
27) Nitrobenzene-d5	5.360	82	1732065	33.8133	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 67.62%			
49) 2-Fluorobiphenyl	6.641	172	2333125	44.0423	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 88.08%			
69) 2,4,6-Tribromophenol	7.857	330	289743	44.5673	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 89.14%			
87) Terphenyl-d14	10.736	244	2636730	46.7813	ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 93.56%			

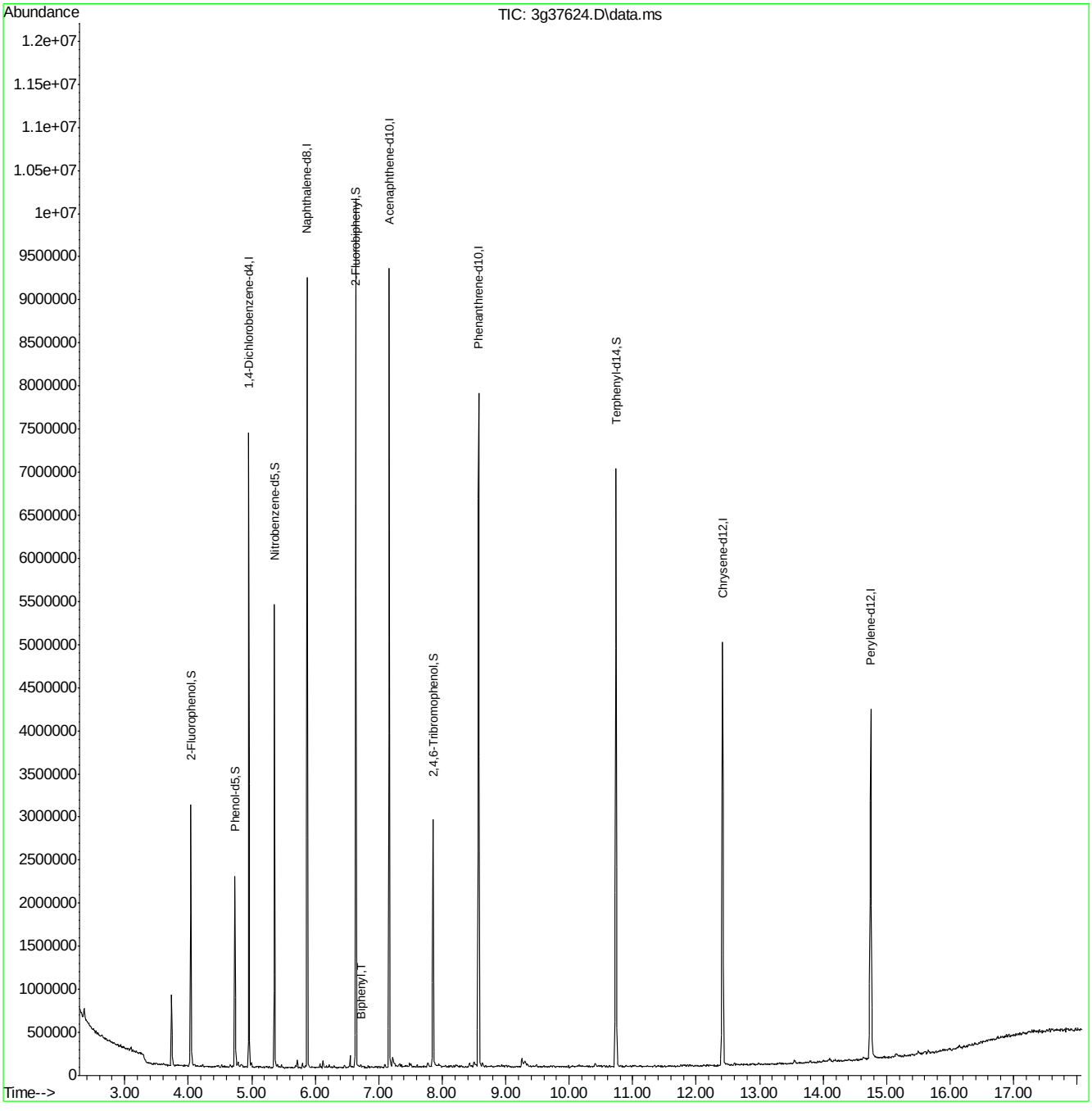
Target Compounds						Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	2725	Below	Cal #	32
14) n-decane	4.831	43	7635	Below	Cal #	40
50) Biphenyl	6.717	154	6882	0.5197	ppm	87
63) Diethylphthalate	7.510	149	5481	Below	Cal	86

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

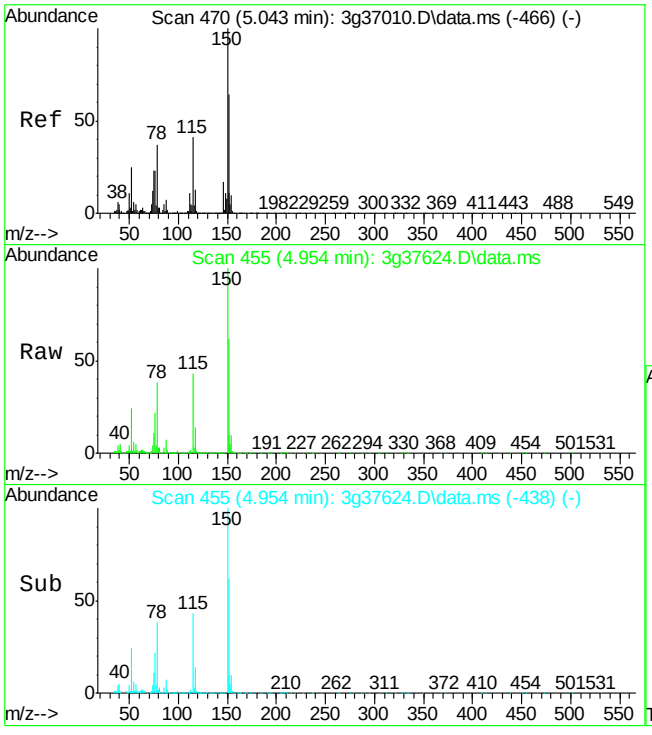
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1871\
Data File : 3g37624.D
Acq On : 8 Aug 2018 6:25 pm
Operator : DONC
Sample : DA7701-19
Misc : OP16689,E3G1871,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 09 08:43:28 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



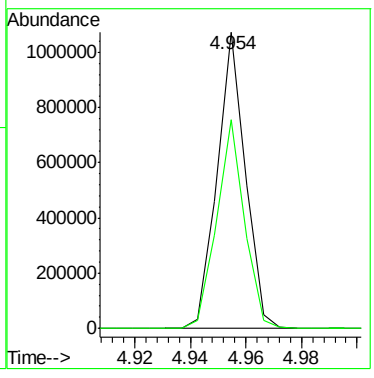
bnae3g1850.M Thu Aug 09 08:43:34 2018 3G

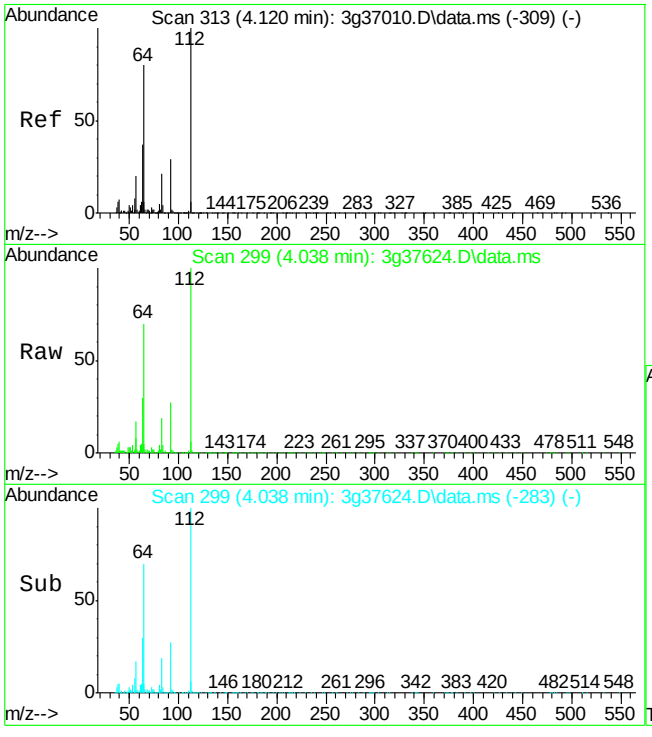


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.954 min Scan# 455
Delta R.T. -0.000 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:152 Resp: 753300

Ion	Ratio	Lower	Upper
152	100		
115	69.4	53.0	93.0

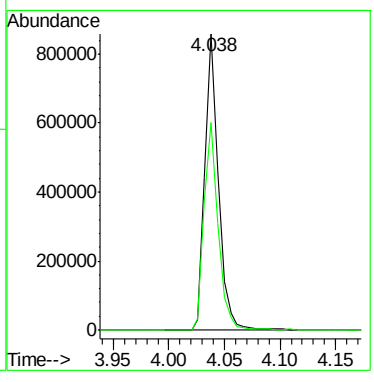


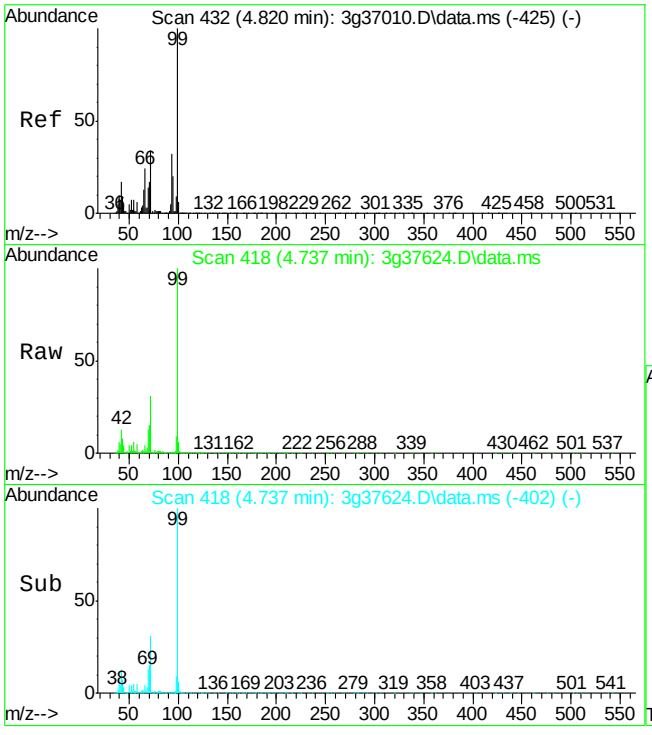


#5
2-Fluorophenol
Concen: 20.3558 ppm
RT: 4.038 min Scan# 299
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:112 Resp: 714793

Ion	Ratio	Lower	Upper
112	100		
64	72.8	58.3	98.3

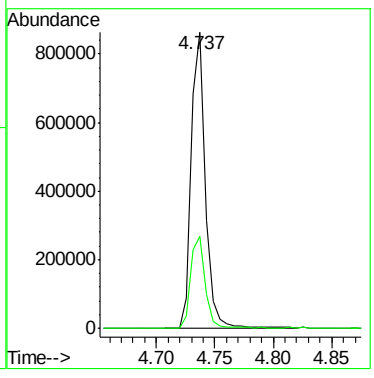


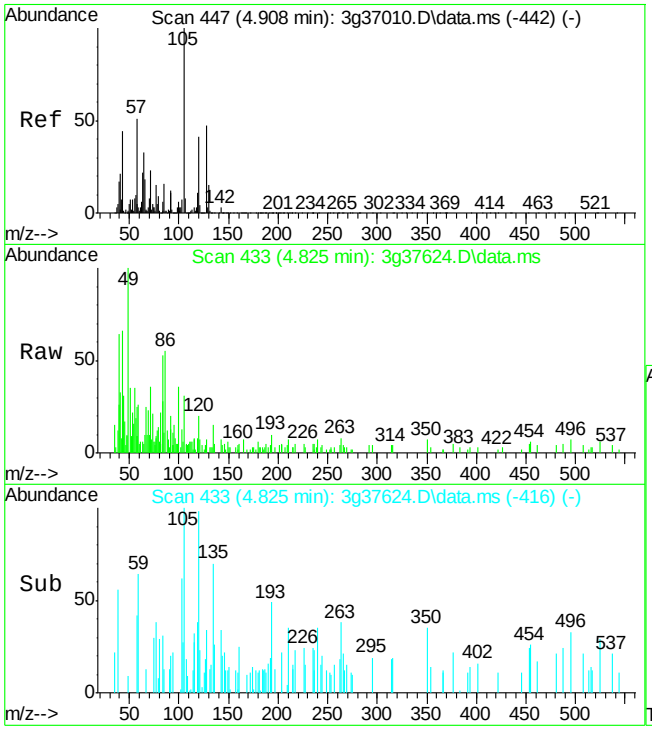


#8
Phenol-d5
Concen: 14.3252 ppm
RT: 4.737 min Scan# 418
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion: 99 Resp: 744992

Ion	Ratio	Lower	Upper
99	100		
71	32.0	13.6	53.6

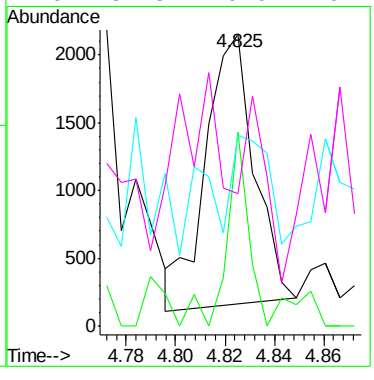


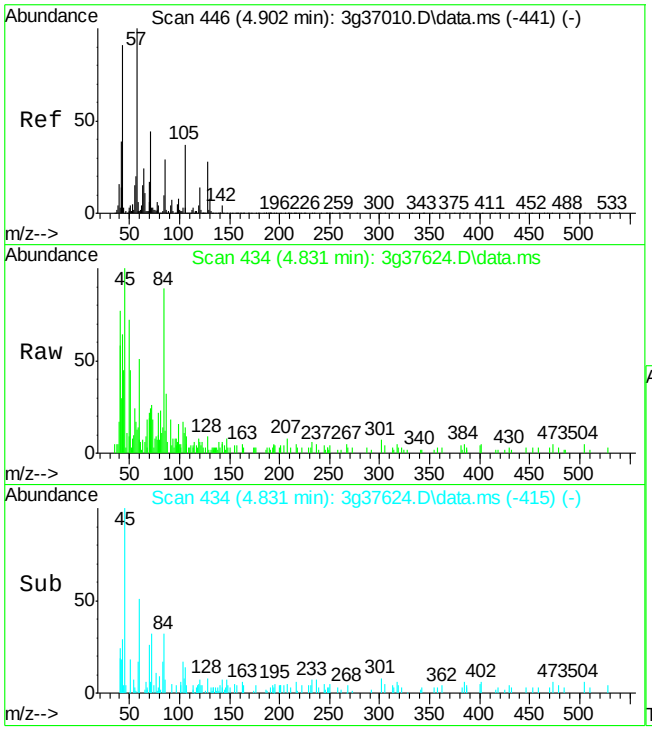


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. -0.000 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:105 Resp: 2725

Ion	Ratio	Lower	Upper
105	100		
120	0.0	19.5	59.5#
91	0.0	0.0	31.4
79	57.8	0.0	29.2#

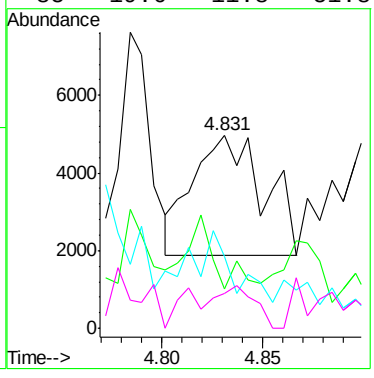


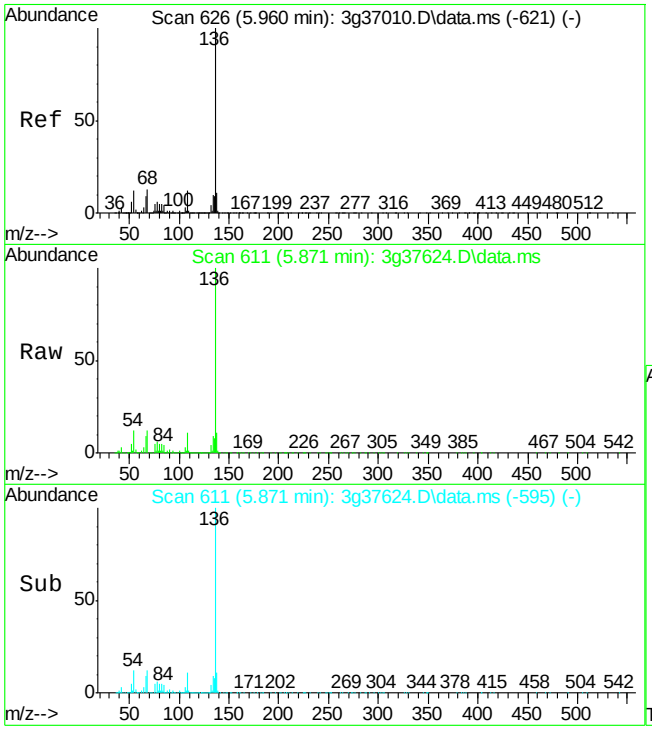


#14
n-decane
Concen: Below ppm
RT: 4.831 min Scan# 434
Delta R.T. 0.012 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion: 43 Resp: 7635

Ion	Ratio	Lower	Upper
43	100		
57	20.4	92.0	132.0#
71	30.5	28.7	68.7
85	19.6	11.8	51.8

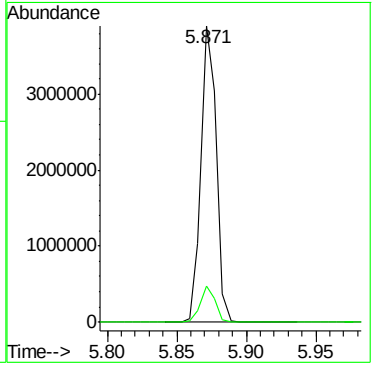


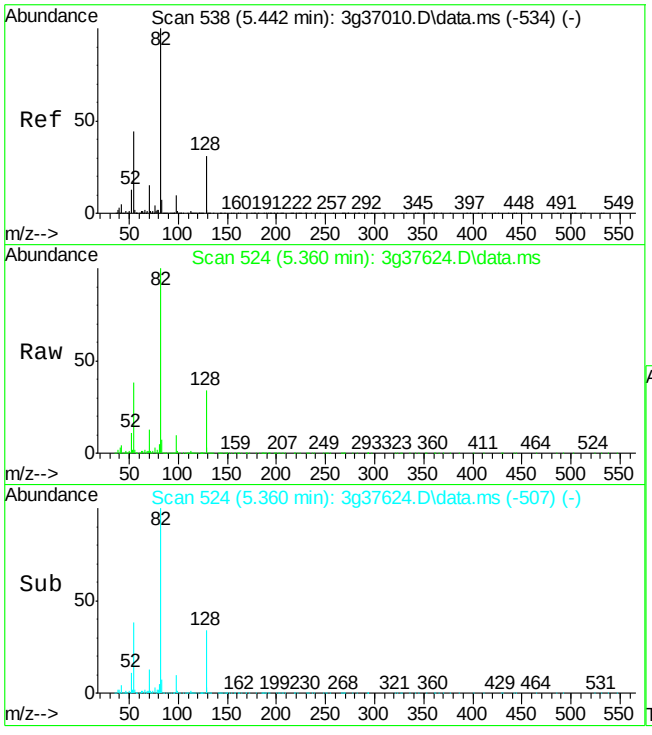


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:136 Resp: 2972913

Ion	Ratio	Lower	Upper
136	100		
68	11.8	0.0	32.4

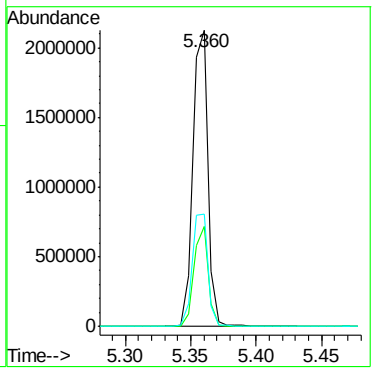


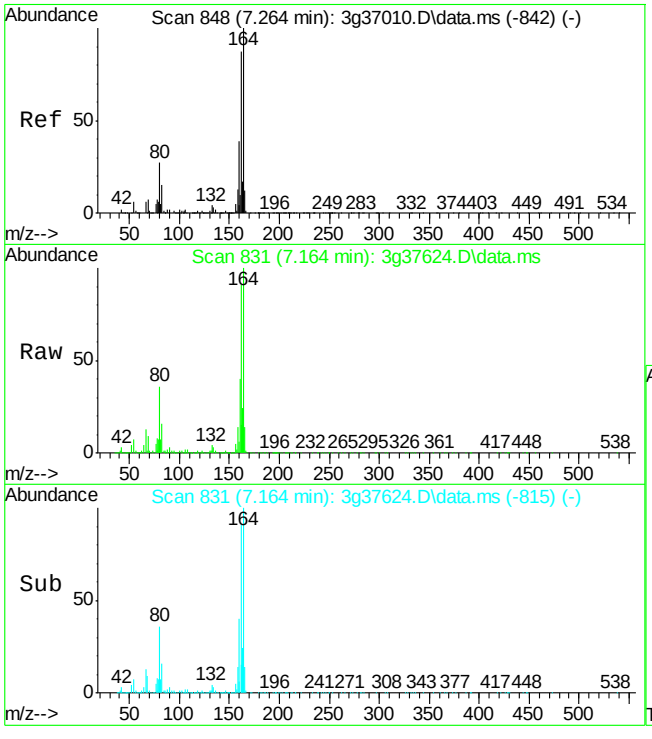


#27
Nitrobenzene-d5
Concen: 33.8133 ppm
RT: 5.360 min Scan# 524
Delta R.T. -0.000 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion: 82 Resp: 1732065

Ion	Ratio	Lower	Upper
82	100		
128	31.9	10.8	50.8
54	39.5	22.9	62.9

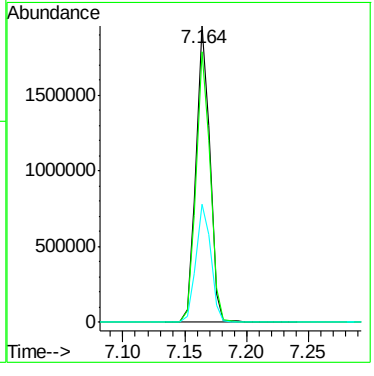


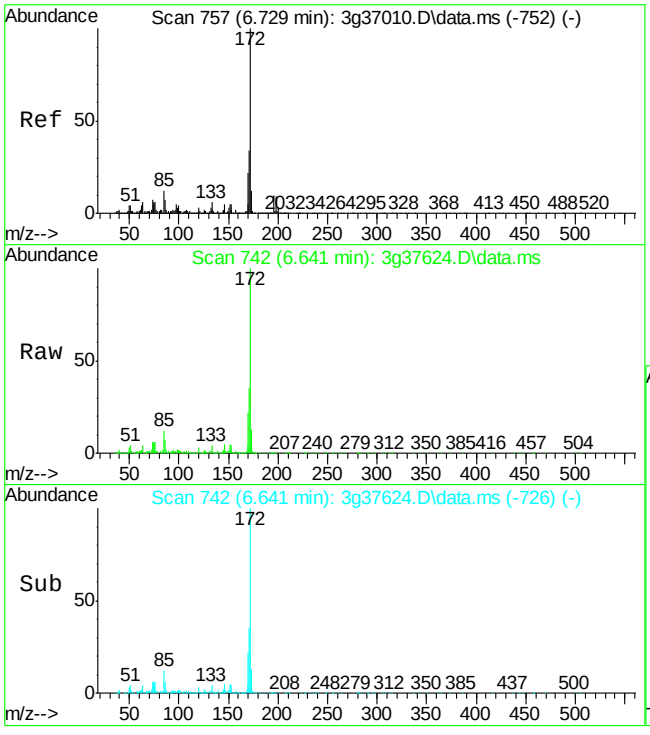


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:164 Resp: 1539061

Ion	Ratio	Lower	Upper
164	100		
162	92.6	69.6	109.6
160	42.4	20.5	60.5

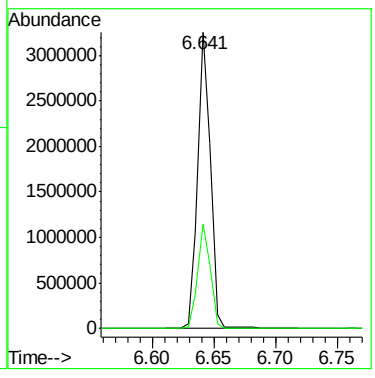


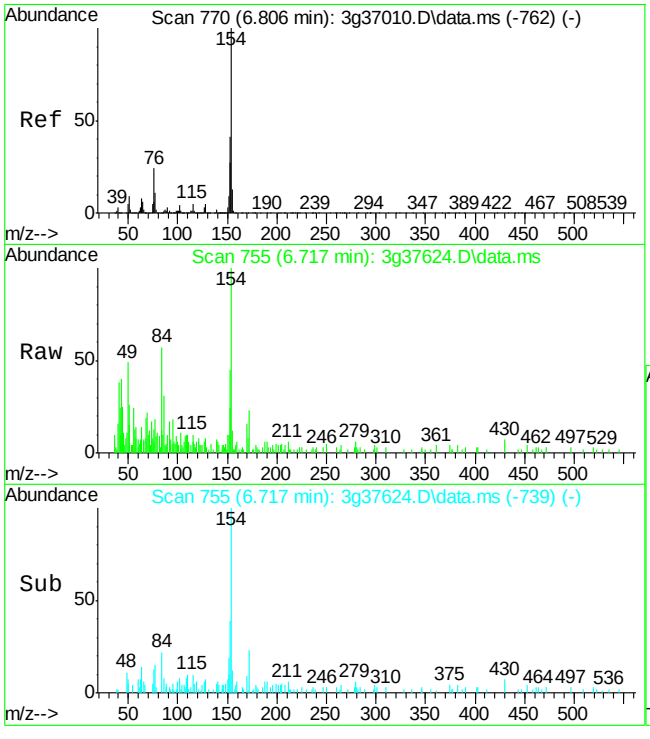


#49
2-Fluorobiphenyl
Concen: 44.0423 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:172 Resp: 2333125

Ion	Ratio	Lower	Upper
172	100		
171	34.8	14.5	54.5

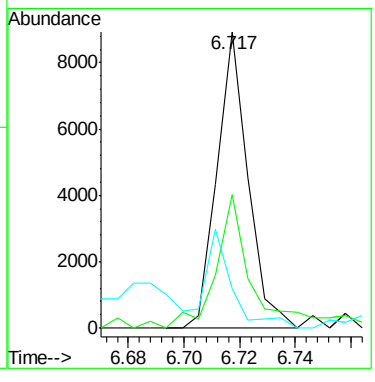


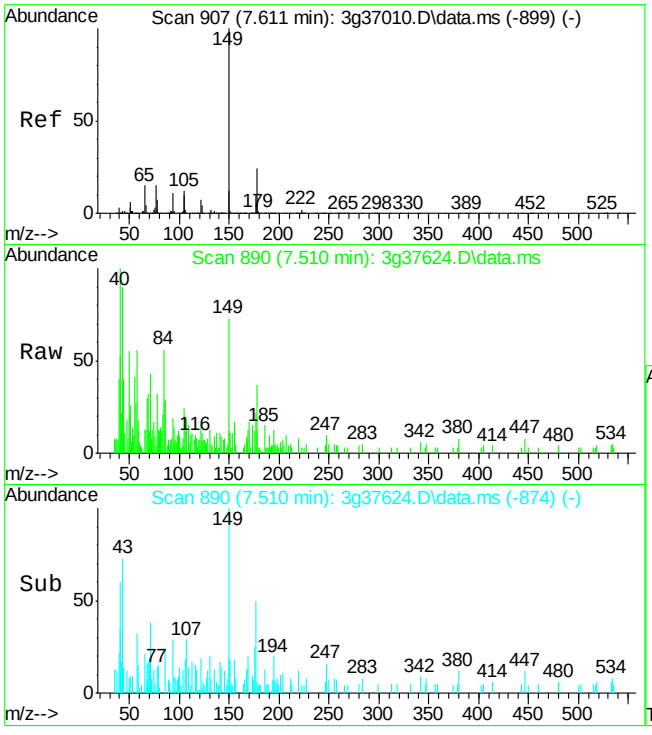


#50
Biphenyl
Concen: 0.5197 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:154 Resp: 6882

Ion	Ratio	Lower	Upper
154	100		
153	52.5	21.4	61.4
76	28.6	5.2	45.2

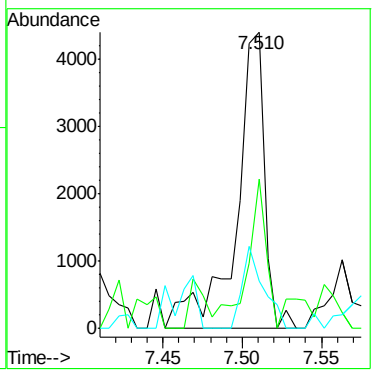


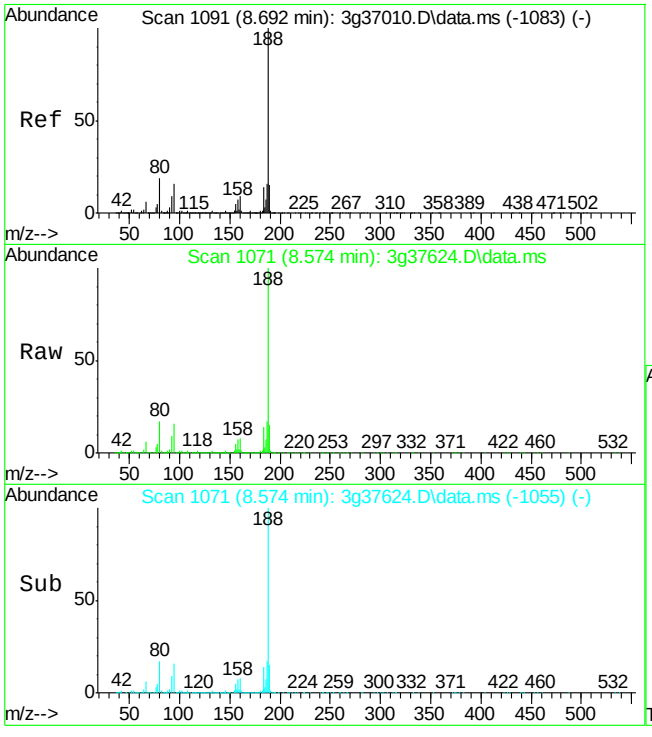


#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:149 Resp: 5481

Ion	Ratio	Lower	Upper
149	100		
177	28.8	3.6	43.6
150	20.7	0.0	32.5

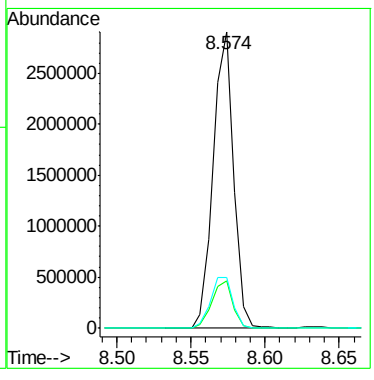


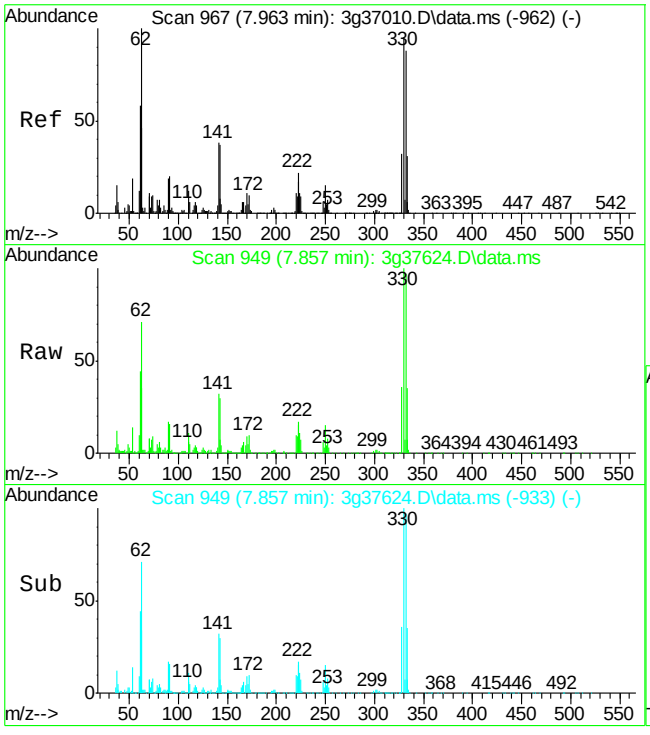


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:188 Resp: 2787928

Ion	Ratio	Lower	Upper
188	100		
94	16.2	0.0	35.1
80	18.8	0.0	37.9

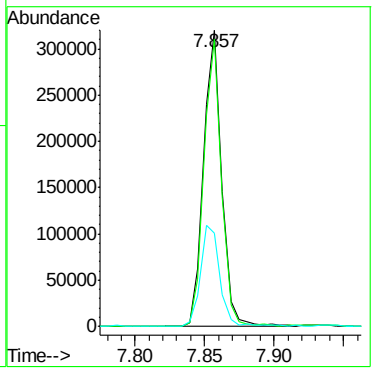


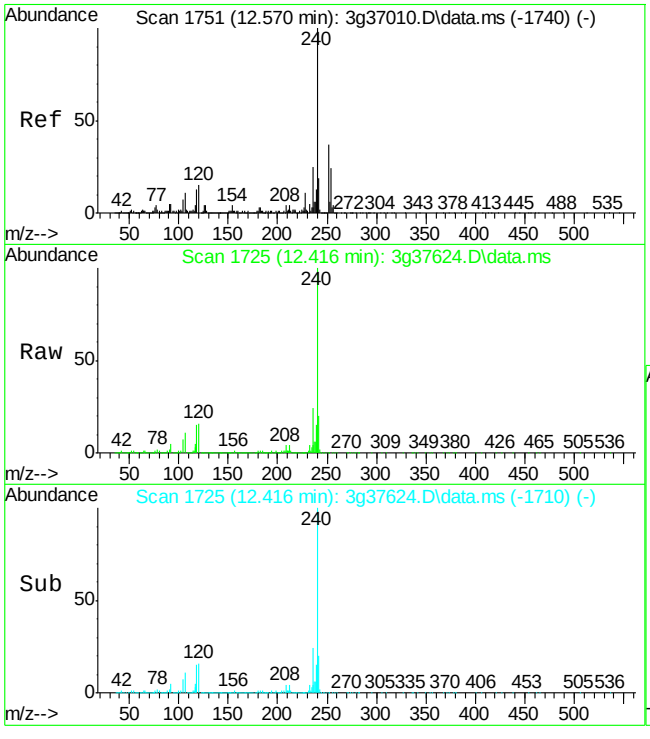


#69
2,4,6-Tribromophenol
Concen: 44.5673 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:330 Resp: 289743

Ion	Ratio	Lower	Upper
330	100		
332	93.9	74.8	112.2
141	36.6	33.8	50.6

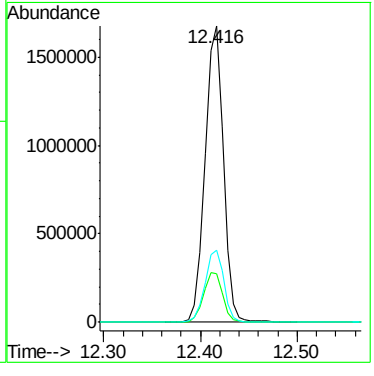


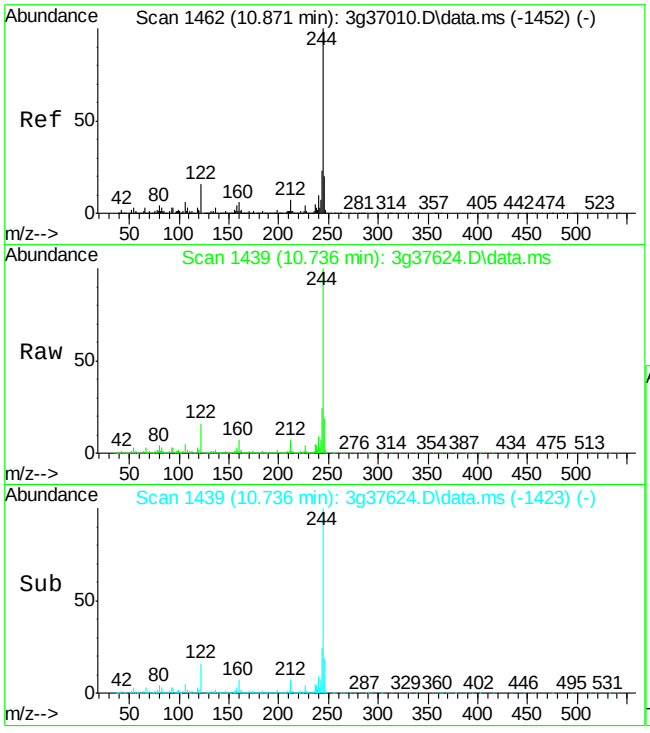


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.416 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:240 Resp: 2246655

Ion	Ratio	Lower	Upper
240	100		
120	17.3	0.0	36.6
236	24.9	4.3	44.3

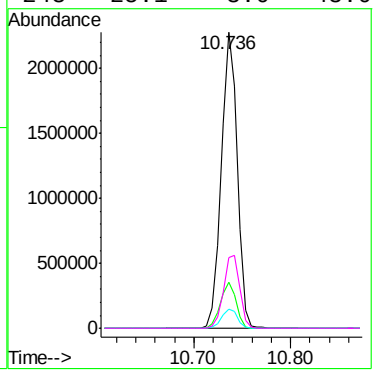


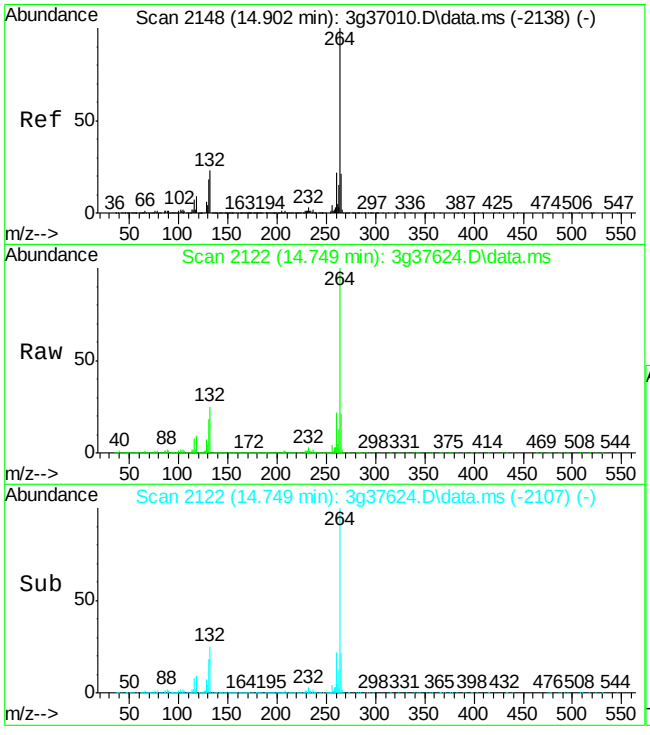


#87
Terphenyl-d14
Concen: 46.7813 ppm
RT: 10.736 min Scan# 1439
Delta R.T. -0.006 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:244 Resp: 2636730

Ion	Ratio	Lower	Upper
244	100		
122	15.3	0.0	35.4
212	6.7	0.0	27.0
243	25.1	3.0	43.0

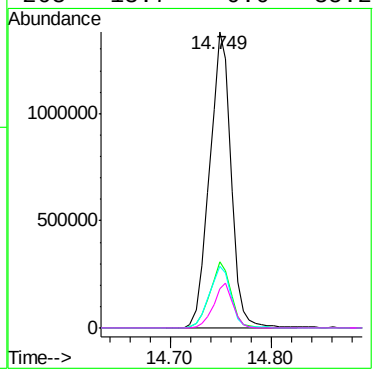




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37624.D
Acq: 8 Aug 18 6:25 pm

Tgt Ion:264 Resp: 2025596

Ion	Ratio	Lower	Upper
264	100		
260	22.1	1.3	41.3
265	20.9	0.2	40.2
263	13.7	0.0	35.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37551.D
Acq On : 6 Aug 2018 3:32 pm
Operator : DONC
Sample : OP16681-MB
Misc : OP16681,E3G1869,30.00,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 07 09:48:47 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

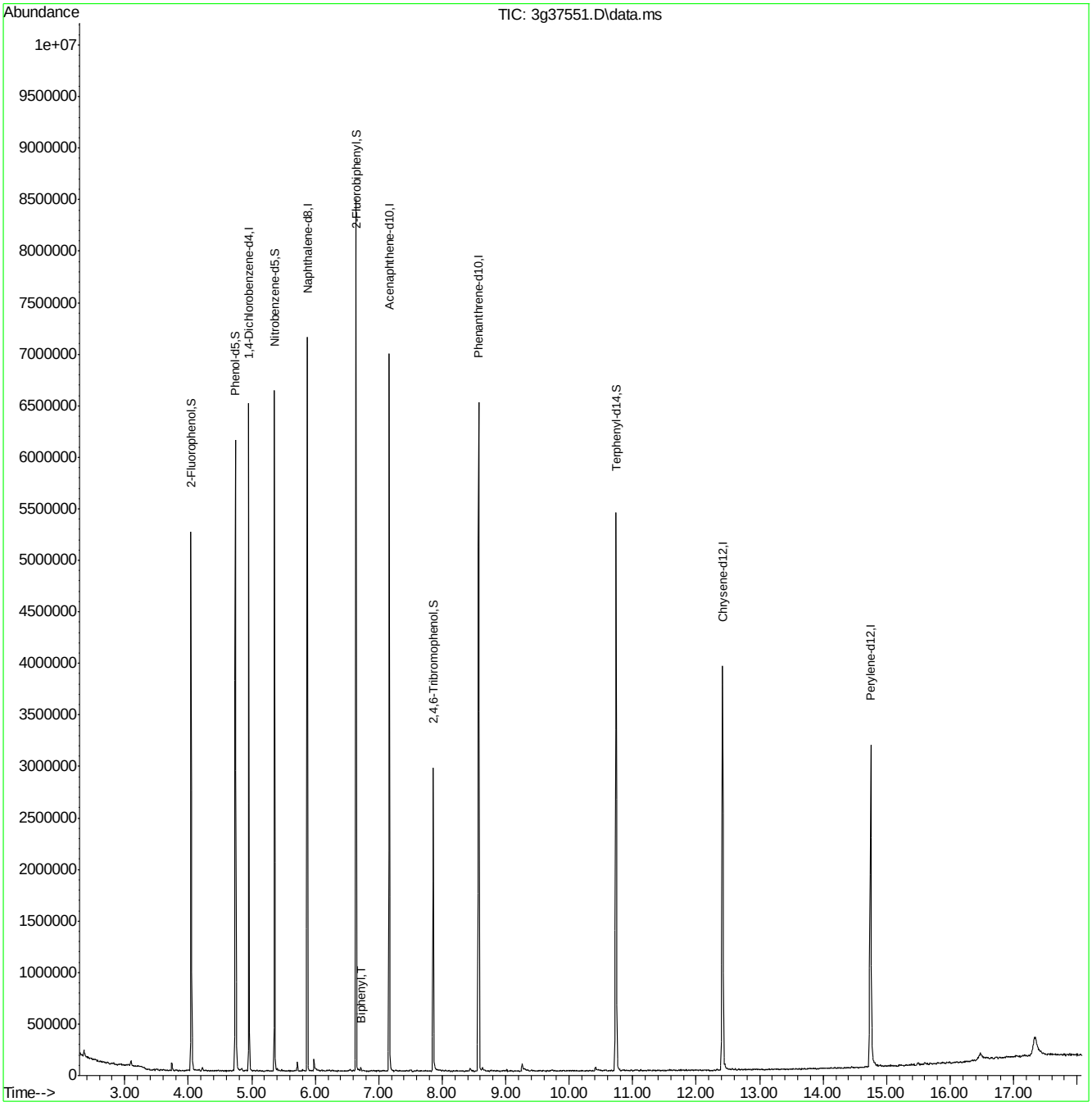
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	629022	40.0000 ppm	0.00
26) Naphthalene-d8	5.877	136	2456686	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1246690	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	2227807	40.0000 ppm	0.00
84) Chrysene-d12	12.417	240	1792887	40.0000 ppm	-0.01
93) Perylene-d12	14.749	264	1609249	40.0000 ppm	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol	4.044	112	1182177	40.3173 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 80.64%		
8) Phenol-d5	4.743	99	1890106	43.5250 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 87.04%		
27) Nitrobenzene-d5	5.360	82	1795741	42.4229 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 84.84%		
49) 2-Fluorobiphenyl	6.647	172	2120252	49.4103 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 98.82%		
69) 2,4,6-Tribromophenol	7.857	330	263990	50.8153 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 101.64%		
87) Terphenyl-d14	10.742	244	2195273	48.8067 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 97.62%		
Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	1112	Below Cal #	48
14) n-decane	4.837	43	1792	Below Cal #	7
50) Biphenyl	6.717	154	6895	0.5434 ppm	98
63) Diethylphthalate	7.511	149	2717	Below Cal #	58

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

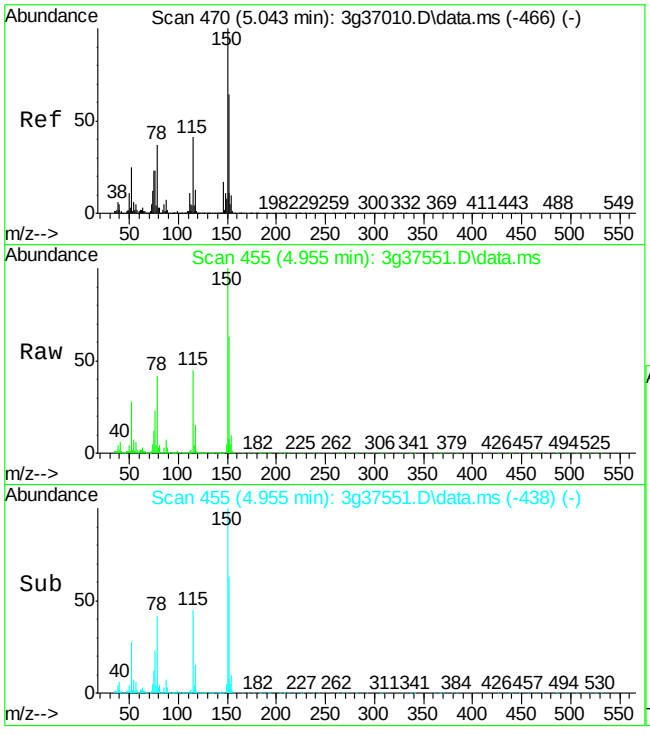
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37551.D
Acq On : 6 Aug 2018 3:32 pm
Operator : DONC
Sample : OP16681-MB
Misc : OP16681,E3G1869,30.00,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 07 09:48:47 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



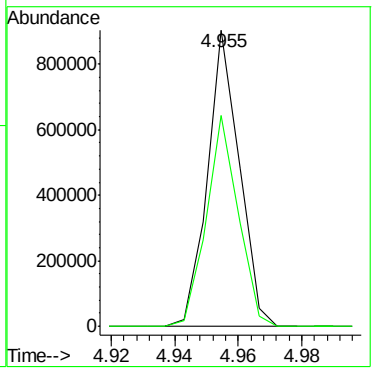
bnae3g1850.M Tue Aug 07 09:49:01 2018 3G

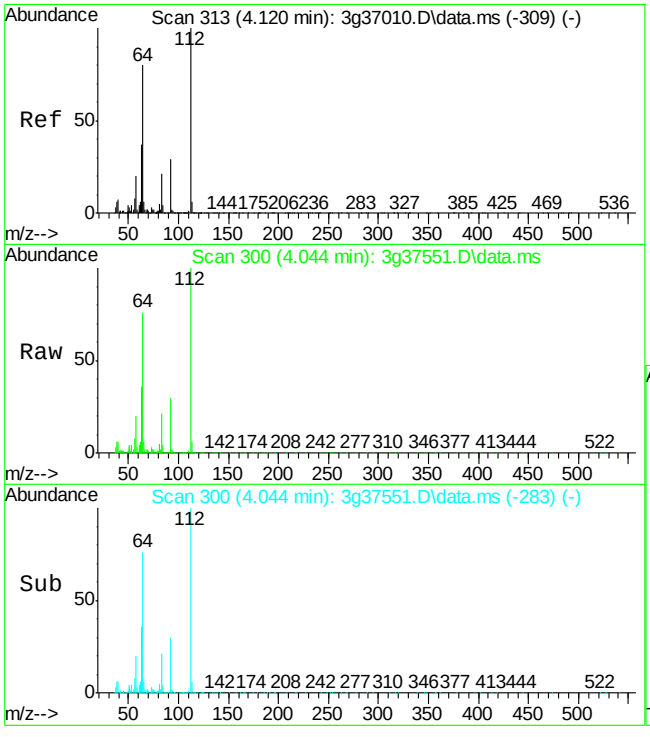


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:152 Resp: 629022

Ion	Ratio	Lower	Upper
152	100		
115	71.4	53.0	93.0

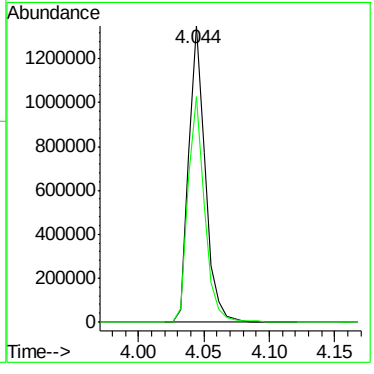


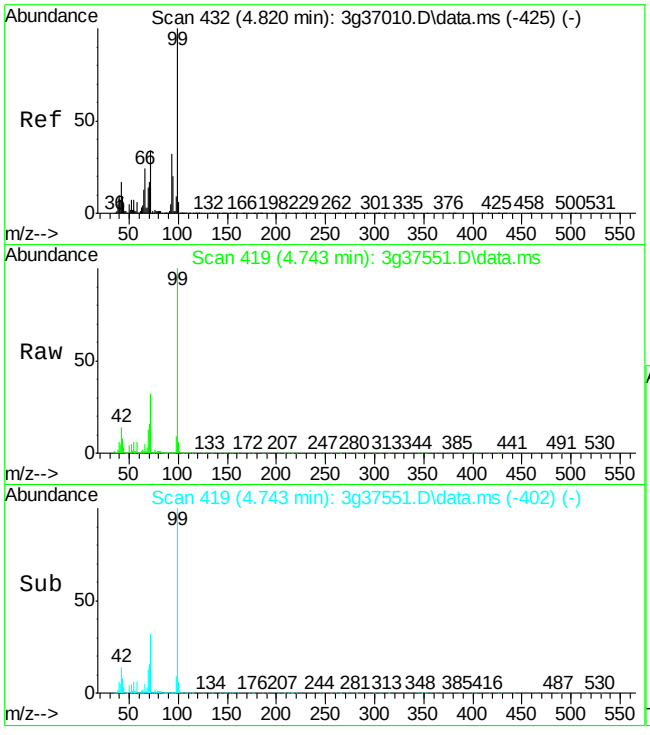


#5
2-Fluorophenol
Concen: 40.3173 ppm
RT: 4.044 min Scan# 300
Delta R.T. 0.000 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:112 Resp: 1182177

Ion	Ratio	Lower	Upper
112	100		
64	76.6	58.3	98.3

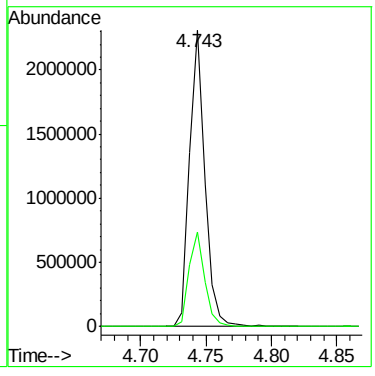


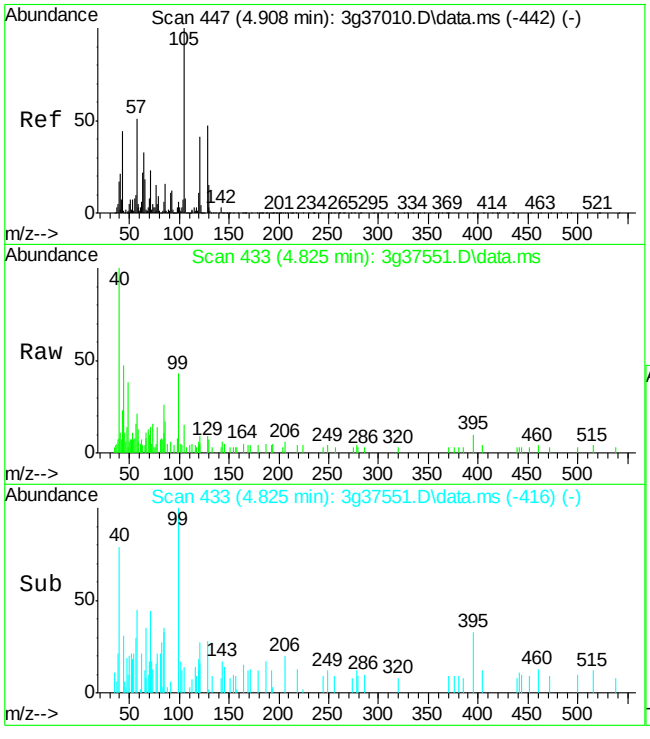


#8
Phenol-d5
Concen: 43.5250 ppm
RT: 4.743 min Scan# 419
Delta R.T. 0.000 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion: 99 Resp: 1890106

Ion	Ratio	Lower	Upper
99	100		
71	32.6	13.6	53.6

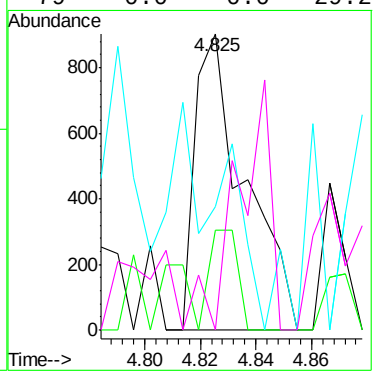


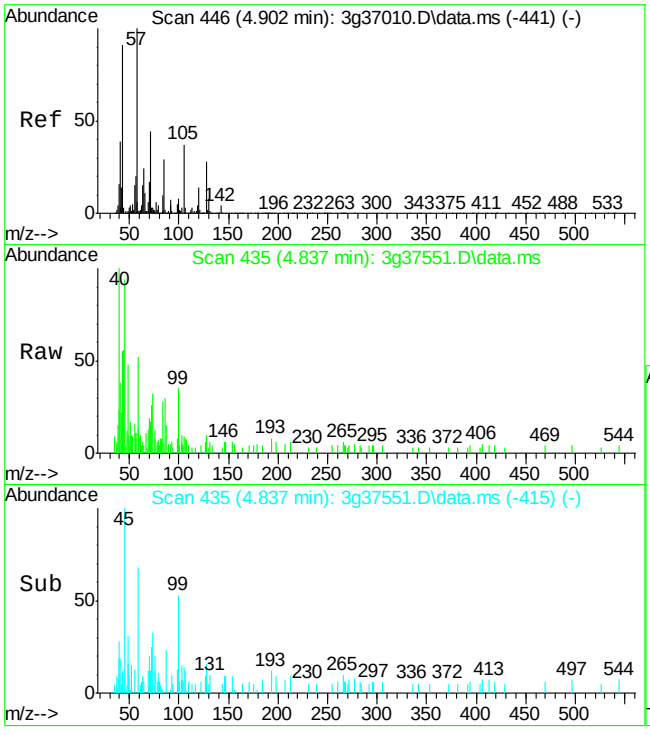


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:105 Resp: 1112

Ion	Ratio	Lower	Upper
105	100		
120	0.0	19.5	59.5#
91	0.0	0.0	31.4
79	0.0	0.0	29.2

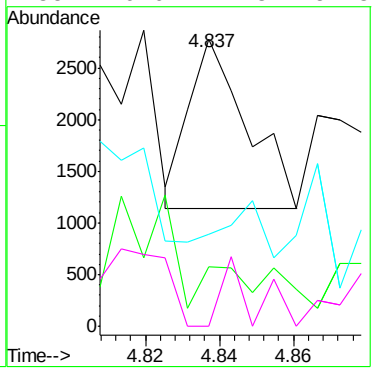


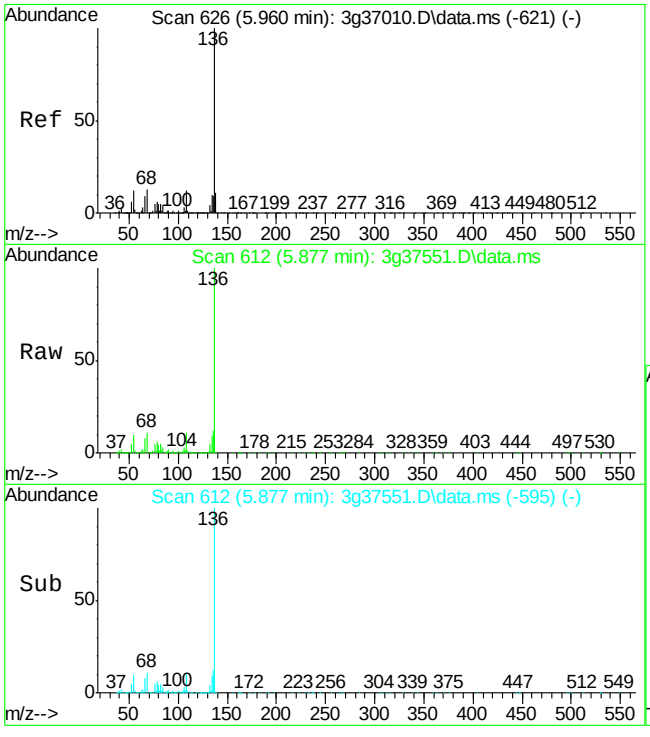


#14
n-decane
Concen: Below ppm
RT: 4.837 min Scan# 435
Delta R.T. 0.018 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion: 43 Resp: 1792

Ion	Ratio	Lower	Upper
43	100		
57	0.0	92.0	132.0#
71	0.0	28.7	68.7#
85	79.9	11.8	51.8#

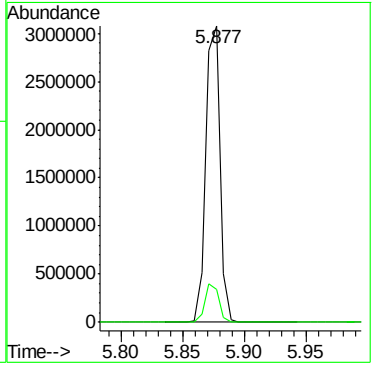


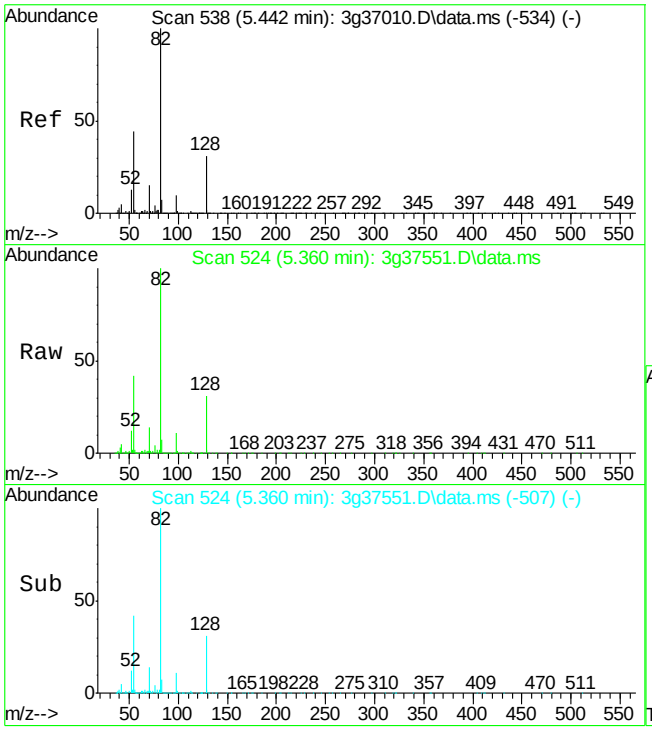


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.877 min Scan# 612
Delta R.T. 0.000 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:136 Resp: 2456686

Ion	Ratio	Lower	Upper
136	100		
68	12.5	0.0	32.4

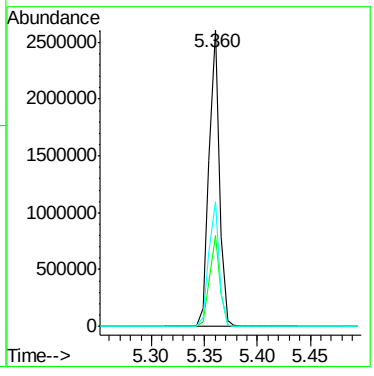


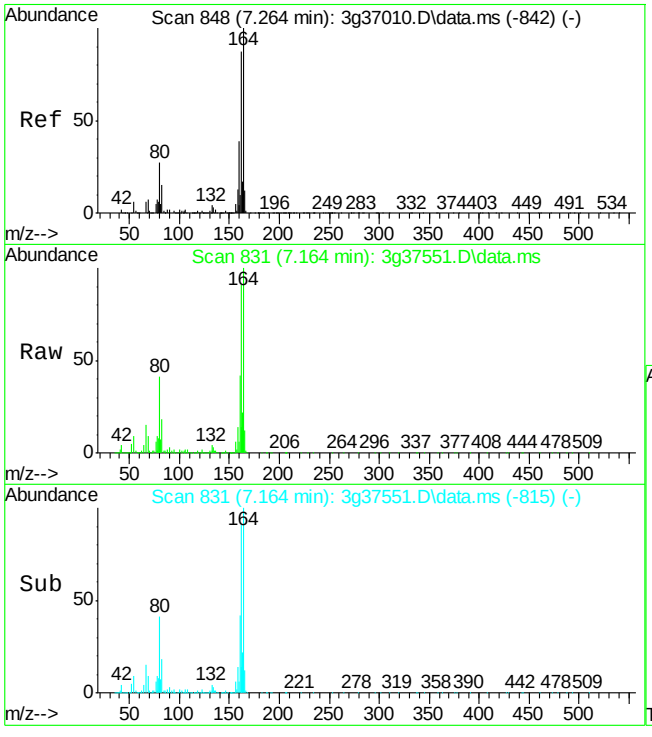


#27
Nitrobenzene-d5
Concen: 42.4229 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion: 82 Resp: 1795741

Ion	Ratio	Lower	Upper
82	100		
128	30.3	10.8	50.8
54	41.9	22.9	62.9

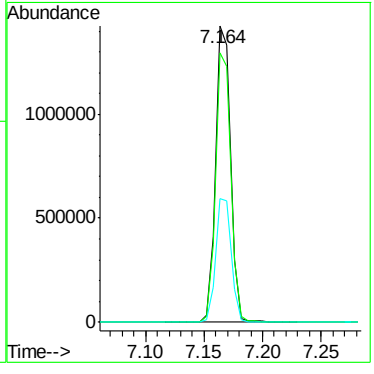


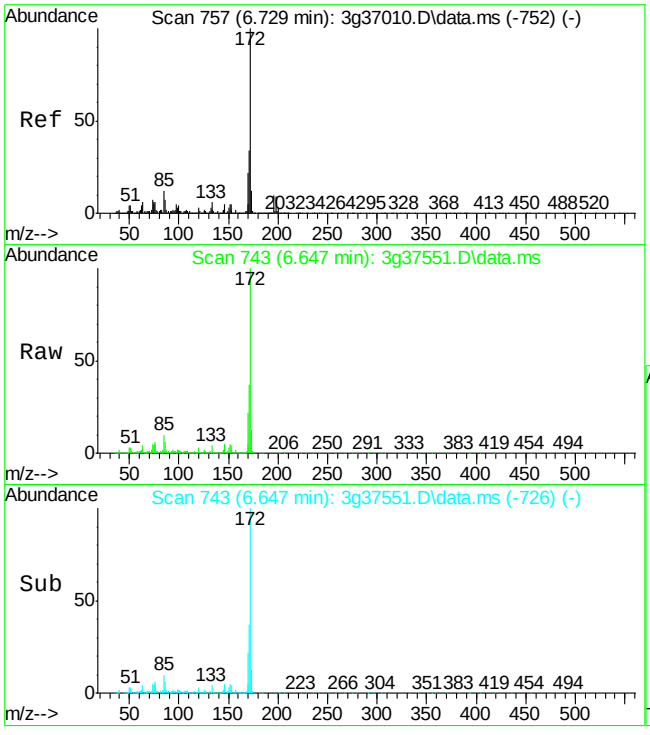


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:164 Resp: 1246690

Ion	Ratio	Lower	Upper
164	100		
162	92.4	69.6	109.6
160	43.4	20.5	60.5

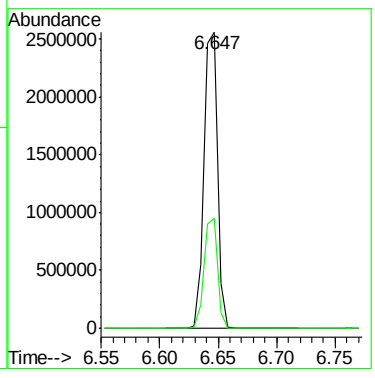


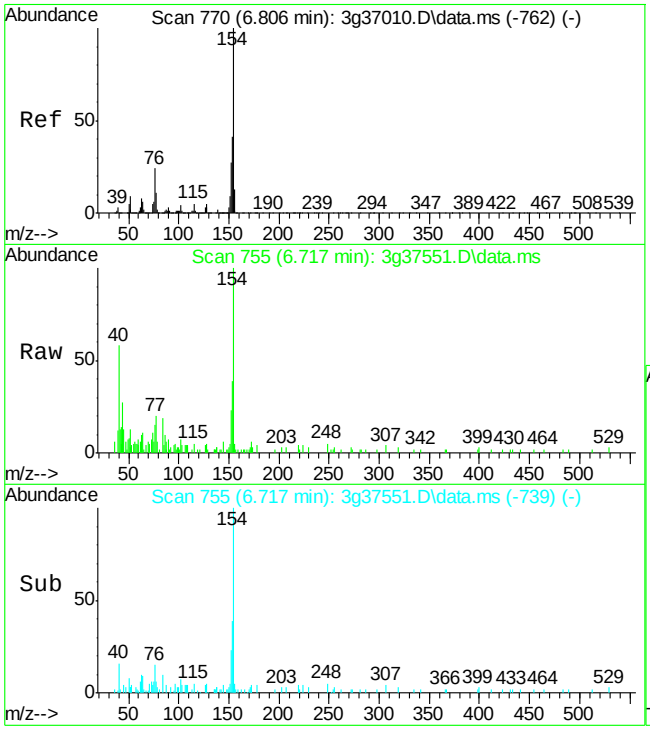


#49
2-Fluorobiphenyl
Concen: 49.4103 ppm
RT: 6.647 min Scan# 743
Delta R.T. 0.000 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:172 Resp: 2120252

Ion	Ratio	Lower	Upper
172	100		
171	36.7	14.5	54.5

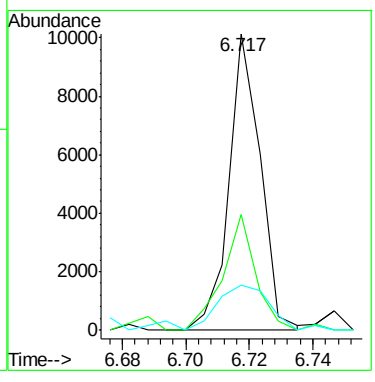


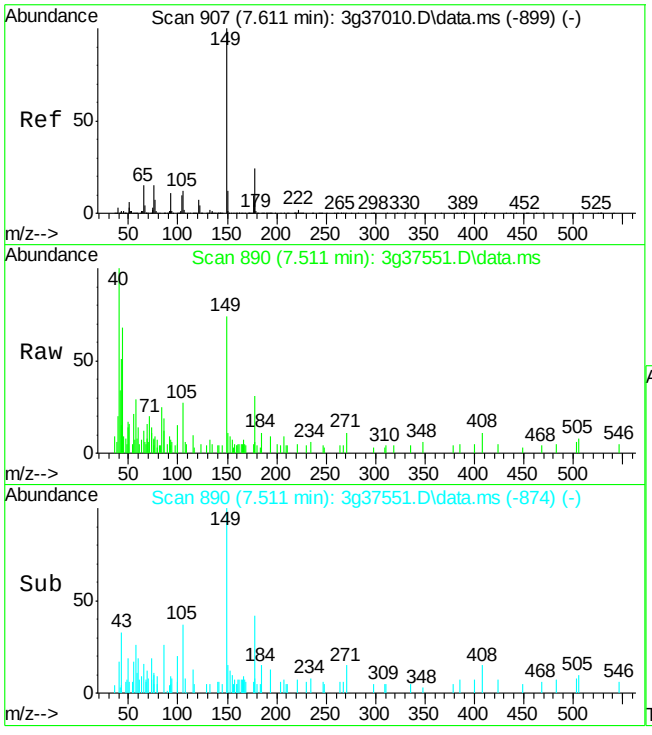


#50
Biphenyl
Concen: 0.5434 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:154 Resp: 6895

Ion	Ratio	Lower	Upper
154	100		
153	41.8	21.4	61.4
76	27.5	5.2	45.2

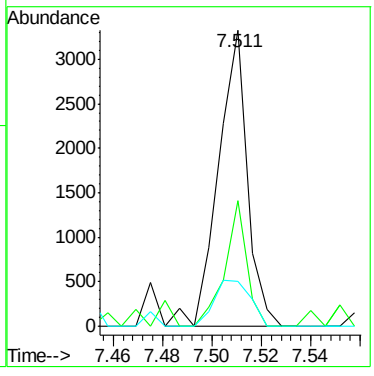


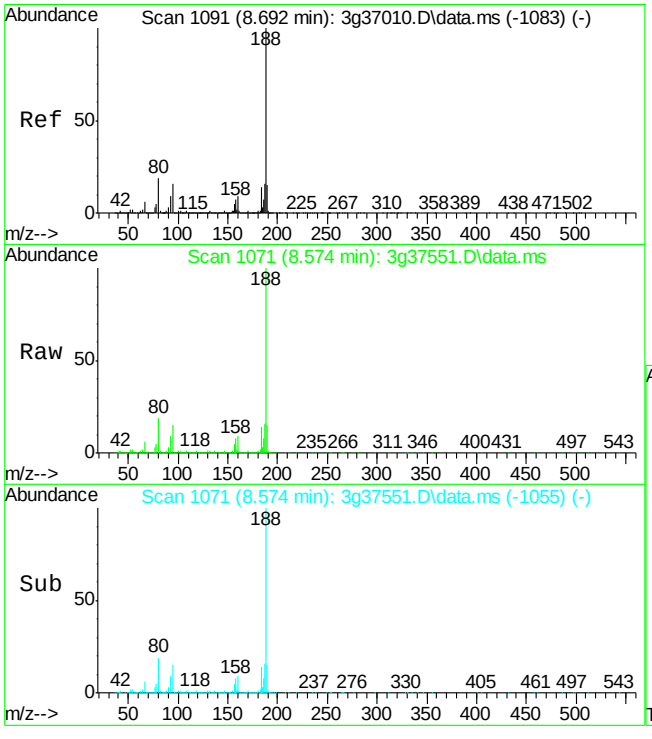


#63
Diethylphthalate
Concen: Below ppm
RT: 7.511 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:149 Resp: 2717

Ion	Ratio	Lower	Upper
149	100		
177	0.0	3.6	43.6#
150	0.0	0.0	32.5

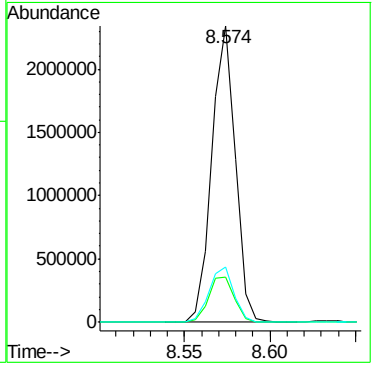


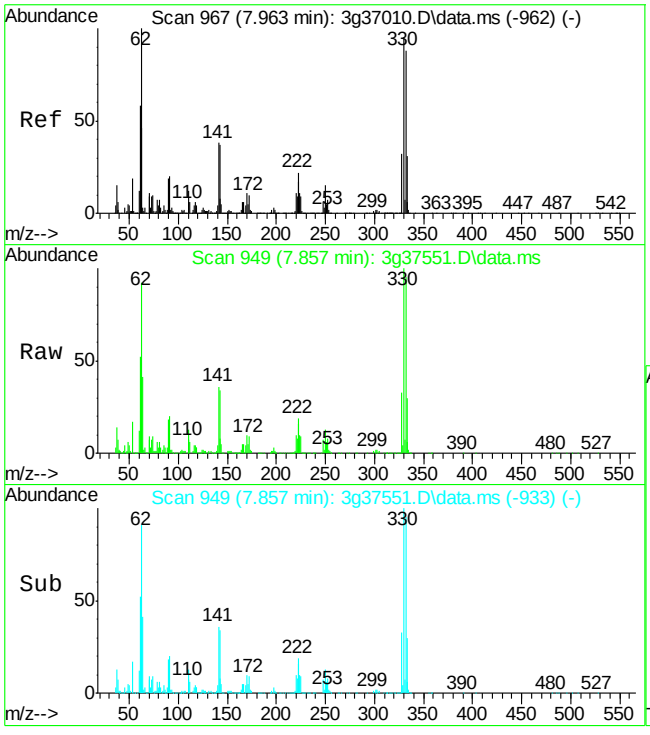


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:188 Resp: 2227807

Ion	Ratio	Lower	Upper
188	100		
94	16.7	0.0	35.1
80	19.7	0.0	37.9

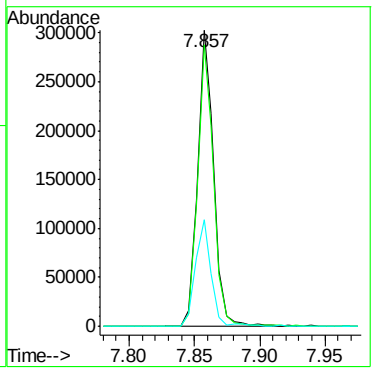


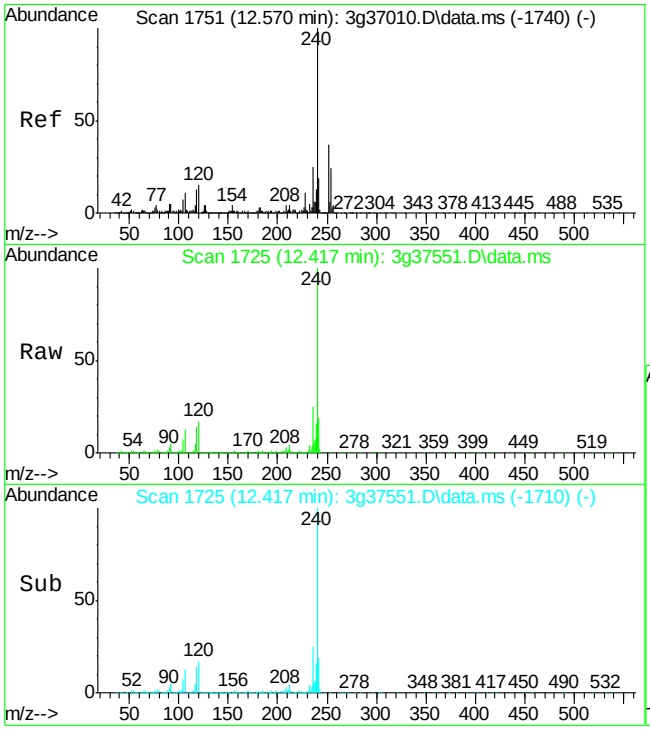


#69
2,4,6-Tribromophenol
Concen: 50.8153 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:330 Resp: 263990

Ion	Ratio	Lower	Upper
330	100		
332	94.5	74.8	112.2
141	35.3	33.8	50.6

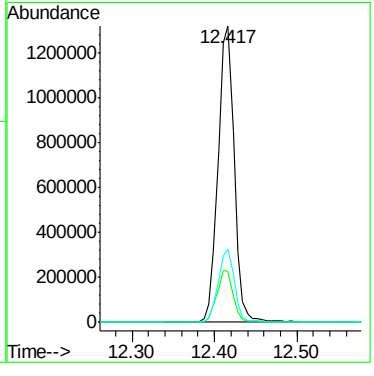


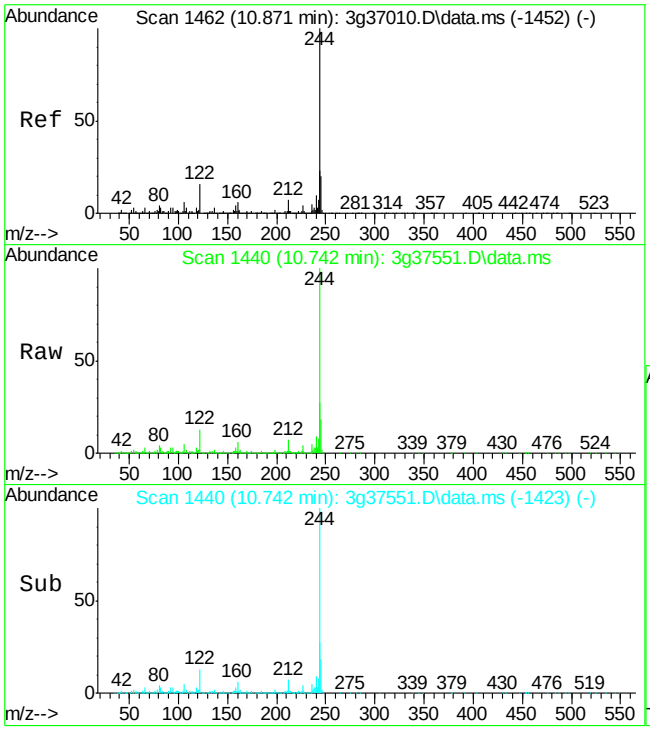


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.417 min Scan# 1725
Delta R.T. -0.012 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:240 Resp: 1792887

Ion	Ratio	Lower	Upper
240	100		
120	17.6	0.0	36.6
236	24.7	4.3	44.3

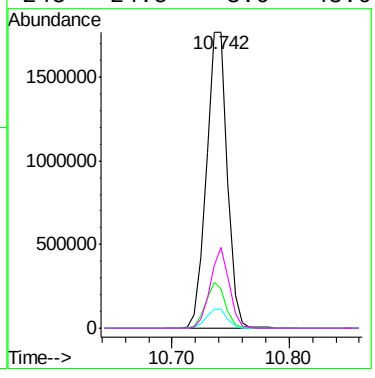


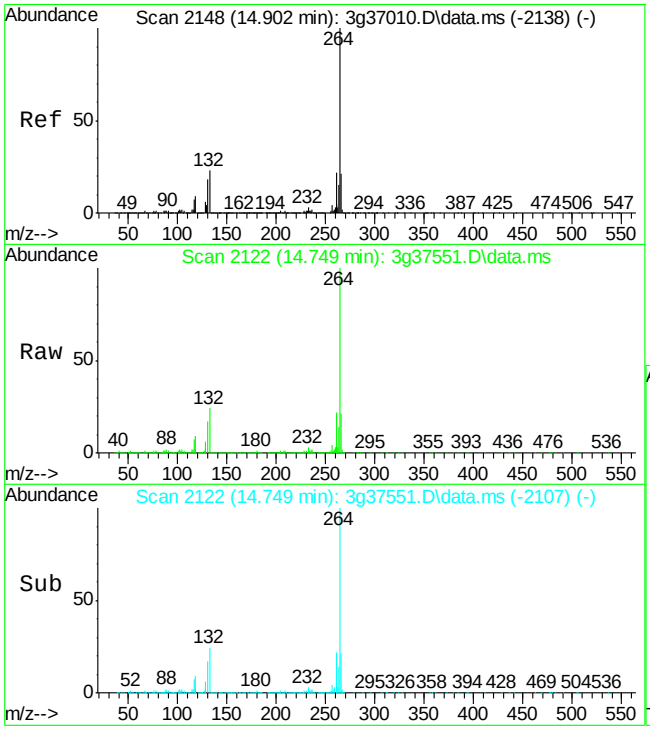


#87
Terphenyl-d14
Concen: 48.8067 ppm
RT: 10.742 min Scan# 1440
Delta R.T. 0.000 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:244 Resp: 2195273

Ion	Ratio	Lower	Upper
244	100		
122	14.8	0.0	35.4
212	6.6	0.0	27.0
243	24.5	3.0	43.0

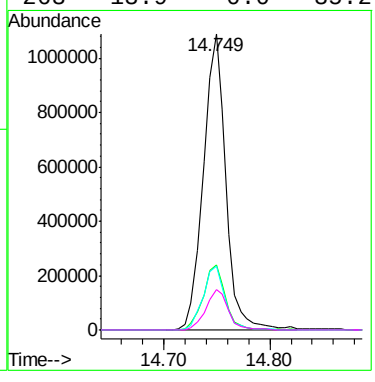




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37551.D
Acq: 6 Aug 18 3:32 pm

Tgt Ion:264 Resp: 1609249

Ion	Ratio	Lower	Upper
264	100		
260	21.7	1.3	41.3
265	21.3	0.2	40.2
263	13.9	0.0	35.2



9.2.1
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37552.D
Acq On : 6 Aug 2018 3:59 pm
Operator : DONC
Sample : OP16681-MB2
Misc : OP16681,E3G1869,5.00,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 07 09:49:48 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	758624	40.0000 ppm	0.00
26) Naphthalene-d8	5.871	136	2978102	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1528768	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	2751655	40.0000 ppm	0.00
84) Chrysene-d12	12.411	240	2220774	40.0000 ppm	-0.02
93) Perylene-d12	14.749	264	1992446	40.0000 ppm	-0.01

System Monitoring Compounds					
5) 2-Fluorophenol	4.044	112	1237416	34.9917 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 69.98%		
8) Phenol-d5	4.743	99	1948848	37.2109 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 74.42%		
27) Nitrobenzene-d5	5.360	82	1877236	36.5835 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 73.16%		
49) 2-Fluorobiphenyl	6.641	172	2325646	44.1967 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 88.40%		
69) 2,4,6-Tribromophenol	7.857	330	304866	47.5116 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 95.02%		
87) Terphenyl-d14	10.736	244	2637988	47.3491 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 94.70%		

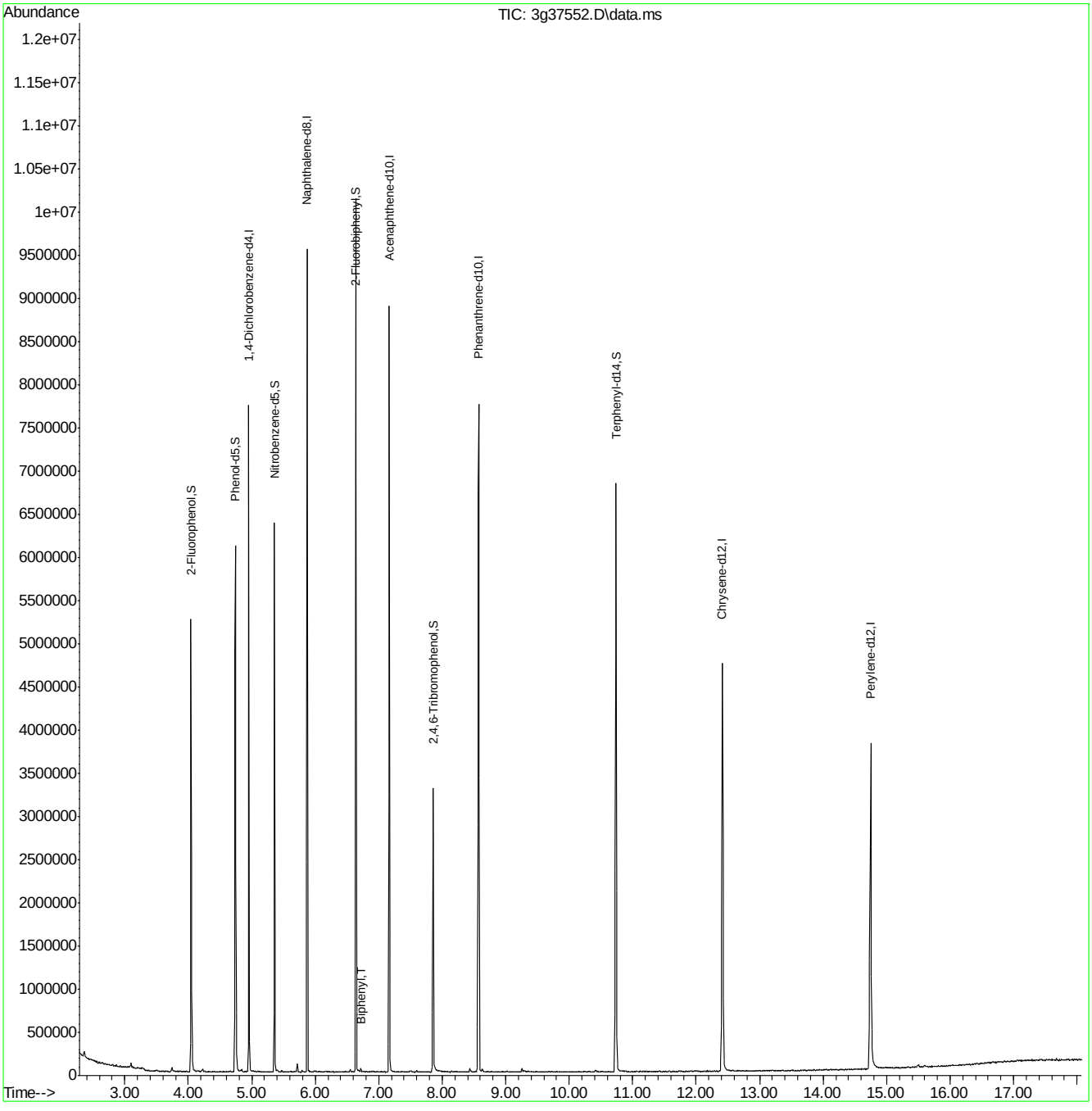
Target Compounds					Qvalue
14) n-decane	4.820	43	3559	Below Cal #	37
50) Biphenyl	6.717	154	6436	0.5138 ppm	95
63) Diethylphthalate	7.511	149	2139	Below Cal #	55

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

Quantitation Report (QT Reviewed)

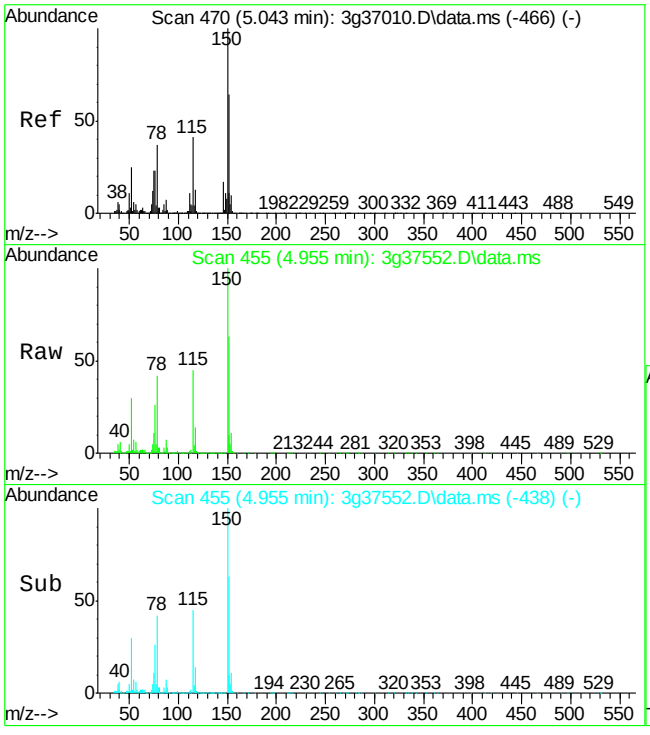
Data Path : C:\msdchem\1\DATA\e3g1869\
Data File : 3g37552.D
Acq On : 6 Aug 2018 3:59 pm
Operator : DONC
Sample : OP16681-MB2
Misc : OP16681,E3G1869,5.00,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 07 09:49:48 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration



bnae3g1850.M Tue Aug 07 09:49:59 2018 3G

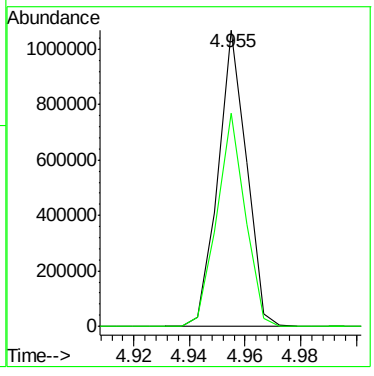
Page: 2

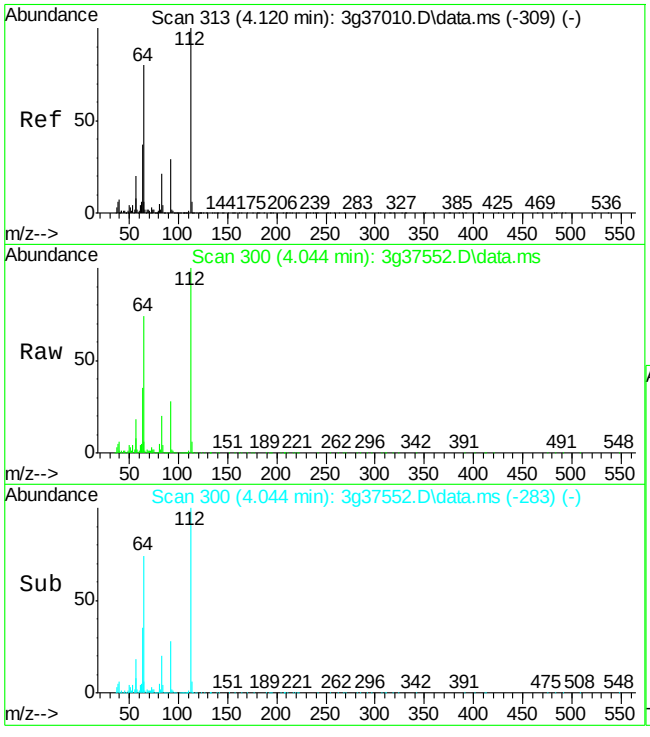


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:152 Resp: 758624

Ion	Ratio	Lower	Upper
152	100		
115	71.4	53.0	93.0

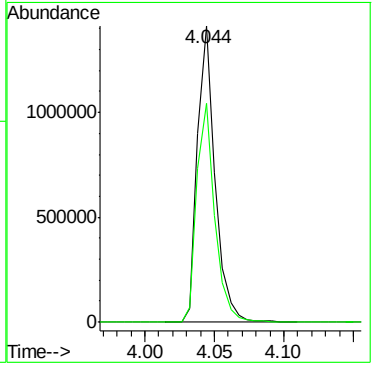


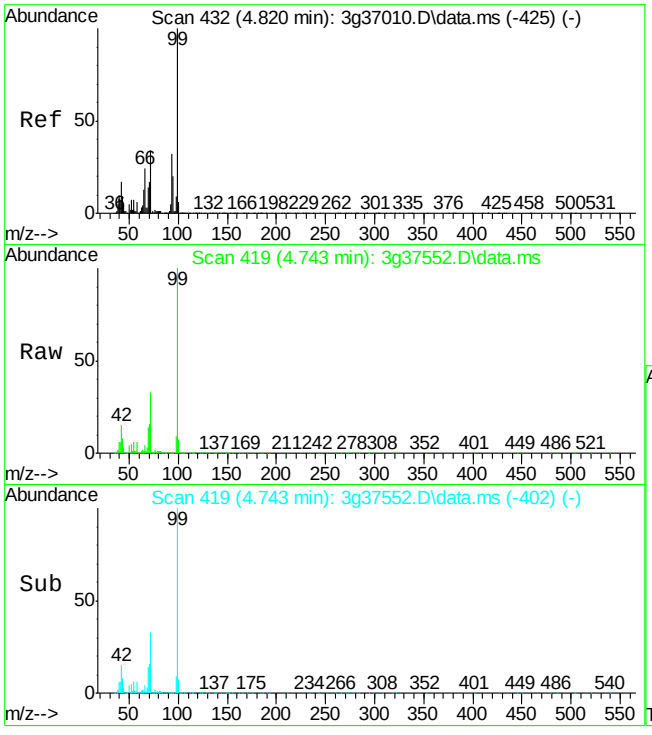


#5
2-Fluorophenol
Concen: 34.9917 ppm
RT: 4.044 min Scan# 300
Delta R.T. 0.000 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:112 Resp: 1237416

Ion	Ratio	Lower	Upper
112	100		
64	75.7	58.3	98.3

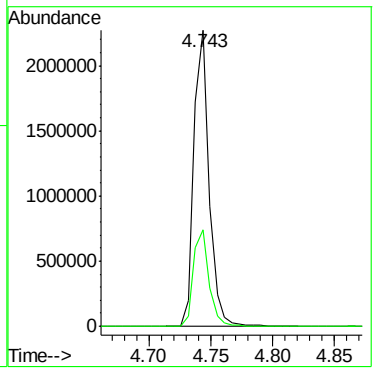


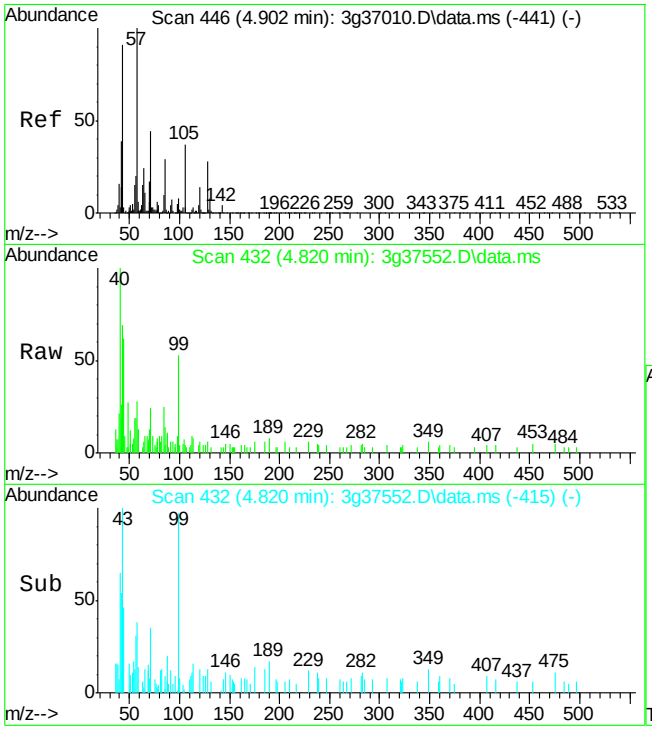


#8
Phenol-d5
Concen: 37.2109 ppm
RT: 4.743 min Scan# 419
Delta R.T. 0.000 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion: 99 Resp: 1948848

Ion	Ratio	Lower	Upper
99	100		
71	33.5	13.6	53.6

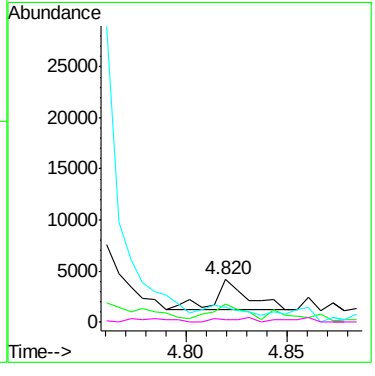


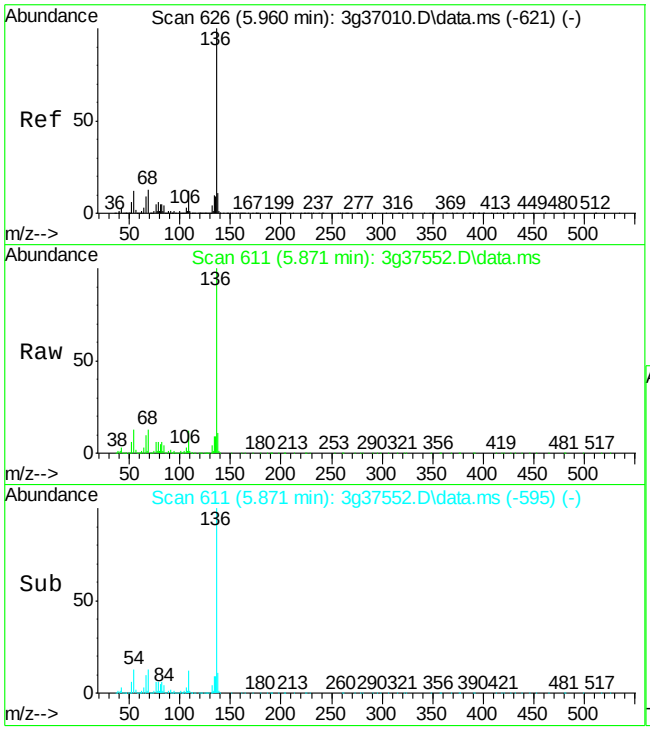


#14
n-decane
Concen: Below ppm
RT: 4.820 min Scan# 432
Delta R.T. 0.000 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion: 43 Resp: 3559

Ion	Ratio	Lower	Upper
43	100		
57	46.9	92.0	132.0#
71	0.0	28.7	68.7#
85	0.0	11.8	51.8#

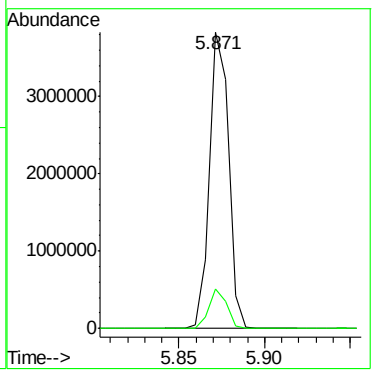


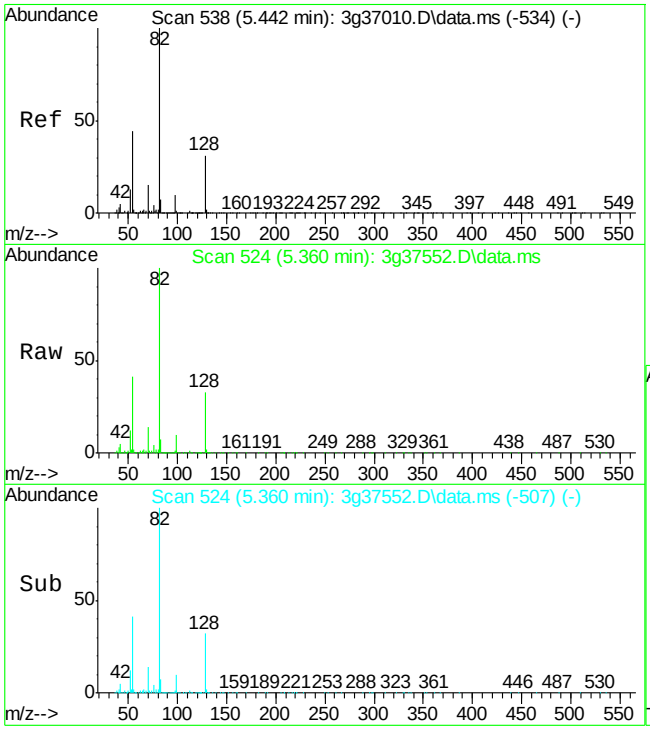


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:136 Resp: 2978102

Ion	Ratio	Lower	Upper
136	100		
68	12.5	0.0	32.4

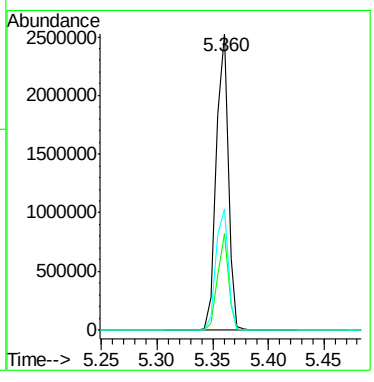


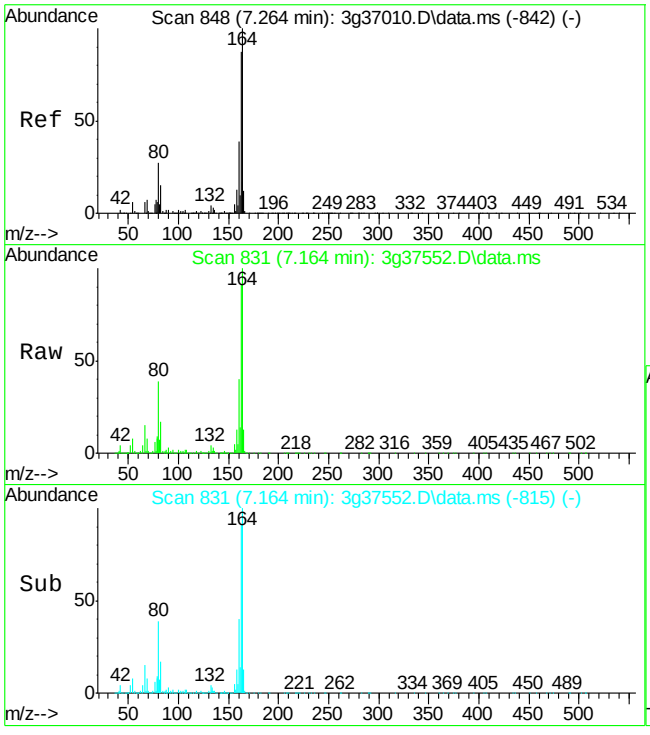


#27
Nitrobenzene-d5
Concen: 36.5835 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion: 82 Resp: 1877236

Ion	Ratio	Lower	Upper
82	100		
128	29.9	10.8	50.8
54	41.7	22.9	62.9

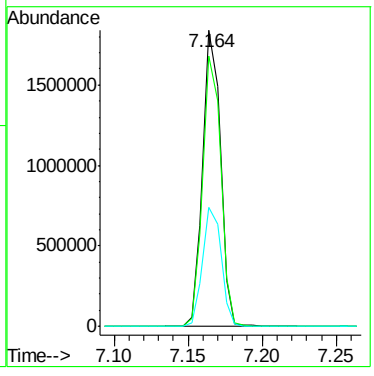


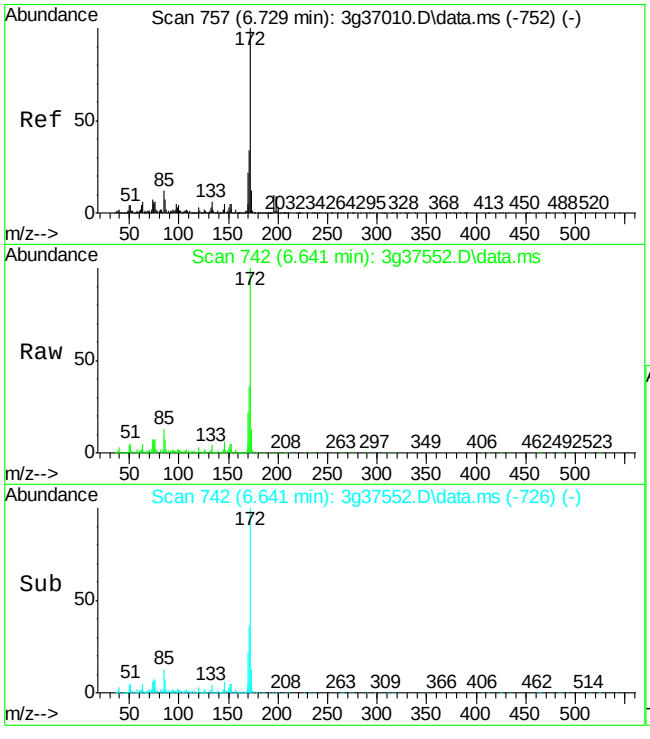


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:164 Resp: 1528768

Ion	Ratio	Lower	Upper
164	100		
162	93.3	69.6	109.6
160	42.3	20.5	60.5

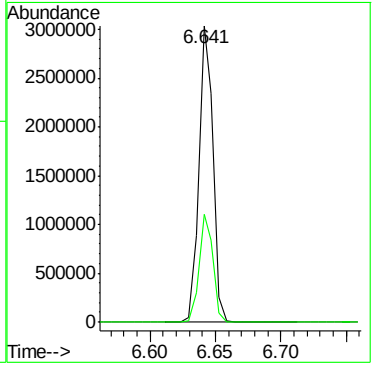




#49
2-Fluorobiphenyl
Concen: 44.1967 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

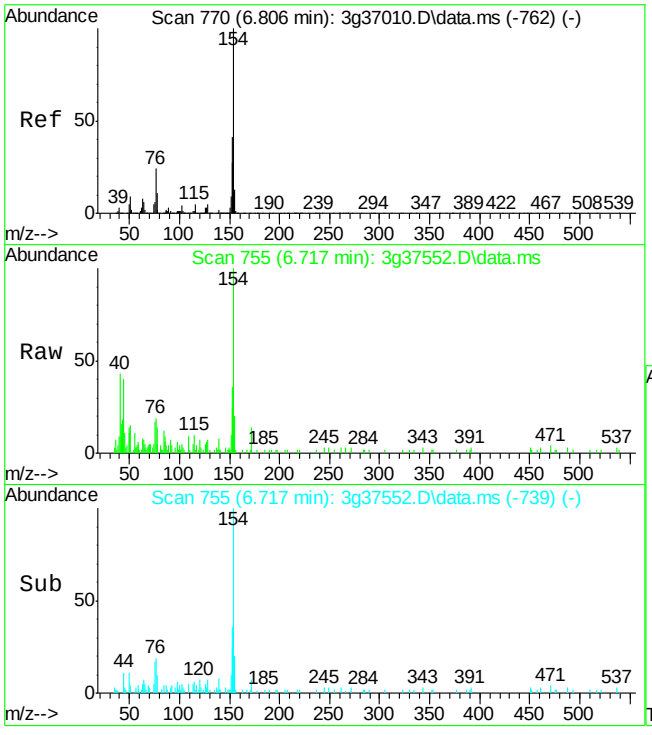
Tgt Ion:172 Resp: 2325646

Ion	Ratio	Lower	Upper
172	100		
171	36.0	14.5	54.5



9.2.2

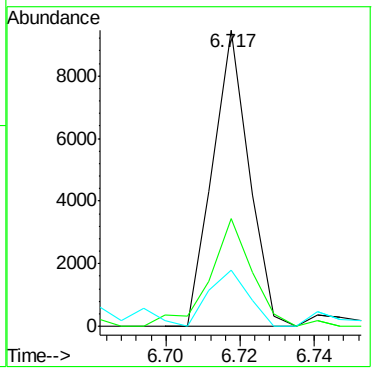
9

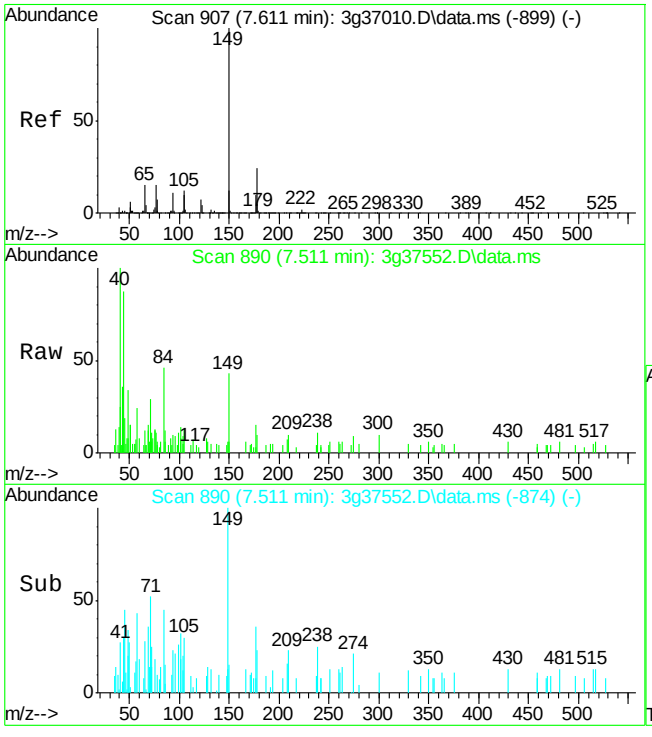


#50
Biphenyl
Concen: 0.5138 ppm
RT: 6.717 min Scan# 755
Delta R.T. -0.006 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:154 Resp: 6436

Ion	Ratio	Lower	Upper
154	100		
153	43.0	21.4	61.4
76	20.7	5.2	45.2

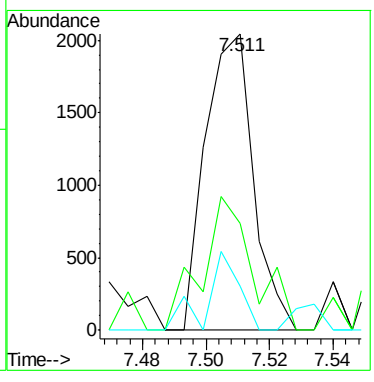


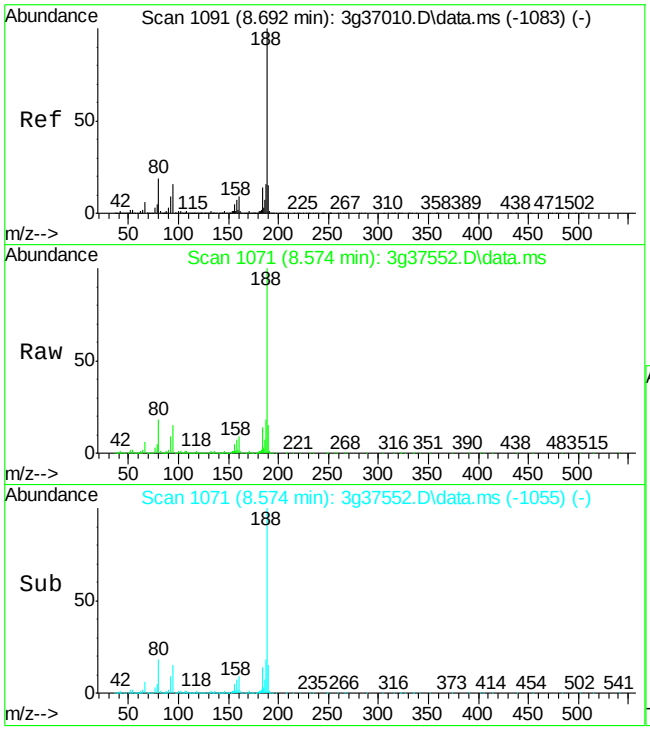


#63
Diethylphthalate
Concen: Below ppm
RT: 7.511 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:149 Resp: 2139

Ion	Ratio	Lower	Upper
149	100		
177	48.9	3.6	43.6#
150	0.0	0.0	32.5

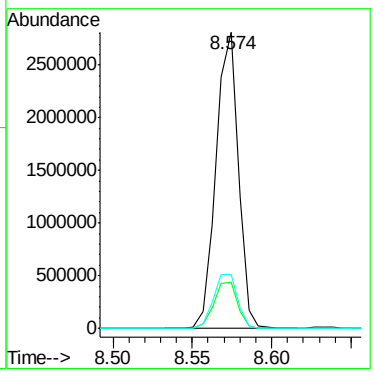


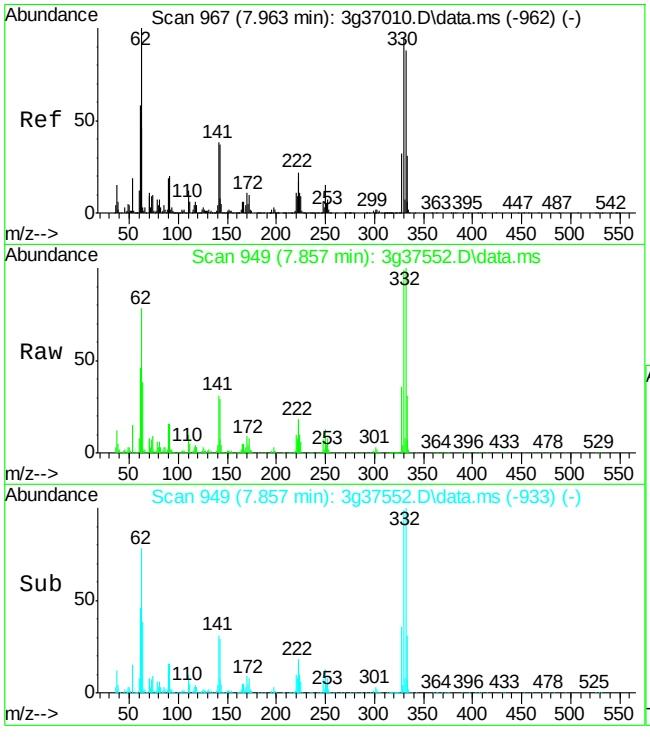


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:188 Resp: 2751655

Ion	Ratio	Lower	Upper
188	100		
94	16.6	0.0	35.1
80	19.7	0.0	37.9

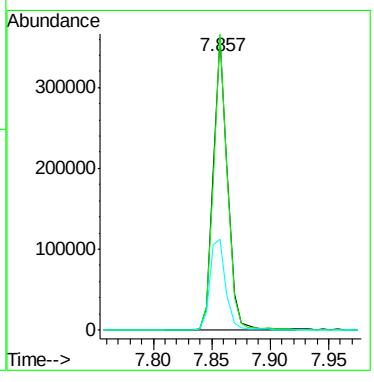


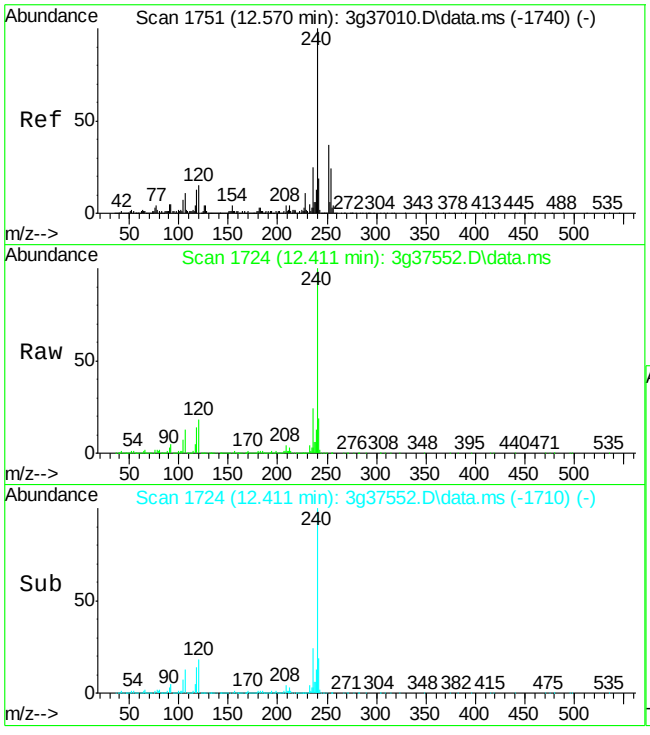


#69
2,4,6-Tribromophenol
Concen: 47.5116 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:330 Resp: 304866

Ion	Ratio	Lower	Upper
330	100		
332	98.1	74.8	112.2
141	35.2	33.8	50.6

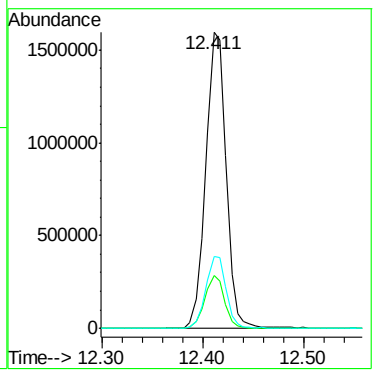


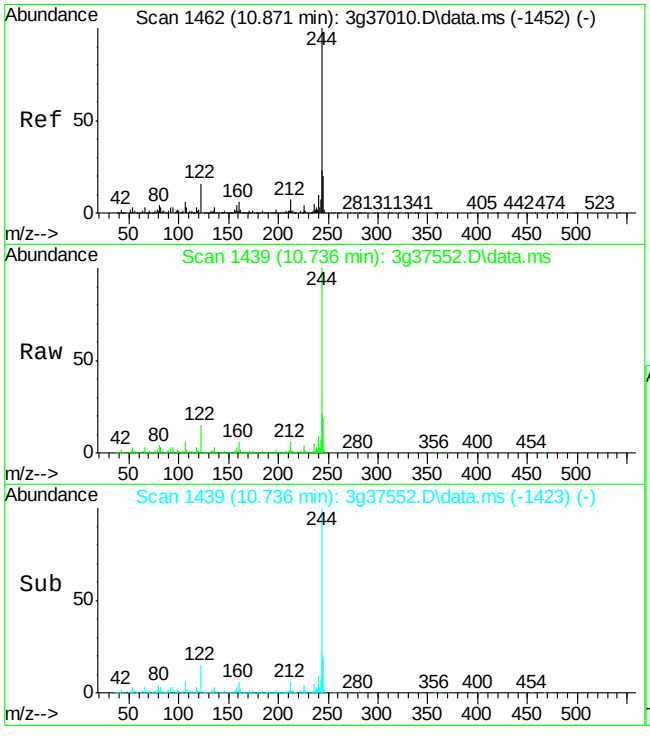


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.411 min Scan# 1724
Delta R.T. -0.017 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:240 Resp: 2220774

Ion	Ratio	Lower	Upper
240	100		
120	17.5	0.0	36.6
236	24.6	4.3	44.3

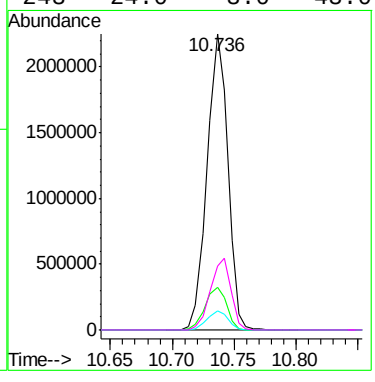




#87
Terphenyl-d14
Concen: 47.3491 ppm
RT: 10.736 min Scan# 1439
Delta R.T. -0.006 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

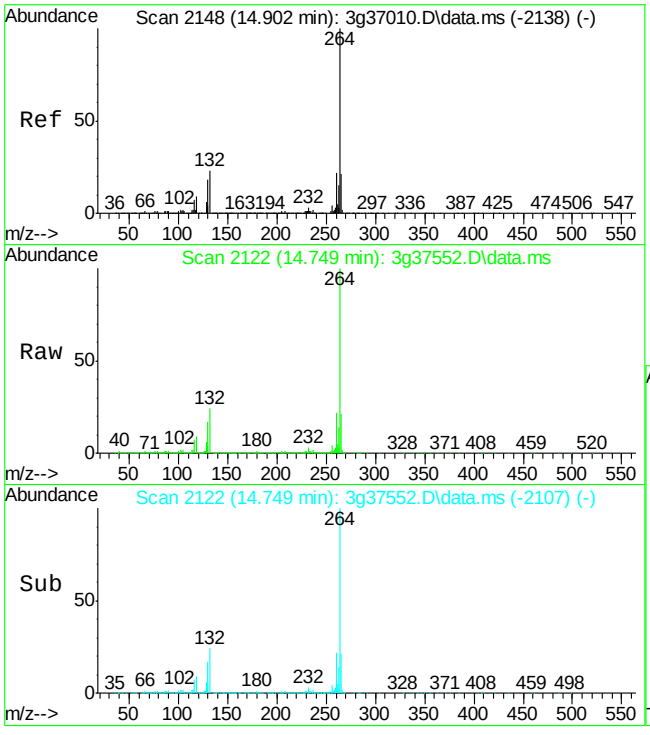
Tgt Ion:244 Resp: 2637988

Ion	Ratio	Lower	Upper
244	100		
122	15.1	0.0	35.4
212	6.5	0.0	27.0
243	24.0	3.0	43.0



9.2.2

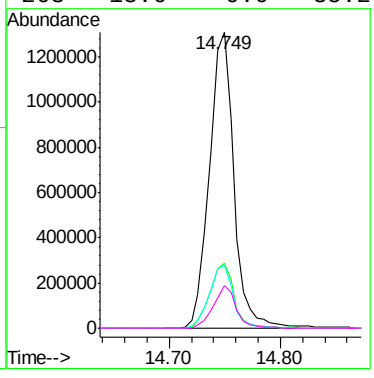
9



#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.011 min
Lab File: 3g37552.D
Acq: 6 Aug 18 3:59 pm

Tgt Ion:264 Resp: 1992446

Ion	Ratio	Lower	Upper
264	100		
260	21.8	1.3	41.3
265	21.1	0.2	40.2
263	13.6	0.0	35.2



9.2.2

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37587.D
Acq On : 7 Aug 2018 3:50 pm
Operator : DONC
Sample : OP16689-MB
Misc : OP16689,E3G1870,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 08 09:20:23 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.955	152	587543	40.0000 ppm	0.00
26) Naphthalene-d8	5.871	136	2276191	40.0000 ppm	0.00
44) Acenaphthene-d10	7.164	164	1149713	40.0000 ppm	0.00
67) Phenanthrene-d10	8.574	188	2110896	40.0000 ppm	0.00
84) Chrysene-d12	12.411	240	1692931	40.0000 ppm	-0.02
93) Perylene-d12	14.749	264	1514381	40.0000 ppm	-0.01

System Monitoring Compounds					
5) 2-Fluorophenol	4.038	112	566996	20.7022 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 41.40%		
8) Phenol-d5	4.737	99	570866	14.0738 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 28.14%		
27) Nitrobenzene-d5	5.360	82	1282238	32.6939 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 65.38%		
49) 2-Fluorobiphenyl	6.641	172	1516642	38.3250 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 76.64%		
69) 2,4,6-Tribromophenol	7.857	330	197828	40.1889 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 80.38%		
87) Terphenyl-d14	10.736	244	1968076	46.3389 ppm	0.00
Spiked Amount 50.000	Range 1 - 250		Recovery = 92.68%		

Target Compounds					Qvalue
13) 1,2,4-Trimethylbenzene	4.825	105	1076	Below Cal # 1	
14) n-decane	4.837	43	2898	Below Cal # 43	
63) Diethylphthalate	7.510	149	8088	Below Cal 92	

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

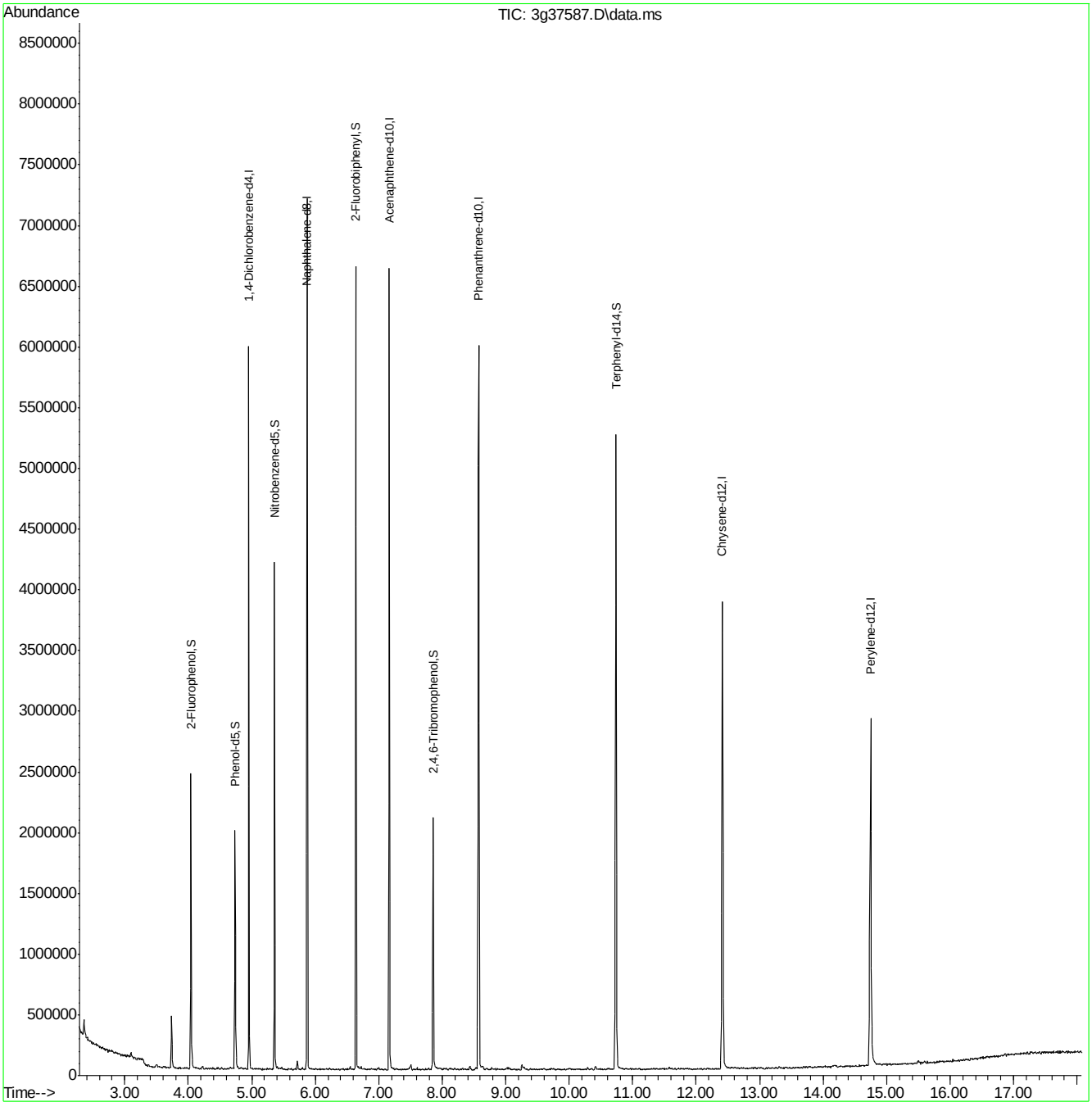
9.2.3

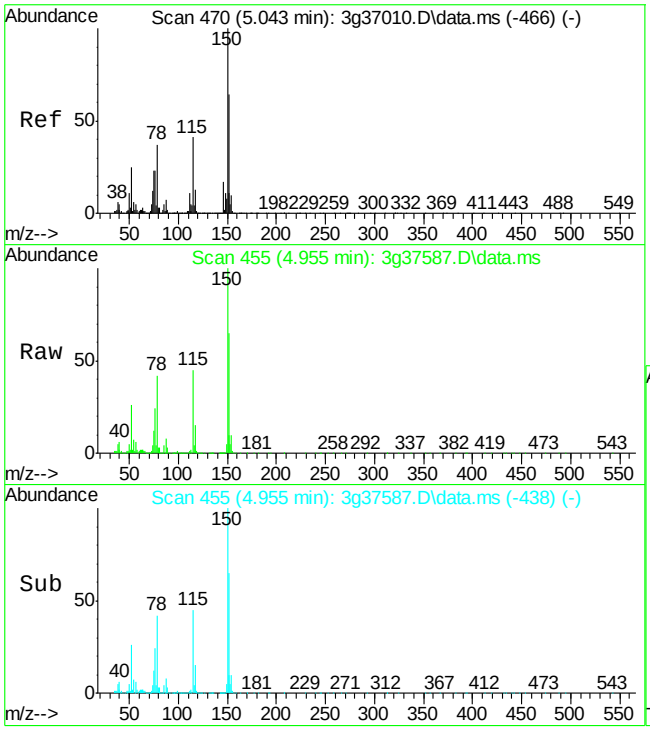
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e3g1870\
Data File : 3g37587.D
Acq On : 7 Aug 2018 3:50 pm
Operator : DONC
Sample : OP16689-MB
Misc : OP16689,E3G1870,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 08 09:20:23 2018
Quant Method : C:\msdchem\1\METHODS\bnae3g1850.M
Quant Title : 8270C Calibration
QLast Update : Mon Jul 30 16:44:46 2018
Response via : Initial Calibration

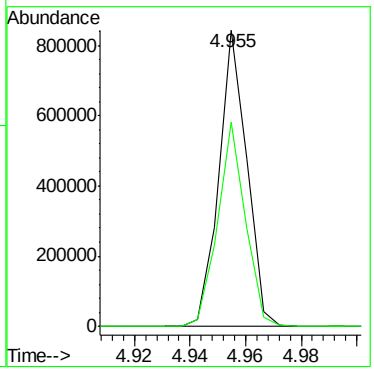


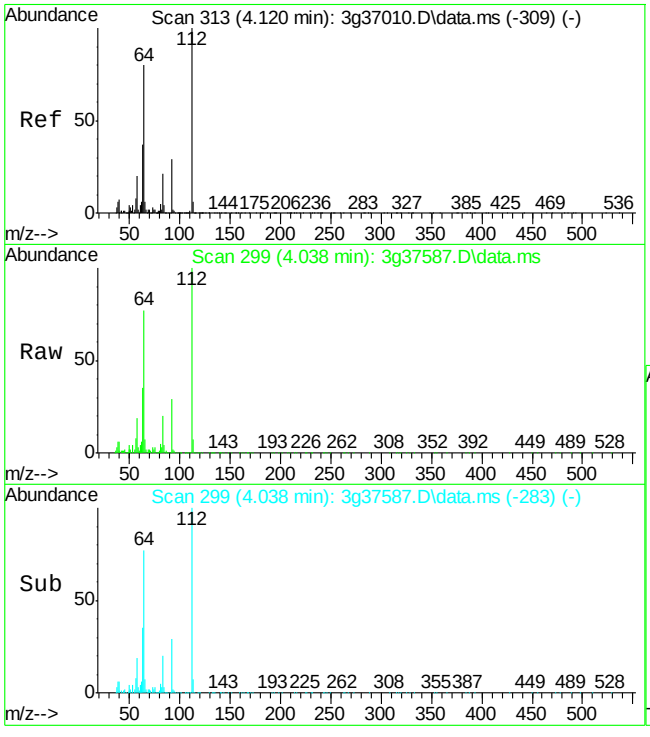


#1
1,4-Dichlorobenzene-d4
Concen: 40.0000 ppm
RT: 4.955 min Scan# 455
Delta R.T. 0.000 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:152 Resp: 587543

Ion	Ratio	Lower	Upper
152	100		
115	68.2	53.0	93.0

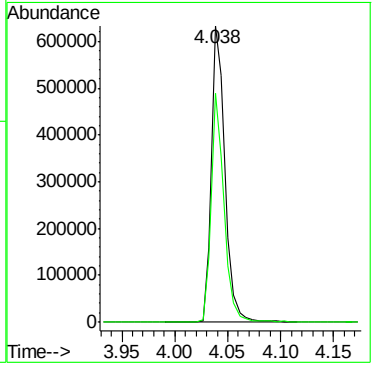


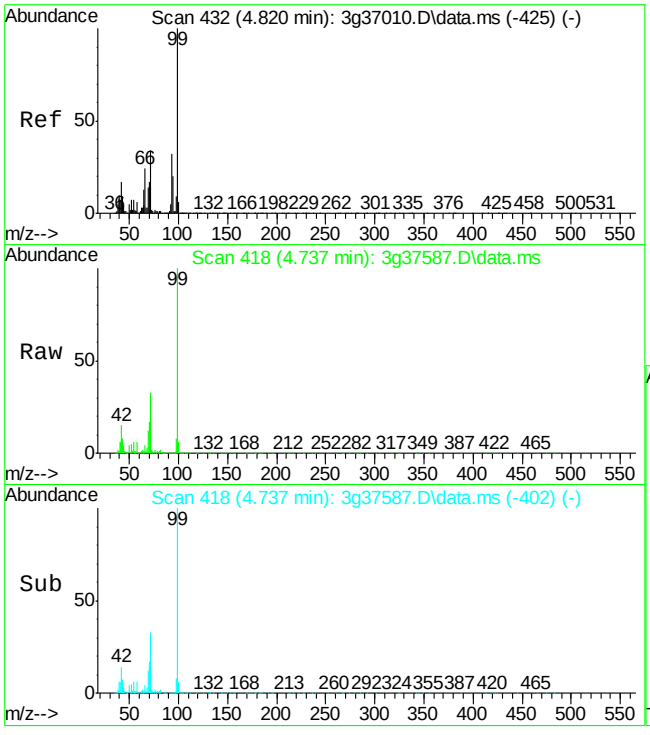


#5
2-Fluorophenol
Concen: 20.7022 ppm
RT: 4.038 min Scan# 299
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:112 Resp: 566996

Ion	Ratio	Lower	Upper
112	100		
64	73.1	58.3	98.3

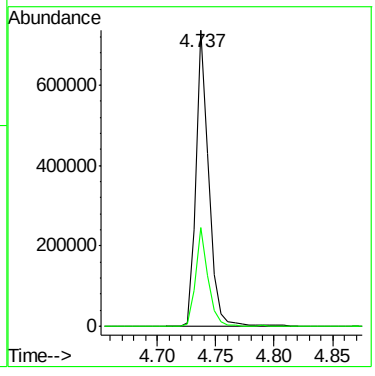


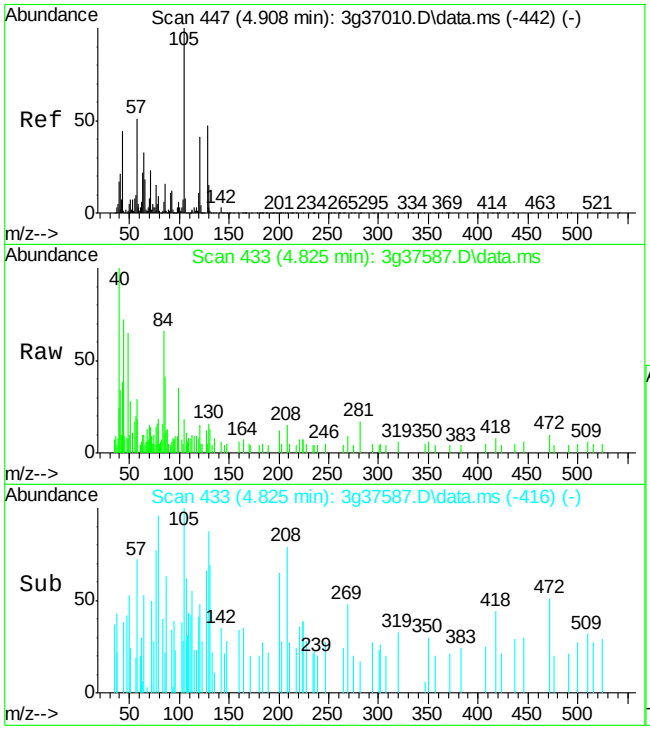


#8
Phenol-d5
Concen: 14.0738 ppm
RT: 4.737 min Scan# 418
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion: 99 Resp: 570866

Ion	Ratio	Lower	Upper
99	100		
71	33.0	13.6	53.6

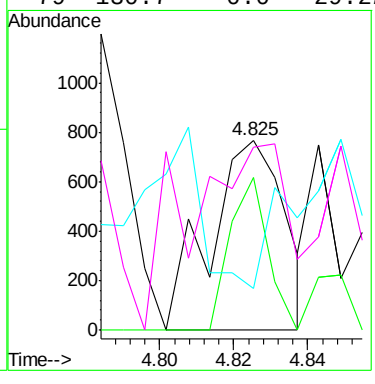


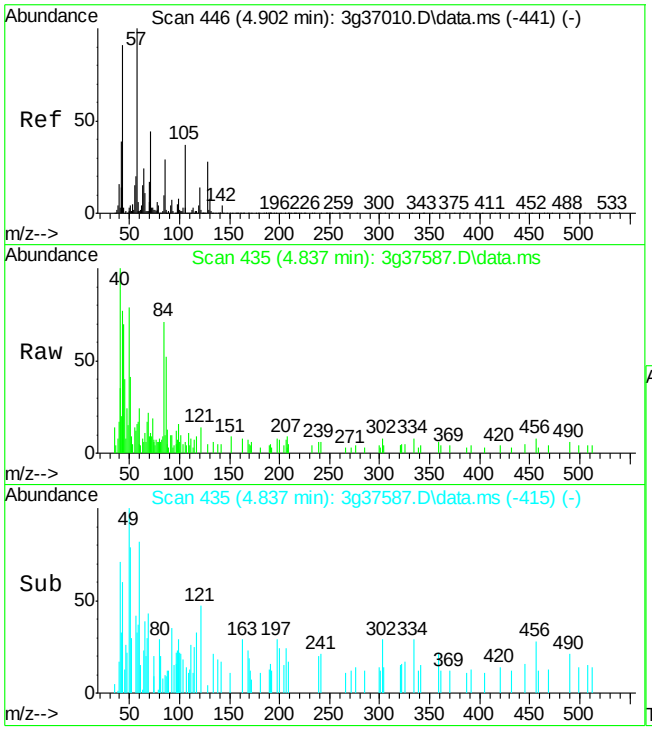


#13
1,2,4-Trimethylbenzene
Concen: Below ppm
RT: 4.825 min Scan# 433
Delta R.T. 0.000 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:105 Resp: 1076

Ion	Ratio	Lower	Upper
105	100		
120	0.0	19.5	59.5#
91	0.0	0.0	31.4
79	130.7	0.0	29.2#

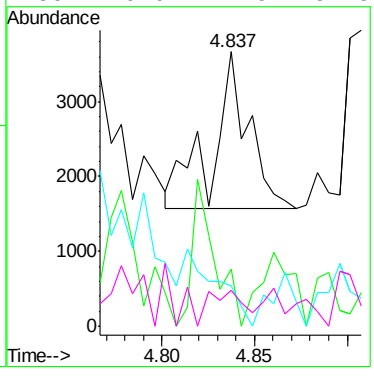


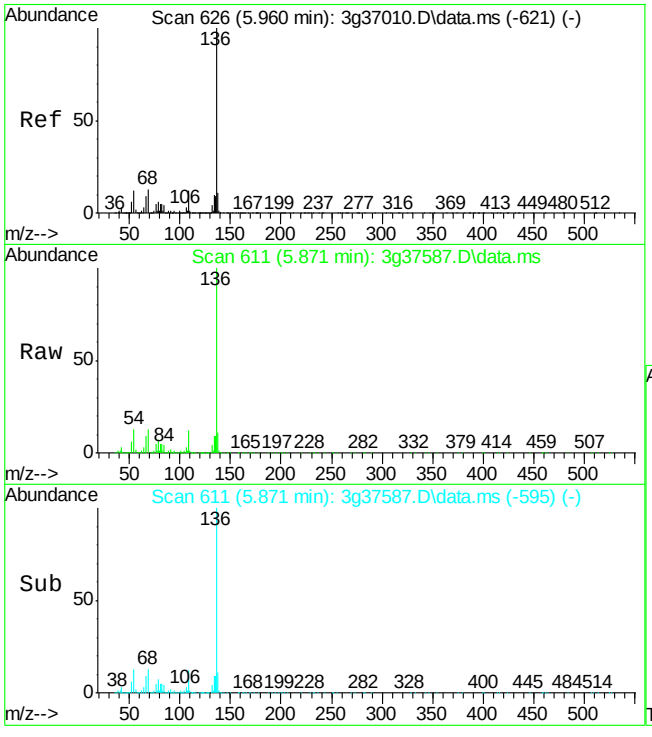


#14
n-decane
Concen: Below ppm
RT: 4.837 min Scan# 435
Delta R.T. 0.018 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion: 43 Resp: 2898

Ion	Ratio	Lower	Upper
43	100		
57	57.1	92.0	132.0#
71	0.0	28.7	68.7#
85	0.0	11.8	51.8#

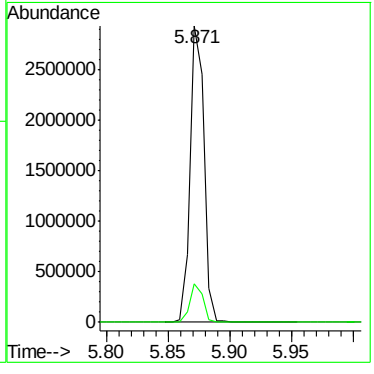


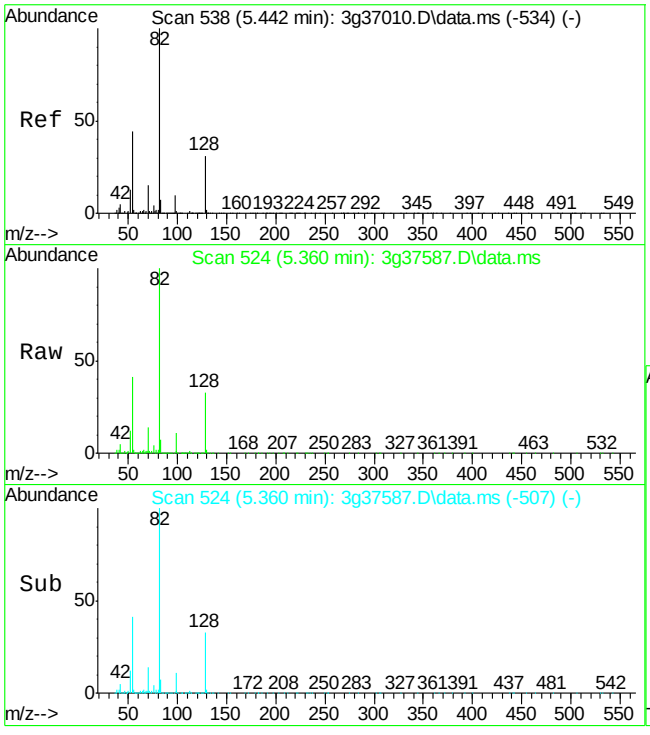


#26
Naphthalene-d8
Concen: 40.0000 ppm
RT: 5.871 min Scan# 611
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:136 Resp: 2276191

Ion	Ratio	Lower	Upper
136	100		
68	12.4	0.0	32.4

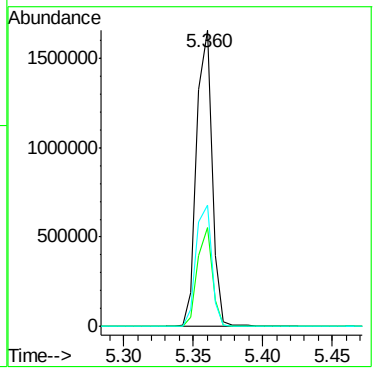


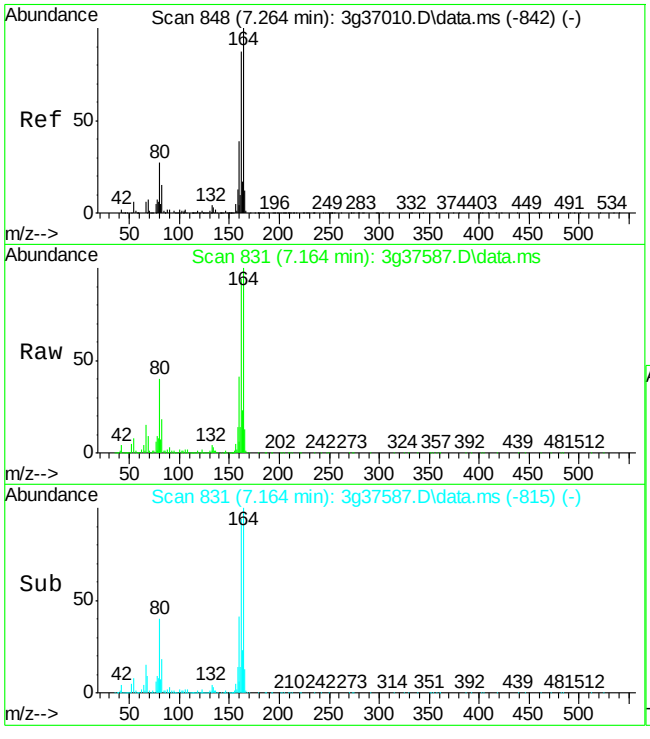


#27
Nitrobenzene-d5
Concen: 32.6939 ppm
RT: 5.360 min Scan# 524
Delta R.T. 0.000 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion: 82 Resp: 1282238

Ion	Ratio	Lower	Upper
82	100		
128	31.9	10.8	50.8
54	41.6	22.9	62.9

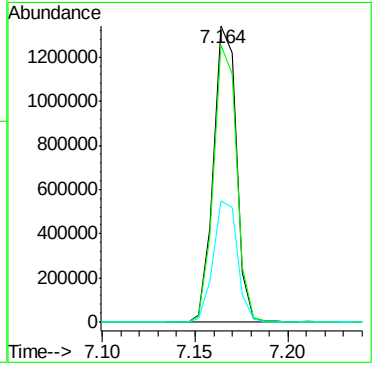


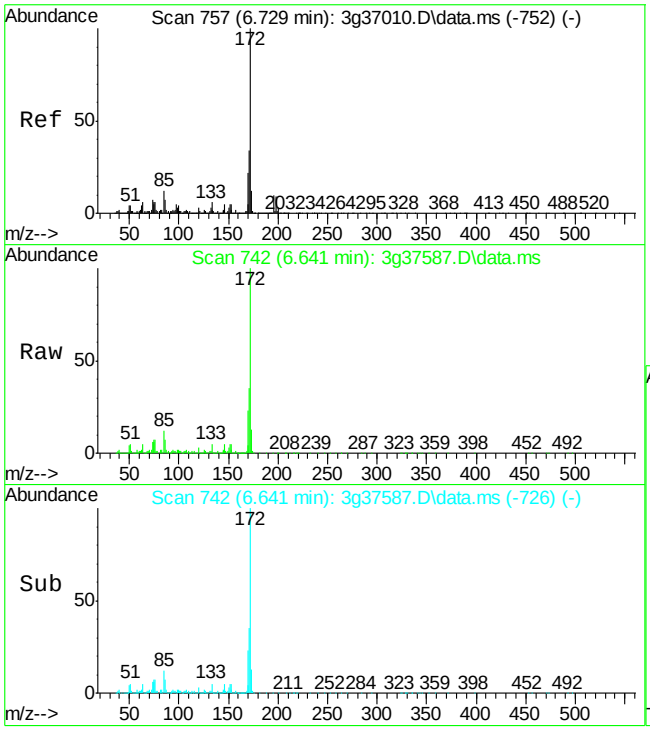


#44
Acenaphthene-d10
Concen: 40.0000 ppm
RT: 7.164 min Scan# 831
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:164 Resp: 1149713

Ion	Ratio	Lower	Upper
164	100		
162	94.8	69.6	109.6
160	43.1	20.5	60.5

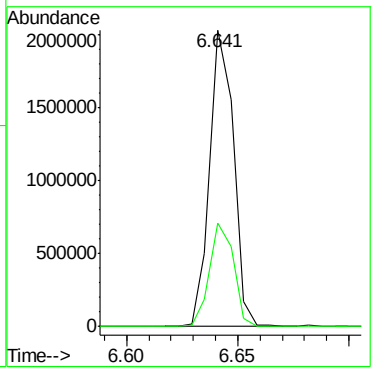


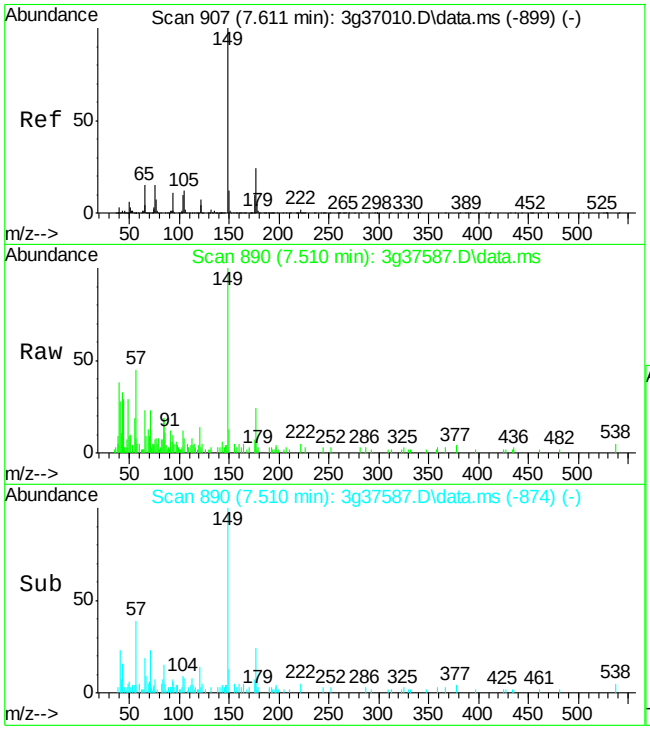


#49
2-Fluorobiphenyl
Concen: 38.3250 ppm
RT: 6.641 min Scan# 742
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:172 Resp: 1516642

Ion	Ratio	Lower	Upper
172	100		
171	35.2	14.5	54.5

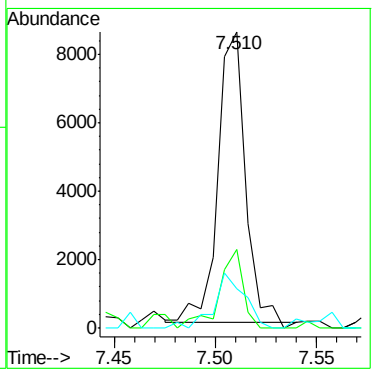




#63
Diethylphthalate
Concen: Below ppm
RT: 7.510 min Scan# 890
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

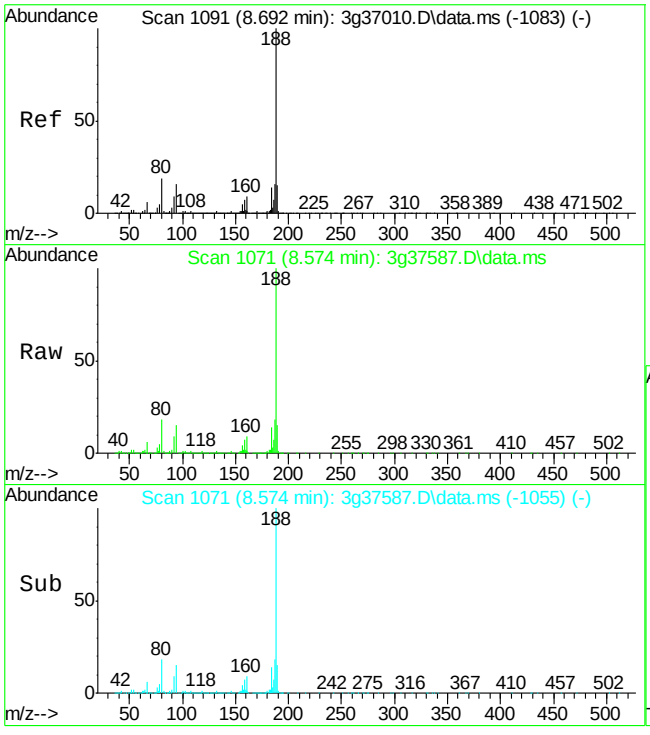
Tgt Ion:149 Resp: 8088

Ion	Ratio	Lower	Upper
149	100		
177	23.3	3.6	43.6
150	20.7	0.0	32.5



9.2.3

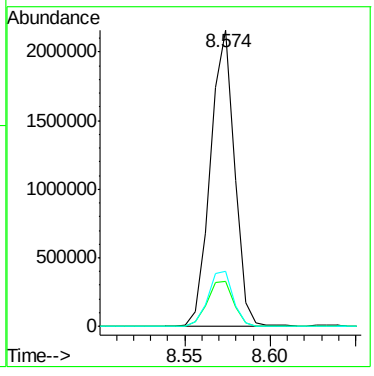
9

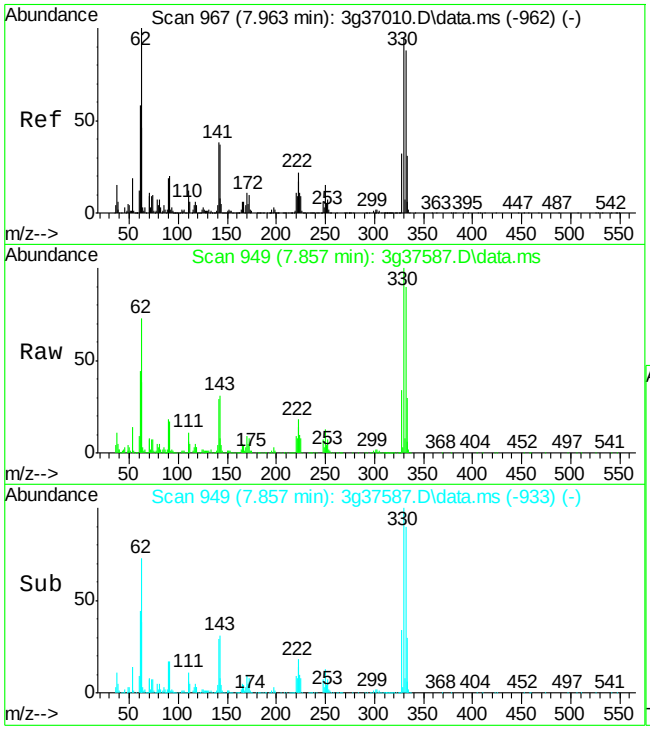


#67
Phenanthrene-d10
Concen: 40.0000 ppm
RT: 8.574 min Scan# 1071
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:188 Resp: 2110896

Ion	Ratio	Lower	Upper
188	100		
94	16.7	0.0	35.1
80	19.4	0.0	37.9

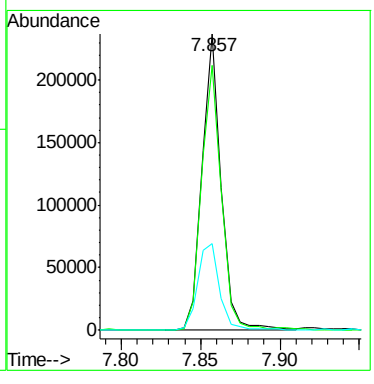


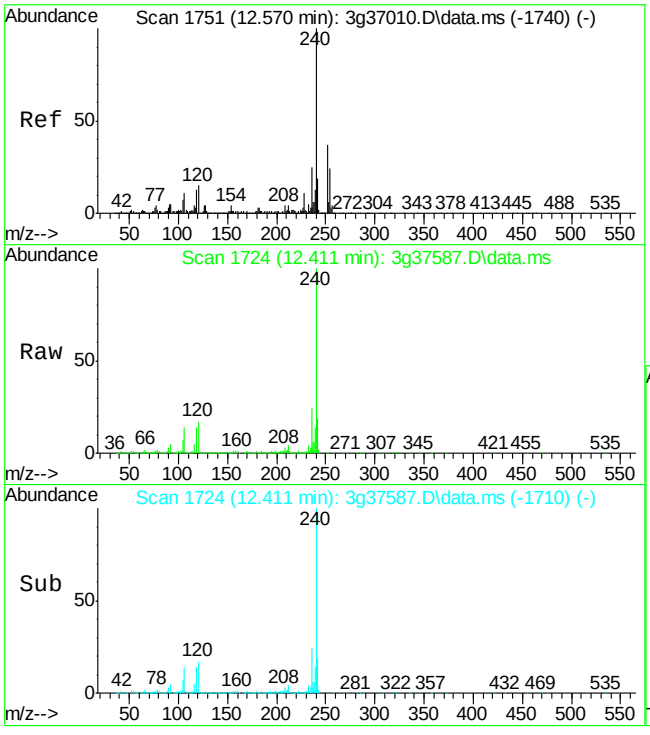


#69
2,4,6-Tribromophenol
Concen: 40.1889 ppm
RT: 7.857 min Scan# 949
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:330 Resp: 197828

Ion	Ratio	Lower	Upper
330	100		
332	93.8	74.8	112.2
141	33.8	33.8	50.6

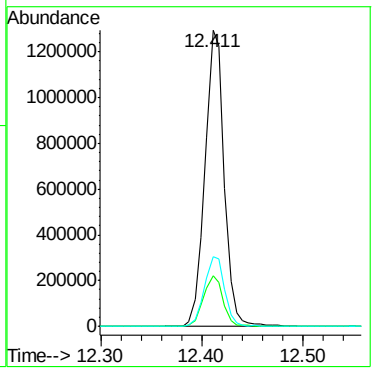


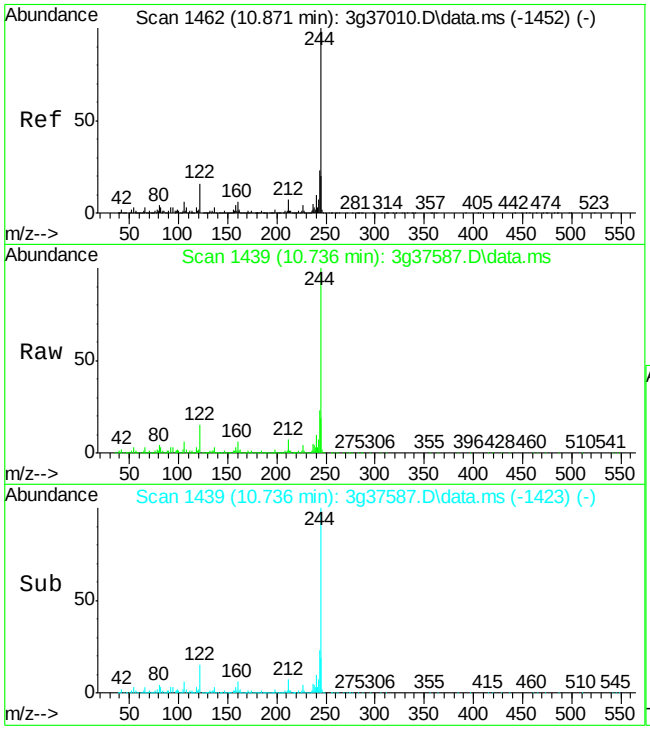


#84
Chrysene-d12
Concen: 40.0000 ppm
RT: 12.411 min Scan# 1724
Delta R.T. -0.018 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:240 Resp: 1692931

Ion	Ratio	Lower	Upper
240	100		
120	17.5	0.0	36.6
236	24.9	4.3	44.3

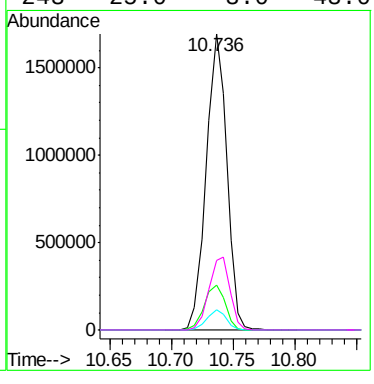


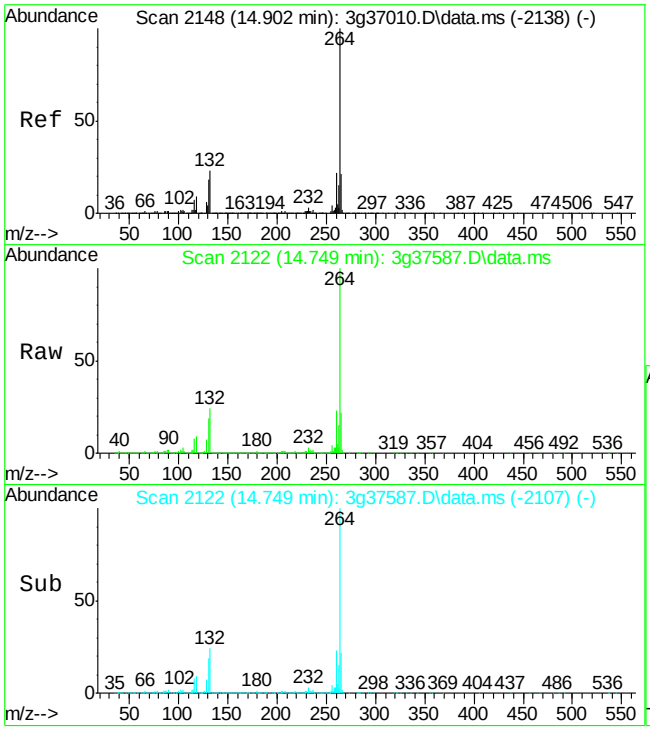


#87
Terphenyl-d14
Concen: 46.3389 ppm
RT: 10.736 min Scan# 1439
Delta R.T. -0.006 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:244 Resp: 1968076

Ion	Ratio	Lower	Upper
244	100		
122	15.6	0.0	35.4
212	6.6	0.0	27.0
243	25.0	3.0	43.0

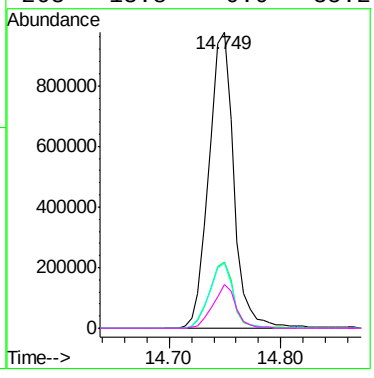




#93
Perylene-d12
Concen: 40.0000 ppm
RT: 14.749 min Scan# 2122
Delta R.T. -0.012 min
Lab File: 3g37587.D
Acq: 7 Aug 18 3:50 pm

Tgt Ion:264 Resp: 1514381

Ion	Ratio	Lower	Upper
264	100		
260	22.0	1.3	41.3
265	21.4	0.2	40.2
263	13.8	0.0	35.2



9.2.3

9

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/03/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1.1	1.7		
Antimony	3.0	.21	.82		
Arsenic	2.5	.38	1	-0.28	<2.5
Barium	1.0	.02	.16	0.10	<1.0
Beryllium	1.0	.09	.16		
Boron	5.0	.08	.29		
Cadmium	1.0	.02	.1	-0.10	<1.0
Calcium	40	.24	9.6		
Chromium	1.0	.03	.19	0.11	<1.0
Cobalt	0.50	.05	.12		
Copper	1.0	.08	.48		
Iron	7.0	.15	.69		
Lead	5.0	.21	.6	0.020	<5.0
Lithium	0.50	.04	.07		
Magnesium	20	.68	3.9		
Manganese	0.50	.05	.07		
Molybdenum	1.0	.04	.36		
Nickel	3.0	.05	.24		
Phosphorus	10	1.5	4.3		
Potassium	200	8.4	6		
Selenium	5.0	.71	1	-1.1	<5.0
Silicon	5.0	.47	.91		
Silver	3.0	.03	.05	0.020	<3.0
Sodium	40	.73	1.5		
Strontium	5.0	.001	.03		
Thallium	1.0	.18	.86		
Tin	5.0	1.2	1.2		
Titanium	1.0	.01	.27		
Uranium	5.0	.29	.44		
Vanadium	1.0	.04	.07		
Zinc	3.0	.04	.35		

Associated samples MP25759: DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/03/18

Metal	RL	IDL	MDL	MB raw	final

(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/03/18

Metal	DA7701-6 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.72	99.9	102	98.2	75-125
Barium	17.8	205	203	92.0	75-125
Beryllium					
Boron					
Cadmium	0.0	48.4	50.9	95.2	75-125
Calcium					
Chromium	1.9	51.5	50.9	97.5	75-125
Cobalt					
Copper					
Iron					
Lead	3.1	102	102	98.8	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium	0.0	96.3	102	94.7	75-125
Silicon					
Silver	0.0	18.5	20.3	90.9	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP25759: DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/03/18

Metal	DA7701-6 Original MS	Spikelot ICPALL2	% Rec	QC Limits

(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

10.1.2

10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/03/18

Metal	DA7701-6 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.72	106	109	97.5	5.9	20
Barium	17.8	214	217	90.3	4.3	20
Beryllium						
Boron						
Cadmium	0.0	51.4	54.3	94.6	6.0	20
Calcium						
Chromium	1.9	53.9	54.3	95.7	4.6	20
Cobalt						
Copper						
Iron						
Lead	3.1	108	109	98.0	5.7	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium	0.0	102	109	93.8	5.7	20
Silicon						
Silver	0.0	19.7	21.7	90.6	6.3	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP25759: DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/03/18

Metal	DA7701-6 Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit

(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

10.1.2

10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/03/18

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	106	100	106.0	80-120
Barium	193	200	96.5	80-120
Beryllium				
Boron				
Cadmium	51.0	50	102.0	80-120
Calcium				
Chromium	52.1	50	104.2	80-120
Cobalt				
Copper				
Iron				
Lead	106	100	106.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	100	100	100.0	80-120
Silicon				
Silver	20.0	20	100.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP25759: DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/03/18

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(*) Outside of QC limits
(anr) Analyte not requested

10.1.3

10

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	DA7701-6 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	167	169	1.3	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	17.4	20.0	14.9 (a)	0-10
Cobalt				
Copper				
Iron				
Lead	28.8	0.00	100.0(a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP25759: DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25759
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	DA7701-6 Original SDL 1:5	%DIF	QC Limits

(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

10.1.4

10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	46	13		
Antimony	30	14	8.7		
Arsenic	25	22	12	-1.2	<25
Barium	10	.3	1.3	0.0	<10
Beryllium	10	1	1.6		
Boron	50	3.3	3.6		
Cadmium	10	1.9	1.9	0.20	<10
Calcium	400	6.6	10		
Chromium	10	1.1	1.1	0.0	<10
Cobalt	5.0	2.7	1.2		
Copper	10	4.6	3.8		
Iron	70	8.9	6.9		
Lead	50	13	4.9	-0.60	<50
Lithium	5.0	.6	.7		
Magnesium	200	50	39		
Manganese	5.0	.5	.9		
Molybdenum	10	8.5	3.6		
Nickel	30	6.2	2.7		
Phosphorus	100	91	34		
Potassium	1000	84	71		
Selenium	50	30	11	-0.20	<50
Silicon	50	41	8.4		
Silver	30	.6	.61	-0.20	<30
Sodium	400	13	14		
Strontium	5.0	.1	.3		
Thallium	10	17	8		
Tin	50	41	12		
Titanium	10	.5	2.7		
Uranium	50	3.9	4.4		
Vanadium	10	.9	.6		
Zinc	30	9	3.5		

Associated samples MP25761: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	DA7701-15 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	139	1110	1000	107.8	75-125
Barium	158	2190	2000	101.6	75-125
Beryllium					
Boron					
Cadmium	0.0	508	500	101.6	75-125
Calcium					
Chromium	24.5	517	500	98.5	75-125
Cobalt					
Copper					
Iron					
Lead	22.0	1030	1000	103.0	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium	0.0	1370	1000	137.0N(a	75-125
Silicon					
Silver	0.0	202	200	101.0	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP25761: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	DA7701-15 Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	DA7701-15 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	139	1100	1000	106.8	0.9	20
Barium	158	2160	2000	100.1	1.4	20
Beryllium						
Boron						
Cadmium	0.0	501	500	100.2	1.4	20
Calcium						
Chromium	24.5	508	500	96.7	1.8	20
Cobalt						
Copper						
Iron						
Lead	22.0	1020	1000	102.0	1.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium	0.0	1340	1000	134.0N(a	2.2	20
Silicon						
Silver	0.0	202	200	101.0	0.0	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP25761: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	DA7701-15 Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

10.2.2

10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	1090	1000	109.0	80-120
Barium	2170	2000	108.5	80-120
Beryllium				
Boron				
Cadmium	515	500	103.0	80-120
Calcium				
Chromium	517	500	103.4	80-120
Cobalt				
Copper				
Iron				
Lead	1070	1000	107.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	1060	1000	106.0	80-120
Silicon				
Silver	204	200	102.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP25761: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	DA7701-15 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	32.5	0.00	100.0(a)	0-10
Barium	156	153	3.4	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	16.0	22.0	10.2 (a)	0-10
Cobalt				
Copper				
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP25761: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25761
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/03/18

Metal	DA7701-15 Original SDL 1:5	%DIF	QC Limits

(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

10.2.4

10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25767
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/06/18

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.011	.024	0.0068	<0.10

Associated samples MP25767: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25767
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/06/18

Metal	DA7701-15 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.060	3.4	3.13	106.9	75-125

Associated samples MP25767: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25767
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/06/18

Metal	DA7701-15 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.060	3.4	3.13	106.9	0.0	20

Associated samples MP25767: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25767
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 08/06/18

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	3.3	3.13	105.6	80-120

Associated samples MP25767: DA7701-14, DA7701-15, DA7701-16, DA7701-17, DA7701-18, DA7701-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25769
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 08/07/18

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.083	.00088	.0067	0.00035	<0.083

Associated samples MP25769: DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25769
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 08/07/18

Metal	DA7701-6 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.0034	0.35	0.358	96.9	75-125

Associated samples MP25769: DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25769
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 08/07/18

Metal	DA7701-6 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.0034	0.34	0.363	92.6	2.9	20

Associated samples MP25769: DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25769
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 08/07/18

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.33	0.333	99.0	80-120

Associated samples MP25769: DA7701-1, DA7701-2, DA7701-3, DA7701-4, DA7701-5, DA7701-6, DA7701-7, DA7701-8, DA7701-9, DA7701-10, DA7701-11, DA7701-12, DA7701-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/07/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1.1	1.7		
Antimony	3.0	.21	.82		
Arsenic	2.5	2.2	1	-0.010	<2.5
Barium	1.0	.02	.16	0.070	<1.0
Beryllium	1.0	.09	.16		
Boron	5.0	.08	.29		
Cadmium	1.0	.19	.1	0.020	<1.0
Calcium	40	.24	9.6		
Chromium	1.0	.11	.19	0.070	<1.0
Cobalt	0.50	.05	.12		
Copper	1.0	.08	.48		
Iron	7.0	.15	.69		
Lead	5.0	1.3	.6	0.15	<5.0
Lithium	0.50	.04	.07		
Magnesium	20	.68	3.9		
Manganese	0.50	.05	.07		
Molybdenum	1.0	.04	.36		
Nickel	3.0	.05	.24		
Phosphorus	10	1.5	4.3		
Potassium	200	8.4	6		
Selenium	5.0	3	1	-0.90	<5.0
Silicon	5.0	.47	.91		
Silver	3.0	.03	.05	0.020	<3.0
Sodium	40	.73	1.5		
Strontium	5.0	.001	.03		
Thallium	1.0	.18	.86		
Tin	5.0	1.2	1.2		
Titanium	1.0	.01	.27		
Uranium	5.0	.29	.44		
Vanadium	1.0	.04	.07		
Zinc	3.0	.04	.35		

Associated samples MP25792: DA7701-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/07/18

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

10.5.1

10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/07/18

Metal	DA7762-14 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	5.7	97.4	103	88.9	75-125
Barium	93.5	271	206	88.7	75-125
Beryllium					
Boron					
Cadmium	0.0	44.9	51.6	87.0	75-125
Calcium					
Chromium	8.2	53.9	51.6	88.6	75-125
Cobalt					
Copper					
Iron					
Lead	121	97.1	103	-23.2N(a	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium	0.0	90.2	103	87.4	75-125
Silicon					
Silver	0.0	15.4	20.6	74.6N(a)	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP25792: DA7701-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/07/18

Metal	DA7762-14 Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/07/18

Metal	DA7762-14 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	5.7	95.1	99.3	90.0	2.4	20
Barium	93.5	253	199	83.1	6.9	20
Beryllium						
Boron						
Cadmium	0.0	44.5	49.7	89.6	0.9	20
Calcium						
Chromium	8.2	53.1	49.7	90.4	1.5	20
Cobalt						
Copper						
Iron						
Lead	121	98.0	99.3	-23.2N(a	0.9	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium	0.0	88.3	99.3	88.9	2.1	20
Silicon						
Silver	0.0	15.1	19.9	76.0	2.0	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP25792: DA7701-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/07/18

Metal	DA7762-14 Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/07/18

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	98.8	100	98.8	80-120
Barium	177	200	88.5	80-120
Beryllium				
Boron				
Cadmium	47.5	50	95.0	80-120
Calcium				
Chromium	48.6	50	97.2	80-120
Cobalt				
Copper				
Iron				
Lead	96.1	100	96.1	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	95.4	100	95.4	80-120
Silicon				
Silver	17.2	20	86.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP25792: DA7701-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/07/18

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

10.5.3

10

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/07/18

Metal	DA7762-14 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	33.1	124	123.0(a)	0-10
Barium	853	872	2.3	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	69.5	88.5	11.0*(b)	0-10
Cobalt				
Copper				
Iron				
Lead	1050	1290	9.9	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP25792: DA7701-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: DA7701
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP25792
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/07/18

Metal	DA7762-14 Original SDL 1:5	%DIF	QC Limits

(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

10.5.4

10

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Weston Solutions

Place Bridge, 1400 South Oneida, Denver, CO

SGS Job Number: TD25119

Sampling Date: 08/02/18

Report to:

Weston Salutions
1435 Garrison St.#100
Lakewood, CO 80215
Roy.Weindorf@WestonSolutions.com; neaundra.wyatt@sgs.com

ATTN: Roy Weindorf

Total number of pages in report: **83**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Neaundra Wyatt 713-271-4700

Certifications: TX (T104704220-18-30) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2017-002) VA (8999)

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SGS North America Inc.

Sample Summary

Weston Solutions

Place Bridge, 1400 South Oneida, Denver, CO

Job No: TD25119

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD25119-1	08/02/18	14:10	RW	08/03/18	AIR	Air	PB-SG-13
TD25119-2	08/02/18	13:23	RW	08/03/18	AIR	Air	PB-SG-11
TD25119-3	08/02/18	13:58	RW	08/03/18	AIR	Air	PB-SG-01
TD25119-4	08/02/18	13:38	RW	08/03/18	AIR	Air	PB-SG-03

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Weston Solutions	**Job No**	TD25119
Site:	Place Bridge, 1400 South Oneida, Denver, CO	**Report Date**	8/17/2018 10:44:52 A

4 Samples were collected on 08/02/2018 and received intact at SGS North America Inc (SGS) on 08/03/2018 and properly preserved in 1 container at 20.1 Deg C. The samples received an Accutest job number of TD25119. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

The chain of custody has "PB-SG-01" and the sample lable has "PB-SV-01". The sample was logged in per the chain of custody.

The flow controller ids were not listed on the chain of custody or the sample labels.

The canisters used to collect samples for TO-15 analysis were either individually or batch certified as clean to a level of 0.2 ppbv, with the exception of Acetone, Ethanol and Isopropanol which are certified to 1.0 ppbv. Methylene Chloride is certified to 0.4 ppbv. Any sample analyte value below certified ppbv value and above the MDL may be from a canister artifact, but there is currently no B-flag type mechanism to indicate this possibility or that a hit above the MDL and below 0.2 ppbv had been found.

The following compounds are not NELAC certified: p-Isopropyltoluene and 1,1 Dibromoethane.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method TO-15

Matrix: AIR **Batch ID:** V1A1239

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD24979-5DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for Duplicate for 1,3-Butadiene, Benzyl Chloride, Methyl Tert-Butyl Ether, p-Isopropyltoluene, Tetrachloroethene are outside control limits for sample TD24979-5DUP. High RPD due to sample level below Reporting Limits.

Matrix: AIR **Batch ID:** V1A1242

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD25172-3DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for Duplicate for 4-Methyl-2-pentanone, m,p-Xylene are outside control limits for sample TD25172-3DUP. High RPD due to sample level below Reporting Limits.

GC Volatiles By Method ASTM D1946

Matrix: AIR **Batch ID:** GXF103

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD25119-2DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

Summary of Hits

Job Number: TD25119
Account: Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO
Collected: 08/02/18

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Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD25119-1	**PB-SG-13**					
Acetone		15.5	2.0	0.083	ppbv	TO-15
Acrolein		0.33 J	1.0	0.10	ppbv	TO-15
Acrylonitrile		0.076 J	1.0	0.067	ppbv	TO-15
Benzene		0.30 J	1.0	0.045	ppbv	TO-15
2-Butanone		1.7	1.0	0.047	ppbv	TO-15
Carbon disulfide		1.2	1.0	0.054	ppbv	TO-15
Carbon tetrachloride		0.072 J	1.0	0.045	ppbv	TO-15
Chloromethane		0.80 J	1.0	0.091	ppbv	TO-15
Cyclohexane		0.13 J	1.0	0.044	ppbv	TO-15
Dichlorodifluoromethane		0.39 J	1.0	0.056	ppbv	TO-15
Ethanol		136	10	0.74	ppbv	TO-15
Ethylbenzene		0.067 J	1.0	0.044	ppbv	TO-15
Ethyl Acetate		1.4	1.0	0.13	ppbv	TO-15
Heptane		0.14 J	1.0	0.038	ppbv	TO-15
Hexane		0.21 J	1.0	0.031	ppbv	TO-15
2-Hexanone		0.048 J	1.0	0.033	ppbv	TO-15
Isopropanol		4.0	2.0	0.038	ppbv	TO-15
Methylene chloride		0.48 J	1.0	0.088	ppbv	TO-15
4-Methyl-2-pentanone		0.14 J	1.0	0.016	ppbv	TO-15
Pentane		0.72 J	1.0	0.057	ppbv	TO-15
Propene		0.22 J	1.0	0.049	ppbv	TO-15
Styrene		0.20 J	1.0	0.047	ppbv	TO-15
1,1,2-Trichlorotrifluoroethane		0.074 J	1.0	0.059	ppbv	TO-15
1,2,4-Trimethylbenzene		0.096 J	1.0	0.020	ppbv	TO-15
2,2,4-Trimethylpentane		0.047 J	1.0	0.042	ppbv	TO-15
t-Butyl Alcohol		0.32 J	2.0	0.046	ppbv	TO-15
Tetrachloroethene		0.040 J	1.0	0.024	ppbv	TO-15
Tetrahydrofuran		0.57 J	1.0	0.13	ppbv	TO-15
Toluene		0.70 J	1.0	0.032	ppbv	TO-15
Trichlorofluoromethane		0.22 J	1.0	0.049	ppbv	TO-15
Vinyl acetate		0.20 J	1.0	0.045	ppbv	TO-15
m,p-Xylene		0.18 J	1.0	0.089	ppbv	TO-15
o-Xylene		0.085 J	1.0	0.032	ppbv	TO-15
Xylenes,Total		0.27 J	1.0		ppbv	TO-15
Acetone		36.8	4.8	0.20	ug/m3	TO-15
Acrolein		0.76 J	2.3	0.23	ug/m3	TO-15
Acrylonitrile		0.16 J	2.2	0.15	ug/m3	TO-15
Benzene		0.96 J	3.2	0.14	ug/m3	TO-15
2-Butanone		5.0	2.9	0.14	ug/m3	TO-15
Carbon disulfide		3.7	3.1	0.17	ug/m3	TO-15
Carbon tetrachloride		0.45 J	6.3	0.28	ug/m3	TO-15
Chloromethane		1.7 J	2.1	0.19	ug/m3	TO-15
Cyclohexane		0.45 J	3.4	0.15	ug/m3	TO-15

Summary of Hits

Job Number: TD25119
Account: Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO
Collected: 08/02/18

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Dichlorodifluoromethane	1.9 J	4.9	0.28	ug/m3	TO-15
Ethanol	256	19	1.4	ug/m3	TO-15
Ethylbenzene	0.29 J	4.3	0.19	ug/m3	TO-15
Ethyl Acetate	5.0	3.6	0.47	ug/m3	TO-15
Heptane	0.57 J	4.1	0.16	ug/m3	TO-15
Hexane	0.74 J	3.5	0.11	ug/m3	TO-15
2-Hexanone	0.20 J	4.1	0.13	ug/m3	TO-15
Isopropanol	9.8	4.9	0.093	ug/m3	TO-15
Methylene chloride	1.7 J	3.5	0.31	ug/m3	TO-15
4-Methyl-2-pentanone	0.57 J	4.1	0.066	ug/m3	TO-15
Pentane	2.1 J	2.9	0.17	ug/m3	TO-15
Propene	0.38 J	1.7	0.084	ug/m3	TO-15
Styrene	0.85 J	4.3	0.20	ug/m3	TO-15
1,1,2-Trichlorotrifluoroethane	0.57 J	7.7	0.45	ug/m3	TO-15
1,2,4-Trimethylbenzene	0.47 J	4.9	0.098	ug/m3	TO-15
2,2,4-Trimethylpentane	0.22 J	4.7	0.20	ug/m3	TO-15
t-Butyl Alcohol	0.97 J	6.1	0.14	ug/m3	TO-15
Tetrachloroethene	0.27 J	6.8	0.16	ug/m3	TO-15
Tetrahydrofuran	1.7 J	2.9	0.38	ug/m3	TO-15
Toluene	2.6 J	3.8	0.12	ug/m3	TO-15
Trichlorofluoromethane	1.2 J	5.6	0.28	ug/m3	TO-15
Vinyl acetate	0.70 J	3.5	0.16	ug/m3	TO-15
m,p-Xylene	0.78 J	4.3	0.39	ug/m3	TO-15
o-Xylene	0.37 J	4.3	0.14	ug/m3	TO-15
Xylenes,Total	1.2 J	4.3		ug/m3	TO-15
Methane	0.00023 J	0.0040	0.000080	mol%	ASTM D1946
TD25119-2 PB-SG-11					
Acetone	209	160	6.7	ppbv	TO-15
Benzene	169	80	3.6	ppbv	TO-15
2-Butanone	50.0 J	80	3.8	ppbv	TO-15
n-Butylbenzene	19.4 J	80	2.3	ppbv	TO-15
sec-Butylbenzene	28.4 J	80	3.0	ppbv	TO-15
Carbon disulfide	68.9 J	80	4.4	ppbv	TO-15
Chlorobenzene	4.6 J	80	3.1	ppbv	TO-15
Chloroethane	9.8 J	80	7.6	ppbv	TO-15
Cyclohexane	61.0 J	80	3.5	ppbv	TO-15
1,1-Dichloroethane	30.1 J	80	3.9	ppbv	TO-15
Dichlorodifluoromethane	7980	320	18	ppbv	TO-15
cis-1,2-Dichloroethene	25.0 J	80	3.1	ppbv	TO-15
1,4-Dichlorobenzene	114	80	2.7	ppbv	TO-15
1,2-Dichlorotetrafluoroethane	828	80	3.7	ppbv	TO-15
Ethanol	117 J	160	12	ppbv	TO-15
Ethylbenzene	355	80	3.5	ppbv	TO-15

Summary of Hits

Job Number: TD25119
Account: Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO
Collected: 08/02/18

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
4-Ethyltoluene	39.3 J	160	4.6	ppbv	TO-15
Heptane	151	80	3.1	ppbv	TO-15
Hexane	142	80	2.4	ppbv	TO-15
Isopropylbenzene	47.4 J	80	4.0	ppbv	TO-15
Isopropanol	29.6 J	160	3.1	ppbv	TO-15
p-Isopropyltoluene [a]	132	80	4.1	ppbv	TO-15
Methylene chloride	61.1 J	80	7.1	ppbv	TO-15
4-Methyl-2-pentanone	30.2 J	80	1.3	ppbv	TO-15
Naphthalene	11.5 J	80	3.8	ppbv	TO-15
Pentane	90.5	80	4.5	ppbv	TO-15
n-Propylbenzene	63.9 J	80	4.3	ppbv	TO-15
Propene	298	80	3.9	ppbv	TO-15
1,2,4-Trimethylbenzene	319	80	1.6	ppbv	TO-15
1,3,5-Trimethylbenzene	171	80	2.1	ppbv	TO-15
t-Butyl Alcohol	9.0 J	160	3.6	ppbv	TO-15
Tetrachloroethene	7.0 J	80	2.0	ppbv	TO-15
Tetrahydrofuran	18.5 J	80	10	ppbv	TO-15
Toluene	157	80	2.5	ppbv	TO-15
Trichloroethene	9.1 J	80	3.8	ppbv	TO-15
Vinyl chloride	32.2 J	80	4.4	ppbv	TO-15
m,p-Xylene	495	80	7.1	ppbv	TO-15
o-Xylene	286	80	2.5	ppbv	TO-15
Xylenes,Total	781	80		ppbv	TO-15
Acetone	496	380	16	ug/m3	TO-15
Benzene	540	260	12	ug/m3	TO-15
2-Butanone	147 J	240	11	ug/m3	TO-15
n-Butylbenzene	106 J	440	13	ug/m3	TO-15
sec-Butylbenzene	156 J	440	16	ug/m3	TO-15
Carbon disulfide	215 J	250	14	ug/m3	TO-15
Chlorobenzene	21 J	370	14	ug/m3	TO-15
Chloroethane	26 J	210	20	ug/m3	TO-15
Cyclohexane	210 J	280	12	ug/m3	TO-15
1,1-Dichloroethane	122 J	320	16	ug/m3	TO-15
Dichlorodifluoromethane	39500	1600	89	ug/m3	TO-15
cis-1,2-Dichloroethene	99.1 J	320	12	ug/m3	TO-15
1,4-Dichlorobenzene	685	480	16	ug/m3	TO-15
1,2-Dichlorotetrafluoroethane	5790	560	26	ug/m3	TO-15
Ethanol	220 J	300	23	ug/m3	TO-15
Ethylbenzene	1540	350	15	ug/m3	TO-15
4-Ethyltoluene	193 J	790	23	ug/m3	TO-15
Heptane	619	330	13	ug/m3	TO-15
Hexane	500	280	8.5	ug/m3	TO-15
Isopropylbenzene	233 J	390	20	ug/m3	TO-15
Isopropanol	72.6 J	390	7.6	ug/m3	TO-15
p-Isopropyltoluene [a]	723	440	22	ug/m3	TO-15

Summary of Hits

Job Number: TD25119
Account: Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO
Collected: 08/02/18

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Methylene chloride	212 J	280	25	ug/m3	TO-15
4-Methyl-2-pentanone	124 J	330	5.3	ug/m3	TO-15
Naphthalene	60.3 J	420	20	ug/m3	TO-15
Pentane	267	240	13	ug/m3	TO-15
n-Propylbenzene	314 J	390	21	ug/m3	TO-15
Propene	512	140	6.7	ug/m3	TO-15
1,2,4-Trimethylbenzene	1570	390	7.9	ug/m3	TO-15
1,3,5-Trimethylbenzene	841	390	10	ug/m3	TO-15
t-Butyl Alcohol	27 J	490	11	ug/m3	TO-15
Tetrachloroethene	47 J	540	14	ug/m3	TO-15
Tetrahydrofuran	54.5 J	240	29	ug/m3	TO-15
Toluene	592	300	9.4	ug/m3	TO-15
Trichloroethene	49 J	430	20	ug/m3	TO-15
Vinyl chloride	82.3 J	200	11	ug/m3	TO-15
m,p-Xylene	2150	350	31	ug/m3	TO-15
o-Xylene	1240	350	11	ug/m3	TO-15
Xylenes,Total	3390	350		ug/m3	TO-15
Methane	18.2	0.0040	0.000080	mol%	ASTM D1946
TD25119-3 PB-SG-01					
Acetone	16.0	2.0	0.083	ppbv	TO-15
Acrolein	0.36 J	1.0	0.10	ppbv	TO-15
Acrylonitrile	0.082 J	1.0	0.067	ppbv	TO-15
Benzene	0.29 J	1.0	0.045	ppbv	TO-15
2-Butanone	1.8	1.0	0.047	ppbv	TO-15
Carbon disulfide	1.0	1.0	0.054	ppbv	TO-15
Carbon tetrachloride	0.076 J	1.0	0.045	ppbv	TO-15
Chloromethane	0.80 J	1.0	0.091	ppbv	TO-15
Cyclohexane	0.25 J	1.0	0.044	ppbv	TO-15
Dichlorodifluoromethane	0.42 J	1.0	0.056	ppbv	TO-15
Ethanol	124	10	0.74	ppbv	TO-15
Ethylbenzene	0.10 J	1.0	0.044	ppbv	TO-15
Ethyl Acetate	1.4	1.0	0.13	ppbv	TO-15
Heptane	0.17 J	1.0	0.038	ppbv	TO-15
Hexane	0.25 J	1.0	0.031	ppbv	TO-15
2-Hexanone	0.047 J	1.0	0.033	ppbv	TO-15
Isopropanol	4.6	2.0	0.038	ppbv	TO-15
Methylene chloride	0.49 J	1.0	0.088	ppbv	TO-15
4-Methyl-2-pentanone	0.14 J	1.0	0.016	ppbv	TO-15
Naphthalene	0.052 J	1.0	0.047	ppbv	TO-15
Pentane	0.82 J	1.0	0.057	ppbv	TO-15
Propene	0.24 J	1.0	0.049	ppbv	TO-15
Styrene	0.20 J	1.0	0.047	ppbv	TO-15
1,1,2-Trichlorotrifluoroethane	0.066 J	1.0	0.059	ppbv	TO-15

Summary of Hits

Job Number: TD25119
Account: Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO
Collected: 08/02/18

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Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
1,2,4-Trimethylbenzene	0.11 J	1.0	0.020	ppbv	TO-15
2,2,4-Trimethylpentane	0.050 J	1.0	0.042	ppbv	TO-15
t-Butyl Alcohol	0.35 J	2.0	0.046	ppbv	TO-15
Tetrachloroethene	0.061 J	1.0	0.024	ppbv	TO-15
Tetrahydrofuran	0.50 J	1.0	0.13	ppbv	TO-15
Toluene	0.78 J	1.0	0.032	ppbv	TO-15
Trichlorofluoromethane	0.21 J	1.0	0.049	ppbv	TO-15
Vinyl acetate	0.21 J	1.0	0.045	ppbv	TO-15
m,p-Xylene	0.22 J	1.0	0.089	ppbv	TO-15
o-Xylene	0.12 J	1.0	0.032	ppbv	TO-15
Xylenes,Total	0.33 J	1.0		ppbv	TO-15
Acetone	38.0	4.8	0.20	ug/m3	TO-15
Acrolein	0.82 J	2.3	0.23	ug/m3	TO-15
Acrylonitrile	0.18 J	2.2	0.15	ug/m3	TO-15
Benzene	0.93 J	3.2	0.14	ug/m3	TO-15
2-Butanone	5.3	2.9	0.14	ug/m3	TO-15
Carbon disulfide	3.1	3.1	0.17	ug/m3	TO-15
Carbon tetrachloride	0.48 J	6.3	0.28	ug/m3	TO-15
Chloromethane	1.7 J	2.1	0.19	ug/m3	TO-15
Cyclohexane	0.86 J	3.4	0.15	ug/m3	TO-15
Dichlorodifluoromethane	2.1 J	4.9	0.28	ug/m3	TO-15
Ethanol	233	19	1.4	ug/m3	TO-15
Ethylbenzene	0.43 J	4.3	0.19	ug/m3	TO-15
Ethyl Acetate	5.0	3.6	0.47	ug/m3	TO-15
Heptane	0.70 J	4.1	0.16	ug/m3	TO-15
Hexane	0.88 J	3.5	0.11	ug/m3	TO-15
2-Hexanone	0.19 J	4.1	0.13	ug/m3	TO-15
Isopropanol	11	4.9	0.093	ug/m3	TO-15
Methylene chloride	1.7 J	3.5	0.31	ug/m3	TO-15
4-Methyl-2-pentanone	0.57 J	4.1	0.066	ug/m3	TO-15
Naphthalene	0.27 J	5.2	0.25	ug/m3	TO-15
Pentane	2.4 J	2.9	0.17	ug/m3	TO-15
Propene	0.41 J	1.7	0.084	ug/m3	TO-15
Styrene	0.85 J	4.3	0.20	ug/m3	TO-15
1,1,2-Trichlorotrifluoroethane	0.51 J	7.7	0.45	ug/m3	TO-15
1,2,4-Trimethylbenzene	0.54 J	4.9	0.098	ug/m3	TO-15
2,2,4-Trimethylpentane	0.23 J	4.7	0.20	ug/m3	TO-15
t-Butyl Alcohol	1.1 J	6.1	0.14	ug/m3	TO-15
Tetrachloroethene	0.41 J	6.8	0.16	ug/m3	TO-15
Tetrahydrofuran	1.5 J	2.9	0.38	ug/m3	TO-15
Toluene	2.9 J	3.8	0.12	ug/m3	TO-15
Trichlorofluoromethane	1.2 J	5.6	0.28	ug/m3	TO-15
Vinyl acetate	0.74 J	3.5	0.16	ug/m3	TO-15
m,p-Xylene	0.96 J	4.3	0.39	ug/m3	TO-15
o-Xylene	0.52 J	4.3	0.14	ug/m3	TO-15

Summary of Hits

Job Number: TD25119
Account: Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO
Collected: 08/02/18

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Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Xylenes,Total		1.4 J	4.3		ug/m3	TO-15
Methane		0.00019 J	0.0040	0.000080	mol%	ASTM D1946
TD25119-4	**PB-SG-03**					
Acetone		197	10	0.42	ppbv	TO-15
Acrolein		0.19 J	1.0	0.10	ppbv	TO-15
Benzene		0.054 J	1.0	0.045	ppbv	TO-15
Bromomethane		0.076 J	1.0	0.039	ppbv	TO-15
2-Butanone		7.3	1.0	0.047	ppbv	TO-15
n-Butylbenzene		0.029 J	1.0	0.028	ppbv	TO-15
Carbon disulfide		0.27 J	1.0	0.054	ppbv	TO-15
Chloroform		0.22 J	1.0	0.039	ppbv	TO-15
Chloromethane		0.15 J	1.0	0.091	ppbv	TO-15
Cyclohexane		0.097 J	1.0	0.044	ppbv	TO-15
Dichlorodifluoromethane		9.5	1.0	0.056	ppbv	TO-15
1,2-Dichlorotetrafluoroethane		9.9	1.0	0.046	ppbv	TO-15
Ethanol		1.5 J	2.0	0.15	ppbv	TO-15
Ethylbenzene		0.067 J	1.0	0.044	ppbv	TO-15
Ethyl Acetate		0.43 J	1.0	0.13	ppbv	TO-15
Heptane		0.23 J	1.0	0.038	ppbv	TO-15
Hexane		0.23 J	1.0	0.031	ppbv	TO-15
2-Hexanone		2.1	1.0	0.033	ppbv	TO-15
Isopropanol		2.4	2.0	0.038	ppbv	TO-15
Methylene chloride		0.38 J	1.0	0.088	ppbv	TO-15
4-Methyl-2-pentanone		0.077 J	1.0	0.016	ppbv	TO-15
Naphthalene		0.14 J	1.0	0.047	ppbv	TO-15
Pentane		3.0	1.0	0.057	ppbv	TO-15
Propene		3.2	1.0	0.049	ppbv	TO-15
Styrene		0.055 J	1.0	0.047	ppbv	TO-15
1,2,4-Trimethylbenzene		0.30 J	1.0	0.020	ppbv	TO-15
1,3,5-Trimethylbenzene		0.062 J	1.0	0.026	ppbv	TO-15
t-Butyl Alcohol		1.0 J	2.0	0.046	ppbv	TO-15
Tetrachloroethene		0.63 J	1.0	0.024	ppbv	TO-15
Toluene		0.35 J	1.0	0.032	ppbv	TO-15
Trichlorofluoromethane		0.24 J	1.0	0.049	ppbv	TO-15
Vinyl acetate		0.28 J	1.0	0.045	ppbv	TO-15
m,p-Xylene		0.29 J	1.0	0.089	ppbv	TO-15
o-Xylene		0.14 J	1.0	0.032	ppbv	TO-15
Xylenes,Total		0.43 J	1.0		ppbv	TO-15
Acetone		468	24	1.0	ug/m3	TO-15
Acrolein		0.44 J	2.3	0.23	ug/m3	TO-15
Benzene		0.17 J	3.2	0.14	ug/m3	TO-15
Bromomethane		0.30 J	3.9	0.15	ug/m3	TO-15
2-Butanone		22	2.9	0.14	ug/m3	TO-15

Summary of Hits

Job Number: TD25119
Account: Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO
Collected: 08/02/18

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
n-Butylbenzene	0.16 J	5.5	0.15	ug/m3	TO-15
Carbon disulfide	0.84 J	3.1	0.17	ug/m3	TO-15
Chloroform	1.1 J	4.9	0.19	ug/m3	TO-15
Chloromethane	0.31 J	2.1	0.19	ug/m3	TO-15
Cyclohexane	0.33 J	3.4	0.15	ug/m3	TO-15
Dichlorodifluoromethane	47	4.9	0.28	ug/m3	TO-15
1,2-Dichlorotetrafluoroethane	69	7.0	0.32	ug/m3	TO-15
Ethanol	2.8 J	3.8	0.28	ug/m3	TO-15
Ethylbenzene	0.29 J	4.3	0.19	ug/m3	TO-15
Ethyl Acetate	1.5 J	3.6	0.47	ug/m3	TO-15
Heptane	0.94 J	4.1	0.16	ug/m3	TO-15
Hexane	0.81 J	3.5	0.11	ug/m3	TO-15
2-Hexanone	8.6	4.1	0.13	ug/m3	TO-15
Isopropanol	5.9	4.9	0.093	ug/m3	TO-15
Methylene chloride	1.3 J	3.5	0.31	ug/m3	TO-15
4-Methyl-2-pentanone	0.32 J	4.1	0.066	ug/m3	TO-15
Naphthalene	0.73 J	5.2	0.25	ug/m3	TO-15
Pentane	8.8	2.9	0.17	ug/m3	TO-15
Propene	5.5	1.7	0.084	ug/m3	TO-15
Styrene	0.23 J	4.3	0.20	ug/m3	TO-15
1,2,4-Trimethylbenzene	1.5 J	4.9	0.098	ug/m3	TO-15
1,3,5-Trimethylbenzene	0.30 J	4.9	0.13	ug/m3	TO-15
t-Butyl Alcohol	3.0 J	6.1	0.14	ug/m3	TO-15
Tetrachloroethene	4.3 J	6.8	0.16	ug/m3	TO-15
Toluene	1.3 J	3.8	0.12	ug/m3	TO-15
Trichlorofluoromethane	1.3 J	5.6	0.28	ug/m3	TO-15
Vinyl acetate	0.98 J	3.5	0.16	ug/m3	TO-15
m,p-Xylene	1.3 J	4.3	0.39	ug/m3	TO-15
o-Xylene	0.61 J	4.3	0.14	ug/m3	TO-15
Xylenes,Total	1.9 J	4.3		ug/m3	TO-15
Methane	0.00018 J	0.0040	0.000080	mol%	ASTM D1946

(a) Not NELAC certified.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: PB-SG-13
Lab Sample ID: TD25119-1
Matrix: AIR - Air Summa ID: A391
Method: TO-15
Project: Place Bridge, 1400 South Oneida, Denver, CO

Date Sampled: 08/02/18
Date Received: 08/03/18
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A1808074.D	2	08/03/18 22:39	KS	n/a	n/a	V1A1239
Run #2	1A1808066.D	10	08/03/18 17:23	KS	n/a	n/a	V1A1239

	Initial Volume
Run #1	400 ml
Run #2	400 ml

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	15.5	2.0	0.083	ppbv		36.8	4.8	0.20	ug/m3
107-02-8	56	Acrolein	0.33	1.0	0.10	ppbv	J	0.76	2.3	0.23	ug/m3
107-13-1	53	Acrylonitrile	0.076	1.0	0.067	ppbv	J	0.16	2.2	0.15	ug/m3
107-05-1	76.53	Allyl chloride	ND	2.0	0.12	ppbv		ND	6.3	0.38	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	2.0	0.094	ppbv		ND	4.4	0.21	ug/m3
71-43-2	78.11	Benzene	0.30	1.0	0.045	ppbv	J	0.96	3.2	0.14	ug/m3
100-44-7	126	Benzyl Chloride	ND	1.0	0.020	ppbv		ND	5.2	0.10	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	1.0	0.043	ppbv		ND	6.7	0.29	ug/m3
75-25-2	252.8	Bromoform	ND	1.0	0.052	ppbv		ND	10	0.54	ug/m3
74-83-9	94.94	Bromomethane	ND	1.0	0.039	ppbv		ND	3.9	0.15	ug/m3
78-93-3	72.11	2-Butanone	1.7	1.0	0.047	ppbv		5.0	2.9	0.14	ug/m3
104-51-8	134	n-Butylbenzene	ND	1.0	0.028	ppbv		ND	5.5	0.15	ug/m3
135-98-8	134	sec-Butylbenzene	ND	1.0	0.037	ppbv		ND	5.5	0.20	ug/m3
75-15-0	76.14	Carbon disulfide	1.2	1.0	0.054	ppbv		3.7	3.1	0.17	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.072	1.0	0.045	ppbv	J	0.45	6.3	0.28	ug/m3
108-90-7	112.6	Chlorobenzene	ND	1.0	0.038	ppbv		ND	4.6	0.18	ug/m3
75-00-3	64.52	Chloroethane	ND	1.0	0.095	ppbv		ND	2.6	0.25	ug/m3
67-66-3	119.4	Chloroform	ND	1.0	0.039	ppbv		ND	4.9	0.19	ug/m3
74-87-3	50.49	Chloromethane	0.80	1.0	0.091	ppbv	J	1.7	2.1	0.19	ug/m3
110-82-7	84.16	Cyclohexane	0.13	1.0	0.044	ppbv	J	0.45	3.4	0.15	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	1.0	0.032	ppbv		ND	8.5	0.27	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	1.0	0.049	ppbv		ND	4.0	0.20	ug/m3
75-35-4	96.94	1,1-Dichloroethene	ND	1.0	0.087	ppbv		ND	4.0	0.34	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	1.0	0.045	ppbv		ND	7.7	0.35	ug/m3
557-91-5	187.9	1,1-Dibromoethane [a]	ND	1.0	0.041	ppbv		ND	7.7	0.32	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	1.0	0.057	ppbv		ND	4.0	0.23	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	1.0	0.049	ppbv		ND	4.6	0.23	ug/m3
123-91-1	88	1,4-Dioxane	ND	1.0	0.052	ppbv		ND	3.6	0.19	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.39	1.0	0.056	ppbv	J	1.9	4.9	0.28	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethene	ND	1.0	0.044	ppbv		ND	4.0	0.17	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethene	ND	1.0	0.039	ppbv		ND	4.0	0.15	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	1.0	0.044	ppbv		ND	4.5	0.20	ug/m3

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-13		
Lab Sample ID:	TD25119-1	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A391	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
95-50-1	147	1,2-Dichlorobenzene	ND	1.0	0.033	ppbv		ND	6.0	0.20	ug/m3
541-73-1	147	1,3-Dichlorobenzene	ND	1.0	0.025	ppbv		ND	6.0	0.15	ug/m3
106-46-7	147	1,4-Dichlorobenzene	ND	1.0	0.033	ppbv		ND	6.0	0.20	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	1.0	0.028	ppbv		ND	4.5	0.13	ug/m3
76-14-2	170.9	1,2-Dichlorotetrafluoroethane	ND	1.0	0.046	ppbv		ND	7.0	0.32	ug/m3
108-20-3	102	Di-Isopropyl ether	ND	2.0	0.035	ppbv		ND	8.3	0.15	ug/m3
64-17-5	46	Ethanol	136 [b]	10	0.74	ppbv		256 [b]	19	1.4	ug/m3
100-41-4	106.2	Ethylbenzene	0.067	1.0	0.044	ppbv	J	0.29	4.3	0.19	ug/m3
141-78-6	88	Ethyl Acetate	1.4	1.0	0.13	ppbv		5.0	3.6	0.47	ug/m3
637-92-3	102	Ethyl tert-Butyl Ether	ND	2.0	0.035	ppbv		ND	8.3	0.15	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	2.0	0.058	ppbv		ND	9.8	0.29	ug/m3
142-82-5	100.2	Heptane	0.14	1.0	0.038	ppbv	J	0.57	4.1	0.16	ug/m3
87-68-3	260.8	Hexachloro-1,3-butadiene	ND	1.0	0.025	ppbv		ND	11	0.27	ug/m3
110-54-3	86.17	Hexane	0.21	1.0	0.031	ppbv	J	0.74	3.5	0.11	ug/m3
591-78-6	100	2-Hexanone	0.048	1.0	0.033	ppbv	J	0.20	4.1	0.13	ug/m3
98-82-8	120	Isopropylbenzene	ND	1.0	0.050	ppbv		ND	4.9	0.25	ug/m3
67-63-0	60	Isopropanol	4.0	2.0	0.038	ppbv		9.8	4.9	0.093	ug/m3
99-87-6	134	p-Isopropyltoluene [a]	ND	1.0	0.051	ppbv		ND	5.5	0.28	ug/m3
75-09-2	84.94	Methylene chloride	0.48	1.0	0.088	ppbv	J	1.7	3.5	0.31	ug/m3
108-10-1	100.2	4-Methyl-2-pentanone	0.14	1.0	0.016	ppbv	J	0.57	4.1	0.066	ug/m3
1634-04-4	88.15	Methyl Tert-Butyl Ether	ND	1.0	0.049	ppbv		ND	3.6	0.18	ug/m3
80-62-6	100	Methyl methacrylate	ND	1.0	0.048	ppbv		ND	4.1	0.20	ug/m3
91-20-3	128.17	Naphthalene	ND	1.0	0.047	ppbv		ND	5.2	0.25	ug/m3
109-66-0	72	Pentane	0.72	1.0	0.057	ppbv	J	2.1	2.9	0.17	ug/m3
103-65-1	120	n-Propylbenzene	ND	1.0	0.054	ppbv		ND	4.9	0.27	ug/m3
115-07-1	42	Propene	0.22	1.0	0.049	ppbv	J	0.38	1.7	0.084	ug/m3
100-42-5	104.1	Styrene	0.20	1.0	0.047	ppbv	J	0.85	4.3	0.20	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	1.0	0.035	ppbv		ND	6.9	0.24	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	1.0	0.043	ppbv		ND	5.5	0.23	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	1.0	0.085	ppbv		ND	5.5	0.46	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	1.0	0.022	ppbv		ND	7.4	0.16	ug/m3
76-13-1	187.4	1,1,2-Trichlorotrifluoroethane	0.074	1.0	0.059	ppbv	J	0.57	7.7	0.45	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.096	1.0	0.020	ppbv	J	0.47	4.9	0.098	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	1.0	0.026	ppbv		ND	4.9	0.13	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.047	1.0	0.042	ppbv	J	0.22	4.7	0.20	ug/m3
75-65-0	74.12	t-Butyl Alcohol	0.32	2.0	0.046	ppbv	J	0.97	6.1	0.14	ug/m3
994-05-8	102	tert Amyl Methyl Ether	ND	2.0	0.023	ppbv		ND	8.3	0.096	ug/m3
127-18-4	165.8	Tetrachloroethene	0.040	1.0	0.024	ppbv	J	0.27	6.8	0.16	ug/m3
109-99-9	72	Tetrahydrofuran	0.57	1.0	0.13	ppbv	J	1.7	2.9	0.38	ug/m3
108-88-3	92.14	Toluene	0.70	1.0	0.032	ppbv	J	2.6	3.8	0.12	ug/m3

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RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-13		
Lab Sample ID:	TD25119-1	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A391	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethene	ND	1.0	0.047	ppbv		ND	5.4	0.25	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.22	1.0	0.049	ppbv	J	1.2	5.6	0.28	ug/m3
108-05-4	86	Vinyl acetate	0.20	1.0	0.045	ppbv	J	0.70	3.5	0.16	ug/m3
593-60-2	106.9	Vinyl Bromide	ND	1.0	0.059	ppbv		ND	4.4	0.26	ug/m3
75-01-4	62.5	Vinyl chloride	ND	1.0	0.055	ppbv		ND	2.6	0.14	ug/m3
	106.2	m,p-Xylene	0.18	1.0	0.089	ppbv	J	0.78	4.3	0.39	ug/m3
95-47-6	106.2	o-Xylene	0.085	1.0	0.032	ppbv	J	0.37	4.3	0.14	ug/m3
1330-20-7	106.2	Xylenes,Total	0.27	1.0		ppbv	J	1.2	4.3		ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%	89%	65-128%

(a) Not NELAC certified.
(b) Result is from Run# 2

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E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SG-13		
Lab Sample ID:	TD25119-1	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A391	**Date Received:**	08/03/18
Method:	ASTM D1946	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XF18080021.D	2	08/03/18 15:39	KS	n/a	n/a	GXF103
Run #2							

	Initial Volume
Run #1	1.0 ml
Run #2	

ASTM Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.00023	0.0040	0.000080	mol%	J

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SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SG-11		
Lab Sample ID:	TD25119-2	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: M445	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A1808138.D	160	08/06/18 14:55	KS	n/a	n/a	V1A1242
Run #2	1A1808084.D	640	08/04/18 07:26	KS	n/a	n/a	V1A1239

	Initial Volume
Run #1	400 ml
Run #2	400 ml

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	209	160	6.7	ppbv		496	380	16	ug/m3
107-02-8	56	Acrolein	ND	80	8.1	ppbv		ND	180	19	ug/m3
107-13-1	53	Acrylonitrile	ND	80	5.4	ppbv		ND	170	12	ug/m3
107-05-1	76.53	Allyl chloride	ND	160	9.7	ppbv		ND	500	30	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	160	7.5	ppbv		ND	350	17	ug/m3
71-43-2	78.11	Benzene	169	80	3.6	ppbv		540	260	12	ug/m3
100-44-7	126	Benzyl Chloride	ND	80	1.6	ppbv		ND	410	8.2	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	80	3.4	ppbv		ND	540	23	ug/m3
75-25-2	252.8	Bromoform	ND	80	4.2	ppbv		ND	830	43	ug/m3
74-83-9	94.94	Bromomethane	ND	80	3.2	ppbv		ND	310	12	ug/m3
78-93-3	72.11	2-Butanone	50.0	80	3.8	ppbv	J	147	240	11	ug/m3
104-51-8	134	n-Butylbenzene	19.4	80	2.3	ppbv	J	106	440	13	ug/m3
135-98-8	134	sec-Butylbenzene	28.4	80	3.0	ppbv	J	156	440	16	ug/m3
75-15-0	76.14	Carbon disulfide	68.9	80	4.4	ppbv	J	215	250	14	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	80	3.6	ppbv		ND	500	23	ug/m3
108-90-7	112.6	Chlorobenzene	4.6	80	3.1	ppbv	J	21	370	14	ug/m3
75-00-3	64.52	Chloroethane	9.8	80	7.6	ppbv	J	26	210	20	ug/m3
67-66-3	119.4	Chloroform	ND	80	3.2	ppbv		ND	390	16	ug/m3
74-87-3	50.49	Chloromethane	ND	80	7.2	ppbv		ND	170	15	ug/m3
110-82-7	84.16	Cyclohexane	61.0	80	3.5	ppbv	J	210	280	12	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	80	2.6	ppbv		ND	680	22	ug/m3
75-34-3	98.96	1,1-Dichloroethane	30.1	80	3.9	ppbv	J	122	320	16	ug/m3
75-35-4	96.94	1,1-Dichloroethene	ND	80	6.9	ppbv		ND	320	27	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	80	3.6	ppbv		ND	610	28	ug/m3
557-91-5	187.9	1,1-Dibromoethane [a]	ND	80	3.3	ppbv		ND	610	25	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	80	4.5	ppbv		ND	320	18	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	80	3.9	ppbv		ND	370	18	ug/m3
123-91-1	88	1,4-Dioxane	ND	80	4.2	ppbv		ND	290	15	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	7980 [b]	320	18	ppbv		39500 [b]	1600	89	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethene	ND	80	3.5	ppbv		ND	320	14	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethene	25.0	80	3.1	ppbv	J	99.1	320	12	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	80	3.5	ppbv		ND	360	16	ug/m3

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E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-11		
Lab Sample ID:	TD25119-2	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: M445	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
95-50-1	147	1,2-Dichlorobenzene	ND	80	2.7	ppbv		ND	480	16	ug/m3
541-73-1	147	1,3-Dichlorobenzene	ND	80	2.0	ppbv		ND	480	12	ug/m3
106-46-7	147	1,4-Dichlorobenzene	114	80	2.7	ppbv		685	480	16	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	80	2.2	ppbv		ND	360	10	ug/m3
76-14-2	170.9	1,2-Dichlorotetrafluoroethane	828	80	3.7	ppbv		5790	560	26	ug/m3
108-20-3	102	Di-Isopropyl ether	ND	160	2.8	ppbv		ND	670	12	ug/m3
64-17-5	46	Ethanol	117	160	12	ppbv	J	220	300	23	ug/m3
100-41-4	106.2	Ethylbenzene	355	80	3.5	ppbv		1540	350	15	ug/m3
141-78-6	88	Ethyl Acetate	ND	80	10	ppbv		ND	290	36	ug/m3
637-92-3	102	Ethyl tert-Butyl Ether	ND	160	2.8	ppbv		ND	670	12	ug/m3
622-96-8	120.2	4-Ethyltoluene	39.3	160	4.6	ppbv	J	193	790	23	ug/m3
142-82-5	100.2	Heptane	151	80	3.1	ppbv		619	330	13	ug/m3
87-68-3	260.8	Hexachloro-1,3-butadiene	ND	80	2.0	ppbv		ND	850	21	ug/m3
110-54-3	86.17	Hexane	142	80	2.4	ppbv		500	280	8.5	ug/m3
591-78-6	100	2-Hexanone	ND	80	2.7	ppbv		ND	330	11	ug/m3
98-82-8	120	Isopropylbenzene	47.4	80	4.0	ppbv	J	233	390	20	ug/m3
67-63-0	60	Isopropanol	29.6	160	3.1	ppbv	J	72.6	390	7.6	ug/m3
99-87-6	134	p-Isopropyltoluene [a]	132	80	4.1	ppbv		723	440	22	ug/m3
75-09-2	84.94	Methylene chloride	61.1	80	7.1	ppbv	J	212	280	25	ug/m3
108-10-1	100.2	4-Methyl-2-pentanone	30.2	80	1.3	ppbv	J	124	330	5.3	ug/m3
1634-04-4	88.15	Methyl Tert-Butyl Ether	ND	80	3.9	ppbv		ND	290	14	ug/m3
80-62-6	100	Methyl methacrylate	ND	80	3.8	ppbv		ND	330	16	ug/m3
91-20-3	128.17	Naphthalene	11.5	80	3.8	ppbv	J	60.3	420	20	ug/m3
109-66-0	72	Pentane	90.5	80	4.5	ppbv		267	240	13	ug/m3
103-65-1	120	n-Propylbenzene	63.9	80	4.3	ppbv	J	314	390	21	ug/m3
115-07-1	42	Propene	298	80	3.9	ppbv		512	140	6.7	ug/m3
100-42-5	104.1	Styrene	ND	80	3.7	ppbv		ND	340	16	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	80	2.8	ppbv		ND	550	19	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	80	3.4	ppbv		ND	440	19	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	80	6.8	ppbv		ND	440	37	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	80	1.8	ppbv		ND	590	13	ug/m3
76-13-1	187.4	1,1,2-Trichlorotrifluoroethane	ND	80	4.7	ppbv		ND	610	36	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	319	80	1.6	ppbv		1570	390	7.9	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	171	80	2.1	ppbv		841	390	10	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	80	3.3	ppbv		ND	370	15	ug/m3
75-65-0	74.12	t-Butyl Alcohol	9.0	160	3.6	ppbv	J	27	490	11	ug/m3
994-05-8	102	tert Amyl Methyl Ether	ND	160	1.8	ppbv		ND	670	7.5	ug/m3
127-18-4	165.8	Tetrachloroethene	7.0	80	2.0	ppbv	J	47	540	14	ug/m3
109-99-9	72	Tetrahydrofuran	18.5	80	10	ppbv	J	54.5	240	29	ug/m3
108-88-3	92.14	Toluene	157	80	2.5	ppbv		592	300	9.4	ug/m3

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-11		
Lab Sample ID:	TD25119-2	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: M445	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethene	9.1	80	3.8	ppbv	J	49	430	20	ug/m3
75-69-4	137.4	Trichlorofluoromethane	ND	80	4.0	ppbv		ND	450	22	ug/m3
108-05-4	86	Vinyl acetate	ND	80	3.6	ppbv		ND	280	13	ug/m3
593-60-2	106.9	Vinyl Bromide	ND	80	4.8	ppbv		ND	350	21	ug/m3
75-01-4	62.5	Vinyl chloride	32.2	80	4.4	ppbv	J	82.3	200	11	ug/m3
	106.2	m,p-Xylene	495	80	7.1	ppbv		2150	350	31	ug/m3
95-47-6	106.2	o-Xylene	286	80	2.5	ppbv		1240	350	11	ug/m3
1330-20-7	106.2	Xylenes,Total	781	80		ppbv		3390	350		ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%	98%	65-128%

(a) Not NELAC certified.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SG-11		
Lab Sample ID:	TD25119-2	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: M445	**Date Received:**	08/03/18
Method:	ASTM D1946	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XF18080024.D	2	08/03/18 17:06	KS	n/a	n/a	GXF103
Run #2							

	Initial Volume
Run #1	1.0 ml
Run #2	

ASTM Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	18.2	0.0040	0.000080	mol%	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SG-01		
Lab Sample ID:	TD25119-3	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A624	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A1808075.D	2	08/03/18 23:25	KS	n/a	n/a	V1A1239
Run #2	1A1808067.D	10	08/03/18 18:01	KS	n/a	n/a	V1A1239

	Initial Volume
Run #1	400 ml
Run #2	400 ml

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	16.0	2.0	0.083	ppbv		38.0	4.8	0.20	ug/m3
107-02-8	56	Acrolein	0.36	1.0	0.10	ppbv	J	0.82	2.3	0.23	ug/m3
107-13-1	53	Acrylonitrile	0.082	1.0	0.067	ppbv	J	0.18	2.2	0.15	ug/m3
107-05-1	76.53	Allyl chloride	ND	2.0	0.12	ppbv		ND	6.3	0.38	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	2.0	0.094	ppbv		ND	4.4	0.21	ug/m3
71-43-2	78.11	Benzene	0.29	1.0	0.045	ppbv	J	0.93	3.2	0.14	ug/m3
100-44-7	126	Benzyl Chloride	ND	1.0	0.020	ppbv		ND	5.2	0.10	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	1.0	0.043	ppbv		ND	6.7	0.29	ug/m3
75-25-2	252.8	Bromoform	ND	1.0	0.052	ppbv		ND	10	0.54	ug/m3
74-83-9	94.94	Bromomethane	ND	1.0	0.039	ppbv		ND	3.9	0.15	ug/m3
78-93-3	72.11	2-Butanone	1.8	1.0	0.047	ppbv		5.3	2.9	0.14	ug/m3
104-51-8	134	n-Butylbenzene	ND	1.0	0.028	ppbv		ND	5.5	0.15	ug/m3
135-98-8	134	sec-Butylbenzene	ND	1.0	0.037	ppbv		ND	5.5	0.20	ug/m3
75-15-0	76.14	Carbon disulfide	1.0	1.0	0.054	ppbv		3.1	3.1	0.17	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.076	1.0	0.045	ppbv	J	0.48	6.3	0.28	ug/m3
108-90-7	112.6	Chlorobenzene	ND	1.0	0.038	ppbv		ND	4.6	0.18	ug/m3
75-00-3	64.52	Chloroethane	ND	1.0	0.095	ppbv		ND	2.6	0.25	ug/m3
67-66-3	119.4	Chloroform	ND	1.0	0.039	ppbv		ND	4.9	0.19	ug/m3
74-87-3	50.49	Chloromethane	0.80	1.0	0.091	ppbv	J	1.7	2.1	0.19	ug/m3
110-82-7	84.16	Cyclohexane	0.25	1.0	0.044	ppbv	J	0.86	3.4	0.15	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	1.0	0.032	ppbv		ND	8.5	0.27	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	1.0	0.049	ppbv		ND	4.0	0.20	ug/m3
75-35-4	96.94	1,1-Dichloroethene	ND	1.0	0.087	ppbv		ND	4.0	0.34	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	1.0	0.045	ppbv		ND	7.7	0.35	ug/m3
557-91-5	187.9	1,1-Dibromoethane [a]	ND	1.0	0.041	ppbv		ND	7.7	0.32	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	1.0	0.057	ppbv		ND	4.0	0.23	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	1.0	0.049	ppbv		ND	4.6	0.23	ug/m3
123-91-1	88	1,4-Dioxane	ND	1.0	0.052	ppbv		ND	3.6	0.19	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.42	1.0	0.056	ppbv	J	2.1	4.9	0.28	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethene	ND	1.0	0.044	ppbv		ND	4.0	0.17	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethene	ND	1.0	0.039	ppbv		ND	4.0	0.15	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	1.0	0.044	ppbv		ND	4.5	0.20	ug/m3

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-01		
Lab Sample ID:	TD25119-3	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A624	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
95-50-1	147	1,2-Dichlorobenzene	ND	1.0	0.033	ppbv		ND	6.0	0.20	ug/m3
541-73-1	147	1,3-Dichlorobenzene	ND	1.0	0.025	ppbv		ND	6.0	0.15	ug/m3
106-46-7	147	1,4-Dichlorobenzene	ND	1.0	0.033	ppbv		ND	6.0	0.20	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	1.0	0.028	ppbv		ND	4.5	0.13	ug/m3
76-14-2	170.9	1,2-Dichlorotetrafluoroethane	ND	1.0	0.046	ppbv		ND	7.0	0.32	ug/m3
108-20-3	102	Di-Isopropyl ether	ND	2.0	0.035	ppbv		ND	8.3	0.15	ug/m3
64-17-5	46	Ethanol	124 [b]	10	0.74	ppbv		233 [b]	19	1.4	ug/m3
100-41-4	106.2	Ethylbenzene	0.10	1.0	0.044	ppbv	J	0.43	4.3	0.19	ug/m3
141-78-6	88	Ethyl Acetate	1.4	1.0	0.13	ppbv		5.0	3.6	0.47	ug/m3
637-92-3	102	Ethyl tert-Butyl Ether	ND	2.0	0.035	ppbv		ND	8.3	0.15	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	2.0	0.058	ppbv		ND	9.8	0.29	ug/m3
142-82-5	100.2	Heptane	0.17	1.0	0.038	ppbv	J	0.70	4.1	0.16	ug/m3
87-68-3	260.8	Hexachloro-1,3-butadiene	ND	1.0	0.025	ppbv		ND	11	0.27	ug/m3
110-54-3	86.17	Hexane	0.25	1.0	0.031	ppbv	J	0.88	3.5	0.11	ug/m3
591-78-6	100	2-Hexanone	0.047	1.0	0.033	ppbv	J	0.19	4.1	0.13	ug/m3
98-82-8	120	Isopropylbenzene	ND	1.0	0.050	ppbv		ND	4.9	0.25	ug/m3
67-63-0	60	Isopropanol	4.6	2.0	0.038	ppbv		11	4.9	0.093	ug/m3
99-87-6	134	p-Isopropyltoluene [a]	ND	1.0	0.051	ppbv		ND	5.5	0.28	ug/m3
75-09-2	84.94	Methylene chloride	0.49	1.0	0.088	ppbv	J	1.7	3.5	0.31	ug/m3
108-10-1	100.2	4-Methyl-2-pentanone	0.14	1.0	0.016	ppbv	J	0.57	4.1	0.066	ug/m3
1634-04-4	88.15	Methyl Tert-Butyl Ether	ND	1.0	0.049	ppbv		ND	3.6	0.18	ug/m3
80-62-6	100	Methyl methacrylate	ND	1.0	0.048	ppbv		ND	4.1	0.20	ug/m3
91-20-3	128.17	Naphthalene	0.052	1.0	0.047	ppbv	J	0.27	5.2	0.25	ug/m3
109-66-0	72	Pentane	0.82	1.0	0.057	ppbv	J	2.4	2.9	0.17	ug/m3
103-65-1	120	n-Propylbenzene	ND	1.0	0.054	ppbv		ND	4.9	0.27	ug/m3
115-07-1	42	Propene	0.24	1.0	0.049	ppbv	J	0.41	1.7	0.084	ug/m3
100-42-5	104.1	Styrene	0.20	1.0	0.047	ppbv	J	0.85	4.3	0.20	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	1.0	0.035	ppbv		ND	6.9	0.24	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	1.0	0.043	ppbv		ND	5.5	0.23	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	1.0	0.085	ppbv		ND	5.5	0.46	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	1.0	0.022	ppbv		ND	7.4	0.16	ug/m3
76-13-1	187.4	1,1,2-Trichlorotrifluoroethane	0.066	1.0	0.059	ppbv	J	0.51	7.7	0.45	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.11	1.0	0.020	ppbv	J	0.54	4.9	0.098	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	1.0	0.026	ppbv		ND	4.9	0.13	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.050	1.0	0.042	ppbv	J	0.23	4.7	0.20	ug/m3
75-65-0	74.12	t-Butyl Alcohol	0.35	2.0	0.046	ppbv	J	1.1	6.1	0.14	ug/m3
994-05-8	102	tert Amyl Methyl Ether	ND	2.0	0.023	ppbv		ND	8.3	0.096	ug/m3
127-18-4	165.8	Tetrachloroethene	0.061	1.0	0.024	ppbv	J	0.41	6.8	0.16	ug/m3
109-99-9	72	Tetrahydrofuran	0.50	1.0	0.13	ppbv	J	1.5	2.9	0.38	ug/m3
108-88-3	92.14	Toluene	0.78	1.0	0.032	ppbv	J	2.9	3.8	0.12	ug/m3

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-01		
Lab Sample ID:	TD25119-3	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A624	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethene	ND	1.0	0.047	ppbv		ND	5.4	0.25	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.21	1.0	0.049	ppbv	J	1.2	5.6	0.28	ug/m3
108-05-4	86	Vinyl acetate	0.21	1.0	0.045	ppbv	J	0.74	3.5	0.16	ug/m3
593-60-2	106.9	Vinyl Bromide	ND	1.0	0.059	ppbv		ND	4.4	0.26	ug/m3
75-01-4	62.5	Vinyl chloride	ND	1.0	0.055	ppbv		ND	2.6	0.14	ug/m3
	106.2	m,p-Xylene	0.22	1.0	0.089	ppbv	J	0.96	4.3	0.39	ug/m3
95-47-6	106.2	o-Xylene	0.12	1.0	0.032	ppbv	J	0.52	4.3	0.14	ug/m3
1330-20-7	106.2	Xylenes,Total	0.33	1.0		ppbv	J	1.4	4.3		ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%	88%	65-128%

(a) Not NELAC certified.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SG-01		
Lab Sample ID:	TD25119-3	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A624	**Date Received:**	08/03/18
Method:	ASTM D1946	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XF18080022.D	2	08/03/18 16:07	KS	n/a	n/a	GXF103
Run #2							

	Initial Volume
Run #1	1.0 ml
Run #2	

ASTM Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.00019	0.0040	0.000080	mol%	J

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-03		
Lab Sample ID:	TD25119-4	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A691	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A1808077.D	2	08/04/18 02:35	KS	n/a	n/a	V1A1239
Run #2	1A1808068.D	10	08/03/18 18:38	KS	n/a	n/a	V1A1239

	Initial Volume
Run #1	400 ml
Run #2	400 ml

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	197 [a]	10	0.42	ppbv		468 [a]	24	1.0	ug/m3
107-02-8	56	Acrolein	0.19	1.0	0.10	ppbv	J	0.44	2.3	0.23	ug/m3
107-13-1	53	Acrylonitrile	ND	1.0	0.067	ppbv		ND	2.2	0.15	ug/m3
107-05-1	76.53	Allyl chloride	ND	2.0	0.12	ppbv		ND	6.3	0.38	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	2.0	0.094	ppbv		ND	4.4	0.21	ug/m3
71-43-2	78.11	Benzene	0.054	1.0	0.045	ppbv	J	0.17	3.2	0.14	ug/m3
100-44-7	126	Benzyl Chloride	ND	1.0	0.020	ppbv		ND	5.2	0.10	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	1.0	0.043	ppbv		ND	6.7	0.29	ug/m3
75-25-2	252.8	Bromoform	ND	1.0	0.052	ppbv		ND	10	0.54	ug/m3
74-83-9	94.94	Bromomethane	0.076	1.0	0.039	ppbv	J	0.30	3.9	0.15	ug/m3
78-93-3	72.11	2-Butanone	7.3	1.0	0.047	ppbv		22	2.9	0.14	ug/m3
104-51-8	134	n-Butylbenzene	0.029	1.0	0.028	ppbv	J	0.16	5.5	0.15	ug/m3
135-98-8	134	sec-Butylbenzene	ND	1.0	0.037	ppbv		ND	5.5	0.20	ug/m3
75-15-0	76.14	Carbon disulfide	0.27	1.0	0.054	ppbv	J	0.84	3.1	0.17	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	1.0	0.045	ppbv		ND	6.3	0.28	ug/m3
108-90-7	112.6	Chlorobenzene	ND	1.0	0.038	ppbv		ND	4.6	0.18	ug/m3
75-00-3	64.52	Chloroethane	ND	1.0	0.095	ppbv		ND	2.6	0.25	ug/m3
67-66-3	119.4	Chloroform	0.22	1.0	0.039	ppbv	J	1.1	4.9	0.19	ug/m3
74-87-3	50.49	Chloromethane	0.15	1.0	0.091	ppbv	J	0.31	2.1	0.19	ug/m3
110-82-7	84.16	Cyclohexane	0.097	1.0	0.044	ppbv	J	0.33	3.4	0.15	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	1.0	0.032	ppbv		ND	8.5	0.27	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	1.0	0.049	ppbv		ND	4.0	0.20	ug/m3
75-35-4	96.94	1,1-Dichloroethene	ND	1.0	0.087	ppbv		ND	4.0	0.34	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	1.0	0.045	ppbv		ND	7.7	0.35	ug/m3
557-91-5	187.9	1,1-Dibromoethane [b]	ND	1.0	0.041	ppbv		ND	7.7	0.32	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	1.0	0.057	ppbv		ND	4.0	0.23	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	1.0	0.049	ppbv		ND	4.6	0.23	ug/m3
123-91-1	88	1,4-Dioxane	ND	1.0	0.052	ppbv		ND	3.6	0.19	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	9.5	1.0	0.056	ppbv		47	4.9	0.28	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethene	ND	1.0	0.044	ppbv		ND	4.0	0.17	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethene	ND	1.0	0.039	ppbv		ND	4.0	0.15	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	1.0	0.044	ppbv		ND	4.5	0.20	ug/m3

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-03		
Lab Sample ID:	TD25119-4	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A691	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
95-50-1	147	1,2-Dichlorobenzene	ND	1.0	0.033	ppbv		ND	6.0	0.20	ug/m3
541-73-1	147	1,3-Dichlorobenzene	ND	1.0	0.025	ppbv		ND	6.0	0.15	ug/m3
106-46-7	147	1,4-Dichlorobenzene	ND	1.0	0.033	ppbv		ND	6.0	0.20	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	1.0	0.028	ppbv		ND	4.5	0.13	ug/m3
76-14-2	170.9	1,2-Dichlorotetrafluoroethane	9.9	1.0	0.046	ppbv		69	7.0	0.32	ug/m3
108-20-3	102	Di-Isopropyl ether	ND	2.0	0.035	ppbv		ND	8.3	0.15	ug/m3
64-17-5	46	Ethanol	1.5	2.0	0.15	ppbv	J	2.8	3.8	0.28	ug/m3
100-41-4	106.2	Ethylbenzene	0.067	1.0	0.044	ppbv	J	0.29	4.3	0.19	ug/m3
141-78-6	88	Ethyl Acetate	0.43	1.0	0.13	ppbv	J	1.5	3.6	0.47	ug/m3
637-92-3	102	Ethyl tert-Butyl Ether	ND	2.0	0.035	ppbv		ND	8.3	0.15	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	2.0	0.058	ppbv		ND	9.8	0.29	ug/m3
142-82-5	100.2	Heptane	0.23	1.0	0.038	ppbv	J	0.94	4.1	0.16	ug/m3
87-68-3	260.8	Hexachloro-1,3-butadiene	ND	1.0	0.025	ppbv		ND	11	0.27	ug/m3
110-54-3	86.17	Hexane	0.23	1.0	0.031	ppbv	J	0.81	3.5	0.11	ug/m3
591-78-6	100	2-Hexanone	2.1	1.0	0.033	ppbv		8.6	4.1	0.13	ug/m3
98-82-8	120	Isopropylbenzene	ND	1.0	0.050	ppbv		ND	4.9	0.25	ug/m3
67-63-0	60	Isopropanol	2.4	2.0	0.038	ppbv		5.9	4.9	0.093	ug/m3
99-87-6	134	p-Isopropyltoluene [b]	ND	1.0	0.051	ppbv		ND	5.5	0.28	ug/m3
75-09-2	84.94	Methylene chloride	0.38	1.0	0.088	ppbv	J	1.3	3.5	0.31	ug/m3
108-10-1	100.2	4-Methyl-2-pentanone	0.077	1.0	0.016	ppbv	J	0.32	4.1	0.066	ug/m3
1634-04-4	88.15	Methyl Tert-Butyl Ether	ND	1.0	0.049	ppbv		ND	3.6	0.18	ug/m3
80-62-6	100	Methyl methacrylate	ND	1.0	0.048	ppbv		ND	4.1	0.20	ug/m3
91-20-3	128.17	Naphthalene	0.14	1.0	0.047	ppbv	J	0.73	5.2	0.25	ug/m3
109-66-0	72	Pentane	3.0	1.0	0.057	ppbv		8.8	2.9	0.17	ug/m3
103-65-1	120	n-Propylbenzene	ND	1.0	0.054	ppbv		ND	4.9	0.27	ug/m3
115-07-1	42	Propene	3.2	1.0	0.049	ppbv		5.5	1.7	0.084	ug/m3
100-42-5	104.1	Styrene	0.055	1.0	0.047	ppbv	J	0.23	4.3	0.20	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	1.0	0.035	ppbv		ND	6.9	0.24	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	1.0	0.043	ppbv		ND	5.5	0.23	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	1.0	0.085	ppbv		ND	5.5	0.46	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	1.0	0.022	ppbv		ND	7.4	0.16	ug/m3
76-13-1	187.4	1,1,2-Trichlorotrifluoroethane	ND	1.0	0.059	ppbv		ND	7.7	0.45	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.30	1.0	0.020	ppbv	J	1.5	4.9	0.098	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.062	1.0	0.026	ppbv	J	0.30	4.9	0.13	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	1.0	0.042	ppbv		ND	4.7	0.20	ug/m3
75-65-0	74.12	t-Butyl Alcohol	1.0	2.0	0.046	ppbv	J	3.0	6.1	0.14	ug/m3
994-05-8	102	tert Amyl Methyl Ether	ND	2.0	0.023	ppbv		ND	8.3	0.096	ug/m3
127-18-4	165.8	Tetrachloroethene	0.63	1.0	0.024	ppbv	J	4.3	6.8	0.16	ug/m3
109-99-9	72	Tetrahydrofuran	ND	1.0	0.13	ppbv		ND	2.9	0.38	ug/m3
108-88-3	92.14	Toluene	0.35	1.0	0.032	ppbv	J	1.3	3.8	0.12	ug/m3

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PB-SG-03		
Lab Sample ID:	TD25119-4	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A691	**Date Received:**	08/03/18
Method:	TO-15	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethene	ND	1.0	0.047	ppbv		ND	5.4	0.25	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.24	1.0	0.049	ppbv	J	1.3	5.6	0.28	ug/m3
108-05-4	86	Vinyl acetate	0.28	1.0	0.045	ppbv	J	0.98	3.5	0.16	ug/m3
593-60-2	106.9	Vinyl Bromide	ND	1.0	0.059	ppbv		ND	4.4	0.26	ug/m3
75-01-4	62.5	Vinyl chloride	ND	1.0	0.055	ppbv		ND	2.6	0.14	ug/m3
	106.2	m,p-Xylene	0.29	1.0	0.089	ppbv	J	1.3	4.3	0.39	ug/m3
95-47-6	106.2	o-Xylene	0.14	1.0	0.032	ppbv	J	0.61	4.3	0.14	ug/m3
1330-20-7	106.2	Xylenes,Total	0.43	1.0		ppbv	J	1.9	4.3		ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%	89%	65-128%

(a) Result is from Run# 2
(b) Not NELAC certified.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-SG-03		
Lab Sample ID:	TD25119-4	**Date Sampled:**	08/02/18
Matrix:	AIR - Air Summa ID: A691	**Date Received:**	08/03/18
Method:	ASTM D1946	**Percent Solids:**	n/a
Project:	Place Bridge, 1400 South Oneida, Denver, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XF18080023.D	2	08/03/18 16:36	KS	n/a	n/a	GXF103
Run #2							

	Initial Volume
Run #1	1.0 ml
Run #2	

ASTM Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.00018	0.0040	0.000080	mol%	J

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Summa Canister and Flow Controller Log

CHAIN OF CUSTODY

Air Sampling Field Data Sheet

SGS

10165 Harwin Drive Suite 150, Houston, TX 77036
V: 713-271-4700 F: 713-271-4770 www.accutest.com

FEDEX Tracking # 7113 0841 9595
Bottle Order Control #
Lab Quote #
Lab Job # JD25119

PAGE 1 OF 1

Client / Reporting Information

Company Name: Weston Solutions, Inc.
Address: 1435 Garrison St #100
City: Lakewood State: CO Zip: 80215
Project Contact: Roy Weindorf E-mail: roy.weindorf@westonsolutions.com
Phone #: 303-729-6146 Fax #:
Sampler(s) Name(s): Same

Project Information

Project Name: Place Bridge
Street: 1400 S Oneida
City: Denver State: CO
Project #:
Client Purchase Order #:

Weather Parameters

Temperature (Fahrenheit)
Start: Maximum:
Stop: Minimum:

Atmoshpheric Pressure (inches of Hg)
Start: Maximum:
Stop: Minimum:

Other weather comment:

Lab Sample #	Field ID / Point of Collection	Air Type: Indoor(I) Soil Vap(SV) Ambient(A) Grab (G)	Sampling Equipment Info: Canister Serial #/ Tedlar	Size 6L or 1L	Flow Controller Serial #	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init.	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init.	Requested Analysis: VOC TO-15	Methane
1	PB-SG-13	SV	1119	1		8/2/18	1410	25	–	RW	8/2/18	1415	1	–	RW	X	X
2	PB-SG-11	↓	1960	1		8/2/18	1323	25	–	RW	8/2/18	1328	1	–	RW	X	X
3	PB-SG-01	↓	1337	1		↓	1358	25	–	RW	↓	1403	1	–	RW	X	X
4	PB-SG-03	↓	1447	1		↓	1338	25	–	RW	↓	1343	1	–	RW	X	X

Turnaround Time (Business days)

Standard: 10 Day X; 5 Day; 3 Day; 2 Day; 1 Day; Other
Approved By:
Date:

Data Deliverable Information

All NJDEP TO-15 is mandatory Full T1
Comm A
Comm B X
Reduced T2
Full T1
Other: Scribe TDD

Comments / Remarks

Form: AIR003

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1	8/2 1455	1	2	8/2/18 15:34	2 Fedex
3 Fedex		3 8/3/18 1000	4		4
5		5	Custody Seal #		

White Original: Accutest copy Color Copy: Client copy

4.2
TO10
HD

TD25119: Chain of Custody
Page 1 of 3

SGS Sample Receipt Summary

Job Number: TD25119 **Client:** WESTON SOLUTIONS **Project:** PLACE BRIDGE

Date / Time Received: **Delivery Method:** **Airbill #'s:** 719302619595

No. Coolers: 1 **Therm ID:** AIR; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (20.1/20.1);

Cooler Security	Y	or N		Y	or N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	or N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	No Ice	

Quality Control Preservation	Y	or N	N/A	WTB	STB
1. Trip Blank present / cooler:	☐	☐	☑	☐	☐
2. Trip Blank listed on COC:	☐	☐	☑		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☐	☐	☑		

Sample Integrity - Documentation	Y	or N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	or N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	or N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Sample Receipt Log

Job #: TD25119 **Date / Time Received:** 8/3/2018 10:00:00 AM **Initials:** DS

Client: WESTON SOLUTIONS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD25119-1	Summa	1	AIR	N/P	Note #2 - Preservative check not applicable.	AIR	20.1	0	20.1
1	TD25119-2	Summa	1	AIR	N/P	Note #2 - Preservative check not applicable.	AIR	20.1	0	20.1
1	TD25119-3	Summa	1	AIR	N/P	Note #2 - Preservative check not applicable.	AIR	20.1	0	20.1
1	TD25119-4	Summa	1	AIR	N/P	Note #2 - Preservative check not applicable.	AIR	20.1	0	20.1

TD25119: Chain of Custody
Page 3 of 3

Summa Canister and Flow Controller Log

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO
Received: 08/03/18

SUMMA CANISTERS

Shipping							Receiving						
Summa ID	L	Vac " Hg	Date Out	By	SCC Batch	SCC FileID	Sample Number	Date In	By	Vac " Hg	Pres psig	Final psig	Dil Fact
A391	1	-30	07/27/18	KS	CP1247	1A1807436.	DTD25119-1	08/03/18	KS		-8		1
M445	1	-30	07/27/18	KS	CP1246	1A1807286.	DTD25119-2	08/03/18	KS		-9		1
A624	1	-30	07/27/18	KS	CP1246	1A1807286.	DTD25119-3	08/03/18	KS		-8		1
A691	1	-30	07/27/18	KS	CP1246	1A1807286.	DTD25119-4	08/03/18	KS		-9		1

FLOW CONTROLLERS / OTHER

Shipping					Receiving				
Flow Crtl ID	Date Out	By	cc/ min	Time hrs.	Date In	By	cc/ min	Flow RPD	Equipment Type
FC502	07/27/18	KS	140	.1	08/03/18	KS	141	0.7	Flow Controller
FC534	07/27/18	KS	140	.1	08/03/18	KS	134	4.4	Flow Controller
FC712	07/27/18	KS	140	.1	08/03/18	KS	139	0.7	Flow Controller
MC187	07/27/18	KS	140	.1	08/03/18	KS	141	0.7	Flow Controller

SGS Bottle Order(s):
NW-072618-112

Prep Date	Room Temp(F)	Bar Pres "Hg
07/27/18	70	29.92

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1239-MB	1A1808059.D	1	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	1.0	0.042	ppbv		ND	2.4	ug/m3
107-02-8	Acrolein	ND	0.50	0.051	ppbv		ND	1.1	ug/m3
107-13-1	Acrylonitrile	ND	0.50	0.034	ppbv		ND	1.1	ug/m3
107-05-1	Allyl chloride	ND	1.0	0.061	ppbv		ND	3.1	ug/m3
106-99-0	1,3-Butadiene	ND	1.0	0.047	ppbv		ND	2.2	ug/m3
71-43-2	Benzene	ND	0.50	0.023	ppbv		ND	1.6	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.0098	ppbv		ND	2.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.021	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.026	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.020	ppbv		ND	1.9	ug/m3
78-93-3	2-Butanone	ND	0.50	0.024	ppbv		ND	1.5	ug/m3
104-51-8	n-Butylbenzene	ND	0.50	0.014	ppbv		ND	2.7	ug/m3
135-98-8	sec-Butylbenzene	ND	0.50	0.019	ppbv		ND	2.7	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.027	ppbv		ND	1.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.50	0.022	ppbv		ND	3.1	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.019	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.50	0.048	ppbv		ND	1.3	ug/m3
67-66-3	Chloroform	ND	0.50	0.020	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.045	ppbv		ND	1.0	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.022	ppbv		ND	1.7	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.016	ppbv		ND	4.3	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.50	0.025	ppbv		ND	2.0	ug/m3
75-35-4	1,1-Dichloroethene	ND	0.50	0.043	ppbv		ND	2.0	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.022	ppbv		ND	3.8	ug/m3
557-91-5	1,1-Dibromoethane	ND	0.50	0.021	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.50	0.028	ppbv		ND	2.0	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.025	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.026	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.028	ppbv		ND	2.5	ug/m3
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.022	ppbv		ND	2.0	ug/m3
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.020	ppbv		ND	2.0	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ppbv		ND	2.3	ug/m3
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.013	ppbv		ND	3.0	ug/m3
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.014	ppbv		ND	2.3	ug/m3

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1239-MB	1A1808059.D	1	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	1,2-Dichlorotetrafluoroethane	ND	0.50	0.023	ppbv		ND	3.5	ug/m3
108-20-3	Di-Isopropyl ether	ND	1.0	0.018	ppbv		ND	4.2	ug/m3
64-17-5	Ethanol	ND	1.0	0.074	ppbv		ND	1.9	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.022	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.065	ppbv		ND	1.8	ug/m3
637-92-3	Ethyl tert-Butyl Ether	ND	1.0	0.017	ppbv		ND	4.2	ug/m3
622-96-8	4-Ethyltoluene	ND	1.0	0.029	ppbv		ND	4.9	ug/m3
142-82-5	Heptane	ND	0.50	0.019	ppbv		ND	2.0	ug/m3
87-68-3	Hexachloro-1,3-butadiene	ND	0.50	0.013	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.015	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.017	ppbv		ND	2.0	ug/m3
98-82-8	Isopropylbenzene	ND	0.50	0.025	ppbv		ND	2.5	ug/m3
67-63-0	Isopropanol	0.033	1.0	0.019	ppbv	J	0.081	2.5	ug/m3
99-87-6	p-Isopropyltoluene	ND	0.50	0.026	ppbv		ND	2.7	ug/m3
75-09-2	Methylene chloride	0.13	0.50	0.044	ppbv	J	0.45	1.7	ug/m3
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.0081	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert-Butyl Ether	ND	0.50	0.024	ppbv		ND	1.8	ug/m3
80-62-6	Methyl methacrylate	ND	0.50	0.024	ppbv		ND	2.0	ug/m3
91-20-3	Naphthalene	ND	0.50	0.024	ppbv		ND	2.6	ug/m3
109-66-0	Pentane	ND	0.50	0.028	ppbv		ND	1.5	ug/m3
103-65-1	n-Propylbenzene	ND	0.50	0.027	ppbv		ND	2.5	ug/m3
115-07-1	Propene	ND	0.50	0.024	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.023	ppbv		ND	2.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.017	ppbv		ND	3.4	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.021	ppbv		ND	2.7	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.043	ppbv		ND	2.7	ug/m3
120-82-1	1,2,4-Trichlorobenzene	0.011	0.50	0.011	ppbv	J	0.082	3.7	ug/m3
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	0.50	0.029	ppbv		ND	3.8	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.010	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.013	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.021	ppbv		ND	2.3	ug/m3
75-65-0	t-Butyl Alcohol	0.037	1.0	0.023	ppbv	J	0.11	3.0	ug/m3
994-05-8	tert Amyl Methyl Ether	ND	1.0	0.012	ppbv		ND	4.2	ug/m3
127-18-4	Tetrachloroethene	ND	0.50	0.012	ppbv		ND	3.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.066	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.016	ppbv		ND	1.9	ug/m3

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1239-MB	1A1808059.D	1	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethene	ND	0.50	0.024	ppbv		ND	2.7	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.025	ppbv		ND	2.8	ug/m3
108-05-4	Vinyl acetate	ND	0.50	0.022	ppbv		ND	1.8	ug/m3
593-60-2	Vinyl Bromide	ND	0.50	0.030	ppbv		ND	2.2	ug/m3
75-01-4	Vinyl chloride	ND	0.50	0.028	ppbv		ND	1.3	ug/m3
	m,p-Xylene	ND	0.50	0.044	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.016	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes,Total	ND	0.50		ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	89%	65-128%

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1242-MB	1A1808135.D	1	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	0.044	1.0	0.042	ppbv	J	0.10	2.4	ug/m3
107-02-8	Acrolein	ND	0.50	0.051	ppbv		ND	1.1	ug/m3
107-13-1	Acrylonitrile	ND	0.50	0.034	ppbv		ND	1.1	ug/m3
107-05-1	Allyl chloride	ND	1.0	0.061	ppbv		ND	3.1	ug/m3
106-99-0	1,3-Butadiene	ND	1.0	0.047	ppbv		ND	2.2	ug/m3
71-43-2	Benzene	ND	0.50	0.023	ppbv		ND	1.6	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.0098	ppbv		ND	2.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.021	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.026	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.020	ppbv		ND	1.9	ug/m3
78-93-3	2-Butanone	ND	0.50	0.024	ppbv		ND	1.5	ug/m3
104-51-8	n-Butylbenzene	ND	0.50	0.014	ppbv		ND	2.7	ug/m3
135-98-8	sec-Butylbenzene	ND	0.50	0.019	ppbv		ND	2.7	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.027	ppbv		ND	1.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.50	0.022	ppbv		ND	3.1	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.019	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.50	0.048	ppbv		ND	1.3	ug/m3
67-66-3	Chloroform	ND	0.50	0.020	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.045	ppbv		ND	1.0	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.022	ppbv		ND	1.7	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.016	ppbv		ND	4.3	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.50	0.025	ppbv		ND	2.0	ug/m3
75-35-4	1,1-Dichloroethene	ND	0.50	0.043	ppbv		ND	2.0	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.022	ppbv		ND	3.8	ug/m3
557-91-5	1,1-Dibromoethane	ND	0.50	0.021	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.50	0.028	ppbv		ND	2.0	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.025	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.026	ppbv		ND	1.8	ug/m3
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.022	ppbv		ND	2.0	ug/m3
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.020	ppbv		ND	2.0	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ppbv		ND	2.3	ug/m3
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.013	ppbv		ND	3.0	ug/m3
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.014	ppbv		ND	2.3	ug/m3
76-14-2	1,2-Dichlorotetrafluoroethane	ND	0.50	0.023	ppbv		ND	3.5	ug/m3

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1242-MB	1A1808135.D	1	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
108-20-3	Di-Isopropyl ether	ND	1.0	0.018	ppbv		ND	4.2	ug/m3
64-17-5	Ethanol	ND	1.0	0.074	ppbv		ND	1.9	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.022	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.065	ppbv		ND	1.8	ug/m3
637-92-3	Ethyl tert-Butyl Ether	ND	1.0	0.017	ppbv		ND	4.2	ug/m3
622-96-8	4-Ethyltoluene	ND	1.0	0.029	ppbv		ND	4.9	ug/m3
142-82-5	Heptane	ND	0.50	0.019	ppbv		ND	2.0	ug/m3
87-68-3	Hexachloro-1,3-butadiene	ND	0.50	0.013	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.015	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.017	ppbv		ND	2.0	ug/m3
98-82-8	Isopropylbenzene	ND	0.50	0.025	ppbv		ND	2.5	ug/m3
67-63-0	Isopropanol	0.033	1.0	0.019	ppbv	J	0.081	2.5	ug/m3
99-87-6	p-Isopropyltoluene	ND	0.50	0.026	ppbv		ND	2.7	ug/m3
75-09-2	Methylene chloride	0.14	0.50	0.044	ppbv	J	0.49	1.7	ug/m3
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.0081	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert-Butyl Ether	ND	0.50	0.024	ppbv		ND	1.8	ug/m3
80-62-6	Methyl methacrylate	ND	0.50	0.024	ppbv		ND	2.0	ug/m3
91-20-3	Naphthalene	ND	0.50	0.024	ppbv		ND	2.6	ug/m3
109-66-0	Pentane	ND	0.50	0.028	ppbv		ND	1.5	ug/m3
103-65-1	n-Propylbenzene	ND	0.50	0.027	ppbv		ND	2.5	ug/m3
115-07-1	Propene	ND	0.50	0.024	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.023	ppbv		ND	2.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.017	ppbv		ND	3.4	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.021	ppbv		ND	2.7	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.043	ppbv		ND	2.7	ug/m3
120-82-1	1,2,4-Trichlorobenzene	0.014	0.50	0.011	ppbv	J	0.10	3.7	ug/m3
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	0.50	0.029	ppbv		ND	3.8	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.010	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.013	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.021	ppbv		ND	2.3	ug/m3
75-65-0	t-Butyl Alcohol	0.039	1.0	0.023	ppbv	J	0.12	3.0	ug/m3
994-05-8	tert Amyl Methyl Ether	ND	1.0	0.012	ppbv		ND	4.2	ug/m3
127-18-4	Tetrachloroethene	ND	0.50	0.012	ppbv		ND	3.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.066	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.016	ppbv		ND	1.9	ug/m3
79-01-6	Trichloroethene	ND	0.50	0.024	ppbv		ND	2.7	ug/m3

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1242-MB	1A1808135.D	1	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
75-69-4	Trichlorofluoromethane	ND	0.50	0.025	ppbv		ND	2.8	ug/m3
108-05-4	Vinyl acetate	ND	0.50	0.022	ppbv		ND	1.8	ug/m3
593-60-2	Vinyl Bromide	ND	0.50	0.030	ppbv		ND	2.2	ug/m3
75-01-4	Vinyl chloride	ND	0.50	0.028	ppbv		ND	1.3	ug/m3
	m,p-Xylene	ND	0.50	0.044	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.016	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes,Total	ND	0.50		ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	89%	65-128%

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-MB	1A1807274.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here applies to the following samples: **Method:** TO-15

V1A1219-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	0.057	1.0	0.042	ppbv	J	0.14	2.4	ug/m3
107-02-8	Acrolein	ND	0.50	0.051	ppbv		ND	1.1	ug/m3
107-13-1	Acrylonitrile	ND	0.50	0.034	ppbv		ND	1.1	ug/m3
107-05-1	Allyl chloride	ND	1.0	0.061	ppbv		ND	3.1	ug/m3
106-99-0	1,3-Butadiene	ND	1.0	0.047	ppbv		ND	2.2	ug/m3
71-43-2	Benzene	ND	0.50	0.023	ppbv		ND	1.6	ug/m3
100-44-7	Benzyl Chloride	0.011	0.50	0.0098	ppbv	J	0.057	2.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.021	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.026	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.020	ppbv		ND	1.9	ug/m3
78-93-3	2-Butanone	ND	0.50	0.024	ppbv		ND	1.5	ug/m3
104-51-8	n-Butylbenzene	ND	0.50	0.014	ppbv		ND	2.7	ug/m3
135-98-8	sec-Butylbenzene	ND	0.50	0.019	ppbv		ND	2.7	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.027	ppbv		ND	1.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.50	0.022	ppbv		ND	3.1	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.019	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.50	0.048	ppbv		ND	1.3	ug/m3
67-66-3	Chloroform	ND	0.50	0.020	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.045	ppbv		ND	1.0	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.022	ppbv		ND	1.7	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.016	ppbv		ND	4.3	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.50	0.025	ppbv		ND	2.0	ug/m3
75-35-4	1,1-Dichloroethene	ND	0.50	0.043	ppbv		ND	2.0	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.022	ppbv		ND	3.8	ug/m3
557-91-5	1,1-Dibromoethane	ND	0.50	0.021	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.50	0.028	ppbv		ND	2.0	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.025	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.026	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.028	ppbv		ND	2.5	ug/m3
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.022	ppbv		ND	2.0	ug/m3
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.020	ppbv		ND	2.0	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ppbv		ND	2.3	ug/m3
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.013	ppbv		ND	3.0	ug/m3
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.014	ppbv		ND	2.3	ug/m3

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-MB	1A1807274.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here applies to the following samples: **Method:** TO-15

V1A1219-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	1,2-Dichlorotetrafluoroethane	ND	0.50	0.023	ppbv		ND	3.5	ug/m3
108-20-3	Di-Isopropyl ether	ND	1.0	0.018	ppbv		ND	4.2	ug/m3
64-17-5	Ethanol	ND	1.0	0.074	ppbv		ND	1.9	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.022	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.065	ppbv		ND	1.8	ug/m3
637-92-3	Ethyl tert-Butyl Ether	ND	1.0	0.017	ppbv		ND	4.2	ug/m3
622-96-8	4-Ethyltoluene	ND	1.0	0.029	ppbv		ND	4.9	ug/m3
142-82-5	Heptane	ND	0.50	0.019	ppbv		ND	2.0	ug/m3
87-68-3	Hexachloro-1,3-butadiene	ND	0.50	0.013	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.015	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.017	ppbv		ND	2.0	ug/m3
98-82-8	Isopropylbenzene	ND	0.50	0.025	ppbv		ND	2.5	ug/m3
67-63-0	Isopropanol	0.022	1.0	0.019	ppbv	J	0.054	2.5	ug/m3
99-87-6	p-Isopropyltoluene	ND	0.50	0.026	ppbv		ND	2.7	ug/m3
75-09-2	Methylene chloride	0.15	0.50	0.044	ppbv	J	0.52	1.7	ug/m3
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.0081	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert-Butyl Ether	ND	0.50	0.024	ppbv		ND	1.8	ug/m3
80-62-6	Methyl methacrylate	ND	0.50	0.024	ppbv		ND	2.0	ug/m3
91-20-3	Naphthalene	ND	0.50	0.024	ppbv		ND	2.6	ug/m3
109-66-0	Pentane	ND	0.50	0.028	ppbv		ND	1.5	ug/m3
103-65-1	n-Propylbenzene	ND	0.50	0.027	ppbv		ND	2.5	ug/m3
115-07-1	Propene	ND	0.50	0.024	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.023	ppbv		ND	2.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.017	ppbv		ND	3.4	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.021	ppbv		ND	2.7	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.043	ppbv		ND	2.7	ug/m3
120-82-1	1,2,4-Trichlorobenzene	0.015	0.50	0.011	ppbv	J	0.11	3.7	ug/m3
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	0.50	0.029	ppbv		ND	3.8	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.010	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.013	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.021	ppbv		ND	2.3	ug/m3
75-65-0	t-Butyl Alcohol	ND	1.0	0.023	ppbv		ND	3.0	ug/m3
994-05-8	tert Amyl Methyl Ether	ND	1.0	0.012	ppbv		ND	4.2	ug/m3
127-18-4	Tetrachloroethene	ND	0.50	0.012	ppbv		ND	3.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.066	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.016	ppbv		ND	1.9	ug/m3

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-MB	1A1807274.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here applies to the following samples: **Method:** TO-15

V1A1219-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethene	ND	0.50	0.024	ppbv		ND	2.7	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.025	ppbv		ND	2.8	ug/m3
108-05-4	Vinyl acetate	ND	0.50	0.022	ppbv		ND	1.8	ug/m3
593-60-2	Vinyl Bromide	ND	0.50	0.030	ppbv		ND	2.2	ug/m3
75-01-4	Vinyl chloride	ND	0.50	0.028	ppbv		ND	1.3	ug/m3
	m,p-Xylene	ND	0.50	0.044	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.016	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes,Total	ND	0.50		ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	91%	65-128%

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-MB	1A1807426.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here applies to the following samples: **Method:** TO-15

V1A1226-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	0.092	1.0	0.042	ppbv	J	0.22	2.4	ug/m3
107-02-8	Acrolein	ND	0.50	0.051	ppbv		ND	1.1	ug/m3
107-13-1	Acrylonitrile	ND	0.50	0.034	ppbv		ND	1.1	ug/m3
107-05-1	Allyl chloride	ND	1.0	0.061	ppbv		ND	3.1	ug/m3
106-99-0	1,3-Butadiene	ND	1.0	0.047	ppbv		ND	2.2	ug/m3
71-43-2	Benzene	ND	0.50	0.023	ppbv		ND	1.6	ug/m3
100-44-7	Benzyl Chloride	0.010	0.50	0.0098	ppbv	J	0.052	2.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.021	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.026	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.020	ppbv		ND	1.9	ug/m3
78-93-3	2-Butanone	ND	0.50	0.024	ppbv		ND	1.5	ug/m3
104-51-8	n-Butylbenzene	ND	0.50	0.014	ppbv		ND	2.7	ug/m3
135-98-8	sec-Butylbenzene	ND	0.50	0.019	ppbv		ND	2.7	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.027	ppbv		ND	1.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.50	0.022	ppbv		ND	3.1	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.019	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.50	0.048	ppbv		ND	1.3	ug/m3
67-66-3	Chloroform	ND	0.50	0.020	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.045	ppbv		ND	1.0	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.022	ppbv		ND	1.7	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.016	ppbv		ND	4.3	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.50	0.025	ppbv		ND	2.0	ug/m3
75-35-4	1,1-Dichloroethene	ND	0.50	0.043	ppbv		ND	2.0	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.022	ppbv		ND	3.8	ug/m3
557-91-5	1,1-Dibromoethane	ND	0.50	0.021	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.50	0.028	ppbv		ND	2.0	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.025	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.026	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.028	ppbv		ND	2.5	ug/m3
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.022	ppbv		ND	2.0	ug/m3
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.020	ppbv		ND	2.0	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ppbv		ND	2.3	ug/m3
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.013	ppbv		ND	3.0	ug/m3
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.014	ppbv		ND	2.3	ug/m3

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-MB	1A1807426.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here applies to the following samples: **Method:** TO-15

V1A1226-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	1,2-Dichlorotetrafluoroethane	ND	0.50	0.023	ppbv		ND	3.5	ug/m3
108-20-3	Di-Isopropyl ether	ND	1.0	0.018	ppbv		ND	4.2	ug/m3
64-17-5	Ethanol	ND	1.0	0.074	ppbv		ND	1.9	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.022	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.065	ppbv		ND	1.8	ug/m3
637-92-3	Ethyl tert-Butyl Ether	ND	1.0	0.017	ppbv		ND	4.2	ug/m3
622-96-8	4-Ethyltoluene	ND	1.0	0.029	ppbv		ND	4.9	ug/m3
142-82-5	Heptane	ND	0.50	0.019	ppbv		ND	2.0	ug/m3
87-68-3	Hexachloro-1,3-butadiene	ND	0.50	0.013	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.015	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.017	ppbv		ND	2.0	ug/m3
98-82-8	Isopropylbenzene	ND	0.50	0.025	ppbv		ND	2.5	ug/m3
67-63-0	Isopropanol	ND	1.0	0.019	ppbv		ND	2.5	ug/m3
99-87-6	p-Isopropyltoluene	ND	0.50	0.026	ppbv		ND	2.7	ug/m3
75-09-2	Methylene chloride	0.14	0.50	0.044	ppbv	J	0.49	1.7	ug/m3
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.0081	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert-Butyl Ether	ND	0.50	0.024	ppbv		ND	1.8	ug/m3
80-62-6	Methyl methacrylate	ND	0.50	0.024	ppbv		ND	2.0	ug/m3
91-20-3	Naphthalene	ND	0.50	0.024	ppbv		ND	2.6	ug/m3
109-66-0	Pentane	ND	0.50	0.028	ppbv		ND	1.5	ug/m3
103-65-1	n-Propylbenzene	ND	0.50	0.027	ppbv		ND	2.5	ug/m3
115-07-1	Propene	ND	0.50	0.024	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.023	ppbv		ND	2.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.017	ppbv		ND	3.4	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.021	ppbv		ND	2.7	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.043	ppbv		ND	2.7	ug/m3
120-82-1	1,2,4-Trichlorobenzene	0.011	0.50	0.011	ppbv	J	0.082	3.7	ug/m3
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	0.50	0.029	ppbv		ND	3.8	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.010	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.013	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.021	ppbv		ND	2.3	ug/m3
75-65-0	t-Butyl Alcohol	ND	1.0	0.023	ppbv		ND	3.0	ug/m3
994-05-8	tert Amyl Methyl Ether	ND	1.0	0.012	ppbv		ND	4.2	ug/m3
127-18-4	Tetrachloroethene	ND	0.50	0.012	ppbv		ND	3.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.066	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.016	ppbv		ND	1.9	ug/m3

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-MB	1A1807426.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here applies to the following samples: **Method:** TO-15

V1A1226-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethene	ND	0.50	0.024	ppbv		ND	2.7	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.025	ppbv		ND	2.8	ug/m3
108-05-4	Vinyl acetate	ND	0.50	0.022	ppbv		ND	1.8	ug/m3
593-60-2	Vinyl Bromide	ND	0.50	0.030	ppbv		ND	2.2	ug/m3
75-01-4	Vinyl chloride	ND	0.50	0.028	ppbv		ND	1.3	ug/m3
	m,p-Xylene	ND	0.50	0.044	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.016	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes,Total	ND	0.50		ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	92%	65-128%

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1239-LCS	1A1808058.D	1	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
67-64-1	Acetone	10	8.7	87	52-151
107-02-8	Acrolein	10	9.3	93	47-166
107-13-1	Acrylonitrile	10	8.1	81	38-179
107-05-1	Allyl chloride	20	15.2	76	38-186
106-99-0	1,3-Butadiene	20	18.0	90	55-158
71-43-2	Benzene	10	9.1	91	53-148
100-44-7	Benzyl Chloride	10	9.9	99	73-151
75-27-4	Bromodichloromethane	10	9.2	92	55-151
75-25-2	Bromoform	10	9.9	99	59-165
74-83-9	Bromomethane	10	7.9	79	62-143
78-93-3	2-Butanone	10	9.5	95	63-146
104-51-8	n-Butylbenzene	10	9.5	95	63-156
135-98-8	sec-Butylbenzene	10	9.6	96	64-149
75-15-0	Carbon disulfide	10	9.8	98	38-184
56-23-5	Carbon tetrachloride	10	9.4	94	51-156
108-90-7	Chlorobenzene	10	9.1	91	62-135
75-00-3	Chloroethane	10	8.0	80	61-145
67-66-3	Chloroform	10	9.0	90	64-132
74-87-3	Chloromethane	10	9.6	96	52-149
110-82-7	Cyclohexane	10	9.4	94	61-148
124-48-1	Dibromochloromethane	10	9.6	96	67-144
75-34-3	1,1-Dichloroethane	10	8.8	88	62-128
75-35-4	1,1-Dichloroethene	10	9.7	97	55-164
106-93-4	1,2-Dibromoethane	10	8.9	89	62-145
557-91-5	1,1-Dibromoethane	10	9.2	92	50-150 [a]
107-06-2	1,2-Dichloroethane	10	8.8	88	58-143
78-87-5	1,2-Dichloropropane	10	9.1	91	45-155
123-91-1	1,4-Dioxane	10	9.8	98	36-169
75-71-8	Dichlorodifluoromethane	10	8.7	87	59-141
156-60-5	trans-1,2-Dichloroethene	10	8.9	89	66-128
156-59-2	cis-1,2-Dichloroethene	10	8.7	87	59-144
10061-01-5	cis-1,3-Dichloropropene	10	10.1	101	57-162
95-50-1	1,2-Dichlorobenzene	10	9.3	93	48-158
541-73-1	1,3-Dichlorobenzene	10	9.2	92	52-158
106-46-7	1,4-Dichlorobenzene	10	9.2	92	50-158
10061-02-6	trans-1,3-Dichloropropene	10	8.6	86	60-160

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1239-LCS	1A1808058.D	1	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
76-14-2	1,2-Dichlorotetrafluoroethane	10	8.0	80	60-145
108-20-3	Di-Isopropyl ether	10	9.3	93	58-148
64-17-5	Ethanol	10	9.4	94	42-166
100-41-4	Ethylbenzene	10	9.0	90	61-157
141-78-6	Ethyl Acetate	10	9.4	94	61-140
637-92-3	Ethyl tert-Butyl Ether	10	8.6	86	61-146
622-96-8	4-Ethyltoluene	20	18.4	92	58-159
142-82-5	Heptane	10	9.7	97	62-149
87-68-3	Hexachloro-1,3-butadiene	10	8.2	82	26-191
110-54-3	Hexane	10	9.5	95	61-142
591-78-6	2-Hexanone	10	9.8	98	61-164
98-82-8	Isopropylbenzene	10	9.2	92	66-145
67-63-0	Isopropanol	10	6.6	66	52-153
99-87-6	p-Isopropyltoluene	10	9.8	98	62-157
75-09-2	Methylene chloride	10	8.5	85	47-159
108-10-1	4-Methyl-2-pentanone	10	9.9	99	64-150
1634-04-4	Methyl Tert-Butyl Ether	10	10.6	106	63-141
80-62-6	Methyl methacrylate	10	9.0	90	58-154
91-20-3	Naphthalene	10	10.6	106	42-184
109-66-0	Pentane	10	7.6	76	47-170
103-65-1	n-Propylbenzene	10	9.3	93	66-154
115-07-1	Propene	10	10.0	100	47-159
100-42-5	Styrene	10	9.4	94	80-164
79-34-5	1,1,2,2-Tetrachloroethane	10	9.0	90	60-140
71-55-6	1,1,1-Trichloroethane	10	8.9	89	53-150
79-00-5	1,1,2-Trichloroethane	10	8.9	89	49-151
120-82-1	1,2,4-Trichlorobenzene	10	8.4	84	17-207
76-13-1	1,1,2-Trichlorotrifluoroethane	10	10.3	103	41-181
95-63-6	1,2,4-Trimethylbenzene	10	9.0	90	54-171
108-67-8	1,3,5-Trimethylbenzene	10	9.0	90	59-155
540-84-1	2,2,4-Trimethylpentane	10	9.4	94	61-146
75-65-0	t-Butyl Alcohol	10	8.5	85	50-170
994-05-8	tert Amyl Methyl Ether	10	8.6	86	60-150
127-18-4	Tetrachloroethene	10	9.1	91	58-150
109-99-9	Tetrahydrofuran	10	9.1	91	76-131
108-88-3	Toluene	10	9.0	90	66-146

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1239-LCS	1A1808058.D	1	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
79-01-6	Trichloroethene	10	9.2	92	54-150
75-69-4	Trichlorofluoromethane	10	9.2	92	48-173
108-05-4	Vinyl acetate	10	7.5	75	62-147
593-60-2	Vinyl Bromide	10	8.6	86	59-151
75-01-4	Vinyl chloride	10	8.5	85	61-142
	m,p-Xylene	20	18.4	92	45-168
95-47-6	o-Xylene	10	9.1	91	58-157
1330-20-7	Xylenes,Total	30	27.5	92	53-161

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	100%	65-128%

(a) Advisory control limits.

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1242-LCS	1A1808134.D	1	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
67-64-1	Acetone	10	9.3	93	52-151
107-02-8	Acrolein	10	9.8	98	47-166
107-13-1	Acrylonitrile	10	9.0	90	38-179
107-05-1	Allyl chloride	20	20.0	100	38-186
106-99-0	1,3-Butadiene	20	18.9	95	55-158
71-43-2	Benzene	10	9.2	92	53-148
100-44-7	Benzyl Chloride	10	9.9	99	73-151
75-27-4	Bromodichloromethane	10	9.4	94	55-151
75-25-2	Bromoform	10	9.9	99	59-165
74-83-9	Bromomethane	10	8.0	80	62-143
78-93-3	2-Butanone	10	10.3	103	63-146
104-51-8	n-Butylbenzene	10	9.5	95	63-156
135-98-8	sec-Butylbenzene	10	9.5	95	64-149
75-15-0	Carbon disulfide	10	10	100	38-184
56-23-5	Carbon tetrachloride	10	9.8	98	51-156
108-90-7	Chlorobenzene	10	9.1	91	62-135
75-00-3	Chloroethane	10	8.1	81	61-145
67-66-3	Chloroform	10	9.3	93	64-132
74-87-3	Chloromethane	10	10.1	101	52-149
110-82-7	Cyclohexane	10	9.6	96	61-148
124-48-1	Dibromochloromethane	10	9.6	96	67-144
75-34-3	1,1-Dichloroethane	10	9.1	91	62-128
75-35-4	1,1-Dichloroethene	10	9.2	92	55-164
106-93-4	1,2-Dibromoethane	10	8.8	88	62-145
557-91-5	1,1-Dibromoethane	10	9.5	95	50-150 [a]
107-06-2	1,2-Dichloroethane	10	9.1	91	58-143
78-87-5	1,2-Dichloropropane	10	9.2	92	45-155
123-91-1	1,4-Dioxane	10	10.5	105	36-169
156-60-5	trans-1,2-Dichloroethene	10	9.2	92	66-128
156-59-2	cis-1,2-Dichloroethene	10	9.0	90	59-144
10061-01-5	cis-1,3-Dichloropropene	10	10.3	103	57-162
95-50-1	1,2-Dichlorobenzene	10	9.2	92	48-158
541-73-1	1,3-Dichlorobenzene	10	9.1	91	52-158
106-46-7	1,4-Dichlorobenzene	10	9.2	92	50-158
10061-02-6	trans-1,3-Dichloropropene	10	8.8	88	60-160
76-14-2	1,2-Dichlorotetrafluoroethane	10	8.0	80	60-145

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1242-LCS	1A1808134.D	1	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
108-20-3	Di-Isopropyl ether	10	10.1	101	58-148
64-17-5	Ethanol	10	10.9	109	42-166
100-41-4	Ethylbenzene	10	9.0	90	61-157
141-78-6	Ethyl Acetate	10	9.6	96	61-140
637-92-3	Ethyl tert-Butyl Ether	10	9.2	92	61-146
622-96-8	4-Ethyltoluene	20	18.5	93	58-159
142-82-5	Heptane	10	10.3	103	62-149
87-68-3	Hexachloro-1,3-butadiene	10	8.2	82	26-191
110-54-3	Hexane	10	9.8	98	61-142
591-78-6	2-Hexanone	10	10.1	101	61-164
98-82-8	Isopropylbenzene	10	9.1	91	66-145
67-63-0	Isopropanol	10	8.1	81	52-153
99-87-6	p-Isopropyltoluene	10	9.9	99	62-157
75-09-2	Methylene chloride	10	8.4	84	47-159
108-10-1	4-Methyl-2-pentanone	10	10.7	107	64-150
1634-04-4	Methyl Tert-Butyl Ether	10	11.2	112	63-141
80-62-6	Methyl methacrylate	10	9.3	93	58-154
91-20-3	Naphthalene	10	10.5	105	42-184
109-66-0	Pentane	10	9.7	97	47-170
103-65-1	n-Propylbenzene	10	9.3	93	66-154
115-07-1	Propene	10	10.5	105	47-159
100-42-5	Styrene	10	9.3	93	80-164
79-34-5	1,1,2,2-Tetrachloroethane	10	8.9	89	60-140
71-55-6	1,1,1-Trichloroethane	10	9.3	93	53-150
79-00-5	1,1,2-Trichloroethane	10	9.2	92	49-151
120-82-1	1,2,4-Trichlorobenzene	10	8.6	86	17-207
76-13-1	1,1,2-Trichlorotrifluoroethane	10	9.5	95	41-181
95-63-6	1,2,4-Trimethylbenzene	10	9.0	90	54-171
108-67-8	1,3,5-Trimethylbenzene	10	9.0	90	59-155
540-84-1	2,2,4-Trimethylpentane	10	9.6	96	61-146
75-65-0	t-Butyl Alcohol	10	9.2	92	50-170
994-05-8	tert Amyl Methyl Ether	10	9.1	91	60-150
127-18-4	Tetrachloroethene	10	9.1	91	58-150
109-99-9	Tetrahydrofuran	10	9.5	95	76-131
108-88-3	Toluene	10	8.9	89	66-146
79-01-6	Trichloroethene	10	9.4	94	54-150

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1242-LCS	1A1808134.D	1	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
75-69-4	Trichlorofluoromethane	10	8.6	86	48-173
108-05-4	Vinyl acetate	10	8.1	81	62-147
593-60-2	Vinyl Bromide	10	8.8	88	59-151
75-01-4	Vinyl chloride	10	8.6	86	61-142
	m,p-Xylene	20	18.2	91	45-168
95-47-6	o-Xylene	10	8.9	89	58-157
1330-20-7	Xylenes,Total	30	27.1	90	53-161

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	96%	65-128%

(a) Advisory control limits.

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-LCS	1A1807273.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here applies to the following samples: **Method:** TO-15

V1A1219-SCC

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
67-64-1	Acetone	10	8.5	85	52-151
107-02-8	Acrolein	10	8.9	89	47-166
107-13-1	Acrylonitrile	10	8.0	80	38-179
107-05-1	Allyl chloride	20	16.6	83	38-186
106-99-0	1,3-Butadiene	20	17.0	85	55-158
71-43-2	Benzene	10	9.3	93	53-148
100-44-7	Benzyl Chloride	10	10.7	107	73-151
75-27-4	Bromodichloromethane	10	9.5	95	55-151
75-25-2	Bromoform	10	12.3	123	59-165
74-83-9	Bromomethane	10	9.1	91	62-143
78-93-3	2-Butanone	10	8.2	82	63-146
104-51-8	n-Butylbenzene	10	10.4	104	63-156
135-98-8	sec-Butylbenzene	10	10.9	109	64-149
75-15-0	Carbon disulfide	10	10.6	106	38-184
56-23-5	Carbon tetrachloride	10	10.1	101	51-156
108-90-7	Chlorobenzene	10	9.8	98	62-135
75-00-3	Chloroethane	10	8.4	84	61-145
67-66-3	Chloroform	10	9.1	91	64-132
74-87-3	Chloromethane	10	8.8	88	52-149
110-82-7	Cyclohexane	10	8.8	88	61-148
124-48-1	Dibromochloromethane	10	10.9	109	67-144
75-34-3	1,1-Dichloroethane	10	8.4	84	62-128
75-35-4	1,1-Dichloroethene	10	10.0	100	55-164
106-93-4	1,2-Dibromoethane	10	9.6	96	62-145
557-91-5	1,1-Dibromoethane	10	10.3	103	50-150 [a]
107-06-2	1,2-Dichloroethane	10	8.1	81	58-143
78-87-5	1,2-Dichloropropane	10	8.8	88	45-155
123-91-1	1,4-Dioxane	10	10.2	102	36-169
75-71-8	Dichlorodifluoromethane	10	8.7	87	59-141
156-60-5	trans-1,2-Dichloroethene	10	8.5	85	66-128
156-59-2	cis-1,2-Dichloroethene	10	8.4	84	59-144
10061-01-5	cis-1,3-Dichloropropene	10	10.3	103	57-162
95-50-1	1,2-Dichlorobenzene	10	10.8	108	48-158
541-73-1	1,3-Dichlorobenzene	10	10.7	107	52-158
106-46-7	1,4-Dichlorobenzene	10	10.8	108	50-158
10061-02-6	trans-1,3-Dichloropropene	10	8.7	87	60-160

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-LCS	1A1807273.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here applies to the following samples: **Method:** TO-15

V1A1219-SCC

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
76-14-2	1,2-Dichlorotetrafluoroethane	10	8.6	86	60-145
108-20-3	Di-Isopropyl ether	10	8.3	83	58-148
64-17-5	Ethanol	10	8.5	85	42-166
100-41-4	Ethylbenzene	10	9.4	94	61-157
141-78-6	Ethyl Acetate	10	9.2	92	61-140
637-92-3	Ethyl tert-Butyl Ether	10	8.3	83	61-146
622-96-8	4-Ethyltoluene	20	21.5	108	58-159
142-82-5	Heptane	10	8.4	84	62-149
87-68-3	Hexachloro-1,3-butadiene	10	11.2	112	26-191
110-54-3	Hexane	10	8.8	88	61-142
591-78-6	2-Hexanone	10	8.4	84	61-164
98-82-8	Isopropylbenzene	10	10.4	104	66-145
67-63-0	Isopropanol	10	6.4	64	52-153
99-87-6	p-Isopropyltoluene	10	11.3	113	62-157
75-09-2	Methylene chloride	10	9.1	91	47-159
108-10-1	4-Methyl-2-pentanone	10	8.7	87	64-150
1634-04-4	Methyl Tert-Butyl Ether	10	10.6	106	63-141
80-62-6	Methyl methacrylate	10	9.1	91	58-154
91-20-3	Naphthalene	10	11.6	116	42-184
109-66-0	Pentane	10	7.6	76	47-170
103-65-1	n-Propylbenzene	10	10.6	106	66-154
115-07-1	Propene	10	8.7	87	47-159
100-42-5	Styrene	10	10.2	102	80-164
79-34-5	1,1,2,2-Tetrachloroethane	10	9.6	96	60-140
71-55-6	1,1,1-Trichloroethane	10	9.3	93	53-150
79-00-5	1,1,2-Trichloroethane	10	9.9	99	49-151
120-82-1	1,2,4-Trichlorobenzene	10	10.6	106	17-207
76-13-1	1,1,2-Trichlorotrifluoroethane	10	10.3	103	41-181
95-63-6	1,2,4-Trimethylbenzene	10	9.9	99	54-171
108-67-8	1,3,5-Trimethylbenzene	10	9.8	98	59-155
540-84-1	2,2,4-Trimethylpentane	10	8.7	87	61-146
75-65-0	t-Butyl Alcohol	10	8.4	84	50-170
994-05-8	tert Amyl Methyl Ether	10	9.0	90	60-150
127-18-4	Tetrachloroethene	10	10.2	102	58-150
109-99-9	Tetrahydrofuran	10	9.0	90	76-131
108-88-3	Toluene	10	9.4	94	66-146

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-LCS	1A1807273.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here applies to the following samples: **Method:** TO-15

V1A1219-SCC

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
79-01-6	Trichloroethene	10	10.2	102	54-150
75-69-4	Trichlorofluoromethane	10	9.2	92	48-173
108-05-4	Vinyl acetate	10	6.7	67	62-147
593-60-2	Vinyl Bromide	10	9.9	99	59-151
75-01-4	Vinyl chloride	10	8.5	85	61-142
	m,p-Xylene	20	19.8	99	45-168
95-47-6	o-Xylene	10	9.6	96	58-157
1330-20-7	Xylenes,Total	30	29.4	98	53-161

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	97%	65-128%

(a) Advisory control limits.

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-LCS	1A1807425.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here applies to the following samples: **Method:** TO-15

V1A1226-SCC

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
67-64-1	Acetone	10	8.7	87	52-151
107-02-8	Acrolein	10	9.2	92	47-166
107-13-1	Acrylonitrile	10	8.3	83	38-179
107-05-1	Allyl chloride	20	16.8	84	38-186
106-99-0	1,3-Butadiene	20	18.0	90	55-158
71-43-2	Benzene	10	9.3	93	53-148
100-44-7	Benzyl Chloride	10	10.1	101	73-151
75-27-4	Bromodichloromethane	10	9.6	96	55-151
75-25-2	Bromoform	10	10.5	105	59-165
74-83-9	Bromomethane	10	8.4	84	62-143
78-93-3	2-Butanone	10	8.7	87	63-146
104-51-8	n-Butylbenzene	10	9.8	98	63-156
135-98-8	sec-Butylbenzene	10	10	100	64-149
75-15-0	Carbon disulfide	10	9.6	96	38-184
56-23-5	Carbon tetrachloride	10	10.1	101	51-156
108-90-7	Chlorobenzene	10	9.3	93	62-135
75-00-3	Chloroethane	10	8.2	82	61-145
67-66-3	Chloroform	10	9.1	91	64-132
74-87-3	Chloromethane	10	9.3	93	52-149
110-82-7	Cyclohexane	10	9.5	95	61-148
124-48-1	Dibromochloromethane	10	10	100	67-144
75-34-3	1,1-Dichloroethane	10	8.8	88	62-128
75-35-4	1,1-Dichloroethene	10	9.0	90	55-164
106-93-4	1,2-Dibromoethane	10	9.1	91	62-145
557-91-5	1,1-Dibromoethane	10	10.0	100	50-150 [a]
107-06-2	1,2-Dichloroethane	10	8.7	87	58-143
78-87-5	1,2-Dichloropropane	10	9.3	93	45-155
123-91-1	1,4-Dioxane	10	10.5	105	36-169
75-71-8	Dichlorodifluoromethane	10	8.9	89	59-141
156-60-5	trans-1,2-Dichloroethene	10	8.8	88	66-128
156-59-2	cis-1,2-Dichloroethene	10	8.7	87	59-144
10061-01-5	cis-1,3-Dichloropropene	10	10.6	106	57-162
95-50-1	1,2-Dichlorobenzene	10	9.7	97	48-158
541-73-1	1,3-Dichlorobenzene	10	9.7	97	52-158
106-46-7	1,4-Dichlorobenzene	10	9.8	98	50-158
10061-02-6	trans-1,3-Dichloropropene	10	8.9	89	60-160

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-LCS	1A1807425.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here applies to the following samples: **Method:** TO-15

V1A1226-SCC

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
76-14-2	1,2-Dichlorotetrafluoroethane	10	8.4	84	60-145
108-20-3	Di-Isopropyl ether	10	8.6	86	58-148
64-17-5	Ethanol	10	9.0	90	42-166
100-41-4	Ethylbenzene	10	9.2	92	61-157
141-78-6	Ethyl Acetate	10	9.2	92	61-140
637-92-3	Ethyl tert-Butyl Ether	10	8.7	87	61-146
622-96-8	4-Ethyltoluene	20	19.4	97	58-159
142-82-5	Heptane	10	9.3	93	62-149
87-68-3	Hexachloro-1,3-butadiene	10	9.7	97	26-191
110-54-3	Hexane	10	9.3	93	61-142
591-78-6	2-Hexanone	10	8.7	87	61-164
98-82-8	Isopropylbenzene	10	9.6	96	66-145
67-63-0	Isopropanol	10	6.6	66	52-153
99-87-6	p-Isopropyltoluene	10	10.4	104	62-157
75-09-2	Methylene chloride	10	8.2	82	47-159
108-10-1	4-Methyl-2-pentanone	10	9.2	92	64-150
1634-04-4	Methyl Tert-Butyl Ether	10	10.9	109	63-141
80-62-6	Methyl methacrylate	10	9.4	94	58-154
91-20-3	Naphthalene	10	11.1	111	42-184
109-66-0	Pentane	10	8.1	81	47-170
103-65-1	n-Propylbenzene	10	9.9	99	66-154
115-07-1	Propene	10	9.3	93	47-159
100-42-5	Styrene	10	9.7	97	80-164
79-34-5	1,1,2,2-Tetrachloroethane	10	9.0	90	60-140
71-55-6	1,1,1-Trichloroethane	10	9.4	94	53-150
79-00-5	1,1,2-Trichloroethane	10	9.5	95	49-151
120-82-1	1,2,4-Trichlorobenzene	10	9.6	96	17-207
76-13-1	1,1,2-Trichlorotrifluoroethane	10	9.5	95	41-181
95-63-6	1,2,4-Trimethylbenzene	10	9.3	93	54-171
108-67-8	1,3,5-Trimethylbenzene	10	9.2	92	59-155
540-84-1	2,2,4-Trimethylpentane	10	9.4	94	61-146
75-65-0	t-Butyl Alcohol	10	8.1	81	50-170
994-05-8	tert Amyl Methyl Ether	10	9.2	92	60-150
127-18-4	Tetrachloroethene	10	9.6	96	58-150
109-99-9	Tetrahydrofuran	10	9.3	93	76-131
108-88-3	Toluene	10	9.1	91	66-146

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-LCS	1A1807425.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here applies to the following samples: **Method:** TO-15

V1A1226-SCC

CAS No.	Compound	Spike ppbv	LCS ppbv	LCS %	Limits
79-01-6	Trichloroethene	10	9.9	99	54-150
75-69-4	Trichlorofluoromethane	10	8.8	88	48-173
108-05-4	Vinyl acetate	10	6.9	69	62-147
593-60-2	Vinyl Bromide	10	8.9	89	59-151
75-01-4	Vinyl chloride	10	8.7	87	61-142
	m,p-Xylene	20	18.8	94	45-168
95-47-6	o-Xylene	10	9.2	92	58-157
1330-20-7	Xylenes,Total	30	28.0	93	53-161

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	100%	65-128%

(a) Advisory control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD24979-5DUP	1A1808062.D	4	08/03/18	KS	n/a	n/a	V1A1239
TD24979-5	1A1808061.D	4	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	TD24979-5 ppbv	Q	DUP ppbv	Q	RPD	Limits
67-64-1	Acetone	75.7		81.3	E	7	25
107-02-8	Acrolein	1.6	J	1.7	J	6	25
107-13-1	Acrylonitrile	ND		ND		nc	25
107-05-1	Allyl chloride	ND		ND		nc	25
106-99-0	1,3-Butadiene	0.43	J	0.61	J	35* [a]	25
71-43-2	Benzene	2.5		2.7		8	25
100-44-7	Benzyl Chloride	0.040	J	ND		200* [a]	25
75-27-4	Bromodichloromethane	ND		ND		nc	25
75-25-2	Bromoform	ND		ND		nc	25
74-83-9	Bromomethane	ND		ND		nc	25
78-93-3	2-Butanone	10.3		11.2		8	25
104-51-8	n-Butylbenzene	ND		ND		nc	25
135-98-8	sec-Butylbenzene	ND		ND		nc	25
75-15-0	Carbon disulfide	19.1		20.3		6	25
56-23-5	Carbon tetrachloride	ND		ND		nc	25
108-90-7	Chlorobenzene	ND		ND		nc	25
75-00-3	Chloroethane	ND		ND		nc	25
67-66-3	Chloroform	1.0	J	1.2	J	18	25
74-87-3	Chloromethane	0.52	J	0.50	J	4	25
110-82-7	Cyclohexane	1.2	J	1.3	J	8	25
124-48-1	Dibromochloromethane	ND		ND		nc	25
75-34-3	1,1-Dichloroethane	ND		ND		nc	25
75-35-4	1,1-Dichloroethene	ND		ND		nc	25
106-93-4	1,2-Dibromoethane	ND		ND		nc	25
557-91-5	1,1-Dibromoethane	ND		ND		nc	30 [b]
107-06-2	1,2-Dichloroethane	ND		ND		nc	25
78-87-5	1,2-Dichloropropane	ND		ND		nc	25
123-91-1	1,4-Dioxane	ND		ND		nc	25
75-71-8	Dichlorodifluoromethane	0.50	J	0.55	J	10	25
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	25
156-59-2	cis-1,2-Dichloroethene	0.41	J	0.41	J	0	25
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	25
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	25
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	25
106-46-7	1,4-Dichlorobenzene	0.21	J	0.21	J	0	25
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD24979-5DUP	1A1808062.D	4	08/03/18	KS	n/a	n/a	V1A1239
TD24979-5	1A1808061.D	4	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	TD24979-5 ppbv	Q	DUP ppbv	Q	RPD	Limits
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ND		nc	25
108-20-3	Di-Isopropyl ether	ND		ND		nc	25
64-17-5	Ethanol	32.0		34.8		8	25
100-41-4	Ethylbenzene	0.12	J	0.13	J	8	25
141-78-6	Ethyl Acetate	0.45	J	0.55	J	20	25
637-92-3	Ethyl tert-Butyl Ether	ND		ND		nc	25
622-96-8	4-Ethyltoluene	ND		ND		nc	25
142-82-5	Heptane	1.1	J	1.2	J	9	25
87-68-3	Hexachloro-1,3-butadiene	ND		ND		nc	25
110-54-3	Hexane	2.5		2.7		8	25
591-78-6	2-Hexanone	0.40	J	0.42	J	5	25
98-82-8	Isopropylbenzene	ND		ND		nc	25
67-63-0	Isopropanol	4.7		5.2		10	25
99-87-6	p-Isopropyltoluene	0.10	J	0.14	J	33* [a]	25
75-09-2	Methylene chloride	0.61	J	0.65	J	6	25
108-10-1	4-Methyl-2-pentanone	0.48	J	0.49	J	2	25
1634-04-4	Methyl Tert-Butyl Ether	0.10	J	ND		200* [a]	25
80-62-6	Methyl methacrylate	ND		ND		nc	25
91-20-3	Naphthalene	0.13	J	0.12	J	8	25
109-66-0	Pentane	12.4		13.5		8	25
103-65-1	n-Propylbenzene	ND		ND		nc	25
115-07-1	Propene	89.7	E	98.2	E	9	25
100-42-5	Styrene	ND		ND		nc	25
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	25
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	25
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	25
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	25
76-13-1	1,1,2-Trichlorotrifluoroethane	ND		ND		nc	25
95-63-6	1,2,4-Trimethylbenzene	0.25	J	0.28	J	11	25
108-67-8	1,3,5-Trimethylbenzene	0.080	J	0.095	J	17	25
540-84-1	2,2,4-Trimethylpentane	ND		ND		nc	25
75-65-0	t-Butyl Alcohol	177	E	192	E	8	25
994-05-8	tert Amyl Methyl Ether	ND		ND		nc	25
127-18-4	Tetrachloroethene	ND		0.053	J	200* [a]	25
109-99-9	Tetrahydrofuran	0.78	J	0.89	J	13	25
108-88-3	Toluene	1.2	J	1.3	J	8	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD24979-5DUP	1A1808062.D	4	08/03/18	KS	n/a	n/a	V1A1239
TD24979-5	1A1808061.D	4	08/03/18	KS	n/a	n/a	V1A1239

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	TD24979-5 ppbv	Q	DUP ppbv	Q	RPD	Limits
79-01-6	Trichloroethene	0.11	J	0.14	J	24	25
75-69-4	Trichlorofluoromethane	0.37	J	0.39	J	5	25
108-05-4	Vinyl acetate	ND		ND		nc	25
593-60-2	Vinyl Bromide	ND		ND		nc	25
75-01-4	Vinyl chloride	ND		ND		nc	25
	m,p-Xylene	0.21	J	0.23	J	9	25
95-47-6	o-Xylene	0.15	J	0.18	J	18	25
1330-20-7	Xylenes,Total	0.36	J	0.41	J	13	25

CAS No.	Surrogate Recoveries	DUP	TD24979-5	Limits
460-00-4	4-Bromofluorobenzene	92%	92%	65-128%

(a) High RPD due to sample level below Reporting Limits.
(b) Advisory control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD25172-3DUP	1A1808137.D	20	08/06/18	KS	n/a	n/a	V1A1242
TD25172-3	1A1808145.D	2.4	08/06/18	KS	n/a	n/a	V1A1242
TD25172-3	1A1808136.D	20	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	TD25172-3 ppbv	Q	DUP ppbv	Q	RPD	Limits
67-64-1	Acetone	45.7		44.7		4	25
107-02-8	Acrolein	0.47	J	ND		0	25
107-13-1	Acrylonitrile	0.14	J	ND		0	25
107-05-1	Allyl chloride	ND		ND		nc	25
106-99-0	1,3-Butadiene	0.30	J	ND		0	25
71-43-2	Benzene	1.7		1.4	J	7	25
100-44-7	Benzyl Chloride	ND		ND		nc	25
75-27-4	Bromodichloromethane	ND		ND		nc	25
75-25-2	Bromoform	ND		ND		nc	25
74-83-9	Bromomethane	ND		ND		nc	25
78-93-3	2-Butanone	2.1		1.9	J	5	25
104-51-8	n-Butylbenzene	0.069	J	ND		0	25
135-98-8	sec-Butylbenzene	ND		ND		nc	25
75-15-0	Carbon disulfide	0.15	J	ND		0	25
56-23-5	Carbon tetrachloride	ND		ND		nc	25
108-90-7	Chlorobenzene	ND		ND		nc	25
75-00-3	Chloroethane	ND		ND		nc	25
67-66-3	Chloroform	0.13	J	ND		0	25
74-87-3	Chloromethane	ND		ND		nc	25
110-82-7	Cyclohexane	0.76	J	0.69	J	0	25
124-48-1	Dibromochloromethane	ND		ND		nc	25
75-34-3	1,1-Dichloroethane	ND		ND		nc	25
75-35-4	1,1-Dichloroethene	ND		ND		nc	25
106-93-4	1,2-Dibromoethane	ND		ND		nc	25
557-91-5	1,1-Dibromoethane	ND		ND		nc	30 [a]
107-06-2	1,2-Dichloroethane	ND		ND		nc	25
78-87-5	1,2-Dichloropropane	ND		ND		nc	25
123-91-1	1,4-Dioxane	1.6		1.2	J	0	25
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	25
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	25
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	25
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	25
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	25
106-46-7	1,4-Dichlorobenzene	0.053	J	ND		0	25
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	25
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ND		nc	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD25172-3DUP	1A1808137.D	20	08/06/18	KS	n/a	n/a	V1A1242
TD25172-3	1A1808145.D	2.4	08/06/18	KS	n/a	n/a	V1A1242
TD25172-3	1A1808136.D	20	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	TD25172-3 ppbv	Q	DUP ppbv	Q	RPD	Limits
108-20-3	Di-Isopropyl ether	ND		ND		nc	25
64-17-5	Ethanol	54.7 [b]		56.3		3	25
100-41-4	Ethylbenzene	2.1		1.6	J	0	25
141-78-6	Ethyl Acetate	0.44	J	ND		0	25
637-92-3	Ethyl tert-Butyl Ether	ND		ND		nc	25
622-96-8	4-Ethyltoluene	0.13	J	ND		0	25
142-82-5	Heptane	0.77	J	0.58	J	23	25
87-68-3	Hexachloro-1,3-butadiene	ND		ND		nc	25
110-54-3	Hexane	1.1	J	1.1	J	10	25
591-78-6	2-Hexanone	0.29	J	ND		0	25
98-82-8	Isopropylbenzene	0.069	J	ND		0	25
67-63-0	Isopropanol	6.8		6.7	J	3	25
99-87-6	p-Isopropyltoluene	ND		ND		nc	25
75-09-2	Methylene chloride	0.67	J	2.8	J	4	25
108-10-1	4-Methyl-2-pentanone	0.29	J	0.34	J	28* [c]	25
1634-04-4	Methyl Tert-Butyl Ether	ND		ND		nc	25
80-62-6	Methyl methacrylate	ND		ND		nc	25
91-20-3	Naphthalene	0.11	J	ND		0	25
109-66-0	Pentane	3.0		3.3	J	6	25
103-65-1	n-Propylbenzene	0.19	J	ND		0	25
115-07-1	Propene	4.8		2.4	J	4	25
100-42-5	Styrene	0.13	J	ND		0	25
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	25
71-55-6	1,1,1-Trichloroethane	0.064	J	ND		0	25
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	25
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	25
76-13-1	1,1,2-Trichlorotrifluoroethane	0.074	J	ND		0	25
95-63-6	1,2,4-Trimethylbenzene	0.57	J	0.40	J	5	25
108-67-8	1,3,5-Trimethylbenzene	0.16	J	ND		0	25
540-84-1	2,2,4-Trimethylpentane	0.082	J	ND		0	25
75-65-0	t-Butyl Alcohol	126 [b]		132		5	25
994-05-8	tert Amyl Methyl Ether	ND		ND		nc	25
127-18-4	Tetrachloroethene	4.3		3.8	J	3	25
109-99-9	Tetrahydrofuran	ND		ND		nc	25
108-88-3	Toluene	4.7		3.8	J	0	25
79-01-6	Trichloroethene	16.7		13.9		3	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD25172-3DUP	1A1808137.D	20	08/06/18	KS	n/a	n/a	V1A1242
TD25172-3	1A1808145.D	2.4	08/06/18	KS	n/a	n/a	V1A1242
TD25172-3	1A1808136.D	20	08/06/18	KS	n/a	n/a	V1A1242

The QC reported here applies to the following samples: **Method:** TO-15

TD25119-2

CAS No.	Compound	TD25172-3 ppbv	Q	DUP ppbv	Q	RPD	Limits
75-69-4	Trichlorofluoromethane	0.32	J	ND		0	25
108-05-4	Vinyl acetate	ND		ND		nc	25
593-60-2	Vinyl Bromide	ND		ND		nc	25
75-01-4	Vinyl chloride	ND		ND		nc	25
	m,p-Xylene	1.1	J	ND		200* [c]	25
95-47-6	o-Xylene	0.55	J	0.41	J	10	25
1330-20-7	Xylenes,Total	1.7		1.2	J	8	25

CAS No.	Surrogate Recoveries	DUP	TD25172-3	TD25172-3	Limits
460-00-4	4-Bromofluorobenzene	89%	91%	87%	65-128%

(a) Advisory control limits.
(b) Result is from Run #2.
(c) High RPD due to sample level below Reporting Limits.

* = Outside of Control Limits.

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807279.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa A624) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-3(A624)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	0.16	1.0	0.042	ppbv	J	0.38	2.4	ug/m3
107-02-8	Acrolein	ND	0.50	0.051	ppbv		ND	1.1	ug/m3
107-13-1	Acrylonitrile	ND	0.50	0.034	ppbv		ND	1.1	ug/m3
107-05-1	Allyl chloride	ND	1.0	0.061	ppbv		ND	3.1	ug/m3
106-99-0	1,3-Butadiene	ND	1.0	0.047	ppbv		ND	2.2	ug/m3
71-43-2	Benzene	ND	0.50	0.023	ppbv		ND	1.6	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.0098	ppbv		ND	2.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.021	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.026	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.020	ppbv		ND	1.9	ug/m3
78-93-3	2-Butanone	ND	0.50	0.024	ppbv		ND	1.5	ug/m3
104-51-8	n-Butylbenzene	ND	0.50	0.014	ppbv		ND	2.7	ug/m3
135-98-8	sec-Butylbenzene	ND	0.50	0.019	ppbv		ND	2.7	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.027	ppbv		ND	1.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.50	0.022	ppbv		ND	3.1	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.019	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.50	0.048	ppbv		ND	1.3	ug/m3
67-66-3	Chloroform	ND	0.50	0.020	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.045	ppbv		ND	1.0	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.022	ppbv		ND	1.7	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.016	ppbv		ND	4.3	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.50	0.025	ppbv		ND	2.0	ug/m3
75-35-4	1,1-Dichloroethene	ND	0.50	0.043	ppbv		ND	2.0	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.022	ppbv		ND	3.8	ug/m3
557-91-5	1,1-Dibromoethane	ND	0.50	0.021	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.50	0.028	ppbv		ND	2.0	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.025	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.026	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.028	ppbv		ND	2.5	ug/m3
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.022	ppbv		ND	2.0	ug/m3
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.020	ppbv		ND	2.0	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ppbv		ND	2.3	ug/m3
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.013	ppbv		ND	3.0	ug/m3
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.014	ppbv		ND	2.3	ug/m3

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807279.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa A624) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-3(A624)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	1,2-Dichlorotetrafluoroethane	ND	0.50	0.023	ppbv		ND	3.5	ug/m3
108-20-3	Di-Isopropyl ether	ND	1.0	0.018	ppbv		ND	4.2	ug/m3
64-17-5	Ethanol	0.078	1.0	0.074	ppbv	J	0.15	1.9	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.022	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.065	ppbv		ND	1.8	ug/m3
637-92-3	Ethyl tert-Butyl Ether	ND	1.0	0.017	ppbv		ND	4.2	ug/m3
622-96-8	4-Ethyltoluene	ND	1.0	0.029	ppbv		ND	4.9	ug/m3
142-82-5	Heptane	ND	0.50	0.019	ppbv		ND	2.0	ug/m3
87-68-3	Hexachloro-1,3-butadiene	ND	0.50	0.013	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.015	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.017	ppbv		ND	2.0	ug/m3
98-82-8	Isopropylbenzene	ND	0.50	0.025	ppbv		ND	2.5	ug/m3
67-63-0	Isopropanol	0.022	1.0	0.019	ppbv	J	0.054	2.5	ug/m3
99-87-6	p-Isopropyltoluene	ND	0.50	0.026	ppbv		ND	2.7	ug/m3
75-09-2	Methylene chloride	0.16	0.50	0.044	ppbv	J	0.56	1.7	ug/m3
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.0081	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert-Butyl Ether	ND	0.50	0.024	ppbv		ND	1.8	ug/m3
80-62-6	Methyl methacrylate	ND	0.50	0.024	ppbv		ND	2.0	ug/m3
91-20-3	Naphthalene	ND	0.50	0.024	ppbv		ND	2.6	ug/m3
109-66-0	Pentane	ND	0.50	0.028	ppbv		ND	1.5	ug/m3
103-65-1	n-Propylbenzene	ND	0.50	0.027	ppbv		ND	2.5	ug/m3
115-07-1	Propene	ND	0.50	0.024	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.023	ppbv		ND	2.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.017	ppbv		ND	3.4	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.021	ppbv		ND	2.7	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.043	ppbv		ND	2.7	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.011	ppbv		ND	3.7	ug/m3
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	0.50	0.029	ppbv		ND	3.8	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.010	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.013	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.021	ppbv		ND	2.3	ug/m3
75-65-0	t-Butyl Alcohol	ND	1.0	0.023	ppbv		ND	3.0	ug/m3
994-05-8	tert Amyl Methyl Ether	ND	1.0	0.012	ppbv		ND	4.2	ug/m3
127-18-4	Tetrachloroethene	ND	0.50	0.012	ppbv		ND	3.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.066	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.016	ppbv		ND	1.9	ug/m3

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807279.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa A624) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-3(A624)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethene	ND	0.50	0.024	ppbv		ND	2.7	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.025	ppbv		ND	2.8	ug/m3
108-05-4	Vinyl acetate	ND	0.50	0.022	ppbv		ND	1.8	ug/m3
593-60-2	Vinyl Bromide	ND	0.50	0.030	ppbv		ND	2.2	ug/m3
75-01-4	Vinyl chloride	ND	0.50	0.028	ppbv		ND	1.3	ug/m3
	m,p-Xylene	ND	0.50	0.044	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.016	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes,Total	0.0072	0.50		ppbv	J	0.031	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	91%	65-128%

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807280.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa A691) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-4(A691)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	0.085	1.0	0.042	ppbv	J	0.20	2.4	ug/m3
107-02-8	Acrolein	ND	0.50	0.051	ppbv		ND	1.1	ug/m3
107-13-1	Acrylonitrile	ND	0.50	0.034	ppbv		ND	1.1	ug/m3
107-05-1	Allyl chloride	ND	1.0	0.061	ppbv		ND	3.1	ug/m3
106-99-0	1,3-Butadiene	ND	1.0	0.047	ppbv		ND	2.2	ug/m3
71-43-2	Benzene	ND	0.50	0.023	ppbv		ND	1.6	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.0098	ppbv		ND	2.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.021	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.026	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.020	ppbv		ND	1.9	ug/m3
78-93-3	2-Butanone	0.067	0.50	0.024	ppbv	J	0.20	1.5	ug/m3
104-51-8	n-Butylbenzene	ND	0.50	0.014	ppbv		ND	2.7	ug/m3
135-98-8	sec-Butylbenzene	ND	0.50	0.019	ppbv		ND	2.7	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.027	ppbv		ND	1.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.50	0.022	ppbv		ND	3.1	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.019	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.50	0.048	ppbv		ND	1.3	ug/m3
67-66-3	Chloroform	ND	0.50	0.020	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.045	ppbv		ND	1.0	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.022	ppbv		ND	1.7	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.016	ppbv		ND	4.3	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.50	0.025	ppbv		ND	2.0	ug/m3
75-35-4	1,1-Dichloroethene	ND	0.50	0.043	ppbv		ND	2.0	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.022	ppbv		ND	3.8	ug/m3
557-91-5	1,1-Dibromoethane	ND	0.50	0.021	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.50	0.028	ppbv		ND	2.0	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.025	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.026	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.028	ppbv		ND	2.5	ug/m3
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.022	ppbv		ND	2.0	ug/m3
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.020	ppbv		ND	2.0	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ppbv		ND	2.3	ug/m3
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.013	ppbv		ND	3.0	ug/m3
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.014	ppbv		ND	2.3	ug/m3

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807280.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa A691) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-4(A691)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	1,2-Dichlorotetrafluoroethane	ND	0.50	0.023	ppbv		ND	3.5	ug/m3
108-20-3	Di-Isopropyl ether	ND	1.0	0.018	ppbv		ND	4.2	ug/m3
64-17-5	Ethanol	ND	1.0	0.074	ppbv		ND	1.9	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.022	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.065	ppbv		ND	1.8	ug/m3
637-92-3	Ethyl tert-Butyl Ether	ND	1.0	0.017	ppbv		ND	4.2	ug/m3
622-96-8	4-Ethyltoluene	ND	1.0	0.029	ppbv		ND	4.9	ug/m3
142-82-5	Heptane	ND	0.50	0.019	ppbv		ND	2.0	ug/m3
87-68-3	Hexachloro-1,3-butadiene	ND	0.50	0.013	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.015	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.017	ppbv		ND	2.0	ug/m3
98-82-8	Isopropylbenzene	ND	0.50	0.025	ppbv		ND	2.5	ug/m3
67-63-0	Isopropanol	0.026	1.0	0.019	ppbv	J	0.064	2.5	ug/m3
99-87-6	p-Isopropyltoluene	ND	0.50	0.026	ppbv		ND	2.7	ug/m3
75-09-2	Methylene chloride	0.17	0.50	0.044	ppbv	J	0.59	1.7	ug/m3
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.0081	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert-Butyl Ether	ND	0.50	0.024	ppbv		ND	1.8	ug/m3
80-62-6	Methyl methacrylate	ND	0.50	0.024	ppbv		ND	2.0	ug/m3
91-20-3	Naphthalene	ND	0.50	0.024	ppbv		ND	2.6	ug/m3
109-66-0	Pentane	ND	0.50	0.028	ppbv		ND	1.5	ug/m3
103-65-1	n-Propylbenzene	ND	0.50	0.027	ppbv		ND	2.5	ug/m3
115-07-1	Propene	ND	0.50	0.024	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.023	ppbv		ND	2.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.017	ppbv		ND	3.4	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.021	ppbv		ND	2.7	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.043	ppbv		ND	2.7	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.011	ppbv		ND	3.7	ug/m3
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	0.50	0.029	ppbv		ND	3.8	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.010	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.013	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.021	ppbv		ND	2.3	ug/m3
75-65-0	t-Butyl Alcohol	ND	1.0	0.023	ppbv		ND	3.0	ug/m3
994-05-8	tert Amyl Methyl Ether	ND	1.0	0.012	ppbv		ND	4.2	ug/m3
127-18-4	Tetrachloroethene	ND	0.50	0.012	ppbv		ND	3.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.066	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.016	ppbv		ND	1.9	ug/m3

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807280.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa A691) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-4(A691)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethene	ND	0.50	0.024	ppbv		ND	2.7	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.025	ppbv		ND	2.8	ug/m3
108-05-4	Vinyl acetate	ND	0.50	0.022	ppbv		ND	1.8	ug/m3
593-60-2	Vinyl Bromide	ND	0.50	0.030	ppbv		ND	2.2	ug/m3
75-01-4	Vinyl chloride	ND	0.50	0.028	ppbv		ND	1.3	ug/m3
	m,p-Xylene	ND	0.50	0.044	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.016	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes,Total	0.0086	0.50		ppbv	J	0.037	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	91%	65-128%

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807286.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa M445) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-2(M445)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	0.19	1.0	0.042	ppbv	J	0.45	2.4	ug/m3
107-02-8	Acrolein	ND	0.50	0.051	ppbv		ND	1.1	ug/m3
107-13-1	Acrylonitrile	ND	0.50	0.034	ppbv		ND	1.1	ug/m3
107-05-1	Allyl chloride	ND	1.0	0.061	ppbv		ND	3.1	ug/m3
106-99-0	1,3-Butadiene	ND	1.0	0.047	ppbv		ND	2.2	ug/m3
71-43-2	Benzene	ND	0.50	0.023	ppbv		ND	1.6	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.0098	ppbv		ND	2.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.021	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.026	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.020	ppbv		ND	1.9	ug/m3
78-93-3	2-Butanone	ND	0.50	0.024	ppbv		ND	1.5	ug/m3
104-51-8	n-Butylbenzene	ND	0.50	0.014	ppbv		ND	2.7	ug/m3
135-98-8	sec-Butylbenzene	ND	0.50	0.019	ppbv		ND	2.7	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.027	ppbv		ND	1.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.50	0.022	ppbv		ND	3.1	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.019	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.50	0.048	ppbv		ND	1.3	ug/m3
67-66-3	Chloroform	ND	0.50	0.020	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.045	ppbv		ND	1.0	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.022	ppbv		ND	1.7	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.016	ppbv		ND	4.3	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.50	0.025	ppbv		ND	2.0	ug/m3
75-35-4	1,1-Dichloroethene	ND	0.50	0.043	ppbv		ND	2.0	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.022	ppbv		ND	3.8	ug/m3
557-91-5	1,1-Dibromoethane	ND	0.50	0.021	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.50	0.028	ppbv		ND	2.0	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.025	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.026	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.028	ppbv		ND	2.5	ug/m3
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.022	ppbv		ND	2.0	ug/m3
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.020	ppbv		ND	2.0	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ppbv		ND	2.3	ug/m3
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.013	ppbv		ND	3.0	ug/m3
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.014	ppbv		ND	2.3	ug/m3

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807286.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa M445) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-2(M445)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	1,2-Dichlorotetrafluoroethane	ND	0.50	0.023	ppbv		ND	3.5	ug/m3
108-20-3	Di-Isopropyl ether	ND	1.0	0.018	ppbv		ND	4.2	ug/m3
64-17-5	Ethanol	0.15	1.0	0.074	ppbv	J	0.28	1.9	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.022	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.065	ppbv		ND	1.8	ug/m3
637-92-3	Ethyl tert-Butyl Ether	ND	1.0	0.017	ppbv		ND	4.2	ug/m3
622-96-8	4-Ethyltoluene	ND	1.0	0.029	ppbv		ND	4.9	ug/m3
142-82-5	Heptane	ND	0.50	0.019	ppbv		ND	2.0	ug/m3
87-68-3	Hexachloro-1,3-butadiene	ND	0.50	0.013	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.015	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.017	ppbv		ND	2.0	ug/m3
98-82-8	Isopropylbenzene	ND	0.50	0.025	ppbv		ND	2.5	ug/m3
67-63-0	Isopropanol	0.068	1.0	0.019	ppbv	J	0.17	2.5	ug/m3
99-87-6	p-Isopropyltoluene	ND	0.50	0.026	ppbv		ND	2.7	ug/m3
75-09-2	Methylene chloride	0.19	0.50	0.044	ppbv	J	0.66	1.7	ug/m3
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.0081	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert-Butyl Ether	ND	0.50	0.024	ppbv		ND	1.8	ug/m3
80-62-6	Methyl methacrylate	ND	0.50	0.024	ppbv		ND	2.0	ug/m3
91-20-3	Naphthalene	ND	0.50	0.024	ppbv		ND	2.6	ug/m3
109-66-0	Pentane	ND	0.50	0.028	ppbv		ND	1.5	ug/m3
103-65-1	n-Propylbenzene	ND	0.50	0.027	ppbv		ND	2.5	ug/m3
115-07-1	Propene	ND	0.50	0.024	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.023	ppbv		ND	2.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.017	ppbv		ND	3.4	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.021	ppbv		ND	2.7	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.043	ppbv		ND	2.7	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.011	ppbv		ND	3.7	ug/m3
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	0.50	0.029	ppbv		ND	3.8	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.010	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.013	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.021	ppbv		ND	2.3	ug/m3
75-65-0	t-Butyl Alcohol	ND	1.0	0.023	ppbv		ND	3.0	ug/m3
994-05-8	tert Amyl Methyl Ether	ND	1.0	0.012	ppbv		ND	4.2	ug/m3
127-18-4	Tetrachloroethene	ND	0.50	0.012	ppbv		ND	3.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.066	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.016	ppbv		ND	1.9	ug/m3

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1219-SCC	1A1807286.D	1	07/15/18	KS	n/a	n/a	V1A1219

The QC reported here (Summa M445) applies to the following samples: **Method:** TO-15

Batch CP1246 cleaned 07/13/18: TD25119-2(M445)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethene	ND	0.50	0.024	ppbv		ND	2.7	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.025	ppbv		ND	2.8	ug/m3
108-05-4	Vinyl acetate	ND	0.50	0.022	ppbv		ND	1.8	ug/m3
593-60-2	Vinyl Bromide	ND	0.50	0.030	ppbv		ND	2.2	ug/m3
75-01-4	Vinyl chloride	ND	0.50	0.028	ppbv		ND	1.3	ug/m3
	m,p-Xylene	ND	0.50	0.044	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.016	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes,Total	ND	0.50		ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	91%	65-128%

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-SCC	1A1807427.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here (Summa A391) applies to the following samples: **Method:** TO-15

Batch CP1247 cleaned 07/19/18: TD25119-1(A391)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	0.24	1.0	0.042	ppbv	J	0.57	2.4	ug/m3
107-02-8	Acrolein	ND	0.50	0.051	ppbv		ND	1.1	ug/m3
107-13-1	Acrylonitrile	ND	0.50	0.034	ppbv		ND	1.1	ug/m3
107-05-1	Allyl chloride	ND	1.0	0.061	ppbv		ND	3.1	ug/m3
106-99-0	1,3-Butadiene	ND	1.0	0.047	ppbv		ND	2.2	ug/m3
71-43-2	Benzene	ND	0.50	0.023	ppbv		ND	1.6	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.0098	ppbv		ND	2.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.021	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.026	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.020	ppbv		ND	1.9	ug/m3
78-93-3	2-Butanone	ND	0.50	0.024	ppbv		ND	1.5	ug/m3
104-51-8	n-Butylbenzene	ND	0.50	0.014	ppbv		ND	2.7	ug/m3
135-98-8	sec-Butylbenzene	ND	0.50	0.019	ppbv		ND	2.7	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.027	ppbv		ND	1.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.50	0.022	ppbv		ND	3.1	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.019	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.50	0.048	ppbv		ND	1.3	ug/m3
67-66-3	Chloroform	ND	0.50	0.020	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.045	ppbv		ND	1.0	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.022	ppbv		ND	1.7	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.016	ppbv		ND	4.3	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.50	0.025	ppbv		ND	2.0	ug/m3
75-35-4	1,1-Dichloroethene	ND	0.50	0.043	ppbv		ND	2.0	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.022	ppbv		ND	3.8	ug/m3
557-91-5	1,1-Dibromoethane	ND	0.50	0.021	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.50	0.028	ppbv		ND	2.0	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.025	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.026	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.028	ppbv		ND	2.5	ug/m3
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.022	ppbv		ND	2.0	ug/m3
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.020	ppbv		ND	2.0	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.022	ppbv		ND	2.3	ug/m3
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.013	ppbv		ND	3.0	ug/m3
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.017	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.014	ppbv		ND	2.3	ug/m3

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-SCC	1A1807427.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here (Summa A391) applies to the following samples: **Method:** TO-15

Batch CP1247 cleaned 07/19/18: TD25119-1(A391)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	1,2-Dichlorotetrafluoroethane	ND	0.50	0.023	ppbv		ND	3.5	ug/m3
108-20-3	Di-Isopropyl ether	ND	1.0	0.018	ppbv		ND	4.2	ug/m3
64-17-5	Ethanol	0.083	1.0	0.074	ppbv	J	0.16	1.9	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.022	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.065	ppbv		ND	1.8	ug/m3
637-92-3	Ethyl tert-Butyl Ether	ND	1.0	0.017	ppbv		ND	4.2	ug/m3
622-96-8	4-Ethyltoluene	ND	1.0	0.029	ppbv		ND	4.9	ug/m3
142-82-5	Heptane	ND	0.50	0.019	ppbv		ND	2.0	ug/m3
87-68-3	Hexachloro-1,3-butadiene	ND	0.50	0.013	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.015	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.017	ppbv		ND	2.0	ug/m3
98-82-8	Isopropylbenzene	ND	0.50	0.025	ppbv		ND	2.5	ug/m3
67-63-0	Isopropanol	0.033	1.0	0.019	ppbv	J	0.081	2.5	ug/m3
99-87-6	p-Isopropyltoluene	ND	0.50	0.026	ppbv		ND	2.7	ug/m3
75-09-2	Methylene chloride	0.14	0.50	0.044	ppbv	J	0.49	1.7	ug/m3
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.0081	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert-Butyl Ether	ND	0.50	0.024	ppbv		ND	1.8	ug/m3
80-62-6	Methyl methacrylate	ND	0.50	0.024	ppbv		ND	2.0	ug/m3
91-20-3	Naphthalene	ND	0.50	0.024	ppbv		ND	2.6	ug/m3
109-66-0	Pentane	ND	0.50	0.028	ppbv		ND	1.5	ug/m3
103-65-1	n-Propylbenzene	ND	0.50	0.027	ppbv		ND	2.5	ug/m3
115-07-1	Propene	ND	0.50	0.024	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.023	ppbv		ND	2.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.017	ppbv		ND	3.4	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.021	ppbv		ND	2.7	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.043	ppbv		ND	2.7	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.011	ppbv		ND	3.7	ug/m3
76-13-1	1,1,2-Trichlorotrifluoroethane	ND	0.50	0.029	ppbv		ND	3.8	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.010	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.013	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.021	ppbv		ND	2.3	ug/m3
75-65-0	t-Butyl Alcohol	0.026	1.0	0.023	ppbv	J	0.079	3.0	ug/m3
994-05-8	tert Amyl Methyl Ether	ND	1.0	0.012	ppbv		ND	4.2	ug/m3
127-18-4	Tetrachloroethene	ND	0.50	0.012	ppbv		ND	3.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.066	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.016	ppbv		ND	1.9	ug/m3

Summa Cleaning Certification

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A1226-SCC	1A1807427.D	1	07/21/18	KS	n/a	n/a	V1A1226

The QC reported here (Summa A391) applies to the following samples: **Method:** TO-15

Batch CP1247 cleaned 07/19/18: TD25119-1(A391)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethene	ND	0.50	0.024	ppbv		ND	2.7	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.025	ppbv		ND	2.8	ug/m3
108-05-4	Vinyl acetate	ND	0.50	0.022	ppbv		ND	1.8	ug/m3
593-60-2	Vinyl Bromide	ND	0.50	0.030	ppbv		ND	2.2	ug/m3
75-01-4	Vinyl chloride	ND	0.50	0.028	ppbv		ND	1.3	ug/m3
	m,p-Xylene	ND	0.50	0.044	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.016	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes,Total	ND	0.50		ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	93%	65-128%

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GXF103-MB	XF18080019.D	1	08/03/18	KS	n/a	n/a	GXF103

The QC reported here applies to the following samples: **Method:** ASTM D1946

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.0020	0.000040	mol%	

Method Blank Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GXF103-MB	XF18080020.D	1	08/03/18	KS	n/a	n/a	GXF103

The QC reported here applies to the following samples: **Method:** ASTM D1946

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Result	RL	MDL	Units	Q

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GXF103-LCS	XF18080016.D	1	08/03/18	KS	n/a	n/a	GXF103

The QC reported here applies to the following samples: **Method:** ASTM D1946

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Spike mol%	LCS mol%	LCS %	Limits
74-82-8	Methane	8.52	9.7	114	70-130

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GXF103-LCS	XF18080017.D	1	08/03/18	KS	n/a	n/a	GXF103

The QC reported here applies to the following samples: **Method:** ASTM D1946

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Spike mol%	LCS mol%	LCS %	Limits

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GXF103-LCS	XF18080018.D	1	08/03/18	KS	n/a	n/a	GXF103

The QC reported here applies to the following samples: **Method:** ASTM D1946

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	Spike mol%	LCS mol%	LCS %	Limits

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD25119
Account: RFWCOLW Weston Solutions
Project: Place Bridge, 1400 South Oneida, Denver, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD25119-2DUP	XF18080025.D	2	08/03/18	KS	n/a	n/a	GXF103
TD25119-2	XF18080024.D	2	08/03/18	KS	n/a	n/a	GXF103

The QC reported here applies to the following samples: **Method:** ASTM D1946

TD25119-1, TD25119-2, TD25119-3, TD25119-4

CAS No.	Compound	TD25119-2 mol%	Q	DUP mol%	Q	RPD	Limits
74-82-8	Methane	18.2		18.2		0	25

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Weston Solutions, Inc.

Place Bridge

3.592

SGS Job Number: DA12352

Sampling Date: 12/19/18

Report to:

Weston Solutions, Inc.
1435 Garrison Street
Lakewood, CO 80215
roy.weindorf@westonsolutions.com

ATTN: Roy Weindorf

Total number of pages in report: 21

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Carissa Cumine 303-425-6021

Certifications: CO (CO00049), ID (CO00049), NE (NE-OS-06-04), ND (R-027), NJ (CO007), OK (D9942) UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY (8TMS-L)

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how we can serve you better at:
EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Weston Solutions, Inc.

Job No: DA12352

Place Bridge
Project No: 3.592

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
DA12352-1	12/19/18	13:45	RW	12/20/18	AQ	Ground Water	PB-MW-01
DA12352-2	12/19/18	14:20	RW	12/20/18	AQ	Ground Water	PB-GW-09
DA12352-3	12/19/18	13:45	RW	12/20/18	AQ	Ground Water	PB-GW-91

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Weston Solutions, Inc.	**Job No**	DA12352
Site:	Place Bridge	**Report Date**	1/2/2019 5:22:51 PM

On 12/20/2018, 3 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 1.3 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of DA12352 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals Analysis By Method EPA 200.7

Matrix: AQ **Batch ID:** MP27045

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA12123-1MS, DA12123-1MSD were used as the QC samples for the metals analysis.

Metals Analysis By Method EPA 245.1

Matrix: AQ **Batch ID:** MP27056

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA12349-1MS, DA12349-1MSD were used as the QC samples for the metals analysis.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

Summary of Hits

Job Number: DA12352
Account: Weston Solutions, Inc.
Project: Place Bridge
Collected: 12/19/18

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
DA12352-1	**PB-MW-01**					
Barium		177	10		ug/l	EPA 200.7
DA12352-2	**PB-GW-09**					
Arsenic		26.7	25		ug/l	EPA 200.7
Barium		176	10		ug/l	EPA 200.7
DA12352-3	**PB-GW-91**					
Arsenic		26.8	25		ug/l	EPA 200.7
Barium		178	10		ug/l	EPA 200.7

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-MW-01		
Lab Sample ID:	DA12352-1	**Date Sampled:**	12/19/18
Matrix:	AQ - Ground Water	**Date Received:**	12/20/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 25	25	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Barium	177	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 10	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Lead	< 50	50	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.10	0.10	ug/l	1	12/21/18	12/21/18	NK	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 250	250	ug/l	5	12/21/18	12/27/18	JR	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 30	30	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA10828
(2) Instrument QC Batch: MA10832
(3) Instrument QC Batch: MA10856
(4) Prep QC Batch: MP27045
(5) Prep QC Batch: MP27056

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-09		
Lab Sample ID:	DA12352-2	**Date Sampled:**	12/19/18
Matrix:	AQ - Ground Water	**Date Received:**	12/20/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	26.7	25	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Barium	176	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 10	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Lead	< 50	50	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.10	0.10	ug/l	1	12/21/18	12/21/18	NK	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 250	250	ug/l	5	12/21/18	12/27/18	JR	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 30	30	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA10828
(2) Instrument QC Batch: MA10832
(3) Instrument QC Batch: MA10856
(4) Prep QC Batch: MP27045
(5) Prep QC Batch: MP27056

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB-GW-91		
Lab Sample ID:	DA12352-3	**Date Sampled:**	12/19/18
Matrix:	AQ - Ground Water	**Date Received:**	12/20/18
		Percent Solids:	n/a
Project:	Place Bridge		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	26.8	25	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Barium	178	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium	< 10	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Chromium	< 10	10	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Lead	< 50	50	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.10	0.10	ug/l	1	12/21/18	12/21/18	NK	EPA 245.1 [1]	EPA 245.1 [5]
Selenium	< 250	250	ug/l	5	12/21/18	12/27/18	JR	EPA 200.7 [3]	EPA 200.7 [4]
Silver	< 30	30	ug/l	1	12/21/18	12/22/18	JR	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA10828
(2) Instrument QC Batch: MA10832
(3) Instrument QC Batch: MA10856
(4) Prep QC Batch: MP27045
(5) Prep QC Batch: MP27056

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS North America Inc. - Wheat Ridge
4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.sgs.com/ehsusa

Page 1 of 1

Bottle Order Control #: JS-12/13/2018-3
FED-EX Tracking #:
SGS Quote #:
SGS Job #: DA12352

Client / Reporting Information

Company: Weston Solutions, Inc.
Street: 1435 Garrison St #100
City, State: Lakewood CO
Project Contact: Roy Weindorf
Phone: 303-729-6146
Email: roy.weindorf@westonsolutions.com
Sampler(s) Name(s): Roy Weindorf

Project Information

Project Name: Place Bridge
Street: 1400 S Oneida
City, State: Denver CO
Project #: 3.592
Client Purchase Order #:
Project Manager: Same

Billing Information (if different from Report to)

Company:
Street Address:
City, State ZIP:
Attention:

Requested Analysis (see TEST CODE sheet)

RCRA 8

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB-Equipment Blank
RB - Rinse Blank
TB - Trip Blank

Field ID / Point of Collection	Collection Date	Time	Sampled by	Matrix	# of bottles	NONE	HCl	NaOH	HNO3	H2SO4	DI Water	MEOH	ENCORE	Na2S2O3	Na2SO3	RCRA 8	LAB USE ONLY
PB-MW-01	12/19	1345	RW	GW	2				1	1						X	01
~~PB-GW-04~~																~~X~~ RW	—
PB-GW-09		1420			2				1	1						X	02
PB-GW-91		1345			2				1	1						X	03

Turnaround Time (Business days)

- [x] Standard 10 Business Days
- [ ] 5 Business Days RUSH
- [ ] 3 Business Days RUSH
- [ ] 2 Business Days RUSH
- [ ] 1 Business Day EMERGENC'

Emergency & Rush T/A data available via LabLink. RUSH TAT approval needed.

Special Reporting Instructions

- [ ] Report in PPB
- [ ] Report in PPM
- [ ] Report MDLs

Data Deliverable Information

- [ ] Commercial "A" (Level 1, Results Only)
- [x] Commercial "B" (Level 2, Results + QC Summary)
- [ ] COMMBN (Results/QC/Narrative)
- [ ] COMMBN+ [Results/QC/Narrative (+ chromatograms)]
- [ ] REDT2
- [ ] FULT1
- [x] EDD Format Scribe

Comments / Special Instructions

MS/MSD = PB-GW-09
All samples filtered.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date/Time:	Received By:	Relinquished By:	Date/Time:	Received By:
1	12/20 1400	1400	2		2
Relinquished by Sampler: 3	Date/Time:	Received By: 3	Relinquished By: 4	Date/Time:	Received By: 4

Custody Seal # Intact [x] Not Intact [ ] Absent [ ]
Preserved where applicable [ ]
Cooler Temp. °C: 13 Therm. ID: ____ On Ice [x]
-walk in

http://www.sgs.com/en/terms-and-conditions

DA12352: Chain of Custody
Page 1 of 2

SGS Accutest Sample Receipt Summary

Job Number: DA12352 **Client:** WESTON **Project:** PLACE BRIDGE

Date / Time Received: 12/20/2018 2:00:00 PM **Delivery Method:** **Airbill #'s:** HD

Cooler Temps (Initial/Adjusted): #1: (1.3/1.3);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

5.1

5

DA12352: Chain of Custody
Page 2 of 2

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA12352
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP27045
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 12/21/18

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	46	46		
Antimony	30	14	8.7		
Arsenic	25	22	12	6.4	<25
Barium	10	.3	.2	0.0	<10
Beryllium	10	1	1.6		
Boron	50	3.3	3.7		
Cadmium	10	1.9	.6	0.70	<10
Calcium	400	6.6	22		
Chromium	10	1.1	1	-0.50	<10
Cobalt	5.0	2.7	1.2		
Iron	10	8.9	6.9		
Lead	50	13	9.1	-5.6	<50
Lithium	5.0	.6	1		
Magnesium	200	50	39		
Manganese	5.0	.5	.4		
Molybdenum	10	8.5	3.6		
Nickel	30	6.2	2.1		
Phosphorus	100	91	47		
Potassium	1000	84	61		
Selenium	50	30	15	-6.7	<50
Silicon	50	41	6.2		
Silver	30	.6	.9	1.3	<30
Sodium	400	13	14		
Strontium	5.0	.1	.3		
Thallium	10	17	9.1		
Tin	50	41	25		
Titanium	10	.5	2.5		
Uranium	50	3.9	4.4		
Vanadium	10	.9	.6		
Zinc	30	9	3.5		

Associated samples MP27045: DA12352-1, DA12352-2, DA12352-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA12352
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP27045
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 12/21/18

Metal	DA12123-1 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	38.7	1050	1000	101.1	70-130
Barium	74.7	2150	2000	103.8	70-130
Beryllium					
Boron					
Cadmium	0.0	498	500	99.6	70-130
Calcium	anr				
Chromium	6.5	512	500	101.1	70-130
Cobalt					
Iron	anr				
Lead	0.0	929	1000	92.9	70-130
Lithium					
Magnesium	anr				
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus					
Potassium	anr				
Selenium	0.0	1000	1000	100.0	70-130
Silicon					
Silver	46.6	259	200	107.4	70-130
Sodium	anr				
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	anr				

Associated samples MP27045: DA12352-1, DA12352-2, DA12352-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA12352
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP27045
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 12/21/18

Metal	DA12123-1 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	38.7	1050	1000	101.1	0.0	20
Barium	74.7	2080	2000	100.3	3.3	20
Beryllium						
Boron						
Cadmium	0.0	497	500	99.4	0.2	20
Calcium	anr					
Chromium	6.5	514	500	101.5	0.4	20
Cobalt						
Iron	anr					
Lead	0.0	924	1000	92.4	0.5	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Phosphorus						
Potassium	anr					
Selenium	0.0	994	1000	99.4	0.6	20
Silicon						
Silver	46.6	260	200	107.9	0.4	20
Sodium	anr					
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	anr					

Associated samples MP27045: DA12352-1, DA12352-2, DA12352-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA12352
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP27045
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 12/21/18

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	945	1000	94.5	85-115
Barium	2000	2000	100.0	85-115
Beryllium				
Boron				
Cadmium	488	500	97.6	85-115
Calcium	anr			
Chromium	494	500	98.8	85-115
Cobalt				
Iron	anr			
Lead	918	1000	91.8	85-115
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	970	1000	97.0	85-115
Silicon				
Silver	209	200	104.5	85-115
Sodium	anr			
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP27045: DA12352-1, DA12352-2, DA12352-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA12352
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP27056
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 12/21/18

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.011	.024	0.018	<0.10

Associated samples MP27056: DA12352-1, DA12352-2, DA12352-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA12352
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP27056
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 12/21/18

Metal	DA12349-1 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.0	3.2	3.13	102.4	70-130

Associated samples MP27056: DA12352-1, DA12352-2, DA12352-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA12352
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP27056
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 12/21/18

Metal	DA12349-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.1	3.13	99.2	3.2	20

Associated samples MP27056: DA12352-1, DA12352-2, DA12352-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA12352
Account: WESTCOL - Weston Solutions, Inc.
Project: Place Bridge

QC Batch ID: MP27056
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 12/21/18

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	3.2	3.13	102.4	85-115

Associated samples MP27056: DA12352-1, DA12352-2, DA12352-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

APPENDIX C
SUPPLEMENTAL INFORMATION

Water table = hole 1 = 18.5'

all depth for vapor extraction 6'

Consultant Daily Log

5801 Logan St Suite 200
Denver CO 80216
303-297-1645

Project Name: Place Bridge Elementary School Project Number: 018307

Date: 7-31-2018

Time: 0900: S&R Env., Weston, Site Wise arrive on site, S&R + Weston identify hemsolus

Time: 0930: to school, Site Wise locates gas lines (2 people)

Time: 1010: Slam bar used on hole 11 (depth 6'), next to hole 10, hole 9, hole 8

Time: 1100: next to hole 3, hole 7, hole 2 completed

Time: 1130: Geo Probe 7800 on hole 6, next is hole 5, next is hole 4

Time: hole 11 = 0.2% CH4, hole 12: 0.0% CH4, hole 10 = 0.0% CH4, hole 9 = 0.0 CH4

Time: hole 8 = 0.0% CH4, hole 3 = 0.0% CH4, hole 7 = 0.0% CH4, hole 2 = 0.0% CH4

Time: hole 6 = 0.0% CH4, hole 5 = 0.0 CH4 hole 4 = 0.0% CH4, hole 1 = 0.0% CH4

Time: 12:50 = hole 1, soil sampling, check for ACM, ~ depth 15', glass observed

Time: @ 8', 19' groundwater (GW), Sandy-Clay @ ~13', Sandy @ 18', odd

Time: smelling blue/grey soil - 18'-19', 19' groundwater / sandy

Time: 1445: next hole for soil sampling = 2, little recovery up to 15', NO

Time: suspect materials, drill Refusal @ ~17'

Time: 1550: end of shift, drive back to office

Time: 1630: End of Shift; NO suspect materials identified and OR

Time: sampled

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Consultant: Les J. Puvat hingal

S&R Inc. Environmental Consulting

5801 Logan St Suite 200
Denver CO 80216
303-297-1645

Consultant Daily Log

Project Name: Place Bridge Elementary School Project Number: 018307

Date: 8-1-2018 (8-1-2018)

Time: 0830: arrive @ site S&R + Weston

Time: 0900: start in hole, groundwater (GW) @ ~22', No suspect material

Time: observed, PID readings below PEL

Time: 1000: next is hole 10, recovery not good 1st 10', not much recovery a/ 10' + lost the sleeve, No suspect material in 2 sleeves up to 10'

Time: Refusal @ 19', S&R Env. will check sleeves w/ Recovery & inspect

Time: 1100 for suspect materials, didn't hit GW, refusal @ ~20', not

Time: 1130 much recovery, next is digging @ hole #4, 22' until GW

Time: 1225: hole 4, S&R checked all sleeves & NO suspect material

Time: found, PID readings are 80 PPB, nothing of note

Time: 1:00: hole 13: smooth drilling, found bits of concrete in sleeve

Time: around 5'-6' mark, obtained GW @ 22', no suspect

Time: 2:00 material identified, soil sampling completed, & Weston

Time: 2:30 starts water sampling @ hole #9

Time: 3:00 S&R confirmed that NO suspect ACBM materials were

Time: found in the soil sampling event (6 holes depth 18'-25')

Time: 3:30: End of Shift, Drive back to office

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Consultant: Les J. Purwatlingal